0 2007 1205994 4
California State Library

CALIFORNIA

STATE LIBRARY

166996

AR148

Call No. ~~9720.5 B8~~ 21

Copy No.

CALIFORNIA STATE LIBRARY.
SACRAMENTO

This book is due on the last date stamped below.
A book may be kept for three weeks and renewed for two weeks longer.
A fine of five cents a day will be charged on overdue books.

APR 1 1914
APR 15 1914
AUG 11 1914
OCT 10 1914
OCT 30 1914

Digitized by the Internet Archive
in 2013

http://archive.org/details/brickbuilder21unse

Competition Program—Brick Bungalow—Page 28

THE BRICKBVILDER

AN ARCHITECTVRAL MONTHLY

VOL. 21

JANUARY
1912

NO. 1

CALIFORNIA STATE LIBRARY

PVBLISHED BY ROGERS & MANSON
EIGHTYFIVE WATER STREET BOSTON MASS.

TRADE MARK

Tapestry Brick

Reg. U.S. Pat. Off.

The Most Artistic and Permanent Building Material in the World

There is only one "Tapestry" Brick. It is made exclusively by Fiske & Co. Inc. Our trade mark "Tapestry" is branded on each brick. It stands for the highest product of our skill and 45 years experience. It protects you against substitution.

"Tapestry" Brick has been used by leading architects on residences, churches, libraries, hospitals, club houses, schools, fraternal buildings, and high grade apartments.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISH-
FIRE BRICKS } ED IN 1864

BOSTON, 25 Arch St. NEW YORK, Arena Bldg.

NEW YORK 1170 Broadway
BALTIMORE American Building
WASHINGTON Home Life Building

O. W. KETCHAM

Master Builders Exchange
PHILADELPHIA

Front Brick Enameled Brick
Hollow Tile Fireproofing
Roofing Tile

ARCHITECTURAL TERRA COTTA

Works: Crum Lynne, Pa.

Sweet's Index, pages 116-117

GENUINE NEW ENGLAND "HARVARD" BRICKS

FRONT **BRICKS** ENAMELED

ARTISTIC FACE BRICKS
VITRIFIED HOLLOW BUILDING BLOCKS

Carter, Black & Ayers

CENTURIAN BUILDING
1182 Broadway
NEW YORK

SOMEBODY said of one of our New York buildings, "Yes, it's a good job, but the Atlantic Company had to remake a good many pieces."

Thank you.

We did remake a few of the more difficult pieces and we did it on our own initiative. It wasn't because the pieces wouldn't do, but because they wouldn't do for Atlantic Terra Cotta.

We are human enough to like a compliment.

Atlantic
Terra Cotta Company

1170 Broadway, N. Y.

Booklet on request.

GRUEBY FAIENCE & TILE CO.

K AND FIRST STS., BOSTON, MASS.

Durable Architectural Faience
for
Exteriors and Interiors

CORRESPONDENCE INVITED

The Hartford Faience Co.

HARTFORD, CONN.

NEW YORK 814 FLATIRON BUILDING
BOSTON OLD SOUTH BUILDING

ARCHITECTURAL FAIENCE
(All Colors)

FAIENCE MANTELS
FAIENCE TILE AND BRICK

Write for our new catalogue.

ROOKWOOD

Architectural Faience

MAT GLAZES IN ALL COLORS
ABSOLUTELY PERMANENT
EXTERIOR AND INTERIOR

THE ROOKWOOD POTTERY CO.

CINCINNATI, OHIO

New York Office - - 1 Madison Avenue

Brick, Terra Cotta & Tile Co.

M. E. GREGORY, PROPRIETOR

MANUFACTURERS OF

ARCHITECTURAL TERRA COTTA

Works and Main Office: CORNING, N. Y.

NEW YORK - - - - E. H. THOMAS, 1123 Broadway

AGENCIES
All the Principal Ci[ties]

PFOTENHAUER-NESBIT CO.

St. James Building, Broadway, Cor. 26th St., New York

IMPERVIOUS
FRONT BRICK

In Red, Buff, Gray, Mottled, White, Etc.

Enameled Brick, Roofing Tiles, Paving Clinkers, Etc.

Genuine "KITTANNING" Brick
Genuine "HARVARD" Brick

THE AMERICAN TERRA COTTA AND CERAMIC COMPANY

Architectural Terra Cotta

CHICAGO - ILLINOIS

Conkling-Armstrong Terra Cotta Co.

Manufacturers of

Architectural Terra Cotta

Works, PHILADELPHIA

OFFICES
Builders' Exchange, PHILADELPHIA
1133 Broadway, NEW YORK

THE BRICKBUILDER

An Illustrated Architectural Monthly

Devoted to the Art, Science, and Business of Building

Index — Volume XXI

JANUARY – DECEMBER, 1912

Published by

ROGERS AND MANSON COMPANY

BOSTON NEW YORK

INDEX TO PLATE ILLUSTRATIONS.

ACCORDING TO SUBJECTS.

Plates numbered 1-16 in the January issue; February, 17-28; March, 29-42; April, 43-56; May, 57-70; June, 71-84; July, 85-98; August, 99-112; September, 113-126; October, 127-140; November, 141-154; December, 155-168.

INDEX TO ARTICLES AND EDITORIALS.

Pages numbered 1–28 in the January issue; February, 29–60; March, 61–88; April, 89–116; May, 117–144; June, 145–172; July, 173–200; August, 201–228; September, 229–256; October, 257–282; November, 283–308; December, 309–334.

SUBJECT INDEX TO ILLUSTRATIONS IN LETTER PRESS.

Pages numbered 1–28 in the January issue; February, 29–60; March, 61–88; April, 89–116; May, 117–144; June, 145–172; July, 173–200; August, 201–228; September, 229–256; October, 257–282; November, 283–308; December, 309–334.

9720.5
B8
21

INDEX TO PLATE AND PAGE ILLUSTRATIONS.

ACCORDING TO AUTHOR.

166996

INDEX TO PLATE AND PAGE ILLUSTRATIONS — *Continued.*

FRONTISPIECES—FULL-PAGE ILLUSTRATIONS.

MEXICAN DOMES.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — JANUARY 1912 — NUMBER 1

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

WILLIAM A. BORING; CLAUDE BRAGDON; COPE & STEWARDSON; DELANO & ALDRICH; WARRINGTON G. LAWRENCE; McKIM, MEAD & WHITE; CHARLES A. PLATT.

LETTERPRESS

CALIFORNIA STATE LIBRARY

NUESTRA SRA. DE LA SOLEDAD,
PUEBLA, MEXICO.

THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN

¶ A CRITICAL AND HISTORICAL ANALYSIS OF THEIR ORIGIN AND DEVELOPMENT: WITH HELPFUL HINTS TO EARNEST SEEKERS.

BY HUBERT G. RIPLEY.

I.

JOSEPH WORCESTER, LL.D., after telling the world many things concerning a great variety of subjects, found time to define the word competition. He says in substance as follows:

COM-PE-TI-TION (Kom-pe-tĭsh′un), n. [L. *con*, with, and *peto*, *petitus*, to strive after; Sp. competicion Fr. compétition]. The act of competing; a common striving for the same object; rivalry; emulation; contest.

Amidst the variety of *competitions* with which the world abounds, it is a difficult matter to guard against pride and self-consequence. — *Gilpin.*

Syn. — *Competition* is the act of seeking the same object that another is seeking; *emulation* expresses the disposition of mind in a favorite object of pursuit; *rivalry*, the feeling of a rival. Competition and emulation have honor for their basis; *rivalry*, selfish gratification. *Competition* for a prize; *emulation* to excel; selfish *rivalry*.

We do not know precisely from just whom Mr. Worcester got this definition. He gives a list of scientific works used in the preparation of his chef d'oeuvre, which includes Henry Herbert's "Hints to Horse-Keepers" and Edward Forbes' "History of British Star-Fishes and other animals of the Class Echinodermata," but no mention is made in his list of any work on Architecture or the Fine Arts. Notwithstanding this there is food for thought in this definition and it is worthy of careful study. It shows the attitude of the world at large, which is almost always a "safe and sane" attitude.

Competitions are the cauchemar of the busy and successful architect and the joy and "*hoeret lateri lethalis arundo*" of the ambitious one. Without them many of our younger set would still be struggling to keep their heads above the bouillabaisse, and without them, too, the "faiblesse" of some of our most celebrated would not be otherwise autoptical.

Nature has taken this means since the beginning of time to rectify, separate, and adjust in her crucible that which is worthy from that which is unworthy. As we know that an organic tissue can reconstitute itself only by the means that nature has employed to construct it; so the only progress we can hope for in the Supreme Art (whose hand-maidens we all are) is to build up from that which has been torn down, using the same articulata and res dejecta in various and sundry ways as employed by the archencephala of Hierosycaminos.

That may sound somewhat complicated, but if you will study it over carefully you will find that it reads just as well backwards as forwards. Let us then roll up our sleeves and get a toe-hold on the subject afresh.

As Anatole France says, "What are the means, what are the processes of nature? She knows neither the hand nor the utensil; she is subtil, she is spirituelle; she employs in her most powerful and massive construction particles of matter infinitely thin, the atom, the protyle. From impalpable mist she makes rocks, metals, plants, animals, men. How? By attraction, gravitation, transpiration, penetration, imbibition, endosmose, capillarity, affinity, sympathy. She forms not a grain of sand in a different manner than she forms the milky way; the harmony of the spheres reigns in the one as in the other; they both exist only by the movement of the particles that compose them, and which is their musical soul, 'amoureuse et toujours agitée.' There is no difference in structure between the grain of dust which dances in a ray of sunlight and the stars of the heavens, and the least of these grains is as admirable as Sirius, for the marvel in all bodies of the universe is the infinitely small particles which animate them." (See footnote.)

It follows then that there is nothing new in competitions; they have always existed and always will exist. There is a romance about them, a charm, an ignis fatuus, a fetich, an odylic force; a searching of the imponderable after the impalpable.

The ambitious architect wants them for they bring him fame, glory, and shekels; the draftsman wants them for they give him opportunity, overtime, and a chance to eat a good dinner on the boss; the client wants them for they give him something for nothing (or almost nothing). The patriarchs and doyens of the profession say that competitions are not good for the client and are demoralizing to the architect, lowering of the professional standing, cheapening of the status, etc., and such like. Perhaps they are right in a way, but as architects have no professional standing and their status is considerably quo, that point will hardly hold. We slyly suspect that the wheezy old fellows of ponderous manners and millions of dollars of work in their offices would much prefer to have nice great big fat jobs handed to them on silver platters, garnished with smilax, watercress, and maraschino cherries, slices of lemon omitted.

FIG. I.

"The Hand of Destiny," from the painting by E. F. Maher. This sketch illustrates the state of mind of the average architect upon entering a competition. He knows he is fully armed and well equipped for the contest, and all around him sees illimitable and bewildering possibilities, plasmic, atomic, œdematous.

The desirability or non-desirability of competitions need not be dwelt upon at length here; many folios contain many words on the subject in many publications, and some of these words and phrases can not only be read backwards as well as forwards, but from right to left, upside down, and in a mirror. The main point is that competitions are in our midst, and like everything else in life we may combine duty and pleasure in following them up to their logical or illogical conclusions.

There are two points of view in a competition, the point of view of the winner and the point of view of those who also submitted drawings. These view-points are almost always diametrically opposed. Cases where they are not diametrically opposed are as rare as a really good cocktail outside of Boston. Those who do not pull down the plums should remember that we cannot all be Hornbostels and Magonigles, but we can, to a greater or less degree, make the pace a bit more accelerated, and contribute in a negative way to a higher potentiality.

With few notable exceptions, how do the competition drawings of ten, fifteen, or twenty years ago compare with what is being turned out today? Answer. They don't begin to compare with them in any way, shape, or manner. Why, some recent competition drawings are so overwhelmingly beautiful, exquisite, and utterly charming, that they make you want to break down and cry like a child. Then too (still with a few notable exceptions) the quality of the architecture is so greatly superior that nowadays we begin to feel that some of it is almost the real thing. This happy state of affairs is directly traceable to competitions which have done so much to develop and bring out the best that there is in contemporary work. It is doubtful if any other method would have done as much, for, however imperfect may be the system, the animating principle behind all this

FOOTNOTE. — This is something we have long wanted to say, but before we had got around to saying it we found that somebody else had got ahead of us, and as long as they said it so clearly and concisely we prefer to let it go at that and give credit where credit is due, although we would eventually have said it anyway, though perhaps in a little different manner. — ED.

is the same that operates from the imponderable to the impalpable, to the imperceptible.

It is not necessary either to spend too much time or effort over the regulation of competitions. They will regulate themselves all in due season. In each country, or section of the country, the operation and practice of competitions is just about as civilized as the community in which it operates; and to make it more so — beyond a reasonable point — would work more harm than good. What we need is not a restriction in the number or size of competitions, but an extension of the system that will embrace all classes and kinds of work from the insignificant to the most important, from the trivial to the permanent and solid monuments that shall portray the progress of the human race. In this way, under proper conditions that would adjust themselves, each class of work, each building operation whether large or small, would receive the trained consideration of the one who was best fitted to attend to it. Incidentally some felicitous ones would have to sit up and take notice, and the really deserving would get their chance in proportion as they proved their fitness. Not that the really worthy do not get that chance as it is, sooner or later. Nature takes care of it all in due season, and while the millennium is not exactly at hand, things aren't so worse at that.

The true welding of sensitiveness to power in any art demands concentrated cunctative cogitation, therefore let us retrace our steps and look upon the historical aspects of competitions; what they were in the past and how under happier times they played their part in the development of style, harmony, rhythm, and balance.

One of the earliest contests of which we have any record is mentioned in the missing portion of the Rosetta Stone.

It seems that , a celebrated architect who flourished during the reign of Thotmes or Thoutmôsis VI., Dynasty XVIII., and who built the charming little bungalow for Queen Hatasu so familiar to the architectural student, is mentioned as having received second money in the competition for a Speos to Ptah. beat him out on account of the beauty and rendering of his Coptos sculptures. Of course this may have been accounted for by the fact that had engaged, for this competition only, the services of Ptiseh, the most celebrated draftsman of his day, and who excelled in paradigrammatics. Strange, is it not, how up-to-date some of them old fellers was, and how we might never have known of this but for the missing portion of the Rosetta Stone?

FIG. II.

Our next illustration graphically portrays an every-day scene in Ancient Egypt, a workman busily engaged on chiseling one of the celebrated monuments of antiquity. In the preliminary roughing out, skilled artisans from the land of Amami and Ouaouit were employed, then the finishing touches were given by the hand of a Khamôis or a Mehîtouoskhît.

Sesostris or Rhamses II. was a great patron of the arts and had constantly working for him a whole phalanx of architects who made the splendor and glory of his capital city the renown of the ancient world.

> " . . . . . . Thebes
> With mighty stores of wealth, a hundred gates
> Each pouring forth two hundred architects with cars
> And horses." —(Iliad, IX., 381.)

Most of his, or rather his architects', great works have survived more than thirty-two centuries and still command the admiration and awe of the beholder. This certainly ties the can on Memphis, Babylon, Nineveh, or even Imperial Rome itself.

The architect of those days had no Paris training and had to dig it all out himself. No Letarouilly, Buhlman, Cæsar Daly, or Frank Cousins to refer to for books or photographs; even tracing paper was very scarce and expensive and the original set of working drawings was usually chiseled on slabs of porphyry. Many of these slabs may be seen to-day, but unfortunately all traces of the original drawings have completely disappeared, gnawed off by the relentless tooth of time.

From fragmentary inscriptions here and there, however, we may learn a few of the customs and habits of these old and mighty architects. For instance, it was the universal practice to make all drawings on uniform size sheets or rather slabs of stone; the stone being porphyry for the more important buildings, though the jackalls of the profession used tufa largely for cheap tenement work. The stones were about the size of a double-elephant drawing board, only thicker, and it took "some" office boy to carry out a set of drawings to the job or to the contractor. To keep in good physical condition the old Egyptians used to go in bathing all winter long no matter how cold the water was. They had to, to preserve their strength to lug home drawings to work on at night.

Had we time to spare we could relate many interesting incidents concerning the architects of those days which would show clearly that the practice of our art to-day differs very little from the customs and manners of the inhabitants of Hierosycaminos and Dodakaskoinos, but as space is limited we shall have to turn reluctantly from this fascinating pursuit and stick closely to our subject matter.

Conditions in Chaldea and Babylonia were not dissimilar to those that obtained contemporaneously in Egypt. The Chaldean architects were not so classical as the Egyptian; their style was more florid and their ethics were not as severe as those of their Nile brethren. For instance, they often did work for less than six per cent., and did not hesitate to take a contractor's cigar now and then, or let the builder pay for the drinks and lunches when inspecting work together. Both the Egyptians and the Chaldeans were great boys for inscriptions and were not afraid to cover up most any old blank wall space with letters and hieroglyphics. It should be explained, though, that the contractor himself usually submitted drawings for the inscriptions to the architects for approval before executing. The Chaldean and Babylonian architects used to make their scale drawings and full size details on tablets of clay and then have them fired. By this method they could work faster than the Egyptians and for this reason their detail suffered through overelaboration and profuseness.

The Egyptian architect used to like to get some good Chaldean or Babylonian draftsman in his office to set the pace for the native-born chaps, thinking that the greater facility of the Akkadian would tone up the "esprit de corps" of the establishment, but experiments along this line were rarely successful. On the other hand, the Chaldeans and Babylonian architects had no use for the Egyptian draftsmen, and seldom paid them more than ten drachme a semester.

It is only within recent years that the giant strides made in all branches of science, and particularly in archeology, have revealed to us a fuller and richer understanding of the incunabula of art, in broadening our knowledge and allowing us to visualize actual conditions of the past. To Germany and particularly to German archeologists the world owes a debt that can never be paid. Among some of the most famous German archeologists may be mentioned Wincklemann, Bunsen, Walstein, Wiebeking and many others whose names are extremely difficult for stenographers to write without making mistakes; and the works they have given us should be read by all earnest seekers, not necessarily to the exclusion of the contemporary architectural periodicals, but as a pastime and relief from the heavier and more ponderous themes with which the columns of the professional press are loaded chuck up to the muzzle.

From the "Theoretisch - practische bugerliche Baukunde, durch Geschichte und Beschreibunde du merkwurdigsten Baudenkmahle und ihre genanen Abbelddungen bereichert" we have fortunately preserved to us fragmentary extracts of a program for a competition from an important building which seems to refer to the Temple of Osiris at Edfou, though we are more strongly inclined to attribute it to an earlier temple erected in honor of Hathor at Ebsamboul. Champollion, MM. Huyot and Gau, and Cadalvene bear us out in this, while Major Felix, Mr. Wilkinson, and S. Cherubini lean strongly to the former hypothesis.

Quoi qu'il en soit, after a recital of the general conditions and an alphabetical list of the members of the building committee, which is strongly reminiscent of modern conditions, we find this clause:

"Should it be found on examination that the successful architect has exceeded in his designs the cubage computed as mentioned in paragraph 53, his drawings will be thrown out and the job awarded to the next successful architect."

So far as is known this clause was never mentioned in competitions before this time. It was necessary to take this step to restrain architects from the practice of indicating in their competition drawings a much larger and expensive construction than could be built for the appropriation, all the while knowing that when the working drawings came to be made a simpler and less elaborate design would be drafted.

It previously had been the custom to award the capital prize in a competition to the best design irrespective of cost and having in view only the esthetic aspects of the building; and this custom was still followed during the time of the Ptolemies until the professional advisor, warned by disastrous experiences in the past, had a careful cubage of all the designs submitted, made by a disinterested contractor of irreproachable probity who handed in his report in writing on a roll of papyrus to the chairman of the building committee. The drawings were then carefully gone over a second time and any sets that showed an excess amount of material, or that evidently could not be built within the sum named, were "declared ineligible to an award of the prize or of any premium."

From the preceding we learn that the idea of competitions has the weight and sanction of centuries of custom behind it, and how important a part it has played in the development of architecture. In fact, the origin of architectural competitions is lost in the night of time; one finds traces of it in the most remote epochs of antiquity; even before that time the custom was firmly established in the very beginnings of the human race.

FIG. III.

Restoration of one of the missing sphinxes in the grand avenue leading to the Amenopheium of Thebes. In this, as in the preceding drawing, Mr. Maher has forcibly presented the calm and majestic qualities of the spirit of those times, the emblem of intelligence, or the union of wisdom and force.

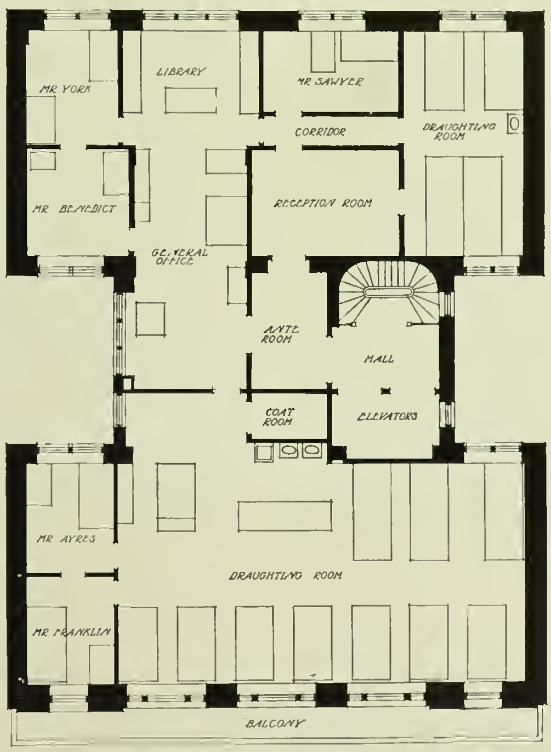
How Architects Work.

D. EVERETT WAID.

II. — OFFICES OF NOTED ARCHITECTS.

THE offices of York and Sawyer occupy an entire dumb-bell floor near the great new Public Library, and just sufficiently removed from Fifth Avenue to secure quiet freedom from the hum of the street traffic on that crowded thoroughfare. They are in the top of a high building, one of their own planning, which is the more desirable in that it is the habitation of a club. The interior skylighted reception room is the one room with pretentious decoration. There a painter has carried into execution some ideas of the architects as to Italian decoration. The beams of the ceiling and the frieze are ornamented above walls toned to harmonize with the general color scheme of the office.

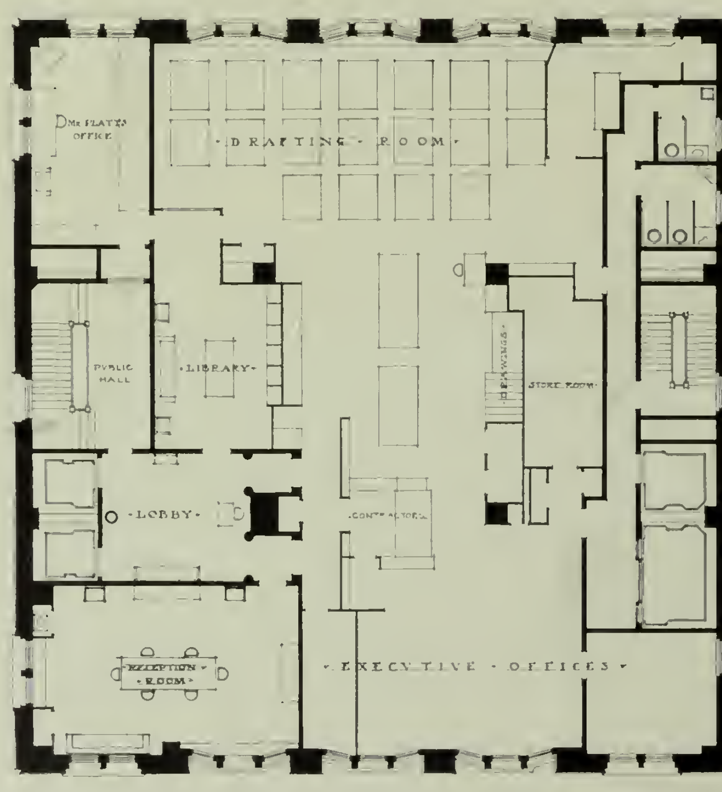
As the visitor passes through the anteroom he finds himself in a busy general office flooded with daylight, and the cheerful effect is made more sunny by means of the light oak trim and walls covered with natural burlap to match. The same effect is carried throughout the suite, from the attractive library alcove end of the general office, together with Mr. York's and Mr. Sawyer's private rooms lighted with south windows, to the small drafting room. A separate drafting room is desirable in every large office as a convenient isolation for a competition or other special rush work in which a group of men can work together guarded from interruption. The main drafting room is typical of other good drafting rooms with excellent north light. Each of the three assistant executives has an attractive private office, the location of which on the plan indicates well his respective relation to the administrative work of the office. It may be noted that the bookkeeping and stenographic work is done in the central portion of the general office where card and correspondence filing cabinets are compactly arranged.



OFFICES OF YORK AND SAWYER,
50 EAST 41ST STREET, NEW YORK CITY.

Next we come to the office of Charles A. Platt, which is pervaded with the same quiet feeling of good taste that characterizes the work of this artist and commands the praise of his brother architects. From the elevators we step into the "lobby" shown in the photograph. Here is a bit of old Pompeian decoration hung on the wall, and some odd pieces of furniture which "belong" in an unostentatious way. In the reception room two priceless old cabinets form the principal part of the furniture. Behind the doors of one are samples of fine stuffs which may be brought forth at the right moment to illustrate to a client the architect's idea of an interior-scheme of decoration and furnishing. The other massive old Italian piece, seen in the photograph at the end of the room, with sculptured bronzed heads for drawer pulls, has a plate rack extending the full length against the wall — a convenient support for standing photographs or sketches. In this spacious reception room there is also a print cabinet in which are kept mounted rendered drawings for ready reference. A concealed lavatory in one corner of the room is balanced with a blind cabinet in which are stored plates and photographs. From the lobby one passes through the library, which is a working library. The table, which is a reminder of the one in the reception room, is only two feet wide and perhaps four feet high, and invites one standing to consult the waiting books and return to his drawing board. Mr. Platt's private office is a sanctum of the real sort. There is a drawing table extending full length of the room with drawers beneath containing all the personal treasures which the artist wishes to preserve from the clutches of the filing fiend. At one end of this table is the designer's board with soft north light at his left. Under one window stands a flat top business desk, and five feet away on the wall is a dictophone which enables him to talk to his assistants or dictate letters without the bother of a receiver at one's ear, a bacteriological transmitter at one's mouth, or the delay of summoning a stenographer from distant regions. Next to the desk stands the couch (shown in reception room when plan was made) which comfortably invites the client to sit in private conference and beg for the privilege of obeying the behests of this gentle and apparently pliable architect. But not until you go into the populous drafting room and past the orderly files of drawings and into the busy executive section do you realize that things are doing and that the dreams of the artist are taking shape in a most business-like way. In this executive office are engineers, specification and correspondence writers, superintendents, and a room for consultation with contractors if they need to be invited to pass the alcove table where drawings are issued. Conveniently between this table and the drafting room are what appear to be a lot of Chicago clothes driers. Pull out one section and you find it to be merely a big galvanized sheet iron drawer set on edge, with some hinged bars in the top on which are hung the drawings in sets — as many in a section as their bulk will permit. The several sets swing out of the section as if they were hung on the face of a door from its top edge, and as each set is bound between half-round clamp strips and hooked over its bar, any set can be consulted in place or removed without removing the others. The only uniformity in size of drawings required by this method of filing is that the

LOBBY. OFFICES OF CHARLES A. PLATT, 11 E. 24TH STREET, NEW YORK CITY. RECEPTION ROOM.



greatest dimension of a sheet one way shall be 36 inches. In the other dimension it may be 6 inches, 60 inches, or any length. In such a scheme drawings are filed flat, as compactly as one may choose to pack them, and one drawing may be withdrawn or inserted without crumpling another. In Mr. Platt's office even full size details are kept within the 36 by 60 inch dimension, and details are made on bond paper which is strong enough for office usage and permits blue printing.

Even though this vertical drawer file holds drawings readily accessible, yet sets of current work drawings hang on swinging bracketed rods, located on a column or wall close to the drafting tables and are thus easily referred to in place, or any set may be lifted off and consulted on a table when desired. This device is so simple and inexpensive that it will deserve illustration later.

One of the features of this drafting room worthy of mention is a 2 foot shelf 7 feet high on the partition next the library. Ceiling hooks under the shelf support coat hangers, hats are placed on the shelf above the respective coats, and thus is formed a very simple, neat, and space-saving wardrobe.

It may be noted that the head draftsman has a private alcove in the corner of the drafting room opposite Mr. Platt's room, and a large wall space adjacent with a thumb-tacked surface (compo board covered with cloth and tinted cream color like the other walls) is kept clear for display of full size details which thus can be studied from the full length of the drafting room.

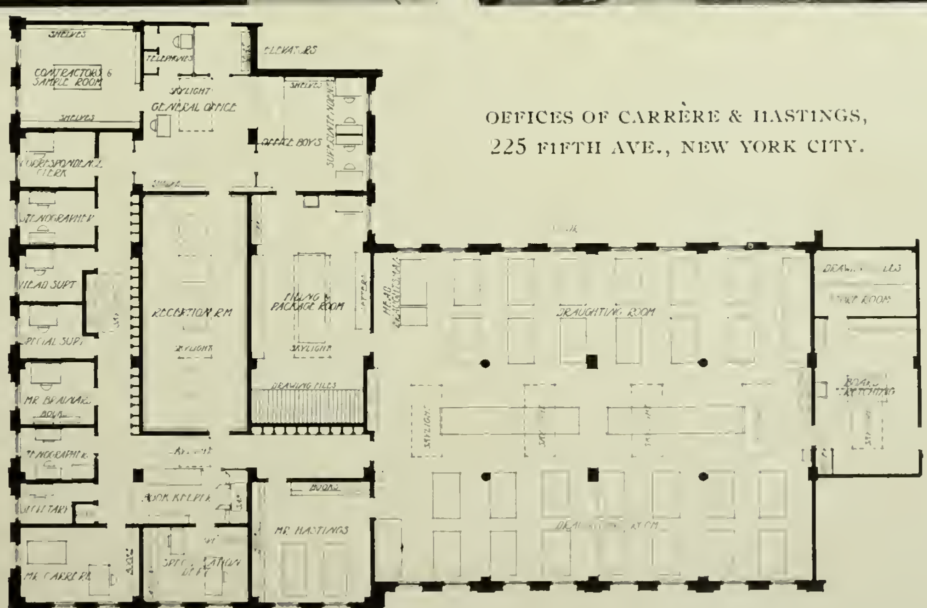
The disposition of samples of building materials is a vexatious problem in every office. In Mr. Platt's office they are neatly arranged on the walls of the library in the alcove passage next to his room. Slabs of marble and even bricks rest on shelves in vertical pigeonholes, formed with thin wood partitions set at 45° with the wall. Each exposes enough of its edge and side for identification and can be drawn forth for a full view.

The headquarters of Carrère & Hastings is an interesting study, not simply because it is one of the largest architectural offices in the world, but because, being newly planned after long experience in building up and organizing a successful professional business, the plan is an expression of the relation of the parts of the organization and the method of administration. The visitor may be surprised on being told that the filing room is the central feature around which the whole office is planned. This is true evidently because this room contains the instruments of service through which the architects accomplish their work. It is the focal point for the receiving, distributing, and recording of designs, specifications, and orders. In theory every drawing, specification, order, and letter must pass through this room before it can leave the office. Conversely, every shop drawing, every sample submitted for approval, and every document returned must pass through this room before it reaches the architect or any department

FILING AND PACKAGE ROOM.

DRAFTING ROOM.

RECEPTION ROOM.



OFFICES OF CARRÈRE & HASTINGS, 225 FIFTH AVE., NEW YORK CITY.

of his organization. Upon effective carrying out of this theory depends in large measure the smooth working of the office administration and the prompt issuance of information upon which depends the prompt execution of clients' work.

Referring to the plan we may note first how conveniently a caller is cared for as soon as he enters the door of the general office. If he is a contractor he finds close at hand a table on which drawings may be spread, and superintendents or other executives to meet him there in conference. If he is a client he is shown into the impressively large reception room which is approached from the opposite end with equal convenience by a partner or any member of the office force; or the client can be ushered with facility to any private office for individual conference. Mr. Hastings is in immediate proximity to the reception room and the drafting room, and the working library is his studio. Even if he has visitors in conference a draftsman is at liberty to walk in, select a book, and return to the drafting room. The bookkeeping and financial center of the office is where it should be, between the members of the firm and yet not visible from the outer office. Mr. Brainerd, the business and engineering head of the firm, is in convenient touch with Mr. Hastings and the business office and is at the same time in the midst of his executive assistants. It may be remarked here that the management of the office is based on the idea that each individual should be entrusted with the charge of certain well-defined work and then held responsible for results and that no automatic system can take the place of brains. When we find ourselves in the immense drafting room we may note that the two long detail tables in the middle of the room have drawers under, containing sketches, etc., for reference, or drawings in progress. Standing racks are ranged along between the columns, supporting drawings needed for reference by draftsmen at work.

We need scarcely refer to other interesting arrangements of the office shown clearly by the plan, such as the fine sample room which is available on occasion for contractor's use. But before leaving the file room we may remark that this room is closed to all except the most efficient young lady in charge and her assistant. The latter has a mailing desk near the window and a machine for writing up records. All drawings received from the drafting room are entered on card lists, and if a drawing is handed out to any one in the drafting room its tag with a debit entry lies in a tray until that identical drawing is returned and replaced in the file. Scale drawings are kept in the metal "clothes drier" racks at the end of the room, and full size details are folded and filed edgewise in drawers in the manner of correspondence vertical files. Miscellaneous mounted drawings, photographs, etc., are placed in ordinary flat drawers and their location recorded by card index. The issuance and receiving of drawings, samples, etc., is recorded on thin card slips written once in duplicate and without any transcriptions, and also without requiring receipts.

OFFICE.

OFFICES OF GROSVENOR ATTERBURY, 20 W. 43d STREET, NEW YORK CITY.

A number of architects in New York have bought or leased old residences which by the shifting of business districts are favorably located. A good example of this type of office is that of Grosvenor Atterbury. Every nook of this house, which is sandwiched between business buildings and yet has good light both front and rear, appears to be busily utilized, from a contractor's room in the basement to a photographic dark room in the top story. The inquisitive visitor enters the business office and is impressed with the artistic atmosphere. Before inviting him upstairs to his private office, Mr. Atterbury calls attention to a card index saying that a "white card indicates that a drawing has been issued, and a yellow card that the receipt has not yet come back" — etc. Mr. Atterbury is famous for his model tenements and towns and other achievements, and in the profession he is famous also for his business system. With his permission we will reproduce later some of his interesting printed blanks. In the meantime the plan herewith shows clearly the various features of this five-tiered office. Note one long dumbwaiter for drawings, another for small packages and messages; the separate drafting rooms; the picturesque sample room balcony around the well above the business office; and the tracing room in the top story where a portion of the blue printing is done. Mr. Atterbury charges clients for all blueprints at the regular printers' rate. One interesting feature of Mr. Atterbury's office is the presence of half a dozen skilled and efficient women draftsmen.

ARCHITECTURE is not only an art, and the long and thorough training necessary for the attainment of even a modest proficiency in its practice classes it not only as an artistic profession but as a scientific profession requiring a breadth of knowledge probably greater than is required in any other profession. The future health and well-being of the Nation is, to a great extent, in his hands. Social progress is his care, and in the public interest, even if not in his own, the architect in whose hands the remedy lies should be surrounded by an artistic atmosphere which will eventually lead to the progress of art or the evolution of a National style of architecture. — *Todd.*

The Heating and Ventilation of Schools. — I.

CHARLES L. HUBBARD.

MODERN school buildings are commonly heated and ventilated in one of three ways, depending upon their size and the funds available for this part of the equipment. Buildings of four to eight rooms may be heated quite satisfactorily by means of furnaces when it is desired to keep the expense as low as possible. Indirect steam, with gravity circulation of air, is also used for buildings of this size and also in buildings up to twelve class rooms or more. Its principal advantages over furnace heating are: first, a single boiler or pair of boilers set in battery and a single coal room, while with furnace heating the best practice makes use of a separate furnace for each pair of class rooms, and as these are more or less widely separated, it complicates the storage of coal and handling of ashes as well as the work of firing; second, furnace heating usually makes it necessary to employ stack heaters to produce a sufficient draft in the vent flues, which still further complicates the work of the janitor in charge of the building.

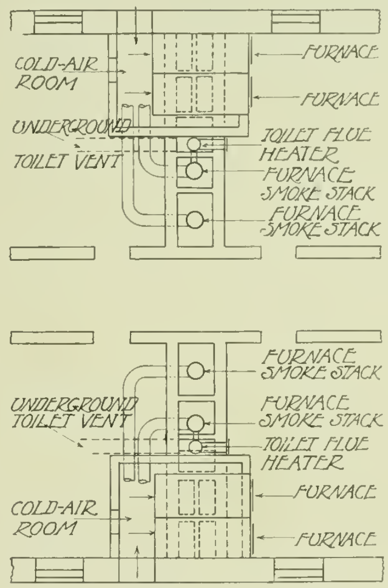


FIG. I.

With indirect steam the fires, storage of coal, and removal of ashes are grouped at a single point, which reduces the amount of work necessary to care for them and also adds to the cleanliness of the building. When the cost does not prohibit, it is advisable to use the fan system in buildings of eight rooms and over, as the results are so much more uniform, both as to air supply and temperature. When the cost of operation is taken into account the expense of a fan system is not so very much more than the indirect gravity. The radiation is more efficient, due to the greater velocity of the air over it, hence less is required; again, vent-flue heaters are not required, which both lessens the first cost and the amount of fuel for operating.

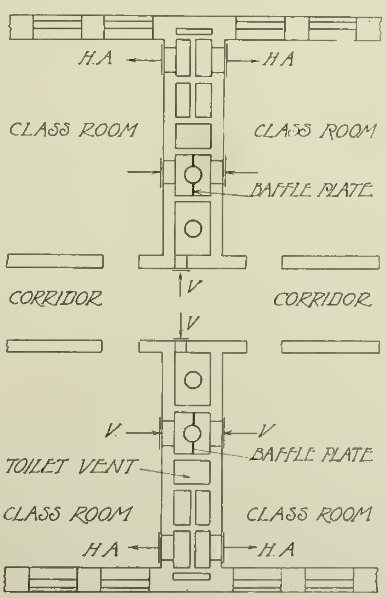


FIG. II.

The present article will deal with buildings of eight rooms and less, employing furnaces or indirect steam heat.

The Massachusetts law calls for a minimum air supply of 30 cubic feet per pupil per minute, while it is customary in high schools to provide a ventilating apparatus capable of supplying 50 cubic feet. In the present article, which applies more especially to grammar schools, a basis of 40 cubic feet per pupil per minute will be assumed in proportioning the various parts of the apparatus. A standard class room usually accommodates a maximum of 50 pupils, which calls for an air supply of 50 x 40 = 2,000 cubic feet of air per minute.

In proportioning the size of the warm-air supply flues it is customary to assume an average velocity of 300 feet per minute to the first-floor rooms, and 350 feet per minute to the second floor. This in round numbers calls for flue areas of 7 square feet and 6 square feet respectively. The vent flues may be made the reverse of this, that is, 6 square feet from the first-floor room and 7 square feet from the second. The reason for this variation in flue area is because with a given difference in temperature between the external air and that in the flue, the velocity of flow will increase with the height of flue.

The area of the cold-air inlet may be made the same as the total of the warm-air flues connecting with the furnace or heating stack, and means provided for throttling the air supply in windy weather. The above data applies to both furnace and indirect steam heating, and can be used in either case equally well. In the case of a furnace-heated building the next step is to compute the required grate area for both heating and ventilation. In doing this it is customary to provide a separate furnace for each two class rooms.

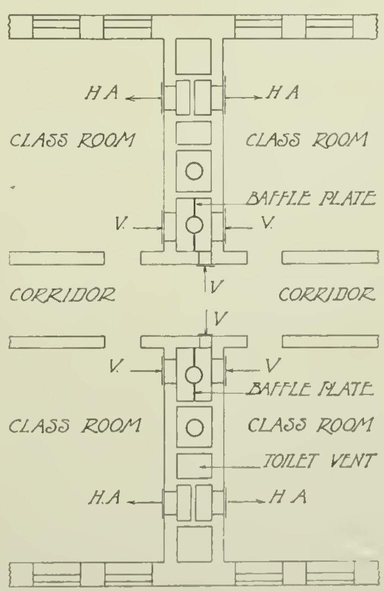


FIG. III.

The heat loss from a standard corner class room, having the usual proportion of glass, and of average construction, may be taken as 30,000 heat units per hour for northerly rooms, and 20,000 for southerly rooms. The heat required for warming the air for ventilation may be found by multiplying the air supply per hour by 1.3, when its temperature is to be raised from 0° to 70°. This calls for 2,000 × 60 × 1.3 = 156,000, or in round numbers 160,000 heat units per hour, making a total of 160,000 + 30,000 = 190,000 heat units for northerly rooms, and 160,000 + 20,000 = 180,000 for southerly rooms. A good furnace of large size should burn economically 7 pounds of coal per square foot of grate per hour, and each pound of coal gives off approximately 13,000 heat units, of which about 8,000 are absorbed by the passing air and do useful work. Under these conditions, $\frac{190,000}{7 \times 8000} = 3.5$ square feet of grate surface are required for each northerly class room, and $\frac{180,000}{7 \times 8000} = 3.2$ square feet for each southerly room. On this basis it is customary to use a furnace having from 7 to 8 square feet of grate surface for each pair of northerly rooms, and 6 to 7 square feet for each pair of southerly rooms. Corridors, coat rooms, teachers' rooms, etc., may be heated either by a separate furnace, or better, by enlarging the class room furnaces on a basis of 1.5 square feet of grate surface for each 10,000 cubic feet of space to be heated. Although the usual form of cylindrical house-heating furnace may be adapted to schoolhouse work, it is more common to use a furnace with an extended heating surface and especially adapted to this class of work. Furnaces of this type are often of the general form of a locomotive boiler and are enclosed in a brick setting.

The small stoves, or stack heaters, placed in the vent flues from the class rooms, should each contain a grate area of at least one square foot.

Figs. I to VI inclusive show a typical furnace layout for an eight-room school building which contains some points of interest as symplifying a system of this kind. The first and second floor plans, Figs. II and III, show the general arrangement of the flues, which are constructed of brick on account of their close proximity to the furnaces and smoke stacks. The supply flues discharge the warm air into the rooms near the outside walls, which is desirable both from a heating and ventilating standpoint. The flues leading to the first floor are insulated from the outside wall by an air space, as shown. The vent flues are located near the corridor walls, an arrangement which gives a good circulation to the air supplied for ventilation and also assists in heat distribution. The corridors are provided with discharge ventilation, as shown; fresh air being obtained partly by leakage and through the frequent opening of outside doors, and partly through hot-air registers not shown in the cut. The flues are so grouped that the furnaces may be placed in two batteries as shown on the basement plan, Fig. I; thus reducing the labor of firing and cleaning. Each battery of furnaces is enclosed in a cold-air room with a large inlet at the rear, as indicated by the arrows. From here it flows into the furnace casing at the floor through special openings provided for this purpose. This is made clearer in Fig. IV, which represents a longitudinal section through one of the cold-air chambers, and shows the galvanized iron connections between the top of the furnace casing and the bottoms of the brick uptake flues, which start at the level of the first floor. The flues are spread apart before entering the furnace casing so that the cold air admitted by the mixing dampers will pass up the back of the flues and thus be delivered at the tops of the registers, a condition which is always desirable for reasons stated in a previous article. The outside air enters through a large opening at the rear and passes beneath the furnaces through openings near the floor, as indicated.

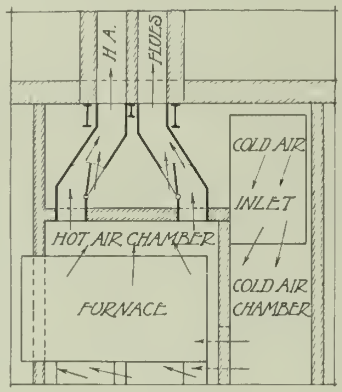


FIG. IV.

A cross-section through a cold-air room and pair of furnaces is shown in Fig. V, and illustrates the passage of the air from the main supply chamber into the spaces surrounding the furnace, also the connections between the furnace casings and the brick flues.

With this arrangement the left-hand furnace supplies the two first-floor rooms on that side of the building, and the right-hand furnace the two upper rooms. The other side of the building is symmetrical with this, and the arrangement practically the same.

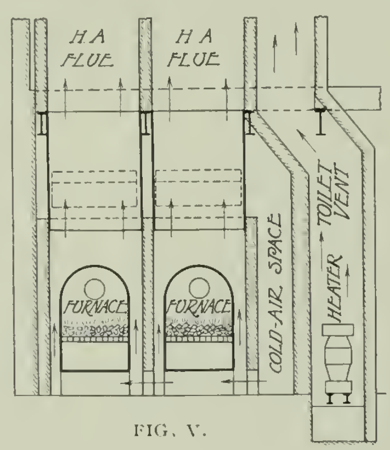


FIG. V.

No method is shown for warming the corridors. This may be done by carrying over pipes from the two nearer furnaces, enlarging the grate areas correspondingly, or a separate furnace may be used.

Temperature regulation is obtained by the use of mixing dampers at the bases of the flues as shown in Figs. IV and V. Special attention is called to the method of heating the vent flues without employing additional stack heaters for this purpose. This consists in providing a separate steel smoke stack for each furnace, as indicated in Figs. I, II, and III. These stacks are carried up in a brick vent flue which serves two class rooms. Sound is prevented from passing from one room to the other by the use of heavy galvanized iron baffle plates, or deflectors, shown in plan in Figs. II and III, and in elevation in Fig. VI, which is a vertical section through a pair of vent flues and shows the two smoke stacks supported at their centers. The main toilet vents are heated by special stack heaters as shown in Fig. I, and in section in Fig. V. The ducts leading from the fixtures are of brick or cement and are carried beneath the basement floor as indicated. If a special furnace were used for warming the corridors its smoke stack might be used for heating a main toilet vent centrally located, with which both of the basement toilets could be connected.

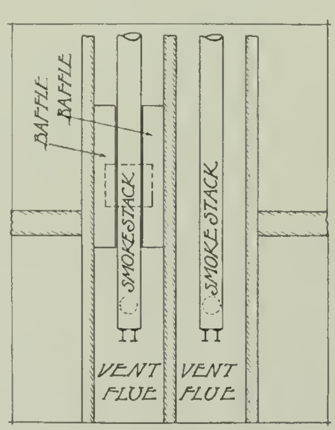


FIG. VI.

The layout shown is simply one of many which may be used to good advantage, but it serves to bring out some of the important points to be kept in mind when designing a system of this kind, viz., grouping the hot-air flues so the furnaces may be operated in batteries, and the utilization of steel smoke stacks for heating vent flues, thus avoiding the multiplication of fires, so far as possible.

In the case of indirect steam heating, the sizes of flues and the quantity of air may be taken the same as for furnace heating, also the amount of heat to be supplied per class room.

Indirect cast-iron radiators, commonly known as "school pin," and rated at 12 to 15 square feet of heating surface per section, are well adapted to this purpose. Heaters of this type may be counted upon to give off at least 650 to 700 heat units per square foot of surface per hour, which calls for $\frac{190,000}{650} =$ 300 square feet for northerly class rooms, and $\frac{180,000}{650} = 280$ square feet for southerly rooms, for both heating and ventilating.

Sometimes the indirect stacks are only made large enough to heat the air for ventilation in zero weather, and the heat loss by transmission through walls and windows is provided for by placing direct radiation in the rooms. When this is done the higher efficiency (700) may be used in computing the size of stacks, because the final temperature of the air will be less (70°) and the flow of heat from the radiating surface to the air will be greater. Under this condition each room should have $\frac{160,000}{700} = 230$ square feet of indirect surface. The direct radiating surface may be based on an efficiency of 250 heat units per square foot of surface per hour if circulation coils are used, which calls for $\frac{30,000}{250} =$ 120 square feet in northerly rooms, and $\frac{20,000}{250} = 80$ square feet in southerly rooms. This corresponds very nearly to six and four lines respectively of 1¼-inch pipe around the two outside walls beneath the windows.

With this combination of direct and indirect surface it will be possible to both heat and ventilate the building with the indirect surface when the outside temperature is above 30 degrees or so, using the direct coils simply for quick warming in the morning, and in the coldest weather as may be required. The direct surface may also be used when heat only is required without ventilation.

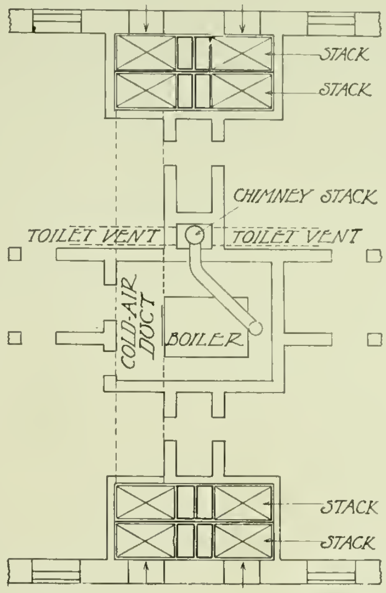


FIG. VII.

The indirect stacks should be divided into three separately valved sections and provided with mixing dampers. When both heating and ventilation is done by the stacks the doors of the corridors and the cold-air rooms should be so arranged that air may be circulated within the building for quick warming and also when ventilation is not required.

The main halls or corridors are commonly heated by means of foot-warmers, so called, which are indirect stacks similar to those used for the class rooms, placed beneath floor registers. Two foot-warmers, containing about 150 square feet of surface each, will usually be sufficient for warming both lower and upper corridors, the heated air passing up the stairways to the latter. If there is a good deal of exposed window surface at the ends of the corridors, direct surface may be added, in the ratio of 1 square foot to each 5 square feet of glass.

Foot-warmers should be arranged to take their air supply either from out of doors or from the basement, by turning a switch damper. Small rooms heated entirely by direct surface may have cast-iron radiators proportioned in the ratio of 1 square foot of surface for each 3 square feet of glass, and the same for each 8 square feet of wall. This is for southerly rooms and should be increased thirty per cent for a northerly exposure. If cast-iron sectional boilers are used there should be 1 square foot of grate surface for each 80 feet of indirect radiation; each square foot of direct surface being counted as 0.5 of a foot of indirect, which gives a considerable margin of safety. When tubular boilers are used, there should be 1 horse-power for each 45 square feet of indirect radiation, counting direct surface as already stated.

The vent flues from class rooms should each be provided with an open form of aspirating coil containing from 30 to 40 square feet of heating surface. These coils should be placed just above the vent openings from the rooms, with shut-off and air valves in the basement. A typical layout for an eight-room school, heated and ventilated by indirect steam radiation, is shown in Figs. VII, VIII, and IX. In this case the flues are of galvanized iron, except the main toilet vent, which is of brick. This material makes a light construction and requires no basement support, being

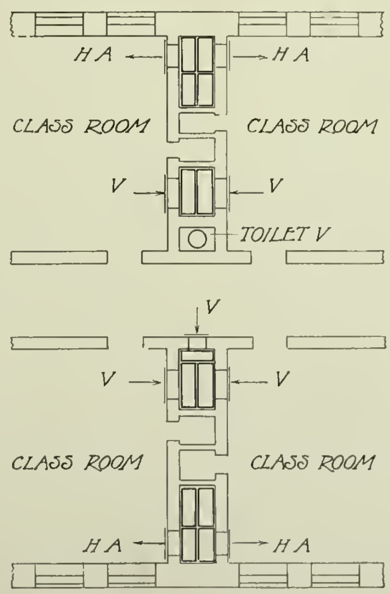


FIG. VIII.

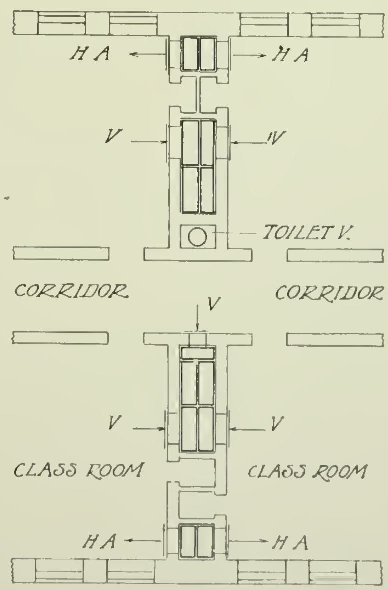


FIG. IX.

carried by the floor construction at the different stories. Flues of this material take up less room than brick and have a smooth interior. When steam is used the temperature at the stacks is lower than around the furnaces, hence less care is required in connection with the fireproofing in wooden buildings. Although brick chambers and flues have some advantages in connection with furnace heating, this construction is not at all necessary, provided suitable precautions are taken against fire in the installation of sheet-iron flues and connections.

The basement plan, Fig. VII, shows two cold-air chambers, each connecting with four supply flues and containing four indirect stacks. A section through one of these is illustrated in Fig. X, and shows two of the stacks with their connecting flues. The stacks are suspended from the ceiling a distance slightly greater than the width of the flue and provided with mixing dampers, as shown. With the arrangement indicated, the cold air passes up the backs of the flues and so into the rooms at the tops of the registers. The flues are extended a couple of feet or so below the bottoms of the stacks so as to insure a supply of cold air at outside temperature. If the flues start on a line with the stacks, the air in mild weather is likely to become considerably heated by blowing across the bottoms of the heaters before entering the flues, thus making it difficult, at times, to maintain a sufficiently low temperature in the rooms. The fresh outside air enters through two inlet windows, as shown. The efficiency of the system would be somewhat improved by connecting the two air chambers by a duct having an area equal to at least three of the hot-air up-takes. This duct could be carried underground with the present location of the boiler, or an overhead duct could be used by changing the position of the smoke connections or carrying the duct at one side of the center, as indicated by dotted lines. If a connecting duct were used it would be necessary to place air-checks over the inlet windows to prevent the cold air from blowing entirely through the building. If the basement ceiling is of fire-proof construction, or of wire lath and plaster, no special lining will be needed above the heating stacks; otherwise, the ceilings of the hot-air chambers should be tinned or covered with light galvanized iron.

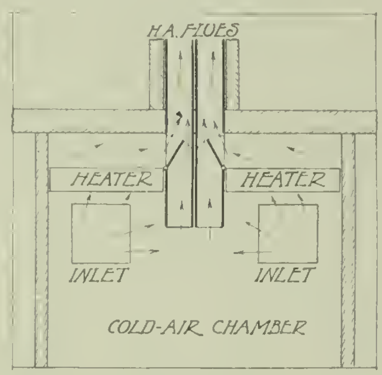


FIG. X.

Figs. VIII and IX show the general positions of the flues on the different floors. As the first-story supply flues next the outside wall do not extend more than 8 feet above the floor there is ample room to offset the second-story flues to a location near the outer wall, thus giving space for closet room on the upper floor, as seen in Fig. IX. When carrying up flues in this way they should be kept a distance of 4 to 6 inches from the outer wall, and it is well to protect the exposed side with some good form of insulating material. The corridors are heated by means of foot-warmers (not shown) and vented into a special duct as indicated.

A brick flue is provided for general toilet ventilation near the center of the building, and heated by the boiler smoke stack, which is carried up inside it. This utilizes the waste heat from the stack and takes the place of a special aspirating coil. The two main basement toilets are connected with this flue by means of underground ducts shown in dotted lines in Fig. VII.

The vent flues, as arranged, would probably be brought into a common chamber in the attic provided with an outboard shaft, having an area about 0.7 that of the combined areas of all the flues connecting with it. A damper should be provided in this outboard shaft with means for operating from the basement. The toilet vent, however, should be carried up separately past the damper, and end at a point on a level with the top of the main flue. Probably the best arrangement in the present case would be that shown in Fig. XI, with the brick vent flue at the center and a galvanized iron or copper flue on each side. Mention has already been made of the main outboard flue for toilet ventilation and the different methods of heating it to produce the desired velocity of flow through it, especially in mild weather. Of equal importance with this flue itself are the methods of connecting the fixtures with it. One of the best arrangements, everything taken into consideration, is to provide a closed chamber at the rear of the fixtures, from 12 to 15 inches in depth and as high as the marble or slate partitions between the closets will allow. This space provides room for the soil pipe and its connection with the fixtures as well as a ventilating chamber, and therefore serves a double purpose. The local vent from each fixture, both closets and urinals, is connected by a neat copper pipe with the chamber, and a duct, either underground or overhead, having an area equal to the total sectional area of all the local vents connecting with it is carried from the chamber to the main uptake flue. This space need not necessarily be air-tight, as all leakage is inward when the flue is in operation. Sometimes a register, about 10 by 12 inches, is provided in the far end of the chamber to provide a certain amount of general ventilation for the room in addition to that through the fixtures. This register, however, should be provided with valves so it may be closed if desired, as it is best, so far as possible, to throw the greater part of the discharge from the room through the fixtures, in order to carry off all odors before they have a chance to enter the air of the room. Toilet rooms should not have an air supply other than that which is drawn in by the slight vacuum due to the aspirating effect of the vent flue.

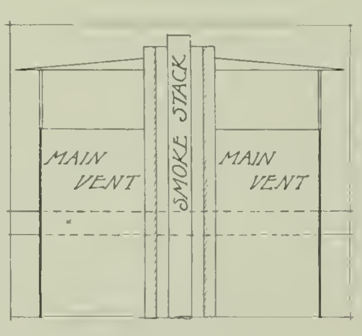
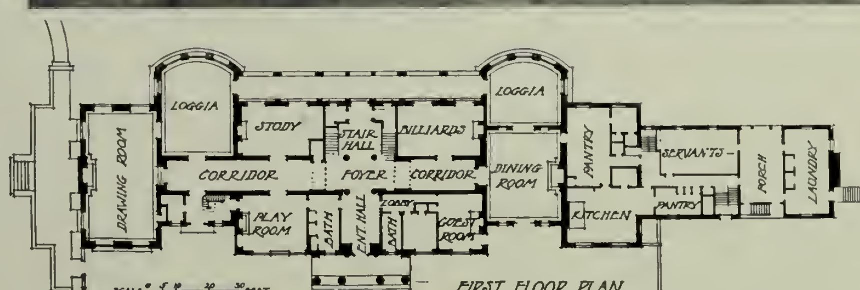


FIG. XI.

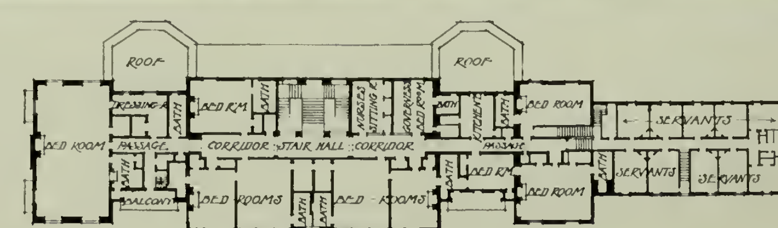
This is usually provided for by means of grilles or louvres in the lower panels of the door, or by a space, 6 or 8 inches in height, under the door, made by shortening it. In mild weather this may be provided for by opening the windows.



FIRST FLOOR PLAN

THE MANOR HOUSE,
GLEN COVE,
LONG ISLAND, N. Y.

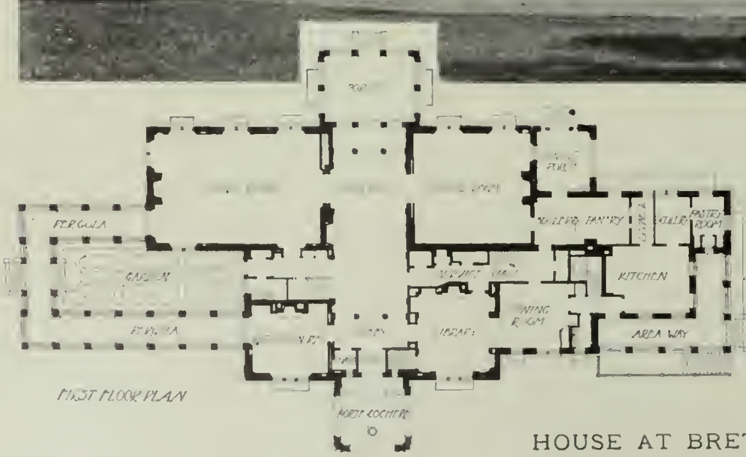
CHARLES A. PLATT, ARCHITECT.



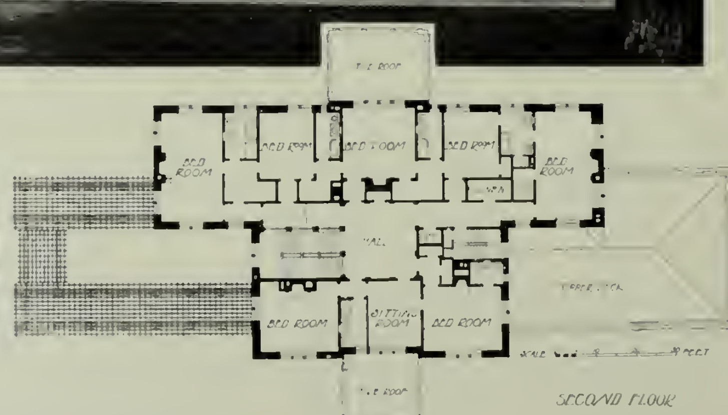
SECOND FLOOR PLAN

THE MANOR HOUSE, GLEN COVE, LONG ISLAND, N. Y.
CHARLES A. PLATT, ARCHITECT.

EXTERIOR AND INTERIOR VIEWS.
THE MANOR HOUSE, GLEN COVE, LONG ISLAND, N. Y.
CHARLES A. PLATT, ARCHITECT.



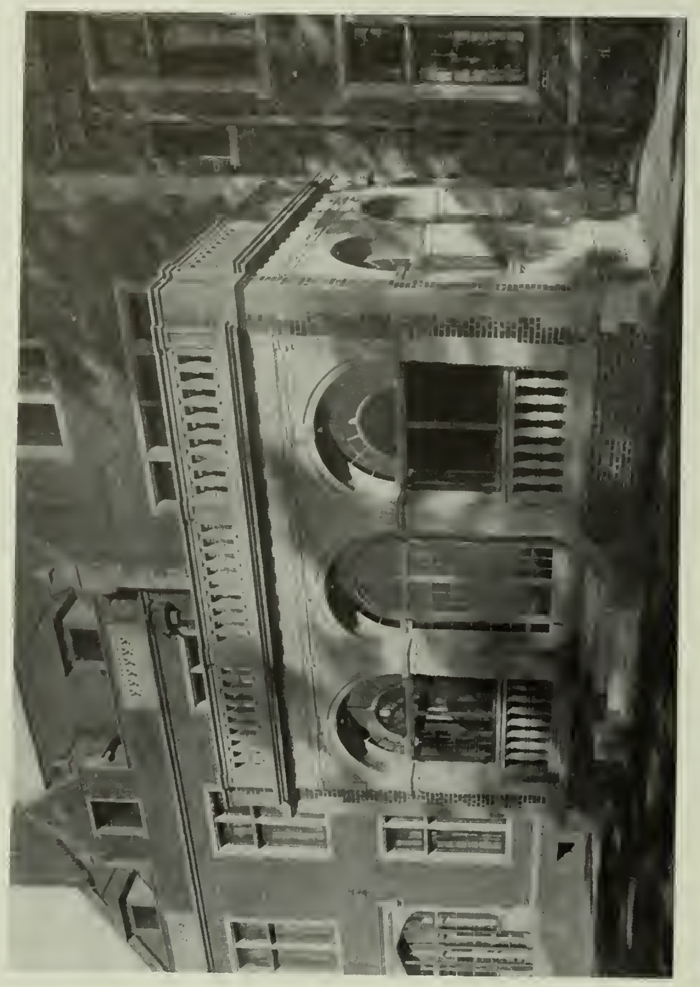
FIRST FLOOR PLAN



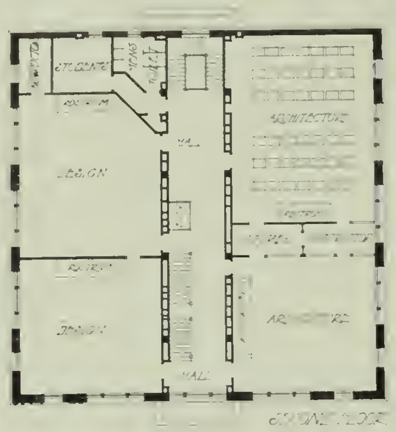
SECOND FLOOR

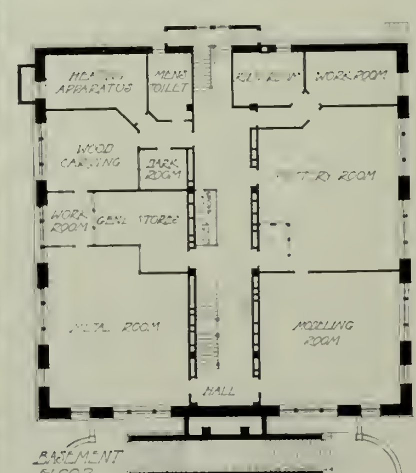
HOUSE AT BRETENAHL, OHIO.

McKIM, MEAD & WHITE, ARCHITECTS.



EXTERIOR AND INTERIOR VIEWS. HOUSE AT BRETENAHL, OHIO.
McKIM, MEAD & WHITE, ARCHITECTS.

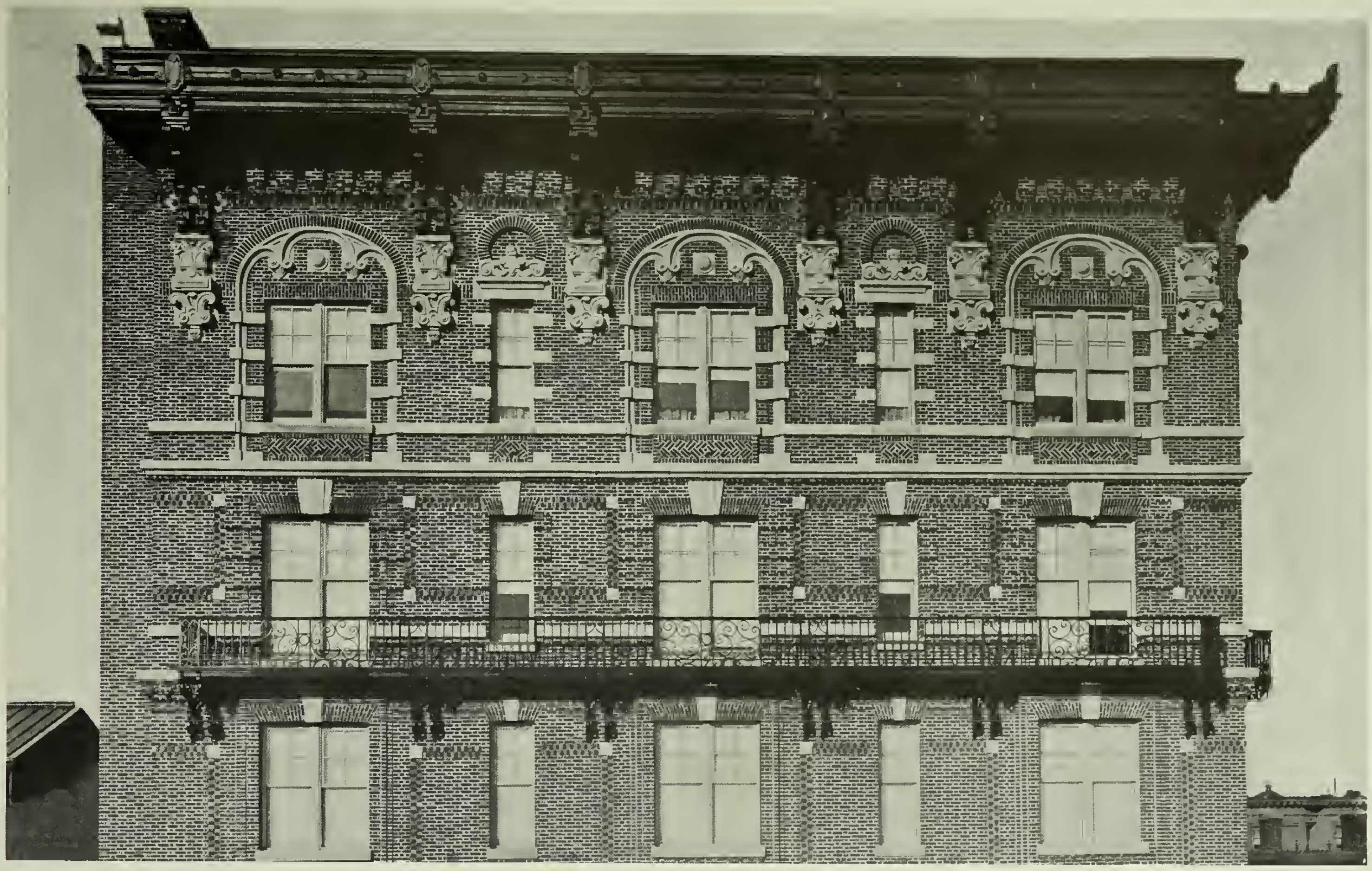


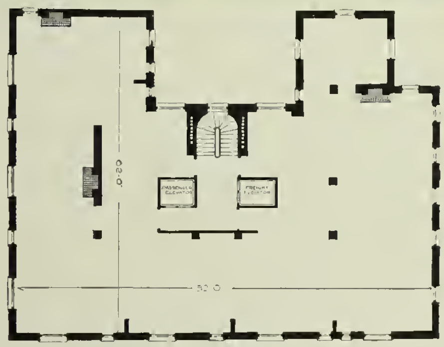


BEVIER MEMORIAL BUILDING OF THE MECHANICS INSTITUTE, ROCHESTER, N. Y.
CLAUDE BRAGDON, ARCHITECT.

APARTMENT HOUSE, BROOKLYN, N. Y.
WILLIAM A. BORING, ARCHITECT.

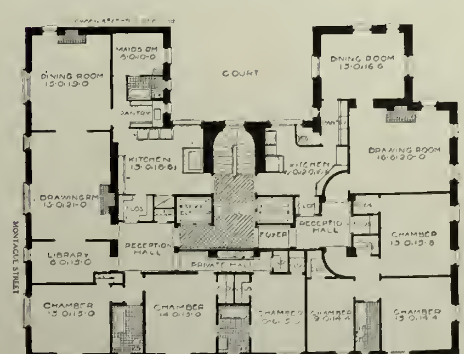
VOL. 21, NO. 1. PLATE 8





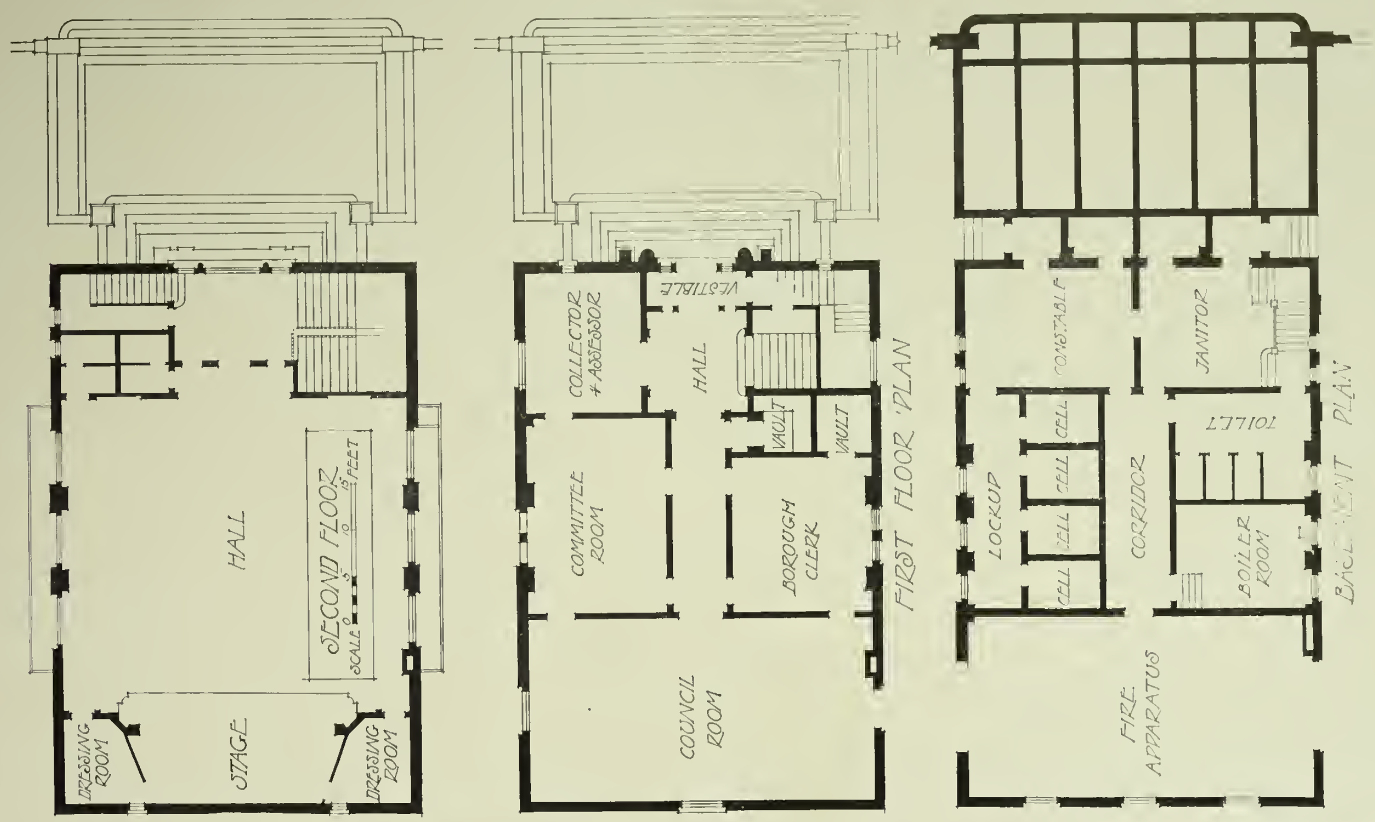
SKELETON PLAN

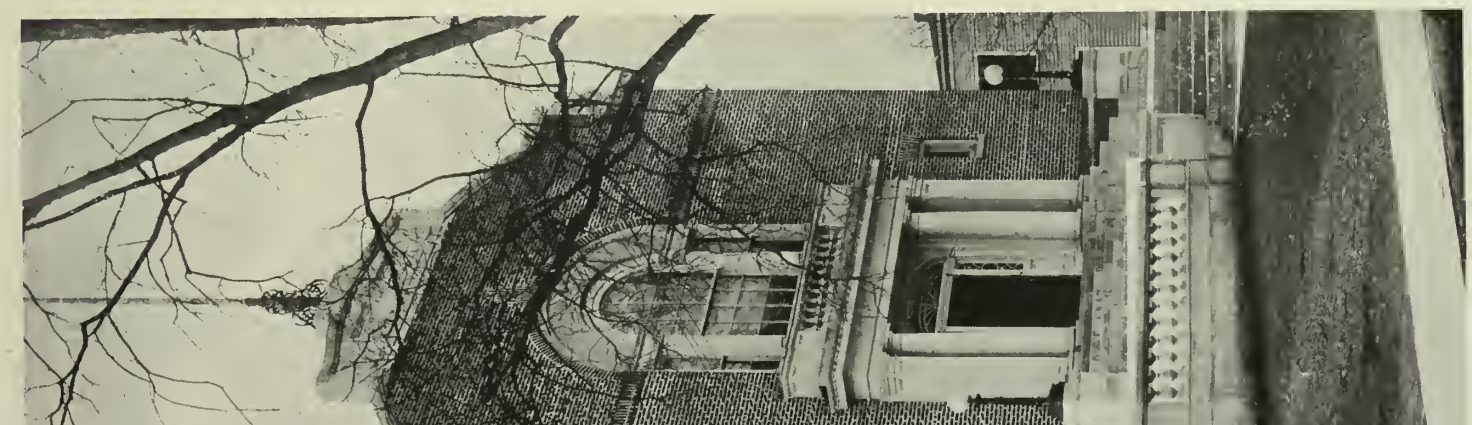
HICKS STREET TYPICAL FLOOR PLAN



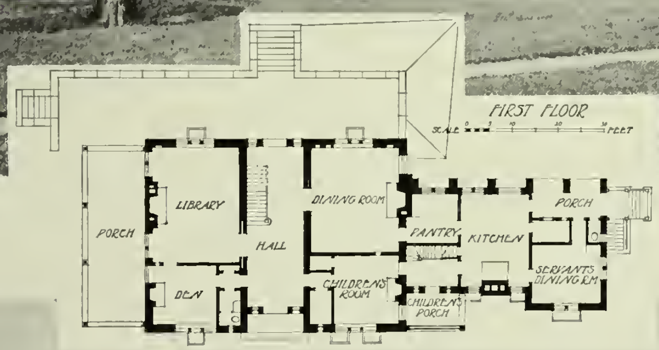
HICKS STREET TYPICAL FLOOR PLAN

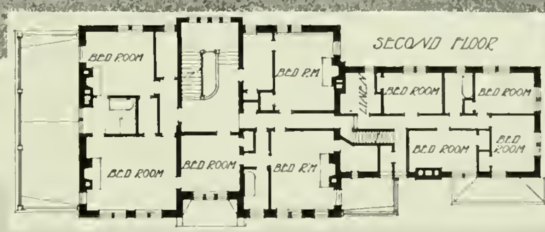
APARTMENT HOUSE, BROOKLYN, N. Y.
WILLIAM A. BORING, ARCHITECT.



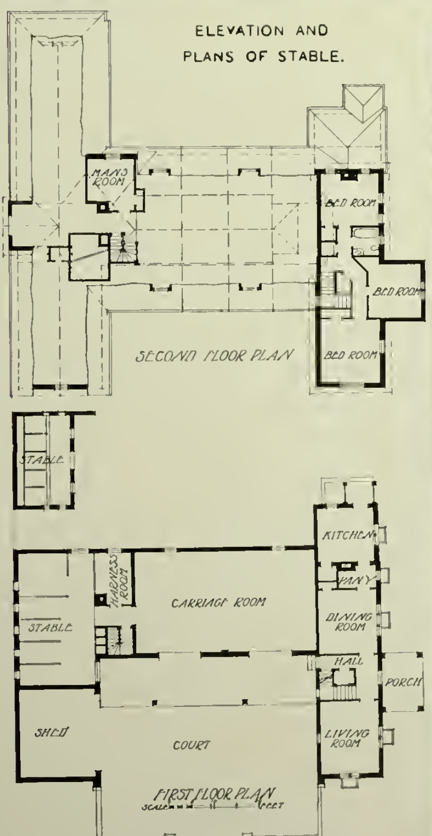


BOROUGH HALL, ROSELLE, N. J.
WARRINGTON G. LAWRENCE, ARCHITECT.





HOUSE AT JENKINTOWN, PA.
Cope & Stewardson, Architects.



ELEVATION AND PLANS OF STABLE.

HOUSE AND STABLE
AT
JENKINTOWN, PA.

COPE & STEWARDSON, ARCHITECTS.

DETAIL OF ENTRANCE TO HOUSE.

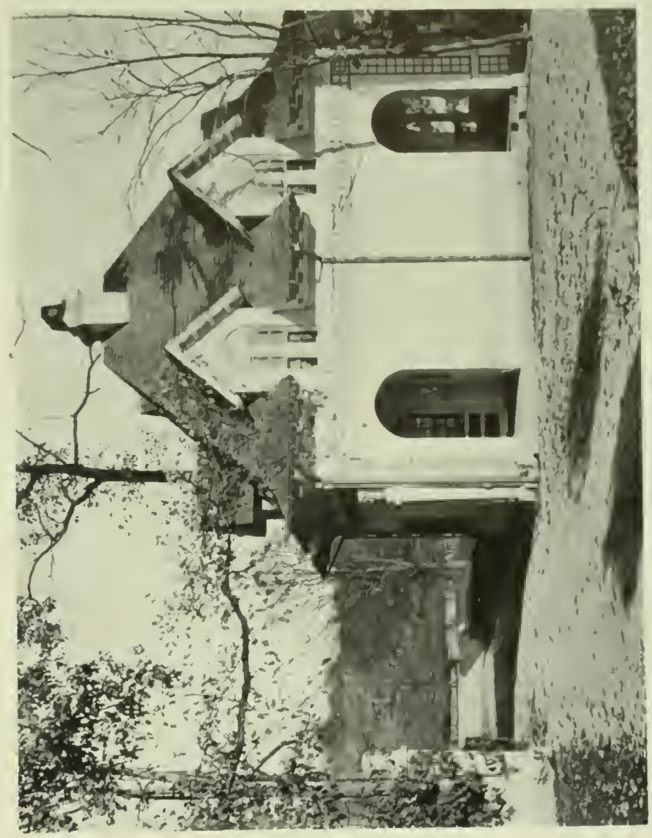
HOUSE AT MT. KISCO, N. Y.
BUILT OF TERRA-COTTA HOLLOW TILE BLOCKS WITH STUCCO FINISH.
DELANO & ALDRICH, ARCHITECTS.

VOL. 21, NO. 1. PLATE 13.

LIBRARY.
HALL.

INTERIOR VIEWS, HOUSE AT MT. KISCO, N. Y.
DELANO & ALDRICH, ARCHITECTS.

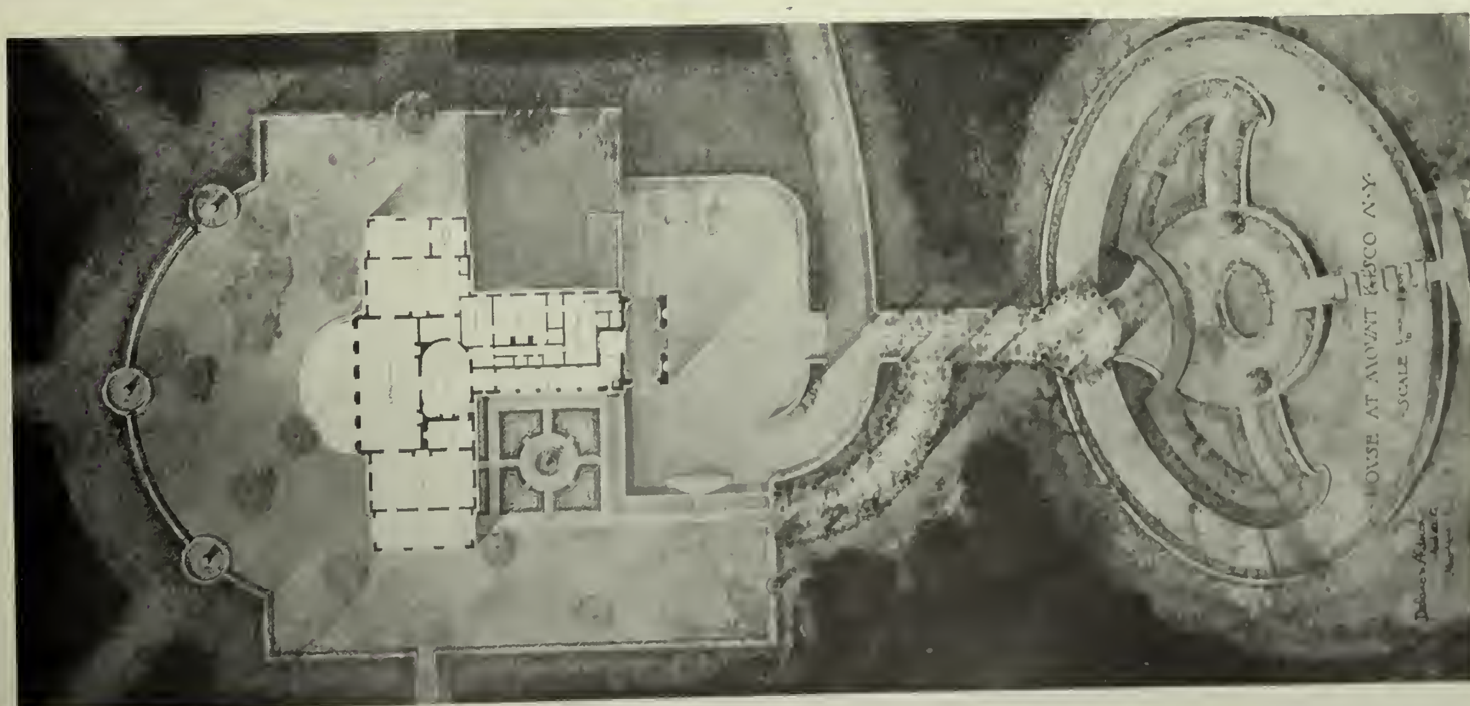
DINING ROOM.
HALL.



PLANS, STABLE AND GATE LODGE.

HOUSE AT MT. KISCO, N. Y.

DELANO & ALDRICH, ARCHITECTS.



Legal Hints for Architects.—Part VII.

WILLIAM L. BOWMAN, C.E., LL.B.

Contract Clauses. Our previous considerations of various contract clauses, using the ordinary uniform contract as a basis for suggestions, have brought us to the questions involving additional drawings and explanations, full-sized details, models, etc., which are not directly specified in the contract. The usual clause reads "that such additional drawings and explanations as may be necessary to detail and illustrate the work to be done are to be furnished by said architect, and they agree to conform to and abide by the same so far as they may be consistent with the purpose and intent of the original drawings and specifications," etc. No argument seems necessary to show that this particular clause does not permit or authorize the architect to change his scale plans, but how many architects to-day are there who do not in some way make such changes? While it must be admitted that often such changes are minor or of no serious consequence, yet since we must all be governed to some extent by the general principles of what we do, even such changes should, as far as possible, be avoided. Some architects have attempted to take an illegal advantage by means of this clause, or of one of similar import. In one instance the architect added to his working details certain written provisions forbidding the assignment of the contract and fixing a date of completion of the work beyond which time the contractor would be liable to liquidated damages or to a deduction for non-completion on time. It was of course held that such provisions were not a necessary part of working details, and hence they were not binding upon the contractor. An important and interesting case involving this point will now be taken up in detail, and to save time and repetition many of the other points of interest therein will be mentioned.

The scale drawings of a modern city store used and furnished by a certain architect for bidding purposes showed an outline of designs for elevator screens and stair balustrades for the first story only. They showed that there were to be at certain indicated points ornamental features such as leaf work, but did not show the character, quality, or extent of such work, and the specifications did not help the drawings in this respect. The architect afterwards claimed that the bidders were shown certain photographs of fine ornamental iron work made in Europe and a certain specimen of grill work by a well-known manufacturer, but the contractor who was low bidder at $88,634 (the next bid being $135,000) denied that he had ever seen said photographs or sample work until after he had signed the contract. Then they were presented to him by the architect for signature. After some discussion of the matter with the architect the contractor immediately wrote a letter stating that in his estimate he had allowed $4,800 for stair balustrades and $15,000 for elevator screens, and that he was willing to spend that amount for such details as the architect should choose and that before proceeding he wanted a clear understanding as to the value of the work to be done. The owner thereafter signed the contract not knowing of this difference between the contractor and the architect. This contract provided as follows upon the material points to be mentioned herein: that the contractor admits that the drawings and specifications are sufficient for their intended purpose, and covenants and agrees to follow same, and furnish all materials of the quality and kind set forth in the specifications and execute all work strictly in accordance with the drawings, using for data and dimensions the figures marked on each drawing in preference to what the drawing may scale, and to be governed in each case by the detail drawing in preference to what the general drawing may show for the same part of the work; and the contractor hereby expressly waives all claim or demand to any allowance for extra work or materials that may be furnished, unless in each case such extra work or materials shall have been furnished upon a written order signed by the architect; that in case the parties hereto cannot agree as to the true value of extra or deducted work or the amount of extra time, or in case they disagree as to the true meaning of any covenant or agreement herein, the decision of the architect shall in each case be final and binding; should any dispute arise respecting the true construction or meaning of the drawings or specifications the same shall be decided by the architect and his decision shall be final and conclusive. Thereafter the contractor started his work, and against his protest and claims for extra work he was furnished detailed drawings by the architect which required him to spend about three times his estimate for the two items in dispute. The ornamental features of the full-sized details were not as elaborate as the photographs, but required leaves, buds, fruits, vines, and various artistic figures which were not indicated by the scale drawings, and some of them necessitated hand work by skilled ironworkers.

When the entire ornamental work was completed, a further question arose as to how much time of delay there had been on the part of the contractor. The contractor claimed that the chief cause of the delay was the architect himself, in his failure to furnish the detail drawings. Assuming to act under the contract provisions above given the architect decided in favor of the owner and then issued a final certificate. In said certificate but in a lump sum the architect allowed the owner $3,900 for delay and disallowed the contractor anything for the odd $40,000 which the elevator screens and balustrades cost him over his estimate on the scale drawings. The owner paid the amount of said certificate and the parties then went to court, the contractor suing for extra work and to get rid of the penalty imposed for delay. In the lower court the master before whom the case was tried, decided in favor of the owner on the ground that the decision of the architect was a bar to the relief sought by the contractor. This decision was upheld on the first appeal but reversed upon the next. The last court held that the award of the architect in reference to the elevator screens and the stairway balustrades and the damages occasioned by delay must be disregarded entirely because the architect exceeded his authority under the contract in deciding those questions, and hence his certificate had no binding effect on the court. The contractor was then permitted to recover for the difference between the value of the stairway balustrades as placed in the building and the

$4,800 he had allowed in his estimate, also the difference between the value of the elevator screens as placed in the building by the contractor and the $15,000 which he had allowed in his estimate; and the lower court was directed to take up the question of fact as to who was responsible for the delay with a view of determining whether or not the contractor was liable for such damages.

The opinion of the chief justice who wrote for the court in this decision is particularly clear and concise in its statements so that it would seem fitting to quote somewhat at length therefrom, particularly as there is a vein of good practical advice to architects therein. "It is plain that the scale drawings were too indefinite to enable the contractor to determine what was required, and that the contract as originally drawn was in that respect ambiguous and uncertain. Had the photographs or specimen of grille work been made a part of the contract by reference or otherwise, the ambiguity would have been removed," etc.

"Defendants in error (the owners) also argue that it is almost impossible to make the scale drawings and specifications show the details of the work or even indicate fully its character and value, but that they always need to be, and are, supplemented, and that they may be supplemented by enlarged sketches on the margin of the scale drawings, or by reference to known and existing specimens of similar work, or by reference to photographs of such work. This reasoning is sound, but where specimens of photographs are relied upon to supplement the scale drawings they should be identified as a part of the contract or as illustrative thereof, so that there could be no question that they were used to supplement the scale drawings, In this case there was no such marginal sketch and no such specimen or photograph was so identified. In this condition of the record it is contended that the scale drawings may be supplemented by the general standing of the architect and the usual character of his work, the richness or simplicity of the building and the purposes for which it is designed.

If the argument last mentioned is entitled to any consideration at all, it may be observed that in this case detail drawings were furnished after the contract was entered into, from which plaintiff in error was able to ascertain, without any difficulty whatever, precisely what the architect wanted. *There is no legal reason why such detail drawings should not have accompanied the contract in the first instance and made it certain,* without leaving the parties to determine their rights by so doubtful a measure as that afforded by the general standing of the architect and the usual character of his work, or by the richness or simplicity of the building and the purposes for which it was designed.

"It is contended by the defendants in error (the owners) that the scale drawings themselves are not definite and certain, and that under the contract the architect has the power to determine the true construction and meaning thereof; and, further, that the architect did determine the meaning of the scale drawings and furnished the detail drawings in accordance with such determination, and that the ambiguity in the contract is thereby cured. In that view of the matter the contract was not only ambiguous, but it was blank and meant nothing so far as it was evidenced by the scale drawings. The difficulty about this contention is, that with the scale drawings in the condition they were when the original draft of the contract was signed by S. (the contractor) no one could tell what was required, and if that was to be ascertained some months later by the architect, and he had the power to require screens and balustrades that would be of the value of $20,000, or that might exceed $50,000 in value, without any increase or decrease in the contract price for all the ironwork, which was $88,643, there was no meeting of the minds of the parties and the contract was void.

"It is argued that under the provisions of the contract set out in the foregoing statement the architect's award is conclusive. It is manifest that the architect, in making his award, exceeded his jurisdiction by regarding that as a part of the contract which was not a part of the contract and in giving F. (the owner) the benefit thereof, and that he excluded from consideration, as not being a part of the contract, that which should have been regarded and treated as a part thereof. In other words, the rights of the parties which he attempted to adjudicate were not the rights which were submitted to him for arbitration. His finding was in reference, in part, to matters not submitted to him and disregarded other matters which were submitted to him. He departed from the authority conferred upon him by the contract, and his award being an entirety is therefore not binding and is wholly ineffectual."

This case exemplifies two serious difficulties which the architect can easily remedy if he but remember them: first, the leaving of anything in his plans or specifications that is not plain, concise, and obvious to all, or anything open to several interpretations; and second, a failure to know that his powers as an arbitrator are not the same under every contract; and that he must act *only* in accordance with the direct and explicit authority granted by the particular contract. I have already suggested in a previous article how the first difficulty could be overcome, and to that should be added the suggestion from the learned writer of the opinion just cited, that the important and costly detailed drawings be prepared before the contract is signed, so that they may be identified in said contract by direct reference. The second difficulty will be discussed later when we come to the consideration of those various clauses whereby the architect acts as an arbitrator.

One other point worthy of note in this case, although the opinion does not mention it, is that the detailed drawing must have been held a sufficient ordering in writing of extra work to satisfy the contract clause in that regard.

In still another case where the contract provision was that no additional work should be done without a written order of the architect, it was similarly held that the detailed plan furnished the contractor by the architect showing the additional work satisfied the contract so that the owner had to pay for such additional work. These decisions furnish another good reason why the architect should be especially careful that his detail drawings do not require more than the scale drawings and specifications, otherwise he may make the owner liable for unexpected extra work.

Many of the municipal contracts have a pet clause somewhat as follows: "The various drawings, etc., are intended to cover a complete and perfect job in every respect. Anything omitted in this specification and shown on the drawing or vice versa is to be done by the contractor without extra charge or expense." However, it has been held that such a clause did not authorize the architect to change his plans or drawings.

On the other hand there have been questions arise as to what an owner or architect is required to furnish where it provides by the contract that the owner shall furnish "all detail drawings." One of the cases where such a question has been answered judicially was under a contract for the modern steel work for a skyscraper. It was decided that the owner was required to furnish a plan showing the position of each column, beam, girder, etc., but not what are known as "shop-drawings and punching sheets."

Ownership of Plans and Specifications. We have now come to one of the especially interesting clauses for the architect, namely, "It is further understood and agreed by the parties hereto that any and all drawings and specifications prepared for the purposes of this contract by the said architect are and remain his property," etc. My personal searches have failed to discover any legal determination as to how far this particular clause now in such common use affects the ownership of plans and specifications as between the employer or owner and the architect. Let us see from a view of the reported cases what effect such a clause would probably have, remembering in the first instance that the architect is not a party to that agreement. In an early English case the architect's contract of employment provided for partial payments much as they are paid to-day and for termination of the employment at certain stages of the contemplated work at the option of the employer. After the plans and specifications were prepared, the owner decided not to proceed with the work, and thereupon notified the architect of his decision, offering to pay the two and one-half per cent then due upon the contract, and demanding the plans and specifications. The architect refused to part with them and sued the owner for his payment, setting up a custom among the architects to retain their plans if the work was not proceeded with. The court held that such a custom even if proved would be unreasonable, and that the owner need not pay for the plans and specifications unless he obtained them.

In a rather late case where the building was completed under the architect's supervision and the architect paid in full and then refused to give the owner the plans and specifications, the same question was passed upon and the same decision given. The basis of both of these decisions seems to be that the contract between the parties resulted in the making of plans the property in which passed to the owner on payment of the remuneration provided under the contract. The opinion of one of the judges who made this decision contains the following comments: "If one considers the matter from the point of view of the reasonableness of the custom set up, the argument seems to me to be entirely in favor of the building owner. What would be his position after the building was completed? Unless he has the plans, how is he to know where the drains, the flues, and many other things are? Is he bound to go to the architect and make a fresh contract with him with respect to every matter that arises relating to the structure? Counsel for the defendant (the architect) were bound to admit that, if their view as to the retention of the plans is correct, there would be some sort of obligation on the architect for their safe custody; but that admission does not make the retention reasonable."

Unquestionably, where an architect's plans and specifications win a prize or award in a competition, said plans and specifications become the property of the party or body giving the prize or paying the award. There are numerous cases showing attempts of the architects to get away from this rule just stated, but they seem to have been uniformly unsuccessful. The reason for these decisions has been expressed in this way: "It is true there seems to be a custom with architects to retain the plans in such cases, unless the architect whose plan is adopted is employed in the erection of the buildings. This may be a very good custom among architects as between each other, but it binds no one else. Different classes of professions may very properly adopt certain rules for their own government and for the regulation of their particular business. The mistake is in giving them the force of law and supposing they can affect other persons not parties to the arrangement and who have no knowledge thereof."

Our considerations clearly indicate that if an architect intends to retain his original property right in his plans and specifications, he must provide for such retention on his part in his original contract with his employer. This entire matter has become of less importance it would seem on account of the late decision which holds that unless an architect's design is covered by letters patent or protected by copyright, any voluntary unrestricted surrender of such design or of plans and specifications causes the architect to lose all right of property to them. In this particular instance, an architect had prepared plans and specifications for a house, filed the same with the building department as required, superintended the construction, and received his pay therefor. Later another party who was pleased with the design called and asked for a price for a similar house. Upon the fee being given, the party stated that he could get the same work for less money. Thereafter that party employed another architect who practically duplicated the first architect's design and house. The architect then brought action against said building owner for the value of the plans, claiming a common law right of property in the plans. The court held that so long as the plans for the house remained in the possession of the suing architect, they constituted personal property and that no one had a right to take them from him or make use of them without his consent. The filing of the plans and specifications and the architect's consent to the construction of the house which he superintended was held to have dedicated said plans to the public. The court said: "The law protects him (the architect) in the first publication of his work; it guarantees him the right to receive compensation for his labor and when this has been accomplished the purpose of the rule of law has been served and at common law he can have no further rights in the work." It would, therefore, seem well settled now that at common law the architect's rights in his designs, plans, etc., are his own property only so long as they are unpublished or not dedicated to the public.

As between the architect and the contractor it has been held that while the plans and specifications belonged to the architect as general owner, yet where there has been an unconditional delivery of them by the architect to the contractor pursuant to the building contract, then the contractor has a special property in them entitling him to the use and possession of them during the time the building is in course of construction. It was also held that if the architect should take without the contractor's consent and carry away such plans and specifications in the possession of the contractor before the completion of the building, then the architect would be committing a trespass.

ADMINISTRATION BUILDING AND PARADE GROUND, NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.

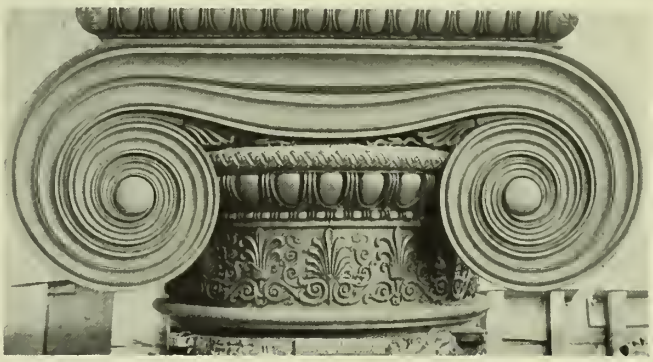
MAIN ENTRANCE, DRILL HALL AND INSTRUCTION BUILDING, BOAT HOUSE
NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.

ENTRANCES TO MESS HALL AND DRILL HALL, NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.

Editorial Comment and Miscellany.

COMPETITION FOR A STORE AND LOFT BUILDING. DESIGNED IN ARCHITECTURAL TERRA COTTA. AWARD OF PRIZES.

THE Jury of Award for the Store and Loft Building Competition, which was the problem for the last Annual Architectural Terra Cotta Competition conducted by THE BRICKBUILDER, awarded First Prize ($500) to I. P. Lord and F. D. Bulman, associated, Boston; Second Prize ($250) to Claud W. Beelman and Walter Scholer, associated, Indianapolis; Third Prize ($150) to Jack Lehti, Washington; Fourth Prize ($100) to William F. Burkhart, Jr., and G. Evans Mitchell, associated, New York City; First Mention to William R. Schmitt, New York City; Second Mention to John Atwell King and Hubert Douglas Ives, associated, New York City; Third Mention to George Richard Klinkhardt, New York City; Fourth Mention to J. Frederick Larson, Montreal; Fifth Mention to Wirt C. Rowland and Herbert Wenzell, associated, Detroit; Sixth Mention to Charles G. Beersman and Frank A. Engel, associated, New York City. The Competition was judged in Boston, January 20th, by Professors Eugene Duquesne, H. Langford Warren and J. S. Humphreys, of the Architectural Department at Harvard, and Messrs. J. Harleston Parker (Parker, Thomas & Rice), Hubert G. Ripley, and James Ford Clapp.



IONIC CAPITAL EIGHT FEET IN WIDTH.
Executed by the Atlantic Terra Cotta Company.
Garber & Woodward and Tietig & Lee, Architects.

PLATE ILLUSTRATIONS — DESCRIPTION.

THE BEVIER MEMORIAL BUILDING, ROCHESTER, N. Y. PLATE 6. The building accommodates the Department of Fine Arts of the Rochester Mechanics Institute. The exterior is of "Tapestry" brick with a soft yellowish gray tone. The sill courses, window soffits, cornice brackets, and coping are of colored faience, blues, greens, and yellows predominating. The iron sash is painted a russet brown, harmonizing with the brick.

DETAIL BY NEWHALL & BLEVINS, ARCHITECTS.
Executed by the Atlantic Terra Cotta Company.

APARTMENT HOUSE, BROOKLYN, N. Y. PLATES 7, 8. The exterior is treated in red brick, buff limestone, and terra cotta which in the upper part of the building is of limestone color. The projecting part of the cornice is of copper with the soffit of terra cotta caissons let into the copper, these caissons being red. Upon the interior the floors are of hardwood, the trim of white enamel, and doors of mahogany. The bathrooms have tilted floors and walls. The building, which contains two apartments on a floor, is eight stories high with an apartment on the floor behind the cornice which has been treated for the manager of the company. The building cost approximately $250,000 or about 37 cents per cubic foot.

BOROUGH HALL, ROSELIE, N. J. PLATE 9. The exterior is built of hard burned red rough surfaced brick, laid with broad cement joints. The brick is a veneer on terra cotta block. The exterior ornamental stonework is of composition with texture like marble. The trim around the front doors is of wood and treated in color to match the stonework of the terraces and balustrade. The roof is covered with large size blue slate of uniform color, and the flashings, cresting finials, etc., are of copper. In the basement is the fire apparatus with double folding doors at either end of the room. The main staircase which leads from the basement to the second floor is of iron with slate treads and ornamental railing. On the second floor is the auditorium seating two hundred and fifty people. The building is largely fireproof with the walls and floors of basement in brick, the walls of the upper floors filled in with brick, and the beams of heavy yellow pine treated in mill construction. The building is heated by steam. The contents, figured from the footings to cover one-half height of gables, are 120,000 cubic feet. The cost, exclusive of architect's commission, was $19,225, making the cost per cubic foot approximately 16 cents.

DETAIL BY GEO. H. STREETON, ARCHITECT.
Executed in Polychrome Terra Cotta by the Atlantic Terra Cotta Company.

TO ABOLISH COMPETITIONS.

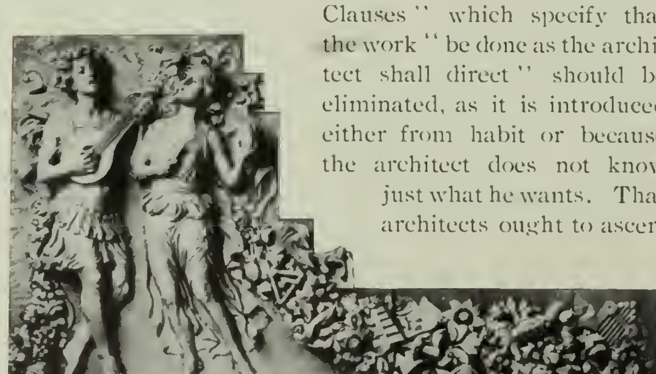
THE Southern California Chapter of the A. I. A. is taking vigorous steps to discourage the holding of architectural competitions throughout the country and to

DETAIL BY BARNETT, HAYNES & BARNETT, ARCHITECTS.
Winkle Terra Cotta Company, Makers.

establish a better professional basis for the practice of architecture. None of the chapter members participated in the recent competition held at San Diego for a Polytechnic high school, or the one being conducted at San Bernardino for a Y. M. C. A. building. The chapter has prevailed upon the Los Angeles Board of Education to select the architects for the new school buildings, and has persuaded the Library Board not to hold a competition for the six branch library buildings to be erected in that city.

JOINT MEETING OF BOSTON ARCHITECTS AND BUILDERS.

ON December 5th a joint meeting and banquet was held by the architects and builders of Boston. William H. Sayward, Secretary of the Master Builders' Association, in commenting on the intimate relationship that already existed between the architects and builders, expressed the need of a more complete union as well as a joint advisory committee to consider matters of mutual interest. During the discussion of various topics the following suggestions met with universal approval. In the matter of scale drawings it was considered that with a ⅛-inch scale drawing there should be furnished ¾-inch scale details for every part of the plans that needed explanations. That the specifications should not be long, as a multiplicity of words leads to confusion. That the so-called "Blanket Clauses" which specify that the work "be done as the architect shall direct" should be eliminated, as it is introduced either from habit or because the architect does not know just what he wants. That architects ought to ascertain from builders whether things which they might contemplate are feasible or not. That the general contract is best for owner, architect, and all concerned, and that the architect should select responsible, experienced sub-contractors and require the general contractors to employ them. That there should be a standardization of clauses in specifications in order that the personal equation might be eliminated as far as possible.



DETAIL BY W. H. MCELFATRICK, ARCHITECT.
The New Jersey Terra Cotta Company, Makers.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE New York Post-Graduate Medical School and Hospital's new $900,000 fireproof building, 20th street, was opened January 11th. The hospital now possesses the facilities for giving to the great congested East Side the largest dispensary service in the world. The new wards, laboratories, and operating rooms are arranged for the study of diseases in small groups. It has three hundred and eighty beds, many of them in private rooms. The majority of the new wards accommodate from two to seven patients, while the largest can take care of fifteen. The new building, which is mainly of brick and terra cotta, rises to a height of eight stories with a tower of five additional stories. The roof is far above the street and away from noise and other distractions. The patients can enjoy the scenes in the East River, or if too cold or wet they can go into the "little" ward which rises above the tower. This ward is complete in itself and supplies full service in the matter of food and every requirement to the temporary roof-dweller. The tower contains private rooms only.

DETAIL BY FRANK G. PIERSON, ARCHITECT.
Executed by O. W. Ketcham Terra Cotta Works.

The Architectural League of New York City announces its twenty-seventh annual exhibition to open at the Fine Arts Building on January 28th. Among the exhibits Karl Bitter will present a bas-relief equestrian portrait model of the late President Alexander Cassatt of the Pennsylvania Railroad, and William Mackay will display "The Legend of the Saragossa Sea," a decoration which he has recently completed for Castle Gould. The exhibition will be open from January 28th to February 17th inclusive.

In the January issue of *The Craftsman* is an article on the decorations made by Everett Shinn for the new City Hall at Trenton. The panels represent the special industries of Trenton and are of tremendous size, 45 feet long by 22 feet high.

DETAIL BY JAMES KNOX TAYLOR, ARCHITECT.
Executed by Conkling-Armstrong Terra Cotta Company.

The left panel shows men working in the colossal steel mills, the right depicts the pottery kilns with the men at work.

At a recent meeting of the Philadelphia Chapter of the A. I. A., resolutions were adopted commending the site selected by the Washington Park Commission and the National Fine Arts Commission for the Lincoln Memorial. They also emphatically opposed the construction of a memorial roadway, which in their opinion would be unsuitable as a national memorial to Abraham Lincoln and would lack the monumental and tangible quality such a memorial should possess.

An international conference on People's Baths and School Baths will be held this year at Scheveningen (The Hague), during the last week of August. The chief purpose of the meeting is the promotion of public interest in bathing from a hygienic point of view. Municipal authorities and civic improvement societies in all civilized countries will be invited to send delegates to attend the conference.

DETAIL BY GILLESPIE & CARREL, ARCHITECTS.
New York Architectural Terra Cotta Company, Makers.

A section of the city of Chicago, bordering Lake Michigan near Lincoln Park boulevard and consisting of eleven blocks valued at $10,000,000, is to be set aside exclusively for residential purposes by the Lake Shore Improvement Association of that city. The land, which is practically clear of buildings, will be given only with a proviso that no buildings other than residences, apartment buildings, and hotels are to be erected. Plans are being considered for a hotel which will be one of the finest in Chicago.

A stadium which will seat more than one hundred thousand people is to be a feature of the general scheme of beautifying the lake front of Chicago, according to an announcement made recently by the South Park Commission. Plans have been drawn and are in the hands of the commission. The stadium will be located so that the spectators will have a view of athletic games, army tournaments, or other outdoor gatherings in Grant Park, and also water events on Lake Michigan.

At the Real Estate Show to be held at Grand Central Palace, New York City, in March, cash prizes will be awarded to the architects showing the best plans and elevations for suburban homes. Frank H. Holden will act as advisory counsel, and the rules of the American Institute of Architects will prevail.

POST OFFICE, NORWICH, CONN.
Architectural Terra Cotta furnished by the South Amboy Terra Cotta Company.
James Knox Taylor, Architect.

An option has been obtained by the Metropolitan Motor Speeding Association on a tract of about three hundred and thirty acres on the Newark Meadows, N. J. Their plans for a motordrome as tentatively outlined are to provide a racing track of two miles in circuit. The main structure, containing the grand stand, will be of brick and will have a seating capacity of one hundred thousand. The roadbed will be of vitrified brick.

J. Horace McFarland, President of the American Civic Association, in his annual address at Washington urged the creation of a Federal bureau of National parks and advocated Government control of all land containing great natural phenomena. Mr. McFarland declared the transmutation of the forested district lying between Washington and Baltimore into the Lincoln Memorial National Park would be a more fitting tribute to the Great Liberator than a mere commercial highway.

IN GENERAL.

The boilers used in the Borough Hall, Roselle, illustrated in this issue, were furnished by the H. B. Smith Company.

HOUSE AT ROCHESTER, N. Y.
Faced with Norman Brick made by the Ironclay Brick Company.
Leon Stern, Architect.

HOUSE AT ST. PAUL, MINN.
Built of variegated, dark sepia brown interlocking terra cotta facing tile made by the Twin City Brick Company.

The appointment of F. D. Millet as president of the Consolidated American Academy, Rome, has given universal satisfaction. Mr. Millet, living at the Villa Aurelia, gives his entire attention to the affairs of the Academy.

The Grand Trunk Pacific Railway will erect eight large hotels at various points between the Atlantic and Pacific coasts. Considerable credit is due the authorities of this company for their efforts in obtaining buildings with exteriors of architectural interest. The French Chateau type will be followed in its most dignified and artistic sense.

In addition to three modern commercial buildings of ten stories each to be erected in Los Angeles, contracts have been let for the Water Department Building to cost $250,000, the *Times* Building, $210,000, and the Clark Memorial Home, $200,000.

BATH HOUSE, HOBOKEN, N. J.
Built of "Natco" Hollow Tiles furnished by the National Fire Proofing Company.
James E. Ware, Architect.

The National Fireproofing Company supplied Natco hollow tile blocks for the walls of the Borough Hall, Roselle, illustrated in this number.

The annual meeting of the Pacific Coast Architectural League will be held in Los Angeles February 23d, together with an exhibition of architectural work. The $1,000 prize offered to the members of the League for the best work in the Atelier classes will be awarded at that time.

O. L. Brettner announces the opening of an office for the practice of architecture at 412 Woodruff Building, Springfield, Mo.

Charles O. Pfeil has withdrawn from the firm of Shaw & Pfeil, and will occupy suite 1401-3 Tennessee Trust Building, Memphis, Tenn.

The brick used in the apartment at Brooklyn, William A. Boring, architect, illustrated in THE BRICKBUILDER for this month, were furnished by the Sayre & Fisher Company.

The American Terra Cotta & Ceramic Company furnished the terra cotta for the commandant's house, the main guard-house, four dormitories, drill house, instruction building, administration building, mess hall and gallery, power house, hospital, laundry, receiving guard-house, and ten officers' quarters, which form part of the Naval Training Station at North Chicago, illustrated in this issue of THE BRICKBUILDER.

Thomas W. Harris and Aaron Riley Merritt have formed a copartnership for the practice of architecture, with offices at 1 Erie County Bank Building, Buffalo, N. Y.

The Atlantic Terra Cotta Company supplied the polychrome terra cotta for the Bevier Memorial Building, Rochester, and the house at Bratenahl, Ohio, together with a number of garden jars for the house at Glen Cove, N. Y., all of which buildings are illustrated in the plate forms of this issue.

DETAIL BY MYRON H. CHURCH, ARCHITECT.
Executed by The Northwestern Terra Cotta Company.

R. Clipston Sturgis will have charge of the work of restoring Christ Church on Salem street, Boston, making it of more practical use and at the same time preserving it as a historical monument. The entire interior will be remodeled, as far as the present plans go, to resemble the view previous to 1806, when extensive changes were made.

Emlyn L. Stewardson and James P. Jamieson, practising architecture under the firm name of Cope & Stewardson, Philadelphia, announce that the firm is dissolved by mutual consent. Mr. Stewardson will continue to practise in Philadelphia with George Bispham Page under the firm name of Stewardson & Page. Mr. Jamieson will continue to practise in St. Louis.

The architectural practice of de Brauwere & Hopper will hereafter be continued by Victor F. V. de Brauwere, 824 Plymouth Building, Minneapolis, Minn.

M. B. Kane, architect, has opened an office in the Bohm Building, Edwardsville, Ill. Manufacturers' catalogues and samples desired.

The Department of the Interior proposes to spend $381,620 in the national parks in California during the fiscal year ending June 30, 1913. For the development and care of the national parks the Secretary of the Interior has asked Congress to appropriate the sum of $791,080.60.

The largest apartment house on the Pacific Coast is now being erected in San Francisco. It will provide for twelve apartments on each floor ranging from five to ten room suites. The walls upon the interior will be wainscoted with opaque glass, the floors tiled with marble, and the doors fitted with plate mirrors.

ARCHITECTURAL DRAFTSMAN. — A good all-around draftsman wanted to enter the office of a Chicago architect. Young man — graduate of an architectural school and with good office experience. Opportunity to become head draftsman. Give age, experience, references, and salary wanted to start. Address, Chicago, care The Brickbuilder.

ARCHITECTURAL DRAFTSMAN. — At once; must have five years' experience in designing. State age, experience and salary wanted. Address, Allyn Engineering Co., c/o C. H. Ferber, Chief Architect, No. 606, 607, 608 Second National Bank Building, Cincinnati, Ohio.

PARTNERSHIP WANTED.— By an Architect with technical education and twenty years' experience in an established firm, in or near Boston. Address P. O. Box 1273, Boston, Mass.

The Cincinnati Architectural Club has been established for the purpose of advancing the standard of work among the local draftsmen, with club rooms at 31 West 5th street, Cincinnati. Oscar Schwartz is secretary.

Reports from fifty building centers throughout the United States quoted by *The American Contractor* show a decline of fifteen per cent for the past year as compared with 1910. The same cities show an aggregate loss of sixteen per cent for December last, as compared with December, 1910. The losses and gains in the cities listed are about equally divided. The principal gains for the year were made in Cambridge, 24; Cincinnati, 67; Cleveland, 21; Dallas, 31; Evansville, 52; Hartford, 29; Louisville, 142; Milwaukee, 25; New Haven, 33. The principal gains for December were: Baltimore, 78; Bridgeport, 95; Buffalo, 185; Cambridge, 128; Cleveland, 225; New Haven, 290; Paterson, 73; Rochester, 113; Scranton, 95.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK — REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of

THE BRICKBUILDER

Bevier Memorial Building, Rochester, N. Y. . . Plate 6

CLAUDE BRAGDON, Architect

FISKE & COMPANY INC
FACE BRICKS ESTABLISH
FIRE BRICKS ED IN 1864

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following examples of our work:
Brookline Public Library. R. Clipston Sturgis, Esq., Architect.
Suffolk County Court House, Boston. George A. Clough, Esq., Architect.
Registry of Deeds, Salem, Mass. C. H. Blackall, Esq., Architect.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

Competition for Design of a Children's Room.

THE Forsyth Dental Infirmary for Children is a charity incorporated under the laws of Massachusetts. This charity will care for the teeth of deserving children up to sixteen years of age.

The building which will house the charity is constructed of white marble, and will be flanked on one side by a park and playground for children, who will enter by a side door from the park and pass to a general waiting room on the lower or basement floor. The present competition deals with the decoration in tiling of the walls and a central aquarium of the Children's Waiting Room.

This waiting room will be so constructed that it can be thoroughly cleansed and sterilized daily. The ceiling will be arched, of Guastavino glazed tiles, in a single tone. The floor will be of magnesium or other impervious surface material, also in a single tone. Although the room is in the basement it is well lighted by five full windows.

In this room will be collected deserving children of all nationalities, many of them coming from homes where the surroundings are at least not uplifting. It is expected that the decorative features will be of sufficient interest to hold the children's attention, to stimulate their imagination and to be of value educationally. The keynote of the designs should be cheerfulness. It is hoped that the wall decoration will be as effective in its way as Abbey's *Grail* pictures or the *Canterbury Pilgrimage* of Sewall are in theirs. It is suggested that the subjects deal with fairy tales or well-known children's stories.

The conditions of the competition are as follows:

1. First, second, and third prizes of $250, $150, and $100 respectively will be given the successful competitors.
2. Designs in color for the wall surfaces on a scale of one inch to the foot and a detailed full-size colored drawing of a fragment, including one figure, together with color suggestion for the treatment in tile of the base of the central aquarium, must be submitted to the trustees of the Forsyth Dental Infirmary before March 1, 1912.
3. Competitors must keep in mind the limitations in color and detail which flat tile work demands. Broad color effects rather than fine detail should be sought. Tile units may be of any and varied shapes, but the limit of area of any tile must be less than 144 square inches.
4. Less than one-half of the available wall space should be given up to pictorial panels or other effects, the rest of the wall space to be covered by plain-colored tiles.
5. Competitors should furnish suggestions as to the color tone of floor and ceiling.
6. The designs and suggestions of the successful competitors become the property of the Forsyth Dental Infirmary for Children, to be used as the trustees see fit.
7. The trustees of the Infirmary reserve the right to require that the successful competitor furnish detailed full-size drawings (color to be suggested) of the designs submitted by him within six weeks of the termination of the competition, for an additional compensation of $500.
8. The trustees also reserve the right to purchase unsuccessful designs or the individual panels of designs which are not successful in winning prizes, at a price to be agreed upon by the judges in the contest as a reasonable compensation.
9. The competition is open to every one.
10. Each drawing is to be signed by a *nom de plume*, or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.
11. The drawing is to be delivered flat or rolled (packaged so as to prevent creasing or crushing) at the office of the trustees of the Forsyth Dental Infirmary for Children, 149 Tremont Street, Boston, Mass., charges prepaid, on or before March 1, 1912.
12. Drawings submitted in this competition must be at the owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

Blue prints of the room on the scale of 1 inch to the foot will be supplied on application to the trustees of the Forsyth Dental Infirmary for Children, 149 Tremont Street, Boston, Mass., to whom all inquiries should be addressed.

The designs will be judged by Mrs. Phillip L. Hale, Vesper L. George, and C. Howard Walker.

Le Brun Traveling Scholarship Competition.

THE New York Chapter, A. I. A., is about to hold a competition to determine the award of the Le Brun Traveling Scholarship. Under the terms of the Le Brun Deed of Gift, the following provisions are established: The award is to be made to some deserving and meritorious architect or architectural draftsman, resident anywhere in the United States, to aid him in paying the expenses of an European trip, lasting not less than six months. The amount which will be paid to the beneficiary is $1,000. The beneficiary is to be selected by means of a competition, the award being made by a jury consisting of at least three practising architects, no one of whom is to be connected with any school or atelier for the teaching of architecture. In making the award, the jury is to give full and careful consideration to the records of qualification filed by the competitors as well as to the comparative excellence of the drawings submitted.

Any architect or architectural draftsman, a citizen and resident of the United States, not under twenty-three or over thirty years of age, who shall, for at least three years, have been either engaged in active practice or employed as an architectural draftsman, and who is not and has not been the beneficiary of any other traveling scholarship, shall be eligible to compete. Each competitor must be nominated by a member of the New York Chapter of the American Institute of Architects, who shall certify in writing that the above conditions are fulfilled and that the competitor is deserving of the scholarship. No member of the chapter shall nominate more than one candidate.

Every competitor must engage to remain, if successful, at least six months abroad and to devote well and truly that length of time to travel and the study of architecture otherwise than by entering any school or atelier or attending lectures, it being intended that the benefit derived from this traveling scholarship shall supplement school or office experience.

It is proposed to begin the competition about March 20th, and to allow until May 1st for the receipt of drawings. Further details as to dates will be issued later, but it is now expected that the winner shall start upon his trip July 1, 1912.

All persons who are eligible, and who desire to compete for this scholarship, are requested to send their applications to Mr. Henry Bacon, 160 Fifth avenue, New York City. Applications must be received not later than March 1, 1912, and must in each case state clearly the residence, citizenship, age, experience, and general qualifications of the applicant, and be accompanied by the necessary nomination and certificate from a member of the New York Chapter, A. I. A. Persons residing at a distance from New York and not knowing a member of the New York Chapter may avail themselves of the services of any well-known architect, who can vouch for them to a member of the New York Chapter with whom he is acquainted.

No application will be considered that is not accompanied by a nomination and certificate from a member of the New York Chapter, A. I. A.— Henry Bacon, Arnold W. Brunner, William M. Kendall, C. Grant LaFarge, H. Van Buren Magonigle, — Committee on Le Brun Traveling Scholarship.

CLAY PRODUCTS EXPOSITION

THE COLISEUM, CHICAGO

MARCH 7-12, 1912

THE Bungalow contest — the program for which is given on the next page — is only one feature of the Clay Products Exposition. All the Bungalow designs submitted will be displayed at the Exposition. Architects are invited to attend, not only to see these drawings but to make a study of the only complete collection of clay products that has ever been assembled.

The Exposition will be an education in clay and will include everything from Art to Utility. The best manufacturers of the country will exhibit and a study of the materials will show the architect the possibilities of clay for structural purposes.

BEAUTY IN BRICK MANTELS. ART IN CLAY FIREPLACES. THE BEST EXAMPLES OF FAIENCE MADE BY AMERICAN FIRMS. TABLE WARE OF ALL COUNTRIES AND ALL AGES. PERFECTION IN POTTERY. WALKS OF CLAY, WALLS OF CLAY, LAWN ORNAMENTS OF CLAY, WINDOW BOXES AND VASES OF CLAY. ODDITIES AND UNUSUAL THINGS OF CLAY. IN FACT A COMPLETE EDUCATION AND REVELATION OF THE EXTENT OF THE CLAY INDUSTRY, THE THIRD MINERAL INDUSTRY OF THE COUNTRY. THE OBJECT OF THE EXPOSITION IS TO ACQUAINT THE PUBLIC WITH THE IMPORTANCE, EXCELLENCE, SUPERIORITY, AND ADVANTAGES OF BURNED CLAY PRODUCTS.

The Sanitary Congress which will be held in connection with this Exposition will be the most complete of its kind ever held. The arrangements are in the hands of some of the most competent sanitation experts and will be well worth attention.

One of the Bungalow designs receiving a prize is to be built on a lot in Chicago and given away to some fortunate visitor at the show. There will be souvenirs in clay given every day to visitors.

Five hundred different manufacturers will exhibit their products. Many manufacturers make many kinds of products, so that the showing will be most complete and exhaustive.

This opportunity to see and examine the world's best material in clay, and to meet the manufacturers, ought to be well worth while.

Particulars regarding any feature of the Clay Products Exposition may be had by addressing

THE CLAY PRODUCTS EXPOSITION COMPANY,

815 Chamber of Commerce **CHICAGO, ILL.**

COMPETITION FOR A SMALL HOUSE OF THE BUNGALOW TYPE.

To Be Built of Brick. Cost not to Exceed $3,000.

COMPETITION CLOSES FEBRUARY 15, 1912.

FIRST PRIZE, $500. SECOND PRIZE, $250. THIRD PRIZE, $150.
FOURTH PRIZE, $100. MENTIONS.

PROGRAM.

THE problem is a small detached house of the Bungalow type. The outer walls and foundations of the house are to be built of Brick.

Three bedrooms must be provided for in the plan. Two of these may be placed in an attic story. Ample basement room is to be provided.

The location may be assumed in any town, small city, or suburb of a large city.

The cost of the house — exclusive of the land — shall not exceed $3,000. The method of heating, the plumbing, other fixtures, and finish, to be governed by the limit of cost.

Houses of this type of construction have been built in different sections of the country, and from the data which has been gathered concerning the cost of a number of these houses, an average price of 15 cents per cubic foot has been obtained. This cost is given as the basis upon which the size — figured in cubic feet — of each house submitted in this Competition must be approximated.

Measurements of the house proper must be taken from the outside face of exterior walls and from the level of the basement floor to the average height of all roofs. Porches, verandas, and other additions are to be figured separately at one-fourth (25 per cent) of their total cubage. The cost of porches, etc., is to be included in the total cost of the house ($3,000).

On this basis of figuring — the number of cubic feet multiplied by the cost per cubic foot — the jury will not consider any designs which exceed the limit of cost.

The particular object of this Competition is to encourage the use of Brick for Small Houses. Thousands of houses costing from $2,000 to $3,000 are being built in this country every year. The larger part of them are of wood construction. The cost of brick is very little more and its advantages over wood as a building material are obvious.

DRAWING REQUIRED. (There is to be but one.)

On one sheet a pen and ink perspective, without wash or color, drawn at a scale of 4 feet to the inch. Plans of the first and second floors (if there is a second floor) at a scale of 8 feet to the inch. A section showing construction of exterior wall, with cornice. Heights of floors to be given on section. Enough detail sketches to fill out sheet. In connection with the plan of the first floor show as much of the arrangement of the lot in the immediate vicinity of the house as space will permit. Give on the drawing all measurements used in finding the cubage of house, together with the total cubage. Present this data at a scale which will permit of two-thirds reduction. The plans are to be blocked in solid. A graphic scale must accompany the plans.

The size of the sheet is to be exactly 26 inches by 20 inches. Strong border lines are to be drawn on the sheet 1 inch from edges, giving a space inside the border lines 24 inches by 18 inches. The sheet is to be of white paper and is not to be mounted.

The drawing is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawing is be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., on or before February 15, 1912.

Drawings submitted in this Competition are at owners' risk from time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The designs will be judged by three or five members of the architectural profession.

First consideration will be given to the fitness of the design, in an æsthetic sense, to the materials employed: Second — excellence of plan.

Drawings which do not meet the requirements of the program will not be considered.

The prize drawings are to become the property of THE BRICKBUILDER and the right is reserved to publish or exhibit any or all of the others. The full name and address of the designer will be given in connection with each design published. Those who wish their drawings returned, except the prize drawings, may have them by enclosing in the sealed envelopes, containing their names, ten cents in stamps.

For the design placed first there will be given a prize of $500.
For the design placed second a prize of $250.
For the design placed third a prize of $150.
For the design placed fourth a prize of $100.

This Competition is open to every one.

The prize and mention drawings will be published in THE BRICKBUILDER.

This Competition is conducted under the patronage of the International Brick and Clay Products Exposition Company and the drawings will be exhibited at the Clay Products Exposition to be held in the Coliseum, Chicago, March 7 to 12, 1912.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — FEBRUARY 1912 — NUMBER 2

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

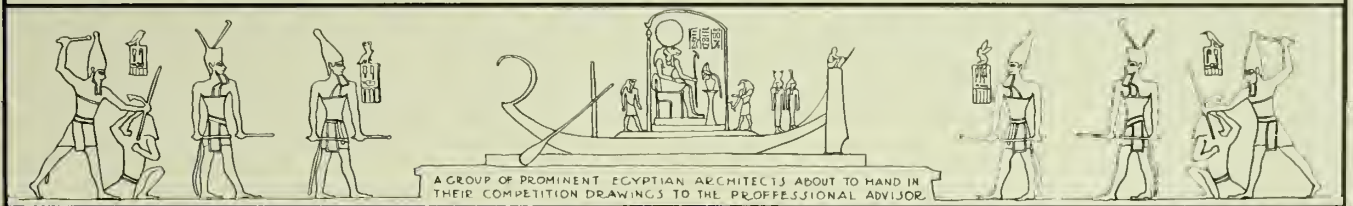
ANDREWS, JAQUES & RANTOUL; COPE & STEWARDSON; DELANO & ALDRICH; AYMAR EMBURY II; ELLICOTT & EMMART; FRANK B. MEADE; LORING P. RIXFORD AND GEORGE W. KELHAM; WILLIAM LESLIE WELTON.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

CHURCH DEL CARMEN,
SAN LUIS POTOSI, MEX.

THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN



BY HUBERT G. RIPLEY.

II.

IN treating of the origin and development of competitions it has been the constant aim to adhere strictly to the truth, not only in all essential matters, but down to and including the smallest detail. Should some of our pet theories not stack up rigidly in accordance with ascertained facts, when analyzed in the cold gray dawn of scientific discovery, pitiless though this calcium searchlight may be, then these theories will be discarded, and something else just as good substituted in their places.

With this thought in mind, everything that appears under this heading has been carefully searched and scrutinized for any errors or misstatements of fact or fancy. To do this a large number of authorities have been consulted, musty old bookcases have been ransacked, and the peaceful dust and cobwebs of many years been rudely disturbed in the eager thirst for truth. After running through a long list of authors on Ethnological, Archæological and Paleontological subjects to refresh our memory here and there, and to check up certain data, we are compelled to take issue with no less a personage than James Fergusson, Esq., D.C.L., F.R.S., M.R.A.S., Fellow Royal Inst. Brit. Architects, Corresponding Memb. Soc. et Tuum., etc., etc. In fact we became all het up reading what he has to say concerning the Turanian Races in the introduction to his History of Architecture.

FIG. IV.

Being page 53 of the architect's specifications for the Pyramid of KHNUM-KHUFU, which even in the mutilated form we see it to-day, illustrates the care with which the architects of the Fourth Dynasty executed their important works. For full translation of the text see appendix B.

We remember on an earlier occasion being strongly moved by Mr. Fergusson's book, but that was several years ago under Professor Homer, and our memories of that time are mingled with varied emotions. What do you think Jim had the nerve to say about the ancient inhabitants of the land of Khem et Mizraim? He called them lacking in the highest moral sense, without literature, phonetic modes of literary expression, despotic in governmental forms, lacking in courtesy to the ladies, and without "those feelings which ennoble man or make life valuable." And then on top of all this he has the effrontery to wonder and be amazed at their "progress" in architecture, painting and sculpture. Why, it was just because they possessed in a very high degree all the qualities that Mr. Fergusson says they lacked, that they were so pre-eminent in art, and their splendid and tremendous remains have lasted untarnished, unequaled, and sublime to the present day.

It makes us violently uncomfortable to come across statements tending to disparage a people to whom we owe the guiding principles of our Art, and to whom we should look with feelings of reverence, veneration and awe. Such reckless and ruthless assertion as are contained in the aforesaid Introduction ought to be refuted with vehemence. The idea of saying that these "people occupied a low position

FIG. V.
Temple of Khonsu at Karnac from Gailhabaud. This beautiful little gem of the Twentieth Dynasty (1170–1060 B.C.) was the result of one of the most spirited competitions of that epoch. For the intimate details and full particulars see appendix A.

in the intellectual scale." It's monstrous, and yet, on the very same page he (sic*) admits that a modern English engineer officer blunders in his endeavors to copy works instinctively performed by the ancient Tauranians. Ain't that the limit? Do you wonder at our indignation? No, of course not. Is it not natural that Fergusson's History of Architecture is looked at askance by the average architectural student of our colleges, and that rarely are very high marks given in that course?

The editor of a leading weekly magazine, a charming story-teller, poet, writer, and general all around success, who started to be an architect once, and probably would have been a corker if he had gone on with it, says in a recent book (which should be read by all architects, draftsmen, students, office boys, and pretty stenographers; name of book mailed on request if properly addressed and stamped envelope accompanies the request) that all good architects are frivolous, and that a serious man can be silly at times if he really puts his mind to it. Conversely, a person who has nothing in particular to say, can, by a careful and conscientious study of the dictionary and reference works of various kinds, dope out a line of gush almost worthy of serious consideration. Not for a minute would we disparage the heroic sacrifices that Mr. Fergusson has made to give his book to the world, sacrifices that must have worked to the detriment of his private practice as an architect, but as between dilettanti, we must believe that he was perhaps misguided and grossly imposed upon, led into erroneous misstatements if you will, when he goes on record as he does about the habits and customs of the ancient Egyptians.

We have seen at what an early stage in the world's history architectural competitions flourished and burgeoned, and how under succeeding dynasties of Thinites, Memphites, Heracleapolites, Hyksos and Theban kings, more perfect programs came to be demanded not only by owners and building committees, but by the architects themselves as a safeguard to their own interests. The people of the Nile valley were the greatest race of builders that the world has ever known and, in spite of this, most architectural histories and works on architecture contain but meager details about them, and a few pages suffice to dispose of their works. In the average history the three great pyramids of Gizeh are mentioned, and a cross section is shown through the tomb of Suphis; Dedendra, Karnac, Philæ and Edfou are hurriedly passed over, and reference is made to the Great Sphinx and a couple of obelisks, and that is about all. Scarcely five per cent of the space in the book is devoted to Egypt. Now this is all wrong. Ninety-five per cent of the space of any work on architecture that pretends to be at all comprehensive should be given over to the various epochs of that hoary land of antiquity; there will still be plenty of room in the

* This little word "sic" is something we have had our eye on for a long time and this seems to be an excellent place to employ it. As used here it is intended to mean "huh."

remaining pages to give proportionate and proper space to the works of other nations.

Would it not be refreshing as well as illuminating and really instructive, if this were the case? It certainly would, and at some future time we may hope to see this great work undertaken by some master hand, who will awaken the animating spark that shall make to live again the true blending of diuturnity with caducity, which was the touchstone, the *experimentum crucis*, by which esthetic values were measured.

For the present, at least, we must perforce confine ourselves to that portion of the work of those Master Builders that have a direct bearing on the subject of competitions; and to understand and appreciate properly their *phasis*, a knowledge of the climatic conditions is essential.

The soil of the Nile valley is fertile and rich, fish and game abound, the land teems, or did teem in the old days, with the sacred Herpestes, Ichneumon and Ibis, jerba and vulture, monitor and trionyx, haje and cerastes, all in a high state of cultivation; and the great African armadillo was everywhere a household pet and a plaything for the little ones. Fortunately the long spell of good weather that Egypt has enjoyed, perfect days followed by perfect nights for sixty or seventy centuries, has preserved for us in almost their pristine freshness the "very chisel marks of the mason, and the actual colors of the painter on the tombs and temples which were ordered by a Suphis or a Rhamses," save where some vandal hand has been raised in desecration.

"Musr indeed is gone with all its Rose
And Jamshyd's Sev'n-ring Cup where no one knows;
But still a Ruby kindles in the vine,
And still a Garden by the water blows."

Inasmuch as the Egyptian architects were accustomed to chiseling on stone the drawings and sketches from which their buildings were constructed, the architect was generally a sculptor as well. These master craftsmen and designers were called *ganouatiou*, a word which is assonant with the Greek name for architect.

Toutanou-khamanou, brother-in law of Aï, a Pharaoh who reigned in the fifteenth century B.C., had quite a little problem on his hands in completing the temple to Atonou, which his father had begun on the cost plus a fixed sum basis. It seems that even the large income of a Pharaoh was sometimes seriously threatened by the inroads made in it by certain extravagant ganouatious when given a too free hand; and as Toutanou-khamanou's father's estate was administered by exacting and Puritanical executors who kept a close watch on all extras, and even refused to approve some of the bills as they were sent in on the first of each month, the ganouatiou was discharged and a provisional successor appointed.

Before the appointment was confirmed, however, the news leaked out through the medium of the Theban News

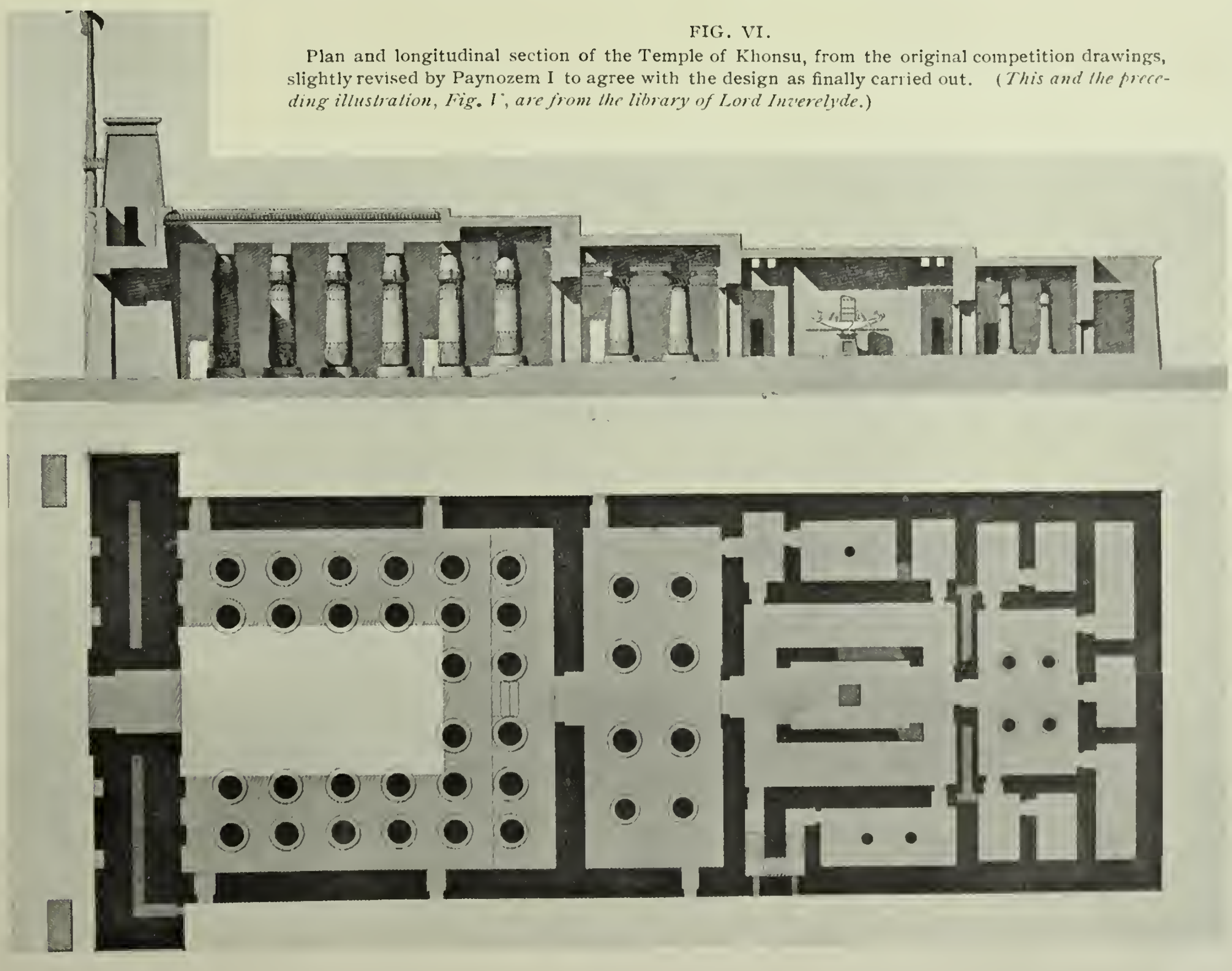


FIG. VI.
Plan and longitudinal section of the Temple of Khonsu, from the original competition drawings, slightly revised by Paynozem I to agree with the design as finally carried out. (*This and the preceding illustration, Fig. V, are from the library of Lord Inverclyde.*)

Bureau, and immediately the throne was besieged with a deluge of applications from architects of the very highest professional standing, each asking outright for the job. The executors wavered for a while thinking it might be the best plan to give the work to Gorm & Gorm, a prominent firm who made a specialty of temples, but the pressure was too great and a competition was finally decided upon.

The competitors were divided into three classes: five firms being especially invited and paid the sum of five hundred simoleons* each, five were selected from the "open field" (the "open field" being a euphonious term signifying a junior or hierophant class of ganouatious who really did better work than the older and more solidly established men, or thought they did, which was the same thing), and a third class composed of "all those architects who were in active practice and had established offices in the district of Oxyrynchus previously to Pakhons first, 1543 B.C."

In addition to the sums paid the especially invited architects there were three prizes: the first or capital prize being the commission to design and superintend the erection and completion of the temple, at the established rate of six per cent on the total cost of all contracts, including plumbing, heating, finished grading, sculpture, and decorative work; second, to the architect whose design was judged next in merit, the sum of one thousand simoleons; thirdly, to the author of the next best design, the sum of five hundred simoleons. Furthermore, none of the especially invited firms were eligible to any prize except the capital prize, in which remote contingency any sum paid them was to be considered a sum paid on account of carrying on the contract.

With a few exceptions, the verbiage of the program for the competition for the selection of an architect for completing the temple to Atonou, district of Oxyrynchus, Middle Egypt, is much the same as similar documents are to-day, which sustains our contention that competitions have not varied greatly during the past thirty-five hundred years.

FIG. VII.
In this powerful modern building the influence of the Turanian mind is plainly evident. Mass and detail fairly exestuate the spirit of Khonsu, Thoth, Baal and Ashteroth.

It would be both interesting and instructive if we were able to show by illustration the result of this competition, but, unfortunately, in this case, not only the program itself, but likewise the competitive drawings, were made on papyrus, and all traces and vestiges of them have long since perished. The Alexandrine Library had them for many years in its coffers, and it is from that source that these bald statements of fact are taken.†

The Egyptian was never hasty in his work. Being accustomed to seeing monuments and works of art on all sides that had stood the test of time, weathering the sunshine and storm of four or five thousands of years (the earlier the period the finer its esthetic qualities), he had instilled into him the basic principle of slow development, and an abhorrence of weird and barbaric, *i.e.* alien, forms and details. Never will you find either in their executed work, or in any of the illustrations in the architectural journals of those days, a trace of another style, or a tendency to "do something in Gothic" or dabble in "Art Nouveau." There was always plenty of time to do full justice to the problem, to study it thoroughly and build substantially and of the very best materials; thousands of years behind him and thousands of years to come. Now these centuries have melted away in the crucible of time, other centuries have followed them and their work still stands. Can you beat it?

The most valuable heritage that Egypt has left us is that impalpable, indefinable something, that *je ne sais quoi*, that *n'importe quelle chose*, that Mr. Bragdon has called "the fundamental rhythm of nature." To be sure he is in error when he places this "precious tincture — cherished in her brooding bosom for uncounted centuries" — in Asia; but many writers are apt to be a little careless in their statements.

The place where this thing first occurred was not in Asia, Claude, believe me, but in the Nile valley, compared with which the valleys of the Euphrates and the Ganges are quite modern and handselod.

* A simoleon was the ancient Egyptian coin which was very nearly the equivalent of our dollar, or 97.0000007 cents.

† We are indebted to Lord Inverclyde, whose hospitable roof contains many authorities rich in material most needed, for much of the data herewith given, and who has placed his collection containing works of rare interest freely at our disposal.

How Architects Work.

D. EVERETT WAID.

III. — OFFICES OF NOTED ARCHITECTS.

A VISITOR to Mr. Freedlander's office steps from the elevator directly into the entrance hall, where the white painted trim, plain walls of dark cream colored fabric, and old red rug on the floor, express quiet good taste. The client cannot fail to be impressed by the display of framed photographs of executed work which fairly cover the walls. In the equally unpretentious private office there is a flat top desk, and in one corner Mr. Freedlander's own designing board and on the walls some rendered drawings.. This private workshop and consultation room, commanding a view from a Fifth avenue corner, is more retired than is usual in a medium sized office for the reason that Mr. Freedlander has a manager who meets callers and looks after the general office business, correspondence, etc. As the plan indicates, the private office can be reached easily from the drafting room, the manager's or stenographer's rooms and the reception room, without passing through the entrance hall. One is tempted to ask whether the stenographer and manager would not like to have their desks nearer the windows. The "circulation," however, is good and the compact and convenient arrangement seems to result in an orderly, expeditious conduct of business.

The plan and photograph together show clearly the filing end of the drafting room of this office. Racks at either side of a window support office sets of blue prints of work in hand. Each set is clamped between two half-round strips of wood which form a neat 1-inch round binder, agreeable to handle and easily replaced on the notched horizontal supports. Tracings and other drawings of current work are kept in the large cabinet of drawers while drawings of finished buildings are filed above in paper tubes. Architectural journals are filed in open shelves at one side of the drafting room and drawers below house supplies. The working library is located in Mr. Freedlander's private office.

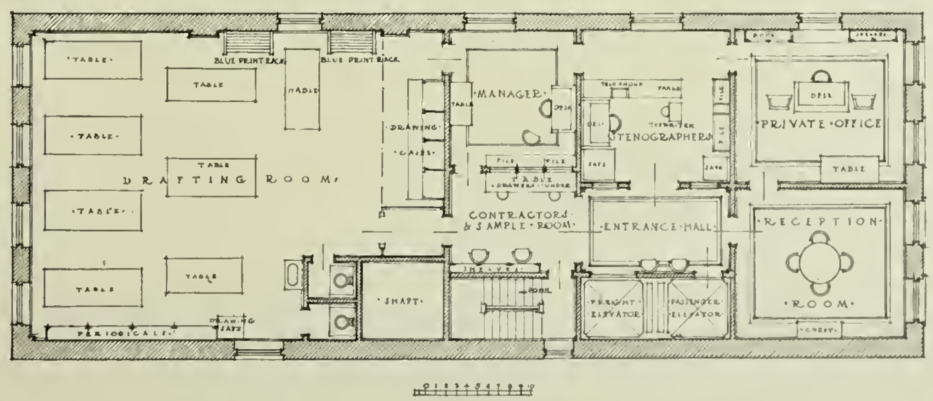
A visitor of Mr. H. Van Buren Magonigle's may possibly discover on the wall opposite the entrance to the outer office a dainty little notice which reads "Mr. Magonigle cannot be seen after 12 M., except by appointment."

Our host beamingly greets us in the afternoon, remarking that this sign is one of the inflexible rules of his office, and further that all inflexible things are breakable.

This outer office, by the way, has dark green walls trimmed into panels with brown oak. The thin partitions are 7 feet high of 2-inch studs covered both sides with compo board painted and crowned with an oak wainscot cap moulding. The office manager or head draftsman, in this case a real "right-bower," has his desk between the stenographer and the telephone and in one step he can deal with a casual caller over the counter and get away

DRAFTING ROOM.

PRIVATE OFFICE.

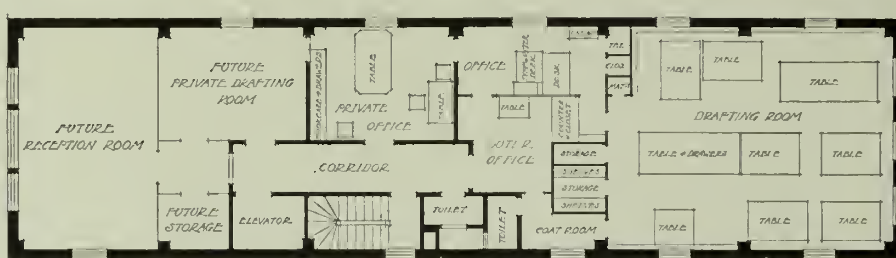


OFFICES OF J. H. FREEDLANDER, 244 FIFTH AVE., NEW YORK CITY.

quickly without being followed. This counter is a good substitute for the custom followed in some wise offices of always going outside to see a visitor and thus by being able to retreat saving a half hour each time a considerate material man insists on having his stuff specified.

DRAFTING ROOM.

The plan of the drafting room cannot give a full idea of the closets stored with all the supplies needed or imagined for real work or competitions; nor of a utility cabinet which would make envious the eyes of other draftsmen. The latter is a board possibly 3 feet square hung on the wall, supporting in orderly rows, on hooks, hammer, screw driver and other office tools, rubber stamps, etc., and along the bottom two tiers of trays full of brass fasteners, tacks, screws, rubber bands, and the numerous other things always wanted and always wanting in an architect's office.



OFFICES OF H. VAN BUREN MAGONIGLE, 7 W. 38TH ST., NEW YORK CITY.

If you are planning an office Mr. Magonigle would tell you that he needs more space for filing drawings. One bit of experience in his drafting room may give a new idea to the reader: — Some of the drafting tables are lowered to a height making it convenient to use ordinary chairs instead of stools. When you think of the angle of light entering the top of a window, the part of the drawing board 8 feet from the wall will be perceptibly better lighted if 28 inches high instead of 42.

PRIVATE OFFICE.

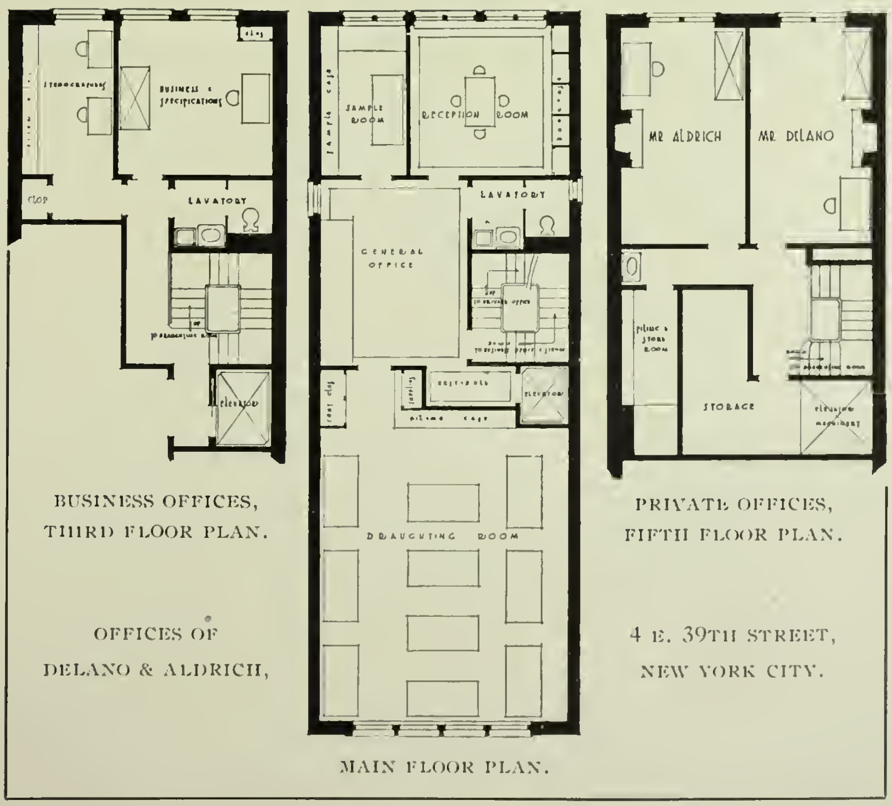
This drafting room has a shelf 3 feet high all around the walls, a convenience appreciated by every draftsman. The walls too are lined with compo board to facilitate the tacking up of drawings. One useful feature seen here and in other architects' offices is a plainly marked line of dimensions laid off in feet and quarters across the room on a beam and also on the wall from ceiling to floor.

While we have been lingering in the drafting room our photographer has been busy taking a corner of the private office posed for our especial benefit. Our host is one who does things himself and enjoys the liveliest pleasure in active touch with every phase of his work. We may see his desk in the corner covered with evidences of business and the walls above it hung with his own creations and some examples of the artistic ability of Mrs. Magonigle, or we may turn and find a table at the window which is now the center of a private conference, and again the support of his own designing board. On one wall is an interesting grouping of plaster cast medals, — some ancient and some products of his own efforts in that line. Across one end of the room open book shelves house the architectural library, and the interviewer's glance in that direction brings forth Mr. Magonigle's opinion that the best bookcase for an architect's valuable volumes is one arranged to receive the books flat and with shelves so spaced that only two or three volumes rest on any one shelf. We have not failed to notice that the trim and furniture of this little studio are dark brown oak, that the walls are covered with brown cartridge paper, the frieze and ceiling are white and that the rug is yellow and green.

Turning now to the office of Messrs. Delano & Aldrich we find that that firm occupies parts of two stories of a business building in addition to the full story in which the drafting roof and general office are located. A dozen men occupy every foot of the drafting room which has top north light in addition to the four windows. The whole office has a busy aspect which betokens a large amount of work turned out in proportion to the space occupied. Upon first entering the general office one beholds a telephone switchboard and an active table ready for the issuance and receipt of drawings. The sample room is in reality a designing room for two, and not until one is within the reception room does he find a quiet, contemplative atmosphere. The walls are large panels of old mural paintings framed in oak. Two sections of the open bookcases are closed with elaborately carved doors and a beautifully carved old table rests on a fine oriental rug. The walls of the general office and a 3 ft. wainscot in the drafting room are covered with paper which appears to be oak veneer. Passing upstairs we find two rooms for

RECEPTION ROOM.

DRAFTING ROOM.



BUSINESS OFFICES, THIRD FLOOR PLAN.

MAIN FLOOR PLAN.

PRIVATE OFFICES, FIFTH FLOOR PLAN.

OFFICES OF DELANO & ALDRICH, 4 E. 39TH STREET, NEW YORK CITY.

the respective members of the firm, furnished with tables, desks and telephones. One has a low black wainscot, a black marble mantle and paneled plaster walls. The other has an Italian marble mantel of old New York residence design and the walls are paneled with wood mouldings applied to the plaster and all painted gray.

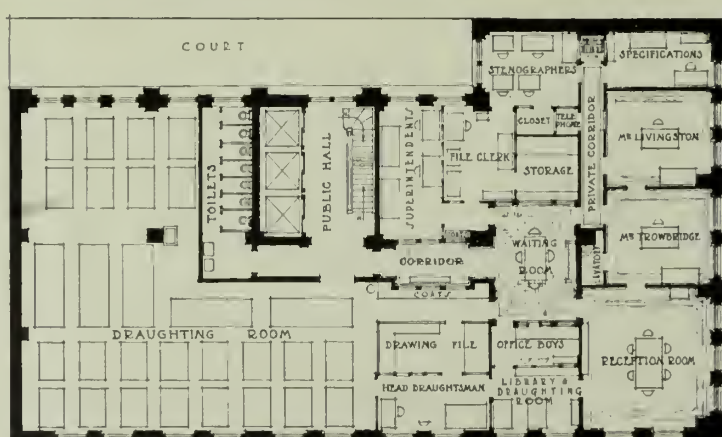
In the story below the reception room are to be found the stenographer's room and a room for specification writing and the superintending end of the office. An interior telephone system reduces to a minimum any need for traveling from floor to floor on the part of the office force.

One of the large offices in New York is that of Messrs. Trowbridge & Livingston. The plan shows clearly the general scheme and the detailed relation of the minor but necessary parts, even to the telephone switchboard. The reader will be interested, however, in the aspect of that portion of the office which is intended to meet the client's eye. As he enters from the public hall he passes through an arched private corridor into the waiting room, both of which are treated in white which gives them a bright, cheerful effect, even though they are dependent upon artificial light. The large table and chairs and the doors are mahogany. The reception room is very large and seems impressively spacious with its five big windows opening on a Fifth avenue corner. A plain brown grass rope rug lies on the floor, the furniture and trim are mahogany, the walls are covered with a smooth-finish, close-woven fabric of a brownish yellow tint, the frieze and ceiling are white. Two or three plaster models of such buildings as the new "Banker's Trust" are interesting features of the room. There is a glass front, high-legged bookcase at one side and above it a magnificent moose head, one of Mr. Trowbridge's trophies. A few photographs of the firm's executed work may be seen. We now glance through open connecting doors and gain a vista from the reception room clear through Mr. Livingston's room. The effectiveness of these three large rooms *en suite* is due to the fact that the color scheme, furniture, trim and all of the reception room are continued through the three. The grass rope rugs in the two private rooms as an exception are green with plain, dark border and a lighter field. Mr. Trowbridge's room seems a not unusual office as to its flat top desk in the middle of the room, a table and some chairs (not forgetting a holder for his never forgotten cane), but the walls attract our attention. There are hung in unconventional manner photographs of ancient masterpieces of architecture. On one wall is a grouping of fine Egyptian photographs, on another a collection of Grecian, and again of Roman. We may see also here and there some excellent Japanese prints and photographs while on the desk stands a paperweight,—a miniature model of a Japanese gateway. Not the least interesting of the wall decorations of this room are additional trophies of the sportsman, including some almost unbelievably big, speckled beauties mounted and framed so that they are swimming in a sea of birch bark. Space will not permit recounting here their wonderful tales,—even two tails, caught at one famous cast. Mr. Livingston's room is similar to that of his partner as before remarked, but the photographs on the walls are chosen from a modern period.

Little need be added to the story told by the plan as to the relative location and accessibility of the various members of the office force and all that a convenient arrangement means in the conduct of such a volume of business as is here carried on. In the room of the specification writer is to be found an item of the routine of business interesting to small offices as well as large. A row of clip filing boards hangs along the chair rail. Each one is for a particular building and holds a bunch of sheets of memoranda. These sheets, called in some offices "memo-records," are derived from interviews with clients, instructions in letters from clients, extracts from minutes of building committees, or information from any source which may affect drawings or specifications or the execution of the work. These memo-record sheets are written in quadruplicate and one copy is sent immediately to each member of the firm, one to the specification writer, and one to the head draftsman, so that each is kept *au courant* daily with new facts regarding every piece of work in hand.

RECEPTION ROOM.

DRAFTING ROOM.



OFFICES OF TROWBRIDGE & LIVINGSTON, 527 FIFTH AVE., NEW YORK CITY.

From the accompanying illustrations of the various offices, planned in most instances by the architects themselves, one is impressed with the natural combination of the practical with the esthetic. The result of such planning not only provides an atmosphere of helpfulness and inspiration to the architect himself and his co-workers, but also impresses the client with a deeper appreciation for the ability of the artist whom he has selected to design the work contemplated by him.

The uppermost thought is to produce a unity of expression through the medium of material substances. Such an effort is always more or less influenced by the natural requirements as well as historic precedents.

Since art is a product of genius and imitative qualities, the architect must necessarily surround himself with conditions both inspiring and creative. This he accomplishes by making his library a source of valuable information, his office and reception room restfully attractive, and his drafting room extremely practicable. Such an atmosphere is conducive to the broadening influences of pure architecture.

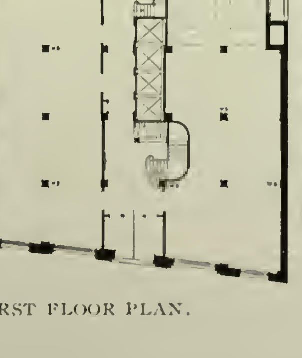
The Hilliard Building, New York.

HOWELLS & STOKES, ARCHITECTS.

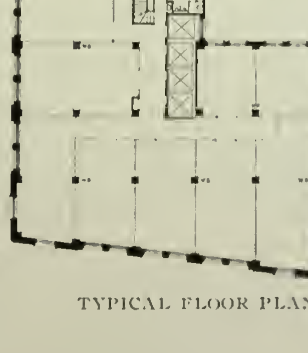
"TERRA COTTA NEW YORK" will soon be a common expression among architects and builders. How many of us ever stop to appreciate the important place architectural terra cotta occupies in the vast commercial edifices of to-day? Few, if any, traversing the business section of New York City realize that nearly fifty per cent of the visible building material is terra cotta. The progress for the last two decades has been a gradual and consistent growth. And this steady inroad of "cooked earth"—technically known—has been practically a silent progression which bespeaks for the future an unprecedented prosperity in its history.

Only in recent years have we begun to understand the possibilities of terra cotta. We have prejudiced ourselves against its constructive and decorative qualities. We have thought of it as a new substance when in reality it is the oldest manufactured material recorded. We have feared for its fire resistance and durability in spite of the fact that it is the one substance practically indestructible and absolutely fireproof. But facts change opinions and opinions change conditions. In addition to the qualities of terra cotta just mentioned we find that its lightness and its great resisting strength has made it of inestimable value in the construction of public buildings.

An excellent example of the use of terra cotta in an artistic and practical manner is demonstrated in the Hilliard Building located at the corner of John and Dutch streets. This building stands on the slight elevation known in Revolutionary times by the euphonious name of the Golden Hill, and it is still so called. It is the site of the battle bearing that name where the first man fell upon this continent to the great cause of Freedom. It was on Friday, January 18, 1770, some two months prior to the famous Boston Massacre, that the soldiers cut down and blew up Liberty pole, which commenced the fight.



FIRST FLOOR PLAN.

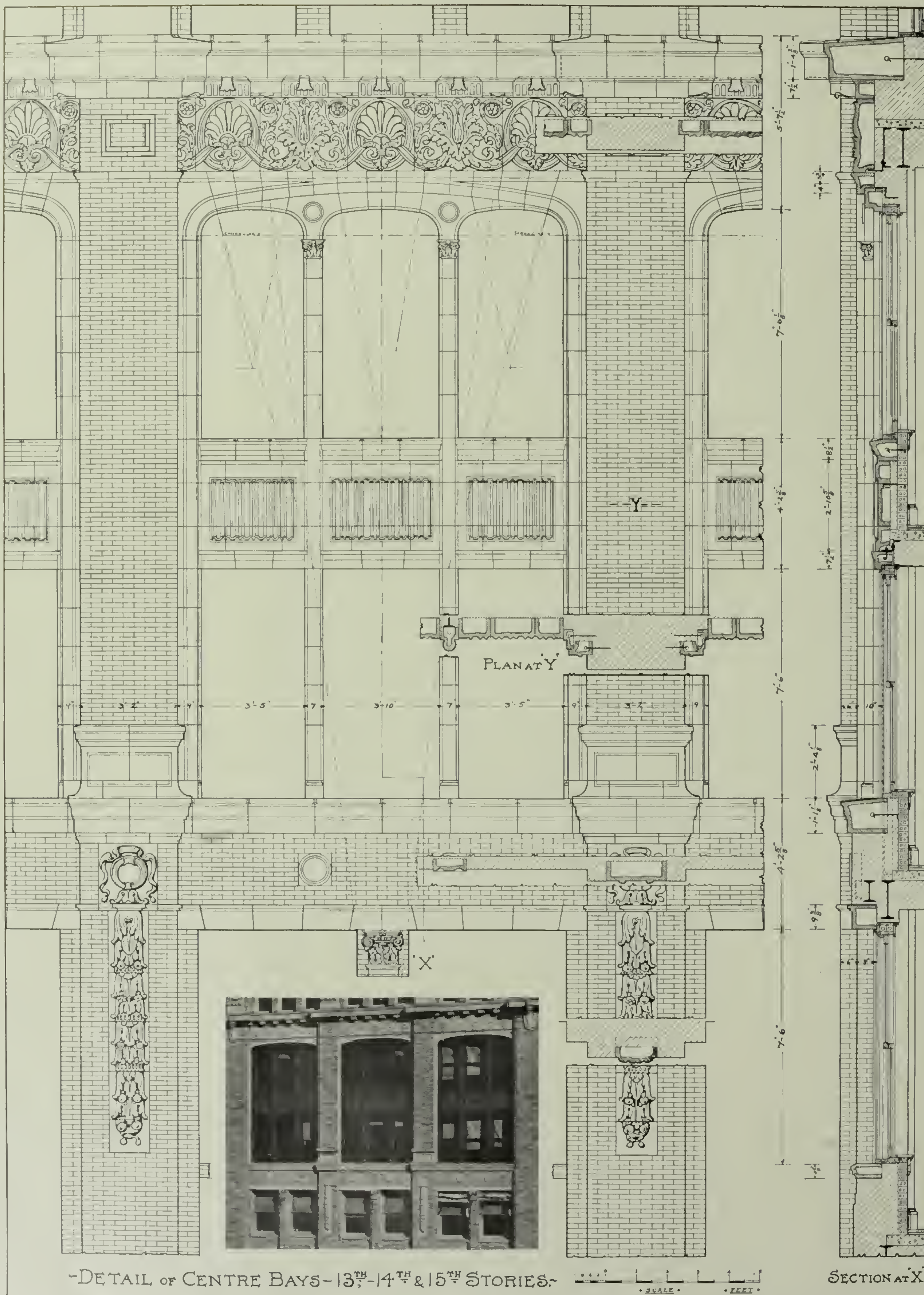


TYPICAL FLOOR PLAN.

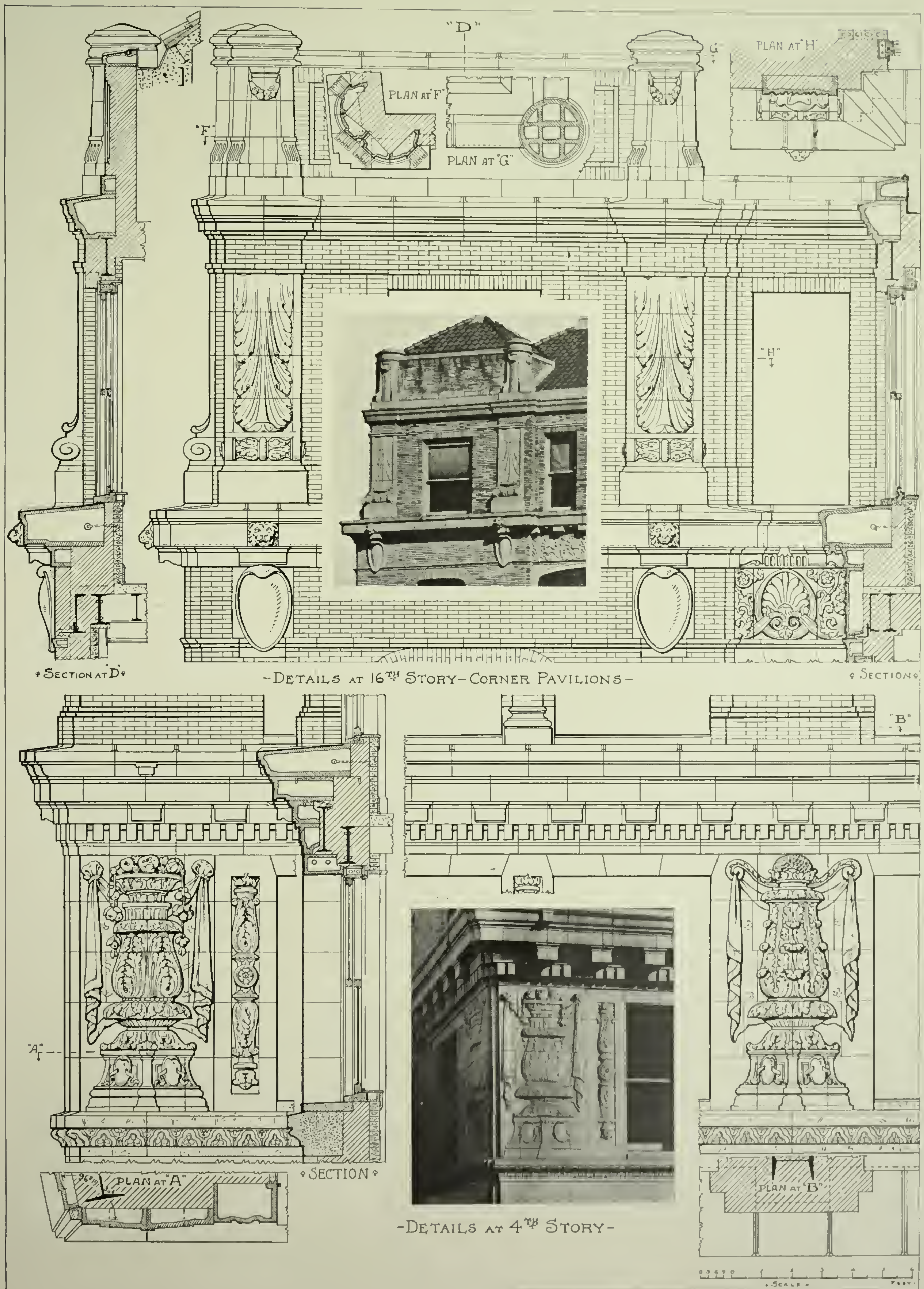
The Hilliard Building furnishes a pleasing expression of brick and terra cotta judiciously blended. The body of the building is of mottled Roman brick of four distinct selected shades, and terra cotta of a warm gray buff appearance. Realizing the ingenuity necessary in mixing the clays so as to produce the required tone when baked, one is more than impressed with this harmonious color effect.

The design is remarkable for several things, among others the skilful way in which it has been handled as a whole. The dominant feature is the towerlike treatment of the mass with its pyramid crown. This, by the way, is an ingenious contrivance which performs many functions; within it are the water tanks safe from possible freezing under the varying changes of this remarkable climate, so preferable to the hideous wooden barrels accenting the top of every office, department store, and loft building. Here also is to be found the machinery for the elevators and many other comforts for the tenants.

The terra cotta panels of classic decoration at the fourth story are elaborately moulded, portraying the skill of delicate workmanship. The panels while of considerable size are carefully executed in detail and low relief and maintain both the scale and refined feeling that pervades the whole structure. The surface of



Terra Cotta Details. HILLIARD BUILDING, NEW YORK CITY. Howells & Stokes, Architects.



Terra Cotta Details. HILLIARD BUILDING, NEW YORK CITY. Howells & Stokes, Architects.

FRIEZE AT 16TH FLOOR.

this terra cotta has a wonderful richness which, when combined with the delicate elaboration, illustrates its use for decorative panels and bas-reliefs.

The architects in these panels have given us a beautiful

MISCELLANEOUS TERRA COTTA DETAILS.

example of fine drawing, delicate modeling in low relief which is of singular charm, such as is found in the work of Alberti in his Mantuan church of Rimini. The composition is quiet in character and easy in movement; it is subtle, having a well-balanced composition singularly adapted to the material. The relief is low, yet it invites light and shade, forming an important and stately enrichment.

The terra cotta treatment of the large window groups at the fourteenth and fifteenth stories combines the striking and harmonious variety of color together with the effect of light and shade. The six large openings contain seven hundred and twenty-four pieces of bronze green matt glaze terra cotta quite uniform in size. Directly above and beneath are terra cotta decorations of the gray-buff shade, similar to the panels at the fourth story, with manganese spots. These details are expressive of the wonderful advantage accruing from the ability to mould by hand the plastic clay into symmetrical shapes. The architect must feel this great advantage in seeing the actual full size details of all ornament and being able to study and change them while still in a moist plastic state.

CONSOLE AT 16TH STORY.

The terra cotta adorning the sixteenth story and the finials above maintain the low and pleasing standard of relief. The adaptability of the burned clay for architectural decoration is here carried to a very high point of perfection in its ornateness and dignified character. The cornice, moulded courses and other ornamented features have been studied with very slight projections in order that the eye may travel from the ground to the roof with little or no interruption.

PENDANT AT 13TH STORY.

The building calls for the housing of insurance and real estate offices. Being a purely office building the one great problem of planning presented is that of obtaining the maximum amount of space for office use upon the interior. The most modern office facilities necessary for an up-to-date building in this locality have been employed. The main entrance hall is sixteen feet in width with wainscot of Italian marble, trim of Philippine mahogany, and marble staircase connecting the first and second floors. The trim of the first two floors is of Philippine mahogany while that throughout the remaining part of the building is of quartered oak.

The Hilliard Building reveals in a dignified manner the practical uniformity in composition and texture of terra cotta as well as in the color and tone of the finished work. It is one of the living examples of the perfect harmony that may result from the use of brick and terra cotta.

DETAIL OF FIRST FOUR STORIES, MAIN FAÇADE.

Della Robbia Room, Hotel Vanderbilt, New York.

WARREN & WETMORE, ARCHITECTS.

SAMUEL HOWE.

THE visitor is somewhat startled for the moment on reading the title instead of the usual word Grill Room, which by the way appeared upon the original plans. The change, we may say the elevation, of the title is, however, amply justified. It is well named, and it is no little triumph to modern ingenuity and skill that this particular mode of construction presented in so rich and decorative a form has been adopted in a hotel to-day.

For a short time the temptation was — so it seemed — to design a type of decoration which would involve the more usual environment, to panel the walls with wood in some fashion. But the architects abandoned that, determining to cling tenaciously to the exalted idea that nothing should enter the place that was not proof against disastrous fire. The result and the wisdom of that change is to be seen to-day in a most acceptable manner. It is doubtful if this continent shelters just such another example of ceramic ingenuity and perseverance, which at the same time is sternly structural. Of the Guastavino system of vaulting we have had many examples, and some of them show distinctly the wisdom of adding color and glaze.

There is scarcely anything new in this form of construc-

MAIN ENTRANCE LEADING DOWN FROM PARK AVENUE.

tion. The student of Spanish and Italian architecture recognizes very well the Oriental influence in the ribs and vaultings of many of the old churches, drawings of which are to-day to be found in the libraries of all large cities. Possibly one which at the moment is particularly worthy of study is the great church at Assisi, built in memory of San Francesco. These ribs, borders, surround the glorious paintings of Giotto and Cimabue. The architect of this church is unknown, but he left behind him a great tribute to his practical acceptance of Oriental enrichment. It was built in 1228, and here we are to-day struggling with very much the same type of decorative problem.

The following letters indicate in brief the color of the tile and faience: (A) The main body or field of the vaulting is from the usual Guastavino system of timbrel arch construction to which a fret design has been added together with an interesting glaze thin and transparent. It is of a grayish-green tone which reflects light by virtue of the corrugated nature of the ornament. It is 12 inches long by 6 inches wide laid herring-bone with white joints.

All tiles used in vaulting are fully glazed. The tiles and faience forming cap and angle borders to piers are dull or matt glaze. (B) Border of the same material turquoise blue in color. (C) Cream color tile. (D) Is a border which is somewhat unusual, consisting as it does of rosettes at set intervals of a cream color. They are in high relief. Between them alternating are countersunk panels surrounded by a border of white which is raised in relief. The panels are of bright color — red, turquoise, and yellow respectively. (E) A moulding cream color tile. (F) Dark blue tile. (G) Rope moulding, which is built into the vaulting, keyed as it were and made very secure. (H) Dark blue

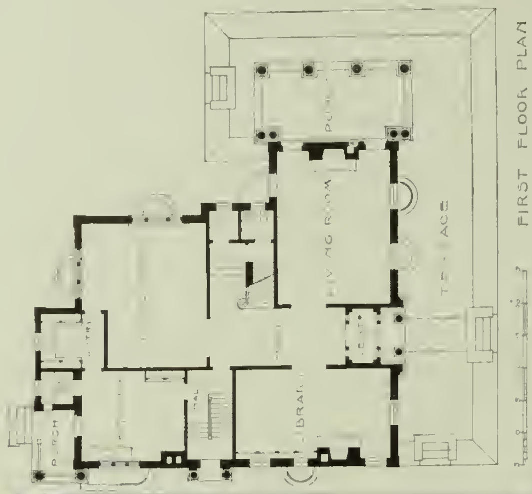
BALCONY WITH MEZZANINE AND DETAIL OF VAULTING.

HOUSE AT ST. LOUIS, MO.

COPE & STEWARDSON, ARCHITECTS.

FIRST FLOOR PLAN

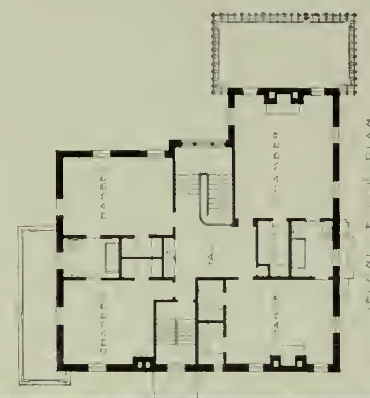
SECOND FLOOR PLAN



FIRST FLOOR PLAN

HOUSE AT
CLEVELAND, OHIO.

FRANK B. MEADE,
ARCHITECT.



SECOND FLOOR PLAN

·FIRST·FLOOR·PLAN·

HOUSE AT GARDEN CITY,
LONG ISLAND, N. Y.
AYMAR EMBURY II, ARCHITECT.

·SECOND·FLOOR·PLAN·

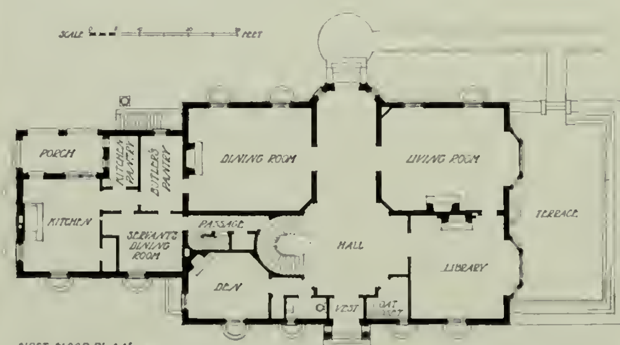
HOUSE AT NEW HAVEN, CONN.
DELANO & ALDRICH, ARCHITECTS.

SECOND FLOOR PLAN

PLANS, ENTRANCE AND INTERIOR VIEWS.

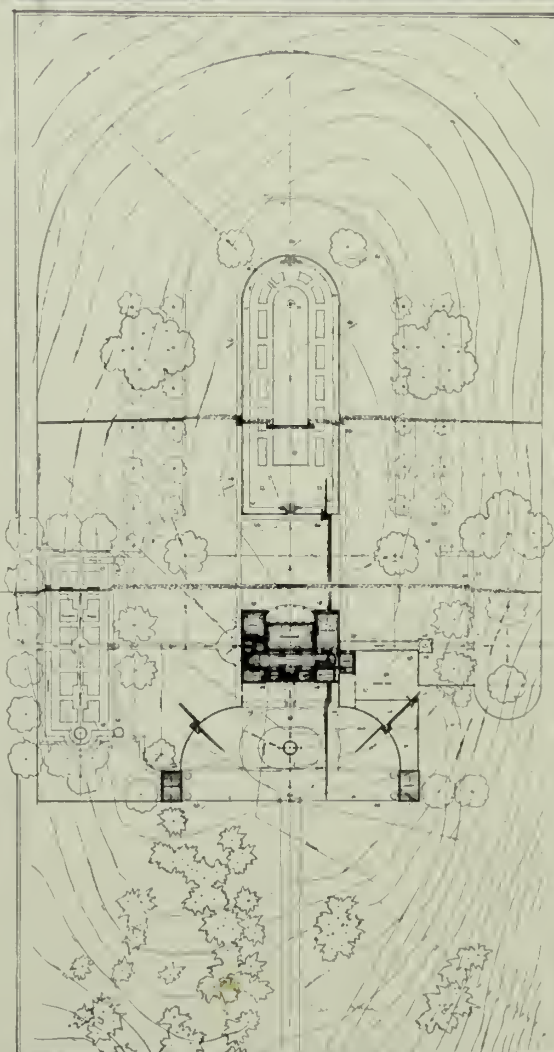
HOUSE AT NEW HAVEN, CONN.

DELANO & ALDRICH, ARCHITECTS.

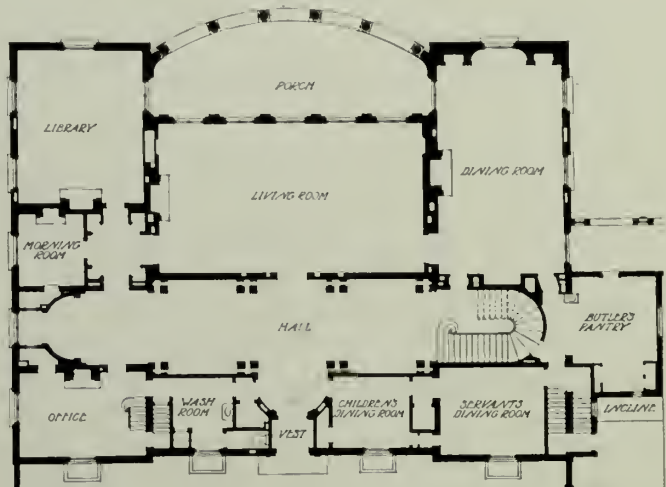


FIRST FLOOR PLAN

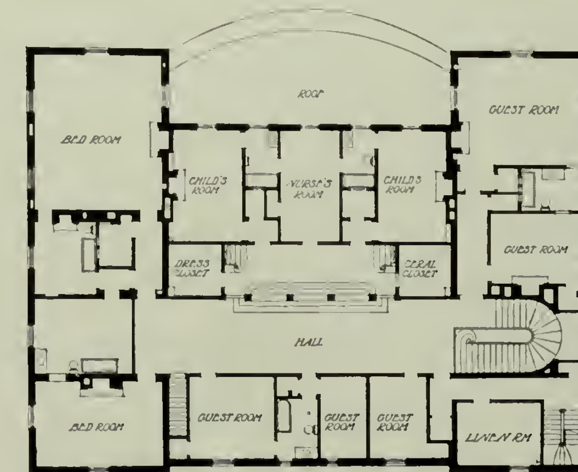
DELANO & ALDRICH,
ARCHITECTS.



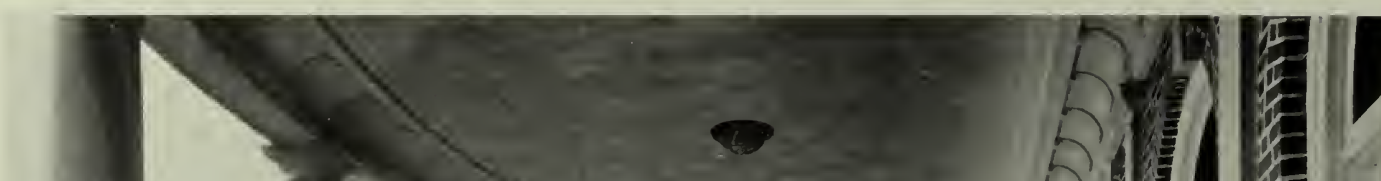
EXTERIOR VIEWS AND PLANS,
HOUSE AT LENOX, MASS.



FIRST FLOOR PLAN

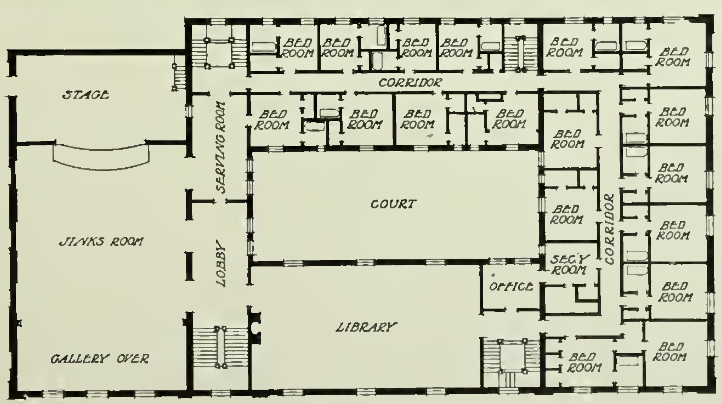


SECOND FLOOR PLAN



TEA HOUSE AND PORCH, HOUSE AT LENOX, MASS.
DELANO & ALDRICH, ARCHITECTS.

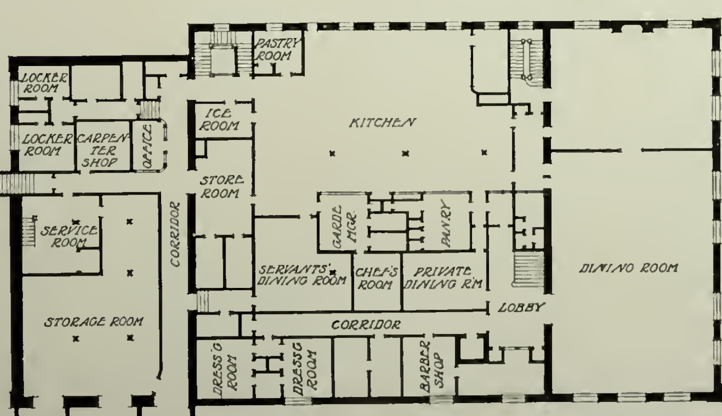
HOUSE AT LENOX, MASS.
DELANO & ALDRICH, ARCHITECTS.



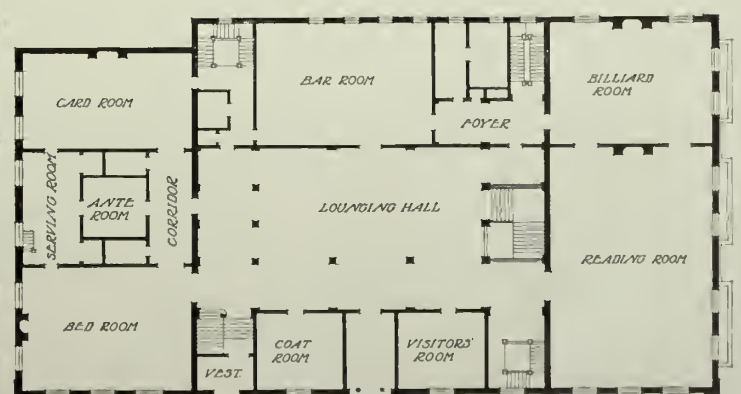
SECOND FLOOR PLAN

LORING P. RIXFORD
AND
GEORGE W. KELHAM,
ASSOCIATED, ARCHITECTS.

THE
BOHEMIAN CLUB,
SAN FRANCISCO,
CAL.



BASEMENT PLAN



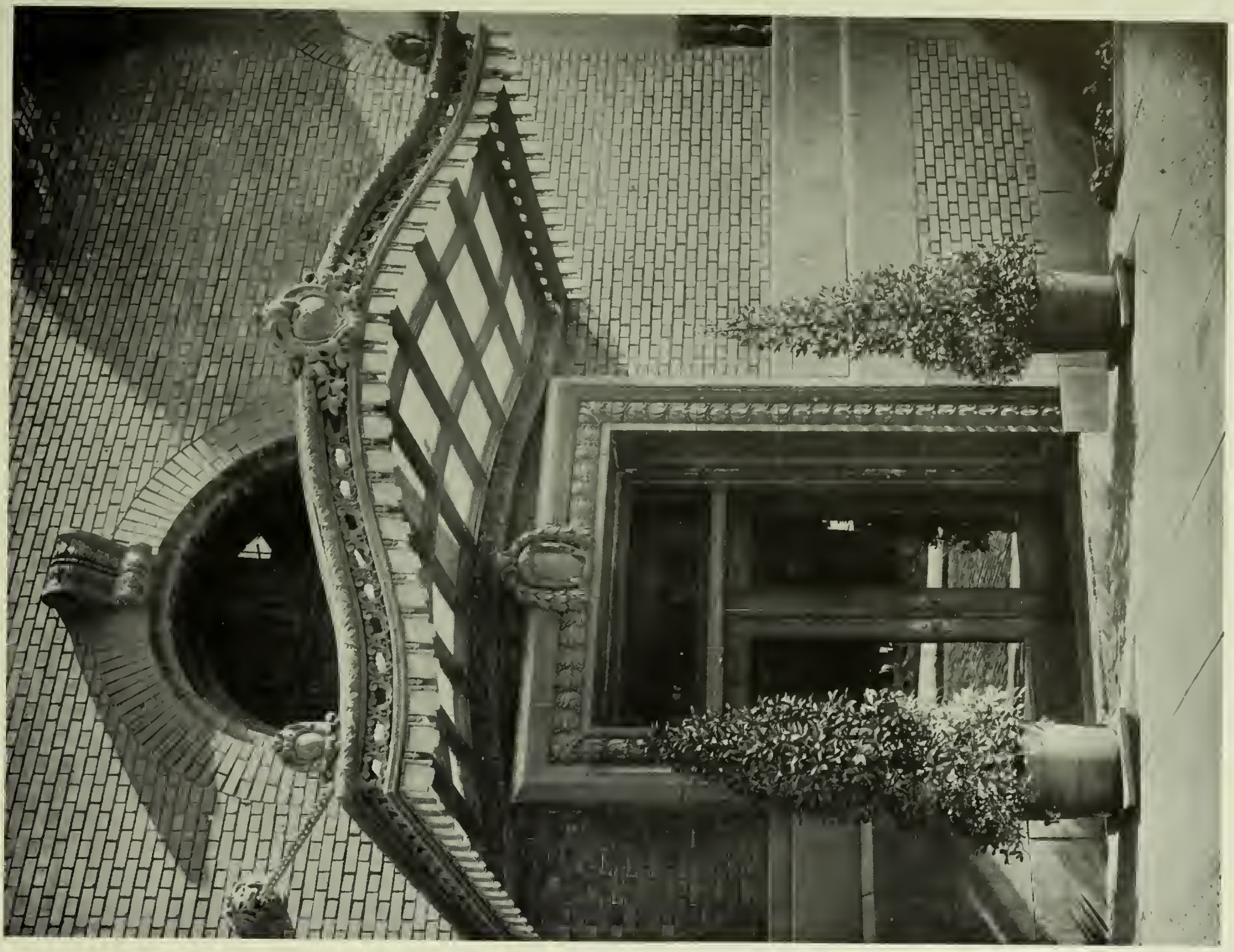
FIRST FLOOR PLAN

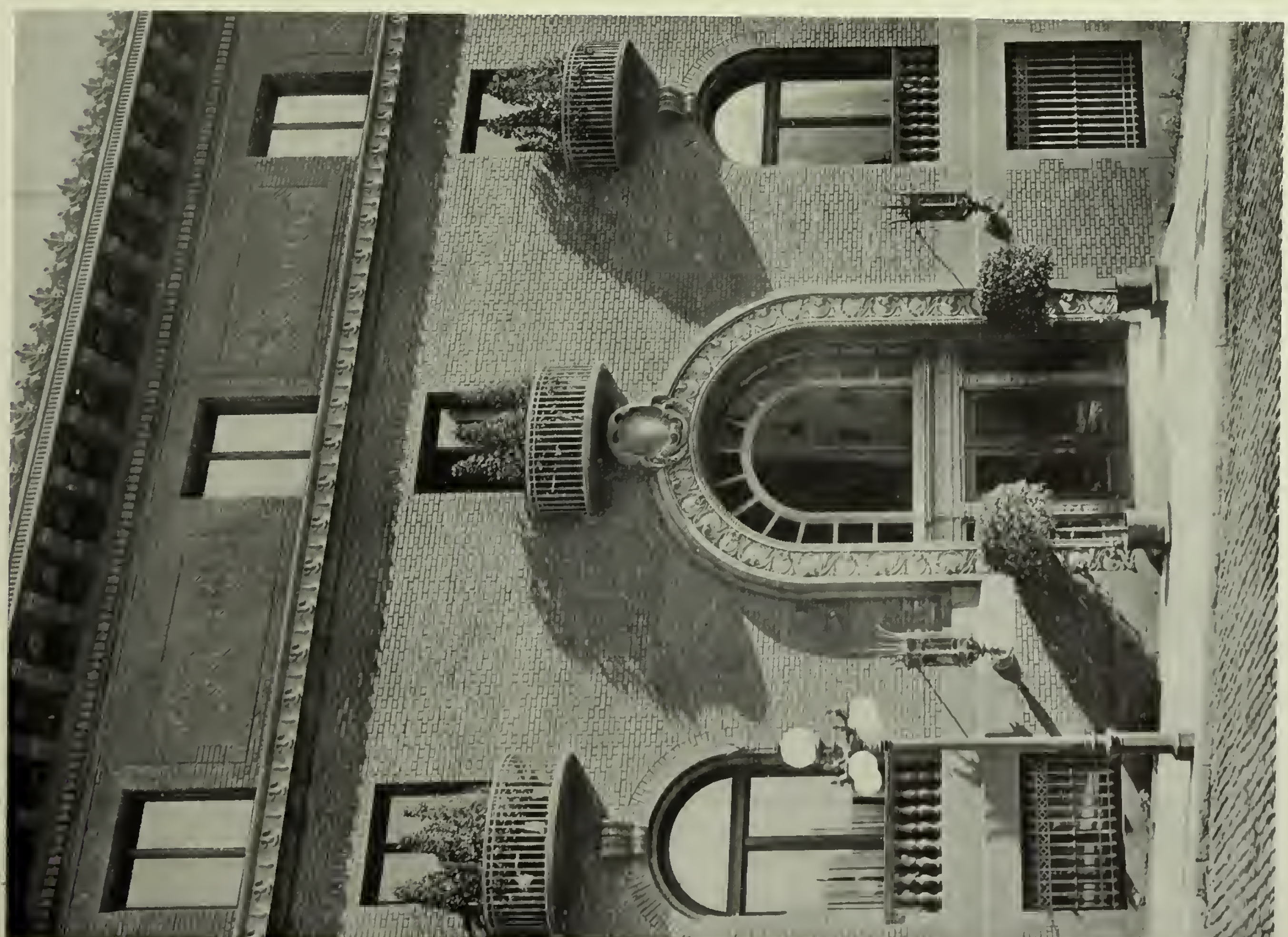
LOUNGING HALL.

THE BOHEMIAN CLUB, SAN FRANCISCO, CALIFORNIA.
LORING P. RIXFORD AND GEORGE W. KELHAM,
ASSOCIATED, ARCHITECTS.

LIBRARY ROOM.

JINKS ROOM.



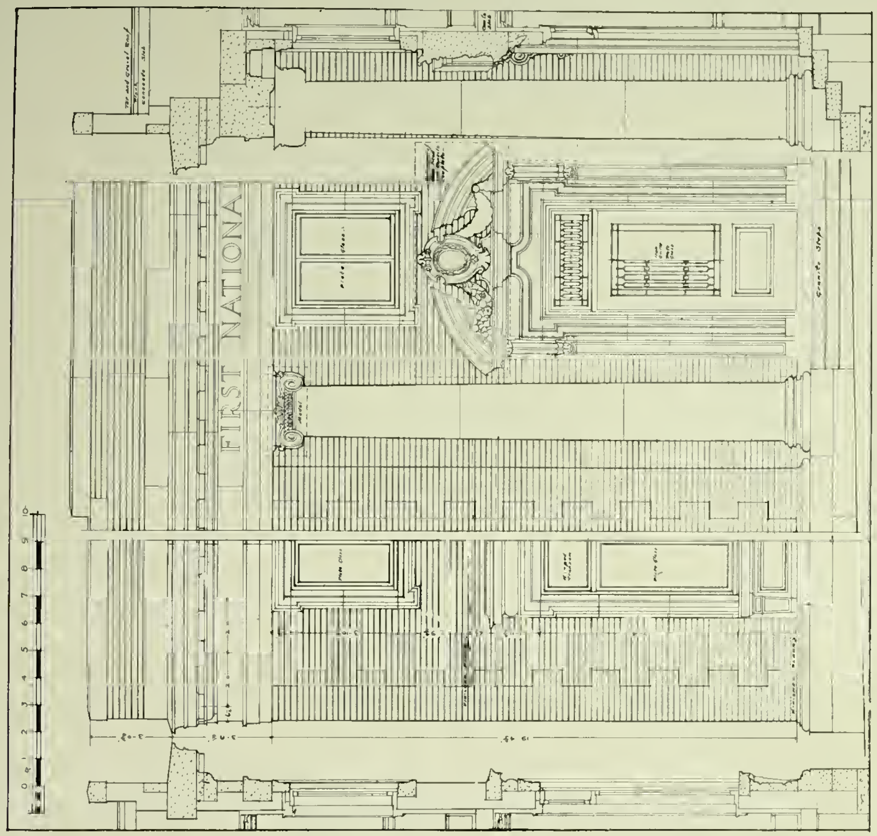


TWO ENTRANCES.

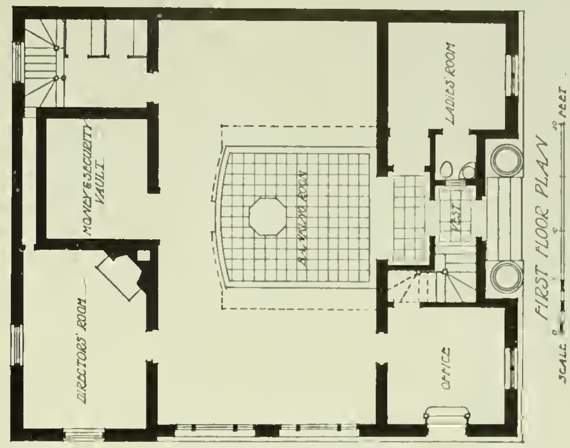
THE BOHEMIAN CLUB, SAN FRANCISCO, CALIFORNIA.

LORING P. RIXFORD AND GEORGE W. KELHAM, ASSOCIATED, ARCHITECTS.

VOL. 21, NO. 2. PLATE 26.

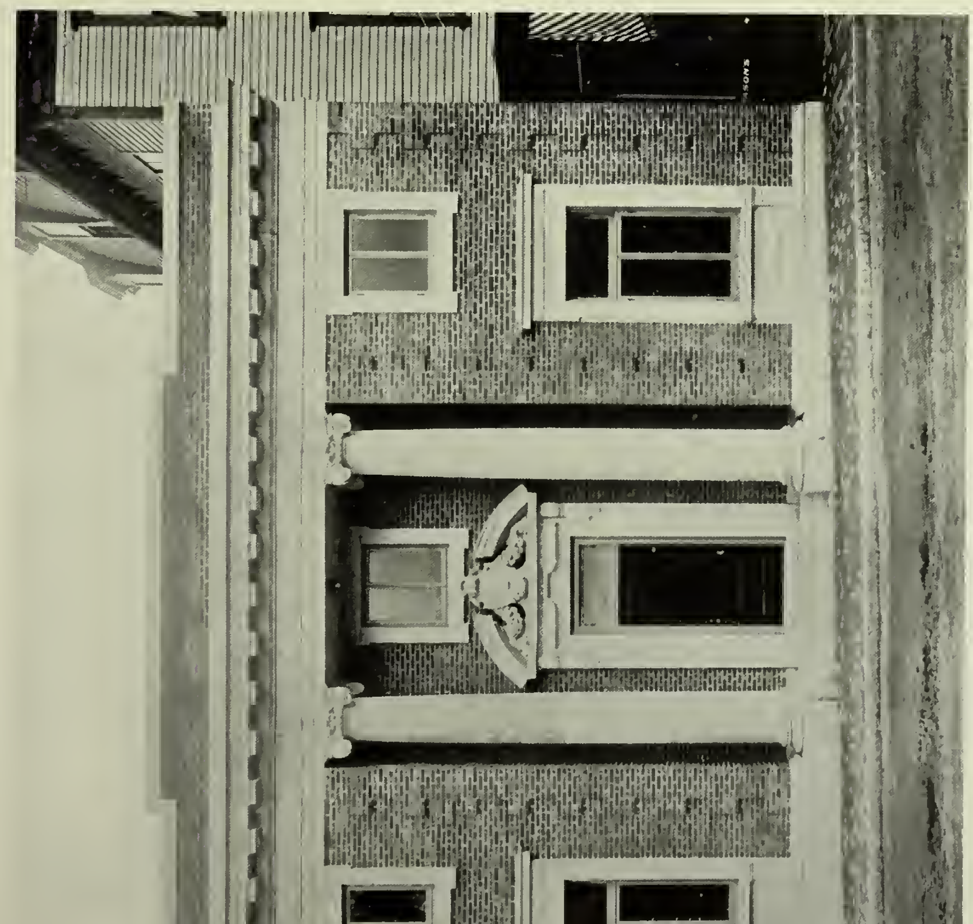


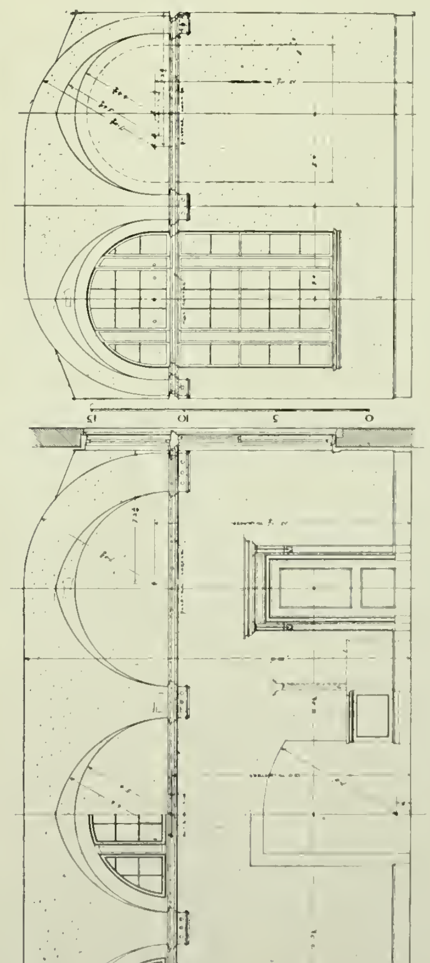
EXTERIOR DETAIL.



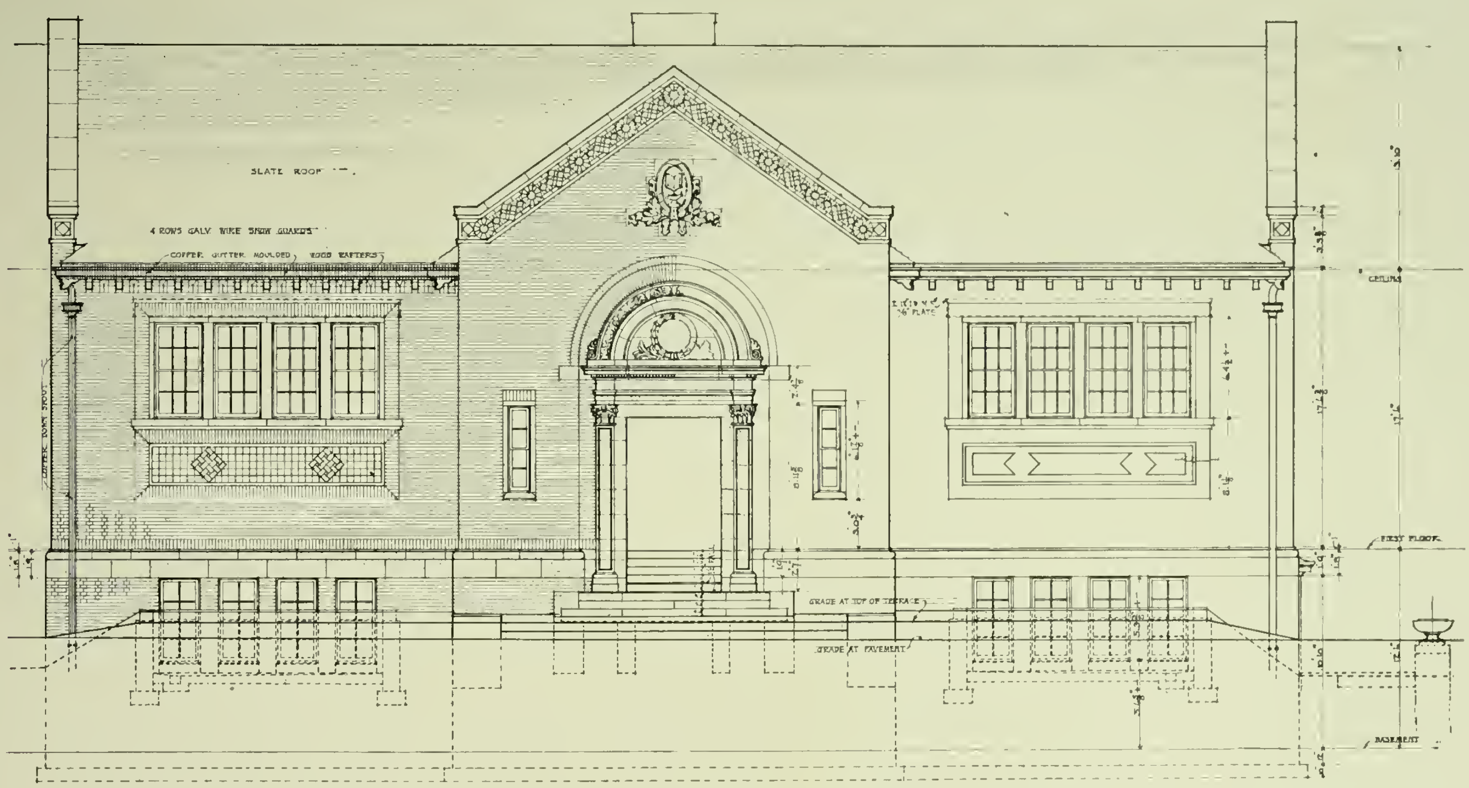
FIRST
NATIONAL BANK,
BAR HARBOR, ME.

ANDREWS
JAQUES & RANTOUL,
ARCHITECTS.

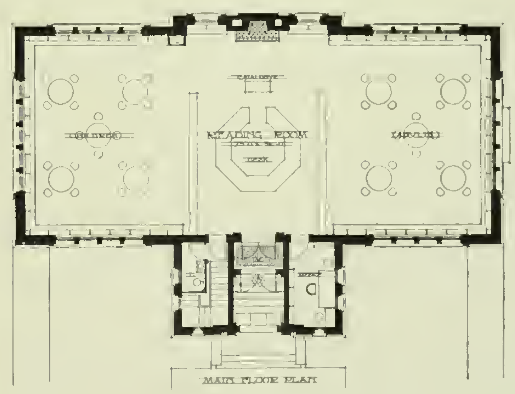




SECTIONS THROUGH BANKING ROOM.

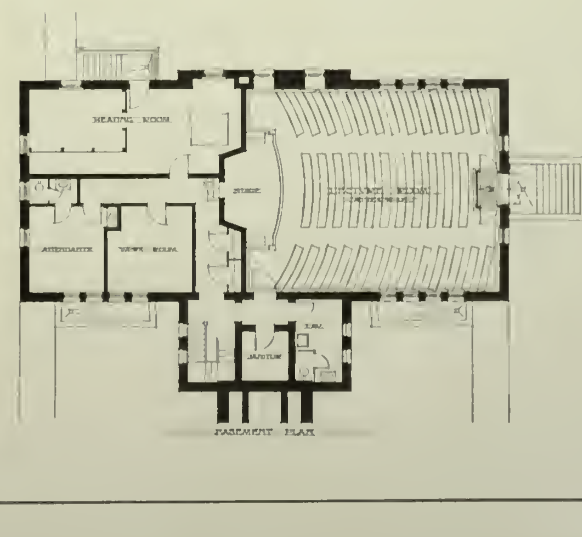


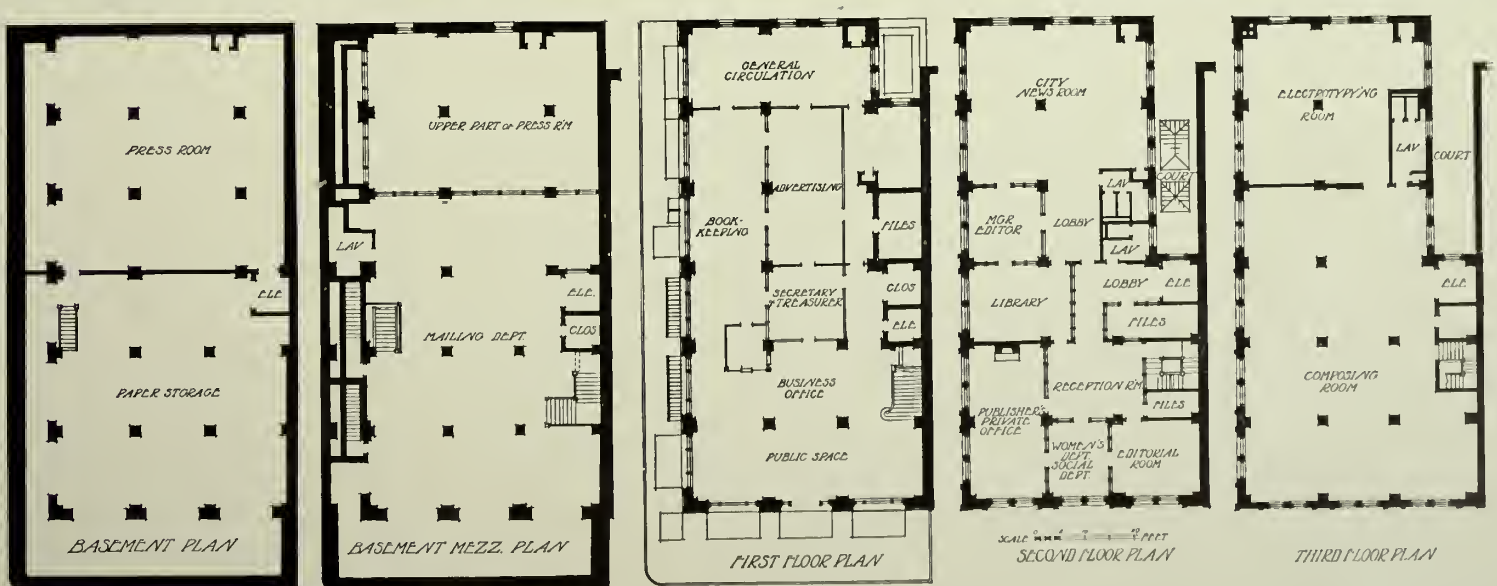
· GARRISON · AVE · (FRONT) · ELEVATION ·



ENOCH PRATT FREE LIBRARY,
FOREST PARK, BALTIMORE, MD.

ELLICOTT & EMMART, ARCHITECTS.





BIRMINGHAM LEDGER BUILDING, BIRMINGHAM, ALA.

WILLIAM LESLIE WELTON, ARCHITECT.

tile. (I) Bead and real moulding, cream color. (K) Dark blue tile. (L) Panel ornament forming a soffit of the main arch in which the ornament is white on a blue ground. (M) Blue tiles. (N) Cap, abacus, necking, rosettes, and other ornament of white upon a blue ground. (O) Ornament white on blue ground. (P) Blue tiles. It is a little difficult to explain the effect of the composition or the influence of one tone upon another. A thoughtful study, however, discloses the subtle manner in which this rich composition has been made to be light, cheerful, and at all times agreeable. Perhaps the position of the groined vaulting and the manner in which the daylight comes in from the upper part of the windows has something to do with this. There is about the whole room an atmosphere of cheerfulness,— with all its serious construction, its academic and well-studied poise, that cannot be denied, and one would scarcely think that upon this beautiful vaulting a structure of many stories rests. Of course, as every one knows, it is no easy matter to handle dark blue and buff and make of it a picture which is bright, stimulating, and that is certainly the kind of tone with which a public dining-room should be filled. Consciously or unconsciously, the architects have once again shown what can be done with a full-toned blue. It was tried in Persia ages ago before the Northern or Central portion of Europe was heard of, and when this favored land was fast asleep. And it is no little pleasure, nor is it a light tribute to the material nor to the metallic oxides and glazes which make it so presentable, that once again this rich mysterious blue should be the key-note and the note in a new order of things, a new civilization, a new world. There is just a flavor of the tone in the outside of the building and in a way it appears again and again wherever we look. It is the accent of the electric-lighting fixtures of the main floor; it appears in the livery of the

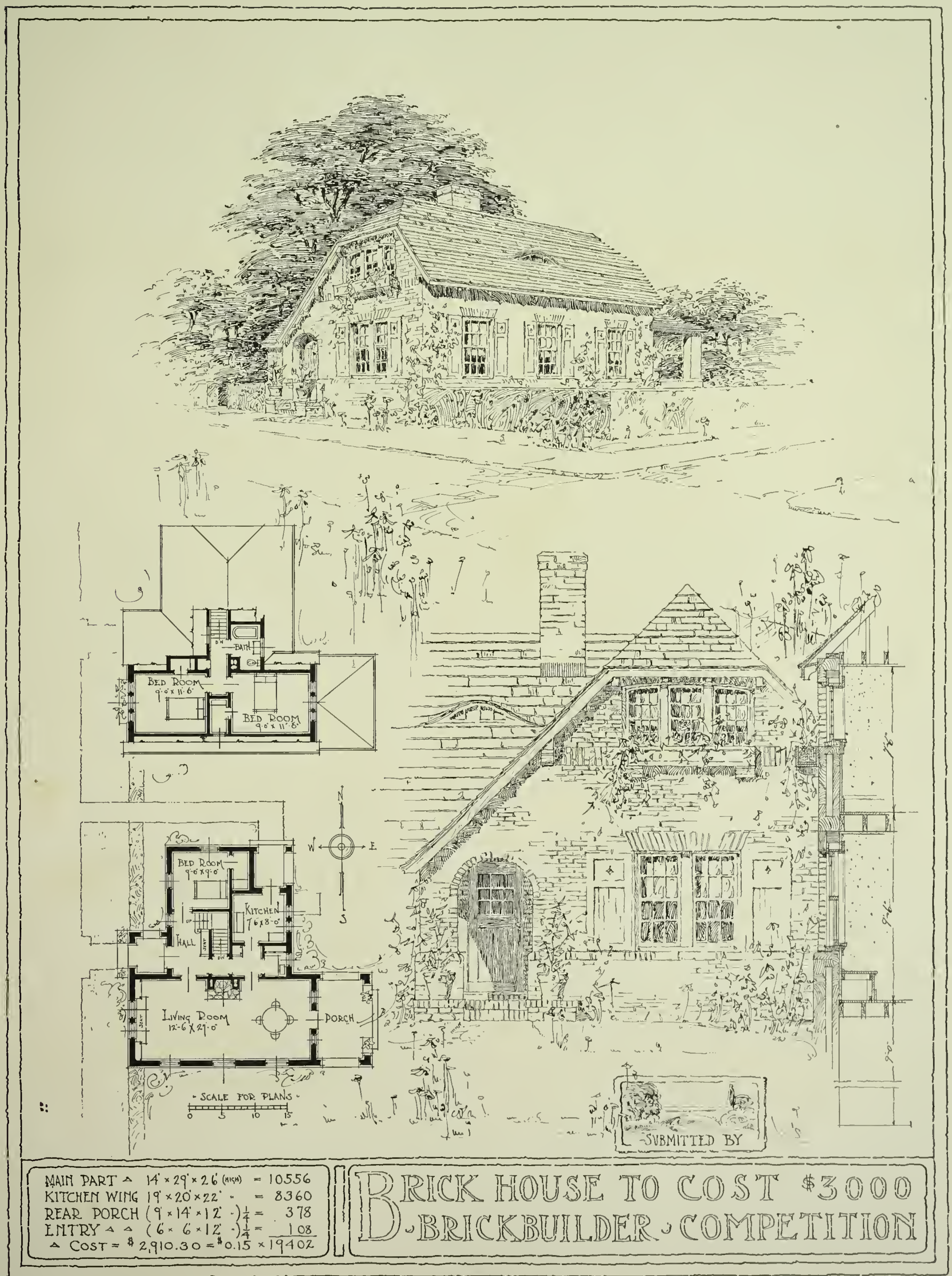
VIEW SHOWING ENTIRE LENGTH OF ROOM WITH BALCONY AND DETAIL OF RAILING.

servants; its echo is to be heard through the various passages and subsidiary parts in the café, butler's pantry, passages and what not. And yet it is never dull, never dark, never depressing. Scientists and colorists always say of blue that it blackens at night, but this particular tone seems to escape. It adds in depth and mystery, as it does in richness, as if the plume of a thousand vines were distilled into it. And again, the yellow, red — and the matter. The ground is cream, somewhat like the tone of the vaulting. And upon this canvas in a most frolicsome way appear peacocks, pheasants, parrots, farmyard fowl, as well as small insects and occasionally foxes or monkeys. All this in spite of its freedom and abandon has been carefully thought out as to balance and accent. Throughout the superb plumage of the birds is ever present the shade of blue. It appears everywhere. The panels

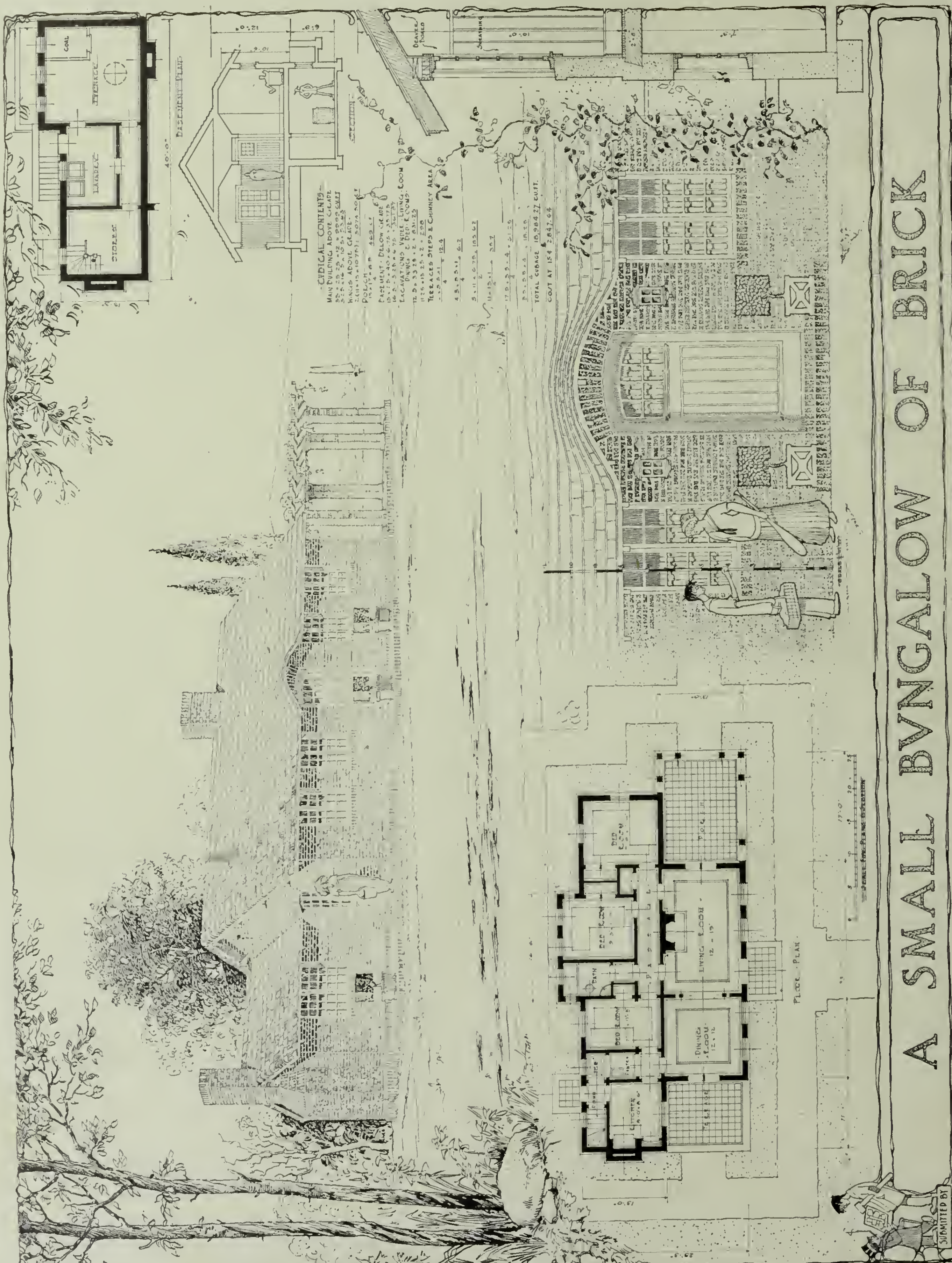
VIEW SHOWING THE CENTRAL PIERS FROM WHICH SPRINGS THE VAULTING, A PORTION OF THE WALL DECORATION AND THE DETAIL OF THE ELECTRIC LIGHTING.

projecting ornament and cross-lights with their reflections enter into and humanize the whole.

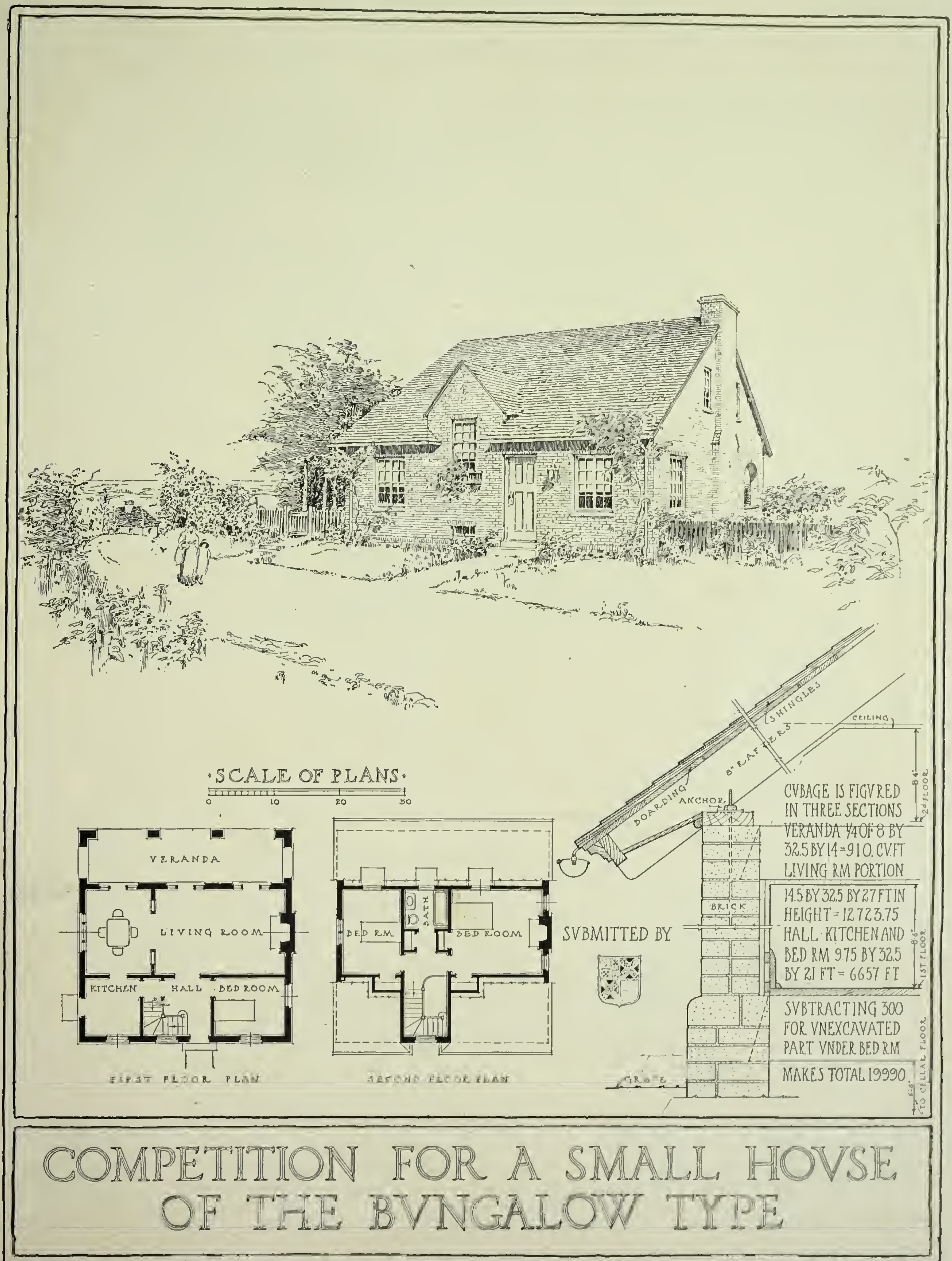
Again, the white marble floors and the peculiar dull white surface of the fascia to the balconies, the chamfered corners of the pilasters with their caps and bases, all help to soften the blue. The wall panels are particularly clever in that the problem of designing the painting was no easy are carefully painted, not in the too-frequent thin naturalesque way, but sufficiently conventional to make them acceptable here. Round the balcony at certain set intervals cast-iron standards are placed and between them rope taking a graceful outline, thus getting rid of the customary hard line so serious and set. Of the electric lighting it is scarcely necessary to write. The views show the detail.



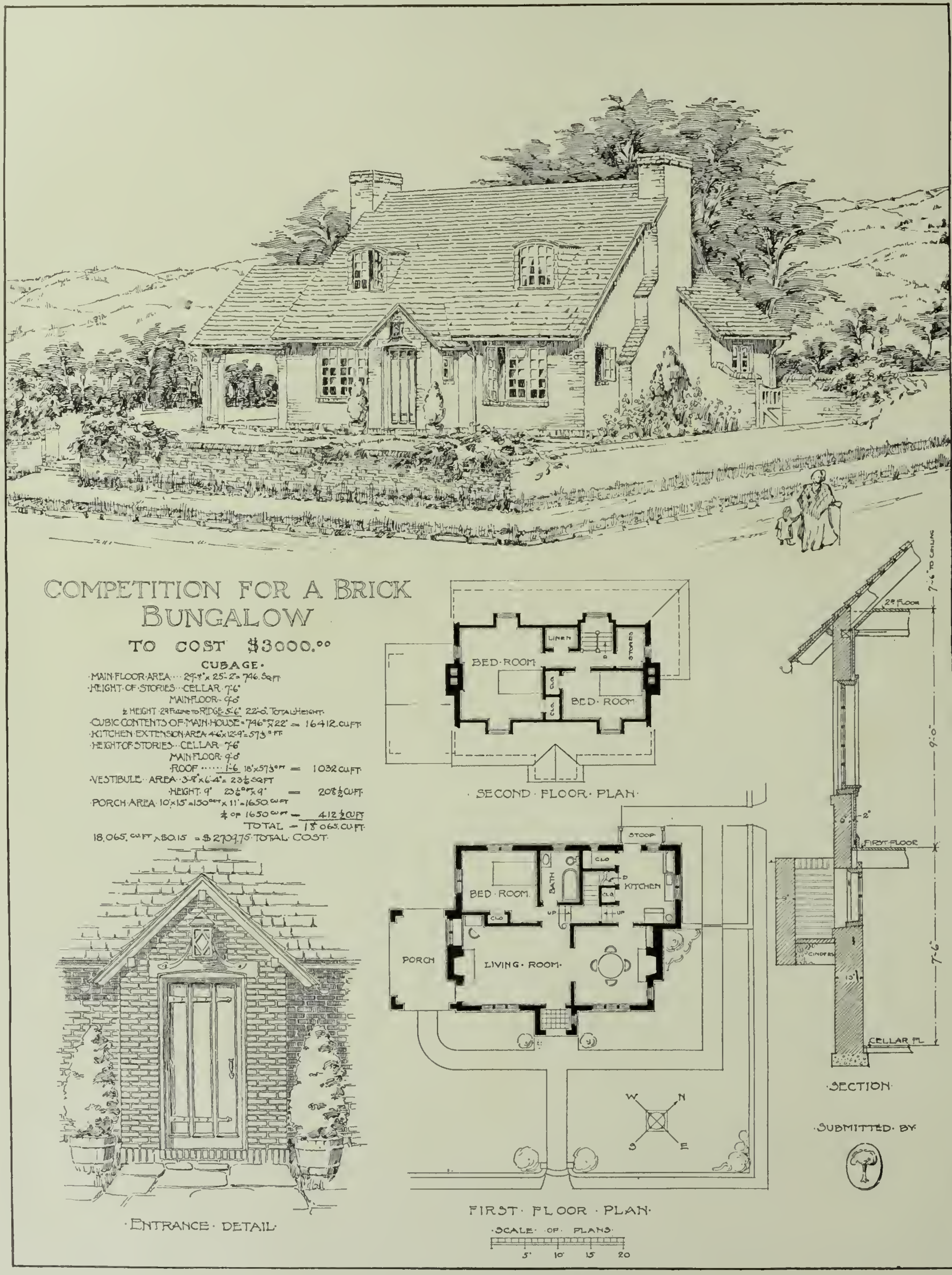
FIRST PRIZE DESIGN.
Submitted by Ralph J. Batchelder, Boston, Mass.
COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.



SECOND PRIZE DESIGN.
Submitted by Jack Lehti, Washington, D. C.
COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.



THIRD PRIZE DESIGN.
Submitted by William Boyd, Jr., Pittsburgh, Pa.
COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.



FOURTH PRIZE DESIGN.

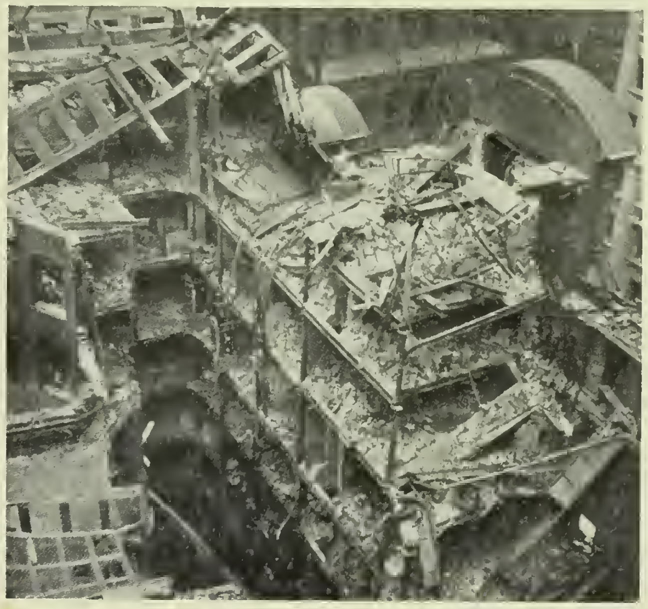
Submitted by Charles Willing, Philadelphia, Pa.

COMPETITION FOR A SMALL BRICK HOUSE OF THE BUNGALOW TYPE.

The Equitable Building Fire, January 9, 1912.

REPORT BY P. H. BEVIER, C.E.

THE Equitable Building is a heavy granite structure located at Broadway, Cedar, Nassau and Pine streets, New York City, occupying the entire block, with the exception of a brick building at the northeast corner occupied by Messrs. Belmont & Co., and a granite building at the southeast corner known as the Western National Bank Building. The main portion of the Equitable Building runs through to Nassau street between these two buildings. There is an interior court extending upward from the top of the rotunda over the first floor arcade. The northwest corner of the building was the earliest portion constructed and consists of granite walls backed up with heavy brickwork, cast-iron columns unprotected by fireproofing, and iron I beams with brick arches. The larger part of this portion of the building entirely collapsed from the roof to the first floor. The remainder of the building consists of granite walls backed up with heavy brickwork, unprotected cast-iron columns, flat hollow tile arches 8 inches deep without protecting skewbacks. The soffits of all beams and girders were unprotected by fireproofing. This portion is standing and not greatly damaged except in certain parts where the cast-iron columns have failed and the entire section collapsed from roof to first floor. Where the columns did not collapse the arches and structure appear to be in fairly good condition.



VIEW SHOWING PORTION OF BUILDING WHICH COLLAPSED.

The fire originated in the basement of a restaurant in the southwest corner and spread rapidly up the elevator shaft, mushrooming over the entire top of the building. On account of a very high wind and extreme cold, which hampered the fire department, the fire spread over the entire building, consuming everything above the first floor which was burnable.

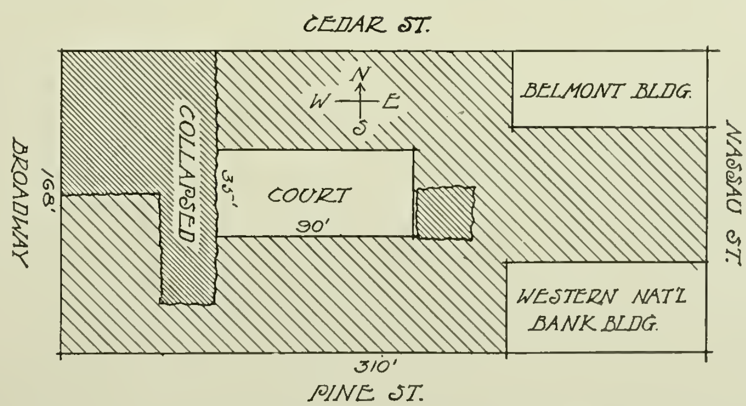
The building was wall-bearing, so that when the columns collapsed the ends of the beams resting in the walls on stone templates were pulled from the walls but left them standing. There is no question but that had the elevator shaft been protected the fire would have been confined to the basement. Had the columns been protected the building would not have collapsed in any portion, and the damage would have been only that by fire and water. As it is, the portions which collapsed were totally destroyed. The other portions could be repaired but will be torn down to make room for a modern fireproof building. The company had contemplated the razing of the present building for some time to make way for a modern structure.

The Belmont Building is of comparatively modern construction, fireproofed with hollow tile throughout, and is uninjured except where some wooden partitions were burned out in the westerly end, and by water which flooded the entire building.

In the Nassau street (easterly) end of the main building, on the fifth floor, was located the Lawyers' Club, the main room being very large and lofty. All the woodwork was consumed from this room, but apparently the structure is not seriously damaged. The main room connected through doorways into a room which occupied the entire top story of the Western National Bank Building. Over this was an angle iron and booktile dome. All the woodwork was also consumed from this room, but apparently the steel and fireproofing construction was not injured.

No damage was done to the lower stories whatever, which was of steel and hollow tile construction throughout, except by water.

All the interior subdividing walls are of brick and the fire could have been confined to one portion of it had the openings communicating from one part to another been closed by fireproof doors.



PLAN OF BUILDING WITH PORTIONS WHICH COLLAPSED SHOWN IN FINE CROSS HATCHING.

The accompanying diagram will give an idea of the size and shape of the Equitable Building. The earliest portion, on the northwest corner, was built in 1868, the main portion in 1885. It can be easily demonstrated that for a comparatively small amount this conflagration could have been prevented by enclosing vertical openings at elevator and other shafts with fireproofing material, fireproofing of the columns, and placing of fireproof doors in openings in walls which subdivided the building.

Legal Hints for Architects. — Part VIII.

WILLIAM L. BOWMAN, C.E., LL.B.

Extra Work! That hope of the contractor, despair of the owner, and nightmare of the architect! While architects and engineers have been continually crying "Out, damnèd spot! out, I say!" extra work is still ever present in construction work. In the uniform contract they have at least gotten rid of this term, expressing the clause which is generally supposed to pertain to such work as follows: "No alterations shall be made in the work except upon written order of the Architect." It would seem now that this phrase has not prevented the doing of or restricted the ordering of what is now strictly considered "extra work." Whether or not it was the intention of the parties framing the uniform contract to include in the word "alterations" the various kinds of work which have been expressed as changes, additions, deviations, alterations, extras, etc., is not known to the writer.

In Part V of this series I have defined technically the most important of these words, showing their differences. At least one state has come out clearly in its interpretation of this clause and in several decisions held that it does not apply to extra work. This means that no written order of architect or owner is required to make the owner responsible for extra work or work outside the contract. In one case there was a contract for all the plumbing work for a proposed hotel. The specifications stated that the architects were unable to locate and describe the drainage pipes of the building about to be constructed. When the old drainage system was discovered after much of the plumbing work had been completed by the contractor, the municipal inspector refused to permit its use and an entirely new one had to be constructed. The changed conditions also required other work and materials not included in the original contract and certain alterations of the completed work and also certain repair work. The inevitable question arose as to whether this work was within the contract or not, and it was contended that even if it was not, yet the owner was not liable because the work had not been ordered in writing as provided by the clause under discussion. The court held that none of this work mentioned could be considered as "alterations" within the provisions of the contract. In a very late case this matter is expressed thus: "Where the parties deviate from the original plan agreed upon, and the terms of the original contract do not appear to be applicable to the new work, it being beyond what was originally contemplated by the parties, it is undoubtedly to be regarded and treated as work wholly extra, out of the scope of the contract and may be recovered for as such." Then speaking of this particular clause the opinion states: "The materials and labor here sought to be recovered for were never contemplated in the original plans and specifications and were not alterations within the provisions of the contract."

In another decision this requirement was held inapplicable to work which was not within the plans and specifications and which was merely an addition in no wise affecting or relating to anything contained in the contract between the owner and contractor.

These decisions bring us squarely to the question which is often difficult to determine, what is an "alteration" within this provision? An alteration has been legally defined as being "generally understood as meaning a change or changes within the superficial limits of an existing structure, or a change of form or state which does not affect the identity of the subject." The first part of that definition probably was given on account of a special definition which this word has under most city building codes and as used in a certain mechanics lien law. The distinction there being between *alteration* as an addition in height, depth or extent of interior accommodations; and *addition* as a lateral addition or occupying more ground area. It would seem that this word is best construed in the same sense as the three words "changes, additions and alterations" have been construed, namely, such changes as are incidental to the complete execution of the work as described in the plans and specifications and therefore of only minor or trifling importance. Any material departure from the plans and specifications with reference to which the contract was made, which resulted in a new and substantially different undertaking, cannot be regarded as within the meaning of this word. Where changes in substituting mountain surface stones for mountain quarried stone and lap binders for headers in foundation walls were made, they were held to be "alterations" within this clause. On the other hand, work caused as damages from water freezing and causing the foundation walls to crack and split was not "alterations."

While the expression "alterations, deviations or additions," has been held to include extras, yet there seems to be as yet no decision directly holding that the clause under discussion includes extras. The architect should therefore beware how he orders extra work believing it to be part of the contract and then after finding out he is wrong how he protects the owner by claiming that the owner is not liable because the contract provision for a written order has not been complied with. Whether certain work is extra or alteration is a question of fact which may be somewhat difficult to determine, but at all events, no matter which it is, the architect who always issues a written order for any such work will always be safe from honest criticism.

It is almost the universal rule to-day that the architect has no authority or power to waive this requirement of a written order for "alterations," and since it is often considered a condition precedent for the recovery by the contractor of his compensation, no architect should ever knowingly order such work without then and there issuing the necessary written order. It should be further noted that this prohibition extends only to the architect, so that where a contract in addition provides that an owner may order alterations without voiding the contract, the owner clearly has the power to order such alterations orally. How about the owner ordering alterations orally where this clause under discussion is the only one mentioning that subject? It is elementary that a party to a contract can waive any of its provisions for his protection so that such oral order would undoubtedly bind the owner. It has been held that where the architect ordered orally with the owner present and consenting thereto, that it was a waiver of this requirement. Also where such work ordered orally even by the architect has been paid for by the owner upon a partial payment, such payment would ordinarily be considered a ratification of the architect's order. In this connection however, it, has been held in just such a case that the architect's certificates for partial payments which contain an estimate for work orally ordered have been held not to be written orders within the requirement.

Since the various decisions as to owner's waiver or ratification have been determined upon so many diversified facts, and since there is much difference of opinion among the courts, it seems best to dismiss this subject with the comment that most courts seem to find any excuse legally valid to protect a contractor from loss where the owner has received the benefit of work and materials and where it would otherwise create a case of unjust enrichment. This rule does not hold good where governing bodies are concerned, as counties, municipal corporations, etc., and hence where architects are acting for such bodies they should be especially careful to comply with the contract requirements for any class or character of work outside the plans and specifications. In this way they will escape being the innocent means of enriching such bodies at the expense of an innocent contractor.

This requirement for written orders of the architect is often used in contracts in connection with the use of the word "extras" instead of "alterations." The rules of law governing such a clause are identical with those which we have just discussed. In such cases some courts have created a still further distinction between the "extra work," which under the contract requires a written order, and work which is clearly beyond or outside the contract. For example, where there was a contract to do exterior work, and the architect orally ordered interior work, the latter work was held not to be extra work within the requirement of a written order and hence that the contractor could recover as upon an entirely separate contract. The theory here, however, is the same as we have heretofore discussed, that where it can be seen that the new work ordered has no connection with the original contract it is considered a new contract or agreement between the parties; and if no price is mentioned, then the owner is liable for the reasonable value of the work so ordered. It is to be regretted that there is such a conflict of terminology, but since it does exist it is a matter for the architects to try and correct and make it uniform, but at the present time it requires their careful attention when they are called upon to decide judicially questions involving such terms.

Although I have stated that courts are rather inclined to be lenient and still technical in finding some satisfaction of this requirement of a written order, yet the following instances will show that they refuse to go to extremes. It was held that this requirement was not satisfied either by mere unsigned sketches of the manner of doing the alteration or extra work, nor by the fact that excavation stakes were marked so as to take the excavation lower than the plans showed. It has been held, however, that a detailed plan satisfied the contract in this regard.

On numerous occasions I have pointed out that this particular trouble as a practical matter ought to be easily remedied by the issuance of written orders complying with the contract provision in every detail, not only for that work which the architect may consider outside the contract requirements, without reference to what he may term such work, but also in the cases where the architect honestly believes that such work is within the contract, which belief, however, is not shared by the contractor. It would seem best in such a case to issue a proper contract order, conditional, however, upon a decision or determination by the owner, the proper contract arbitrator or arbitrators, or a court, upon the difference of opinion. This is at least an easy way in which the architect could prevent the contractor suffering any loss unjustly, and also relieve and break down that feeling now prevalent among some contractors that the architect is working for the interest of his employer, the owner, and that as a zealous employee the more he can enrich the owner even at the expense of the contractor the greater will be his ultimate reward.

In our considerations of this clause we have so far dodged the most interesting and also somewhat difficult question for the architect as to what is his authority or power under such a clause. We have seen that as the owner's agent the architect should be governed by the strict interpretation of his powers, and this considered with our definitions of "alterations" would seem to bring us to the conclusion that the architect has no power to order extra work or to create any new obligation on the part of the owner to pay for work and materials clearly outside the contract.

In the ordinary case the contractor would probably not be permitted to suffer from this unauthorized assumption of authority on the part of the architect, upon the principle of implied powers of the architect or upon some basis of quasi-contracts upon the theory of the owner seeing the work being done and accepting the benefits thereof, hence he should pay the reasonable value for same. Such is not the case when we consider municipal corporations and like bodies. This can be shown very plainly by a situation which exists to-day in one of our great municipalities. In one form of contract it provides for the method in which "extra work" can be ordered so as to make the municipality liable for such work. In another form the words "extra work" were changed to "additional work" with the same requirements. About the same time this change was made the courts began to make the distinction between the two classes of work as I have defined them previously, with the result that the architects and engineers in many cases failed to notice under which form of contract they were superintending. Extra work would be ordered in the manner called for by the additional work contract, and vice versa, and when the contractor tried to collect, the city authorities would blandly tell him that he should have had a different kind of order for that work and that they could not pay him. Legally and technically such refusal was correct and there was and is no way in which such a contractor can recover for such work which he did under the directions of the city architect or engineer in charge, and as he and said superintendent imagined, in strict compliance with the contract requirement.

While it must be admitted that the contractor should take care of himself and should not depend upon the architect or engineer, yet at the same time an architect or engineer should not be so ignorant of his powers and thus primarily be the cause of the contractor's inevitable loss. Equitably and morally, therefore, it is, and should be, the pride of every architect to know that when he orders any work he is assured that the contractor shall not suffer therefrom, and to do this requires so little in the way of study or merely asking a few questions of one who knows, that there seems no reason why such losses should occur, and put the architect or engineer in the false light. Beware, therefore, of contracts of sovereign bodies such as states, counties, cities, towns, villages, etc., in this regard.

It has been said that there is no settled rule of legal construction which can be applied to determine whether certain work or materials were included in or were foreign to a written contract. However, when we remember that the intent of the parties is to be effectuated, if possible, and in the ascertainment of that the writing should be read in the light of the circumstances attending its execution and the subsequent attitude and conduct of the parties in relation to the subject matter of the controversy; and when we consider the discussion herein, it would seem that as a practical matter but few cases should trouble the architect reader when this question is presented to him.

There is still another point in this regard which the architect must take into serious consideration, and that is, if he orders the contractor to do work under this clause and the work ordered is not alteration work and the order is persisted in by the architect or owner, the contractor can cease work on his entire contract, declare a breach of the same, and collect at law the damages therefor. In order that this may be clearly understood I shall give two examples of this, the first involving ordinary parties and the second where a state was one of the contracting parties; in neither of these instances was the clause the one under discussion, but that does not affect the principle.

In the first case the contract contained probably the broadest phraseology that could be used in this regard and permitted the owner "to make alterations in the line, grade, plans, form, position, dimensions, or materials of the work to be performed." The original contract called for a wholly masonry dam, but after investigations made when the work was started, it was finally decided to change to an earth dam with a masonry core. The engineer then made new plans and details therefor and gave them to the contractor and ordered him to proceed with the work. The contractor refused to proceed upon the changed plan and claimed a breach of the contract upon the owner's backing the engineer up in his demand. After litigation covering several years, the highest court of the state held, that although this clause above quoted gave the owner great power to modify and alter the plans, yet it did not authorize him to alter or destroy the essential identity of the thing contracted for. That the proposed change constituted a breach of contract which justified the contractor in refusing to comply and for which breach the contractor was accordingly entitled to his legal damages.

In the other case the state reserved "the right to make any change they shall deem proper in the plans and specifications," etc., there having been bids advertised for and the contract awarded as required by said bidding proposal. The contract and specifications called for several buildings, all of which were to have exterior facings of sandstone. After some of the buildings were completed and practically all of the stone cut and on the ground to complete all the work under the contract, the state through its agents changed the stone facings on the remaining buildings, which they then decided to complete to brick with stone trimmings. Other buildings they at the same time decided not to build. Here the contractor continued the work as ordered but claimed the breach of contract and later sued for his damages. The court sustained the contractor's position and the opinion comments upon the situation as follows: "These (buildings) were all to be built. The size and height of them were fixed and the material to be put in the walls determined. The general character of the buildings could not be changed so that the buildings would not be the same contracted for; if it could be, then a public letting in such a case would not be useful and might be an idle ceremony. Under such a reservation could a building planned for five stories be reduced to two? Could a stone building let to a stone mason be changed to wood or brick? Could the five connecting wards be reduced to two, three or four? We are clear that authority for such extensive changes could not be found in such language. If the state could change to brick walls with sandstone trimmings, then it could change to walls made wholly of brick, and thus there would have been no stone to cut and the cutting contract would be entirely nullified. It is difficult to draw in advance a precise line between what is authorized by such a reservation and what is not. It authorizes such changes as frequently occur in the process of constructing buildings, in matters of taste, arrangement, and details; but it does not authorize a change in the general character of the buildings."

These examples show that when an architect finds himself confronted with a refusal on the part of the contractor to comply with his orders given pursuant to the clause under discussion or some other clause of similar import, he should not take matters into his own hands without consulting the owner or good legal advice on account of the very serious liability which his course of action may impose upon the owner, and the personal loss of some of his architectural prestige and business integrity.

Our original clause under discussion is to-day often varied by an additional requirement of the owner's signature as well as the architect's to the written order. Some requirement of this kind is always to be found in municipal contracts, etc., and is considered a condition precedent to the recovery of the contractor of any pay for such work done. Minor changes in building work often come up just when the work is being done and when time is valuable, and the architect to save delay often tells the contractor to go ahead and do it, and that he will see that he gets the proper order, and then either forgets the promise or finding that he cannot get the owner or proper board to sign such order makes the best excuses he can. Again there are often cases where the contractor would rather make some minor change which both he and the architect know is needed, rather than hold up his work a day or so for the necessary written order at a greater cost to him than the change would pay. Of course in such case the contractor should be warned that he is liable not to be paid for the work so done, but the architect should see that the extra order is obtained if possible. The rule for the architect should be that no directions or orders at all in variance with the plans and specifications should be given by him or his superintendent or inspector except upon the strict compliance of the contract provisions in that regard.

Editorial Comment and Miscellany.

THE BUNGALOW COMPETITION.

THE Jury for the Bungalow Competition awarded First Prize ($500) to Ralph J. Batchelder, Boston; Second Prize ($250) to Jack Lehti, Washington, D. C.; Third Prize ($150) to William Boyd, Jr., Pittsburgh, Pa.; Fourth Prize ($100) to Charles Willing, Philadelphia.

Mentions were awarded to Harris Allen, Berkeley, Cal.; Henry Jay Briggs, Washington, D. C.; J. Martin Brown, New York City; F. D. Bulman, Boston; Alfred Coakman Cass, New York City; Clinton Hall, Plainfield, N. J.; Addison B. LeBoutillier, Boston; Edward F. Maher, Boston.

The competition was judged by Messrs. Gordon Allen, Robert P. Bellows, Allen H. Cox, James C. Hopkins, Charles D. Maginnis.

The competition proved to be very popular, 666 designs having been submitted. In giving this competition it was hoped — and we may say that the hope has been realized — that a series of designs would be obtained which would help to point the way and encourage a better class of construction in inexpensive houses. It is not felt that a work of this sort trespasses into the field of architectural practice or in any way interferes with the rights of the architect. The four premiated designs are published in this number, later a selection of the designs submitted will be published in book form and sent broadcast to prospective homebuilders. And we feel that this work will be the means of arousing a deeper interest in a better style of design, and incidentally increase the use of brick rather than the cheap and flimsy materials which have been so extensively used in the past. If this work succeeds in a reasonable degree in creating a more widespread interest in houses of wholesome design and substantial construction, it will have served its whole purpose, which was to create a better appreciaton for the work of the architect and give to the country a better class of small houses.

LUNETTE PANEL (8 FEET LONG) BY HOLABIRD & ROCHE, ARCHITECTS.
Executed by Atlantic Terra Cotta Company.

It is remarkable how the quality of draftsmanship has improved from one competition to another and how closely the majority of contestants have followed the conditions laid down in the programs.

The benefits derived by those who enter these contests even though they do not win prizes are manifold, in that they furnish a practical training and afford a chance to measure one's ability with one's fellows. Again, the publicity given to the best designs which are selected for publication is of benefit in some degree at least to their authors, many of whom have small opportunity to demonstrate their ability even to members of the architectural profession.

The judging of these competitions is no small task. As is well known the judges are selected from among the best men in the profession. Their work is in no sense perfunctory but at all times serious and painstaking. It can be stated as a positive fact that in no instance has a member of one of these jurys entered upon the work lacking in enthusiasm and a full sense of the responsibilities which rested upon him. If it were possible for contestants to look on while the work of judging one of these competitions is going on, there would be no question but that every one would feel that the duties of the jurors were being faithfully and conscientiously fulfilled.

IT SEEMS advisable at this time to remind some contestants in the competitions given by THE BRICKBUILDER that they should adhere more strictly to the conditions specified in the programs. This is done in the spirit of helpfulness and not criticism. Many designs worthy of further consideration receive an H. C. simply because the designer has either carelessly or willingly ignored one or more of the requirements. In order to make our point clear we will cite a few instances which happened in connection with the recent Bungalow Competition:

The program asked for a pen and ink perspective without wash or color. In spite of this requirement a number of drawings submitted were rendered in washes of various tints, others were partly finished in pencil, or India ink so diluted that it would be impossible to make satisfactory reproductions from the drawings.

The program called for a sheet measuring exactly 26 inches by 20 inches. A number of drawings were received in which this condition had been absolutely ignored.

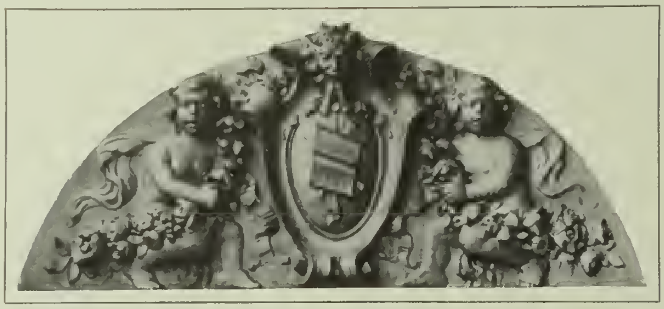
The program required that the sheet be of white paper and not to be mounted. Several drawings received were on thick cardboard, while others were on white paper mounted. In addition several drawings were on colored paper.

Quite a few drawings were received from three days to a week after the competition closed.

Six drawings were so badly packaged by the senders that when received they were torn and otherwise damaged beyond the possibility of repair.

Quite a number of drawings were sent with insufficient postage.

A few drawings were received without envelopes containing the *nom de plume* on the exterior and the true name and address of the contestant.



DETAIL BY THEO C. VISSCHER, ARCHITECT.
New Jersey Terra Cotta Company, Makers.

At least ten days is required to make the necessary arrangements and have one of these Competitions judged. As soon as possible after the Jury has made its report every contestant is notified as to whether or not his drawing received a Prize or Mention, and in addition a detailed notice is given in the next issue of THE BRICKBUILDER. The entire work is carried on with all the promptness and dispatch that circumstances will permit. It is quite impossible to answer all the telephone calls, — some of them long distance, — telegrams and letters which begin to arrive the day following the closing of the Competition inquiring about the results.

FIGURE OF INDIAN (6 FEET HIGH) FOR SUBSIDIARY BUILDING, PAN AMERICAN UNION, WASHINGTON, D. C.
Executed by Atlantic Terra Cotta Company, Albert Kelsey and Paul Cret, Associated, Architects.

One of the reasons for the promotion of these contests by THE BRICKBUILDER is to give to young men who are identified with the architectural profession an opportunity to acquire a training in small Competitions. If they cannot meet the simple requirements of one of THE BRICKBUILDER programs they would have little chance, if they were equally negligent, in a larger Competition.

It is manifestly unfair to those who have met all the requirements of a program to submit to the judges drawings which have ignored one or more of the requirements.

These conditions which have been cited in connection with the Bungalow Competition are equally true of previous Competitions.

As before stated, these criticisms are made with the sole thought that in the future, competitors will see to it that all the requirements of the program are carefully observed, thus assuring to their design the careful and unbiased consideration of the Jury.

PLATE ILLUSTRATION.

FIRST NATIONAL BANK, BAR HARBOR, ME., PLATE 26.—This building is constructed of a local red brick having imitation limestone for the trimmings and a tar and gravel roof. Upon the interior the banking and directors' rooms are finished in mahogany with walls and ceilings of rough plaster and floors of marble tiles. The remaining rooms are decorated and painted in a light cream color. The basement provides for the heating apparatus and silver vault; the second floor, lawyers' offices and toilets. The contents of the building figure 65,000 cubic feet with a total cost, excluding furnishings and fittings, of approximately $18,850, making the cost per cubic foot 29 cents. The furnishings and fittings cost approximately $3,000 and the vault $6,500.

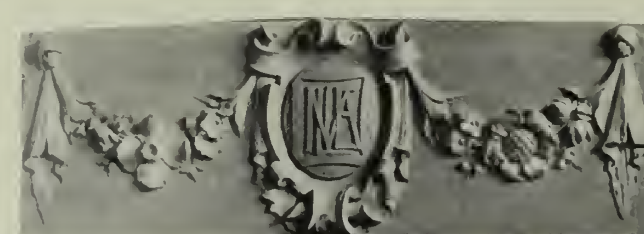
DETAIL BY ALBERT E. WESTOVER, ARCHITECT.
Conkling-Armstrong Terra Cotta Company, Makers.

THE Board of Directors of the American Institute of Architects has appointed as members of the Committee on Public Information for the American Institute of Architects, D. Knickerbacker Boyd (chairman), Glenn Brown, and Frank C. Baldwin. The appointment of this committee was authorized by the resolution adopted at the last convention of the A. I. A., which was as follows:

Resolved: That the Board of Directors be requested to appoint a Special Committee on Public Information, the duties of which shall include the following:

To keep a record of such published matter as may be of interest to the profession and to send to such publications likely to be interested, information concerning the work of the Institute and of the profession.

To request monthly reports on matters of interest to the

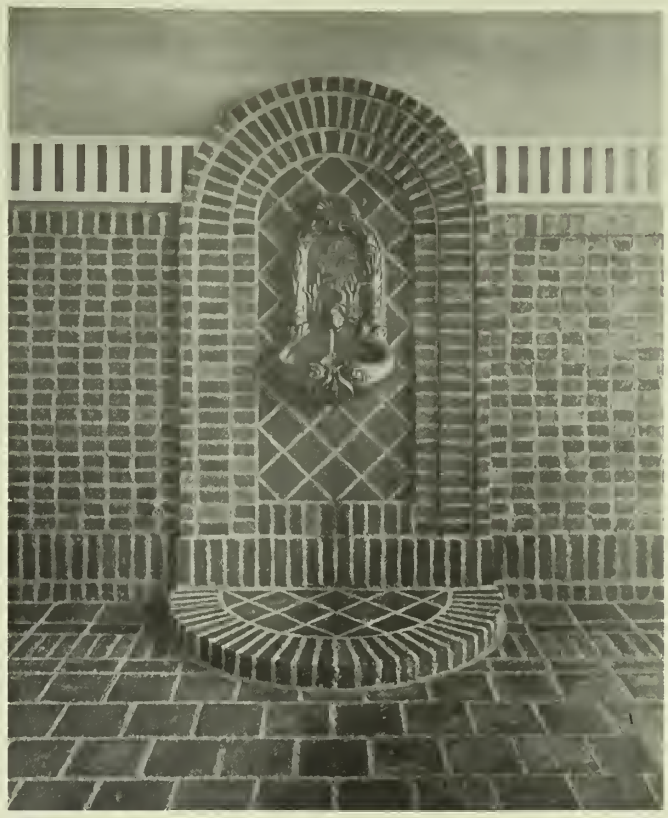


DETAIL BY WALLIS & GOODWILLIE, ARCHITECTS.
American Terra Cotta & Ceramic Company, Makers.

profession from Committees on Public Information of the several Chapters, which Chapter Committees shall be Sub-Committees for their respective territories of the Institute Committee.

To inform the press of the country in regard to Annual Conventions of the Institute and the work which the Institute is undertaking and has actually performed. To correct, through the press, popular misconceptions with regard to the practice of architecture and to rectify erroneous statements affecting the profession.

To keep constantly before the public the aims, aspirations and accomplishments of the profession through its organized body, the Institute.



DETAIL FROM FISKE & CO., INC., NEW YORK OFFICE.
Tapestry brick with fountain of Hartford faience.

JOHNS HOPKINS UNIVERSITY is about to begin the construction of an extensive group of buildings intended to house all its activities except the hospital and medical school. These buildings will be erected upon a site of one hundred and fifty acres fronting on Charles street, Baltimore, two miles north of the Monument. The grounds include the seat of the Carroll family and the mansion known as Homewood.

An advisory board, consisting of Grosvenor Atterbury of New York, Frank Miles Day of Philadelphia, and Frederick Law Olmsted of Boston, has been appointed to develop the problem of the new buildings and grounds. It is expected that actual construction will begin at Homewood during the present summer.

The group will contain laboratory buildings for chemistry, physics, biology, geology, and engineering, but its main feature will be the academic and library building. There will be dormitories, refectories, a students' hall, and a gymnasium.

DETAIL BY DWIGHT H. PERKINS, ARCHITECT.
Northwestern Terra Cotta Company, Makers.

THE DESIGN OF HIGH CHIMNEYS.

IN a recent paper by Henry Adams before The Society of Engineers the problem of chimney designing was discussed from a theoretical and practical viewpoint. As this is a problem which architects are often called upon to meet, we give herewith a few of Mr. Adams' deductions. The first consideration in high chimney design is the height necessary to insure proper draft. One rule for this is to proportion the height according to the coal consumption per week of 56 hours, thus: 4 tons per week, 75 feet high; 13 tons per week, 100 feet high; 26 tons per week, 120 feet high; 50 tons per week, 150 feet high; 100 tons per week, 180 feet high; 150 tons per week, 200 feet high. Another rule is to make the height of the chimney three times the length of the boiler plus twice the distance of the farthest boiler to the chimney. This allows one foot of height for every foot the gases travel around the boiler and two feet of height for every foot of external flue.

There are many different rules for determining sectional area, some depending upon the coal consumption, some upon fire-grate area, and others upon the evaporation of water. Simple approximate rules are: (*a*) 1 square foot area for each cwt. of coal burnt per hour; (*b*) area $= \frac{1}{10}$ of the total fire-grate area, each flue being $\frac{1}{5}$ of its fire-grate area, and main flue $\frac{1}{8}$ of total; (*c*) $2\frac{1}{2}$ square inches per indicated horse-power of the engine; (*d*) if the height of the chimney is taken into account, as of course it should be, then on the average —

$$\text{area} = \frac{\text{lb. of coal burnt per hour}}{12\sqrt{\text{height in feet}}}$$

$$\text{or } \frac{\text{fire-grate area sq. ft.}}{1.5\sqrt{\text{height in feet}}}.$$

Mr. Adams states that the circular chimney is most effective for its area, as it takes the least material for its construction and permits of no angles for the accumulation of soot. With any chimney it is considered desirable to add 2 inches all around to the calculated minimum area to allow for friction. A safe wind pressure on plane surfaces normal to the direction of the wind is 56 pounds per square foot. His formula for wind pressure according to the width and height of the structure is as follows: $\log p = 1.125 + 0.32 \log h - 0.12 \log w$; where p ultimate wind pressure in pounds per square foot necessary to be allowed for against a plane surface normal to the wind; h = height in feet of center of gravity of surface

HOUSE AT GREENWICH, CONN., H. C. PELTON, ARCHITECT.
Roofed with Old Mission Tile made by Ludowici-Celadon Company.

considered, above ground level ; w = width in feet of part to be taken as one surface.

Theoretically the batter of the chimney should be taken into account in determining wind pressure, but its effect is so slight as to be negligible.

A square chimney will give the same resistance whether facing the wind or diagonal to it, as the greater area of the inclined surface with the reduced pressure upon it make the same total as the flat side under full pressure.

Up to 150 feet high or 5 feet inside diameter the top length is generally one brick thick ; above that height or diameter, the top length should be 1½ bricks thick, and the thickness should be increased by a 4½-inch set-off at every 20 feet below the top.

If the diameter of the throat is kept uniform and a 4½-inch set-off occurs at every 20 feet, the intermediate portions being of uniform thickness, a batter of 1 in 53.33 will be given.

The fire-brick lining must be entirely self-supporting and have a clear space behind, to allow for expansion and contraction independently of the main structure, which would be prevented if dirt and dust were to get behind it.

It is important to note that a high chimney should stand on an independent foundation in order that any compression of the soil may be uniform.

HOUSE AT CONVENT, N. J., PERCY GRIFFIN, ARCHITECT.
Built of Standard Fire Flashed Brick made by Ohio Mining & Manufacturing Company.

TERRA COTTA FOR THE HILLIARD BUILDING.

THE architectural terra cotta for the Hilliard Building, New York, — Howells & Stokes, architects — described in this issue, was furnished by the New York Architectural Terra Cotta Company.

IN GENERAL.

Warren W. Day, architect, has removed his offices to 527 Main street, Peoria, Ill. Manufacturers' samples and catalogues desired.

H. A. Brooker and J. Adam Fichter have associated for the practice of architecture under the firm name of Fichter & Brooker, offices Second National Building, Akron, Ohio.

MERCANTILE BUILDING, WALKER AND WHITE STREETS, NEW YORK, SCHWARTZ & GROSS, ARCHITECTS.
Built of brick furnished by Pfotenhauer-Nesbit Company.

Fountain & Moratz, architects, have removed their offices to the Euclid Building, Cleveland, Ohio.

The fascia to the balconies, the caps, bases, and pilaster corners in the Grill Room of the Hotel Vanderbilt, illustrated in this number, were furnished by the Rookwood Pottery Company of Cincinnati. This work was all executed in colored faience.

Gove and Walsh, architects, have removed their offices to the Boston Building, Denver, Colo.

Columbia University, New York, has under consideration the organization of a Faculty of Fine Arts in co-operation with the National Academy of Design and the Metropolitan Museum of Art.

BUILDING FOR UNION PACIFIC RAILROAD, OMAHA, NEB.
JARVIS HUNT, ARCHITECT.
Built of gray speckled Standard and Norman Brick made by Columbus Brick & Terra Cotta Company.

The first great national movement of the clayworkers of this country will culminate in the Clay Products Exposition to be held in the Coliseum, Chicago, March 7th to 12th. It is the especial purpose of this Exposition to acquaint the public with the various types of clay products which enter into building construction and to encourage a better class of building, especially on the part of the home builder. This Exposition promises to be a revelation, to the thousands who will undoubtedly attend, of the esthetic and constructive possibilities which are to be obtained by the use of burnt clay in its various forms. The best designs submitted in THE BRICKBUILDER Competition for a Bungalow will be exhibited at the exhibition.

NATIONAL BANK OF NEW JERSEY, NEW BRUNSWICK, N. J.
Architectural Terra Cotta furnished by South Amboy Terra Cotta Company.

Sayre & Fisher Company supplied their Roman mottled brick for the exterior of the Hilliard Building which is illustrated and described in this number.

The H. B. Smith Company installed the boilers in the Hilliard Building which is illustrated and described in this number.

The Hydraulic-Press Brick Company, St. Louis, furnished the brick for the Lionberger House, St. Louis, Cope & Stewardson, architects, which is illustrated in the plate forms of this number.

The Krippendorff-Dittman Company, of Cincinnati, used several hundred gallons of Cabot's Red Waterproof Brick Stain on their buildings, and after two years' wear their neighbors, the Perkins-Campbell Company, wrote, "We like very much the appearance of this building," and bought a large quantity for their own seven-story building.

DETAIL BY C. B. J. SNYDER, ARCHITECT.
Brick, Terra Cotta & Tile Company, Makers.

R. Guastavino Company announce the removal of their Boston office to 60 State street.

The Indianapolis office of the Western Brick Company has been removed to the Hume-Mansur Building.

The Cincinnati agency of the Ohio Mining & Manufacturing Company has been changed to the Pursell-Grand Company, Mercantile Library Building. The Cleveland agency of the same company has been changed to the Cleveland Brick Sales Company, Schofield Building.

The Atlantic Terra Cotta Company has just issued a very attractive booklet in which is illustrated an unusually fine collection of Catholic Church work for which the Atlantic Company supplied the architectural terra cotta.

Full-size designs and models have been prepared for King Edward's Memorial, London, by Messrs. Edwin L. Lutyens, architect, and Bertram Mackennal, sculptor. This work will be placed on the broad walk in the Green Park when finally passed upon by the Memorial Committee.

Considerable interest is being manifested over the action of the Board of Education, Los Angeles, Cal., inviting local architects to submit tentative plans for organizing an architectural department in the public schools. This is surely a step in the right direction. If the cardinal principles of pure design and construction are instilled into the young it will enable future generations to know and appreciate the difference between good and bad art. It will raise the standard of architecture and be of inestimable value to the artistic development of our cities.

The historic building called the House of Queen Berengère, located in the Quartier du Marais, Paris, will, it is reported, soon be taken down, and rebuilt in America. This unceasing vandalism according to French authorities will soon result in a law giving State supervision over all ancient buildings of artistic or historic value.

Works of ancient art and of the Roman occupation have been recently discovered in Tripoli, Africa. The draped sculptures date from the fourth century, B. C., and are considered as family statues. Of more interest is the rediscovery of the two tombs at Gargaresch which belong to the Roman period.

FOR SALE: LONG ESTABLISHED ARCHITECTURAL BUSINESS IN THRIVING TOWN OF 16,000. LOCATION, OFFICE EQUIPMENT, PLANS, ETC. MODEST PRICE. ADDRESS, ROBERT C. PARKER, 24 ELM ST., WESTFIELD, MASS.

Architectural Post Cards

Detailed views of American Architecture. Reproduced by the Double Collotype Process.
More convenient and more durable than photographs.

10 COMPLETE SERIES

Send for descriptive circular and sample cards

Architectural Post Card Co., 5540 Catharine St., Phila.

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

Enoch Pratt Free Library, Forest Park, Baltimore, Md., Plate 27
ELLICOTT & EMMART, Architects

The Birmingham Ledger Bldg., Birmingham, Ala. Plate 28
WM. LESLIE WELTON, Architect

FISKE & COMPANY INC
FACE BRICKS / FIRE BRICKS ESTABLISHED IN 1864

25 Arch St., Boston **Arena Building, New York**

COLONIAL ARCHITECTURE IN South Carolina and Georgia

Edited by CRANE & SODERHOLTZ

A series of the choicest examples of pure Colonial Architecture found in the South. Showing some of the best and most interesting examples of American Colonial work, many of which have now disappeared.

A collection of 52 plates illustrating exteriors, interiors, and numerous details; entrances, doors (interior and exterior), mantels, halls, staircases, interior trim, mouldings, wrought iron work, furniture, etc.

One volume, portfolio, size 12¾ x 16½ inches.

Price, $10.00

THE BRUNO HESSLING COMPANY
64 East 12th Street, New York, N. Y.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.
Westfield, Mass. New York
Philadelphia Boston

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — MARCH 1912 — NUMBER 3

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

E. R. BOSSANGE AND BUTLER & RODMAN; FRANK CHOUTEAU BROWN; WALTER B. CHAMBERS; HUGHES & BACKOFF; PARKER, THOMAS & RICE; D. EVERETT WAID; GEORGE C. WALES; WARREN & WETMORE.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

CHURCH OF NUESTRA SRA. DEL
CARMEN, CELAYA, MEX.

THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN

BY HUBERT G. RIPLEY.

III.

FROM the mighty and powerful Empire of Khita, and its rich and opulent cities of Carchemich, Kamath, and Kadesh, Greece owes the beginnings of its civilization, and has drawn inspiration from that source, as well as from ancient Egypt.

In Egypt the all powerful sacerdotal class jealously guarded the prerogatives of the architects, outlining their codes of ethics, professional practices and rates of commission, and it must be conceded that they did the job up good. Although embracing all classes and conditions of designers and craftsmen, for thousands of years it was a close corporation. The work was well done and no member of the profession ever thought of overstepping the hard and fast rules laid down for their guidance since the days of Menes.

In Carchemich, about 1323 B.C., we learn from a recently discovered cuneiform inscription that a number of the most eminent Hittite architects who were in the habit of lunching each noon together (where they often lingered as late as three o'clock over their nuts and wine) conceived the idea of an association for mutual benefit, or sort of Gentlemen's Agreement. It seems that a few years previously one of their number had won the Theban traveling scholarship, and had spent two delightful, delirious years en voyage through the great cities of upper, lower, and middle Egypt; from the cataracts of Souan to Canopus, where the rich, black mud of the Delta (the world's primordial slime) deposits its globergerina ooze in the pellucid depths of the blue Mediterranean; now stopping for one mad week in the Quartier Latin of Bubastis, where he joined the Theban Beaux Arts students in their fantastic revels at the annual festival of Basht or Bastît (revels beside which the Quarts Arts Bal Bullier Moulin Rouge Folie Bergeres Torbillion would seem like a Sunday school picnic, although those affairs were always conducted with the utmost decorum), now clambering up over the foliated capitols of the Hypostyle Hall of Karnac, with collapsible rule and steel tape; for he was a serious chap and earnest student, even if, in his subceasive moments, given to frivolity and relaxation, as when gazing through a glass darkly at "the sparkling wines in crystal bowls, that grease the gudgeons of men's souls."

Well, then, this chap (for the moment his name escapes us; to those of an inquiring mind we would state that as written it looked much like the neatly arranged collection of dinky little jiggermarandies laid out on the manicure's table), who had seen considerable of the world and had profited greatly in the enlargement of his ideas and the expansion of his horizon, without bursting any buttons on his vest, and who was still able to wear the same size derby he wore before his foreign trip, — this subject of Khitasir spoke so warmly in favor of the project, and held forth so entertainingly and eloquently on the advantages to be derived by such an association, that it was almost four o'clock before the lunch party broke up.

The editor of the Carchemich *Architectural Review and Building News* (for in Khita we are compelled to admit the architectural press was supported largely by advertisements of manufacturers of building materials) dropped in about three o'clock while the discussion was at its height and bought a round of cigars. His sympathies were enlisted, and he promised to support the new movement with trenchant editorials.

This movement, once started, went on for awhile with leaps and bounds; even a number of the most efficient and skilful draftsmen were admitted to the association as junior members, that is to say, they had the privilege of attending the regular meetings and listening to the chin chin, but were not eligible to any office and had no voting power. The great goddess Nut was the patroness of architects, and a large altar was erected in her honor on which they offered up their unsuccessful competition drawings, unexecuted projects, etc. One of the very first subjects to be considered in their meetings was the regulation of competitions, for it must be conceded by all fair-minded persons who pretend at all to read the cuneiform inscriptions fluently, that architectural ethics among the Hittites were in a very sad state.

An incident which occurred only a short time before, when the building of a Palestra to Booze at Azaz was in contemplation,* shows only too well that their sporting instincts were more strongly developed than their ethical manners. Half a dozen well-known architects of Kadesh,

* *cf. Brugsch Memorabilia Subulata Khititis, vol. CXIX, pp. 53, 1153.*

FIG. VIII.

A corner in the Café of Carchemich where the leading Hittite architects used to foregather in their subceasive moments to swap stories, throw fish, and generally discuss expetible conditions. Restoration by F. Duban.

all clever men and keen on the scent of a job, but good sportsmen, traveled down on the midnight camel train together to look over the ground with the idea of drawing up a program and formulating a set of rules for their guidance in a limited competition, which was to be held for this great modern improvement.

After a pleasant morning spent on the grounds, during which a lot of good-natured joshing was indulged in amongst the architects themselves and the different members of the Booze Palestra Building Committee, all hands adjourned for lunch to the leading Azaz café. As the next caravan back to Kadesh did not leave until 4.40, the architects began shaking dice for the post-prandial drinks and cigars to while away the time, after the Building Committee had gone back to their various offices.

Suddenly, a bright idea struck one of the bunch a biff in the medulla oblongata, and he rose and spake as follows: "Say, fellers, why should each one of us waste time, draftsmen's wages, stenographers' arles, office rent, kilowatts, materials, etc., on this job, when only one of us can annex it? I'd like fine to do it, so would Syrinx, Thoranx, and all the rest of you chaps, but only one of us can have it, and yet the combined expenses of all six in making the competition drawings will somewhat more than equal the total commission. You know these countrymen are not educated up to paying more than five per cent, and the job is not any pipe dream at that, when the architect has to pay his own traveling expenses. Besides, the successful man will have to pay Bunk five hundred simoleons for a near water color perspective on linoleum, just to show these jays how their concinnous old Palestra isn't going to look. I'll tell you what let's do, let's shake for it, horse and horse, best three out of five, one man out each time."

Now, as they all had had cocktails to start on, ale with their lunch, and innumerable amphikypella and skyphoi of arrack with their coffee and cigarettes afterwards, they were pretty well lighted up, "their sallow cheeks incarnadine," overflowing with good spirits and love for their fellow men, and with one accord they hailed the proposition with shouts of joy, just as, a few centuries later, the Greeks under Odysseus hailed the first sun-glint on the wavelets of the sea.

History does not tell us the result of this memorable sporting event; on this point we have searched in vain, cuneiform inscription after cuneiform inscription; the daughters of Mnemosyne are dumb regarding it and we can but vainly conjecture its outcome and incident details. We do know, however, that of all the exquisite and beautiful Palestræ that antiquity has given us, that of Booze is the least interesting and worthy. There is a perfunctory look about it, an unstudied grace and lack of charm, qualities that would undoubtedly have been evident had the job gone in competition.

Before the Hittites were able, through the medium of their architectural societies, to standardize and regulate the practice of their architectural competitions, to get right down to the shiny brass tacks of accuracy, precision, and exactitude such as obtained in the earlier civilizations, their empire came to an untimely end. This was a great pity, for in spite of the many lacunæ that exist, the glimpses we are able to observe here and there of their culture, vigor, and exuberant spirits proclaim them a most sympathetic race. Indeed, from them the Greeks learned to practise art as the pursuit and the production of the ideally beautiful, and the slogan "Art for Art's Sake" is derived direct from ancient Khita.

Not that we would unbend for a minute in our attitude regarding the ancient Egyptians, or swerve one hair's breadth from our firm allegiance to the underlying principles which governed Egyptian art; still one must admit the charm, the ambrosial allure, the intoxicating fragor of drosomell and cecubum that pervades even the most ephemeral productions of the Hellenic mind. The Egyptian "loved beauty as found in nature, his spirit demanded such beauty in his home and his surroundings. The lotus blossomed on the handle of his spoon, and his wine sparkled in the deep blue calyx of the same flower; the muscular limb of the ox in carved ivory upheld the couch upon which he slept; the ceiling over his head was a starry heaven resting upon palm trunks, each crowned with its graceful tuft of drooping foliage; or papyrus-stems rose from the floor to support the azure roof upon their swaying blossoms; doves and butterflies drifted across his indoor sky; his floors were frescoed with the opulent green of rich marsh-grasses, with fish gliding among their roots, where the wild ox tossed his head at the birds twittering on the swaying grass-tops, as they strove in vain to drive away the stealthy weasel creeping up to plunder their nests.

FIG. IX.

Angle of the γυμνασια in the Palestra of Booze at Azaz as restored by M. Escalier. It is to be noted that in spite of the fact that the funds at the disposal of the Building Committee did not permit of carrying out the entire building in masonry as originally planned and shown on the competition drawings (a situation that sometimes arises even now in this advanced and enlightened age), yet see with what matchless grace and superlative charm this difficulty has been conquered.

Everywhere the objects of everyday life, in the homes of the rich, showed unconscious beauty of line and fine balance of proportion, while the beauty of nature and the outdoor life, which spoke to the beholder in the decoration on every hand, lent a certain distinction even to the most commonplace objects. The Egyptian thus sought to beautify and to make beautiful all objects of utility, but all such objects served some practical use. He was not inclined to make a beautiful thing solely for its beauty — the practical dominated."*

The peevish and carping critic may ask what in thunder has all this to do with competitions, and we reply, let him carp and peeve all he wants to, for unless a thorough understanding is possessed of the primary and essential rudiments, the test borings as one might say, all carefully recorded, checked and totted up, the most painstaking and accurately planned superstructure falls to the ground with a dull sickening thud before even the workmen have finished laying the tar and gravel roof with asphalt pouring (into which, while hot, clean white beach gravel shall be imbedded).

It was from the Egyptians that the Greeks learned the use of the colonnade, thus solving "the fundamental problem of great architecture." In a great variety of ways was the colonnade used, and the many examples testify to a number of distinct and beautiful styles, all executed with exquisite and refined taste and great mechanical skill. What would competitions nowadays be without the colonnade? We pause for a reply. The great competitions of six thousand years ago were won on the colonnade just as

* *Breasted, Hist. Egypt, p. 102.*

were the competitions of last year, and presumably next year, and, we dare say, six thousand years hence. Every once in a while, for a longer or shorter period, architects seem to forget all about the colonnade, and the arch is put through various stunts, or flat unbroken wall surfaces hold their short-lived sway, or maybe great hulking cornices shut out the glad sunshine which strives in vain to pierce the deep canyons of our city streets. Then some brilliant genius "discovers" the colonnade again and immediately everybody is hot after them.

The Greeks were past masters of the colonnade and could make them sit up and beg, and lie down and roll over, and would calmly reproduce practically the same peristyle in building after building without knocking wood. They also knew all about arches and domes and even condescended to show the Romans how to do them up to the Queen's taste, still they did not care much for them themselves, and while some of the minor Greek architects, like Zenothemis and Laches, frequently indicated arches and domes in their competition drawings they never got higher than second or third place, and had accumulated a choice and exotic collection of "*vestes*" and "*ours*." Indeed, Zenothemis became awfully discouraged about his office, his practice dwindled down to a mere nothing, and he was up against it hard to make a living. He took up writing instead and in time developed quite a style and did very well, they say. Laches was more fortunate, however, and hearing that there was to be a big competition for the finishing of the Colossus of Rhodes, he wrote a very smooth and carefully worded letter to the chairman of the building committee (who, by the way, used to be stuck on Laches' kid sister and never quite got over being dippy about her), got invited into the competition, and, as there was no special opportunity to use arches or domes in a colossal statue, won first prize and actually completed the work begun by Chares.

Laches was tickled pink over the outcome of this the first competition he had ever won, and hastily sending messengers to a number of his fellow competitors, he invited them to join him in an informal dinner in celebration of the event. Now a little dinner among the old Greek architects was something of an occasion in a quiet sort of a way and deserves passing mention.

Among those present were Heliodorus, whose treatise on tombs is still recognized as the last word on that subject, Callicrates, the miniature sculptor, who carved ivory ants and other insects so small they could scarcely be seen, but who thought for a change he would like to try his hand on something big, Androbius the painter, a great friend of Laches, Apollodorus, the elder, grandfather of the architect of the same name who built Trajan's bridge across the Danube, Euthycrates the sculptor, and several others of lesser note. At that date elaborate and stupendous banquets were not in vogue and the meal was simple, choice, and deliciously cooked. Fish, the great brain food, was the *piece de resistance* of the dinner, preceded by thinly sliced sections of smoked sausages, pickled anchovies, and oysters. The celebrated Copaic eels were then passed around and washed down with generous drafts of Chian wine.

The symposium which followed this particular dinner was chiefly important in that the discussion developed a strong sympathetic feeling among all those present for ideally conducted competitions, and while there were some heartburnings and a slight undercurrent of envy among certain of the unsuccessful competitors, on the whole this little dinner did a lot to promote good feeling and a generous spirit of friendly emulation among the profession at large. While the Greek architects as a body for a number of generations had worked in harmony with each other, and not one whisper had ever been raised against their ethics during the great epoch of Hellenic Art, this was in great measure due to the fact that the public at large was highly organized and educated in the purest esthetic principles.

Without this community of interests, no art or profession can be on a healthy, firm, and lasting basis, while with it we may hope to see architecture take her rightful place in that fair sisterhood of sciences that forms the radiomatrix of human endeavor.

FIG. X.

Unsuccessful design for the Colossus of Rhodes by Ephialtes of Cos, a visionary architect with strong modern tendencies. One can readily see how inferior his idea was to the statue as actually carried out, which is too well known to need illustration.

The Heating and Ventilation of Schools.—II.

CHARLES L. HUBBARD.

WHILE much of the heating and ventilating apparatus for a large school building is the same as for a church or hall of equal importance, the arrangement is different and the methods of computation are varied somewhat for convenient use. The first step in the design of a system of this kind is to determine the air volume. Although the State laws require only 30 cubic feet per pupil per hour, it is usually best to proportion the apparatus so that 50 cubic feet may be supplied in large grammar and high schools. It is an easy matter to cut this down in very cold weather, and 50 cubic feet per pupil will not prove too much in mild or heavy weather, at which time the added expense will not be a large item. This applies especially to class rooms, teachers' rooms, offices, etc. For basement play-rooms, assembly halls, etc., which are not occupied continuously for any great length of time, except on special occasions, a smaller air volume will suffice. The supply to play-rooms, and to others where the number of occupants is variable, is usually based upon a certain number of changes of the entire contents per hour, which under ordinary conditions may be taken as four to six. In assembly halls an air supply of 20 to 25 cubic feet per occupant per minute should be provided for. If the exact seating capacity has not been determined upon at the time the flues are worked out, it will be sufficiently accurate to count upon one occupant to each 15 square feet of floor space, which allows for aisles, platform, etc. Having determined the volume of air to be supplied, the next step is to provide a suitable intake and to consider the advisability of a filter or washer. If the building is located in an open space and is surrounded by a lawn of fair dimensions, the air may usually be taken in through basement windows of the proper size, without any special provision for filtering or washing.

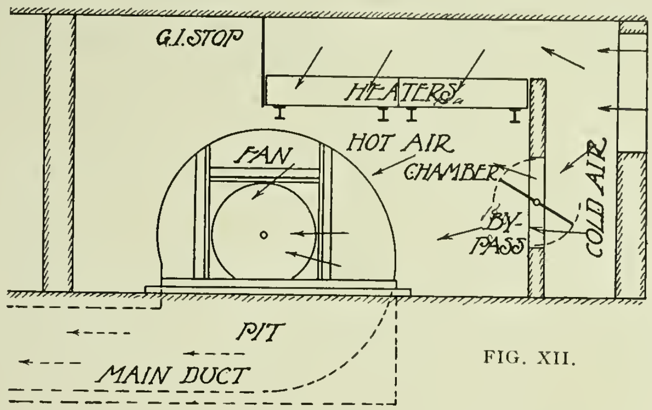


FIG. XII.

In the case of city schools, taking air directly from paved or macadamized streets, the intake should be at a sufficient elevation to avoid surface dirt, and if the atmosphere is likely to contain soot in any quantity, a filter or washer should also be provided. Dry filters may answer the purpose if made of sufficient area and cleaned at frequent intervals, but the wet filter or washer is much to be preferred on account of its greater efficiency and the ease of keeping it in good condition. In addition to this, it may be made to serve as a humidifier, and also has a certain cooling capacity, which is often of considerable value during the hot days of June and September. If a dry filter is used, the overall surface for the passage of air should be such that the velocity will not exceed about 80 feet per minute.

The centrifugal or steel plate fan is best adapted to this class of work on account of operating at a higher pressure than the disk or propeller fan. The best results are obtained when the casing has inlets in both sides and the fan is placed in a room of such size that the air may freely enter both inlets. A table of capacities and speeds of centrifugal fans has already been given in a previous article, but for convenience this will be repeated, with the addition of a fourth column giving the horse-power of engine or motor for driving the fan at the given speed.

TABLE I.

Diameter of Fan.	Revolutions per Minute.	Cubic Feet of Air Delivered.	Horse-power to Drive Fan.
3 ft.	300	4,200	2
4 ft.	250	8,200	4
5 ft.	225	14,000	6
6 ft.	200	20,800	10
7 ft.	175	27,600	14
8 ft.	150	36,400	20
9 ft.	125	43,200	25
10 ft.	100	48,000	28

The casings of fans are made in different forms to suit various conditions. That shown in Fig. XII has a three-quarter housing with bottom horizontal discharge. This type is especially adapted to cases where underground ducts are used, also to low basements, and where the form of heater shown in Fig. XII is used.

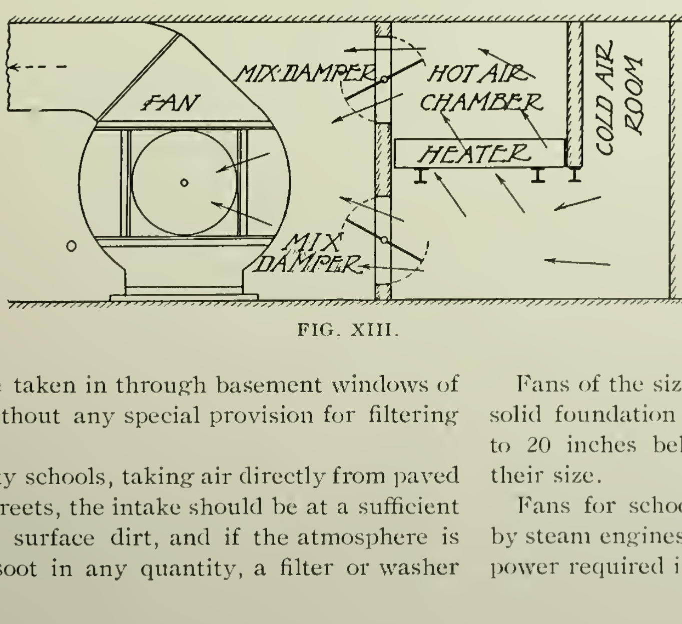


FIG. XIII.

Three-quarter housing fans are also made for discharging the air at the top at different angles. A full housed fan, with upangular discharge, is shown in Fig. XIII. This form is commonly used where the distributing ducts are carried at the ceiling.

Fans of the size employed in this class of work require a solid foundation of brick or concrete, extending from 12 to 20 inches below the basement floor, depending upon their size.

Fans for schoolhouse ventilation are commonly driven by steam engines on account of the greater economy. The power required is comparatively small, and if the exhaust steam is condensed in the heating coil, the cost of operation may be practically neglected. Some of the large city schools are equipped with their own lighting plant, in which case it is usually more convenient to operate all ventilating fans by electric motors, and if the exhaust from the engines is used for heating, it will probably be no more expensive, as the electrical loss in transmission and conversion will be largely offset by the higher mechanical efficiency of the engine.

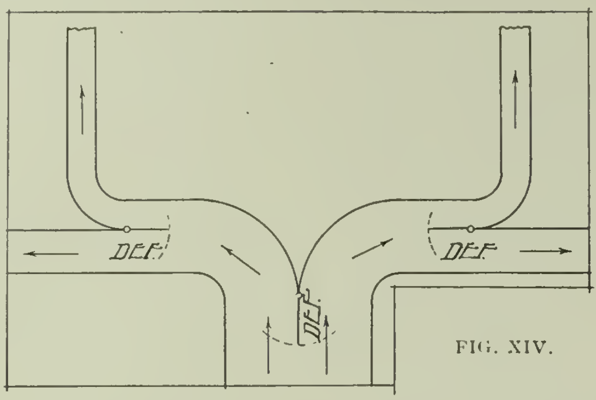


FIG. XIV.

Both belted and direct-connected engines are used for fan driving. In either case great care must be taken to eliminate all noises, else they will be carried to the rooms above through the air-ways. When electric motors are used it is best to employ the direct current, if possible, as this makes it practicable to use a slow-speed motor directly connected to the fan shaft, and also allows of a considerable speed variation without excessive loss of power. The size of the cold-air inlet is based on a velocity of 800 to 1,000 feet per minute; the higher velocity being allowed when the inlet windows open directly into the cold-air room. The area of the distributing ducts is also based on the velocity of air-flow through them. For the main trunk lines near the fan a velocity of 1,000 to 1,200 feet per minute may be allowed, which should be reduced to 700 or 800 feet, where the smaller branches connect with the uptake flues. The distributing ducts are carried both underground and at the basement ceiling, the former arrangement being employed when the basement rooms are used as class rooms or for similar purposes, and it is desirable to keep the ceilings clear on account of the appearance.

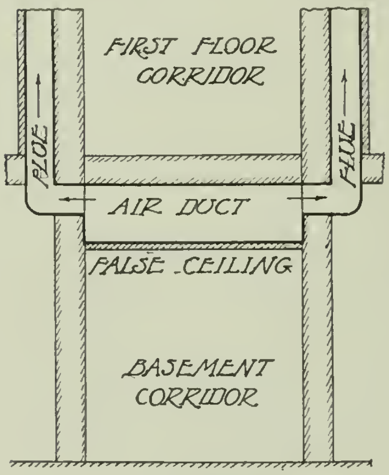


FIG. XV.

Underground ducts are now commonly constructed entirely of concrete, although brick side walls are sometimes used.

They should be made with smooth interior and the branches should be given easy bends where they connect with the mains. Overhead ducts are usually of galvanized iron, except where the upper parts of corridors are utilized for trunk lines by the use of false ceilings. The sizes of mains and branches should be proportioned according to the assumed velocity and the volume of air to be carried. In addition to this, adjustable deflectors should be placed at the junction of all ducts, as shown in Fig. XIV for carefully proportioning the air-flow to all parts of the system.

A method often employed to advantage is shown in Fig. XV, where the main trunk lines are formed by using a false ceiling in the upper part of the basement corridors. Plastered walls and ceiling may form the duct, without other lining, provided the plaster is on brick or wire lathing.

The supply uptakes may be based on a velocity of 600 to 700 feet per minute, the higher velocity being for flues of large size. This calls for approximately 3½ square feet area for a standard class room, which has been found to work well in practice. The inlets to the rooms should be of such size that the velocity will not exceed 400 feet per minute over the gross area, and galvanized iron deflectors should be used to spread the air as it enters the rooms, thus preventing unpleasant drafts. The general arrangement of the flues may be the same as shown for gravity heating, except they will, of course, be duplicated many times, depending upon the size of the building. When the corridor ducts are used, as in Fig. XV, the flues are carried up along the corridor walls to the rooms above. This arrangement will work very well, provided the vent flues are placed along the same wall. The flues in large buildings of the type under consideration are more commonly of galvanized iron, as they require less room and are easier to construct than when of brick.

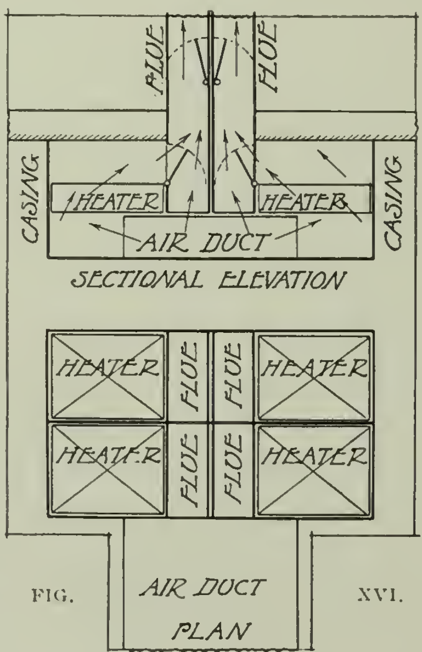


FIG. XVI.

Two general types of main or primary heaters are used at the fan for warming the entering air for ventilating purposes. These are made up of pin radiator sections, and of wrought-iron pipes respectively. Fig. XII shows a common form of cast-iron heater and the method of drawing air through it. It is supported from 2 to 3 feet from the ceiling, with a brick wall and by-pass damper at one side and a galvanized iron stop at the other. The general path of the air from the inlet windows to the fan is indicated by the arrows. Another arrangement for a cast-iron heater is shown in Fig. XIII. In this case the air is drawn upward through the heater instead of downward, and temperature regulation is secured by means of a double mixing-damper as shown. The pipe heaters commonly used consist of vertical 1-inch wrought-iron pipes screwed into cast-iron bases, and connected at the tops to secure a proper circulation of steam through them. A heater used in this way for raising the temperature of air from 0° to 70° or 75° will easily have an efficiency of 1,500 heat units per square foot of surface per hour. This calls for approximately 60 square feet of radiating surface in the main heater for each 1,000 cubic feet of air per minute to be supplied for ventilation.

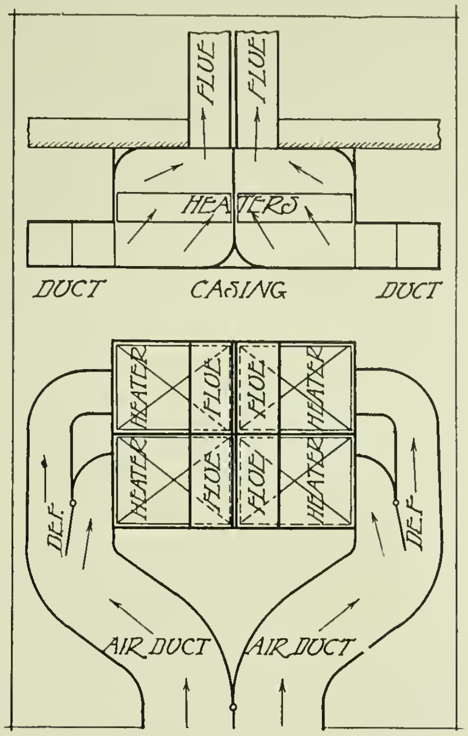


FIG. XVII.

There are several different combinations in use for heating and ventilating a building of this kind. The conditions are evidently different from a church or hall because it consists of a large number of comparatively small rooms with varying exposures instead of a single large one. This makes it necessary to keep the ventilating system separate from the heating and to provide a special radiator for each room to replace the heat lost by leakage and transmission. In some cases this is accomplished by placing indirect or secondary heaters in the air-ways leading to each room, and in others by the use of direct radiators and coils in the rooms themselves. The double-duct system, so called, is sometimes used, but not so much as formerly. This consists of primary and secondary heaters at the fan of sufficient capacity to provide for the whole building. The air is heated to about 60° or 65° by passing through the primary heater, and a portion, from two-fifths to one-half, is heated to a considerably higher temperature by means of the secondary heater. Air at these two temperatures is carried to the bases of the flues in separate ducts, and there mixed in such proportions as to give the required temperatures in the different rooms. Fig. XVI shows a common method of arranging a group of four flues, with their secondary heaters. A plan is given at the bottom of the cut and a sectional elevation at the top. The air is discharged into a common chamber beneath the four heaters, from which it finds its way upward to the flues as indicated by the arrows. The right proportion to each flue is governed by adjusting dampers as shown. Temperature regulation is secured by means of mixing-dampers at the heaters, operated from the rooms above.

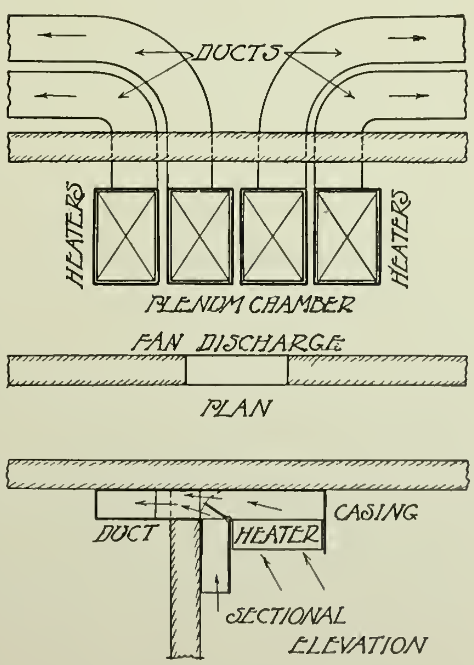


FIG. XVIII.

Another arrangement is shown in Fig. XVII, in which the mixing-dampers are omitted and temperature regulation secured by means of pneumatic steam valves upon the radiators, the same being operated automatically by thermostats placed in the rooms. The ends of the heaters are placed directly beneath the bottoms of the flues, and the air volume to each is regulated by deflectors in the supply ducts, as shown in plan at the bottom of the cut. In practice the duct work would be more compact than indicated, it being spread out here in order to illustrate the principle to be followed. Another plan sometimes resorted to in buildings which are not too extended is shown in Fig. XVIII. In this case all of the secondary heaters are placed in a room connecting with the fan discharge, and called a plenum chamber. From here a separate duct is carried from each heater to its respective room. Temperature regulation is secured either by means of a mixing-damper, as shown in the sectional elevation at the bottom of the cut, or by the use of pneumatic valves as already described.

The advantage of this arrangement is that all of the heaters are located together in a room where they are easily accessible for inspection and repairs. On the other hand, the construction is more expensive on account of the separate ducts. The indirect or secondary heaters used in the way described may be proportioned by allowing 1 square foot of radiating surface for each 20 square feet of wall, and the same amount for each 5 square feet of glass. This is for rooms with a southerly exposure; for a northerly exposure, increase the result thirty per cent. The best form of direct radiation for class rooms is the circulation coil, usually of 1¼-inch pipe, placed along the outer wall beneath the windows. This distributes the heat where needed and is better than concentrating the heat at one or two points, as is done when cast-iron radiators are used. For the smaller rooms, sectional or wall radiators may be used, according to the amount of surface required. Basement rooms are usually warmed by overhead coils of 1¼-inch pipe, on account of keeping them well above the water-line in the boilers or the seal in the returns when a pump and receiver are used.

Direct coils in buildings of average construction may be proportioned on a basis of 1 square foot of radiating surface for each 10 square feet of wall, and the same amount for each 4 square feet of glass. For northerly rooms increase this thirty per cent. Cast-iron radiators are not so efficient as wall coils, and the ratios 1 to 8 for wall, and 1 to 3 for glass should be used for southerly rooms, with an increase for northerly exposures as above stated. Foot-warmers and corridor warming may be the same as for gravity heating, except the number should be increased according to the size of the building. A large high school should have from four to six foot-warmers of 100 to 125 square feet of indirect radiating surface each. The boiler horse-power may be found by multiplying the square feet of radiation in the main heater at the fan by 1,500; the secondary heaters by 400; direct pipe coils by 300; cast-iron radiators by 250; adding the results, and dividing by 30,000. This may be expressed in a formula, as follows:

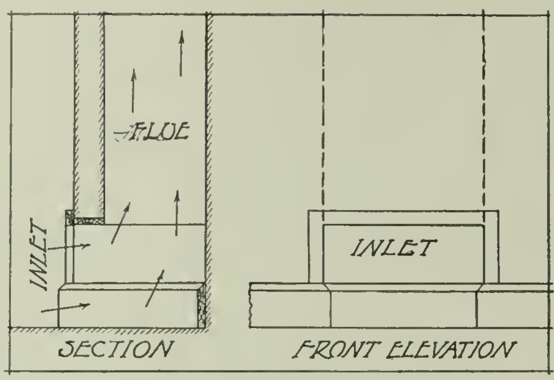


FIG. XIX.

$$\text{H.-P.} = \frac{(M \times 1{,}500) + (S \times 400) + (C \times 300) + (R \times 250)}{30{,}000}$$

in which,

H.-P. = horse-power of boilers.
M = square feet of surface in main heater.
S = ,, ,, ,, ,, ,, secondary heaters.
C = ,, ,, ,, ,, ,, direct pipe coils.
R = ,, ,, ,, ,, ,, ,, cast-iron radiators.

Horizontal tubular boilers are used in this class of work more than any other, although water-tube boilers of the power type are employed in very large buildings, especially where a lighting plant is included in the equipment.

The vent outlets from the rooms are usually covered with a metal grille or register face, and always when the flue is connected with rooms on different floors. When separate flues are used for each room, starting from the floor level, the arrangement shown in Fig. XIX is very desirable. In this case no grilles are used, the baseboard is carried around the bottom of the flue, and the floor extended to the back side as indicated in the section. This makes the accumulation of dirt impossible, as the bottom of the flue is cleaned every time the floor of the room is swept. Vent flues without grilles are commonly connected with one or more large chambers in the attic by means of horizontal ducts as shown in Fig. XX. In arrangements of this kind air-checks should be provided to prevent back-drafts into the rooms, especially at night when the fan is not in operation. The checks are made up of cloth flaps strung on light rods and wired to wire screens. When individual brick flues are used, the air-checks may be placed back of the grilles at the room outlets. Main outboard vent shafts starting at the attic level should be provided with a water-tight pan at the bottom having a drain connection with the sewer as indicated in Fig. XX. Dampers should also be placed in the shaft near the top for night closing, or at such other times as ventilation is not required.

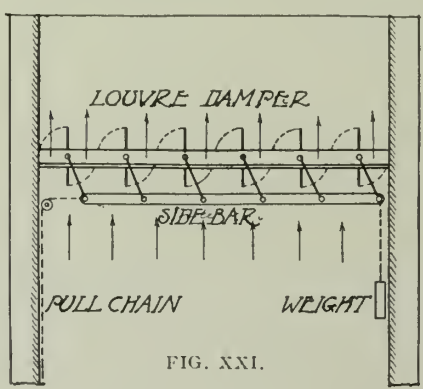


FIG. XXI.

The type of damper will depend upon its size. For small and medium flues the common "butterfly" damper pivoted at the center is generally used. For larger sizes the damper may be made in two parts as in Fig. XX.

For the largest flues the louvre damper gives the best satisfaction. This is shown in Fig. XXI, and consists of a number of sections pivoted to angle-iron cross pieces at the sides of the flue.

The pivot of each section is attached to a "side bar" by means of a bell crank, so that a single movement of this bar will operate all of the sections. The damper shown in cut is closed by the action of a weight and opened by means of a pull chain.

One of the best methods of ventilating the main toilets is to connect the local fixture vents with closed chambers at the back of the closets and urinals, and these in turn with heated flues extending to the top of the building.

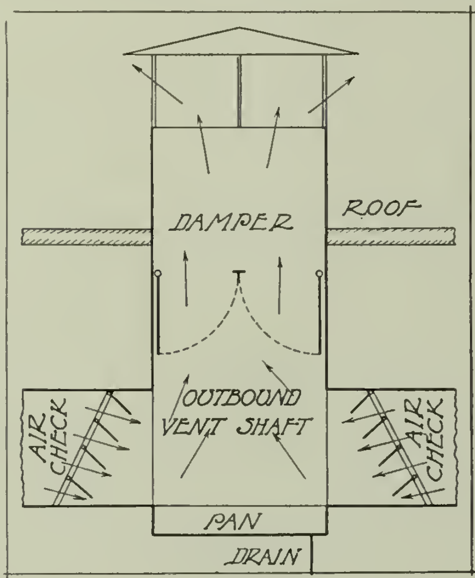


FIG. XX.

The boiler stack may be used for heating the flue during the heating season, but it is well to provide an electric fan, on a by-pass, for use in summer and early fall when the boilers are not in use.

Chemical hoods in large buildings are best ventilated by means of a fan. The connecting ducts are usually of glazed tile and the fan blades should be of copper or the whole construction coated with some non-corrosive material. Buildings of the type under consideration should always be provided with a system of automatic temperature control. The main heater should be divided into valved sections for rough hand regulation, with one section, or a by-pass damper, controlled automatically by a hot-air thermostat in the main air-way beyond the fan. Secondary heaters may be either provided with pneumatic valves or mixing dampers, controlled by thermostats in the rooms with which they connect. Direct radiation in the rooms is provided with pneumatic valves operated in a similar manner.

Hotel Vanderbilt, New York.

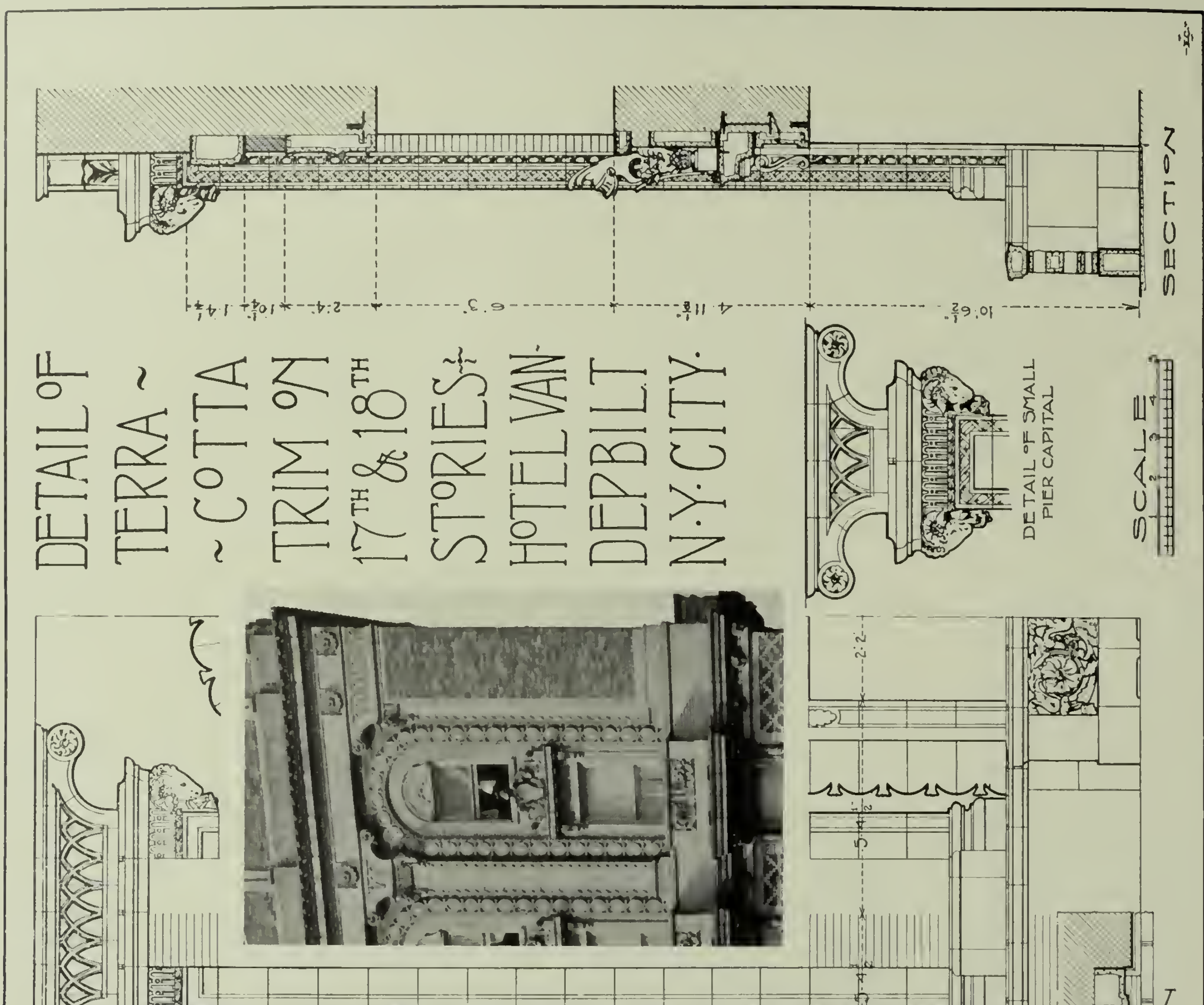
WARREN & WETMORE, ARCHITECTS.

PERHAPS more than any other semi-public building in New York does this remarkable hotel stand for modernity in the realm of architecture. The word modernity expresses it exactly in the light of the modern spirit which requires of our buildings a feeling of lightness, cheerfulness, and brightness, and which looks askance at those which oppress by virtue of their seriousness and heaviness.

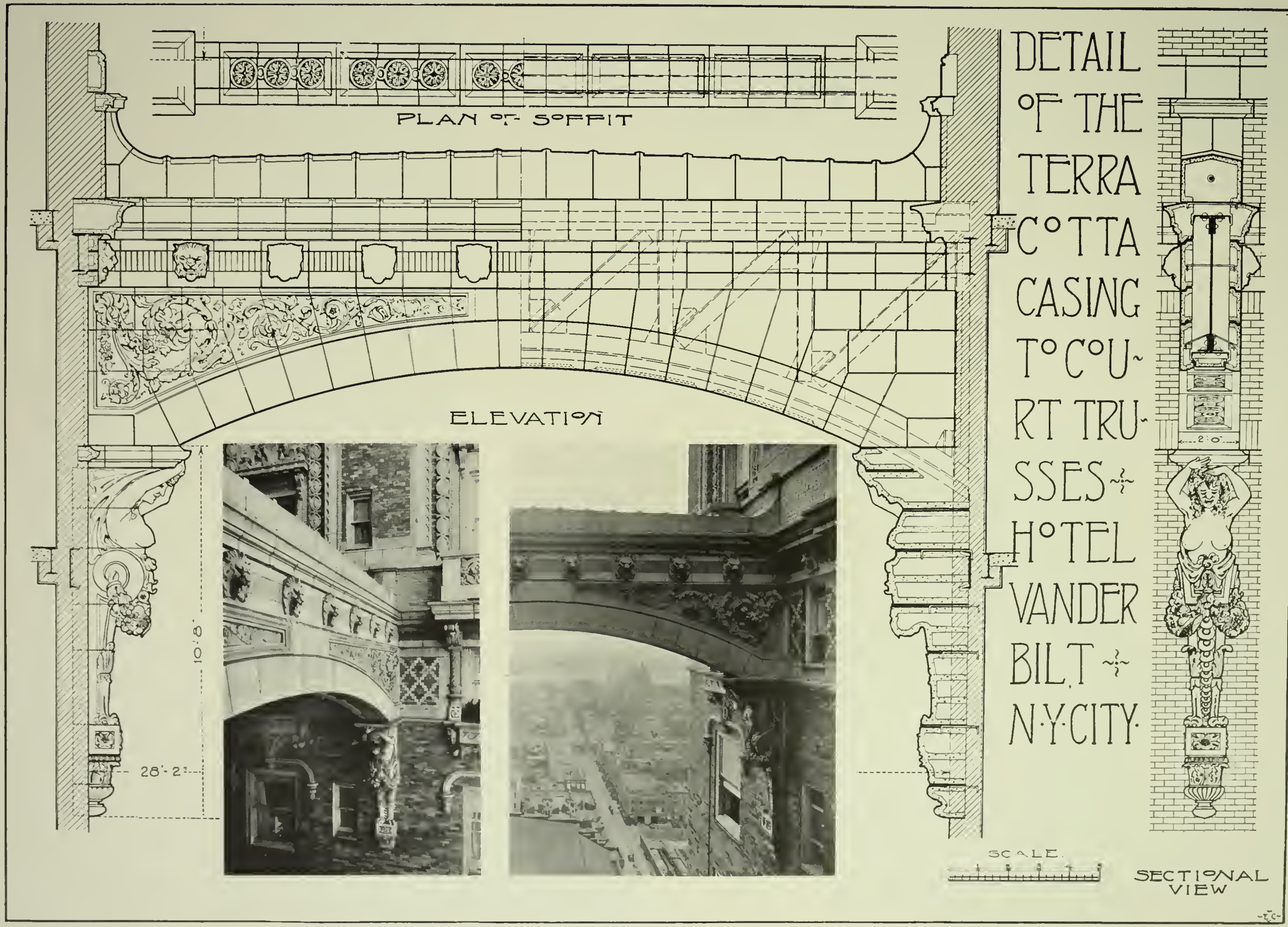
The prominence in this city of Great Towers to this last evidence of the skilful handling of a big problem is due perhaps more than a little to the pleasing manner in which the architects have used everyday material. So adroitly and skilfully has this been accomplished that the question of price or of stern economy does not in any way appear to the lay mind. Yet that it has received no little study is evident to the professional brethren.

Perhaps the most stimulating accent to this interesting building is the skyline, the coronet, as it were, upon a smiling face which appears at night bravely with electric lights as jewels and which is equally important by day. Of course the material used is terra cotta, glazed, — so adaptable for anchoring to the steel frame, modeled in relief, at times high and again low, with the drawing forced a little by the introduction of a darker tone to the ground. This coronet is worthy of considerable study and invites thought. It is of a very light buff shade. It is not enough to say that it is Oriental in spirit, that much of the detail and composition is doubtless due to the enthusiasm of the Moors whose conceptions of classical ideals are to-day to be seen in Renaissance Spain and the northern portion of Italy, because into this composition a whole host of other things appear. Look for instance at the way in which the windows are arranged, at the relation between the ornament of the bands and the brickwork, which at times is of buff; examine — and it is easy to do it even from the sidewalk — the relation between the enriched borders and the broad bands or breathing-spaces, so-called, that divide up and compensate for the lack of projection and heavy shadows, which too frequently are found in the upper parts of our buildings. It is many years since the world saw just this particular form of outline, this naive presentation of the head and shoulders of a figure crowning a pilaster. Examine — and it will pay any one to do so — the excellent drawing and balance of the enrichment to the window-heads, of the pilasters and their caps and of the balconies; noting how the color of the main walling is used to force at times the outline and suggest shadow and emphasis. These windows are grouped together sympathetically so that they count as an arcade, extending round the entire building; indeed in a way as much study has apparently been given to the rear as to the front of the building, the main differences being more of detail than of mass, for of course some simplification has been entailed on the ground of cost. The arching-over between the arcadings, uniting the wings, is skilful in the extreme, and while the detail is small it is very distinct. The ornament is buff upon gray ground, which is bound to tell even in a dull day and at considerable distance.

Of the main walling, it is surely not enough to describe it as of brick coated gray in tone with gray mortar, because when the sun shines upon it and its semi-transparent humanizing tone makes it in a way resemble more the rich plume of the grape before it is handled, so rich is the color that we are tempted to feel that the architects have changed their palette every few feet. For instance, in the laying of this brick much skill and ingenuity has gone. The rear wallings to the courts have headers which bear upon their surface a light tone, and form,



Terra Cotta Details. HOTEL VANDERBILT, NEW YORK CITY. Warren & Wetmore, Architects.

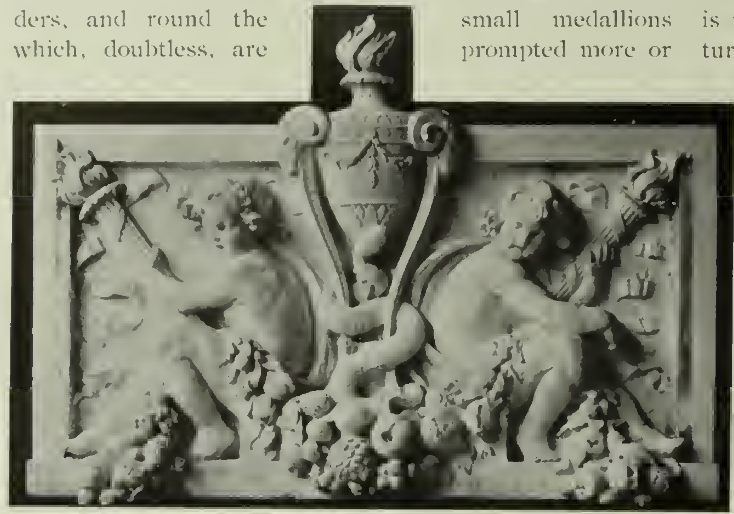


Terra Cotta Details.

HOTEL VANDERBILT, NEW YORK CITY.

Warren & Wetmore, Architects.

as it were, lighter accents to compensate for the shadows which are there most of the day. These headers of gray appear in unexpected places, at the outlining of the main pilasters springing from the granite base, round the fanlike motifs of the main window borders, and round the small medallions which, doubtless, are prompted more or



PANEL BETWEEN WINDOWS AT 6TH FLOOR.

less by the refining modeling of the Adams Brothers and their school. These headers with their light gray tone also accent and compensate for the lack of projection to the pilasters, and they bring, as it were, a sort of half-way contrasting tone to the terra cotta itself, showing a naive comradeship of material in a way that is very pleasing. Every visitor to the hotel is compelled to examine the window-heads in the lower story. The detail invites; it is of a scale unusual in buildings of this importance and magnitude, but so well have the broad spaces been studied that while the detail is small in itself it gains dignity and importance because it maintains a certain definite well-determined tone. It is not frittered away; it is what might be termed a big idea facetiously detailed so that its very inches interest. This is the type of work which made the conceptions of the Georgian period in England so very welcome.

HERMES FIGURE AT TOP OF BUILDING.

The main wall is not straight, but it curves slightly, or, to use a technical term, it appears to batter, having two offsets in its total height. This is secured by the use of bricks on edge moulded to an ogee outline. Here the architects have evidently concerned themselves with a fundamental point: how to add interest to a tall building by slightly sloping the outline so that it falls away towards the top. This is wise. The cornice and entablature to the lower section shows very well how responsive the terra cotta is to a subtle outline. Note, for instance, the cove with its enrichment in two tones of buff with a gray ground, the way in which the bosses and rosettes are accented and the flatness of the caps to the pilasters, and the subtlety of the arabesque panels which form a band between them. Note again how light all this ornament appears, and yet how big it is in conception. The frieze or entablature is almost devoid of ornament or accent or projection. It owes its interest to a change of texture and to a subtlety of glaze and contrast to color of brickwork. Can anything be more delightful than the small circular medallions which are as smooth as a cameo, as idealistic and yet as permanent as though cut from a shell?

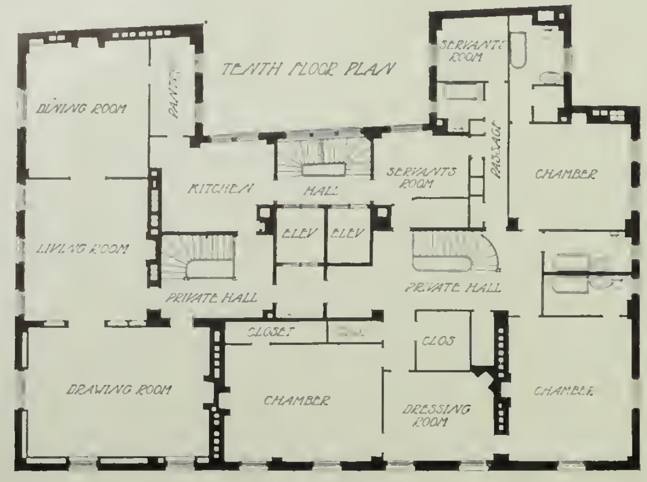
DETAIL AT 19TH STORY.

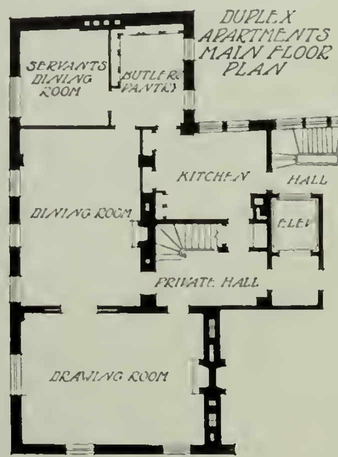
There are a whole host of things that persuade the writer to name, the unusual size and detail of the marquee, which spans the sidewalk and shelters the visitor to the front entrance. This again is delightfully free from any ornament; the ironwork counts as a skeleton rib and yet panels the glass surface admirably. Of the inside, the

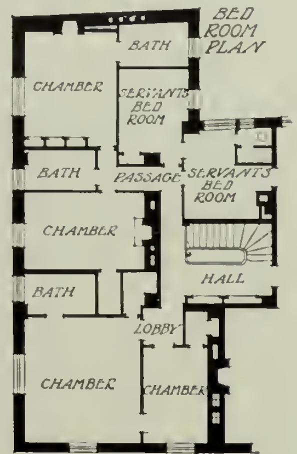
BALCONY DETAIL AT 20TH STORY.

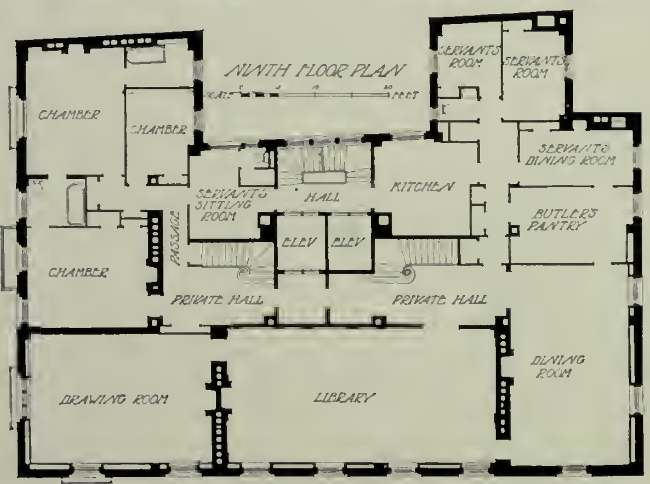
first thing the visitor notices is the spirit of cheerfulness which pervades the whole of the lower floor, which by the way is some two hundred feet long, free of any belittling wallings, the idea of the building being maintained throughout; that the walls are but strong piers well placed, well studied, and existing only where necessity demands. This lower flooring is arched, and the arches are flat, elliptic, springing from the piers without cap or moulding of any kind.

The hotel in its entirety is a pleasing example of the artistic and practical qualities of architectural terra cotta.









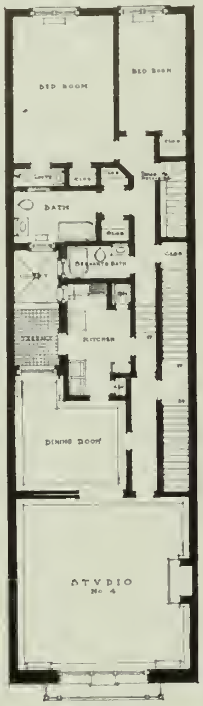
APARTMENT HOUSE, 563 PARK AVE., NEW YORK CITY.

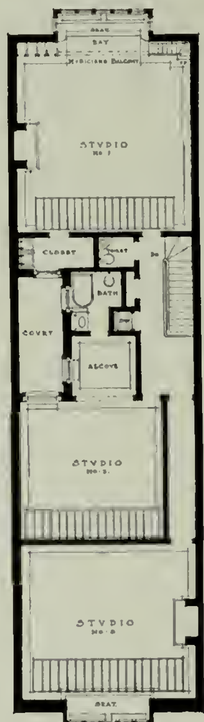
WALTER B. CHAMBERS, ARCHITECT.

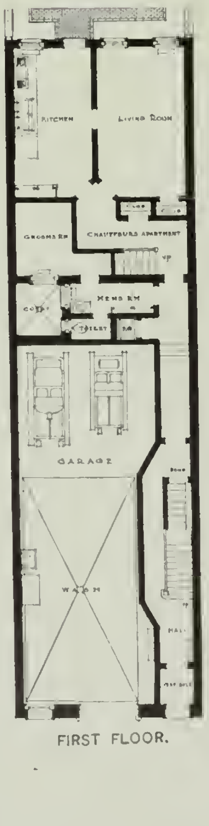
APARTMENT HOUSE, EIGHTY-SECOND ST. AND WEST END AVE., NEW YORK CITY.

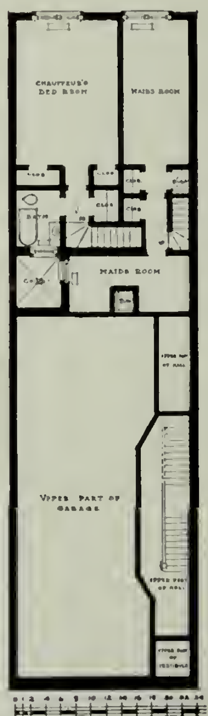
D. EVERETT WAID, ARCHITECT.

VOL. 21, NO. 3. PLATE 31.


SECOND FLOOR.

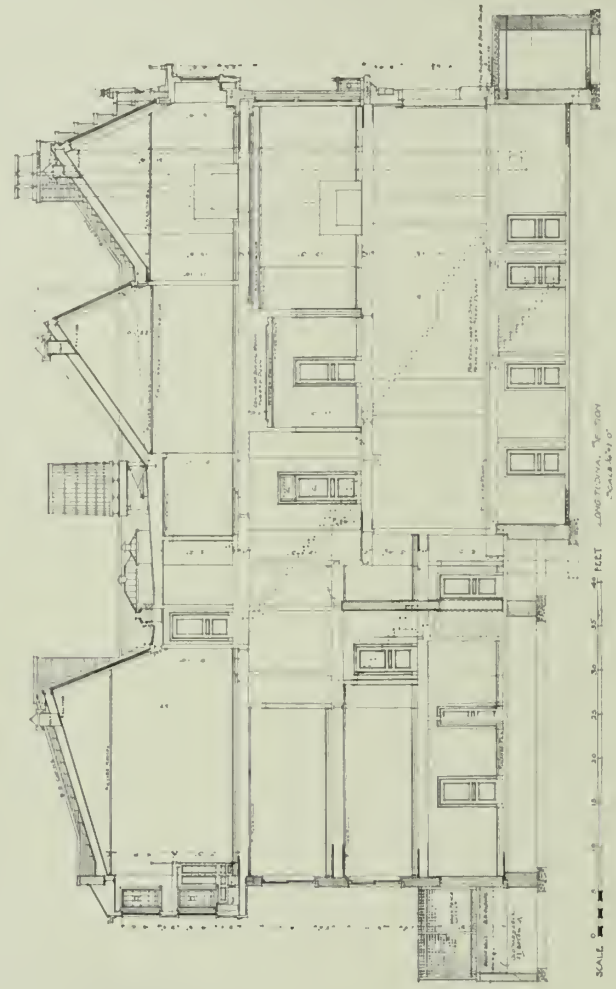

THIRD FLOOR.


FIRST FLOOR.


MEZZANINE FLOOR.

THE VER MEER STUDIOS, 111 E. 66TH ST, NEW YORK CITY.
E R BOSSANGE AND BUTLER & RODMAN, ASSOCIATED, ARCHITECTS

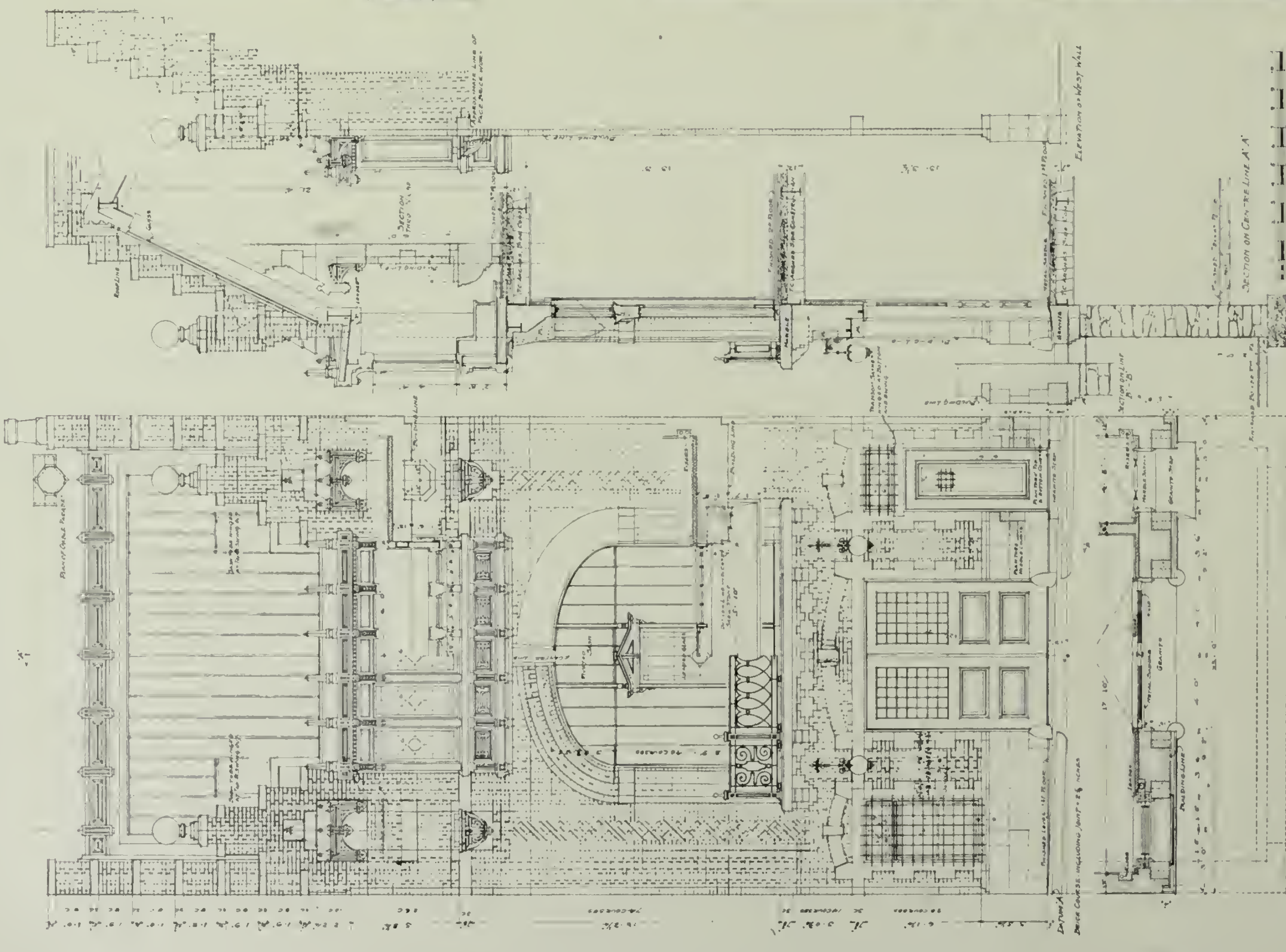
VOL. 21, NO. 3. PLATE 32.



THE VER MEER STUDIOS, 111 E. 66TH STREET, NEW YORK CITY.

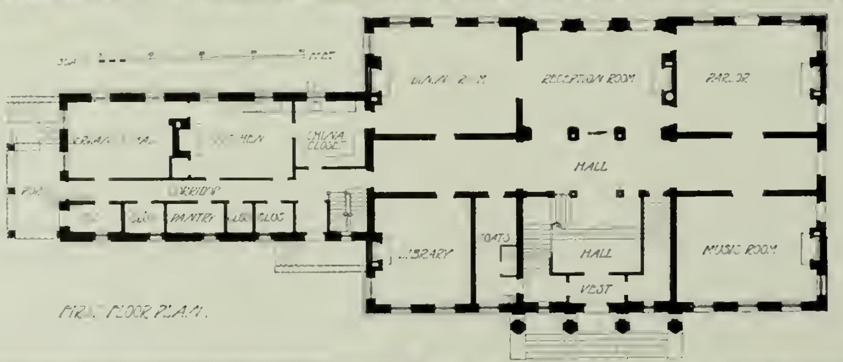
E. R. BOSSANGE AND BUTLER & RODMAN, ASSOCIATED, ARCHITECTS.

STUDIO NO. 1.



½ INCH SCALE DETAIL OF FRONT ELEVATION

HOUSE AT
PRIDES CROSSING,
MASS.



GEORGE C. WALES
ARCHITECT.

PARLOR.

DINING ROOM.

HOUSE AT
PRIDES CROSSING,
MASS.

GEORGE C. WALES,
ARCHITECT.

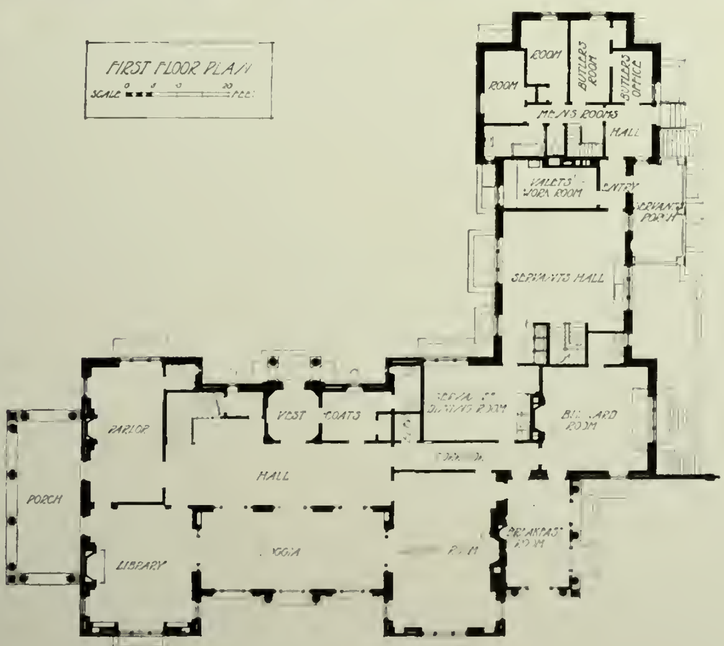
HALL.

RECEPTION ROOM.

UPPER AND LOWER STORIES, HOTEL VANDERBILT, NEW YORK CITY.
WARREN & WETMORE ARCHITECTS

HOTEL VANDERBILT, NEW YORK CITY.
WARREN & WETMORE, ARCHITECTS.

HOUSE AT BEVERLY FARMS, MASS.
PARKER, THOMAS & RICE, ARCHITECTS.



HOUSE AT BEVERLY FARMS, MASS.
PARKER, THOMAS & RICE, ARCHITECTS.

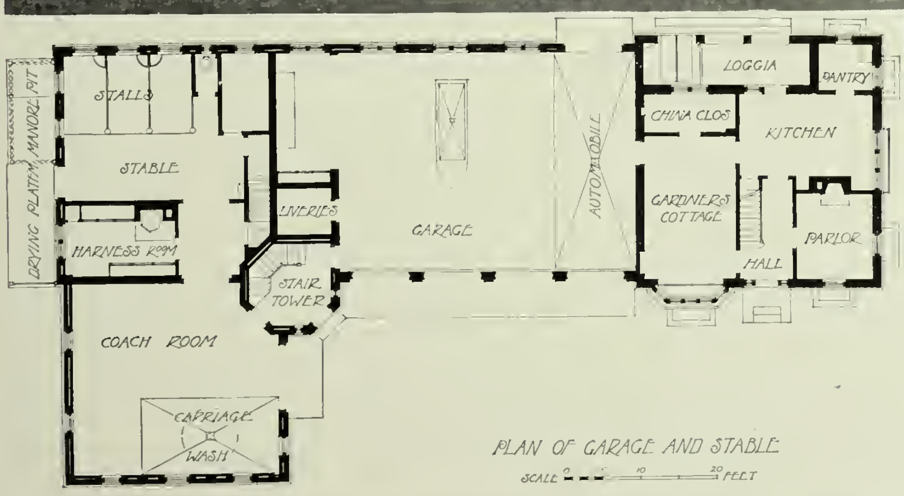
HALL.

LIBRARY.

DINING ROOM.

INTERIOR VIEWS, HOUSE AT BEVERLY FARMS, MASS.

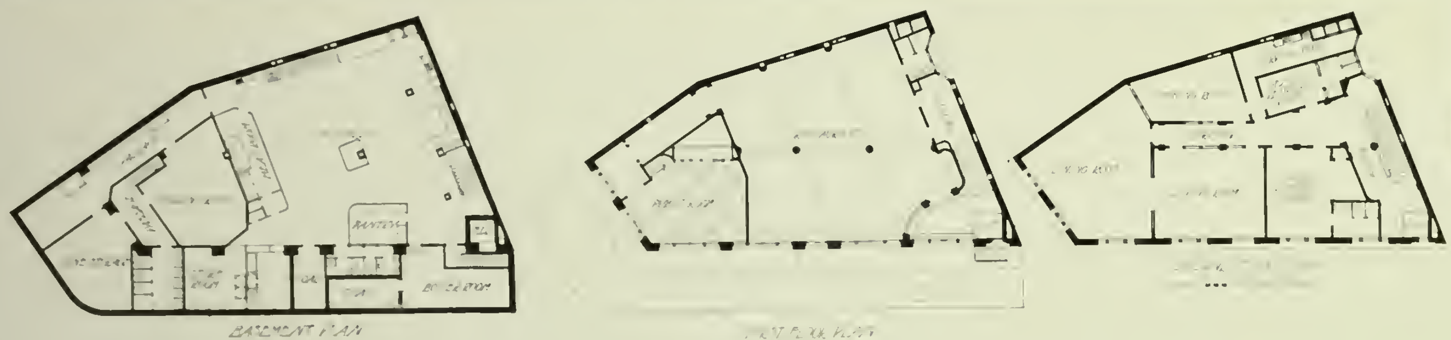
PARKER, THOMAS & RICE, ARCHITECTS.

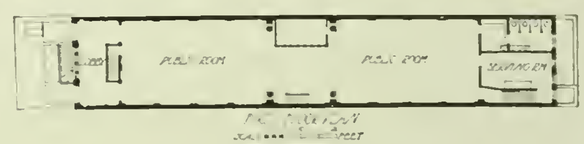


PLAN OF GARAGE AND STABLE

VIEWS OF STABLE AND TERRACE HOUSE AT BEVERLY FARMS, MASS.

PARKER, THOMAS & RICE, ARCHITECTS.



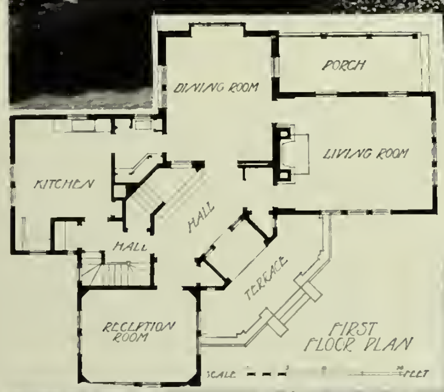


WASHINGTON RESTAURANT.

TWO RESTAURANTS AT NEWARK, N. J.

HUGHES & BACKOFF, ARCHITECTS.

ARENA RESTAURANT.



HOUSE AT BROOKLINE, MASS.
FRANK CHOUTEAU BROWN, ARCHITECT.

Commemorative Monuments.—II.

H. VAN BUREN MAGONIGLE.

IN the previous article we discussed general questions of site and setting, and of design as affected by them; in this and succeeding ones it is proposed to give examples of many types of Memorials upon which the reader must supply the chief commentary; happy the critic who, not engaged in the active practice of an art, can joyously jump upon anything that does not please his fancy; but only a practitioner of superhuman tact can belabor the work of a contemporary without inflicting wounds upon that most sensitive portion of a brother artist — his *amour-propre;* and that practitioner has not yet appeared over his own signature. But after a certain lapse of time, whether the author be living or dead, the work becomes impersonal; it has cooled off sufficiently, as it were, for any impious hand to touch it. Let us, however, move delicately in this perilous task.

It is our plan to commence with those monuments in which sculpture plays the more important rôle, taking first the single statue, then the more complicated sculptural compositions, and afterward those in which architecture is dominant, as in the column, the arch or the tomb, although the privilege is reserved of departing from this classification at any moment.

Because it illustrates perfectly a number of principles too often neglected, we choose to begin with the little statue of Jeanne d'Arc in front of the Hotel de Ville at Orléans; it is beautifully studied in relation to the architecture around and behind it; the richness of the Gothic tracery in the balustrade is an excellent foil for the simple treatment the figure has received. The sculptor has recalled the vertical lines of the architecture in the folds of the skirt, and so united them in a very subtle and charming way; the broad surfaces of the armor are in excellent contrast to the color of the rest, using color in its sculptural sense as light and shade. There is a beautiful balance and contrast in color between balustrade and statue as the result of a greater number of shadow-throwing forms in the balustrade and fewer in the figure. It is interesting to compare another statue of the Maid of Orléans in the same town at one end of the Pont de Tournelles. It lacks the feel of the period and might commemorate any daughter of the regiment; but it is well placed.

STATUE OF JEANNE D'ARC, ORLÉANS, FRANCE.

The view of the monument to "Chinese" Gordon, in Trafalgar Square, scarcely does it justice. It is really more impressive than it appears here. The pedestal, while designed in harmony with the character of the architecture about it, has a fault common to many; the cornice is too shelf-like, and projects far too much. Statue and pedestal should be one thing, and too great a projection of the cornice disunites them. Indeed, a cornice is scarcely necessary, and some of the best pedestals I know have none at all. All our real interest should center in the statue, and nothing should detract from that interest. All the pedestal is for is to lift the statue to a height sufficient for dignity, and to continue its lines to the ground, and should have only just so much treatment, be given just so much color, as will serve to unite it with the sculpture, support, oppose or repeat its dominant lines, and no more.

The author of the statue of Stanislaus, in front of the Hotel de Ville of Nancy, was well inspired in designing it in accord with the prevailing note of the period, which was rather pompous. The detail of the pedestal is somewhat out of scale with the statue, but the fault pointed out in the Gordon pedestal is absent here and there is, therefore, greater unity in the composition.

In the statue of James the Second at Whitehall, London, we may question the taste which invests the king with the trappings of a Roman general, but there is a certain harmony, nevertheless, between the monument and its background.

It will not fail of remark that most of these monuments are placed with a very definite appreciation of what their effect seen in relation to their surroundings should be — that there is a certain restful quality about them, and that they seem to belong fairly well to the spot they occupy. Let us examine one or two examples of an utter disregard of these simple principles, in New York. There is one absolute test we may apply to the placing of any monument. There must be something inevitable about it. In other words, the monument must be so closely related to its environment that we could not imagine it looking so well in any other spot. When we apply this test to these examples we see at once that something is wrong; they do not belong where they are any more than elsewhere.

It is astonishing to find that the statue of Lafayette in Union Square is actually on the axis of Broadway. There is nothing to indicate that it stands at the head of an important thoroughfare. In the first place, it is in itself too insignificant in mass to occupy so important a position and should be amplified and supported by some further architectural treatment. In the second place, it does not even face Broadway but is simply plumped down on the grass anywhere. It seems incredible that this monument, which for grace and beauty is one of the best things we have in its kind, should be so shamefully abused. It would gain immensely in distinction in a proper and dignified setting.

Another example is the Lincoln Monument in Union Square. This photograph is taken from the corner of Fourteenth street and Fifth avenue. It will be observed with interest that we have a fine view of the back of the neck. Fourteenth street and Fifth avenue is one of the busiest corners in the city, and it might be supposed that the statue would be placed where the thousands of passers-by could see it. As it is, it may be some inspiration to a better life for the occupants of the benches in the Park. The pedestal is beneath contempt, a product of our most tasteless period.

STATUE OF STANISLAUS OF LORRAINE, NANCY, FRANCE.

The Farragut Monument is one of the early products of the collaboration of Augustus St. Gaudens and Stanford White. Although White designed the pedestal, it might have been done by a sculptor if one could be found who was well trained enough in architecture to design his own setting; it has a plastic quality which harmonizes so perfectly with the sculpture that in the work of two masters, in perfect sympathy, we seem to see but one mind and one hand. The color of the unusual and beautiful exædra emphasizes the harmony of form; it is a dark bluestone, and the bronze has taken on a beautiful dark patine. It is to be regretted that this monument is so ill-placed, dumped down on the westerly margin of Madison Square, unrelated to any path or thoroughfare or point of approach.

In the setting accorded Ward's statue of Washington we need yield nothing to Europe on the score of dignity and impressiveness. Magnificently placed at the head of Broad street, the Sub-Treasury Building is one of the few exceptions that we may make in our strictures upon the generally unmonumental placing of our buildings and monuments. The statue gains immensely by its splendid background. In a balcony just above this spot Washington took the oath of office as President of the United States and the sculptor has represented him in that attitude. This is far and away the best thing J. Q. A. Ward ever did.

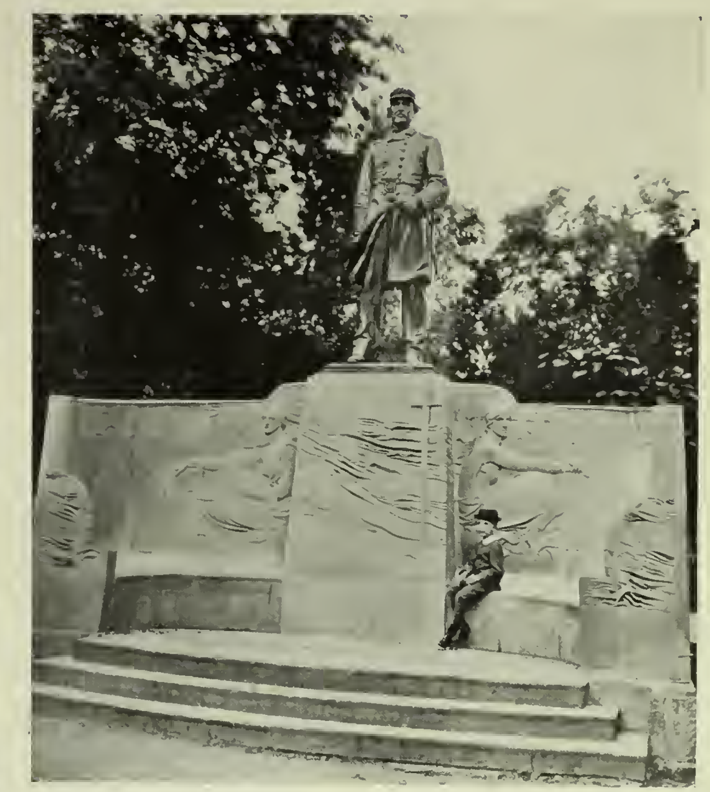
The monument to Admiral Coligny in Paris is an exception to the rule that obtains abroad, for it is miserably placed, crowded into a narrow space and almost impossible

STATUE OF JEANNE D'ARC, ORLÉANS.

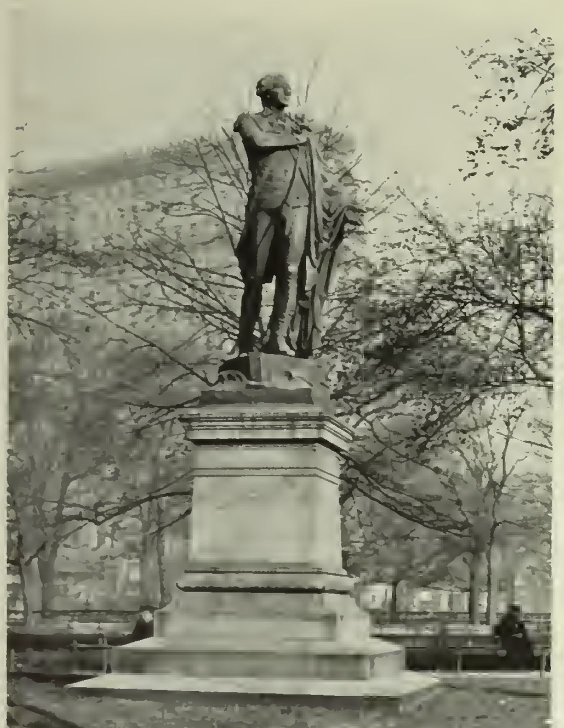
STATUE OF GORDON, LONDON.

STATUE OF JAMES II., LONDON.


STATUE OF MARK HANNA, CLEVELAND.


STATUE OF FARRAGUT, MADISON SQUARE, NEW YORK CITY.


STATUE OF GENERAL MACOMB, DETROIT.


STATUE OF LAFAYETTE, NEW YORK CITY.


STATUE OF LINCOLN, UNION SQUARE, NEW YORK CITY.


STATUE OF WASHINGTON, NEW YORK CITY.

COMMEMORATIVE MONUMENTS.

to see; the architectural frame is a beautiful piece of design in the character of the work of Coligny's time, treated with extraordinary sympathy and skill. American architects are too prone to design distinctly classic settings, Greek or Roman, for statues of men of any period. They may have lived in colonial times or may have died yesterday; poets, statesmen, or captains of industry; men of calm natures or men with fiery, turbulent temperaments; dressed in the more picturesque garments of an earlier day or in the apparently unmanageable frock coat and trousers of the present fashion — the pedestal is almost invariably "pure" and as classic as possible. True, this is safer and in the main more satisfactory than the average pedestal the sculptor designs for himself and to which he usually tries to give a plastic quality intended to harmonize with his sculpture, but which is usually either mushy or brutal. But theoretically the most successful result lies somewhere between the two; the architect needs to loosen up and get more plasticity in his share of the work without losing the firmness that should mark a highly conventionalized form; while the sculptor should either study the technics of architecture thoroughly for several years or let the pedestal alone.

STATUE OF OGLETHORPE, SAVANNAH, GA.

But in any case the character of the pedestal should partake in some degree of the character of the statue and the time. An orator represented as violently declaiming stands on a pedestal purely Greek and calm — contrast with a vengeance; or a statesman in badly fitting frock coat and baggy trousers (why must they fit so badly and bag so baggily), in an attitude of statesmanlike dignity, is supported by a playful little rococo base. Will the sculptor ever arise before the present fashions go out who will seize the possibilities of sculptural beauty in the clean-cut lines of a well fitted modern coat and trousers, which reveal the structure of the figure in the clothes as much as it needs to be revealed in a clothed figure. Is it because the sculptors are unfortunate in their models, the average statesman being notoriously careless in his dress? Or is it because in their desire for movement, for modeling, they prefer to clothe the legs in gunny sacks? Or go to the other extreme and encase them in rigid tubes of tin? Why must the coat pull under the arms, why must it be so tight across the chest and stomach that there are horizontal creases at every button; and why, oh why, must the skirts of it look as though they had been innocent of the iron since they left the slop-shop? I am not pleading for the tailor's dummy as a necessary adjunct of the studio, but I should like to see gentlemen represented as such and not either as though they had slept in their clothes, or had had them made by a tinsmith.

MONUMENT TO ADMIRAL COLIGNY, PARIS.

The problem of designing a fine pedestal for the statue of a modern man in the usual dress of the day is a most difficult one, and to my mind has yet to be solved, just as has the treatment of his garments. The Farragut is hardly to be classed here, for he is in uniform, loose sea clothes with the wind in them, as he should be. It is the ordinary citizen who gives the trouble.

In the monument to Oglethorpe, the first Colonial governor of Georgia, the picturesque costume of the time gave Daniel C. French, the sculptor, an opportunity for a capital treatment in detail and in silhouette; the pedestal is by Henry Bacon who also designed the interesting pedestal of the Mark Hanna statue by St. Gaudens in Cleveland.

Albert Randolph Ross designed the very simple rectangular pedestal and *entourage* in New Hampshire pink granite for A. A. Weinman's statue of General Macomb at Detroit, one of the handsomest portrait statues we have; simple, direct, and masculine, without affected or dramatic gesture; the treatment of the long military cloak is a triumphant solution of a difficult problem; the man is in absolute repose, the only movement that of the wind in the cloak, and it is this that gives the figure life and spirit. For such a statue just such a simple setting as this seems the only fitting thing. The color of the bronze is repeated in the three bronze cannons, actual relics of the War of 1812.

ROMAN FORUM. RESTORATION OF ANCIENT ROME BY J. BÜHLMANN AND A. WAGNER. TEMPLE OF JUPITER.

Distinguished Architecture as a Precedent. — I.

C. HOWARD WALKER.

THE intention of these articles is to analyze for architectural students the qualities in acknowledged masterpieces of architecture which are instructive and suggestive in modern work, and the characteristics in various styles which are still applicable despite changes of materials, requirements, and social ethics. In order to do this, an inquiry as to qualities common to all of the best buildings in the world is necessary in order to eliminate minor peculiarities produced by local demands. It is manifest that directness of expression and simplicity of masses are to be found in all architectural masterpieces, and that refinement of detail is always present. All are carried to the farthest point of development in each of these factors. Confusion of form and crudeness of detail inevitably remove a building from the first ranks, and, usually, the materials used in the construction are the best procurable. The architectural properties of special styles can be ignored, and are in fact merely fashions of expression.

The influences which have caused the erection of fine buildings are usually to be found in the recognized desires of a populace, not of an individual; and the work of an individual is of value only when it follows the trend of the established expression of a number of minds devoted to one idea. Good architecture has been the outcome of gradual accessions to a simple demand, not to original inspirations — hence the study of past work, and the application of its lessons.

Certain structural factors are necessary, such as vertical walls, and isolated vertical supports; and beams, lintels, or arches spanning openings, and coverings or roofs to enclosed areas. As the roofs are in planes which are more or less retreating from the observer, and as they are usually of less proportions than the walls, they are of less relative importance and are treated correspondingly on the outside. Inside the building their importance increases, and they are often treated with greater attention than the walls.

The openings in the walls are subject entirely to the demands of the circulation of the building, both as to people and to light. These factors are utilitarian and necessary, and all good architecture submits willingly to their demands. There is at once a feeling of incongruity and of dissatisfaction when any of these factors is exaggerated beyond the point of necessity.

NORTH PORCH OF ERECTHEION, ATHENS.

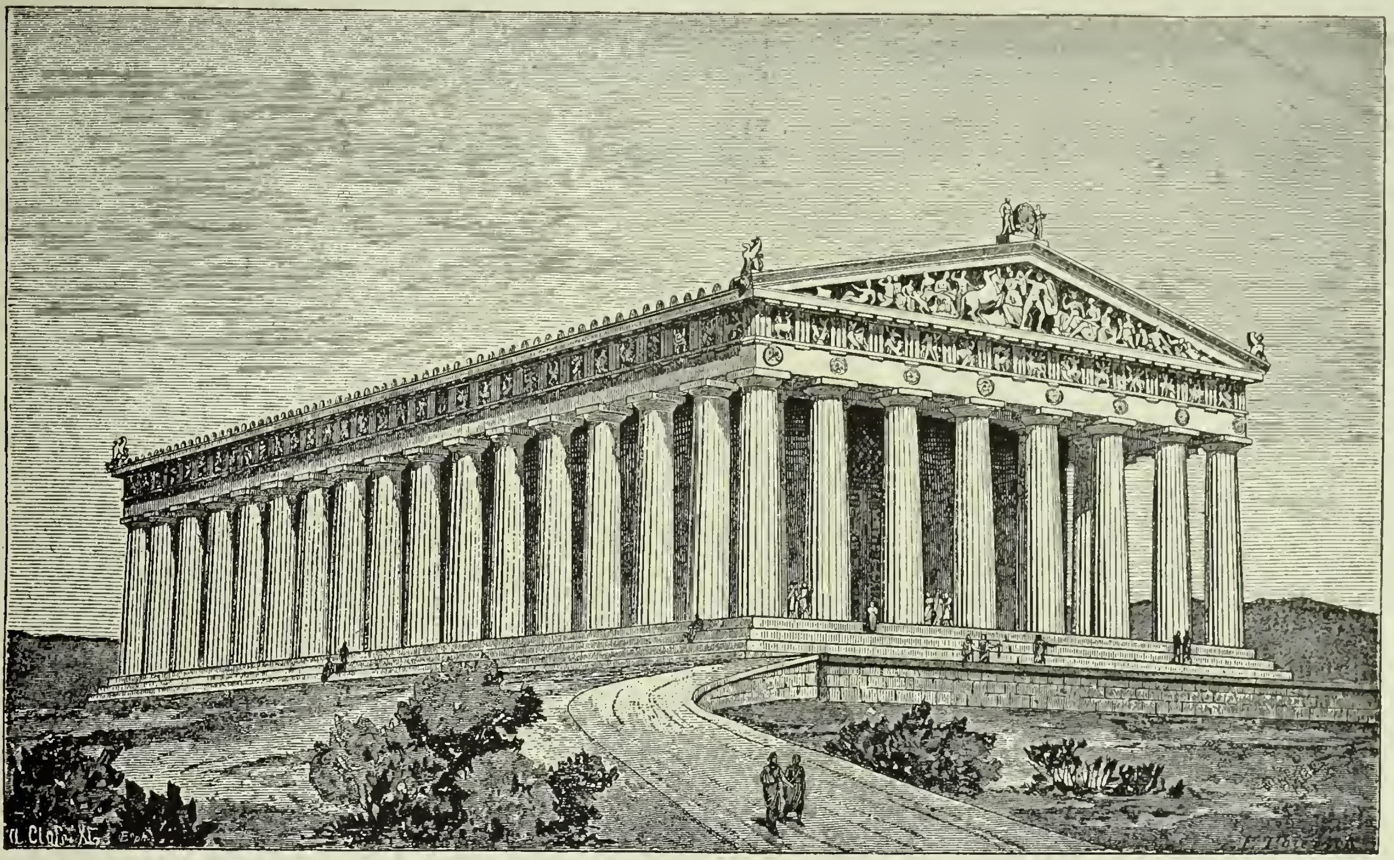
From the simple mud wall and pitched roof the original cell from which architecture has grown was created, the walls were protected from the rains by extensions of the roofs supported on posts, at times over entrances only, at times entirely around the cell. The wooden structure became developed at its joints, became protected by metal and by stucco, and was translated into stone, and the so-called classic orders of architecture were developed. But the post in becoming the column and the beam in becoming the lintel and the eaves in becoming the cornice lost none of their structural character. They thickened, as stone had not the fibrous strength of wood, and the cleats became mouldings accenting the joints of structure, merely indicating where one structural feature ended and another began. Whether the classic portico and peristyle would have developed from stone structure only is not the question. In developing it did not violate its own possibilities. But it is worth observing that originally detached colonnades were associated with walls comparatively devoid of openings, and that when openings multiplied the columns became engaged with the walls and were merely rounded buttresses. This at once occurs in adaptations of the classic orders where more than one story is required and where ample light is necessary, both of which are the usual conditions in modern work.

TEMPLE OF CONCORD, GIRGENTI, SICILY.

The Greek orders were developed in temples of a single cell, with one entrance and lighted from the roof — if lighted at all. The Parthenon at Athens, from the beauty of its material, its detail and its sculpture, is considered the most noble example of the simplest order, that of the Greek Doric, but it is not in as perfect condition as either the Theseion at Athens or the Temple of Concord at Girgenti. The proportions of the order change slightly, becoming more delicate in the progress of time, but the disposition of the columns, their relations to the walls, their uniform height and character and distance apart are maintained. All experiment with this order merely belittles it, especially if any attempt is made to use columns of various sizes and heights. Its character is dignified and inflexible. It denotes strength and simplicity, and is not amenable to changes. It was thoroughly developed for its purpose: that of expressing a single cell or a small group of cells, isolated with considerable space about them, and with few wall openings, and can adequately express similar conditions to-day. The lesson of its profiles and details is that of admirable restraint. There is not a square inch of superfluous decoration, nor of redundant mouldings, and its factors can only be associated with the simplest of forms. Sculpture associated

The Parthenon. Temple of Castor and Pollux. The Erectheion. Monument of Lysicrates.

DETAILS OF GREEK ORDERS DEVELOPED IN TEMPLES AND MONUMENTS.

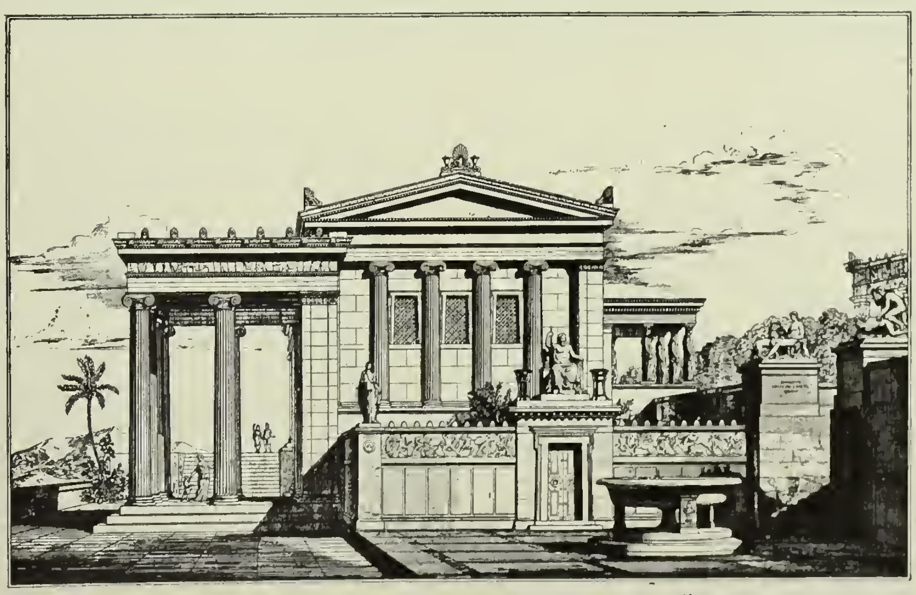


RESTORATION OF THE PARTHENON, ATHENS, BY E. SHIERSCH.

with it must be extremely simple and dignified in character. It was lightened in effect entirely by treatment in color upon its sculpture and mouldings, and without such treatment is most austere. As the projections of porticos and peristyles necessarily obstruct light its colonnades are of value solely to produce deep shadows, and are of doubtful use in modern work excepting as porticos over main entrances or in cloistered enclosures. Its special value to the student is in the study of its simplicity, dignity, and restraint.

While the columns on the Greek temples carried comparatively little weight, they are so robust that they appear adequate to carry much, and are consequently used below large surfaces of wall. The student is advised to study Stewart and Revett, Penrose and Pennethorne for subtleties of the Greek orders of architecture.

The second Greek order, called the Ionic — is more delicate than the Doric in all its qualities. Its mouldings and details are in smaller relative scale to its surfaces — its columns become more slender and are fluted and have bases. Its entablature is without the squares of the metopes and triglyphs, and grouped mouldings become frequent and its capitals are scrolled. As the shadows which its projections cast are less than those of the Doric, the order is capable of more frequent use when light openings are needed between the columns, and, as the capitals and entablatures differ in character, colonnades with different heights of columns can be associated. The order is therefore more flexible than the Doric, and can be used with greater ease upon grouped masses. The chief difficulty is in the use of the capital at a corner — as the Ionic caps with a corner scroll are far from satisfactory, even in the best Greek examples as at Bassae and elsewhere. The Ionic colonnades are, therefore, best when in antis,



RESTORATION OF THE ERECTHEION, ATHENS, BY BÜHLMANN.

that is, where they are defined at each end by a pier or wall and do not turn the corner. The most delicate work of the Ionic style is the Erectheion on the Acropolis at Athens, and the Temple at Priene. While Ionic architecture was picked out in color with blue, red, and gold in the backgrounds of the carving — it is not dependent upon color decoration. The qualities of the style are those of great refinement and delicacy, and it is admirably fitted to express monumental buildings of fine distinction.

The third Greek order, the Corinthian, has the qualities of luxury and of display. Its entablature is enriched with carving and with scrolled modillions or brackets, its mouldings become rich and ornamented, its capitals are most elaborate. It is capable of great variety, but cannot be simplified without appearing impoverished. It can only be adequately made of the finest materials, and is therefore costly. Unless associated with broad, plain surfaces, it appears over-ornamented, and is at its best when focused at points requiring rich treatment. It requires a somewhat large scale, as when small it seems to be a reduction in miniature from larger forms. This, however, is not always the case when its columns are engaged in the wall. It is the order which appealed to the sensuousness and luxury of Rome, and its best known examples are in Roman buildings. The Greeks at times used a simplified capital without scrolls, and with a single row of leaves, and with an entablature which was more Ionic than Corinthian.

The Choragic Monument of Lysicrates is the best example of the Corinthian in its simplest form. The temple of Jupiter Stator at Rome is that of the most elaborate type. The orders were developed upon low buildings, of one story or of one story and an attic or parapet — or if used upon buildings of more stories they appeared at the top with plain walls below. All buildings in which the orders are used are necessarily stratified horizontally, and all attempts to superpose, that is, place one order with its columns over another, have been somewhat unsuccessful. A light transposed order can be placed over a heavy one with moderate success, but the superposing of three orders one over the other courts failure. The use of the entablatures alone without the columns can be carried on indefinitely. In order to avoid the difficulties of superposed orders, the attempt was made at an early date to have the height of the column embrace two or more stories, again with questionable success, as the scale became gigantic and antagonistic to that of adjacent buildings without columns. The full orders, therefore, with their columns are best when expressing large cells of the height of the orders, and therefore are adapted to large halls, banking rooms, theaters, etc., the portion of the building in which rooms are small being treated with wall surfaces without the columns.

THE THESEION AT ATHENS, GREECE.

The Colosseum and the theater of Marcellus at Rome are well-known examples of superposed orders.

The difference between the Roman orders and the Greek from which they were derived is one of relative distinction, the Roman orders being cruder in proportions, profiles of mouldings, and details and carvings. The Romans began the use of columns entirely as architectural ornament, regardless of necessity of structure, as is best evidenced in the triumphal arches. As a result, sincerity of structure often succumbed to mere desire for interesting light and shade.

The so-called Composite orders are the unsuccessful attempts of innovators. The true orders of architecture were so carefully developed by skilful men, that if they are used, changes which are not the result of necessity are unwise, and unless the conditions of the problem have marked points of resemblance to those of the buildings upon which the orders were first developed, it is well to avoid the use of the orders in their entirety.

Editorial Comment and Miscellany.

THE CLAY PRODUCTS EXPOSITION.

THE first Clay Products Exposition, held at the Coliseum, Chicago, March 7th to 12th, met with a measure of success which could hardly have been anticipated by the promoters. The exposition was given at a time when all the National Clay Working Associations were holding their conventions. All sorts of burned clay products were shown, and many of the manufacturers were assisted in making their displays by members of the architectural profession. The daily press of Chicago seemed to have caught the spirit of the occasion and gave liberally of their space, with the result that clay products were certainly given an unlooked for boost.

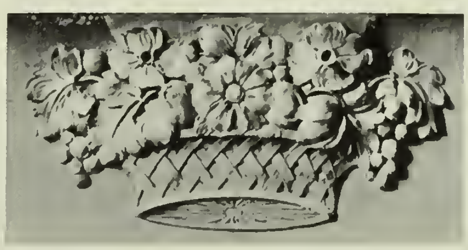
More than one hundred thousand people attended the great show, among them, President Taft, governors of several states, mayors of cities, and many architects and builders from different parts of the country.

The design awarded first prize in the Bungalow Competition was reproduced at full size, and in addition two hundred of the designs submitted in this competition were shown. Undoubtedly these features served to arouse the greatest interest on the part of the general public. Nevertheless the really wonderful displays of brick, terra cotta, faience, and fireproofing, shown in design and constructions were revelations.

DETAIL OF FIRST PRIZE DESIGN BUNGALOW SUBMITTED IN THE BRICKBUILDER COMPETITION AND BUILT AT THE COLISEUM, CHICAGO.
Ralph J. Batchelder, Architect.

The cost of building the First Prize Bungalow was about $4,000. In its construction a brick costing $23 per thousand was used; the roof was covered with a beautiful green tile; the wookwork and hardware were all first-class, and the labor cost nearly double what it ordinarily would cost because of the fact that much of it was performed on Sunday and during nights.

Plans have already been started for another exposition next year, and it is expected that profiting by the experience of this year an even better exhibit will be given.



DETAIL BY WALLIS & GOODWILLIE, ARCHITECTS.
American Terra Cotta and Ceramic Company, Makers.

PLATE ILLUSTRATIONS — DESCRIPTION.

Apartment House, 563 Park Ave., New York. Plate 29. The building contains fifteen apartments. The basement and first two stories are finished in olive sandstone while the red brick above is separated by stone string courses at every second story. The moulded belt between the two top stories together with the continuous iron balcony takes the place of the regular cornice. The apartments are mostly of the duplex type. Each apartment provides for an unusual number of servants' rooms and includes an additional room in another portion of the building. The basement accommodates individual laundries with steam dryers and private storage rooms.

The Ver Meer Studios, New York City. Plates 31, 32. The building presents a somewhat unusual problem. The plan calls for a garage with groom's and chauffeur's quarters, and a large studio for the owner's use, in addition to two studios and a studio apartment to be rented. The materials upon the exterior are Harvard brick, white marble, and wrought ironwork painted a dark gray. The designs of the leaded glass in the windows are adapted from Dutch originals. The large garage on the ground floor is practically surrounded by unperforated walls, making a fireproof box within the building which is itself of fireproof construction throughout. In order to provide more rooms the level of the first floor has been dropped several feet so that three stories are provided at the rear in the space occupied by the garage and studio in the front.

House at Prides Crossing, Mass. Plates 33, 34. The house is of brick laid in Flemish bond with a wide joint of coarse mortar and pebbles. The color of the brick ranges from deep blues to light reds. The trimmings are of Indiana limestone. The dining room, parlor, and music room are finished in pine painted white, while the reception room and library are in oak stained dark. All doors of the first story are oak with one large panel.

House at Beverly Farms, Mass. Plates 37–40. The house is built of dark-red brick with Indiana limestone trimmings. The roof is of heavy slate with a green-gray effect. Upon the interior the hall is paneled in gray

DETAIL OF STATE OF POLAND SEAL FOR THE ST. STANISLAUS SCHOOL, ADAMS, MASS.
Executed in cream matt terra cotta by the Atlantic Terra Cotta Company.
John Wm. Donohue, Architect.

and white woodwork; the dining room has modeled plaster panels with a marble mantle, and the library is finished in gum wood. All floors throughout the first story are of oak parquetry. The house is equipped with plunger elevators and a vacuum cleaning plant. The kitchen is located in the basement for the purpose of eliminating odors from the main floor of the house. The stable is arranged to accommodate the head gardener, the garage, and the stable equipment. It is built of brick similar to that used in the house. There is also a revolving summer house with three of the six sides enclosed with glazed glass. The cost of the house was approximately $150,000.

ARENA RESTAURANT, NEWARK, N. J. PLATE 41. The exterior of the building is of brick and exposed timber work stained a dark brown. The grill room in the basement front is finished in chestnut, handcraft silvered effect, with high panel wainscot and shelf. The rear of basement provides for a complete kitchen equipment with pantries, refrigerators, steam heating and ventilating plant. The main restaurant — 25 by 138 feet — is 24 feet high with a balcony 20 by 25 feet supported on marble columns. The vestibule is finished in tile with mahogany trim. Over the vestibule is located the toilet for men. At the rear of the first floor is a balcony for musicians and private tables, under which is located the service pantry, ladies' toilet and retiring room. The interior decoration is of Louis XVI style with vaulted ceilings and skylights having designed ceiling lights and glass to match. The color scheme is a blending of cream, gold, and terra cotta. The cost of the building was $30,000, making 24 cents per cubic foot, figured from cellar floor to roof.

DETAIL FOR GENERAL ELECTRIC COMPANY BUILDING, BUFFALO, N. Y. FIGURES FOUR FEET IN HEIGHT.
Executed by Atlantic Terra Cotta Company. Esenwein & Johnson, Architects.

WASHINGTON RESTAURANT, NEWARK, N. J. PLATE 41. The building is faced with brick laid in Dutch bond with trimmings of Indiana limestone, marble, and terra cotta. The window treatment and marquise are of bronze. In the basement under the sidewalk is a grill room with the walls and ceiling decorated to represent the different zones. All woodwork is finished in adzed chestnut, while the floor is laid in red Welsh tile. The balance of basement provides for a complete kitchen equipment, including an ice machine room for refrigerator, etc. The buffet on the first floor is trimmed in quartered oak with a specially designed ale case, red Welsh tile floor, and paneled wainscot. The restaurant is finished in quartered oak with marble base and columns, paneled ceiling, heavy moulded cornice and frieze with silver decoration, side walls of Delph blue tapestry, and Delph blue valances with silver ornamentation. The main vestibule, trimmed in quartered oak, has a mosaic floor and a marble staircase and elevator enclosure. The second floor is trimmed in Spanish mahogany with hall floors of tile and room floors of quartered oak. The third floor decorations are white, French gray and gold, with gold valances. The floor in ball room is of clear white maple. Complete ventilating and vapor heating systems have been established throughout. Entire cost of building was $100,000, or 60 cents per cubic foot figuring from cellar floor to roof.

DETAIL FOR THEATER, PHILADELPHIA.
Conkling-Armstrong Terra Cotta Company, Makers.
Albert E. Westover, Architect.

SELLING BUILDING, PORTLAND, OREGON.
Built of buff speckled Norman brick made by the Columbus Brick and Terra Cotta Company.
Doyle & Patterson, Architects.

HOUSE AT BROOKLINE, MASS. PLATE 42. The main portion of the house is built of brick covered with stucco of a natural color. The entrance and other brick features are of a cherry-red water struck brick, rough in texture and varying in tone effect. Tile has been used between the bricks instead of headers, which gives a decided touch of color to the ensemble. In the vestibule are large plaster panels with tile effects also. The floor of the porch consists of six by nine inch roofing tile, while that of the vestibule is laid in brick patterns. The basement provides for a play-room which is designed throughout in brick and tile paneling.

CITY PLANNING IN SEATTLE.

IN 1909 the Washington State Chapter of the American Institute of Architects brought about the organization of the Municipal Plans League, which urged the importance of studying the city's requirements for years to come so effectively that a little less than two years ago the city charter was amended to provide for a municipal plans commission. Its purpose was to procure plans for extensions of the city to meet probable future demands. The law required the members of the commission to be drawn from the city government and various public commissions and professional and business organizations, in such a way that every interest likely to be able to furnish useful suggestions was represented. Money for the work was raised by a tax of one-fourth of a mill on the dollar in 1910.

The services of Virgil G. Bogue, who prepared the plans for the city of Seattle, were secured together with a large staff of coworkers. As a result of this work the city has been provided with a plan for its development along lines which are theoretically correct. The basic principles upon which the work has been conducted are unlike the usual city planning schemes, which pay attention to nothing but artistic considerations. The plans provide in the first place for a civic center, where all the municipal offices can be assembled at a point readily reached from most parts of the city, and which affords an opportunity for the erection of buildings of a character which will be suitable for the dignity of such an important community with the proper treatment of the grounds and avenues about them. A system of arterial highways has been laid out, and although the topographical conditions made it impracticable to use circumferential streets connecting the radial thoroughfares running out from the business center, a substitute for them has been found in diagonal streets, a solution of the street problem which is decidedly instructive. — *Engineering Record.*

DETAIL OF BISHOP'S SEAL FOR THE ST. STANISLAUS SCHOOL, ADAMS, MASS.
Executed in cream matt terra cotta by the Atlantic Terra Cotta Company.
John Wm. Donohue, Architect.

DETAIL FOR HEARST BUILDING, CHICAGO.
Northwestern Terra Cotta Company, Makers.
James C. Green, Architect.

PALACE OF VERSAILLES.

RECENT excavations have thrown considerable light on the original architecture of the famous palace of Versailles. A number of underground passages dating from the time of Louis XIII, and carefully lined with slabs of stone, have been laid bare. An astonishing fact is that the foundations are very shallow without cellars and laid on a very light and unstable bed of sand. Large underground walls have been discovered also, which do not sustain any weight but which connect and keep in position the various parts of the building. These excavations will shortly be described and discussed by a prominent French architect who claims that he is now able to reconstruct the plans of the original exterior, none of which now remain.

APARTMENT, RIVERSIDE DRIVE, NEW YORK.
Architectural terra cotta furnished by South Amboy Terra Cotta Company.
Rouse & Goldstone, Architects.

TO BEAUTIFY LONDON.

AN ORGANIZED movement has been instituted for the beautification of London through the combined efforts of artists, architects, sculptors, engineers, members of Parliament, citizens, etc. This new organization is called the "London Society." Its motives are to interest Londoners in their own city; to support rather than hinder practical and esthetic schemes; and to add to the existing beauties of London until she becomes artistically worthy of her position as the capital of the world's greatest empire.

WORKS OF ART TO ADORN PANTHEON, PARIS.

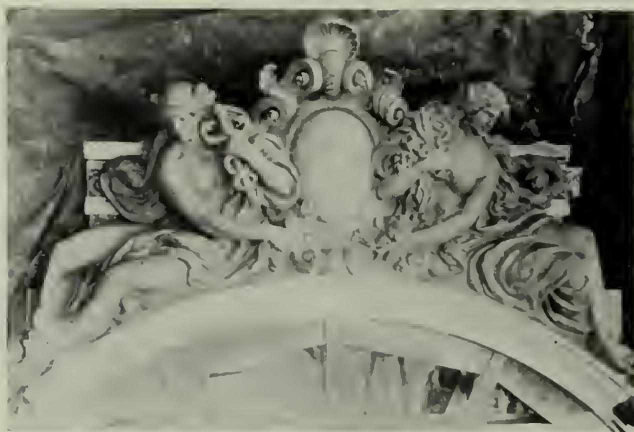
A SERIES of sculptures by prominent French artists will be placed in the Pantheon. The vast empty hall will present an appearance more in keeping with the purpose to which it has been dedicated since the French Revolution. The statues will represent the country's great men.

Rodin will contribute a statue of Victor Hugo. Bartholomé is at work on a monument to Jean-Jacques Rousseau. Injalbert and Segoffin will be represented by figures of Mirabeau and Voltaire. Rodin's group "The Burghers of Calais," a replica of which was recently erected in Calais, will also find a place in the Pantheon. Around the central pillars will be allegorical figures, representing different epochs of art, by other leading sculptors.

THE Villa d'Este, one of the most beautiful in all Italy, will become the Austrian Academy of Fine Arts, conducted on lines similar to those of the French Villa Medici. While this assures us that the magnificence of the Villa will be kept up, we cannot help but regret the fact that it will be practically impossible for visitors to obtain access to this historic and artistic place.

CAPITAL BY JAMES KNOX TAYLOR, ARCHITECT.
Executed by New York Architectural Terra Cotta Company.

THE ancient frescoes by Francesco Bachiacca have been recently discovered in the Palazzo Vecchia at Florence. These frescoes commissioned by the Duke Cosimo Medici have been uncovered and found to be practically as fresh as when first executed by the artist. An excellent fresco of the sixteenth century on the façade of the Municipal Palace, Viterbo, has also come to light as well as a delicately carved window of the twelfth century.



DETAIL, ADOLPHUS HOTEL, DALLAS, TEXAS.
Winkle Terra Cotta Company, Makers.

THE committee in charge of the Francis J. Plym Fellowship in Architecture announces the second competition for the award of this Fellowship. The value of the Fellowship is one thousand dollars providing one year of travel in Europe for the study of architecture. The competition will be held in the months of April and May, 1912, and will be open to all graduates of the Department of Architecture of the University of Illinois who will be under thirty years of age on the first day of June, 1912. Further particulars may be obtained by addressing Professor Frederick M. Mann, Department of Architecture, University of Illinois, Urbana, Ill.

CITY NORMAL SCHOOL, CLEVELAND, OHIO.
Faced with Roman brick made by The Ironclay Brick Company.
Frank S. Barnum, Architect.

TERRA COTTA FOR THE VANDERBILT HOTEL.

THE architectural terra cotta for the Vanderbilt Hotel, New York, Warren & Wetmore, architects, described in this issue, was furnished by the New Jersey Terra Cotta Company.

THE old Continental Hotel at Broadway and 20th street, New York, one of the

GLEN RIDGE VILLAGE STORES, GLEN RIDGE, N. J.
Built of Natco Hollow Tile and faced with brick. Boring & Tilton, Architects.

best known mercantile houses in the city, has been sold and will soon be replaced by a twenty-story loft and office building.

IN GENERAL.

The leading face brick manufacturers of the country met in convention at Chicago, March 8th, and organized the National Face Brick Association, with J. M. Adams of Columbus, Ohio, as president. This organization will be composed exclusively of the manufacturers of face brick. It is the sole purpose of the organization to deal with freight rates, express charges, and other important matters which have to do with the handling of brick from factory to consumer.

The apartment house, Park avenue, New York City, Walter B. Chambers, architect, illustrated on Plate 29 of this issue, was awarded the gold medal for 1911 by the American Institute of Architects.

The bricks used in the body of the Hotel Vanderbilt are French gray in color, the face being veneered on to a buff gray body. No attempt was made to select them according to shade, and as a result a pleasing variety is shown in the walls. In the upper stories white bricks were used in connection with the terra cotta. On the westerly walls two panels extending about fifteen stories were constructed entirely in headers of the gray shade. The bricks were furnished by Carter, Black & Ayers, of New York.

The New York Architectural Terra Cotta Company will furnish dark limestone terra cotta for the new twenty-story store and loft building to be erected at the corner of 26th street and Fourth avenue, New York, Neville & Bagge, architects.

C. C. Tallman, architect, has opened an office at 17 Dill street, Auburn, N. Y., and would be glad to receive manufacturers' catalogues and samples.

It is proposed by the Philadelphia Chapter, A. I. A., to invite persons of authority to address the Chapter on real estate investments, settlements, mortgages, transfers, lien laws, insurance, and other related subjects, — the purpose being to establish a closer relationship between architect and owner.

HOUSE AT CHICAGO.
Roofed with Green Tile made by Ludowici-Celadon Company.
W. C. Zimmerman, Architect.

The Second Annual Architectural and Engineering Exhibition, which was to have been held in New York, March 25th to 30th, has been merged, and will be held in conjunction with the New York Fire Exposition and International Conference, which will be held in the Seventy-first Regiment Armory, New York City, October 2d to 12th.

The Western Brick Company, Danville, Ill., has issued an attractive booklet in which they treat of the product of their plant, which is said to be the largest brick plant in the world. Supplementing this booklet are twenty illustrations — post-card size — of prominent buildings in which their brick have been used. The whole work is very attractively gotten up.

The Fourth Annual Convention of the Texas State Association of Architects was

PASSENGER STATION FOR N. Y. C. & H. R. R., HASTINGS-ON-HUDSON, N. Y.
Built of Tapestry Bricks manufactured by Fiske & Co., Inc.
Reed & Stem, Architects.

held at Forth Worth, November 13th to 15th. The association has issued a printed report of its proceedings, and also a pamphlet in which architectural competitions are dealt with. The secretary of the association is E. Stanley Field, Fort Worth, Texas.

DETAIL BY FRANK G. PIERSON, ARCHITECT.
O. W. Ketcham Terra Cotta Works, Makers.

Cunningham & Politeo, architects, San Francisco, announce the removal of their offices to the First National Bank Building, San Francisco.

Building operations of Chicago for 1911 broke all previous records. The number of buildings erected was 11,106, having a frontage of 299,032 feet, costing $105,269,700.

The tile used upon the exterior and interior of the house at Brookline, illustrated on Plate 42, was furnished by the Grueby Faience & Tile Company.

School of Architecture

HARVARD UNIVERSITY

Summer Courses in Architectural Design

For circular giving details with regard to these courses, apply to Professor H. L. Warren, Chairman of the Department of Architecture, Harvard University.

OLD PARIS

ITS BUILDINGS AND THEIR DETAILS

Edited by
EGON AND WALDEMAR HESSLING

Second Série: Early Renaissance (Style Louis XII and Francis I) with a study of the Chateau de Gaillon and the Maison François I de Moret.

Façades, entrances, windows, cornices and beautiful details of carved stone work: pilasters, friezes, panels, etc.

60 plates of illustrations in heliotype
Descriptive illustrated text in French or German
One volume, in portfolio, size 13 x 16½ inches. $20.00

THE BRUNO HESSLING COMPANY
64 East 12th Street, NEW YORK, N. Y.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. **New York**
Philadelphia **Boston**

"TAPESTRY" BRICK

TRADE MARK — REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Prides Crossing, Mass. Plates 33, 34
GEORGE C. WALES, Architect.

House at Beverly Farms, Mass. Plates 37–40
PARKER, THOMAS & RICE, Architects.

Two Restaurants at Newark, N. J. Plate 41
HUGHES & BACKOFF, Architects.

Passenger Station at Hastings-on-Hudson, N. Y. Page 87
REED & STEM, Architects.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS

25 Arch St., Boston **Arena Building, New York**

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.

Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — APRIL 1912 — NUMBER 4

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

ANDREWS, JAQUES & RANTOUL; GROSVENOR ATTERBURY; J. E. R. CARPENTER; HARRY CREIGHTON INGALLS AND F. BURRALL HOFFMAN, JR.; MAURAN, RUSSELL & CROWELL; ALBERT PRETZINGER; MATTHEW SULLIVAN.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

HOSPITAL AT GUADALAJARA, MEXICO.

THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN

BY HUBERT G. RIPLEY.

IV.

"IN THAT large and noble city of the Greeks, Ephesus," says Virtruvius in one of his Proems on ethical culture as practised in former times, "an old law, it is said, was established by the ancients; of which the conditions were severe, but not unjust: for the architect, when he received the charge of a public building, was obliged to deliver an estimate of the expense, and assign over his goods to the magistrates, till the work should be completed. This done, when the expense agreed with the estimate, he was rewarded with decrees and honors; also, if no greater sum than a fourth part more was expended in the works, it was added to the estimate, and supplied by the public; nor was any penalty incurred: but when more than a fourth was expended, his goods were seized, to make up the sum. I wish, to the immortal gods, that this law were established among the Roman people, not only in public but also in private edifices, that the unskilful might not commit impositions with impunity: for those only who are skilled in the knowledge of the art, and are without doubt really professors of architecture, should be employed; nor be suffered to lead fathers of families into profuse expenses, but be driven from among the good: and that architects themselves, from the fear of losing their property, might be obliged to be more careful in making their estimates; so that proprietors might, with what they had prepared, or a little more, discharge the cost of building. For those who can provide four hundred will cheerfully add another hundred; but if they be encumbered with the addition of one half, or more, they lose hopes; and becoming dispirited with the expense, and loss of their property, are forced to desist."

FIG. XI.

Rhododaphne's Temple in the sacred grove of Ladon, originally designed by Petrolius of Napthos, of which only the encarpi have lasted to the present day.

If the above, taken in connection with the following incidents which we shall presently relate, collated with scrupulous accuracy and painstaking exactitude, give additional zest to the student's survey of Hellenic Art, "a correcter and deeper insight into the private life, a look, as it were, behind the *postscenia* of a people whose public virtues and vices we are too apt to pronounce judgment on with reference solely to the universal history of the world and of nations" (to quote the words of Böttiger), we shall feel more than repaid for the long hours of nocturnal study and systematic research, necessary in a work of this character, and an enviable result will have been obtained.

That the Athenian was a creature of impulse, pullulating with nature and vivacity, clear of wit, strong and virile, studious as by intuition, quick to seize whatever advantage the occasion offered, has been proved many times. Oratory, even in those days, was sometimes the deciding factor in carrying out important architectural schemes. Omar aptly says, "A hair perhaps divides the False and True"; and this slender thread, this tenuous filament, sensitive to the slightest breeze, capable of being wafted hither and yon by the merest zephyr, a trifle light as hair in fact, may be sufficient to turn the scales. Undoubtedly, Æsophagus, the orator architect, justly renowned for his charming little Temple of the Winds, would never have been awarded first place in the competition for that building, had he not had such a magnificent flow of words, such an eloquent command of language, such skill in delectable insinuation, that the jury just had to give him the prize as the only logical solution of a perplexing situation.

You see while this, strictly speaking, was not a big competition, many able architects competed for it, including such men as Argelius, whose monograph on the Corinthian order is still, even in these days, regarded as a masterpiece of romantic imagery; Epimachus, the wealthy Athenian architect, who had over sixty draftsmen in his office and important work under construction aggregating over one hundred talents; Syrophœnix, whose specialty was pergolas and palestræ (it was from Syrophœnix, offices, by the way, that Phryne came; she was his private stenographer and very rapid, and it almost broke Syrophœnix's heart when she left); and Anthemion the Ladon, a young man of great promise and a fine judge of Chian, who afterwards went into partnership with Acroterius and won first prize in the competition for the Portico Heptaphonos. Besides the above, many less eminent men such as Nexaris, Theocydes, Demophilos, Petrolius of Napthos, Pollis, Leonides, Silanion, Melampus, Sarnacus, and Euphranor submitted sketches.*

Æsophagus got the jump on them all, though, by sending in a set of charmingly rendered drawings on papyrus, with a stylus perspective on a large wax tablet, and a description traced with the purest Athenian characters in iambic pentameter. This description he insisted on reading himself to the jury in a beautifully modulated voice with appropriate gestures, and at times with dramatic fervor. As the reading went on and the text called for it, he became completely carried away with his own eloquence and the noble sound of the sonorous Greek labials and stertorous aspirates; now soft and low, like the crooning of the summer waves lapping the smooth pebbles of the Arcadian shore, now full and strong, soaring to Parnassan heights like the majestic eagles of Mount Pentelicus, again keen and swift with telling effect, like the javelins of the Spartan hoplites.

The jury sat as if spellbound. The professional advisor became hot and cold by turns, and great beads of perspiration stood out on his forehead and rolled unheeded down his neck inside his chiton. Slowly the eloquence worked its magic spell until the listeners began to grow numb around the hips, and as the peroration ended the buzzing of a fly seemed like a brutal interruption to the hushed silence that for a moment greeted the orator. Then with husky voice, surcharged with emotion, the chairman put the question. With one accord the jury shouted "*Io pæan Æsophagus!*" while outside Argelius, Epimachus, Syrophœnix and the others gritted their teeth, bit their nails to the quick, and consigned Æsophagus to the Erinnys, or the remotest estuaries of the Styx, preparatory to unfolding their faces and greeting the winner with hollow sounding congratulations.

Virtruvius relates an incident of somewhat later date concerning the rise to fame of the talented and trusted architect of Alexander the Great.

"At the time that Alexander was conquering the world, Dinocrates, the architect, confiding in his knowledge and genius, and being desirous of obtaining the royal commendation, left Macedon, and repaired to the army. He carried with him letters from his relations and friends in his own country, to the nobles of the first rank, that he might thereby more easily gain access. Being favorably received, he requested to be immediately presented to Alexander; they gave him many promises, but made delays, pretending to wait till a proper opportunity should offer. Dinocrates, therefore, suspecting that he was derided, sought the remedy from himself. He was very large of stature, had an agreeable countenance, and a dignity in his form and deportment. Trusting to these gifts of nature, he clothed himself in the habit of an host,† anointed his body with oil, crowned his head with boughs of poplar, put a lion's skin over his left shoulder, and holding one of the claws in his right hand, approached the tribunal where the king was administering justice. The novelty of the appearance, attracting the notice of the people, occasioned Alexander also to see him, who, wondering at the sight, commanded way to be given, that he might approach. Alexander then demanded who he was; Dinocrates replied, 'I am a Macedonian architect, who comes to thee with ideas and designs, worthy of the greatness of thy fame; I have formed a design to cut Mount Athos into the statue of a man, in whose left hand shall be a large city, and in his right, a basin, which shall receive all the rivers of the mountain, and again discharge them to the sea.' Alexander, delighted with the idea, immediately inquired if the country adjacent would produce sufficient food for the sustenance of the inhabitants. When he understood that

FIG. XII.

Philo's scheme for the port of Rhodes partially restored by Potage Condé, showing the ruins of the Portico Heptaphonos in the foreground.

* *cf. Charondas, apud Stob. Tit. XLIV 40.*

† *Glad rags.*

provision must be conveyed thither by sea, he replied: 'Dinocrates, I discern the excellence of thy design, and am pleased with it; but I consider that whoever should establish a colony in such a place would hereafter be justly blamed; for, as a new-born infant cannot be nourished, or gradually reared to the different stages of life, without the milk of the nurse, so neither can a city be peopled, nor can it thrive, without fertile land and plenty of provision; however, as I approve the design, though I disapprove the place, I will have thee attend me, that elsewhere I may employ thee.' From that time, Dinocrates remained with the king, and attended him into Egypt. There Alexander, observing a spot which had an haven formed secure by nature, an excellent place for an emporium, the adjacent country through all Egypt being fruitful, and having the accommodation of the river Nile, ordered him to build the city now called from his name Alexandria. Thus, by the means of a graceful countenance and dignity of person, Dinocrates became eminent."

It is not wise, therefore, to rely wholly upon sheer merit in design for winning competitions, nor are accidental and extraneous aids, adventitious and factitious accessories to be despised. While the Hellenic architect seemed to have a uberous pantechnicon of panurgy stored within his bean, and from the ends of his facile fingers flowed a continuous stream of chaste and gracious details — "a happy dilitescency" of ideas — he did not disdain on occasion, when an important commission was at stake, to go into cahoots with some gifted wordsmith.

Omnes declinant ad ea quae luera ministrant
Utque scient, discunt pauci plures ut abundent,
Sic te prostituunt, O virgo Scientia, Sic te.
Venalem faciunt, castis amplexibus aptam,
Non propter te querenter, sed lucra pro te;
Ditarique volunt potius quem philosophari.—*Ovid de Vetula*

FIG. XIII.

Perspective study taken from the competitive drawings submitted by Euphranor for the Acropolis of Alabanda in Caria. See Figs. XIV and XV for further studies of this same Acropolis.

Let us digress for a moment and again quote Virtruvius to make brief mention of that charming little idyl concerning the three fundamental orders of great architecture. Most writers prefer a more sesquipedalian explanation of the development of style, when right at hand, at the fountain head, so to speak, we have all the data needed presented in a simple straightforward manner, which is in substance as follows:

"From the formation of the three kinds of columns, arise the denominations, Doric, Ionic, and Corinthian; of which the most ancient and first invented is the Doric; for, when Dorus, the sun of Hellenus and the nymph Opticos, reigned over all Achaia and Peloponnesus, the temple of Juno, in the ancient city of Argos, was erected and this order happened to be used in the fane. The same order was also used in the other cities of Achaia, before the laws of its symmetry were established.

"Afterward, when the Athenians, according to the responses of Apollo of Delphos, and the common consent of all Greece, transplanted, at one time, thirteen colonies into Asia, appointing to every colony a leader, they gave the chief command to Ion, the son of Xuthus and Creusa, whom also the Delphian Apollo acknowledged for his son. These colonies he conducted to Asia, seized on the territory of Caria, and there founded many large cities, as Ephesus, Miletus, Myunta (which last was formerly overflown with water, and its rites and privileges, by Ion, transferred to the Milesians), Priene, Samos, Teos, Colophon, Chios, Erythræ, Phocis, Clazomenaw, Lebedus, and Melite. This latter, on account of the arrogance of the citizens, was destroyed in the war declared against it, by the unanimous determination of the other cities, and, in its place, by the favor of King Attalus and Arsinoe, the city of Smyrna was received amongst the Ionians. When these cities extirpated the Carians and Leleges, they, from their leader Ion, called that territory Ionia.

"There they began to erect fanes, and constitute temples to the immortal gods. First, they erected the temple of Apollo Panionios, in the manner they had seen it in Achaia; which manner they called Doric, because they had seen it first used in the Dorian cities. In this temple they were desirous of using columns; but being ignorant of their symmetry, and of the proportions necessary to enable them to sustain the weight, and give them a handsome appearance, they measured the human foot, and finding the foot of a man to be the sixth part of his height, they gave that proportion to their columns, making the thickness of the shaft at the base equal to the sixth part of the height, including the capital. Thus the Doric columns, having the proportion, firmness, and beauty of the human body, first began to be used in buildings.

"Afterward, to construct the temple of Diana, they sought a new order from the same traces, copying the gracefulness of women, and making the thickness of the columns an eighth part of their height, in order to give them a taller appearance. The folds of the base they designed for the shoe; the volutes of the capital for the tresses of hair, drooping to the right and left; the cymatium and encarpi, for the locks disposed to ornament the forehead; and the channels of the shaft for the plaits of the matrons' garments. Thus arose the invention of these two different orders: one of a masculine appearance, naked and unadorned; the other imitating the slenderness and fine proportion of women. But posterity, improving in ingenuity and judgment, and delighting in more graceful proportions, fixed the height of Doric columns at seven times their diameter; and of the Ionic, at eight and a half. This latter order was called Ionic, because it was first used by Ion.

FIG. XIV.

"The rose and myrtle blend in beauty round Thespian love's hypæthric fane;"—Temple midway between the Pynx and the Agora, Acropolis of Alabanda.

"The third, which is called Corinthian, is in imitation of the delicacy of virgins; for, in that tender age, the limbs are formed more slender, and are more graceful in attire. The capital is reported to have been thus invented: A Corinthian maid, just marriageable, being seized with a disorder, died: after her interment, her nurse collected, and disposed in a basket, the toys which pleased her when alive, carried it to the tomb, placed it on the top, and, that it might endure the longer in the open air, covered it with a tyle. The basket chanced to be placed over the root of an acanthus, which, being thus depressed in the middle, the leaves and stalks, in the spring season, issued outward, and grew round the sides of the basket; and, being pressed by the weight at the angles of the tyle, were made to convolve at the extremities, like volutes. At that time Callimachus, who, for his ingenuity and excellence in the arts, was, by the Athenians, named Catatechnos, happening to pass by this tomb, took notice of the basket, and being pleased with the delicacy of the foliage growing around it, as well as the novelty of the form, made some columns near Corinth, according to this model, and from thence established the symmetry and determined the proportions of the Corinthian order."

In those days, even as now, the truly great architects did not fear to employ the very best talent wherever they might find it, and the most competent draftsmen were left free to develop the personal equation. The Romans slipped it over the Greeks a little bit in executive ability, and their offices, often with as many as two and three hundred draftsmen burning the midnight oil for weeks on a stretch, were excellently equipped for competitions of every character. These draftsmen were culled from every known corner of the civilized and uncivilized world. Here really for the first time in history there might be seen, peacefully working side by side on the same drawing board and stealing each others' thumbtacks, the bellicose inhabitant of Taurica Chersonesus, and the olive-skinned hematherm of Libya Occidentalis.

The limits of a magazine article necessarily involve certain Procrustian operations not binding on the pragmatical reflections of philosophical historians. Greece being divided into many small states, each having customs and habits peculiar to itself, it would be manifestly impossible to do justice to them all, and we can but indicate in a general way the trend of ideas, touching lightly here and there on some salient point. For fuller and more complete information we would refer the reader to Theophrastus, Strabo, Athanæus, Aelian, Diogenes, Laertius, Dio Chrysostom, Philostratus, and even Alciphron and Artemidorus, in addition to others already mentioned. To be really appreciated all these authors should be read only in the original tongue, otherwise the true spirit of these times, the delicate nuances and subtle blendings of the Attic *timbre* will be lost, and it will be difficult to form a just estimate of "A people who conceived all that was beautiful in art and profound in philosophy; who became the instructress of all sciences and arts; the teacher of her own times and posterity."

FIG. XV.

The port of Alabanda, showing how the sea formerly extended far inland.

Design for a Heating and Ventilating System for an Eight-Room School Building.

CHARLES L. HUBBARD.

THE first two articles in the present series on Schoolhouse Ventilation have dealt with the subject in a general way, showing how to decide upon a system to meet the local conditions in any particular case, and giving simple rules and formulæ for determining the size of different parts of the heating and ventilating apparatus. In the present article an actual problem will be worked out in detail by the methods already given, showing the way of preparing the plans and specifications for obtaining competitive bids.

General Scheme. An eight-room building has been chosen, of the general form shown in Figs I, II, and III. The system employed uses a centrifugal fan for the air supply, while the discharge ventilation is by gravity flow assisted by the slight pressure in the rooms due to the fan. The class rooms are heated by means of supplementary heaters or stacks placed in the airways at the bases of the fresh-air flues. Small rooms and entrance corridors are provided with direct radiators. The main corridor on the first floor has two foot-warmers, the same being connected with the fan, which provide fresh air for both the lower and upper corridors. Basement toilets and corridors are heated by means of overhead circulation coils hung about 18 inches from the ceiling.

Plans. The heating plans are best worked out in connection with the architect's regular ¼-inch scale floor plans, starting them before partitions are permanently fixed, so that minor changes required for the best arrangement of flues, heating chambers, boiler and coal rooms, etc., may be settled upon and incorporated in the architect's drawings. Tracings are made from the regular floor plans, leaving out all dimensions and architectural details which do not concern the heating system, as these add needlessly to the cost of the drawings and are apt to be more or less confusing to the steam fitter. It is necessary in laying out a heating system that the draftsman have at hand a set of the architect's plans containing many of the details of construction in order to avoid conflict with other parts of the work, but it is not necessary to incorporate these details in the heating plans themselves. The simplicity of these plans, so far as architectural features are concerned, are evident in Figs. I, II, and III. The best scale for the floor plans is ¼ inch to the foot. Sometimes in case of large buildings ⅛ inch to the foot is large enough for the upper floors, but basement plans should never be less than the larger size as there should be ample room for all dimensions and notes without interfering with the details of the system. Small sections, elevations, etc., showing various details of construction, are very useful to the fitter and often save much annoyance to both architect and contractor. These may be made either ¼ inch, ⅜ inch, or ½ inch to the foot, according to the amount of detail to be shown.

Order of Design. All of the more important computations should be made before the plans are commenced. These include the following and may well be worked out in about the order given. Air supply to each room, total air supply, size and speed of fan, power of motor or engine, size of supply flues, size of vent flues, size of main or primary heater, size of secondary heater for each class room, size of direct radiators and coils for remaining rooms, boiler power, boiler dimensions, and details. Sizes of air connections between the fan and the uptake flues and the steam and return piping cannot be determined until after they have been located and drawn in.

Computations. The various computations noted above will now be worked out by the general methods given in the two preceding articles.

Air Supply. Fresh air is to be supplied to eight class rooms and two corridors. Counting the two corridors equivalent to one class room, and allowing 2,000 cubic feet of air per minute per room (fifty pupils at 40 cubic feet each), gives a total of $2,000 \times 9 = 18,000$ cubic feet of air per minute, which we will call 20,000 in round numbers.

Fan and Engine. Looking in Table 1 of the second article in this series, it is found that a 6-foot fan running at a speed of 200 revolutions per minute will deliver 20,800 cubic feet of air under the average resistance found in this class of work, and is the size to be used in the present case.

The power required for driving the fan at this speed is given by the same table as 10 horse power. As it is desired to return the condensation to the boilers by gravity, without the use of pumps, the radiators must be supplied with steam at boiler pressure, which should not exceed 15 pounds per square inch. This pressure calls for an engine having a cylinder 15 inches in diameter, with 8-inch stroke, and running at 250 revolutions per minute. A horizontal belted engine is to be used, with a pulley ratio of $250 : 200 = 1.25$ to give the proper speed to the fan. The fan foundation should extend about 4 inches beyond the base on all sides and be 16 inches deep for a solid earth footing. The engine foundation should be 32 inches in depth.

Supply Flues. Allowing a velocity of 600 feet per minute in the supply flues to the class rooms, it calls for an area of $2,000 \div 600 = 3.33$ square feet, which will be taken in whole numbers as 3, thus giving a slightly higher velocity which is easily allowable. The maximum velocity through the registers should not exceed 400 feet per minute, which fixes the minimum area in the present case as $2,000 \div 400 = 5$ square feet. The actual dimensions used are $18'' \times 24''$ for the flues, and $24'' \times 30''$ for the registers or grilles.

Vent Flues. The area of the vent flues in a fan system should be approximately 5/3 that of the supply flues, which is 5 square feet in this case. Making the smaller dimension 18 inches, this calls for a flue $\frac{5 \times 144}{18} = 40$ inches in length. The area of the grille may be made $18'' \times 40''$.

Main Heater. This is computed by the formula, $S = \frac{C \times 1.3}{1500}$, in which C is the cubic feet of air per hour to be raised from a temperature of 0 to 70 degrees, and S the square feet of radiating surface required in the main heater.

Substituting the value of C in the above we have, $S = \frac{(20,000 \times 60) \times 1.3}{1500} = 1,040$ square feet. If pin radiators are used, rated at 15 square feet per section, $\frac{1040}{15} = 70$ sections will be required. The heater is divided into six separately valved groups or sections, with two of them so arranged that either live or exhaust steam from the engine may be used in them.

Heat Loss. The next step is to compute the net outside wall and window surface for all of the rooms to be heated. The dimensions may be scaled directly from the drawings with sufficient accuracy if reasonable care is taken. The

The second floor is a duplicate of the first, except the entrances No. 5 and No. 10 are replaced by the stairways and supply rooms No. 14 and No. 19. The wall and window surfaces of the stairways are included in those of the entrances below, and all of the radiating surface placed on the first floor. This leaves the stair landings free from radiators and gives equally good results, as the warm air will rise readily to the upper floor through the stair wells. The entrance radiators are supplemented by the foot-warmers, which also help warm the stairways and overcome cold drafts from the outside doors. No special air supply is provided for the upper corridor, the full amount for both floors being supplied to the lower rooms and the

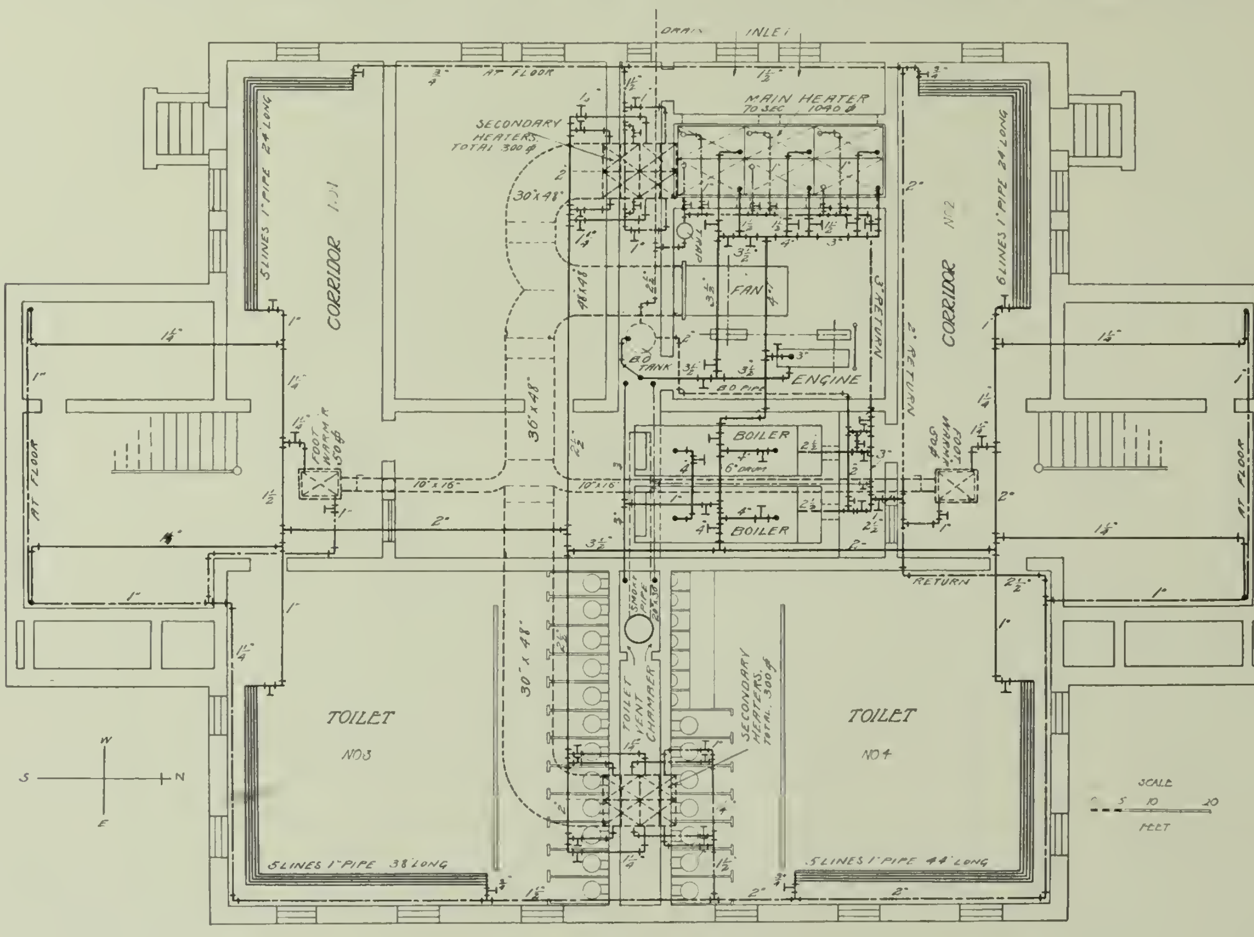


FIG. 1.

rooms should first be numbered and a corresponding list made with the computed wall and glass surface placed after each, as follows:

	Room No.		Wall, Square Feet.	Glass, Square Feet.
Basement Floor	1	Corridor	120	30
	2	Corridor	120	30
	3	Toilet	200	50
	4	Toilet	200	50
First Floor	5	Entrance	350	110
	6	Office	230	40
	7	Class Room	460	200
	8	Class Room	460	200
	9	Teachers'	230	40
	10	Entrance	350	110
	11	Corridor	0	0
	12	Class Room	460	200
	13	Class Room	460	200

stairways being depended upon to carry the fresh air to the upper story.

Heating Surface. The following ratios are used in computing the heating surfaces. Basement rooms with overhead coils: wall 1 to 8, glass 1 to 3, and increase forty per cent on account of their location near ceiling. Direct cast-iron radiators in entrances and small rooms: wall 1 to 8, glass 1 to 3. Class rooms having secondary heaters as base of flues: wall 1 to 20, glass 1 to 5.

Two foot-warmers are used of 50 square feet each, the total being slightly larger than for a single class room.

The heating surfaces are increased by the following factors for exposure:

Exposure of Room.	Increase, per cent.	Exposure of Room.	Increase, per cent.
S. W.	10	N. E.	22
N. W.	30	S. E.	6

Following are the type and quantity of radiating surfaces for each room figured on the above basis and corrected for exposure :

	Room No.	Type of Radiators.	Square Feet of Surface.
Basement Floor	1	Ceiling Coil	40
	2	Ceiling Coil	46
	3	Ceiling Coil	63
	4	Ceiling Coil	73
First Floor	5	Cast-iron Radiator	85
	6	Cast-iron Radiator	47
	7	Secondary Heater	70
	8	Secondary Heater	82
	9	Cast-iron Radiator	56
	10	Cast-iron Radiator	98
	11	Foot-warmers (2)	100
	12	Secondary Heater	67
	13	Secondary Heater	77

under them. There will actually be a somewhat greater heat loss from the second-story rooms due to the cold attic above, but usually the heat rising from the lower part of the building is sufficient to offset this unless the roof is very poorly constructed. In the present case no allowance has been made.

Boiler Power. This is computed by the formula

$$\text{H.-P.} = \frac{(M \times 1{,}500) + (S \times 400) + (C \times 300) + (R \times 250)}{30{,}000}$$

in which,

M = square feet of surface in main heater.
S = square feet of surface in secondary heaters.
C = square feet of surface in coils.
R = square feet of surface in cast-iron radiators.

This gives

$$\text{H.-P.} = \frac{(1{,}040 \times 1{,}500) + (692 \times 400) + (222 \times 300) + (486 \times 250)}{30{,}000}$$

= 67. Two 48-inch tubular boilers are used, each having

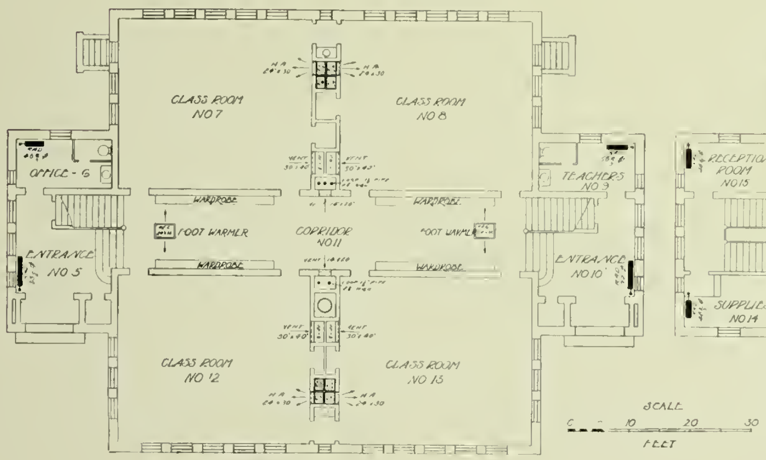


FIG. II.

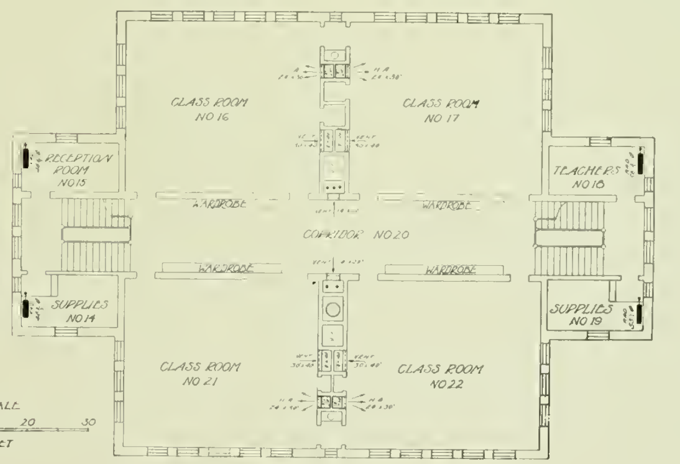


FIG. III.

forty-four 3-inch tubes, 12 feet long, and rated at 35 horse-power. These call for grates 42″ × 54″ each, and a smoke connection with the chimney of 640 square inches for the two boilers.

	Room No.	Type of Radiators.	Square Feet of Surface.
Second Floor	14	Cast-iron Radiator	45
	15	Cast-iron Radiator	47
	16	Secondary Heater	70
	17	Secondary Heater	82
	18	Cast-iron Radiator	56
	19	Cast-iron Radiator	52
	20	No Radiators.	
	21	Secondary Heater	67
	22	Secondary Heater	77

Overhead Coils. These are made up of 1-inch pipe which requires 3 linear feet per square foot of heating surface, and gives the following coil dimensions for the basement rooms : No. 1, 5 lines 24 feet long ; No. 2, 6 lines 24 feet long ; No. 3, 5 lines 38 feet long ; No. 4, 5 lines 44 feet long.

Direct Radiators. Two-column radiators 32 inches high are used in the small rooms, and the heating surface is changed slightly on the drawings from the preceding schedule as it is of course necessary to use a whole number of sections. Three-column radiators are used in the entrances in order to reduce the length.

Secondary Heaters. These are made up of pin radiators rated at 10 square feet each, and therefore the heating surfaces for the different rooms must be multiples of 10. This gives for the various class rooms the following : No. 7, 70 square feet ; No. 8, 80 square feet ; No. 12, 70 square feet ; No. 13, 80 square feet. The heaters for the second-floor class rooms will be the same as for those directly

Steam and Return Piping. The steam piping is indicated in heavy full lines and the returns in broken lines. The latter are carried near the basement floor in order to seal them, and the condensation flows back to the boilers by gravity. The pipes are carried along outside walls and inside partitions in order to avoid trenching.

The pipe sizes are based on the following tables :

MAIN HEATER.

Square Feet.	Steam Pipe.	Return Pipe.
150	2″	1¼″
300	2½″	1½″
500	3″	2″
700	3½″	2″
1000	4″	2½″
2000	5″	3″

SECONDARY HEATERS.

Square Feet.	Steam Pipe.
40	1″
70	1¼″
100	1½″
260	2″
480	2½″
800	3″
1100	3½″

DIRECT RADIATION.

Square Feet.	Steam Pipe.
80	1″
150	1¼″
200	1½″
550	2″
950	2½″
1600	3″
2300	3½″

SIZES OF RETURNS.

Steam Pipe.	Dry Return.	Sealed Return.
1″	1″	¾″
1¼″	1″	1″
1½″	1¼″	1″
2″	1½″	1¼″
2½″	2″	1½″
3″	2½″	2″
3½″	2½″	2″

The piping is first laid out without regard to size, then the square feet of radiation of different kinds on each branch and main is added up and noted in pencil on the drawing. The corresponding pipe size from the tables is then put down in ink and the pencil figures erased. When there are both secondary heaters and direct radiators on the same line it simplifies matters to call each square foot of secondary or indirect radiation equivalent to two of direct and treat the whole system as direct radiation in determining the pipe sizes.

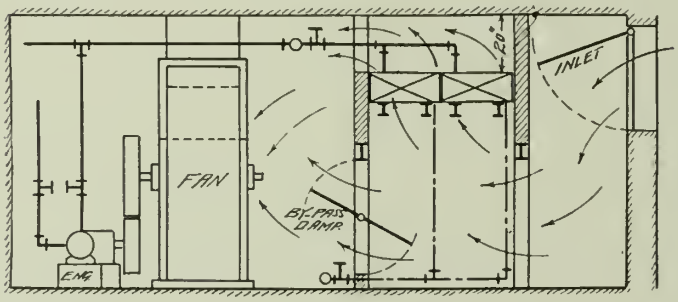


FIG. IV.

Section through fan and heater rooms.

The main heater is always placed on an independent line of piping and all computations are worked out separately.

Basement Airways. The connections between the fan and the uptakes to the rooms are laid out by first drawing in the center lines in pencil, then determining the volume of air which is to flow through each main and branch and computing the sectional area according to the velocities given below:

Trunk lines, 1,000 feet per min. Branches, 700 feet per min.

The flow through the airways is equalized by the use of deflecting dampers at the junctions so that the right proportion can be delivered to each flue.

Toilet Ventilation. The toilet fixtures are connected by means of local vents with a closed chamber which in turn connects with a brick flue surrounding the iron boiler stack. This heats the flue sufficiently to produce a strong draft without the use of vent fans.

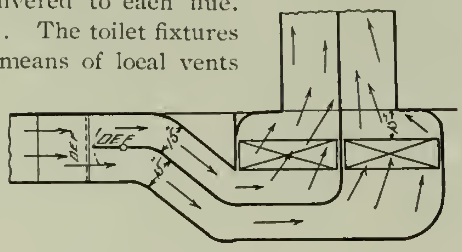


FIG. V.

Sectional elevation of secondary heaters and casing.

Coat Room Vents. The wardrobes in this building are located in the main corridors as shown in Figs. II and III. These are vented through grilles at the center on each side of the corridor into brick flues heated by loops of steam pipe.

General Directions. In laying out a system of heating and ventilation it is neither convenient nor necessary to be exact in all cases. That is, heating surfaces must often be changed slightly to conform with the type of radiator used; boilers of stock size must be employed; air ducts are not always changed in size every time a branch is taken off, etc. In making these changes, however, the designer should always keep on the side of safety, by using the next larger size, unless the reduction is very small. The accompanying plans show the usual method of representing a system of this kind, and a following article will give specifications for the same.

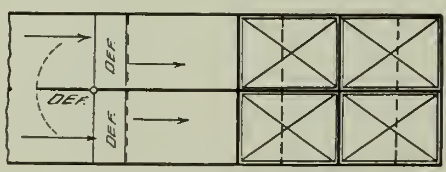
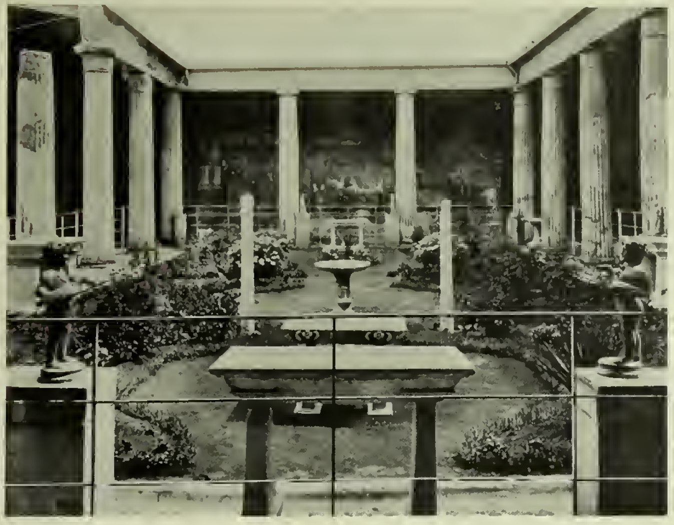


FIG. VI.

Plan view of group of secondary heaters and casing.

MEYER ARCADE, MINNEAPOLIS, MINN. WILLIAM M. KENYON, ARCHITECT.



THE COURT. HOUSE OF THE VETII, POMPEII. WALL DECORATIONS.

Distinguished Architecture as a Precedent.—II.

C. HOWARD WALKER

THE forms of the architecture of Rome were derived from the Greek orders, as far as columns and entablatures are concerned,—but there appeared early in Roman work a constructive factor which revolutionized design.

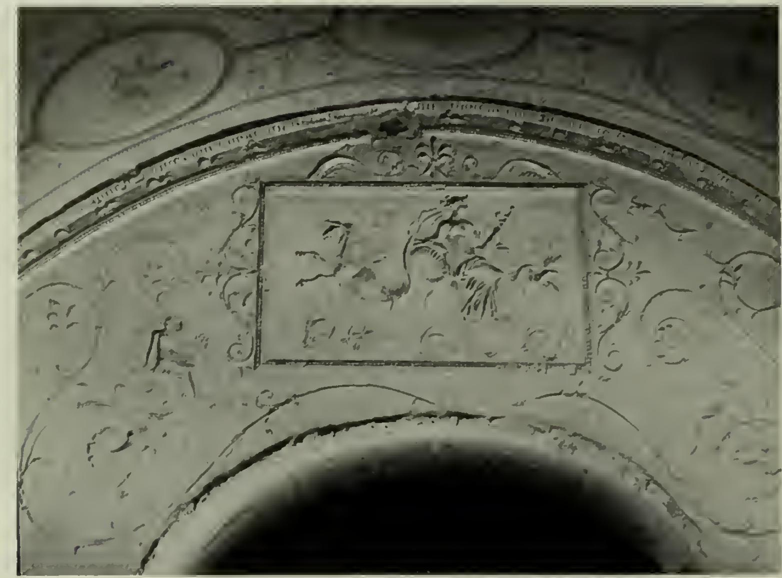
The semicircular arch at once permitted larger spans between supports than occurred with the lintel, and the arch, when used, tended to destroy the regular intercolumniation of colonnades.

The arch introduced into architectural design at a large scale the element of the curved line which had previously occurred only in details, and soon made that line the dominant motive of the design. A circle is the most conspicuous of all geometric motives and the semicircular arch became the most conspicuous factor in Roman architecture. Coincident with the opportunity to enlarge spans and areas offered by the use of the arch came the necessity for more spacious buildings to accommodate larger masses of people. The arch made possible the great baths of Caracalla and of Diocletian, the palaces on the Palatine Hill, the so-called Basilica of Constantine, and the villa of Hadrian, and while the temples in the Forum maintained the tradition of the colonnade with lintels, that was associated with the temples of the past; and just as the modern ecclesiastical work maintains its architectural traditions, so the secular and civic buildings, mausoleums, etc., were designed with the arch as the chief structural motive.

ARCH OF CONSTANTINE, ROME.

The harmony of the formal repetition of one motive was so inherent in classic design in Greece, that no change in method was considered by Rome, and the arches were with few exceptions, one of which is the Arch of Constantine, the same size in any one structure — variation in the sizes of arches appearing in the decline of the arts in the reign of Diocletian. Previous to that time large openings were spanned by similar arches, while the necessary smaller openings retained the lintels, and were of minor importance.

The composition of the façades of Roman secular buildings became, therefore, one of combinations of piers and arched openings, on one, two, or more stories—and the columns and entablatures were often used as mere frames enclosing the spaces containing the arched openings. The arcade in which the arches sprung from the abaci of the columns was of a later development and appears in Spalato. The fact that the columns and entablatures had become ornamental features unnecessary as structure has caused severe criticism of Roman design amongst the



STUCCO TREATMENT, TOMB IN THE VIA LATINA, ROME.

DETAIL OF COLOSSEUM, ROME.

DETAIL OF THEATRE OF MARCELLUS, ROME.

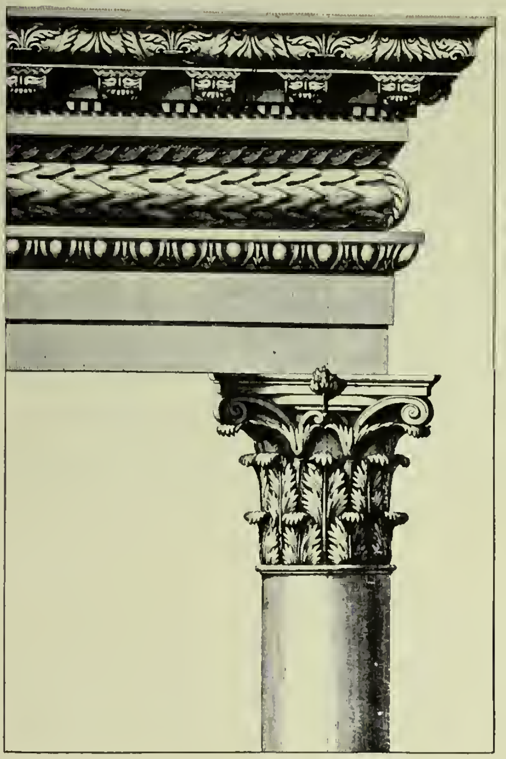
purists — who claim that Roman architecture was not only veneered upon its surfaces — but had a veneered apparent structure placed upon the face of its actual structure.

The use of the circle in the plan as well as in the elevation was constantly more frequent until it reaches its height in the time of Hadrian, when circular buildings became almost a fashion.

Arched structure prolonged produced the barrel vault, and whirled about a circular plan produced the domical vault, and both became factors in design — inside and outside. Both were divided into compartments or caissons or panels to lighten the material, and later the panels were fused and ribs used. In the Greek ceilings the panels produced by the beams were rectangular. The Roman caissons were of various geometrical designs, often of great interest. They varied in depth and formed backgrounds for applied ornament. The polychromy of the Greeks upon the exterior of the buildings had largely disappeared by the third century B.C., and the decoration of surfaces and mouldings by carving had taken its place with the Romans. The painting of surfaces between structural factors is evidenced in the House of Germanicus on the Palatine and in Pompeii, as shown in the illustration of the House of the Vetii, and the use of marbles of various colors increased as the luxury of Rome grew. Except in the less important buildings the color of materials — bronze, gold, and colored marbles — took the place of painting, and it is in the use of marble mosaics in tesseræ or small fragments in floors, and marble veneers in large sheets and borders upon walls, that Roman design is suggestive. In all cases the design conformed to the scale of the building. In the huge halls of the baths, etc., the panels were ample, simple, and broad — while in the small domestic rooms of the villas, the ornament was delicate and small in scale. See the illustration of a decorated wall from Pompeii in its harmonious design and richness.

DECORATED WALL SURFACE, POMPEII.

A method of obtaining low relief by applying stucco with a brush — which is best seen in the tombs in the Via Flaminia and the Via Latina — was soon imitated in low relief carving as shown in the illustration. The decorated keystone in the arch is a new motive, and seems to have

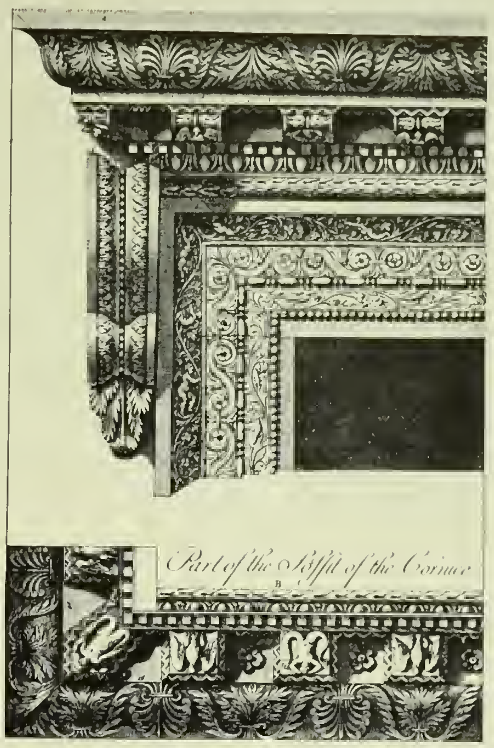


DETAIL, TEMPLE OF JUPITER, SPALATO.

been used more to repeat the tone of the carved caps in the same line, than to mark the axis of the opening.

The carved acanthus was frequently used, elaborately wrought and of carefully constructed plan. Its lobes were in most cases concave, as were those of the Greek acanthus, but they were not as sharp at the points, at times being almost circular in profile. The name given to the leafage — the acanthus molle, the soft acanthus — indicates the character of the leaf.

The decorated scroll is a favorite Roman ornament, robust in character, and leaving but little background evident. All



DETAIL, TEMPLE OF AESCULAPIUS, SPALATO.

VIEW OF THE PERISTYLIUM OF THE PALACE OF EMPEROR DIOCLETIAN, SPALATO IN DALMATIA.

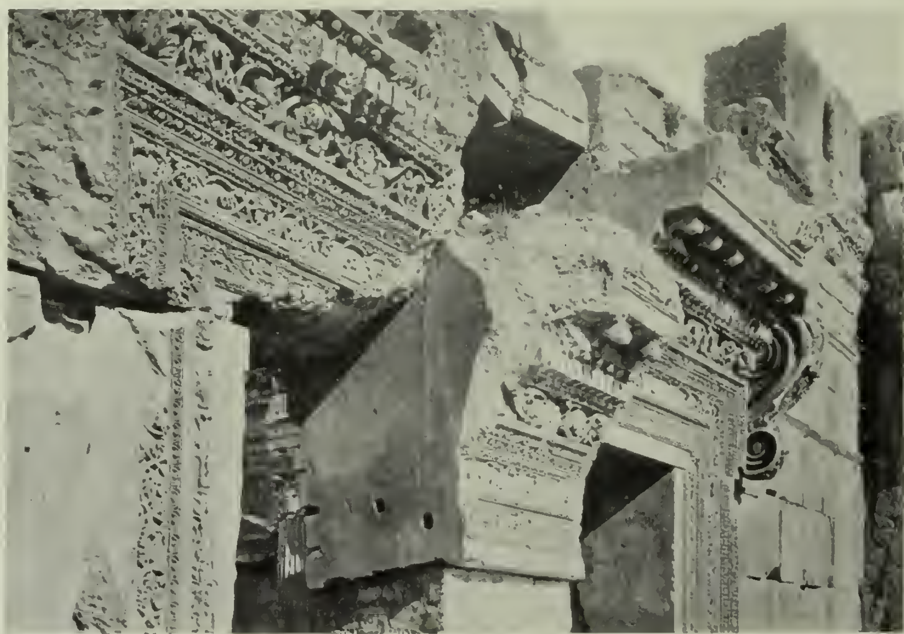
GOLDEN GATEWAY, SPALATO.

DETAIL AT BAALBEC.

Roman ornament up to the time of Hadrian was vigorous and luxuriant — during his reign the study of Greek work in Athens refined and made more delicate the Roman motives. One of the most famous of the scrolls is from the Forum of Nerva.

The rosette was frequently used, and usually in high relief. The Roman work is suggestive from its vigor and simplicity of arrangement, its luxuriant development of structural decoration, and the magnificent scale of its achievements, especially in the plans of its buildings. A very considerable expenditure is necessary for its accomplishment.

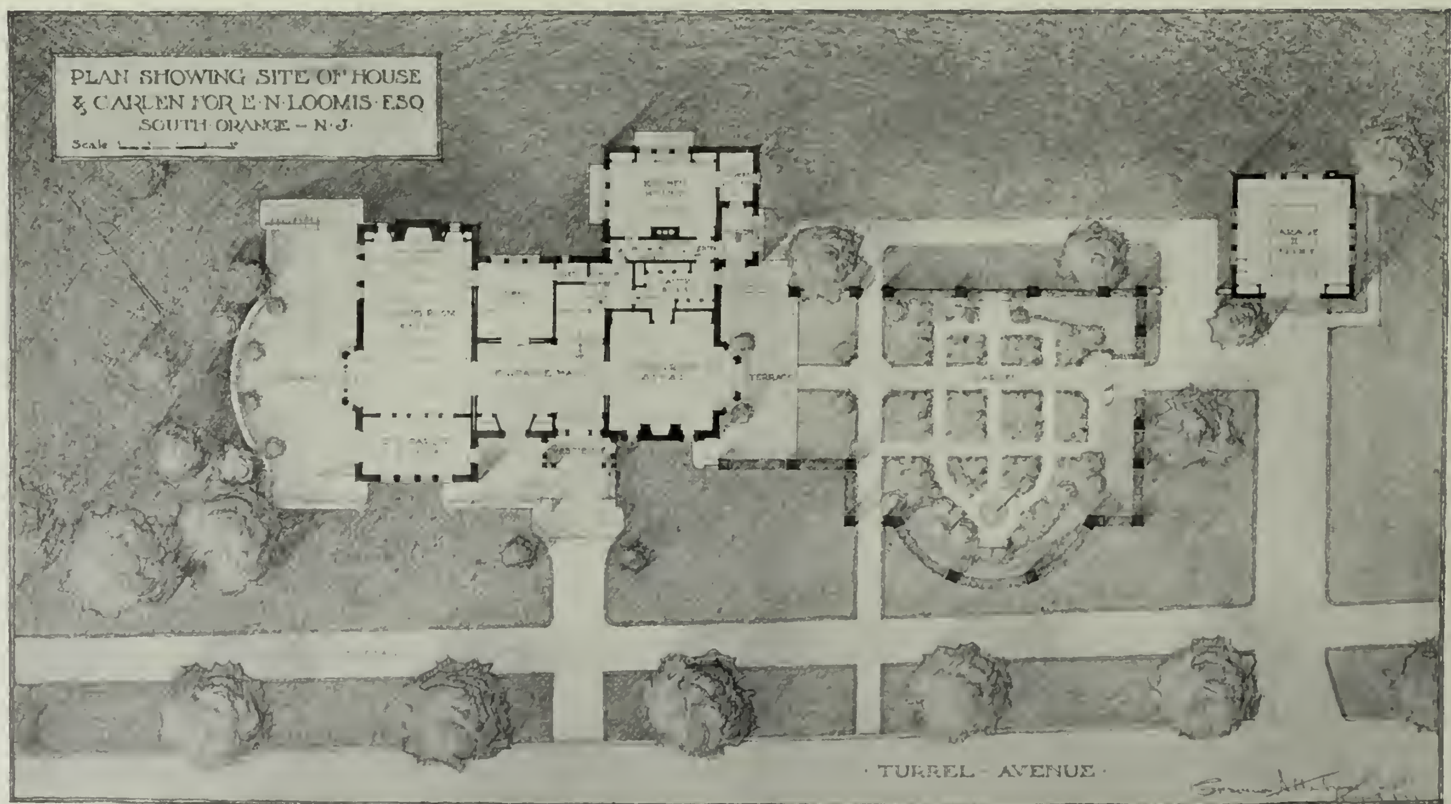
The smaller and more domestic work has been preserved for us in Pompeii and Herculaneum. It is largely painted decoration upon a stucco which covers the structure, and is in three zones, the dado, the wall, and the frieze. The dado is usually the darkest and is evidently utilitarian — as a background for furniture, and subject to being marred and therefore kept simple. The wall is subdivided into panels of color with delicate borders, and some small decorative subject in the center of the panel. The frieze acts as a top border to the room, defining the wall from the ceiling. The wall panels usually set the dominant color for the room. This method of subdivision of wall surface was adapted to modern conditions in the Empire style in 1800, and the colored walls of Pompeiian houses are but little fitted to modern environment, excepting perhaps in very small rooms.



DETAIL AT BAALBEC.

During the second century all arts declined in Rome both as to character of design and skill in workmanship.

The indiscriminate use of columns and arches of various sizes, the breaking up of entablatures, and the introduction of heavy corbel courses began the progress towards that absolute license in design which ignored the orders and made possible the development of Romanesque and Gothic art. When Diocletian retired to Dalmatia and built his enormous palace at Spalato there was great latitude in the design, as there was also in Baalbec and Palmyra, and new combinations appeared. This later work which was derived from classic precedent is extremely suggestive in the use of rich and almost florid detail applied to broad mouldings and to surfaces, but still held firmly in rectangular or semicircular frames. There is no more luxuriant type of detail than the carving of this period, but it is orderly in arrangement and firmly held, and the silhouettes of the work are simple in character. Several illustrations of the rich detail of this period are given from the Acropolis of Baalbec and the Golden Gateway in Spalato. This detail is derived from the motives of the earlier Roman work; but is used much more abundantly upon plain surfaces than is customary with either the Greeks or Romans in their best art.



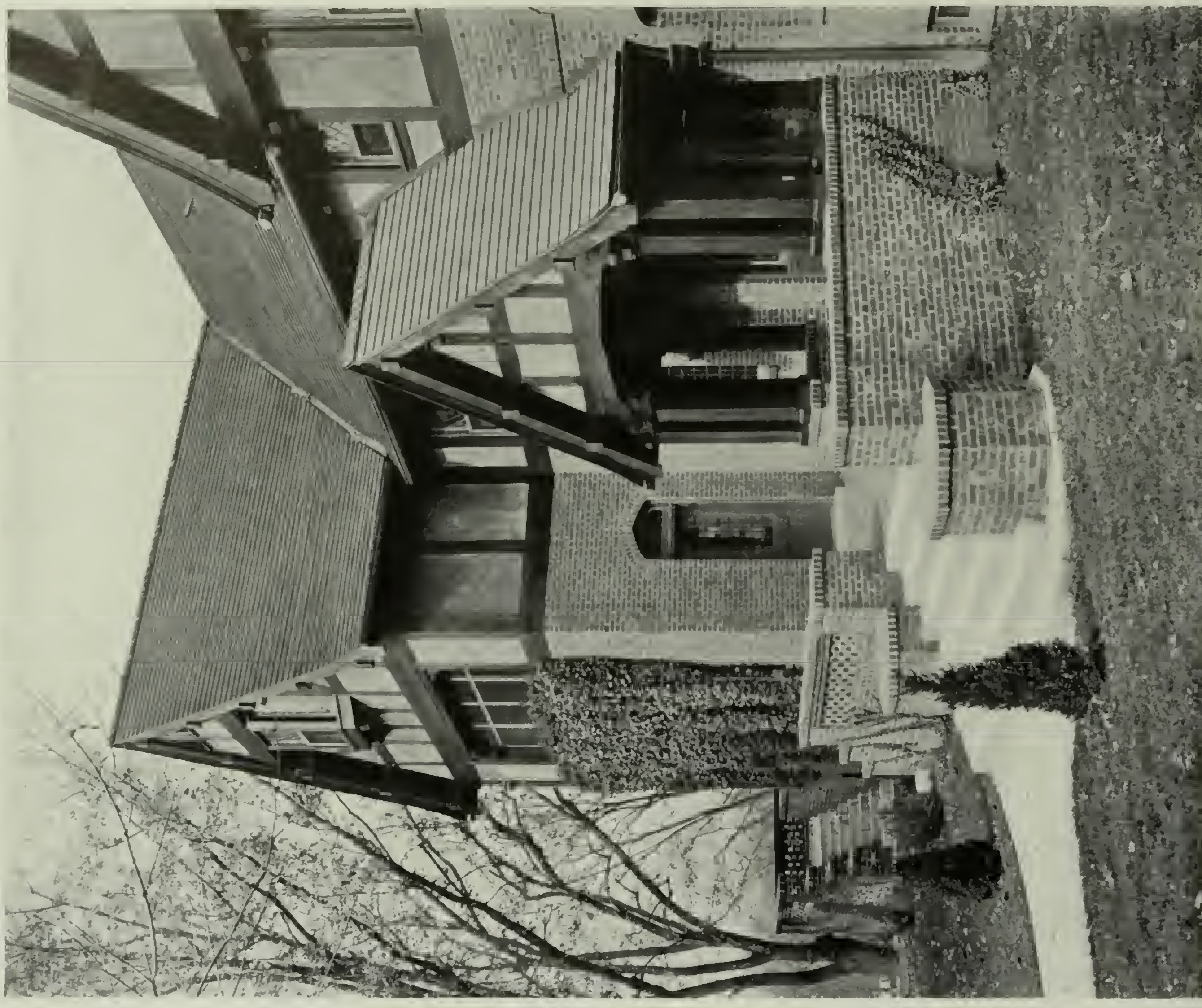
HOUSE AND GARDEN PLAN AT SOUTH ORANGE, N. J.
GROSVENOR ATTERBURY, ARCHITECT.

LIVING ROOM.
DINING ROOM.

INTERIOR VIEWS, HOUSE AT SOUTH ORANGE, N. J.

GROSVENOR ATTERBURY, ARCHITECT.

ENTRANCE HALL.
SUN PARLOR.



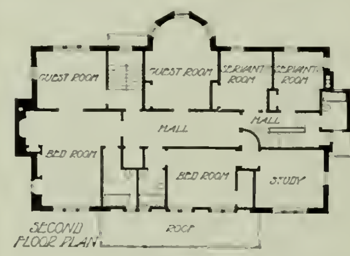
DETAIL OF ENTRANCE.

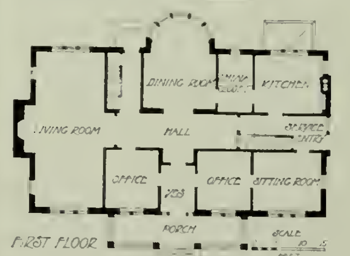
GARAGE.

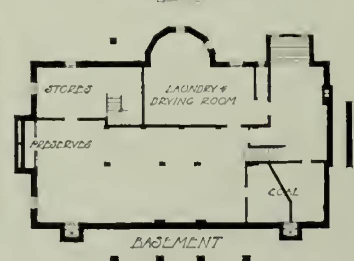
HOUSE AND GARAGE AT SOUTH ORANGE, N. J.

GROSVENOR ATTERBURY, ARCHITECT.

HOUSE AT ST LOUIS, MO.
MAURAN, RUSSELL & CROWELL, ARCHITECTS.



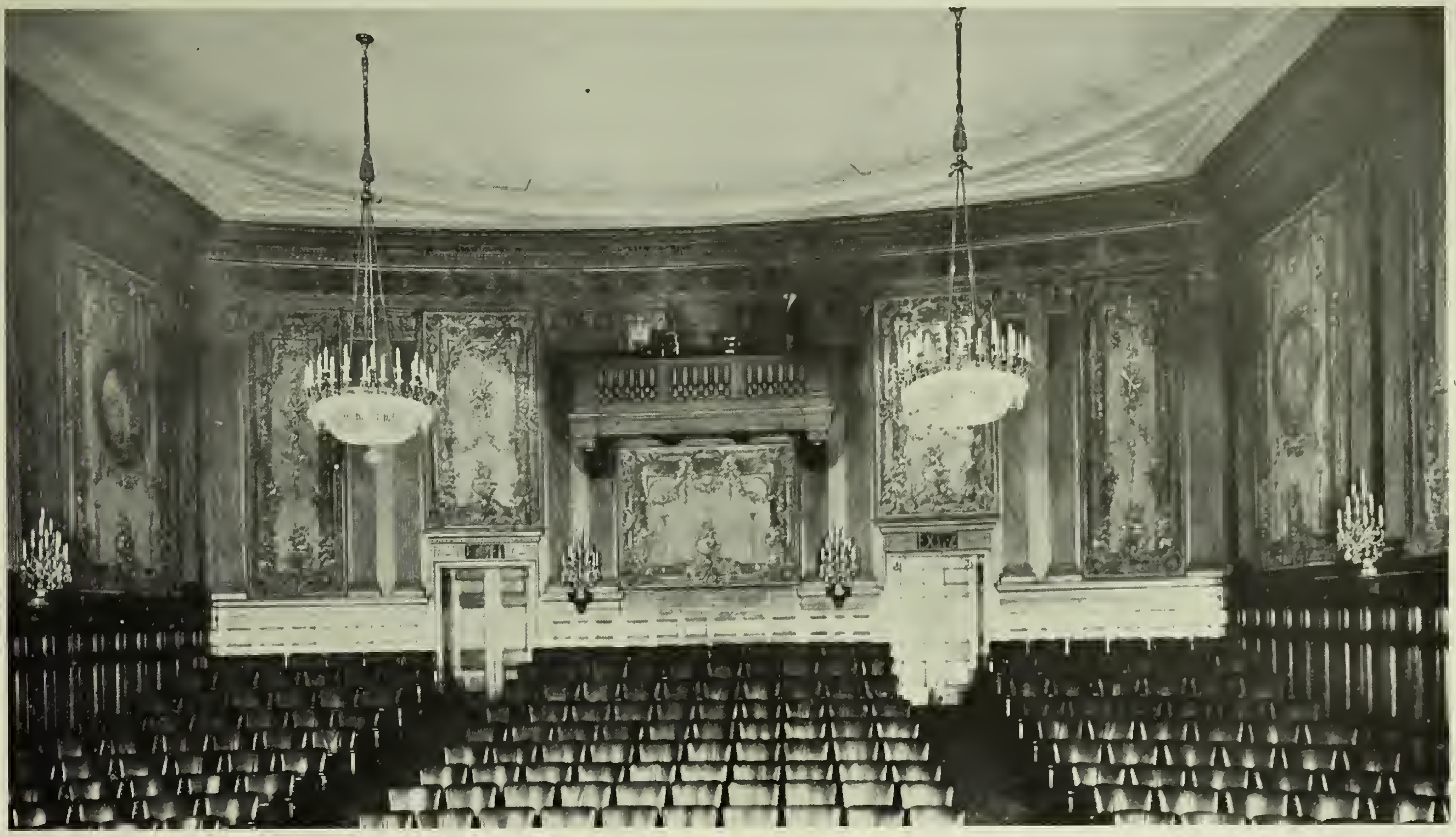




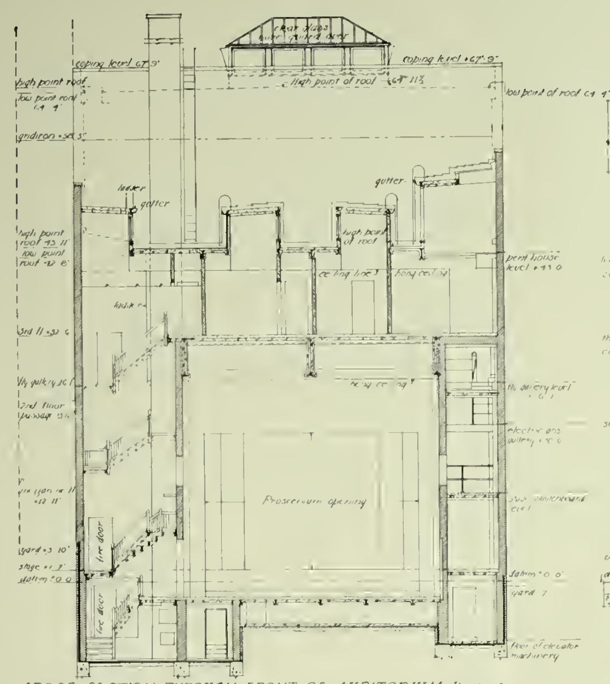
RECTORY FOR CHURCH OF THE SACRED HEART.
MANCHESTER-BY-THE-SEA, MASS.

MATTHEW SULLIVAN, ARCHITECT.

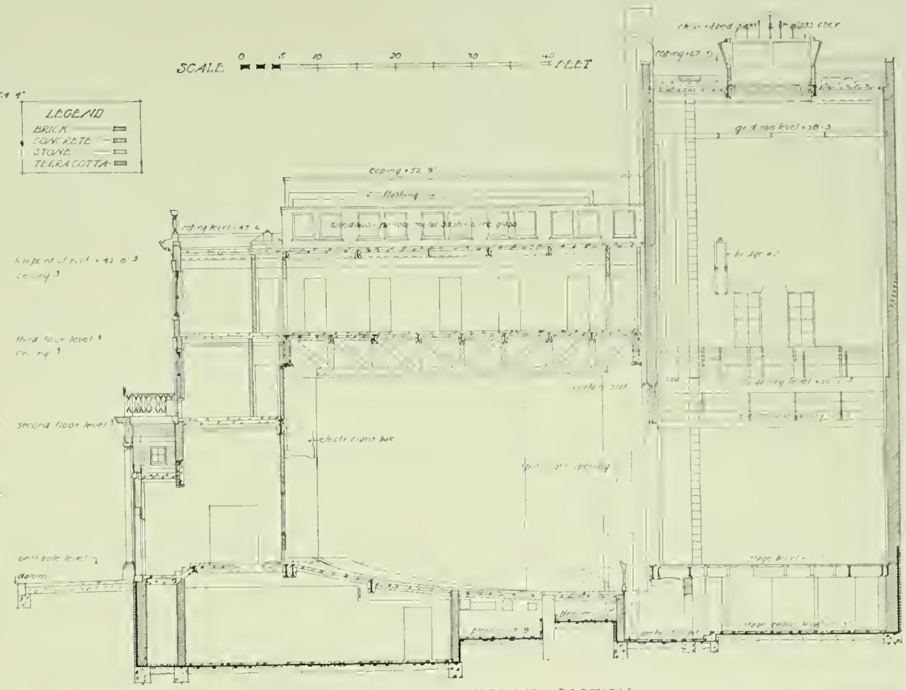
THE LITTLE THEATRE, 240 WEST 44TH STREET, NEW YORK CITY.
HARRY CREIGHTON INGALLS AND F. BURRALL HOFFMAN, JR., ASSOCIATED, ARCHITECTS.



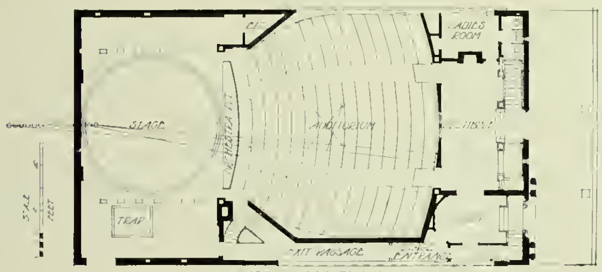
TWO VIEWS OF AUDITORIUM.
THE LITTLE THEATRE, 240 WEST 44TH STREET, NEW YORK CITY.
HARRY CREIGHTON INGALLS AND F. BURRALL HOFFMAN, JR., ASSOCIATED, ARCHITECTS.



CROSS SECTION THROUGH FRONT OF AUDITORIUM 1/4 1-0"



LONGITUDINAL SECTION

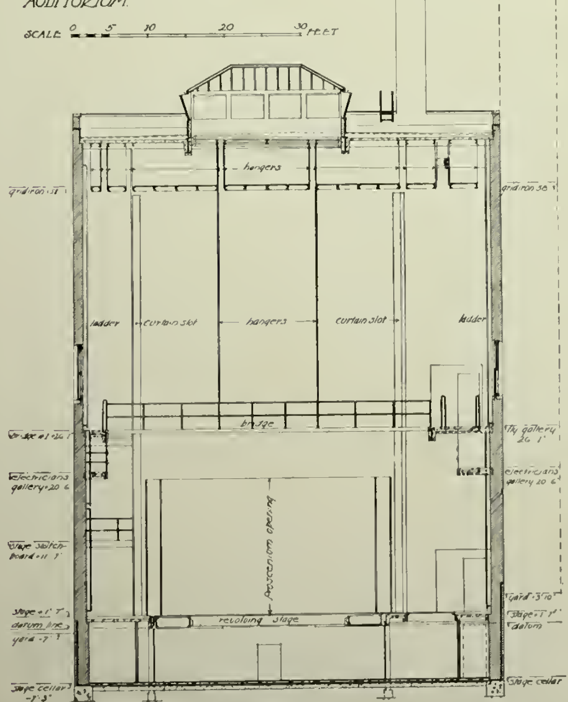


FIRST FLOOR PLAN

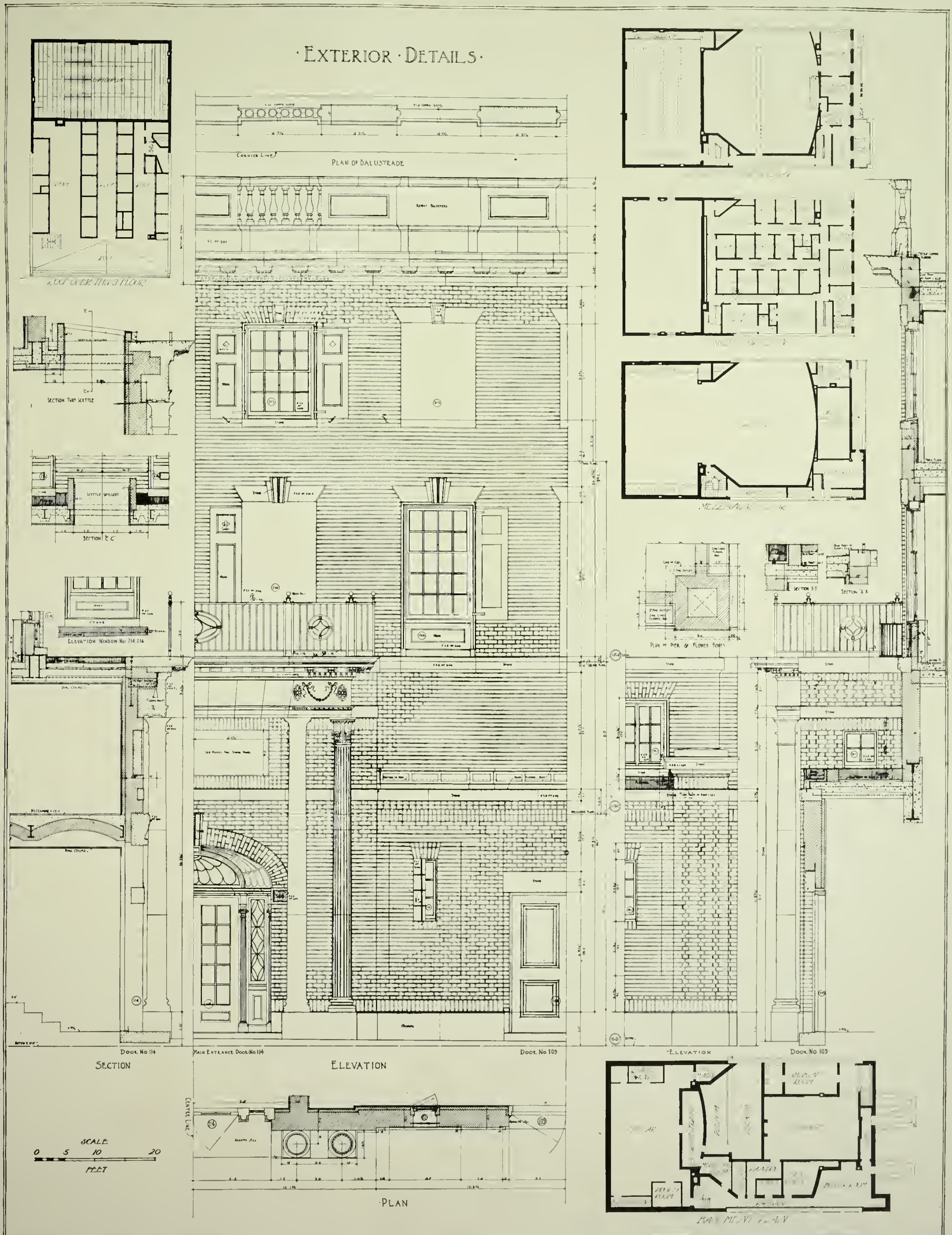
SECTIONS, PLAN AND INTERIOR VIEWS,
THE LITTLE THEATRE,
240 WEST 44TH ST., NEW YORK CITY.
HARRY CREIGHTON INGALLS AND
F. BURRALL HOFFMAN, JR., ASSOCIATED, ARCHITECTS.

LOBBY.

SECTION THROUGH STAGE HOUSE LOOKING TOWARDS AUDITORIUM



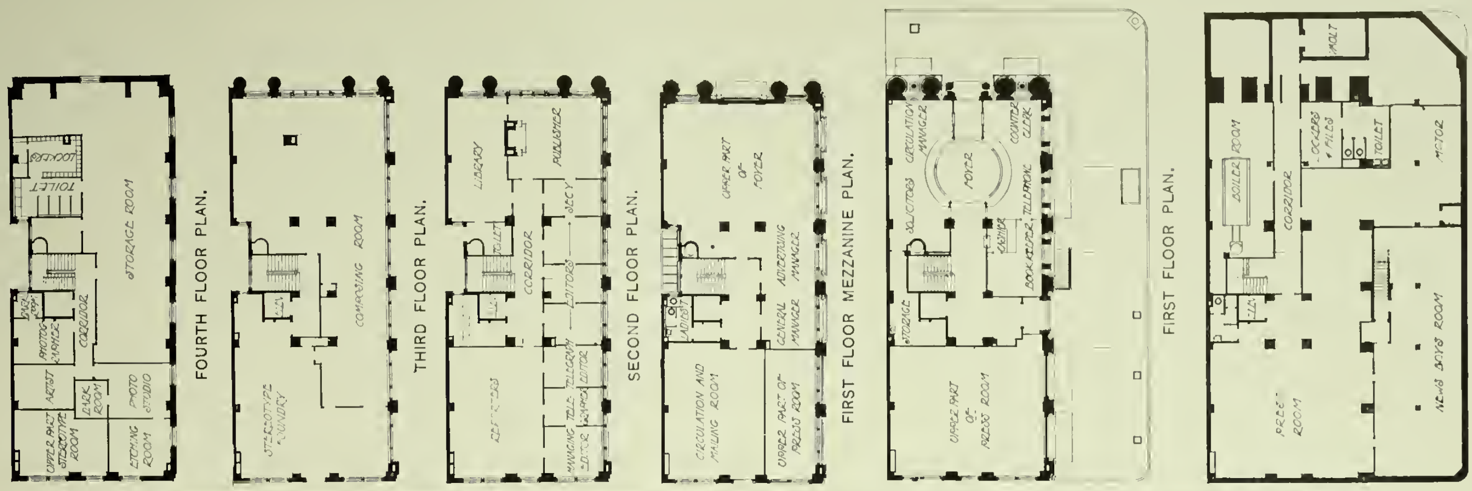
LOUNGE.



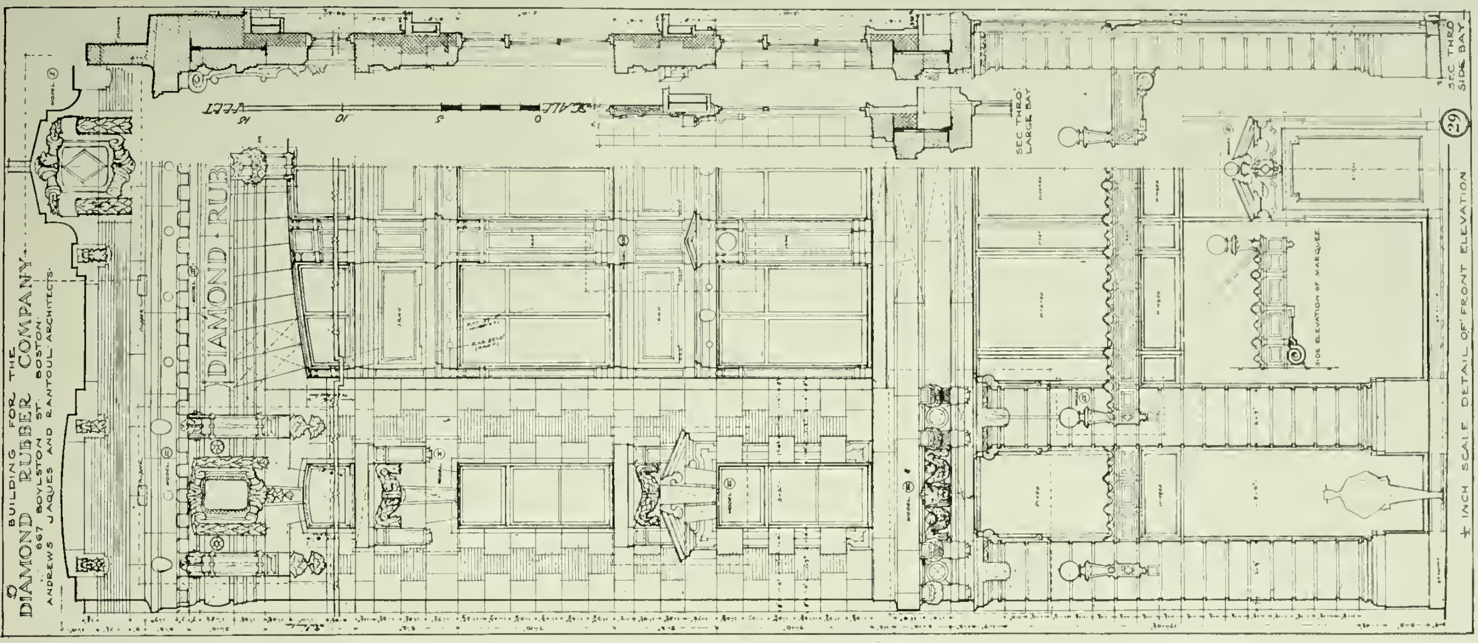
EXTERIOR DETAILS AND PLANS.

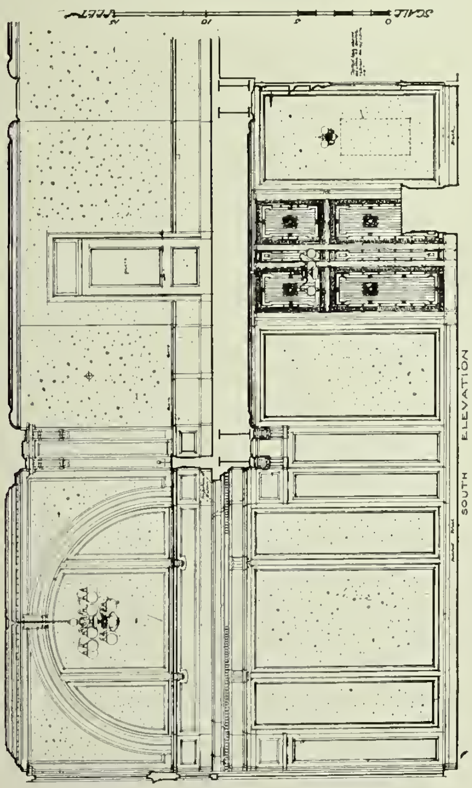
THE LITTLE THEATRE, 240 WEST 44TH STREET, NEW YORK CITY.

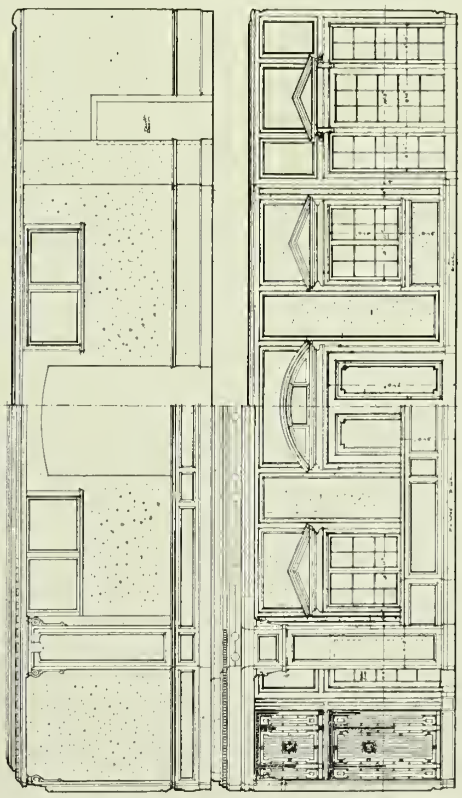
HARRY CREIGHTON INGALLS AND F. BURRALL HOFFMAN, JR., ASSOCIATED, ARCHITECTS.



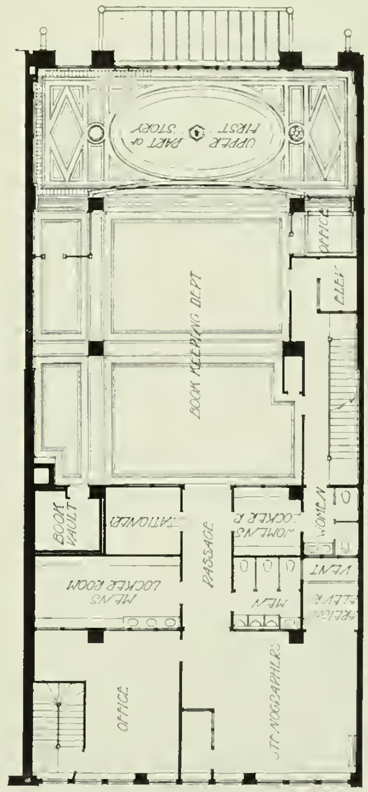
DAYTON DAILY NEWS BUILDING, DAYTON, OHIO.
EXTERIOR BUILT OF ARCHITECTURAL TERRA COTTA.
ALBERT PRETZINGER, ARCHITECT.



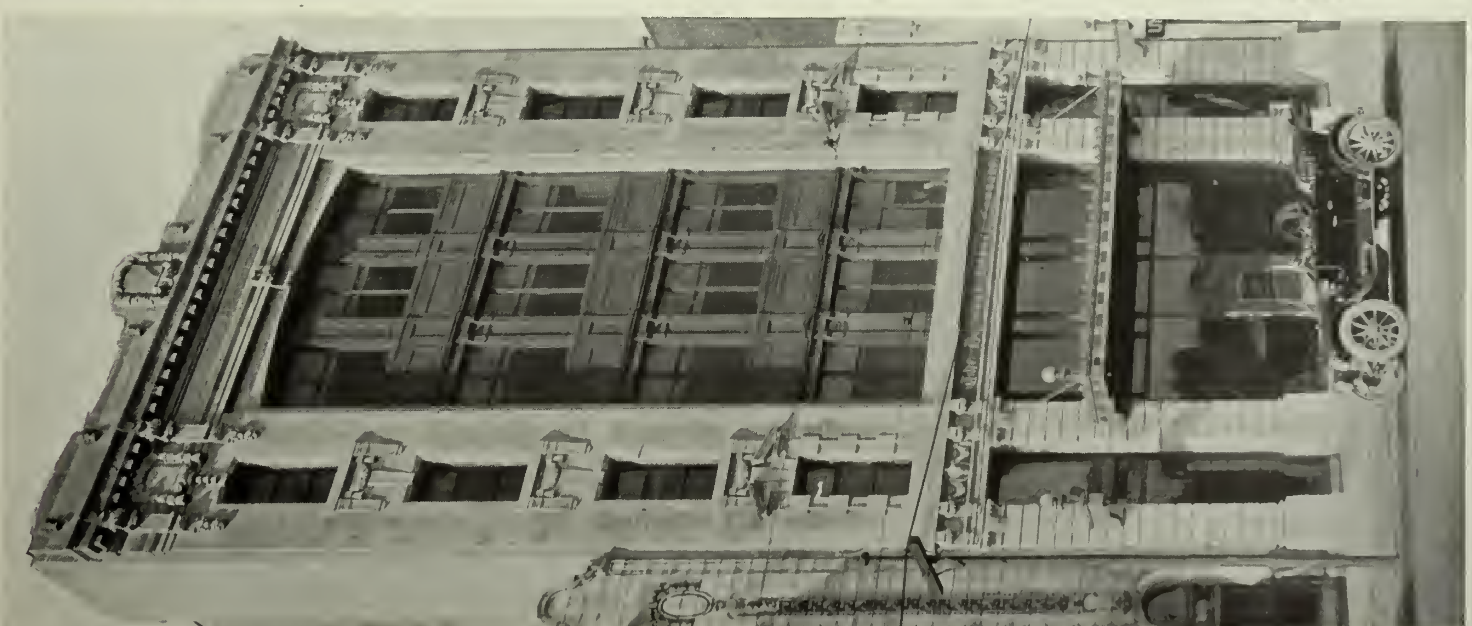


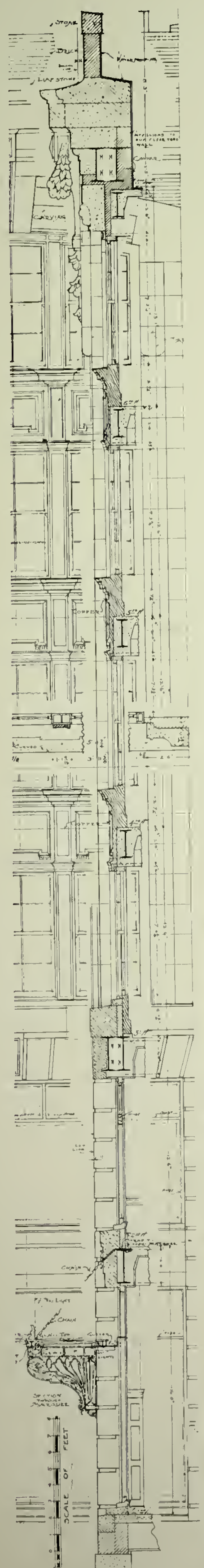


DETAILS OF SALESROOM.

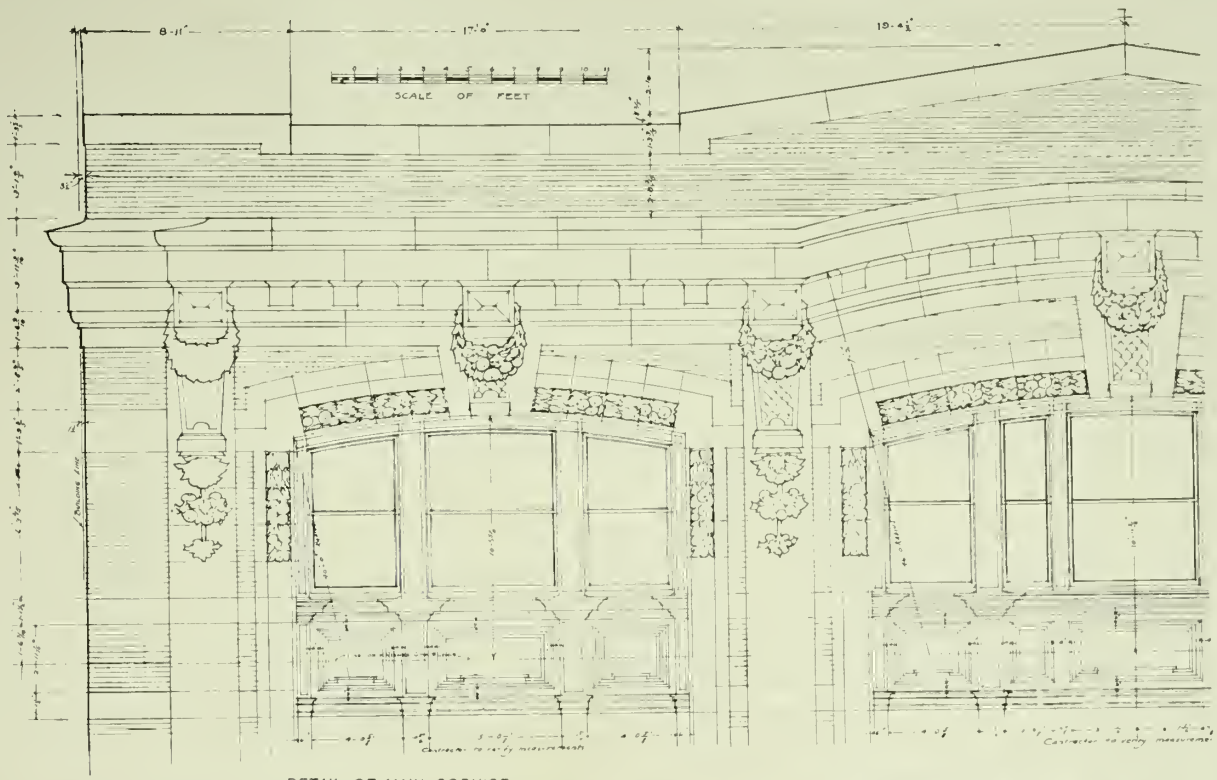


THE DIAMOND RUBBER COMPANY BUILDING
BOSTON, MASS.
ANDREWS, JAQUES & RANTOUL, ARCHITECTS.





SECTION OF FRONT.

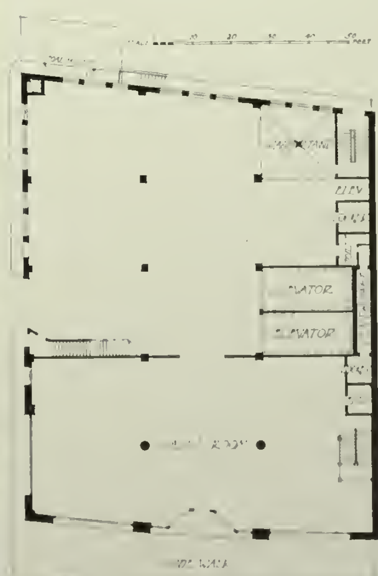


DETAIL OF MAIN CORNICE.

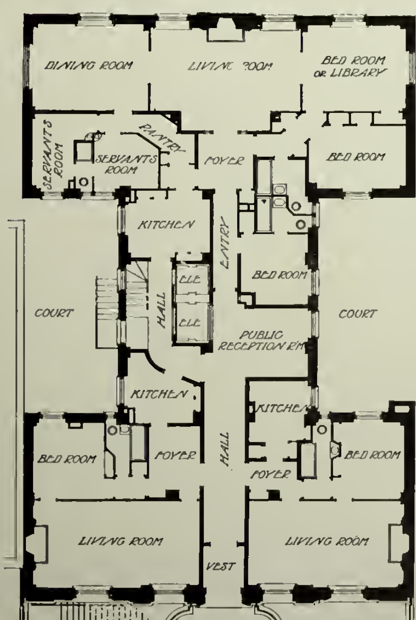
SECOND FLOOR PLAN

PEERLESS MOTOR CAR CO. BUILDING, BOSTON, MASS.

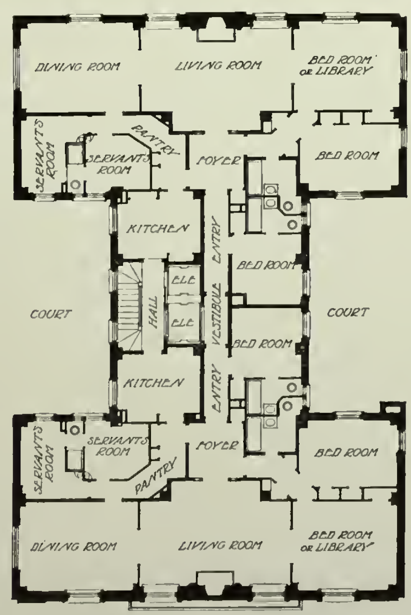
ANDREWS, JAQUES & RANTOUL, ARCHITECTS.



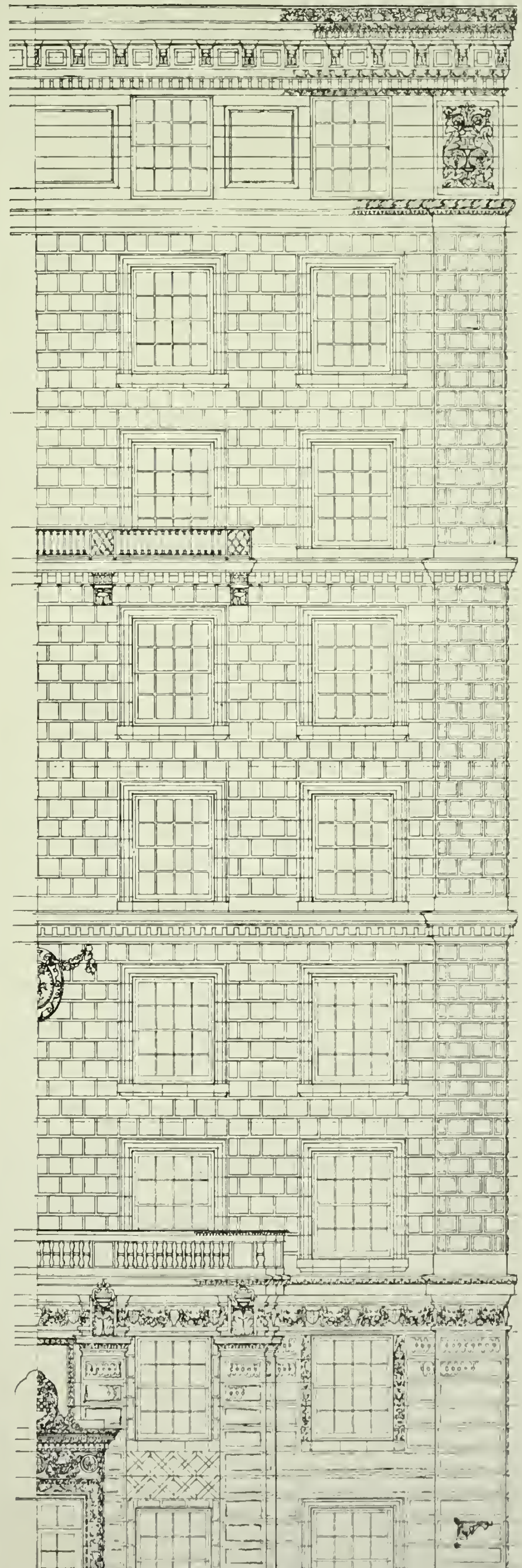
FIRST FLOOR PLAN



FIRST FLOOR PLAN



PLAN SECOND TO NINTH FLOORS
SCALE 0 2 10 20 30 40 FEET



APARTMENT HOUSE, 116 E. 58TH ST.,
NEW YORK CITY.
J. E. R. CARPENTER, ARCHITECT.

Commemorative Monuments.—III.

H. VAN BUREN MAGONIGLE.

WE come now to four statues that are not portraits; they are abstractions or symbols; the first is Mr. French's Alma Mater in front of the Library of Columbia University by McKim, who designed the exceedingly simple pedestal which harmonizes so well with its surroundings.

The second is the colossal statue symbolizing the French Republic, in the long and rather narrow Place de la Republique in Paris. The scale of the monument is in proportion to its importance as the central feature of a large square; the base is given a richer treatment than is permissible in a mere portrait statue. The upper part is circular and therefore retains the same outline from any point of view; it is very difficult to design a pedestal for a standing figure of anywhere from 7 feet to 9 feet 6 inches in height, unless the mass is amplified by a chair or other adjunct, because the feet take up so little room that it is hard to get mass enough in the pedestal to make it an adequate support; so that one is grateful for a square form which enlarges itself in perspective. Here, however, the draperies of the figure provide a mass for which the circular pedestal is ample.

STATUE OF THE REPUBLIC, PARIS.

The Nathan Hale illustrated in the first article has a circular pedestal by Stanford White, the only one in this country that I can recall at the moment; but the figure is so slender that the two are well proportioned to each other.

The third is one of the eight allegorical figures disposed at the angles of the Place de la Concorde, and represents the city of Strasbourg, lost to the French in the Franco-Prussian war. The wreaths we see are placed here every year as tokens of the undying regret of the French nation and as visible symbols of the hope that some day Alsace-Lorraine may be won again to their flag. These eight statues occur in pairs at the corners of the huge square, each pair connected by a balustrade, a portion of which may be seen in the photograph.

The fourth, one of the most beautiful if not the most beautiful allegorical or symbolic figure I know, is that of Bellona extending the olive branch of peace, as the Soldiers and Sailors Monument in Jersey City. I confess to such a weakness for this monument that I give three views of it, and could I have secured one of the side would have given that as well. It is worth a pilgrimage to see,

ALMA MATER, COLUMBIA UNIVERSITY.

MCKINLEY MONUMENT, PHILADELPHIA.

COOPER MONUMENT, NEW YORK.

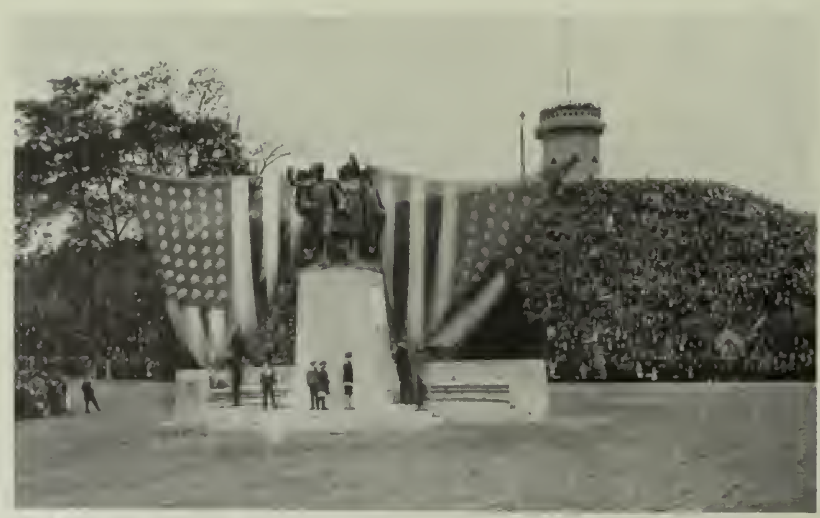
although the custodian of the unspeakable City Hall has done his best to ruin it by erecting an iron fence around it, let into the stylobate. This sort of thing beats hollow all the soldiers at parade-rest and charge-bayonets we are afflicted with all over our unhappy land. I have always felt this to be Philip Martiny's masterpiece. His collaborator was Albert Randolph Ross whose first work in this kind this was, I believe; and there is a spring in the line of the pedestal that unites it with the big lines of the figure and makes them as nearly one mass as bronze and Milford granite can be.

STATUE OF THE CITY OF STRASBOURG, PARIS.

In the Peter Cooper Monument in the little triangle south of Cooper Union in New York, by McKim, Mead & White and St. Gaudens, we find that lack of correspondence in character between the statue and pedestal which has been referred to; each is excellent in itself; but the delicate classic detail of the pedestal and tablet seem quite out of key with the rough loose garments of the statue.

In this respect the Bryant Statue and its protecting baldachino, in the rear of the New York Public Library, are much better. Mr. Herbert Adams has thrown a robe over the legs of the aged poet, gotten rid of the trousers and thus succeeded in harmonizing his figure with the architecture. While this has not yet cooled off, let us be bold and say that the vertical lines of the columns and of the cedars behind, with the glimpses one gets of the heavy horizontal shadows of the rustication of the Library, are disturbing and detract from the effect of this beautiful statue; one would have preferred a solid niche with an extremely simple wall surface in which there would have been no lines cutting at all sorts of points against the figure.

THREE VIEWS, SOLDIERS AND SAILORS MONUMENT, JERSEY CITY, N. J.



MARYLAND UNION SOLDIERS AND SAILORS MEMORIAL, BALTIMORE.

Up to this point we have dealt with the single figure; those that follow are more complicated compositions, the simplest being the McKinley Memorial at the City Hall in Philadelphia by Mr. Ross and Messrs. Lopez and Konti, the latter of whom took up the work after Mr. Lopez's death. It is not as successful as most of those with which Mr. Ross has had to do, the lower pedestal supporting the figure of Columbia teaching the child from McKinley's example, not being satisfactorily united with the pedestal of the statue. The figures referred to seem meager and tinny in modeling and surface. The architecture is executed in Stony Creek granite.

In the Maryland Union Soldiers and Sailors Memorial in Druid Hill Park, Baltimore, Mr. Ross and Mr. Weinman again collaborated. The idea expressed is that of the young soldier of Maryland leaving his anvil and his plow-

MCKINLEY MEMORIAL, COLUMBUS, OHIO.

share and buckling on his sword, urged forward by the Goddess of War and his mother-state. The pedestal is curved on the front and rear, the curved surfaces bearing the inscription and the coat-of-arms of Maryland, and on the straight sides bas-reliefs in Knoxville marble set in the pink granite, representing the army and the navy.

The McKinley Memorial at Columbus, Ohio, an unusual and interesting composition, is by Messrs. Lord and Hewlett and Hermon A. McNeill. The sculpture is especially fine in modeling and character, and merely as a portrait the statue is superlatively good. The way in which the pedestal pierces or divides the tablet is not perhaps entirely fortunate, and the wisdom of the subdivision of so small a composition into practically seven parts (the two end groups, the two portions of the seat, the two parts of the tablet, and the principal pedestal) may be questioned; but it has interest and color. The stone is Federal Hill granite from New Jersey. In the background is the fine old Capitol and the monument is opposite the entrance.

BRYANT STATUE, NEW YORK CITY.

We reserve to the last the group which tells the story of those Burghers of Calais who came forth after the siege of the city, starved, gaunt, and haggard, to deliver up the keys of the gates to the victor. This is one of those exceptional instances where the genius of the sculptor, defying every accepted canon of his art, has triumphed. For centuries it has been a law of composition that a group of figures must be composed in more or less pyramidal form, but Rodin has cast aside this formula and appeals straight to the heart rather than to the intellect and our preconceived notions of sculptural composition. It is merely a procession of awful presences who impose themselves on our imagination telling their awful story. In feeble hands subjects of this episodical nature are apt to degenerate into the theatrical or the sentimental, and this is one of the very few examples of what we may call the "literary idea," that in its tremendous power, its deep personal appeal, is its own justification.

BURGHERS OF CALAIS MONUMENT,

CALAIS, FRANCE.

Insurance Exchange Building, Chicago, Ill.

D. H. BURNHAM & CO., ARCHITECTS.

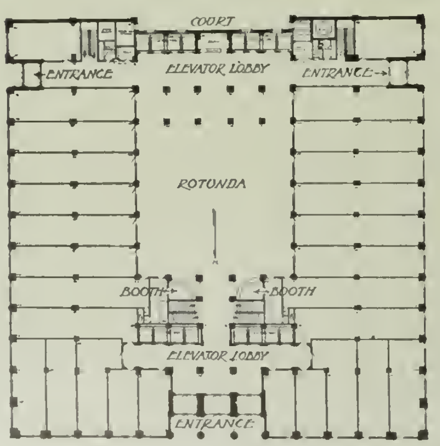
CHICAGO, the birthplace of skyscrapers, possesses many excellent examples of buildings erected for commercial life. Each one portrays a definite idea as to the fitness of the design in conjunction with its practical needs. They also reveal the consistent treatment of architectural forms by means of the various materials most easily acquired and best adapted to this type of building.

The extreme height of fireproof structures calls for a substance that is light and absolutely fire resisting and at the same time conforms to the esthetic demands. The characteristics have been adequately met through the use of terra cotta. The ornamental, delicate, and weathering qualities of this material have gradually and consistently won recognition, and it is now universally used in the construction of all large commercial buildings.

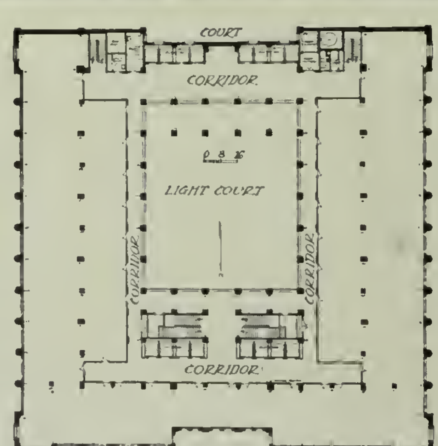
One of Chicago's most modern office structures is the Insurance Exchange Building located in the heart of the financial center. It is twenty-one stories in height, resting upon caisson foundations which extend to bed-rock. The exterior is of cream-white enameled terra cotta and enameled brick, lending a perfect harmony both as to texture and color. The design, which reveals a serious attempt to portray its exclusively commercial aspect, has resulted in lines and proportions of dignified simplicity. It follows the developed type of divisions for structures of its kind, while the vertical lines are duly emphasized and the corners treated as abutments.

The building is of steel frame construction and requires an unusual amount of terra cotta throughout the whole structure. The quality of lightness has enabled the architect to use the minimum amount of space for walls and thereby enhances the value of the rental portions. This prevents the sacrificing of the commericial value of the building and at the same time allows full freedom for the ornamentation. Such a problem as that of meeting the practical requirements of the office type in a most economical manner and increasing the earning capacity has become a matter of much import, and one cannot help but feel that this structure most nearly approaches the proper solution.

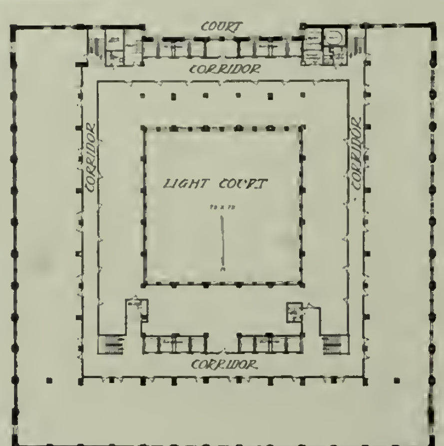
The first three stories, built entirely of terra cotta, portray the pleasing results obtained in adapting the design to the material itself. The ornamental entrances with their delicate detail, the columns with exceptionally good jointing and alignment, and the decorative panels in the frieze of the third story all demonstrate the effective design resulting from a consistent and careful handling of terra cotta. The unusually large Ionic capitals are made in one



FIRST FLOOR PLAN.

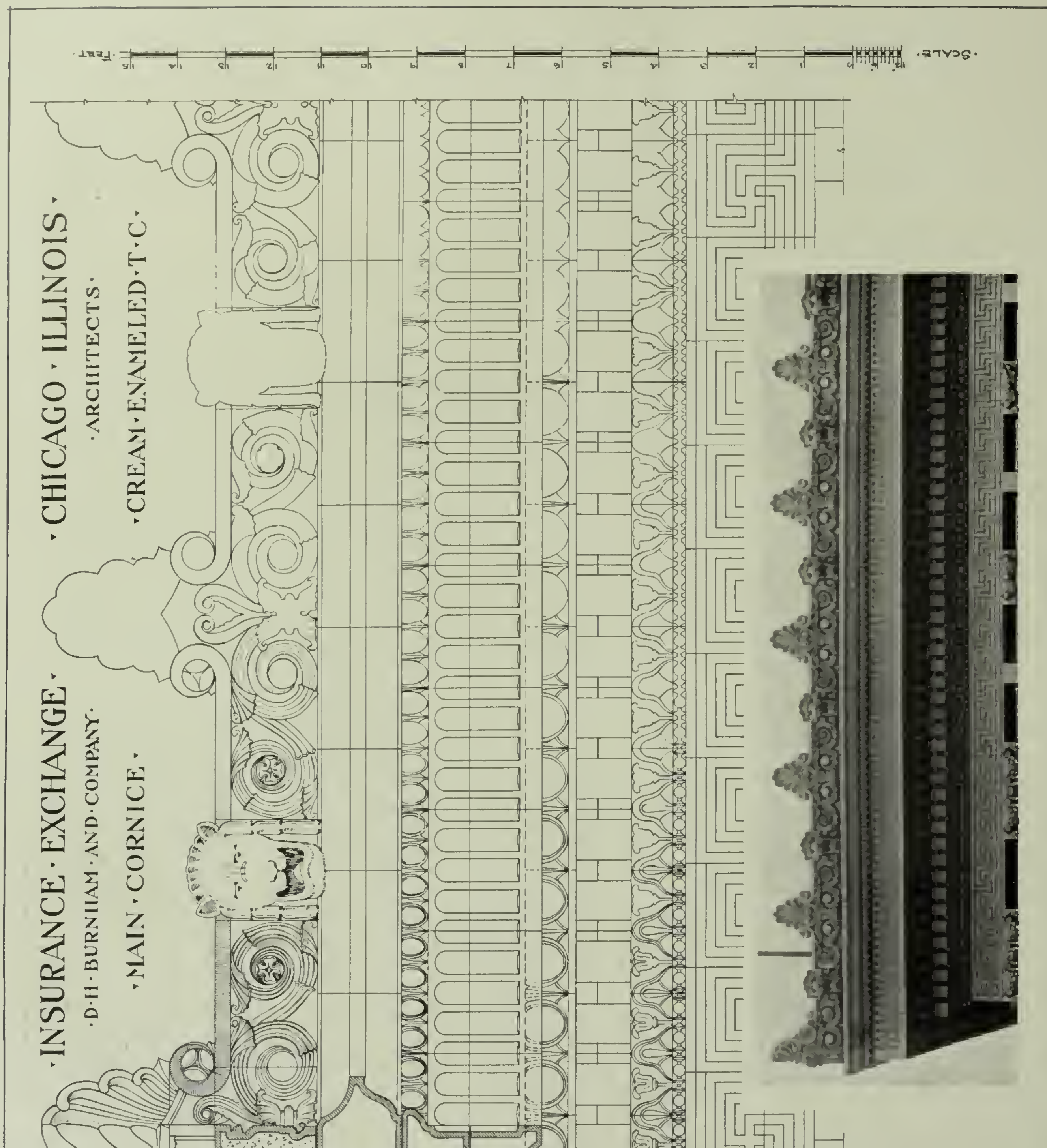


SECOND FLOOR PLAN — BANK FLOOR.



FOURTH AND TYPICAL FLOOR PLANS.

UPPER AND LOWER STORIES, INSURANCE EXCHANGE BUILDING, CHICAGO, ILL.
D. H. Burnham & Co., Architects.



Terra Cotta Details.

INSURANCE EXCHANGE BUILDING, CHICAGO, ILL.

D. H. Burnham & Co., Architects.

and economy, which always seem to speak for themselves. The brick house looks so much more substantial than the frame house that we now are using brick every time.

"The brick house is much cooler in summer than the frame house and we have tested the heating in winter and find that it takes thirty-three per cent more fuel for a frame house than for a brick house."

AMALGAMATION OF AMERICAN SCHOOLS IN ROME.

PROF. JESSE BENEDICT CARTER, Director of the American School of Classical Studies, says in his annual report that the amalgamation of the American School of Classical Studies with the American Academy, forming together a great and unique institution of American learning in the Eternal City and placing it on one of the most beautiful spots on the top of the historic Janiculum, is the realization of the organization's most cherished ideal. Professor Carter also announces in his report that another nation may soon follow the American example of amalgamating its schools in Rome. He evidently refers to England, who has already made arrangements for transferring the British School, now at the Palazzo Odescalchi, to the beautiful building erected to house the collection of paintings for the exhibition last year. To the British School, which so far has dealt with archæology and classical studies, will be added work in the fine arts.

COAT OF ARMS OF CANADIAN PROVINCES.

Executed in buff terra cotta by the Atlantic Terra Cotta Company for the Herald Building, Montreal.

David R. Brown & Hugh Vallance, Architects.

An interesting passage of the report is a quotation from the Librarian, Mr. Van Buren, who says that in the last year the number of volumes in the library grew from 6,896 to 7,350, while the periodicals have increased from 54 to 79.

INTERIOR ENTRANCE DETAIL.

Executed in buff terra cotta by the Atlantic Terra Cotta Company for the Herald Building, Montreal.

David R. Brown & Hugh Vallance, Architects.

EXTERIOR ENTRANCE DETAIL.

Executed in buff terra cotta by the Atlantic Terra Cotta Company for the Herald Building, Montreal.

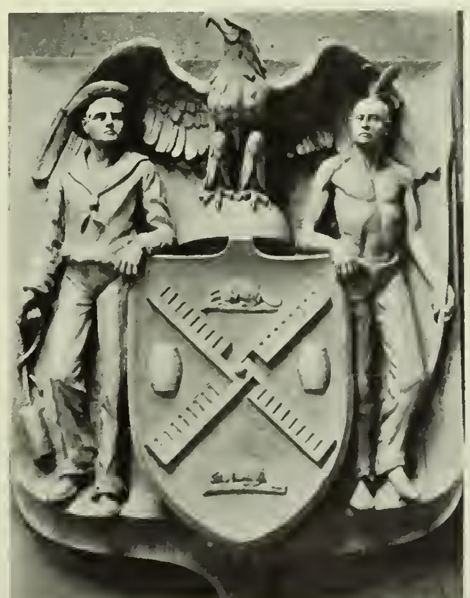
David R. Brown & Hugh Vallance, Architects.

Professor Carter ends by paying a tribute to Herbert Fletcher de Cou, who for seven years had been connected with the schools, and who on March 11, 1911, was murdered by Arabs at Cyrene, Tripoli, concluding as follows:

"He lies in classical soil, even as he lived his life in the classic world. He died for those things which he held sacred — the love of ancient art and the loyalty of friendship."

FIRE LOSSES AND BUILDING LAW.

IN discussing the fire losses in and about Boston during the past year the *Boston Herald* says, editorially: "The fire loss last year in the cities and towns of the metropolitan park district was reported at $4,000,000. By English or European standards this loss would approximate $750,000. One obvious reason for so great a difference is in the prevalence of frame construction, especially for housing, both in this district and throughout the entire country. Foreign cities have large areas of fireproof construction and the rest not inferior to our so-called second-class buildings, with timbered floors and roofs, but incombustible walls and roof covering. They cannot afford our perishable frame construction, nor can we much longer in our cities and suburbs at the present rate of destruction by fire."



DETAIL FOR SCHOOL BUILDING, BROOKLYN, N. Y.

Brick, Terra Cotta & Tile Company, Makers.

C. B. J. Snyder, Architect.

CROISIC BUILDING, FIFTH AVE. AND 26TH ST., NEW YORK.
Body of building of Kittanning White Brick furnished by Pfotenhauer-Nesbit Company. Architectural terra cotta executed by New York Architectural Terra Cotta Company.
Browne & Almiroty, Architects.

NATIONAL TERRA COTTA SOCIETY.

THIS Society was formed by twenty companies of the East, Middle West, and West for the purpose of: Encouraging the production of the best material, and the maintenance of a high standard of work; spreading the knowledge of the many advantageous qualities of good architectural terra cotta through the medium of advertising and the publication of books, pamphlets, and other forms of trade literature; co-operating in the investigation and study of the more important technical and other problems of the business, and advancing the general interests of the terra cotta industry in every legal and proper way.

DETAIL BY JOHN D. ATCHISON, ARCHITECT.
American Terra Cotta & Ceramic Company, Makers.

The officers of the Society are in the People's Gas Building, Chicago, Fritz Wagner, president, William D. Gates, secretary.

TWENTY-SIX-STORY HOTEL, NEW YORK CITY.

THE New York Central and Hudson River Railroad Company and the New York, New Haven and Hartford Railroad Company will erect a $4,500,000 hotel on the block bounded by Madison and Vanderbilt avenues, 43d and 44th streets. It will have a frontage of 200.10 feet on the avenues and 215.8 feet on each street. The façade will be of brick, terra cotta, limestone, and granite. There will be two large banquet rooms and accommodations for about 1,200 guests. Twelve sets of tracks will run under the hotel, giving immediate access from the trains to the hotel without going to the street. The total height will be 305 feet. The architects are Warren & Wetmore.

DETAIL FOR THEATRE.
Conkling-Armstrong Terra Cotta Company, Makers.
Albert E. Westover, Architect.

THE town of Brookline, Mass., proposes the enactment of a law which will put an end to the use of shingles for roofs. The shingle roof is considered a menace to the community in the case of a conflagration. It is argued that tiles, slate, and other materials available for fire resisting roofs, if not actually falling in price, become every year more nearly within competitive reach, and that even where the first cost of these materials is greater than that of shingles their permanency makes them in the long run quite as inexpensive.

TERRA COTTA FOR THE INSURANCE EXCHANGE BUILDING.

THE architectural terra cotta for the Insurance Exchange Building, Chicago, D. H. Burnham & Company, architects, described in this issue, was furnished by the Northwestern Terra Cotta Company.

IN GENERAL.

The architectural terra cotta for the Dayton Daily News Building, Albert Pretzinger, architect, illustrated in the Plate Form of this issue, was furnished by the Atlantic Terra Cotta Company.

The buildings of the new Mt. Saint Mary's Hospital to be built at Niagara Falls, N. Y., will be faced with impervious "Bradford Reds" furnished by the Bradford Pressed Brick Company. More than 500,000 bricks will be required.

J. H. Giesey has opened up offices for the practice of architecture at 514 Smithfield street, Pittsburgh. Manufacturers' catalogues and samples solicited.

The American Enameled Brick & Tile Company of New York has issued a new catalogue in which they describe and illustrate various sizes, shapes, and colors of the enameled brick which they manufacture. Other valuable data relating to the constructive uses of their bricks is given.

Charles F. Wright and John G. White have formed a copartnership for the practice of architecture, with offices at 812 New First National Bank Building, Columbus, Ohio.

DETAIL OF POST-OFFICE, ST. LOUIS, MO.
Gray brick furnished by the Hydraulic-Press Brick Company.
James Knox Taylor, Architect.

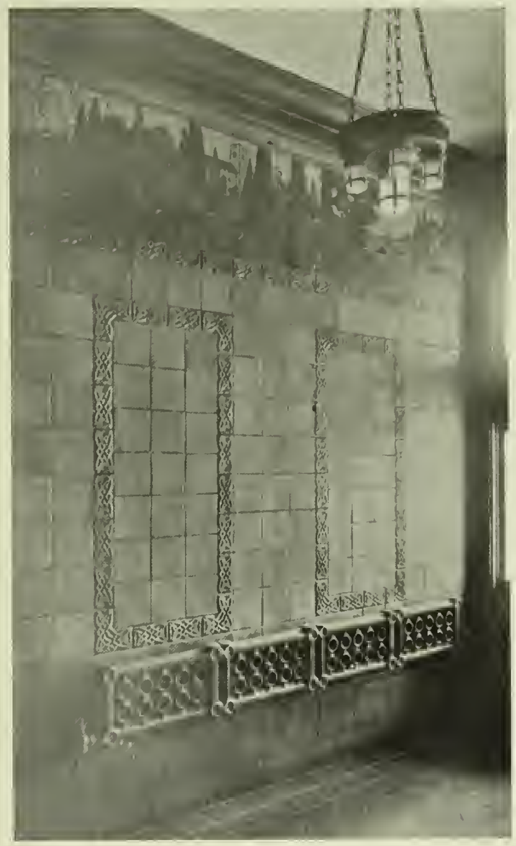
The South Amboy Terra Cotta Company furnished the architectural terra cotta for the larger of the two restaurants at Newark, N. J., illustrated on Plate 41 of The Brickbuilder for March.

Carlyle Nisbet and A. Sidney Brown have opened offices for the practice of architecture at 311 Grand avenue, Macon, Ga.

The New York Architectural Terra Cotta Company will furnish the terra cotta for the new High School to be erected in the city of Albany, Messrs. Goldwin, Starrett & Van Vleck, architects.

Robert N. Cleverdon, successor to Cleverdon & Putzel, announces the removal of his offices to 4 East 42d street, New York City.

Shepley, Rutan & Coolidge, 122 Ames Building, Boston, announce that George C. Shattuck has been admitted to partnership in their firm.



FAIENCE WALL TREATMENT TO ENTRANCE OF APARTMENT HOUSE.
Executed by the Hartford Faience Company.
Russell F. Barker, Architect.

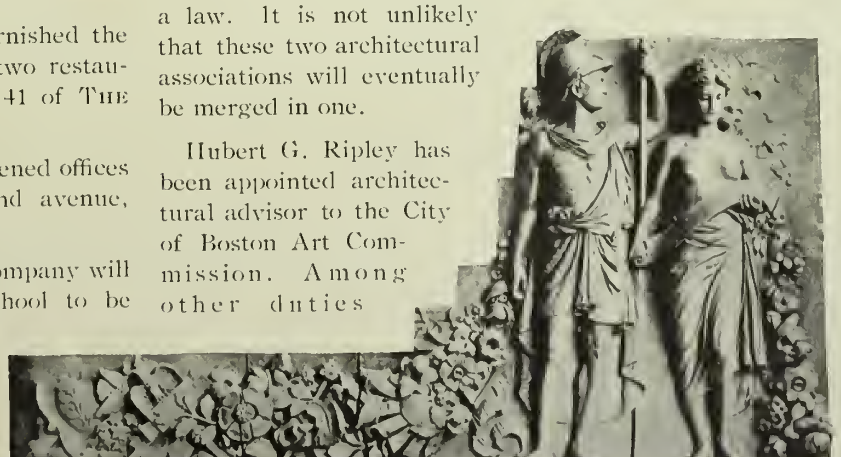
The Architectural League of America announces that for the year 1912-1913 four Scholarships are available, three in Harvard University and one in Washington University, St. Louis.

These Scholarships entitle their holders to free tuition for one year, the cost of such tuition being $150. The Scholarships will be awarded to those who stand highest in the competitions in design to be held in May, and who fulfil the other requirements. The competitions will be conducted in the various cities through the organizations affiliated with the League.

For further particulars apply to Albert E. Skeel, Rose Building, Cleveland, Ohio.

The statutory registration of architects is being advocated by The Society of Architects and the Royal Institute of British Architects. The majority of the members of both these architectural bodies favor the enactment of such a law. It is not unlikely that these two architectural associations will eventually be merged in one.

Hubert G. Ripley has been appointed architectural advisor to the City of Boston Art Commission. Among other duties



DETAIL BY W. H. MCELFATRICK, ARCHITECT.
The New Jersey Terra Cotta Company, Makers.

Mr. Ripley will have charge of the placing of statues in the Public Garden.

Report from recent discoveries in Pompeii reveal the fact that the excavators are working in a part of the city that was more deeply buried by the great eruption than was the portion hitherto uncovered. There were in

FIREPLACE BY GROSVENOR ATTERBURY, ARCHITECT.
Built of "Tapestry" brick furnished by Fiske & Company, Inc.

Pompeii no tall buildings, but many, perhaps the majority of them, had second stories with balconies and porticos on the more important structures. Of these, till now, little more than hints or traces have been found, owing presumably to the fact that they were for centuries more or less exposed to the weather or to the many accidents and robberies that a shallow covering of ashes made possible. The city has been a mine of priceless treasures both for the archæologist and the student of the classics.

Clarence W. Wigington and William L. Bell have formed a copartnership for the practice of architecture with offices in the Karbach Block, Omaha, Neb.

Holabird & Roche have removed their offices from the Monadnock Block to the Monroe Building, 104 South Michigan Boulevard, Chicago.

School of Architecture
HARVARD UNIVERSITY
Summer Courses in Architectural Design

For circular giving details with regard to these courses, apply to Professor H. L. Warren, Chairman of the Department of Architecture, Harvard University.

BOILERS AND RADIATORS
MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.
Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK
TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN
RECENT WORK, illustrated in this issue of
THE BRICKBUILDER

Fireplace ...... Page 114
Grosvenor Atterbury, Architect.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS }

25 Arch St., Boston Arena Building, New York

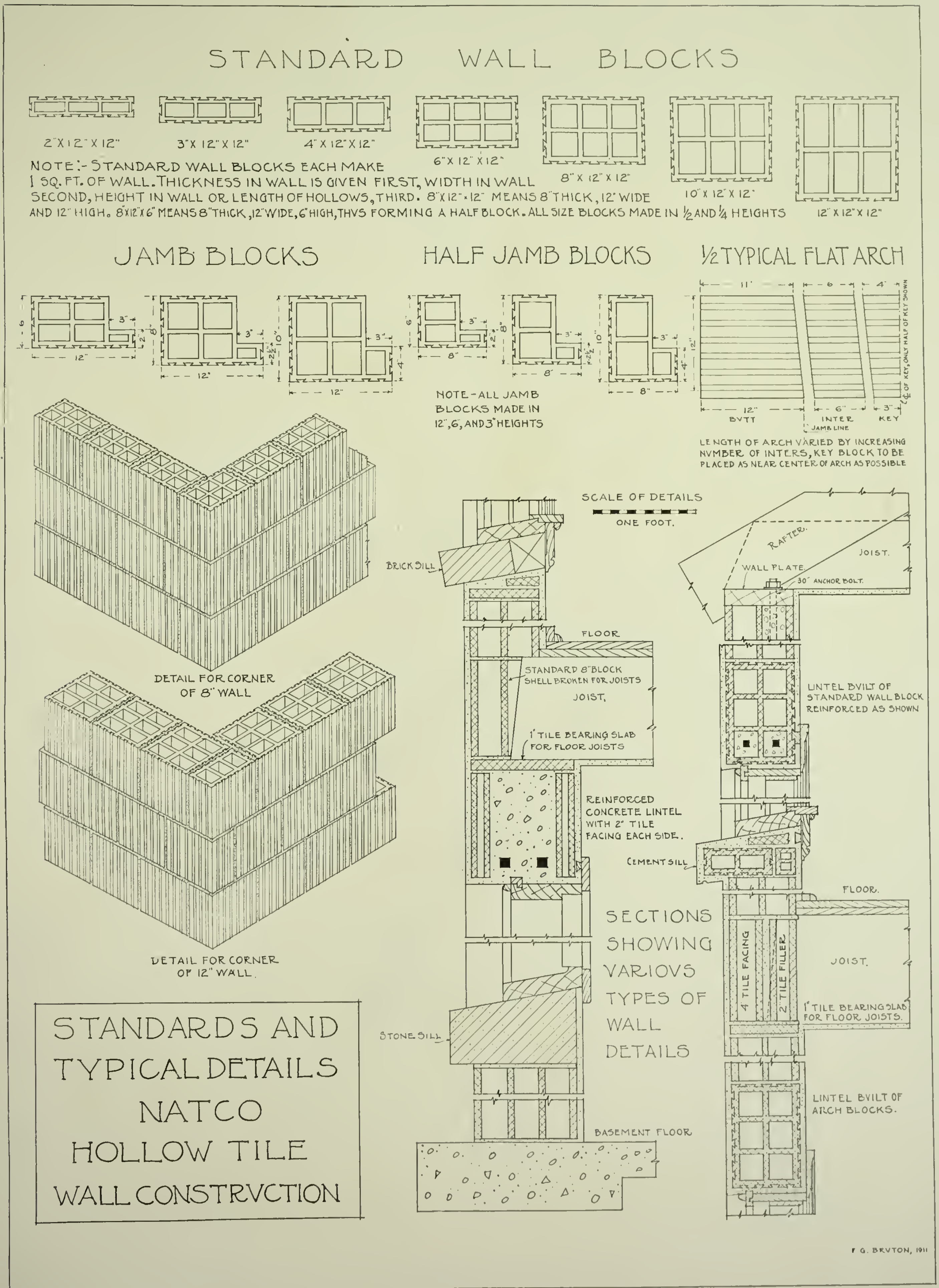
Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years


STANDARD WALL BLOCKS
2" X 12" X 12"
3" X 12" X 12"
4" X 12" X 12"
6" X 12" X 12"
8" X 12" X 12"
10" X 12" X 12"
12" X 12" X 12"
NOTE:- STANDARD WALL BLOCKS EACH MAKE 1 SQ. FT. OF WALL. THICKNESS IN WALL IS GIVEN FIRST, WIDTH IN WALL SECOND, HEIGHT IN WALL OR LENGTH OF HOLLOWS, THIRD. 8"X12"×12" MEANS 8" THICK, 12" WIDE AND 12" HIGH. 8"X12"X6" MEANS 8" THICK, 12" WIDE, 6" HIGH, THUS FORMING A HALF BLOCK. ALL SIZE BLOCKS MADE IN ½ AND ¼ HEIGHTS
JAMB BLOCKS
HALF JAMB BLOCKS
½ TYPICAL FLAT ARCH
NOTE - ALL JAMB BLOCKS MADE IN 12", 6", AND 3" HEIGHTS
BUTT
INTER
KEY
JAMB LINE
LENGTH OF ARCH VARIED BY INCREASING NUMBER OF INTERS, KEY BLOCK TO BE PLACED AS NEAR CENTER OF ARCH AS POSSIBLE
DETAIL FOR CORNER OF 8" WALL
DETAIL FOR CORNER OF 12" WALL.
SCALE OF DETAILS
ONE FOOT.
BRICK SILL
FLOOR
STANDARD 8" BLOCK SHELL BROKEN FOR JOISTS
JOIST.
1" TILE BEARING SLAB FOR FLOOR JOISTS
REINFORCED CONCRETE LINTEL WITH 2" TILE FACING EACH SIDE.
STONE SILL
BASEMENT FLOOR
SECTIONS SHOWING VARIOUS TYPES OF WALL DETAILS
RAFTER.
JOIST.
WALL PLATE
30" ANCHOR BOLT.
LINTEL BUILT OF STANDARD WALL BLOCK REINFORCED AS SHOWN
CEMENT SILL
FLOOR.
4" TILE FACING
2" TILE FILLER
JOIST.
1" TILE BEARING SLAB FOR FLOOR JOISTS.
LINTEL BUILT OF ARCH BLOCKS.
STANDARDS AND TYPICAL DETAILS NATCO HOLLOW TILE WALL CONSTRUCTION
F. G. BRUTON, 1911

COMPETITION FOR A SMALL HOUSE.

To Be Built of Natco Hollow Tile. Cost not to Exceed $4,000.

FIRST PRIZE, $300. SECOND PRIZE, $200. THIRD PRIZE, $150.
FOURTH PRIZE, $100. MENTIONS.

PROGRAM.

THE problem is a small, detached house, the walls and foundations of which are to be built of Natco Hollow Tile. Competitors may adopt the Bungalow type of house if they so desire, since the material will meet readily the requirements of such a design.

At least three bedrooms and ample basement room are to be provided for in the plan. Two bedrooms and bath are to be on the first floor. The third bedroom may be on first floor or in attic.

The location may be assumed in any town, small city, or suburb of a large city.

The cost of the house — exclusive of the land — shall not exceed $4,000. The method of heating, the plumbing, other fixtures, and finish, to be governed by the limit of cost.

The cost of the house must be figured at $.20 per cubic foot. Measurements of the house proper must be taken from the outside face of exterior walls and from the level of the basement floor to the average height of all roofs. Porches, verandas, and other additions are to be figured separately at one-fourth (25 per cent) of their total cubage. The cost of porches, etc., is to be included in the total cost of the house ($4,000).

On this basis of figuring — the number of cubic feet multiplied by the cost per cubic foot — *the jury will not consider any designs which exceed the limit of cost.*

All cubage and other dimensions will be carefully checked before the drawings are submitted to the jury.

On the drawing in a space measuring 6 inches by 5 inches — enclosed in rules — is to be given, at a size which will permit of two-thirds reduction, the cubage of the house multiplied by the cost per cubic foot, and the various items with costs which go to make up the total cost of the house.

The particular object of this Competition is to encourage the use of Natco Hollow Tile in small houses. The cost of this type of construction will be found to be in most parts of the country but little over that of first-class frame construction, and it is a fact that any mason of average ability can easily do the work.

The one marked tendency of the times is for better construction in houses. It is a subject which is being agitated by able writers in the magazines and the daily press. Insurance Companies, Boards of Trade, and other bodies interested in the public welfare are giving their support to the movement. It is believed that a Competition such as this will encourage a study of a type of construction which, although comparatively new, has, nevertheless, met all the demands put upon it with respect to æsthetic considerations, facility of construction, and cost.

CONSTRUCTION.

The following suggestions are offered as being practicable and admissible.

First. Outside walls may be of Natco Hollow Tile 8 inches thick (8 inches by 12 inches by 12 inches). Foundation walls, below grade, should not be less than 12 inches thick. The blocks being heavily scored on two sides, stucco may be used for an outside finish, and plaster applied direct to the block for interior finish.

Second. The walls may be built double, using in the outside wall a 4-inch hollow tile, and on the inside a 6-inch tile. The treatment of the face of such a wall, and the manner of bonding the outer and inner walls, are left to the designer.

The floors and roof need not be of fireproof construction.

DRAWING REQUIRED. (There is to be but one.)

On one sheet a pen and ink perspective, without wash or color, drawn at a scale of 4 feet to the inch. Plans of the first and second floors at a scale of 8 feet to the inch. A section showing construction of exterior wall with cornice. Heights of floors to be given on section. Enough detail sketches to fill out sheet. In connection with the plan of the first floor show as much of the arrangement of the lot in the immediate vicinity of the house as space will permit. The plans are to be blocked in solid. A graphic scale must accompany the plans. The character of the exterior finish must be clearly indicated on the perspective and detail.

The size of the sheet is to be exactly 26 inches by 20 inches. Plain black border lines are to be drawn on the sheet 1 inch from edges, giving a space inside the border lines 24 inches by 18 inches. The sheet is to be of white paper and is not to be mounted. Very thin paper or cardboard is prohibited.

The drawing is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., on or before June 25, 1912.

Drawings submitted in this Competition are at owners' risk from time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The designs will be judged by three or five members of the architectural profession representing different sections of the country.

First consideration will be given to the fitness of the design, in an æsthetic sense, to the material employed; second — the adaptability of the design, as shown by the details, to the practical constructive requirements of the material; third — excellence of plan.

Drawings which do not meet the requirements of the program will not be considered.

The prize drawings are to become the property of THE BRICKBUILDER and the right is reserved by THE BRICKBUILDER to publish or exhibit any or all of the others. The full name and address of the designer will be given in connection with each design published. Those who wish their drawings returned, except the prize drawings, may have them by enclosing in the sealed envelopes containing their names, ten cents in stamps.

Drawings submitted in this Competition will be returned direct from the office of THE BRICKBUILDER to the contestants.

For the design placed first there will be given a prize of $300.
For the design placed second a prize of $200.
For the design placed third a prize of $150.
For the design placed fourth a prize of $100.

This Competition is open to every one.

The prize and mention drawings will be published in THE BRICKBUILDER.

This Competition is conducted under the patronage of the National Fireproofing Company.

On the preceding page will be found examples of construction which may be helpful to competitors.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI · MAY 1912 NUMBER 5

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba . . . . . . $5.00 per year
Single Numbers . . . . 50 cents
Subscription price, mailed flat to subscribers in Canada . . . . $5.50 per year
To Foreign Countries in the Postal Union . . . . $6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

ABRAM GARFIELD; POND & POND; SCHMIDT, GARDEN & MARTIN; HOWARD VAN D. SHAW; SHEPLEY, RUTAN & COOLIDGE; SPENCER & POWERS.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

CHURCH OF SAN FRANCISCO, ACATEPEC, MEXICO.

The façade of this church is probably the most elaborate in Mexico, showing the free use of tile for decorative purposes. The dark tile shown in the illustration are rough red without glaze. The lighter tile are of various colors, usually blue with white ornament; the others, solid green, orange, and blue.

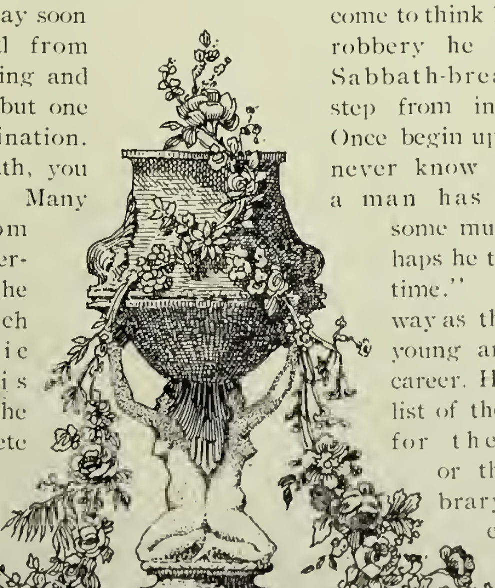
The Complete Angler or Competitions Ancient and Modern

BY HUBERT G. RIPLEY.

V.

IT would be impossible to exhaust the subject of the historical aspect of competitions without going to quite undue lengths; enough and surely more than enough has been indicated to show their general trend. In order to make our position quite clear, we have been forced to go somewhat into detail, as the foibles and idiosyncrasies of any people, class, sect, race, vocation, occupation, profession, trade, or calling, are, to the keen observer, a nidana of their true inwardness. In order to properly diagnose the case, a study of the symptoms is in order.

Thomas de Quincey says, "If a man once indulges himself in murder he may soon come to think little of robbery, and from robbery he comes next to drinking and Sabbath-breaking, and that is but one step from incivility and procrastination. Once begin upon the downward path, you never know where you will stop. Many a man has dated his ruin from some murder or other that perhaps he thought little of at the time."



In some such way as this, the enthusiastic young architect begins his career. He looks with envy at the list of those invited to compete for the new Town Hall or the Memorial Library, and longs for the chance

·MARMOR EXPECTAT·

to spread his wings and soar. Eventually he succeeds in getting on the list (way down next to the last, to be sure) of some minor competition, and day and night are as one to him. He starts in by making thumbnail sketches of his "partie" on the margin of his newspaper coming into the office on the train in the morning, he postpones writing the plumbing specifications for the alterations to Bill Jones's barn (his only job), the full size detail for the skylight lays neglected and unfinished on the drawing board, and everything is pushed one side to work on this his first real opportunity. What a boon to the manufacturers of tracing paper, competitions are. Nowadays a competition without tracing paper would be most incongruous to say the least, as tons of this material are used annually in the large and small architect shops. Tracing paper has even been officially recognized by staid juries and often drawings are asked for, rendered on this medium in pencil, "with the shadows cast lightly in monotone and the walls blocked in solid on the plans."

The enthusiastic young architect makes "calque" after "calque," and then he makes a lot of tracings. Idea follows idea in rapid succession only to be discarded by process of elimination until tired and exhausted, and utterly dissatisfied, the work is laid aside for a short space. When it is taken up again and looked at with a fresh eye, it seems even worse than it did when first made. This does not dampen his ardor in the least, work is resumed ventre-à-terre, until plan and elevations are in syzygy, and finally, as the time draws near for rendering, a scheme is decided upon and the final tracings started.

FIG. XVI. FLOWER PANEL BY PIERRE RANSON.

FIG. XVII. DESSUS DE PORTES BY PIERRE RANSON.

FIG. XVIII. TROPHÉES BY JEAN-CHARLES DE LA FOSSE.

This is a very critical time and everything depends upon intensive analysis and searching selection. Now is the period for reference to books. Perhaps, more properly, it should be said there are two periods for reference to books in the process of making competition drawings. At the beginning when work is started it is well to look carefully over all the back numbers of THE BRICKBUILDER for reference to buildings of a similar character, and also to consult other standard works such as D'Espouy's Fragments d'Architecture Antique, Fragments d'Architecture de la Moyenne age et de la Renaissance; Gailhabaud, Monuments Anciens et Moderne; Haupt's Bologna, Pavia, Mailand, Turin, etc.; Cesar Daly, Rouyer, Letaroui-

FIG. XIX.
COMPOSITION PITTORESQUE BY JEAN-CHARLES DE LA FOSSE.

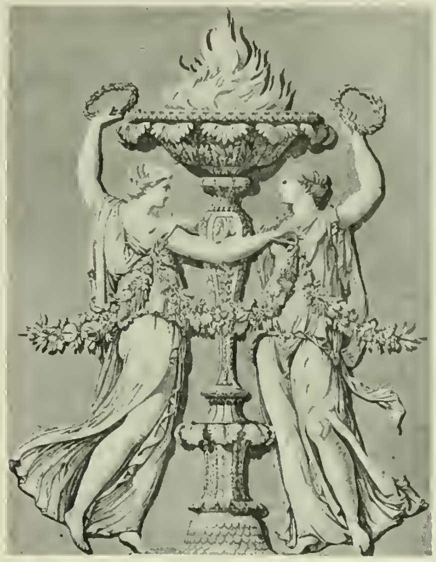


FIG. XX.
DECORATIVE FIGURES BY CHEVALIER GIOCONDO ALBERTOLLI.

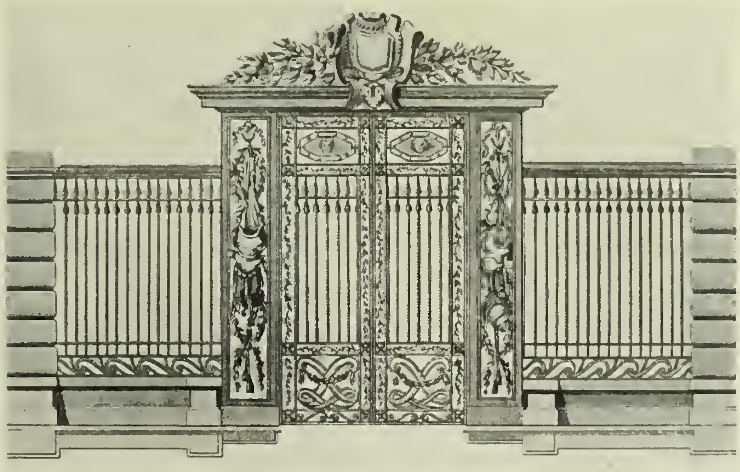


FIG. XXI.
GRILLE BY CAILLOUET.

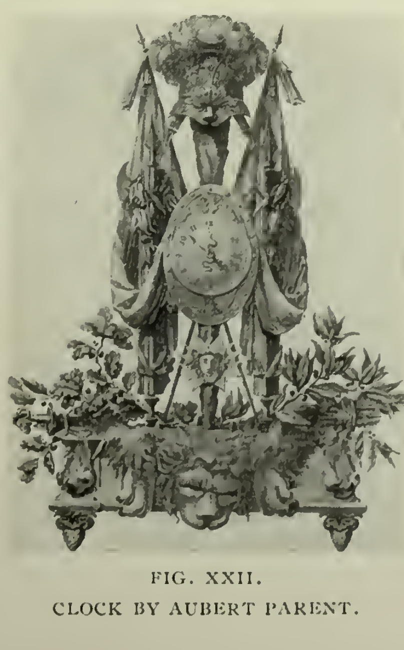


FIG. XXII.
CLOCK BY AUBERT PARENT.

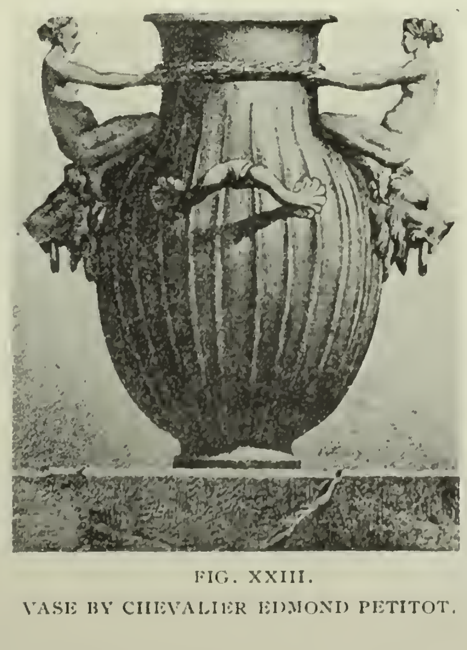


FIG. XXIII.
VASE BY CHEVALIER EDMOND PETITOT.

elly, Sauvageot, Bosc, Viollet-le-Duc, Verdier et Cattois, etc., etc.

After the "partie" is decided upon and the general style and dimensions fixed, consult such works as Architecture Decoration et Ameublement, Epoque Louis XVI, M. Rudolphe Pfnor; De Neufforge, Blondel, Iconologie Historique par Delafosse; Percier et Fontaine's various works; R. and J. Adam; Meyer's Handbook of Ornament; the Architectural Association sketch books, etc., for suggestions and ideas as to detail. A well-drawn, carefully studied and charmingly detailed plan and elevation has pulled many a loser out of the fire, especially if the ornament is drawn with sure precision and painstaking accuracy. Such a set of drawings is not only a delight to the eye but, when skilfully presented, favorably prejudices the most astute jury.

Of course all this means, taken in the aggregate, an immense and incalculable amount of labor and effort, ninety or ninety-five per cent of which is without material recompense or practical result as far as immediate financial rewards are concerned, or visual evidences of actual construction are displayed; and this is the reason why so much is said in favor of the abolition of competitions. Does any one suppose for a minute that there would be any howl against competitions if every body was given a capital prize? But how about the excellent schooling and the splendid training in the solution of actual live problems that the serious study of competitions gives? That is surely worth while, and we know from the experiences of the past that in no other way could architecture have reached its present development. When we enter upon a competition and put our best effort and study into it, we are simply paying back the debt we owe to the past and keeping alive the highest traditions of our profession.

All architects at the beginning of their career realize this even if later on they fall away from some of their high ideals. It is but natural that they should; contact with the world is not always gentle and the knocks and whangs, as the years roll on, are apt to leave their cicatrices and their susurri of gall. "The bee and the spider suck honey and poison out of the same flower."

Perhaps from the very nature of things impalpable, the profession of architecture is freer from this rancor than any other calling. The architect is naturally of the most

FIG. XXIV. BRAS DE CHEMINÉE BY JEAN FRANCOIS FORTY.

confiding and trusting disposition. He is a simple soul believing good of everybody and seeing only the ideal, and this is as it should be and we are all glad of it.

What to do with our unsuccessful competition drawings after they are returned with a polite note of thanks is worthy of some consideration. If they are mounted on cardboard, as oftentimes they are, it is well to preserve them carefully as these cardboards come in very handy from time to time to mount other sketches on, or to make mats for framing some favorite drawing for exhibition purposes. If the drawings are good ones and well worth while, as they oftener than not are, they should be given the widest publication in the professional press. Our confreres, the French, know what to do with their unsuccessful concours. They publish them, and give them the widest circulation. There are very many beautiful volumes and portfolios of plates of all sorts and kinds of buildings that have never been built and never will be built, and they are among the most valuable works an architect can have in his working library. Some of these books contain so many beautiful plates that it makes an ordinary man gasp for breath and choke with emotion, as he reverently turns over their glittering and scintillating pages, and wonders if ever he will attain to one tenth part of the proficiency here so prodigally displayed. It is true we have not anywhere near the ability as a body that the old Greek architects, for example, had, and our work would make but a poor showing stacked up against the conceptions of Jetinus and Carpion and Ctesiphon, even if we placed our best beside the least of their efforts; but when our most skilful and talented architects and draftsmen strive for weeks and months on a problem and then turn out something that is really fine and noble and beautiful, and the jury or professional adviser, with the most sincere and dispassionate judgment, turns it down, it is a shame to let all that effort be lost, and never see the light of day in enduring material.

Think what glorious dream cities could be built from a judicious selection from the unsuccessful competition drawings of the last twenty-five or thirty years even, to go back no farther! What splendid boulevards, parks, capitols, city-halls, libraries, colleges, schools, museums, dwellings, and a host of minor buildings would go towards the making of such a city as never was. And every building in that city would be a perfect gem, complete, harmonious, beautiful. Long streets of the most interesting and fascinating façades, noble vistas with just the right thing to look at on the axis, quaint picturesque bits unexpectedly happening on the view, beautiful gardens with all the environment and furnishings that would make them elysian; in fact such an ideal place would certainly put it all over any modern city, and even give Rome, in the height

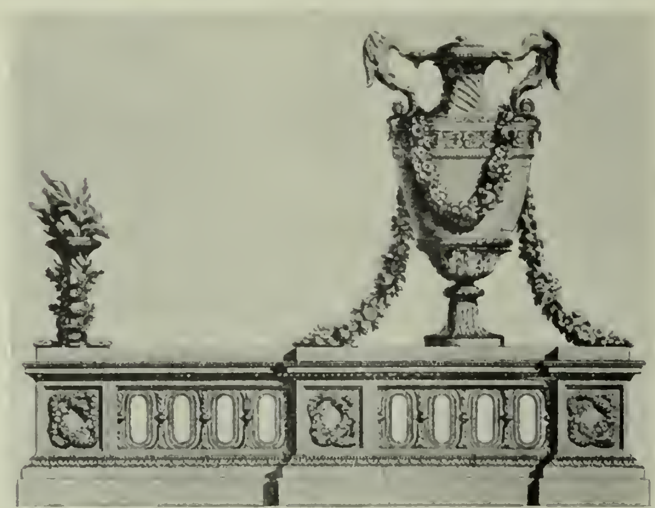


FIG. XXV. CHENET BY JEAN FRANCOIS FORTY.

of its glory, a run for first money. All that one would have to do to realize this is to look at Buhlman's panorama of Ancient Rome, which gives a faint conception of how a modern city composed as per above would look.

Think, too, how happy all the poor old chaps who got second and third and fourth places would be. Of course some of the designs that look so fine on paper might turn out punk, but then, some of the winners aren't so wonderful even now as it is. Still, on the whole, we feel that the experiment would be well worth trying, if the scheme were properly financed and a little put aside each year as a sinking fund. What it really all comes down to is this: The value of competitions is not to be measured by the success or non-success of the drawings rendered. And their value, won or lost, cannot be overestimated.

FIG. XXVI. TEMPLE OF JUNO MONETA FROM BÜHLMANN AND WAGNERS RUNDGEMÄLDE OF ANCIENT ROME.

Specifications for a Heating and Ventilating System for an Eight Room School Building.

CHARLES L. HUBBARD.

THE following simple specifications are for a heating and ventilating system, the design of which was given in the preceding article. They may be enlarged upon in any way the architect deems advisable, and, by suitable changes, be made to answer for quite a variety of buildings of this general type.

General Conditions. The term "Owners," as used in the following specifications, refers to the first party to the contract under which these specifications shall be executed.

The term "Contractor," as used in the following specifications, refers to the second party to the contract under which these specifications shall be executed.

The words "approved," "satisfactory," and others of similar meaning used in these specifications, shall be understood to have reference to the judgment of the architect regarding the material or work alluded to.

All materials are to be new and of the best class in every respect, and the most approved of their respective kinds.

No departure from plans and specifications shall be made without a written order therefor from the Architect.

In case any change is made involving the use of material, apparatus or labor costing less than that specified or shown, the owners shall receive the benefit of the difference in cost, and if such changes cost the Contractor more than the corresponding material or labor called for or shown, the owners shall pay to the Contractor the difference in costs, plus a commission not exceeding twenty per cent (20%) on the cost difference.

The Contractor is to guarantee all labor and material for one year from the acceptance of his work, and is to put and keep the same in repair, unless such defects as may develop are clearly the result of faulty usage of the apparatus by employees not under his control.

The right is reserved to prepare detail drawings for all parts of the work. The drawings are made a part of these specifications, and all writing thereon is to be followed in the same manner as though herein specified.

Where sizes are not plainly marked on plans, the sizes marked for the corresponding parts are to be followed, or the architects will determine the sizes when entirely omitted.

The intent of these specifications is to cover and include all material and labor required to install the entire apparatus in all of its several parts, so that, when finished, it shall be complete as a whole, and perfect in all its details, both in construction and in operation. Any minor items in the matter of material to be furnished, or of work to be done, or minor changes to be made in order to complete the apparatus and to equip it for its intended use, though such details are not specially noted in the specifications nor shown on the plans, are to be furnished by the Contractor without extra charge.

Upon the completion of the work the Contractor shall furnish a competent man to test and adjust the entire apparatus under the direction of the architect, to the entire satisfaction of the latter.

BOILERS.

Type and General Dimensions. The boilers two (2) in number, are to be of the horizontal tubular type with full overhanging fronts, and all parts and pieces must be designed accordingly. The shells are to be thirteen feet four inches (13′ 4″) long outside, and forty-eight inches (48″) in diameter. The heads are to be twelve feet (12′ 0″) apart outside. The size and description of the other parts are to conform substantially to the details usually furnished by the Hartford Steam Boiler Inspection and Insurance Company for boilers of this size.

Materials: Quality and Thickness. Shell plates are to be three-eighths of an inch (⅜″) in thickness of Open Hearth Fire Box Steel, having a tensile strength of not less than fifty-five thousand (55,000) pounds, nor more than sixty thousand (60,000) pounds per square inch of section. Heads are to be one-half inch (½″) in thickness of best Open Hearth Flange Steel.

Riveting. Longitudinal seams are to be of the standard double riveted, butt-joint type, with rivets staggered. They must be arranged to come well above the fire line of the boiler, and must break joints in different courses in the usual manner.

The transverse seams are to be single riveted, with rivets of the same diameter.

The rivet holes must be drilled, and must be neatly chamfered one thirty-second of an inch (1/32″) on the faying side of all plates.

Braces. Each boiler is to have eight (8) solid steel diagonal braces on each head, each brace having a sectional area of not less than one square inch in its weakest part. They are to be riveted to the heads and shell with rivets of a strength equal to the body of the brace.

Tubes. Each boiler is to have forty-four (44) best lap welded tubes three inches (3″) in diameter and twelve feet (12′ 0″) long, set in vertical and horizontal rows with a clear space between them vertically and horizontally of one inch (1″), except the central vertical space which is to be two inches (2″).

Manhole. Each boiler is to have one manhole eleven by fifteen inches (11″ x 15″) with a strong internal frame and cover. It is to be located in the shell on top of boiler.

Handhole. Each boiler is to have one handhole four by six inches (4″ x 6″) with suitable plate, yoke, and bolt, located in each head below the tubes.

Brackets and Wall Plates. Each boiler is to have four (4) cast iron brackets, two (2) on each side, securely riveted in place, twelve inches (12″) long with a projection of ten inches (10″) from the boiler.

Cast iron wall plates twenty inches (20″) long, ten inches (10″) wide, and one and one-half inches (1½″) thick must be furnished for each bracket to rest upon, and three rollers, each one inch (1″) in diameter and nine inches (9″) long, must be furnished for each of the rear brackets to rest upon, to allow free expansion of the boiler.

Nozzles. Each boiler is to have two (2) cast iron nozzles, one four inches (4″) in diameter for steam pipe connection, and one four inches (4″) in diameter for equalizing pipe and safety valve connection.

Smoke Opening. Each boiler is to have an opening ten by thirty-two inches (10″ x 32″) cut out of front connection on top for the attachment of uptake or bonnet.

Feed Connection. Each boiler is to have a hole tapped to receive a one-inch (1″) feed pipe, ending in an elbow looking down between tubes and shell.

Blow-off. The boilers are each to have a circular plate of the same material as the shell, tapped to receive a two and one-half inch (2½″) blow-off pipe. These pipes are to be extra heavy with extra heavy fittings, and are to be protected in the combustion chamber by cast iron sleeves packed with mineral wool.

Fusible Plug. The boilers are each to be provided with a low-pressure long fusible plug in the back head, with its center two inches (2″) above the top of the upper row of tubes.

Fittings. Furnish and properly connect to each boiler as directed, one steam gauge with eight inch (8″) dial, iron body and nickel-plated rings, graduated for indicating pressures up to a maximum of sixty (60) pounds.

Furnish and connect to each boiler one (1) three and one-half inch (3½″) pop-safety valve of best make, set to blow at a pressure of twenty-five (25) pounds.

Provide suitable chain and pulley attachment for lifting the safety valves and carry the pull chains to some convenient point for use.

Furnish and connect with each boiler one combination box with three-fourths inch (¾″) gauge glass and gauge cocks; using brass pipe outside the bonnet, and iron inside. A three-fourths inch (¾″) brass drip pipe with valve is to be carried to the ash-pit. Set the water gauge at such a line that there shall be two inches (2″) of water over the tops of the tubes when the water disappears from the glass.

Castings, Doors, Grates, Bolts, etc. Each boiler must be provided with a cast iron front; with all necessary anchor bolts; two (2) close fitting furnace doors with liner plates; two (2) close fitting ash-doors; and back connection door.

Grate bars for plain grates, fifty-four inches (54″) long by forty-two inches (42″) wide, with suitable bearer bars for the same.

Arch bars for back connection and all buck staves, with the necessary bolts or tie-rods; and all other castings or iron work of any description necessary for the proper setting of the boilers complete.

General. The size and description of parts are to conform substantially to the details usually furnished for boilers of this description and size, and during the process of construction all the material and workmanship are to be subject to the inspection of, and after erection to be approved by, the architect and by a satisfactory Steam Boiler Inspection and Insurance Company, and the latter's insurance policy for one (1) year for Four Hundred Dollars ($400.00) on each boiler from the completion of setting, is to be furnished by the Contractor to the owners.

Tests. Before leaving the construction shops the boilers shall be tested under a hydrostatic pressure of one hundred and fifty (150) pounds to the square inch, and all joints and all connections made tight at that pressure.

Boiler Foundations and Settings. The settings are to be built substantially as shown on plans. Inside brick are to be light hard; exposed or outside bricks are to be of the best quality hard burnt. Furnace and bridge walls and rear arch are to be lined with A No. 1 fire brick. All red bricks are to be laid in freshly made cement mortar of best quality. Fire bricks are to be laid in either a mixture of fire clay and ground fire brick, or pure cement with very close joints.

The boiler tops are to be covered with one layer of light burnt brick, laid loose on side, care being taken to leave a clear space above rivet heads; and an outer cover similarly laid in cement mortar.

Smoke Connections. Smoke connections are to be of No. 12 American Gauge black iron of sizes indicated, and are to run as shown on basement plans. Cleanout doors are to be provided as indicated or directed.

In each uptake or bonnet a damper for hand regulation is to be placed and suitable means for adjusting and securing it in any desired position are to be provided.

Furnish and place in main pipe a balanced damper of No. 10 iron, closing at forty-five degrees (45°). This damper is to be connected with a damper regulator to be described later.

Feed Pipe. The feed pipe to boilers shall be of heavy brass and fittings one inch (1″) in diameter. Each branch to be furnished with a check-valve and a gate-valve. A one-inch (1″) connection shall be made with the feed pipe for supplying water direct from the mains.

Fire Tools. Furnish two complete sets of heavy fire tools, including tube cleaners, also two large size steel scoop shovels, and furnish a suitable rack for holding the above tools when not in use.

Furnish one (1) set of three (3) brass oil cans and tray, and two (2) ten (10) gallon tanks, labeled to indicate contents, and provided with suitable draw faucets and brass trays.

Furnish a hardwood stand properly designed to accommodate the oil tanks and having a shelf between the floor and top of stand to hold tray.

Provide also one coal barrow of three hundred (300) pounds capacity.

Blow-off Tank. Furnish, place and connect in a proper and complete manner a cast iron blow-off tank, twenty-four inches (24″) in diameter, and forty-eight inches (48″) deep.

Waste Pipe. The waste pipe from the blow-off tank is to be two and one-half inches (2½″) in diameter of XX heavy pipe. It is to connect with the main drain outside of the building.

Exhaust Pipe. This pipe is to be carried to the roof and about six inches (6″) above the top of the flue through which it is run. It is to drip through a siphon trap to the blow-off tank.

Damper Regulator. Furnish and properly connect to steam drum and to balanced damper a hydraulic damper regulator of latest pattern, locating the regulator within the boiler room at such point as the Architect shall direct.

Engine. Furnish, set and connect one belt-connected fifteen by eight inch (15″ x 8″) low pressure horizontal engine.

Furnish and connect a sight-feed lubricator of one pint capacity, and all necessary or usual oil cups, valves, and attachments for steam, exhaust, and drips. All drips are to be connected and carried to the sewer through the drain from the blow-off tank. The engine shall be provided with a throttling governor, set to give a speed of two hundred and fifty (250) revolutions per minute.

Engine Foundation. The Contractor is to cause the engine to be erected and connected substantially as indicated by the engine builder on a solid concrete foundation to be built by the Contractor in conformity to a plan furnished by the makers and approved by the Architect.

Sound Deadener. The engine is to be furnished with a sound-deadening layer, to consist of two inches (2″) of hair felt placed between an upper and lower sheet of lead, the whole to be brought down hard with screw bolts. The lead sheets are to be made sufficiently large to allow the edges of the lower sheet to be turned up and the edges of the upper sheet to be turned down over the whole.

Fan. Furnish and erect one (1) six-foot (6′) double inlet steel plate fan with full housing, top horizontal discharge.

The fan is to be provided with pulley, shafting, belt, bearings, supports, large oil cups, oil drips, and all other needed fittings and attachments for its erection in the manner indicated on plans. The pulley to be of such size that in combination with the engine the fan shall be given a speed of two hundred (200) revolutions per minute with the engine running at two hundred and fifty (250) revolutions per minute.

Solid brick or concrete foundations are to be furnished for the support of the fan casing by the Contractor, who will do all excavating in connection with the same.

The fan and engine are to be erected complete for running by the manufacturers at the expense of the Contractor.

Main Heater. This is to be made up of seventy (70) sections of the School Pin Indirect Radiator, rated at fifteen (15) square feet per section. The sections are to be grouped, piped, and valved as shown on plan. Two (2) groups are to be piped and arranged with valves in supplies and returns so that they can be used singly or together, either for exhaust or live steam.

The sections are to be supported on four-inch (4″) I-beams resting on three six-inch (6″) cross-beams set in the brick walls at the sides of the fan chamber. The condensation from the live steam sections is to return to the boilers by gravity, while the return from the exhaust sections is to drain to the overflow from the blow-off tank through a trap, a connection being made for returning the condensation to the boilers when live steam is used.

Piping. The main supply and return pipes are to be of the sizes marked, and are to run as nearly as practicable in the directions indicated. They are to be carefully graded in such manner as to cause a concurrent flow of steam and water, and are to be supported with adjustable hangers.

Returns. These are to be run as indicated on plans, partly at the ceiling of the basement story, but mostly near the floor.

All overhead return pipes shall have a grade of one inch (1″) in ten feet (10′), and all sealed returns a grade of one inch (1″) in twenty feet (20′) toward the boilers. A one-inch (1″) drain connection is to be made between the main return near the boilers and the blow-off pipe; a similar connection is to be made with the return from the main heater.

Sleeves, Floor Plates, etc. Where risers or other pipes pass through floors or partitions, they are to be protected through the full depth of flooring, etc., by galvanized iron sleeves, one inch (1″) larger than the outside diameter of the pipes, and secured concentrically with regard to the pipes by nickel-plated floor plates.

Sleeves of wrought iron pipe of suitable length are to be furnished wherever the pipes pass through brick walls.

Heating Surface. This is to be of the quantities and character indicated on the plans, and is to be distributed as there shown.

All ceiling coils are to be of one inch (1″) pipe as indicated. They are to be securely supported on rolls and in a manner satisfactory to the Architect.

Foot-warmers are to be of the indirect pin, rated at ten (10) square feet per section, and are to be erected in stacks of the size marked on the plans.

Direct radiators are to be two-column, except in the entrances, where they are to be three-column. All are to be thirty-two inches (32″) in height and have a single pipe connection.

The secondary heaters for the eight (8) class rooms are to be made up of indirect pin radiators rated at ten (10) square feet per section.

The amount of surface for the different rooms shall be as follows:

Room No.	*No. of Sections.*
7	7
8	8
12	7
13	8
16	7
17	8
21	7
22	8

These heaters are to be supported at the bases of the flues in the position shown in detail on plans.

Valves. All valves in mains and branches are to be of the gate pattern suitable for low-pressure work. Radiator valves are to have wood wheels, rough body, and are to be nickel-plated. All valves on radiators having single pipe connection are to be either high-lift angle or offset.

Air Valves. Each direct and indirect radiator and coil is to be furnished with an automatic self-cleaning air valve. All are to be connected for drip through a three-eighths inch (3/8″) pipe and three-quarter inch (3/4″) main, run to the boiler room sink. Each group of heaters in the main coil is to be provided with a self-cleaning air valve of large size, placed as shall be directed by the Architect, and brought out to an accessible point by means of pipe connections.

Steam Gauges. Furnish in addition to those already specified in the boiler room, a six-inch (6″) steam gauge for the exhaust sections of the main heater.

Thermometer. Furnish and place in the main air-way, where directed, an eight-inch (8″) dial thermometer of approved make.

Bronzing and Painting. All radiators, coils, and exposed overhead pipes and risers, drops and fittings outside the boiler, coal and fan rooms, are to be bronzed or painted as the Architect shall direct, and all exposed supply and return pipes in the boiler, coal, and fan rooms, and all returns near the floor, and in ducts, of whatever size, are to be covered with two (2) coats of silica graphite paint.

The smoke connections are to be painted inside with two coats of the same paint. All other iron work, except galvanized iron, is to be covered with two coats of such protective paint as may be directed.

Covering. The smoke connections shall be covered with one inch (1″) of plastic asbestos, smooth finished and without cracks. All overhead steam piping in boiler and coal rooms are to be covered with Air Cell or Asbestos Magnesia sectional covering, all to be put on in the best possible manner. Fittings to be covered with moulded covering, smooth finished. Valves not to be covered. Paint all covering exposed in the corridors two (2) coats as directed.

Automatic Control. The Contractor executing these specifications is to furnish a complete pneumatic service for the automatic control of the steam supply and return to direct and indirect radiators, as may be directed by the Architect as follows. The secondary heaters for eight (8) class rooms and two (2) foot-warmers, and the direct radiators in office and teachers' rooms. All indirect heaters to have diaphragm valve on both supply and return. The foot-warmers will be controlled by two (2) thermostats, and class rooms and small rooms by one (1) each.

All air piping, water air compressor of latest pattern, tank, thermostats, valves, and all material and labor necessary to complete an efficient heat-regulating plant, are to be furnished and erected by the Contracting Company in a manner satisfactory to the Architect, and said Company will guarantee that the system will do its work properly and cost the Owners nothing to maintain such performance for one year from the date of its acceptance.

GALVANIZED AND OTHER IRON WORK.

General. Galvanized iron will be required to form the main air-ways and branches connecting the fan with the fresh air uptakes, as shown on the plans; all fresh air uptakes and all connections between the uptakes and the inlet registers; casings for secondary heaters, and all required stops around main heater and other heaters, foot-warmer casings, sleeves and collars; dampers; and deflectors. Vent flues will be of brick and furnished under another contract.

Fresh Air Inlet. The hinged windows will be provided under another contract, but the Contractor shall provide fastenings for the same, also heavy chains and large full guarded pulleys for operating the windows from the fan room floor. If found necessary the sashes shall be weighted as directed by the Architect.

Main Air Duct. The main overhead air-way and all branches connecting with the uptakes are to be made of galvanized iron complete, with tight joints, and are to be securely hung from the ceiling. They are to be made smooth on the inside, and of the dimensions given on plans. They are to be firmly and neatly supported in their several positions, and are to make tight connection with the other work to which they are attached.

Air Inlets to Rooms. The bottom of all air inlets is not to be less than seven feet (7′), nor more than eight and one-half feet (8½′) above the floor. The inlets to all class rooms are to be provided with diffusers suited to their respective positions. Floor registers, where shown, shall be of heavy cast iron, black japanned and without valves. Wire grilles satisfactory to the Architect are to be placed in all wall inlets for fresh air, and are to be of the sizes shown on plans.

Vent Outlets. The vent outlets from rooms shall be furnished with wire grilles similar to those in the inlets. The Contractor shall provide them with gossamer check valves, backed with galvanized wire grating of one-inch (1″) mesh.

Dampers. Large and easily operated pan dampers are to be placed in the two (2) main vent flues which discharge through the roof, and are to be furnished with ready and approved means for operating them from the basement, and securing them in any desired position. These dampers are to turn on roller bearings of approved design. Deflecting dampers are also to be placed in the main air ducts and branches where shown on basement plan. They are to be provided with approved holding devices for adjustment.

Foot-warmer and Secondary Heater Casings. The foot-warmers and secondary heaters will be enclosed in casings of No. 24 galvanized iron neatly constructed in a manner to be easily removable for access to the heaters. Place a slide door in the bottom of each casing.

Toilet Room Vents. The main basement toilet rooms are to be vented through a brick uptake, surrounding the boiler flue as shown. Connection is to be made between the uptake and the closed space back of fixtures as shown on basement plans.

Diffusers. For diffusers, use nothing lighter than No. 22 iron, hemming the edges of the vertical plates, and wiring the edges of the upper and lower plates. They are to be painted or otherwise finished as the Architect shall direct.

Deflectors. Adjustable deflectors are to be placed in the main air-way where judged necessary by the Architect, or shown on plans. These are to be rigid and are to have approved means for adjustment.

Gauge of Iron to be Used (unless otherwise specified). Pipes having a cross-sectional area of less than 120 square inches to be of No. 26 gauge; more than 120 and less than 300, of No. 24; more than 300 and less than 450, of No. 23; more than 450 and less than 750, of No. 22; more than 750 and less than 1500, of No. 20; and more than 1500 square inches, of No. 18.

Cutting and Repairing. All cutting for steam and air pipes through walls, floors, or partitions, other than that shown on the original plans, and not included in the building contract, will be done at the expense of the Heating Contractor, and in a manner satisfactory to the Architect.

Blowing Out and Testing. The whole system of pipes and radiators is to be blown out through a temporary two-inch (2″) connection before returning any condensation to the boiler, and is to be made clear of all debris to the satisfaction of the Engineer. All steam piping is to be tested and made tight at a pressure of thirty (30) pounds per square inch. Fuel for testing will be furnished by the Owners, but all labor incident thereto is to be furnished by the Heating Contractor.

The Los Angeles Trust and Savings Bank, Los Angeles, Cal.

PARKINSON & BERGSTROM, ARCHITECTS.

IN the Los Angeles Trust and Savings Bank Building, the architects have freely handled their problem of exterior design without regard to the material of which the building was to be built. In their interpretation of the architectural requirements for the housing of a great fiduciary institution with superimposed office structure, they have felt no limit in architectural form and proportion, through thought of restriction in the medium of expression.

This is indeed the triumph of a material which has been regarded by many as capable of use only in connection with some other so-called constructive medium; for here we find a great commercial structure in its freedom of composition and detail calling for a solution of all of the problems of exterior design and construction from base course at the grade line to the coping of the parapet above the entablature, in white matt enamel architectural terra cotta. The architects have designed, with perfect freedom as to form, a building which they specify in architectural terra cotta, acknowledging through this expression the fact that they are emancipated from any restriction in the use of this material.

The lower portion of the building is monumental in character, of the Corinthian order, clearly indicating the semi-public purpose of the institution which it houses; while the third story forms an interesting pedestal to the well proportioned shaft. The shaft of the building is textured with horizontal bands in low projections at each story, while additional interest is given to the service mass by the panels, modeled in low relief, occurring in the spandrel sections beneath the openings.

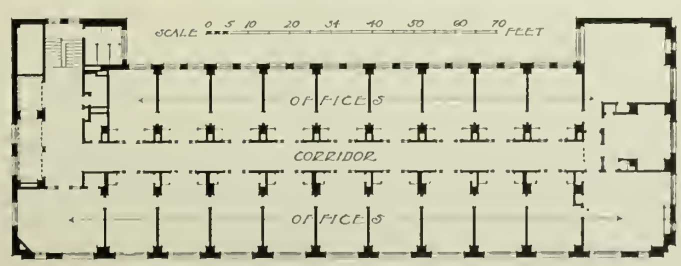
The upper two stories naturally compose the entablature; the cornice carried on colossal but well proportioned caryatids, with the ornamental panels between the windows, form an enriched frieze, well studied for scale in its detail for both height and with relation to the cornice above.

The end piers of the building are unusually strong and well balanced to the mass, a great relief in these days of undue sacrifice to light area. Yet this important requirement is amply provided for through the openings in the piers, which, however, in no sense detract from the solidity of the buttress from the fact that they are absolutely plain and raised sufficiently above the story demarcations and in no way affect the mass of the pier. The moulded forms throughout are simple and in excellent scale, while the ornament and modeling is carefully studied and executed with a fine regard to the surrounding elements and masses. Particularly good and architectural in feeling are the lions' heads which form the punctuations on the corona of the cornice at the second story.

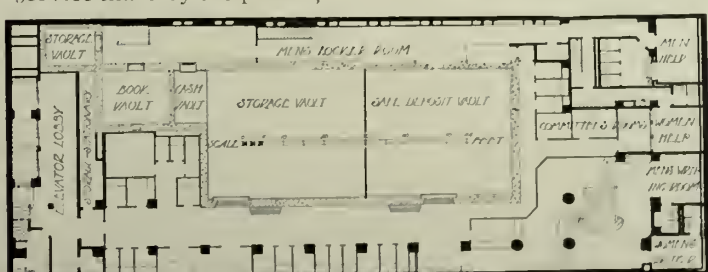
In this building, simple, dignified, well proportioned and balanced, thoroughly interesting in detail, we find one of the best and most sane solutions of the office-building problem.

The jointing of the plain ashlar facing of the main piers is entirely easy and restful, the blocks ranging from one and three-quarters to twice their height in length, and being practically true in form.

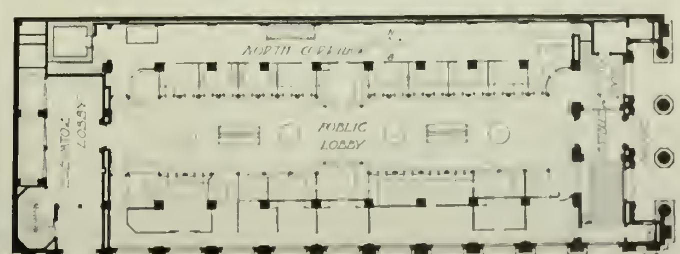
DETAIL OF UPPER STORIES.



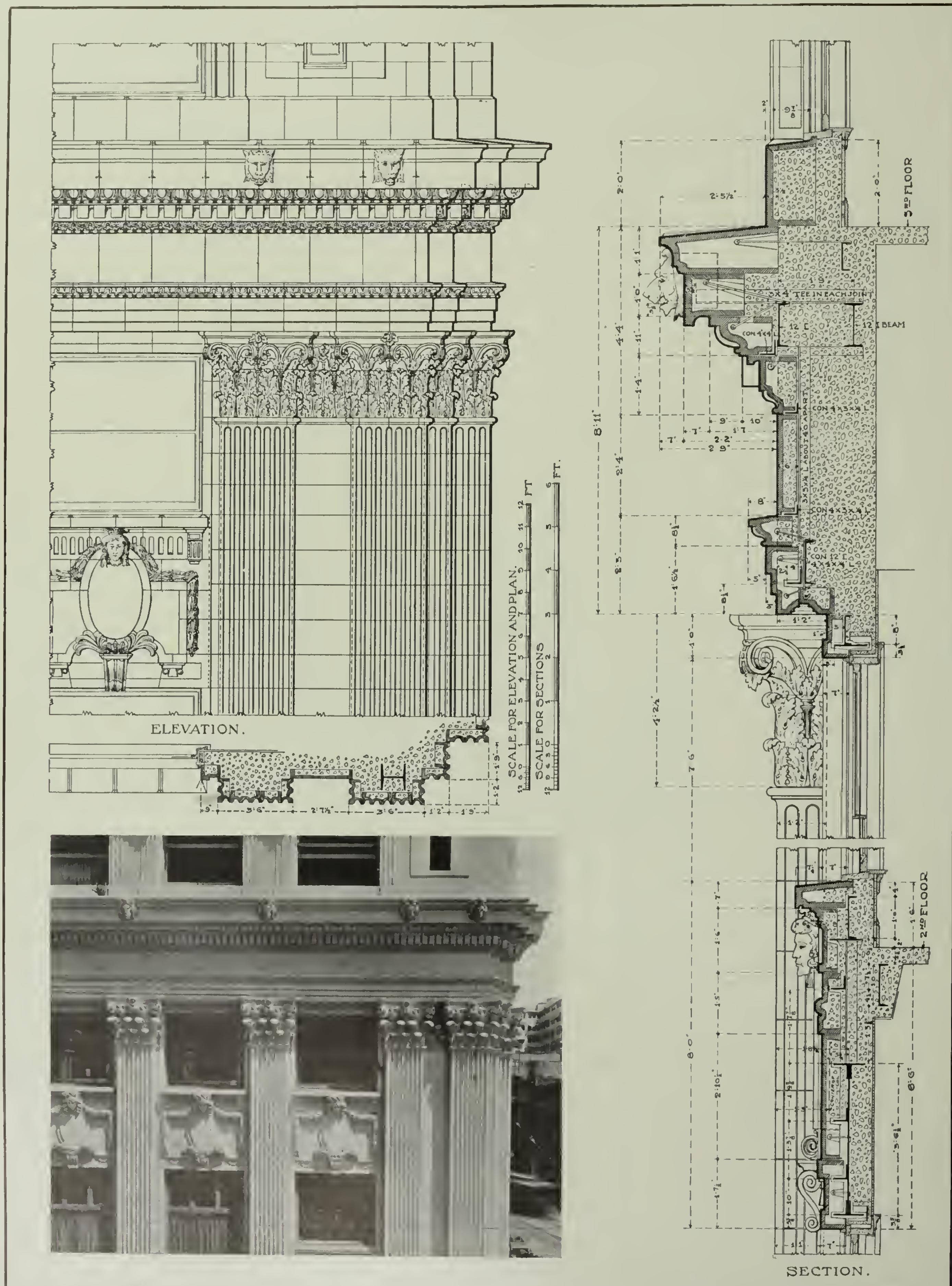
TYPICAL PLAN, FOURTH TO TENTH FLOOR.



BASEMENT PLAN.



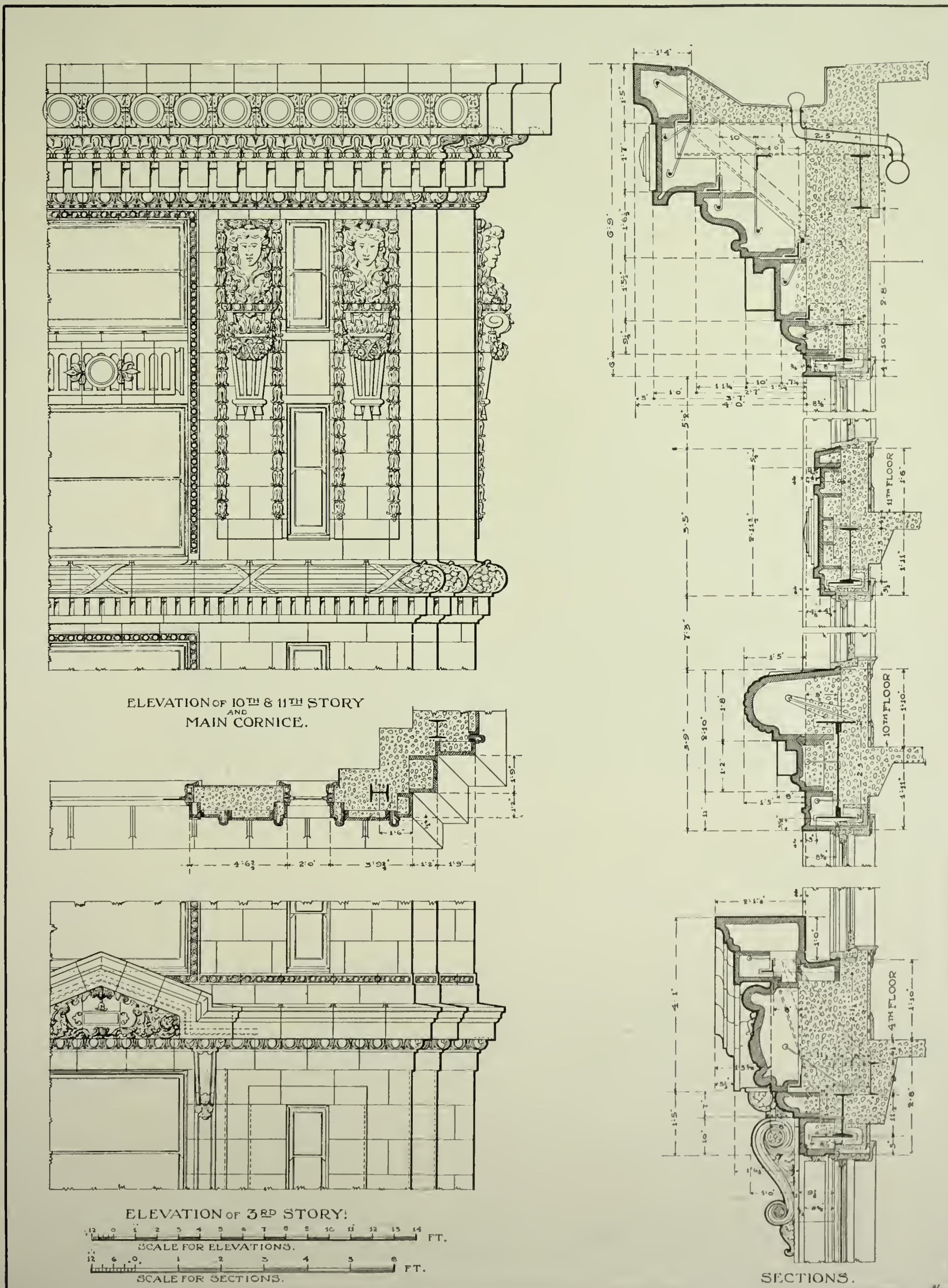
FIRST FLOOR PLAN.



Terra Cotta Details.

Parkinson & Bergstrom, Architects.

LOS ANGELES TRUST AND SAVINGS BANK, LOS ANGELES, CAL.



Terra Cotta Details. Parkinson & Bergstrom, Architects.

LOS ANGELES TRUST AND SAVINGS BANK, LOS ANGELES, CAL.

Such anchors, ties, straps, and hangers as were necessary for the proper and safe securing of the material to the structure were accurately located and developed on the structural steel drawings, and shown with proper descriptions as to size and weight on architects' large scale working details.

A few technical points of construction and jointing, of more than common interest, are worthy of note in this building. In all of the work of the lower stories the material was made full in size, allowing for the rubbing of the joints, which insured close joint work. This has proven effective in the plain work of the second-story cornice, and peculiarly so in the great fluted columns and pilasters of the main story.

On the arris between the flutes a secondary member has been introduced, enabling a back joint at the line of this secondary member, as illustrated by Fig. 1. By rubbing this joint with an emery wheel, the pieces join so closely as to be almost hidden, giving to the columns with drums the effect of single pieces. Ashlar between pilasters is run in behind the return of the pilasters, partially obscuring the joints. Wherever the plain ashlar abuts moulded forms the ashlar is rebated behind such mouldings. In the capitals and ornamental panels the joints are lost in the contours of the modeling.

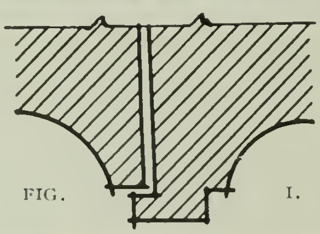


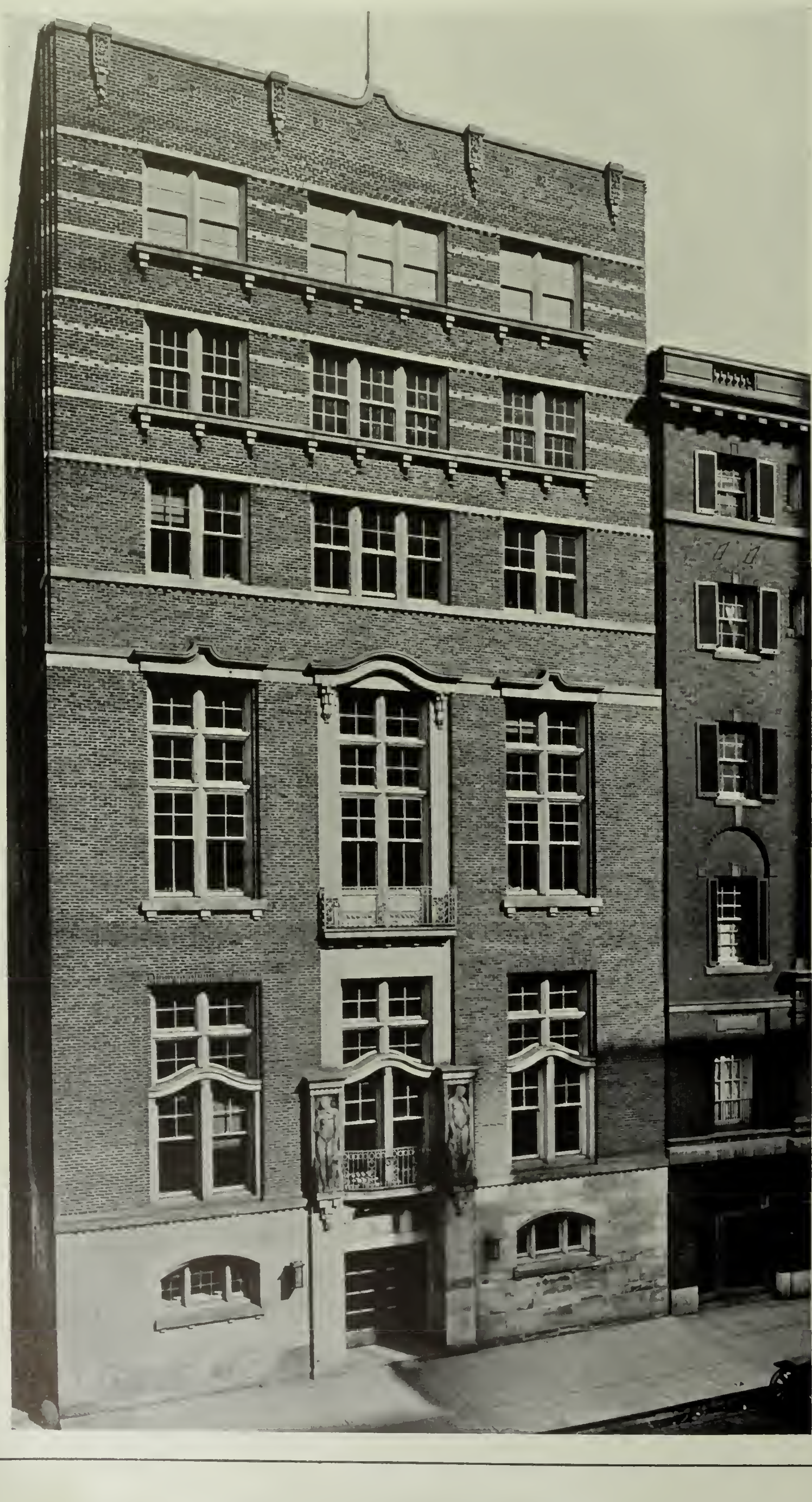
FIG. I.

Wherever practical, the main anchor of the more heavily projecting courses is set high in the piece and drawn down to the supporting girder, giving greater leverage and carrying power. A framework attached to the structural steel supports the pediments over windows at the fourth story, while anchors and ties still further secure the units to the structure.

The ceilings to vestibules to both bank and office building are in terra cotta, hung from girder and cross beam; the ceiling slab carrying over the beam covering and thus hiding the joint.

It is to be regretted that space will not permit of a detailed illustration of the smaller vestibule ceiling, which in the form of a cove reaches a moulding forming the border to an oval panel in single piece, which as a key forces the entire ceiling into solid construction. As an example of architectural and technical excellence, the building well warrants the thought bestowed upon it by architects and manufacturer, and demonstrates again the fitness of architectural terra cotta for buildings of this type.

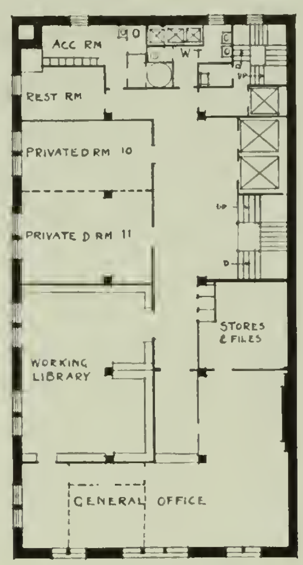
DETAIL AT THIRD STORY.



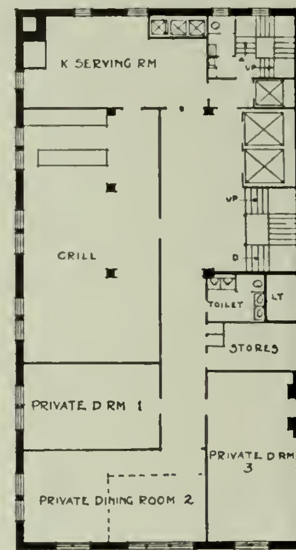
CITY CLUB,
CHICAGO, ILL.

POND & POND,
ARCHITECTS.

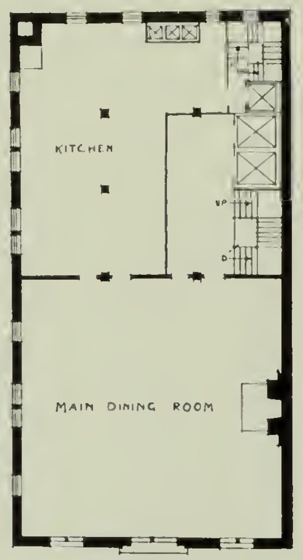
FIREPLACE IN MAIN DINING ROOM.



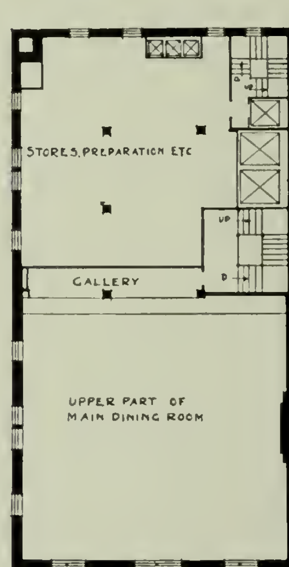
FOURTH FLOOR PLAN.



FIFTH FLOOR PLAN.



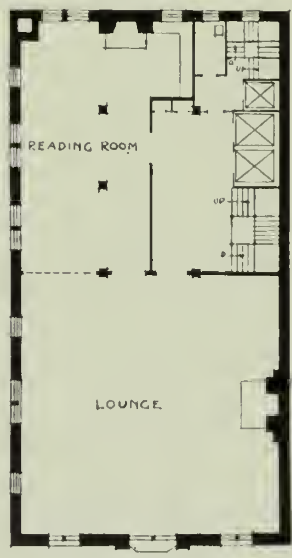
THIRD FLOOR PLAN.



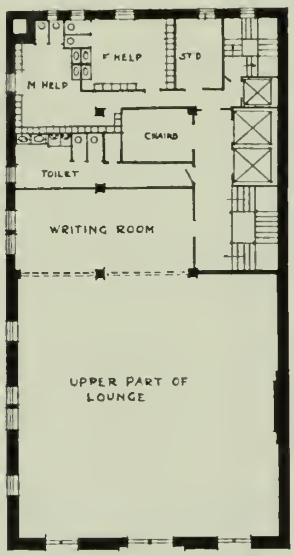
THIRD FLOOR MEZZANINE

CITY CLUB, CHICAGO, ILL.

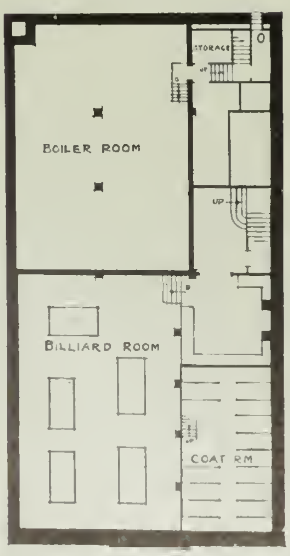
POND & POND, ARCHITECTS.



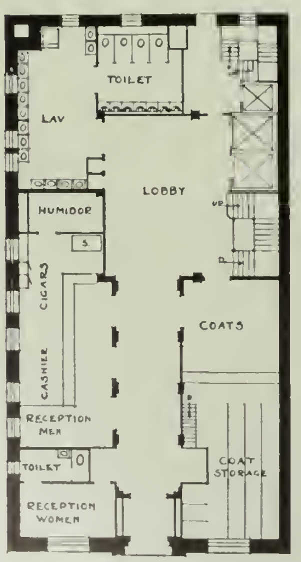
SECOND FLOOR PLAN.



SECOND FLOOR MEZZANINE.

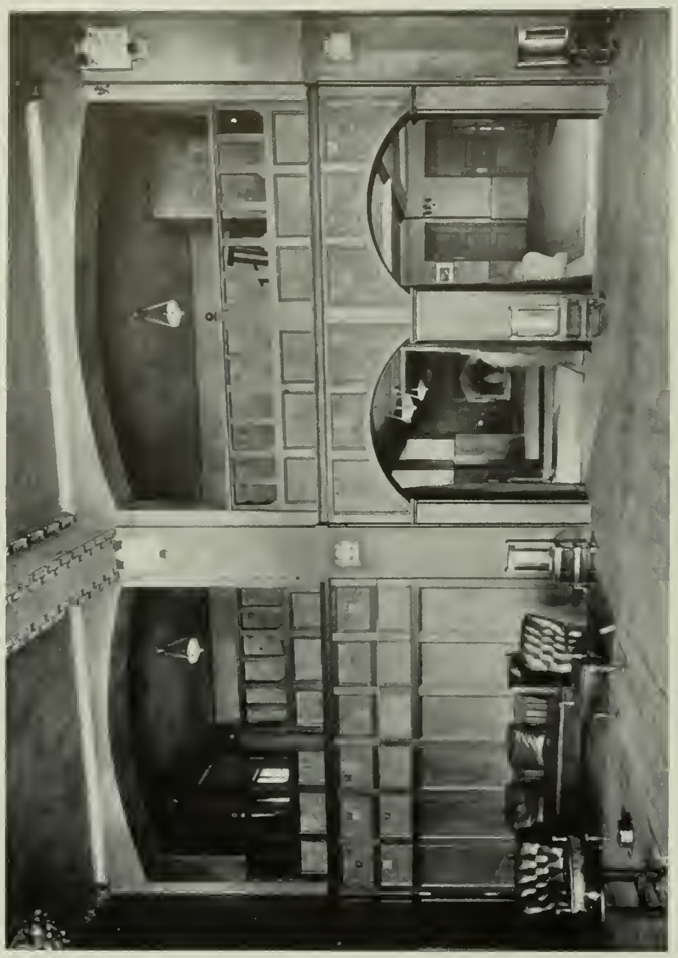


BASEMENT FLOOR.

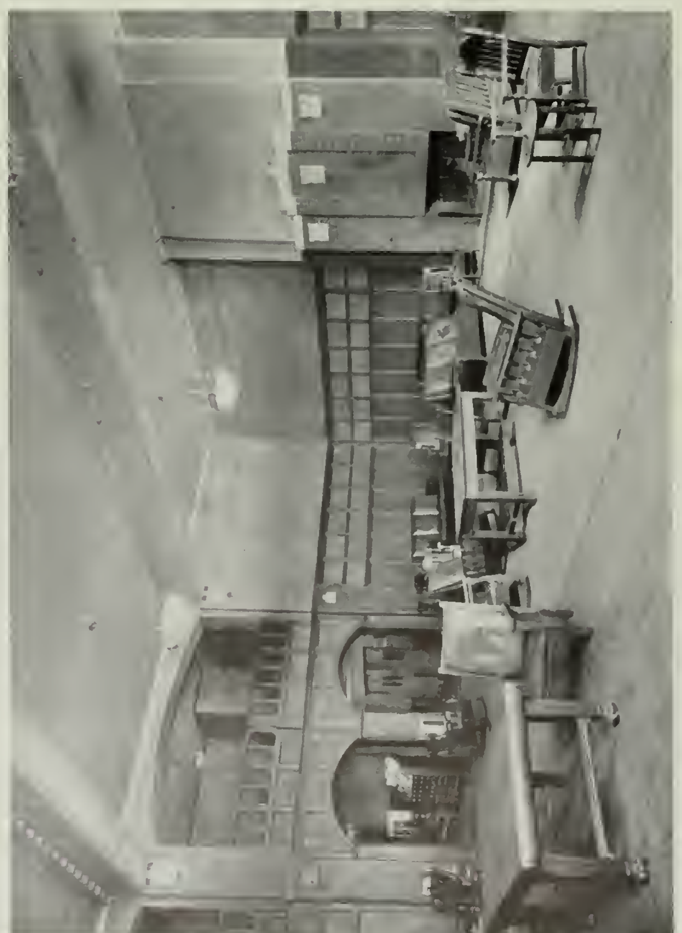


FIRST FLOOR PLAN.

FIREPLACE IN LOUNGE

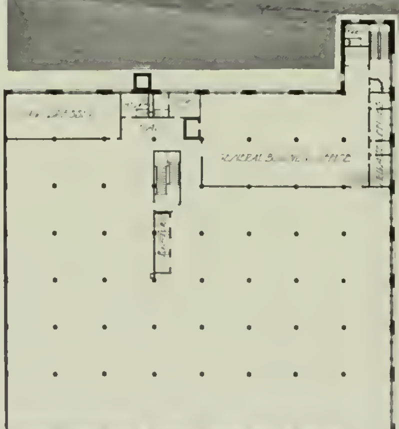


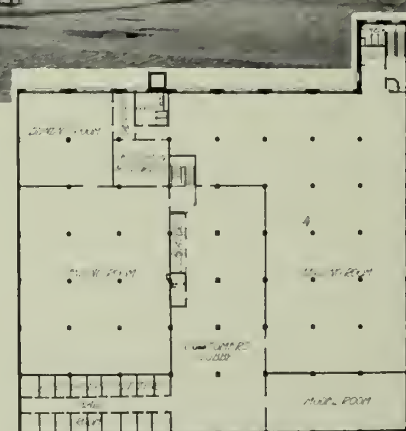
LOUNGE.
MAIN DINING ROOM.



LOUNGE.
LOBBY CORRIDOR.

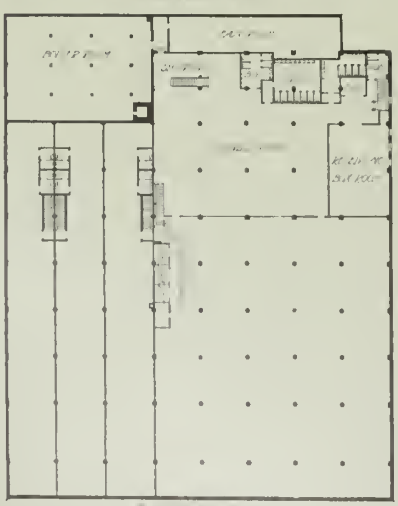
CITY CLUB, CHICAGO, ILL.
POND & POND, ARCHITECTS.

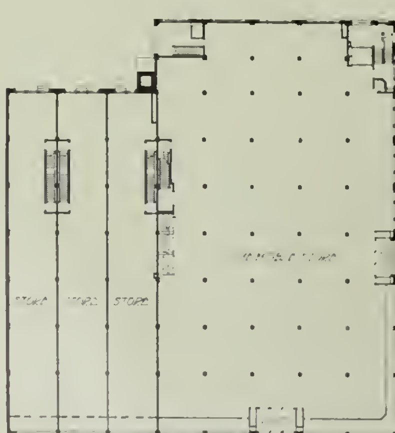


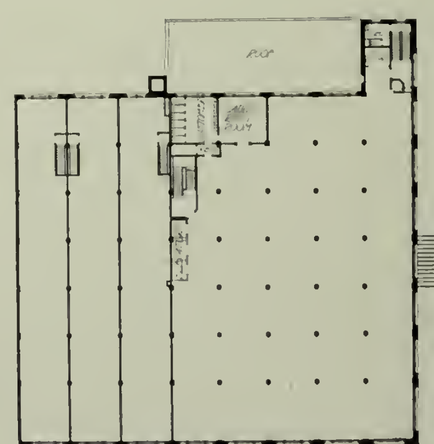


FOURTH FLOOR PLAN

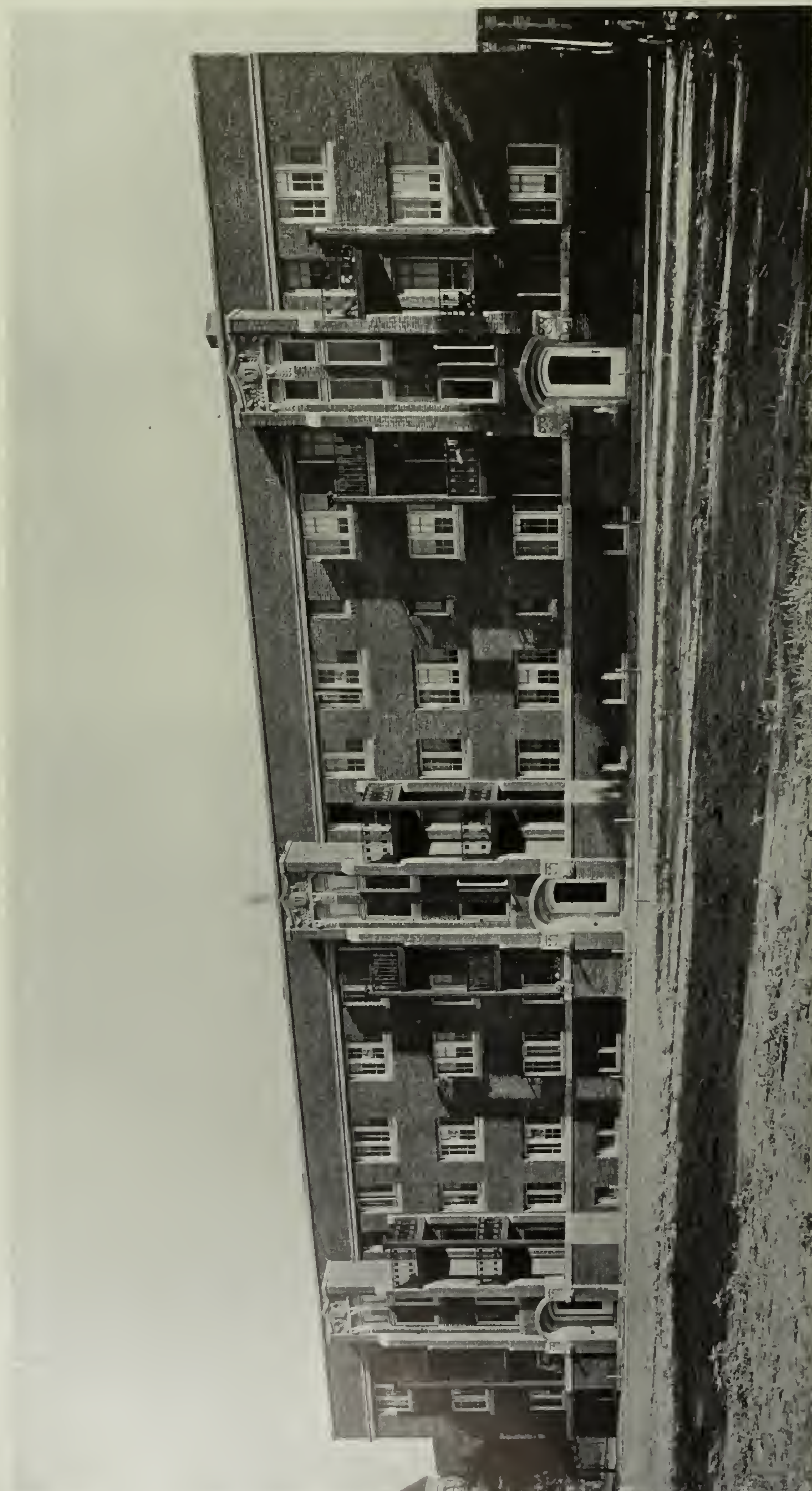
HIGBEE STORE BUILDING,
CLEVELAND, OHIO.
ABRAM GARFIELD, ARCHITECT.

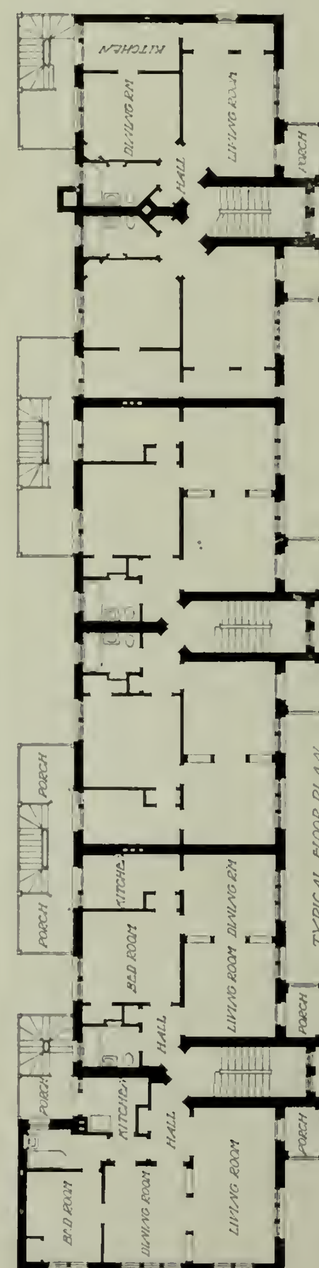






SECOND FLOOR PLAN





TYPICAL FLOOR PLAN

APARTMENT HOUSE,
CHICAGO,
ILL.

SPENCER & POWERS,
ARCHITECTS.

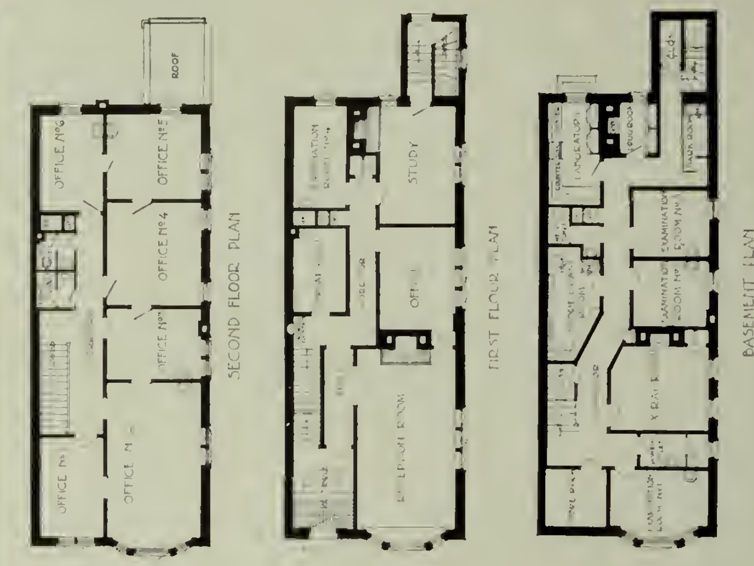
DETAIL OF ENTRANCE.

LIVING ROOM.

APARTMENT HOUSE, CHICAGO, ILL.

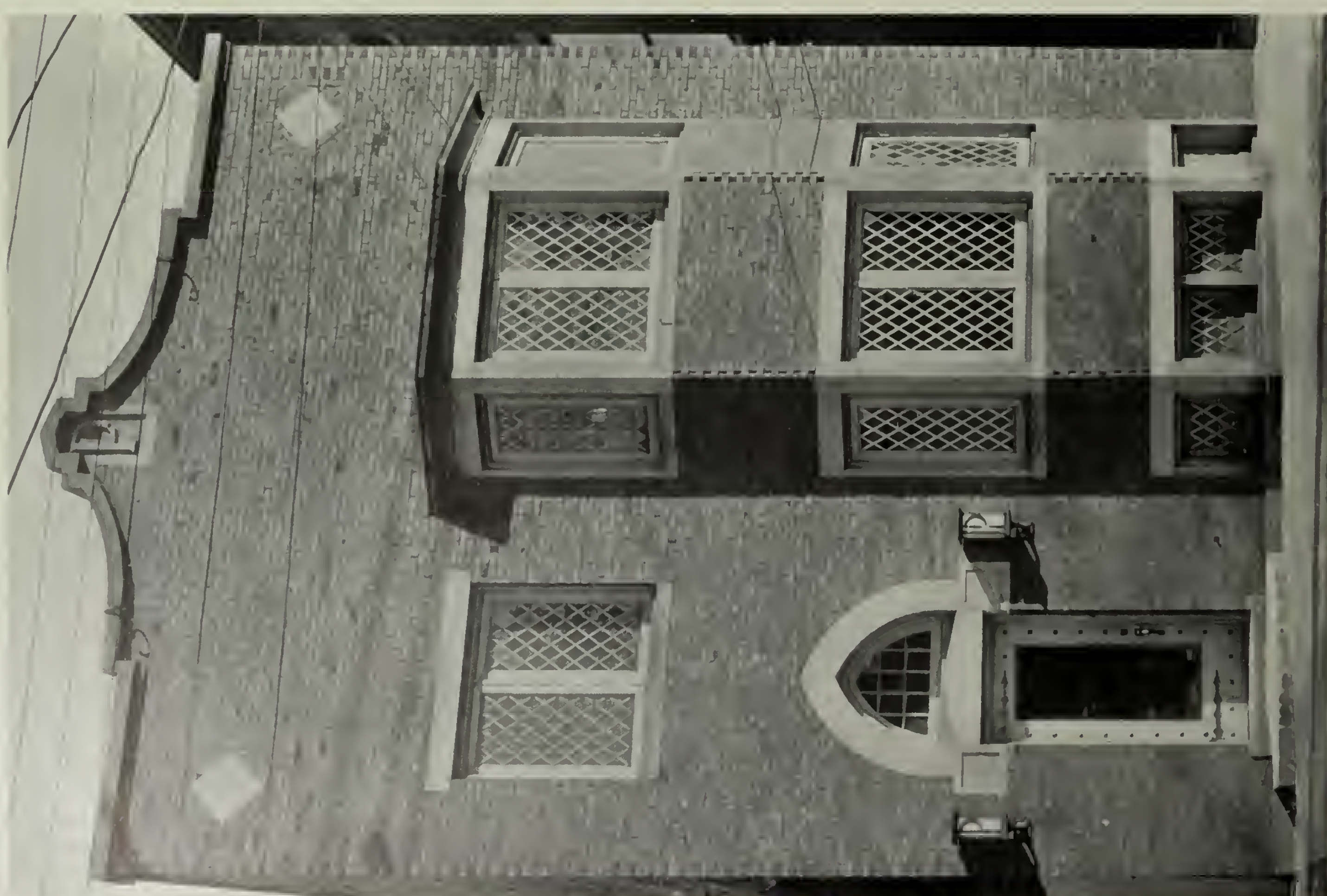
SPENCER & POWERS, ARCHITECTS.

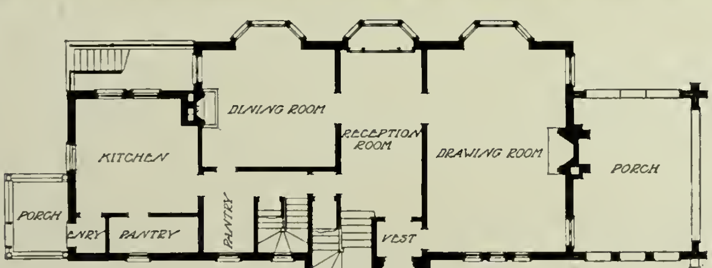
VIEW FROM DINING ROOM.



PHYSICIAN'S
OFFICE BUILDING,
GALESBURG, ILL.

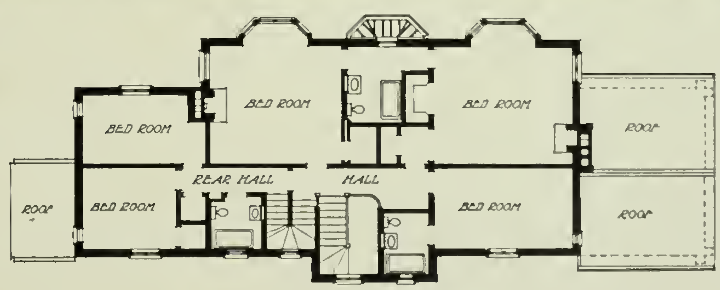
SPENCER & POWERS,
ARCHITECTS.





FIRST FLOOR PLAN

SCALE 0 5 10 20 FEET



SECOND FLOOR PLAN

HOUSE AT LAKE FOREST, ILL.

SCHMIDT, GARDEN & MARTIN, ARCHITECTS.

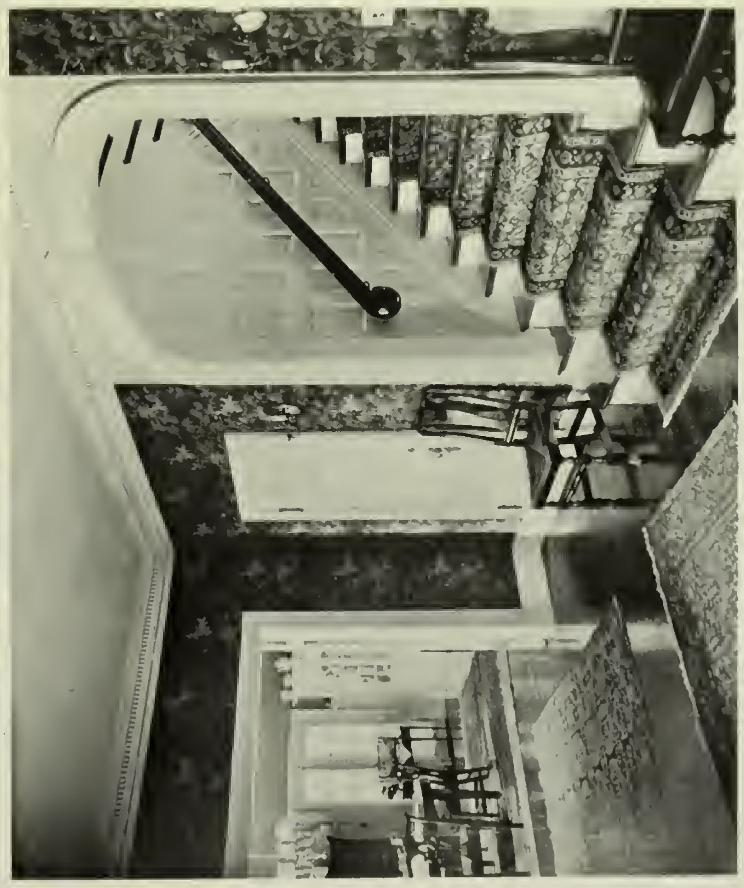
HOUSE AT LAKE FOREST, ILL.
SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

HOUSE AT LAKE FOREST. ILLINOIS.

SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

LIVING ROOM.

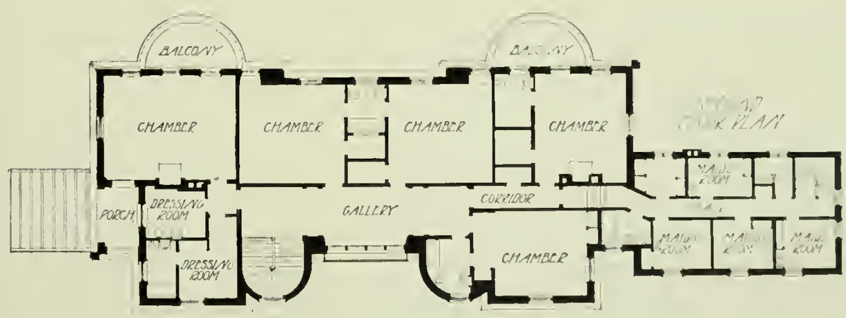
DINING ROOM.



HALL.

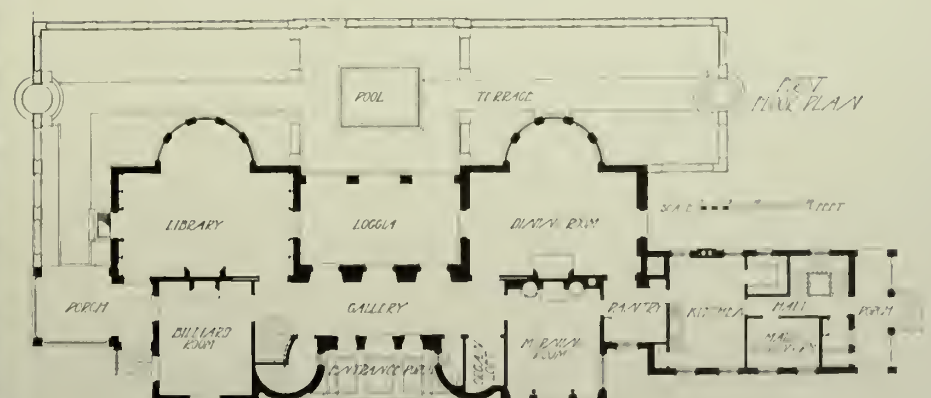
SECOND FLOOR PLAN

FIRST FLOOR PLAN



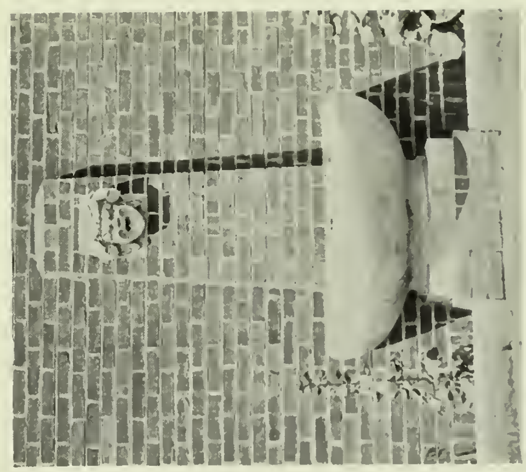
HOUSE AT LAKE MINNETONKA, MINN.

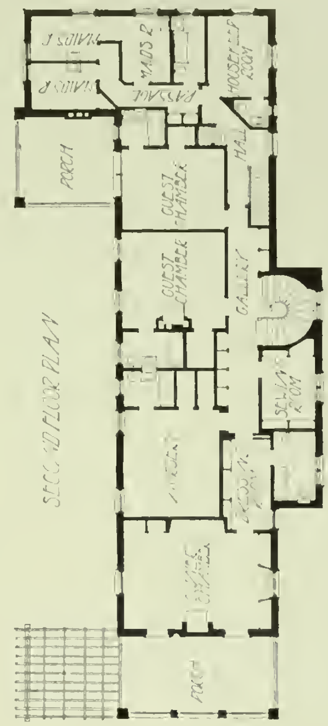
HOWARD VAN D. SHAW, ARCHITECT.



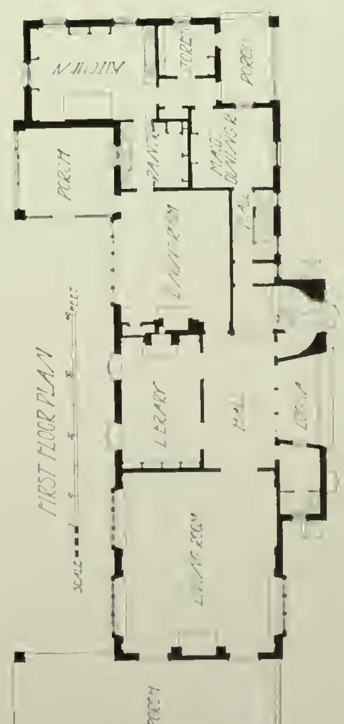
HOUSE AT LAKE MINNETONKA, MINN.
HOWARD VAN D. SHAW, ARCHITECT

HOUSE AT LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.





HOWARD VAN D. SHAW,
ARCHITECT.



HOUSE AT LAKE FOREST, ILL.

MAIN FAÇADE.

BASILICA DI S. MARCO, VENICE. THE INTERIOR.

Distinguished Architecture as a Precedent. — III.

C. HOWARD WALKER.

THE change from the intellectual and formalized art of the Classic orders to the Byzantine art of the East and the Romanesque art of the North is an ethical change which is outside the scope of these articles. It is enough to notice that semi-civilization is responsible for both, and semi-civilization is usually spontaneous in its expression and but little trammeled with conventional observances. Both were derived from Roman antecedents, but the capabilities of workmanship with the Byzantine differed much from those of the northern invaders. The builder in the East maintained traditions of skill and worked comparatively undisturbed, while in the North churches arose upon the wreck of a civilization by the hands of workmen who were learning in the process. It is to be expected, therefore, that the great Byzantine monuments should always possess skilful workmanship and the beauty of efficient craftsmanship, while the first of the Romanesque buildings should be virile but crude. Two other influences appear — first that of race, second that of climate. The tendency of thought of the Oriental is for subtle, intricate expression, that of the Northman for incisive, clear demonstration. The climate of the East and South stimulates desire for color by the example of nature, that of the North makes strong color inharmonious and impertinent. The architectural student, therefore, while enamored with the mosaics and the lace-like carving of the Byzantine detail, finds that in northern conditions they become somewhat exotic, and demand occasions for unusual splendor to warrant their adoption. The glory of the Byzantine art has somewhat a taste of barbarism despite the delicate appreciation of Greek workmen. It blazed in metals and jewels, enamels and rich marbles, and formed a background for a people in multicolored costumes. But as an exponent of splendor in color and material, it is replete with inspiration — especially in its mosaics. The Byzantine of the Greeks in the city of Constantine was classic in its architecture and resembled Rome, but within two hundred

SIXTH CENTURY CATHEDRAL, ATHENS.

INTERIOR OF THE CAPELLA PALATINA, PALERMO.

to suggest for exterior work. On the interior of the building and in the detail of the carving there is much to observe. The walls are covered with great rectangular sheets of marble veneer — the grain of the marble reversed to make a pattern; around these are narrow borders of contrasting tone. The carved caps and panels partake of the Oriental quality of flat carving, in two planes, depending more on the silhouette of the ornament upon the ground than on the modulations of surface. The spiny acanthus is used everywhere, with the lobes of nearly equal size and with V cut surfaces, and the ornament covers the ground, the field appearing only in the interstices of triangular forms which in themselves make a pattern. The flowing lines and scrolls of the leaves deserve careful study. The ornament, while firmly held by its borders, has great freedom within those boundary lines. The barrel vaults and domes are covered with rich mosaics, which are of several types. First the mosaics with deep blue grounds such as are on the tomb of Gallia Placidia in Ravenna and in St. Sophia in Constantinople. These are of the sixth, seventh, and eighth centuries. The mosaics with pale sea-green grounds, like those in S. Apollinare in Classe and in S. Vitale at Ravenna, of the seventh century, and finally the gold ground mosaics of the Capella Palatina in Palermo, and St. Mark's in Venice, which appear after the ninth century. The mosaics are large in texture and simple and conventional in drawing, with a much larger proportion of field than ornament, therein being the reverse of the carving, and conform to the limitations of the material and have never been surpassed.

years the distinctively Byzantine work of Justinian had replaced to a considerable extent the classic type. A new religion usually prefers a new expression, and the precedent for the great churches was sought in the small Syrian Christian buildings rather than in the pagan temples. The structure was Roman vaulted and domed, and the pendentive appeared as a valuable addition to structural form. But the chief decoration was upon the interior of the buildings instead of upon the exterior as on the temples, and, with the exception of the low domes, Byzantine architecture has little new

MARBLE MOSAIC FLOOR.

The Byzantine style is adaptable for interiors in which the walls are covered with marbles or mosaics or both, and therefore is frequently used in memorial chapels, crematories, oratories, etc., in cloistered courts, monumental staircase halls and the large halls of public buildings, such as libraries, railway stations, etc. It is formal and grandiose, and ill-fitted in most cases for the interiors of private buildings, though even in such buildings certain of its characteristics can be adopted, especially in baths which are of sufficient importance and have architectural treatment.

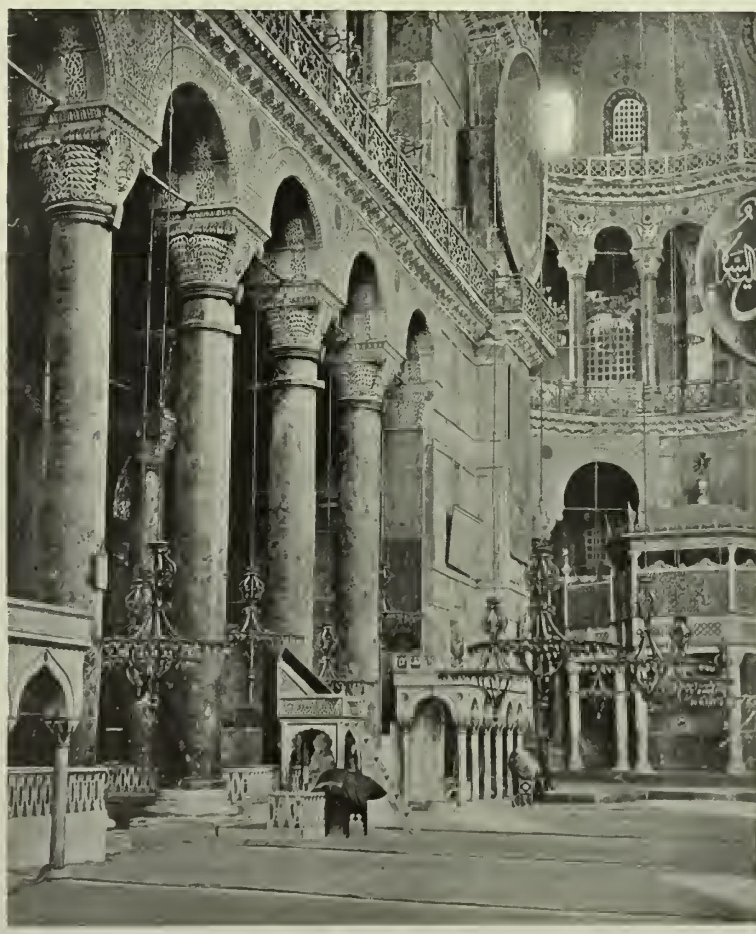
The application of Byzantine motives to marble wall surfaces can be made extremely interesting; for instance, the marbles may be selected for their grain and used in large panels around which borders of mosaic are placed in-

MOSAIC ORGAN GALLERY, RAVENNA.

ST. SOPHIA, CONSTANTINOPLE.

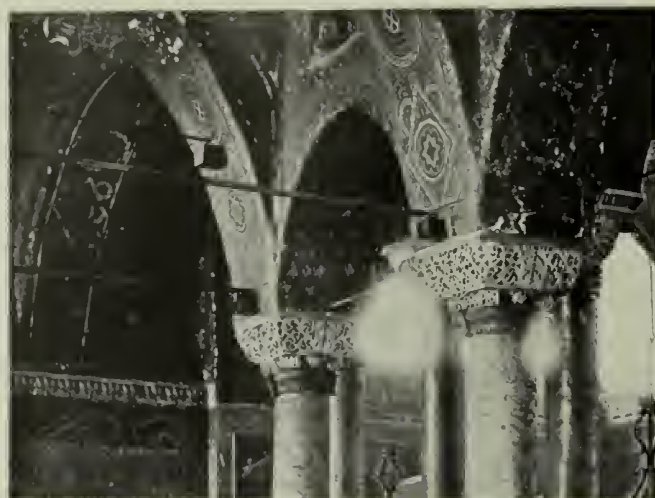
stead of mouldings, or, as in the walls of Monreale, rich vertical lines of mosaic may alternate with widths of marble. This work is especially adaptable to public rooms in which it is desired that few mouldings should occur. In the Cosmati work in Rome, contemporaneous with the Byzantine work, the flutes of columns were filled with geometric mosaics. The introduction of the mosaics in the marbles produces brilliant effect of color contrasted with fine stone work. Arched and domed forms covered with blue and gold and green mosaics create an impression of great splendor, which is consistent with theaters and sumptuous public halls.

The advantage of Byzantine work is that no studied orders of



INTERIOR OF ST. SOPHIA, CONSTANTINOPLE.

architecture are necessary in its use. It is essentially a decoration of plain surfaces, and can be fitted to any space. Its detail, like most Oriental detail, is in planes and in small scale, giving the effect of intricacy and elaborate design, while as a fact it is extremely simple in arrangement. For these reasons, any architectural work in which the structure by its conditions is irregular, but maintains simple surfaces, and in which it is desired that rich effect should be gained without the use of formal orders, can be treated admirably in the Byzantine style. Its range of color can be from white and silver and black, as in one of the chapels of Westminster Cathedral in London, through red, black, and gold to the deep-



SOUTHERN GALLERY. INTERIOR DETAILS, ST. SOPHIA, CONSTANTINOPLE. NORTHWEST GALLERY.

CAPITAL IN S. VITALE, RAVENNA.

est greens and blues, and its carved detail can be devoid of all but one simple moulding and yet enrich every variety of surface. The leaf which is most frequently used, with its V cut lobes, is so simple that it requires only moderate skill excepting in its arrangement. Pierced stone grills are especially fine when designed in the Byzantine manner.

In churches and chapels, and elsewhere, openings through which but little light is required, often require a more robust treatment than can be obtained by any system of muntins or by leaded glass. The insertion in these openings of perforated grills designed with the stems and leaves and patterns suggested by Byzantine work maintains the surfaces and color of the wall at the same time that it embellishes the opening. The same is true of heating and ventilating openings, in which brass or bronze grills would produce spots in the general design, while stone grills would harmonize with their surroundings. Byzantine capitals are compact and strong, but little of the material being cut away, and though quite as elaborate and rich as those of the Corinthian order, they seem capable of supporting greater weight. They are equally adaptable to columns, piers, and pilasters, and subject to great variety of design. The marble floors of Byzantine work have always been famous, and differ from the Roman mosaic floors in that they are not made up of small pieces of one size, but of pieces of various sizes, the foci being of large pieces of marble which are surrounded by geometric patterns and borders of smaller pieces. In Roman mosaics the designs are built up of small tesseræ of equal size, as are the Byzantine wall mosaics, but the Byzantine floor mosaics are built up of separate pieces of varying sizes, cut to geometric units and fitted together to form the pattern. The floor mosaics are of marble, the wall mosaics largely of glass.

CAPITALS IN S. VITALE, RAVENNA.

Commemorative Monuments.—IV.

H. VAN BUREN MAGONIGLE.

WE begin the equestrian series with the rather tiresome figure of Napoleon bidding farewell to France, at Cherbourg. If there is one quality that should inform an equestrian statue it is spirited repose; and arrested action, the perpetuation of a momentary pose, grows very wearisome.

The same qualities are to be seen in the Jeanne d'Arc in the Place du Martire at Orleans, published in article No. II; it does not possess a tithe of the charm of the dismounted figure at the foot of the staircase of the Hotel de Ville; but at least it is so placed that the streets converge upon it. Compared with Fremiet's Joan, the Orleans equestrian is poor indeed; this superb monument stands in a little square, a sort of backwater in the stream of traffic along the Rue de Rivoli, surrounded by the quiet arcades of that street. One comes rather suddenly upon it, and always with pleasure. It has something of the same quality as the Colleoni in Venice, stated in feminine terms.


STATUE OF NAPOLEON, CHERBOURG, FRANCE.

The Lafayette Monument in Paris, a gift of America to France, is the work of Paul Bartlett and Carrère and Hastings in collaboration; the pedestal of the Colleoni is of course the prototype of this, and it is interesting to compare it with the original.

The Washington Monument in Paris, on the axis of a street leading to the Trocadero, was also presented to France by the United States, and is the work of Daniel C. French collaborating with McKim, Mead & White.

The photograph of the statue of Washington, by Browne, in Union Square, New York, makes apparent the fact that it stands on the axis of Fourth Avenue, but this is by no means evident or obvious on the spot. It occupies a position corresponding to that of the statue of Lincoln, facing diagonally toward the park. Thus, some dim idea of symmetry and balance seems to have governed the highly intelligent persons who were responsible for its placing. The pedestal is particularly good — so simple as to attract but little attention, but on examination it is seen to be beautifully designed.

In the splendid square before the National Museum in Berlin is the elaborate monument to Frederick the Great; it carries out the principle touched on before — that the lines of the pedestal should build up in such manner that


WASHINGTON MONUMENT, PARIS.


LAFAYETTE MONUMENT, PARIS.


JEANNE D'ARC MONUMENT, PARIS.

the composition is a unit, although the groups around the pedestal nearly spoil it.

The famous statue of Henri IV on the Pont Neuf is interesting chiefly on the historical side, being one of the monuments of Paris that have suffered the vicissitudes of changing political conditions. It has been pulled down and put up again more than once.

Frederick MacMonnies and McKim, Mead & White produced the spirited Slocum Monument in Brooklyn; the recall of bronze in the pedestal helps to unite the pedestal and the statue.

One cannot claim much for the setting of Donatello's Gattamelata in the great square at Padua; it seems to just happen very much as things do around here; the pedestal is queer enough and the horse looks strange to American eyes accustomed to a finer bred type. But to carry a captain of the Renaissance it would seem that such an animal as this was needed; the statue is of historical interest as the first modern specimen of bronze casting of heroic size.

SLOCUM MONUMENT, BROOKLYN, N. Y.

St. Gaudens' Sherman in the Plaza in New York may fairly be classed, I think, as one of the great equestrian statues of the world. Just as the ponderous horses of the Gattamelata and the Colleoni moving slowly forward seem to express the leisurely progress of campaigns conducted by mercenaries, so, to me, this whole composition typifies the swift march from Atlanta to the sea. The sense of movement seems to be gained by expressing the rush of air against the garments rather than by any violent muscular action, and this gives a subtle quality of repose to the whole composition; it moves and yet it does not give one the feeling that it will move from the pedestal. The bronze is gilded as many of the antique statues were, and, harsh and glaring at first, it is growing mellow and dirty and beautiful. Here is a solution of the problem of bronze sculpture with a background of trees. The fine pedestal is of red granite, polished, with gilded bronze wreaths in low relief inlaid on the sides; the cornice has a restrained projection that

STATUE OF HENRI IV, PARIS.

STATUE OF WASHINGTON, NEW YORK CITY.

MONUMENT TO FREDERICK THE GREAT, BERLIN.

avoids the usual unpleasant shelf and deep shadow; it is by McKim, Mead & White.

I have reserved what is considered by most judges the finest equestrian statue in the world for the last of the equestrian series—the portrait of Bartolommeo Colleoni by Verrochio, the teacher of Leonardo da Vinci, in the little piazza beside the Church of SS. Giovanni e Paolo in Venice. Colleoni, like Gattamelata, was one of the great soldiers of fortune who captained the armies of Venice, and we may be sure that in this we have the man "in his habit as he lived"; it completely visualizes for us the ruthless warrior of the period. The pedestal was designed by another hand and is the prototype of the Lafayette pedestal in Paris. The bronze frieze is an important factor in the effect of the whole. This band, of the same color as the sculpture, in the shadow of the cornice, ties the two together perfectly. The scale of the architecture seems small, but upon measurement one is surprised at the size of the members; and the ornament recalls in its delicacy the beautiful decorative trappings of the horse.

MONUMENT TO CONDOTTIERE GATTAMELATA, PADUA.

THE COLLEONI MONUMENT, VENICE.

THE SHERMAN MONUMENT, NEW YORK CITY.

Scientific Management in the Architect's Office.

WILLIAM O. LUDLOW.

ONE morning, in the drafting room of a certain architect's office, the following conversation took place:

Member of Firm. — I want to look at the three-quarter scale drawing you made of the façade of that little brick church. Let me see, how many hours were you on this?

Draftsman. — Forty hours, sir.

Memb. of Firm. — Forty hours, and your salary is sixty-two and a half cents an hour; that makes $25, and adding overhead charges or the usual proportion of the general office expenses, makes this drawing cost $40.

Draftsman. — I suppose so, sir, I never thought of it in just that way before.

Memb. of Firm. — Now, just what is the purpose of this drawing?

Draftsman. — Why, to show the contractor how to build that façade and give us a basis for full size drawings.

Memb. of Firm. — This, then, is not an exhibition drawing to hang up on the wall or to publish in an architectural magazine?

Draftsman. — No, sir, but it's the kind I always make, and nearly all draftsmen make.

Memb. of Firm. — All right, now let's see just how much of this will be of actual use in the construction of the building, for you must remember that a drawing of this kind is an instrument of service — a means to an end — not an end.

I notice you have drawn out in pale ink about five hundred brick with their joints — fifty would have served to show the bond, and the vertical dimension line you have there gives the modulus of height. So you have wasted about ninety per cent of the time you took in drawing bricks.

Now I see on this rose window you have drawn in the ornament on the terra cotta architrave half way around. If you had fully drawn a quadrant, you would have shown the contractor all he wanted to build by and all you will want in full sizing. You wasted then fifty per cent of the time you spent on this.

On the eaves line you have drawn the ends of all the roofing titles; that gives the drawing a whole lot of interest and snap, but if you had indicated about three tiles and put on a label, "Spanish Tile Roofing," you would probably have deprived yourself of a whole lot of fun, but would have told the contractor all he needed to know and saved the firm about ninety per cent of your salary on "Spanish Tile."

Now, finally, another thing I notice is that this façade is symmetrical about a vertical axis, so that you might have drawn just one-half and lettered "This side repeats." Of course it wouldn't have looked like a real building then, but you would have given the contractor all the information he wanted and saved about forty per cent on the total time consumed.

So this drawing, costing the firm $40, might have been made at a cost of about $20. In other words, you have wasted $20 of the firm's money because it is much more interesting to make this kind of a drawing and because this is the way draftsmen customarily do it.

The Member of Firm went back into his private office and got to thinking over the wicked waste of time and money in the average architect's office, due simply to a lack of scientific management. His thoughts transcribed would have read something like this:

"No wonder the average architect complains of small returns from the practice of his profession; no wonder he sometimes gets less than his head salaried man."

"When a professional man of any sort employs men and runs an office, he has a business proposition on his hands which must be conducted on approved business methods — no waste — *esprit de corps* — every man suited to his job — maximum efficiency of men and instruments of service — and all those things which go to make up what we popularly call scientific management, which is nothing more or less than the substitution of brains for tradition and *laissez-faire*."

The Member of Firm invited the entire force to lunch with him that day and asked them if they wouldn't all like to be members of the firm. As there seemed to be no violent objection he started out by telling them what scientific management had done for "commercial business" and how, and stated that he was firmly convinced that the same principles applied to "professional business" would increase the profits at least twenty-five per cent.

Further, he observed that as the success of such methods in an architect's office would depend largely on the application of them by the draftsmen themselves, he proposed to make them all members of the firm in the sharing of the additional profits so far as they were produced by their own industry and foresight in carrying out these principles. For instance, the usual cost of the production of the work by an architect's organization is one-half of the gross income, and whatever amount this cost falls below the mark can legitimately be considered additional profits, and the firm can well afford to share part of these additional profits with those whose added effort and industry make such profits possible.

The Member of Firm then retailed the conversation of the morning, pointing out that the greatest expense of an architect's office is the draftsmen's salaries, and how every man connected with the production of drawings could by the application of "gray matter" eliminate largely the unconscionable waste of useless drafting. He further suggested that the method of scientific management applied to drafting was just this: Size up your problem; just exactly what information is this drawing to give; what is the clearest and most concise way to give it, and then don't put on a single line that doesn't subserve these purposes.

This provoked a general discussion of other ways and means of economy, such as: the leaving to the office boy everything an office boy can do, instead of having a $30 draftsman spending his time in getting out drawings, sharpening lead pencils, bordering plans and the like; the most efficient card catalogue system for drawings and plates, and the latest and most approved filing system for documents, papers, etc., for the first cost of the best system, is made up a hundred times over by the saving often of the most valuable time in the office.

"But right here," said Member of Firm, "I want to point out one danger. This office is not a plan factory and we are never going to make it such. Our calling we believe is of a little higher grade than commercial business; our success depends on the imagination, the inspiration, the personality and the ethical and spiritual qualities which we put into our work. We are not trading in material things — we are creating — and I beg of you not to think for a moment that I advocate machine-like processes; quite the contrary; the whole thought of this scheme is *more* individuality, *more* personal initiative, *more* brain. These things cultivate the imagination, the spirit, while mere tradition and *laissez-faire* deaden our best instincts."

The Member of Firm didn't say, but he thought and believed, that the motive power behind his scheme was the awakening of incentive, first by the prospect of reward and second by an *esprit de corps* and loyalty which surely follows the partnership feeling, for with the instilling of these feelings disappear largely many of the abuses in an architect's office, which rules and regulations will not cure. Loafing, curtailing of hours of work, lack of interest would now cut two ways.

The system was installed and worked, and why shouldn't it, for it is nothing more nor less than applying the well recognized principle of co-operation and profit-sharing as an incentive, and then by laying down the principles whereby the incentive can be turned to practical account.

Often when I look over architects' drawings or see their time-honored and cumbrous pigeon-hole document boxes, their inadequate and therefore costly systems of recording and filing drawings, I am struck with the wanton waste of the architects' precious substance, and am almost forced to believe that next to our professional friends, the lawyers, we are, like the traditional shoemaker, most prone to provide good shoes for our customers, but let our own children go barefoot.

Editorial Comment and Miscellany.

PLATE ILLUSTRATIONS — DESCRIPTION.

City Club, Chicago. Plates 57–59. The chief motive in the general design of this building was to give expression to the relationship existing between the City Club and the modern social and civic aims. The building, 50 x 95 feet, has a height of 93 feet above the sidewalk and 12 feet below reaching to the basement floor. The construction is fireproof throughout, the outer walls being of solid masonry on pile foundations, and the floor arches of hollow tile. The floor in the lobby is of quarry tile, in all halls and corridors of composition, in the toilet rooms of marble and ceramic tile, and in the principal rooms of cork or maple. The trim and finish is quartered sawed oak up to and including the main dining room, while all above is of select birch. The cost of the building, ready for decoration, was approximately $145,000.

COURTYARD OF HOUSE AT CLEVELAND, OHIO.
Roofs of Imperial Spanish Red Tile made by Ludowici-Celadon Company.
Abram Garfield, Architect.

FILTRATION OF SWIMMING POOLS.

THE result of several years' investigation by German experts on the filtration of water for swimming pools has recently been edited by Drs. Kister and Fromme of Hamburg, Germany. The tests, which were very extensive and complete, included waters purified by aeration and filtration as well as water not artificially purified. Chemical and bacteriological analyses were taken at regular intervals from tanks varying from 2.4 to 10 feet deep of 20,000 cubic feet capacity, and 7 to 9 feet deep holding 10,000 cubic feet. 1,050 cubic feet of fresh water was poured into the smallest tank every twelve hours from pipes above the water level, while the larger tank was supplied by a pipe at the low point of the bath and flowed one-half hour twice a day, forcing a continuous overflow of the surface water. The experiments revealed the fact that the germs do not increase in proportion to the number of bathers but have a tendency to sudden increases and decreases. Chemically there was little change except in the oxygen consumed and the increase of ammonia.

The purification plant employed consisted of eight coke beds, 7 inches thick, over which water was sprayed, and two sand filters 20 and 40 inches thick with an area of 42 square feet. The water after being filtered through the plant was forced back to the tank by a pulsometer and centrifugal pumps. At the end of twenty-one days the

THE FIRE COMPANIES BUILDING, 80 MAIDEN LANE, NEW YORK CITY.
The modeled ornament of the entablature is in white against a background of green, executed by the Atlantic Terra Cotta Company. The arrow indicates a novel use of bronze terra cotta for panels between window courses. D. H. Burnham & Co., Architects.

water was transparent to a depth of 10 feet and had a better color than originally.

The summary of the experiments showed that a 40-inch sand filter is sufficient in itself for all purposes, and also that tank water, if filtered continuously, can be kept hygienically clean for three weeks.

AMERICA'S GREAT FIRE WASTE.

IN view of the great fire losses during the past few months, Roger W. Babson, the statistician of Wellesley Hills, Mass., prepared for the *New York Times* the following data on America's enormous fire waste:

"Twelve months of fire losses like those in January of the current year would affect the American people, together with the insurance companies doing business in this country, in a manner not pleasant to contemplate. The percentage of loss to premiums received that month ranged from 80 to 118, compared with a normal in recent years of less than 50 per cent.

For the United States and Canada the estimated loss by fire that month was $35,653,450, and to multiply that by twelve would give results quite appalling — over $427,000,000 against an average of $234,000,000 for 1911 and 1910.

Assume that the total losses for the United States in 1912 shall approximate the amount indicated by the January figures and there is no parallel to be found in any past year except in 1906, the year of the earthquake and fire in California, when the footing was $518,611,800.

It will be noticed that only $68,000,000 of the loss in the United States for the year specified was on buildings of brick, stone, and other slow-burning construction material, whereas the loss on frame buildings was almost exactly twice as much or $146,000,000."

Mr. Babson was particularly emphatic in driving home the personal side of this great problem of fire waste. "Remember that the average loss to-day in the United States is $2.82 per capita for protection and $2.54 per capita for fire, or a total of $5.36 per capita or $26.80 per family per year. Remember that these figures for Europe are only $0.57 and $0.48 respectively, with a total of only $1.05 per capita or $5.25 per family. Assuming that with European fireproof construction our buildings would be 10 per cent more expensive, and this would make rents 5 per cent higher (which is very liberal), fireproof construction would still enable a money saving of over $10 per year for each American family, besides saving thousands of lives, with untold misfortune, suffering, and inconvenience."

DETAIL FOR AN APARTMENT BUILDING.
New York Architectural Terra Cotta Company, Makers.
Mulliken & Moeller, Architects.

APARTMENT HOTEL IN BERLIN.

GERMANY'S first apartment hotel conducted on American lines has been erected recently in Berlin. The plans provide for single rooms and suites for bachelors and families. The features of importance include a sanatorium and elaborate set of baths. The building is limited to five stories and covers an area equal to a full American city block.

DISCOVERIES IN MESOPOTAMIA.

THE German expedition under the direction of Baron Oppenheim has made some important discoveries at Tel Halef in Mesopotamia. In addition to many examples of sculpture there has been unearthed the foundations of a royal palace. The fragments of the walls contribute a series of some seven hundred stone reliefs with sculptured groups and single figures in a perfect state of preservation. The elaborately carved cornerstones of the palace towers together with the gateway, guarded by two colossal figures of animals, have also been excavated.

TERRA COTTA FOR THE LOS ANGELES TRUST AND SAVINGS BANK BUILDING.

THE architectural terra cotta for the Los Angeles Trust and Savings Bank Building, Parkinson & Bergstrom, architects, described in this issue, was furnished by Gladding, McBean & Company, San Francisco.

FIREPLACE EXECUTED BY THE ROOKWOOD POTTERY COMPANY.

IN GENERAL.

In a limited competition held in Washington recently for the "All Souls Unitarian Church and the Edward Everett Hale Memorial Parish House," Wood, Donn & Deming's design was selected.

The Architectural Quarterly of Harvard University is the title of the new publication which will be published under the direction of the School of Architecture at Harvard. The first number contains articles and illustrations of unusual merit, and all the material is splendidly presented. The subscription price is $1.50 per year.

A. A. Ritcher, architect, announces the removal of his office to Reading, Pa.

Spencer & Powers, architects, announce the removal of their office to the Otis Building, 10 South La Salle street, Chicago.

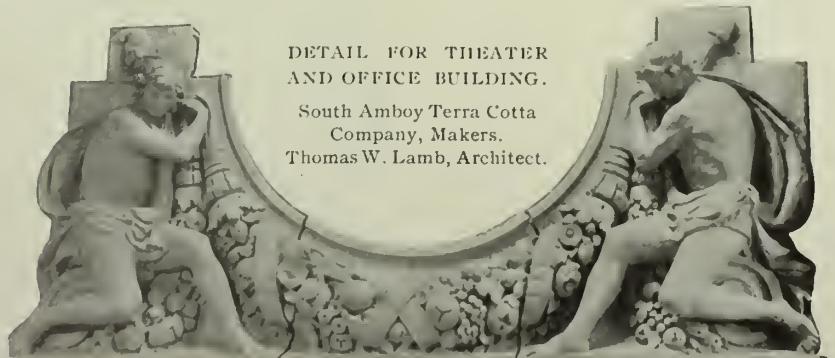
George S. Mills, George V. Rhines, Lawrence S. Bellman and Charles M. Nordhoff, architects, announce that they have formed a partnership under the firm name of Mills, Rhines, Bellman & Nordhoff with offices in the Ohio Building, Toledo, Ohio.

DETAIL FOR ADOLPHUS HOTEL, DALLAS, TEXAS.
Winkle Terra Cotta Company, Makers.

HOUSE AT BIRMINGHAM, ALA.
Built of Golden Full Range Tapestry Brick, manufactured by Fiske & Company, Inc. W. C. Weston, Architect.

The Rotch Traveling Scholarship for this year has been awarded to Charles Cameron Clark, a special student at the Massachusetts Institute of Technology. The second prize for students in architectural drawing was awarded to Ralph J. Batchelder, who won first prize in THE BRICKBUILDER'S competition for a bungalow.

The Third Annual Exhibition of the Indiana Chapter, A. I. A., was held at the Art Institute, Indianapolis, from May 10th to 31st. The exhibit will be transferred to South Bend, Indiana, for a period of two weeks.



DETAIL FOR THEATER AND OFFICE BUILDING.
South Amboy Terra Cotta Company, Makers.
Thomas W. Lamb, Architect.

Leenhouts and Guthrie, architects, announce the removal of their offices to 424 Jefferson street, Milwaukee.

The entire façade of the Apartment House, 116 East 58th street, J. E. R. Carpenter, architect, illustrated in THE BRICKBUILDER for April, was in white matt and polychrome terra cotta furnished by the Atlantic Terra Cotta Company. The Ashlar blocks of the first two stories are delicately modeled in low relief; the entrance and its attendant features, second-story belt courses and third-story balcony, are boldly modeled and treated with old gold, blue, and green.

DETAIL EXECUTED BY O. W. KETCHAM TERRA COTTA WORKS.

Carter, Black & Ayres, New York, will supply 800,000 Harvard brick for the new Bellevue Hospital Buildings, New York City, McKim, Mead & White, architects; plain and moulded Harvard brick for the Noah Porter Memorial Gateway, Yale University, Howells & Stokes, architects; 300,000 Harvard and 300,000 white enameled brick for the new German Hospital, New York, I. E. Ditmars, architect, and Harvard brick for seventeen new Fire Department Houses, New York City, Hoppin & Koen, architects.

Oswald C. Hering and Douglass Fitch, architects, announce the removal of their office to southwest corner Madison avenue and Thirty-first street, New York.

Sayre & Fisher Company furnished the brick for the house at South Orange, N. J., Grosvenor Atterbury, architect, which was illustrated in THE BRICKBUILDER for April.

The architectural terra cotta for the Higbee Store Building, Cleveland, Ohio, illustrated in this issue, was furnished by the Atlantic Terra Cotta Company.

DETAIL BY WM. LESLIE WELTON, ARCHITECT. The Northwestern Terra Cotta Company, Makers.

The Bradford Pressed Brick Company will supply over 500,000 "Bradford Reds" brick for the new Mount St. Mary's Hospital to be erected at Niagara Falls, N. Y., William P. Ginther, architect.

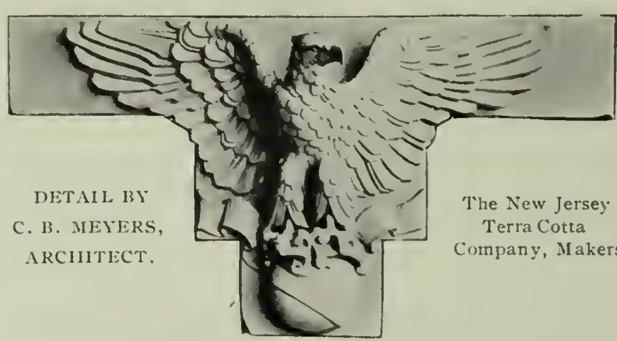
The Atlantic Terra Cotta Company will supply the architectural terra cotta for the following new buildings: Union Central Life Insurance Building — 33 stories, almost entirely of terra cotta — Cass Gilbert, architect; Masonic Temple, Colon, Panama — white matt and polychrome — H. P. Knowles, architect; Fulton County Courthouse, Atlanta, Georgia, A. Ten Eyck Brown and Morgan & Dillon, associated, architects; Hotel El Paso Del Nort, El Paso, Texas, Trost & Trost and Mauran, Russell & Crowell, associated, architects; McGill Street Building, Montreal, Canada, R. E. Bostrom, architect; St. Columba Church, Philadelphia, Henry D. Dagit, architect.

W. Gibbons Uffendell and Nicholas H. Holmes, architects and engineers, have opened offices at 1328 McCormick Building, Chicago.

Charles M. Hart and Mott B. Schmidt announce the opening of an office for the practice of architecture at 43 Cedar street, New York City, under the firm name of Hart & Schmidt.

Falch & Knoll, architects, announce the opening of an office for the practice of architecture in the Hearst Building, San Francisco, Cal. Manufacturers' catalogues and samples desired.

Considerable interest is being manifested in Germany's newest and largest railway station, which has been in process of construction at Leipsic for the last nine years. The station takes rank as the biggest in Germany and represents a cost of $34,000,000. The Central Station at Frankfort has hitherto held that honor, while Hamburg's new Hauptbahnhof is also notable for its size.



DETAIL BY C. B. MEYERS, ARCHITECT.

The New Jersey Terra Cotta Company, Makers.

The governor of Illinois has rendered a notable service to conservation by setting aside October 9 as Fire Prevention Day, the idea being to encourage efforts toward the prevention of fires and the lessening of waste from this cause, rather than the fighting of fire once it has started.

The significance of the date designated by the governor of Illinois is that it is the anniversary of the great Chicago fire, which started on that day just forty years ago, in 1871.

DETAIL FOR BROKEN PEDIMENT OVER MAIN ENTRANCE BY WALLIS & GOODWILLIE, ARCHITECTS.
Executed by the American Terra Cotta and Ceramic Company.

THE NATCO HOUSE — THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

ONE HUNDRED BUNGALOWS — THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

Architectural Post Cards

Detailed views of American Architecture. Reproduced by the Double Collotype Process.

More convenient and more durable than photographs.

10 COMPLETE SERIES

Send for descriptive circular and sample cards

Architectural Post Card Co., 5540 Catharine St., Phila.

School of Architecture

HARVARD UNIVERSITY

Summer Courses in Architectural Design

For circular giving details with regard to these courses, apply to Professor H. L. Warren, Chairman of the Department of Architecture, Harvard University.

COLONIAL ARCHITECTURE IN South Carolina and Georgia

A series of the choicest examples of pure Colonial Architecture found in the South. Showing some of the best and most interesting examples of American Colonial work, many of which have now disappeared.

Illustrating exteriors, interiors, and numerous details; entrances, doors (interior and exterior), mantels, halls, staircases, interior trim, mouldings, wrought iron work, furniture, etc.

Compiled and Photographed by
E. A. CRANE & E. E. SODERHOLTZ

52 plates, 12½ x 16 in. In portfolio, $10.00
Descriptive circular upon request

THE BRUNO HESSLING COMPANY
64 East 12th Street, New York, N. Y.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. **New York**
Philadelphia **Boston**

"TAPESTRY" BRICK

TRADE MARK — REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Birmingham, Ala. .... Page 141

W. C. WESTON, Architect

FISKE & COMPANY INC
FACE BRICKS / FIRE BRICKS ESTABLISHED IN 1864

25 Arch St., Boston **Arena Building, New York**

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.

Cork Carpet in plain colors.

Elastic, Noiseless, Durable.

Is practical for rooms, halls, and particularly adapted to public buildings.

Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:

Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

COMPETITION FOR A SMALL HOUSE.

To Be Built of Natco Hollow Tile. Cost not to Exceed $4,000.

FIRST PRIZE, $300. SECOND PRIZE, $200. THIRD PRIZE, $150.
FOURTH PRIZE, $100. MENTIONS.

PROGRAM.

THE problem is a small, detached house, the walls and foundations of which are to be built of Natco Hollow Tile. Competitors may adopt the Bungalow type of house if they so desire, since the material will meet readily the requirements of such a design.

At least three bedrooms and ample basement room are to be provided for in the plan. Two bedrooms and bath are to be on the first floor. The third bedroom may be on first floor or in attic.

The location may be assumed in any town, small city, or suburb of a large city.

The cost of the house — exclusive of the land — shall not exceed $4,000. The method of heating, the plumbing, other fixtures, and finish, to be governed by the limit of cost.

The cost of the house must be figured at $.20 per cubic foot. Measurements of the house proper must be taken from the outside face of exterior walls and from the level of the basement floor to the average height of all roofs. Porches, verandas, and other additions are to be figured separately at one-fourth (25 per cent) of their total cubage. The cost of porches, etc., is to be included in the total cost of the house ($4,000).

On this basis of figuring — the number of cubic feet multiplied by the cost per cubic foot — *the jury will not consider any designs which exceed the limit of cost.*

All cubage and other dimensions will be carefully checked before the drawings are submitted to the jury.

On the drawing in a space measuring 6 inches by 5 inches — enclosed in rules — is to be given, at a size which will permit of two-thirds reduction, the cubage of the house multiplied by the cost per cubic foot, and the various items with costs which go to make up the total cost of the house.

The particular object of this Competition is to encourage the use of Natco Hollow Tile in small houses. The cost of this type of construction will be found to be in most parts of the country but little over that of first-class frame construction, and it is a fact that any mason of average ability can easily do the work.

The one marked tendency of the times is for better construction in houses. It is a subject which is being agitated by able writers in the magazines and the daily press. Insurance Companies, Boards of Trade, and other bodies interested in the public welfare are giving their support to the movement. It is believed that a Competition such as this will encourage a study of a type of construction which, although comparatively new, has, nevertheless, met all the demands put upon it with respect to æsthetic considerations, facility of construction, and cost.

CONSTRUCTION.

The following suggestions are offered as being practicable and admissible.

First. Outside walls may be of Natco Hollow Tile 8 inches thick (8 inches by 12 inches by 12 inches). Foundation walls, below grade, should not be less than 12 inches thick. The blocks being heavily scored on two sides, stucco may be used for an outside finish, and plaster applied direct to the block for interior finish.

Second. The walls may be built double, using in the outside wall a 4-inch hollow tile, and on the inside a 6-inch tile. The treatment of the face of such a wall, and the manner of bonding the outer and inner walls, are left to the designer.

The floors and roof need not be of fireproof construction.

DRAWING REQUIRED. (There is to be but one.)

On one sheet a pen and ink perspective, without wash or color, drawn at a scale of 4 feet to the inch. Plans of the first and second floors at a scale of 8 feet to the inch. A section showing construction of exterior wall with cornice. Heights of floors to be given on section. Enough detail sketches to fill out sheet. In connection with the plan of the first floor show as much of the arrangement of the lot in the immediate vicinity of the house as space will permit. The plans are to be blocked in solid. A graphic scale must accompany the plans. The character of the exterior finish must be clearly indicated on the perspective and detail.

The size of the sheet is to be exactly 26 inches by 20 inches. Plain black border lines are to be drawn on the sheet 1 inch from edges, giving a space inside the border lines 24 inches by 18 inches. The sheet is to be of white paper and is not to be mounted. Very thin paper or cardboard is prohibited.

The drawing is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., on or before June 25, 1912.

Drawings submitted in this Competition are at owners' risk from time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The designs will be judged by three or five members of the architectural profession representing different sections of the country.

First consideration will be given to the fitness of the design, in an æsthetic sense, to the material employed; second — the adaptability of the design, as shown by the details, to the practical constructive requirements of the material; third — excellence of plan.

Drawings which do not meet the requirements of the program will not be considered.

The prize drawings are to become the property of THE BRICKBUILDER and the right is reserved by THE BRICKBUILDER to publish or exhibit any or all of the others. The full name and address of the designer will be given in connection with each design published. Those who wish their drawings returned, except the prize drawings, may have them by enclosing in the sealed envelopes containing their names, ten cents in stamps.

Drawings submitted in this Competition will be returned direct from the office of THE BRICKBUILDER to the contestants.

For the design placed first there will be given a prize of $300.
For the design placed second a prize of $200.
For the design placed third a prize of $150.
For the design placed fourth a prize of $100.

This Competition is open to every one.

The prize and mention drawings will be published in THE BRICKBUILDER.

This Competition is conducted under the patronage of the National Fire Proofing Company.

On the preceding page will be found examples of construction which may be helpful to competitors.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI | JUNE 1912 | NUMBER 6

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba . . . . . . $5.00 per year
Single Numbers . . . . . . 50 cents
Subscription price, mailed flat to subscribers in Canada . . . . . . $5.50 per year
To Foreign Countries in the Postal Union . . . . . . $6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

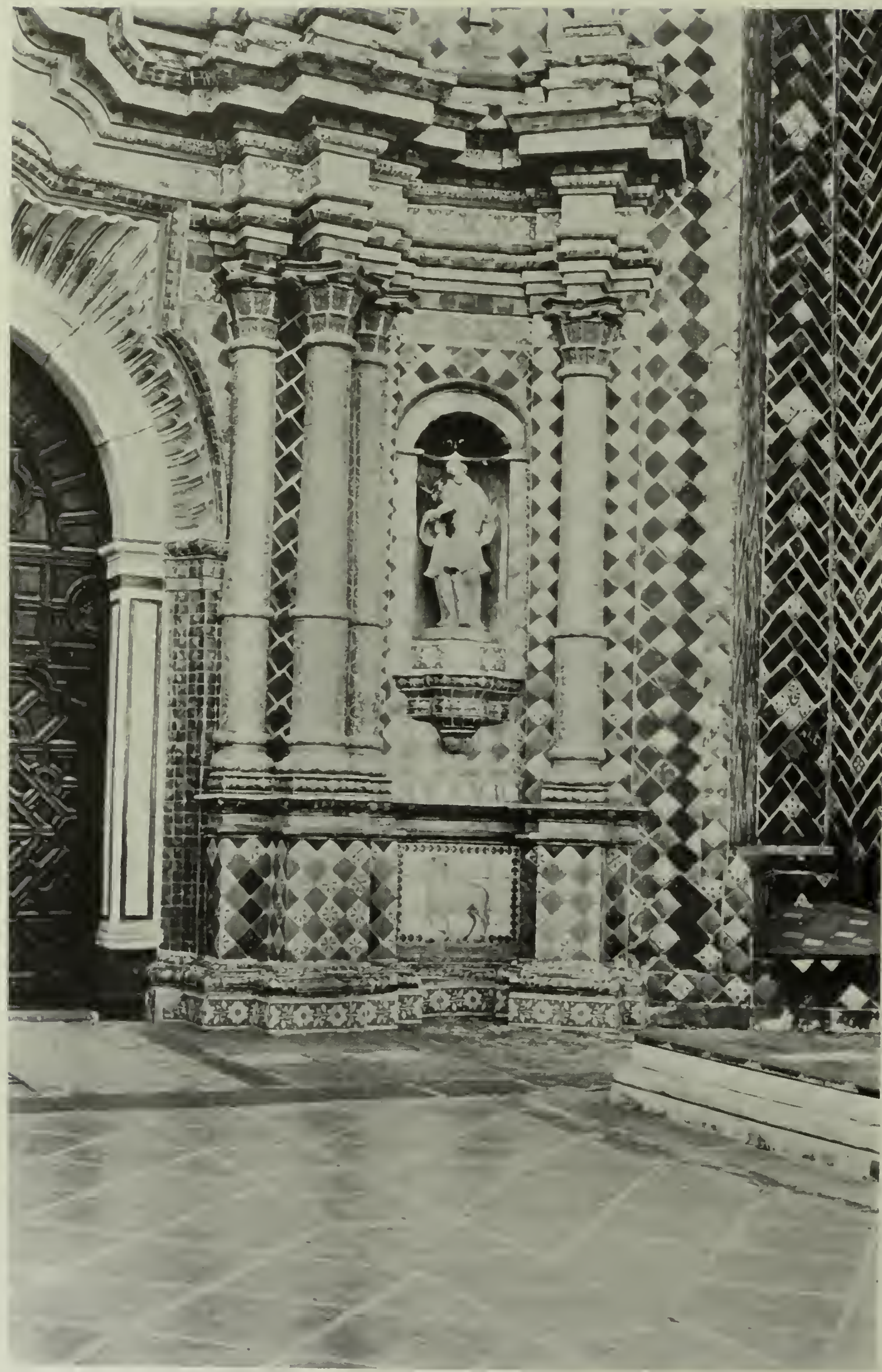
PLATE ILLUSTRATIONS

FROM WORK BY

J. MILTON DYER; JARVIS HUNT; GUY LOWELL; LUDLOW & PEABODY; HOWARD VAN D. SHAW.

LETTERPRESS

NOTICE.—The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.



DETAIL OF THE FAÇADE, CHURCH OF SAN FRANCISCO, ACATEPEC, MEXICO.

The entire surface is covered with glazed tiles, and in some cases they have been moulded to fit the various places where they are to be laid. The columns and some mouldings are built up of curved tiles, to give the required form.

THE BRICKBUILDER

JUNE, 1912

VOLUME XXI. NUMBER 6.

English Brickbuilders — Ernest Newton, A.R.A.

R. RANDAL PHILLIPS.

AMONG English domestic architects no one is doing better work than Ernest Newton. His work is so thoroughly sane that it completely satisfies. And yet it abounds with freshness and virility. It is no mere replica of old motives, but expresses modern requirements in a modern spirit. There is no admixture of the simplicity of an agricultural people living many hundreds of years ago with the cultured complexity of to-day.

Looking around at some houses of our own time, we find ample evidence of the danger, often the absurdity, of identifying "simplicity" with the "farmhouse tradition." Roughly adzed oak, coarse wobbly plaster, cavernous fireplaces, and an exterior naïve sometimes to the verge of childishness, have of course a certain charm, the charm of the sampler and the little story in words of one syllable. It is a form of art which makes a very direct appeal to the homely emotions, and it is quite legitimate, so far as it goes; but for all that it is, or should be, strictly limited to small and really simple houses. It is wilfully curtailing our powers of design, and altogether too easy, just to take the cottage form and blow it out, like a bladder, for a bigger house. There are a good many people who like this kind of thing, but there is something a little pathetic in the spectacle of an ordinary large commonplace Briton sitting, rather forlorn, in a sort of kitchen with a gritty stone floor and a ceiling so low and heavily beamed that it only wants the dangling hams to prevent his standing upright. And there is also that other incongruity of such things as a huge chimneypiece in brickwork, not even rubbed brickwork, around which it is considered appropriate to forgather after sitting at a table with the most finished refinements. No, there is a gulf between crude brick and Chippendale furniture, and it is not bridged by an artistic craze. In the houses of Mr. Newton you never see this sort of thing. If he is building a residence for a client with taste and education, he makes the house fit the man. We see chimneypieces of chaste design executed in wood or marble; we see plasterwork or leadwork which proclaims the revival of an ancient craft; we see rooms of ample height with windows big enough to let in plenty of air and sunlight; we see the most careful planning, the most modern fittings, and every evidence of the twentieth century, instead of the seventeenth. All this is the outcome of his training and the outlook which this gave.

ST. SWITHIN'S CHURCH, HITHER GREEN, LONDON.

Mr. Newton was born in London in 1856, and was educated at a preparatory school at Blackheath, afterwards proceeding to Uppingham, which famous public school he left in 1872. In 1873 he was articled for three years to Norman Shaw, R. A., and at the conclusion of his term stayed with Mr. Shaw for a further three years, after which he commenced to practice on his own account.

He has been particularly identified with movements tending to the better education of architects and the public. In his early years of practise he was a member of the Architectural Illustration Society, the object of which was to raise the standard of work selected for illustration in the technical papers: for at that time the building papers published most things sent up to them, without much regard to artistic merit in the buildings depicted. The method of the society was to invite illustrations of good work from various architects, and under the imprimatur of the society to publish them as plates in one of the weekly journals. This arrangement continued for some years, and was not without its educational effect, both on architects and editors.

Mr. Newton was also closely identified with the formation of the Art Workers' Guild, which began in quite a small way in the early eighties. It grew out of a society known as the St. George's Art Society, and was originally limited to architects, the meetings being held in Mr. Newton's offices. Later, followers of other arts and crafts were admitted, and it is now a flourishing organization with headquarters at Clifford's Inn Hall.

Being thus prominently associated with architectural and kindred movements, it is natural to find in Mr. Newton a good conversationalist and an incisive writer. When he takes up the pen, many a poignant criticism finds expression, but there is never any touch of bitterness, never any hard cynicism. And throughout there abounds sound sober sense mixed up with liveliness.

INTERIOR, ST. SWITHIN'S CHURCH, LONDON.

Take, as an example, some observations of his on a matter already referred to. "I am inclined to think," he says, "that we use the farmhouse as a source of inspiration rather too indiscriminately. It is very sweet, very homely, and very English, but it is not for universal application, and for people who live in a 'big way' it seems a little incongruous to find the dining room with a kitchen chimney — complete almost to the hanging cooking-pot — a blunderbuss and a sampler hanging over the valanced shelf, and an oak settle from a village ale-house to sit on. There is, of course, a sentiment attaching to all this which is admirable in its way, but in a big man's house the whole thing is a little artificial. Possibly we may not approve of a grand manner of living, and this is our little sermon on the vanity of would-be greatness; but it is our business to deal with life as it is, not as it might be." Here we see what is the basis of Mr. Newton's outlook — a frank recognition of actualities, and we have only to turn to his work to see that, while accepting those actualities, the most charming results are possible. But he is not an ultra-modernist to the degree of neglecting the study of old work. We have no inherited traditions, and it is only by this study that we can acquaint ourselves with the methods of the old builders; but Mr. Newton thinks we are perhaps too much in the habit of catching the superficial expression while failing to analyze the processes that go to make up this expression. To quote him once more — and he is worth quoting when, on rare occasions, he leads himself into print — "The house builder of former times was faced by all sorts of practical difficulties, and it was his success in getting over them in the right way that made architecture. It is our business as architects to meet the difficulties of our own day, not necessarily in the same way, but in the same kind of way, and, as we have not a stock of ready-made experience, we must acquire it by a careful consideration of building methods and of the best and most architectural uses of all legitimate materials. I don't mean to say we must begin all over again with rough shelters and gradually evolve a new building system, but that we should be thoroughly familiar with the whole history of building, so that when faced by the problems of our own age we should be able to meet them with understanding. So far the study of old work is not only advisable but necessary; but there is another study which is also necessary yet almost entirely neglected, and that is the study of contemporary building. We are all aiming at the same thing, and it is surely a mistake to ignore what others similarly circumstanced are doing to that end. It is too much the custom for architects to pursue their own individual methods without regard to all that is being done by others. No art which, like architecture, is dependent on continuity of idea and the concentration of many minds on a given point, can grow and develop if it is practised in isolation. To be convinced of the truth of this we have but to examine other constructive arts — varying only in degree from architecture — such as shipbuilding and engineering of all kinds. In these we have concentration and continuity. No shipbuilder in a fit of archæological enthusiasm would build a modern ship on the lines of the 'Great Harry,' although

PLAN OF "DAWN HOUSE," WINCHESTER.

GARDEN FRONT OF "FOURACRE," WINCHFIELD, HAMPSHIRE.

"DAWN HOUSE," WINCHESTER.

"STEEP HILL," JERSEY.

THREE EXAMPLES OF ENGLISH DOMESTIC ARCHITECTURE.

Ernest Newton, A.R.A., Architect.

TWO VIEWS OF "REDCOURT," AT HASLEMERE, SURREY, ENGLAND.
Ernest Newton, A.R.A., Architect.

TWO VIEWS OF "LUCKLEY," AT WOKINGHAM, BERKSHIRE, ENGLAND.
Ernest Newton, A.R.A., Architect.

HOUSE AT EWHURST, SURREY.

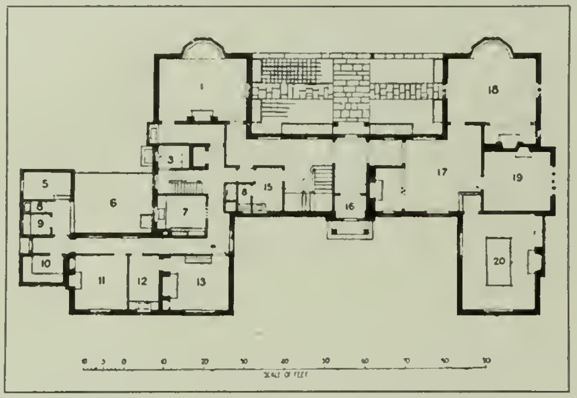
"UPTON GREY MANOR," HAMPSHIRE.

TWO EXAMPLES OF ENGLISH DOMESTIC ARCHITECTURE.

Ernest Newton, A.R.A., Architect.

TWO VIEWS OF "ARDERUN PLACE," SURREY, ENGLAND.
Ernest Newton, A.R.A., Architect.

all that was in ships of that date is in the most modern vessel of to-day; the growth has been natural and logical, and consequently easy. And so I believe it must be eventually with our houses; an individual architecture, more or less archæological, has no real vitality. It is at once the difficulty and the opportunity of the architect that he has to build as well as to dream. But art pursued under natural conditions and in a natural way will have both style and beauty, and while familiarity with construction will stimulate the imagination, imagination itself will open up fresh fields for construction."

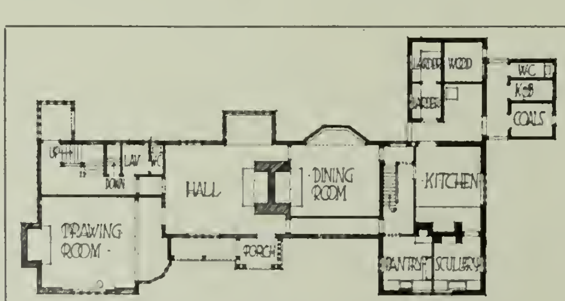


PLAN OF "LUCKLEY," WOKINGHAM.
1. Dining Room. 17. Hall. 18. Drawing Room. 19. Study. 20. Billiard Room.

Having thus indicated the motives that animate Mr. Newton, a few particulars, in conclusion, may be given of the houses shown by the accompanying illustrations.

"Redcourt," Haslemere, is a bold brick house in the midst of Surrey. It will be seen to be perfectly straightforward in every particular, extremely logical in its treatment, and, though based on simple lines, relieved from the commonplace by a score of skilful touches — such as the stone lintels over the windows on the entrance front, and the lozenges and brick string on the garden front. On the latter, too, attention is drawn to the bay with its cast leadwork, and the lead gutter above. Mr. Newton is a lover of the crafts, and he introduces them into all his houses. The entire shell of "Redcourt" has an air of breadth and distinction about it, and throughout the interior there is refinement of design. "Dawn House," Winchester, "Luckley," Wokingham, and the house at Ewhurst are smaller, but bearing the same stamp of individuality. The dressings are of a darker brick than the general walling, and the woodwork is painted white. "Luckley" is an especially pleasing example of Mr. Newton's work.

"Steep Hill," Jersey, stands on high ground overlooking St. Heliers. It occupies the site of an old house, and so enjoys the advantages of an old garden. It is built of brick, rough-cast, with a red tiled roof. Inside there is a good deal of oak paneling. "Upton Grey," Hampshire, was originally an old farmhouse which had been rather ruthlessly altered from time to time, and when Mr. Newton took it in hand for his client the place was being used partly as a farmhouse and partly as two labourers' cottages. Most of the old work was in a bad condition and required very careful handling; many of the walls were patches of brick, tiles and timber thrown together at various periods. The final result on the exterior may be judged from the illustrations here reproduced. Referring to the general view of the entrance front, the porch and gable and all to the right are new, and in comparison with the old it will be admitted that the work has been very skilfully carried out. To the left of the gable, part is old, but has been remodeled, while the piece between that and the porch is quite new. On the garden front there is a bay similar to the one on the entrance front, but carried down solid to the ground level, where a good window is provided. The work is designed and executed in a traditional manner with many elaborate mortises and tenons in the timber framing. All the main timbers are 8 inches by 8 inches, and to prevent wet driving through the half-timber construction, slates in cement are bedded on a brick filling between the timbers, a space being left, and the face lathed and plastered. This makes a thoroughly sound job, and is a good example of the manner in which Mr. Newton carries out his work. "Ardenrun Place," Blindley Heath, is the most elaborate house carried out from Mr. Newton's designs. There is a considerable amount of carving about it, more especially within, where a very rich staircase is seen. There is a certain stately magnificence about this house, but the essential qualities of English domestic architecture are preserved. It is formal, but not in the least cold. And it is just in this ability to expand his manner to meet the requirements in hand that Mr. Newton excels. He does not repeat the small house on a large scale, as we may well see by comparing "Ardenrun Place" with "Fouracre," Winchfield, Hampshire. Yet the latter has just as much charm, in its way, as the former. It is indeed a delightful English house, and while referring to it we may draw attention to the pattern work on the gables and on the wall surface between the wings. This is executed in plain projecting bricks, the diaper on the chimneys being carried out with flare ends.



PLAN OF "UPTON GREY MANOR," HAMPSHIRE.

Mr. Newton, for the most part, is an architect of brick houses, but not exclusively so, and that he is no less successful in other kinds of buildings we have St. Swithin's church, Hither Green, London, to testify. For other prominent buildings not illustrated in this article may be cited Martin's Bank at Bromley, Kent, tower and spire of St. George's Church at Bickley, and the chapel at the House of Retreat, Clerkenwell, London.

Throughout all his work there is the same mark of sanity, knowledge, and culture, combined with abundant freshness of design. It was gratifying, therefore, to see him elected an Associate of the Royal Academy in 1911: a distinction full well merited.

PLACE DE LA CONCORDE, PARIS.

Commemorative Monuments.—V.

H. VAN BUREN MAGONIGLE.

THE column and the obelisk are cousins descended from the phallus, that ancient symbol; the descent may be traced through the dolmens and menhirs of Britain and Brittany. And since the obelisk is in the direct line of succession (which, in common with most lineages, is on the male side) we may compare the one in the Place de la Concorde, marking the cross axes of the square, flanked by fountains and in every way treated like a gentleman, with that called rather hilariously Cleopatra's Needle, perched on a rocky eminence in Central Park in New York and absolutely unrelated to anything whatever in its vicinity. The Lincoln Monument in Springfield is illustrated as a horrible example; but the forthright simplicity of the Washington Monument, its great height of 555 feet and its excellent proportion, make it one of the most beautiful monuments in the world; it has been left alone; it has not been teased and made trivial by over-treatment, but just stands for itself. When the great plan for the Mall of the Capital City shall have been carried out there will be a wonderful formal garden around the monument to give it the setting it should have. But even now, anyone who has not come into Washington in the early morning and seen this great finger of stone, rosy in the rising sun, has something yet to live for.

LINCOLN MONUMENT, SPRINGFIELD, ILL.

As the first example of the rostral column we may take the Column of Victory in Berlin, heavy and clumsy as many German things are, but with merits we will touch upon later. The colonnade around the base undoubtedly gives scale to the column itself.

There is one essential principle of design that must not be overlooked in these votive columns. In the first place, the proper business of a column is that of support and we are familiar with it in that relation. As a supporting member in a building, it has received through hundreds of years a certain form and proportion peculiarly adapted to its place and the work it has to do. When, however, it ceases to be a component part

CLEOPATRA'S NEEDLE, NEW YORK.

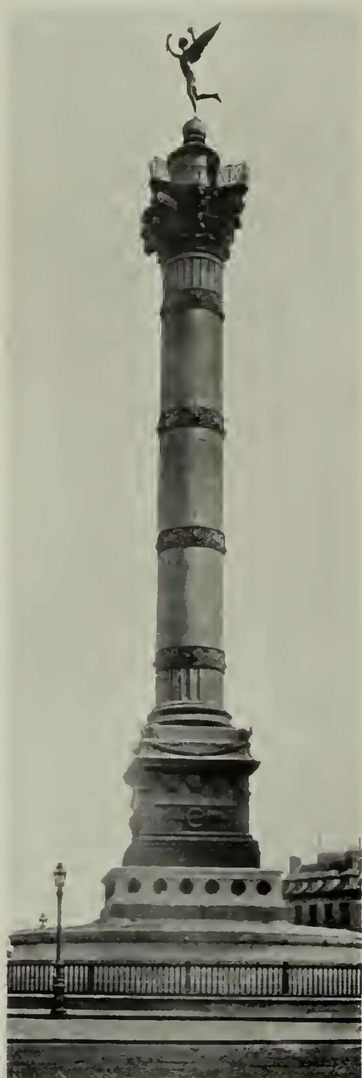
of an architectural composition, is magnified many times and caused to become a votive emblem, it is to be expected that it shall receive a new treatment to fit it for its new function. It is not sufficient merely to take a classic column designed in strict accordance with the laws of proportion as laid down by Vignola and other worthies. We expect it to be modified to meet the new conditions. Let us examine the Nelson Column in Trafalgar Square with this view in mind, and we find here nothing but the consecrated type of Corinthian Column with which we are familiar, surmounted by a statue and resting upon a pedestal that is somewhat out of proportion to it. In this respect, and it is a vital one, the Column of Victory in Berlin is much its superior. This Nelson Column is undoubtedly more graceful and pleasing from one point of view, but the German column is right in principle and this is wrong.

NELSON COLUMN, LONDON.

WASHINGTON MONUMENT, WASHINGTON.

The Duke of York's Column in London is much more satisfactory judged by these standards. It is treated more as a cylindrical mass of masonry, unfluted, the abacus becomes a balcony protected by a light railing, and the figure of the Duke surmounts a circular drum which carries the form of the column above the capital. The base is beautifully proportioned and the approach is extremely monumental.

Our next example, the Column of July in Paris, differs from all these others in its material. It is of bronze and is given an appropriate treatment. It marks the site of the Bastile and commemorates its fall. In panels on the base are lions in bas-relief by Barye, the great animalist.



COLUMN OF JULY, PARIS.

I wish to recall what I said in a former article upon the dominance of the horizontal line in Paris, and of the dignity and calm that results from its use. We find it excellently exemplified in this view of the Place Vendôme; and while I had in mind a richer monumental composition than that of the Vendôme Column, nevertheless the principle is still active even in the case of so simple a form. The value of its vertical line is much enhanced by the long lines of the cornices of the buildings which bound the Square; these lines are of uniform height throughout, and the result is restful and dignified. At the same time the column recalls the vertical subdivisions of the surrounding architecture. As to the column itself, it is treated as many of the ancient Roman columns were, with a triumphal procession carved in low relief, winding in a spiral toward the summit.

PRISON SHIP MARTYRS' MONUMENT, BROOKLYN.

In the Piazza Colonna in Rome stands one of these ancient columns — that named of Marcus Aurelius. The Column Vendôme is a distinct improvement upon it in point of proportion, diminishing more at the top as it does; the Antonine Column seems to be larger at the top than at the bottom.

Two distinguished American examples of rostral columns, both by McKim, Mead & White, are, first, the West Point Monument, an adaptation at a greatly enlarged scale of the columns in the courtyard of the Cancelleria in Rome; the base is much better than the capital and upper part.

The second is known as the Prison Ship Martyrs' Monument to the unfortunate Americans who died in the British prison ships in New York bay during the English occupation in the Revolution. The Borough of Brooklyn is to be congratulated upon the possession of one of the best monuments in this kind to be found anywhere. The column is surmounted, not by a figure as usual, but by a tripod of the sort used in olden times before the altars of sacrifice, and is peculiarly appropriate here.

The other three illustrations are of monuments that are rather difficult to fit into our classification.

The first is a purely funereal monument, a version of the stele or Greek tombstone. It is the Whitney Monument in Woodlawn Cemetery by McKim, Mead & White, of dark polished granite, beautifully proportioned and simple as all good things are.

The next is the Parkman Monument in Jamaica Plain near Boston, the work of Daniel Chester French and Henry Bacon. It is a curious conception and belongs partly to the pylon and obelisk family and partly to the tombstone group. In the tall slab is half buried the figure of an Indian; at the base is a bas-relief of Parkman.

The third is the Shaw Monument by Augustus St. Gaudens and McKim, Mead & White, on the edge of the Boston Common and opposite the State House. It is admi-

COLUMN OF VICTORY, BERLIN.

DUKE OF YORK'S COLUMN, LONDON.

VENDÔME COLUMN, PARIS.

rably placed and so designed that the two great elms were deliberately made a part of the composition. The relief is in bronze and the architecture is in warm Milford granite. Shaw was the Colonel of a colored regiment in the Civil War and he is represented as riding beside a detachment of his men.

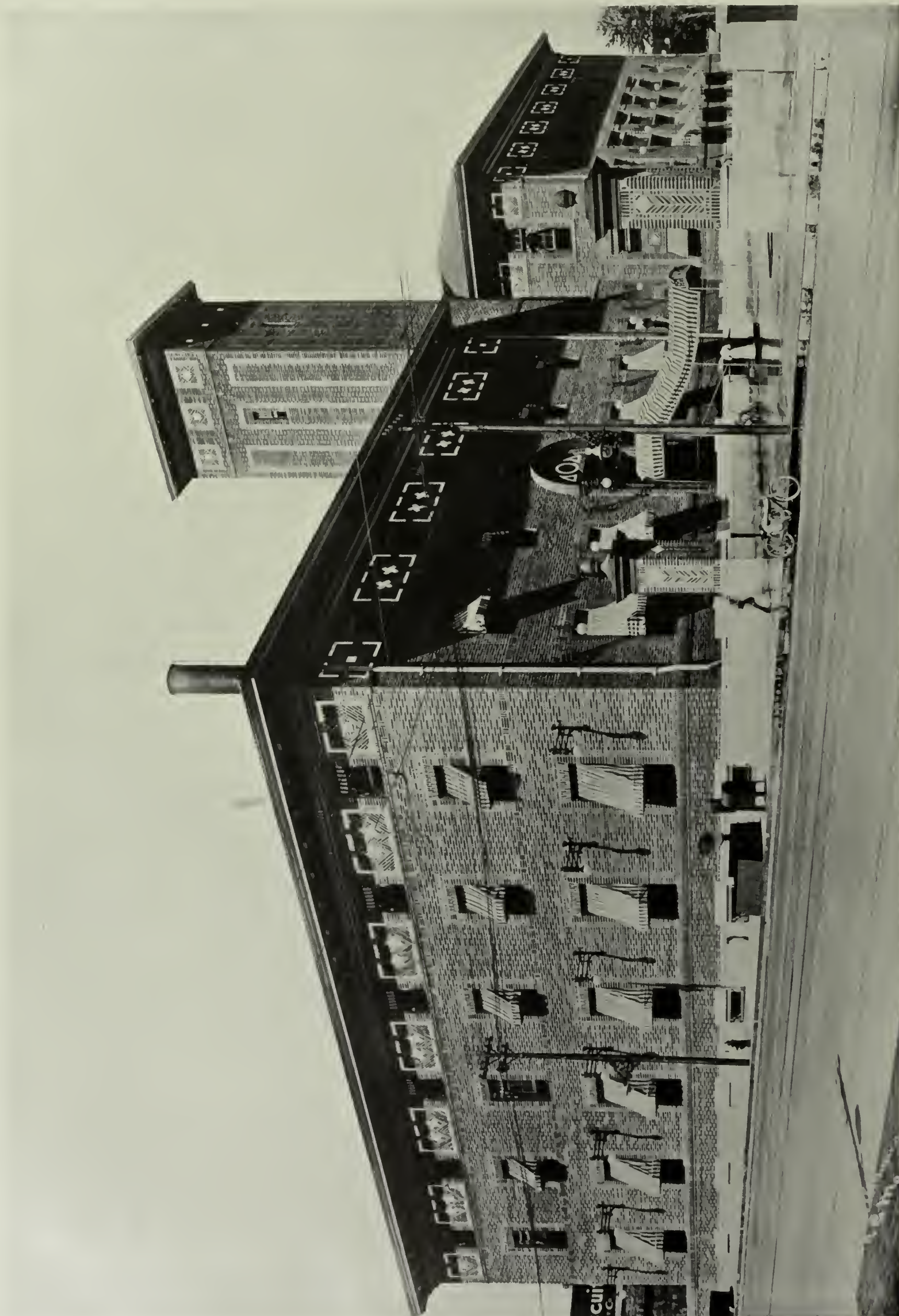
SHAW MEMORIAL

BOSTON, MASS.

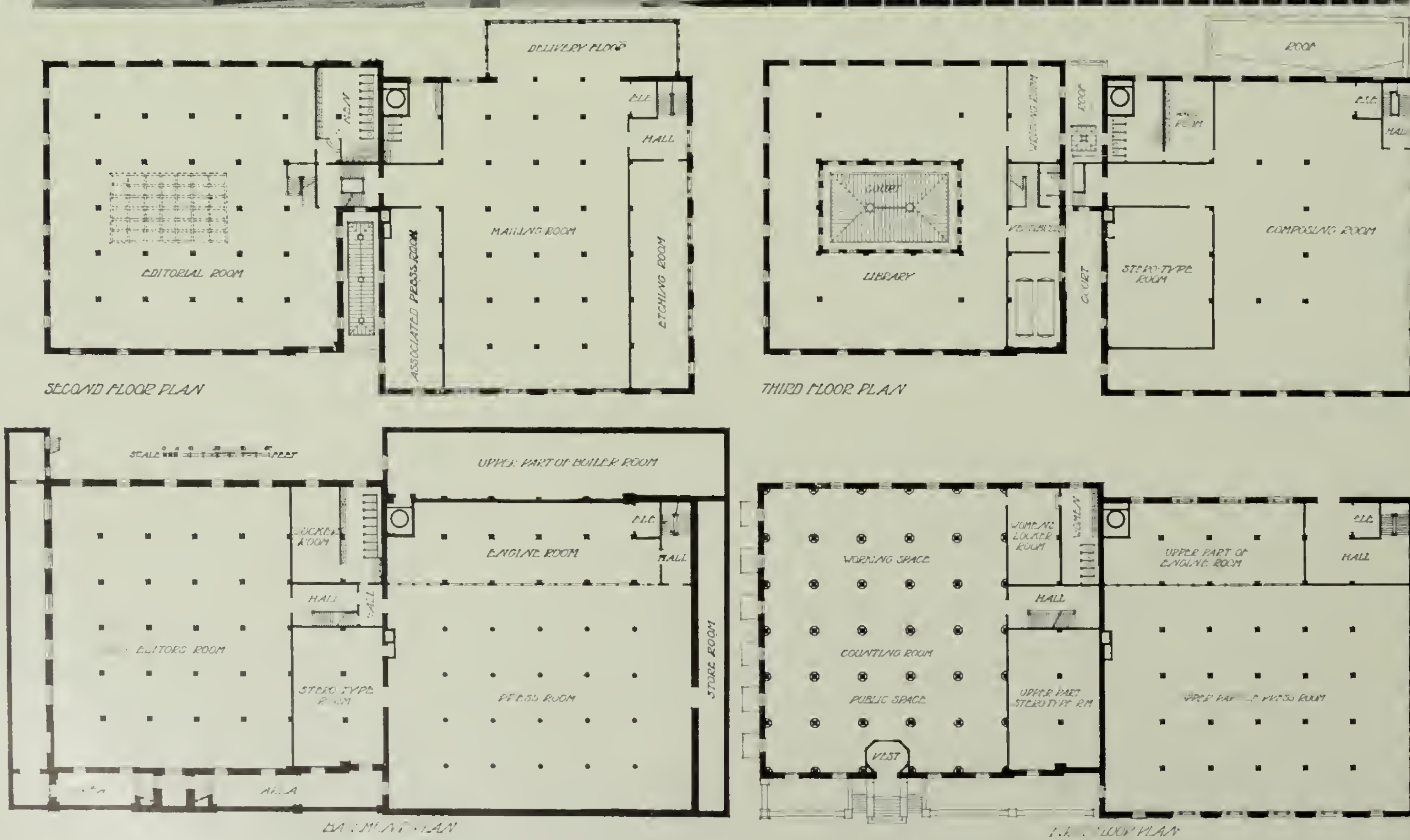
WHITNEY MONUMENT, NEW YORK, N. Y.

MONUMENT AT WEST POINT, N. Y.

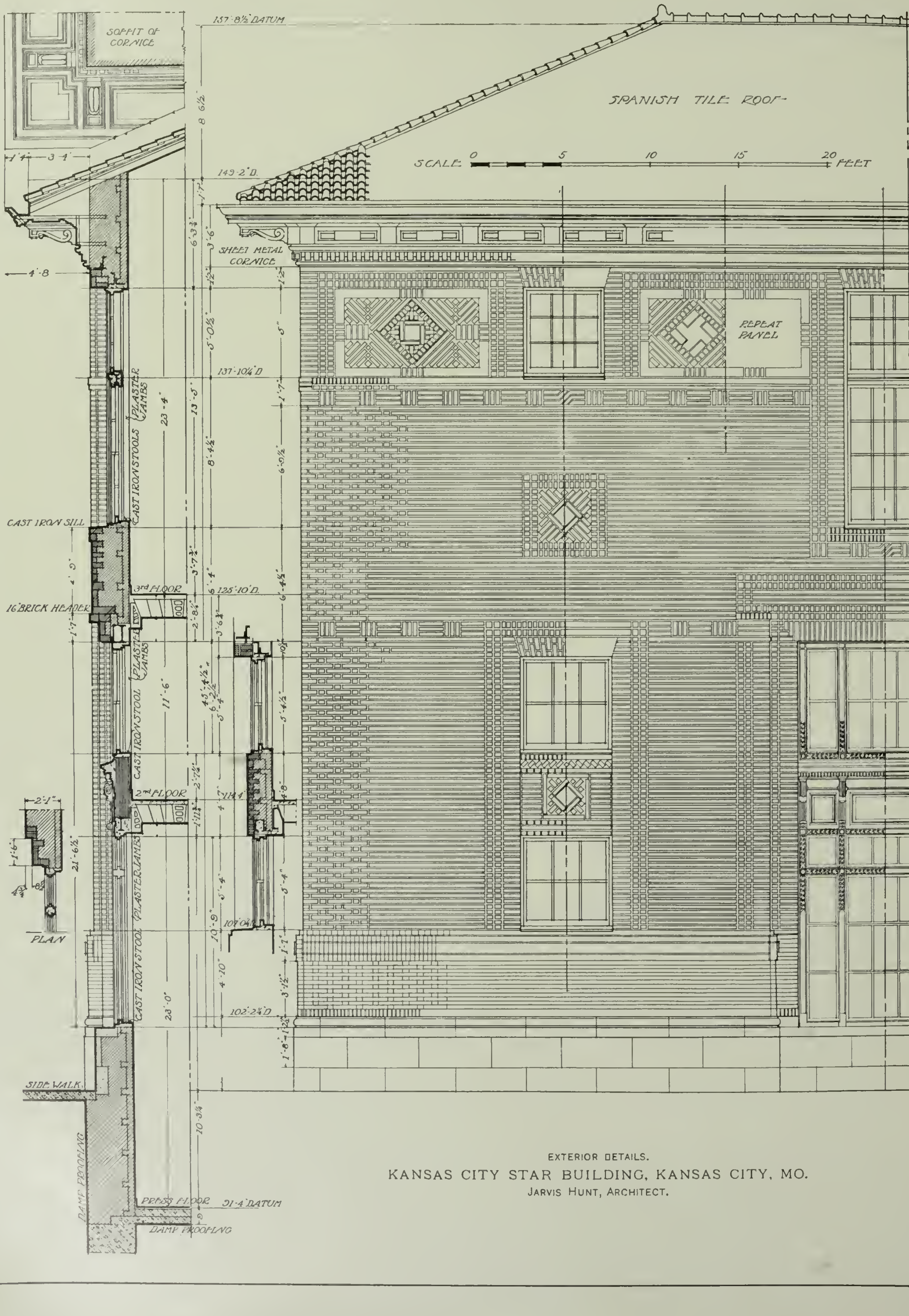
PARKMAN MONUMENT, BOSTON.



KANSAS CITY STAR BUILDING, KANSAS CITY, MO.
JARVIS HUNT, ARCHITECT.



KANSAS CITY STAR BUILDING, KANSAS CITY, MO.
JARVIS HUNT, ARCHITECT.

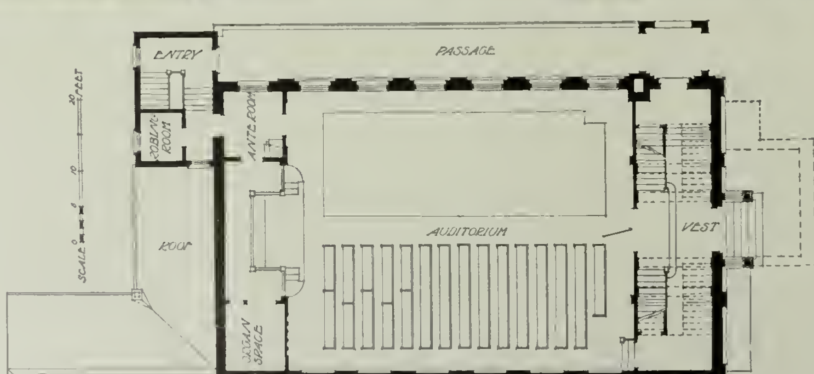


EXTERIOR DETAILS.

KANSAS CITY STAR BUILDING, KANSAS CITY, MO.

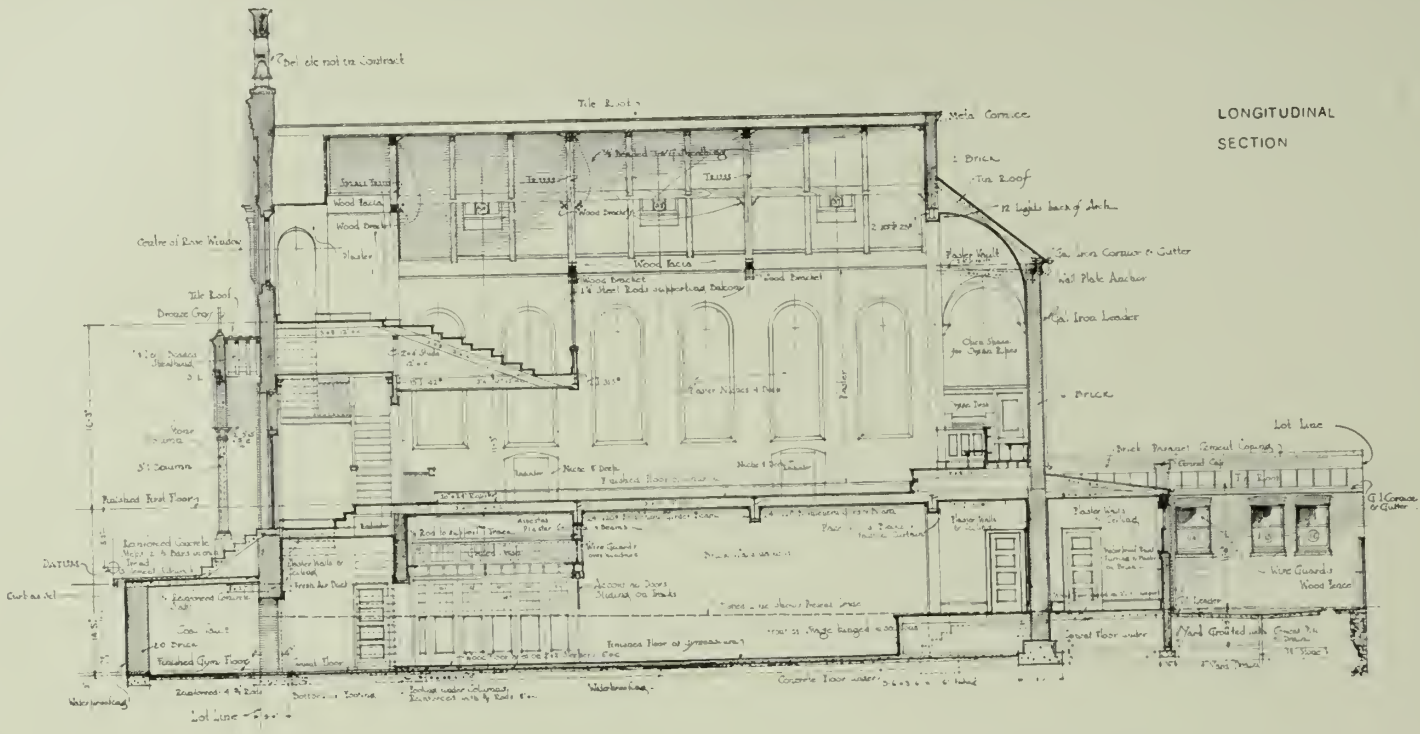
JARVIS HUNT, ARCHITECT.

CHURCH OF
THE
HOLY TRINITY,
153D STREET,
NEW YORK CITY



FIRST FLOOR PLAN

LUDLOW & PEABODY,
ARCHITECTS

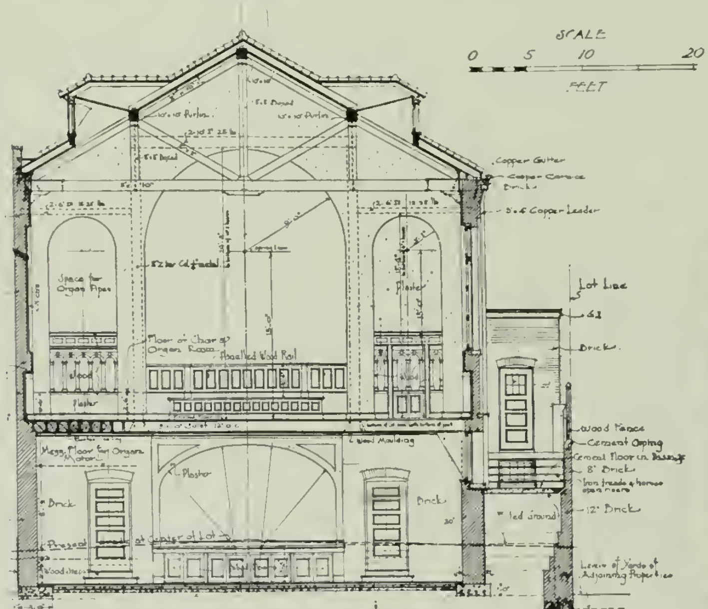


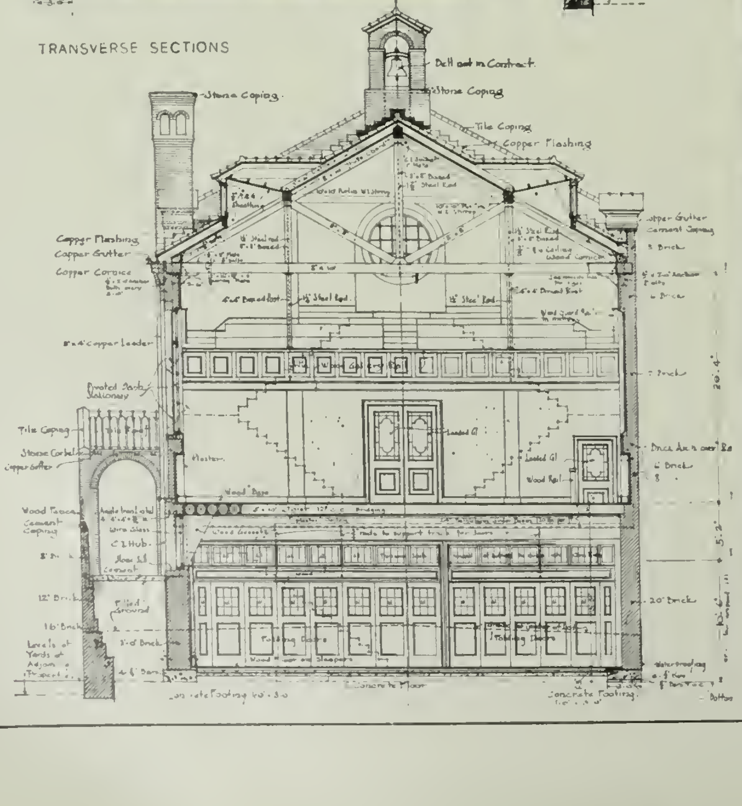
LONGITUDINAL SECTION

SECTIONS AND MAIN ENTRANCE

CHURCH OF THE HOLY TRINITY,
153D STREET, NEW YORK CITY.

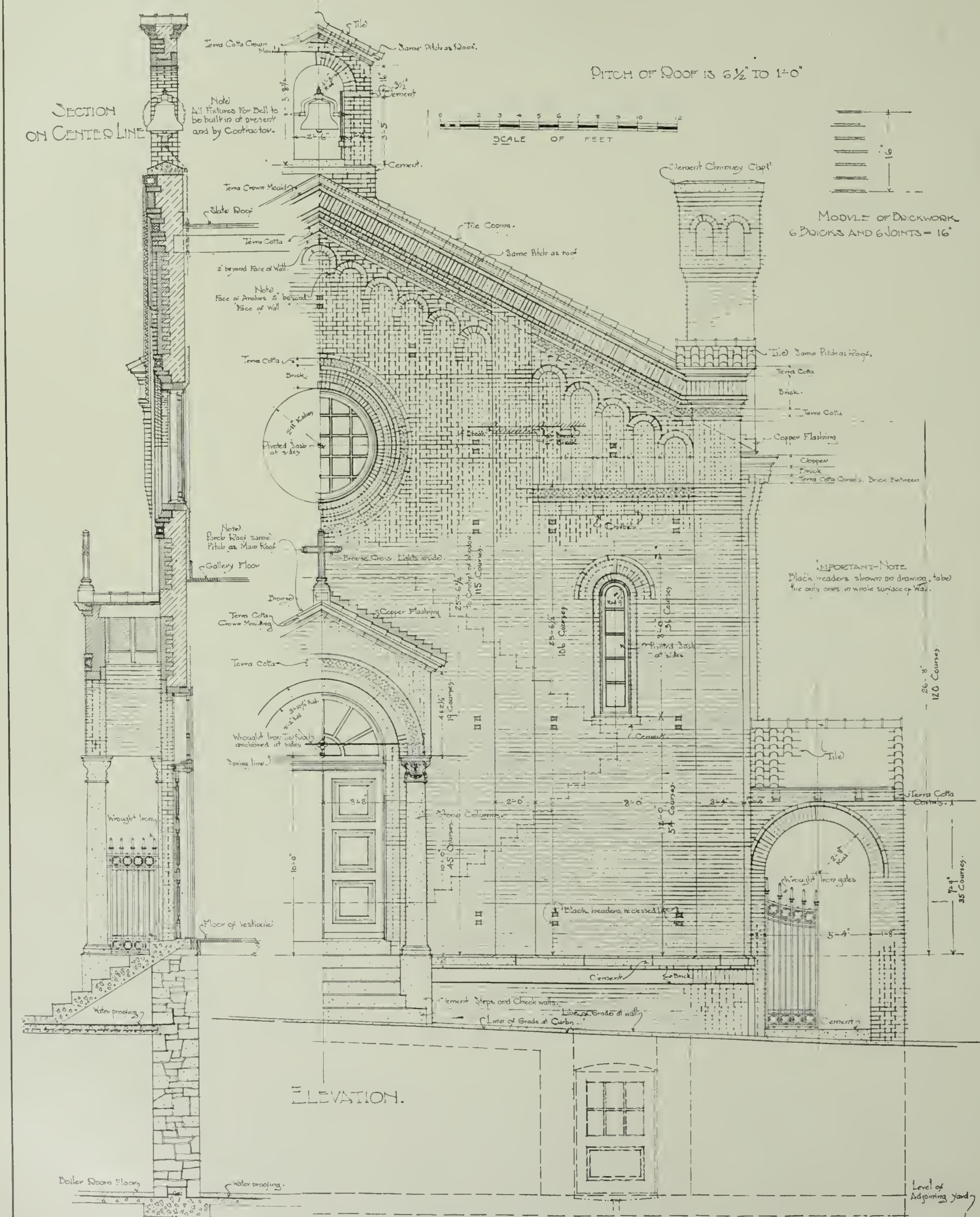
LUDLOW & PEABODY, ARCHITECTS





TRANSVERSE SECTIONS

MAIN ENTRANCE



EXTERIOR DETAILS.

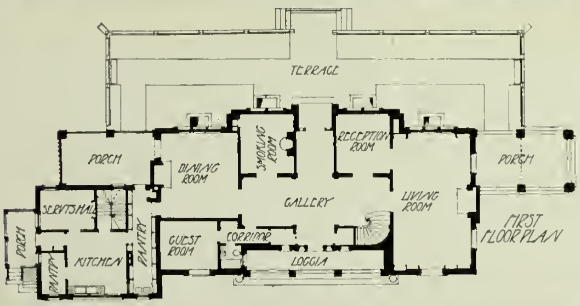
CHURCH OF THE HOLY TRINITY, 153D STREET, NEW YORK CITY.

LUDLOW & PEABODY, ARCHITECTS.

GALLERY

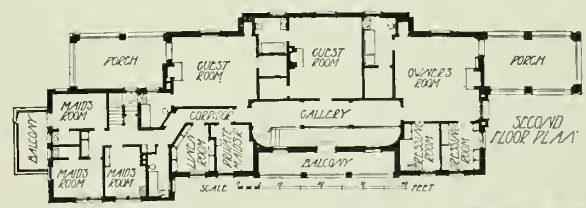
HOUSE AT GLENCOE, ILL.

HOWARD VAN D SHAW, ARCHITECT



HOUSE
AT
LAKE FOREST,
ILL.

HOWARD VAN D SHAW, ARCHITECT



VOL. 21, NO. 6. PLATE 79.

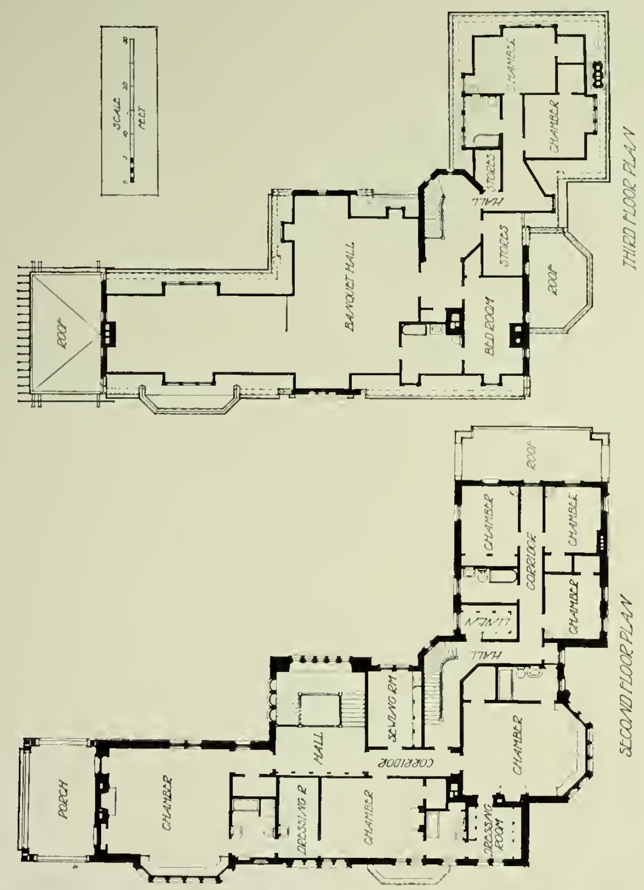
GARAGE

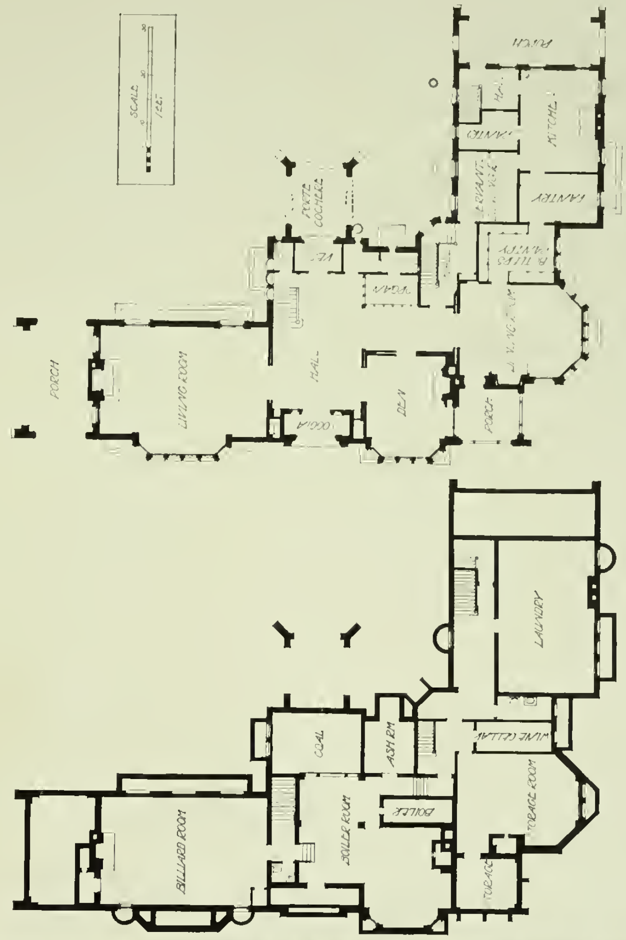
DETAIL OF LOGGIA

HOUSE AT LAKE FOREST, ILL

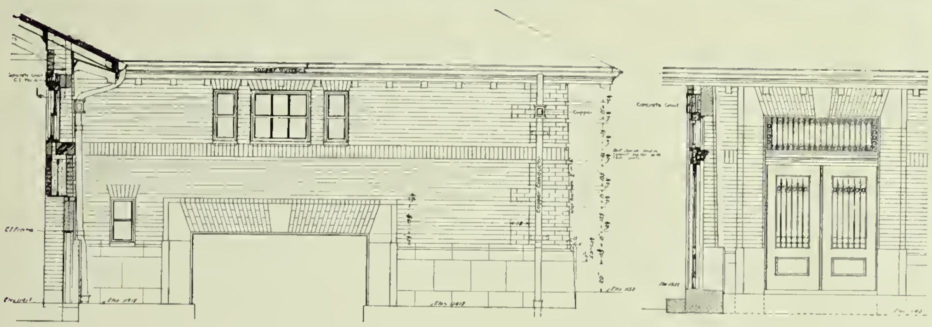
HOWARD VAN D SHAW, ARCHITECT

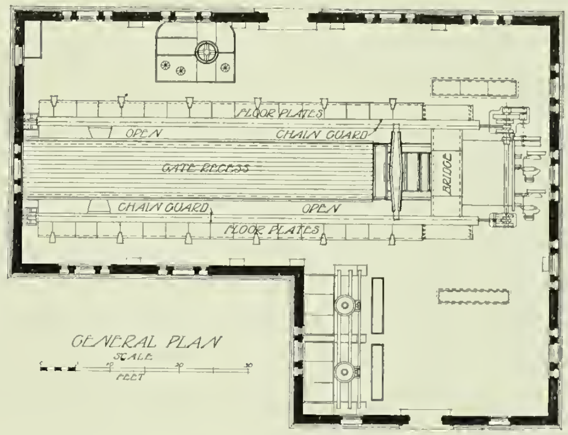
HOUSE AT CLEVELAND, OHIO
J Milton Dyer, Architect



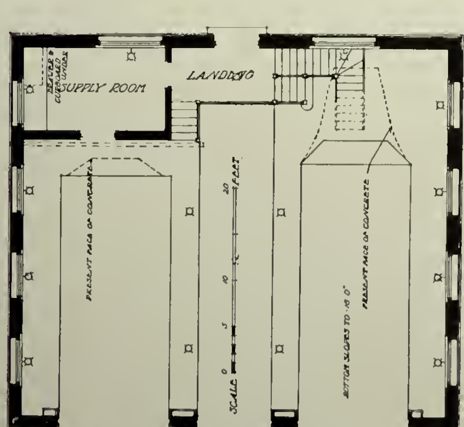


ENTRANCE AND PLANS
HOUSE AT CLEVELAND, OHIO.
J MILTON DYER, ARCHITECT.



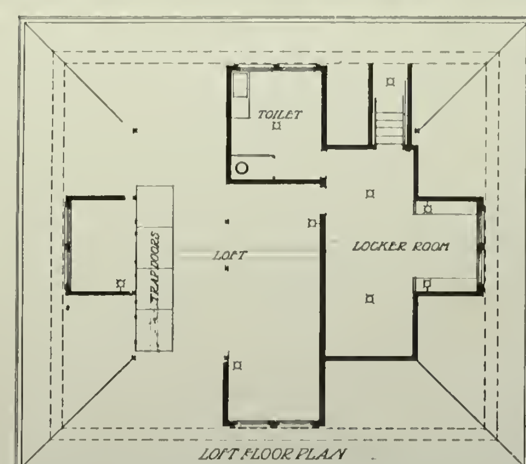


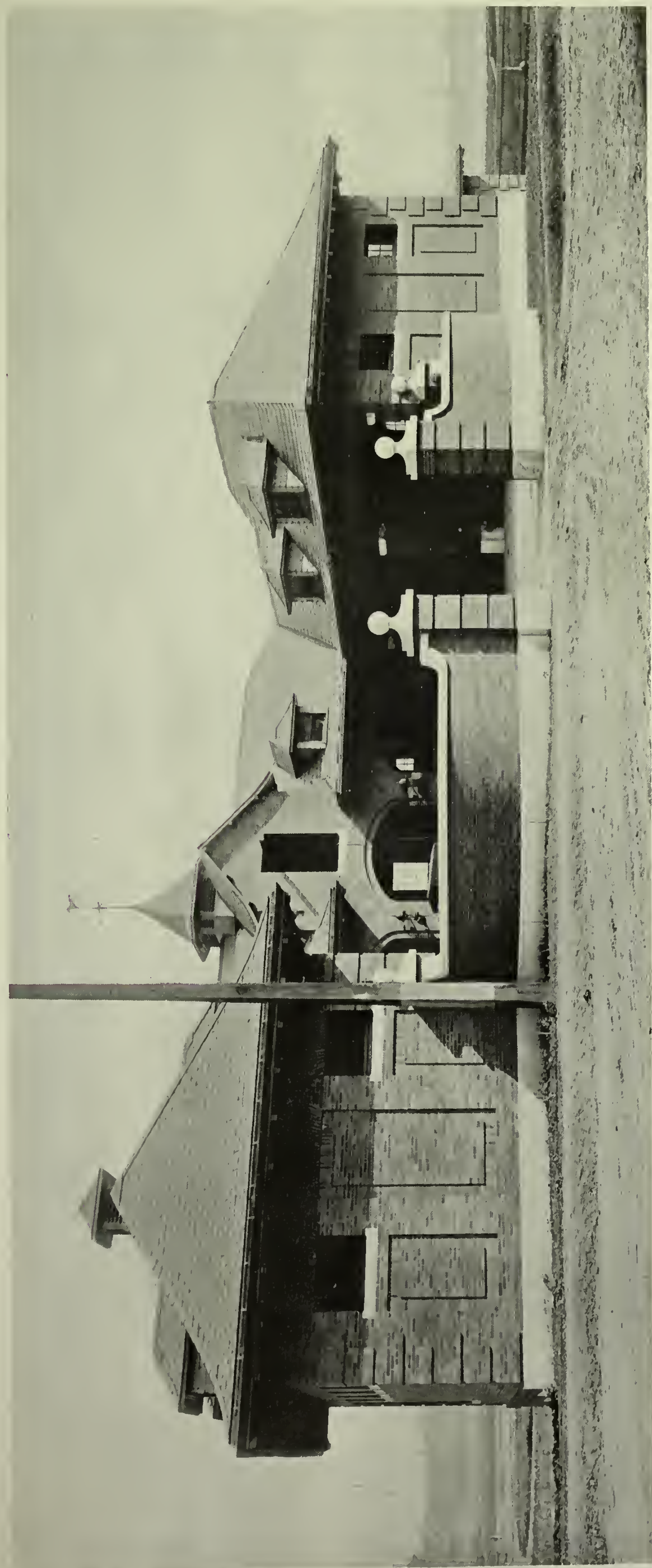
UPPER LOCK GATE HOUSE FOR THE
PARK RIVER BASIN COMMISSION, BOSTON, MASS.
H. A. MILLER, ENGINEER. GUY LOWELL, CONSULTING ARCHITECT.

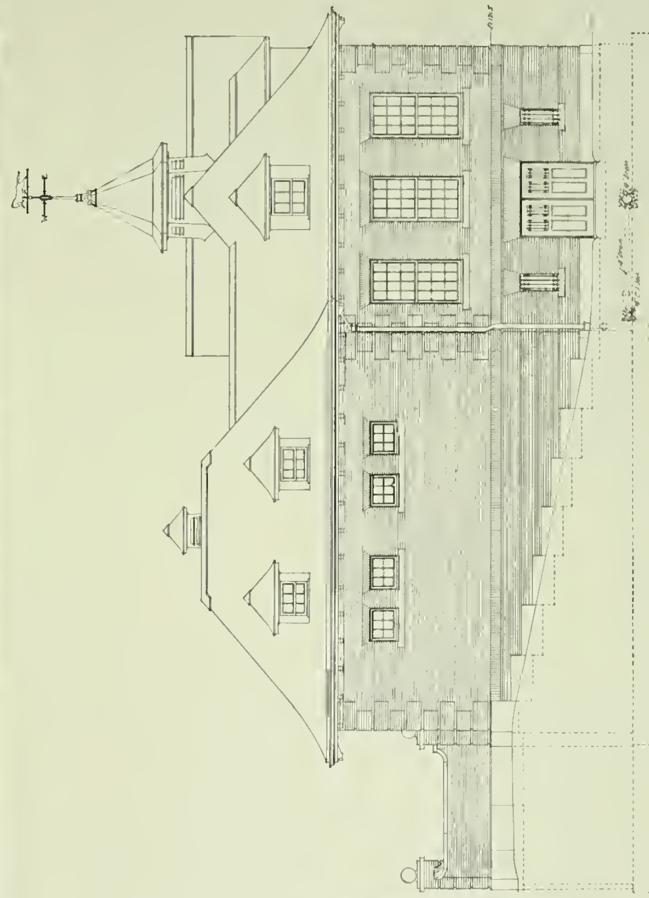


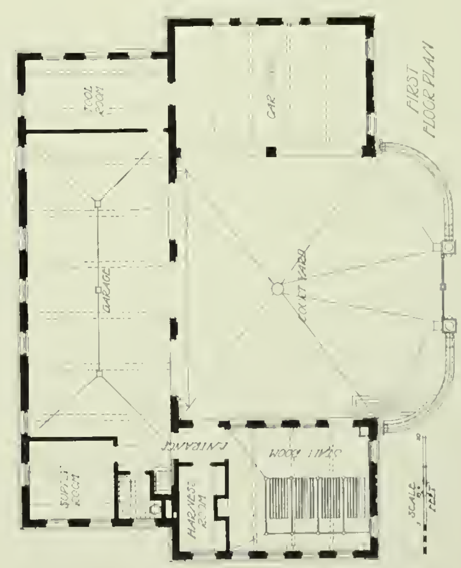
FIRST FLOOR PLAN

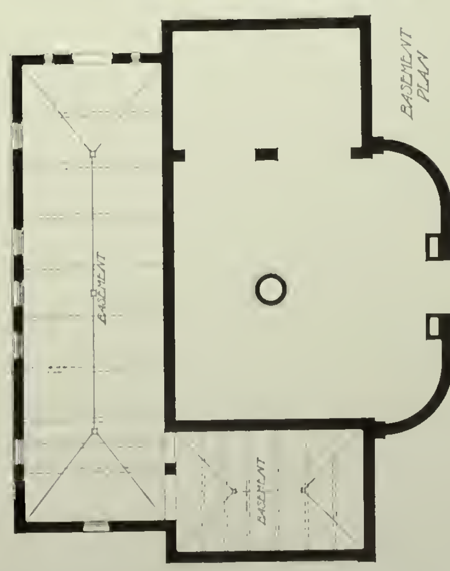
BOAT HOUSE FOR THE
PARK RIVER BASIN COMMISSION,
BOSTON, MASS
H. A. MILLER, ENGINEER
GUY LOWELL, CONSULTING
ARCHITECT





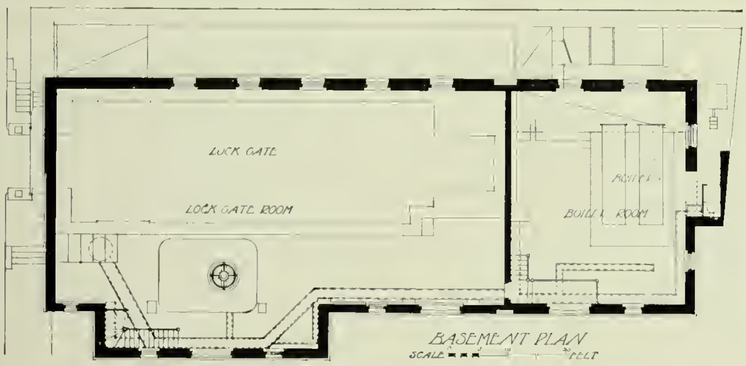


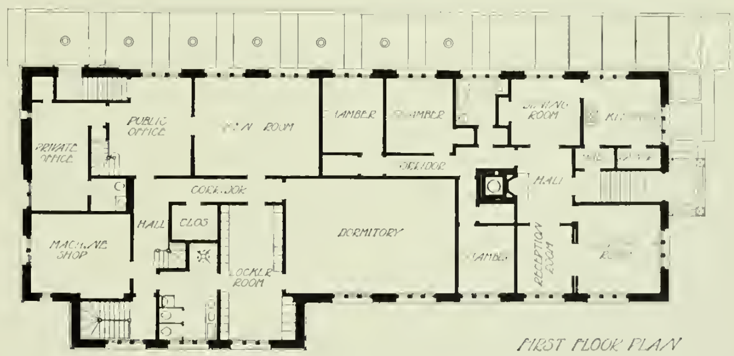


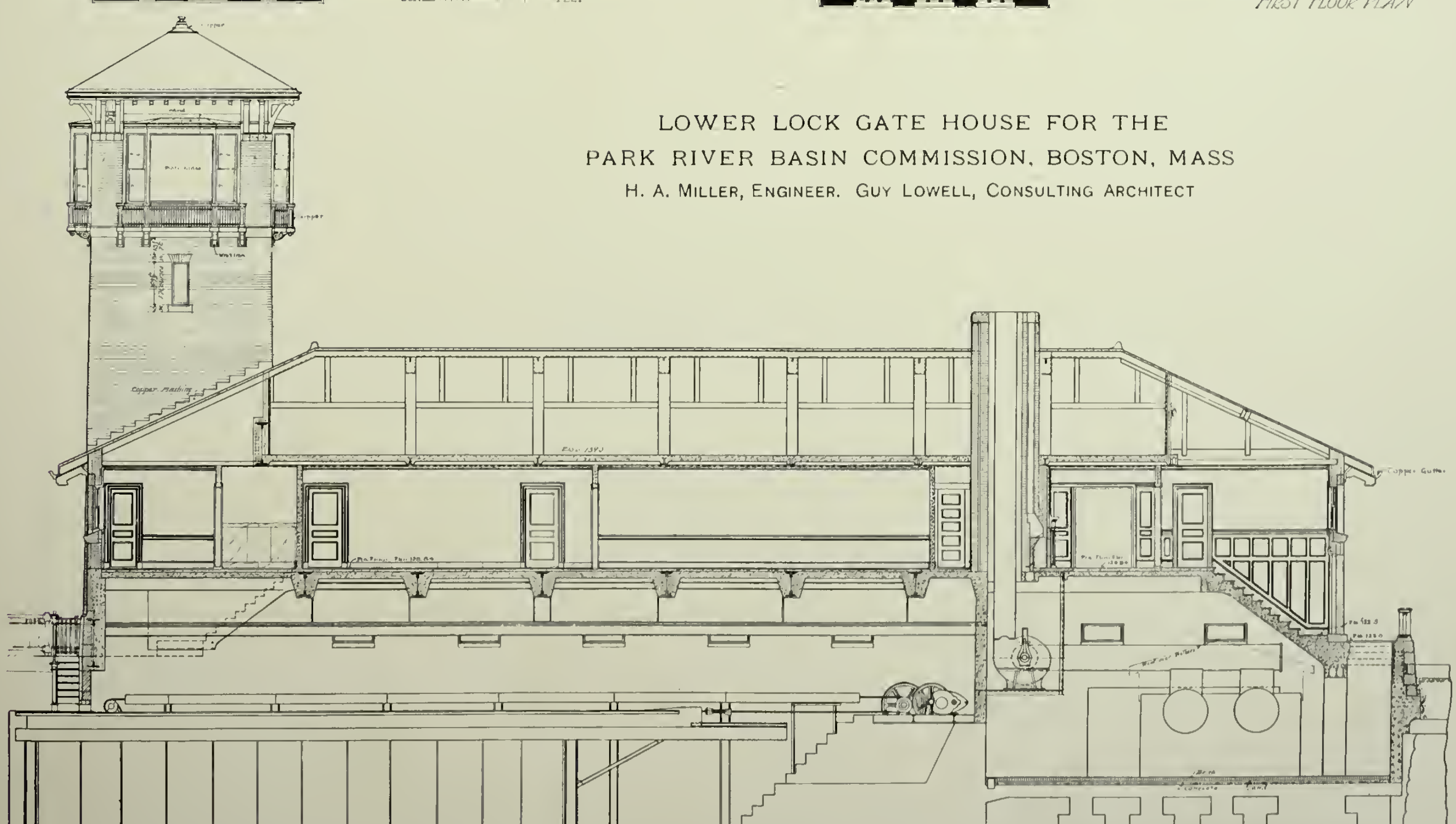


STABLE FOR THE PARK RIVER BASIN COMMISSION, BOSTON, MASS.

H. A. MILLER, ENGINEER. GUY LOWELL, CONSULTING ARCHITECT.





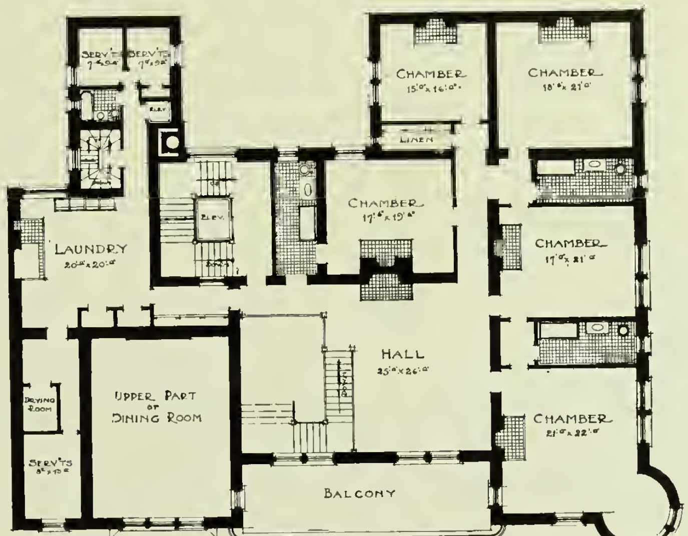


LOWER LOCK GATE HOUSE FOR THE
PARK RIVER BASIN COMMISSION, BOSTON, MASS
H. A. MILLER, ENGINEER. GUY LOWELL, CONSULTING ARCHITECT

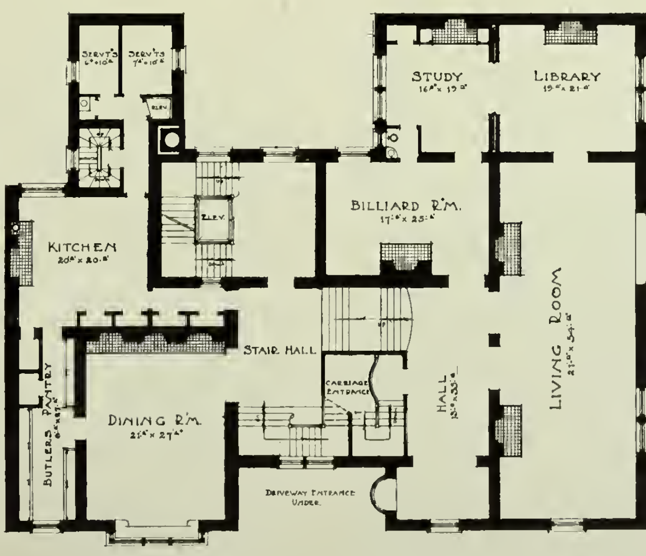
The Development of Duplex Apartments.—I. Early Type.

ELISHA HARRIS JANES.

THE general opinion is that the duplex apartment is the most modern type of apartment house building. It is spoken of as the newest thing, as it were, the last word. Yet if we go back forty or fifty years we find the duplex apartment with all of the salient features of to-day; and still stranger, when we look into the cause which brought about their introduction then and now, we find it was the same general purpose ; the desire to attract the wealthier class. But this cause acted in different manners. In the older development we find that what was accomplished was along logical lines and for good economical reasons ; in the recent ones it has been far more due to a study of human nature and a resultant catering to its whims and fancies.



THIRD FLOOR PLAN.



SECOND FLOOR PLAN.
FIG. I.

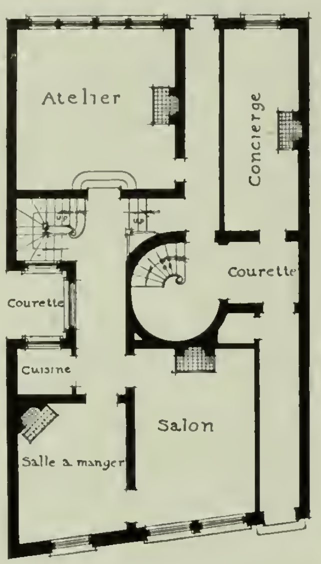
The causes for apartment house building and its development we can all understand, as there were many different conditions which compelled people to change from houses to apartments. There was that great portion of the public who through necessity had to submit to the inevitable ; those who found they could not afford to live in houses on account of the high rental, or on account of the large and ever increasing expense of maintaining the same ; those who were forced to reduce expenses and live in smaller quarters, or whose families being reduced in number found a house too large ; those who feared the vexatious troubles of the unsettled servant problem or who from the misfortune of ill health were unable to stand the anxiety, responsibility, and annoyance of running a house.

All of these had more or less been taken care of. They had to take what was given them. The only competition which existed in apartment house building, and which caused improvement, was the competition in getting the highest rental possible for a given space.

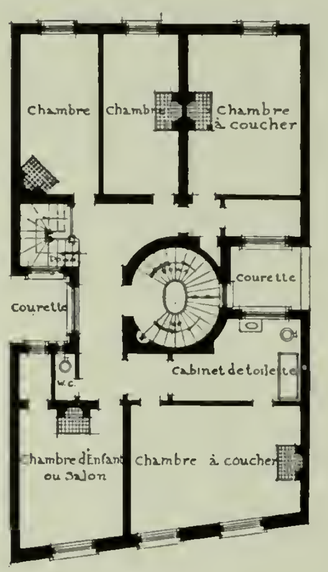
It should be remembered that with very few exceptions all this work was done by speculative builders, employing architects who were such in name only, who would give no thoughts to improvements. Any advancement or change really depended upon a very few progressive builders, for as soon as one improvement was made, like a flock of sheep the rest of the speculative builders would rush to copy it. It was not until they sought to reach that class more blessed with the worldly funds; those who could well afford to live in a house, but simply for convenience or on account of a small family might be persuaded to discontinue the house ; that they realized the difficulty of reaching them with the ordinary buildings. This, though, made the game more interesting and attractive for the results would be worth while, as the higher price necessary to charge for the experiment would count for little with this class.

It has always been, and probably always will be, difficult to persuade all of the public to change any of their manners and customs, whether it be the smallest detail of the routine of daily life, use of utilities, or their mode of living and environments. Whenever anything is suggested, any ideas advanced or put into practice, instead of seeking the advantages or good points, is it not human nature to look for the weak points? This same thing applied to the introduction of apartments, and it was necessary to overcome this antipathy and to a great extent to humor human nature and cater to the whims and fancies of the last mentioned class. As the builders sought to spread their field to accommodate and to attract people from the private houses, they found that numerous obstacles had to be overcome in order to tempt this class to drop some of the existing prejudice.

We all recall how, in the majority of apartments built a generation ago, upon entering to go to the parlor, one would usually see the doors of every room in the apartment ; possibly would have to pass a number ; and at times the bath room or kitchen door would be opposite the parlor. This, of course, was very objectionable to people who had always been accustomed to living in private houses where, upon entering, the parlor door was immediately to the side of the entrance door. Then there was the objection that the servants had to enter the same way as the family did. These two prominent objections, it is strange to say, took a long time to be eliminated, although it simply meant a matter of rearranging the rooms. But the third and more serious objection at the time was the ceiling heights; for in the private houses, the parlor and dining room ceilings were usually from 12 to 15 feet high. Rather than make every room of that height the duplex apartment was started, and in the few examples built we find all of the logical modifications but none of the illogical and unreasonable ones of to-day.



REZ-DE-CHAUSSEE.



PREMIER ETAGE.

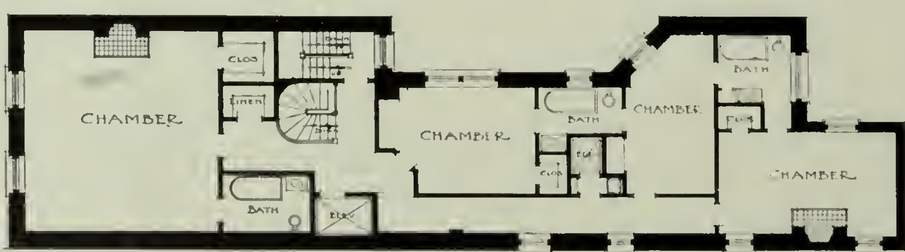
FIG. II.

Among the earliest attempts to overcome the difficulties was the Florence Apartments at 18th street and Fourth avenue, just recently torn down to make room for business buildings, and the Knickerbocker Apartments, at 28th street and Fifth avenue. In these the living rooms, that is, the parlor, library, dining room, kitchen and pantries, were grouped on one floor, and high ceilings used; on the floor above, the chambers and bath rooms were arranged with lower ceilings. The two stories were then connected with a private staircase. Then came several apartments on Central Park South, among them the Dalhousie Apartment, which is still standing, and a more prominent example, the Nevarra Apartments, at 59th street and Seventh avenue. In the last they went a step further, for after giving the parlors and dining rooms ceilings 15 feet high, it seemed a great waste of space to have the kitchen and pantries with the same high ceilings; yet if two stories were placed within that height, the ceilings would be 7 feet high, which was too low. This resulted in the clever idea that, for every two stories of living rooms, which were all placed in the front and amounted to 30 feet, they would build three stories in the rear of 9 or 10 feet each. Thus the apartment on the second floor would have two-thirds of their sleeping rooms in the rear on the same level with the living rooms and the balance on the second floor mezzanine. The apartment on the third floor would have a portion of the the sleeping rooms on the second floor mezzanine, and the balance on the third floor rear, which would be on a higher level than the third floor front; in other words, some of their rooms would be down a half flight and the balance up a half flight.

As with all innovations though, the originators had their difficulties in gaining patronage. To make it more attractive they had even offered to sell instead of renting an apartment, and this was the start of the co-operative apartment scheme. It did not meet with a great amount of success, but finally changed hands and slowly became popular.

Some of the apartments were taken by a few who were induced to abandon their houses, but the majority were taken by people who had country houses and used the apartments as town houses, or by people who were just coming to New York to live.

As they encountered so much difficulty in gaining tenants, notwithstanding that they had been built on such a generous scale of planning as to the size of rooms, court space, corridors, etc., no builders could be persuaded to follow these examples, with the result that duplex apartment building died out, with the exception of a few isolated examples.



THIRD FLOOR PLAN.

SECOND FLOOR PLAN.

FIG. III.

Perhaps the most elaborate duplex apartment house is the one that was built for Mr. Louis C. Tiffany, at 72d street and Madison avenue, designed by McKim, Mead & White about twenty-five years ago. This was arranged to accommodate three families, and to-day still contains the largest and most generous apartments that have been built. Fig. I shows the plans of one of the apartments. Each consists of two full stories, each floor covering, together with the court space, an area of 75 x 100. To a builder of to-day the extravagance of space given to the halls and grand stairways would seem a crime. In this building see how they have used the features of the present day duplex apartment, the difference being only in the scale. The two-story studio feature of to-day shows itself in a magnificent dining room running through two stories. In this room rather an odd feature is carried out in that one whole wall is devoted to three fireplaces. They have the private stairs from the first to the second floor, but the stairway is so different and on such a large scale that it might almost be called "monumental," being all finished in marble and mosaic. It starts from a spacious hall, allows a wide stair well and ends in a very large hall on the second floor, which is used as an upstairs sitting room. And finally the ceilings of the first story are much higher than those of the second story. All of which features are used at present.

The duplex apartment is not even uncommon in the older French apartments, but their use was not quite from the same cause which has introduced them to America. In France the slow introduction of the elevator caused this peculiar condition in the apartment houses; the apartments on the first and second floors were built quite large and commanded high prices, while on the upper floors, according to the distance the tenants had to walk, the apartments were smaller and arranged for a poorer class of people. Fig. II shows one of the types of duplex apartments built in Paris about thirty years ago. This also may be called a studio apartment, as it chances to be the apartment of an artist, having his studio on the first floor, but not extending through two stories. The ceiling height is considerably higher than the other rooms, as on the first floor they were able to keep the level of the floor with that of the entrance. This again shows the features of the present day duplex apartment.

Another type was that caused by many apartment houses having a carriage entrance on the ground floor, and a part of this floor would be connected by a private stairs to the second floor, forming a duplex apartment.

Similarly in this country, a number of the former apartment houses were built in streets which had steep grades. This would leave a considerable part of the basement well above the curb. In this portion the servants' rooms, kitchen, and dining room would be placed and connected to the apartment immediately over on the first floor, making a so-called duplex apartment. Then there were a few duplex apartments brought about by the improvement of a small plot or the changing over of a single house to apartments, where the area was too small to be suitable for a single apartment to each floor. Fig. III illustrates a house on a 25-foot lot so altered to duplex apartments, although in this case the owner was fortunate in having an easement for light and air. The plan of this apartment approaches about as near to that of a private house as it is possible, being very similar to the second and third floor of many houses, which have the foyer or stair hall in between the parlor and dining-room.

But beyond these examples which have been mentioned, there was no real activity on account of the lack of demand, and the designing of this type of duplex apartment practically ceased. Yet when we compare all of these apartments, especially the one of Mr. Tiffany's, with the duplex apartments of to-day, we find all of the logical features, showing that this type is not a novelty of the twentieth century.

NEW LONDON, CONN. KATONAH, N. Y.

TWO ENTRANCES BY CHARLES A. PLATT, ARCHITECT.

The Federal Life Building, Chicago.

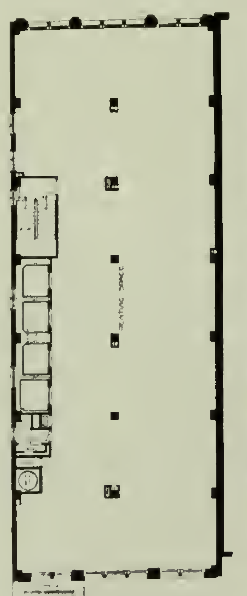
MARSHALL & FOX, ARCHITECTS.

THE early examples of the tall building were dominated by practical requirements and exterior designs were often displeasing to the esthetic sense. Later architects realized that buildings of this character must be made attractive, and their work shows a consistent and intelligent attempt in this direction.

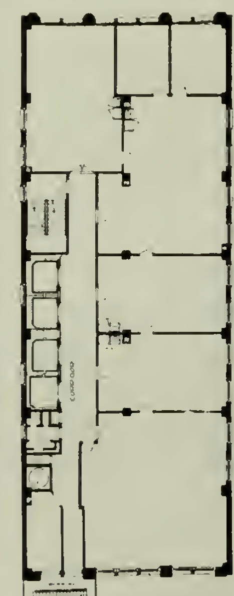
The problem which confronted the architect of yesterday, and which presents itself to-day, is the proper relationship of the esthetic properties to the economical conditions. Development along this line has given us what may be considered the "tri-part" type, or base, shaft and capital. In many buildings of this style vertical lines are brought out prominently and the ornamentation somewhat confined to the lower and upper stories.

A recent example of this type is the Federal Building, Michigan Boulevard, Chicago. With a narrow frontage of 48 feet and 12 stories in height the building is typical of terra cotta and steel construction. The entire main façade is of cream white enamel terra cotta and is noteworthy for its quiet and restful expression. The rear of the building is similarly treated to the front but somewhat modified in design. The strong vertical lines of the steel frame are evidenced by the four piers extending with little interruption from the sidewalk to the cornice. The more important features have been subordinated in order to accentuate others, bringing the entire façade into one harmonious whole.

The opportunities or architectural expression have been fully appreciated and effectively employed by the architects in this building. The vertical members in conjunction with the horizontal bands furnish a frank expression of the skyscraper problem and show an honest and effective handling of the material used. The ornamentation is kept in scale throughout while the design calls for sufficient repetition in the various patterns to make it both economical and logical. The terra cotta has been used in accordance with its own peculiar characteristics and conveys at once its adaptability in clothing a skeleton of steel framework.



UNDIVIDED FLOOR PLAN.



TYPICAL DIVIDED FLOOR PLAN.

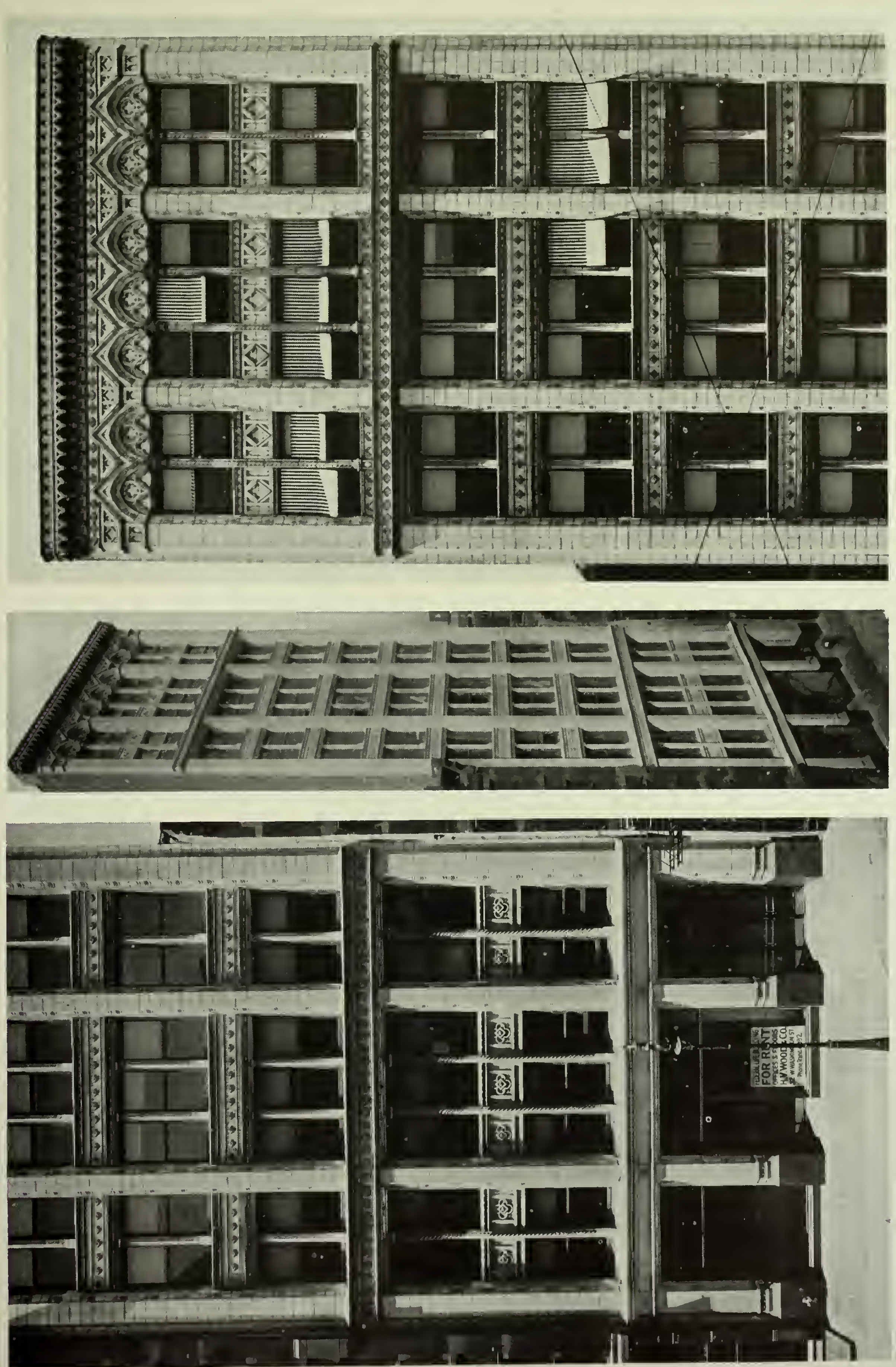
The exterior, unfortunately, is so encompassed that it is practically impossible to obtain a good view of the ensemble. The first story is open and designed with a view of attracting one's attention while passing by. The tracery at the entrance is an extremely delicate pattern and affords a splendid example of the symmetrical and decorative result which a skilful modeler may obtain by working with a plastic substance and following the original idea of the architect. The second and third stories while conforming to the general lines of the design are one of the distinctive divisions of the building. The moulded mullions and panels enrich the enclosures between the pilasters while they in turn remain uniform throughout their entire height. This decorative feature together with the ornamented cornice over the third story also demonstrate the finished effect of careful workmanship and fine jointing.

The shaft of the building has an unusually decorative treatment between the various stories. These do not detract, however, from the effective mass of the shaft since the horizontal courses are uniform in design. The pilasters of unbroken surface convey the eye to the "capital" or two upper stories. Here is a more elaborate use of terra cotta and portrays at once the qualities of lightness and decorativeness, which characteristics are enabling this material to mould modern American commercial architecture. Here, at least, terra cotta is the logical substance for a building of this height. Such a mass of ornamentation could only be executed in plastic clay and give this appearance of strength while still making possible the use of a light steel construction.

The cornice treatment is another evidence that no high building needs a heavy projecting course to shed the water from the main walls. It furnishes a fitting cap to a successful design and does not darken the narrow street below. It also affords the eye, which has been gradually lifted from the first story to the crown, a restfulness and lends to the imagination an opportunity to think freely of future possibilities, without being hampered by a dark and frowning cornice.

The interior woodwork is of mahogany finish throughout. The hallways have mosaic floors and marble base. Four large elevators with the latest safety devices have been installed. The structure is of strictly fireproof construction and rests on caissons extending to the required depth necessary for permanent safety. In addition to the front and rear light the upper six floors have windows on all four sides.

The general appearance of the building is a frank expression of the fact that terra cotta is the facing and no attempt has been made by color or otherwise to imitate any other material. The prevalent idea was to make it appear from every point of view as a normal and natural product of a steel and terra cotta construction erected in an essentially modern way to house certain branches of our present-day commercial activities.

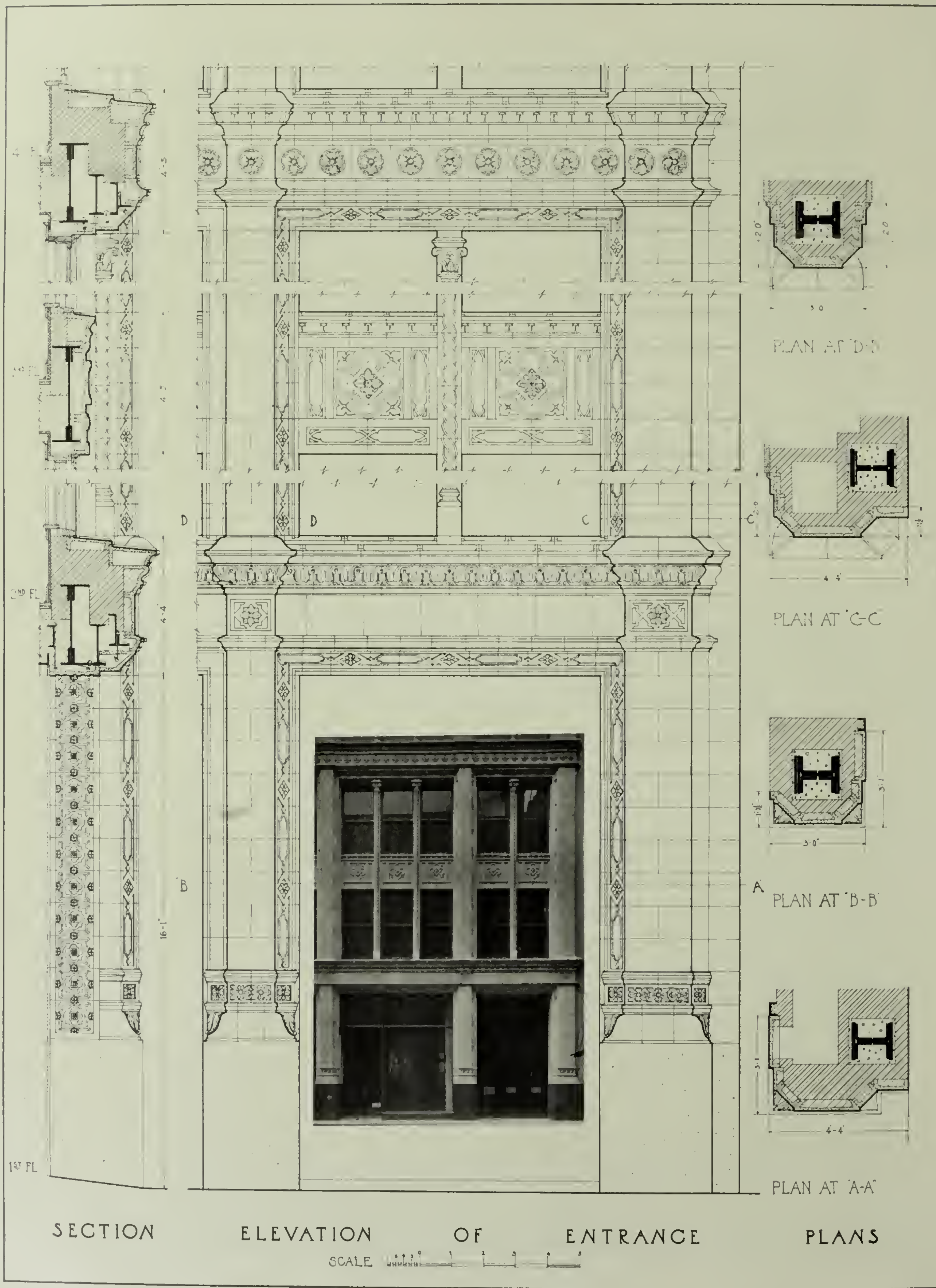


UPPER STORIES.

LOWER STORIES.

THE FEDERAL LIFE BUILDING, CHICAGO, ILL.

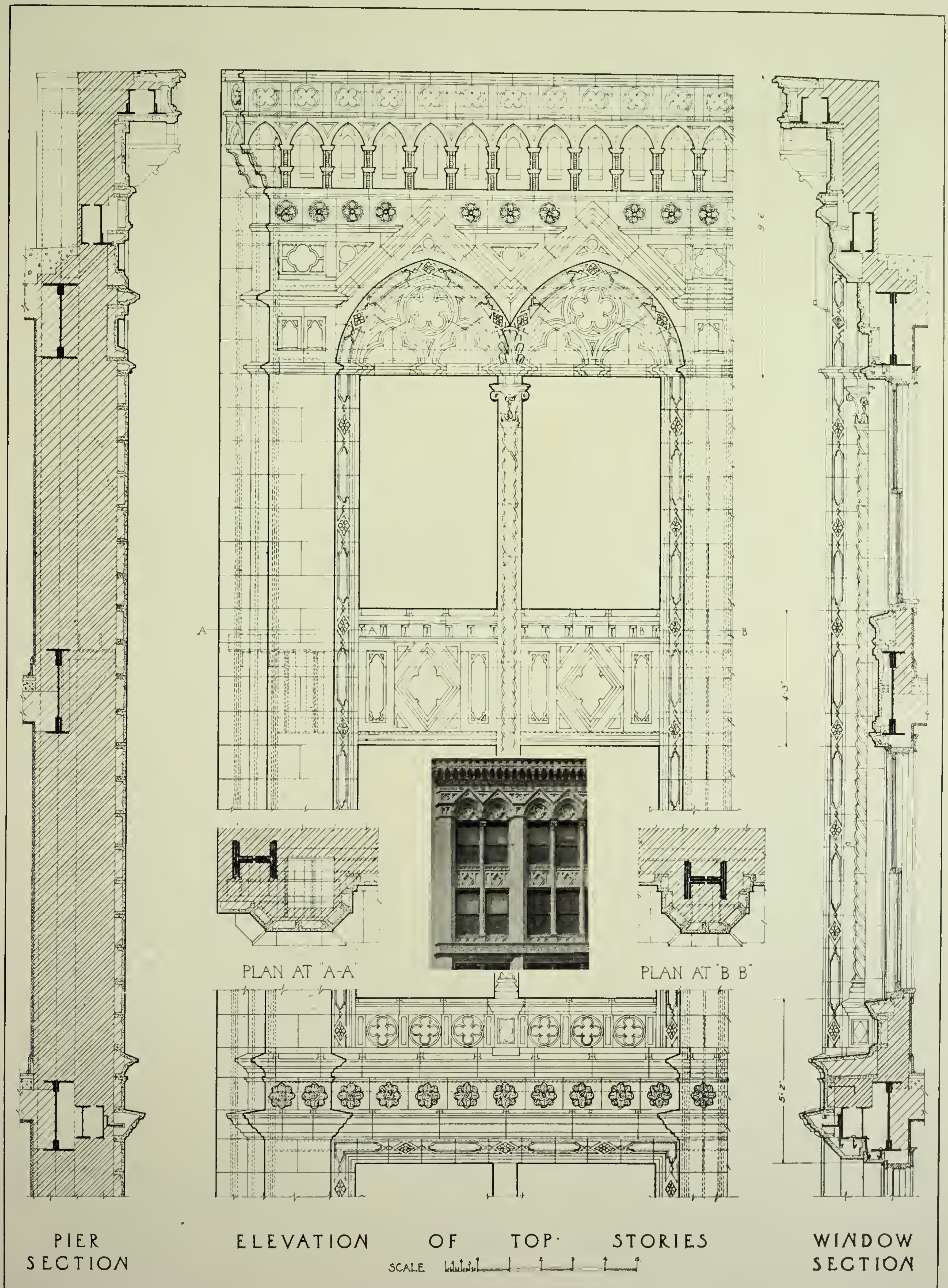
Marshall & Fox, Architects.



Terra Cotta Details.

Marshall & Fox, Architects.

THE FEDERAL LIFE BUILDING, CHICAGO, ILL.



Terra Cotta Details.

Marshall & Fox, Architects.

THE FEDERAL LIFE BUILDING, CHICAGO, ILL.

STEINWAY HALL BUILDING.
Z. C. Davis, Architect.

BROWN BROS. MANUFACTURING BUILDING.
Hill & Woltersdorf, Architects.

JELKE COMPANY'S BUILDING.
Huehl & Schmid, Architects.

SOUTHERN COTTON OIL COMPANY'S BUILDING.
Alfred S. Alschuler, Architect.

FOUR MERCANTILE BUILDINGS, CHICAGO.

Editorial Comment and Miscellany.

PLATE ILLUSTRATIONS — DESCRIPTION.

Buildings for Park River Basin Commission, Boston. Plates 82–84. The Upper Lock Gate House is used as a shelter for the lock gate with necessary machinery and the operating stands for the two large sluice-gates. The cost of the building was $10,400. The Stable and Boat Houses were built under one contract and cost $46,540. Both buildings are of gray-brown brick and granite with green slate roofing. The interior finish consists of buff brick and long-leaf yellow pine. The stable accommodates four horses, miscellaneous vehicles, tools, and harness, together with suitable arrangements for the keeper, storage, hay, grain, etc., on the loft floor. The boat house provides for three slips accommodating five boats, and a loft plan with locker rooms, toilet, and supply room. The Lower Lock Gate House cost $37,300. This building contains two 50 horse-power tubular boilers which furnish heat to the buildings, lock-gates and sluices. An attic is planned for the storage of patterns, tools, etc., while the top of the tower contains the switch room for the drawbridge and various gates.

FOUNTAIN IN COURTYARD AT CLEVELAND, OHIO.
Roof of Imperial Spanish Red Tile made by Ludowici-Celadon Company.
Abram Garfield, Architect.

Church of the Holy Trinity, New York. Plates 74–76. The building was designed as a Mission Church, and will include a four-story parish house on the rear of the lot, with the open air passage at the side of church forming the exit. The exterior is executed in red brick with white stone trimmings. Moulded terra cotta bricks are used in the cornices and bands, matching the main body of brick both in color and texture. Upon the interior the auditorium has a rough floated plaster wall and oak woodwork stained brown. The basement contains a Sunday-school room, gymnasium, showers, toilets, and kitchen facilities. The cubical contents of the portion of building erected are 127,483 cubic feet, and the total cost $30,000. The method of cubage was based on the area and the height from basement floor to one-third point up on the pitch roof.

DETAIL FOR A THEATER, BRIDGEPORT, CONN.
Executed by the South Amboy Terra Cotta Company.
Brown & Von Beren, Architects.

DESIGN FOR THE AUSTRALIAN CAPITAL.

Walter Burley Griffin, Chicago, has been awarded the first prize offered for the best design by the Commonwealth of Australia for the capital city of the Australian Federal Government. The plan provides for a city of twenty-five square miles to be built upon a site which is now a wilderness. The Australian capital, which has not yet been named, will be the first city since Washington, D. C., to be planned in detail before a shovelful of dirt has been removed from its site. In planning the Australian capital, with centers and radial avenues, Mr. Griffin has followed the plan generally held by architects to be the ideal one for cities of the future. The general arrangement provides for an immediate population of 75,000, with ample provision for the growth of the city as gauged by the increase in population of other foreign capitals. The plan covers everything that the city will need — street railway system, steam railway line, business and manufacturing districts. The central district of the city will contain three centers — a center devoted to government buildings, the municipal center, and the mercantile center.

PUBLIC SCHOOL, NEW ORLEANS, LA.
Faced with Mohogany Ironspot brick made by the Hydraulic-Press Brick Company.
E. A. Christy, Architect.

JOHNS-MANVILLE BUILDING,
NEW YORK CITY.
Built of brick furnished by Sayre & Fisher Company.
Augustus N. Allen, Architect.

The outlying district will contain five additional centers, three of which will be agricultural centers, one a manufacturing center, and another a suburban residence center. The city will have many features unknown to the modern city. The residences built upon the streets connecting the great radial avenues will enjoy quiet and secluded park-like atmosphere and at the same time never be further removed from main business thoroughfares than four blocks. Another unusual feature is that the city will have but one railroad entering it.

ANNOUNCEMENT has recently been made of the appointment of Austin W. Lord, of the firm of Lord, Hewlett & Tallant, as professor of Architecture and Director of the School of Architecture of Columbia University.

Mr. Lord's position in the architectural profession, together with his record as the first Director of the American Academy in Rome and his prominent identification with the splendid educational work that has been carried on by the Beaux Arts Society during the past fifteen years, combine to make this appointment most acceptable to all the friends of broad architectural education throughout the country. Further than this, it emphasizes the growing recognition of the fact that training in the practice of a vital modern art must be directed by an active practitioner in that art, as it is only in this way that some of the traditions of the old apprentice system, under which the greatest artists of the world were produced, can be preserved under modern conditions.

DETAIL FOR APARTMENT BUILDING, NEW YORK CITY.
New York Architectural Terra Cotta Company, Makers.
D. Everett Waid and J. E. R. Carpenter, Associated, Architects.

DETAIL FOR UNION TRUST BUILDING, WINNIPEG, CAN.
American Terra Cotta & Ceramic Company, Makers.

PROPOSAL TO REPEAL THE TARSNEY ACT.

AN AMENDMENT to the sundry civil appropriation bill recently reported in the House of Representatives proposes the repeal of the Tarsney Act, a law passed some fifteen years ago empowering the Secretary of the Treasury at his discretion to obtain plans in competition from architects in private practice for public buildings erected by the Treasury Department. As a large majority of the Federal Government buildings come under the jurisdiction of the Treasury Department, the importance of this law has been very great, and the effect has been to bring about a large improvement in the architectural design of our public buildings.

LEON FELLMAN BUILDING,
NEW ORLEANS, LA.
Terra Cotta furnished by Northwestern Terra Cotta Company.
Emile Weil, Architect.

STABLE AT GREENWICH, CONN.
Built of "Natco" Hollow Tiles furnished by the National Fire Proofing Company.
James E. Ware & Son, Architects.

The repeal of the Tarsney act does not appear to have been asked for by the Treasury Department, nor urged by any public body, and the prospect of a return to the system of designing public buildings "by the yard," with much more than a prospect of a return to a stereotyped and unworthy form of architectural design, should arouse an emphatic protest from the people of the United States. Entirely apart from the injustice of excluding members of the architectural profession from the wider opportunities of Government service, the proposed repeal is a backward step making for the deterioration of architectural taste.

SOUTHERN PACIFIC R. R. BUILDING, HOUSTON, TEXAS.
Built of Gray Speckled Norman and Standard brick made by the Columbus Brick & Terra Cotta Company.
Jarvis Hunt, Architect.

MISSOURI STATE CAPITOL COMPETITION.

THE state of Missouri through its commissioners has asked the American Institute of Architects to give its approval to the revised program to govern the competition for the new Capitol Building. By action of the board of directors of the Institute this approval has been given. The program as first announced did not meet with the endorsement of architects generally. The new program provides conditions which will undoubtedly meet with the approval of those architects who are amply qualified to execute a commission of this importance.

COMPETITION FOR COURT HOUSE, NEW YORK CITY.

THE following named firms have been invited to submit designs for a new County Court House to be erected on a site north of the Hall of Records near City Hall Square, New York City: Arnold W. Brunner; Charles Butler and Charles Morris, associated; Carrère & Hastings; James Riely Gordon; La Farge & Morris; H. Van Buren Magonigle; McKim, Mead & White; Tracy, Swartwout & Litchfield; Trowbridge & Livingston; York & Sawyer. The judges of the competition are Robert S. Peabody, Boston; Frank Miles Day, Philadelphia; John Lawrence Mauran, St. Louis.

LICENSING ARCHITECTS.

FROM a very carefully selected list of questions submitted to the various examining boards in the states of Illinois, California, New Jersey, Colorado, Louisiana, Utah, as well as Manitoba and Quebec, Canada, the following reasons have been deduced in favor of licensing architects. Architects in states where such laws exist are unanimously in favor of it. The law has helped the profession by removing the "architect and contractor," the "architect builder" and the "architect and engineer." Many state universities and technical schools have, since the advent of the architects' license laws, revised their courses to meet the demands. The law has created a higher moral standard as well as competency in planning and designing. The preparation for a license examination is highly beneficial to the applicant. The law furnishes a standing for the licensed architect and reveals to the people the unlicensed and questionable man. The salutary effects towards better architecture where such laws exist is immeasurable, resulting as it has in the elimination of inexperienced and incompetent men.

BUCKINGHAM APARTMENTS, INDIANAPOLIS, IND.
Built of brick with Mosaic shades, gray mortar and heavy joints, made by the Western Brick Company.
Rubush & Hunter, Architects.

CONVENTION OF THE PENNSYLVANIA STATE ASSOCIATION OF ARCHITECTS.

THE fourth annual convention of the Pennsylvania State Association of Architects was held in Philadelphia April 9th. A report of the convention has just been issued in typewritten form. The interest that this association is stirring up among members of the architectural profession in the state of Pennsylvania in matters of general architectural interest is really amazing. It is to be regretted that space will not permit of even a brief review of the many important matters which were discussed and acted upon. Judging by the report, however — copies of which can undoubtedly be had by applying to the secretary, Richard Hooker, of the firm of Alden & Harlow, Pittsburgh — it is the intention of the association to let the people of Pennsylvania know, and especially their representatives at Harrisburg, that they have in their midst a body of men who will give of their best energies in behalf of a general uplift movement throughout the state.

WOOLWORTH BUILDING, NEW YORK CITY.
Detail of the Woolworth Building's 52-story façade of architectural terra cotta at the 27th story canopy. Executed by the Atlantic Terra Cotta Company.
Cass Gilbert, Architect.

TERRA COTTA FOR THE FEDERAL LIFE BUILDING, CHICAGO.

THE architectural terra cotta for the Federal Life Building, Chicago, Marshall & Fox, architects, described in this issue, was furnished by the American Terra Cotta & Ceramic Company.

SUPERVISING ARCHITECT RESIGNS.

JAMES KNOX TAYLOR, supervising architect of the Treasury Department, Washington, has resigned. Oscar Wenderoth has been appointed Mr. Taylor's successor.

IN GENERAL.

George M. Bryson, architect, has removed his offices to 701 Boston Building, Salt Lake City. Manufacturers' catalogues desired.

A large quantity of Tiffany Enameled Brick will be used in the new Dime Savings Bank Building, Detroit; D. H. Burnham & Company, architects.

The copartnership of Connellan & Cassebeer, architects, Rochester, N. Y., has been dissolved. John B.

HOUSE AT ST. JOSEPH, MO.
Built of brick furnished by Fiske & Company, Inc.
Walter Boschen, Architect.

HOUSE AT INDIANAPOLIS, IND.
Faced with Standard brick made by the Ironclay Brick Company.
Foltz & Parker, Architects.

KIEFER LAND COMPANY'S OFFICE BUILDING, DETROIT, MICH.
Entire front from the granite foot blocks at sidewalk level up to main cornice, built of gray matt glazed terra cotta furnished by the New Jersey Terra Cotta Company.
Richard H. Marr, Architect.

Connellan will continue to practise, with offices in the Insurance Building, Rochester.

Malcolm Leybourne and R. J. Whitney have formed a copartnership for the practice of architecture under the firm name of Leybourne & Whitney; offices, Davis Building, Windsor, Ont. Manufacturers' catalogues and samples desired.

Elisha Harris Janes and August W. Cordes, formerly of the firm of De Lemos & Cordes, New York City, have formed a copartnership for the practice of architecture; offices, 124 West 45th street, New York.

Marshall J. Smith and Warren C. Powell have formed a copartnership for the practice of architecture under the firm name of Marshall J. Smith & Warren C. Powell; offices, Candler Building Annex, Atlanta, Ga. Manufacturers' samples and catalogues desired.

The New York Society of Architects, New York City, has elected the following officers for the ensuing year: Samuel Sass, president; Constantine Schubert, vice-president; Louis Berger, treasurer; William T. Towner, secretary.

The first international conference and exhibition, embracing every phase of fire prevention and fire protection, will be held in Madison Square Garden, New York City, October 2d to 12th. Official delegates representing the principal cities of the United States will be in attendance. By proclamation of the state fire marshal October 9th is designated as Fire Prevention Day in the state of New York. The purpose is to devote one day of the year for cleaning up and removing fire dangers such as accumulation of paper, rags, etc., from factories, warehouses, and other business and residential buildings.

The architectural terra cotta for the Second National Bank Building, Toledo, Ohio, will be furnished by the New York Architectural Terra Cotta Company. D. H. Burnham & Company are the architects.

The French sculptor, Bourdelle, has written a treatise on the reckless way in which the treasures of ancient French sculpture are allowed to perish by the official architects and restorers. He recounts an instance of a statue of David, ten feet high, which formerly stood at the top of the great rose window of Rheims Cathedral. Rodin, on seeing a cast of this work, acclaimed it as the most beautiful example of Gothic sculpture in existence. Yet the original has recently been destroyed to make mortar, and has been replaced by a modern work of an indifferent artist. It is to be hoped that such priceless relics of the past be presented hereafter to the principal museums of France.

APARTMENT BUILDING, LEXINGTON AVE. & 21ST STREET, NEW YORK CITY.
Built of "Velour" brick furnished by Carter, Black & Ayers.
Herbert Lucas, Architect.

The competitive designs of M. E. Zimmermann, architect, have been selected for a Swiss national monument to be erected at Schwyz. The designs call for a statue of Liberty to be placed upon a terrace directly in front of the main building. At the rear of the building will be a large open space for public resort and festivals. The wings of the main building will bear bas-reliefs of the important battles in the nation's struggle for freedom. Upon the interior, in addition to many national busts and statues sculptured by Swiss artists, there will be mural and decorative paintings illustrative of scenes and episodes of the nation's history and progress.

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

THE NATCO HOUSE—THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

School *of* Architecture *of* Harvard University

Professional course for graduates of colleges, leading to degree of Master in Architecture

Course for special advanced students, not having college degree but at least 21 years of age, with office experience, leading to certificate

Design. Prof. E. J. A. Duquesne, Grand Prix de Rome.
History. Prof. H. L. Warren, A. M., F. A. I. A.
Construction. Prof. C. W. Killam, Assoc. M. Am. Soc. C. E.
Drawing. Mr. H. D. Murphy, Mr. H. B. Warren.
Ten other lecturers and instructors.

For circulars and other information apply to Prof. H. L. Warren, Chairman of the Council of the School of Architecture, Harvard University, Cambridge, Mass.

The University of Pennsylvania *offers courses in* Architecture *as follows:*

(1) A four-year course, leading to the degree of B. S. in Architecture. An option in architectural engineering may be elected.

(2) Graduate courses of one year, permitting specialization in design, construction, or history; leading to the degree of M. S. in Architecture.

(3) A special two-year course for qualified draftsmen, with options in design or construction; leading to a professional certificate.

For catalogue giving complete information regarding requirements of admission, advanced standing, summer school and atelier work, fellowships and scholarships, and for illustrated year book, etc., address DEAN OF THE COLLEGE, University of Pennsylvania, Philadelphia, Pa.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at St. Joseph, Mo. .... Page 170

Walter Boschen, Architect.

FISKE & COMPANY INC
FACE BRICKS / FIRE BRICKS ESTABLISHED IN 1864

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings—Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — JULY 1912 — NUMBER 7

PUBLISHED BY

ROGERS & MANSON - - - - Boston, Massachusetts

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter. March 12, 1892.

Copyright, 1912, by ROGERS & MANSON

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

BIGELOW & WADSWORTH; BLISS & FAVILLE; JAMES PURDON; MATTHEW SULLIVAN.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

DETAIL OF BELFRY, CHURCH OF SAN FRANCISCO, ACATEPEC, MEXICO.

The dark tiles laid herringbone are rough red, unglazed. The small square tiles are blue with white ornament; the others used in friezes, architraves, etc., are green, orange, and blue. Practically all of the cornices are formed in tile. The decorated cyma of the upper cornice is in stucco, picked out in color.

THE BRICKBUILDER

JULY, 1912

VOLUME XXI. NUMBER 7.

Notes on Hospital Planning. — I.

S. S. GOLDWATER, M.D.,

Superintendent, The Mount Sinai Hospital, New York.

SOME three years ago, having completed a residence of eight years in two hospitals (one planned in 1870, the other in 1902), having traveled for the purpose of inspecting hospitals, and having examined fifty or more volumes dealing with the principles and practice of hospital construction and administration, I proceeded to plan a "model" hospital ward. I have participated since then in the planning of sixteen hospitals, and have been invited to examine and criticize the half-completed plans of many more; but from not a single one of these exercises has the original "model" ward emerged, although in every instance I have encountered the utmost willingness on the part of the architect to fall in with any suggestion for which either a practical or a theoretical value could be demonstrated. I must add that while I have no fixed ideas on the planning of hospitals, and am by no means prepared to dogmatize on the subject, my general ideas upon the making of a hospital plan have undergone no decided change since the "model" ward was sketched. Why, then, one may ask, have I been content repeatedly to think one way and to plan another? Is it not because the planning of a real hospital is a concrete and conditioned problem, while the designing of a "model" ward is an abstract or unconditioned one?

Real hospitals, in this country at least, are not planned in unlimited space. They have been so planned in Germany; but even in Germany there is manifest to-day a decided disposition to get away from the text-book hospital of many widely separated but uniform pavilions — a type which grew out of the hygienic necessities, that is to say the unhygienic conditions and the undeveloped sanitary science of forty or fifty years ago. The hospitals of that day represented in a large measure the understanding of engineers rather than the experience of medical administrators and trained nurses; they expressed the faith of theoretical hygienists who, if they had been obliged to live in and administer the hospitals they built, would long ago have done what the builders of hospitals in Germany are now only beginning to do, namely, to substitute convenience of arrangement for symmetry of design, and a utilization of the facts of nursing care for the too ready acceptance of untried or disproved theories of decentralization and the like.

The many-acre-covering German hospitals, which we love to photograph, but could not reproduce generally in America if we would, owing to lack of unlimited space and of large capital for individual hospital enterprises; and which we should not copy if we could, because the hospitals in question are fundamentally wrong in their overwhelming size and sprawling administrative plan, — these great hospitals are built "regardless," as the expressive popular phrase goes; and this is true nothwithstanding the fact that a learned treatise, indicating forethought and the careful study of numerous *German* examples, accompanies each one.

Perhaps I am conveying an erroneous impression. I do not mean to suggest that the plan of the great German pavilion hospital of the day disregards rules and runs to eccentricity; quite the contrary is the case. Such a hospital is built regardless of everything except rules. It conforms not only to rules but to statutes, for in Prussia these things are regulated by law, or by ministerial decrees which have the force of law, down to such minute details as the width of stairways, the height of stairway treads, etc. Germany has achieved its great success in hospital designing precisely because German architects work according to rule and always conscientiously; but for the same reason the great municipal hospitals of Germany are characterized by defects which materially lessen their value to the hospital patient, who in this case is the "ultimate consumer."

During the great French railroad strike one of the most important orders given to the strikers was to "follow the rules of the road literally." No simpler way could have been found to disrupt traffic and ruin the road. In hospital construction, as in hospital administration and in countless other departments of organized human endeavor, the strict observance of rules formulated from partial points of view, and independently of each other, leads to disaster. Rules need to be pared and trimmed and expanded and adjusted so that they will fit together and interlock; but their essential values must be preserved. To distinguish the essential from the non-essential requires, in hospital practice, a first-hand acquaintance with all of the intricacies of hospital work. This includes a knowledge of the shifting theories and changing methods of physiology, pathology, bacteriology, therapeutics and hygiene; a knowledge of the principles and practice of nursing; an appreciation of the varying degrees of physical dependence encountered in hospital patients, an understanding of the capacities, aptitudes and weaknesses of the average nurse; familiarity with the character and tendencies of hospital internes and employees, and much besides. All of these things one must know and understand in the intelligent application of rules of planning and of construction to the making of any hospital; and in the planning of a particular hospital one must reckon besides with local surroundings, with the available resources of the community or of the section of the community from which the hospital draws its support, and with the needs of that other section of the community which it is designed to serve.

Good text-books of hospital construction are far more numerous than good hospital plans; which is equivalent to saying that it is much easier to acquire familiarity with rules of hygiene and of architecture than to master the trick of applying them. For text-book purposes every question is answered, or may be answered, easily. Pick up any text-book of hospital construction, and run through its table of contents: there is an infallible rule for the selection of the site; the height of the buildings, and their relation to each other, are readily determined; the proper orientation of the wards is stated; the proper ward dimensions, height, width, length, and cubic contents, are given; window space is scientifically determined and distributed; approved methods of lighting, heating, and ventilation are described; the plumbing, even, is illustrated; and always, with particular unction and authority, *all corners are rounded.* Though text-books disagree in other particulars, there is always unanimity of opinion on the subject of the rounding of corners and the avoidance of horizontal dust-catchers.

I propose now to discuss a number of rules borrowed from text-books or laid down by governmental authorities. After showing that one may break such rules with impunity — must, indeed, play hide-and-seek with them in order to succeed at all in hospital planning, I shall venture to offer for consideration a few rules derived from my own experience, which I hope and doubt not will be broken in their turn, whenever common-sense, in given circumstances, so demands.

It is in the writings of eminent specialists, upon whose work the progress of hospital architecture largely depends, that one finds the most notable combinations of the scientific and the impracticable; for it is in the hands of original and independent thinkers that scientific deductions find their most uncompromising application. William Atkinson, whose valuable contributions to the study of hospital orientation are so well known, recently published a new volume upon "The Orientation of Buildings, or Planning for Sunlight"; in which volume a chapter on hospitals concludes with the presentation of a "Pyramidal Type of Ward Unit." The design, which is strikingly original, is the logical outcome of research and thought concentrated upon the subjects of orientation and sun-exposure. Whether the pyramidal type of ward unit which has been worked out with so much skill and ingenuity will ever take its place in actual hospital architecture, is doubtful; certainly it will not if all the hospitals of the future are planned, as they should be planned, for sunlight *plus other desiderata.*

Mr. Atkinson's pyramidal unit is a building of three stories, in which, on the first floor, there are two widely separated wards of ten beds each; on the second floor, three single rooms and two six-bed wards (the latter far apart and communicating with each other only by means of a tortuous corridor); and on the third floor, a six-bed open-air ward, and a four-bed enclosed ward, or ten beds in all. Here are forty-five beds, with only three separation rooms among them, arranged in a manner which gives practically five distinct nursing units. The supervision of these wards at night cannot safely be entrusted to less than five nurses; and these nurses, if properly posted, cannot temporarily relieve each other from duty for the customary midnight meal, or for any other purpose. An efficient and at the same time reasonably economical nursing scheme will never square with a ward unit so planned.

If the attainment of a maximum quantity of "sun hours" were the sole aim in hospital planning, the virtue of the pyramidal unit would be at once acknowledged; but maximum sunlight must not be purchased at the sacrifice of other weighty hospital values, when a little less than maximum exposure is attainable without any similar loss; besides which, the assumption that the maximum of sunlight is desirable for *all* hospital patients leads to such absurdities as may be witnessed in the great Virchow Hospital in Berlin, for example, where, if I am not mistaken, a single type of ward is called upon to fulfil the requirements of general surgery *and of ophthalmology.* If the ophthalmologist of the Virchow Hospital had been invited at the proper time to express an opinion on this subject, the architect who planned the Virchow pavilions for sunlight might have learned something about the relation of sunlight to inflamed and irritated eyes, with resulting advantage to thousands of patients, past, present, and future. Nevertheless, the great value of sunlight in and about a hospital building is admitted; and it justifies Mr. Atkinson fully in deciding in favor of the northeast and southwest, or the northwest and southeast, position for the long axis of a typical hospital ward, on the ground that all outside walls are thus exposed to sunlight at some portion of the day throughout the year, which is not the case where a north-and-south or an east-and-west system of axes is adopted, — all of which is not the least bit inconsistent with the choice of an east-and-west or any other position for a given ward in a given location, inasmuch as sensible hospital planning, first, last, and all the time, is planning *with reference* to rules, and not *in accordance* with them.

Let us turn now to another phase of the general problem of ventilation, of which the subjects of exposure and position are aspects, — the question, namely, of space allowance for the individual ward patient. In England the Local Government Board makes certain suggestions with respect to air space, which the parish authorities, who direct the planning of the poor-law infirmaries and work-house hospitals, are expected to follow. The requirement for wards for adults in poor-law infirmaries, and for the wards of hospitals attached to work-houses, is 600 cubic feet per patient; for children's wards, 960 feet is called for, while for isolation wards 2,000 feet of air space per bed is authoritatively demanded. In the construction of military hospitals, the English War Office calls for 1,200 cubic feet per bed in ordinary wards, and 2,000 feet in infectious wards. To cite a German example, Prussia, in its elaborate regulations for the construction of hospitals, demands an allowance of 30 cubic meters for each adult ward bed, or 25 cubic meters for each child's bed; while for single rooms 40 cubic meters is set down as a minimum.

The Prussian figures just quoted are absolute; on the other hand, the New York State Board of Charities, while registering in advance its approval of a standard space allowance, subsequently, by its inspectors, visits every hospital under its jurisdiction and issues a special permit, this permit being based upon the *total related conditions* of each sick-room, large or small. In Prussia, a ward is a ward, and no questions asked; but in New York State one finds that while 1,200 cubic feet per bed is demanded by a general rule, 800 cubic feet may in some instances be tolerated where the demand for hospital accommodations is exceptionally heavy, and where the ward is one in which there exists (I quote the official language) "full and adequate means of ventilation." The writer respectfully submits that an enlightened administration does not apply its rules relentlessly where their rigid application would prove harmful, but keeps in mind the object for which the rules primarily exist, and modifies its demands accordingly.

The purpose of a rule which governs the cubic contents of a hospital ward is to insure an adequate supply of fresh air to the inmates. But room dimensions and the supply of oxygen do not always increase and decrease together; for climatic and topographical conditions greatly influence natural ventilation. Is it necessary to point out that two wards of identical design may differ markedly in their exposure to favoring air currents? Or that the opening of a window or transom has one effect in a clean rural or suburban environment, and quite another effect in the midst of a smoke-laden city atmosphere? And is it not known that one hospital may have to do primarily with acutely sick persons, ninety per cent of whom keep their beds, while in another is found a large percentage of convalescents, who spend much of their time on the grounds, on balconies, or in day rooms, and hence out of the ward, with resulting advantage to the bedridden?

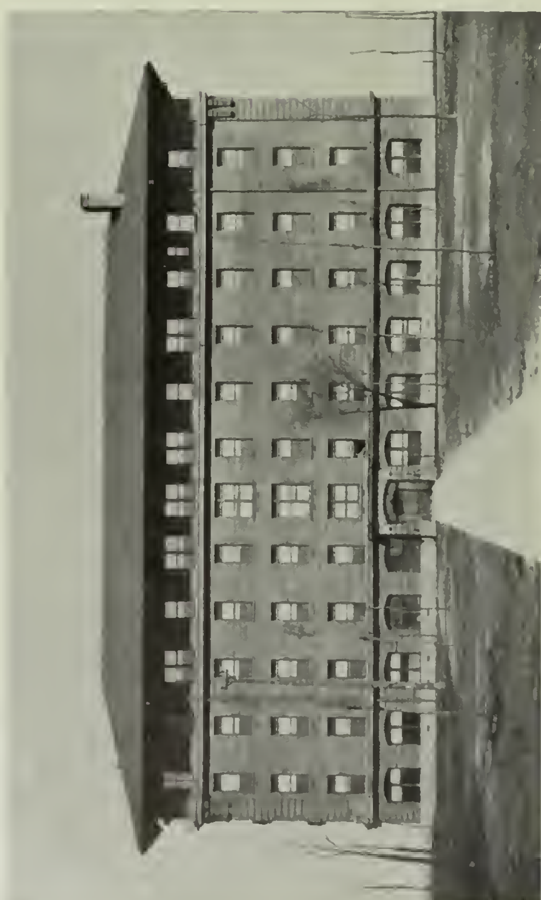
There are countless other ways in which wards may differ in air-value though agreeing in dimensions. Suppose a ward to be open on three sides — so far, so good; the building may be hemmed in by other buildings which cut off the normal air currents of the locality, or it may stand free for every breeze that blows. Again, a municipal hospital may be subject to periods of strain which compel the lamentable overcrowding of its wards; its neighbor, planned for a private hospital corporation by the same architect and in the same manner, is perhaps free from such temporary stresses. A ward may connect at its extremity with a corridor which is directly ventilated on one side, on both sides, at its end only, or not at all. A ward may be supplied with mechanical ventilating apparatus, or it may be without it. The separation rooms attached to a ward may be few or numerous; obviously the availability of separation rooms for special cases has an important bearing upon the atmospheric purity of the ward. In one hospital it is the practice to admit numerous visitors for several hours each day; in another the number of visitors is smaller and the visiting hours fewer. But it is unnecessary to pursue the subject further, for it must now be perfectly plain that one must consider not only the plan of the hospital structure, but the neighborhood, and the administrative practices and tendencies of the institution as well, when deciding whether the space allowance for each bed shall conform to standard, shall exceed it, or shall be permitted to fall below it.

A few weeks ago the writer was invited to look over the plans of a small hospital designed to occupy a restricted site in the heart of New York City. The program called for a certain number of beds, and in endeavoring to meet this requirement and at the same time to conform to the recommendations of the State Board of Charities concerning air space and floor space, the architect had cut down to an utterly impracticable width the corridor adjacent to the wards. Under such working conditions as these a fine appreciation of relative values is required to decide where the line shall be drawn between rule and practice; to render such decisions with discretion is of the essence of skilful hospital planning.

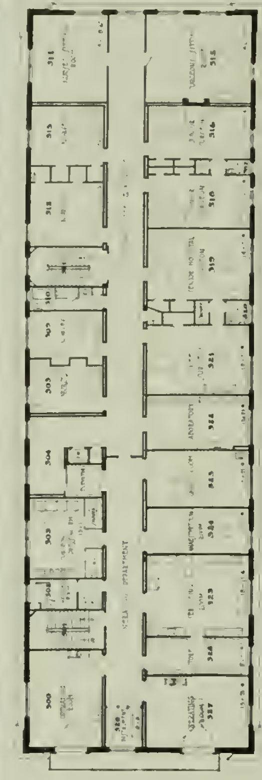
Description of Hospital Buildings.

ILLUSTRATED ON PAGES 178–181.

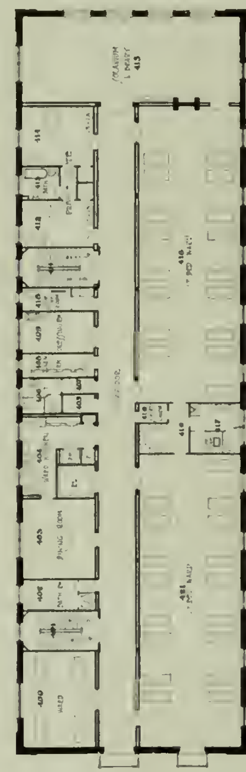
Gary Hospital, Gary, Ind. Pages 178, 179. The hospital is built and maintained by the U. S. Steel Company for the benefit of the sick and injured in their employ, and consists of a main building with a three-story power house connected by tunnel. The exterior is built of brick and brown stone with a red tile roof. Accommodations are provided for 126 patients with a total of 156 beds. Upon the interior the main entrance, reception room, and offices are wainscoted in Italian marble 9 feet high, with tile floors and bronze doors and frames. Eighty-five per cent of the floors are tile and marble, while the corridor walls are of Italian marble. The receiving room for patients has an encaustic tile floor; the waiting room has a brick wainscoting, art-marble floor, and oak finish; the sun rooms, 25 by 50 feet each, have red quarry tile floors, brick wainscoting 8 feet high, oak-timbered ceilings, brick mantels, and French windows; the wards have white tile floors with marble base and border; the X-ray room has a black marble floor and flat black walls, and the kitchen, together with the cold storage, stock room, and bakery, have red quarry tile floors and white enamel brick walls; the basement provides for vegetable and drug storage rooms, in addition to the space allotted for machinery; in the operating department on the fifth floor, two rooms, 15 by 21 feet, are provided with north light. These rooms are 16 feet high and have north windows running straight for 10 feet, then at a 45-degree angle to the ceiling. The windows are double, with heating apparatus placed between, insuring ample heat and protection against sweating rooms, frost, or air currents. The attic floor provides rooms for trunks and storage. The building is heated with a vacuum system and ventilated with the exhaust system which takes the air from both the floor and ceiling. All woodwork is of oak except in the operating room, where enameled birch is used. The total cost was $300,000, while the buildings, exclusive of the grounds or



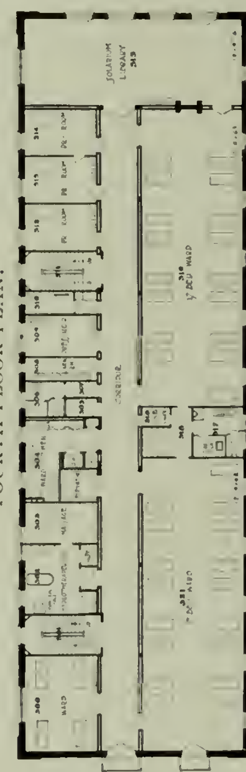
GARY HOSPITAL,
GARY, IND.
George L. Harvey,
Architect.



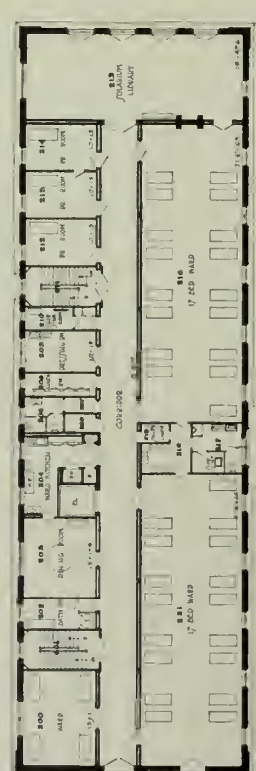
FIFTH FLOOR PLAN.



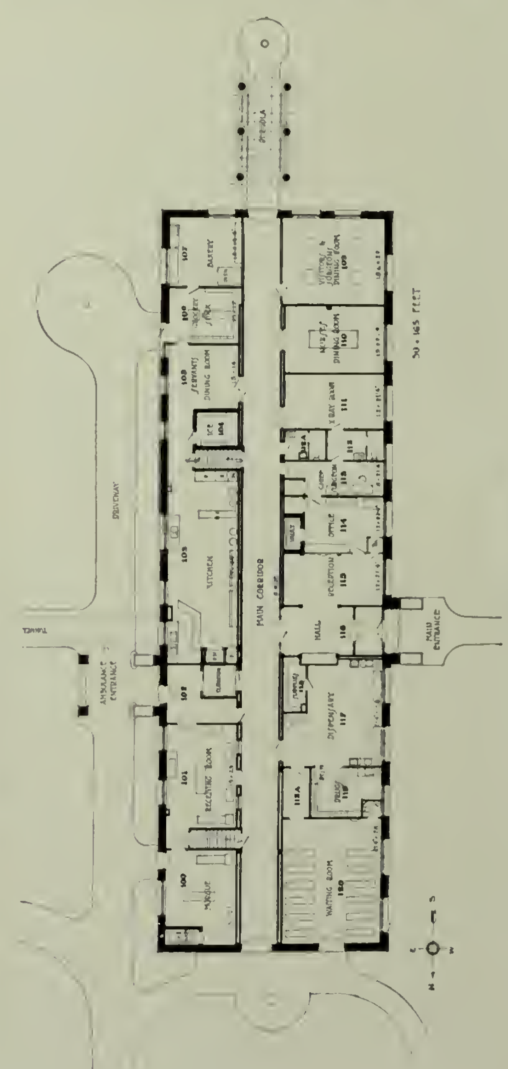
FOURTH FLOOR PLAN.



THIRD FLOOR PLAN.

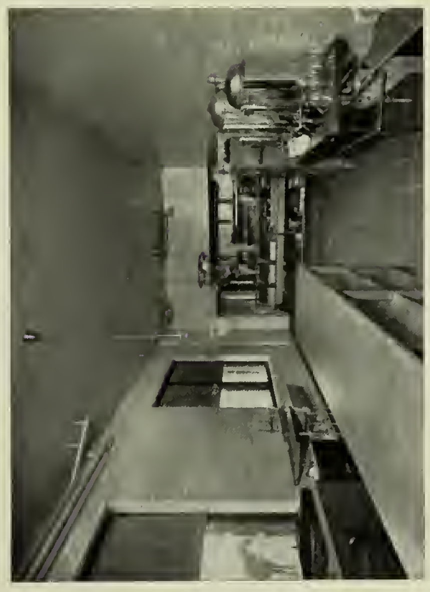


SECOND FLOOR PLAN.



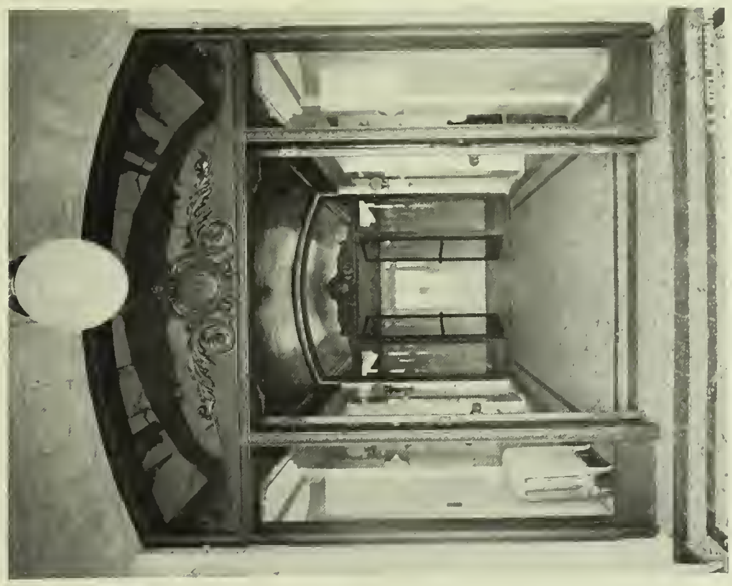
FIRST FLOOR PLAN.


SOLARIUM.


KITCHEN.

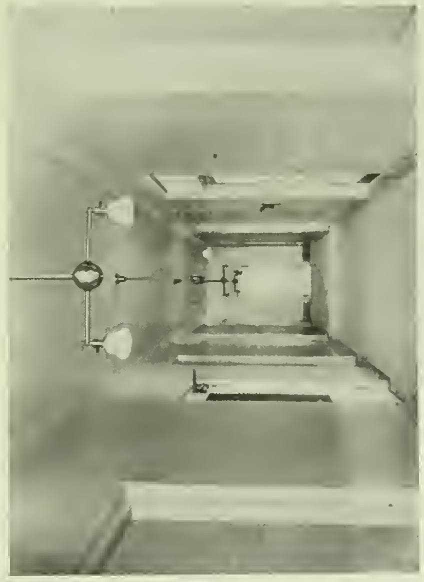

TWO-ROOM SUITE.

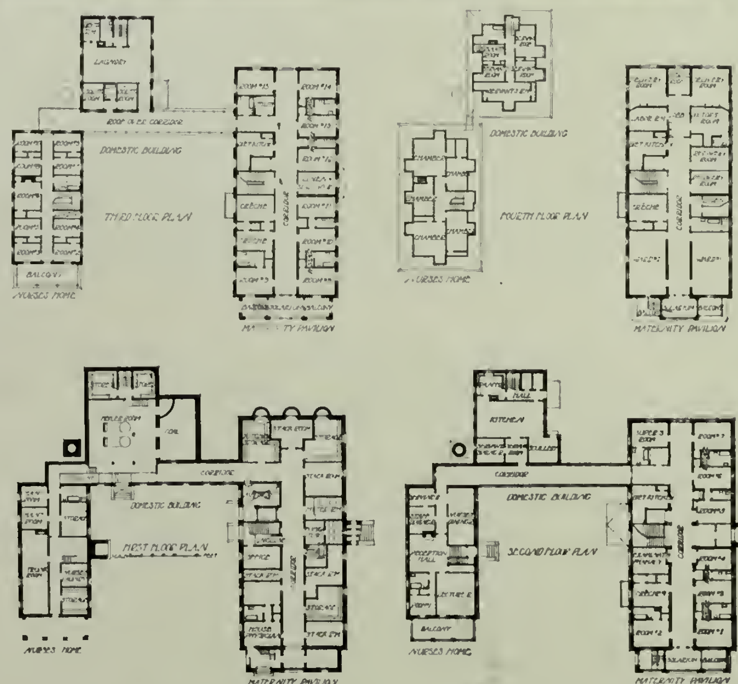

RECEPTION HALL.


ENTRANCE HALL,
GARY HOSPITAL, GARY, IND.
George L. Harvey, Architect.

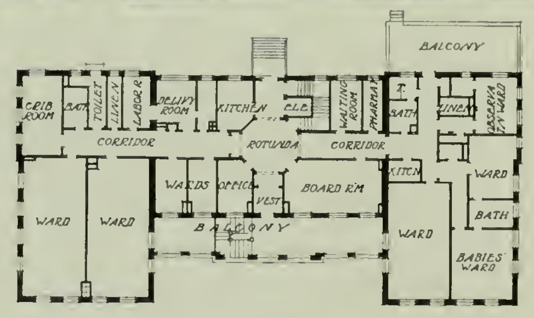

WARD.


OPERATING ROOM.

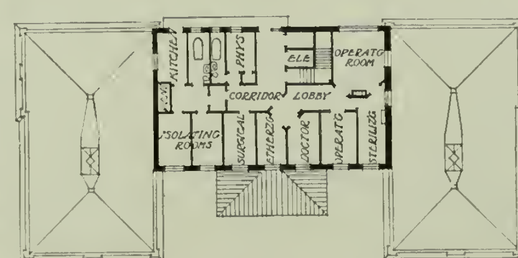

OPERATING CORRIDOR.



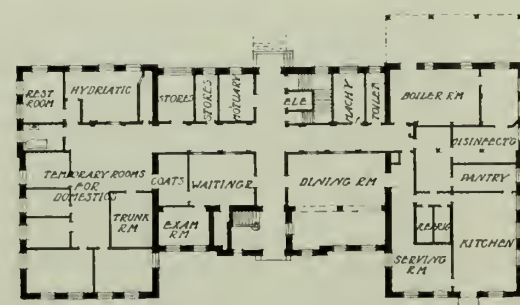
WESSON MATERNITY HOSPITAL, SPRINGFIELD, MASS.
Kendall, Taylor & Co., Architects.



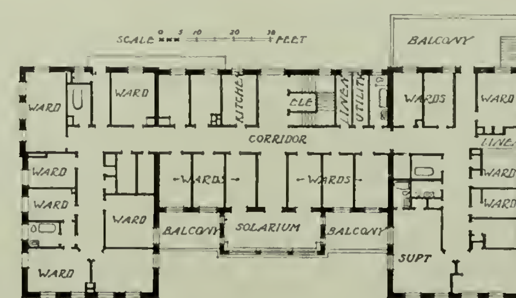
THIRD FLOOR PLAN.



FOURTH FLOOR PLAN.

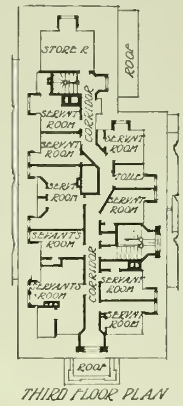


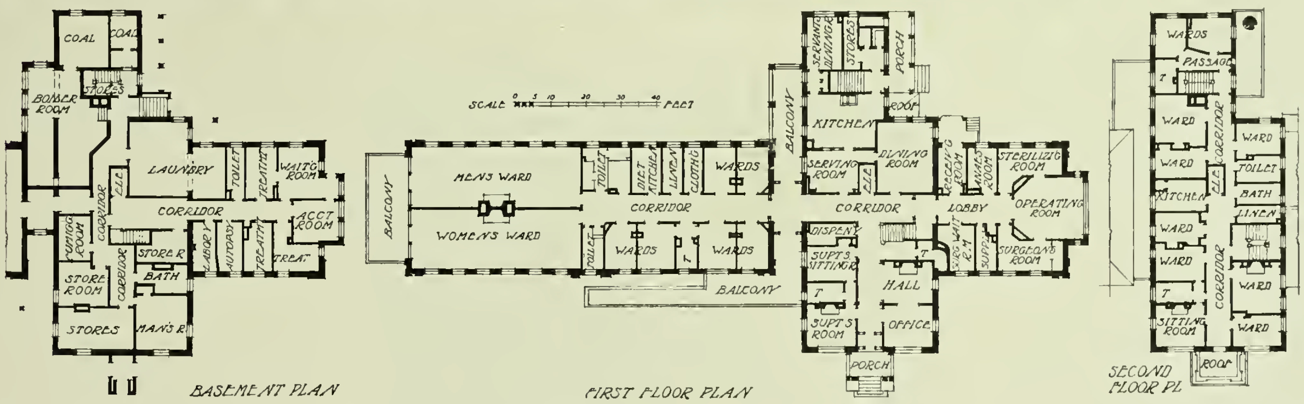
FIRST FLOOR PLAN.



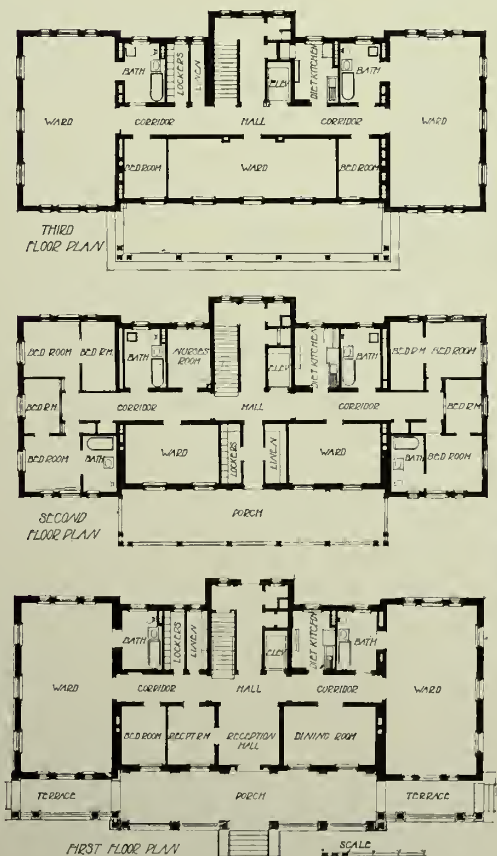
SECOND FLOOR PLAN.

HOMEOPATHIC AND MATERNITY HOSPITAL, YONKERS, N. Y.
Kendall, Taylor & Co., Architects.





THOMAS HOSPITAL, PEABODY, MASS.
Edward F. Stevens, Architect.



FRANCIS OLIVER JOHNSON MEMORIAL WARD,
GARFIELD HOSPITAL, WASHINGTON, D.C.
Wood, Donn & Deming, Architects.

furnishings, cost $200,000, or approximately $1,570 per patient-bed.

Wesson Maternity Hospital, Springfield, Mass. Page 180. The hospital is of the pavilion type, consisting of the main building or maternity pavilion, 104 by 48 feet, the domestic building, 42 by 32 feet, and the nurses' home, 60 by 32 feet. The exterior is of buff brick with terra cotta trimmings; the solarium of copper, the airing balcony of the nurses' home of wood, and the wide, overhanging cornices of cypress stained a rich brown. The pitch roofs are of black slate and all flashing, ridge, and hip rolls of heavy copper. Accommodations are provided for thirty adult patients, eighteen nurses, seven female domestics, two male employees, and a house physician. In the maternity pavilion the floors are of terra cotta block, the partitions of plaster block, and the walls of lime mortar, except in the corridors, toilets, baths, diet kitchen, etc., where hard patent plaster forms a dado 6 feet high. In the solaria, corridors, and kitchen department the floors are of terrazzo, in the entrance vestibule and rotunda of white Italian marble, and elsewhere of maple with doors of veneered birch. The nurses' home has floors of maple, trimmings of North Carolina pine, and walls painted in lead and oil or finished in white enamel. The heating is by indirect gravity system in the pavilion and direct in the other two buildings. The total cost of the buildings, including the architects' fee, was $175,000. There are 529,000 cubic feet, figuring from the under side of cellar walls to one third the height of the pitching roofs, which gives an approximate cost per cubic foot of 33 cents. It was necessary to fill in the lot on two sides to a depth of 25 feet against a retaining wall which materially affected the cost. The furnishings amounted to $10,000, which is not included in the total cost.


OPERATING ROOM, GARY HOSPITAL.

Homeopathic and Maternity Hospital, Yonkers, N. Y. Page 180. The hospital follows the urban plan on account of the restricted area of the site and accommodates seventy-five patients, one interne, and seven domestics. The domestic quarters shown on the first floor are temporary until the erection of the administration and service buildings, which will complete the hospital group. The exterior is of red brick with white terra cotta trimmings. Upon the interior the floor treatment varies to suit the needs of the different rooms; for the first floor linoleum is used, for the toilets, baths, operating department, and hydriatic room white marble terrazzo, and for general use wood. Finished doors and frames are of white ash. The rotunda has a mosaic floor, groined ceiling, and moulded casings. Walls of the operating department and labor and delivery rooms are of enamel, elsewhere of hard plaster, painted and tinted. The stairs are of iron with black slate treads. Gravity ventilation and direct, direct-indirect, and indirect radiation systems have been installed. The total cost was $124,000, the cubage 341,000 feet, giving a cost per cubic foot of 36.36 cents, which figure does not include equipment or furnishings.

Francis Oliver Johnson Memorial, Washington, D. C. Page 181. The building, which is a part of the Garfield Hospital group occupying more than ten acres of ground, is used exclusively for children and infants. The exterior is of dark red brick of various shades with a slate roof. There are four suites of rooms arranged for mothers, each consisting of two rooms and bath. Diet kitchens, 10 by 12 feet, are provided on each floor in addition to the covered corridor which connects this building with the kitchen of the main building. The windows are spaced to permit of wall room for two cribs between. The system of heating for all wards is direct-indirect steam furnished from the main building. There are also vent registers which carry the vitiated air into the roof space from where it is discharged. Fireproof construction has been used throughout the building, which is 92 feet long, 32 feet wide, and three stories in height, with an additional two-story porch 52 feet by 12 feet. The floors are of tile block filling, the partitions of metal lath and plaster, and the stairs of iron with slate treads. The total cost, exclusive of furniture, was $36,000, making a cost per cubic foot of 25 cents.

Thomas Hospital, Peabody, Mass. Page 181. The building is a type of the modern suburban hospital, located one mile from the center of the town. It is built of red brick with artificial stone trimmings of gray color and slate roof. The plan is of the Latin cross type with the short end facing north. Twenty-nine patients are accommodated in wards and private rooms. Airing balconies extend along the south end and the southeast side of the administration building, while the private rooms of the second story have a large airing balcony over the connecting corridor, as well as over the center entrance. Upon the interior the finish is of ash and birch, with plaster walls and maple floors. The gravity system is used for ventilation and has the outlets near the floor, while the heating is by indirect radiation from radiators placed in plenum chambers in the basement. The north end is occupied wholly by the operating department and designed with the idea of attractiveness as well as practicability. The total cost of the building was $61,000, and the cost per cubic foot approximately 22 cents. The cubical contents are 278,000 feet, figured from one foot below the basement floor to the average height of the roof.

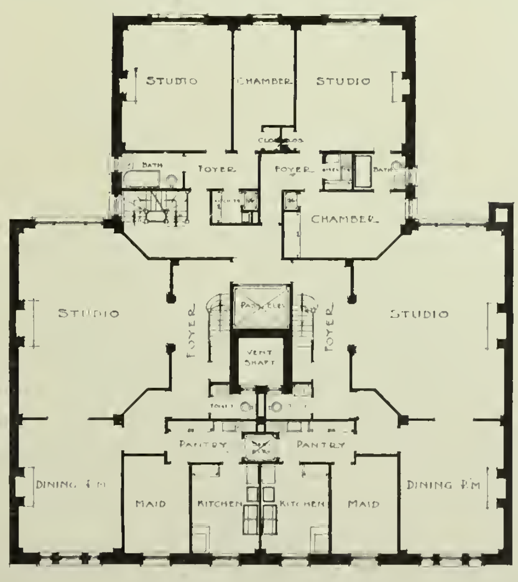
The Development of Duplex Apartments.—II. Studio Type.

ELISHA HARRIS JANES.

A REVIVAL of duplex apartments came about in an unexpected manner. Perhaps it should not be called a revival, as it was not due to copying, repeating, or seeking precedence; but it was rather the copying of a type of building which had a very logical development and filled a decided although limited want. This type is the studio duplex apartment. It is this same type which also brought the return of the co-operative apartment in a changed form.

Fifteen years ago there were very few really satisfactory studios. One or two studio buildings had been erected, but these buildings were rather old and did not completely fill the want. Other studios were over stables, in back yards and loft buildings; many in out of the way places, with few conveniences if the artists wished to live in connection with them or near them. This resulted in a group of artists under the leadership of Mr. Henry Ranger meeting and all agreeing to rent studios in any building erected for that special purpose. Such a building would be in the nature of a specialty, therefore they could not persuade a speculative builder or investor to see the advantage of such an undertaking, as he did not care to pioneer. The artists then decided to raise the funds themselves, build and be their own owners. A company was formed and duly incorporated and each one contributed a certain amount toward the cost of the building, and received in return bonds and certificates of the company together with the exclusive right of occupancy of one of the studio apartments, or the right of subletting the apartment and collecting the rent. On the other hand, he was proportionately liable according to the value of his holdings for the running and operating expenses of the building. Instead of gathering the same number of owners as there were apartments, a certain number of apartments were left for general rental, the income of which would be divided proportionately among the owners. Thus an owner would save in his rental the profit usually paid to the owners and holders of apartment houses, and in addition would receive his proportionate share of profits from those apartments rented to the public.

THIRD FLOOR PLAN.



SECOND FLOOR PLAN.

FIG. IV.

This was the second start of the co-operative apartments in only a slightly different form than a generation ago; and, strangely, the term has been so closely allied with the duplex apartment since then that to many people they are synonymous; although many duplex apartments have been built by private investors and many co-operative apartments have been built without duplex apartments.

Fig. IV shows one of the first of the studio type of apartments to be built. It was clear to see that in order to have a successful studio with good light it was necessary to have a room 18 to 20 feet high, but the smaller living rooms, bath rooms, kitchens, with such ceilings would be out of proportion and unsightly. This led to the suggestion of the mezzanine floor to each studio, keeping the dining room, reception room, and kitchen on the floor with the studio; and the chambers and bath rooms on the mezzanine floor and reached by a small staircase. As each owner had separate ideas to carry out, many were the interesting varieties which took place in the smaller details—in the decorations, stairs, and small balconies from the mezzanine hall looking into the studios.

All of the early types were practically the same as this plan, and when built on the narrow streets as the first ones were in 67th street, they violated the tenement house law, because the heights of the buildings were more than one and one-half times the width of the streets. By the placing of a public dining room and kitchen on the first floor, they were allowed to be classified as apartment hotels for a short time, until the authorities became stricter and decided hereafter to term them "tenements." This prevented the repetition of these studios on the narrow streets. The building was termed seven stories, as the seven studios on the façade would show, when in reality it was fourteen stories in the rear. To bring it within the required limited height of 150 feet and still keep the required 9 feet in the height of the ceilings, it was necessary to use the thinnest of floor construction and minimum depth of beams. It was allowed to measure from the floor to the ceiling proper, not counting any beams projecting below, so by using a

VIEWS OF TWO STUDIOS.

flat arch at the top of the beams and allowing the beams to show, considerable space was saved; and the plan was arranged so that the beams occurred in partitions or were symmetrical in the rooms.

The first of these buildings proved so successful that many were erected within the next few years after the first one was started. These apartments rented readily to artists, musicians, literary people, and those who enjoyed having receptions requiring large rooms, yet were willing to live in smaller low ceiling rooms.

The north side of the street was selected in the earlier building, which required that the studios be placed in the

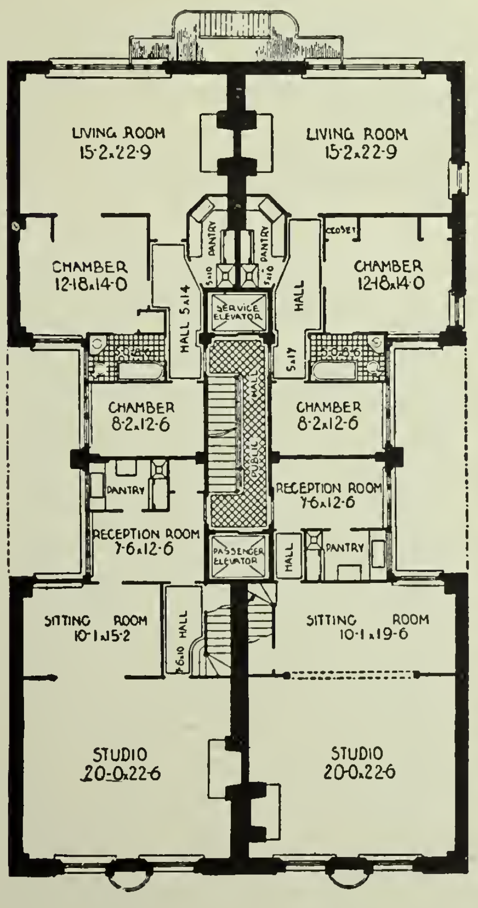
TYPICAL MAIN AND MEZZANINE FLOOR PLANS.

APARTMENTS, 130 W. 57TH STREET, NEW YORK CITY. Pollard & Steinam, Architects.

rear. The plan shows how compactly it has been worked out, showing two sets of apartments with studios running through two stories, and in the rear two studios on each floor with low ceilings.

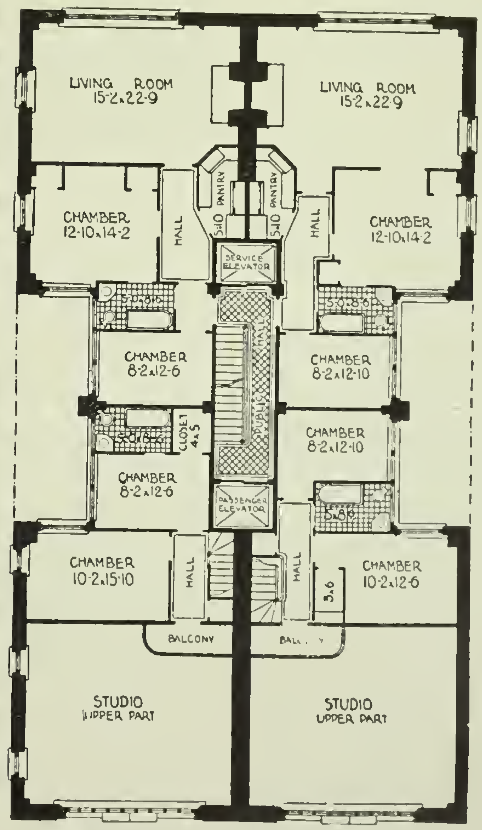
A larger apartment built by the same architects at 130 West 57th street was on a much larger scale than any erected previous to that. At the same time it shows how the studio dominated the entire plan. In the first illustration we see how everything has been subordinated to the studio, which is placed in the rear of the building, and in the front we have the kitchen and dressing rooms, the position of which would make the speculative builder cry with horror.

In the second illustration, as the building was placed on the south side of the street, they were able to place the studios in the front of the building, and the smaller rooms to the courts or rear. Here two complete duplex studio apartments have been arranged, facing



TYPICAL FLOOR PLAN.

GAINSBOROUGH STUDIOS,
NEW YORK CITY.
C. W. Buckham, Architect.



TYPICAL MEZZANINE PLAN.

the north to accommodate the artists. The rear apartments did not have the studio feature, although the parlor has a very large window; but there is arranged a third studio facing to the north, which may be engaged in connection with the smaller apartment, and access gained through the public hall.

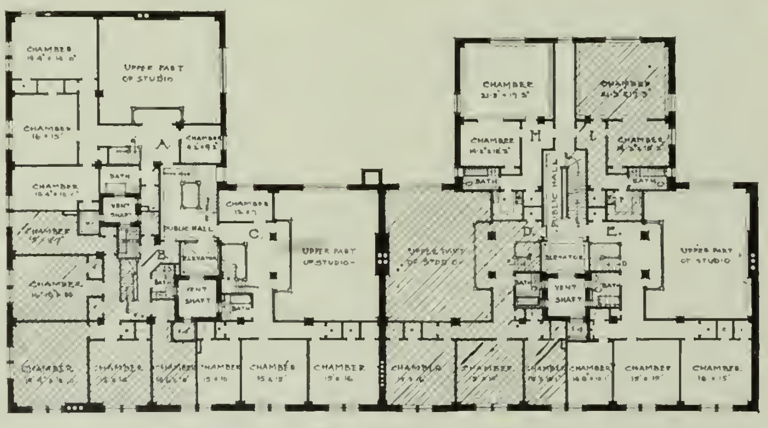
A later one which has also attracted a great deal of attention, especially on account of its unique façade, is the Gainsborough Studio Building, on Central Park South. This building being on the south side of the street, all the studios had to be on the front, therefore the plan has combined studio apartments with smaller ones in the rear. By referring to the plans, one will see how successfully and with what little space the stairs to the upper floors were arranged, and the chance which was given for the high ceiling room and the effective balcony. This plan, though, by not having kitchens, came under the head of a hotel and was not subject to the tenement house law. This admits of an entirely different plan from the others that have been shown.

Perhaps the largest, handsomest, and most successful of the real studio apartments is that designed by Charles A. Platt, at 66th street and Madison avenue. The building has no outward sign upon the façade to indicate that there are studios, for the reason that the building is on the northeast corner, therefore all the studios had to be in the rear. As the studios were the principal feature, he allowed them to dominate the plan, placing them with the north light; and on the corner, in that part of the plan where it would be impossible to arrange for a studio with north light, a residential apartment has been introduced. The illustration of the stairway shows what an attraction this feature becomes. It explains the fascination of having a relief in an apartment where everything has been on one floor.

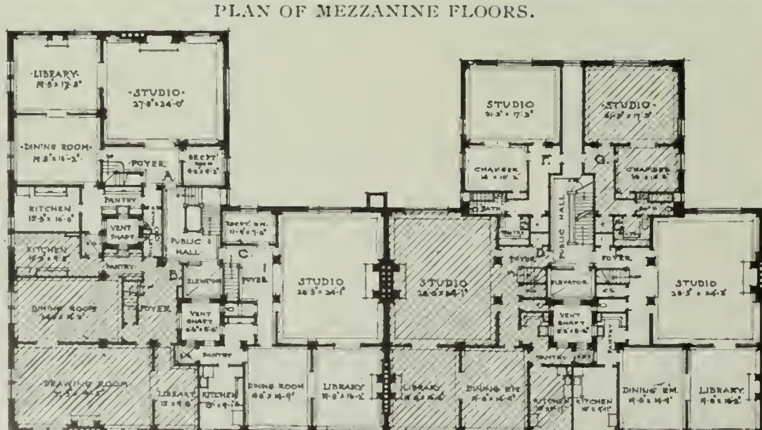
The two illustrations of studios give a very good idea of the wide range there is in their treatment, decoration, and finish to satisfy the individual tenant or owner. At the same time, when their proportions are examined they show how inappropriate they are when used just as a parlor. They require large hangings, pictures, or sculpture which an artist generally has, and wishes and needs the height to display.

This building is an excellent example of the profit which has come to the architecture of the city, due to the introduction of this special type of building, and the co-operative feature. With the introduction of this new problem, the owners turned to the best architects to carry out work which required great experience. This has resulted in the many excellent examples which we now have of apartment houses. And these examples have caused the building operators to take notice, and to engage, if not the same architects, at least a higher grade of talent for their buildings than they have heretofore.

STUDIO APARTMENTS, NEW YORK CITY.
Charles A. Platt, Architect.



PLAN OF MEZZANINE FLOORS.

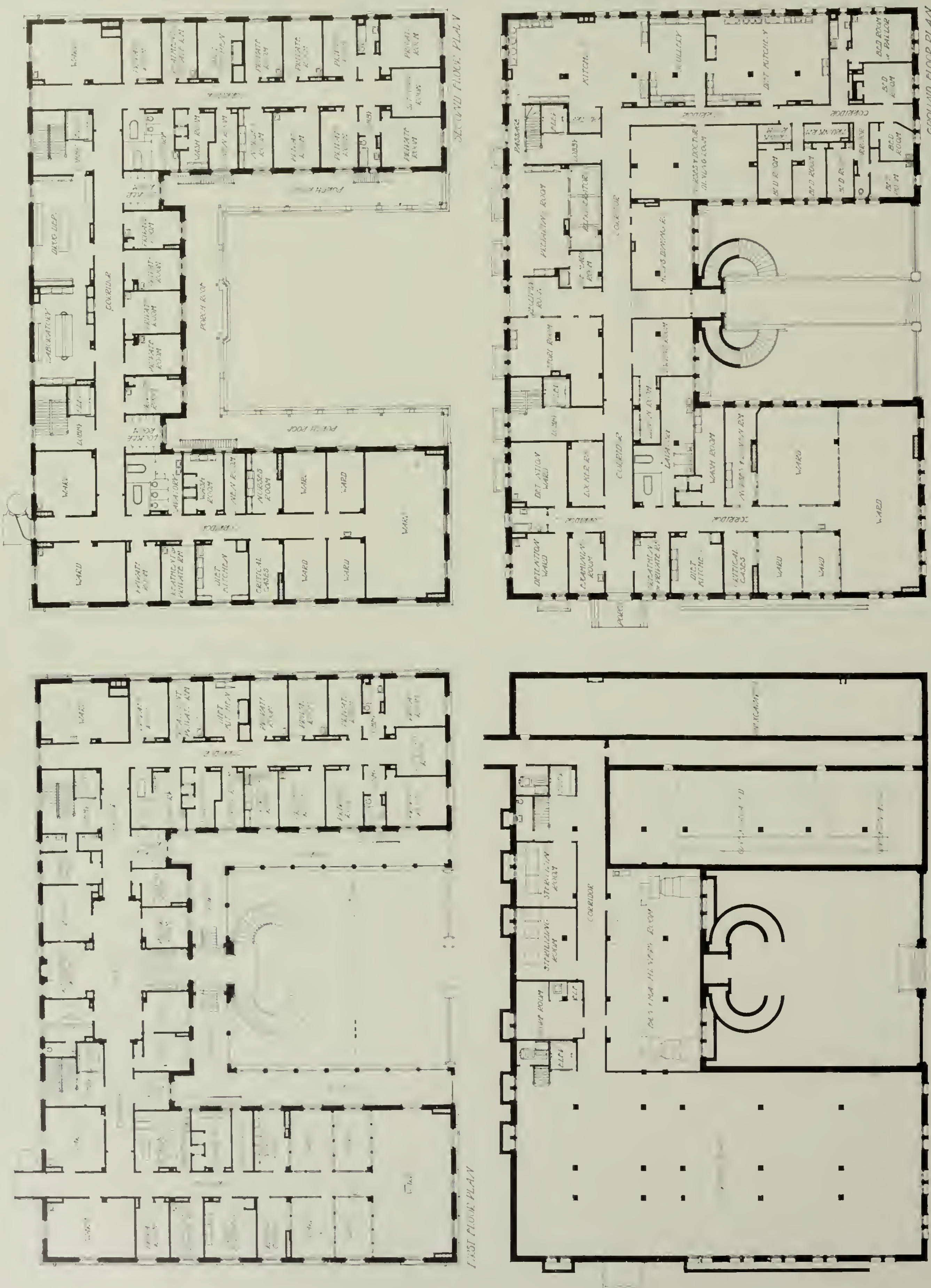


PLAN OF MAIN FLOORS.

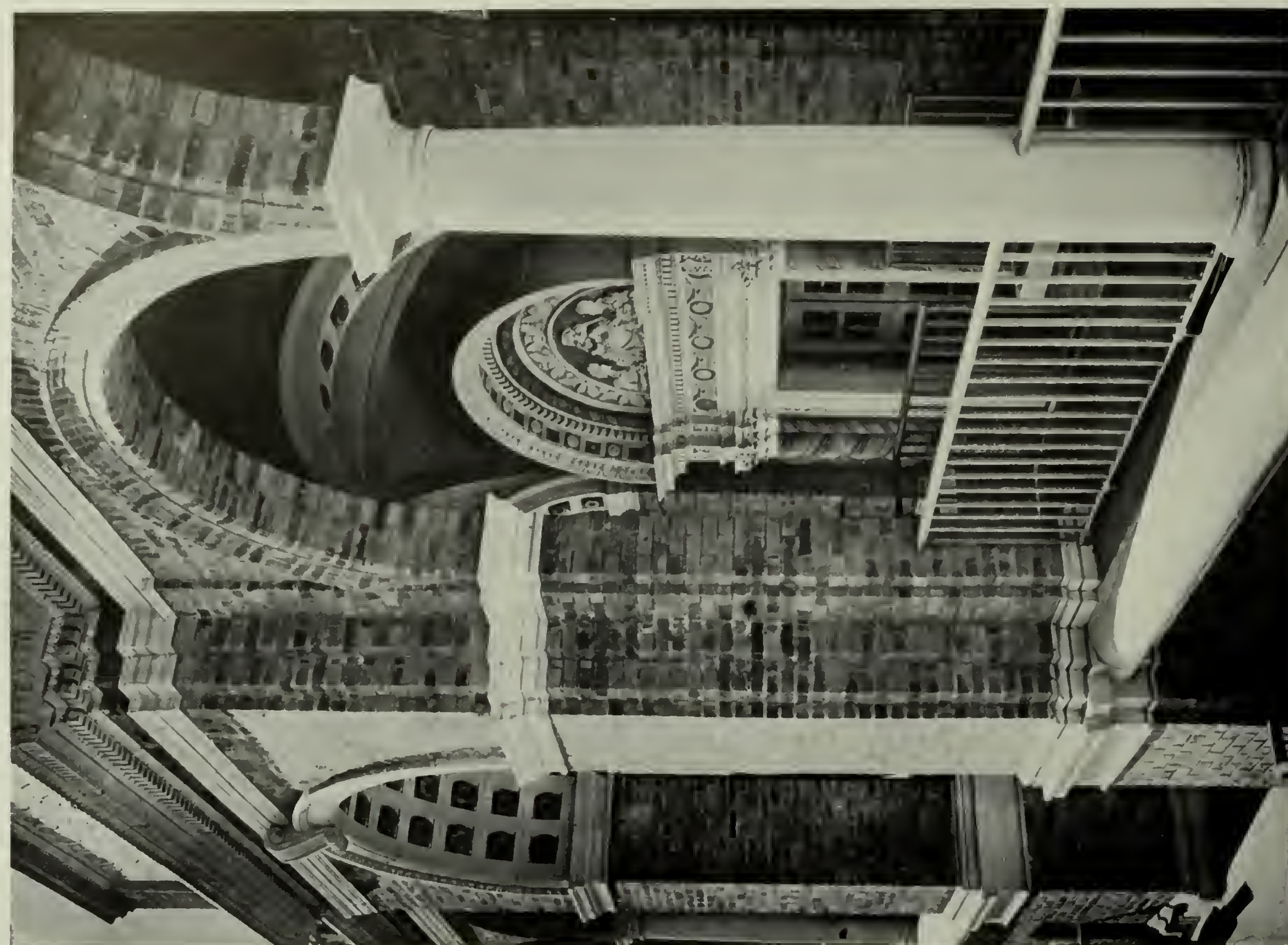
STUDIO APARTMENTS, NEW YORK CITY.

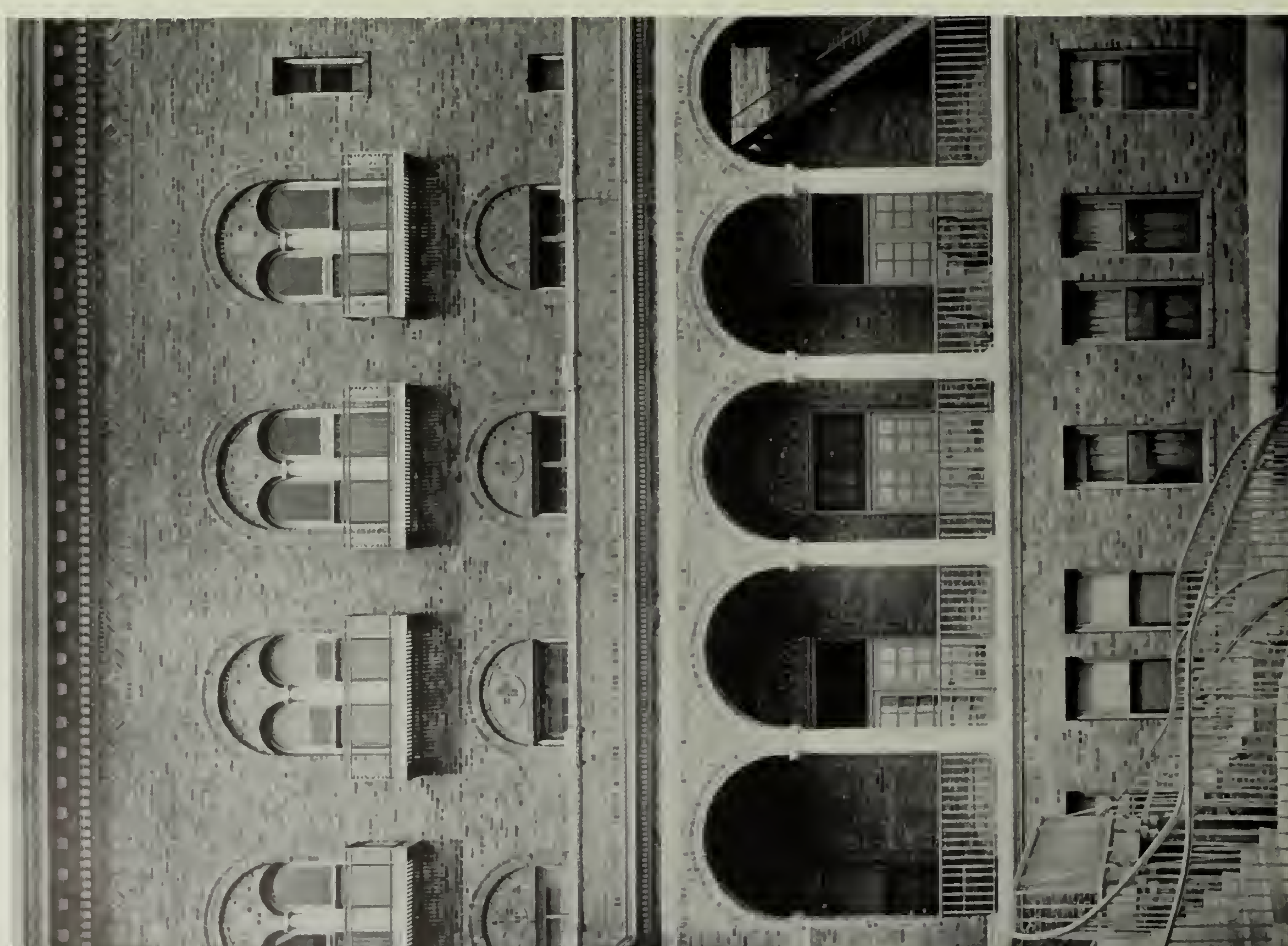
STAIRWAY IN STUDIO APARTMENTS.

HOSPITAL FOR CHILDREN AND TRAINING SCHOOL FOR NURSES, SAN FRANCISCO, CAL.
BLISS & FAVILLE, ARCHITECTS.

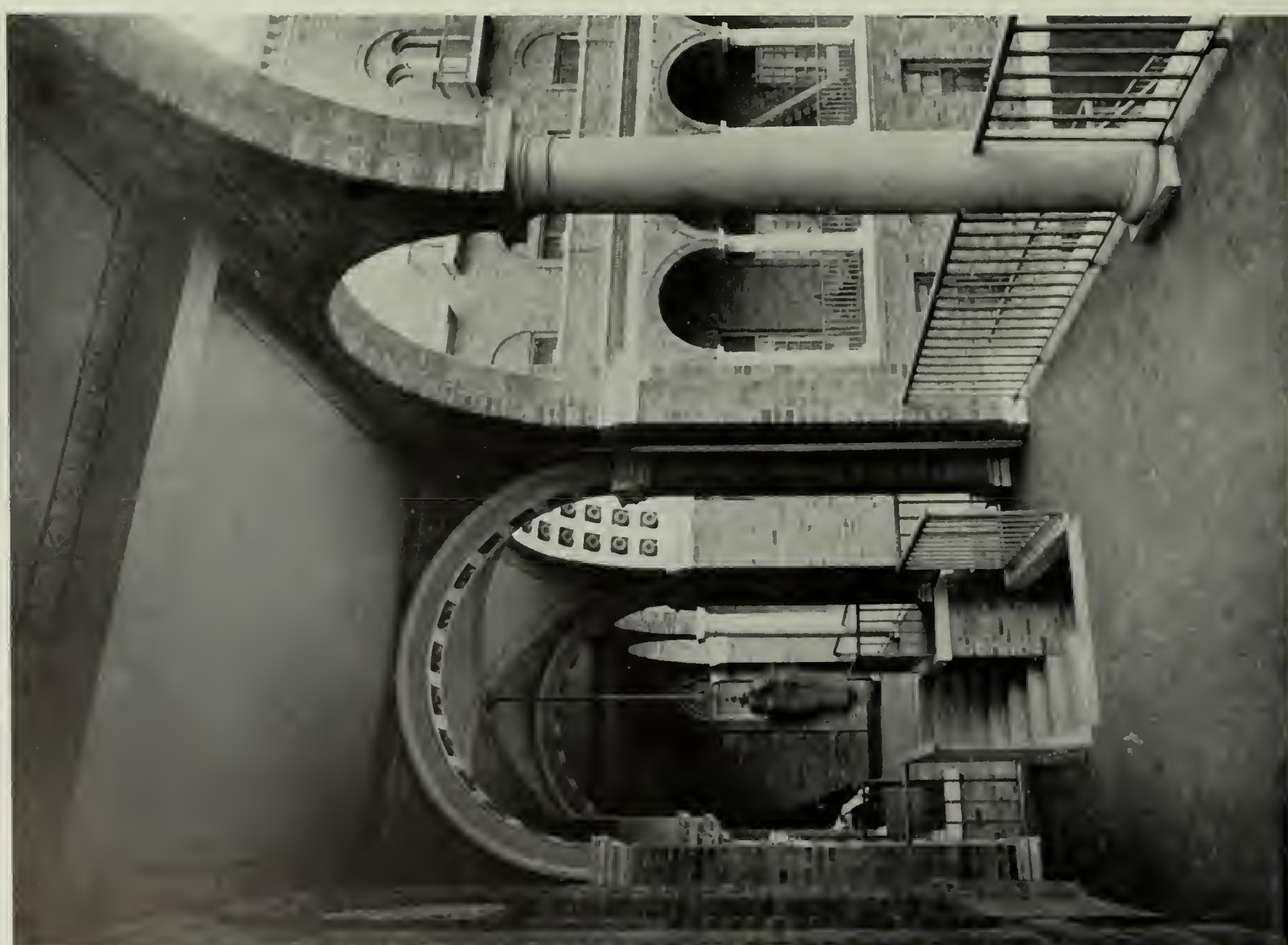


PLANS OF
HOSPITAL FOR CHILDREN AND TRAINING SCHOOL FOR NURSES, SAN FRANCISCO, CAL.
BLISS & FAVILLE, ARCHITECTS.





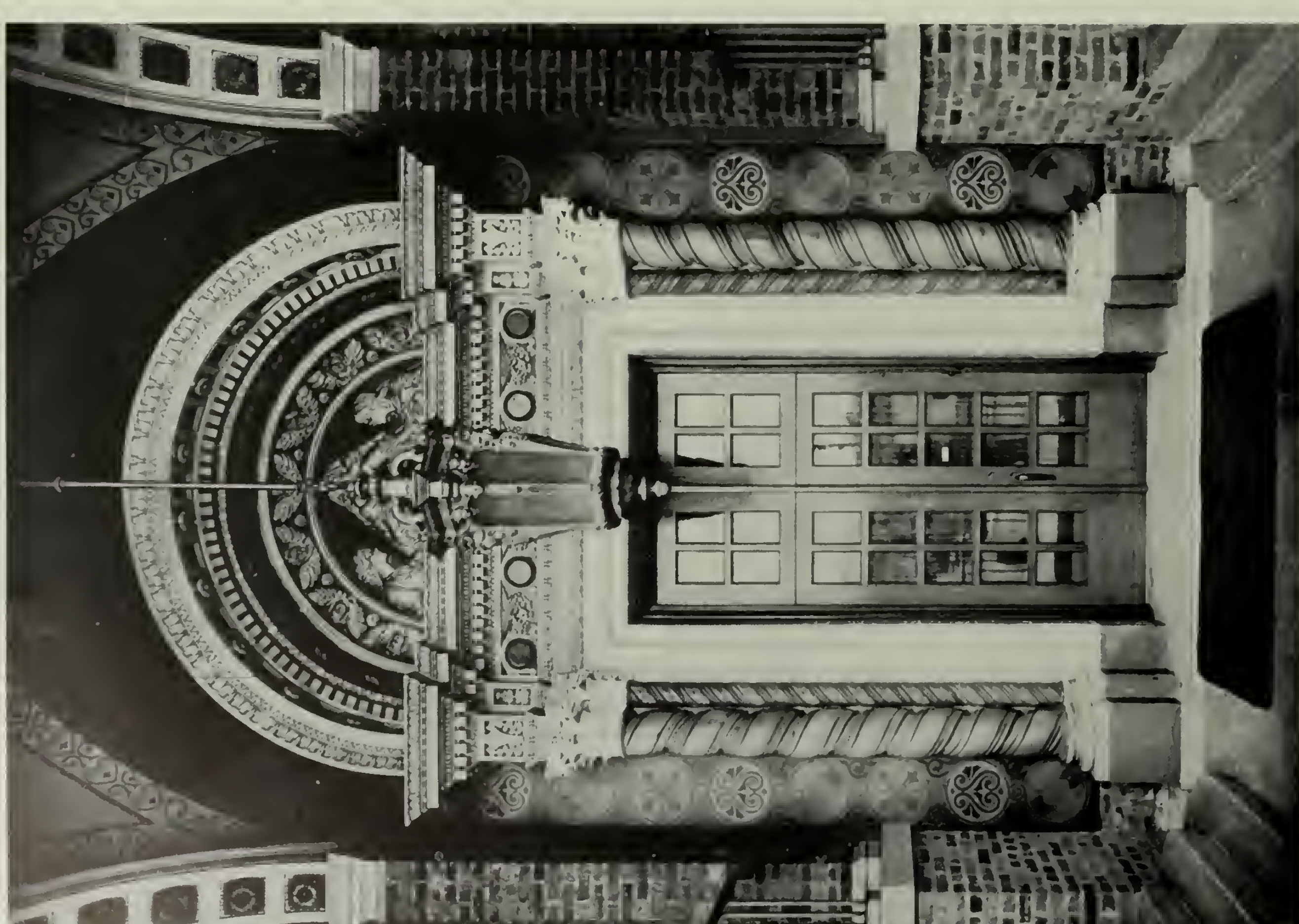
EXTERIOR DETAILS.
HOSPITAL FOR CHILDREN AND TRAINING SCHOOL FOR NURSES, SAN FRANCISCO, CAL.
BLISS & FAVILLE, ARCHITECTS.

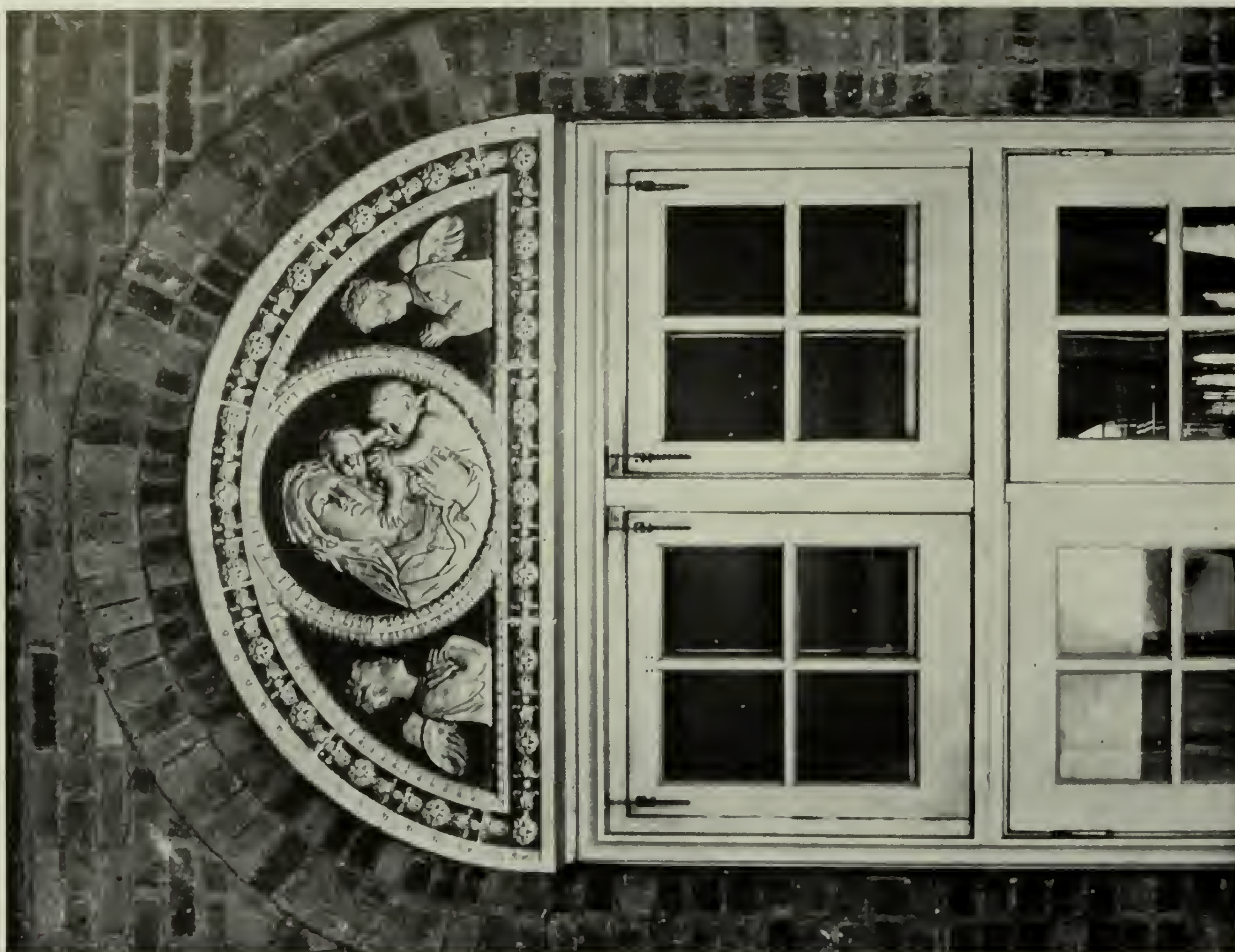


DETAILS OF PORCH

HOSPITAL FOR CHILDREN AND TRAINING SCHOOL FOR NURSES, SAN FRANCISCO, CAL.

BLISS & FAVILLE, ARCHITECTS.

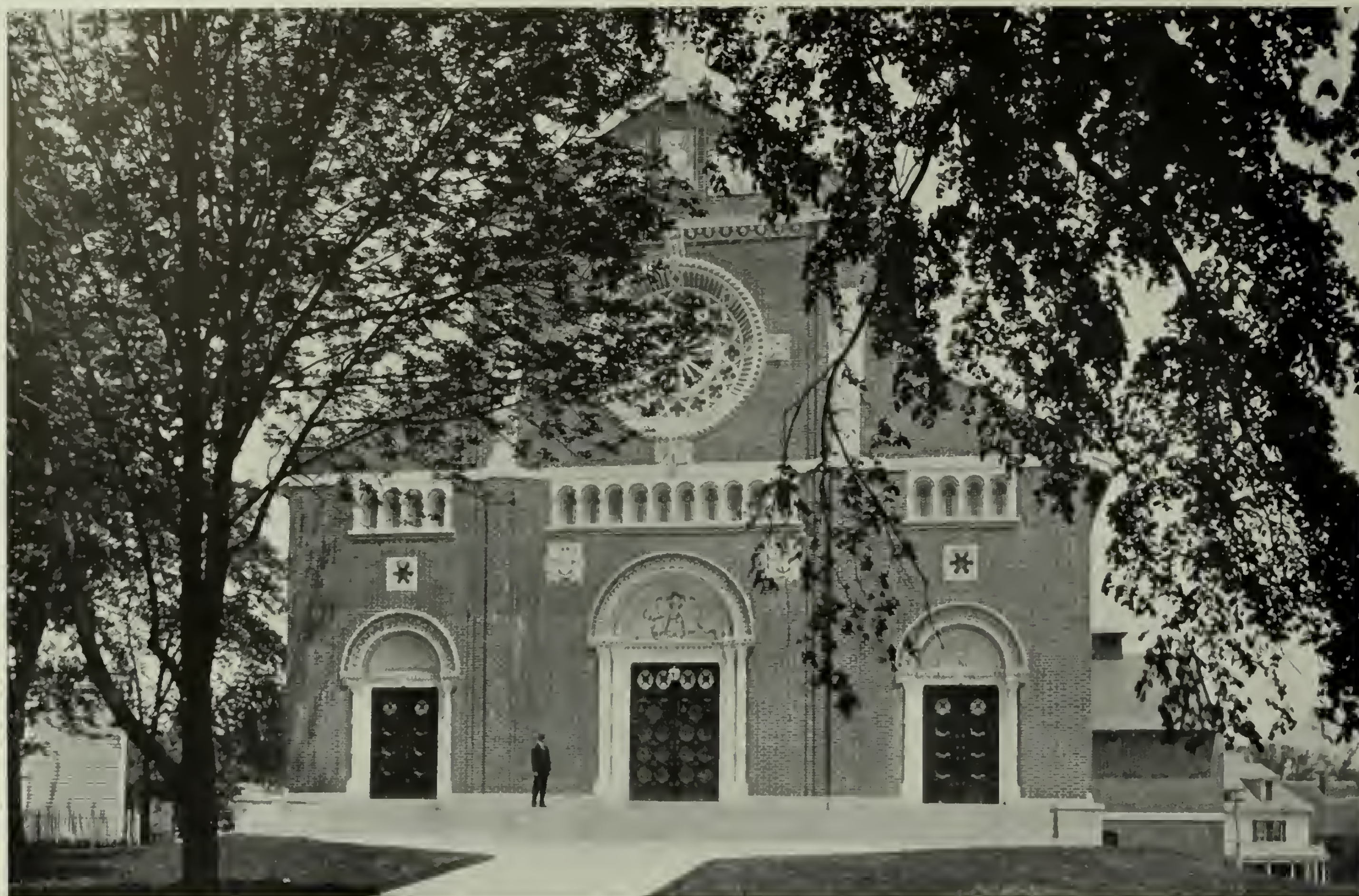




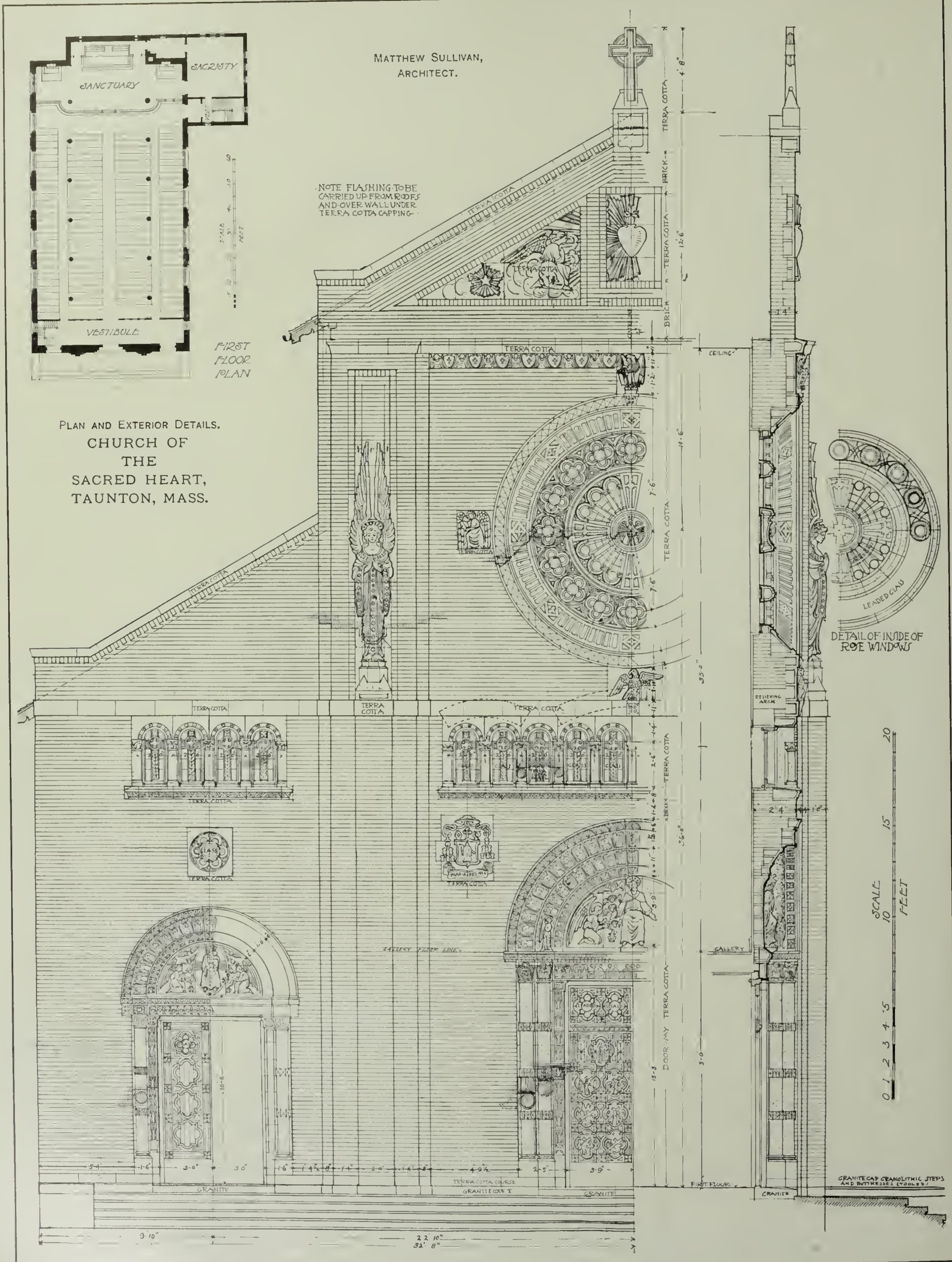
DETAILS OF ENTRANCES.

HOSPITAL FOR CHILDREN AND TRAINING SCHOOL FOR NURSES, SAN FRANCISCO, CAL.

BLISS & FAVILLE, ARCHITECTS.



CHURCH OF THE SACRED HEART, TAUNTON, MASS.
MATTHEW SULLIVAN, ARCHITECT.


MATTHEW SULLIVAN,
ARCHITECT.
PLAN AND EXTERIOR DETAILS.
CHURCH OF THE SACRED HEART, TAUNTON, MASS.
SANCTUARY
SACRISTY
VESTIBULE
FIRST FLOOR PLAN
NOTE FLASHING TO BE CARRIED UP FROM ROOFS AND OVER WALL UNDER TERRA COTTA CAPPING
TERRA COTTA
BRICK
CEILING
DETAIL OF INSIDE OF ROSE WINDOWS
LEADED GLASS
RELIEVING ARCH
GALLERY
FIRST FLOOR
GRANITE
GRANITE CAP GRANOLITHIC STEPS AND BUTTRESSES (TOOLED)
SCALE
FEET
9'-10"
22' 10"
32' 8"

CHURCH OF THE SACRED HEART, TAUNTON, MASS.
MATTHEW SULLIVAN, ARCHITECT.

INTERIOR VIEWS AND MISCELLANEOUS DETAILS.

CHURCH OF THE SACRED HEART,

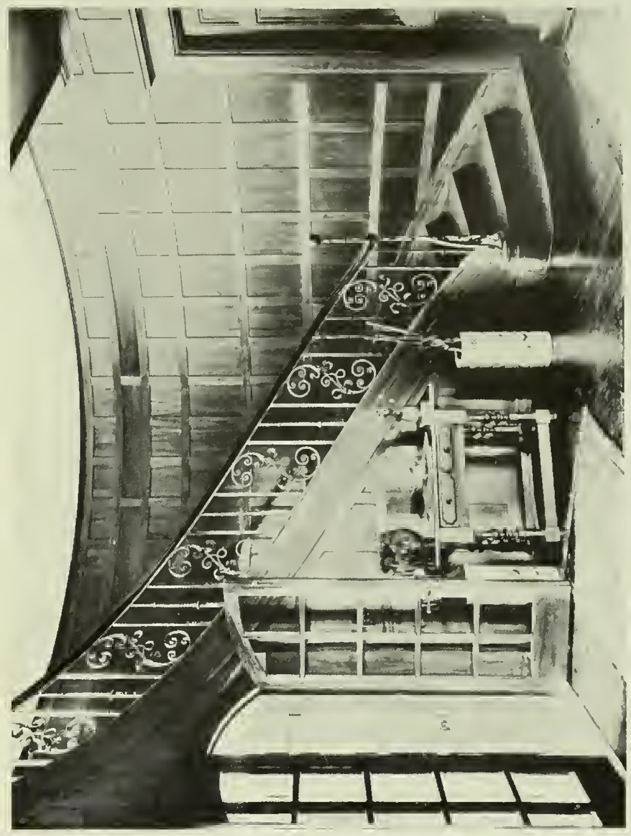
TAUNTON, MASS.

MATTHEW SULLIVAN, ARCHITECT.

HOUSE AT SHERBORN, MASS.
BIGELOW & WADSWORTH, ARCHITECTS.

DINING ROOM.

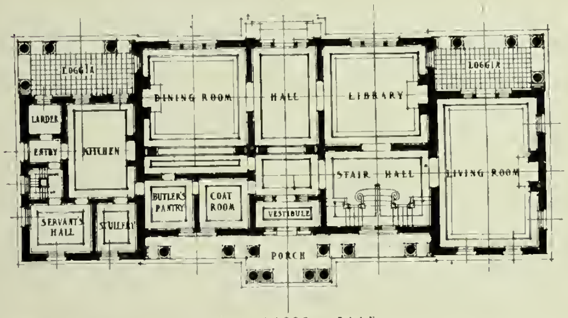
HOUSE AT SHERBORN, MASS.
BIGELOW & WADSWORTH, ARCHITECTS.



HALLWAY.

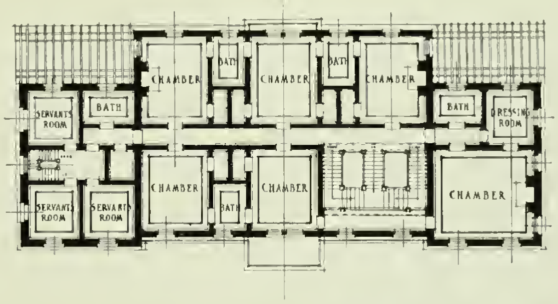
MAIN ENTRANCE.

VOL. 21, NO. 7. PLATE 96.



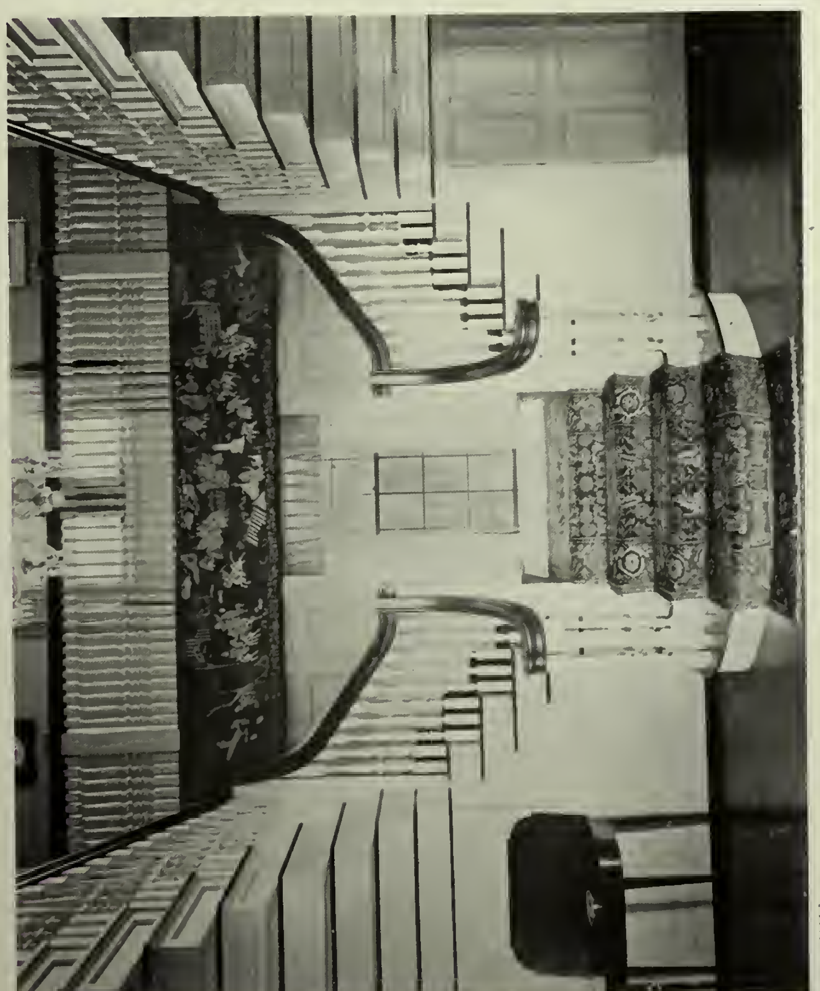
FIRST FLOOR PLAN

HOUSE
AT
CONCORD, MASS.
JAMES PURDON
ARCHITECT.

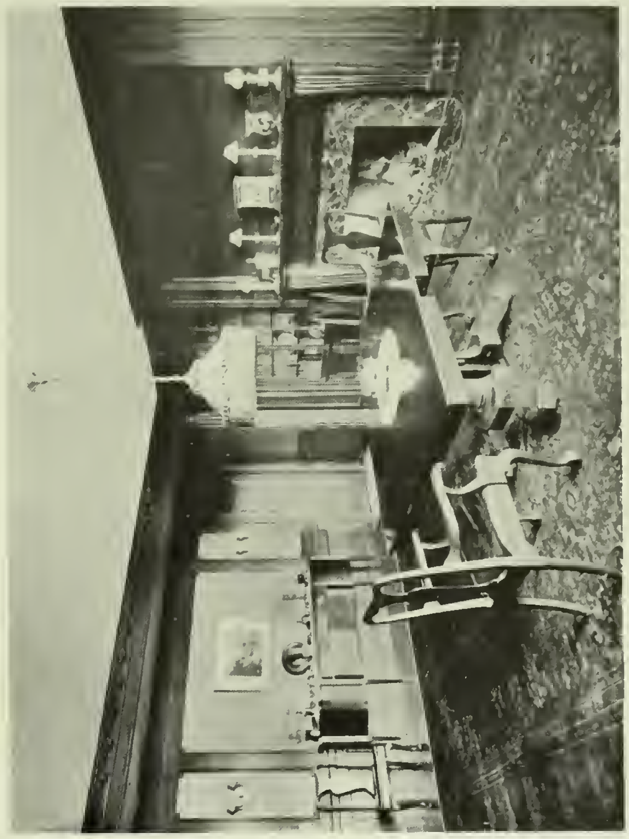


SECOND FLOOR PLAN

STAIR HALL.



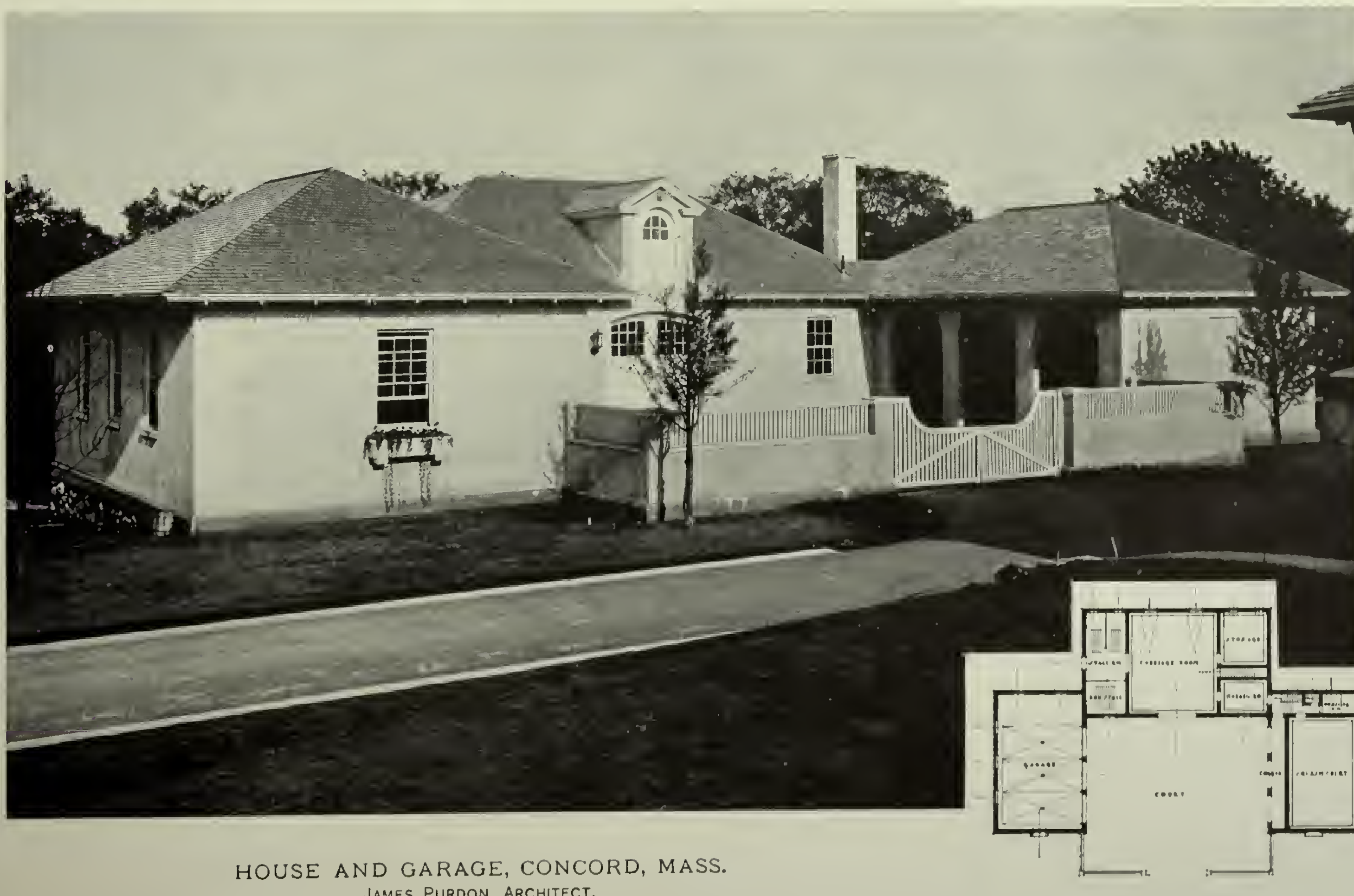
STAIR HALL.



DINING ROOM.

LIVING ROOM.

INTERIOR VIEWS.
HOUSE AT
CONCORD, MASS.
JAMES PURDON,
ARCHITECT.



HOUSE AND GARAGE, CONCORD, MASS.
JAMES PURDON, ARCHITECT.

FIRST FLOOR PLAN

PLAN OF GARAGE.

FOUNTAIN OF THE ASTROLABE, LUXEMBOURG GARDENS, PARIS.

Commemorative Monuments.—VI.

H. VAN BUREN MAGONIGLE.

ALL artists look forward with such hope as their individual optimism furnishes to a day when, in this country, everybody has become rich enough to care about art and especially the art of the street. Just opposite the Pont St. Michel in Paris the Boulevard St. Michel begins and is joined here by a little street running off to the right; a block of typical Parisian apartments lies between them with shops on the ground floor; in an American town the end of this building toward the bridge probably would not only not be truncated, but run to a point to get the last inch of rentable space, or, if truncated, would have been punched full of windows. But the French have a special faculty for seizing upon such an opportunity as this, and have made of it one of the most splendid and decorative points in Paris.

The Molière Fountain is another example on a more modest scale; he lived in the street to the right.

The Fontaine St. Sulpice in the square before the church of that name is not particularly beautiful, but is illustrated as an example of a free standing fountain in which architecture is predominant.

THE MOLIÈRE FOUNTAIN, PARIS.

In the Triumph of the Republic, the pyramidal theory of composition is completely recognized. The lines of the steps follow the general form of the composition and carry the eye by insensible gradations from the sumptuous group to the plane of the basin about it. The two rostral columns of the Place du Trône, seen beyond, have their share in the ensemble, repeating the vertical line of the figure and forming a vigorous frame for the whole.

At the end of the long avenue, or rather, allée, that runs from the Palais du Luxembourg out toward the Observatory of Paris is the beautiful Fountain of the Astrolabe supported by figures representing the four continents. It gives scale, interest, and accent to a vista that would otherwise have been too long. The interminable lengths of American streets in nearly every city save Washington, unrelieved, unaccented, are characteristic of our national ignorance of civic art.

Leaping lightly from Paris to Pittsburgh we find the stele form used in a different way in the Magee Memorial Fountain by Augustus St. Gaudens and Henry Bacon.

CASTELLO S. ANGELO, ROME.

GRANT'S TOMB, NEW YORK CITY.

TRIUMPH OF THE REPUBLIC, PARIS.

TOMB OF CÆCILIA METELLA, ROME.

COMMEMORATIVE MONUMENTS.

FONTAINE ST. SULPICE, PARIS.

MAGEE MEMORIAL, PITTSBURGH.

FOUNTAIN TO THE GREAT GOD PAN, COLUMBIA UNIVERSITY, NEW YORK CITY.

COMMEMORATIVE MONUMENTS.

I find the Great God Pan in the grounds of Columbia University in New York delightful; to lie all day in the sun and tootle on a reed pipe and listen to the trickling water seems an enviable occupation; the sculpture is by George Grey Barnard and the setting by McKim, Mead & White.

THE SOLDIERS' AND SAILORS' MONUMENT, NEW YORK CITY.

The Tomb of Cæcilia Metella on the Appian Way outside the gates of Rome is one of the few remaining on that Street of Tombs and doubtless owes its preservation, like so many ancient Roman remains, to its use as a fortified residence for the Roman nobility; the Ghibelline battlements of brick that crown the upper part are a plain indication of this use. We find the origin of this circular form of tomb in the mounds of earth that by an old custom were heaped above the bodies of those slain in battle; as the base of these mounds became gradually eroded by the weather it became usual to build a low circular wall around it for protection. This primitive form of sepulchral monument was developed in the course of years into such structures as this and the tomb of the Emperor Hadrian, now the Castello S. Angelo, which has suffered many changes since Roman times; undoubtedly it had a conical roof, either of stone or of earth terraced to the summit and perhaps planted with cypresses. Grant's Tomb in New York, by Mr. John H. Duncan, is a modern version of the idea in stone.

The McKinley Memorial, Canton, Ohio, by the writer, has been illustrated and described so often that it is unnecessary to do more than give it here as an example of a large circular domed tomb.

The Soldiers' and Sailors' Monument on Riverside Drive, New York, the work of Messrs. Stoughton & Stoughton and Paul Dubois, is an excellent mass treated in a robust style; it is a very unusual form for a monument and is really another development of the phallic emblem, like the dolmens of Brittany, the obelisks of Egypt, and the votive columns and pylons of later times.

THE MCKINLEY MONUMENT, CANTON, OHIO.

The Emerson Hotel, Baltimore, Md.

JOS. EVANS SPERRY, ARCHITECT.

BALTIMORE'S newest and most modern hotel, following the traditional design of this type of building, raises its head with majestic mien, and towers above its immediate neighbors as a landmark by day and a beacon by night.

The façades of the building are divided vertically into three parts, consisting of a base, with a shaft above, crowned with the cornice and high roof. The base is of pink granite, extending through the principal and mezzanine stories, and though it contains many broad openings, yet it suggests stability and strength, and securely supports the shaft of brick rising above, which is pierced by many windows, deeply recessed for shadow effect. No attempt has been made to embellish these openings, the lintels of which are of brick ; the sills are of architectural terra cotta, having only sufficient projection to allow for a drip. The designer, however, arranged for the proper spacing of the windows, with the resulting broad surfaces of brick texture between, to produce a harmonious color balance. The windows in the simplicity of their treatment seem to apologize for their existence, only offering as an excuse for disturbing the color scheme of the brickwork the most practical one of admitting light to the rooms of the interior, the arrangement of these rooms being suggested by the window spacing.

MAIN LOBBY.

The bricks selected for the exterior are twelve inches long but of standard thickness and width, and are of a light buff cream, slightly irregular in shade, but with an underlying tinge of green so delicate in tone as to be hardly perceived.

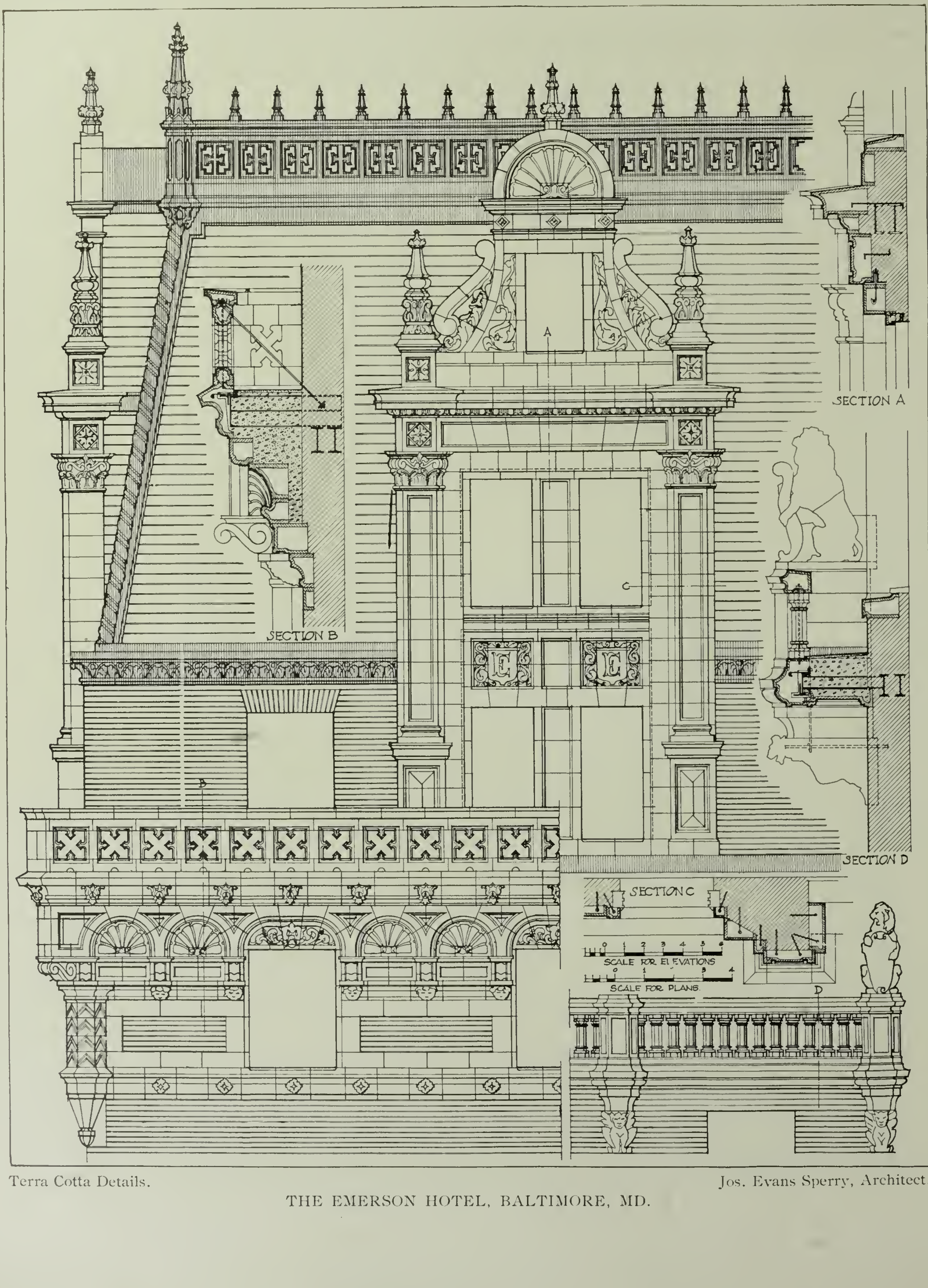
The principal façades are partly relieved at the fifth floor by balconies of architectural terra cotta of color and effect to match the pink granite of the base. These balconies are supported upon the backs of four griffin brackets and the rail and coping is surmounted by four seated lions supporting shields ; the lion being a traditional emblem of the owner. From flagpoles projecting over these balconies float side, by side, Old Glory and the beautiful flag of Maryland, the red and white and orange and black adding a brilliant touch of color well placed.

Above the brick shaft a projecting sill course, on a line with the sills of the upper windows, begins the frieze which is surmounted by the broad overhanging cornice enriched with much detail, and all executed in architectural terra cotta.

The machicolations of the cornice contain the beautiful shell ornament so successfully used during the Renaissance. The windows of this upper story carry up into these machicolations, necessitating a wider spacing of the corbels of the cornice at these points to admit them, but as these windows have flat heads they neglect the movement suggested in the cornice, by not conforming to the wider machicolations which they enter.

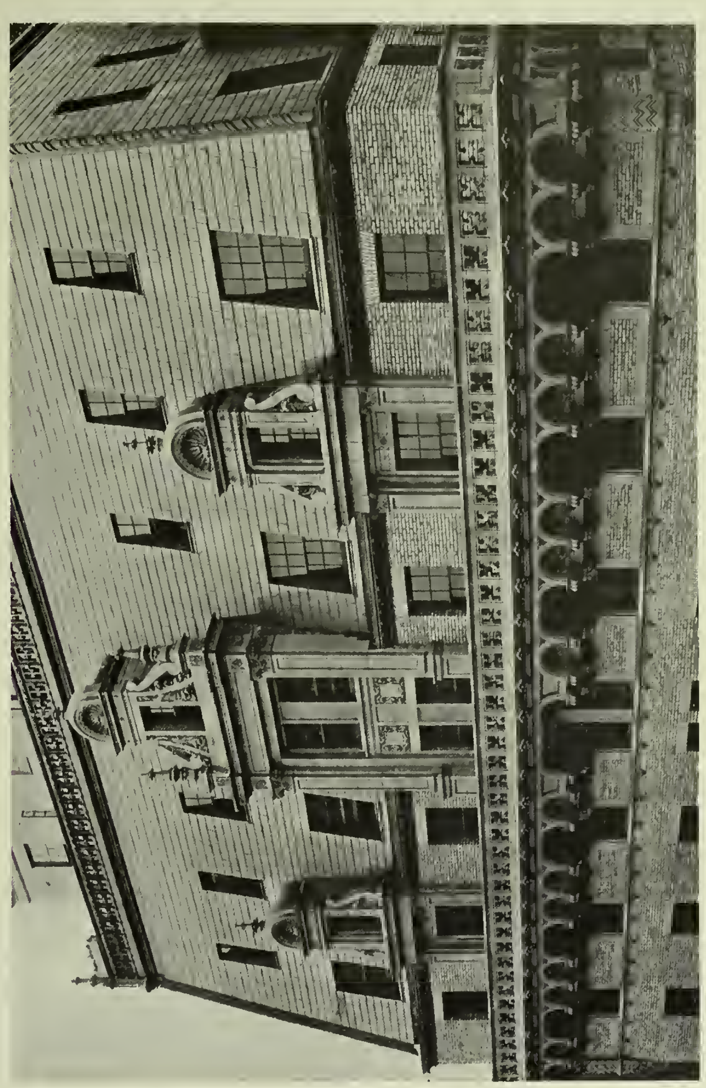
Surmounting the cornice is a low balustrade in terra cotta which offers a chance for ornamental treatment, and affords protection to the visitor to this gallery. Above the cornice rises a three-story mansard roof, covered with a bluish green slate. This great expanse is relieved by numerous openings plainly treated, but it is especially embellished by large central dormers, flanked on each side with a smaller one, all of them being executed in terra cotta and treated in an ornamental manner distinctively French. A cresting crowns this roof, and when illuminated at night by the many lights arranged in geometrical pattern, it might be likened to a chaplet of topazes around the brow of some fair queen.

Had the architect stopped here, the building would have been complete, but on top of this roof is a one-story building suggesting an orangerie or similar structure. It is executed in white terra cotta and is connected to the elevator penthouses, which are symmetrically placed and ornamentally treated in the same material. This struc-

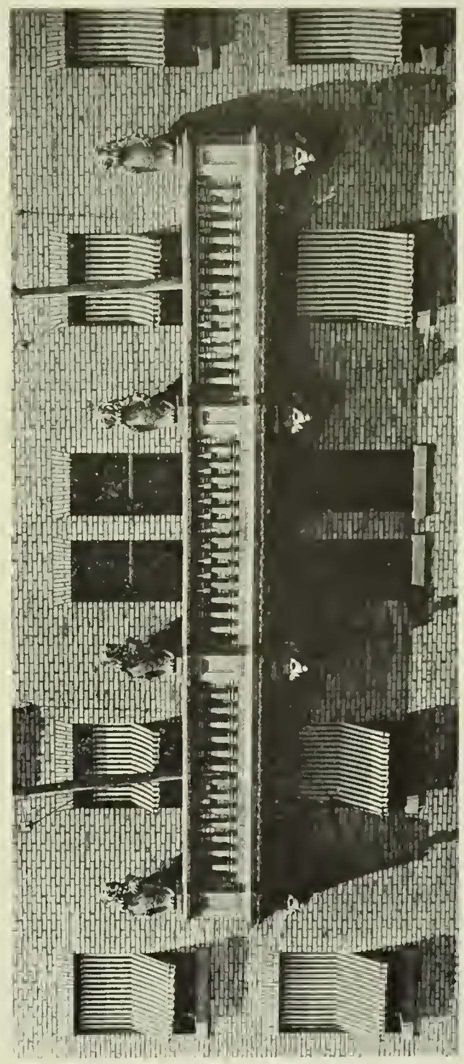


Terra Cotta Details. Jos. Evans Sperry, Architect.

THE EMERSON HOTEL, BALTIMORE, MD.



GENERAL VIEW AND DETAILS,
THE EMERSON HOTEL, BALTIMORE, MD.
Jos. Evans Sperry, Architect.



ture is unique in treatment, although dissimilar to the building of which it forms a part.

Here is located the large banquet hall or ball room, convenient to the elevators and the necessary coat and retiring rooms. A large serving room completely equipped is near by and forms a necessary adjunct to these rooms. This banquet hall is in reality two rooms similarly treated, flanking a central smaller room from which they are separated by a single row of columns at each side of this smaller room. These columns support a barrel arch ceiling over the central room, but the ceiling of the rooms at each side are handsomely executed with cove and relief ornament in an adaptation of Louis XIV. period.

Entering the building from the street, after passing under a marquise of ample proportions and richly ornamented in the French Gothic style, one ascends from the vestibule a few steps and enters the principal lobby of the hotel, at the far end of which is an open fireplace with its richly embellished mantel of the French Chateau period.

In this lobby and around it are situated the principal offices and rooms of a semi-public nature, as are also the broad marble staircases leading to the floors above.

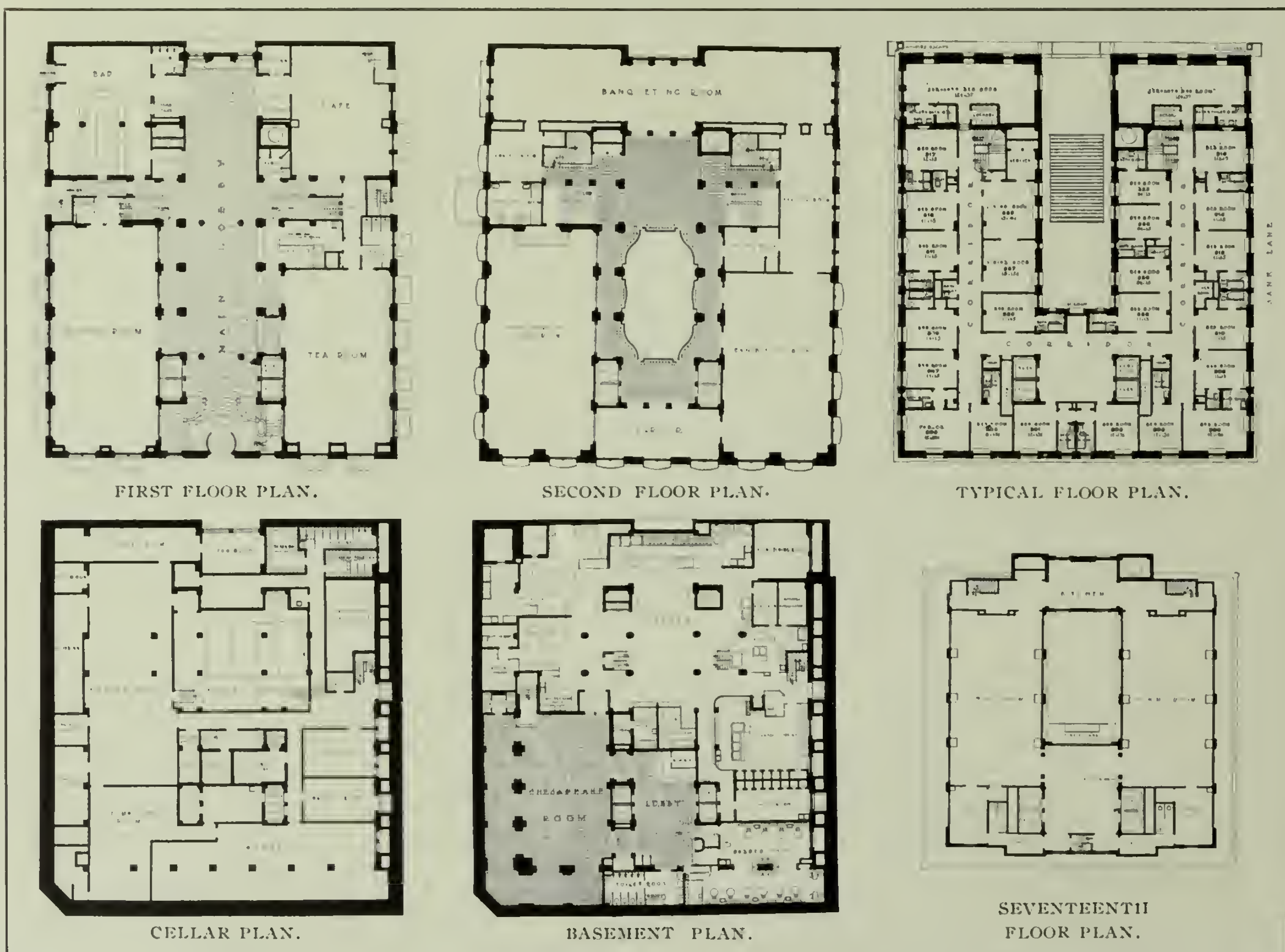
The walls are covered with English vein Italian marble, with columns of the same material supporting the galleries of the mezzanine story which opens into this lobby. The ornamentation here is of white and gold, which last material has been lavishly used. At one side is the tea room, broad and spacious, with quiet effect of walls and ceiling in tones of gray, and Della Robbia ornament on the walls.

Opposite the tea room is the principal dining room with its beamed ceiling, richly decorated walls, and hangings of the Renaissance period. Great crystal chandeliers add a touch of ornament to this otherwise pleasing room.

The general design of the building savors of the French Renaissance, although, in its entirety, of no particular period. Here may be a suggestion of the period of Francis I., over there a suggestion of Louis XII., mingling with a slightly more Gothic feeling, occurring at various parts of the detail.

The skill of the designer is shown when the ornament has an easy movement and rhythmic action without a discordant element, yet having sufficient emphasis to please the critic when observed from the viewpoint of the average citizen, but not enough to exaggerate the element of perspective and sense of proportion when observed from such a disadvantageous position.

The adaptability of architectural terra cotta to such motives as are represented in this building, and all others where ornament can be used, is quickly recognized; what other material would lend itself so readily to the enrichment of detail that one finds in the Gothic and Renaissance periods. Whether it be flat medallion ornament or heavily undercut as with the Gothic, there seems to be no limit to the effect that can be produced by a skilful manufacturer of this product.



FIRST FLOOR PLAN. SECOND FLOOR PLAN. TYPICAL FLOOR PLAN.

CELLAR PLAN. BASEMENT PLAN. SEVENTEENTH FLOOR PLAN.

Editorial Comment and Miscellany.

THE NEW CAMPANILE.

AFTER ten years of silence the bells of Campanile di San Marco, Venice, announced that the reconstructed tower, similar to the former one but erected with modern science and possibly with more enduring skill, has arisen in the same location.

At 10.40 on the morning of July 14, 1902, after dominating the piazza for just one thousand years, the old Campanile fell. When the debris had been cleared away and the foundations found intact, it was decided that the cause of the fall was due to the weakness of the lower walls. The added weight of the belfry, constructed later, and the weakened walls had been too much for the old Roman bricks that had already done service in the houses of the mainland for centuries before they were carted to Venice from the ruins of Altinum.

In starting the new Campanile, a ditch 16 feet deep, down to the level of the pile heads, was dug all around the old foundations to the width of about 12 feet, and carefully bratticed. Into the area were driven 3,076 piles of larchwood from Cadore, fresh cut so as to insure the presence of abundance of resin. The average diameter of the piles was 8½ inches. Larch was preferred to oak, partly because experience had shown its admirable power of resisting decomposition in clay, and partly because larch piles are straight while oak is often bent and twisted, and would therefore have left frequent interstices. The piles were on an average 13 feet long, and calculated to have a carrying power of 90,000 tons.

DETAIL BY T. E. BILLQUIST, ARCHITECT.
New Jersey Terra Cotta Co., Makers.

The new tower, which weighs above 20,000 tons, is composed of an inner and an outer shaft, between which mounts the inclined plane that leads to the belfry. The walls of the outer shaft are 6 feet thick, and the interior of the tower presents a fine piece of brick construction, quite Roman in its finish and solidity.

The number of bricks employed is about one million. They are of a special size, made at Casale, near Treviso, of clay twice mixed and baked in wood-fired kilns. They contain salt in considerable quantities, which produces in certain weather a sort of white efflorescence all over the tower. These bricks are 12 inches long, 6 inches wide, and 3 inches thick.

PLATE ILLUSTRATIONS—DESCRIPTION.

CHURCH OF THE SACRED HEART, TAUNTON, MASS. PLATES 90-93. The exterior is of water-struck red brick and full matt glazed terra cotta. The main portion of the church — nave and two aisles — is 60 by 124 feet, with a seating capacity of nine hundred. The walls are comparatively plain with the view of future decorations, excepting the nave which is treated with richly modeled ornament and coffered ceiling. All wood finish, including doors, pews, etc., is of oak, while the floors are of hard pine. The direct-indirect system of heating is installed. The total cost of the structure was $71,500, of which amount $12,000 was spent for furnishings.

FIGURES IN CORNICE, McKNIGHT BUILDING, MINNEAPOLIS.
Executed by Northwestern Terra Cotta Company. Hewett & Brown, Architects.

ENTRANCE OF CHURCH OF THE SACRED HEART, TAUNTON, MASS.
An example of archaic byzantine modeling executed in polychrome terra cotta by the Atlantic Terra Cotta Company.
Matthew Sullivan, Architect.

NEW ENGLAND TELEPHONE & TELEGRAPH CO. BUILDING, BOSTON.
Built of Fiske & Co., Inc., Tapestry Brick.
Peabody & Stearns, Architects.

TERRA COTTA TILE FOR EXTERIOR WALLS.

OWING to the increasing use of terra cotta hollow tile for exterior walls of buildings the National Fire Proofing Company, as a result of careful study of the entire problem by their engineering department, has offered a series of suggestions which are intended to be of help to those who have to do with building codes. These suggestions are as follows:

1. Terra cotta hollow tile may be used for bearing walls in buildings five stories or less in height, or for enclosure walls for skeleton structures of any height where the walls are carried from story to story on steel or concrete beams or girders, where said use is approved by the Bureau of Buildings.

2. All materials must be well burned, dense material of approved quality and thickness.

3. The thickness of the walls should not be less than is required by law for brick walls inside the fire limits. Outside the fire limits the exterior walls shall not be less than the following thicknesses:

A. For a one-story building, 6 inches.

B. For a two-story building, first story 8 inches, second story 8 inches.

DETAIL FOR THEATER.
Conkling-Armstrong Terra Cotta Company, Makers.
H. E. Kennedy & Co., Architects.

C. For a three-story building, first story 10 inches, second story 8 inches, third story 8 inches.

D. For a four-story building, first story 12 inches, second story 10 inches, third story 8 inches, fourth story 8 inches.

E. For a five-story building, first story 12 inches, second story 10 inches, third story 10 inches, fourth story 8 inches, fifth story 8 inches.

F. The foundation walls shall not be less than 4 inches thicker than the first story walls, provided that non-foundation walls shall be less than 12 inches thick.

4. If the walls are exposed to the weather, all the hollow tile must be of dense material and vitrified in burning, or they may be of dense or semi-porous material, hard burned and covered on the exposed sides with at least ¾ inch Portland cement stucco or pebble dash. Such hollow tile to be well scored with dovetailed grooves to receive coating.

5. Provide and set terra cotta slabs 1 inch thick under all floor beams as bearing plates for same.

6. Wherever girders or beams rest upon a wall so that there is a concentrated load on the hollow tile of over two tons, the tile

CHRISTIAN SCIENCE CHURCH, STAMFORD, CONN.
Walls of Natco Terra Cotta Hollow Tiles.
Dennison & Hirons, Architects.

DETAIL, EXECUTED BY WINKLE TERRA COTTA COMPANY.

supporting the girders or beams must be made solid by filling with Portland cement concrete of broken stone or gravel mixed 1-2-4, or by covering the openings with flat slabs; and wherever walls are decreased in thickness, the top course of the thicker wall must be made solid in the same manner.

7. Provided always that no tile shall be loaded to an excess of 30 pounds per square inch of net section in compression, if set on end, or 150 pounds per square inch if set on the side.

CARTOUCHE BY J. D. ATCHISON, ARCHITECT.
Executed by American Terra Cotta & Ceramic Company.

8. All piers and buttresses that support loads in excess of five tons shall be filled solid with concrete.

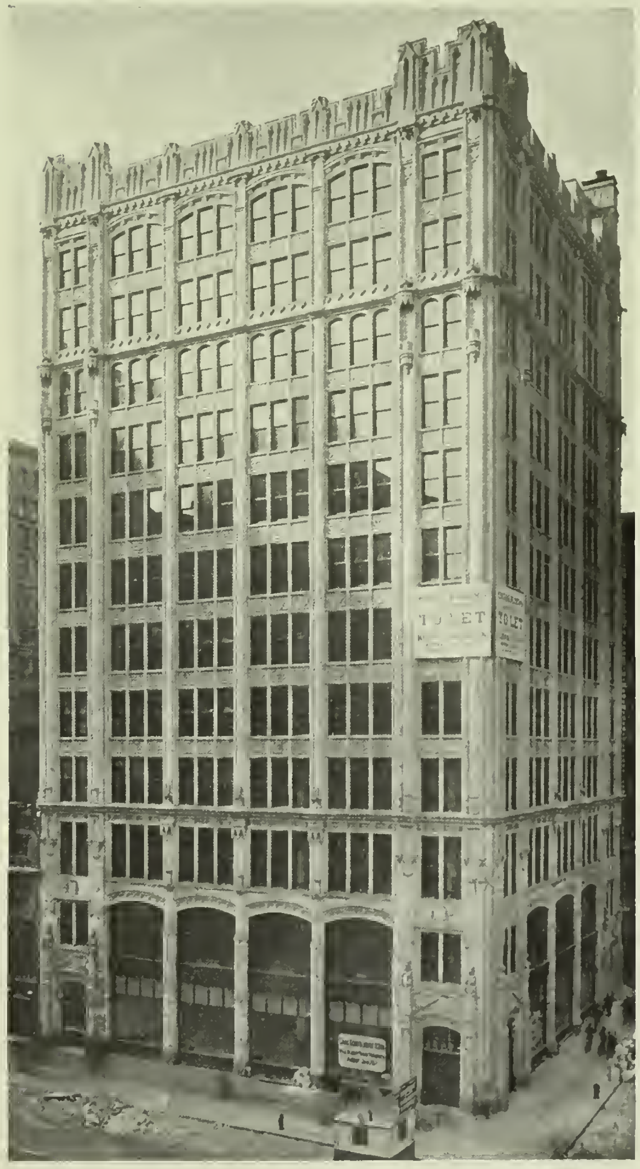
9. Lintels spanning over 4 feet 6 inches in the clear shall rest on tile filled solid with concrete or on plate, slab, or brick.

10. All hollow tile shall be subject to regulation inspection and in no case shall the exterior shells be less than $^{15}/_{16}$ inch in thickness, and interior webs $5/8$ inch. The ultimate crushing strength shall be at least six times the load they are required to carry.

DETAIL, RITZ-CARLTON HOTEL, NEW YORK.
Executed by New York Architectural Terra Cotta Company.
Warren & Wetmore, Architects.

11. All hollow tile used in walls or piers shall be set in mortar composed of one part Portland cement and three parts of clean sand, well mixed to a smooth, moderately stiff mortar. Lime well slacked and not to exceed ten per cent of the cement, by volume, will be allowed in the mortar.

12. Hollow tile may be also used for backing, facing brick, or hollow brick. If face brick or hollow brick is bonded into the hollow tile, the total thickness of the wall shall be estimated as the thickness of the bearing wall. If the face brick or hollow brick is used as a veneer and tied to the hollow tile walls with metal anchors, said veneer shall not be considered to form part of the required thickness of any wall.



LOFT BUILDING, FOURTH AVE., NEW YORK.
All terra cotta from second story up.
Work executed by South Amboy Terra Cotta Company.
Rouse & Goldstone, Architects.

TERRA COTTA FOR THE EMERSON HOTEL, BALTIMORE.

THE architectural terra cotta for the Emerson Hotel, Baltimore, Joseph Evans Sperry, architect, illustrated in this issue, was furnished by the Conkling-Armstrong Terra Cotta Company.

IN GENERAL.

Meyer J. Strum, architect, announces the removal of his office to 116 South Michigan Boulevard, Chicago.

C. H. Page & Bro., architects, of Austin, Texas, have opened a branch office in the Union National Bank Building, Houston, Texas. Manufacturers' samples desired.

Veredon William Upham has been taken into partnership with Charles William Eldridge, architect. The style of the new firm is Eldridge & Upham; offices, Granite Building, Rochester, N. Y.

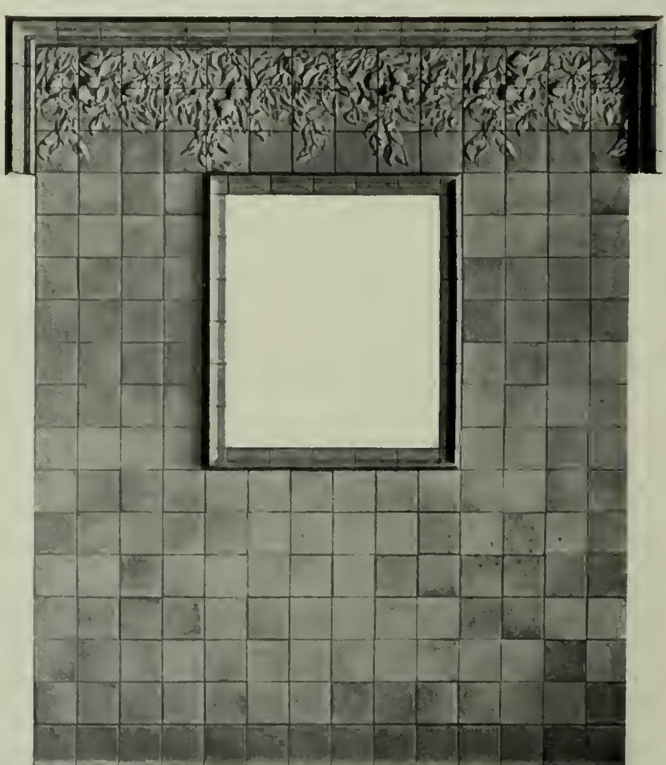
The firm of Patton & Miller, architects, Chicago, has been dissolved. Mr. Patton has formed a copartnership with Maurice G. Holmes and Raymond W. Flinn, under the firm name of Normand S. Patton, Holmes & Flinn. Mr. Miller will continue practice under the firm name of Grant C. Miller, at 116 South Michigan Boulevard.

W. H. Weeks, architect, announces the removal of his office to 75 Post street, San Francisco, Cal.

Hubert T. McGee, Richard J. Regan, and John J. Weller, Jr., have formed a copartnership for the practice of architecture under the firm name of McGee, Regan & Weller, with offices in the Memphis Trust Building, Memphis, Tenn.

INTERIOR, FIRST BAPTIST CHURCH, PITTSBURGH.
Showing Guastavino Tile Ceiling between stone ribs.
Cram, Goodhue & Ferguson, Architects.

DETAIL OF BRICKWORK, NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
Brick furnished by Western Brick Company, Danville, Ill.
Jarvis Hunt, Architect.



EXECUTED IN ARCHITECTURAL FAIENCE BY THE ROOKWOOD POTTERY COMPANY, CINCINNATI, OHIO.

Sayre & Fisher Company furnished the brick for the Emerson Hotel, Baltimore, Joseph Evans Sperry, architect.

WOODWARD OFFICE BUILDING, WASHINGTON, D. C.
Built of Golden Craftsman Norman size brick,
Made by Pearl Clay Products Company.
Harding & Upman, Architects.

The architectural terra cotta for the Sacred Heart Church, Taunton, Mass., illustrated in this issue, was furnished by the Atlantic Terra Cotta Company.

The Atlantic Terra Cotta Company will furnish the architectural terra cotta for the following named new buildings: Community Building, Bronx, New York, James F. Meehan, architect; Tower Building, New York City, Starrett & Van Vleck, architects; Y. M. C. A., Atlantic City, Horace Trumbauer, architect; Building for the Buffalo National Gas Fuel Company, Wood & Bradney, architects; Railway Station, Hagarstown, Md., Charles M. Anderson, architect; Marshall Building, Cleveland, Ohio, W. S. Lougee, architect; Matthews Building, Pittsburgh, Pa., Rutan & Russell, architects.

DETAIL BY PEUCKERT & WUNDER, ARCHITECTS.
(About 20 feet long.)
O. W. Ketcham Terra Cotta Works, Makers.

Samuel Cabot, Inc., Boston, has just issued pamphlets describing Cabot's Damp-Proofing, for direct plastering on brick and concrete; Cabot's Protective Paint, a chemically purified, elastic, and durable paint that protects iron and steel from acids, rust, and other corrosion, and Cabot's Black Waterproofing, for waterproofing foundation, basement, and other walls above or below grade. These materials have been long manufactured by this firm, and the pamphlets are gotten out merely to explain what the materials may be depended upon to do.

The Ironclay Brick Company, Columbus, Ohio, has just issued a small pamphlet in which their bricks are shown in color. Each type of brick illustrated is described in detail.

New York's tallest apartment house will be ready for occupancy next spring on the northeast corner of Park avenue and 79th street. It will be a seventeen-story house, five stories higher than the hitherto orthodox height for apartment houses of the finest and most expensive type. The erection of this building means a new epoch in apartment house construction in New York. The facade will present an attractive but simple exterior, granite being used for the lower floor and brick for the upper portion, the solid walls being relieved by a few artistic balconies. The architects are Warren & Wetmore and Robert T. Lyons.

Mendelssohn Hall in 40th street, east of Broadway, New York City, is being torn down and in its stead will be erected a twenty-two story commercial building to cost approximately $2,000,000. The plans call for a Kinemacolor Theater.

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

THE NATCO HOUSE — THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

Notice of Competition for Street Lighting Standards

A competition for designs of ornamental street lighting fixtures is announced by the Business Men's Association and Municipal Art Society of Hartford, Connecticut. Copies of the pamphlet giving details as to the desired designs and information as to the prizes offered can be secured of the undersigned.

C. J. BENNETT, for the Business Men's Association.
W. S. SCHULTZ, for the Municipal Art Society.

School *of* Architecture *of* Harvard University

Professional course for graduates of colleges, leading to degree of Master in Architecture

Course for special advanced students, not having college degree but at least 21 years of age, with office experience, leading to certificate

Design. Prof. E. J. A. Duquesne, Grand Prix de Rome.
History. Prof. H. L. Warren, A. M., F. A. I. A.
Construction. Prof. C. W. Killam, Assoc. M. Am. Soc. C. E.
Drawing. Mr. H. D. Murphy, Mr. H. B. Warren.
Ten other lecturers and instructors.

For circulars and other information apply to Prof. H. L. Warren, Chairman of the Council of the School of Architecture, Harvard University, Cambridge, Mass.

The University of Pennsylvania *offers courses in* Architecture *as follows:*

(1) A four-year course, leading to the degree of B. S. in Architecture. An option in architectural engineering may be elected.
(2) Graduate courses of one year, permitting specialization in design, construction, or history; leading to the degree of M. S. in Architecture.
(3) A special two-year course for qualified draftsmen, with options in design or construction; leading to a professional certificate.

For catalogue giving complete information regarding requirements of admission, advanced standing, summer school and atelier work, fellowships and scholarships, and for illustrated year book, etc., address DEAN OF THE COLLEGE, University of Pennsylvania, Philadelphia, Pa.

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

New England Telephone & Telegraph Co. Building, Boston .... Page 196

PEABODY & STEARNS, Architects.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS }

25 Arch St., Boston   Arena Building, New York

PARTNERSHIP WANTED.—Would you like to associate with a young man of proven ability, specializing in construction detail and superintendence? Licensed architect. Best of references given and required. Address, Partnership, care of The Brickbuilder.

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass.   New York
Philadelphia   Boston

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings—Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — AUGUST 1912 — NUMBER 8

PUBLISHED MONTHLY BY

ARTHUR D. ROGERS
President and Treasurer

ROGERS AND MANSON COMPANY
Boston, Mass.

RUSSELL F. WHITEHEAD
Vice-President and Managing Editor

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS AND MANSON COMPANY

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

LETTERPRESS

NOTICE.—The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

DETAIL OF TOWER, CHURCH OF SAN FRANCISCO, ACATEPEC, MEXICO.

Glazed tile of green, orange, and blue colors, applied profusely in combination with stucco ornaments, which are picked out in color.

THE BRICKBUILDER

AUGUST, 1912

VOLUME XXI. NUMBER 8.

The Development of Duplex Apartments.—III. Residential Type.

ELISHA HARRIS JANES.

WITHIN the last few years great changes have occurred in the character of many of our former New York residential sections. So many apartments have been erected in these districts, and business buildings have encroached so upon the finer classes of residences, that in many places it is almost an oddity to see a residence where a generation ago the most exclusive lived. The building of the numerous hotels with their excellent restaurants, their various parlors and elaborate ball rooms for all sorts of entertainments, have changed our customs. A generation ago, dances, dinner parties, and receptions were held in houses, they are now held in hotels, saving so much trouble and annoyance in the household. We entertain our guests with afternoon tea at these hostelries instead of at home, removing another use of the house.

TYPICAL PLAN OF LIVING FLOOR. FIG. V. TYPICAL PLAN OF CHAMBER FLOOR.

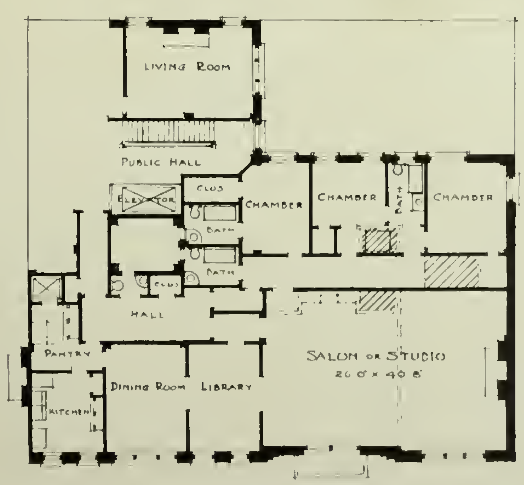


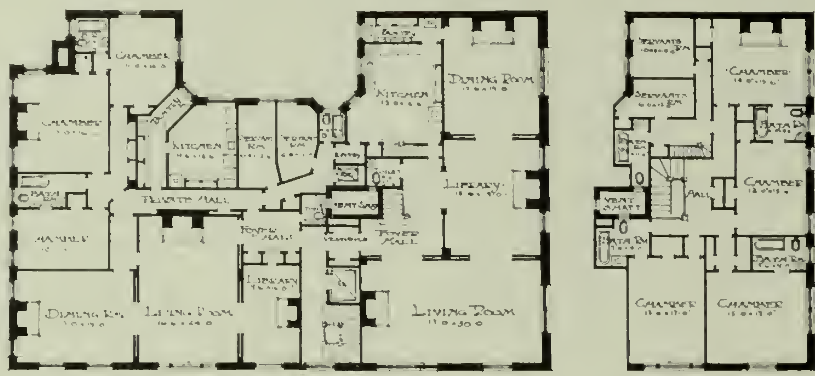
FIG. VI.

The growing desire of frequent trips of a month or two during the different seasons, and the charm of living a great part of the year in the country houses or estates, which have many of the facilities of a town house, leaves the house idle much of the time. These customs, with the increase in the value of the land, assisted in persuading the most conservative that it is convenient to live in an apartment; especially when they are so arranged that the facilities are a little less than those of the private house. Added to this, the successful co-operative feature, which had been used with the studio apartments, seemed to overcome the last barrier. It still retained for them that social exclusiveness which people had been able to maintain in their private houses. In the starting of the building they were able to select whom they would for co-owners, to form strict regulations for the disposal of, subletting, or renting of any separate apartments; and, as in a social club, they were able to say who their neighbors should be and with whom they should ride in the elevators.

With this final decision came the problem of how they should get more seclusion and privacy than were obtained in the layouts of the majority of the apartment houses.

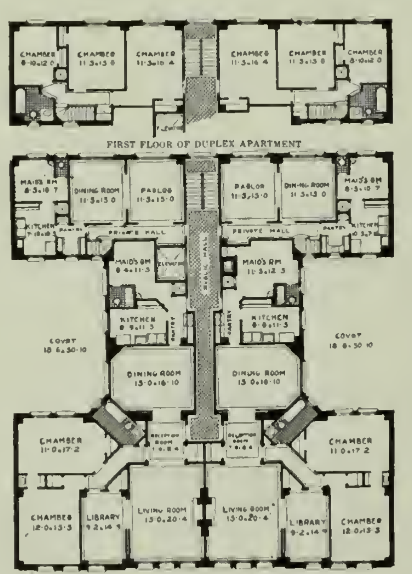
Here comes the difference between the causes of the introduction of the earlier and later duplex apartments. We have seen in the early ones that the cause was an attempt to meet first the necessity and then in an economical manner, the requirements. But in the majority of the present duplex apartments, the question of the two stories and staircase is principally a matter of sentiment.

There are many apartments that have been built on a single floor, where with the exception of the ceilings of the living rooms being lower than in private houses, all the other advantages are supplied. The parlor, reception room, and living rooms are grouped about a foyer hall immediately at the entrance ; the bedrooms and sleeping quarters are completely shut off from the foyer hall ; and servants' quarters are likewise shut off with the kitchen and pantry. The conservatives though could not be convinced that this gave the necessary seclusion. They had, however, seen the duplex studio apartment, which, with the introduction of the small staircase, reminded them of their country houses. They imagined there would be more privacy to a second story, so stairs were introduced, although by studying the plans it would seem that the amount of space occupied by them was wasted, and the occupants simply put to the inconvenience of mounting them.



TYPICAL APARTMENT. LOWER FLOOR. UPPER FLOOR.
APARTMENTS, 901 LEXINGTON AVE., NEW YORK CITY.
Rossiter & Wright, Architects.

A building which might be said to illustrate the transition from the studio to the residential duplex apartment is shown in Fig. V. This shows some of the catering to the whims and fancies of human nature, and the influence of the mystic word "studio." This building is situated on a southeast corner. In studying it consider that a studio requires north light. In this, three studios have west light and one has east light. If we compare this one with that of Mr. Platt's in the last article, we see that the practical use of the studio has been disregarded. But why, then, have a studio? We wonder if it is because the selection of apartments is generally left to the woman, with whom so often one small detail or feature which pleases perhaps her taste, perhaps her vanity, influences her in the selection, where a greater fault or defect is overlooked. Can you not imagine this: Mrs. Apartment Seeker has been to a tea or reception at Mr. Artist's studio apartment and has seen his magnificent studio as part of an apartment, to him, a necessity. Such an attractive place for his "soirée" and so appropriate for the display of his pictures and work. How lovely it would be for her to give such teas and musicales, how effective. She immediately starts looking for one, and that room will be the main consideration in the renting of the apartment; only those will be looked at which have a studio.



APARTMENTS, 145 E. 35TH ST., NEW YORK CITY.

Where an apparent necessity causes a room to be planned or designed out of proportion in this manner and to a certain extent distorted, and when the necessity of it is clearly seen, the defect generally vanishes. This is the case with the studio apartments. But does this apply to a room designed with distorted proportions with no apparent reason, save it be another room of a suite? This appears to be the case in the apartment shown. There is no attempt or aim made toward giving the studios the north light, clearly showing that the use is for other purposes than as a studio. It is simply using of the area of two floors for a meaningless effect. Whether it is more profitable to have the same area on one floor, or in other words, a salon 21′6″ x 43′ with a lower ceiling, has not been tested. If the attractiveness of the high ceiling and sentiment persuades the public to pay the rent for the additional floor space, the question of course is answered.

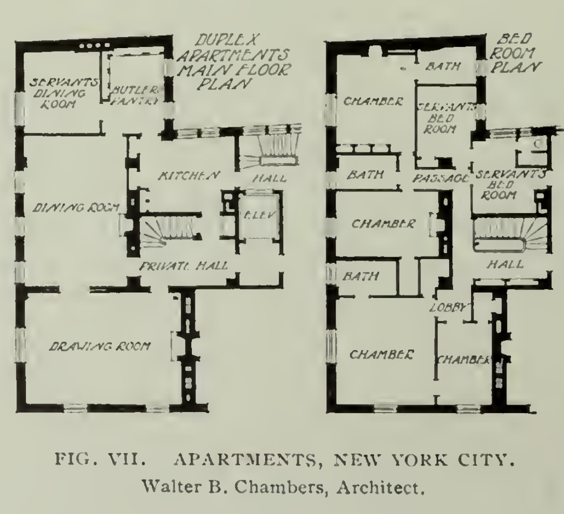
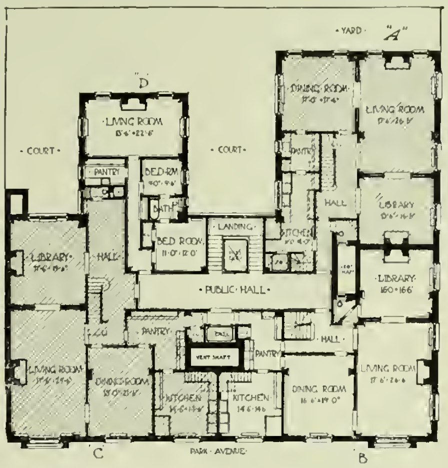
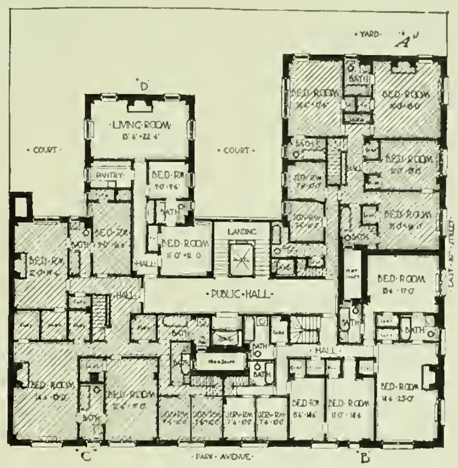


FIG. VII. APARTMENTS, NEW YORK CITY.
Walter B. Chambers, Architect.

In this building, viewed from an economical standpoint, see what an attractive apartment can be obtained if the plan is rearranged as shown in Fig. VI. The grouping of rooms and details has been kept intact, but the duplex feature has been omitted and the salon made one story high. The salons of apartments *a* and *b* are thrown together on one floor with the library, dining-room, and kitchen of apartment *b*, and the chambers and bathrooms of apartment *a* are placed on this same floor. The amount of space saved that may be used in enlarging the rooms is hatched in. By means of the two doors between the living rooms and sleeping suites, just as much privacy and retirement is obtained; on the other hand, we do not have to climb the stairs to our chambers, and incidentally have larger rooms. The cost of a servants' elevator and twelve flights of stairs is saved, amounting to at least $6,000. There is saved in rentable area 963 square feet in salons on six floors, or 5,778 square feet; and in the miscellaneous portions 136 square feet in each of the twelve stories, or 2,856 square feet, making a total of 8,634 square feet in floor space which has been sacrificed in only half of the building, and this in order to have twelve rooms with excessively high ceilings. This divided between twelve apartments is about 730 square feet per apartment. If we consider the rental value as $1.50 per square foot, which is reasonable, it means a rental of $1,095 sacrificed for each apartment, unless the tenant pays that additional price for the duplex, studio, and stairs. Does he?



TYPICAL MAIN FLOOR PLAN.



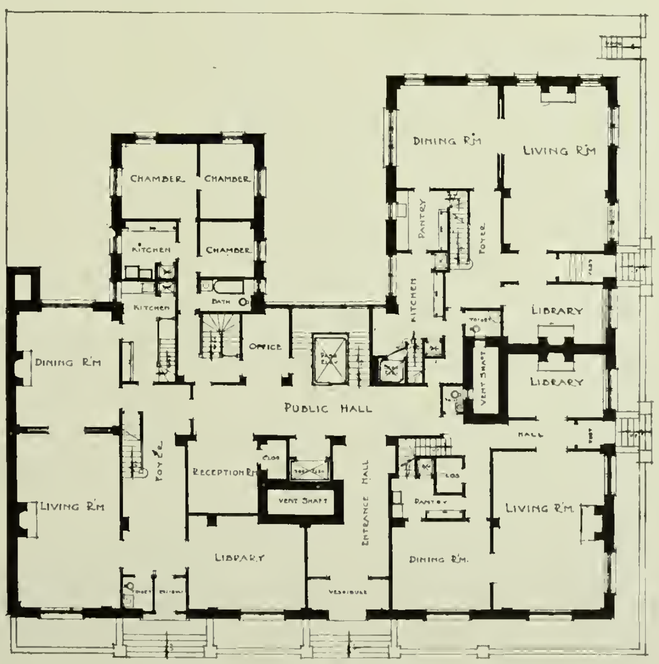
TYPICAL CHAMBER FLOOR PLAN.

There are five types of the duplex apartments.

Type one — of which we have only the early examples, as none are built now.

Type two — where the floor area is not large enough to warrant two or three apartments on a floor, and by the arrangement of making one duplex apartment, one is able to place respectively three or five on two floors.

Type three — where one floor, devoted entirely to the living rooms, has high ceilings, and the other floor devoted to the chambers has low ceilings, thus gaining from two to three feet in height in every other story.



FIRST FLOOR PLAN.
APARTMENTS, 925 PARK AVE., NEW YORK CITY.
Delano & Aldrich, Architects.

The objects and reasons for the above examples are very clear.

Type four — where they are all duplex apartments, the ceiling heights all the same, and the bedrooms are directly over the living rooms.

Type five — where they are all duplex apartments, and the living rooms of one are over the living rooms of the other, and the chambers of one are over the chambers of the other.

In the last two types it is difficult to see just what is gained except a satisfying of sentiment and the attractiveness of a stairway.

The second type, in which three or five apartments are put on two floors, is a very clever, logical, and economical method of arrangement of the plan. It has been brought about by the demand for large apartments.

The apartment at 901 Lexington avenue, by Rossiter & Wright, is a good example of where the plot was not large enough for two apartments; accordingly on each floor was arranged a single apartment of nine rooms, and after this apartment was laid out only room sufficient for four or five rooms remained. By throwing the four or five rooms on the two floors together they obtained an excellent ten-room apartment. This is one of the most legitimate reasons for a duplex apartment.

The apartment at 145 East 35th street is still another example, and shows to the greatest advantage the use of the extra space in the duplex apartment. In this building, at first glance it appears as if the same results could have been obtained by having the entire rear one apartment, but the tenement house law required that the public hall should extend to the window. It would not do to have the window on the side or on the courts, as the hall would extend too far in either direction. This necessitated dividing the rear portion, leaving only space for four rooms together, which was useless, but by the use of the stairs two very charming seven-room apartments were arranged. In the portion of the plan shown in Fig. VII, type three is well illustrated. By the small space lost on account of the stairs, the advantage gained is to have the living room ceiling 12 feet high and that of the chambers 9 feet high. This is frankly and very agreeably shown in the elevation by the unequal height of the stories.

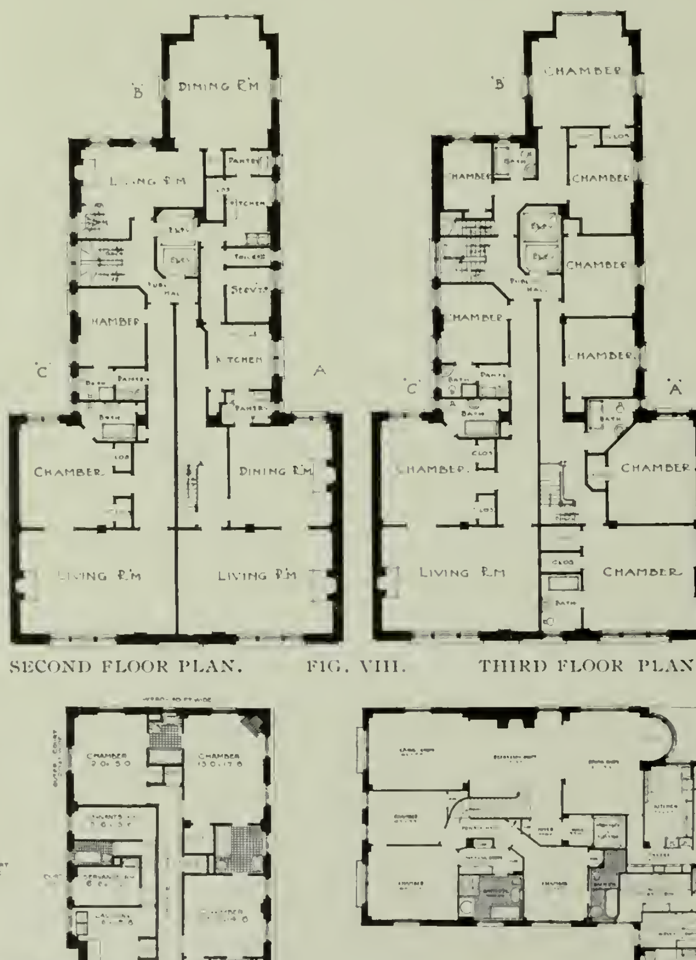
Apartment at 925 Park avenue is an excellent example of the fourth type and one of the most complete duplex plans. It even gives a servant "duplex" stairs, although to do it about 170 square feet per floor is sacrificed, and additional expense incurred of two flights of stairs per apartment. The same question arises, could not the same effect be obtained if the living rooms of apartment *a* were together on the same floor with the chambers of apartment *d*, and with slight modification as to the location of the servants' quarters? A successful detail about this apartment has been the introduction of the small three-room apartments in some spare space in the rear. These have become very popular and are very good renters. An added novelty has been planned on the first three floors. Practically three private houses of three stories are grouped together, each having their own private entrance as well as the entrance from the main hall of the building.

Fig. VIII shows an apartment which would come under this class. In it they endeavored to give a variety of types of apartments. In apartment *a*, we have the large duplex; in apartment *b*, the small duplex in the rear; in apartment *c*, a small one-story apartment. All of which is a very good idea. But why introduce the stairs in apartment *a*, why not devote all of the front of the second story, adapting the same arrangement of chambers and baths as on the third floor in the position of apartment *c*, and on the third floor introduce two apartments like type *c*, side by side. The gain in space and expense is very clear.

The fifth type is very difficult to understand. Can anyone explain the use of the stairs? A short hall with two doors surely effects the same privacy and allows the chambers to be retired from the sounds of the living rooms, better than the stairs, which do not have doors top and bottom, but have a well up which sounds travel easier than on the level. The two examples illustrated (Figs. IX and X) do not even give the advantage of an entrance to the public hall from the chamber floor.

Is not the only answer, that in order to satisfy sentiment, the whims of the public, or to bow to the mystic word "duplex," a stairway is put in for the only purpose of making people, when they are tired and ready to retire, climb a flight of stairs before they can do so? It is truly a case of where the "public wants to be humbugged."

But after all we must remember that in a commercial building — and apartment houses must be so considered — whatever may be the advantage or disadvantages from a theoretical or esthetical point of view, those conditions which please the public, and influence and persuade them to rent, are really the first to be considered.



SECOND FLOOR PLAN. FIG. VIII. THIRD FLOOR PLAN.

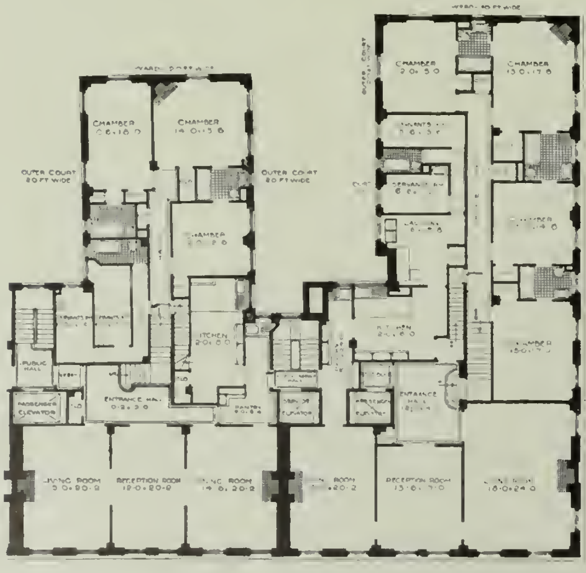


FIG. IX. LIVING AND BED ROOM FLOOR PLAN.

FIG. X. TYPICAL FLOOR PLAN.

Notes on Hospital Planning.—II.

S. S. GOLDWATER, M.D.,
Superintendent, The Mount Sinai Hospital, New York.

ONE of the first duties of the hospital architect is to insure an adequate supply of fresh air to every part of the hospital. The need of clean air in abundance must be considered in the selection of the site; it should influence, also, the position and form of the buildings, the size and shape of wards, the form and arrangement of the out-patient division, the plan and treatment of operating-rooms, sink-rooms, kitchens, laundry, workshops, stairways and corridors, the location and character of the nurses' and servants' dormitories.*

The consideration of the subject of ventilation is peculiarly difficult at this time because the authority of all the traditional principles is questioned. A few years ago the advocates of indirect ventilation spoke with undisputed authority as the exponents of a system which was assumed to be positive, physiological, and scientific; to-day they are struggling against a steadily increasing army who demand direct ventilation through the open window. Against direct ventilation it is argued that our climate is such that windows cannot always be opened; that city air is often so dust and germ-laden that it ought to be washed and filtered; that in operating-rooms windows simply cannot be opened; and that drafts are invited by direct cross-ventilation, and are dangerous. But those who believe in direct ventilation have no difficulty in pointing to indirect systems which in one way or another have failed. They cite examples of such systems installed at great expense and abandoned as unnecessary. They cry out against the objectionable qualities of "canned" air; protest against accumulations of dirt in inaccessible ducts; point to glaring errors in the size and location of air inlets and outlets; cite the high cost of operating an indirect system; show that in many localities, during the greater part of the year, windows may be opened without the slightest discomfort to anybody.

The engineer who advocates indirect ventilation usually begins by arming himself with physiological data; thus fortified, he proceeds to demonstrate the practicability of conditioning, introducing, and circulating a physiologically sufficient volume of air. He takes pains to examine the source of supply and the quality of the air introduced; to wash the air, if need be; to warm it in winter; to cool it in summer, perhaps; and, in rare instances, to regulate its moisture. Working along these lines with mathematical precision, the engineer solves his problems on paper, and assumes that a vexed question has been disposed of. But the practical man is not always susceptible to the influence of scientific reasoning; he asks for facts, and the engineer, nothing loath, promptly produces eloquent pictures of hospital conditions "before using" and "after using" indirect ventilation; hospitals, like individuals, he tells us, sometimes reform.

It would seem almost impossible to exaggerate the value of proper hospital ventilation, but the enthusiast accomplishes such exaggeration almost without an effort. It is only a few years since a distinguished ventilating engineer told the readers of THE BRICKBUILDER that in a certain hospital, under "old conditions," the death rate reached fifty per cent; while during a later period, with improved sanitary conditions (that is to say, following the introduction of an indirect ventilating system), the death rate fell to five per cent; "*so that there would seem to be as ample reason for the installation of suitable ventilation as for the provision of medicine.*" Really one cannot stand by unprotesting while a ventilating engineer, however well-meaning, calmly appropriates the laurels of the historic heroes of scientific medicine. Is it assuming too much to say that the changes in hospital practice which grew out of the work of Lister and Pasteur; in other words, the discovery of the cause of infections and the consequent introduction of aseptic methods, have had something to do with the remarkable reduction in hospital mortality which has taken place during the past thirty years? A reduction in mortality from fifty per cent to five per cent without this aid, and as the result of the introduction of ventilating ducts and fans alone, is incredible.

It is disconcerting to learn that the old physiological ground-work for a scientific system of ventilation has been seriously undermined; but such is the fact. One series of experiments, startling and bewildering, appears to demonstrate that the maintenance of the chemical purity of the air, which was the primary object of all efforts at ventilation in the past, is really of no consequence. Then one learns that one may no longer assume that the temperature of occupied rooms should be kept uniform; indeed, the preponderance of present opinion strongly opposes uniformity of temperature, and finds virtue in the natural day-and-night variation. And now the clinician clamors for means to treat each patient on his individual merits; he demands one atmospheric condition for the pneumonia patient who is in need of respiratory stimulation, and another for the nephritic whose poor circulation and cold extremities suggest a warm and comfortable room, in contradistinction to the cold air, preferably out-of-doors, in which the pneumonia patient thrives.

It is not proposed here to analyze or discuss the underlying physiological principles of ventilation. We shall assume that it is everybody's wish to provide fresh air in abundance for all parts of the hospital. Whether carbon dioxid is or is not harmful, we shall take it for granted that its presence in an unusual degree is an indication of the co-existence of impurities which are objectionable if not noxious. Let animals be used to demonstrate the extreme tolerance of the living organism to poisonous gases; the demonstration is of interest to science, but

* In the planning of the wards of American hospitals the need of fresh air is rarely overlooked; the problem may not be solved, but an attempt to solve it is invariably made. But in the planning of out-patient departments, where the need of ventilation is singularly pressing, American hospital architecture is lamentably deficient. The prevailing indifference to the ventilation of the out-patient department is part and parcel of the relative neglect of this department in matters of administration generally. It is no uncommon thing in this country to observe a hospital whose in-patients are cared for in accordance with the highest standards, but whose out-patients are accorded the most niggardly treatment possible. In this respect, if in no other, American hospitals and their architects may go to school to England, where out-patient departments and hospital wards are planned with equal care.

need not in any practical way concern the hospital administrator. In hospitals the demand is for fresh air in plenty. The question is how to obtain it, day and night, summer and winter, for all parts of the hospital, under ordinary working conditions; and this question cannot be answered intelligently without an intimate view of the hospital in actual operation. The intimate study of actual hospital conditions may show that in the matter of ventilation no degree of skill in either architect or engineer can insure the desired result; that the ventilation of a hospital is primarily a problem of administration; that efficiency depends not so much on the presence of mechanical aids to ventilation as on their actual and proper use; not so much upon the disposition and size of windows as upon transoms actually open and sashes actually raised. If this is so, what can the architect do, first to provide means of ventilation, and then to facilitate their constant and effective use?

One method of insuring the use of apparatus for artificial ventilation is to make natural ventilation impossible. This has been done in the notable instance of the infirmary at Belfast, far famed for its windowless wards. Another method is to use windows for light, but not for air — to fasten them securely so that they cannot be opened. Of these two methods, the Belfast method only can be guaranteed, and it is a method which nobody yet has been inclined to follow. The second method, that is, the fastening of windows, proves in most instances to be ineffectual. Sooner or later someone wants the windows opened, and however excellent the ventilating system, it cannot compete, at certain seasons of the year and in favorably situated hospitals, with the kind of ventilation that is obtainable through large open windows, placed on opposite sides of a ward. And, of course, the ventilating system is not always perfect.

The fate of one such system, in a New York hospital, was sealed when the visiting physicians, in the words of Dr. Gilman Thompson, discovered that "certain odors, regularly developed in the wards in the early morning, were distinctly noticeable hours after the 'entire air of the ward had been changed repeatedly,' according to the engineer's calculations." Then, continues Dr. Thompson, "we ventured to open the windows for a few moments each day; the odors disappeared, but the ventilating system was thrown out of gear. Somehow, the patients began to look better; anemia quickly disappeared. Even the nurses noticed the improvement and had fewer headaches." Is it surprising after this to learn that the ventilating system was eventually abandoned?

There is a third method of forcing the use of ventilating apparatus — a method which is favored by a school of hospital architecture which has its principal seat in Chicago. This method is to plan the hospital with an eye to cheapness of construction. The result of this method is the production of buildings of exceedingly simple exterior design, with interior corridors surrounded on all sides by wards and service-rooms; in the absence of cross-ventilated wards and with corridors open nowhere to the outer air, the conditions are likely to be such as to compel the active operation of all the available machinery of ventilation at all seasons of the year. Comment on this method is not necessary.

The inability of ventilating apparatus to move large masses of air as freely as nature moves them, or with the same stimulating and pleasurable effect, justifies the preference of many hospital workers for the open ward window, where the conditions are favorable to its use. It does not justify the total omission of ventilating apparatus in localities where the extreme cold of winter renders the opening of ward windows impracticable, or from hospitals the wards of which are subject to overcrowding. Moreover, we must remember, in this connection, that a hospital does not consist of wards merely, and that each part of the hospital must be treated on its own merits.

The following recommendations in relation to the ventilation of a group of hospital buildings now in course of erection were submitted to and approved by the Building Committee, and are here introduced for the purpose of indicating the variety and complexity of conditions in a single institution:

"I. It is recommended that supply and exhaust ducts, both equipped with electrically driven fans, be provided for the (*a*) Amphitheater (to insure ample ventilation during lecture-hours), (*b*) Hydrotherapeutic Department (natural ventilation being impossible here), (*c*) Operating Rooms (to insure ventilation with closed windows), (*d*) Out-Patient Department (which will be crowded daily).

"II. That exhaust fans and ducts only be provided for the kitchen and its accessories, and for the several dining-rooms.

"III. That exhaust ducts be provided for toilets, utility or sink-rooms, laboratories, ward serving-rooms, and day-rooms and dressing-rooms.

"IV. That both supply and exhaust ducts be provided as a reserve for all wards and patients' rooms; but in view of the fact that practical experience in Harlem, Fordham, Mount Sinai, and elsewhere has demonstrated that windows and transoms may safely be relied upon as the chief means of ventilation of wards and patients' rooms, that fans, motors, and intake screens be omitted.

"It is believed that under normal conditions the wards of the new hospital can be ventilated satisfactorily by 'natural' ventilation without the assistance of any mechanical system. It is considered wise, however, to retain for possible future use, the supply and exhaust ducts proposed by the ventilating engineers, so that in the event of persistent overcrowding, satisfactory ventilation may be assured."

Whether or not indirect ventilation is to be introduced in a given hospital, it is a sensible precaution to plan the wards as if it were proposed to rely on direct ventilation exclusively. On this basis large wards, at least, will be exposed on three sides; there will be a window adjoining every bed; there will be a transom for each window; the floor space and cubic space will be ample. Given a proper degree of vigilance on the part of the head nurse and the resident medical staff, and a well-developed interest in ventilation on the part of the nurses generally, a ward planned in the manner indicated can, as a rule, be well ventilated by natural means. But the fulfilment by the architect of the requirements just enumerated will not of itself win the day; *the ward windows must be opened.*

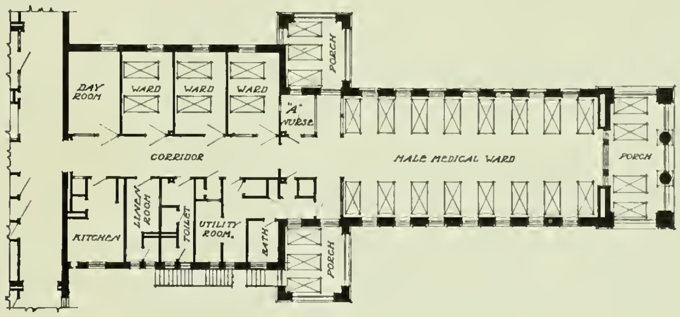
An eminent physician who fills with distinction the position of president of a hospital board, is an enthusiastic advocate of direct ventilation. His great pride in the cool, fresh air of the wards of his hospital is pardonable. The building in question is completely equipped for indirect ventilation; but the blowers and extractors are idle, because the president and visiting staff are convinced that the ventilation of the hospital by natural means is entirely satisfactory. It is probable that the observations of these gentlemen have been limited almost wholly to morning and afternoon hours. Are night conditions in this or any other hospital identical with those of the day, or must important differences be reckoned with? Let us see.

During the day, nurses go back and forth from the ward to the adjacent corridors and service rooms; one by one they leave the ward and the building for "time off," each returning at a different hour. The supervising nurse and the superintendent make their rounds; the visiting physicians and the house staff make theirs. As each one enters or re-enters the ward, coming from out of doors or from other parts of the hospital, he notices the quality of the ward air — is certain to notice it if it is particularly bad. If the air is close, relief is sought and obtained immediately. After the morning "bed-pan hour" there is every inducement to open the windows and freshen the ward — the rules demand it, the personal comfort of the attendants requires it, the chance official visitor insists on it, and, unless the windows are of the kind that cannot be opened, it is done. And there are other favoring circumstances. Throughout the day, patients and attendants pass to and from the adjacent balconies, admitting fresh air with each migration. In pleasant weather a large proportion of the patients are on the balconies or elsewhere outside of the ward during much of the day, and the air of the ward is inhaled and exhaled by only a fraction of the ward's nominal occupants. A score of effective influences thus tend to preserve the purity of the ward air and to promote direct ventilation; and while the day lasts the result is satisfactory, even in winter.

But as the day passes, the scene changes; and yet, while summer lasts, the ward is safe. Imagine, however, a cool night in fall or winter. Staff rounds are over; the patients are in bed; every regular bed is occupied, and a half-dozen portable cots have been placed in the center of the ward to accommodate a temporary overflow. The nurse finishes that part of her work which necessitates physical activity, and barring an occasional interruption, she expects to spend the remainder of the night in the sedentary occupation of chart-writing. The temperature of the ward, with windows open, drops from 65° to 55° or to 50°. The patients, under their blankets, are comfortable — but not so the nurse; shivering in her light linen costume, she presently yields to an irresistible impulse to close the nearest window; a second window is closed, then a third, and finally the ward is shut up as tight as a drum. This is no imaginary picture; on a midnight November visit to a hospital of fourteen wards the writer found six slightly-opened transoms doing duty for all of the fourteen wards. In most of the wards there was not a crevice by which air could directly enter. The nurses craved warmth, and instinctively they provided it for themselves; the patients needed clean, cool air; yet the air that reached their lungs was warm and fetid.

Now, all this is not intended as an unequivocal declaration in favor of the indirect ventilation of hospital wards. It shows, indeed, that there is more need for indirect ventilation in winter than in summer, in night than by day, in a crowded ward than in a ward which is only half occupied. But this much is certain: if we propose to rely on direct ventilation, we must provide good exposure, plenty of windows, and *a warm spot for the night nurse.*

It would be a mistake, however, to take the nurse out of the ward and place her in an office apart. Signal systems are all very well in their own way, but the nurse needs to have under her eye as many of her patients as possible; and the patients, oftentimes, need to have the nurse under *their* eyes. A compromise between leaving the nurse and her desk in the ward, and taking her out completely, has been reached in the ward plan adopted for the Samaritan Hospital at Troy, N. Y. This plan, which is here reproduced, shows a glass enclosure *(a)* adjacent to the ward entrance, overlooking the ward itself, two small balconies, and the adjoining separation room. This little office has an outside window and a radiator of its own.



WARD PLAN FOR SAMARITAN HOSPITAL, TROY, N. Y.
George B. Post & Sons, Architects. S. S. Goldwater, Medical Associate.

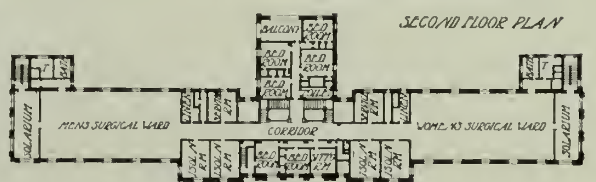
The Samaritan Hospital plan may be used to illustrate several points which have a bearing on the ventilation of the hospital ward. First, the ward corridor leads from a well ventilated general or connecting corridor to the ward proper; but the short ward corridor has no window of its own, and in so far is deserving of criticism. The patients' lavatory opens directly on the ward corridor, the water-closets do not; a complete partition separates the lavatory from the water-closets; each compartment has its own window, and the lavatory section serves as a ventilated ante-room to the water-closet compartment. The water-closet compartment, as is customary, is provided with an exhaust duct.

The utility room is divided into a ventilated ante-room, which is entered directly from the corridor, or indirectly, by means of a ventilated side passage, from the ward. The ante-room contains the sterilizing apparatus and gas-burner; in the inner alcove, which is provided with a separate window and an interior exhaust duct, are the bed-pan sinks, shelves and racks, and the specimen closet — the latter ventilated by means of an opening in the outer wall. Aside from the drying closet and the blanket-heater (enclosed spaces necessarily), there is no closet space connected with the utility room.

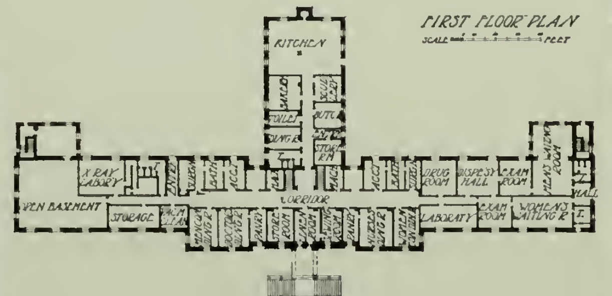
The distribution of balcony space in connection with this ward is somewhat unusual. The two smaller balconies are intended especially for patients in bed, and are so placed as to be constantly under the eye of the nurse. Incidentally they obscure the ward but little. The balcony at the end of the ward may also be used for bed-patients, if desired; but it is more especially designed for the use of convalescents who may not be able or may not wish to use the garden. To provide separate balconies for the acutely sick and the convalescing, is to contribute to the comfort of both.

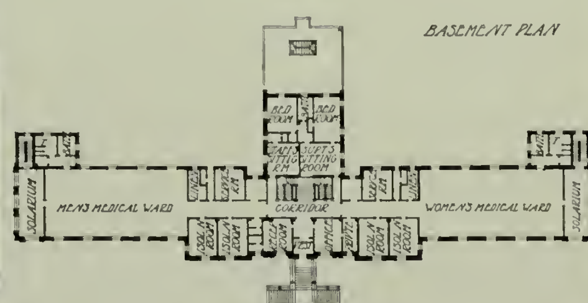
HOSPITAL BUILDING.

NURSES' HOME.



THE CONEY ISLAND HOSPITAL,
BROOKLYN, N. Y.
Helmle & Huberty, Architects.





MORGUE.

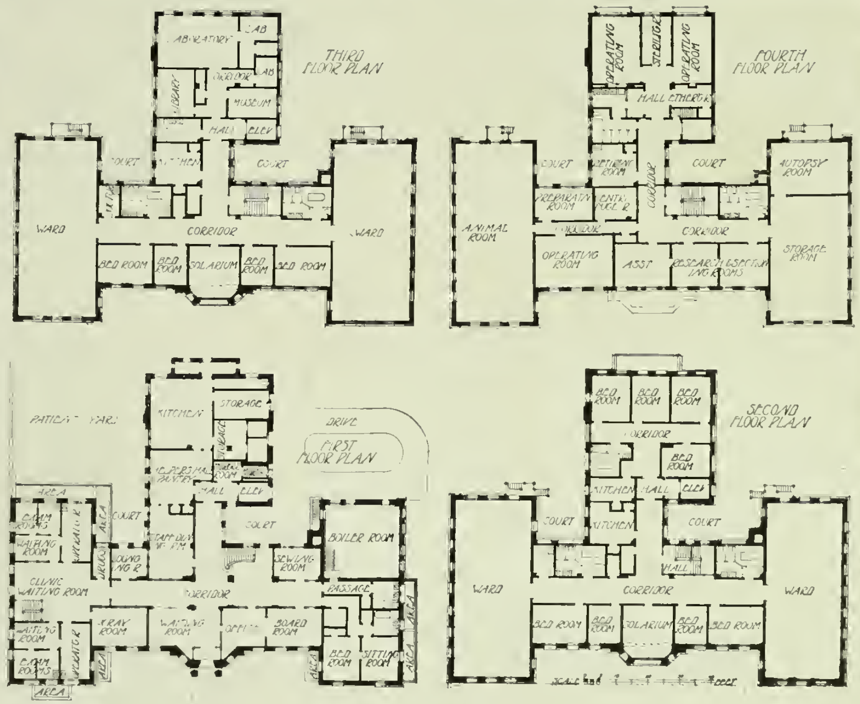
STABLES.

MAIN FAÇADE.

TYPICAL WARD.

MAIN ENTRANCE.

BARNARD FREE SKIN AND CANCER HOSPITAL, ST. LOUIS, MO.



OPERATING ROOM.

MAURAN, RUSSELL & CROWELL, ARCHITECTS.

Commercial and Manual Training High School, Newark, N. J.

E. F. GUILBERT, ARCHITECT.

(For additional illustrations see Plate Forms.)

THE city of Newark, New Jersey, is to be congratulated on its new Commercial and Manual Training High School. From every point of view it is a dignified structure; but from the front, which is a veritable approach *d'honneur* as it were, it is decidedly distinctive even among the very excellent high school buildings of latter days. This impressive terraced front is the result of architecturally adapting the building to a sharply sloping site; and the gain is more than an artistic one, since every inch of the High street terrace is utilized as part of the plan. Instead of doing the more ordinary thing, taking the higher level for the main façade and letting the back of the building trail down hill with an insignificant exterior, the architect has reverted to the Italian idea of facing his structure towards the lower level overlooking terraces and outside stairways. The splendid result makes one wish that such sites were more common in the city limits where high schools are usually placed, and where they are all too apt to have four backs and no front.

The school is a huge square mass of brick and terra cotta, in Jacobean style, with four corner towers whose crocketed pinnacles in Tudor Gothic are visible from every part of the city. The simplicity of the plan and the beautiful grouping of the windows with substantial brick piers running up between each group, forcibly express the interior arrangement. The choice of the Jacobean or transitional style was a happy one, since it gives that maximum of light which Gothic gives, and allows at the same time that freedom of both Renaissance and Gothic ornament to which terra cotta so admirably lends itself.

The brickwork is an interesting combination of English and American bond; that is to say, every *seventh* course is all headers, while the intervening courses are alternate headers and stretchers. This in no way interferes with the patterning, and if only it is all true brickwork, certainly the wall is well bonded.

The corner motifs are unfenestrated on High and Summit streets, and here the brickwork is particularly effective. These panels extend through three stories, forming fine flanking corners that are a pleasing variation from the necessarily great number of windows stretching across between. They are enlivened by a border of insets and by a series of machicolations across the top which spring from sparkling little terra cotta corbels which are charmingly executed. Interest is again added to the brickwork under the crowning band course in the little semi-hexagonal pilasters and flat niches. To these lofty unbroken brick towers not a little of the building's great dignity is due.

The architectural terra cotta work is confined mainly to the large mullioned windows and the decorative detail. Wherever used it is well moulded and has no extravagant projections suggestive of elaborate steel supports. The architect, realizing that the brick was one color and the terra cotta another, making a sharp contrast that would always endure, has not spotted the secondary material promiscuously over the building in the shape of meaningless quoins and useless bonds and toothing. The sharp contrast just mentioned might be agreeably modified if we paid as much attention to the *texturization* of terra cotta as has been recently paid to that of brick.

By *texturization* is not meant merely roughening the face of a terra cotta block, but a treatment in low relief of ornament, or perhaps a patterning of some sort, as early English builders made when they stamped the device of the owner in the terra cotta trim at Sutton Place or Oxburgh Hall. By this means terra cotta and brick have weathered together beautifully, each century bringing them into closer harmony.

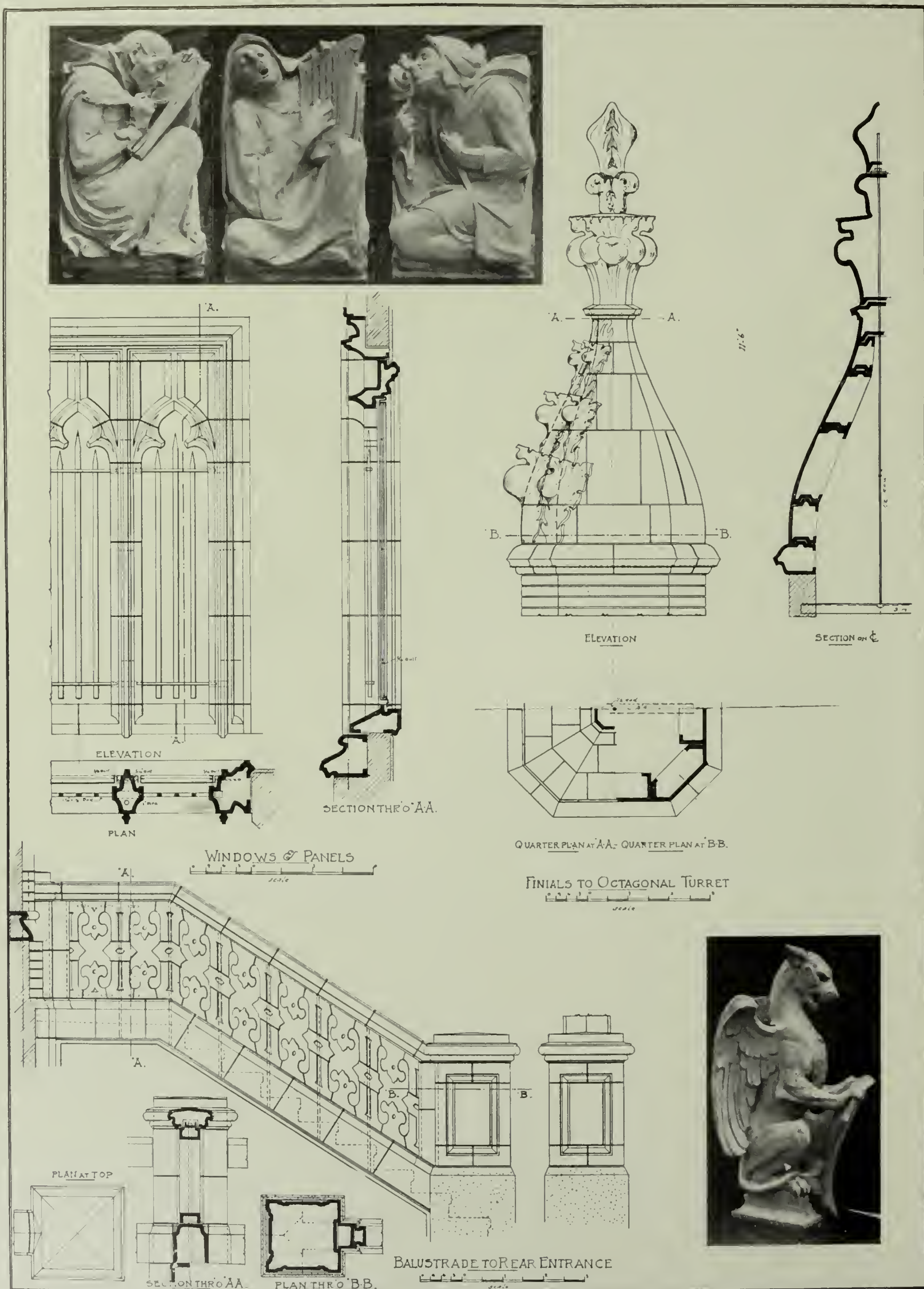
As has been said, it is the imposing terraced approach to the new High School that most commands attention. The lowest level is a few steps above the sidewalk, and is made attractive by planting and by the introduction of color in the pavement, this latter consisting in an edging of overburnt brick to the concrete panels. From here is a direct entrance into the school, while at each side is an imposing staircase leading to the upper terrace. In this lower entrance and in these outside staircases, terra cotta plays an important part. Around the three-arched entrance it is in low relief, resembling the typical strap ornament of Jacobean days; while on the staircases it makes the balustrades into Jacobean ornament that seems peculiarly appropriate since that period was the first to develop the balustrade after its Gothic invention in France. It is here, and in fact wherever terra cotta has been used in the building, that the material has met in all respects the demands — esthetic and constructional — which has been put upon it.

The upper terrace extends the entire width of the building and is of an expanse little dreamed of from below. It too is scored into patterns, but one regrets that the brick edging of the lower level was not repeated here; it would have given scale to this larger area. From here, which must be an ideal gathering spot for groups of students, one can better appreciate the excellent layout below. One notes how carefully the shade tree was retained beside the steps, which is significant of much careful thought to one who knows how simple it is to begin a new public building by razing everything on the site to the ground, and then painfully replanting afterwards.

On this upper terrace is the main entrance, a study of Jacobean in terra cotta with columns and pilasters of yellow marble to lend a color interest and accentuate the importance of the doorway. This leads to an interior made of carefully planned auditorium, library, gymnasium, class rooms, shops for carpentry and masonry, chemical laboratories, lecture rooms, sewing rooms, and all the other departments necessary for complete college preparatory, science, and vocational courses.

Small wonder that school is more attractive to the young of to-day than ever it was before in all history. Small wonder that such a building as this makes the getting of an education pleasant when it provides for the majority of the scholars a happier and more healthful environment than that of their own homes. As for what such a structure can do for a neighborhood, it not only annihilates the old impression that a public school deters the better growth of immediate property, but it actually increases its value. In short, the whole tone of the city is improved by such a schoolhouse as this.

COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J.
E. F. Guilbert, Architect.



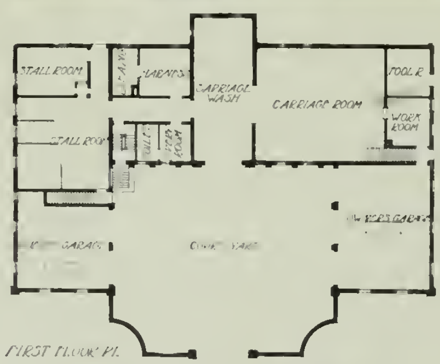
Terra Cotta Details. E. F. Guilbert, Architect.

COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J.

HOUSE AT TOPSFIELD, MASS.
PAGE & FROTHINGHAM, ARCHITECTS.

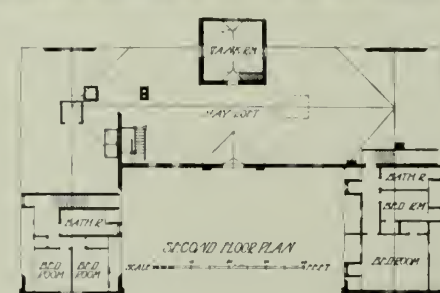
HOUSE AT TOPSFIELD, MASS.
PAGE & FROTHINGHAM, ARCHITECTS.

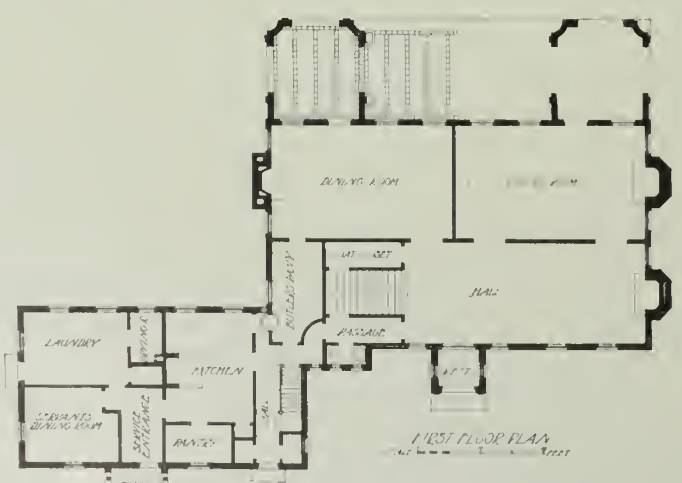
VOL. 21, NO. 8. PLATE 101.



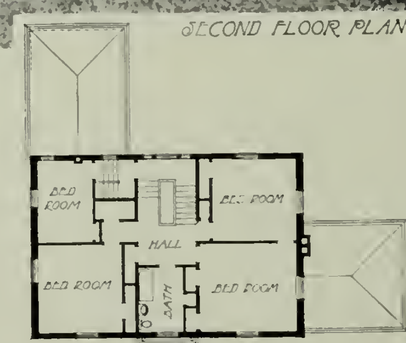
STABLE AND GARAGE
WITH PLANS.

HOUSE AT TOPSFIELD,
MASS
PAGE & FROTHINGHAM,
ARCHITECTS.

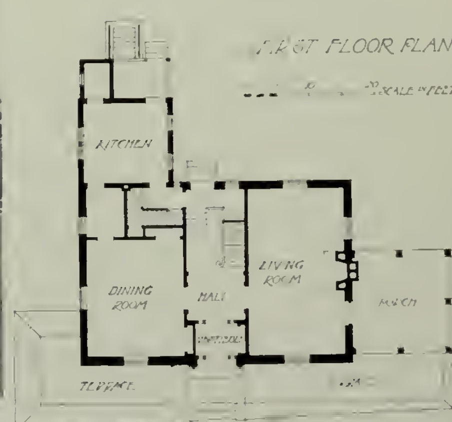


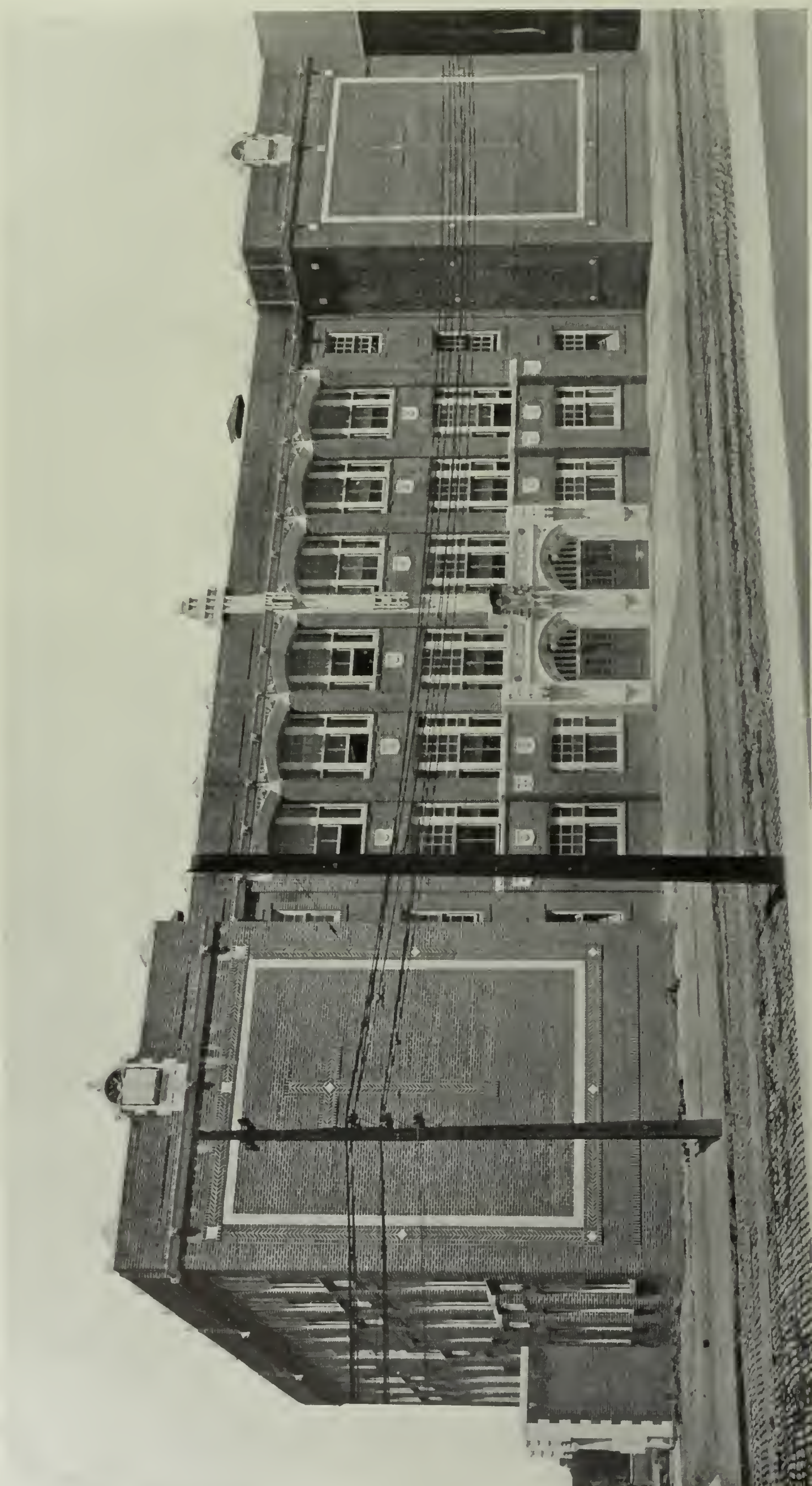


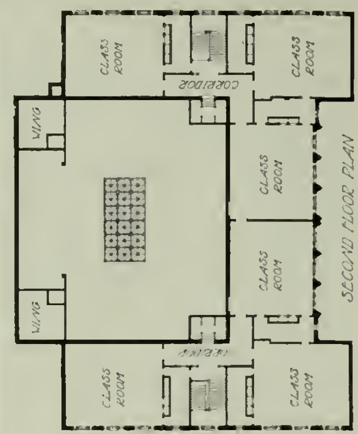
PLANS OF HOUSE AT TOPSFIELD, MASS.



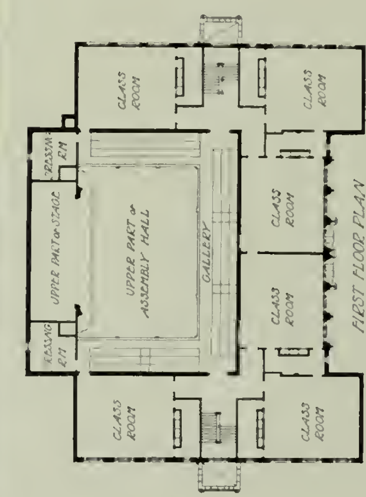
HOUSE AT
MORRESTOWN, N. J.
HENRY A. MACOMB, ARCHITECT.



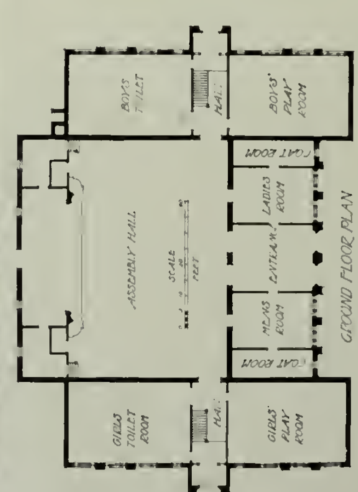


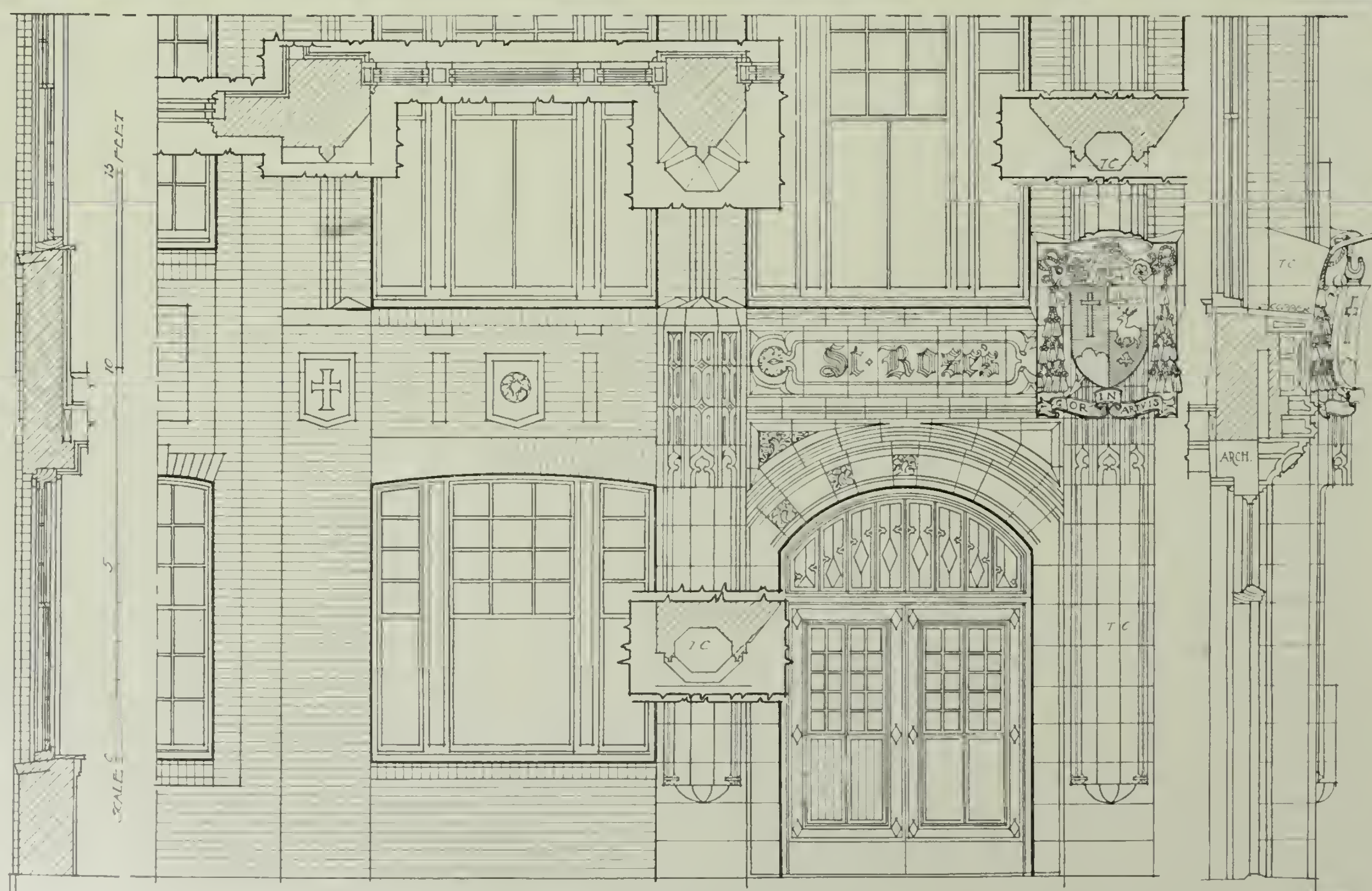


MATTHEW SULLIVAN,
ARCHITECT.



ST. ROSE'S
SCHOOL,
CHELSEA,
MASS.





DETAILS OF MAIN ENTRANCE.

ST. ROSE'S SCHOOL, CHELSEA, MASS.

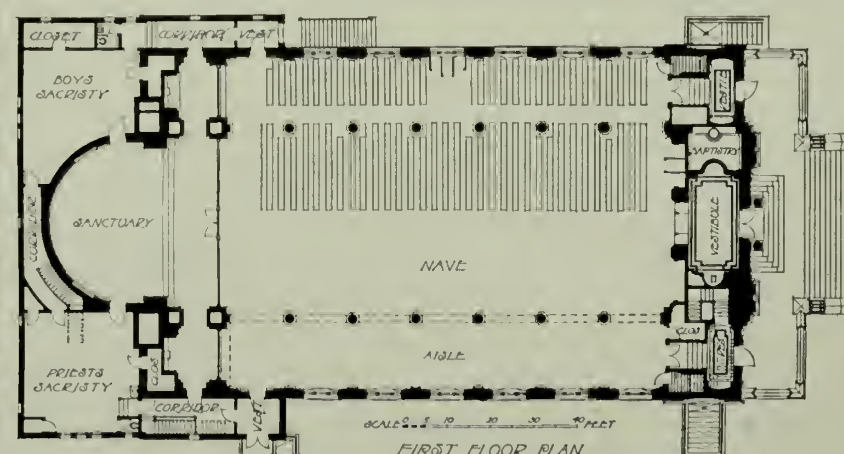
MATTHEW SULLIVAN, ARCHITECT.

MAIN FACADE.

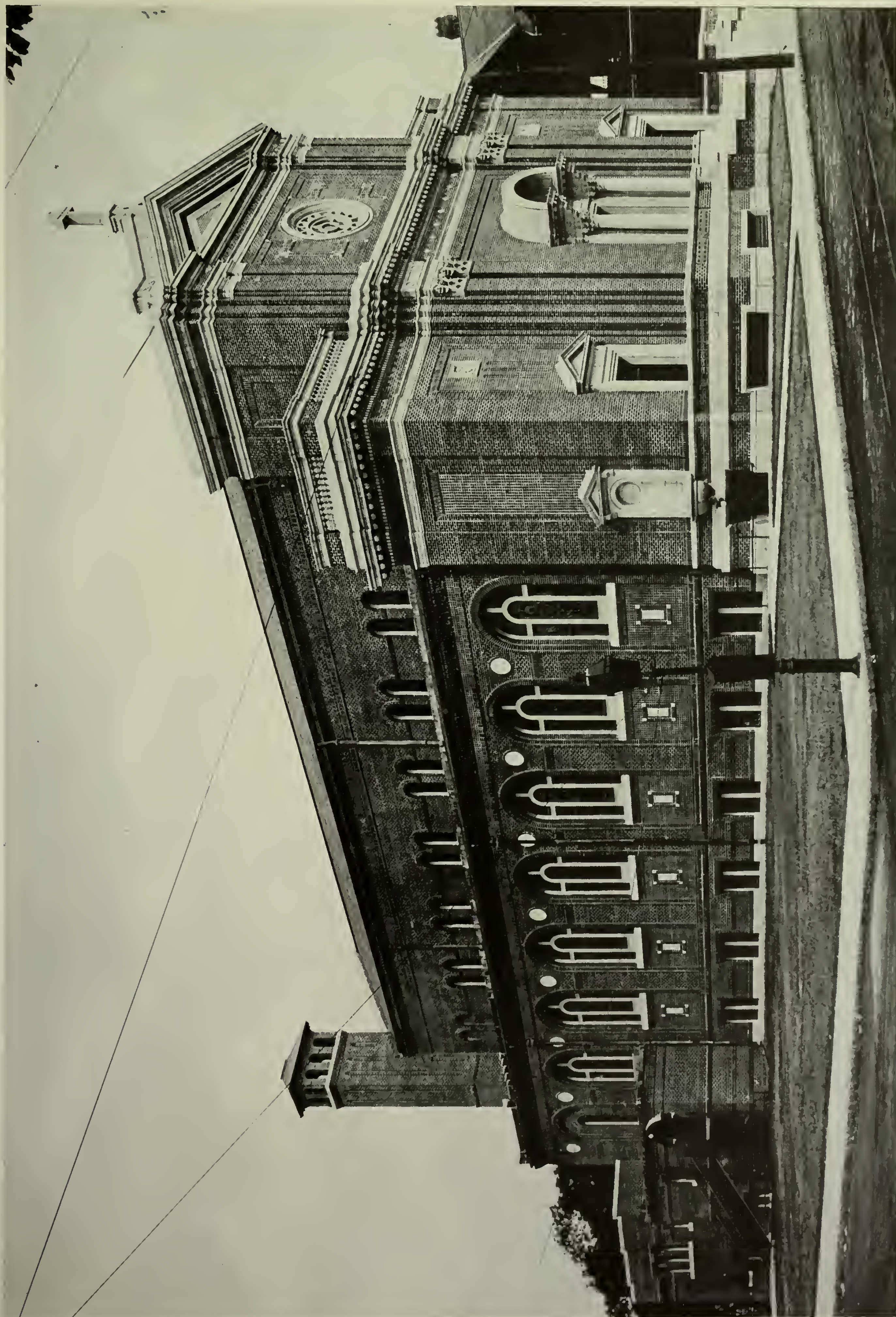
REAR VIEW.

CHURCH FOR ST. PATRICK'S PARISH, BROCKTON, MASS.

CHARLES R. GRECO, ARCHITECT.

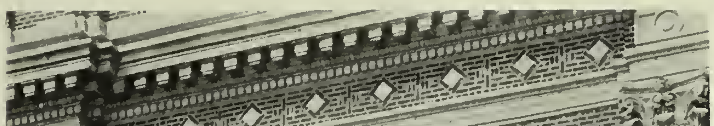


FIRST FLOOR PLAN

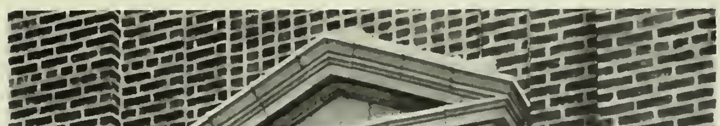


CHURCH FOR ST. PATRICK'S PARISH, BROCKTON, MASS.
CHARLES R. GRECO ARCHITECT.

GENERAL VIEW OF INTERIOR.



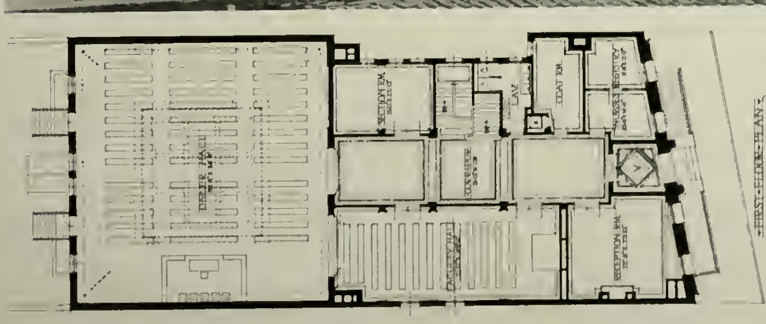
DETAIL OF MAIN ENTRANCE.



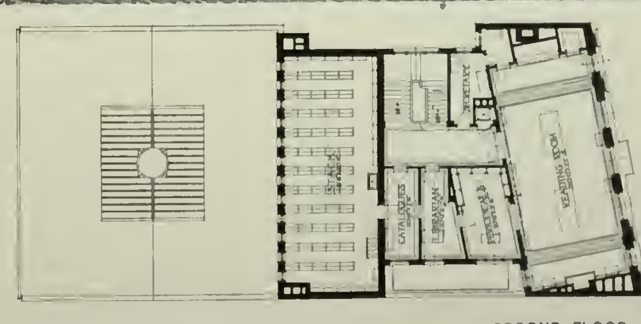
DETAIL OF NICHE IN WALL.

CHURCH FOR ST. PATRICK'S PARISH, BROCKTON, MASS.

CHARLES R. GRECO, ARCHITECT.



FIRST FLOOR.



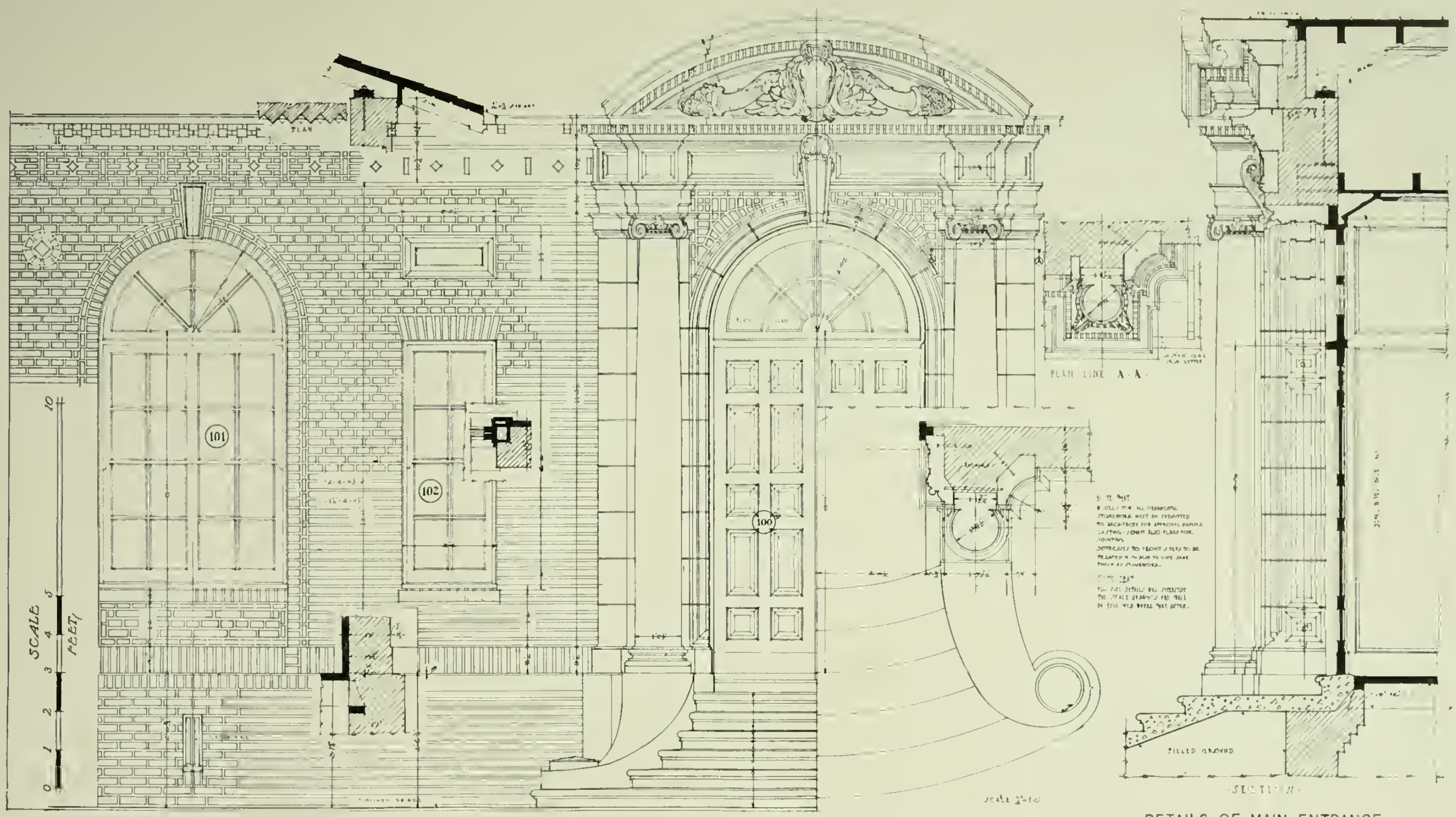
SECOND FLOOR.

MEDICAL AND CHIRURGICAL BUILDING, BALTIMORE, MD.

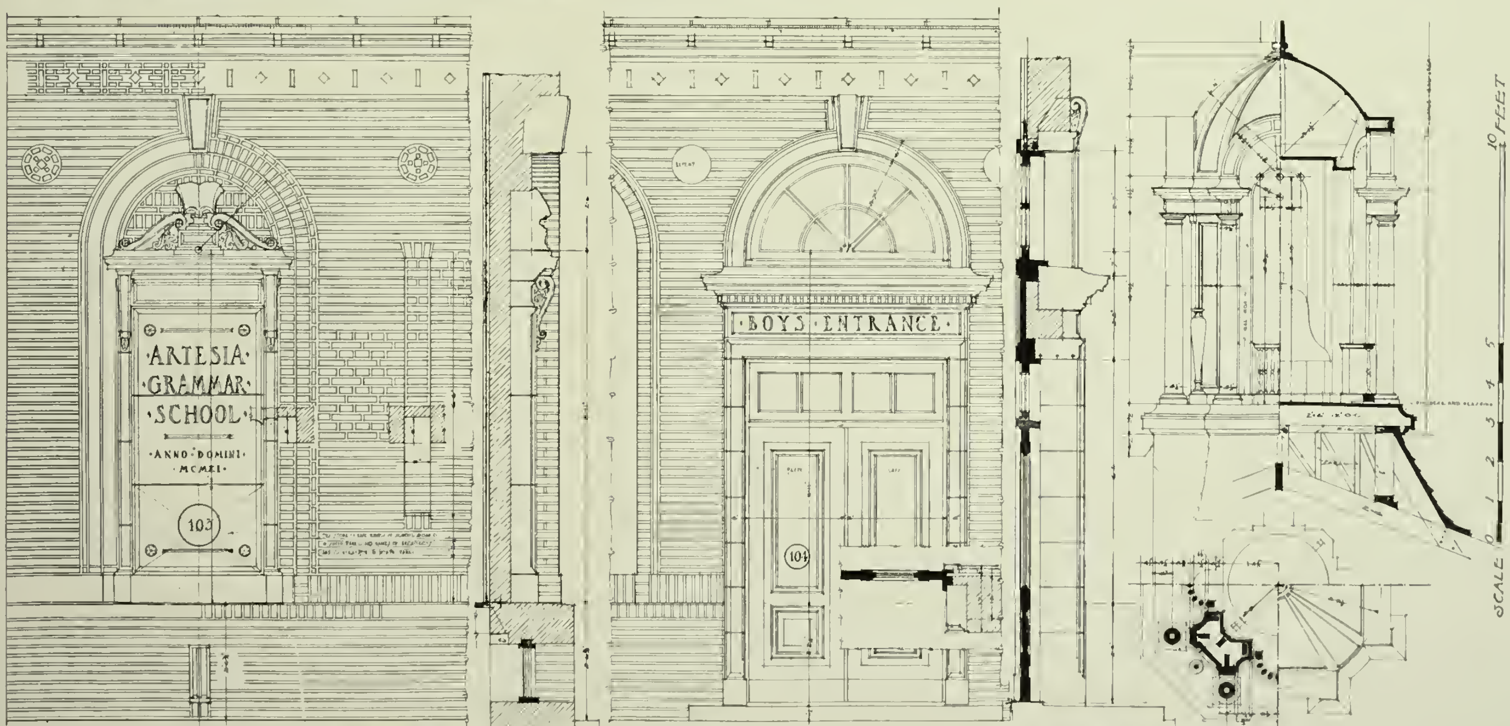
ELLICOTT & EMMART, ARCHITECTS.

GRAMMAR SCHOOL
AT
ARTESIA,
CALIFORNIA.

WITHEY & DAVIS,
ARCHITECTS.



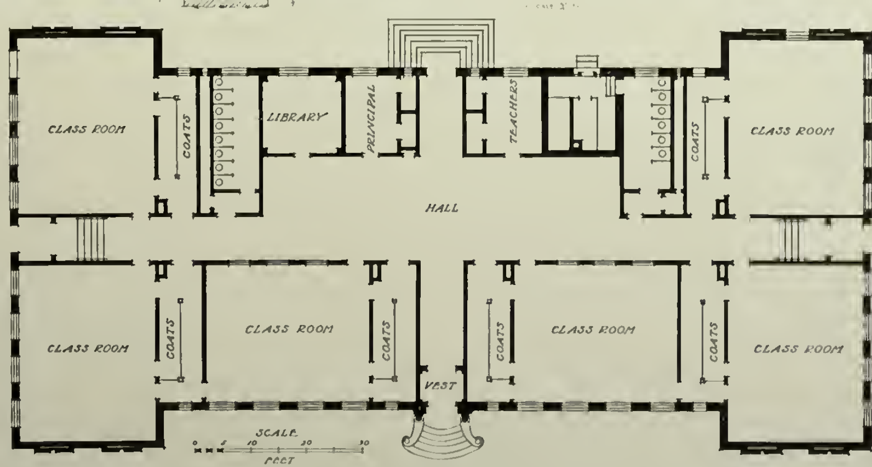
DETAILS OF MAIN ENTRANCE.



DETAILS OF NICHE.
ENTRANCE AND BELFRY.

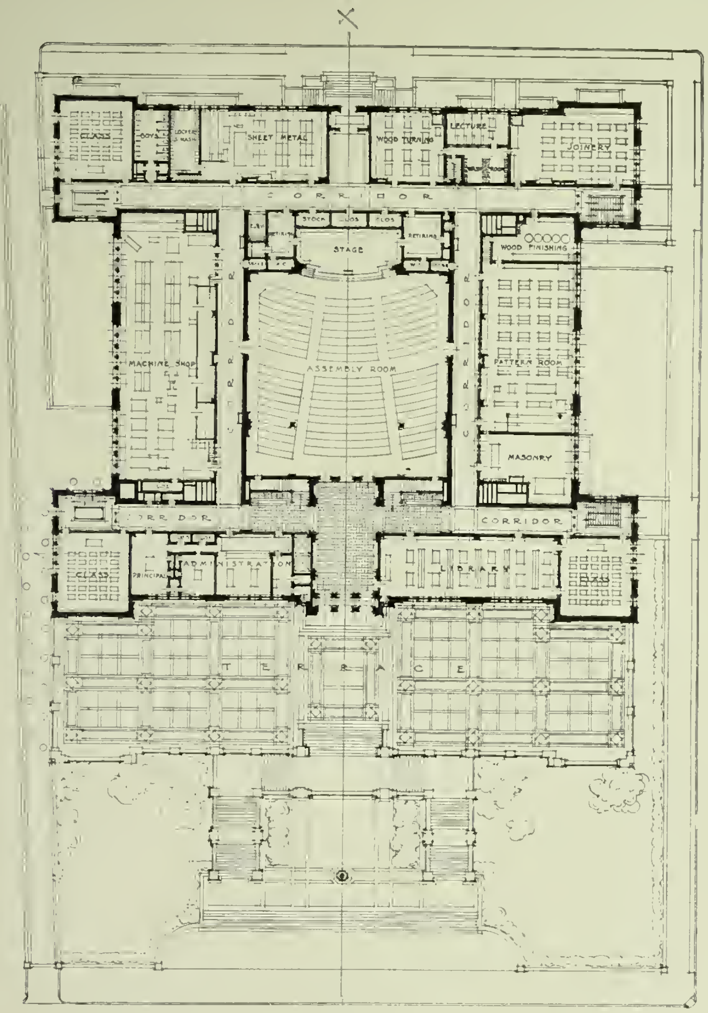
EXTERIOR DETAILS
AND PLAN.

GRAMMAR SCHOOL
AT
ARTESIA, CAL.

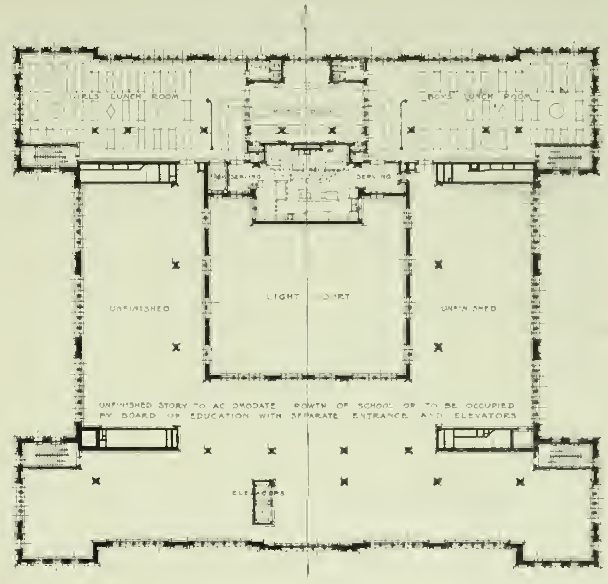


MAIN FLOOR PLAN

WITHEY & DAVIS,
ARCHITECTS.

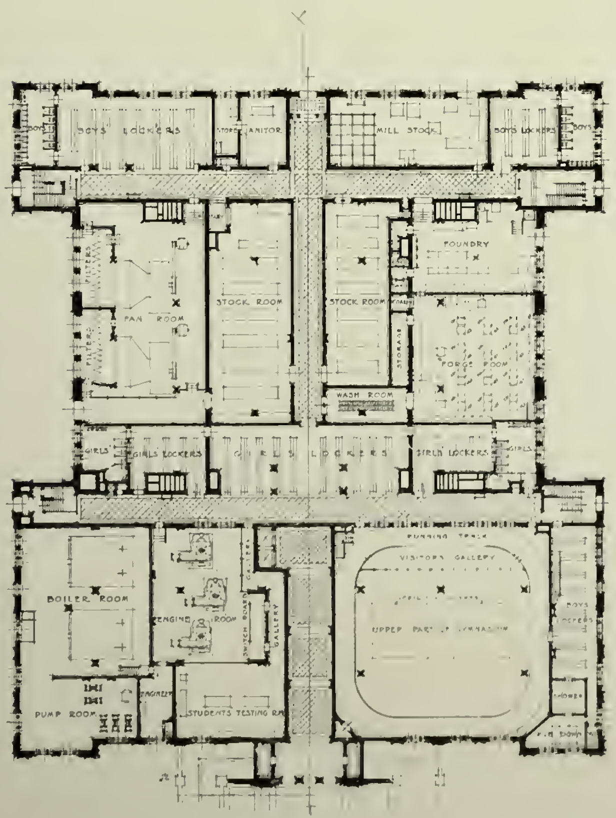


FIRST FLOOR PLAN.

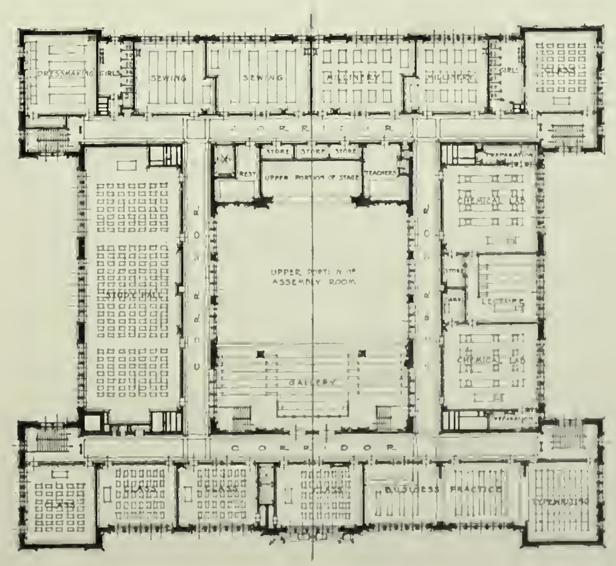


FOURTH FLOOR PLAN.

THIRD FLOOR PLAN.



BASEMENT PLAN.

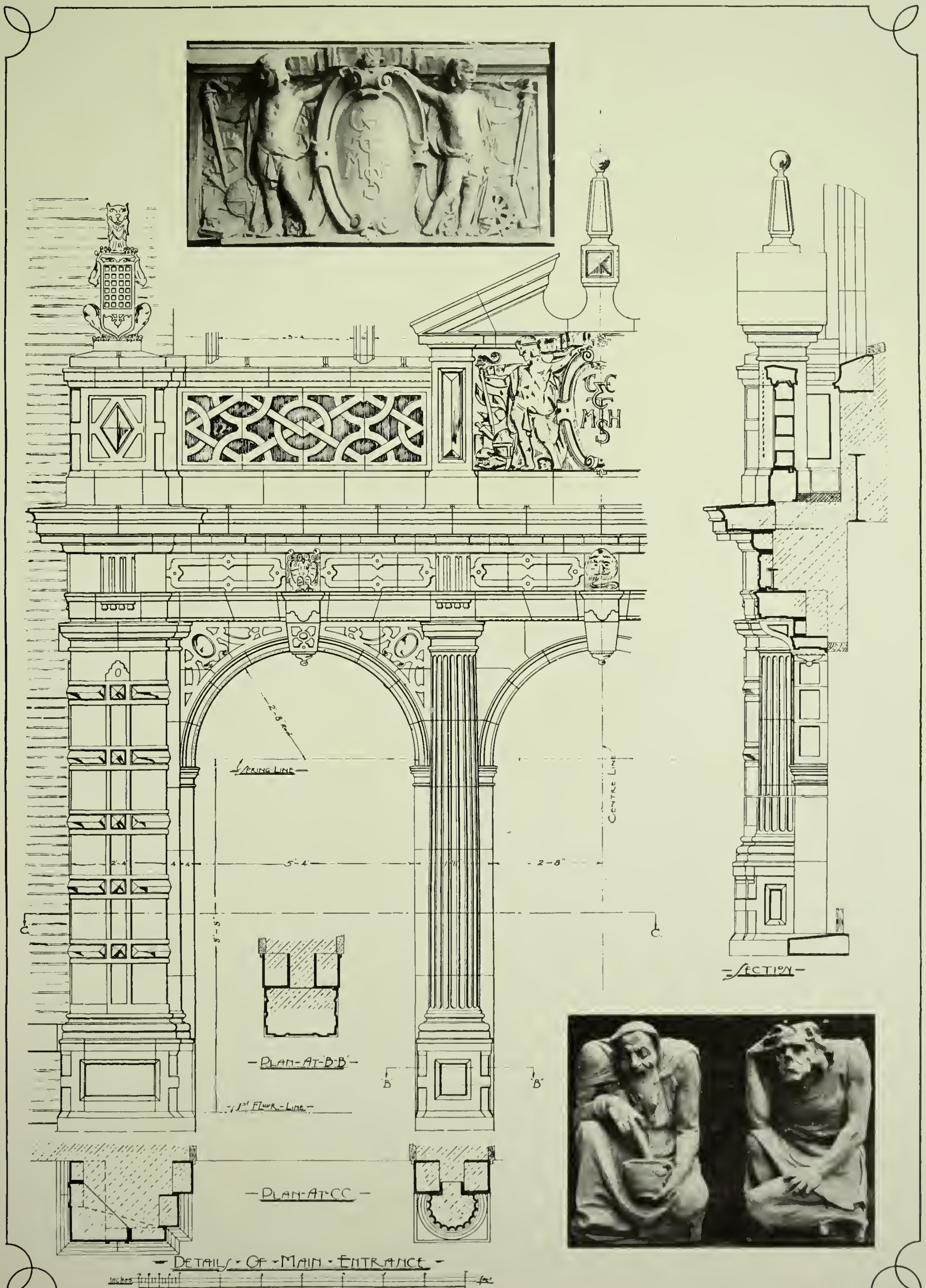


SECOND FLOOR PLAN.

COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J

E. F. GUILBERT, ARCHITECT.

COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J.
E. F. GUILBERT, ARCHITECT.



Terra Cotta Details. E. F. Guilbert, Architect.

COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J.

ARC DE TRIOMPHE, NANCY, FRANCE.

ARC DU CARROUSEL, PARIS, FRANCE.

Commemorative Monuments.—VII.

(Concluded.)

H. VAN BUREN MAGONIGLE.

ONE of the most imposing forms men have used in successive periods to commemorate their own greatness or that of others is the triumphal arch. Arches fall naturally into two groups: those of a single span and those having three openings in the mass, the central one for vehicles and the side arches for pedestrians. In Roman times they were erected usually to record triumphal entries. The Arch of Constantine in Rome is of the triple type; the workmanship, as might be expected at so late a date, is poor, but much of the sculpture is believed to have been filched from some other gentleman's arch demolished or defaced to provide the first Christian emperor with better sculpture than his times or his purse afforded.

We find a more modern example with a different treatment in the Stanislas Gate at Nancy and another of the triple type in the Arc de Triomphe in the same city. Another, and one of the most beautiful of its class, is that known as the Arc du Carrousel in Paris. Designed by Percier and Fontaine, it is beautiful in proportion and jewel-like detail. It is one of the accents that diversify the vista from the Louvre to the Arc de Triomphe.

At Marseilles is a variant of the type, partaking in its decoration of the usual character of triple arches, and in mass that of arches of a single span; (unfortunately we were unable to secure a photograph for reproduction;) of the latter the best known prototype of modern triumphal arches is the Arch of Titus in Rome; the arch itself is an incident of the whole mass; the piers at each side form a satisfactory abutment; the main cornice is comparatively small and the attic is of sufficient height and mass to give the arch something to do.

It is interesting to compare the Washington Arch in New York City with it; here the arch is of prime importance, and the abutments are insufficient to satisfy the eye; the main cornice is out of scale and the attic is reduced to bring it into proportion with the piers.

The faults of the Soldiers' and Sailors' Memorial Arch in Brooklyn are so apparent that it is unnecessary to comment upon them. Of all the arches of the world the Arc de Triomphe in Paris seems to me to bear the palm. The stupendous mass, the restraint and dignity of it, and above all its proportions, appear to me to place it in a class apart. It is wonderfully placed, too, just at the crown of the hill, up which the grade of the Champs Elysées sweeps in a concave line and disappears at sunset in a luminous haze.

ARCH OF CONSTANTINE, ROME.

WASHINGTON ARCH, NEW YORK, N. Y.

ARCH OF TITUS, ROME, ITALY.

PORTE STANISLAS, NANCY, FRANCE.

COMMEMORATIVE MONUMENTS.

SOLDIERS' AND SAILORS' MEMORIAL ARCH, BROOKLYN, N. Y.

ARC DE TRIOMPHE, PARIS, FRANCE.

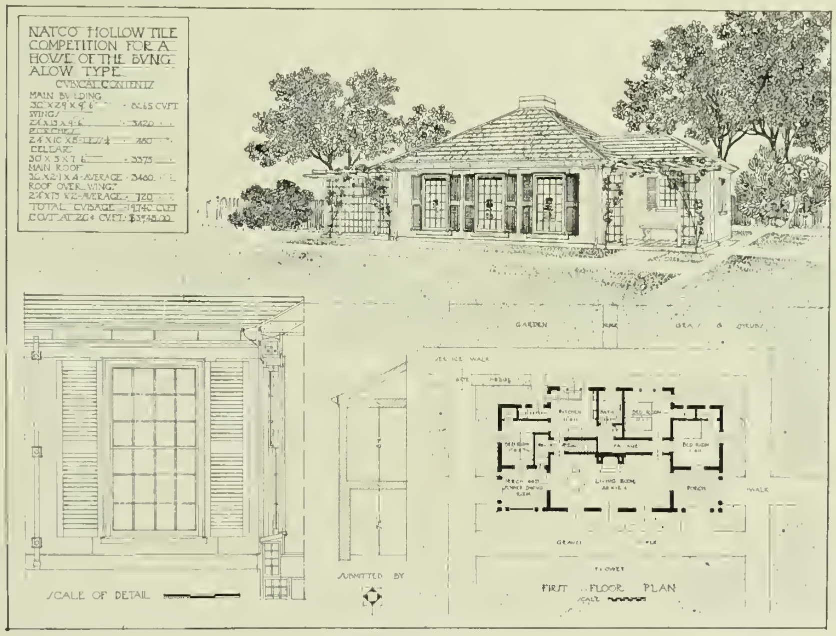
COMMEMORATIVE MONUMENTS.

Competition for a Hollow Tile Bungalow.

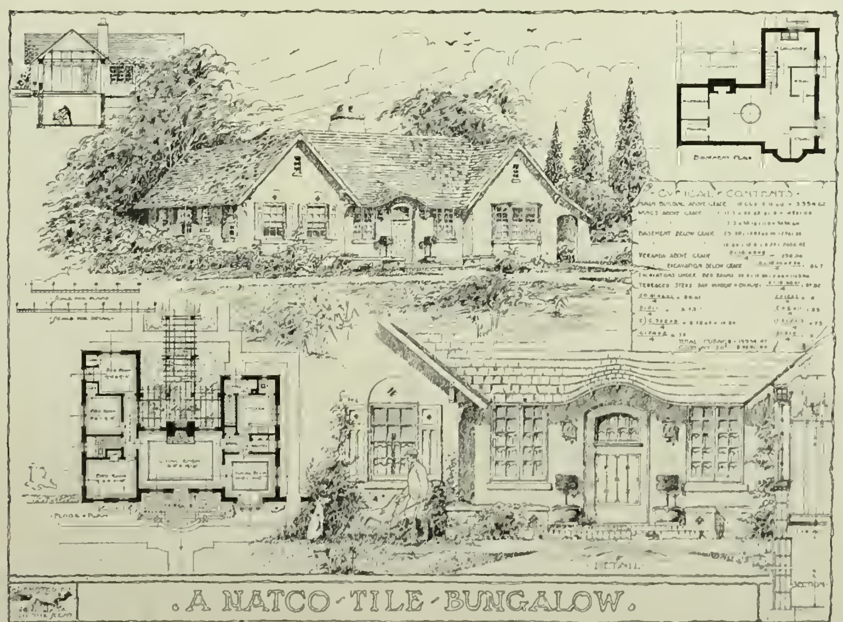
REPORT OF THE JURY OF AWARD.

THE jury selected to award the prizes in THE BRICKBUILDER Competition for a small house of the bungalow type to be built of Natco Hollow Tile, at a cost not exceeding $4,000, have examined the two hundred and sixty-seven designs submitted and begs to report as follows :

The competition as a whole is marked by excellent draftsmanship and a general high standard of rendering, as well as intelligence on the part of most of the competitors as to the style which best meets the conditions. The plans were not as well designed as the exteriors, and the committee felt that while most of the competitors complied with the literal terms of the program as regards cubic contents and cost, a number of the houses were far in excess of what could actually be built for the amount named in the program, and of two designs of equal merit the more compact one was given the preference. It may be of interest also to note the fact that while the members of the jury came from different parts of the country they unanimously agreed on the selections for the four prizes and six mentions. The jury wishes also to state that in making the selections they regarded primarily the quality of the design in its suitability to terra cotta block construction, and in selecting the prize winners and the mentioned drawings there was a consensus of opinion that all unusual or outré designs were less desirable than the more or less standardized types. The jury was agreed that plain wall surfaces with all ornament flat, cornices of slight projection, and types of roofs which included no pockets liable to damage the walls, were essentials to good design; therefore the competition was decided on the mass of the building and composition of the façades rather than on the use of extraneous detail. That this factor in determining the judgment did not unduly narrow the field from which the competitors drew their inspiration is evidenced by the fact that the first three designs are drawn from quite different prototypes; the first being rather Italian in character, while the second is English, and third a gambrel roofed Colonial house.

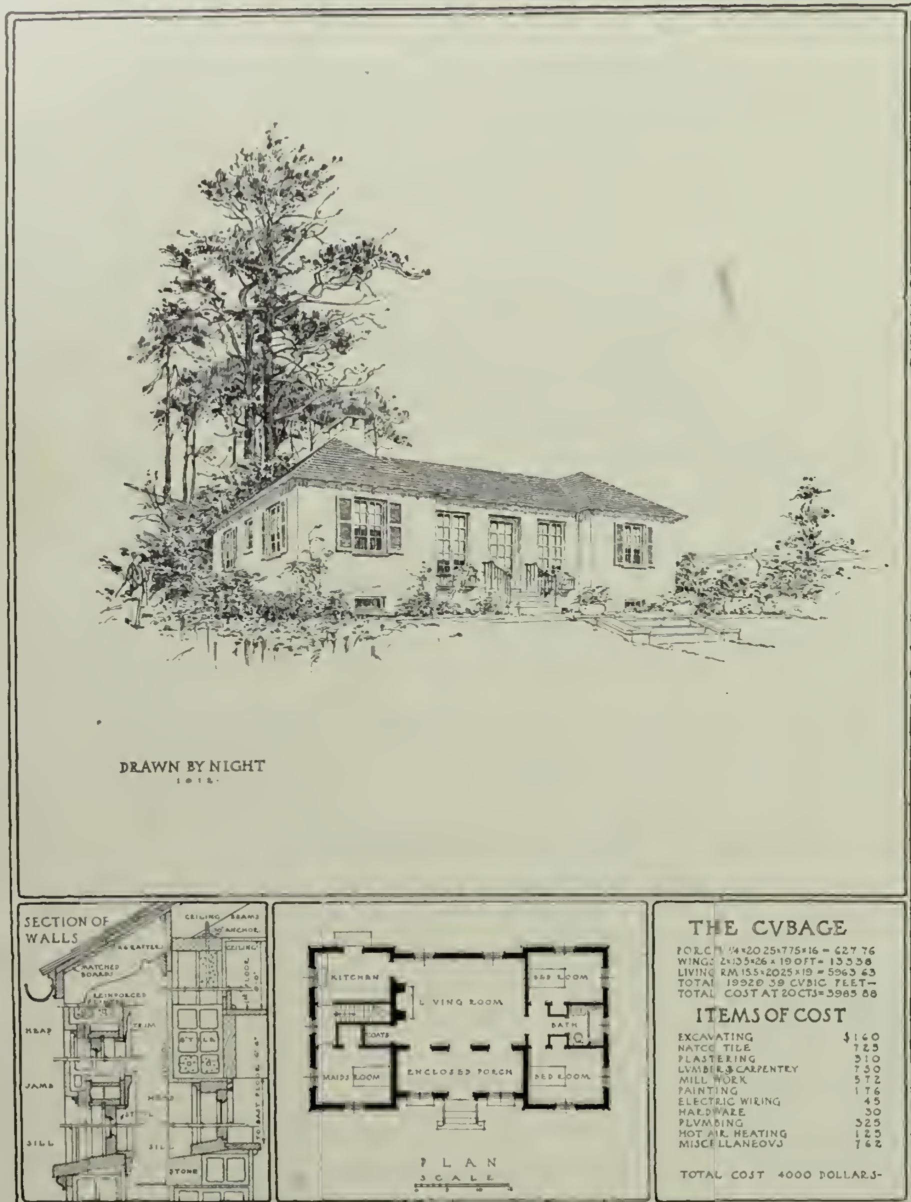


MENTION DESIGN.
Submitted by William E. Voss, Boston, Mass.

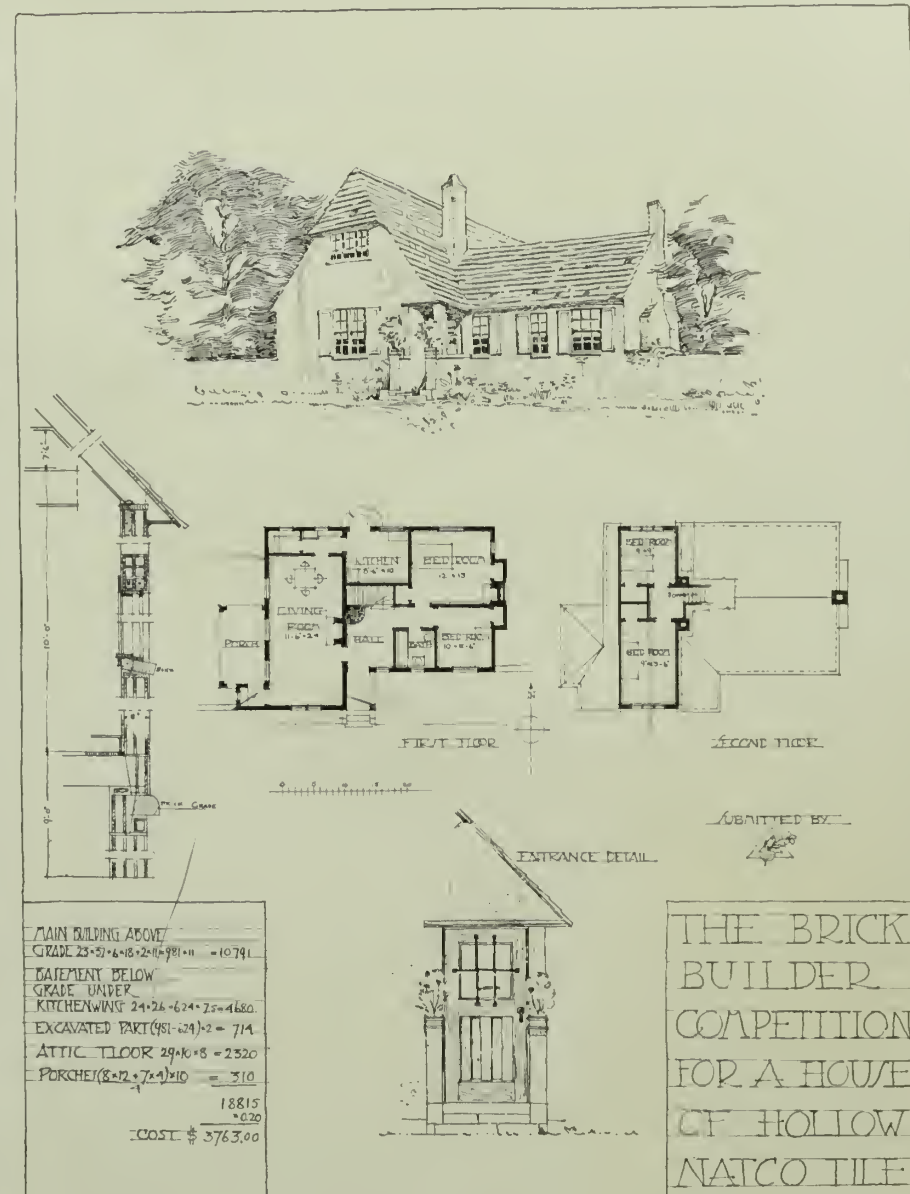


MENTION DESIGN.
Submitted by Elbert J. Richmond, New Haven, Conn.

The first prize design is charming in mass, very simply designed and rendered, but filled with the good taste so

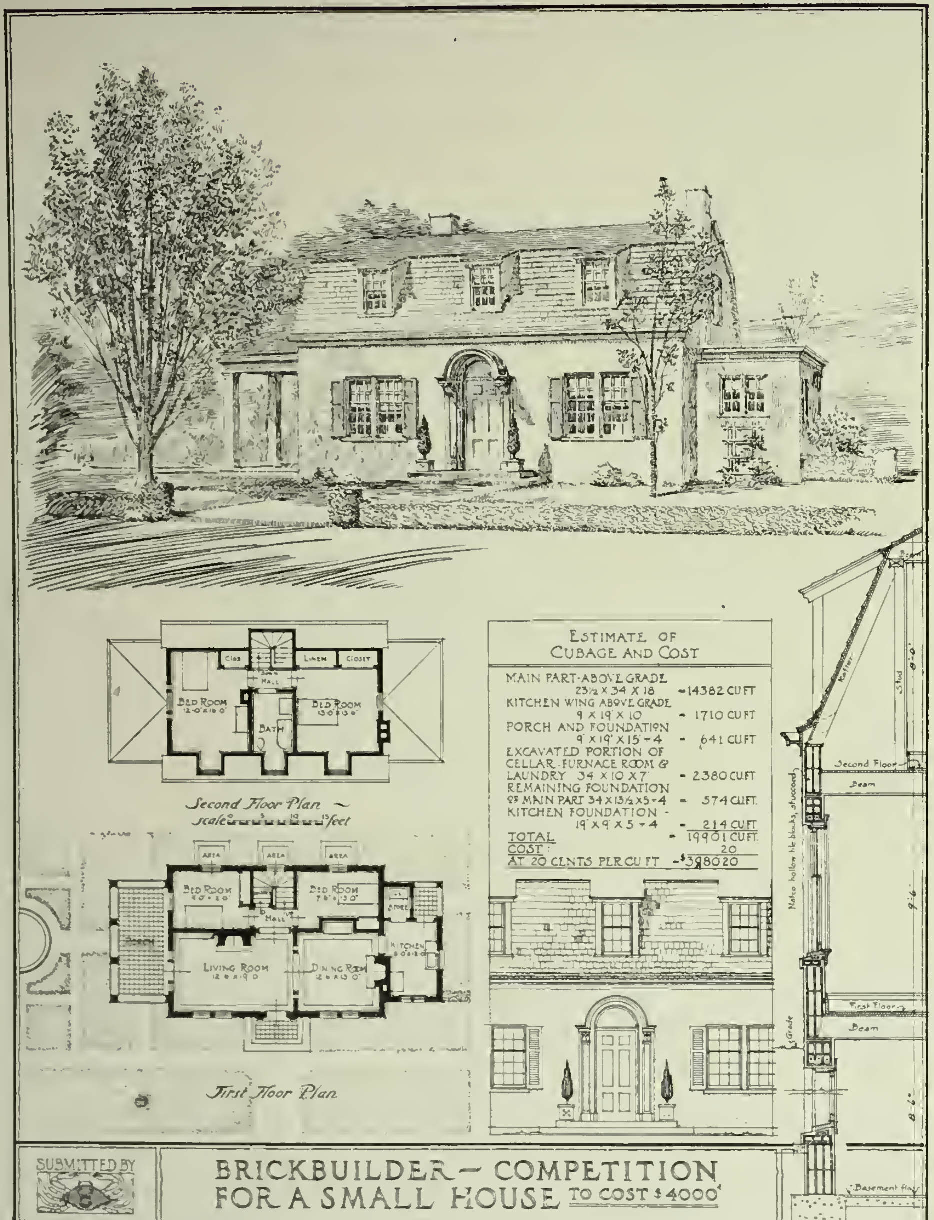


FIRST PRIZE DESIGN.
Submitted by William Boyd, Jr., Pittsburgh, Pa.

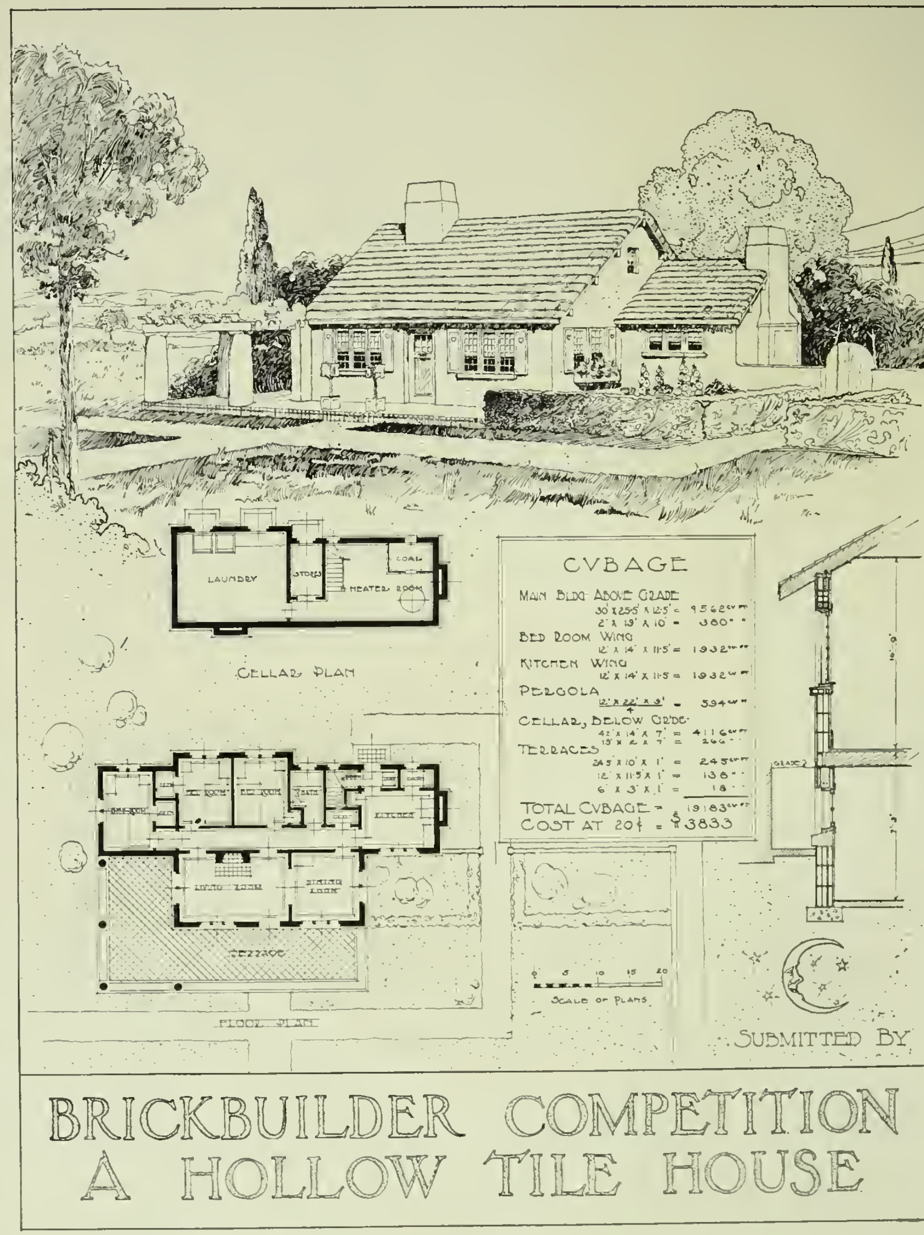


SECOND PRIZE DESIGN.
Submitted by C. A. Nilson, Boston, Mass.

THE BRICKBUILDER COMPETITION FOR A HOLLOW TILE BUNGALOW.

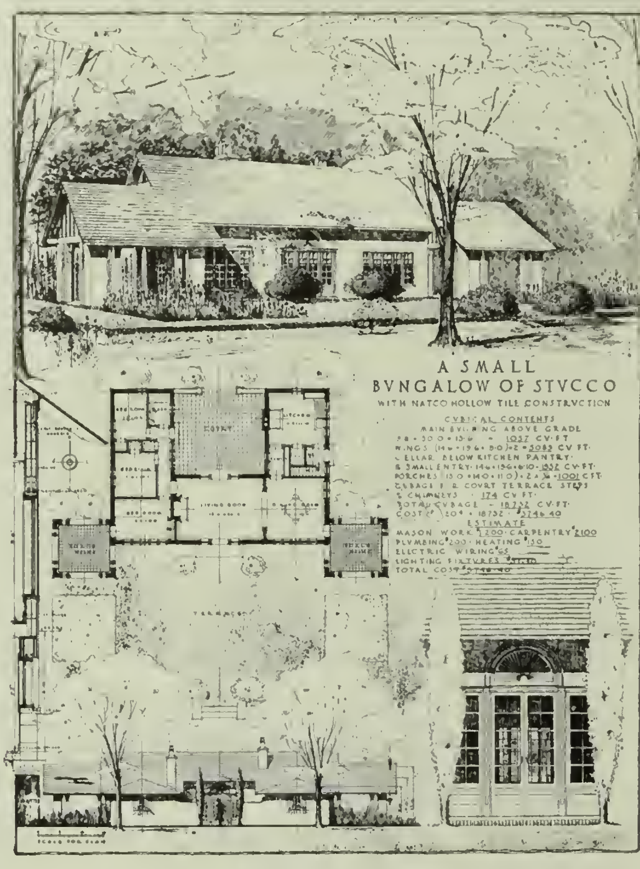


THIRD PRIZE DESIGN.
Submitted by Wilhelm Berg, New York, N. Y.

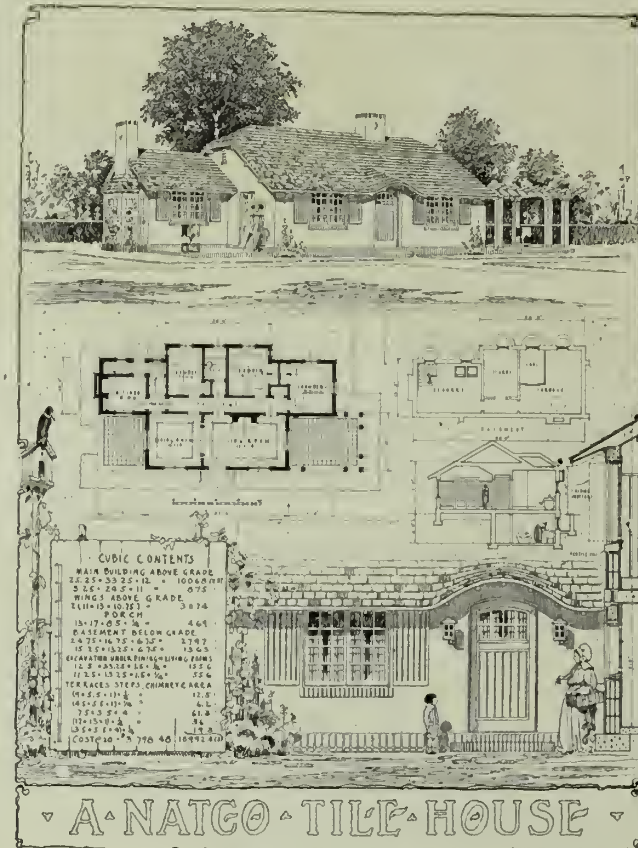


FOURTH PRIZE DESIGN.
Submitted by William J. Mooney, Jamaica Plain, Mass.

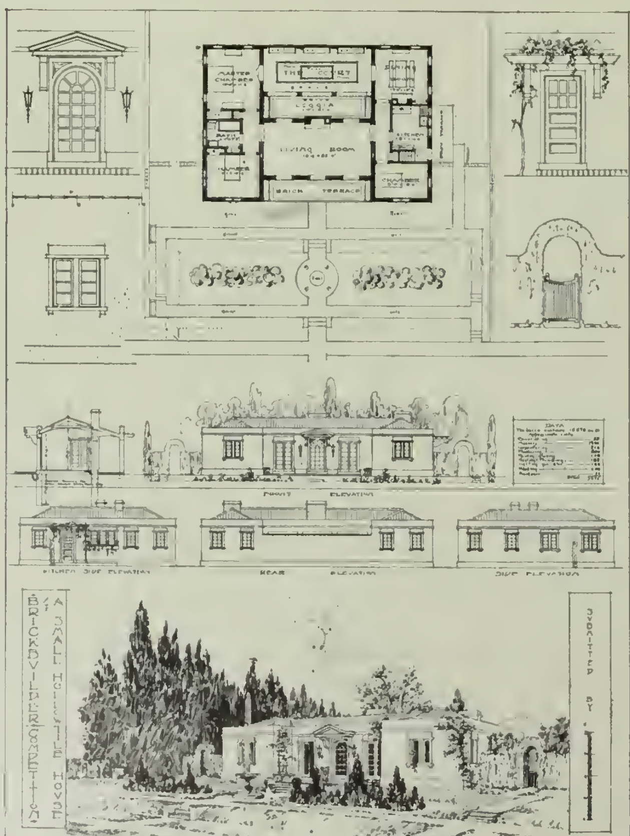
THE BRICKBUILDER COMPETITION FOR A HOLLOW TILE BUNGALOW.



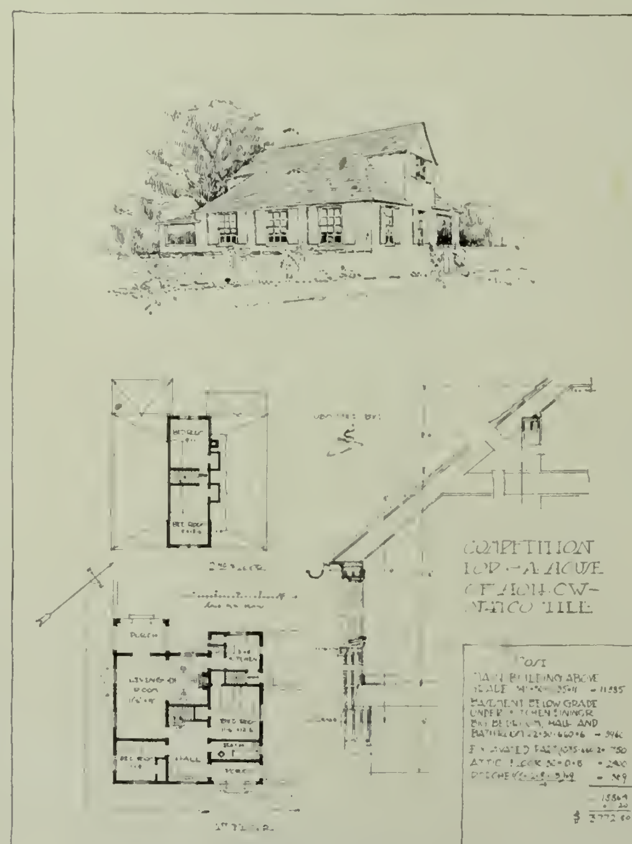
MENTION DESIGN.
Submitted by Herman Brookman, Brooklyn, N. Y.



MENTION DESIGN.
Submitted by Jack Lehti, Washington, D.C.



MENTION DESIGN.
Submitted by Henry T. MacNeill, Philadelphia, Pa.



MENTION DESIGN.
Submitted by C. A. Nilson, Boston, Mass.

THE BRICKBUILDER COMPETITION FOR A HOLLOW TILE BUNGALOW.

essential in successful country house work. The plan is in detail susceptible of considerable improvement, although its motive is sufficiently excellent. That the author of this design was really endeavoring to produce a $4,000 house is evidenced by the fact that he has made one chimney serve the entire building, although two chimneys would perhaps have improved the livability of the building and would not have added to the cubic contents.

The second prize design is better planned than the first and is rendered simply and very well. This English type of building seems excellently adjusted to the construction, and it was somewhat surprising to the jury to find that there were not more of this type of architecture submitted.

The third prize design, like the first and second, is compactly planned and the exterior treated in a manner sufficiently interesting so that there is no square or box-like character to the structure. Certain features of the exterior of this design might perhaps have been better handled: notably the kitchen extension with its flat roof, and the porch on which the columns are a little large for their type. The perspective has been made from a rather unfortunate viewpoint, and the rendering is weaker than a number of others submitted, but in spite of these minor defects the building is very good indeed and fully worthy of its place.

The fourth prize is an American variation of well known English cottage motives, with a pergola instead of a piazza: the columns used in this pergola are somewhat too large in the opinion of the jury, but the design otherwise is most agreeable. The jury also felt that while the plan of this house is in motive good, the corridor could have been abbreviated with advantage.

The six drawings to which mentions were given the jury felt to be quite the best aside from the prize drawings. But while each of them had strong points, each also had weak points which made it practically impossible to place the six designs in order, especially as the jury found much diversity of opinion among its members as to the ranking of these drawings.

The jury wishes to congratulate practically everyone who competed in this contest for the careful manner in which his drawing was made, and the general high order of skill and intelligence displayed.

Alpheus W. Chittenden, Detroit.
Aymar Embury II, New York.
Hugh M. G. Garden, Chicago.
George Hunt Ingraham, Boston.
Frank B. Meade, Cleveland.

Jury of Award.

DESIGN SUBMITTED BY FREDERICK SCHOLER, CHICAGO, ILL.

DESIGN SUBMITTED BY FRANK HAUSHKA, CLEVELAND, OHIO.

THE BRICKBUILDER COMPETITION FOR A HOLLOW TILE BUNGALOW.

Editorial Comment and Miscellany.

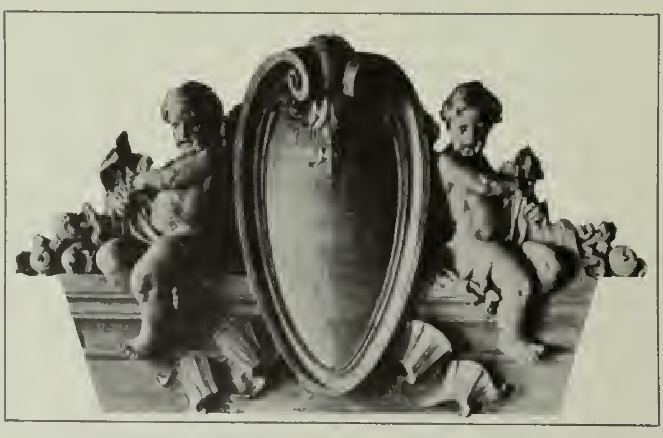
REPEAL OF THE TARSNEY ACT.

THE action of the House of Representatives, in passing an amendment to repeal the Tarsney act, has been justly condemned by the public and architectural press, the American Institute of Architects, and by the most prominent members of Congress, and many in the world of art. Secretary of the Treasury, Franklin MacVeagh, in writing to the Committee on Public Buildings and Grounds in regard to the repeal, said: "I feel most strongly that to make it impossible for the Government to secure the services of the best architectural ability the country affords would be most detrimental to the advancement of Government architecture."

DETAIL FOR THEATER BY CONKLING-ARMSTRONG TERRA COTTA CO.
Brown & Von Beren, Architects.

The question of comparative cost for making plans and specifications in the Supervising Architect's office and in the various private offices has caused the greatest contention. In a statement from the Secretary of the Treasury, August 6, 1912, the average cost during the fiscal years 1905 to 1911 inclusive, for preparing drawings and specifications in the office of the Supervising Architect, was 6.02 per cent. Such a statement should go far to remove the bone of contention since the customary commission paid to the private architect is 6 per cent.

The Senate has stricken out the House provision and the matter has gone into conference. It is to be hoped that the great advance in the architecture of public buildings since the passage of the Tarsney act, together with the pressure brought to bear by all men and organizations interested in the artistic development of our country, will prevent the repeal of this amendment.



DETAIL BY NEW YORK ARCHITECTURAL TERRA COTTA COMPANY.
Gaetan Ajello, Architect.

PLATE ILLUSTRATIONS — DESCRIPTION.

ST. ROSE'S PAROCHIAL SCHOOL, CHELSEA, MASS. PLATES 103, 104. The exterior is of red brick and white mat glazed terra cotta with seals in colored terra cotta. Upon the interior the walls are of natural gray color, the woodwork of oak. The assembly hall, 60 by 81 feet, has a gallery on three sides and seats approximately 1,400. The cost of the building was $85,000.

DETAIL EXECUTED BY O. W. KETCHAM TERRA COTTA WORKS.

GRAMMAR SCHOOL AT ARTESIA, CAL. PLATES 109, 110. The exterior is of a wire cut red brick varying in shade and laid with a flash joint of coarse sand mortar. The trimmings at the entrance, etc., are of a warm cream color matching the mortar joints. The interior is trimmed throughout with Oregon pine. The furnace room is placed above the ground and the plenum system of heating installed. The building cost $20,000, or 8.6 cents per cubic foot.

MEDICAL AND CHIRURGICAL BUILDING, BALTIMORE, MD. PLATE 108. The exterior is of rough textured red brick, with terra cotta trimmings. In planning, a departure has been made from the usual brilliantly lighted book stack, with windows for each aisle, to small, fixed windows. The total book capacity is approximately 60,000 volumes. The basement provides for a banquet room, the usual heating cellar, two large rooms for extra book storage, and space for the receipt and shipment of books.

DETAIL BY NORTHWESTERN TERRA COTTA COMPANY.
Andry & Bendernagel, Architects.

The third floor is given over to a laboratory and several rooms for special purposes in connection with various branches of medical research. An apartment is provided for the librarian, which consists of a living room, dining room, kitchen, two bedrooms and bath, in addition to a servant's room and bath. The total cost of building was $64,342.49, with a total cubage of 572,090 cubic feet, making the cost per cubic foot .112 cents.

Church for St. Patrick's Parish, Brockton, Mass. Plates 105–107. The exterior is of wine colored brick with wide white joints and cream terra cotta. Upon the interior the decorations are of a soft white. The baldachin, pulpit, and side altars are of dark fumed oak, the main altar of Vermont marble.

INTERIOR, THIRD NATIONAL BANK, ATLANTA, GA.
Entirely of gray terra cotta, executed by Atlantic Terra Cotta Company.
Morgan & Dillon, A. Ten Eyck Brown and W. T. Downing, Associated, Architects.

PAGE ILLUSTRATIONS — DESCRIPTION.

Coney Island Hospital, Brooklyn, N.Y. Page 210. The hospital located one-half mile from Coney Island contains 22 acres of land and consists of six buildings so disposed as to permit of a considerable extension by additional ward buildings. All buildings are finished in a light cream colored face brick, limestone trimmings, copper cornices, and red tile roofs. The main building accommodates ninety-six patients, — eighty in four wards of twenty beds each, and sixteen in eight smaller wards of two beds each. Upon the interior the floors are of terrazzo and mosaic with a sanitary coved base, excepting those of vitrified tile found in the toilets, bath rooms, closets, operating rooms, etc., which rooms are also fitted with wainscots of 6 by 6 inch glazed tile. All woodwork is enameled white and walls painted a soft green tint. On account of the proximity to the ocean, particular attention has been paid to all exposed metal work, hardware, and lighting fixtures. The fixtures are of brass, sand blasted, silverplated, and have three coats of enamel, each one baked on. A pilot light system has been installed for night work, which permits of half lighting. In heating, direct radiation is used excepting for the wards and isolation rooms, where the direct-indirect system is employed, while the exhaust fan system furnishes the ventilation. The buildings for nurses and employees are similar in design, the former accommodating twenty-seven nurses in separate rooms, while the latter provides for twenty-four with appropriate facilities for both men and women. The bedrooms and sitting rooms are of comb-grained yellow pine with trim of straight grained white oak, varnished. The ambulance house on the ground floor accommodates four ambulances, four stalls, carriage, wash, and harness room; while the upper floor provides a large dormitory for eighteen male help, a room for ambulance drivers, and separate bath rooms. The pathological building in addition to the usual laboratory, morgue, mortuary refrigerators, etc., has a small chapel with waiting room and an autopsy room with toilet and bath. The walls are tiled to the ceiling, carefully drained and ventilated; the door frames are of enameled iron, and the lighting fixtures of bronze metal. The front portion of the power house is

THEATER AT ST. LOUIS.
Front of white enamel brick furnished by Hydraulic-Press Brick Company.
Gustav P. Wuest, Architect.

GYMNASIUM, MORRISTOWN, N. J.
Built of "Natco" Tile with plaster finish.
Oscar Smith, Jr., Architect.

used for the general hospital laundry, the rear for the boiler room, etc. The total cost of the six buildings was $343,000, making a cost per cubic foot of approximately 31.6 cents. This cost covers the buildings complete with the system of tunnels, a vacuum cleaning system, etc. By cubing the buildings from the bottom of the basement floor to top of roof slab in case of flat roofs, and one-half the slope of pitched roofs, the following cubical results were obtained: main building, 681,500 feet; nurses' building, 105,940 feet; emloyees' building, 81,400 feet; ambulance house, 60,550 feet; pathological building, 30,200 feet; power house and laundry, 124,650 feet.

DETAIL FOR CIRCULAR BAY.
Made by American Terra Cotta & Ceramic Company.
George L. Harvey, Architect.

Barnard Free Skin and Cancer Hospital, St. Louis, Mo. Page 211. The main building is 125 feet long, faces south, and forms the type H in plan, with the working building connected to the central portion by means of a corridor. The main entrance opens through a glass vestibule, and all stairs are enclosed in metal and polished wire glass with sliding doors. The students' gallery is on the mezzanine floor over the sterilizing room, from which a view of the operations is obtained through a continuous screen of plate glass. The roof, used for a garden, is covered with promenade tile. Sanitary all-steel doors without joints, mouldings, or panels are used throughout; while the doors, metal furniture, telephone booths, etc., are finished in white enamel baked on. All floors, except in the basement and temporary construction, are of a jointless composition, and the walls are of hard plaster finished in colored enamel paint. A direct system of steam heating has been installed. The electric fixtures are enameled, and in the wards reflectors are employed to throw the light toward the ceiling. In the main operating room double glass walls face the outside with radiator coils located between the glass. The building cost $126,300, including architects' fee and exclusive of movable equipment. The cubical contents are 405,000 feet, reckoning from the top of the footings to the roof covering, making a cost of 31.2 cents per cubic foot.

TERRA COTTA FOR THE COMMERCIAL AND MANUAL TRAINING HIGH SCHOOL, NEWARK, N. J.

The architectural terra cotta for the Commercial and Manual Training High School at Newark, N. J., E. F. Guilbert, architect, was furnished by the South Amboy Terra Cotta Company.

IN GENERAL.

Louis LaBeaume and Eugene S. Klein have formed a partnership for the practice of architecture under the firm name of LaBeaume & Klein, with offices at 1317 Chemical Building, St. Louis, Mo.

Wood, Donn & Deming announce that they have dissolved partnership in the practice of architecture and that Waddy B. Wood has opened offices at 816 Connecticut avenue, Washington, D. C., while Edward W. Donn, Jr., and William I. Deming will continue practice under the

NURSES' HOME, BELLEVUE HOSPITAL, NEW YORK.
Harvard front brick furnished by Carter, Black & Ayers.
Parish & Schroeder, Architects.

name of Donn & Deming, 808 Seventeenth street, Washington, D. C.

The architectural terra cotta used in St. Rose's Parochial School, at Chelsea, Mass., illustrated in the Plate Forms of this issue, was furnished by the New Jersey Terra Cotta Company.

Sayre & Fisher Company furnished the brick which were used in the house at Morristown, N. J.; Henry A. Macomb, architect, illustrated in the Plate Forms of this issue.

The New York Architectural Terra Cotta Company has secured the contract for furnishing the architectural terra cotta for office building to be erected for Henry Birks & Sons, Ltd., at Vancouver, B. C. Somerville & Putnam are the architects.

THE FIREMAN'S INSURANCE BUILDING, NEWARK, N. J.
Architectural terra cotta furnished by South Amboy Terra Cotta Company.

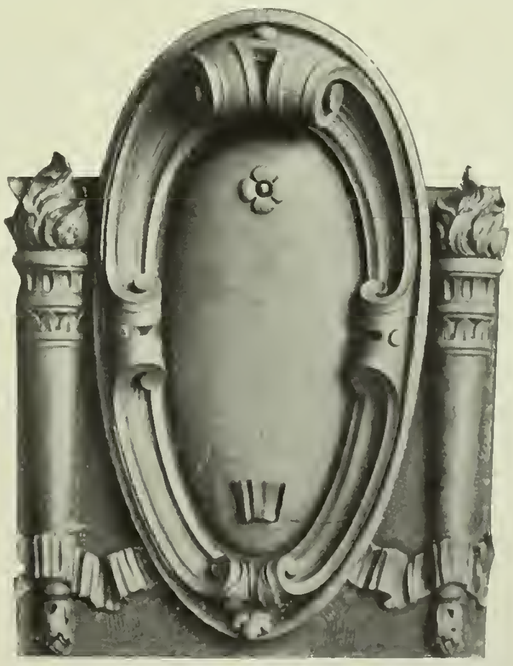
Atlantic Architectural Terra Cotta in the Bank Building is the title of the latest booklet issued by the Atlantic Terra Cotta Company. Some fifteen bank buildings, in which architectural terra cotta has been used, are illustrated.

Sayre & Fisher Company's selected common brick were used throughout the Manual Training High School at Newark, N. J., illustrated in this number, E. F. Guilbert, architect.

The architectural terra cotta used in the construction of the church for St. Patrick's Parish, Brockton, Mass., illustrated in the Plate Forms of this issue, was furnished by the Atlantic Terra Cotta Company.

ST. CECELIA SCHOOL, BROOKLYN, N. Y.
Faced with Roman brick made by Ironclay Brick Company.
T. H. Poole & Co., Architects.

A united effort is being made toward the establishment of a far-reaching scheme for municipal housing in France. A bill has been presented before Parliament authorizing the communes to build houses and lay out new neighborhoods, with a view of offering their inhabitants cheap and soundly built accommodations. The bill also provides that the city of Paris borrow the sum necessary.



DETAIL EXECUTED BY NEW JERSEY TERRA COTTA COMPANY.
Nast & Springsteen, Architects.

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

THE NATCO HOUSE — THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

Notice of Competition for Street Lighting Standards

A competition for designs of ornamental street lighting fixtures is announced by the Business Men's Association and Municipal Art Society of Hartford, Connecticut. Copies of the pamphlet giving details as to the desired designs and information as to the prizes offered can be secured of the undersigned.

C. J. BENNETT, for the Business Men's Association.
W. S. SCHULTZ, for the Municipal Art Society.

POSITION WANTED.—Experienced architect, eight years with U. S. Treasury Department as Superintendent of Construction, desires engagement. Address, Superintendent, care of The Brickbuilder.

School *of* Architecture *of* Harvard University

Professional course for graduates of colleges, leading to degree of Master in Architecture

Course for special advanced students, not having college degree but at least 21 years of age, with office experience, leading to certificate

Design. Prof. E. J. A. Duquesne, Grand Prix de Rome.
History. Prof. H. L. Warren, A. M., F. A. I. A.
Construction. Prof. C. W. Killam, Assoc. M. Am. Soc. C. E.
Drawing. Mr. H. D. Murphy, Mr. H. B. Warren.
Ten other lecturers and instructors.

For circulars and other information apply to Prof. H. L. Warren, Chairman of the Council of the School of Architecture, Harvard University, Cambridge, Mass.

The University of Pennsylvania *offers courses in* Architecture *as follows:*

(1) A four-year course, leading to the degree of B.S. in Architecture. An option in architectural engineering may be elected.
(2) Graduate courses of one year, permitting specialization in design, construction, or history; leading to the degree of M.S. in Architecture.
(3) A special two-year course for qualified draftsmen, with options in design or construction; leading to a professional certificate.

For catalogue giving complete information regarding requirements of admission, advanced standing, summer school and atelier work, fellowships and scholarships, and for illustrated year book, etc., address DEAN OF THE COLLEGE, University of Pennsylvania, Philadelphia, Pa.

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Topsfield, Mass. .... Plates 99-101

PAGE & FROTHINGHAM, Architects.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:

Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.

Floor Coverings—Wholesale and Retail

646-658 WASHINGTON STREET - BOSTON, MASS.

Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI SEPTEMBER 1912 NUMBER 9

PUBLISHED MONTHLY BY

ARTHUR D. ROGERS
President and Treasurer

ROGERS AND MANSON COMPANY
Boston, Mass.

RUSSELL F. WHITEHEAD
Vice-President and Managing Editor

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS AND MANSON COMPANY

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

HOWARD SILL.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

DOME OVER CHURCH AT SAN ANGEL, MEXICO.

Exterior of the dome is entirely covered with glazed tiles of small pattern. Also note interesting panels in the octagonal base of the dome.

THE BRICKBUILDER

SEPTEMBER, 1912

VOLUME XXI. NUMBER 9.

Modern Domestic Stairways.

PART I.—THE ARISTOCRATIC STAIR.

THOMAS HARLAN ELLETT.

THE reader is asked to remember a fact which M. Gaudet has set down with epigrammatic vigor—"Architecture is not an art of pure theory, or of doctrinaire ideas. Its object is to construct, its means the knowledge of construction."

Stairways primarily must be of sound construction, and the art of the stair designer is to produce a structure which not only answers its direct purpose as a means of reaching different levels, but which also appeals to the imagination and the esthetic sense by the beauty and fitness of its forms and by its disciplined design.

Though one of the important subjects connected with architecture, stair building is probably the least understood by designers generally. Surely the stair layout is often a torment to the architect (we know it always is to his client). The happy solution of what at times seemed impossible makes the subject one of the most popular of his works.

The staircase is the key to a large part of the planning of a house, performing as it does a continuous function. It should strike a note of dignity which is characteristic of the house throughout. There is reason then for treating the subject in a dignified and ambitious manner. Upon this feature of the design of a house rests, perhaps, the judgment of the building as a whole. The stairs are usually the first object to meet the eye. They claim immediate attention and should be inviting. The world sees the stair and judges by it the edifice.

In the presentation of this series of illustrations of "Modern Domestic Stairways," in various types and sizes of houses, it has been thought best to divide the subject into three parts. The following instalment therefore will treat of "The Modest Stairway" and conclude with a series of excellent photographs of "Unusual Stairways."

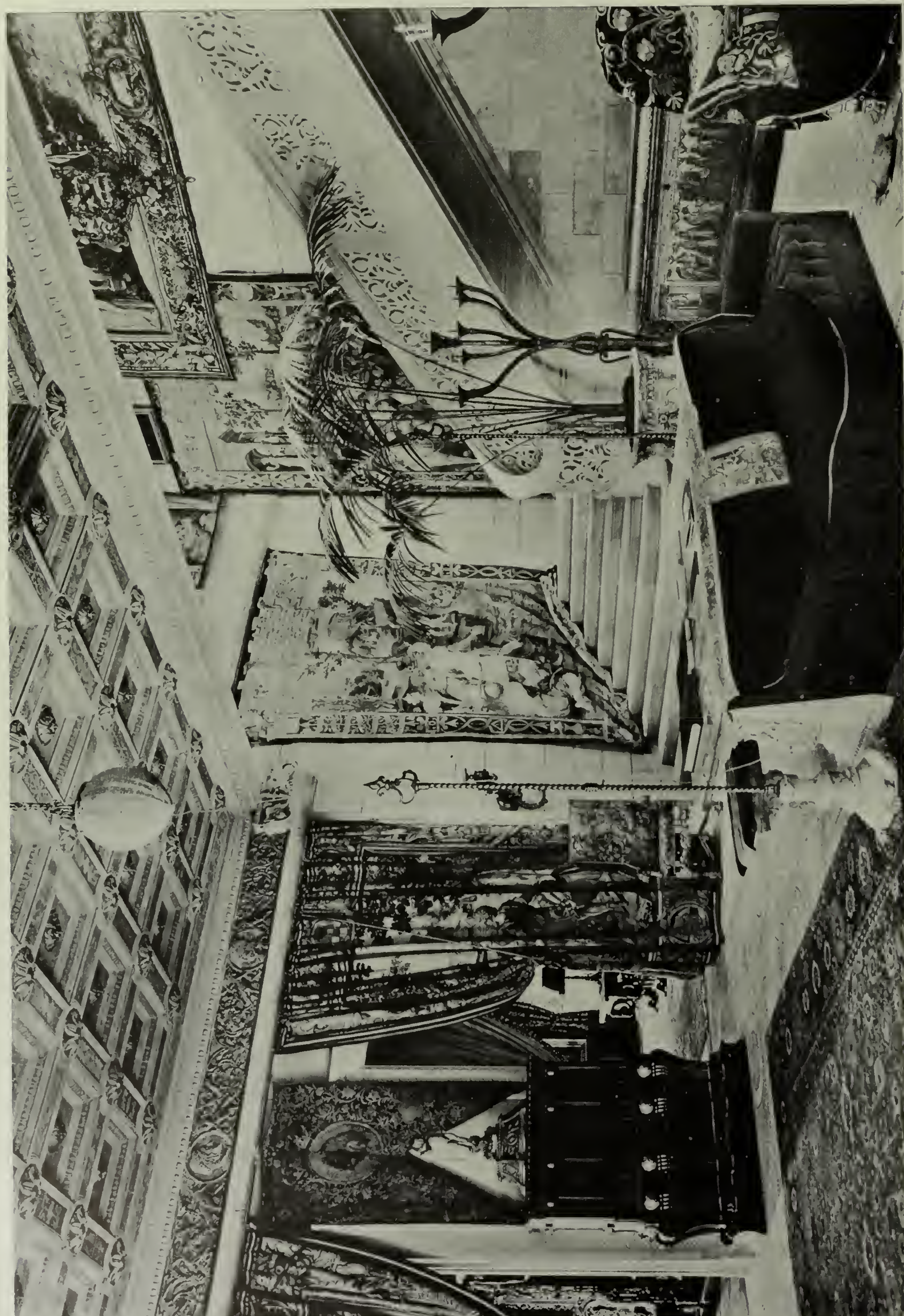
A royal staircase reflecting the glory of the Italian Renaissance together with the solidity and restraint of later classicized design. The walls are Sienna marble of delicate veining. The ceiling and floor are of marble mosaic well designed. The upper walls of the stair well have been hung with great tapestries which adds to the richness of the effect.

McKim, Mead & White, Architects.

This first pictorial article presents only such examples as might be called stairways of honor—legitimate in the important house, ridiculous in the modest one—stairways made possible because of the wealth and taste which is every day becoming more noticeable in this country. The seemingly unlimited means at the disposal of the architect has enabled him to draw out from Pandora's box of varying forms and arrangements those which will precisely clothe the clients' needs. The proper observance of convention has guided him to those traditional uses which make the stairways and stair halls at once the expression and satisfaction of such needs.

The examples chosen for illustration are more or less grand in their conception, rich and sumptuous in their constructive materials and furnishings. They may be imagined as playing important rôles in magnificent entertainments where they serve as the stately connecting link between the principal floors.

A close study of the following pages will demonstrate, we feel sure, that the architects whose designs are shown had a full measure of the knowledge of construction by which means they have given us sound architectural design.



One of the richest and most harmonious of the period of the Renaissance. While the general impression is that we are still wedded to the traditions of the past, there can be no question but that it is the portrayal of invention and inspiration. The ornate and masterly treatment of the railing in pierced marble is original in its use. The general effect is grandiose.

A second-story stair hall showing two widely different types of rail used together. Growing plants form a protecting border for the first flight, while the customary metal railing succeeds for the remaining stories. The introduction of foliage in conjunction with the cippilino marble is pleasing.

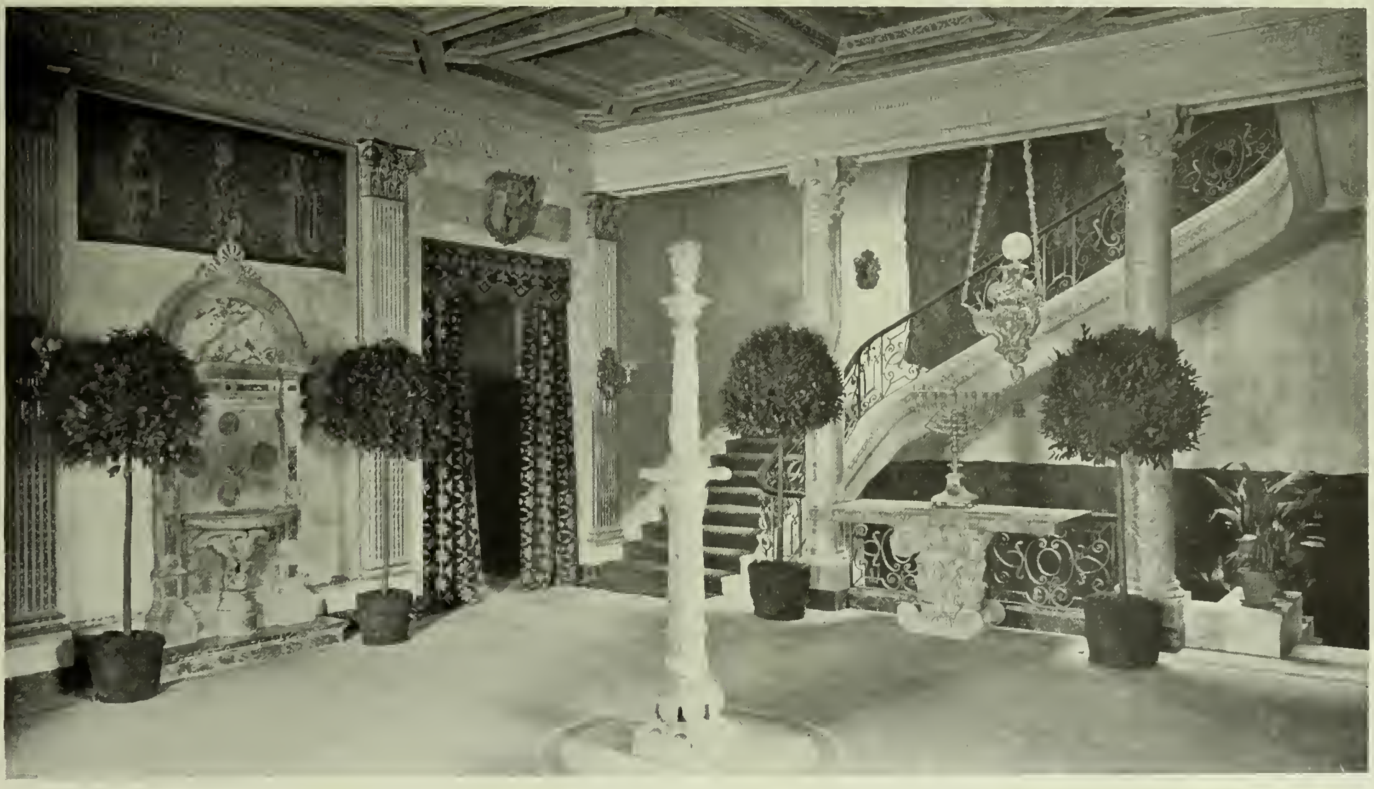
McKim, Mead & White, Architects.

In this stair at Newport, Mr. Trumbauer has obtained a stately and inviting effect, showing the important rôle stairs of French origin play in modern architecture. With the free ramp light is assured and the stair well appears in all its grandeur.

A beautiful antique fountain is the central feature of this circular stair hall on the entrance floor of a New York house. The ceiling is in delicate plaster relief, tinted. The divisions of the marble floor are marked by lines of brass inlay.

In this stair of an important house on Long Island, McKim, Mead & White, architects, have adhered very closely to an English type. The extensive use of wood on the walls is reminiscent of the better class of English manor house. The oak is unusually soft in color and pleasing in effect.

Here Mr. Jas. Gamble Rogers has followed Roman precedent of rise and tread and obtained a stair of particularly easy ascent. It occupies a more private position in plan than is usual. The walls are Italian marble, very quiet in tone. The steps and string-course are Echaillon. The railing is Japanese bronze, beautifully designed.



Another view of the stair shown on page 233, showing the clever placing of well-chosen architectural antiques by the late Stanford White in the alteration of an old house. The ceiling is antique, pieced out to fit the hall. The floor is of colored terrazza.

Another elegant stair by McKim, Mead & White, enriched by antiques. Here a Roman sarcophagus serves as a balustrade between columns. The richly wrought bronze railing ends in a marble finial of beauty.

An inviting glimpse of a partially screened staircase is obtained from the adjoining vestibule.

Carrère & Hastings, Architects.

A spacious and dignified hall relieved by the graceful and flowing lines of a curved stair at end of the composition.

Carrère & Hastings, Architects.

A sumptuous stair indicative of Newport. The great rococo columns break the graceful curve of the string and hand rail behind.

McKim, Mead & White, Architects.

A Louis XV. layout which assumes much. The central feature for the first flight with the second-story stair to the extreme left all richly embellished.

McKim, Mead & White, Architects.

The enclosing walls of the stair well are an excellent place for the display of large tapestries. These are particularly well lighted by a skylight beautiful in itself.

An unusual arrangement in which the entrance from the street is at the first landing. Here, from over the pierced marble railing, one might greet the coming guest with due dignity. This stair ascends only to the *piano nobile*, where it is necessary to cross the great hall for stairs to the floors above.

McKim, Mead & White, Architects.

The steps leading from the entrance door to the basement in the stair at the top of this page.

McKim, Mead & White, Architects.

The Work of Howard Sill, Architect.

J. FENIMORE RUSSELL.

WE know that centuries ago buildings were conceived and composed not only to fulfil certain requirements but with the deliberate intention of creating something beautiful. There is evidence that all the important houses in this country during Colonial times were carefully planned. The difference, and a great one, between the methods then employed and those existing to-day lies in the fact that there was only one style current in each of the earlier periods. To-day instead of one fashion in building there are many, every architect as it were becoming a law unto himself.

HALL DETAIL.
Howard Sill, Architect.

He would be a rash man who would pass judgment on any one school in vogue to-day as particularly adapted to be developed and classified as the American type. Much has been said, however, in the cause of the modern adaptation of the "Colonial," that sub-style of the Renaissance which developed in America.

Mr. Howard Sill has made all his work strongly "Colonial," endeavoring to show that when a man is trained to observe, select, and reject, successful designs can be inspired by the use of traditional styles and methods.

It is for us then to trace the development of the style which he advocates from the time when it stood for great ideals in the minds which fashioned it, onward to the time when such things again appeal to the imagination of the builders.

Architecture must grow with age, it must sum up the past in the present for the vital understanding of to-day's needs.

New England, New York, and New Jersey, with Pennsylvania and its sub-divisions, Virginia, the Middle South, and the Eastern Shore of Maryland have contributed examples of Colonial architecture worthy of study and emulation. The types varied with the locality, and were influenced by the traditions and religion of their settlers. That section which has been the special study of Mr. Sill is known as The Eastern Shore, within which Baltimore is included. Here the influences of the South and New England are joined, resulting in an atmosphere suggestive of domesticity and that hospitality for which the South has ever been famous, thus forming the most celebrated régime in the architectural development of the Colonies. This was made possible by the refinements and prosperity of the inhabitants of this section which produced a class like unto the aristocracy of the Mother Country. Architecture was encour-

ENTRANCE DETAIL.
Howard Sill, Architect.

aged in common with the other arts and refinements. The sense of close and personal connection with England seemed to endure there much longer than in the North.

There are numerous publications showing the best known houses of Annapolis, Baltimore and its environs. There can be no doubt concerning the aid which these have given to the student of Colonial architecture. But to see — to breathe the atmosphere — is to obtain the true idea and the valuable inspiration, and all this has been Mr. Sill's good fortune.

For some reason much of Maryland and Virginia seems to have been neglected by a majority of architects on their pilgrimages to the better known houses. We are told of splendid examples of Colonial building still waiting to be more generally exploited.

SCALE DRAWING, ENTRANCE DOORWAY, HOUSE, SOMERSET ROAD, ROLAND PARK, MD.
Howard Sill, Architect.

A review of the history of American domestic architecture from these Colonial times to the present day shows that we have had our transitional period, our reign of terror, our fashionable architecture and the various European adaptations. We have reflected in our building the action of civilization and social life in all its ramifications.

We now come to a period in our development when conditions, mode of living, and requirements seem to demand the return to the building of our forefathers.

"For a gentleman of taste, for a lady of discernment, the Colonial is the only fitting environment," — to quote from an article by Mr. Frank E. Wallis in "House and Garden," where he argues on the choice of an architectural style,— "In it there is no deceit or sham. It will ring true throughout your time, and, if properly developed and studied, the style will grow and take to itself new dignities and new beauties as it comes through new interpreters. It was in this way that the quaint, local characteristics of the Colonial we know, grew through the idiosyncrasies of the architect or joiners of that time. They studied the old authorities for the law, and when they became past masters of these laws they used their own individual invention as they jolly well pleased."

So we come to the part Mr. Sill has taken in giving us the modern adaptation of the building which was undertaken in days gone by along the Eastern Shore. Mr. Sill has always been the student, endeavoring to bring to light and use the simple old-fashioned details usually neglected in modern Colonial work. But further than this we find him the architect, managing to one end the co-operating mechanics and craftsmen. He is a planner whose schemes and devices as a constructor have demonstrated that these old details are both practical and durable, giving a surprisingly old-time air to the modern work.

Most of the examples illustrated in this issue have been built in Baltimore, Mr. Sill's place of residence. Baltimore, as has been said, is a Colonial town. Excellent examples of original work are on every hand for observation. Then, it is only a short ride by trolley to Annapolis, that representative town of the aristocracy that flourished during the last of the eighteenth century. All have admired the Chase house, the Norwood, Hammond, Brice - Jennings, and other enchanting examples found there. But it is neither Baltimore nor Annapolis that has had Mr. Sill's entire attention. He has visited many quaint little towns in Maryland never seen by a photographer and overlooked by the architect as not being important enough to contain anything of interest. "Important enough?"— Why, some of those quaint little brick houses with their door-sills worn to a strip, have home, peace, and plenty written all over them and green moss on the roof two inches thick. "Design determined by needs, with honesty of construction," is applicable to them, and this motto Mr. Sill has taken for his recent work. Add to this the initiative and invention shown, the originating and creative impulse indicated by the designer, and it will be understood why Mr. Sill has been so successful.

Scaleby, Clarke County (Plates 113-118), is located in the heart of the Shenandoah Valley in Virginia. On a gently rising hill, the site of a former home, surrounded by broad acres of blue grass, it is in a number of ways ideally situated. Although the house is fireproof throughout you do not "feel" the concrete and steel, the spans being within the limits of the old hewn joists. The bricks

HOUSE, OVERHILL ROAD, ROLAND PARK, MD.
Howard Sill, Architect.

used were made specially for this work. They are identical in size and shape to those in the old State House at Annapolis, Maryland, and have a range of color running from salmon red to old rose and purple. Laid in warm gray mortar they form an interesting mosaic. The joints are struck, slightly cut at top, as was frequently done in old Virginia brickwork. Adam detail has been adhered to throughout on the exterior and in most of the interior work. Special attention has been given to the smaller details. The hardware throughout was designed after old examples, large brass rim-locks with brass knobs on the lock side and drop handles with open-work plates on the other. Much of the composition work was filched from old houses, cleaned up, and new moulds made for this work, and the same is true of the leaded glass ornaments, the hand-wrought hinges, turnbuckles and fasteners for the windows.

ENTRANCE GATEWAY.
Howard Sill, Architect.

Merryman Court, occupies the extreme northeast corner of Roland Park, and was the result of a problem of how to economically utilize a valuable square of land, left without road frontage by a right-angle turn in the road. This has been done by creating on this square an open space or court, on the axis of continuation of Northfield Place, after making the turn, with its entrance facing center of road.

The residence on University Parkway finds an admirable resting place on the terraces among the old trees. This front is distinctly Colonial in its feeling, the high chimneys at the gable ends adding much to its old-time flavor. The detail has been carefully carried out, noticeably in the elliptical headed entrance with its fine fan light and broad marble steps with slender iron hand rail. The plan is well arranged, but would have been improved by addition of a few extra feet to its depth.

On the exterior a color note is added by the use of a soft brick, light red in color, for all arches, the regular facing being of hard burnt York Colonial much darker in tone.

PERGOLA IN GARDEN, SCALEBY, VIRGINIA.
Howard Sill, Architect.

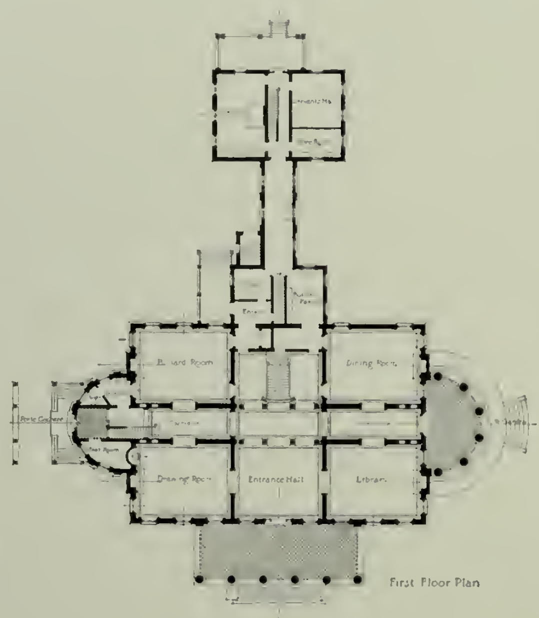
HOUSE AT SCALEBY, CLARKE COUNTY, VIRGINIA.
HOWARD SILL, ARCHITECT.

GARDEN FRONT.

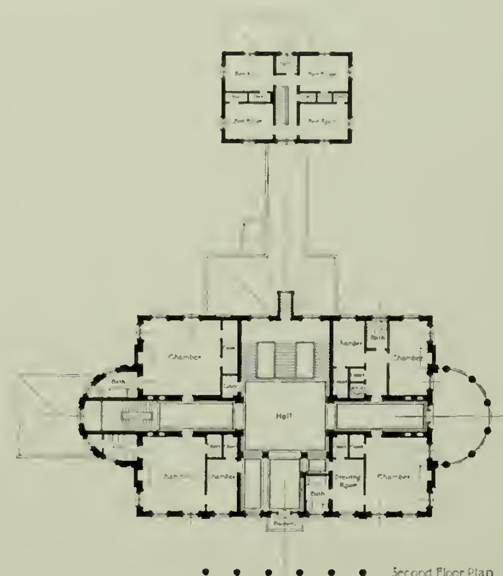
REAR.

HOUSE AT SCALEBY,
CLARKE COUNTY, VIRGINIA.

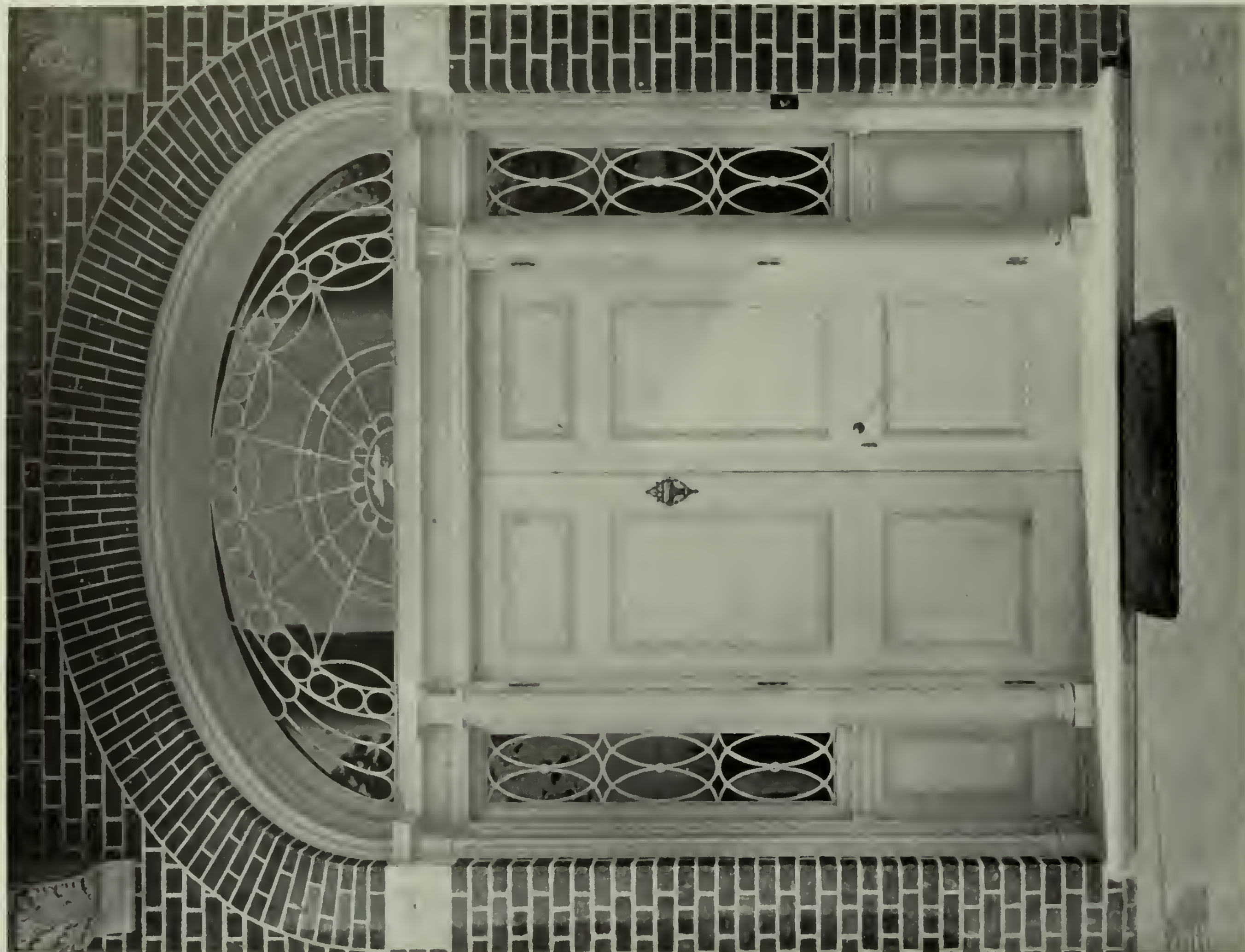
HOWARD SILL,
ARCHITECT.



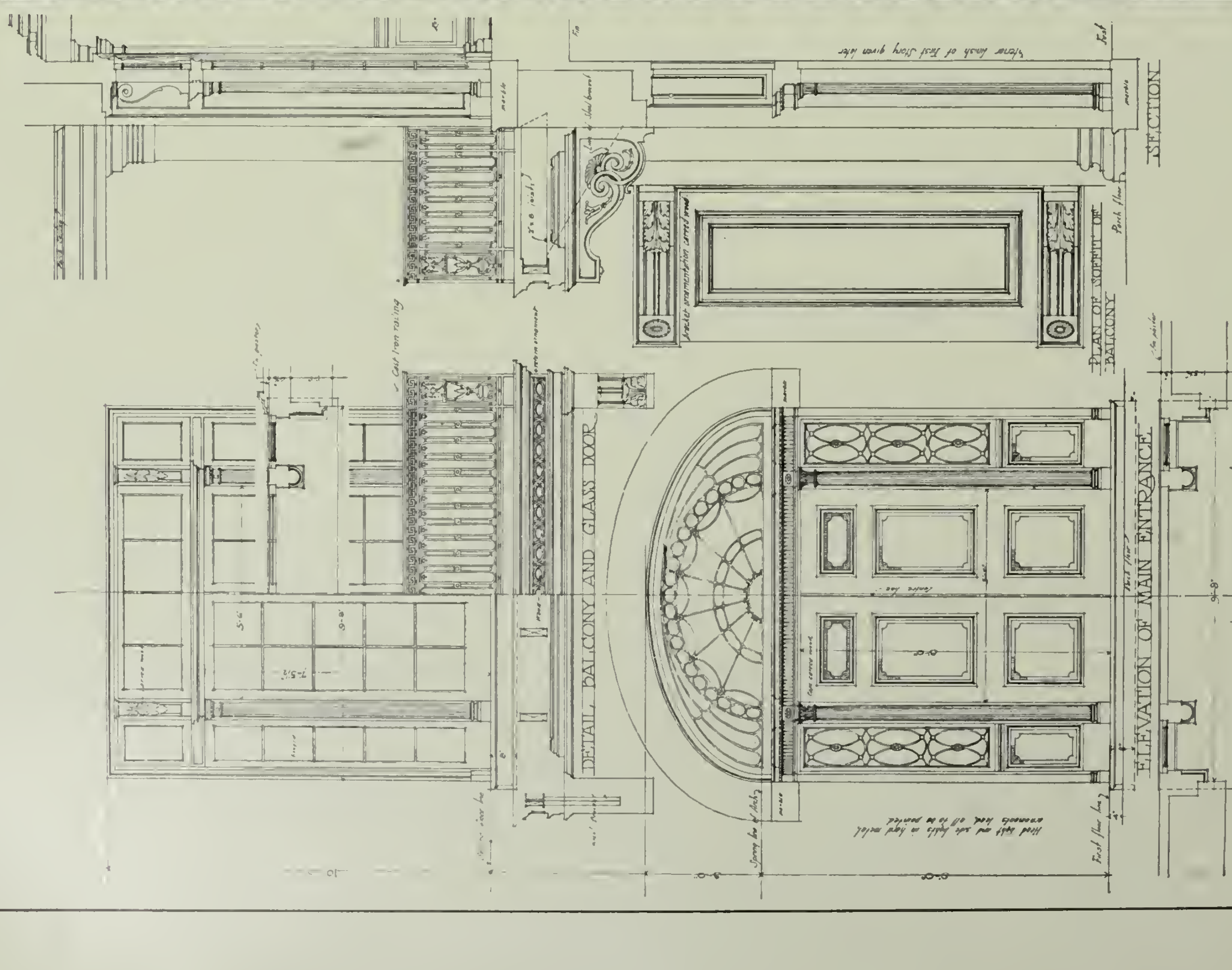
First Floor Plan



Second Floor Plan



DETAIL OF ENTRANCE.



THREE-QUARTER INCH SCALE DETAIL OF ENTRANCE.

HOUSE AT SCALEBY, CLARKE COUNTY, VIRGINIA.

HOWARD SILL, ARCHITECT.

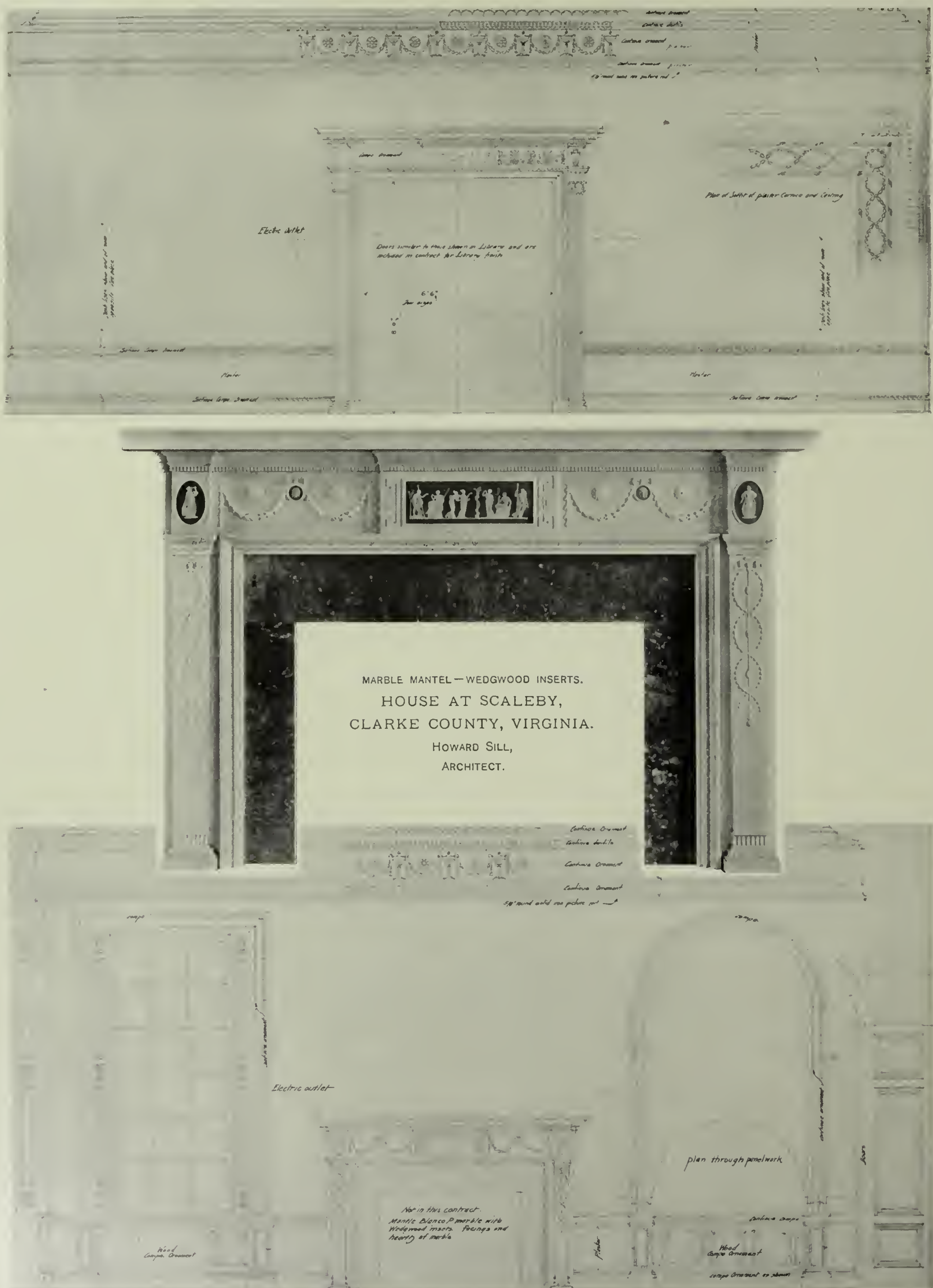
DINING ROOM.

DRAWING ROOM.

ENTRANCE HALL.

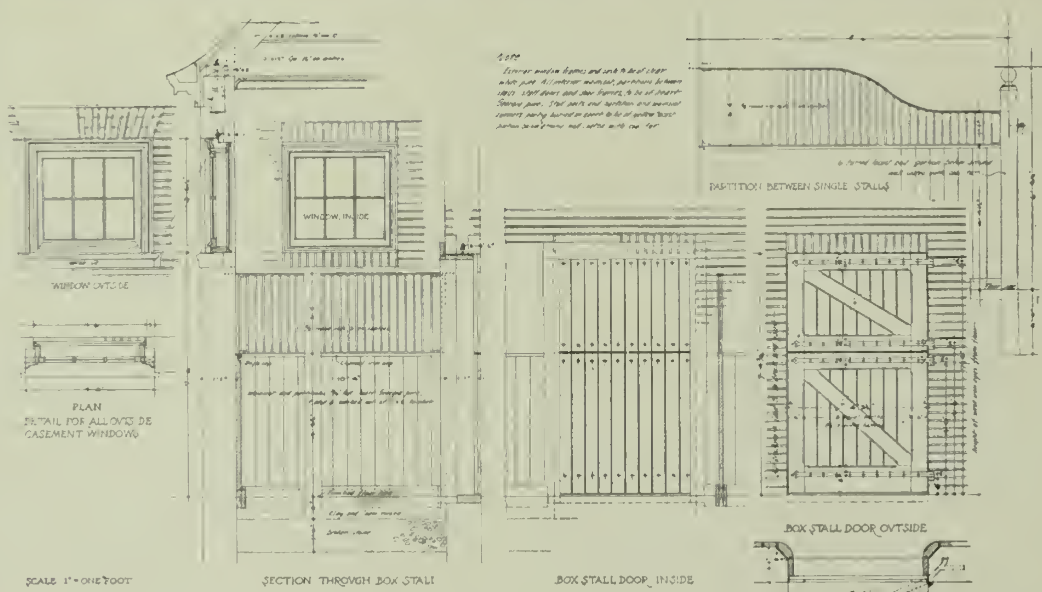
LIBRARY.

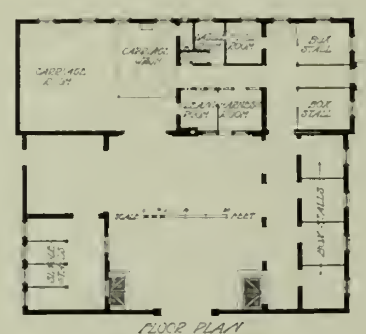
HOUSE AT SCALEBY, CLARKE COUNTY, VIRGINIA.
HOWARD SILL, ARCHITECT.



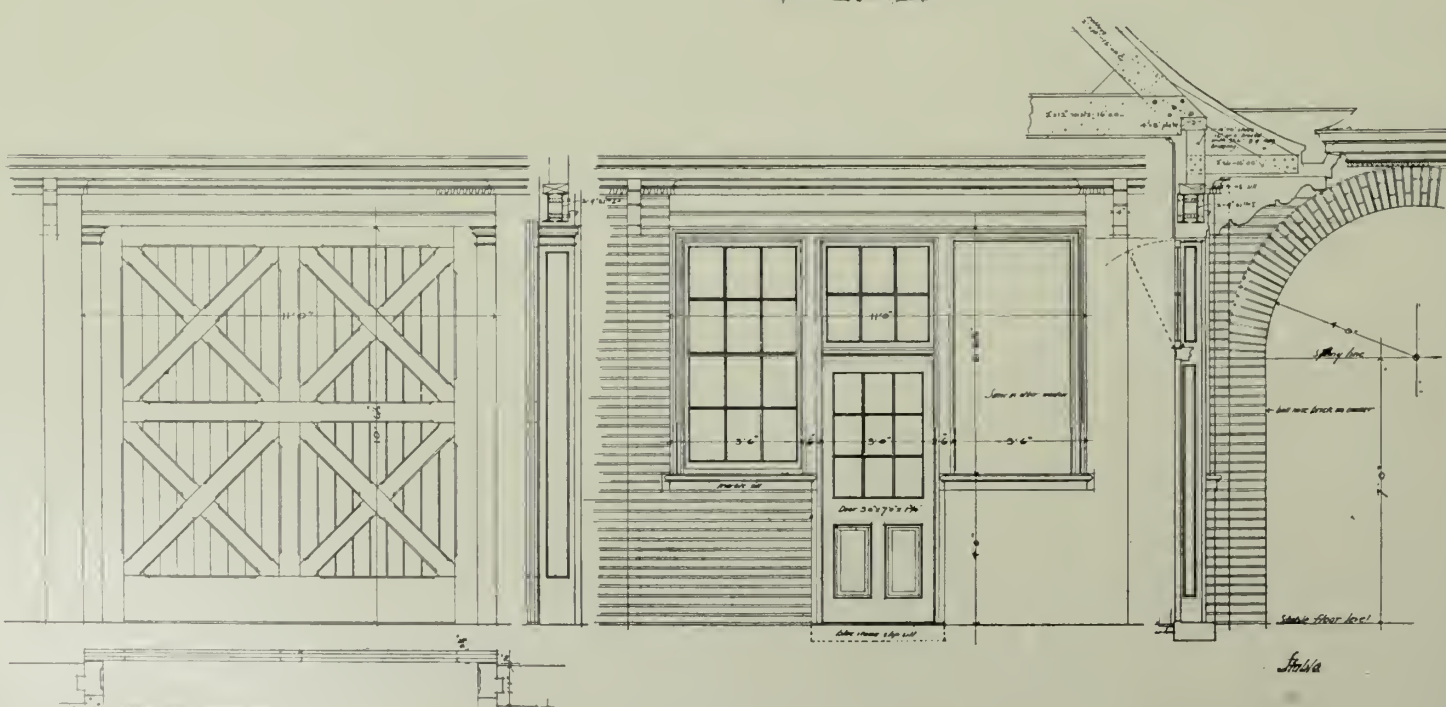
MARBLE MANTEL—WEDGWOOD INSERTS.
HOUSE AT SCALEBY,
CLARKE COUNTY, VIRGINIA.
HOWARD SILL,
ARCHITECT.

STABLES AT SCALEBY, CLARKE COUNTY, VIRGINIA





HOWARD SILL,
ARCHITECT.

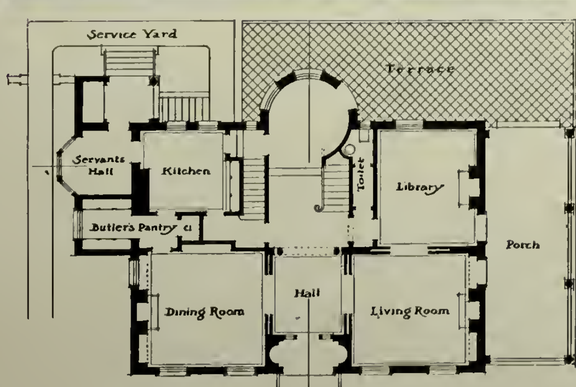


DETAIL OF ENTRANCE.
HOUSE, CHARLES STREET, BALTIMORE, MD.
HOWARD SILL, ARCHITECT

DETAIL OF ENTRANCE.

HOUSE, UNIVERSITY PARKWAY, BALTIMORE, MD.

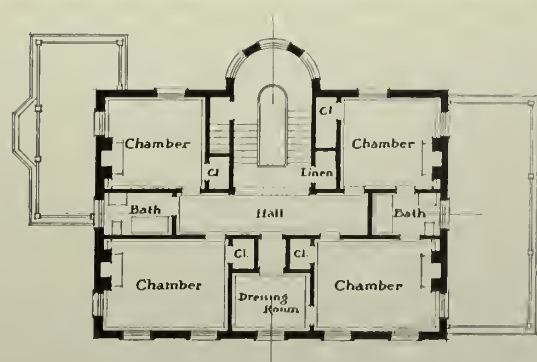
HOWARD SILL, ARCHITECT.



First Floor Plan

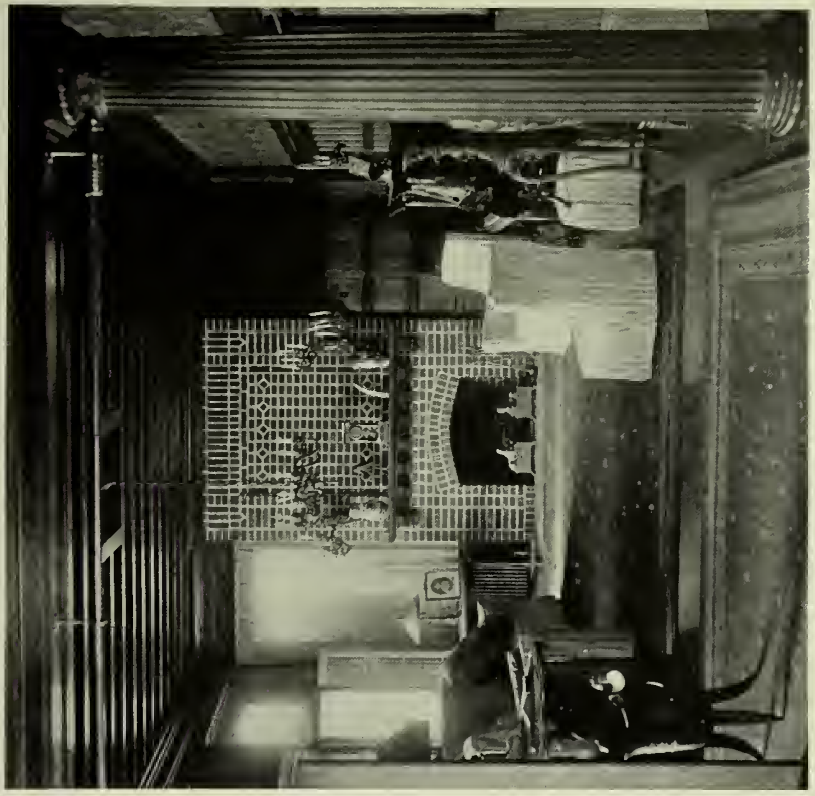
HOUSE,
UNIVERSITY PARKWAY,
BALTIMORE, MD.

HOWARD SILL,
ARCHITECT.

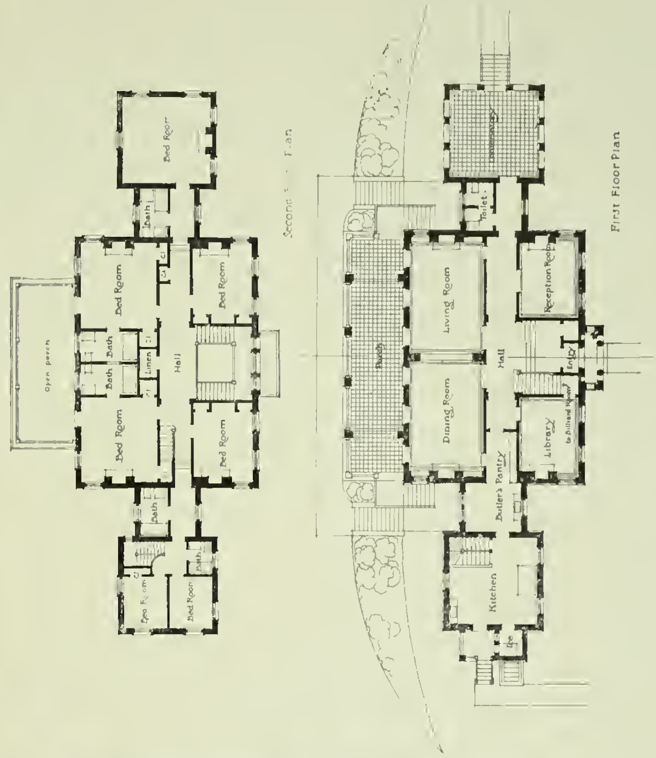


Second Floor Plan

HOUSE AT ROLAND PARK, MD.
HOWARD SILL, ARCHITECT.



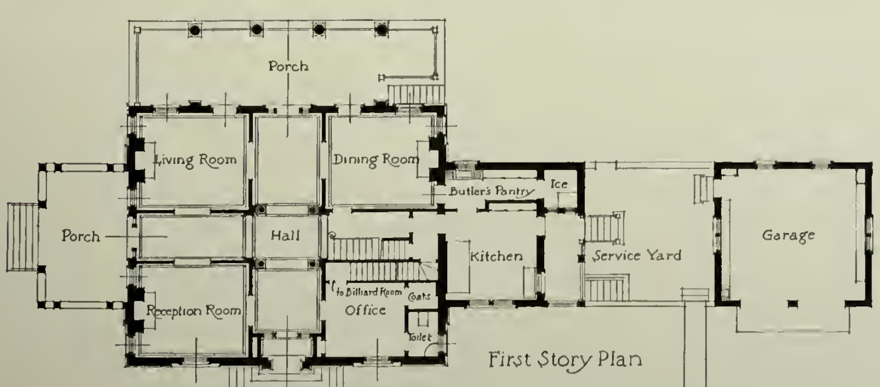
DETAIL OF LIVING ROOM.

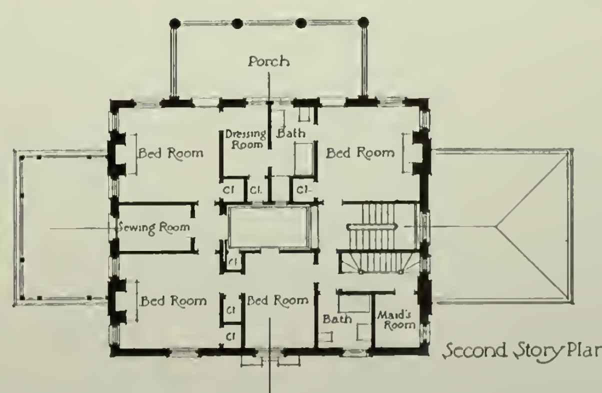


DETAIL OF ENTRANCE
HOUSE AT ROLAND PARK, MD.
HOWARD SILL, ARCHITECT.

DETAIL OF MAIN ENTRANCE.

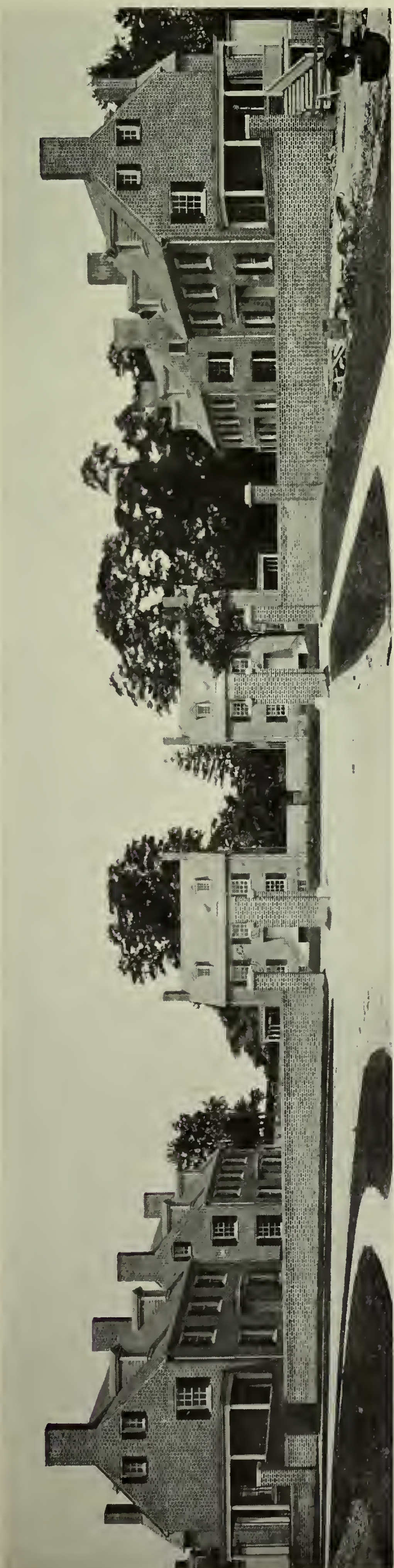
VIEW LOOKING TOWARDS DINING ROOM.

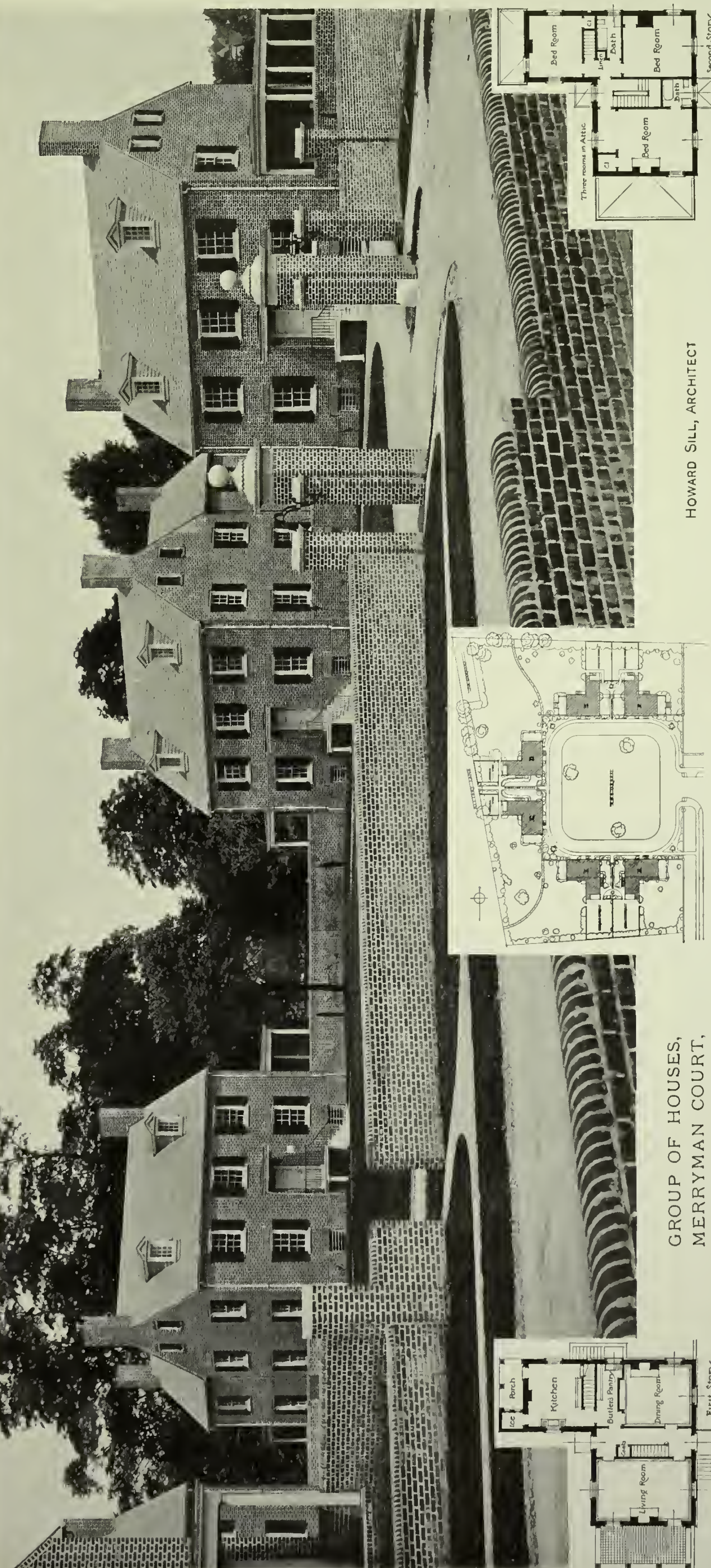




HOUSE, SOMERSET ROAD, ROLAND PARK, MD.

HOWARD SILL, ARCHITECT





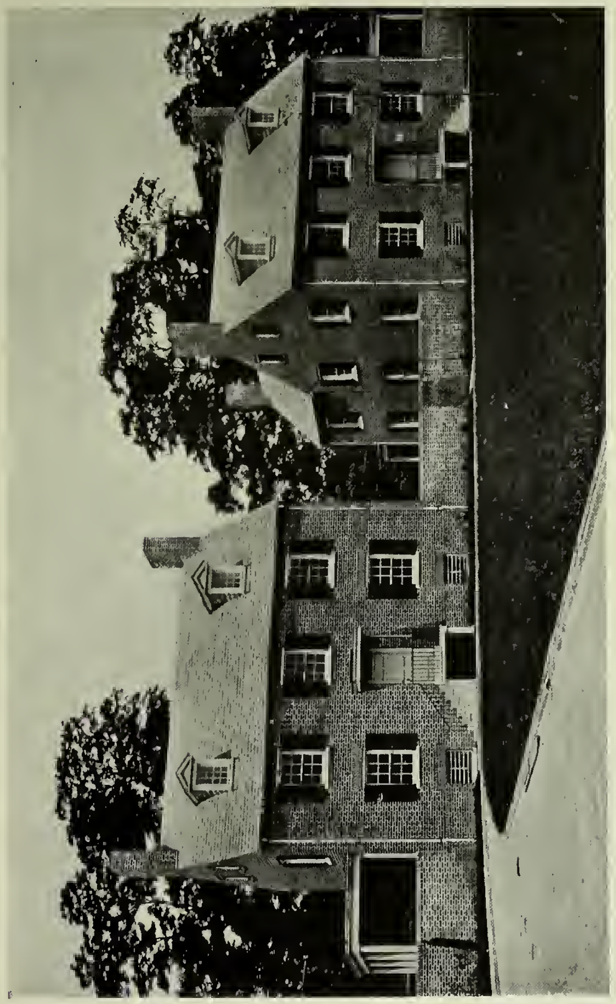
TYPICAL PLAN.

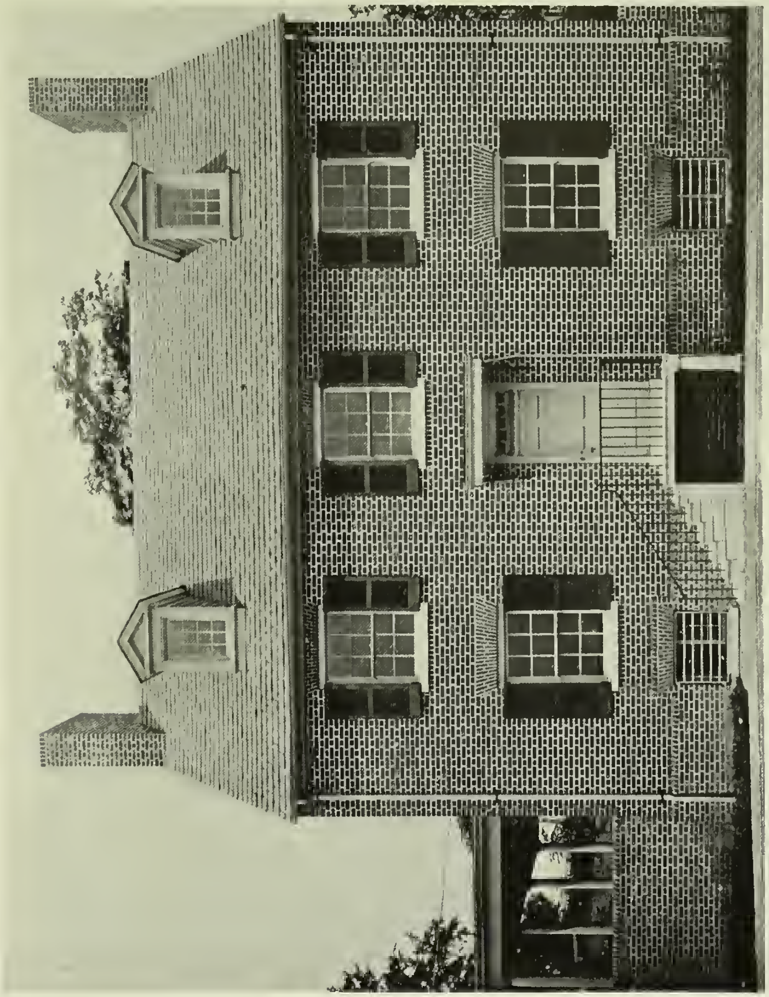
HOWARD SILL, ARCHITECT

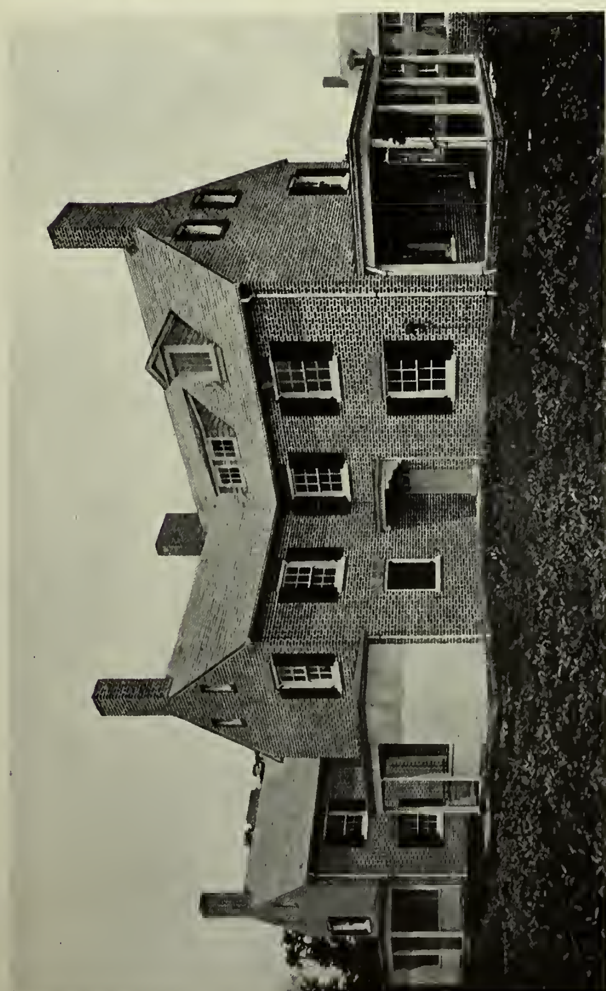
GENERAL PLAN.

GROUP OF HOUSES,
MERRYMAN COURT,
ROLAND PARK, MD.

TYPICAL PLAN.







GROUP OF HOUSES, MERRYMAN COURT, ROLAND PARK, MD.
HOWARD SILL, ARCHITECT.

Distinguished Architecture as a Precedent.—IV.

C. HOWARD WALKER.

THE invaders from the North of the Roman cities in what is now Italy required centuries of time to settle into even comparatively peaceful conditions. The advance from semi-barbarism to civilization, frequently interrupted and checked by local wars, was constant in one direction, —that of the progress of the Church. The ecclesiastic not only unified all classes of men under the tie of a universal religion, but by the inculcation of fear on the one hand and by the example of a higher type of cultivation on the other, led the peoples into a more coherent life. The religious edifices became the most important expression of the progress of civilization, and from the 8th to the 15th century the principal development of architecture in Europe is shown in their design. The Church of Rome had as its environment what remained of classic Rome, and sought at first, as far as lay in its power of technique, to imitate classic motives. Of these motives the arch was the most conspicuous, and therefore made the most constant appeal. Until the time of the structural development of the pier system and vaulting, which created the Gothic style, the ecclesiastical buildings, monasteries, abbeys, cathedrals, churches, and bishops' residences were all designed with round arches as the chief architectural motive. In the classic buildings the arch was used to span voids; in these later round arched buildings, arcades were often mere decorative motives.

The reason for the use of series of arches of small spans was twofold, — first, because the early builders were often incapable of constructing or supporting arches of large span, and second because the arched form was imitated as a decorative feature not as a structural necessity. Quantity was substituted for quality. Early in the 19th century the French classified this round arched architecture based upon Roman precedents as Române, to discriminate between it and Romain, that is, Roman classic work. It is known to us as Romanesque. There are two very distinct types, — that of Northern Italy built of brick and marble, and that of France, Germany, and Northern Spain built of stone. The first can be found in Strack's book on the subject and in Street's "Brick and Marble Architecture of Italy," the second in Revoil's "Romanesque Architecture." Areas of openings were small in comparison to wall surfaces; the structure was one of inertia and of horizontal lines rather than of vertical lines. Decorative effect was obtained around openings by arches within arches, and by arcades, and by decorated string courses and grouped columns.

In the brickwork of Italy these are delicate. Elsewhere they are strong, sturdy, and vigorous. The proportions of the orders of architecture are forsaken, probably from lack of knowledge and of appreciation. Columns are of all sizes and proportions, and any portions of entablatures are used indiscriminately. The development of the doorway by series of concentric arches, each receding behind the plane of that above it, affords opportunity for columns

CHURCH OF S. TROPHIME, ARLES, FRANCE.

CHURCH OF S. GILLES, FRANCE.

DURHAM CATHEDRAL, ENGLAND.

CHURCH OF S. AMBROGIO, MILAN, ITALY.

which fill the angles of the jambs, and develop later into the rich decorative moulded treatment of Gothic doorways. The vigor of the style in stone permits rough wall texture, but does not require it. The style is a free one, dependent upon the spotting of its shades and shadows in scale and proportion much more than upon refinement or beauty of detail.

It is fitted for buildings with sturdy walls, deep reveals, and comparatively little demand for light in the interiors, and is apt to require isolation and somewhat rustic environment, so that it may not overwhelm its neighbors by its robust quality.

This is much less true of the Italian type than of the Northern type. The Romanesque style appealed strongly to the vigorous personality of H. H. Richardson and was used by him with appreciation and skill. Much of the work suggested by this style has, however, exaggerated its possibilities of uncouthness and of crude proportions. It readily becomes heavy, vulgar, and commonplace. Having no canons of art and being dependent upon good taste for its best qualities, it has nothing to correct its capacity for crudity. Its ornamental details range from direct imitations of classic detail, through combinations of geometric forms, to strongly conventionalized naturalistic ornament. The Romanesque style in the past occurred in ecclesiastical buildings of considerable size, and it is still adaptable for such edifices and for smaller isolated buildings, such as libraries, crematories, etc. It is heavy and usually large in scale for dwellings and ill-fitted for any buildings in which much light is required. The designer in this style will find the more delicate work of Italy better adapted to modern conditions than the Northern work. He should realize that the jamb and arch treatment of openings is a very important motif of the style and should not be coarsely treated; that columns only three and four times the height of their diameters are uncouth; that very large voussoirs in small arches are crude, and that because the style is sturdy, its detail need not be huge in scale. Also, that rock-face stone is very apt to destroy the proportions of the work.

CHOIR OF CATHEDRAL AT BAYEUX, FRANCE.

The carving of Romanesque work is full and strong, often with deep undercutting and usually with more ornament than background. Its surface modulations are slight, as it depends upon its silhouette for effect, not upon a delicacy which would seem puerile applied to the broad planes of its surfaces.

The leafage ranges from a V-cut leaf resembling the Byzantine acanthus to a round-lobed or foiled leaf like that of the Gothic. Stems are large and often multiplied in parallel lines. Capitals are more frequently of the convex cushion form than the concave bell form. The mouldings are usually roll mouldings or half rounds alternated with cavettos and broad fillets. Cymas seldom occur. Simple geometric bands or belts, such as zigzags — dog-tooth mouldings and guilloches — form contrasts to the more elaborate work.

Romanesque modern work is not coloristic but depends upon light and shade for its effects. In the medieval work, however, there was color upon the carving and in patterns upon the walls. The colors were

CHURCH OF ST. ANTONIO, PADUA, ITALY.

CHURCH OF ST. ETIENNE, CAEN, FRANCE.

CHURCH OF ST. GEREON, COLOGNE, GERMANY.

CATHEDRAL AT ELY, ENGLAND.

DISTINGUISHED ARCHITECTURE AS A PRECEDENT.

not rich, but were soft in effect and were confined to even tones of red, gray blue, yellow, green and white, with occasional use of gold. The interiors of the churches of Cologne, Mainz, and Worms have been restored in color, somewhat garishly. Very little of the color on the exteriors remains. A porch on the Cathedral of Leon in Spain is one of the best preserved examples.

CATHEDRAL AT WORMS, GERMANY.

There are excellent possibilities of the color treatment of cafés and restaurants in the Romanesque style. Backgrounds of either soft gray or of the cream warm colors of stone, and vaulted ceilings, with borders of colored ornament, leaving large spaces which form fields for devices or for decorative inscriptions, are all consistent with Romanesque work.

The fact which the student should realize is this, — that the style is broad and robust; that it becomes uncouth and ridiculous used in small rooms or in small masses; that its detail is not delicate but is vigorous, and it is therefore unfitted for use in rooms in which there are but very few people, or when the delicate dresses of women would contrast with the decoration. There needs to be a certain quality of roughness, of unconventionality to harmonize with the sturdiness of the style. Also that the exterior of buildings of this style are so strong in character that they are usually out of scale with any adjacent buildings, and therefore need isolation; that the deep reveals and the round arches are inconsistent with a maximum amount of light to the interiors. The style has seldom been carried to the point of refinement, as it succumbed to the Gothic before it had reached its full development; but the work at S. Trophime and at S. Gilles and at Chartres indicates its full possibilities.

The designer adopting the Romanesque style should be especially careful in the relation of the various details to each other. Any change in the scale of details is peculiarly conspicuous — for, as there is no general structural antecedent to hold the design together as an organic whole the style is dependent upon the light and shade of its openings and details for its unity — and should be carefully studied with that intention.

CATHEDRAL AT MAINZ, GERMANY.

The New Filene Store Building, Boston, Mass.

DANIEL H. BURNHAM, ARCHITECT.

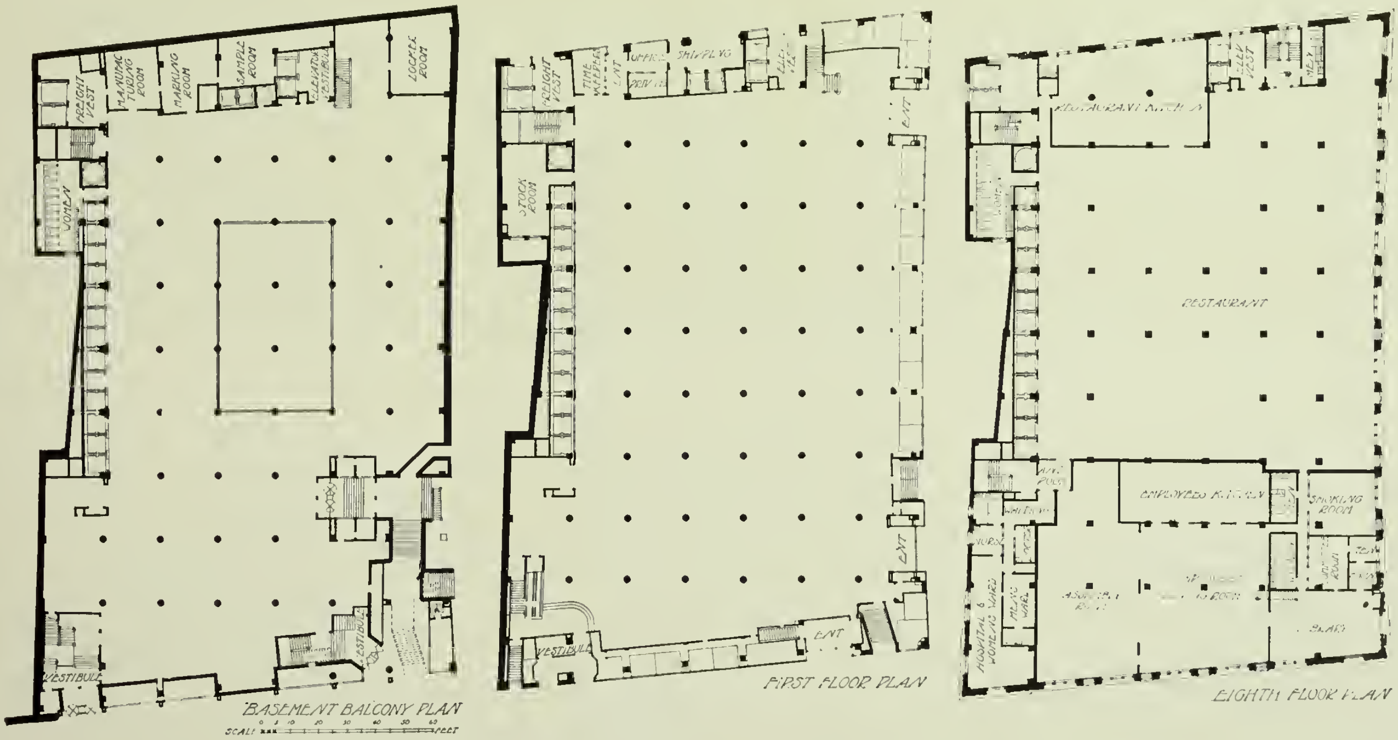
THE city of Boston has added one more monumental structure to its rapid and substantial growth in mercantile institutions. Upon the site of the old Seven Stars Tavern has been erected the new Filene store — a building indicative of our great commercial life and a frank expression of modern ideas. It stands the resultant of a long cherished ideal — the home of a great and distinctive business — a fitting memorial to its architect, the late Daniel H. Burnham.

Rising eight stories above ground the ensemble presents an effect of dignity and extreme richness. The façades indicate frankly the nature of the work for which it has been built. The Italian Renaissance, adapted to present-day needs, furnishes another example of how a unity of expression may be engendered by a variety of motives and a contrast in color so important in the production of a vigorous art.

The ornamented second-story treatment, strong corner piers, and rich cornice, all form a suitable enclosure for the extremely decorative mass within, consisting of slender reeded colonnettes, floreate paneling, etc. Dull glazed, dark olive green terra cotta has been used for this detail, contrasting sharply but harmoniously with the light gray terra cotta forming the enclosure above the first story.

The symmetry of the entire façade together with the effective repetition of the various parts affords an esthetic and expressional treatment. The piers at the corners, for example, maintain the appearance of tremendous strength, although composed of small and decorative pieces. One feels at once that the architect has grasped the true relationship between the design and the materials employed. There is no attempt to disguise the use of terra cotta, consequently the corner treatment has all the strength and stability of stone and at the same time the refinement and grace of the more delicate substance. The low relief given to the alternate ornamented courses in the piers are of sufficient texture to break the monotony of a plain surface and carry the eye from the elaborate treatment at the second and third stories to the richly moulded cornice.

Perhaps the most striking feature is the large central treatment of window openings. The color scheme emphasizes the space allotted to both light and air. The columns extending through five stories are tied together by bands at each floor, which in turn are divided into three panels by narrow mullions continuous throughout the entire height. In this manner the maximum amount of light has been obtained without sacrificing either strength or elegance in the general effect. The jointing of the various parts is well executed. The bases and caps of the columns are composed of small members so carefully fitted as to give the appearance of one casting.



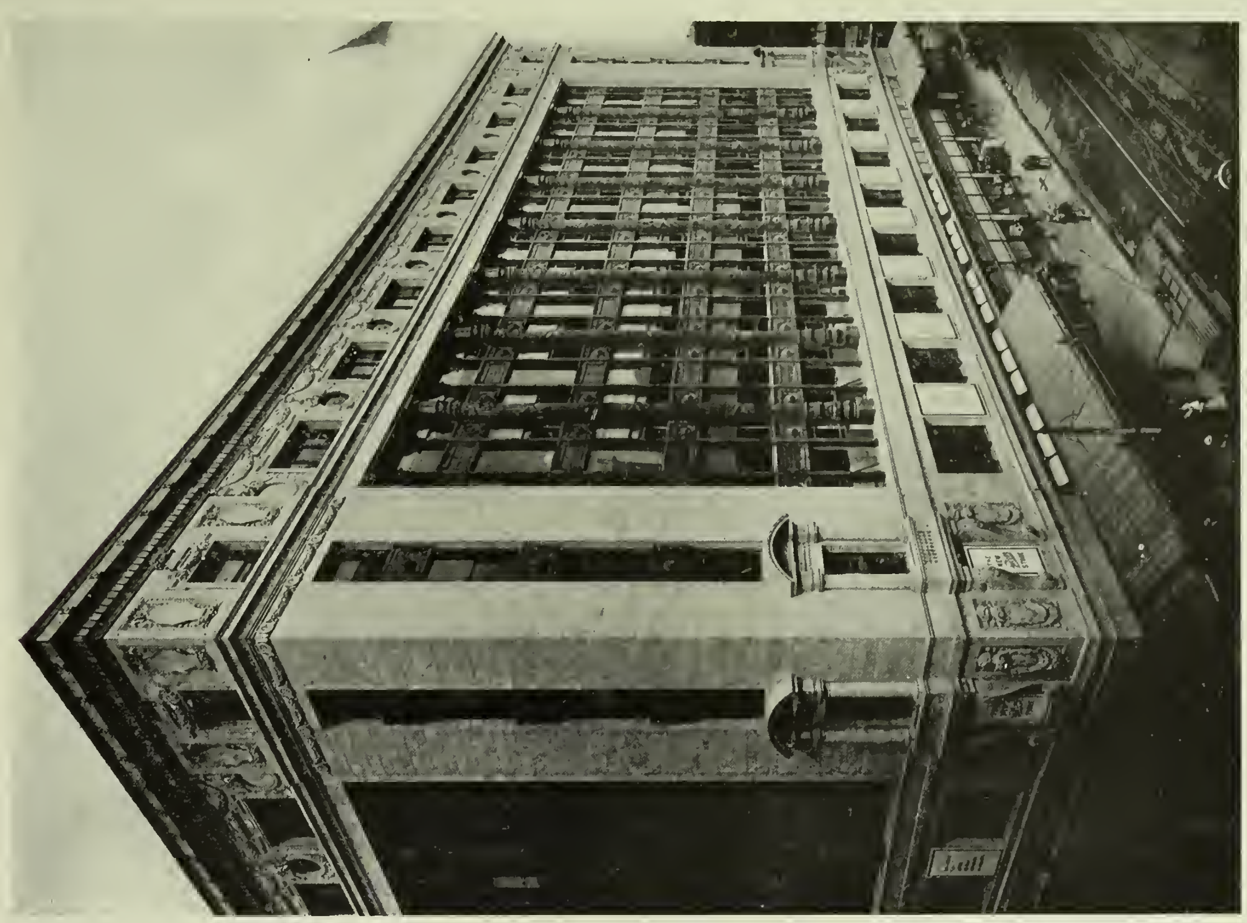
PLANS OF THE FILENE DEPARTMENT STORE, BOSTON, MASS.

The building was designed to meet the needs of a large co-operative department store. The employees' Co-operative Association has a profit-sharing membership of two thousand, with its own cafeteria, its own kitchen and ice plant, roof recreation fields, assembly hall and committee rooms, hospital, library, baths, and men's smoking room.

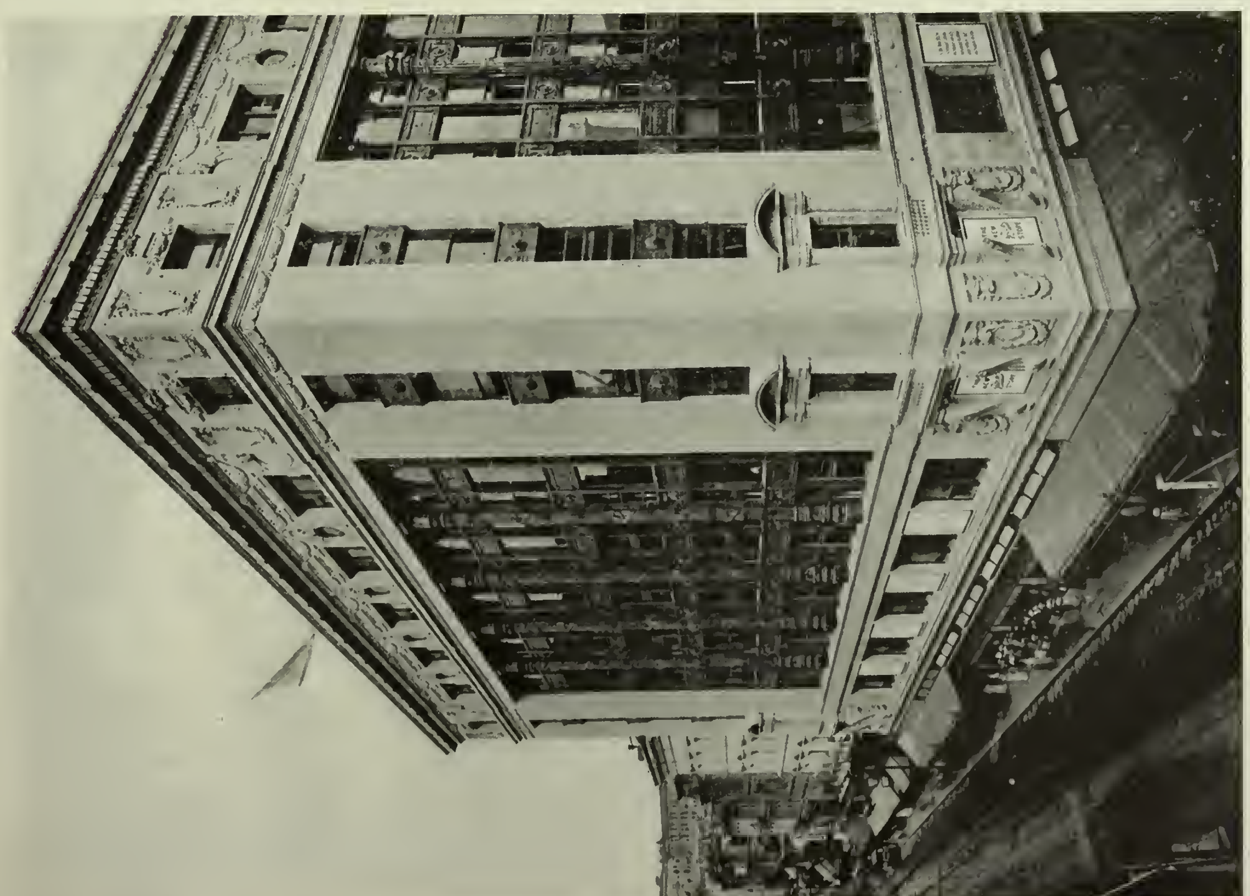
Instead of aisles the floors are laid out in streets, each one having specialty shops designed after the manner of Parisian booths — a scheme to keep each selling department by itself. There are seven entrances at the street level, one leading direct to the basement, one to the men's department, one to the shipping rooms, and the remaining to the main store.

Terra Cotta Details. D. H. Burnham & Co., Architects.

THE FILENE DEPARTMENT STORE, BOSTON, MASS.



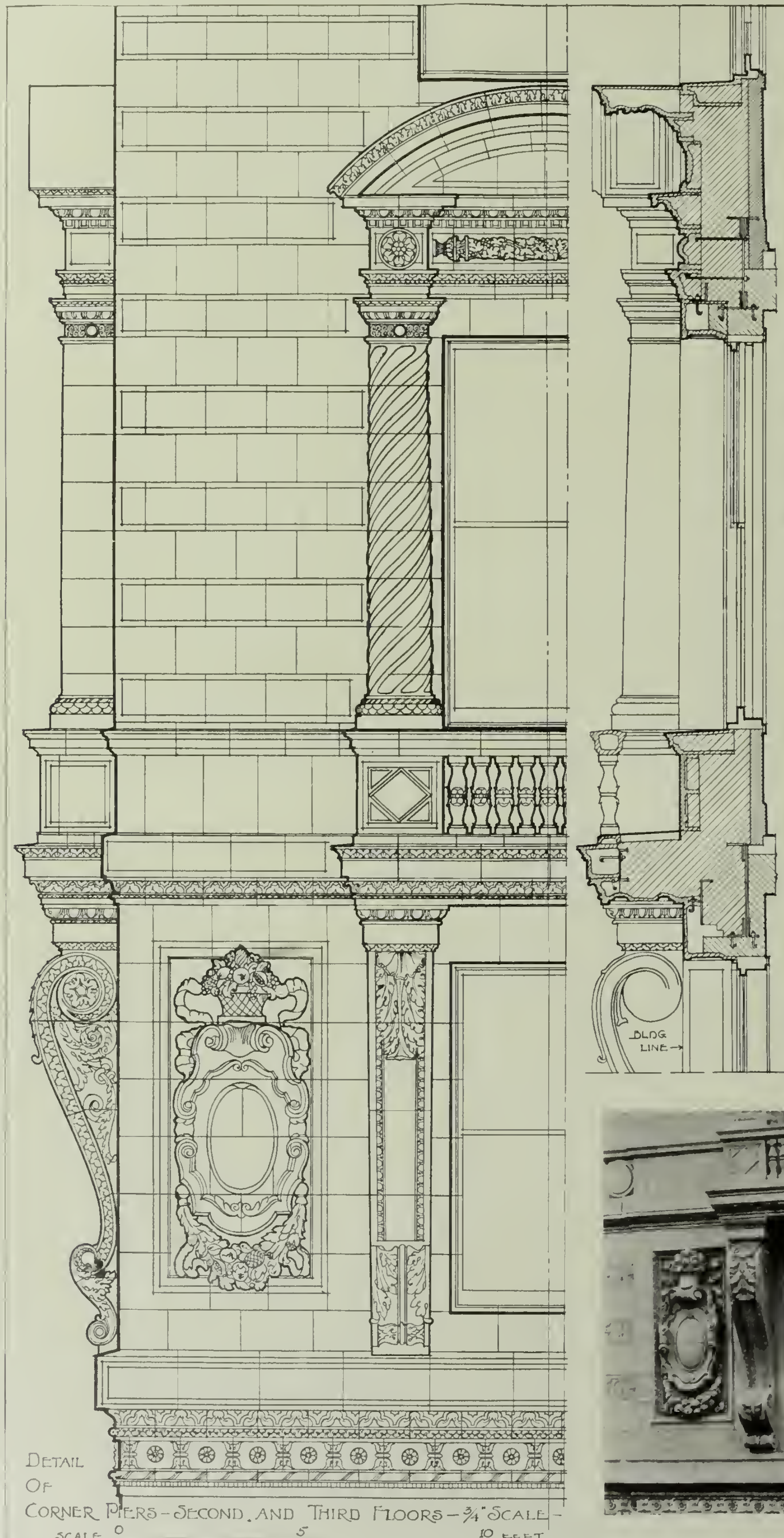
SUMMER STREET ELEVATION.



WASHINGTON STREET ELEVATION.

THE FILENE DEPARTMENT STORE, BOSTON, MASS.

D. H. Burnham & Co., Architects.



Terra Cotta Details. D. H. Burnham & Co., Architects.

THE FILENE DEPARTMENT STORE, BOSTON, MASS.

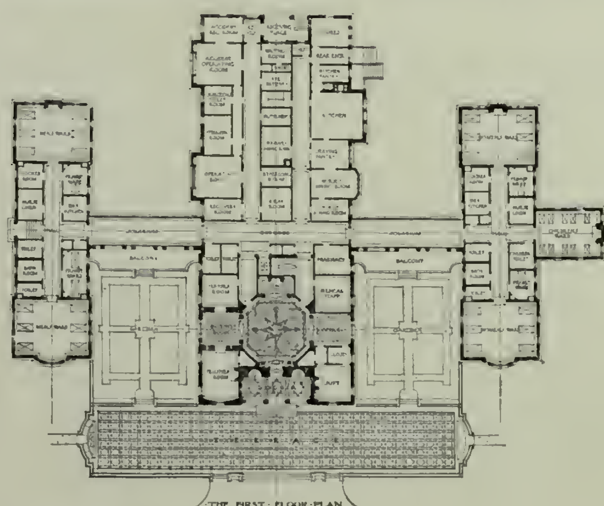
MEMORIAL HOSPITAL, PAWTUCKET, R. I.
Guy Lowell, Architect.

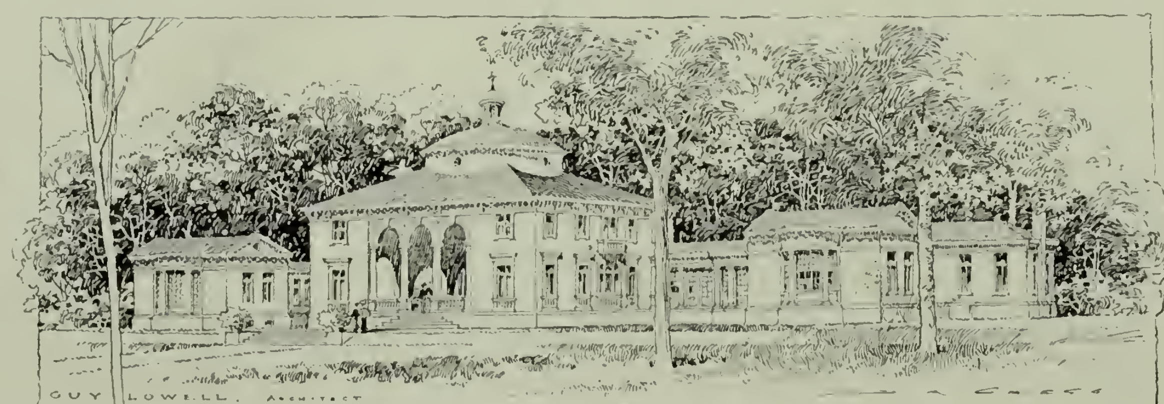
ENTRANCE HALL.

TYPICAL WARD.

MEMORIAL HOSPITAL, PAWTUCKET, R. I.

Guy Lowell, Architect.





Memorial Hospital, Pawtucket, R. I.

GUY LOWELL, ARCHITECT.

(Illustrated on pages 251, 252.)

THE exterior of the building is treated in a warm creamish-gray stucco with pebble dash face applied to walls of common brick with the joints raked out. The roof is of red shingle tile. The loggias are finished in wood while the lobby follows the general scheme of stucco on brick. The finish and floor of the memorial hall is quartered oak while all other finish is ash with rift Georgia pine floors. In the operating suite the floors are of tile and the walls of hard plaster, and in the toilet and bath rooms asbestolith floors and wainscots are used. The mens' wards accommodate six medical, six surgical, and three private patients; the women's ward a similar division, and the children's ward contains eight beds. The basement plan provides for a heating plant, laundry, servants' and janitor's quarters, storerooms, photography, autopsy room, morgue, and work rooms. The second floor provides suites for the superintendent and internes as well as sewing and linen rooms. The nurses' home is separate and apart from the hospital building. Measuring from the under side of the basement floor to the middle of the roof the cubical contents are 640,000 feet, which makes the cost approximately 19 cents per cubic foot.

Editorial Comment and Miscellany.

ARTISTIC DEVELOPMENT OF THE PANAMA CANAL.

SENATOR F. G. NEWLANDS presented the following amendment in the Senate, Aug. 9, 1912: The President, before the completion of the canal, shall cause the Commission of Arts to make report of their recommendation regarding the artistic character of the structures of the canal, such report to be transmitted to Congress. Senator Newlands, in commenting on the amendment, thought that the prominent men in architecture and art should be consulted in regard to the artistic development of this great engineering problem. He proposed that the Commission of Arts visit the Isthmus of Panama and suggest to Congress an artistic treatment that would be a fitting memorial of the spirit and culture of our time.

DETAIL BY WALTER HANKIN, ARCHITECT.
South Amboy Terra Cotta Company, Makers.

ATHLETIC FIELD FOR YALE UNIVERSITY.

THE plans for the New Yale Athletic Field, to cost $700,000, include the erection of a stadium capable of seating 60,000 spectators, a club house, tennis and squash courts, class diamonds and gridirons for the use of men in the various undergraduate classes. A large parking space for automobiles will also be provided.

The stadium, the most striking feature of the general layout, will present some novel ideas. Unlike other structures of a similar character, twenty-five of the fifty-five rows of seats will be built beneath the natural level of the ground. This will afford an opportunity of enlarging the stadium at the top in case future contingencies demand it. The seats will all have wooden backs and foot-rests. The treads will be approximately 27 inches wide with risers varying from 8 inches at the bottom row of seats to 13 inches at the top.

DETAIL BY GARBER & WOODWARD, ARCHITECTS.
The Winkle Terra Cotta Company, Makers.

FIRST BUILDING ON BROOKLYN'S GREAT PLAZA.

AT the junction of Eastern Parkway, Flatbush and Underhill avenues, Brooklyn, a section of land is held for the proposed main entrance of Prospect Park, which is to be comprised in the Brooklyn Plaza plan and to be arranged in the form of a perfect circle. On the perimeter of this plaza space is reserved for the Zoological Museum, the proposed ornamental park entrance structures, and the Central Public Library, the area for all of them to comprise nearly one half of the perimeter. The center of the plaza will have an electric fountain, with a wide driveway surrounding and walks intersecting it like spokes of a wheel.

DETAIL BY JOS. EVANS SPERRY, ARCHITECT.
Conkling-Armstrong Terra Cotta Company, Makers.

At the recent meeting of the Municipal Art Commission the design and plans for the library building were approved, and the Board of Estimate and Apportionment at once made available $175,000 for laying the foundations. The library will have four stories and a basement, standing about 88 feet high above the sidewalk, the top of the dome towering 150 feet. A feature of the library will be the children's room for use of juvenile borrowers. It will have seats for 200 with standing space surrounding for their attendants or parents. The cost of the structure is said to be approximately $4,500,000.

DETAIL FOR MONTEFIORE HOME, NEW YORK CITY.
The architectural terra cotta for this hospital, consisting of nine buildings, is being made by The New Jersey Terra Cotta Company.
Arnold W. Brunner and Buchman & Fox, Associated Architects.

IN GENERAL.

Mr. Edward H. Reed, architect and engineer, has opened an office in the Amicable Building, Waco, Texas.

DETAIL BY ANDRY & BENDERNAGEL, ARCHITECTS.
Fabricated by The Northwestern Terra Cotta Company.

HOUSE AT RIDGEWOOD, NEW JERSEY.
Built of Natco hollow tile.
Mann & MacNeille, Architects.

Announcement is made that Mr. Joseph I. Higgins, formerly of the firm of Corbett & Higgins, architects, has withdrawn from that partnership and formed with Mr. Edward F. O'Brien the firm of Higgins & O'Brien, with offices at Fall River, Mass.

LIBRARY AT MILWAUKEE.
Brick furnished by Western Brick Company, Danville, Ill.
Brust & Philipp, Architects.

Frank A. Childs and William Jones Smith, under the firm name of Childs & Smith, have opened an office in the People's Gas Building, Room 1263, Chicago, Ill., and would be glad to receive manufacturers' catalogues and samples.

Wm. Beuttler and Ralph Arnold have opened an office for the practice of architecture at Davidson Auto Block, Sioux City, Iowa. They request catalogues, etc.

NEW BOOKS.

An Architect's Sketch Book. By Robert Swain Peabody. The essays in this book were written at different times by one of the leading American architects. They describe vacation journeys and the architecture found in different countries — France, England, and Italy — and treat also of other subjects more or less related to architecture. They are, as the author writes in his preface, the "by-products" of a busy professional life. The illustrations, with which the book is profusely supplied, are reproduced from rapid pencil drawings in the author's sketch books. The book will attract those who are fond of sketching and of architecture, and especially will it interest travelers who are about to journey in the countries described. Price $5.00. Boston, Houghton-Mifflin Company.

Architectural Styles for Country Houses. The characteristics and merits of various types of architecture as set forth by enthusiastic advocates. Edited by Henry H. Saylor. Price $2.00. New York, McBride, Nast & Company.

English Ironwork of the XVIIth and XVIIIth Centuries. An historical and analytical account of the development of exterior smithcraft. By J. Starkie Gardner. Contains 330 pages with over 250 illustrations, including a series of 88 collotype plates, from special photographs. Price $16.80. New York, William Helburn.

DETAIL BY JOHN H. PHILLIPS, ARCHITECT.
Brick, Terra Cotta & Tile Co., Makers.

Building Stones and Clays: their origin, characters, and examination. By Edwin C. Eckel, C.E. Associate, American Society of Civil Engineers. Fellow, Geological Society of America. Price $3.00. New York, John Wiley & Sons.

Fire Prevention and Fire Protection: as applied to building construction. A hand book of theory and practice. By Joseph Kendall Freitag, B.S., C.E. Price $4.00. New York, John Wiley & Sons.

Practical Methods of Sewage Disposal: for residences, hotels, and institutions. By Henry M. Ogden, M. Am. Soc. C.E., Professor of Sanitary Engineering, Cornell University, and H. Burdett Cleveland, Assoc. M. Am. Soc. C.E., Principal Assistant Engineer, New York State Department of Health. Price $1.50. New York, John Wiley & Sons.

DETAIL AT THE 15TH STORY — THE WOOLWORTH BUILDING, NEW YORK CITY.
Terra cotta executed by the Atlantic Terra Cotta Company.
Cass Gilbert, Architect.

How to Plan a Library Building for Library Work. By Charles C. Soule, A.B. Harvard 1862. Price $2.50. Boston, The Boston Book Company.

Applied Methods of Scientific Management. By Frederic A. Parkhurst, M.E., Organizing Engineer, Assoc. A. S. M. E. Price $2.00. New York, John Wiley & Sons.

TERRA COTTA FOR FILENE BUILDING, BOSTON, MASS.

THE architectural terra cotta for the Filene Department Store, Boston, D. H. Burnham & Company, architects, illustrated in this issue, was furnished by the Conkling-Armstrong Terra Cotta Company.

Wm. Leslie Welton, architect, has moved to his new offices in the American Trust & Savings Bank Building (Rooms 1906-7-8-9), Birmingham, Alabama. He desires material men to send up-to-date catalogues and samples. Mr. Welton is about to design a twelve-story, fireproof hotel and a twenty-story office building.

Cecil Bayless Chapman desires to announce that he has associated with him, as partner, Gottlieb Renatus Magney, under the firm name of Chapman & Magney. They will move from their present address, 509-11 Essex Building to 84 South Tenth street, Minneapolis, Minn.

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

THE NATCO HOUSE — THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

COMPETENT ARCHITECT WANTED — First-class man competent to handle modern office building and hotel work; not over 35 years of age. To the right man who can handle high grade work, write specifications, interview clients, we offer a steady position at good pay. Must be of pleasing appearance, good habits, and married. Good prospects for the future. Address, giving full details as to age, experience, references, and salary wanted, Samuel M. Green Company, Engineers & Architects, 318 Main Street, Springfield, Mass.

School *of* Architecture *of* Harvard University

Professional course for graduates of colleges, leading to degree of Master in Architecture

Course for special advanced students, not having college degree but at least 21 years of age, with office experience, leading to certificate

Design. Prof. E. J. A. Duquesne, Grand Prix de Rome.
History. Prof. H. L. Warren, A. M., F. A. I. A.
Construction. Prof. C. W. Killam, Assoc. M. Am. Soc. C. E.
Drawing. Mr. H. D. Murphy, Mr. H. B. Warren.
Ten other lecturers and instructors.

For circulars and other information apply to Prof. H. L. Warren, Chairman of the Council of the School of Architecture, Harvard University, Cambridge, Mass.

The University of Pennsylvania *offers courses in* Architecture *as follows:*

(1) A four-year course, leading to the degree of B.S. in Architecture. An option in architectural engineering may be elected.
(2) Graduate courses of one year, permitting specialization in design, construction, or history; leading to the degree of M.S. in Architecture.
(3) A special two-year course for qualified draftsmen, with options in design or construction; leading to a professional certificate.

For catalogue giving complete information regarding requirements of admission, advanced standing, summer school and atelier work, fellowships and scholarships, and for illustrated year book, etc., address DEAN OF THE COLLEGE, University of Pennsylvania, Philadelphia, Pa.

"TAPESTRY" BRICK

TRADE MARK — REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Roland Park, Baltimore, Md. .... Plates 122–4

HOWARD SILL, Architect.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS }

25 Arch St., Boston — Arena Building, New York

FAIENCE SALESMAN — There is an important position open for a salesman in a large faience company. While knowledge of faience is desirable, sales ability is the only essential. A good man can make himself very valuable. Address, Faience, care of The Brickbuilder.

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. — New York
Philadelphia — Boston

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.
Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — OCTOBER 1912 — NUMBER 10

PUBLISHED MONTHLY BY

ROGERS AND MANSON COMPANY
Boston, Mass.

ARTHUR D. ROGERS
President and Treasurer

RUSSELL F. WHITEHEAD
Vice-President and Managing Editor

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS AND MANSON COMPANY

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

Advertisements will be printed on cover pages only.

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

COPE & STEWARDSON; DERCUM & BEER; FORD, BUTLER & OLIVER; H. J. HARDENBERGH AND C. H. BLACKALL, ASSOCIATED; PAGE & FROTHINGHAM; SHEPLEY, RUTAN & COOLIDGE; ALBERT SKEEL; JAMES KNOX TAYLOR; HORACE TRUMBAUER.

LETTERPRESS

NOTICE. — The regular mailing date for THE BRICKBUILDER is the 25th of the month; for instance, the January number was mailed January 25th. The Post Office Department now sends the larger part of the editions of all publications by freight, and this requires an additional time for transportation of from two to eight days, depending upon the distance of the distribution point from the publication city. The publication date of THE BRICKBUILDER will be moved forward gradually so that copies for a given month will reach subscribers even at distant points within that month.

CHURCH, VIRGIN DEL CARMEN,
SAN LUIS POTOSI, MEXICO.

The dome is covered with glazed tile of yellow, green and light blue colors laid diagonally across the panels.

THE BRICKBUILDER

OCTOBER, 1912

VOLUME XXI. NUMBER 10.

Recent American Group-Plans.

I. FAIRS AND EXPOSITIONS.

ALFRED MORTON GITHENS.

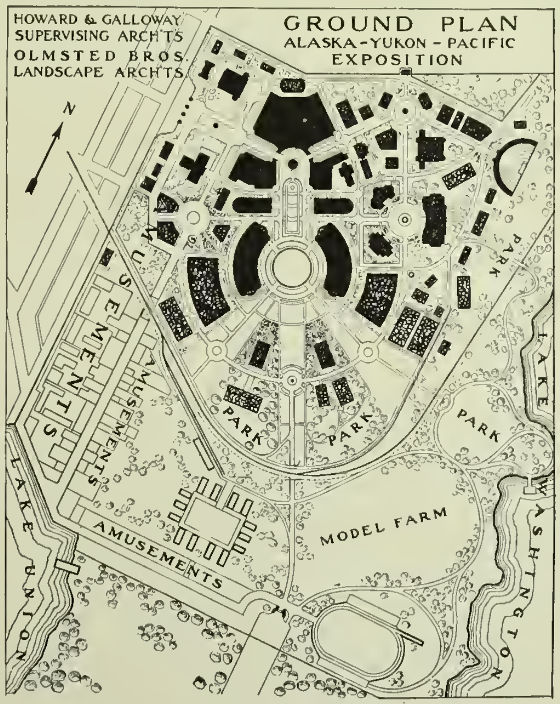
EDITOR'S NOTE. — In this article, and the two which will follow, Mr. Githens continues the series on "The Group-Plan" begun in THE BRICKBUILDER, July, 1906. The initial articles discussed the subject generally under the headings, "The Theory of Composition" (July, 1906), and "The Elemental Types of Composition" (September, 1906). Beginning in the September, 1907, issue and continuing in October, Hospital Groups were treated, followed by the Group-Plan for Universities, Colleges, and Schools in the December, 1907, issue.

THE past five years seem to have produced no radical changes in the development of the group-plan here. Former influences have continued; effects of the Paris system are more and more evident since all the college courses and the various Ateliers take the teaching of the École des Beaux Arts as their model. Few of the younger men have developed outside its influence, and therefore during the next few years the French ideals will naturally be acknowledged here as they seem to be the civilized world over, except in England and the Teutonic countries.

Modern English ideals are confused. The Secession movement of Austria and Germany, though of great promise, seems sometimes, like the French School, forgetful that a plan is not merely a decorative arrangement on a sheet of paper, that the executed work is more important than the project, the end more important than the means.

Characteristic of the Paris ideal is a certain bigness and simplicity, evidenced in a desire to include all the buildings of a plan in one great composition rather than in a series of smaller arrangements of varied form, more or less closely knit together. A single great impression to the beholder of size and symmetry is preferred to his sustained interest in passing from group to group, and the variety of the picturesque and unexpected. This ideal was impressed on the American students there, and on their return at once accepted by this country, for grandeur seems a quality appreciated by the American people.

The Court of Honor at the Chicago Fair received immediate acclaim. It was a bold course for the designers to have taken, this manifestation in staff and plaster of an architectural character which in Europe had been applied only to the most dignified and permanent of monumental buildings. The Court of Honor must be taken as a picture rather than the serious answer to an architectural problem; a model, an illustrated lecture to the people on architectural dignity. The civic center of Cleveland, the MacMillan Plan for the City of Washington, the projected Fulton and Perry memorials, these have been the people's response.



BLOCK PLAN.
ALASKA-YUKON-PACIFIC EXPOSITION.

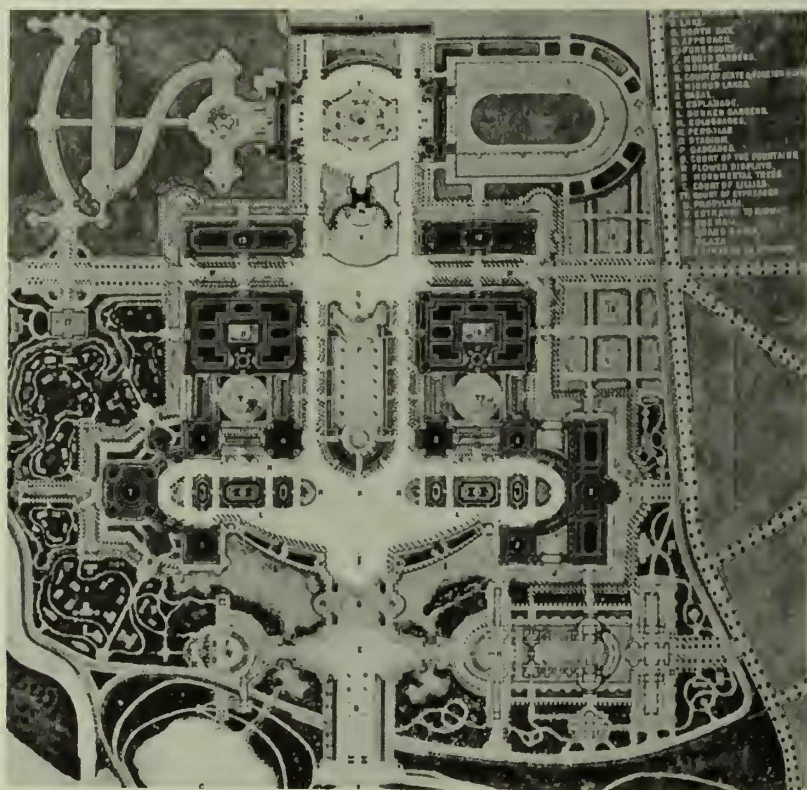
Howard & Galloway, Olmsted Brothers, Architects.

Situated on strip of land between two lakes; city of Seattle adjoining to the north; entrance at head of *open court* or *telescope*, forming main composition; around it, lesser buildings of the Fair are grouped. Curved buildings of agriculture and manufactures arranged at the foot to accentuate the opening; lanes cut through the great pines, southeast toward Mount Rainier on the horizon, and east and south over the lakes.

From this point of view, the censure of certain architects has been unjust, the criticism that the buildings of the Chicago Fair were not constructive, did not express their material nor their temporary nature; nor that they were built to house exhibits of manufactures, to promote sales, and to show, in an amusing way, the mechanical and agricultural progress of the preceding twenty years.

Later fairs, however, have been influenced by these criticisms. Formality is retained, but without such seriousness; rigid lines have given way to curves, at times to the sensuousness of most elaborate curvature. Following the French ideal, there has been a tendency toward the unity of one great composition of a recognized form. The Pan-American of Buffalo and the Alaska-Yukon-Pacific Fairs are each grouped around an *open court* such as in preceding articles we have called the *telescope;* it is the composition of the Champs de Mars group of the last Paris Exposition, with the Pont Alexandre III and the Grand and Petit Palais. The New York State Fair at Syracuse is an example of our *unsymmetrical composition on two axes*, and noteworthy in that it shows the successful placing of every building in the single composition; not one could be moved without its loss being immediately felt. The designers have employed every unit to aid toward a single prodigious impression.

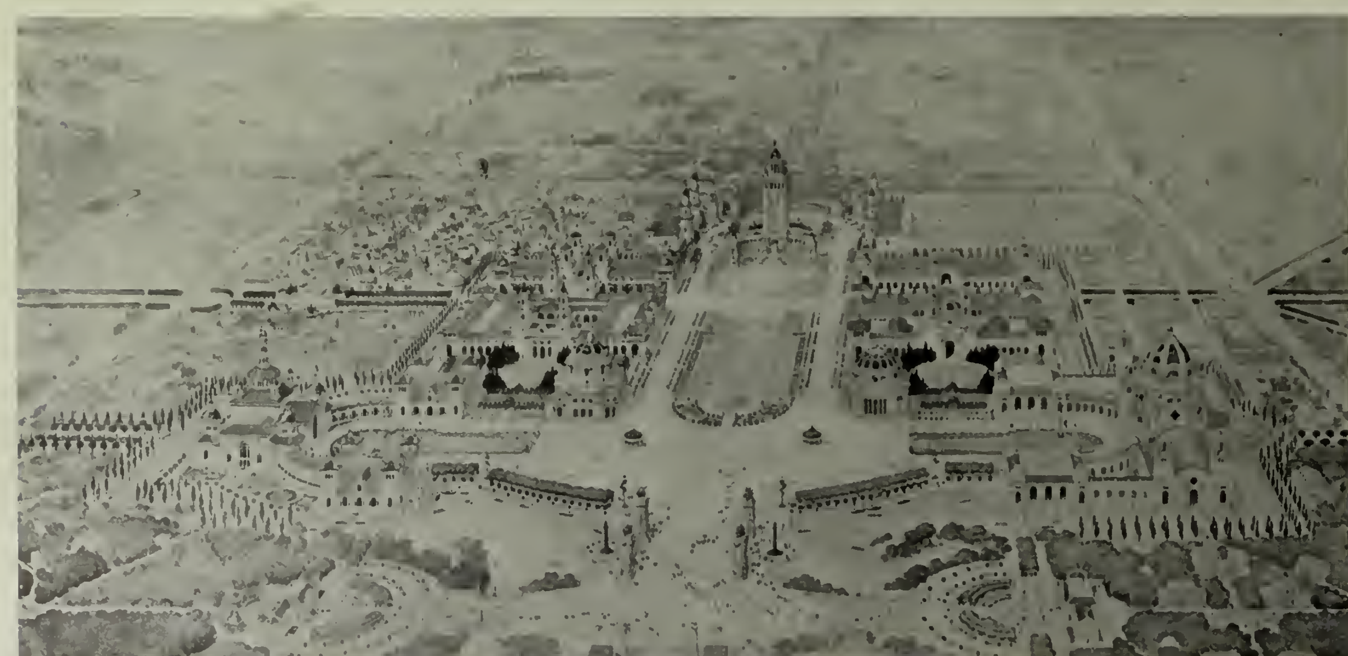
The proposed Nashville Fair is entirely different; two race-tracks hemmed it in; a central hillock divided the site; part of the group was required at once, and the rest for some future time. Results have been fortunate; whereas the entire New York State Fair is seen at the first glance and nothing left for exploration, the Nashville on the other hand leads one on from interest to interest, never with the stupendous impression of space as at the New York State Fair, but with always something fresh and unexpected. The French influence is evident in the central domed Concert Hall, with its Château d'Eau and its Trocadero-like colonnade, and elsewhere in sweeping curve and terrace, forecourt, avenue, parterre, and pool.



GROUP PLAN — PAN AMERICAN EXPOSITION.

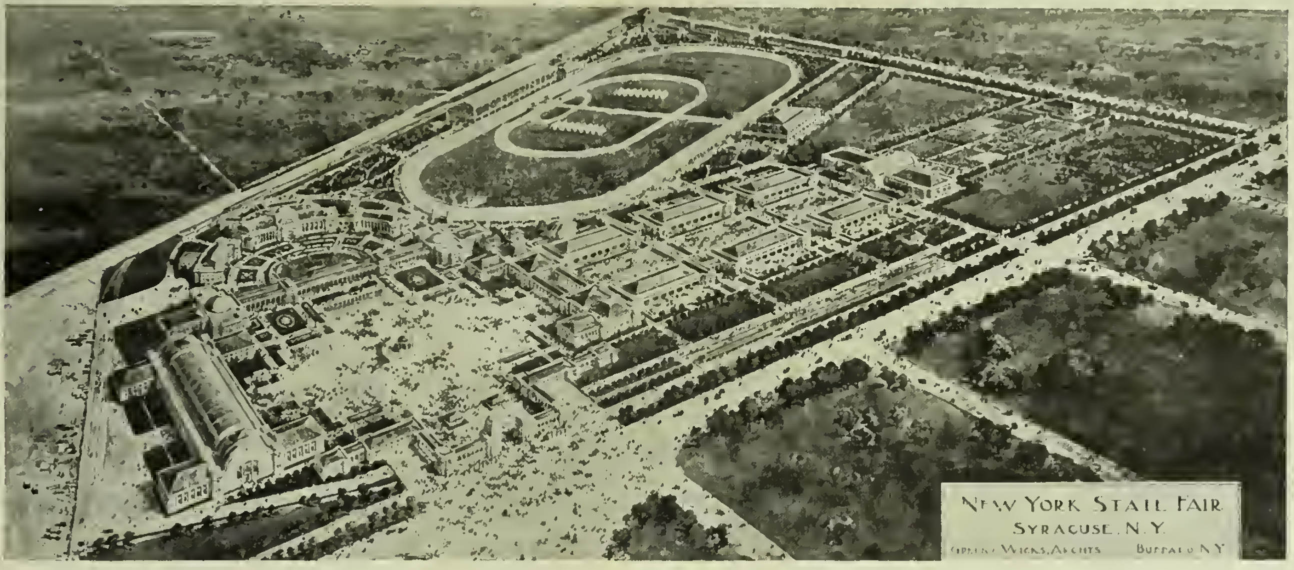
I. Dominant *compound Open Court*, or *telescope;* head at electric tower, foot at the Bridge of Honor.
II. At head, *closed court*, formed by railroad station, arcades, and electric tower.
III. At foot, *open court or telescope*, in direction opposite to that of dominant composition; Bridge of Honor forms foot of this as of dominant.
Principal entrances are at head of dominant composition, as in Seattle Fair.

Of an entirely different character is the proposed Panama Exposition at San Diego. The problem is new; the sunlight severe, and the locality and its traditions suggest an expression different from the others. This the authors have found in their idealized Latin city with its narrow entrance causeway and arched gate with flanking churchlike mass, its long street arcaded to shelter sidewalks from a burning sun, and great central plaza. There is no trace of French influence; the ground-plan as a decorative drawing shows that. Nor is it



PAN AMERICAN EXPOSITION, BUFFALO. Carrère & Hastings, Architects.

A dominant and two minor compositions, intimately connected by means of a building common to both. Principal entrances are at head of dominant composition, as in Seattle Fair.

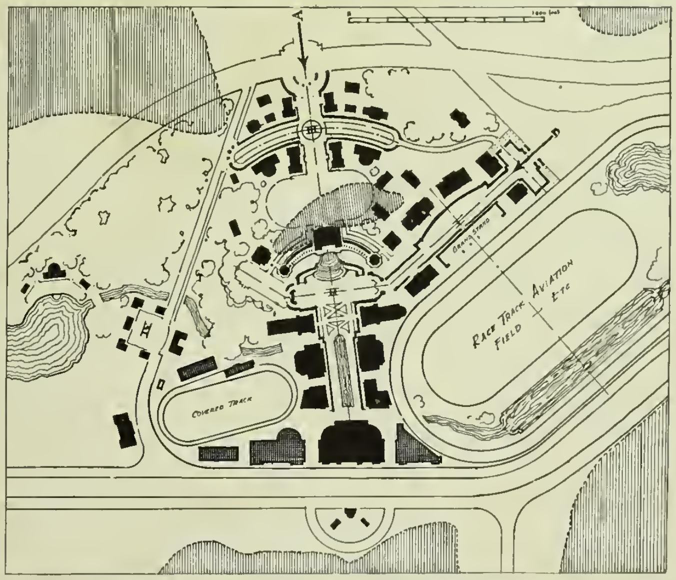


NEW YORK STATE FAIR, SYRACUSE.

Green and Wicks, Architects.

A pure example of the *unsymmetrical composition on two axes*, incorporating all buildings in a single indivisible composition.

Farm-station and race-course are extraneous.



BLOCK PLAN, TENNESSEE STATE FAIR, NASHVILLE.

Ludlow and Peabody, Architects.

Higher portions of ground hatched with vertical lines. Two entrances demanded, at A and B.

Music and Lecture Hall with lower surrounding buildings follows in composition the principle of *pyramid*. In detail there are four separate compositions :

I. Principal approach (from B, *closed avenue*, terminating in terraced steps which form entrance to —

II. Central Group, an *unsymmetrical composition on two axes*, the major axes extending from Music and Lecture Hall to Coliseum and the minor axis terminating in terraced steps to higher garden on the left.

III. Closed Court of unusual form, with circulation across center.

IV. Open Court or *U*, with no relation to the rest.

TENNESSEE STATE FAIR, NASHVILLE. Ludlow and Peabody, Architects.

Situated at junction of three shallow valleys, with small hillock at center of their intersection. Two race-courses, grandstand, and two near-by buildings were already constructed. Central hillock chosen for dominant building, the Music and Lecture Hall (c. f. St. Louis Exposition). Interesting treatment of slopes ; existing creek widened to form lagoon at end of large race-course, pool for swimming races, and formal basin in central court. In general, combination of formal and naturalistic treatment particularly interesting.

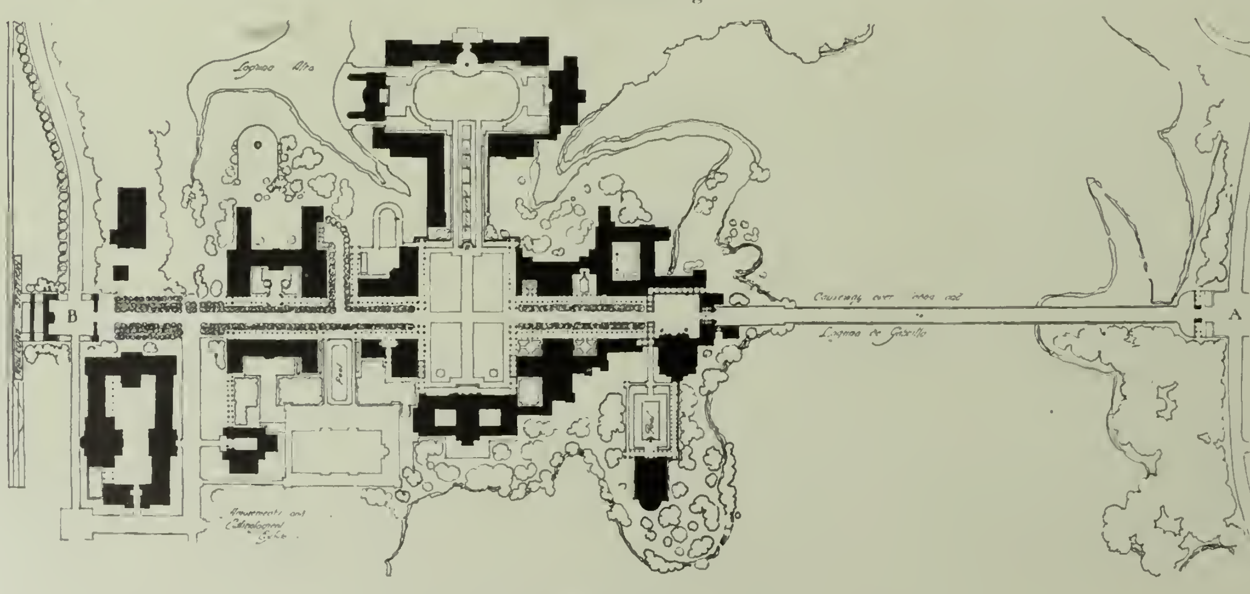
in any way suggestive of Paris or a French project. Paris walks in the full sunlight of broad avenues and boulevards, so spacious themselves that the Places give little contrast. The Place d'Etoile is enormous, but the Avenue des Champs Elysées is so broad that one scarcely realizes it when the Place is reached.

In Rome, however, out of the shadows of narrow streets and alleys between huge palaces, one emerges on the Piazza Colonna, de Spagna or Barberini; a vivid contrast is felt, the shadow intensifies the sunlight, and the sunlight the shadow; a contrast which Paris sacrifices for space for her greater traffic.

Now as Rome is to Paris, so is this to other exhibition plans. Its long street and shadowed arcade contrast with its great plazas; the plan is not arranged as a unit, an organism subject to definite laws of composition, but is more in the nature of a well-arranged city. There is something interesting to see at the end of each street or arcade, an adequate climax to each vista. Here and there, unexpectedly seen through some archway, is a sunny "patio" with its fountain, as through a Roman palace doorway one has a passing glimpse of cortile and old sarcophagus, with jet of water from an antique lion's head. It is all totally different in spirit from the other fairs.

An interesting problem is this of a fair, for the author may express any characters he wills. He may be gay or serious, frivolous or stately, conventional, original, utilitarian, or even somewhat sentimental.

ENTRANCE.
Showing causeway, entrance gate, and flanking churchlike California State Building. Central portion of Exposition omitted on this drawing.



BLOCK PLAN OF CENTRAL GROUP.
Situated on a spur of land at side of a canyon; entrance at causeway leading from the city "A"; railroad station at "B"; a city plan; long streets, arcades, rows of trees, open plazas. Interesting treatment of each vista; outside of the group irregular, conforming more or less with the contour of the canyon side.

PANAMA EXPOSITION, SAN DIEGO, CALIFORNIA.
Cram, Goodhue & Ferguson, Architects.

Modern Domestic Stairways.

PART II.—THE MODEST STAIR.

THOMAS HARLAN ELLETT.

THE construction of modest stairs is a daily occurrence. Here magnificence disappears, elegance only is current; but the principles remain the same. The qualities which are sought for are absence of pompous dignity, light, facility, soft allure, and lastly this quality, mistress of all, *viz.*, proportion, which will permit one to make a grand stair monumental, or to treat in a discreet and elegant manner the ordinary stair, the *intime* stair.

Besides straights and turns and notch-boards, stairs call for the same consideration from the point of view of composition as other parts of a house. The decoration, however, should always be sober. In rooms we have furniture, pictures, hangings, etc., for which we must provide a satisfactory background. In the cage of the stair, on the contrary, where the walls should be principally nude, the architecture ought to suffice for the beauty and decoration of the hall. Here, then, one should employ columns or pilasters, niches, panels, etc., to relieve the bareness. This decorated architecture of the cage commences really at the level of the second floor landing and should partake of the elegance of this floor with which it connects. It is a motive in section very beautiful and very noble, and nothing can give one a higher idea of an edifice than this monumental access between the floors.

STAIRS — PRESIDENT'S HOUSE — COLUMBIA UNIVERSITY.
McKim, Mead & White, Architects.

The logical result of classicising the stair was to cut short the newel, override it with a broad hand rail and abolish the finial. The long line of bold and well turned balusters is of great beauty, strength, and restful severity.

The grand stairs of habitations, stairways of honor, which frankly extend only to the principal floor, call preferably for the rectangular cage which lends itself so well to monumental compositions. It is the most economical in the use of space and does not commit one to unpleasant variations in the size and shape of steps.

Choice of materials is of capital importance, and usually these should be modest in effect. The balustrade in itself is a decorative feature, and when it is executed in metal the variety is much greater. The range of possibilities extends from simple bars to the richest decorative panels. The art of the stair ramp has produced superb works.

It is necessary, above all, that stairs be easy of ascent and descent. In this one particular, more perhaps than of any other, stairs fail to be satisfactory. Many different rules for the height of riser and width of tread are now in practice. He is a fortunate designer however who can afford sufficient space in which to apply any one set rule. A good general scheme for the proportion has been found to be, not over eighteen inches for the tread and riser together, and not less than seventeen inches. The illustration shown on page 262 shows a stair which gives a particularly easy ascent. In this case there was no need to economize in the space occupied by the stairway. The use of platforms to break the rise will also be noted. There is the run with more than one platform with turns to right and left and in some cases an entire change of direction from the starting point. The third collection of the present series on Domestic Stairways will illustrate some of the more unusual types. The Italian stairs, notably at Rome, are in general more easy than those now in use in America, and one ascends them with hardly any change in his ordinary step.

In the following series of photographs are shown some stairways of especially refined and clearly-designed types. The greater number of them are unassuming and, while simple and less rich than some previously reproduced, have also a grand and beautiful character. They will serve to illustrate the prevailing good taste in present-day stairbuilding, where economy of materials has necessitated that charm be obtained by beauty of proportion and details.

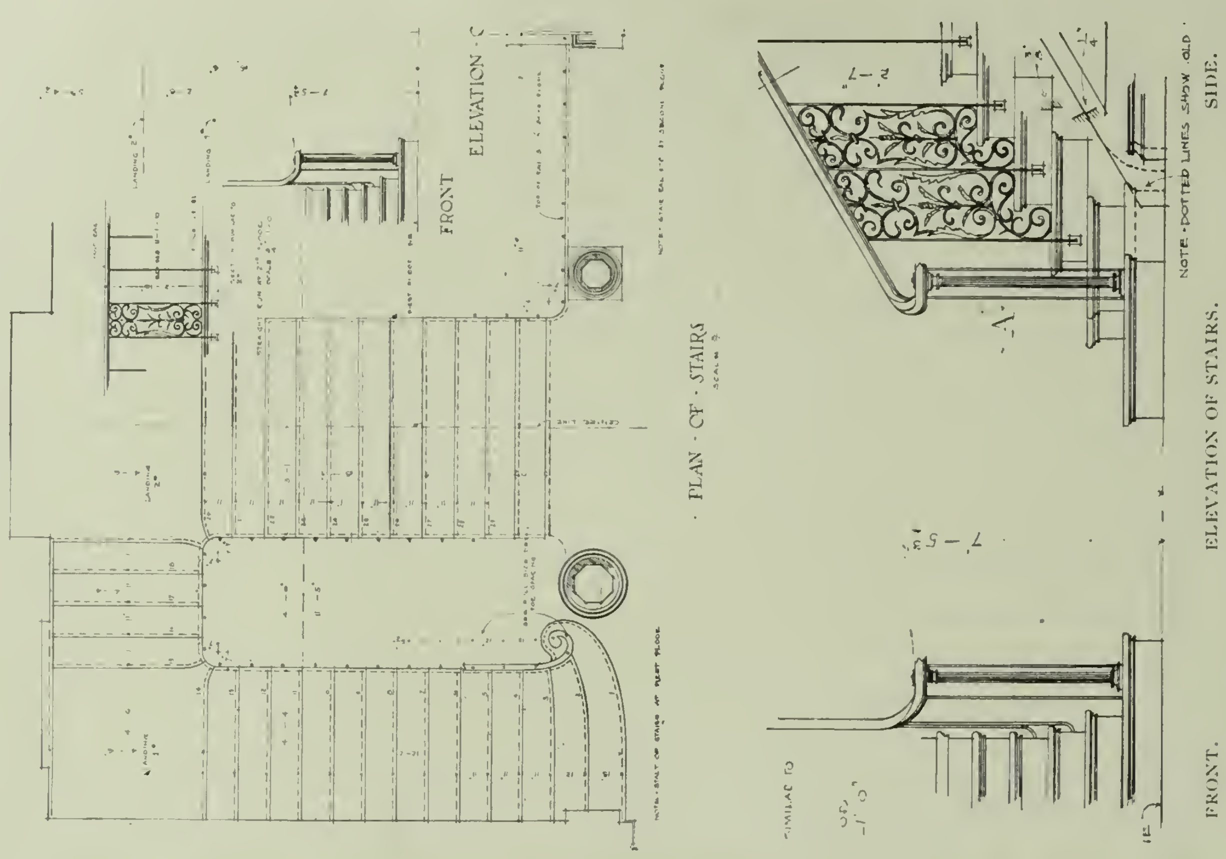
A STATELY STAIRCASE AND HALL IN A COUNTRY HOUSE, ALBRO & LINDEBERG, ARCHITECTS.
The balusters of three different and exquisite designs are set three to each tread.

ONE OF MCKIM, MEAD & WHITE'S MOST SUCCESSFUL DOMESTIC STAIRWAYS — HARVARD CLUB, NEW YORK CITY.
The ends of the oak treads are painted white to carry the line of the railing. The riser of this stair is 5¾ inches, the tread 14¼ inches, giving a very easy ascent.

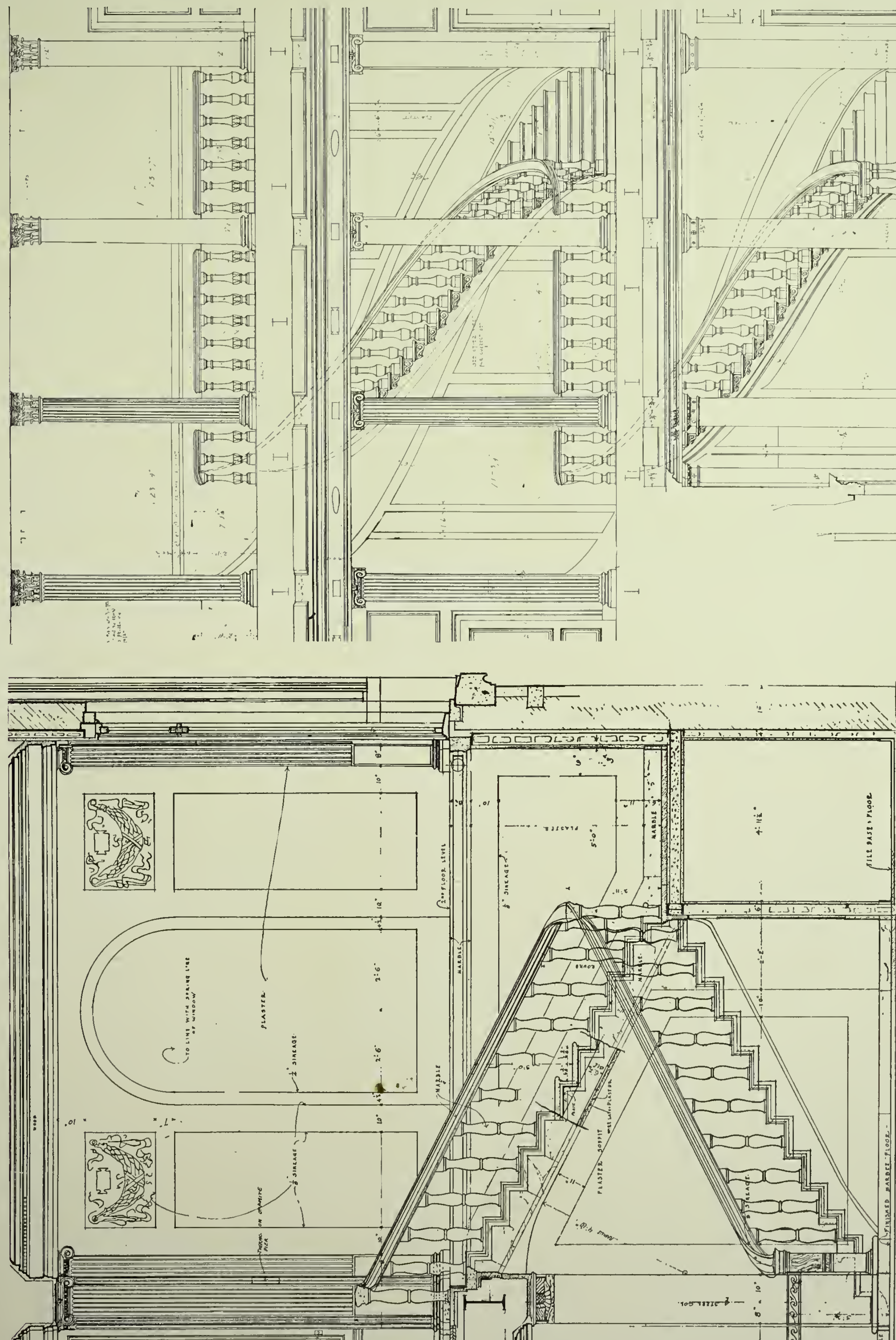
ANOTHER STATELY STAIRCASE BY CHAS. A. PLATT, ARCHITECT.

Reminiscent of noble ancestry and hospitality. The exquisitely wrought railing forms almost the only decoration in this beautiful hall.

A STAIRCASE ILLUSTRATING ROMAN TYPE, CHAS. A. PLATT, ARCHITECT.
The charming simplicity is noteworthy.



PLAN AND ELEVATION OF STAIRS BY CHAS. A. PLATT, ARCHITECT.
(Photograph on preceding page.)



ELEVATION AND SECTION — STAIRS SHOWN ON PAGE 261.

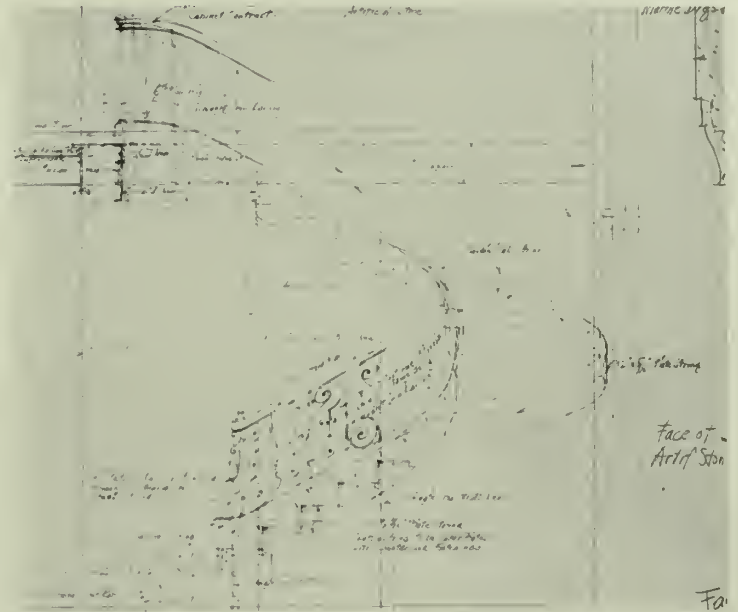
TYPICAL STAIR DETAILS. McKim, Mead & White, Architects.

THE STAIR HALL — RESIDENCE OF MRS. S. R. HITT, JOHN RUSSELL POPE, ARCHITECT.
A Washington residence with staircase in the Adams' style.

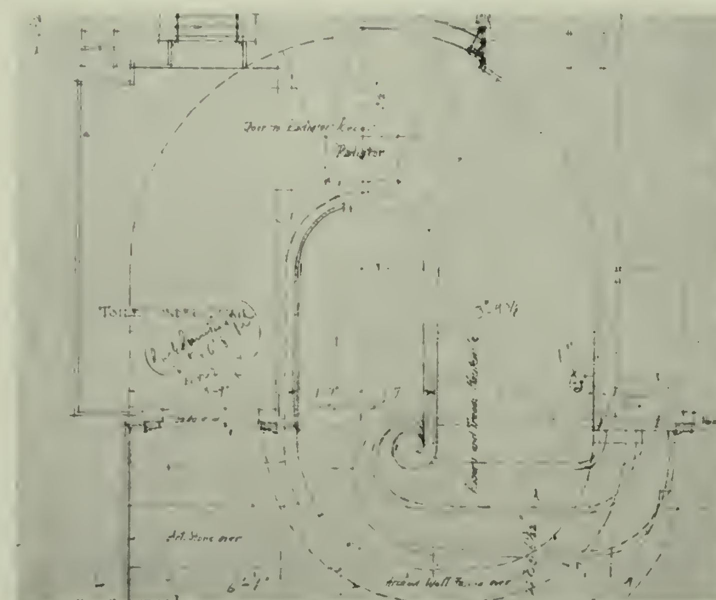
A STAIRWAY IN THE LATE STANFORD WHITE'S TOWN HOUSE.
The main interest lies in the fact that it is an alteration where an old stair was utilized and made beautiful by the introduction of a pair of antique columns.

A STAIRWAY BY CHARLES A. PLATT, ARCHITECT.

His stairways always possess charm and personality. This one of dog-legged plan is exceptionally inviting and domestic.

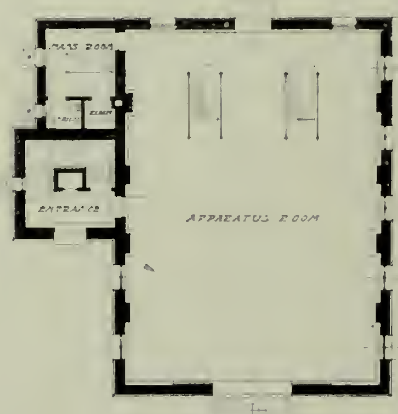


ELEVATION AND SECTION.

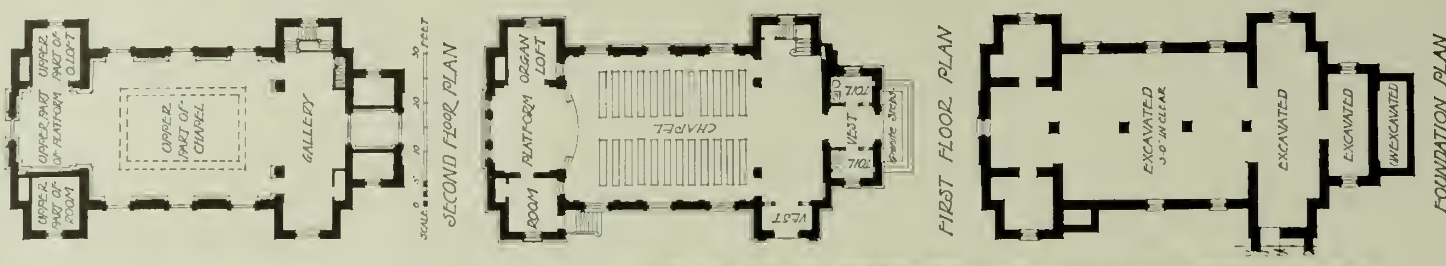


PLAN.

A PRIVATE STAIR OF FRENCH ORIGIN IN A DUPLEX APARTMENT, NEW YORK CITY.
McKim, Mead & White, Architects.



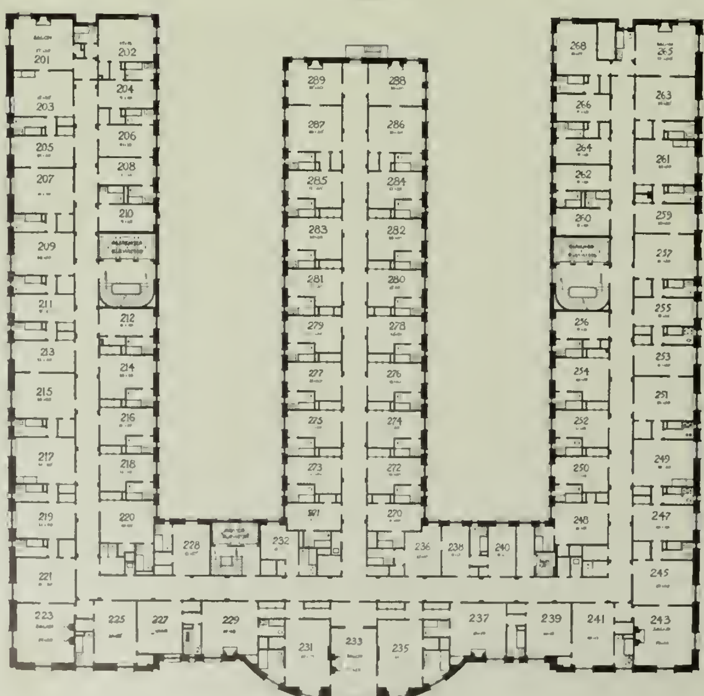
FIRE HOUSE
AND
AUDITORIUM,
GARDEN CITY, L. I.
FORD, BUTLER & OLIVER,
ARCHITECTS.



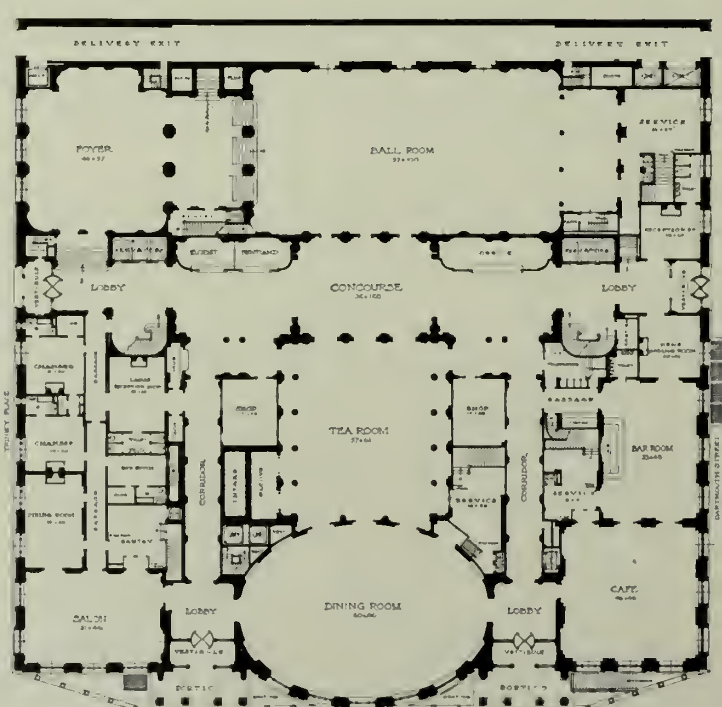
CHAPEL FOR THE WIDENER MEMORIAL TRAINING SCHOOL, PHILADELPHIA, PA.
HORACE TRUMBAUER, ARCHITECT.

THE COPLEY-PLAZA HOTEL, BOSTON, MASS.
H. J. HARDENBERGH, ARCHITECT.
C. H. BLACKALL, ASSOCIATED.

DETAIL OF ENTRANCE PORTICO.



TYPICAL FLOOR PLAN.



FIRST FLOOR PLAN.

THE COPLEY-PLAZA HOTEL, BOSTON, MASS.

H. J. HARDENBERGH, ARCHITECT.
C. H. BLACKALL, ASSOCIATED.

MAIN DINING ROOM.

THE FOYER.

THE COPLEY-PLAZA HOTEL, BOSTON, MASS.

H. J. HARDENBERGH, ARCHITECT.
C. H. BLACKALL, ASSOCIATED.

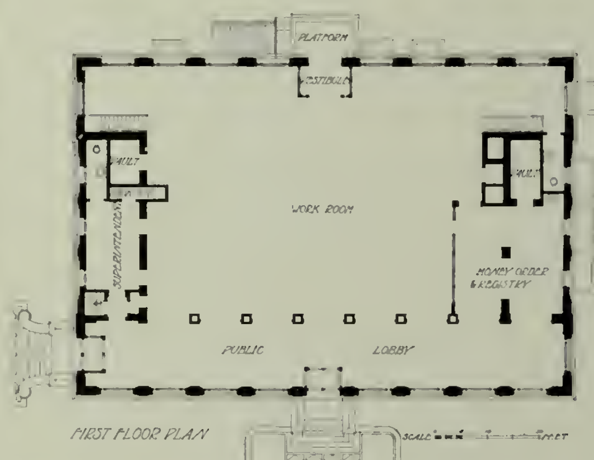
ENTRANCE CORRIDOR.

TEA ROOM.

THE COPLEY-PLAZA HOTEL, BOSTON, MASS.
H. J. HARDENBERGH, ARCHITECT.
C. H. BLACKALL, ASSOCIATED.

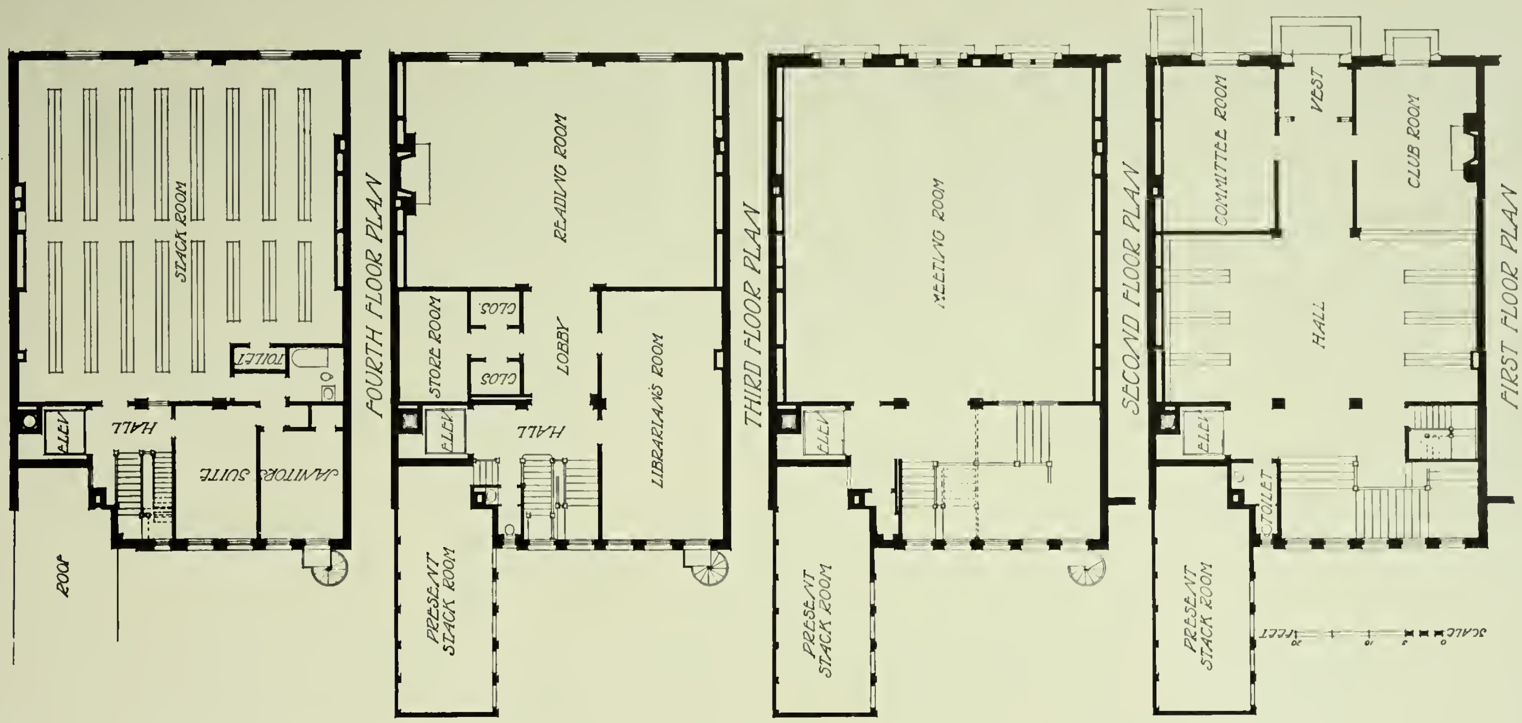
UNITED STATES POST OFFICE,
CHELSEA, MASS.
JAMES KNOX TAYLOR,
SUPERVISING ARCHITECT.

DETAIL OF ENTRANCE.

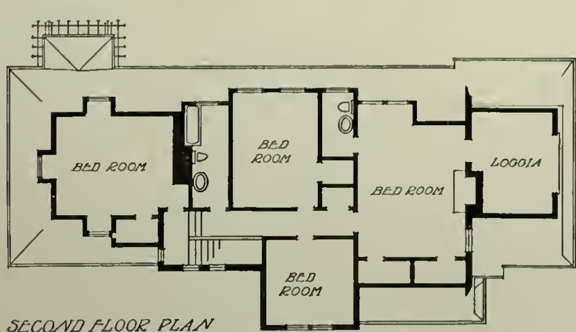


SIDE ELEVATION.

THE AMERICAN ACADEMY OF ARTS AND SCIENCES, BOSTON, MASS.
PAGE & FROTHINGHAM, ARCHITECTS.



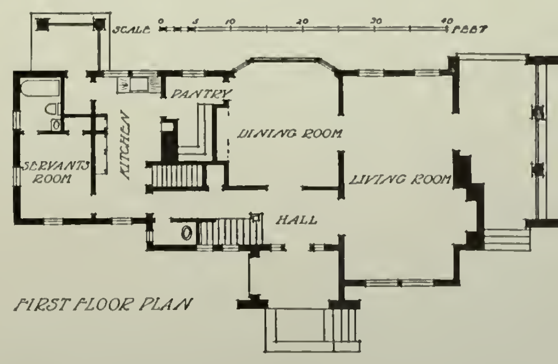
THE AMERICAN ACADEMY OF ARTS AND SCIENCES, BOSTON, MASS.
PAGE & FROTHINGHAM, ARCHITECTS.



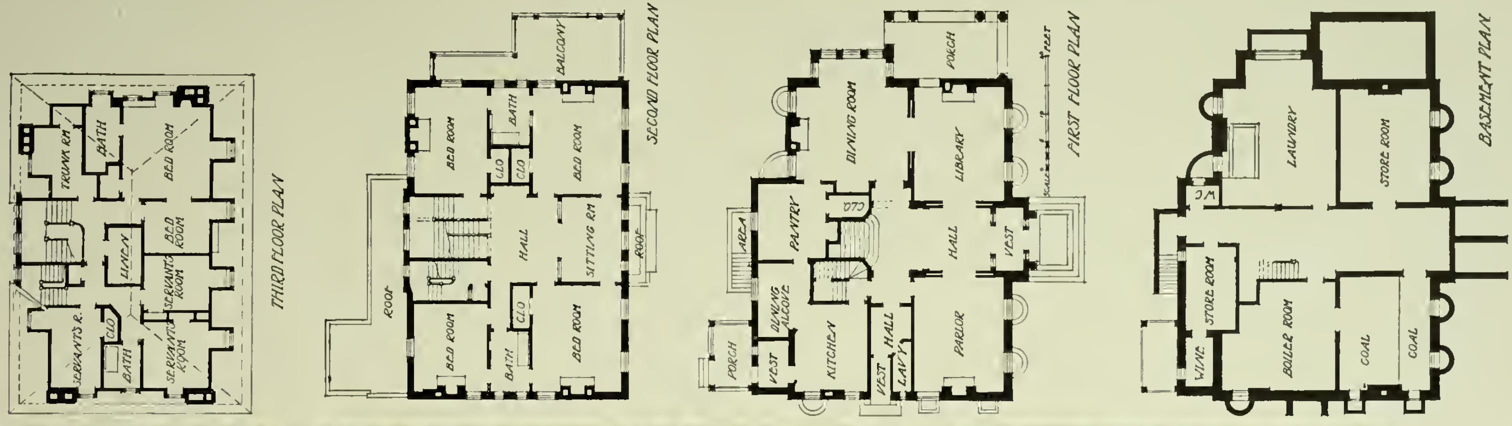
SECOND FLOOR PLAN

HOUSE
AT
CLEVELAND,
OHIO.

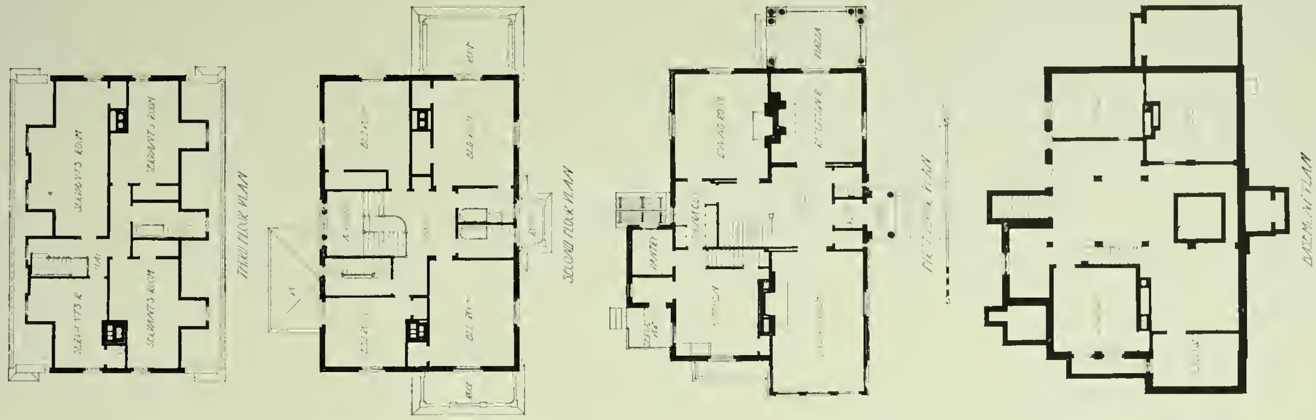
DERCUM AND BEER,
ARCHITECTS.



FIRST FLOOR PLAN

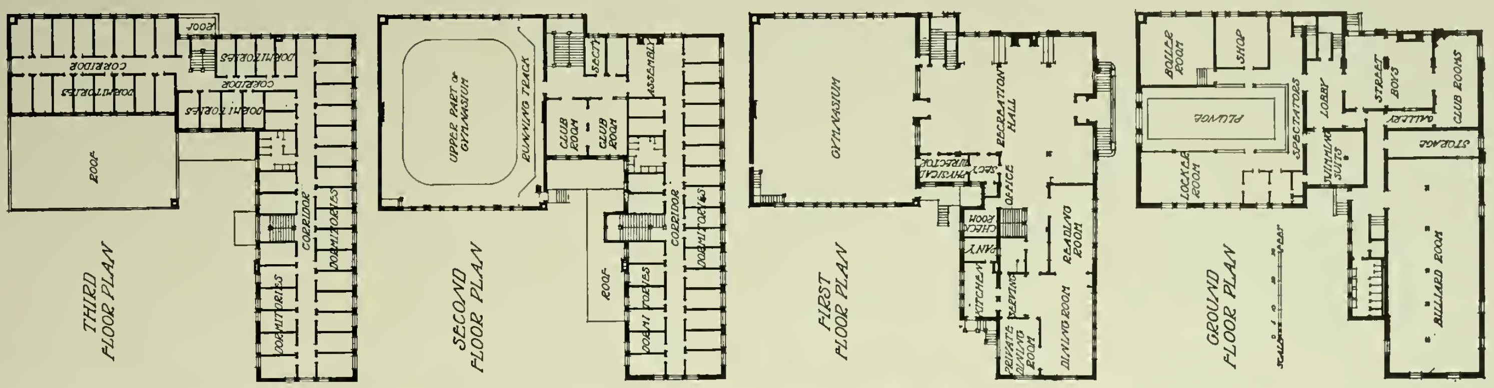


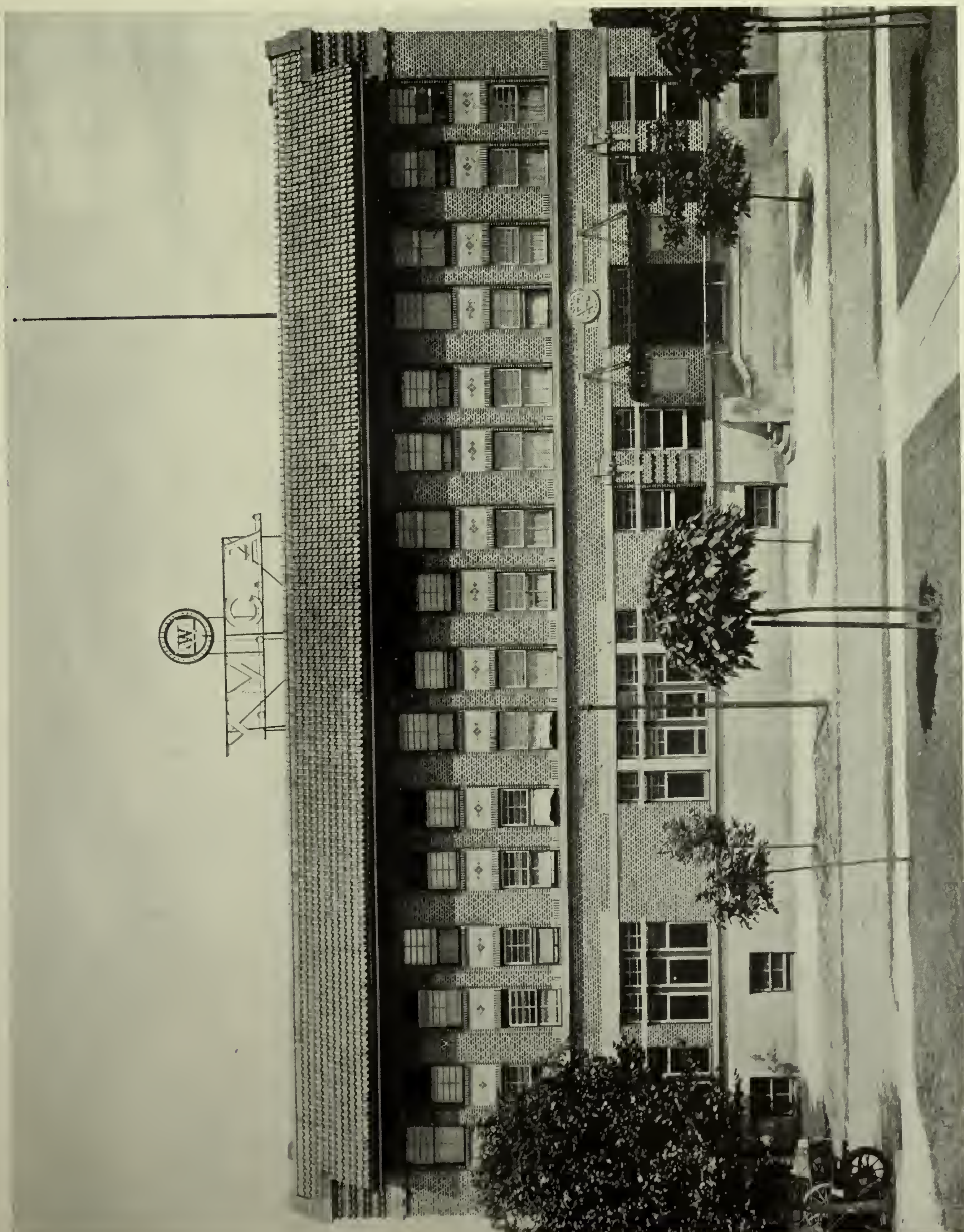
HOUSE AT ST. LOUIS, MO.
COPE & STEWARDSON, ARCHITECTS.



HOUSE AT BROOKLINE, MASS.

Shepley, Rutan & Coolidge, Architects.

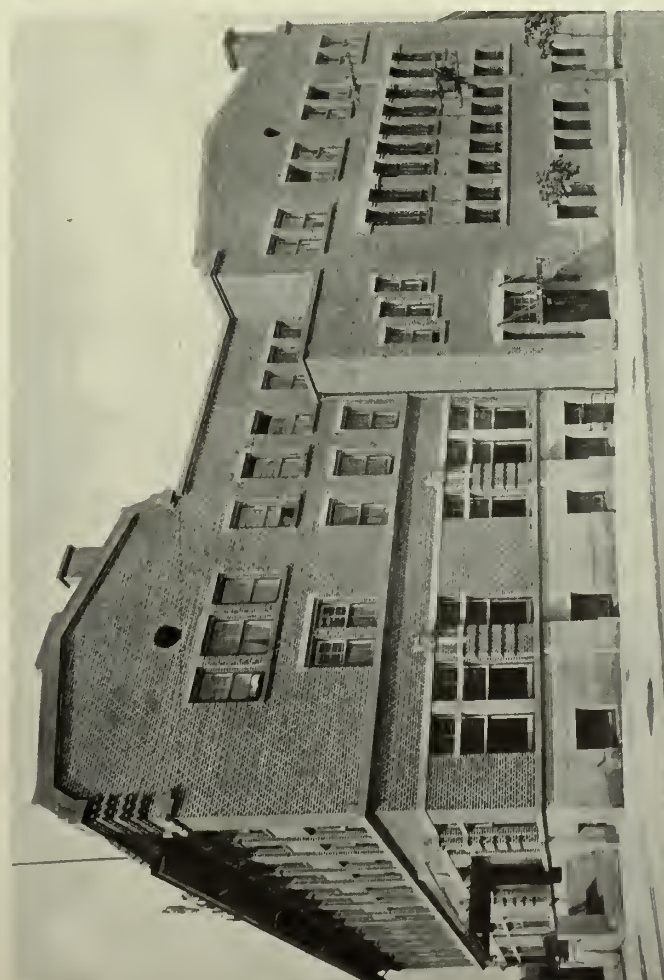




THE WEST SIDE Y. M. C. A., CLEVELAND, OHIO.
ALBERT SKEEL, ARCHITECT.

RECREATION HALL.

OFFICE.



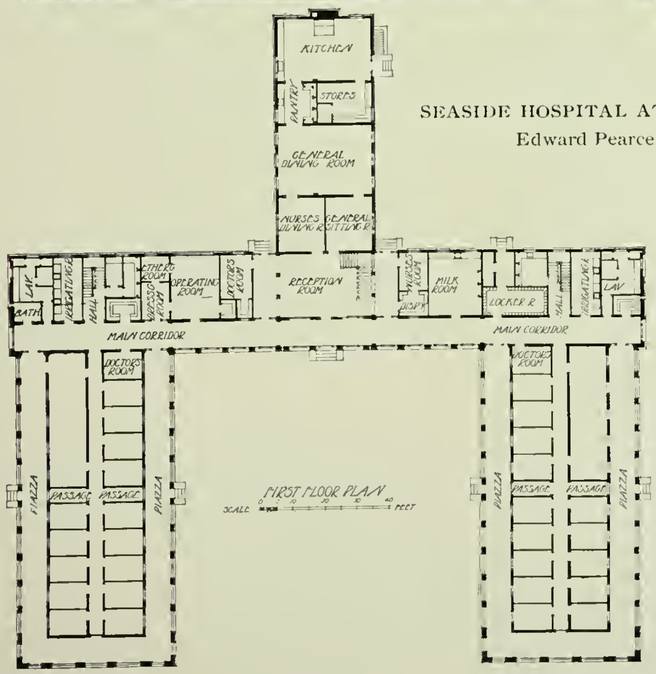
SIDE ELEVATION.

ENTRANCE DETAIL.

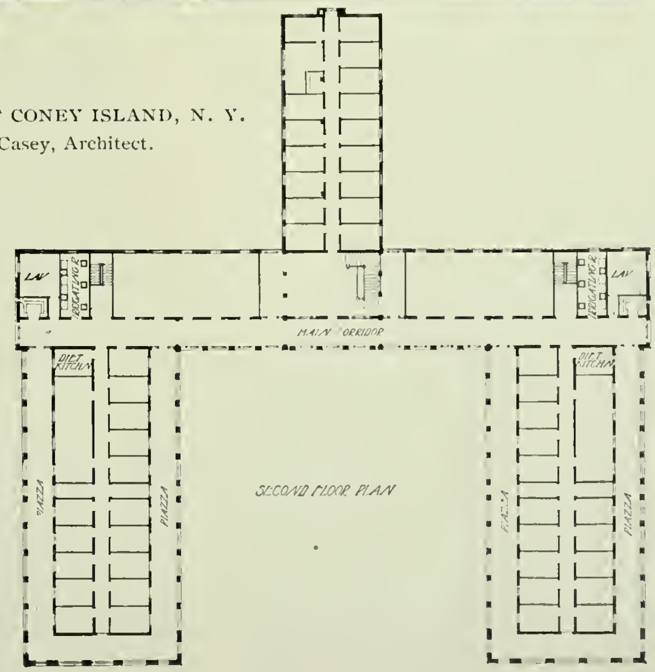
THE WEST SIDE Y. M. C. A., CLEVELAND, OHIO.
ALBERT SKEEL, ARCHITECT.

Seaside Hospital, Coney Island, N. Y.

THIS hospital is intended primarily for the treatment of young children during the summer months. Accommodations are afforded for a total of one hundred and twenty, which includes sixty separate rooms for children accompanied by their mothers. There are four small wards containing seven cribs each and two larger wards with sixteen cribs arranged in two rows down the center of the ward. A milk laboratory centrally located, a pathological room with facilities for research in disease, and a morgue in the basement are features. The main corridor at the front of the building may be opened so as to become practically an open-air balcony similar to those surrounding the wings. The flat roof over the whole building affords opportunity for more open-air treatment. The space between the roof and the ceiling of the second story affords a non-conducting air protection against heat and cold. In order to renew the heated air in the summer numerous small openings are placed in the walls under the cornice. These openings are provided with movable louvres in order to prevent the warm air escaping during the cold months. A complete circulating steam plant has been installed. The building is fireproof throughout, the balcony piers and arches being constructed of brick, the outside walls of heavy interlocking terra cotta tiles, and the interior partitions of terra cotta tile of various thicknesses. The cost including laundry machinery and all apparatus of a fixed nature was sixteen cents per cubic foot.



SEASIDE HOSPITAL AT CONEY ISLAND, N. Y.
Edward Pearce Casey, Architect.



Eastern Maine Insane Hospital, Bangor, Me.

THE building marked "A" contains in addition to rooms shown on the plan a boiler plant, engine room, and in the second story rooms for the employees. The central building "B" is devoted to the administration forces and provides in the second story an amusement hall with stage and gallery. Aside from the offices and superintendent's quarters in the upper story a number of bedrooms have been planned for the trustees. Building "D" provides in the basement a large general dining room which is used by the occupants of the pavilions "C" and "D." The other buildings have individual dining rooms for each ward. Buildings "C" and "D" each accommodate 125 female patients while "E" is arranged for 125 male patients and "F" 136. Throughout the interior finish is of ash or North Carolina pine. The Tubercular building is constructed of brick and timber. Fireproof materials have been employed excepting the wood construction in the roofs of "F" and "D" which are built with heavy hard pine rafters, and the 2½ inch plank in "B," "C," and "E" which form the base for the slating. The total construction cost of the plant including the barn was $750,000, or about 24½ cents per cubic foot.

OBSERVATION WARD.

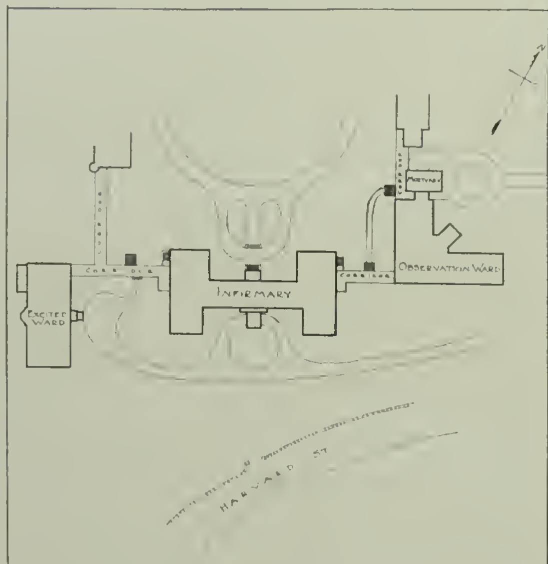
PLAN OF
EXCITED WARD.

INFIRMARY BUILDING.

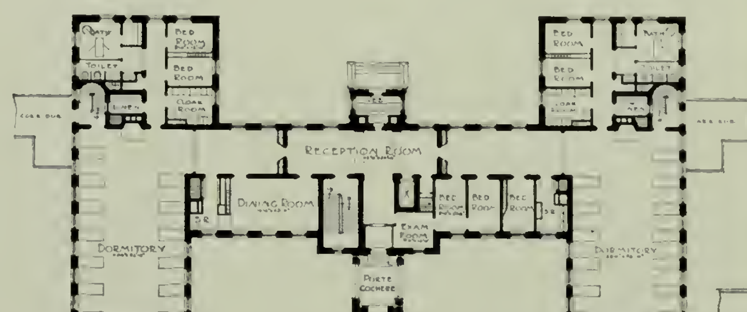
BOSTON INSANE HOSPITAL,
AUSTIN FARMS, MASS.

Wheelwright & Haven,
Architects.

EXCITED WARD BUILDING.



GENERAL PLAN.



PLAN OF INFIRMARY.

MORTUARY.

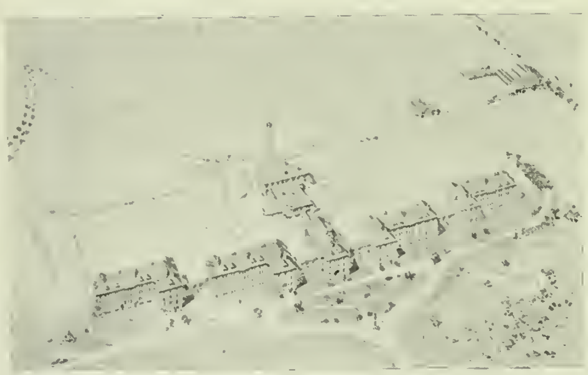
PLAN OF OBSERVATION WARD.

WARD IN TUBERCULAR BUILDING.

GENERAL VIEW OF THE REAR.

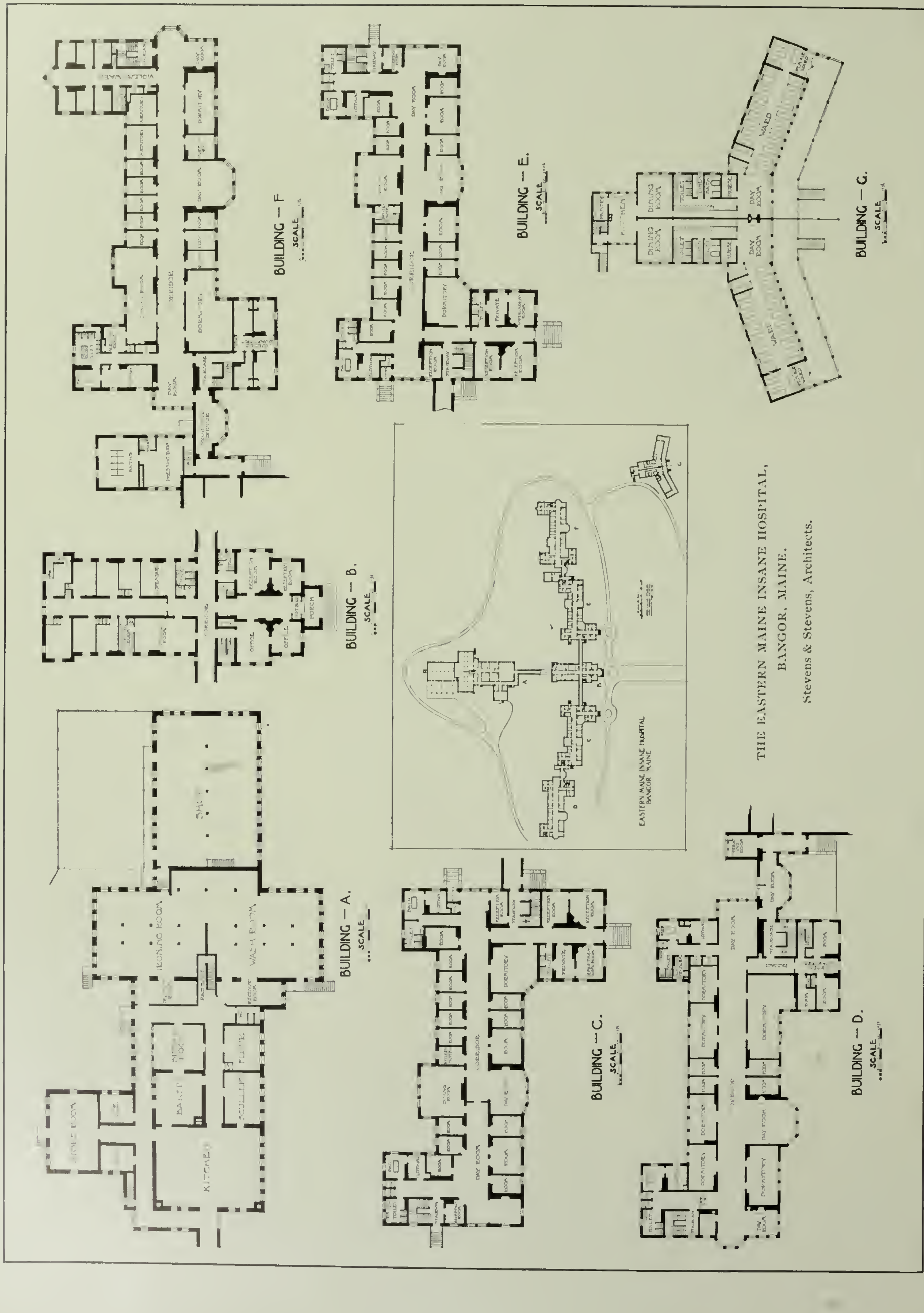
ADMINISTRATION BUILDING.

THE EASTERN MAINE INSANE HOSPITAL,
BANGOR, MAINE.
Stevens & Stevens, Architects.



KITCHEN.

TUBERCULAR BUILDING.



THE EASTERN MAINE INSANE HOSPITAL,
BANGOR, MAINE.
Stevens & Stevens, Architects.

The Girls' High School Building, San Francisco, California.

SAN FRANCISCO, tried by fire, is daily giving testimony as to the proving out of clay products: everywhere throughout the "city resurrected" are the new structures witnessing that those building materials produced by subjection *to* fire are best suited to withstand destruction *by* fire. She builds her walls, when she builds for permanency of brick and terra cotta.

In the new buildings for the Municipality are to be noticed the series of schoolhouses, fire stations, and hospitals in most of which brick and terra cotta play prime parts. Already THE BRICKBUILDER has illustrated examples of these — notably the Mission and Hancock Grammar Schools and Engine House No. 41 — and we add, in this number, the Girls' High School, now nearing completion.

The plans of the building were prepared in the City Architect's office under the administration of George Colmesnil, taken further by Mr. Coffey and carried out under the present administration, that of A. Lacy Worswick. In its plan it follows a more or less conventional type. One rather regrets that it is not placed on a site offering a better chance to take advantage, in the way of open-air class rooms, of California's ideal climatic conditions. However, the land is sufficiently generous to permit a two-story and basement building, of irregular "U" shaped plan, with a principal (north to south) frontage of 264 feet on Scott street, a north wing of 147 feet, and a south wing of 277 feet.

The court opens toward the east, the best exposure in San Francisco, because of prevailing trade winds which blow from the west. One questions the completely closed south wing with its consequent shading of the court — questions it, that is to say, until the rainy season comes, when it affords a grateful shelter against the heavy storms driving from the south. The court, asphalt paved, has at its center the customary flagpole for use in flag drills. The east boundary of the court is marked by well designed brick piers carrying a pergola.

The plan of the building is skilfully arranged for light and air and is convenient in co-relation of parts. Its circulation is excellent; there are five well placed stairs, and eight entrances. In the basement, the east end of the south wing is occupied by a gymnasium, unusually large for a girls' public school. It has ample windows on three sides, and on the fourth side locker rooms, etc., together with double exits that give directly into the yard. The basement also contains recreation rooms, domestic science, dining room and its appurtenances, work shop, heating and ventilating plant, and storerooms.

On the first floor are the administrative offices, principal's and teachers' rooms, twelve class rooms, study rooms and lecture hall. Here, also, is the main floor of the auditorium — admirably placed. Indeed the auditorium is the feature par excellence of the building. Too commonly it is the practice to place the high school auditorium in the center of a blocky building, with circulation on three sides, the platform taking up the fourth, and having little, if any, light except from above. In this instance the auditorium is virtually a unit, completely divisible in its operation from the main building. Architecturally it is, of course, welded into the whole composition; but it is placed so as to occupy the east end of the south wing (above the gymnasium), and its isolation is the better accomplished by the introduction of a broad cross corridor, with double entrances and double staircases. The city school department has therefore at its disposal this fine auditorium, seating nearly a thousand persons, for any of its functions, whether directly connected with the Girls' High School or not. The second floor contains other class rooms, ten in number, science laboratories and lecture rooms, also a large library and study room.

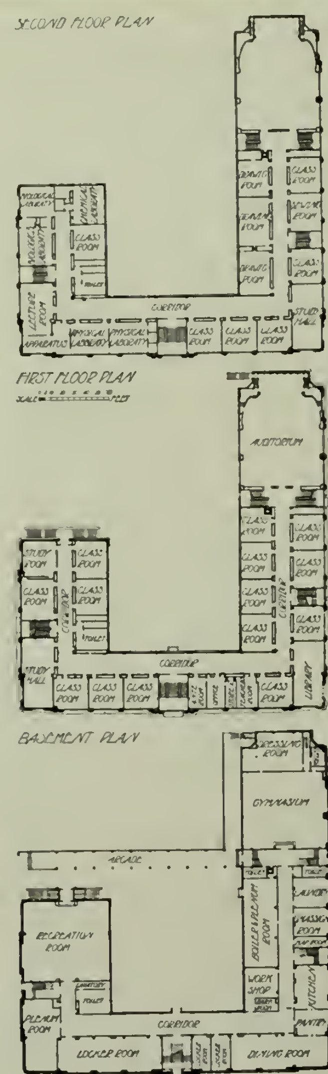
The exterior of the building is carried out entirely in very light buff colored pressed bricks and semi-glazed terra cotta, to match. Perhaps a trifle more texture in the brickwork would have given a more satisfying result. Its façades are the not uncommon composition of high rusticated basement of brickwork with a two-story order of Ionic pilasters above; the whole surmounted by a balustraded parapet. In this instance the brick pilasters are fluted: the hard task of building flutes and fillets with a material somewhat unsuitable — and with the too frequent result: they fail of perfect accomplishment. It is to be questioned if flutes in brickwork are justifiable in any instance, whether built in perfect alignment or not; certainly no logical reason offers itself to the writer, while technical difficulties seem to be in the way. Furthermore, the necessarily great width of bays — common to all plans having class-room units and resulting from long ranges of windows — does not lend itself to happy proportion in the spacing of the order itself. An unfortunate excess of width results, which even the beauty of the cast metal "remplissage" does not lessen, but rather makes more marked. Where this arbitrary broad spacing does not obtain, however, as in the central motif, and at the terminal pavilions, the treatment of the order is well studied and executed.

The entrances, generally, may perhaps be open to the criticism that they appear somewhat small. Taken separately they are interesting and varied in design, and they are certainly beautiful in execution, both as to the terra cotta and the bronze-covered doors.

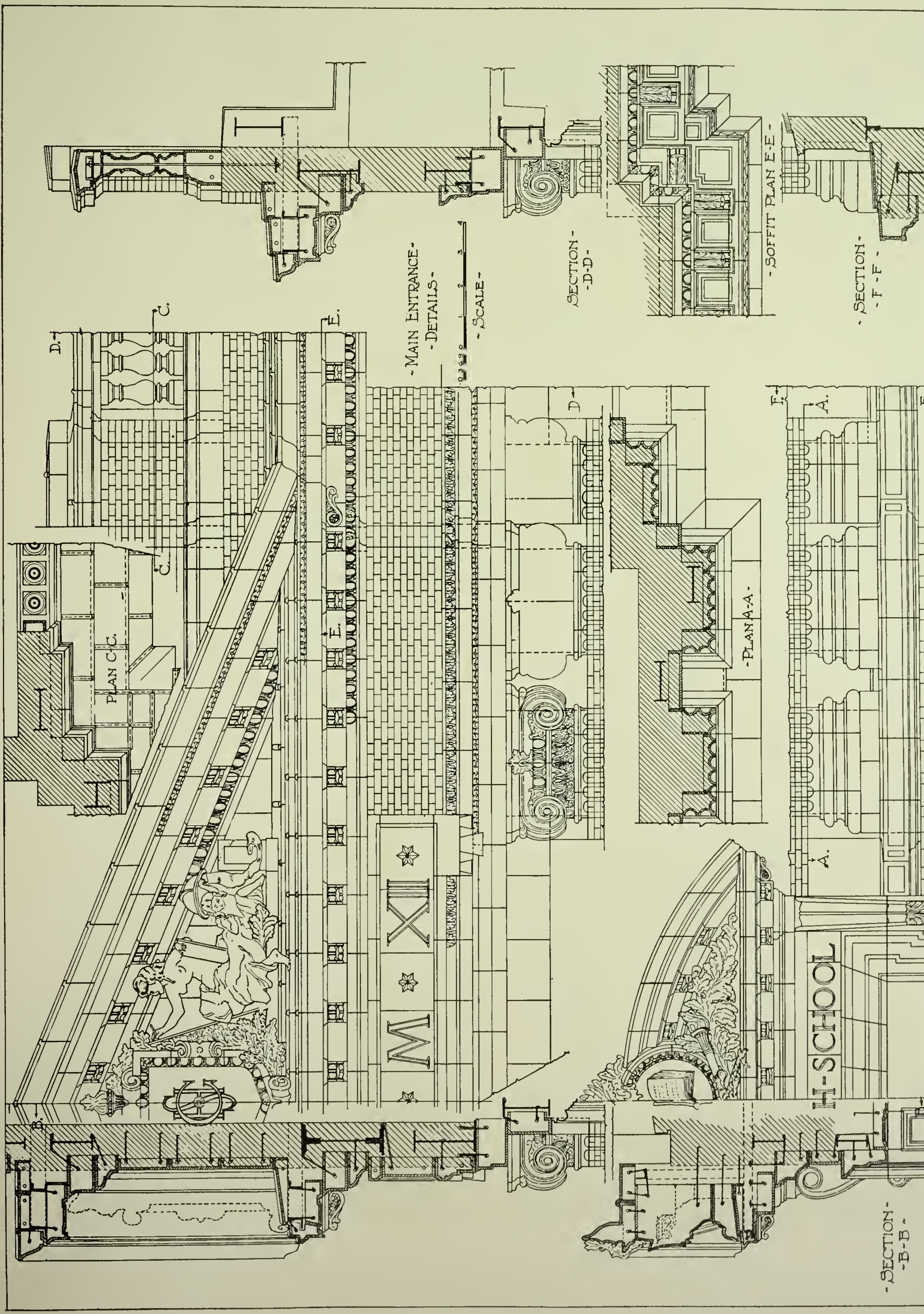
Indeed, with the single exception of the pilaster flutings, the carrying out of the masonry is admirable. The terra cotta is true in the making, its mouldings are good, its modeling crisp and sparkling. In the sculptured pediment of the main façade the modeler found at his hand an opportunity which he did not fail to meet. In addition to the caps and bases of the order, terra cotta is successfully used for all the belt courses, the architrave and cornice — but not the frieze — of the main order, for the pediment and the crowning balustrade.

Like all the new schools in San Francisco, the Girls' High School is the last word as regards operative equipment: its plumbing, cleaning, heating, ventilating, and program-clock systems are of the most modern types obtainable.

DETAIL OF MAIN ENTRANCE.



THE GIRLS' HIGH SCHOOL BUILDING, SAN FRANCISCO, CALIFORNIA.



Terra Cotta Details.

THE GIRLS' HIGH SCHOOL BUILDING, SAN FRANCISCO, CALIFORNIA.

Office of the City Architect.

DETAIL OF MAIN ENTRANCE.

SIDE ENTRANCE.

REAR ENTRANCE.

THE GIRLS' HIGH SCHOOL BUILDING, SAN FRANCISCO, CALIFORNIA.

Editorial Comment and Miscellany.

PLATE ILLUSTRATIONS — DESCRIPTION.

Fire House, Garden City, L. I. Plate 127. The building, which in size is 52 feet by 50 feet, is constructed of 8-inch hollow tile with a facing of up-draft repressed brick. The lower floor is given over entirely to the apparatus room. The upper floor is designed as a small auditorium with a stage and dressing rooms. The stairs leading to the auditorium are placed in the bell tower, the central core of which is used as a hose tower. The exterior is primarily a study of brickwork, a 7/8-inch joint of white grit mortar being used and the effect of Roman brick being obtained by the abutting of two bricks together with concealed joint. The auditorium floor is supported on girders made up of two 24-inch I-beams, fireproofed, the floor filling being terra cotta. The roof of the building is variegated green and purple slate. The total cost of the building was $15,484, the cost per cubic foot about 22 cents, and the building has been cubed on the basis of 70,600 cubic feet.

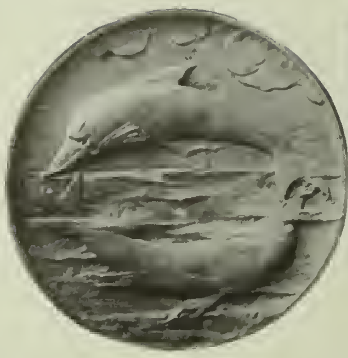
The Copley-Plaza Hotel, Boston, Mass. Plates 129–132. The building is built of cream color brick, six stories high with three street elevations. Four entrances are provided, two on Copley Square and one each on Dartmouth street and Trinity place. The main dining room, oval in plan, is located in the central portion of the main front, expressed by the bow which is carried up the entire height of the building. The westerly corner is occupied by the main café, in the rear of which is the men's café. On the easterly corner is a suite of state apartments. Between the dining room and the corner rooms are two broad corridors, extending through the building, meeting another corridor — forming the main lobby — which runs east and west with approaches on Dartmouth street and Trinity place, respectively. The two Copley Square entrances are more particularly for casual guests and those visiting the hotel for dining-room purposes, or those resident therein for a length of time. Thus it will be seen that the most perfect circulation is attained.

WINDOW IN SWEAT MEMORIAL ART MUSEUM, PORTLAND, MAINE.
Terra Cotta executed by South Amboy Terra Cotta Company.
John Calvin Stevens and John Howard Stevens, Architects.

Directly adjoining the main dining room is the Tea Room — in modern hotels usually being called the Palm Room. South of the main corridor or lobby is the ballroom, which occupies nearly the entire width of the building, with the foyer forming an anteroom. This room is very spacious in height and has a tier of boxes as well as a complete stage and proscenium; about six hundred and fifty persons can be seated at dinner, and about one thousand at a dramatic entertainment. The upper stories provide single rooms and suites and these are adapted to be rented separately, or from two to five or six rooms, and in every case provided with baths which can be connected with the room or suite. All of the bedrooms open upon the streets or upon two unusually broad courts, and these courts face the south.

The basement is a model of convenient arrangement, embracing in its area not only a perfectly planned and up-to-date kitchen with all its appurtenances, but containing the steam, electrical, ice-making, laundry, and other mechanical plants. The entrance to this basement is from a broad driveway at the south end of the building, running through from street to street, so arranged that all goods, from the coal feeding the boilers to the most delicate luxury of the table, can be delivered in its place with the utmost convenience and unseen by the guest of the house or the passer-by.

Mechanical means of ventilation are provided for all public rooms to meet unfavorable weather conditions and conditions caused by a large assemblage of people. Ventilating apparatus has also been provided for the boiler and engine rooms, the kitchen and the other service portions of the basement and ground floors. Fresh tempered air is introduced and evenly distributed, while air in large quantities is exhausted from the rooms and discharged above the roof. The fresh air for these rooms is taken from the court at the first floor level, drawn downward through a shaft having a cross-sectional area of 161 square feet to the filter chamber, where it is filtered before being tempered and distributed. After being filtered, the air is drawn over steam tempering coils and warmed to the proper degree. The tempering coils are all automatically controlled by thermostats, thus maintaining the temperature of the air supply at a predetermined temperature. The air is drawn from the tempering coils through the fan inlets and forced by means of centrifugal steel plate fans through galvanized iron ducts and flues to the registers in the various rooms. The ducts and flues are covered with



DETAILS EXECUTED OF ATLANTIC "POLYCHROME" FOR TEXAS UNIVERSITY LIBRARY, AUSTIN, TEXAS, BY ATLANTIC TERRA COTTA COMPANY.
Cass Gilbert, Architect.

non-conducting covering, so as to insure the air reaching its destination at the proper temperature. As a special feature of the ventilation of the ballroom a device is installed for reversing the direction of the in and out flow of air under certain temperature conditions. Normally the air enters the room through openings near the ceiling and is exhausted near the floor, but by the use of this device (which involves merely the operation of a single large damper to which are brought the supply and exhaust ducts) the fresh air is conveyed to the bottom registers, and the vitiated air is exhausted from the top registers.

DETAIL EXECUTED BY CONKLING-ARMSTRONG TERRA COTTA COMPANY.
Van Vleck & Goldsmith, Architect.

The heating of the building is accomplished by means of direct steam radiation.

The lighting effects in the tea room, foyer promenade, dining room and grill consist largely of what is known as the direct-indirect method of lighting, using lamps with reflectors placed back of diffusing glass. The result of this method of lighting is extremely pleasing, avoiding glare and giving a warmth of tone which renders the spaces lighted extremely attractive. These results have been obtained without the loss of efficiency, as the glass used absorbs but a small portion of the light.

DETAIL BY WALLIS & GOODWILLIE, ARCHITECTS.
Executed in terra cotta by American Terra Cotta Company.

There are six passenger and three service elevators. These are of the worm gear traction electric type, having the machines placed overhead. The elevators have a capacity of 2,500 pounds at a speed of 400 feet per minute. Each elevator is equipped with the most modern type of safety devices, including under-car safety, emergency wheel in car, hatchway limits, oil buffers under car, and counterweight, etc.

The West Side Y. M. C. A., Cleveland, Ohio. Plates 139, 140. The problem was a building for boys' use; one that would attract the younger element and be interesting to them. In the solution it will be noted that a big recreation hall was put on the corner so boys inside could see what was going on outdoors, and outside boys could see the indoor attractions. The gymnasium is on the same level with the recreation hall with large glass openings between same so boys in hall can see work going on in the gymnasium. The outside design expresses the interior as follows: The balancing of windows at each side of entrance on front and balancing of windows each side of fireplace on side of first story would indicate one large corner room; then toward left of entrance the large group of windows which indicate the library; then still to the left a large double group of windows which indicate a large room, the dining room. On the side elevation the large two-storied group of windows naturally show the gymnasium; the balance of the two upper stories are shown on front with windows in rows indicating small rooms of the same type. On the side in upper stories the same type of windows are used with the added domestic touch indicating dormitories. The Y. M. C. A. emblem is used as a decoration over entrance, and on the interior the cut stone on fireplace and plaster ornamental caps and stair newels show association emblems, mottoes, etc.

DETAIL EXECUTED BY NEW YORK ARCHITECTURAL TERRA COTTA COMPANY.
Warren & Wetmore, Architects.

House at Cleveland, Ohio. Plate 136. This house was designed to fit a rolling lot overlooking a diverted creek bed. Most of the rooms are on the garden side with vistas over the natural features of the land. The house is built of a rough textured wire cut brick having a wide range of colors, laid with a wide flush cut mortar joint. In general the exterior cypress woodwork is stained brown relieved by cream-colored frames and sash. All of the interior woodwork is ivory white with gray stained oak floors. Faience tiles are used in the mantel facings and as inserts in the porch pavements and bathroom tiling. The cost of the house per cubic foot, figuring from basement floor to mean roof height, was 30 cents.

HOUSE AT SUMMIT, N. J.
Built of "Natco" tile with plaster finish.
Hill & Stout, Architects.

The American Academy of Arts and Sciences, Boston, Mass. Plates 134, 135. The street façade is built of dark red waterstruck brick laid "Dutch" bond with marble trimmings. The vestibule and stairs inside are of white Italian marble. The other interiors throughout are finished with painted plaster walls and very simple oak finish.

HOUSE AT ST. LOUIS, MO.
Built of Colonial brick, made by Hydraulic-Press Brick Company.
Cope and Stewardson, Architects.

Prof. Eugene Duquesne, professor of architectural design in Harvard, at the request of the Massachusetts Institute of Technology, made in view of Professor Despradelle's death, is to give some instruction at Technology to advanced students. Arrangements have been consummated, and Professor Duquesne has already begun his work at the Institute. This is a reciprocation of what Technology did a few years ago when Professor Despradelle took a class at the Harvard School, and has been done at the request of President Maclaurin to President Lowell, and with the approval of the Harvard School of Architecture.

This appointment does not in any way interfere with Professor Duquesne's duties and interests in the University.

IN GENERAL.

The Atlantic Terra Cotta Company will furnish the architectural terra cotta for the following new buildings: Architects' Building, New York City, Ewing & Chappell, and LaFarge & Morris, associated architects; Burnett Building, Birmingham, Ala., H. B. Wheelock, architect; Shubert Theatre, New York City,

HOUSE AT ATLANTA, GA.
Built of buff-onyx Astrakhan brick, made by Columbus Brick & Terra Cotta Company. E. E. Dougherty, Architect.

DETAIL OF JOHN HAY RESIDENCE, CLEVELAND, OHIO.
Showing roofs of Ludowici-Celadon tiles.
Abram Garfield, Architect.

Henry B. Herts, architect; American National Bank Building, Galveston, Texas, Green & Finger, architects.

The members of the Atelier Prévot announce the resignation of Maurice Prévot, who is to devote his entire time to university work. Harvey Wiley Corbett has accepted the office of patron of the Atelier, which will now bear his name.

The Master Builders' Association, Boston, through its secretary, William H. Sayward, is agitating the proposal whereby the contractor shall receive remuneration for estimating work done for the benefit of the owner, where ordinarily he would be at a loss of both time and money through failure in securing any work subsequent to such estimating. The proposal has met with favor from several of the larger Boston architectural firms.

WALL, CEILING, AND GRILLE IN VESTIBULE OF BANK.
Treated in Faience by The Rookwood Pottery Company.

Sayre & Fisher Company supplied their up-draft repressed brick for the exterior facing of the Fire House at Garden City, illustrated and described in this number.

The H. B. Smith Company has just issued a very complete and comprehensive boiler and radiator catalogue. They will gladly furnish one of these books to any one interested in heating apparatus.

Daniel R. Huntington has been appointed architect for the city of Seattle. He will have charge of planning all municipal and park buildings. Manufacturers' catalogues will be welcome. They should be addressed to City Architect, care Department of Buildings, Seattle, Wash.

Prof. N. C. Curtis, a graduate of Columbia University, has been elected to the chair of Architecture in Tulane University, New Orleans. Samples of building materials, together with manufacturers' catalogues, are requested.

RIVERSIDE SCHOOL, INDIANAPOLIS, IND.
Built of brick (mosaic shade) made by Western Brick Company, Danville, Ill.
Brubaker & Stern, Architects.

A. A. Crowell, architect, has opened a branch office in the Caldwell-Murdock Building, Wichita, Kan.

The Atlantic Terra Cotta Company furnished the architectural terra cotta for the Copley-Plaza Hotel, illustrated in this issue.

Otto G. Simonson, architect, announces the removal of his offices to the Maryland Casualty Tower, Baltimore, Md.

TERRA COTTA FOR THE GIRLS' HIGH SCHOOL BUILDING, SAN FRANCISCO, CAL.

THE architectural terra cotta for the Girls' High School Building, described in this issue (pages 273–276), was furnished by the Steiger Terra Cotta and Pottery Works, San Francisco.

A. G. Zimmermann, architect, has removed his offices to 11 East 24th street, New York City.

Lawlor & Haase were architects for the duplex apartment house at 145 East 35th street, New York City, which was illustrated in the August number of THE BRICKBUILDER in connection with Mr. Janes' article treating of Duplex Apartment Houses.

The Twenty-second Annual Exhibition of the Boston Architectural Club will be held in the galleries of the Boston City Club, November 15th to 30th.

Prof. James Knox Taylor, recently appointed to the Department of Architecture, Massachusetts Institute of Technology, was tendered a complimentary dinner by the Boston Architectural Club on the evening of October 5th.

School *of* Architecture *of* Harvard University

Professional course for graduates of colleges, leading to degree of Master in Architecture

Course for special advanced students, not having college degree but at least 21 years of age, with office experience, leading to certificate

Design. Prof. E. J. A. Duquesne, Grand Prix de Rome.
History. Prof. H. L. Warren, A. M., F. A. I. A.
Construction. Prof. C. W. Killam, Assoc. M. Am. Soc. C. E.
Drawing. Mr. H. D. Murphy, Mr. H. B. Warren.
Ten other lecturers and instructors.

For circulars and other information apply to Prof. H. L. Warren, Chairman of the Council of the School of Architecture, Harvard University, Cambridge, Mass.

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

THE NATCO HOUSE — THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

ONE HUNDRED BUNGALOWS — THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK — REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Brookline, Mass. .... See Plate 138

SHEPLEY, RUTAN & COOLIDGE, Architects.

FISKE & COMPANY INC
FACE BRICKS / FIRE BRICKS — ESTABLISHED IN 1864

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.

Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.

Floor Coverings — Wholesale and Retail

646-658 WASHINGTON STREET - BOSTON, MASS.

Continuously in this business for 93 years

THE BRICKBUILDER'S
Annual Architectural Terra Cotta Competition.

Problem : A Public Garage — Three Stories High.

FIRST PRIZE, $500. SECOND PRIZE, $250. THIRD PRIZE, $150.
FOURTH PRIZE, $100. HONORABLE MENTIONS.

Competition Closes at 5 P.M., Monday, January 6, 1913.

PROGRAM.

THE problem is a GARAGE, AUTOMOBILE SALES AND SERVICE BUILDING, — three stories high. The site is assumed to be on the corner of a city block in the automobile district. Lot size — 40 feet on the Main Street by 100 feet on the Secondary Street — level land. The building is to occupy the entire lot.

The first floor is to be used as a salesroom with administrative equipment and for live storage. On this floor plan — which should provide an attractive frontal treatment — show the necessary utilitarian features such as stairs, elevators, turntable, fire walls, toilets, gasoline storage, etc.

The second floor should provide for chauffeurs' recreation room, toilets, etc., in addition to storage space.

The third floor is to provide for storage and for a repair shop. Special attention should be paid to the natural lighting of this floor.

The designer is asked to show on the plans any new or original devices which would add to the value of a building of this character.

The two street façades of the building are to be designed for Architectural Terra Cotta, the purpose of this Competition being to encourage a study of the material and its adaptability to a building of this character. At least a portion of the façades should be treated in color.

There is no limit set on the cost, but the design must be suitable for the character of the building and for the material in which it is to be executed. Provision may be made in the design for the placing of signs.

The following points will be considered in judging the designs:

A — The general excellence of the design, especially if it has originality with quality, and its adaptability to the prescribed material.

B — The excellence of the first-story plan.

DRAWING REQUIRED. (There is to be but one.)

On a sheet of unmounted white paper — very thin paper or cardboard is prohibited — measuring exactly 34 x 25 inches, with strong border lines drawn $1\frac{1}{4}$ inches from edges, giving a space inside the border lines of $31\frac{1}{2}$ x $22\frac{1}{2}$ inches, show :

The main street elevation, with section through wall, drawn at a scale of 4 feet to the inch.

A pen and ink perspective — without wash or color — drawn at a scale of 8 feet to the inch.

The three floor plans drawn at a scale of 16 feet to the inch.

A sufficient number of exterior details drawn at a scale of one-half inch to the foot to completely fill the remainder of the sheet.

The details should indicate in a general way the jointing of the terra cotta and the sizes of the blocks.

The color scheme is to be indicated either by a key or a series of notes printed on the sheet.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales are to be shown.

Each drawing is to be signed by a *nom de plume*, or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water street, Boston, Mass., charges prepaid on or before January 6, 1913.

Drawings submitted in this Competition must be at the owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER and the right is reserved by THE BRICKBUILDER to publish or exhibit any or all of the others. Those who wish their drawings returned, except the prize drawings, may have them by enclosing in the sealed envelopes containing their names, ten cents in stamps.

Drawings submitted in this Competition will be returned direct to the contestants from the office of THE BRICKBUILDER.

The designs will be judged by three or five well-known members of the architectural profession.

For the design placed first in this Competition there will be given a prize of $500.
For the design placed second a prize of $250.
For the design placed third a prize of $150.
For the design placed fourth a prize of $100.

The Competition is open to every one.

The manufacturers of architectural terra cotta are patrons of this Competition.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI NOVEMBER 1912 NUMBER 11

PUBLISHED MONTHLY BY

ROGERS AND MANSON COMPANY, Boston, Mass.

ARTHUR D. ROGERS, President and Treasurer
RALPH REINHOLD, Vice-President and Business Manager
RUSSELL F. WHITEHEAD, Secretary and Managing Editor

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.
Copyright, 1912, by ROGERS AND MANSON COMPANY

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

F. M. ANDREWS & CO.; FRANK CHOUTEAU BROWN; AYMAR EMBURY II; McKIM, MEAD & WHITE; CHARLES BRUEN PERKINS; REILEY & STEINBACK; HOWARD SHAW.

LETTERPRESS

CHURCH, VIRGIN DE LOS REMEDIOS
CHOLULA, MEXICO.

Dome is entirely covered with glazed tile in green, yellow, and white colors.

THE BRICKBUILDER

NOVEMBER, 1912

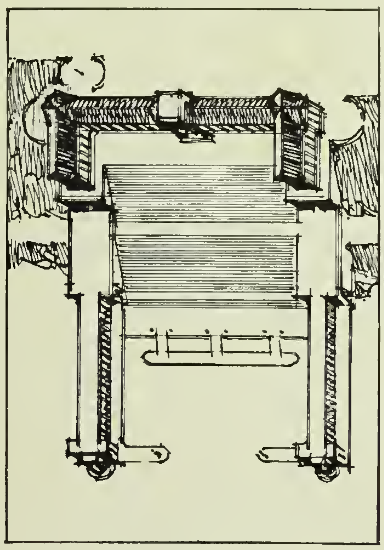
VOLUME XXI. NUMBER 11.

Recent American Group-Plans.

II. MONUMENTAL GROUPS.

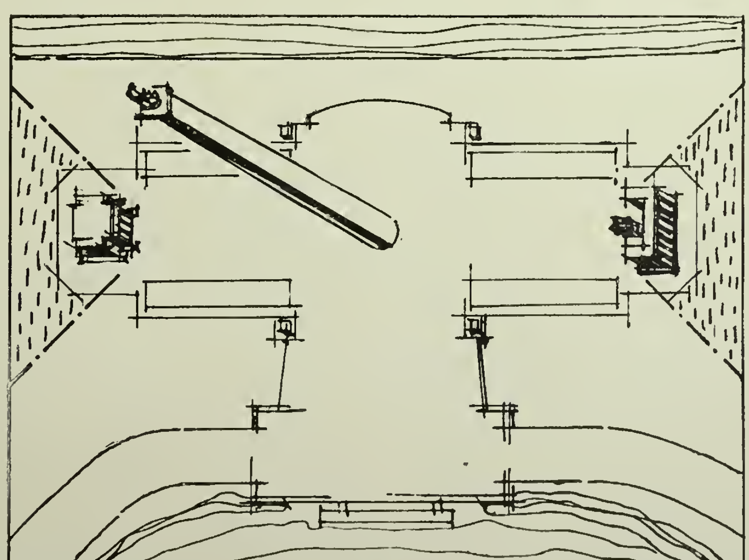
ALFRED MORTON GITHENS.

MONUMENTAL architecture; architecture invariably of the severest classic; the greatest, noblest, simplest motives; long colonnades, great isolated columns, terraces, broad flights of steps; these are the elements of the accepted ideal. No matter if the motive be as old as Rome, no matter whether it be repeated over and over again at different places, whether it be used successively through different ages, such are not considered objections if only the composition be of the highest dignity and grandeur. In this spirit the work is judged; therefore the ideal differs from other modern ideals, for nothing new is demanded. The French, for instance, ask something original. The Grand Palais des Beaux Arts with its great pylons, its glass pediment, and enormous bubble of a dome beyond had been approached in imaginary projets but had never been seen in actual construction; the river-wide steel arch of the Alexandre III was like nothing seen before; but there is little new in the Robert Fulton colonnade, the terraces or flights of steps. The motives are exquisitely handled and it is a work of the greatest nobility. Unrestrained originality tends perhaps to the fantastic, the freakish, is inconsistent with the point of view just outlined and so is anathema to the highest American culture.



ROBERT FULTON MEMORIAL.
Design Placed First.
H. Van B. Magonigle, Architect.

In consideration, then, of the monumental group we must brush aside the question of originality. A Doric column is perhaps the noblest form ever given a shaft, and a Doric column won the Perry Memorial competition. Two classic temples were accepted for the Springfield Municipal group, but what is nobler than a classic temple?



PERRY MEMORIAL.
Design Placed First.
Freedlander & Seymour, Architects.

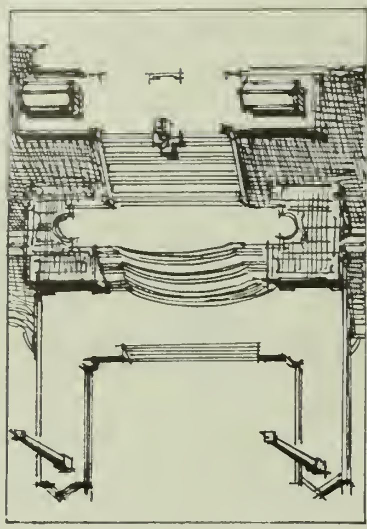
These two and the Robert Fulton have a singular resemblance in their elements as outlined to the competitors. Each required a dominant in the nature of a monument, a *sepulchre* in the Robert Fulton, a *bell-tower* in the Springfield, and a *shaft* in the Perry; also lesser buildings were required, a *museum* and a *reception hall* in the Robert Fulton, an *auditorium* and *city office building* in the Springfield, and a single *museum* in the Perry.

Now it is quite evident that the noblest composition demands the dominant in the center with the lesser buildings set on either flank and balanced in their mass and general design; so the single museum of the Perry was a serious matter to the competitors. It seems extremely difficult to form a complete and perfect monumental composition with two buildings neither unimportant. A rather clever analysis appeared in the memoir of one of the competitors:

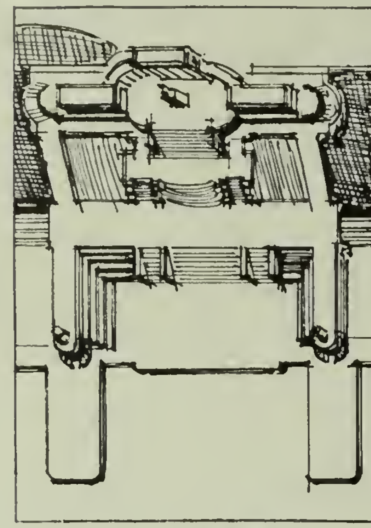
"In regard to the relation of shaft and museum, three alternatives present themselves:

"(1) Placing the museum so far from the shaft that it will not interfere with the view of the latter nor detract from its unity. Considering the flatness of the site, the expanses of water around it, and the lack of any elevation from which a general view can be had, the museum . . . is too small an element to be placed off by itself. . . . It would be lost in space and its possibilities as part of the monument wasted.

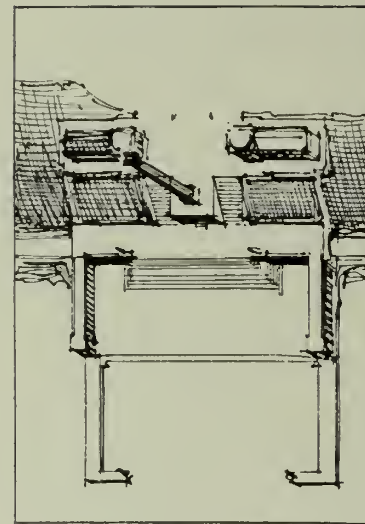
"(2) Placing the museum near the shaft



ROBERT FULTON MEMORIAL.
Design Placed Second.
Bellows, Ripley, Clapp and Faelten, Architects.



ROBERT FULTON MEMORIAL.
Design Placed Third.
Cret, Kelsey and Jallade, Architects.



ROBERT FULTON MEMORIAL.
Design Placed Fourth.
Chas. P. Huntington, Architect.

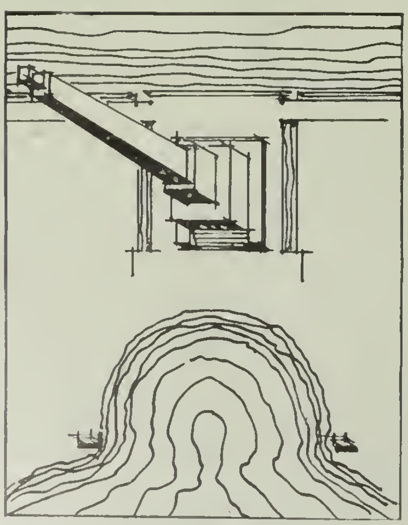
and treating the immediate approaches (by the use of colonnades, etc.) so that the two would form a single composition. Though the principal approach is Put-in-Bay, the openness of the site affords a view of the monument from all sides; and the conception of unity makes it desirable that the monument should present a simple outline from all around. If the museum is placed near the shaft, it and the almost indispensable colonnades, etc., will cut off the view of the latter, and the varied outlines presented from different points will detract from the simplicity of the whole.

"(3) Placing the museum in the base of the shaft. This gives a monument complete in itself independently of approaches, a monumental unit, with nothing to distract the attention from it, and presents a symmetrical mass from all directions. It fulfils the requirements set forth above, and we have adopted it in preference to all other schemes. The museum, however, must be so treated as to give the idea of adequate solidity to support the shaft. We have made it in appearance a solid plinth of stone about thirty feet high."

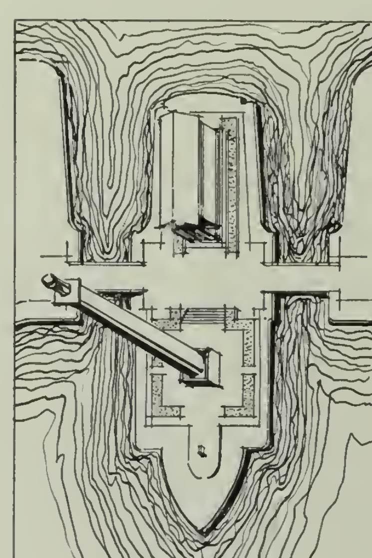
This paper accompanied the design placed fourth; the third was governed by the same argument.

Contrasted with the low island and level breadth of Lake Erie, the great shaft will appear larger than the Washington obelisk, and the idea of its resting on a small museum seems absurd, though the difficulty was so cleverly managed that the effect is not as shocking as it sounds. The museum, of course, was lighted from the top around the base of the shaft, so no windows were necessary.

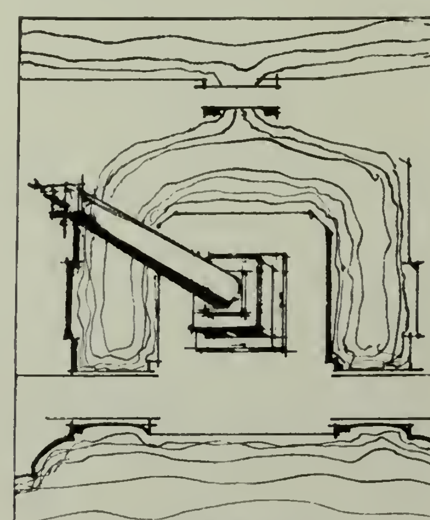
Of the premiated architects only one met the problem bluntly, the second-placed, who crossed the site with his shore-drive, as the program required, and frankly placed his columnar shaft on one side and his temple-museum opposite, carrying broad waterways past them so they rested on an island recalling the Imperial island of the Tiber with its temples and monuments and its bridges to Rome and the Janiculum; but seen diagonally from a distance the museum would seem a lump at one side of the shaft, their relation would be indeterminate and annoying, and so the design would fall under the ban of Section 2 of the analysis just quoted.



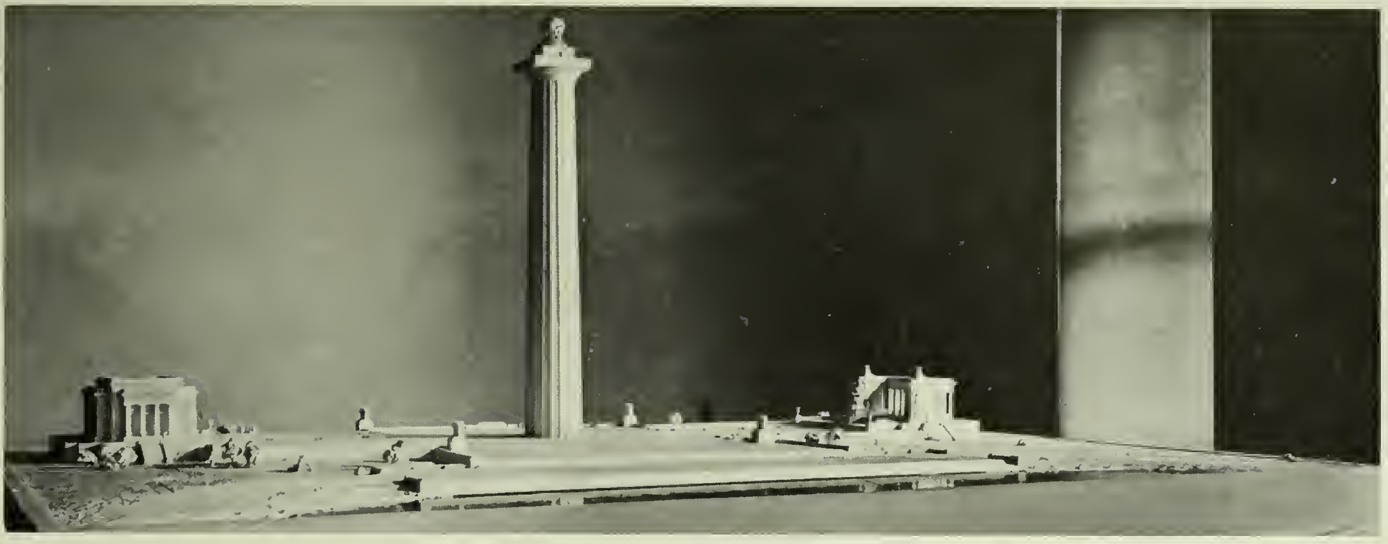
PERRY MEMORIAL.
Design Placed Third.
Paul P. Cret, Architect.



PERRY MEMORIAL.
Design Placed Second.
James Gamble Rogers, Architect.



PERRY MEMORIAL.
Design Placed Fourth.
Dillon, McLellan & Beadle, Architects.



SCALE MODEL — PERRY MEMORIAL.
Freedlander & Seymour, Architects.

The successful competitors, however, with an admirable boldness swept aside all difficulties by deliberately introducing a third building not actually called for in the program, but suggested, perhaps, as a future possibility by the clause stating that "the committee may, after making the award, determine upon the inclusion in the memorial of features not named in the program."

The authors placed this third building to the right of the shaft and the small museum to the left, uniting them on a great plaza for the outdoor meetings and ceremonies the trustees expect; so they arrived at a perfect composition, the painters' "tent and tent-peg" or triangular arrangement, much the same as adopted by the various Springfield contestants or those placed fourth and fifth in the Robert Fulton.

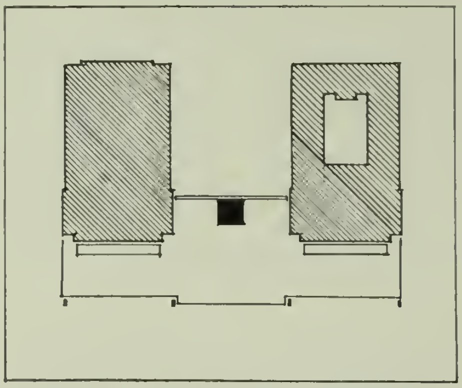
But the space was far wider and the authors made the most of its breadth and flatness to intensify the lofty isolation of the monument. The museum and colonnade they placed as far away as the site allowed and permitted nothing in between to detract from the great solitary shaft. The small buildings form the termination of the irregular tree masses, in the near future to be interspersed with cottages of the summer residents (their position within the dotted lines on the small isometric plan); but from in front, behind, or diagonally in either direction the column stands clear and alone. The plaza is raised no more than the tides necessitate so the shaft may appear as rising from the water and the reflection intensify its height. The platforms of the small side-buildings are somewhat raised to accentuate the plaza's breadth, and its surface slightly crowned lest the shaft appear to have "settled."

The shaft and a portion of the plaza immediately around it are now under contract; the working drawings are not a bit changed from the competition plans, and this is a strong argument for the practical usefulness of a competition.

PERRY MEMORIAL COMPETITION DRAWING.
Freedlander & Seymour Architects.

Simplicity and grandeur seem of the same nature; so in the Robert Fulton the first-placed was the least complex, a flight of steps of colossal scale balustraded at the sides by narrow buildings and terraces terminating in harbor-moles; a colonnade above and landing-stage below. The program demanded a broad flight of steps and made it clear that a winding or zig-zagged driveway as the principal approach would not be acceptable, such an approach for instance as to Deglane's "Eglise Votive," for the steps were to form a great theater with the Hudson River as the stage. Thousands on thousands of persons, tier after tier, can witness the landing of a distinguished guest, his reception by the civic or governmental officials and his ascent between a double line of soldiers or marines, up the center, past the sarcophagus of Robert Fulton to the city.

The project promises soon to materialize. The design has been somewhat simplified by later study; the upper colonnade carried around the two buildings as a peristyle, the central pavilion elevated, and the flanking colonnades at the water level omitted altogether. The composition is unaltered.

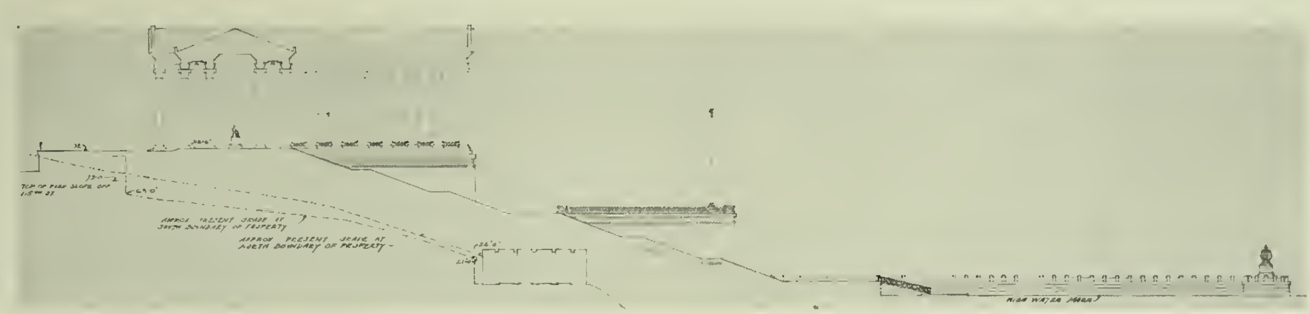


GROUP-PLAN. MUNICIPAL BUILDINGS, SPRINGFIELD, MASS.
Pell and Corbett, Architects.

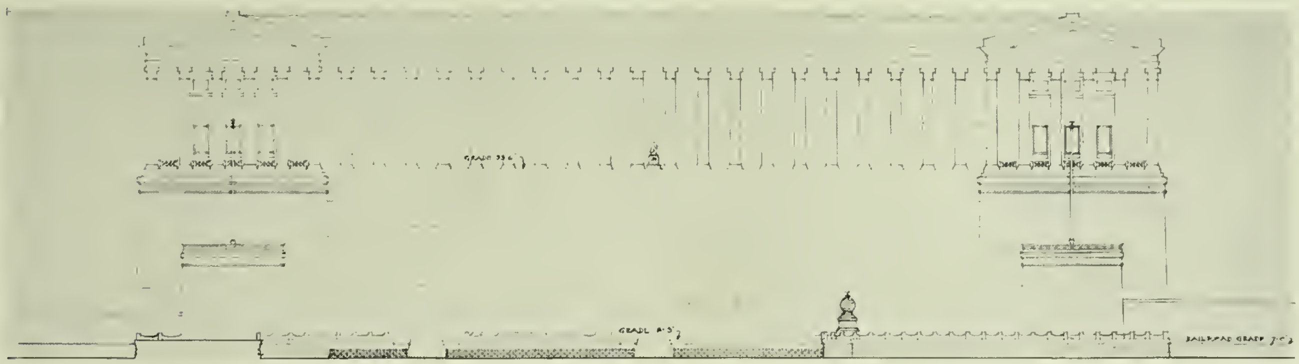
Now such a flight of steps requires a landing at the foot, a strong and formal bordering of some sort at the flanks and an object of interest at the head. These four are the essential elements of a grand stairway and the successful competitor presents them and nothing else to detract from them; and more than that he has managed by combining the flanking masses and terminations to reduce these elements to three: steps, platform, and great enclosing U, our type-composition of the *Open Court*. One forgets to give him credit for having included in these three all the program required: the sheltered harbor, the museum, the meeting hall, the sarcophagus or burial monument. Again, the less complex, the more monumental.

The other designs submitted seem not to have shared the conception of the problem as a theater as well as an entrance. They are all somewhat more complicated; the third was exquisitely beautiful in detail but much more complex and of many parts; the second with its central sarcophagus, with prostyle temples and columnar light-towers at the four corners, is interesting. The problem was a city gate; then it seems perfectly logical that the two flanking buildings are as the pylons of an Egyptian temple gate, the moles and stairway-balustrades and monuments as the avenue of Sphinxes leading to them; the city is the temple, the climax; all of which is perfectly reasonable but dangerous perhaps, lest an unworthy building take the place of honor across Riverside Drive, a site the trustees do not control. It becomes actually a part of the composition, and in this way all the projets are of the nature of the *open court* composition, the rear enclosure of the second- and fourth-

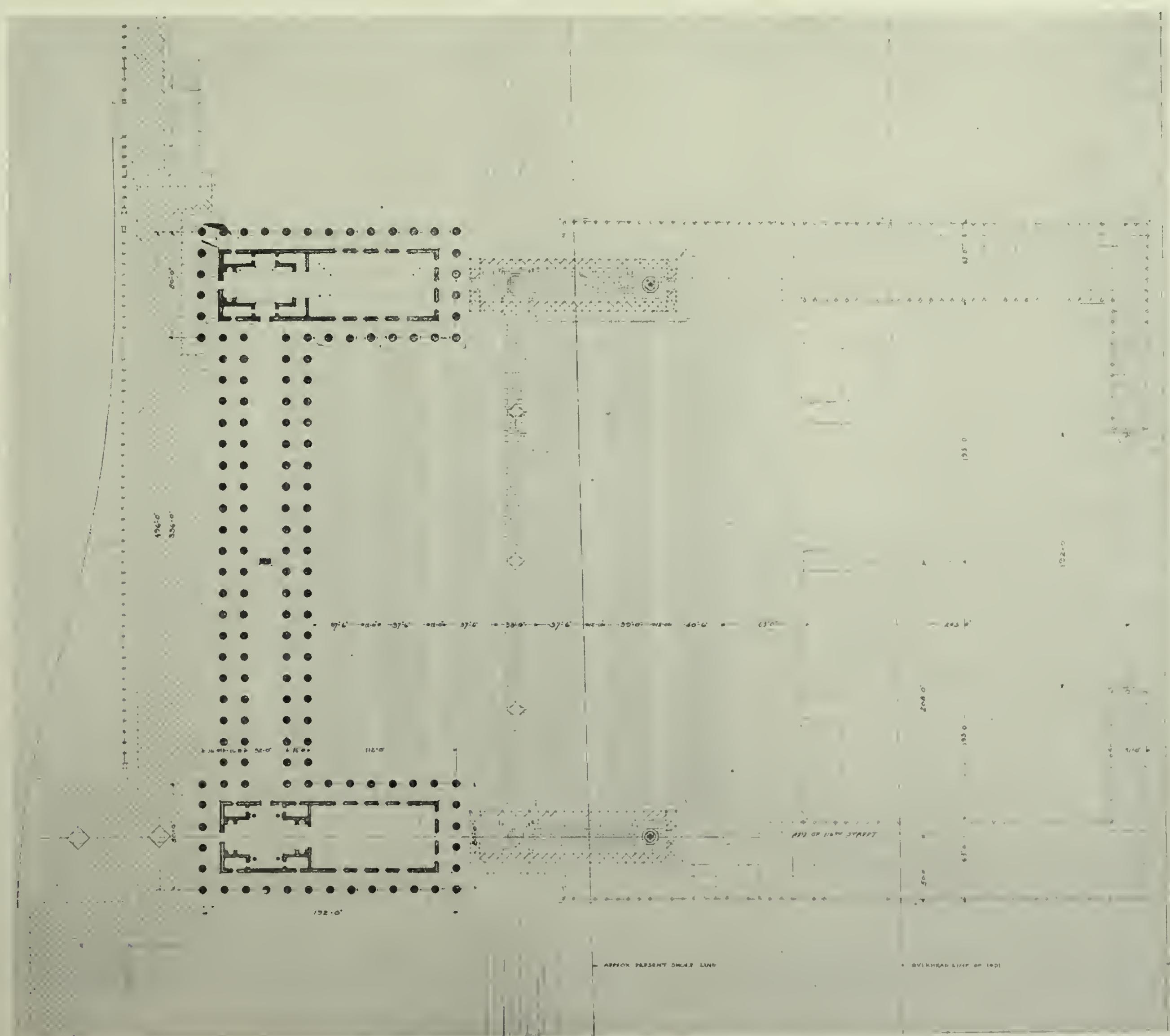
PERSPECTIVE — SPRINGFIELD MUNICIPAL BUILDINGS.
Pell and Corbett, Architects.



SECTION.



WATER ELEVATION.



PLAN.

WORKING DRAWINGS—ROBERT FULTON MEMORIAL, NEW YORK CITY.

H. Van B. Magonigle, Architect.

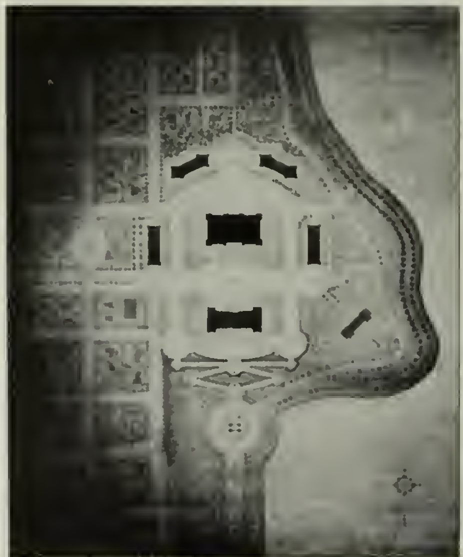
ELEVATION OF CAPITOL GROUP FOR THE STATE OF WASHINGTON AT OLYMPIA.
Wilder & White, Architects.

placed, and of most of the other projets being formed by the trees and buildings on the far side of the Drive.

The Springfield group required a Bell-Tower in the nature of an observatory, a Town Hall which was actually a great auditorium, and a Municipal Office Building with aldermanic halls. The program made it clear that each should front on the square. It is interesting that most of the contestants treated the façades of auditorium and office building alike, though the last was around an open court and totally different from the other in function. This seems necessary to produce the highest dignity, though if American architecture were as subservient to teachings of the Paris School as is said, this chance for monumentality would probably have been lost.

The successful projet shows the tower completely separated from the other buildings; the second-, third-, and fourth-placed treat the three as one building, while the fifth connects the tower by colonnades.

Nobility and grandeur are the ideals; is a tower nobler where it is isolated as are the Venice Campaniles, Giotto's tower, Pisa, the Tour St. Jacques, or the several memorial columns; or not necessarily, as the great Gothic church-towers or the Giralda? If tower and building be joined and treated as one, must the tower be secondary to the building or otherwise lose in dignity by the association? The French have a tendency to stand their towers on some sort of plinth, as Trajan's column stands on its pedestal. Some of the Perry projets show this; but the greater isolated towers of the world seem to start without base of any prominence, as a tree-trunk starts from the ground. St. Mark's Campanile on the Piazza side has no base whatever; the vertical lines on the shaft rise directly from the ground, like the flutes of a Greek Doric column. I remember discussing this tower with Mr. Elihu Vedder, who stated that to him it was the greatest of all for this very reason, the long lines of the Piazza seeming to sweep on and up the shaft without interruption whatsoever.



PLAN.
WASHINGTON STATE CAPITOL GROUP.
Wilder & White, Architects.

The Perry and Springfield were triangular compositions; the first- and second-placed in the competition for the Washington State Capitol were composed as a triangle with breadth as well as length and height, or a pyramid, with the dome of the assembly building as the apex. This is most evident in the first-placed, and to accentuate it the authors put the court house directly in front of the taller assembly building, stilting the dome of the last named so that seen from the front it might not be eclipsed by the court house. The entrances are therefore from the sides; an unusual arrangement without any predominating approach but composing as a true pyramid from any point of view.

The second-placed was not so completely pyramidal, but nothing blocked the view of the dominant building from the proposed waterfront boulevard which the authors took as the principal entrance, assuming that with the city's growth the low flats would be filled in.

The most used entrance is now from Main street to the left. The city has acquired the intervening block so that the accepted project as here shown is not crowded as was the competitive plan. It gives the court house which is to be built immediately the most prominent position, and the governor's house the point of the cape which looks out over Puget Sound; the second-placed subordinates these buildings to glorify the Capitol proper.

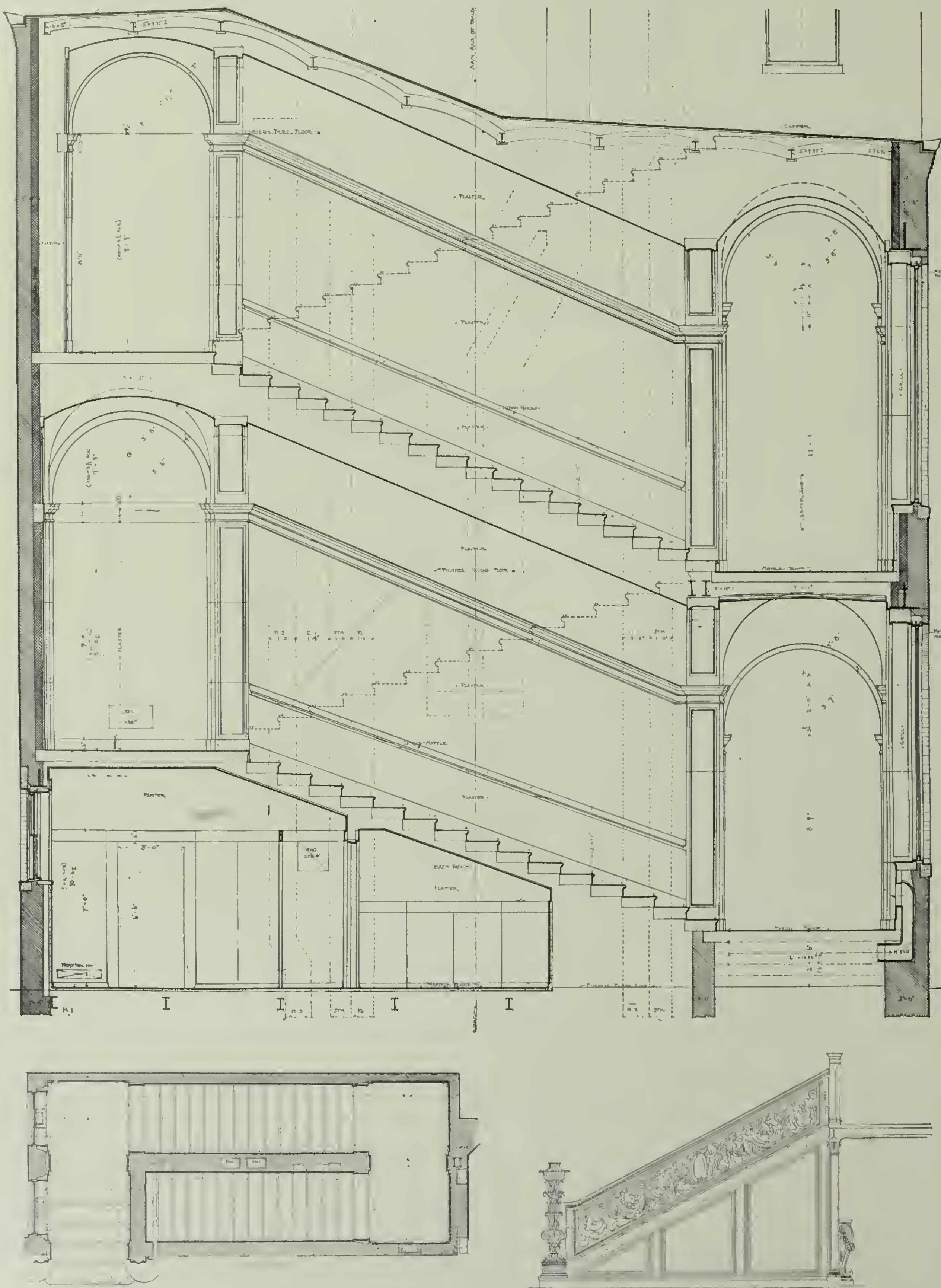
It seems difficult to visualize these two projets without an intimate knowledge of the site. It is a rocky promontory over the Sound and with its colonnaded buildings somewhat suggestive of the Greek citadels, the Arx of Selinunte perhaps, or Girgenti with the sea at its feet. The Greeks apparently composed for silhouette of hill and buildings together rather than for interrelation of buildings. Axes were apparently of no more importance than to medieval builders, while in our plans, which are Roman-inspired, they seem almost everything. Who was it that divided all architecture into two classes, Greek and Gothic on the one hand and Roman and Renaissance on the other?

Modern Domestic Stairways.

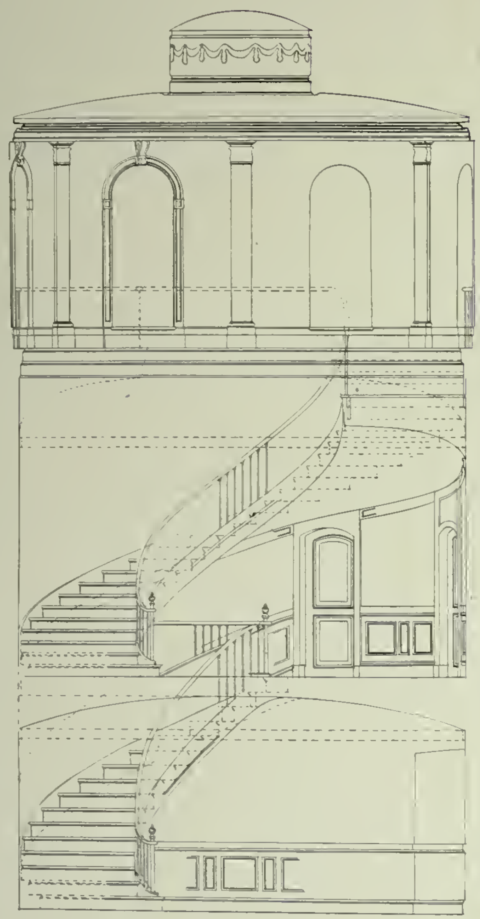
PART III. — SOME UNUSUAL STAIRWAYS.

THOMAS HARLAN ELLETT.

SMALL STAIR LEADING TO STANFORD WHITE'S STUDIO.
This is typical of that great artist's efficiency in the ingenious assemblage of rare antiques.

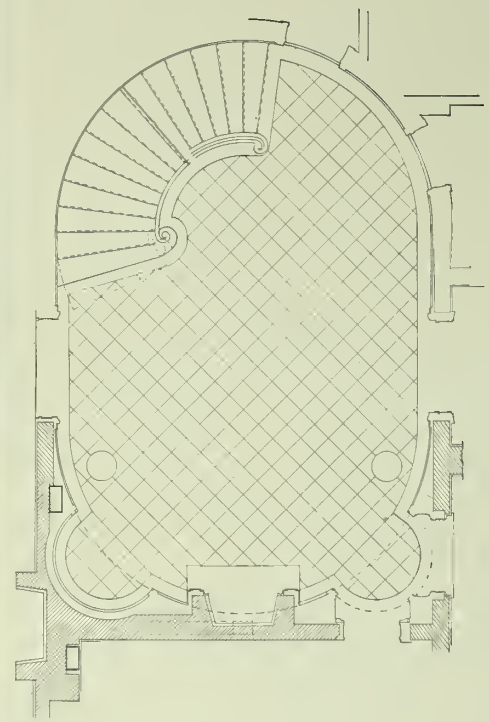


SECTION, PLAN, AND STAIR DETAILS OF UNUSUAL STAIRWAYS.
McKim, Mead & White, Architects.



The long continuous line of balusters curving in one sweep from floor to floor is most effective.

A REMARKABLE STAIR OF THE S-TYPE.
Delano & Aldrich, Architects.



The plan of the second floor hall is circular, covered by a dome.

AN ENCLOSED SEMI-CIRCULAR STAIR.
This one is very simple and pleasing and economical of space.

STAIRWAY WITH POMPEIAN FOREGROUND.
McKim, Mead & White, Architects.

STAIRWAY USING A SECTION OF ANTIQUE MARBLE PARAPET FOR BALUSTRADE.
McKim, Mead & White, Architects.

STAIRWAY BY MCKIM, MEAD & WHITE, ARCHITECTS.
Great solidity is obtained by this blocky massing of dark veined Pavanazza marble. The barrier of plants serves as a balustrade, the ramp itself being sufficiently wide for the feeling of security.

STAIRWAY WITH STEPPED RAMP OF EARLY ORIGIN.
The construction is concrete with steps and dado of green tile. The walls are covered with woven bamboo reeds cut from Chinese awnings.

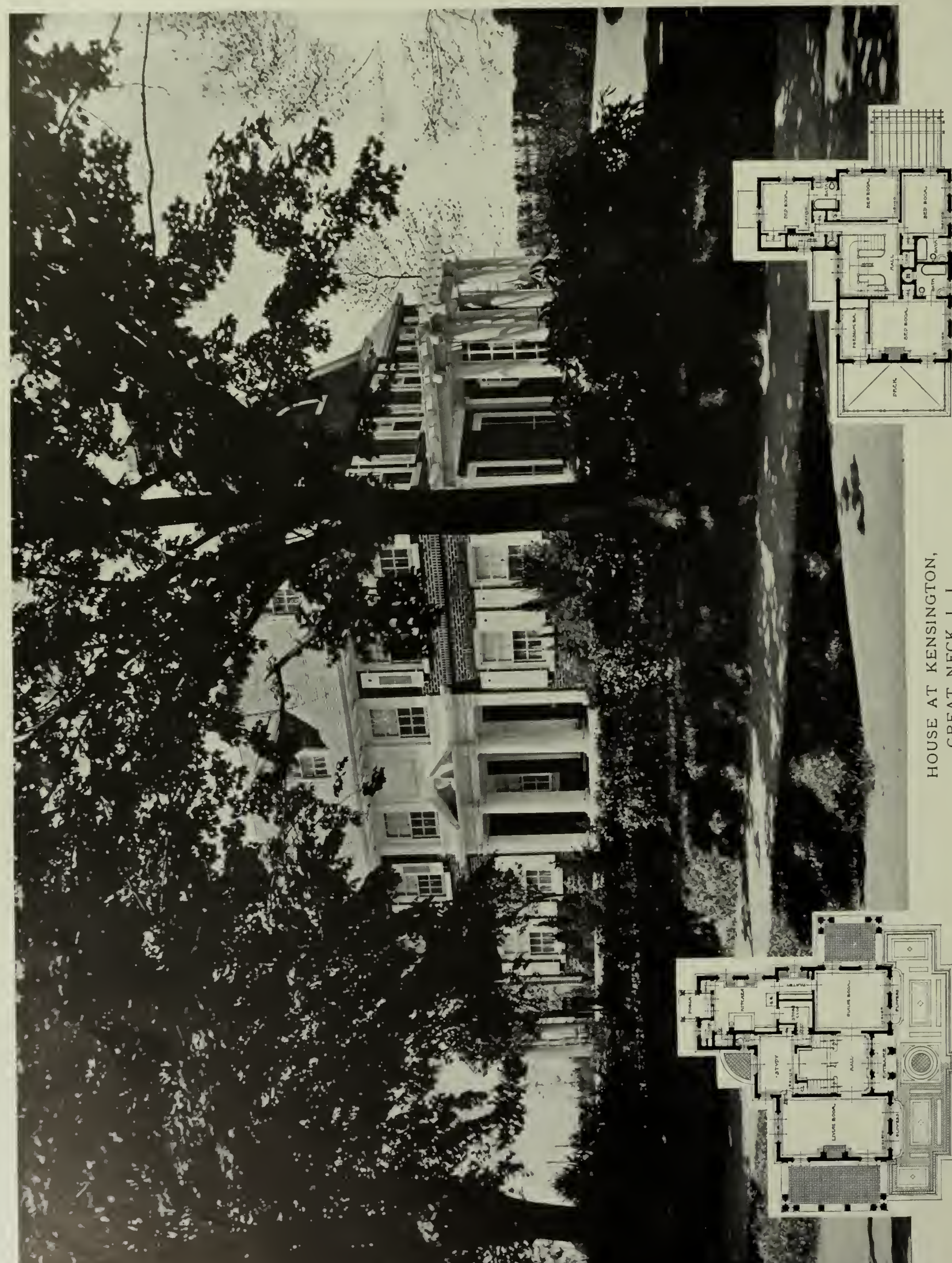
STAIRWAY BY JOHN RUSSELL POPE, ARCHITECT.
The idea is more that of a piece of furniture than of any permanent part of the house.

A MODERN STAIRHALL BY BIGELOW & WADSWORTH, ARCHITECTS.
An excellent example carried out on consistent Colonial lines.

A SEMI-CIRCULAR STAIR BY BIGELOW & WADSWORTH, ARCHITECTS.
A very nice wrought-iron hand rail graces the curve.

A HOSPITABLE ENTRANCE HALL.
An old country house partially remodeled. The arrangement of stair at the end is unusually satisfactory for a small house.

A STAIRWAY BY ALBRO & LINDEBERG, ARCHITECTS.
Unobtrusively placed in plan, charming in its simplicity and cleanly detailed.



FIRST FLOOR PLAN.

SECOND FLOOR PLAN.

HOUSE AT KENSINGTON,
GREAT NECK, L. I.
AYMAR EMBURY II, ARCHITECT.

DINING ROOM.

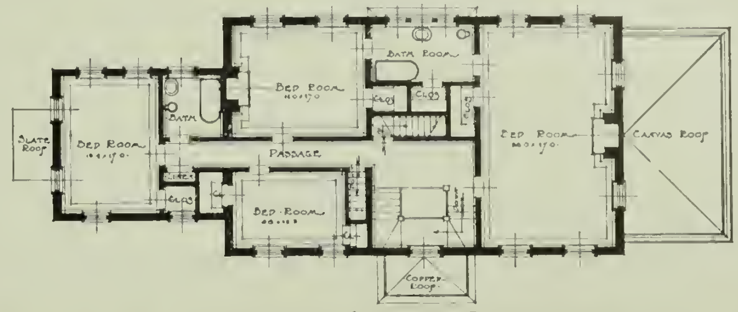
ENTRANCE HALL.

HOUSE AT KENSINGTON, GREAT NECK, L. I.

AYMAR EMBURY II, ARCHITECT.

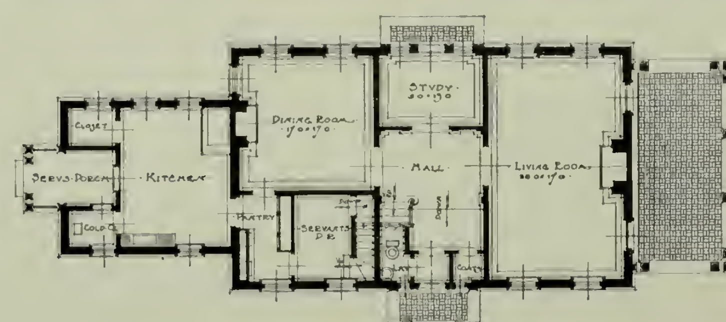
REAR ELEVATION.

FRONT ELEVATION.



· SECOND · FLOOR · PLAN ·

ENTRANCE HALL.

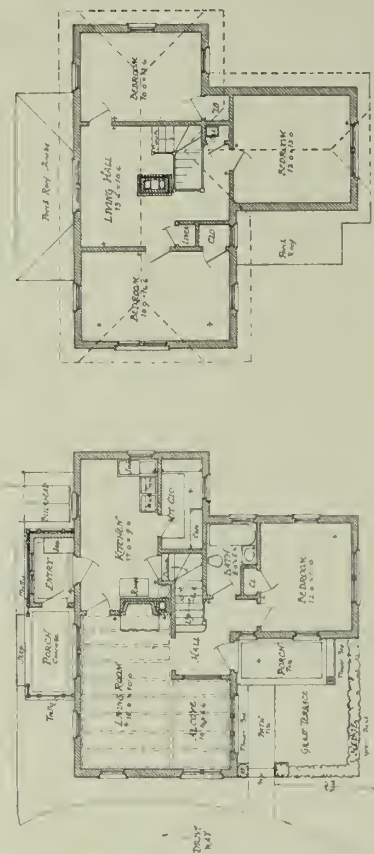


· FIRST · FLOOR · PLAN ·

HOUSE AT SHORT HILLS, N. J.

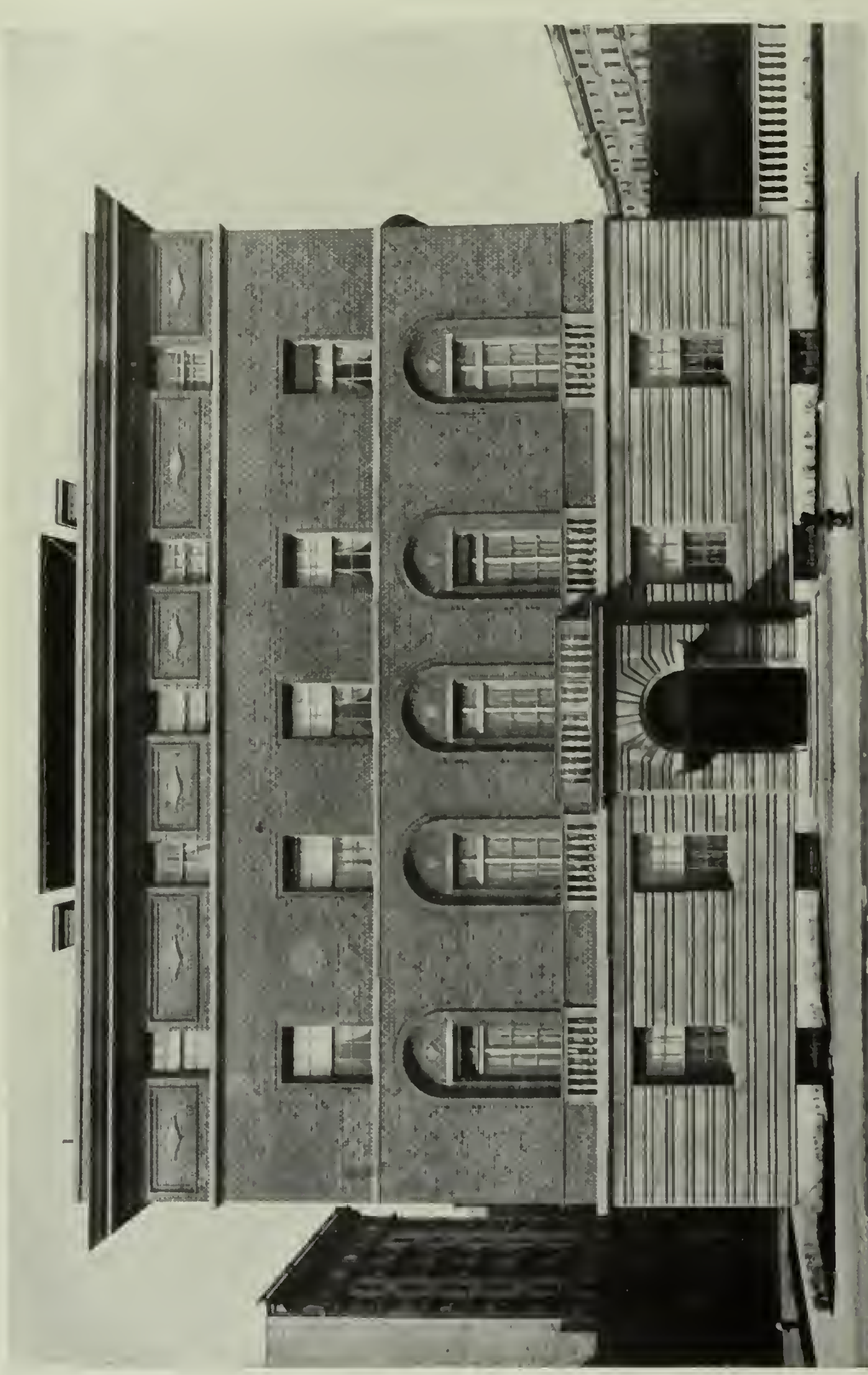
AYMAR EMBURY II, ARCHITECT.

MANTEL DETAIL.

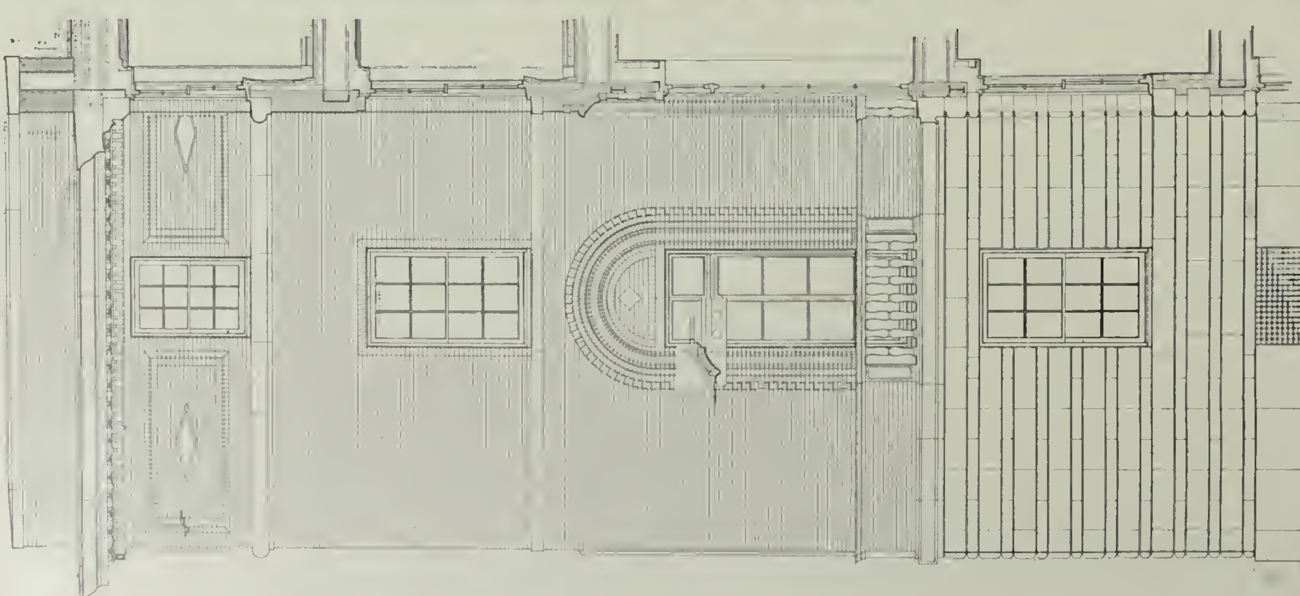


COTTAGE AT DANVERS, MASS.

FRANK CHOUTEAU BROWN, ARCHITECT.



THE PRESIDENT'S HOUSE,
COLUMBIA UNIVERSITY,
NEW YORK CITY.
McKIM, MEAD & WHITE,
ARCHITECTS.



¾" SCALE DETAIL, FRONT WALL.

LIBRARY.

DINING ROOM.

SECOND STORY HALL.

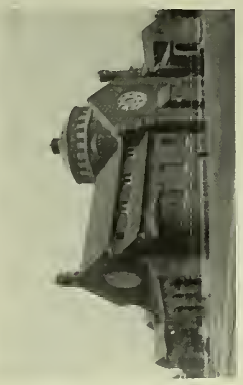
MAIN STAIRWAY.

THE PRESIDENT'S HOUSE, COLUMBIA UNIVERSITY, NEW YORK CITY.

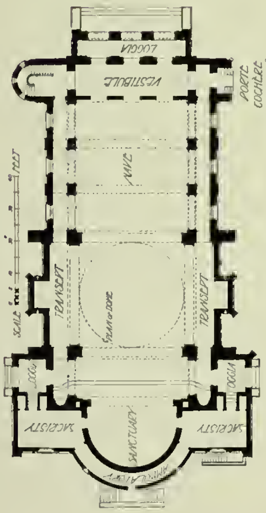
McKIM, MEAD & WHITE, ARCHITECTS.

THE PRESIDENT'S HOUSE, COLUMBIA UNIVERSITY, NEW YORK CITY.
McKIM, MEAD & WHITE, ARCHITECTS.

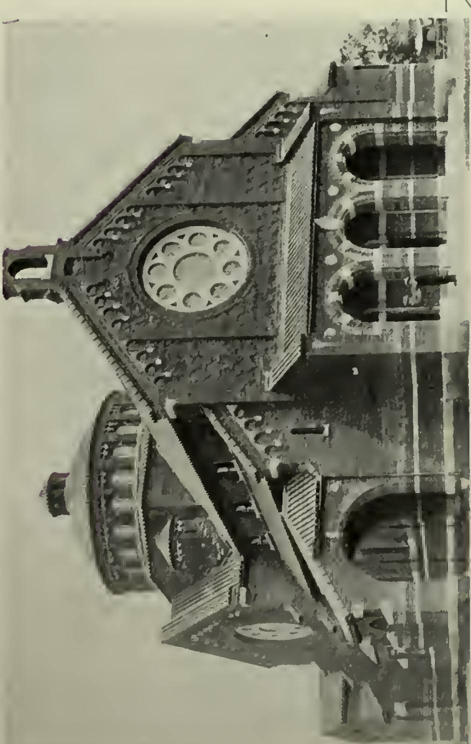
THE CHURCH OF ST. JOSEPH, BABYLON, L. I.
REILEY & STEINBACK, ARCHITECTS.



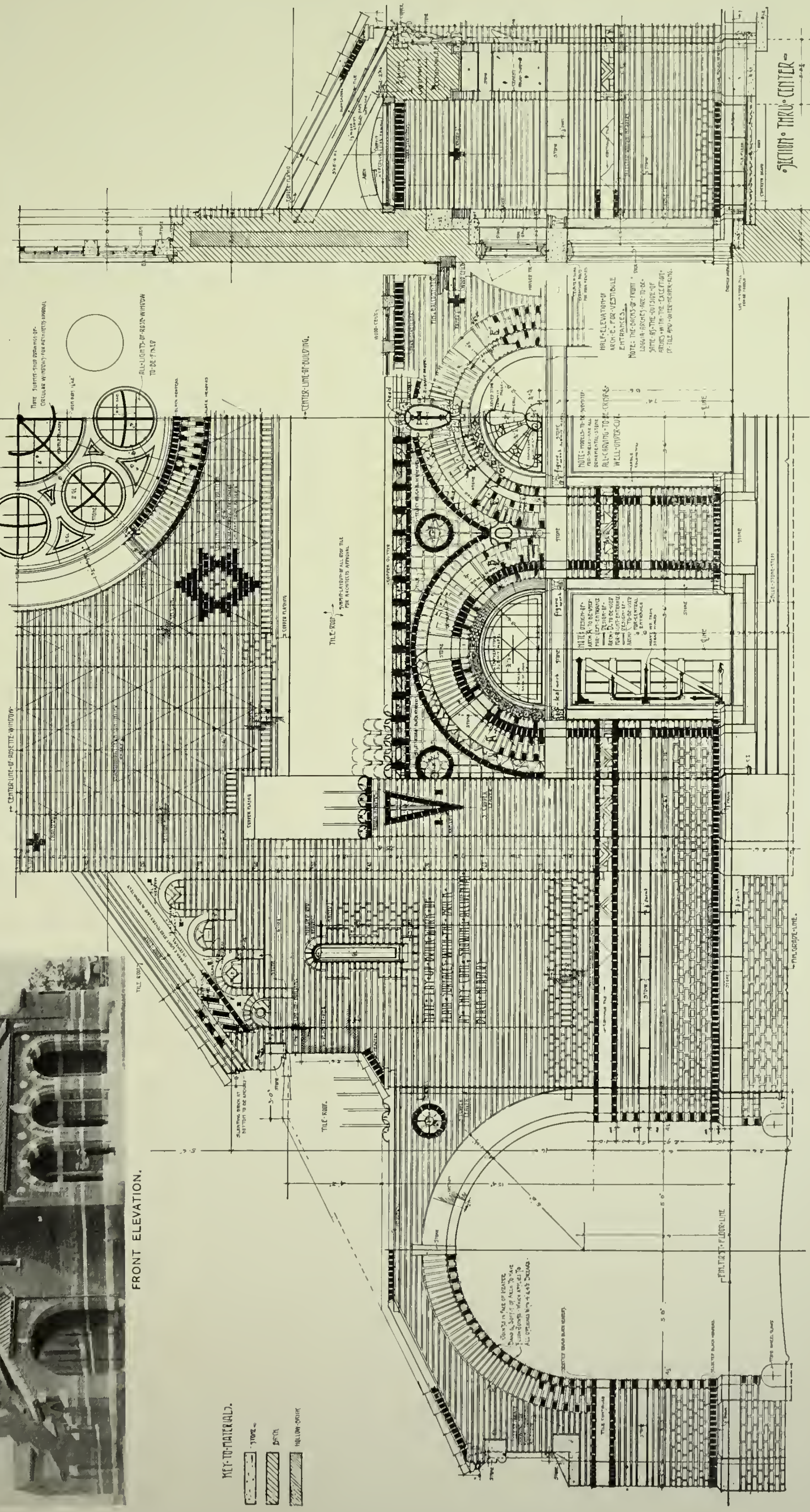
SIDE ELEVATION.



FLOOR PLAN



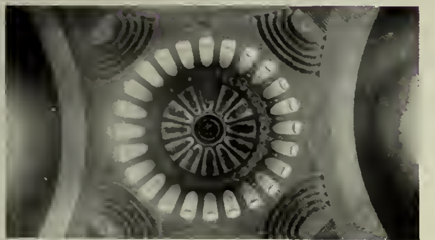
FRONT ELEVATION.



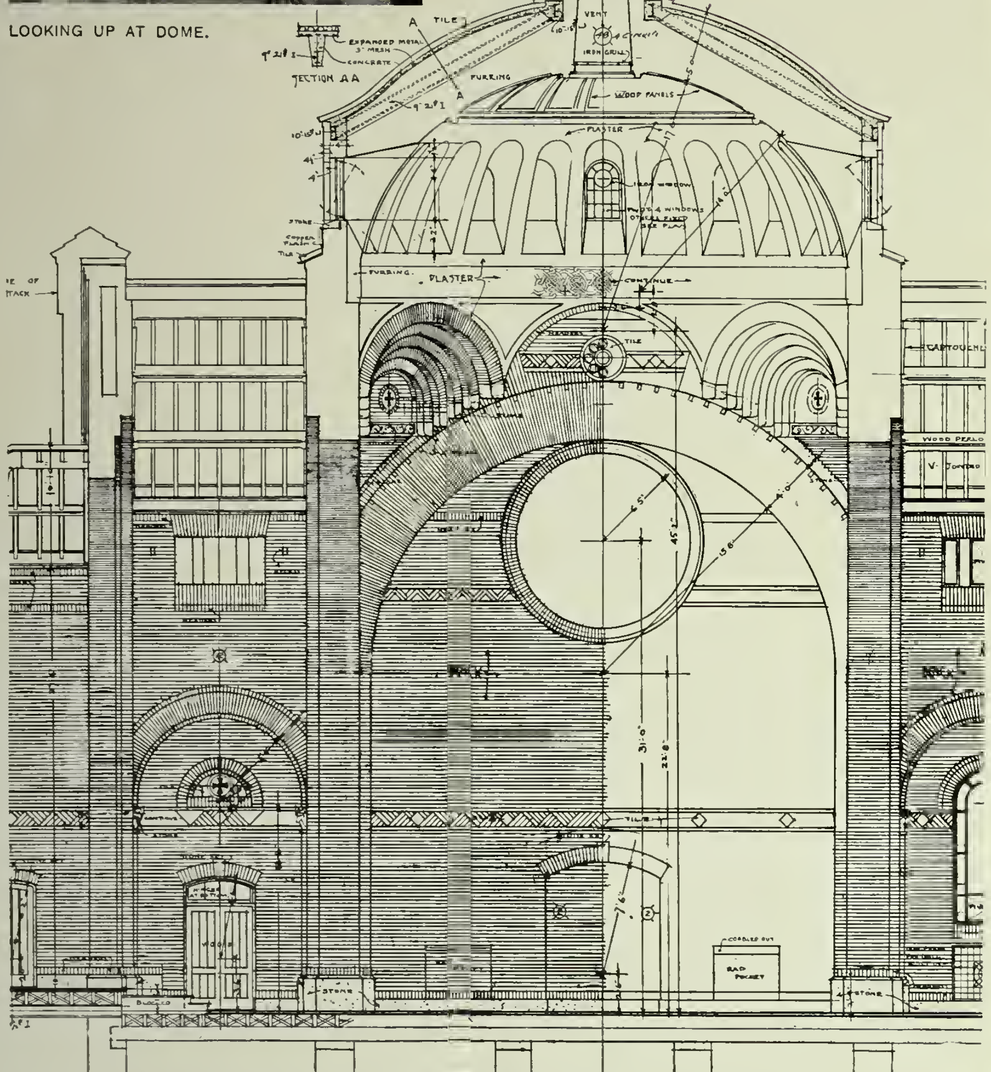
ONE-HALF-ELEVATION-OF-LOWER-PART-OF-FRONT.

THE CHURCH OF ST. JOSEPH, BABYLON, L. I.

REILEY & STEINBACK, ARCHITECTS.



LOOKING UP AT DOME.



SECTION THROUGH DOME.

INTERIOR.

THE CHURCH OF ST. JOSEPH, BABYLON, L. I.

REILEY & STEINBACK, ARCHITECTS.

THE HOTEL McALPIN, NEW YORK CITY.
F. M. ANDREWS & CO., ARCHITECTS.

DETAIL OF UPPER STORIES.

HOTEL McALPIN,
NEW YORK CITY.

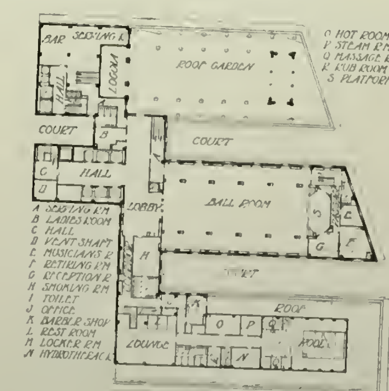
F. M. ANDREWS & Co.,
ARCHITECTS.

GROUND FLOOR PLAN.

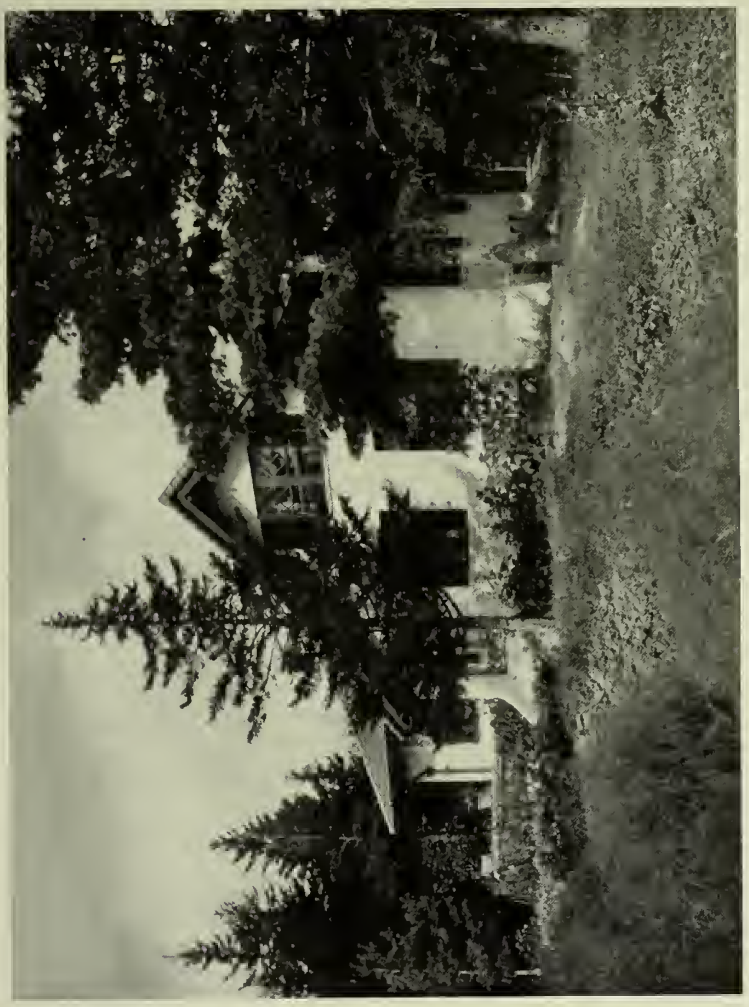
FIRST MEZZANINE FLOOR PLAN.

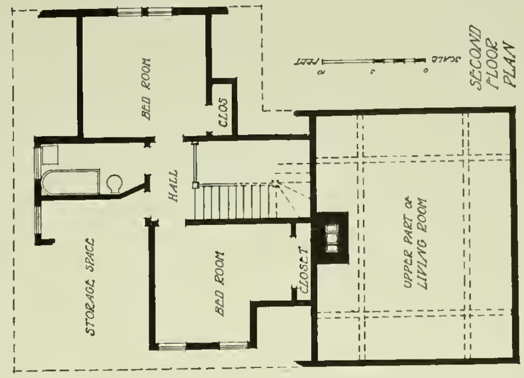
THIRD FLOOR PLAN.

4TH, 5TH, 7TH, 8TH, AND 10TH FLOOR PLAN.

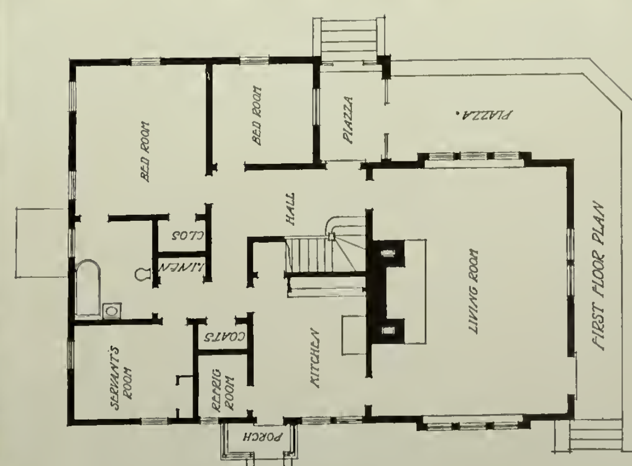


24TH FLOOR PLAN.

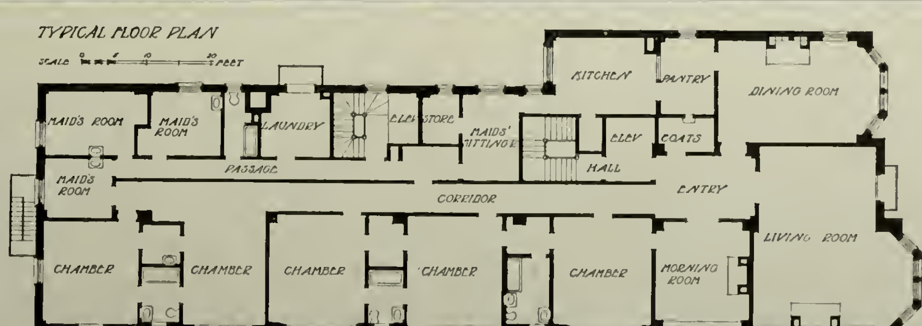




CHARLES BRUEN PERKINS, ARCHITECT.



BUNGALOW AT BAR HARBOR, ME.



APARTMENT
AT
CHICAGO,
ILL.

HOWARD SHAW,
ARCHITECT.

ENTRANCE FRONT — LE MOULIN.

Brick Manor-Houses of France.

LE MOULIN. HERBAULT. LA RAVINIÈRE.

SIDNEY FISKE KIMBALL.

WHEN the British Architectural Association explored the Loire provinces on its annual excursion in 1911, it visited one chateau little known, which yet excited the greatest admiration — Le Moulin. Even the Loire guide of Joanne, with greater confidence than usual in the Philistine traveler, sets opposite its name the advice *excursion recommandee*, too little heeded by architects, if one may judge by the visitors' register. Obscure the location certainly is — twenty-four miles from Blois and four from Mur, in the opposite direction from the chateau of La Morinière; but with the two chateaux, which, by a severe repression of the desire to sketch, can be visited the same day, one is assured that the day will be a memorable one.

"The seignory of le Moulin," writes M. de Thuet, owner of the chateau in the middle of the last century, "was, from the first half of the fifteenth century, the property of the family of that name. About the year 1495, Philippe du Moulin caused the ancestral seat to be reconstructed as we see it to-day. It appears from original documents, to be exact, that on the twentieth of January, 1490, the Sire Philippe du Moulin acknowledged holding in faith and homage of the count of Angoulême, seigneur of Ramorantin, the chateau and seignory of le Moulin with its dependencies. The tenth of October the same year, he obtained from his suzerain the right to 'fortify his hold and fief of le Moulin, which,' according to the words of the ordinance, 'for the past ten years or thereabouts he has always continued to have built and raised from day to day at great cost, and which he would desire to fortify well with towers, barbicans, port-holes, embrasures, crenaux, crosslets, draw-bridge, and moats, etc.' One may thus assign very certainly to the year 1480 the date of the commencement of the construction of the chateau of le Moulin. . . .

"Philippe du Moulin had the good fortune to assist in saving the life of King Charles VIII at the battle of Fornoue, July 6, 1495. From this moment the king made him his friend; he gave him a company of fifty free lances, he entrusted to him the government of Langres and of Blaye, and made him his chamberlain. It was in this last capacity that in 1498, at the time of the passage through Blois of the body of Charles VIII, which was being transported from Amboise to St. Denis, he was of the number of the four lords who carried the corners of the pall. Louis XII confirmed Philippe du Moulin in all the charges with which his predecessor had honored him."

If one steps into the church of the little parish of Lassay, to which the manor belongs, one may see the tomb of the redoubtable knight, with the date 1506, as well as an early representation of the castle in the background of a fresco of Saint Christopher.

The castle itself, preceded by a base-court with the stables and farm buildings, stands foursquare in the midst of a wide moat, still full. Of the original forbidding circuit of walls and towers, however, there are standing only the gatehouse and the adjoining northeastern angle, which compose picturesquely with the tall central keep. The rich silhouette and the sheer fall of the towers, reflected in their green mirror, impart a delicious flavor of chivalry and romance, while the mellow tone of the brickwork with its evanescent patterns and stone trim adds a lively play of color. Already in the time of Francis I security had increased enough to permit the cutting of ranges of openings in the outer wall, which with their shell-crowned dormers furnish the only touch of Renaissance detail.

With this change, and the provision of modern conveniences in the interior, the castle serves very comfortably for occupancy even to-day. Indeed it is remarkable how admirably some of the ancient dispositions lend themselves to uses quite unthought of. The tier of bedrooms over the main gate, for instance, reached by a spiral stair in one tower, have their dressing rooms stacked in the other, an arrangement as sanitary as it is economical of plumbing. All told there are still apartments for twenty guests, still furnished mostly with the original pieces, which like the chateau have remained for centuries in the hands of direct descendants of the founder. The principal rooms retain characteristic and beautiful features. In the salon and the *salle à manger* are richly carved chimney-pieces, in the *salle des gardes* ribbed vaulting of stone, in the oratory fine old glass and a graceful figure of St. Catherine in stone, of the school of Michel Colombe. Most charming of all are the arabesques with which the soffits of the beams in the salon were decorated in the time of Francis I. Altogether we scarcely know which more to admire, the fancy and skill of Jacques de Persigny, the reputed masterbuilder, or the delicacy and solicitude of M. Chauvallon, the modern architect whose restorations preserve so fully the old aspect and spirit.


HERBAULT — TOWERS.

A few miles to the north, near the market-town of Bracieux, reached by a leisurely steam-tram from Blois, lie two smaller manors, not dissimilar in architectural character. Herbault, as a tablet on one of its towers affirms, was rebuilt in 1525 by Nicolas de Foyal, Maître d'Hotel of Francis I, on the site of an earlier castle which he demolished, of which the square tower is the only vestige. Raimond Phelippeaux, secretary of state under Louis XIII, who purchased it from the heirs of Foyal, surrounded the forecourt with buildings of stone and stucco in the style of his time. The chateau proper, which is said to have surrounded originally all four sides of the inner court, after suffering partial demolition was recently restored both inside and out, and its western wing was rebuilt. The general plan conforms to the type of Le Moulin and La Morinière, though with the moat extended to include the farm buildings. Unlike Le Moulin, however, the chateau here had from the start many windows boldly pierced through the outer walls, with fancifully carved dormers, and a very beautiful sculptured doorway of advanced Renaissance character. The same delightful play of patterned brick and stone exists, though the restoration has been less successful and a certain hardness and frigidity marks exterior and interior as well.

La Ravinière, the simplest yet in some respects the most charming of the group, belongs in its origins rather to the


HERBAULT — THE COUR D'HONNEUR.

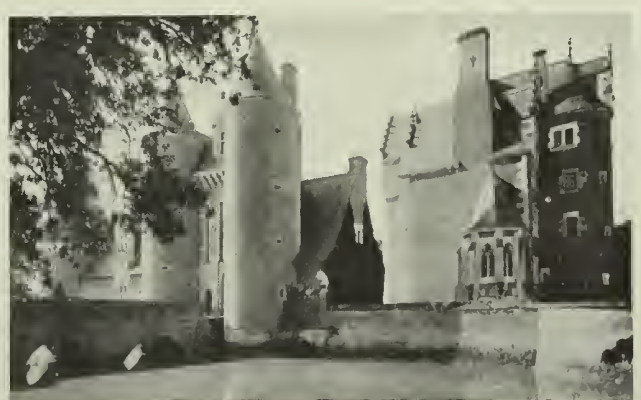

HERBAULT — VIEW FROM THE NORTH.

SALLE DES GARDES.

SALLE À MANGER.

VIEW FROM THE NORTHEAST.

VIEW FROM THE WEST.



VIEW FROM THE NORTH.

LE MOULIN.

BRICK MANOR HOUSES OF FRANCE.

time of Le Moulin, with which its detail is similar. It was built by the abbé de Refuge in the years 1499 and 1500, square and symmetrical, with walls connecting its now isolated round towers. Already before the Revolution it had undergone some changes, the moat had been filled up, and the end pavilions modified under Louis XIV, whose emblem, the sun, appears in their dormers. The Revolution itself left it little better than a ruin. In 1802 it came into the hands of the present family, who once more made it habitable and later enlarged its accommodations by thickening the low connecting links, for which Mansard roofs had then to be substituted. In recent years certain restorations have been made by M. de la Morandieu, architect in charge of the chateau of Blois, but in spite of a certain modernity of aspect due to the large-paned sash, no radical restoration would seem to be called for. The gradual modifications of time have made a modern home as beautiful as the medieval fortress, and it would seem dangerous to risk freezing its genial hospitality into the prim correctness of a museum.

HERBAULT — ENTRANCE DOORWAY.

One encounters here a new disposition of the base-court, which is placed on the transverse axis of the former enclosure. The stables and farm buildings are of half timber, nogged with tile or brick laid slantwise in herringbone fashion. This construction, which gives to all the old cottages of the immediate neighborhood an effect extremely English, is made advisable by the clayey nature of the soil and the possibility of uneven settlements.

The foundations of the chateau itself, though not deep, are very wide. The same soil furnishes clay for the bricks, and wood is easily obtained in this province of forests and hunting.

In a wing adjoining the base-court the owner shows his atelier, with models finished and in process, and hung with trophies of the chase.

One is not surprised when he says that he has never cared to travel widely, even in his own country. That we must do so is to see such chateaux as La Ravinière!

LA RAVINIÈRE.

The McLachlen Building, Washington, D. C.

J. H. DE SIBOUR, ARCHITECT.

THE city of Washington, during its more recent development, has witnessed a remarkable growth in its business sections quite in keeping with the advance in the residential portions of the Capital and the numerous new buildings of monumental character devoted to the administration of the Federal Government and other institutions.

One of the most recent of the commercial structures is the McLachlen Building, nine stories in height, situated at 10th and G streets, N. W. The first story is occupied by the McLachlen Banking Corporation together with two stores, one fronting on 10th street and the other on G street. The upper stories are for offices and are arranged for use as single rooms or in suites.

The very moderate height of this building as compared with structures of like character in other cities is explained by the restriction of height imposed by the Department of Buildings. This limit of height, or 110 feet 0 inches above the sidewalk, applies to nearly all streets and avenues designated as business streets and can nowhere be exceeded except on particularly wide avenues. This restriction naturally tends to secure a uniform height of new buildings erected for business purposes and effectually prevents the disturbing element caused by "sky-scrapers."

FIRST FLOOR PLAN.

TYPICAL FLOOR PLAN.

THE McLACHLEN BUILDING.

J. H. de Sibour, Architect.

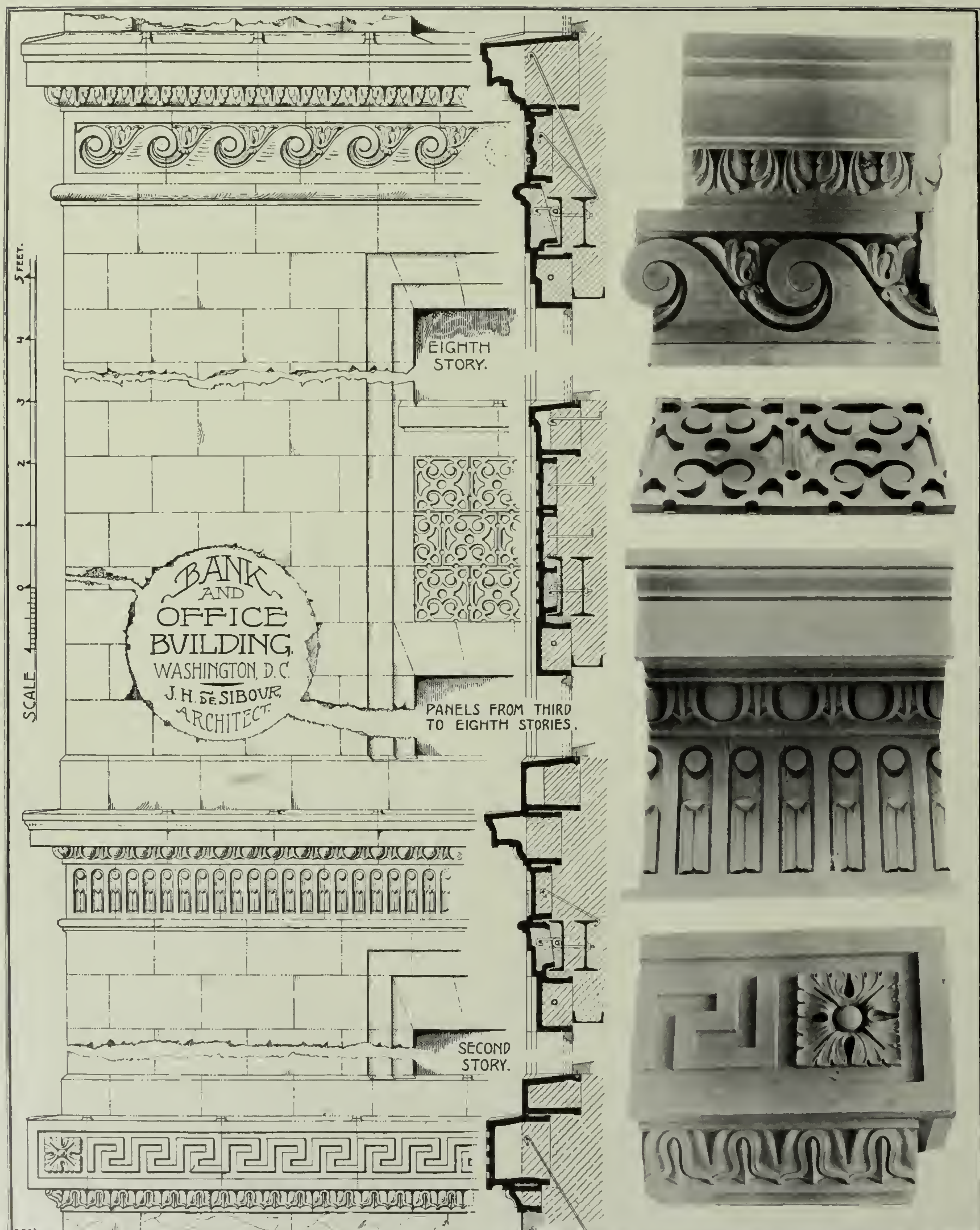
Washington is exceptionally free from smoke and other conditions which tend to discolor buildings, and therefore light colored building materials are preferred. White marble and granite, brick and terra cotta in light colors are used to a large extent.

In the McLachlen Building the first story only is of white Vermont marble, the remainder of the two façades being entirely of terra cotta which nearly matches the color of the marble, but in no way attempts to imitate that material. The terra cotta is glazed and finished with a fine matt surface which gives a texture in harmony with the marble, and also does not shine or glitter in the sunlight.

The design of the building, while conceived on simple lines, is expressive of the uses for which it was built and produces an effect of considerable richness, owing largely to the surface treatment and texture of the terra cotta. The first story, which forms the architectural base of the building, is simply rusticated, the only feature of importance being the entrance to the bank. This entrance, projecting beyond the building line, has fluted Doric columns with ornamented entablature, and the doorway is deeply recessed. Above the first story the building rises in uniform stories to the top, which is crowned with an exceedingly rich and elaborate terra cotta cornice and cresting. The upper story is further emphasized by ornamental panels between the windows and enriched band course below, all executed in terra cotta. Detail drawings and photographs of these features of the building are shown on the pages which directly follow and illustrate in a forceful manner the possibilities of the material when happily modeled and executed.

The corner piers are considerably wider than the intermediate ones, giving the appearance of solidity and strength. Their height is accentuated by shallow vertical channels and the absence of horizontal lines except at the base and crown. The spaces between the windows are ornamented by decorative panels, the detail being a variety of diaper pattern composed of square blocks. The background of the ornament being slightly sunk, the panels give a gray effect, which, in combination with the voids of the windows, give prominence and supporting value to the piers. These very attractive features of the design are made practical through the use of terra cotta. The cornice has comparatively little projection, necessitating a very small amount of steel work in its construction. (See detail on page 300.) While no color has been used, the play of light and shade, and the feeling of lightness produced by the pierced free standing cresting, combine in a manner which is brilliant and sparkling, whether seen in sunlight or otherwise.

Terra cotta has been used by the designer without any attempt being made on his part to disguise its real substance, but with a feeling of the possibilities of the material. By the repetition of small and identical motives and suitable jointing the designer has produced a richness and unity of effect throughout the entire façades.

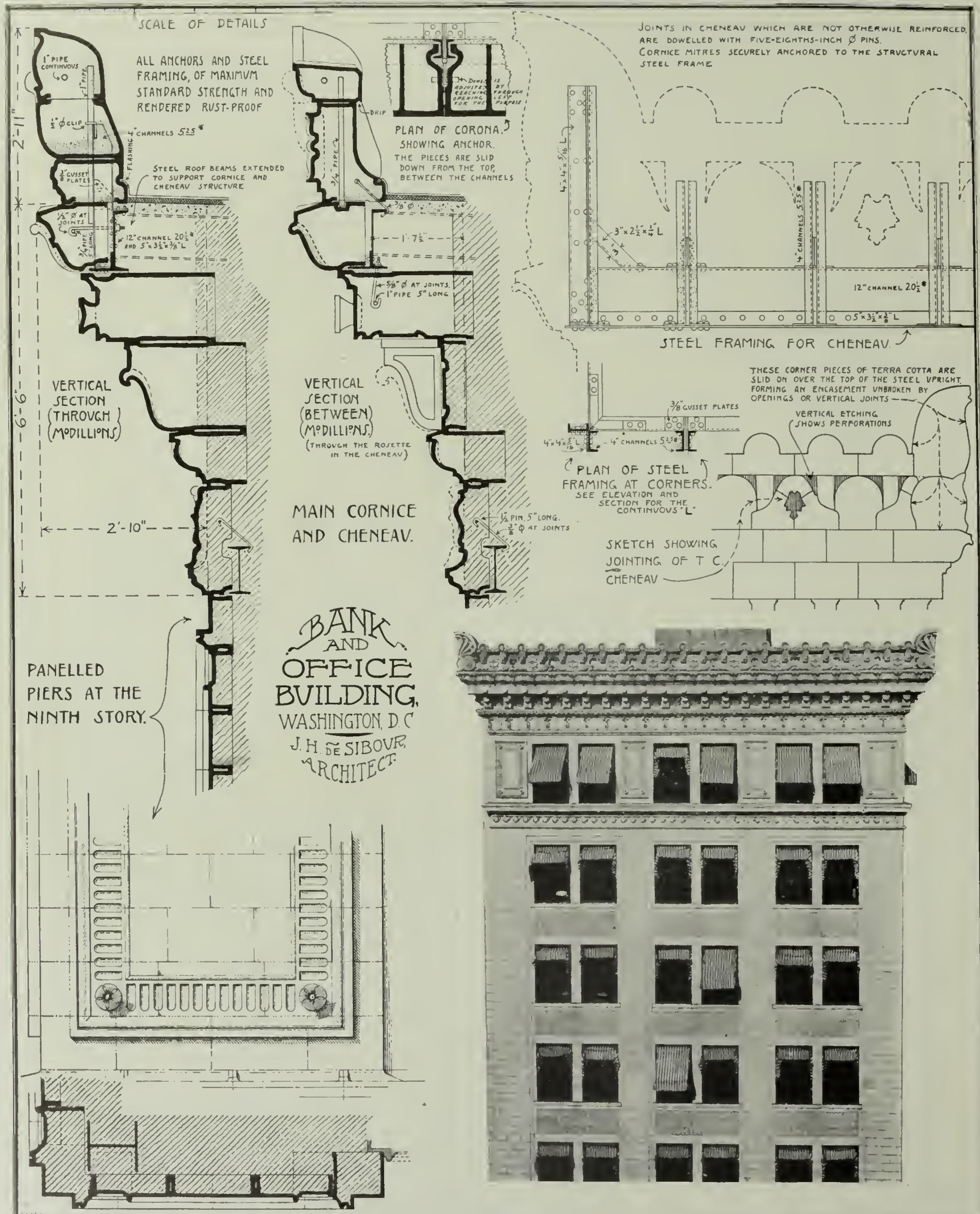


Terra Cotta Details. J. H. de Sibour, Architect.

THE McLACHLEN BUILDING, WASHINGTON, D. C.

THE McLACHLEN BUILDING, WASHINGTON, D.C.

J. H. de Sibour, Architect.



Terra Cotta Details. J. H. de Sibour, Architect.

THE McLACHLEN BUILDING, WASHINGTON, D. C.

Editorial Comment and Miscellany.

PLATE ILLUSTRATIONS — DESCRIPTION.

THE CHURCH OF ST. JOSEPH AT BABYLON, L. I. PLATES 148, 149, 150. As an argument for the fitness of an ordinary building brick for ecclesiastical work of a monumental character, the Church of St. Joseph at Babylon, L. I., designed by Reiley & Steinback of New York, is forcible and wholly satisfying.

The church is designed in the so-called Lombard style, prevailing in the twelfth century, in the northern part of Italy, and without being a copy of any church in particular suggests the architecture of St. Stephano at Bologna, and also the group of "The Seven Churches."

REAR.

Concerning the construction, it may be said that it is a successful effort of genuine masonry throughout, as the architects have depended entirely upon the old orthodox system of construction, without utilizing modern methods, such as steel beams, girders, etc., so that the thrusts of the great arches are counteracted and counterbalanced by constructive masonry alone.

BARNARD SCHOOL, RIVERDALE, N. Y.
Built of the new "Tex-Tile," backed with Natco blocks.
Mann & McNeille, Architects.

This building, although very elaborate and monumental in its character, must nevertheless be classed as a cheap building, as the materials applied do not belong in the fancy or high priced line. The brick (Star Colonial) are, in a general way, set in Flemish bond, except where some diaper design was introduced in the walls. The roofs are covered with a bright red roofing tile of strong corrugations.

The artistic expression of the church is altogether wholesome and satisfying. The color of the brick ranges from a light bright red to a deep brown, and the decorative part has been most successfully solved by the introduction of faience bands, borders, panels, spandrils, and plaques. In designing these tile decorations the architects endeavored to follow the Italian method, which consists mainly in the introduction of simple motives for the various spaces. In order to get the desired variety, a number of different units for the semicircles, borders, bands, etc., were designed, which were placed in a certain rotation so that no repetition is apparent. The colors of these tile are strong and brilliant and show a great variety. Blues, greens, yellows, and reds are used in a kaleidoscopic manner, forming a very satisfactory contrast with the general color of the brickwork.

The interior is also furnished throughout with brick, relieved by some bright tile inserts. The interior of the dome consists of stucco, which is richly decorated in bright colors, applied to the wet mortar (Al Fresco).

The dome, which is finished on the inside with plaster, is broken up by many penetrations and was designed with a view to the acoustics of the building. The result in this particular has been so gratifying that it has been particularly commented upon both by the speakers and those who have sat in the congregation. The plaster of the dome was decorated while it was still wet, a method of procedure which, though little used for some centuries, has lately been revived. It is expected to give great permanency to the painting.

THE HOTEL MCALPIN, NEW YORK CITY. PLATES 151, 152. The first moderate priced commercial hotel which has been designed on such large scale. It rises twenty-five stories from the street and has three sub basements. The building is absolutely fireproof — a statement often made, but generally much abused.

Some interesting details will tend to show its immensity and completeness. There are in all 1,500 rooms and 1,100 private baths. The working force will comprise approximately fifteen hundred persons. 1,875,000 cubic feet of rock were blasted out for the excavation.

Among the unique and distinctive features of the hotel are: the men's floor (22d), which has been set apart as exclusively a men's or club floor; Turkish and Russian baths are located just above this floor, reached by means

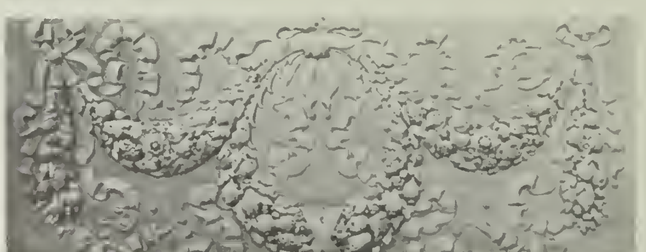
DETAIL EXECUTED BY NORTHWESTERN TERRA COTTA COMPANY.
D. S. Penticost, Architect.

of a special stairway. The second mezzanine floor also provides for the comfort of the male guest. Here one finds the lounge — a long gallery fitted up like a sumptuous clubroom with library, smokers' necessities, bar, ticker, and stenographer. There is a women's floor, exclusively for their use, and a ladies' café with complete restaurant service where gentlemen are admitted only when acting as escort. This restaurant is done in natural oak and gold with mirrored walls of the period of Louis Seize. The ornamentation of the ceiling is an adaptation from the decoration of one of the royal palaces in Milan executed by Albertolli, 1787.

The terra cotta grill is one of the most important rooms of the hotel. Entirely new decorative effects have been obtained by the use of terra cotta. There is a large ballroom and a number of banquet and private dining rooms varying in capacity from a small room suitable for dinners of half a dozen covers to the large formal affairs at which hundreds are in attendance.

DETAIL EXECUTED BY NEW YORK ARCHITECTURAL TERRA COTTA COMPANY.
Schwartz & Gross, Architects.

An interesting coincidence is discovered in the use of the monogram of Marie Antoinette, the ill-fated wife of Louis XVI. The decorations throughout are inspired by the work of the artists of the Louis Seize period, so that the specially designed coat of arms, following closely the lines of the royal lady's heraldic device, appears as often as good taste permits. The letters "MA" are equally indicative of the word "McAlpin" and the period which inspired the McAlpin artists.



DETAIL EXECUTED BY NEW JERSEY TERRA COTTA COMPANY.
Hazzard, Erskine & Blagden, Architects.

BUNGALOW AT BAR HARBOR, ME. PLATE 153. This bungalow was intended by the owner for use during winter visits to Bar Harbor, and was, therefore, placed in a sheltered situation among pine trees and facing towards the southwest.

The materials are white stucco on the outside, with a roof of dull green tiles, the exposed stonework of rough field stone, with hexagonal brick tiles on the terrace floor.

DETAIL EXECUTED BY CONKLING-ARMSTRONG TERRA COTTA COMPANY.
Horace Trumbauer, Architect.

The living room is paneled to the ceiling with selected cypress, the large stone chimney being the feature of the room. The stones for this were carefully selected for color and size, the shelf being one long stone nearly eight feet long. The ceiling runs up into the roof, with exposed beams of cypress between the plastered surfaces, which are tinted a light shade of red.

The walls of the bedrooms are all of rough plaster, tinted in various shades, the standing finish being cypress. All the woodwork is waxed and slightly stained.

FORTY-SIXTH ANNUAL CONVENTION, AMERICAN INSTITUTE OF ARCHITECTS.

To be held in Washington, D. C., December 10, 11, and 12, 1912.

THE convention will be called to order at 10 A.M., Tuesday, December 10th, at the New Willard Hotel.

The topic to be considered by the convention, besides the regular business and reports of the various committees, will be "The Relation of the Fine Arts; Sculpture, Painting, Landscape, and Building to Each Other." At the afternoon session on Tuesday papers illustrated by lantern slides will be given by Lorado Taft on "Recent Tendencies in Sculpture"; by A. Phimister Proctor on "Animal Sculpture and Its Relation to Buildings and Parks," and by Herbert Adams on "The Relation of Sculpture to Buildings and Parks."

On Wednesday afternoon Mr. E. H. Blashfield and C. H. Walker will present a paper on "Mural Painting."

Thursday afternoon's session has been set aside for a paper on "Relation of the Garden to the House," by Chas. A. Platt, and one on "Park Treatment and Its Relation to Architecture," by Arthur Shutleff.

The convention will close Thursday evening with a banquet. Among the speakers upon this occasion will be Mr. Thomas Nelson Page and Mr. Royal Cortissoz.

PILASTER.
Executed by Winkle Terra Cotta Company.
Garber & Woodward, Architects.

THE NEW SCHOOL OF ARCHITECTURE AT COLUMBIA UNIVERSITY, NEW YORK CITY.

THE reorganization of the School of Architecture was undertaken with two definite ends in view. First, it was proposed to eliminate, as required work, all studies which departed from the purely professional character of the school. Secondly, it was intended to improve the course in Design by broadening its scope and by increasing the time allotted thereto in the successive years of the curriculum of a typical student.

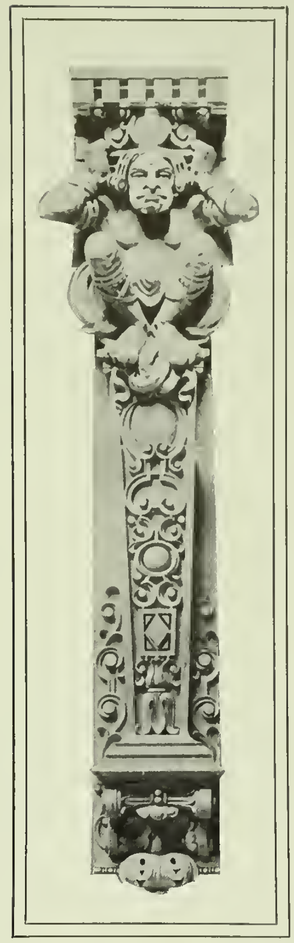
The branches of instruction administered by officers of the school are as follows: Design — Professor Lord, M. Prévot, Mr. Ware, Mr. Van Pelt; Shades and Shadows, Perspective, Descriptive Geometry, Stereotomy — Professor Sherman; History of Architecture and of Ornament — Professor Hamlin and Mr. Bach; Theory of Architecture — Professor Lord; Construction, including Building Materials and Structural Design — Professor Warren; Drawing — Professor Harriman; Elements, involving the orders and their applications — Mr. Flanagan; Civic Design — Mr. Ford.

These seven branches of instruction comprise the work given within the school. Students are required to pursue in addition certain studies in Mechanics and in Mathematics through the Calculus.

Of these various fields of study only that of Professor Sherman will be continued unchanged.

The work in the History of Architecture and of Ornament previously included six courses: Ancient, Medieval, and Modern Architecture, and a similar triad in Ornament. The latter will remain as before in three yearly courses meeting once weekly. But the former work in Architectural History, covering the subject in three courses each meeting twice weekly, has been transferred to the list of electives.

In the schedule of required studies this field is now represented by two courses meeting once weekly and completing the subject in two years. Certain other courses in Historical Research, corresponding to the three courses in Architectural History, will also be included in the group of electives. These will supplant the two former prescribed courses, Medieval and Modern Research, given annually during five weeks of the second term. Two additional courses in the historical field, called Archeology in French and German, have been entirely eliminated.



DETAIL.
Executed by American Terra Cotta & Ceramic Company.
W. C. Zimmerman, Architect.

The work in the Theory of Architecture, the study of the abstract principles governing architectural composition, will be administered by Professor Lord. This will supersede courses formerly called Theory of Planning and Composition and Theory of Professional Practice. The subject will be treated as an indeterminate or non-progressive course, sometimes as stated lectures and occasionally in the nature of a colloquium, required of all regular students as long as they are in residence. The old course in the Theory of Color has been removed from the list of courses and that in the Theory and Practice of Decorative Arts has been made elective.

THE HESPANIC SOCIETY OF AMERICA, NEW YORK CITY.
Interior walls of Atlantic Terra Cotta in natural red, modeled in low, sharp-cut relief.
Charles P. Huntington, Architect..

ST. BARBARA'S CHURCH, BROOKLYN, N. Y.
Front brick furnished by Carter, Black & Ayers.
Helmle & Huberty, Architects.

THE GREATER PORTLAND PLAN.

THE preliminary report on the Greater Portland plan has just been issued by the city plan commission of that city. This plan was prepared under the direction of Edward H. Bennet, author of the plan of the Panama-Pacific Exposition, and the associate of Daniel H. Burnham in some of his most important undertakings.

Portland's present city limits encompass about 54 square miles, and it is proposed that these shall be extended to allow for 150 square miles. The Willamette river will be improved to meet new requirements. The city's business center is fixed, although it will extend toward that portion of the city where the grades permit. Suburban highways — and the Greater Portland will include in its population communities within a radius of at least 20 miles — will be properly related to each other and to the city's main thoroughfares.

THE Atlantic Terra Cotta Company furnished the terra cotta for the McAlpin Hotel, New York City, illustrated in this issue.

Among the large contracts recently taken by the Atlantic Company are: The Bay Ridge High School, Bay Ridge, New York, Gray, C. B. J. Snyder, architect; Monward Realty Company, St. Louis, Granite color, Eames & Young, architects; Rowan County Court House, Salisbury, N. C., Gray, A. Ten Eyck Brown, architect; Factory for Electro-Dental Manufacturing Company, Philadelphia, Matt White, Wm. Steele & Sons, contractors and architects; and Adams Express Building, New York, Matt Cream, F. H. Kimball, architect.

TERRA COTTA FOR THE McLACHLEN BUILDING, WASHINGTON, D. C.

THE architectural terra cotta for the McLachlen Bank Building, described and illustrated in detail in this issue (pages 299-302), was furnished by O. W. Ketcham, Ornamental Terra Cotta Works, Crum Lynne, Pa.

IN GENERAL.

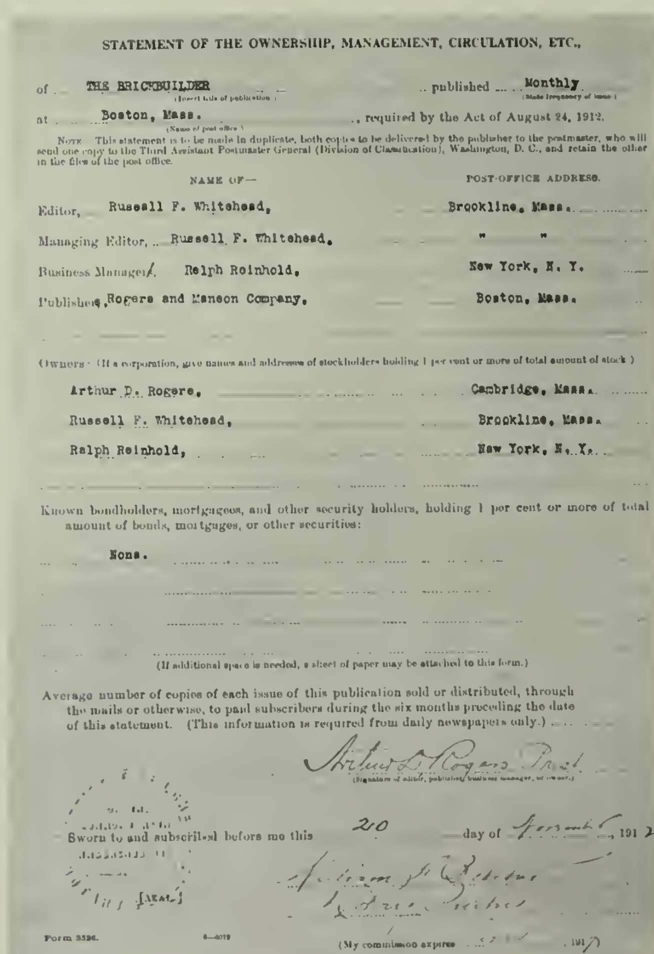
Mr. Len F. W. Stuebe makes the announcement that he has withdrawn from the firm of Lewis and Stuebe, architects, and has opened offices at 318 Adams Building, Danville, Ill.

W. W. La Chance of Saskatoon, Canada, and Karl Howenstein of Chicago announce that they have formed a partnership for the practice of architecture in Saskatoon, the firm name being La Chance and Howenstein. Mr. La Chance is one of the pioneer architects of Saskatchewan.

J. S. McIntyre, architect, has opened an office for the practice of his profession in the Clifford Building, New Bedford, Mass. Manufacturers' samples and catalogues desired.

Mr. L. W. Robinson, architect, wishes to announce that he has removed his office from the Exchange Building to The First National Bank Building, 42 Church street, New Haven, Conn.

Stephen Codman, William Atkinson, J. P. Lord, W. S. Wells, and R. D. Emerson beg to announce that they will continue the practice of Codman & Despradelle, architects, at 31 Beacon street, Boston, Mass., under the same name.



STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

of THE BRICKBUILDER (Insert title of publication) published Monthly (State frequency of issue)

at Boston, Mass. (Name of post office), required by the Act of August 24, 1912.

NOTE. This statement is to be made in duplicate, both copies to be delivered by the publisher to the postmaster, who will send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the post office.

NAME OF—		POST-OFFICE ADDRESS.
Editor,	Russell F. Whitehead,	Brookline, Mass.
Managing Editor,	Russell F. Whitehead,	" "
Business Manager,	Ralph Reinhold,	New York, N. Y.
Publisher,	Rogers and Manson Company,	Boston, Mass.

Owners: (If a corporation, give names and addresses of stockholders holding 1 per cent or more of total amount of stock.)

Arthur D. Rogers,	Cambridge, Mass.
Russell F. Whitehead,	Brookline, Mass.
Ralph Reinhold,	New York, N. Y.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities:

None.

(If additional space is needed, a sheet of paper may be attached to this form.)

Average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date of this statement. (This information is required from daily newspapers only.)

Arthur D. Rogers Pres.
(Signature of editor, publisher, business manager, or owner.)

Sworn to and subscribed before me this 20 day of [illegible], 1912

[illegible]

[SEAL.]

Form 3526. 6—4019

(My commission expires [illegible], 1917)

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

EXPERIENCED SALESMAN WANTED—Familiar with doing business with Architects, Owners, and Contractors on large fireproof building propositions. Technically trained engineers preferred. Address "Publicity," care The Brickbuilder.

ARCHITECTURAL DRAFTSMAN—Desires employment or Partnership in Practice. Technically qualified, 15 years' experience drafting and rendering; can prepare preliminary drawings; perspectives rendered in brittle pencil, pen, and ink, or water color; also working drawings, full size and scale details, specifications; also a practical superintendent of construction. Have had charge of some very good offices, and have been in U. S. Government office at Washington, D. C., for 3 1-2 years. Address, Fenimore, care The Brickbuilder.

ARCHITECT'S NOTICE—Superintendent of construction, Civil Service employee, desires association with Architect. Recommendations and doctor's certificate guaranteed. Age, 39. Education: 4 years College of Architecture. Experience: 5 years draftsman, 8 years practising Architect, 6 years Superintendent of Construction N. Y. State Architect's office. Familiar with office and field work of heavy building construction, both Architects' and Contractors' business. Expert in building construction and erection. If you are in need of an experienced man to assume charge of your office or field work, reply *now*. Address, "Superintendent of Construction," The Brickbuilder.

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

House at Kensington, Great Neck, L. I. ......See Plates 141–142
AYMAR EMBURY II, Architect.

Hotel McAlpin ......See Plates 151–152
F. M. ANDREWS & Co., Architects.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISH
FIRE BRICKS } ED IN 1864

25 Arch St., Boston — Arena Building, New York

THE NATCO HOUSE—THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. — New York
Philadelphia — Boston

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.

Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:
Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.
Floor Coverings — Wholesale and Retail
646-658 WASHINGTON STREET - BOSTON, MASS.
Continuously in this business for 93 years

THE BRICKBUILDER'S

Annual Architectural Terra Cotta Competition.

Problem: A Public Garage — Three Stories High.

FIRST PRIZE, $500. SECOND PRIZE, $250. THIRD PRIZE, $150.
FOURTH PRIZE, $100. HONORABLE MENTIONS.

Competition Closes at 5 P.M., Monday, January 6, 1913.

PROGRAM.

THE problem is a GARAGE, AUTOMOBILE SALES AND SERVICE BUILDING, — three stories high. The site is assumed to be on the corner of a city block in the automobile district. Lot size — 40 feet on the Main Street by 100 feet on the Secondary Street — level land. The building is to occupy the entire lot.

The first floor is to be used as a salesroom with administrative equipment and for live storage. On this floor plan — which should provide an attractive frontal treatment — show the necessary utilitarian features such as stairs, elevators, turntable, fire walls, toilets, gasoline storage, etc.

The second floor should provide for chauffeurs' recreation room, toilets, etc., in addition to storage space.

The third floor is to provide for storage and for a repair shop. Special attention should be paid to the natural lighting of this floor.

The designer is asked to show on the plans any new or original devices which would add to the value of a building of this character.

The two street façades of the building are to be designed for Architectural Terra Cotta, the purpose of this Competition being to encourage a study of the material and its adaptability to a building of this character. At least a portion of the façades should be treated in color.

There is no limit set on the cost, but the design must be suitable for the character of the building and for the material in which it is to be executed. Provision may be made in the design for the placing of signs.

The following points will be considered in judging the designs:

A — The general excellence of the design, especially if it has originality with quality, and its adaptability to the prescribed material.

B — The excellence of the first-story plan.

DRAWING REQUIRED. (There is to be but one.)

On a sheet of unmounted white paper — very thin paper or cardboard is prohibited — measuring exactly 34 x 25 inches, with strong border lines drawn 1¼ inches from edges, giving a space inside the border lines of 31½ x 22½ inches, show:

The main street elevation, with section through wall, drawn at a scale of 4 feet to the inch.

A pen and ink perspective — without wash or color — drawn at a scale of 8 feet to the inch.

The three floor plans drawn at a scale of 16 feet to the inch.

A sufficient number of exterior details drawn at a scale of one-half inch to the foot to completely fill the remainder of the sheet.

The details should indicate in a general way the jointing of the terra cotta and the sizes of the blocks.

The color scheme is to be indicated either by a key or a series of notes printed on the sheet.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales are to be shown.

Each drawing is to be signed by a *nom de plume*, or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawing is to be delivered flat, or rolled (packaged so as to prevent creasing or crushing), at the office of THE BRICKBUILDER, 85 Water street, Boston, Mass., charges prepaid on or before January 6, 1913.

Drawings submitted in this Competition must be at the owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER and the right is reserved by THE BRICKBUILDER to publish or exhibit any or all of the others. Those who wish their drawings returned, except the prize drawings, may have them by enclosing in the sealed envelopes containing their names, ten cents in stamps.

Drawings submitted in this Competition will be returned direct to the contestants from the office of THE BRICKBUILDER.

The designs will be judged by three or five well-known members of the architectural profession.

For the design placed first in this Competition there will be given a prize of $500.
For the design placed second a prize of $250.
For the design placed third a prize of $150.
For the design placed fourth a prize of $100.

The Competition is open to every one.

The manufacturers of architectural terra cotta are patrons of this Competition.

THE BRICKBUILDER

AN ARCHITECTURAL MONTHLY

VOLUME XXI — DECEMBER 1912 — NUMBER 12

PUBLISHED MONTHLY BY

ROGERS AND MANSON COMPANY, Boston, Mass.

ARTHUR D. ROGERS, President and Treasurer
RALPH REINHOLD, Vice-President and Business Manage.
RUSSELL F. WHITEHEAD, Secretary and Managing Editor

Entered at the Boston, Mass., Post Office as Second-Class Mail Matter, March 12, 1892.

Copyright, 1912, by ROGERS AND MANSON COMPANY

Subscription price, mailed flat to subscribers in the United States, Insular Possessions and Cuba	$5.00 per year
Single Numbers	50 cents
Subscription price, mailed flat to subscribers in Canada	$5.50 per year
To Foreign Countries in the Postal Union	$6.00 per year

SUBSCRIPTIONS PAYABLE IN ADVANCE

For sale by all news dealers in the United States and Canada. Trade supplied by the American News Company and its branches.

ADVERTISING

Advertisers are classified and arranged in the following order:

CONTENTS

PLATE ILLUSTRATIONS

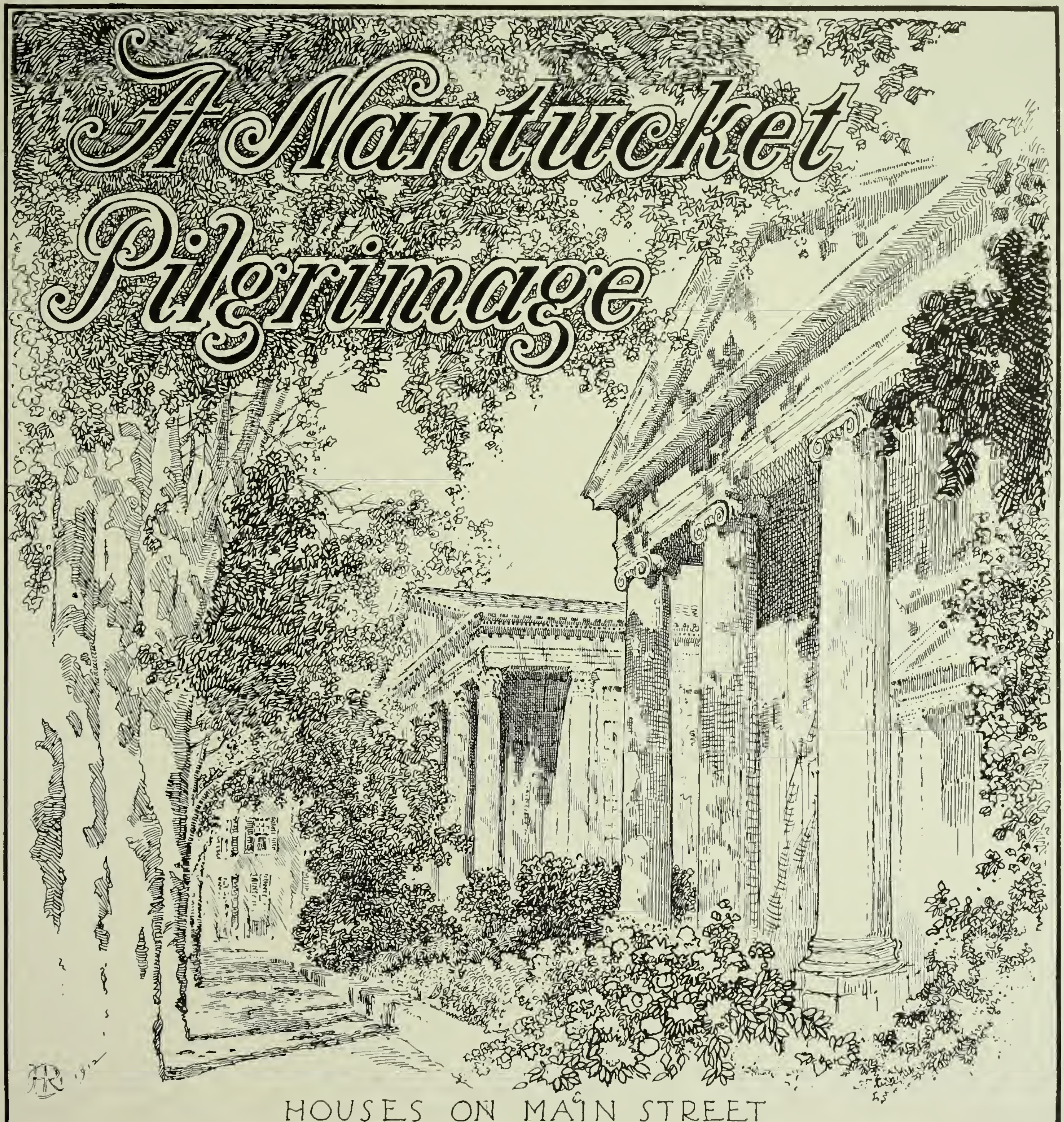
FROM WORK BY

GROSVENOR ATTERBURY; CRAM, GOODHUE & FERGUSON; AYMAR EMBURY II; WILSON EYRE; JOHN A. TOMPKINS.

LETTERPRESS

CAPILLA DEL POCITO,
GUADALUPE, MEXICO.

The herringbone pattern is composed of alternate courses of blue and white glazed tiles.



HUBERT G. RIPLEY.

A JOURNEY abroad is always the sanguine expectation of draftsman and architect alike. The reasons why architects and draftsmen do not take the trip oftener may be summed up as follows: *(a)* on account of the expense; *(b)* the other reasons are immaterial. The architect or draftsman living in the Eastern States will not find the expense of a trip to Nantucket beyond the reach of a modest purse.

Nantucket is an island thirty miles out to sea, off the Massachusetts coast, and the trip to it may, by a slight stretch of the imagination, be called a trip abroad. The water journey is delightful both going and coming, and may be taken by steamer from either Woods Hole or New Bedford. From New York a steamer connects at New Bedford with the Nantucket boat. The journey to Woods Hole from Boston and near-by points is by rail over the notorious New Haven railroad. A round-trip ticket from Boston during the summer season costs four dollars; proportionate rates from other places.

Sixty or seventy years ago Nantucket was the third richest town in the Commonwealth of Massachusetts, being surpassed only by Boston and Salem. The chief occupation at that time was whaling (the chase of the *Balaena Mysticetus* and the *Physeter Macrocephalus*, not flogging), and, as all know, during the first half of the nineteenth century this was one of the most important industries of

OLD MILL 1746

the world. The natural consequence was that many fortunes were accumulated by its followers, and their material expression is to be found in the buildings of the old town of Nantucket. Up to the time that coal oil took the place of sperm oil for commercial purposes, and halted the growth of what bid fair to become a great and prosperous city, nothing in Nantucket had been built that was incongruous or out of character with the place and its surroundings. Since then the island has existed with very little change, and the hand of time has rested gently on a scene of peace and quiet that has conserved its charm and old-fashioned gentility unspoiled to the present day. The soft, warm sea breezes have swept the island each summer, keeping fresh the flowers and foliage, and the fierce gales of winter have knocked off the crude edges and corners that might have disfigured the grace of the simple old-fashioned styles of its wooden buildings.

STONE ALLEY.

Town and country are practically what they were fifty or an hundred years ago: plain, substantial, straightforward, and good. The only frills that have crept in to disfigure the landscape are a few modern summer hotels and houses, and even these are fairly unobjectionable. Sometime ago a Philistine started to build a very grand place. The stable on the marsh was first erected, a rather villainous affair, with broken glass bottles embedded in plastered half-timber gables, perched on wabbly cobblestone pillars; then the foundation walls of an extensive house. Fortunately the work was abandoned at this stage; the stable lies deserted, choked up with weeds and tall grass, and the foundations of the house are overgrown with ivy and clematis.

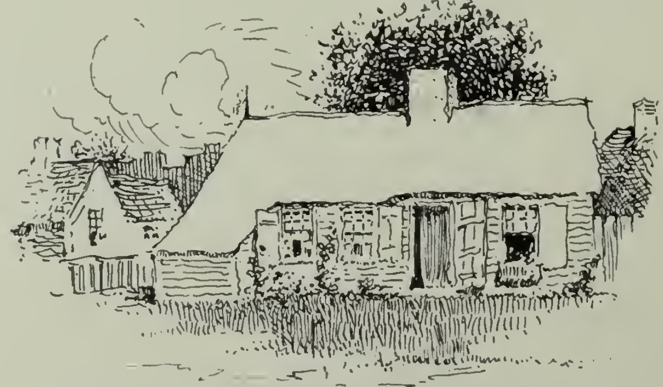
For the most part people who build things in Nantucket seem to be contented with modest essentials. The weather is never very hot, and never very cold, ranging from an extreme of fifteen or twenty degrees, in the winter, to eighty degrees in the summer at the highest. Were it not for the strong winter winds, the climate would be ideal all the year round. This condition demands nothing unusual in the way of construction, and simplicity is accordingly the keynote.

NANTUCKET HOUSE

One rule of the island is not to hurry, and, as a consequence, incidents occupy more time in happening, and health and longevity are thereby promoted. People are not called really old until they are in their nineties. As an illustration of the care and deliberations with which work is done, a carpenter was overheard to say to his companion who was working on the same job with him, "Sam, I guess I'll go down to the lumber yard now, and when you've finished driving that nail, you come along down too." The native islander, as is characteristic of a seafaring race, is able to turn his hand to anything, from cooking a clam stew that is a dream of Paradise, to splicing the main brace. All winter long, people are mending and repairing and slicking up town and country, and doing whatever is needed to make things neat and shipshape, and in the summer all their energies are devoted to the entertainment and recreation of a large and select drove of visitors.

No attempt will be made here to give an exhaustive treatment or analysis of the architectural features of the place, merely a vague outline of some of the quaint and pleasing things that strike the casual observer who possesses a love of simplicity and an appreciation of naturalness. Taken individually, there is nothing surpassing or wonderful about the place: there are no very fine buildings which stand out by contrast as splendid examples, neither are there any horrid monstrosities. But taken as a whole, it is unique and beautiful; everything fits in its place so well, from the humblest tiny cottage at Sconset, to the porticoed mansions on Main street. Even the Congregational Church looks imposing and dignified when seen by moonlight as one walks down

A TYPICAL NANTUCKET HOUSE



THE OLDEST HOUSE.

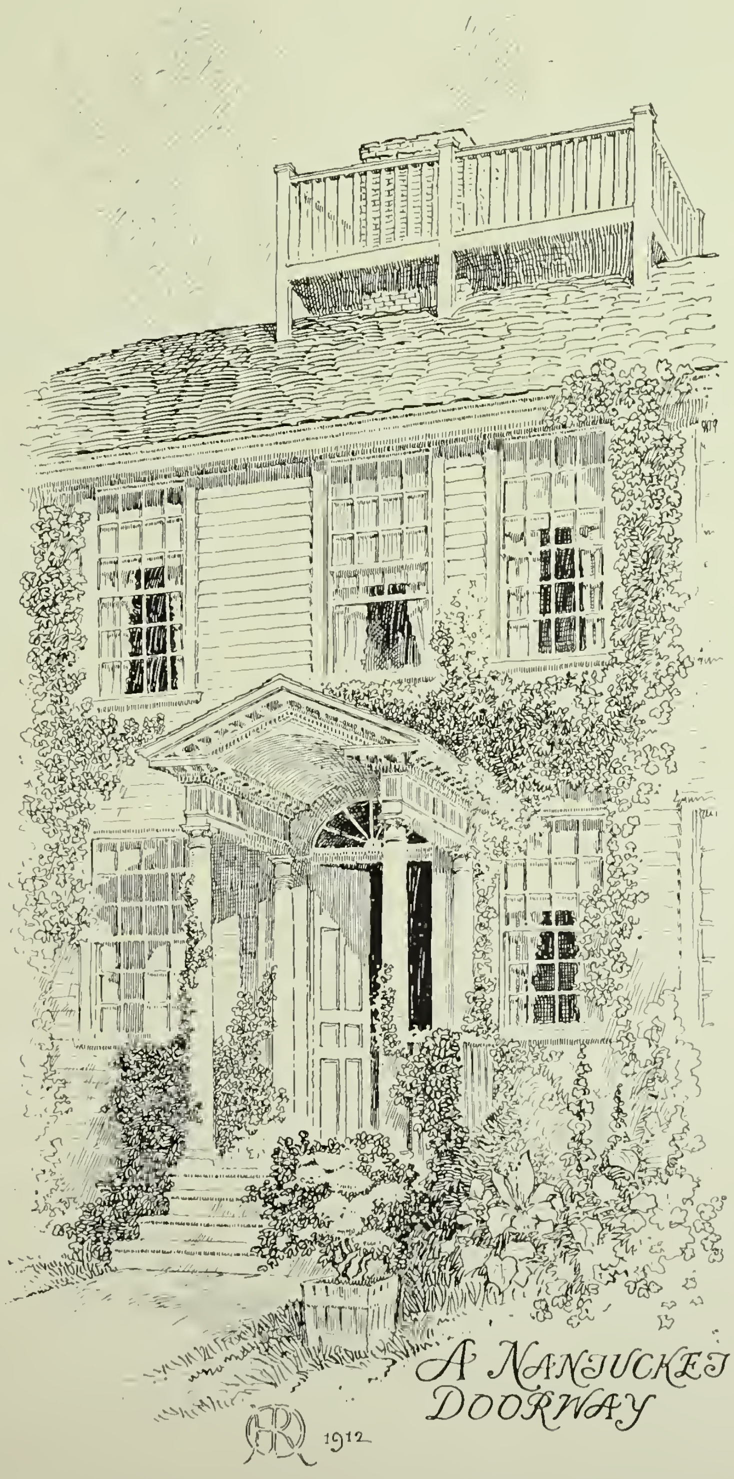
the road from the Sea Cliff Inn. The haze of a midsummer night spreads its veil over the outline of the town, crowned by the massive pile of wooden pinnacles and turrets, massive only, however, as seen in the false perspective of the half-light. It needs but little imagination and the likeness to some Cathedral town of the Old World becomes quite striking.

The houses with their little gardens are perhaps the greatest delight, though it would be hard to say whether they exceed in interest the nice simple town square with its stores, great elm trees, and stone paved streets, the whole dominated at the upper end by the Pacific Bank and the porticoed "Meth. Ep." Church.

The square is a good place from which to start to see the town. The buildings that line it are mostly good and interesting and there is an air of quiet dignity about the whole that is most satisfying.

About sixty-five years or so ago a great fire swept a portion of the town from the water front to the Pacific Bank; from the disastrous effects of which holocaust the town never fully recovered. Shortly after that time the whaling industry went into a decline and the town's great and only occupation was gone. As far as external appearances go, this was fortunate, for had prosperity continued, the place would now look like many other busy and successful communities throughout the Commonwealth, and be either stupid and ugly, or startling and horrid.

The Pacific Bank building is a very good example of late Colonial, built of brick with good proportions and detail. Next adjoining is the "Meth. Ep." Church, as the sign on one of its pillars informs us. This is a vast wooden building with an imposing portico of finely proportioned Ionic columns surmounted by a fronton. The plafond of the opisthodomos looks a bit shaky as many of the boards are loose and show wide cracks. The whole effect, however, with great trees casting their flickering shadows over the retreating surfaces, could not be improved upon, and in its location and environment the structure is just right.



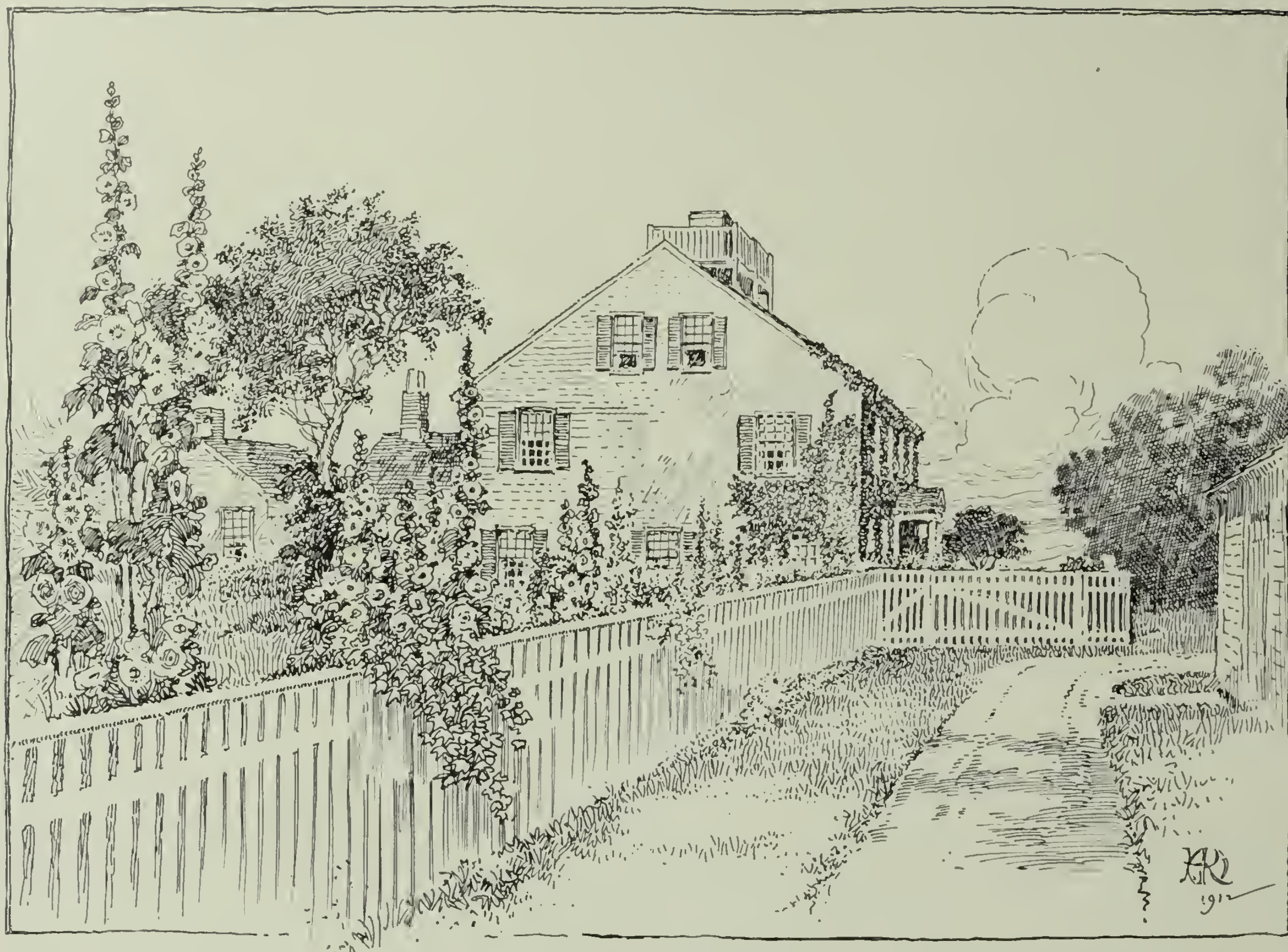
A NANTUCKET DOORWAY

On the other side of the Pacific Bank, Main street extends up the hill on its way out to the moors. This is the grand street of the town and on it are many of the town's choicest dwellings. There are two very beautiful and stately houses side by side at the upper end, both similar and mutually satisfactory and of pleasing proportions. One has a Greek portico of Corinthian columns based on the order of the Temple of Andronicus Cyrrhestes, and the other a portico of Ionic columns with cushion volutes of the order of Niké Apteros. Both porticoes are two stories high and of noble size, crowning a series of small grass terraces and charmingly obumbrated by trees, shrubs, flowers, and vines. The detail and handling of the roofs, chimneys, and doorways is worthy of emulation.

Nearly opposite these two fine places are three houses of brick with well-formed and well-proportioned ends. These three brick houses are all exactly alike, and built on symmetrical lines with good central doorways and nice window openings and sufficient space for a flower garden between each house. There are in addition many other interesting houses of both brick and wood on this street, and bits of detail here an there worth noting as material for sketches.

Center street, which runs from the square at right angles with Main street, possesses in its way fully as much interest as Main street, and there is a never-ending succession of lanes and by-ways running out of it, the exploring of which brings a flush of pleasure to the venturesome.

There are several pretty lanes and alleys in the vicinage of the Congregational Church, and many vine-covered



A NANTUCKET HOUSE AND GARDEN.

doorways of late Colonial design. One of the choicest houses on the island is just at the rear of the church, with a beautiful symmetrical front, and garden leading up to a fine entrance porch. The side piazza is also good, and the hollyhocks, campanula pulcherrima, delphinium, helianthus, and funkia add just the satisfying touch needed. As is the case with many buildings, the rear and alley elevations of the near-by church are better than the front. This is so because the rear of the church is the old part, twice removed to new foundations and built some hundred and fifty years or more ago, while the main church looks best at dusk from a distance.

Proceeding further along Center street and wandering off somewhat in a general outward direction, one soon comes to the oldest house on the island, built in 1686 by Jethro or Eliphalet Coffin. This is also known as the horseshoe house, from the way the bricks in the chimney are laid up on the front in the form of a horseshoe. It is a fine old antediluvian type, though, as might be supposed, it is in a shocking state of repair. Like most of the real old houses, the builders seemed to be curiously deficient in the knowledge of strength of material. A common error being that the way to develop the full strength of, say, a three by five timber was to lay it flatwise, pick out the longest possible span and notch and mortise it deeply in the center section. Where there is a short span, a nine by nine or a ten by ten is used, and reinforced at the angles with heavy ship's knees. All this must have been very annoying to the fiber strains and the radius of gyration. The ceiling was lathed with hand-made split laths nailed directly to the under side of the floor boards to eliminate any possible clinch to the plaster. The lime used was made from clam shells, and the stone and brick chimney laid up in clay. The chimney flue is of enormous size so as to let all the heat escape and the rain and the cold enter. The floor boards are wider than the doors, and the stairs a most hazardous and perilous venture. Aside from a few little things of this nature, the house, when new, must have been very comfortable and the place certainly is well worth the modest fee of fifteen cents per visit per person.

GENERAL VIEW OF THE ISLAND OF NANTUCKET.

Recent American Group-Plans.

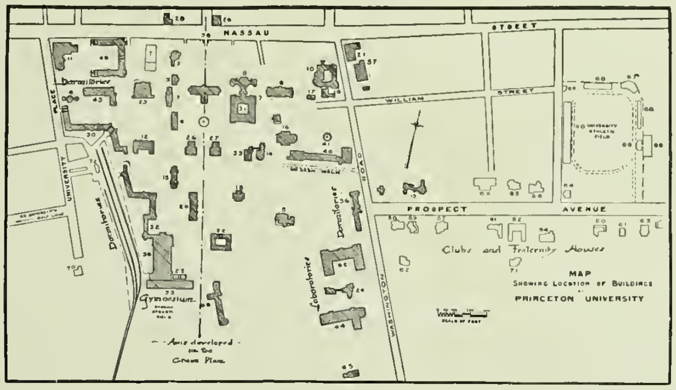
PART III. — COLLEGES AND UNIVERSITIES: DEVELOPMENT OF EXISTING PLANS.

ALFRED MORTON GITHENS.

AFTER the Civil War the American College received a new impetus. Old colleges expanded; new were founded through the growing Middle-West; bequests fell thick and fast; trustees were enabled to purchase broader lands and the architectural confusion began. A "site" was chosen for each building as required, with no thought of where the next would go. Then grew that curious desire on the part of each donor to build an individual memorial which should be architecturally as different as possible from all neighboring buildings and separated from them by as broad a space as utility allowed. As later halls were added the spaces in between were gradually filled and in time the land was overcrowded. At first it was possible by judicious planting to treat the grounds naturalistically, "in the English manner," as an extended park, so that the buildings or small groups might each retain its individual character without reproach, separated from its dissimilar neighbors by masses of trees and shrubs. Such an arrangement a recent writer calls "the segregation and seclusion of each of the possibly belligerent elements," which he describes as "not the same thing as conformity, though tending to the same result of peace and quietness."

So far, well and good; but in many colleges the group expanded, and as buildings approached each other the confusion began. There was absolutely no group-plan because no donor wished to be subservient; such a plan as that of the University of Virginia was avoided, for each building there, the library excepted, was a mere unit in a row. This was the age of true architectural democracy; democracy carried to a degree unimagined by that would-be democrat and born aristocrat Thomas Jefferson, who unwittingly placed a king over the University of Virginia in his great library, Pantheonlike with its spreading dome.

Lately the colleges have sickened of their hap-hazard buildings and trustees have come to architectural advisers, "landscape" and otherwise, and each received something in the nature of a comprehensive plan, ingeniously contrived so that by moving a building here, tearing down a building there, building anew yonder, taking up the old meandering drives and paths and setting out straight ones, and so forth, their predecessors' sins might no longer be in evidence and that future buildings might be erected without mortification to their successors. Ingenious many of these plans certainly are and a distinct improvement on existing groupings; some of them are admirable. Generally an open space is sought as the great *motif*, and almost always of a clearly defined shape and formally treated. Hampton Institute is developing its great "horseshoe," the winding paths banished to the side; Guilford College destroys its park-like irregularity to gain a great T-shaped court; Lake Forest does likewise for its parallelogram.



PRINCETON UNIVERSITY — PLAN OF PRESENT BUILDINGS.

Buildings for instruction and administration in center; dormitories at right and left extremes, acting in part as enclosure walls; residence and dining clubs beyond dormitories to the right; gymnasium and athletic field separated; an example of the defects of indiscriminate crowding.

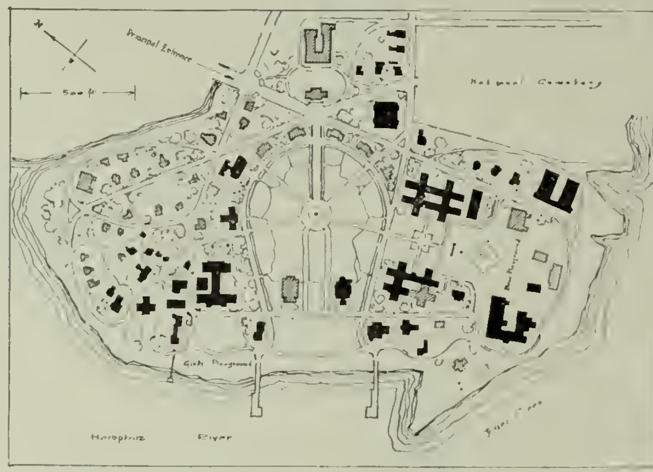
PRINCETON UNIVERSITY.
PROPOSED FUTURE DEVELOPMENT.

Present buildings light, future buildings dark; showing development of original central axis as a somewhat irregular *Campus*, and the unification and development of individual groups and quadrangles to right and left. Present lines of circulation retained; important communication with Carnegie Lake, which lies below the portion shown.
Ralph Adams Cram, Consulting Architect.

These open spaces are characteristic of the American college. They are generally as large as the existing buildings or the property itself will allow. Guilford's is bounded only by the edge of its plateau, Lake Forest's only by the encircling valley, if such a small depression can be called a valley; Hampton's by existing buildings which could not be destroyed. The open space has nothing in common with an Oxford quadrangle, both on account of its great size and latitude in shape and because there is no attempt at a complete enclosure. Spaces are left by preference between the buildings. More likely,

PLAN OF EXISTING BUILDINGS.

A.



PROPOSED ALTERATION.

B.

A — Those in solid black to remain ; those hatched to be moved or destroyed. Axis lines of future arrangement superimposed. Partial segregation of sexes, boys to the southeast, girls to the west. B — Buildings in solid black to remain ; those hatched proposed for the future. New horse-shoe-shaped open court ; cross avenues at head ; advantage taken of all accidental possibilities, such as coincidence of form between laboratory and science group at head of boys' playground, which determined its new axis. Charles S. Peabody, Architect.

HAMPTON INSTITUTE, GEORGIA.

perhaps, it is a development of the New England Village Green, rechristened academically the Campus. Shaded by great trees, perhaps, cut with winding paths as in the older colleges, dignified by two small temples as at Princeton, nevertheless it is the hallowed "field," the Campus, the center of the college, glorified in drinking-song and class-day oratory, the one thing traditional in the American college plan and therefore perhaps worthy to be preserved.

Then, too, it is economical of space by its very prodigality. The new plan of Lake Forest — selected only as one of a type — gives the greatest open space and the most building area without overcrowding. Later buildings might be added at the head of the entrance court, or dividing the east court from the campus proper, or even along the central avenue dividing the campus into east and west ; so, as the college grows, the composition may be modified, but without the confusion and crowding of the average college of to-day.

Oxford and Cambridge have grown by adding college to college and quadrangle to quadrangle. With such an

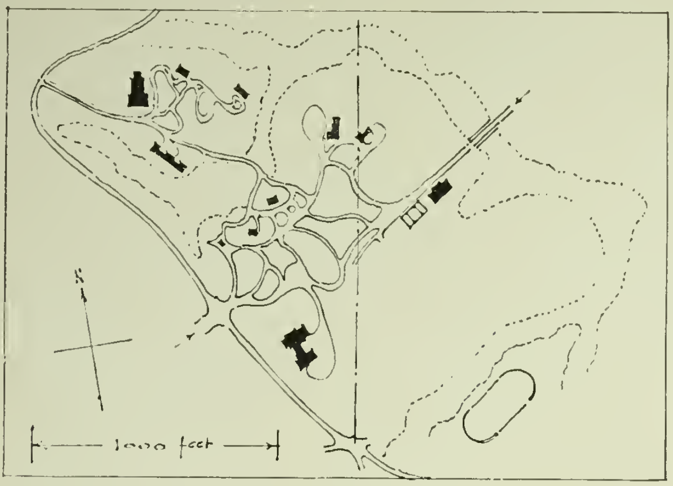
A.

A (on the left). Plan of existing buildings ; site treated as informal park with scattered groups ; excellent now but defective if many more buildings should be added, as at Princeton.

B (on the right). Plan proposed by Warren H. Manning. Existing buildings in solid black ; *Campus* as large as could be formally treated under conditions of site ; possible future buildings along avenue of approach or dividing *Campus* into several quadrangles.

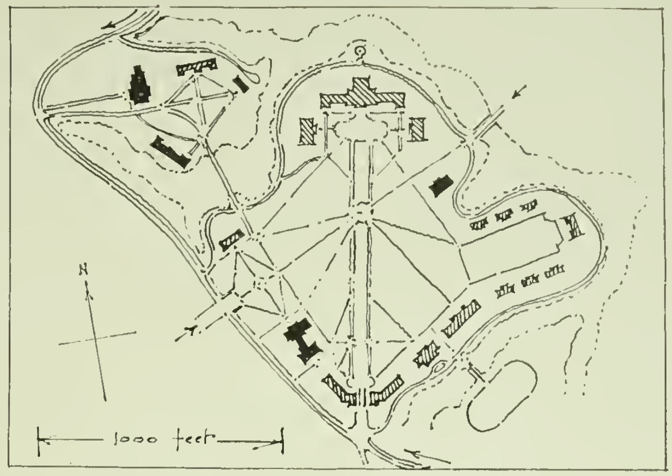
B.

GUILFORD COLLEGE, NORTH CAROLINA.



PLAN OF EXISTING BUILDINGS.

A.



PLAN PROPOSED BY BENJ. MORRIS AND WARREN H. MANNING.

B.

A — Informal park type, shown bounded by an encircling valley. B — Existing buildings shown in solid black; future buildings shown at the extreme edge of the plateau, recalling position of Blair and Stafford Little Halls at Princeton University.

LAKE FOREST UNIVERSITY, ILLINOIS.

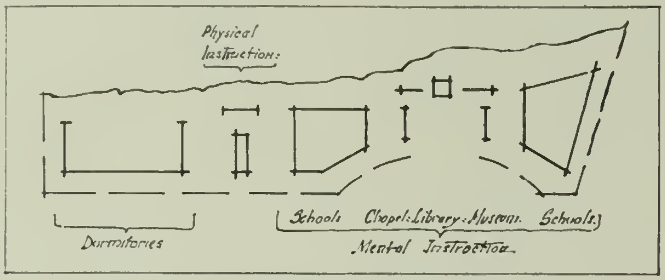
DEVELOPED PLAN, STEVENS INSTITUTE OF TECHNOLOGY, HOBOKEN, N. J.

Block to left of principal entrance, part of chemical laboratory, athletic ground, the wooded avenue to "The Castle" in existence; instructional buildings at the front, dormitory tower and cottages at the rear, separated by athletic grounds.

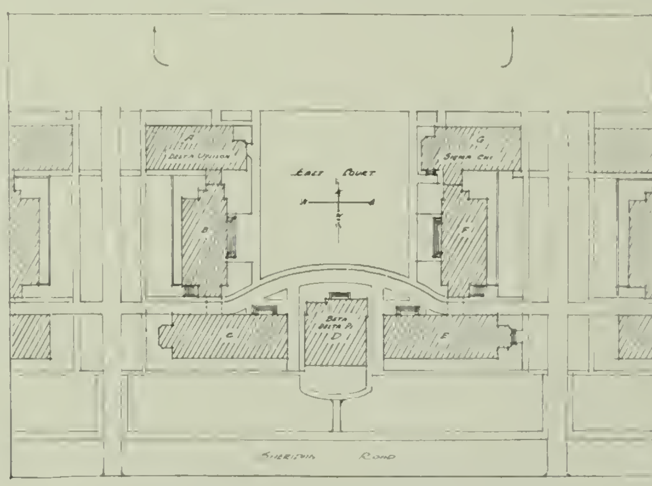
Ludlow and Peabody, Architects.

arrangement there is no need of a preconceived group-plan, for each element, or quadrangle, is complete in itself and the approach to it quite an indifferent matter. But we have chosen a more difficult *partie*, and rectifying the old mistakes is most difficult of all.

Princeton's irregular central buildings are joined and combined in the newly adopted plan, so that a long, rather formal, but irregular campus extends from Nassau Hall, open at the foot toward Carnegie Lake in the distance. One looks eagerly forward to its consummation; the plan seems a solution of an otherwise almost impossible problem. Princeton was one of the earlier colleges to adopt the Collegiate Tudor style, and Cope and Stewardson used it in rather an un-English and interesting way. Instead of adding small buildings and quadrangles to an already rather congested group, they built along the edge of the deep railroad cutting, so that in Blair Hall at the north to the gymnasium at the south, Princeton is girt by some twelve hundred feet of city wall. Here, perhaps, was first used that circumferal arrangement, followed later by Lake Forest, as just described.



Diagrammatic plan of Northwestern University, explaining functional divisions of the group.



Revised plan of one element in dormitory group.

NORTHWESTERN UNIVERSITY.

Stevens Institute, too, was difficult in the extreme. In a close-built city its evident development was as an inner collegiate city with streets and open places. Here the laboratories, shops, and buildings for instruction and administration are at the front with the dormitory-tower and cottages beyond, separated by the athletic fields and wooded gardens overlooking the Hudson toward New York.

These seem the natural divisions of a college, and the three are clearly shown in the new Northwestern University: first, the schools proper with library, chapel, and museum as a dominant; second, the gymnasium and athletic buildings; third, the dormitories and refectory. The plan is remarkable in its simplicity, an analysis in itself of the college problem; extraordinary, too, since the design was handicapped by several existing buildings to be reckoned with and included. One might, perhaps, question whether the composition of the several groupings will be as distinct in execution as in the published plan, for grass depicted dark between the buildings and light in the quadrangles has little counterpart in reality; such, however, seem the dangers of brilliant drawing.

NORTHWESTERN UNIVERSITY ON SHORE OF LAKE MICHIGAN.

Successful competitive plan for future development; existing buildings distinguished by fine white marginal line, including many instructional buildings and the gymnasium; central library, chapel, museum group, and dormitory group are new.

Palmer, Hornbostle & Jones, Architects.

Forest Hills Gardens, Long Island.

AN EXAMPLE OF COLLECTIVE PLANNING, DEVELOPMENT, AND CONTROL.

GROSVENOR ATTERBURY, ARCHITECT.

"It is unfortunate that the somewhat misleading word 'model' must be applied to such an eminently practical scheme as this development of the Russell Sage Foundation, for the reason that there is a kind of subtle odium which attaches to 'model' things of almost any kind, even when they are neither charitable nor philanthropic — a slightly sanctimonious atmosphere that is debilitating rather than stimulative of success," says Mr. Atterbury in *The Survey*. Continuing, he points out that the above is a handicap to be reckoned with, and those who are responsible for Forest Hills Gardens are seeking to avoid the "holier than thou" attitude of people, who claim to know how those who live in suburbs should regulate their lives. Yet this rare opportunity for practical study and demonstration, however appalling the responsibility that comes with it, and however subject to misunderstanding, is certainly rich in possibilities, despite the failure of "Pullman" and other undertakings of its kind, — or perhaps in a measure because of them. Doubtless the most hopeful aspect of the case is that the designers and administrators of this demonstration at Forest Hills Gardens are well enough aware of the difficulties of the problem which has been given to them to solve.

While the Russell Sage Foundation is primarily seeking to make its housing demonstration especially applicable to dwellings of low cost and rentals, it is essential to the financial success of the enterprise that the size and quality of the houses be suited to the value of the property upon which they are placed. Any attempt to put up and market a type of building unsuited to the land would be to violate the first principles of successful housing development. And if by reason of certain rather unusual conditions, pertaining to operations conducted by the Russell Sage Foundation, such an attempt could be successfully started, its educational value, as in all probability also its ultimate financial value as an investment for the individual purchaser, would inevitably suffer. The equation is fundamentally an economic one, however esthetically it may be put upon the slate, and its solution must be found in the terms of dollars and cents.

It should be remembered, also, that transit conditions, both as regard time and cost, in a suburban development of this kind, constitute an even more powerful factor in determining the type of prospective tenant or purchaser, and consequently both the size and quality of the dwellings that should be erected. We can alter neither of these conditions. Anything we may accomplish in the line of progress in suburban housing at Forest Hills Gardens must be in spite of them and with full recognition of their influence, however regrettable it may be.

This much is said in explanation, because many people will doubtless be disappointed to find that the first housing demonstration to be made by the Russell Sage Foundation will not reach the so-called laboring man, or even the lower paid mechanic, which is possible in this instance by reason of the cost and location of the land. The fact seems the more surprising when it is realized that the larger number of the houses erected in this first operation are contiguous or block houses, and on plots oftentimes smaller than our usual city ones. Of course, in a larger measure the reduction in the individual lot area is purposely made, and carefully counter-balanced by larger public open spaces from which in various ways it benefits. And the word "block" is not here to be taken in its ordinary dreary and hopeless sense. "Small groups" might be a better phrase to use.

THE STATION AND FOUNTAIN.

Yet the apparent anomaly remains that a supposedly model town is being built largely of contiguous houses in more or less continuous rows directly adjoining plowed fields — a fact which is at once a good illustration of one of the fundamental difficulties in American city planning, and an evidence of the consequent serious need for just such attempts to study and solve its problems as the Russell Sage Foundation is undertaking in the present instance.

While it is measurably true of all cities that suburban land values reflect far in advance the coming transportation facilities, and the consequent accessibility to the metropolitan center from which their original agricultural value receives practically its entire enhancement, its disturbing influence could be met here as it is met in other countries, except for the fact that the increase of values in America is so incredibly rapid.

Heretofore in this country our "unearned increment" has fairly run riot; and while it has meant tremendous profits to many small investors, as well as to real estate speculators, and stimulated suburban development generally, it has served equally to create and perpetuate the most uneconomic methods in development, design, and construction, practices such as are totally inconsistent with really economic and scientific housing development.

GENERAL PLAN OF THE DEVELOPMENT.

But the time is here, or must shortly come, when the owner cannot safely assume that no matter how short-sightedly he plans, the further rise in the price of the land will more than cover the depreciation, upkeep, and sinking fund charges which should properly be figured in any building operation, not to mention any errors and extravagances in design, construction, and handling of the property, together with the almost total loss which time and again occurs in the demolition of the original building long before its normal life has expired, in order to provide for increased housing capacity in consequence of increased land values, due to our abnormally rapid increase of urban and suburban population.

For the Russell Sage Foundation to take advantage of any such fortuitous conditions would be practically unfortunate. Rather is it incumbent upon it to tend to the opposite extreme in discounting the uncertainties of the future, and establishing sound practices.

Just as obviously, too, it must market its property from the point of view of selling, for the ultimate benefit of the purchaser, at the same time that it makes a profit on the transaction sufficiently attractive to induce others to follow its example — instead of building for a quick sale and a safe "getaway" like the majority of the present-day development companies.

This point of view can scarcely be over-emphasized to a public which undoubtedly expects to find the Russell Sage Foundation offering even more glittering bargains than the usual suburban development. And the fact that it thus proposes to offer only what it believes to be a good investment, instead of a speculation, for the small purchaser must never be lost sight of in judging its work at Forest Hills Gardens.

TOWER AND FLECHE OF THE HOTEL.

While a very large proportion of the land area to be developed will undoubtedly be sold without building improvements, the Sage Foundation Homes Company, in order to set a standard and control more surely the architectural character of the future town, has planned to erect and hold, certainly for a time, a large number of dwellings.

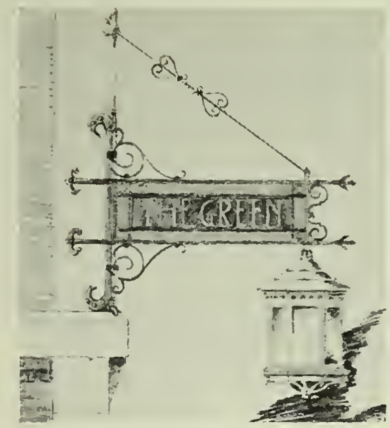
To this end plans have been prepared for an initial operation contemplating ten different groups of buildings. The majority of those erected in this first operation, which are largely confined to the more expensive and central property, are in the form of contiguous or block houses; the detached and semi-detached types of dwellings of various grades and sizes being necessarily possible only on the less central and lower priced portions of the property.

The different types of buildings included in these groups cover as wide a range as is permitted by the economic conditions, — which necessarily determine also their distribution and location of the property. Adjoining the railroad station are three- or four-story buildings containing stores, offices, and restaurants. From this center out towards Forest Park, which bounds the property on the southeast, the houses are planned to correspond to the varying values of the lots, as determined by their size, location, and prospect, the larger single-family dwelling containing ten or twelve rooms, and the smaller, four or five. Following the land and road contours these are combined in smaller and more detached groups, as the property becomes more hilly. While these vary greatly in size, arrangement, cost, and architectural treatment, the attempt was made to make them all alike in their domestic and livable character.

From an architectural point of view our greatest opportunity — apart from certain novel uses of material and methods of construction — is in that general harmony of design, which is possible only where the entire scheme of development is laid out and executed under such a system of co-operation by the various experts as at Forest Hills Gardens.

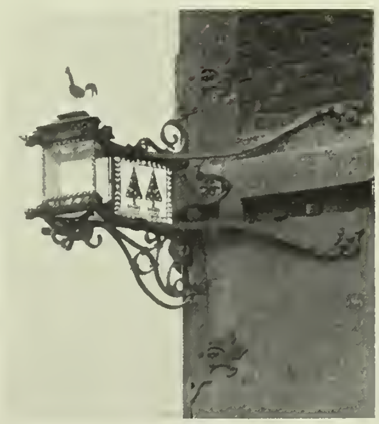
Forest Hills Gardens — Building Construction.

W. F. ANDERSON.



A considerable portion of the buildings already planned are so nearly completed that a distinctive character has been given to the development, in so far as the village center is concerned; it is therefore proper that a few words should be said, descriptive of the buildings in this portion of the property which are illustrated herewith and given fuller presentation in the Plate Section following.

The buildings surrounding the village center may properly be divided into units and described as: Two apartment houses flanking a row of three two-family houses. The hotel group, subdivided into five units by the arrangement of interior partitions and connected by bridges with each other and with the station platform, itself a complete unit. The house groups on either side of Greenway Terraces, which are rows of individual houses; with the exception of one arranged for two families.



ORNAMENTAL IRON LAMPS, STATION SQUARE.

In detail of construction and convenience of plan the work is eminently practical and designed to meet the requirements of its time; artistically it is European of an earlier style. Yet into the construction no new elements entered. It was simply a new method of combination which has brought out the general effect.

Before the general plans were prepared the trustees had decided that the buildings should be constructed of concrete, brick, or other permanent material even at somewhat greater initial cost, in view of greater durability and lesser repair bills. With this idea in mind a careful comparison was made of the cost of different materials on a unit price basis and actual tests were made for durability.

The foundation walls of all the buildings are of cast concrete, poured in the usual wood forms, with reinforcing rods where necessary.

In the construction of exterior walls above the first floor level different types of construction were employed. A steel skeleton complete, including floor beams and roof rafters, was used for the hotel tower; hollow terra cotta block reinforced with rods and concrete poured *in situ*, and also concrete pier and girder construction, with curtain walls, were used in the other buildings.

In the hotels proper the entire construction is fireproof; and in the house group known as VI. A a fireproof floor and partition type of construction was employed with wooden rafters. The type of floor construction adopted in general was that of terra cotta block and concrete beam.

For the roofs, except in the two house groups, steel framing supported a continuous cement roof slab in which metal lath reinforcement was buried.

In the upper cement surface of the roof slab nailing strips were buried to receive the tile.

The general color tone of the exterior of all the buildings is restful and pleasing, but does not lack for variety. Brick predominates in the facing of the exterior wall surfaces. To avoid monotony the bricks were purchased from various dealers, although all were of either the common or the Lammie grade. These bricks were laid in general on edge, presenting the irregular broken surface of the arch brick. The natural variation in color and contrast with a wide and dark color mortar joint is interesting. Where a decorative spot was wanted the bricks were laid in pattern, with a panel border of headers laid dentil fashion.

The cornice is of solid cast concrete, but the dentil course is formed of light red common brick set in as headers, darker colored brick being used for the recessed members.

The color and texture of the exterior stucco is unusual and attractive. The possibility of using waste from the roof tile as an aggregate presented itself, with the result that experiments were made and the following formula adopted for the plain surfaces below the second-floor belt course :

1 cu. ft cement	1 cu ft. sand
1/3 cu. ft. 1/4 in. gravel	1/3 cu. ft. 1/4 in. tile
1½ % by wt. of black oxide	

In the stucco bands and cornice where a more pronounced color was desired, the formula was changed to

1 cu. ft. cement	1 cu. ft. 1/4 in. tile
1 cu. ft. sand	1 cu. ft. 1/2 in. tile
1 cu. ft 1/4 in. gravel	1 cu. ft. 1/2 in. gravel

3% by wt. black oxide
In some cases small per cent of Medusa Compound added.

In some of the panels cast concrete grilles are inserted. These are made in wood forms of special design. By adopting a uniform size of unit and using filler pieces it has been found practicable to use the same form for many different sizes of grilles.

On completion of the stucco, and all cast concrete generally, the surface was washed with a weak solution of acid, using an ordinary scrubbing brush. This treatment removed surplus cement and brought out the colors in the aggregate.

ORNAMENTAL IRON LAMP-POST.

The owners had, on the property, a factory containing a crusher and mixer, as well as other machinery for handling concrete ; all of which simplified the preparation of this special material.

Among interesting features found in the exterior are the wall panels in balconies of the hotel tower. These are laid up in cast cement brick, each cast separately and finished with a surface of broken vitrified floor tile, either green or blue.

From beneath the projecting balconies the necessary floor drains, transformed into Gargoyle heads, look down on the busy street beneath.

Flat shingle tile, in shades of red and brown laid at random, have been used on all the roofs. The hip rolls and ridge pieces have all been kept as simple as possible in order that the roof lines may not be destroyed.

The general color tones of the roof blend with, rather than contrast with, the color of the wall surfaces.

In the interior finish of the buildings everything has been kept simple and yet attractive and practical.

The apartment houses are arranged for full housekeeping facilities, and compare favorably with apartments of the same class in the city.

An attractive feature of the hotel plan is the tea garden. This is an enclosed court surrounded by stone walls, supporting a trellis over which vines will be grown. At one end is a fountain. Direct access is had from this garden to the culinary department, and hotel guests can be served at tables out of doors, yet entirely screened from the street.

The plumbing is of the usual standard of modern custom. The hot water is generated in a central plant, located in the basement of the tower building, and is piped to all fixtures in the hotels and also the apartment houses.

A central heating plant in the same building supplies heat for all of these buildings and furnishes the live steam required in the kitchen.

The cooking ranges and bakers' ovens, however, are operated by gas.

The individual houses in the two groups, known as VI A and VI B, are planned in the same general way as a city house of equal floor area. The amount of open land reserved to each group, however, gives a sense of openness and freedom seldom found in the city.

The interior finish in these groups is of hard wood in the principal rooms of the first floor and of white wood painted in the bedrooms.

Each house is supplied with gas and electricity. The heat is supplied by individual low-pressure steam boilers operating on a one-pipe system.

A new form of concrete construction was adopted in these buildings in the window jambs, lintels, and sills, and also the cornices and gable trimmings.

These were cast in sections in wood forms moulded to detail. The usual Portland cement concrete was used in the body with a facing of crushed tile and gravel mixed to match the other stucco. The casting in each case was complete and the surface brushed as before described. Weight was reduced by interior cores in the form.

With this method of procedure the factory work could be done during the winter months and the finished product laid in the same manner as ashlar.

ALONG THE VILLAGE GREEN — FOREST HILLS GARDENS.

THE STATION.

STORES AND APARTMENTS, STATION SQUARE.
GROSVENOR ATTERBURY, ARCHITECT.
FOREST HILLS GARDENS, FOREST HILLS, L. I.

LOOKING DOWN THE VILLAGE GREEN.

THE STATION SQUARE.
GROSVENOR ATTERBURY, ARCHITECT.

FOREST HILLS GARDENS, FOREST HILLS, L. I.

A YARD ON THE VILLAGE GREEN.

ALONG THE VILLAGE GREEN.

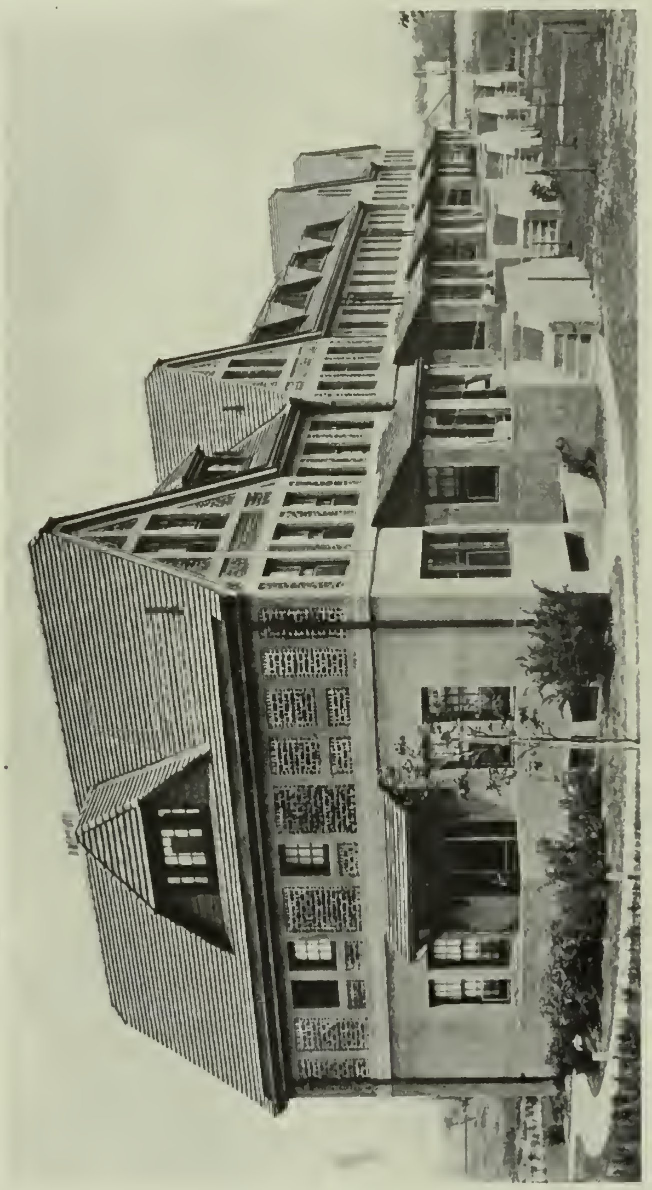
TEA GARDEN, HOTEL.

GROSVENOR ATTERBURY, ARCHITECT.

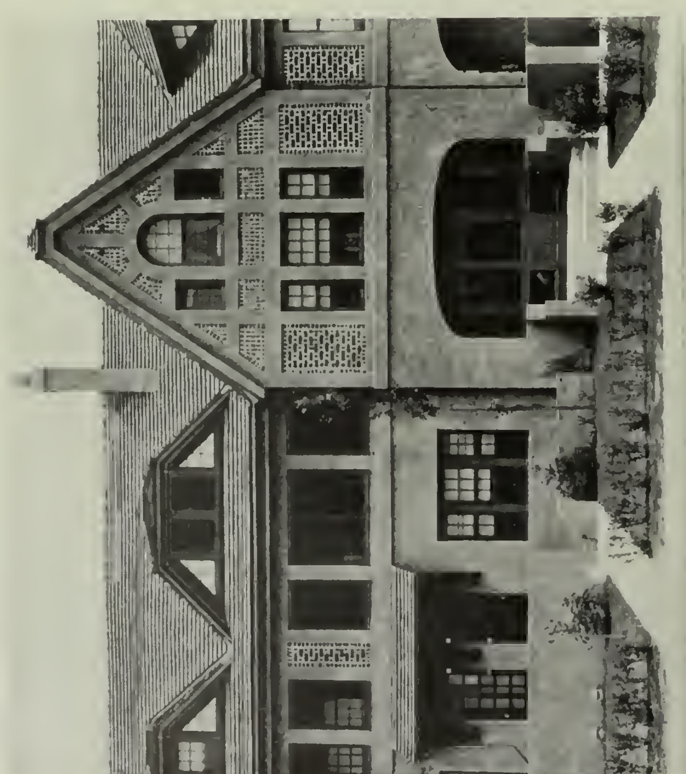
FOREST HILLS GARDENS, FOREST HILLS, L. I.

- SECOND FLOOR -

TYPICAL END-HOUSES

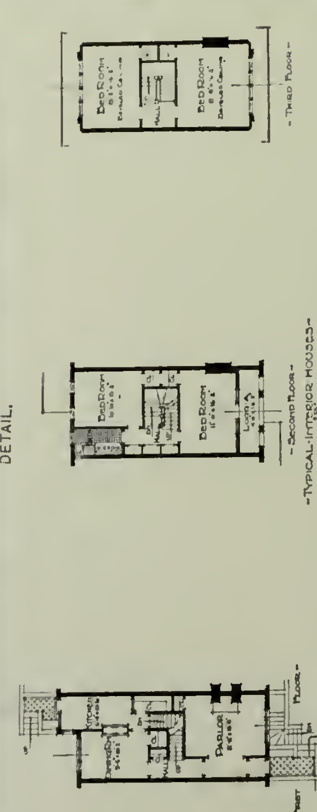


REAR OF GROUP III.



DETAIL.

GROUP III.



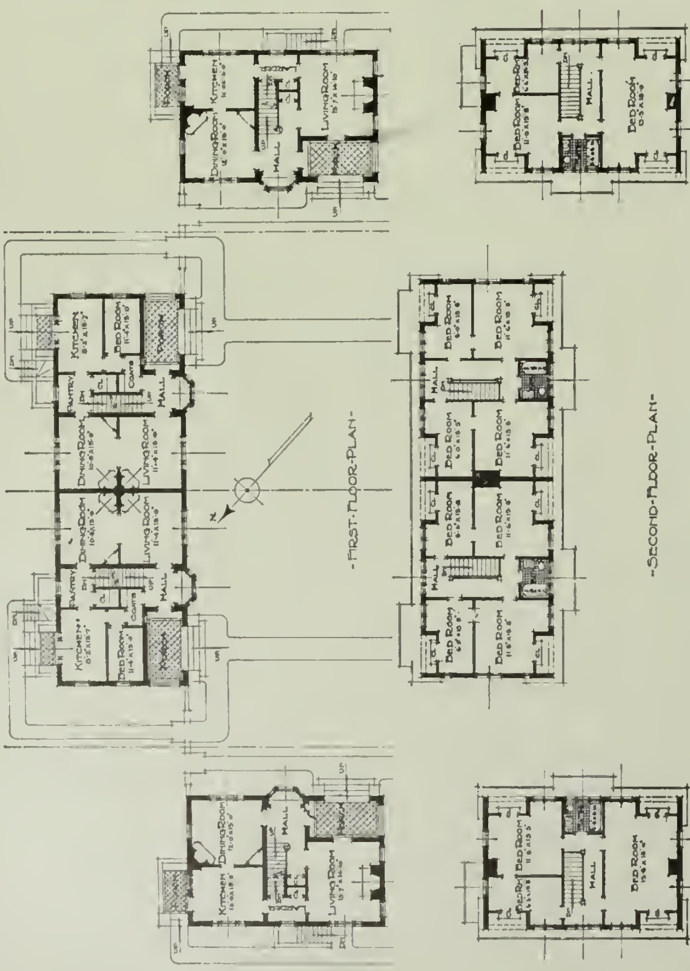
- SECOND FLOOR -

-TYPICAL INTERIOR HOUSES-

TEN 17-FOOT SINGLE FAMILY HOUSES.

GROSVENOR ATTERBURY, ARCHITECT.

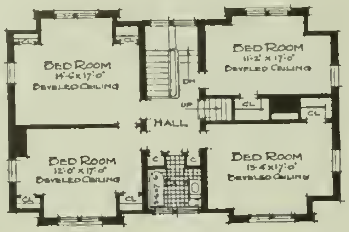
FOREST HILLS GARDENS, FOREST HILLS, L. I.



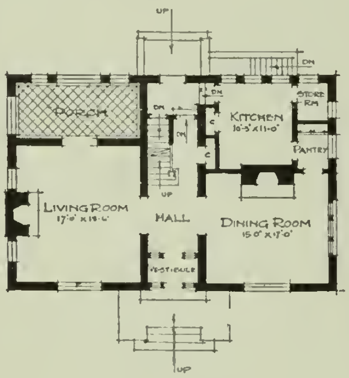
GROUP XI. TWO DETACHED, TWO SEMI-DETACHED SINGLE FAMILY HOUSES.

GROSVENOR ATTERBURY, ARCHITECT.

FOREST HILLS GARDENS, FOREST HILLS, L. I.

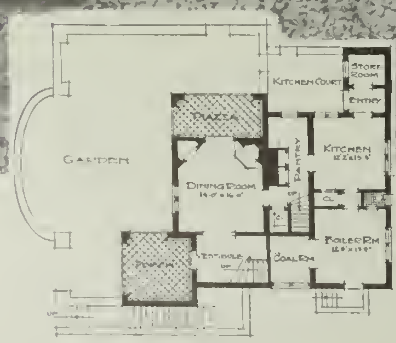


-SECOND-FLOOR-PLAN-



-FIRST FLOOR PLAN-

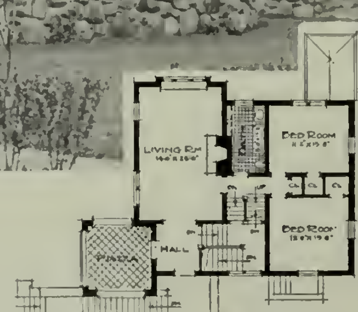
HOUSE 1-F-50.
SINGLE FAMILY
DETACHED HOUSE.
GROSVENOR ATTERBURY, ARCHITECT.



-FIRST-FLOOR-PLAN-

HOUSE 1-F-51.
SINGLE FAMILY DETACHED HOUSE.
GROSVENOR ATTERBURY AND
JOHN A. TOMPKINS, ASSOCIATED ARCHITECTS.

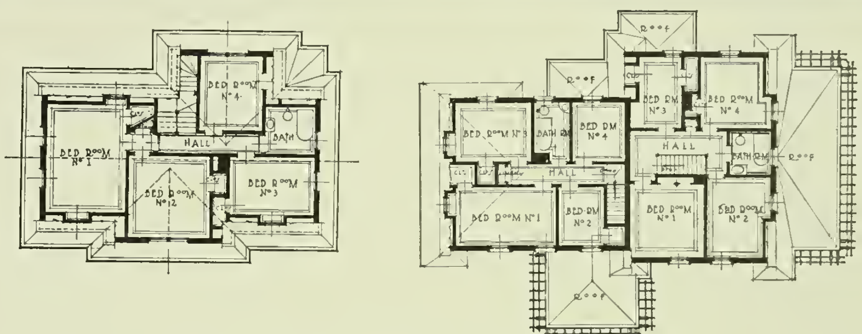
FOREST HILLS GARDENS,
FOREST HILLS, L. I.



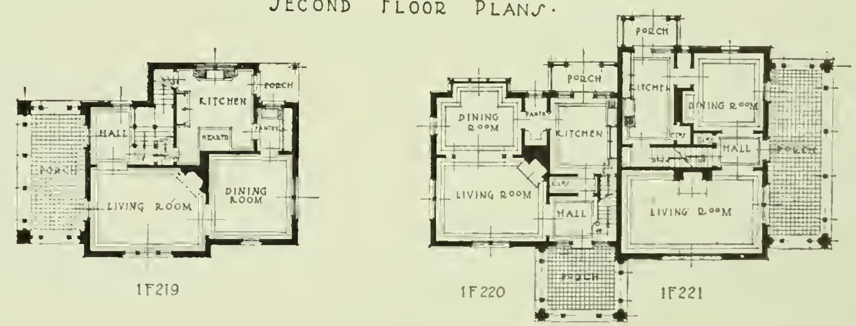
-SECOND-FLOOR-PLAN-

Grosvenor Atterbury, Architect.
FOREST HILLS GARDENS, FOREST HILLS, L. I.

GROSVENOR ATTERBURY, ARCHITECT.
FOREST HILLS GARDENS, FOREST HILLS, L. I.



SECOND FLOOR PLANS.



1F219 1F220 1F221

FIRST FLOOR PLANS

·ONE SINGLE FAMILY HOUSE SEVEN ROOMS & BATH · TWO SEMI-DETACHED HOUSES · SEVEN ROOMS & BATH EACH ·

GROUP XIV. AYMAR EMBURY II, ARCHITECT.

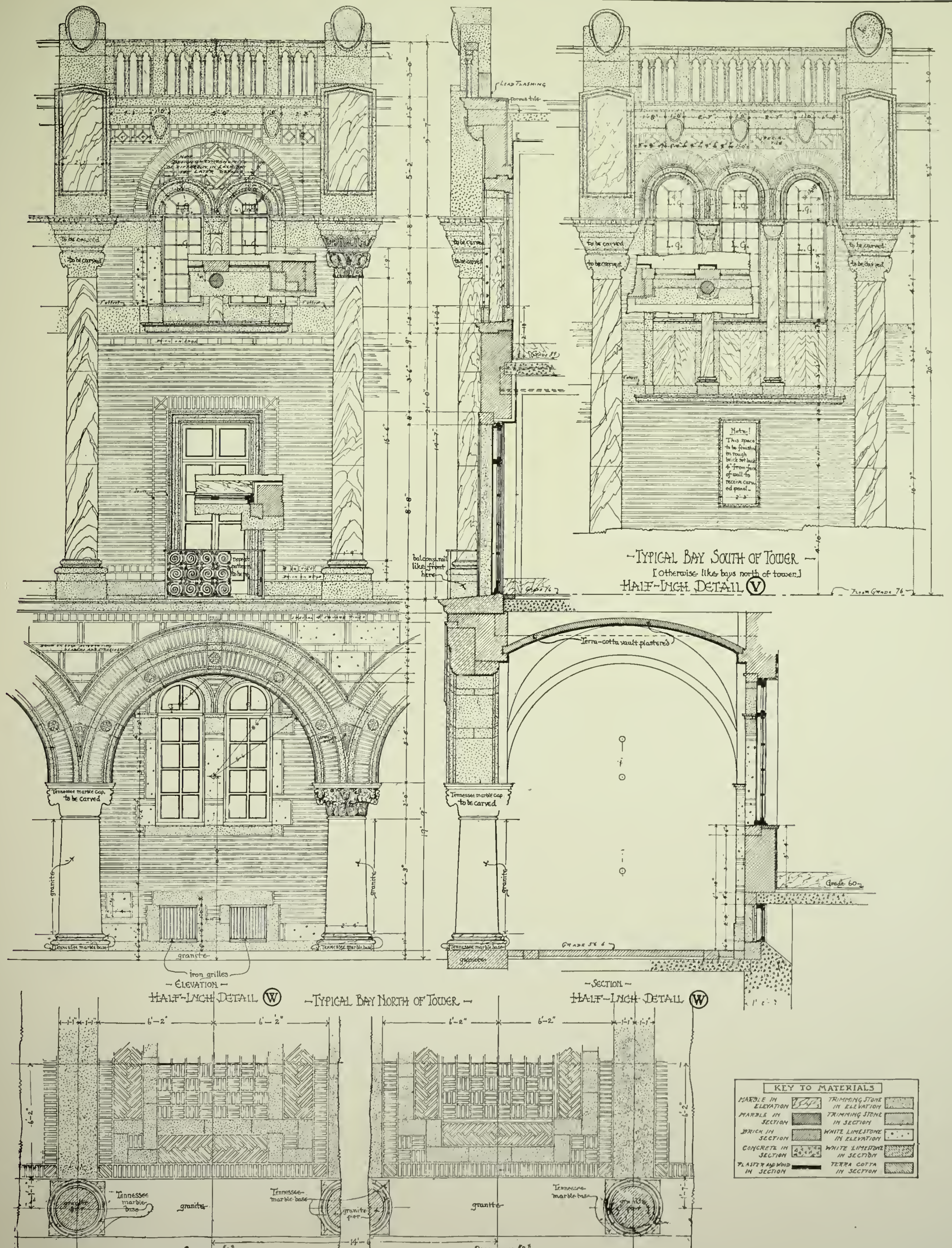
FOREST HILLS GARDENS, FOREST HILLS, L. I.

FRONT ELEVATION.

GARDEN ELEVATION.

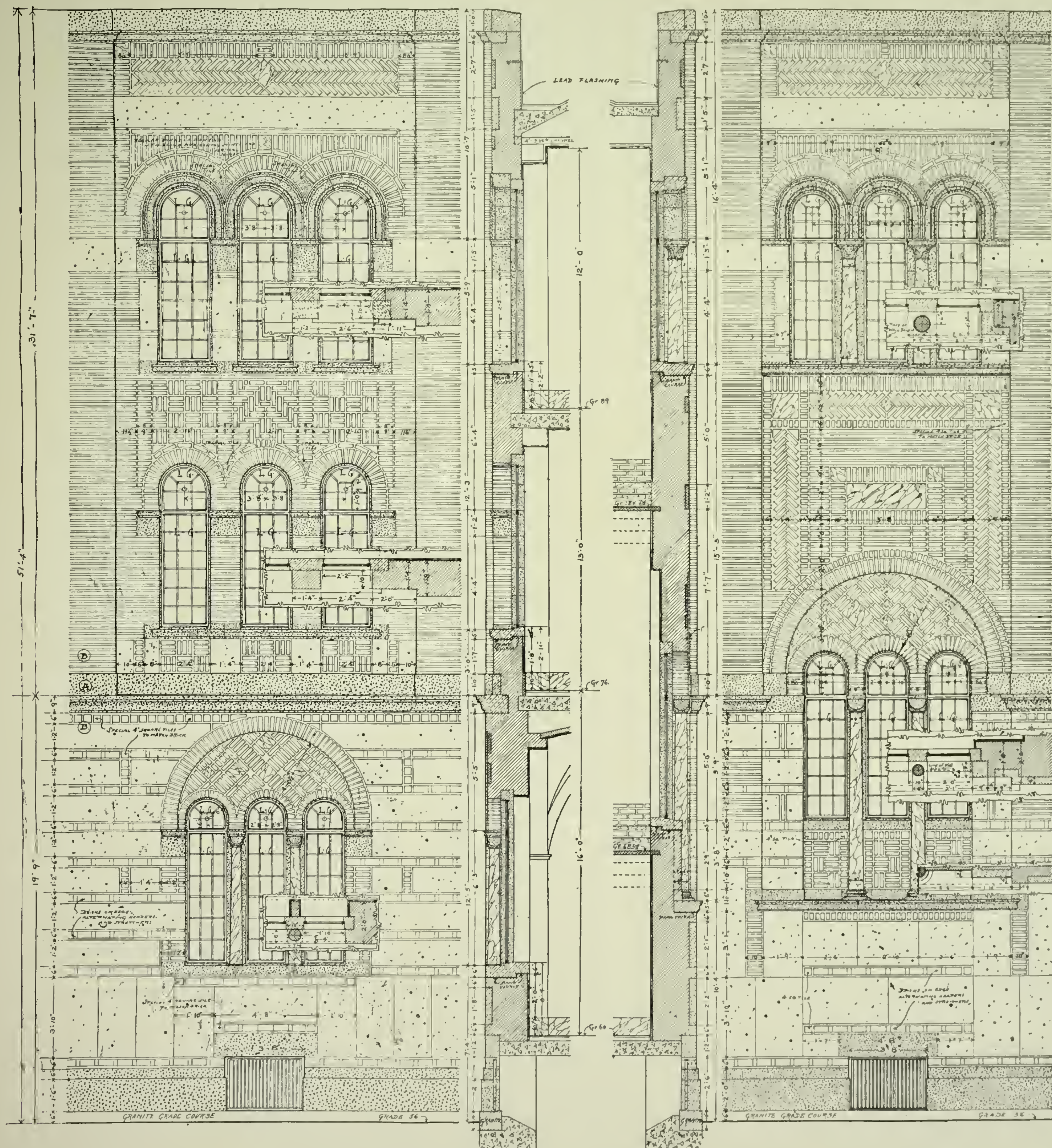
THE ADMINISTRATION BUILDING OF THE RICE INSTITUTE, HOUSTON, TEXAS.

CRAM, GOODHUE & FERGUSON, ARCHITECTS.



THE ADMINISTRATION BUILDING OF THE RICE INSTITUTE, HOUSTON, TEXAS.

CRAM, GOODHUE & FERGUSON, ARCHITECTS.

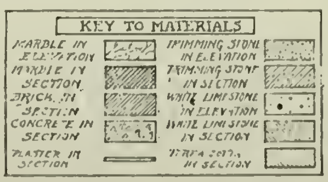


–CENTRAL MOTIVE OF END ELEVATIONS — SECTION –

HALF-INCH DETAIL Q

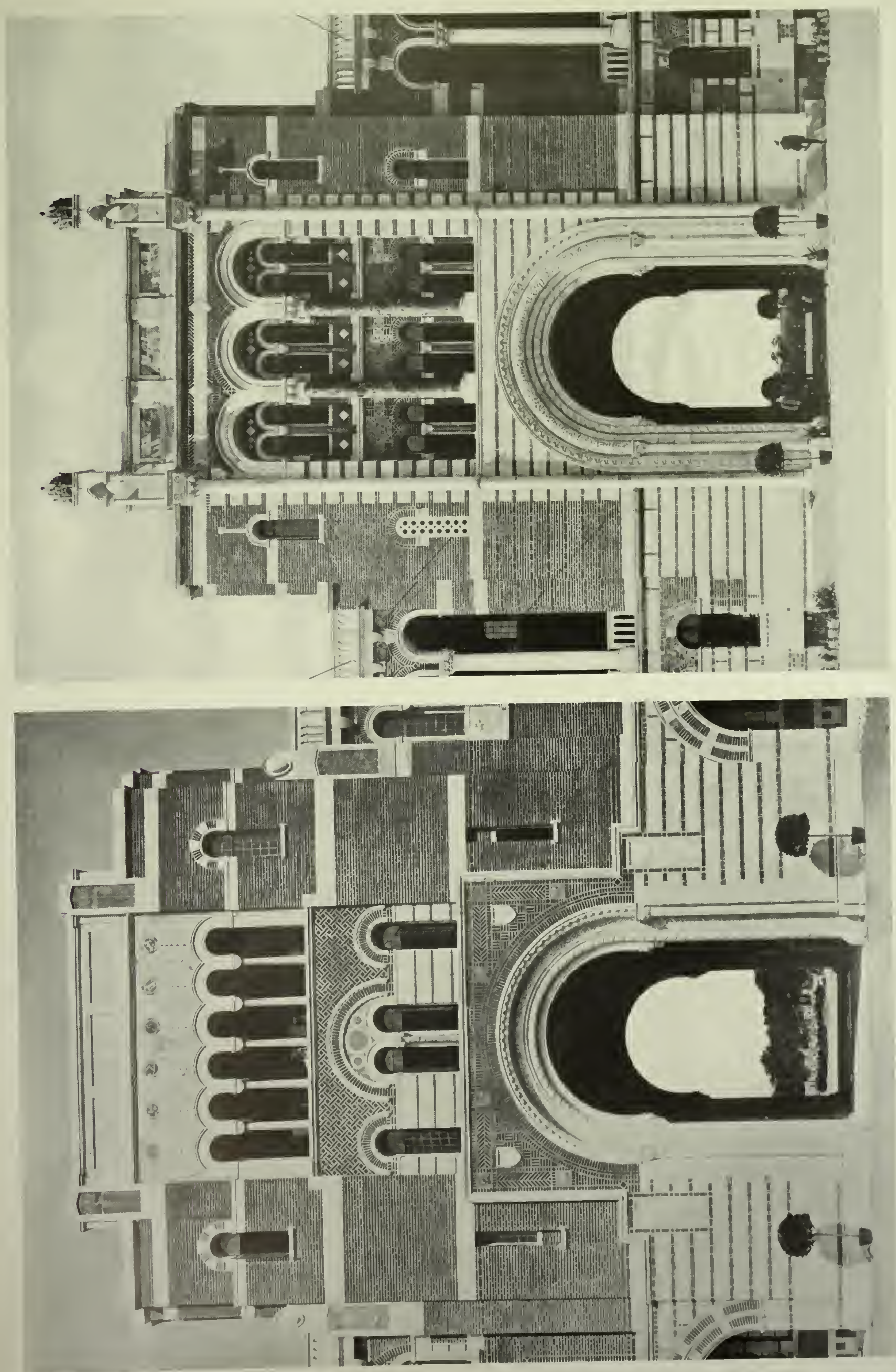
–SECTION – ELEVATION OF TYPICAL BAY

HALF-INCH DETAIL R



THE ADMINISTRATION BUILDING
THE RICE INSTITUTE, HOUSTON, TEXAS.

CRAM, GOODHUE & FERGUSON, ARCHITECTS.



FRONT ENTRANCE, DETAIL.

GARDEN ENTRANCE, DETAIL.

THE ADMINISTRATION BUILDING OF THE RICE INSTITUTE, HOUSTON, TEXAS.

CRAM, GOODHUE & FERGUSON, ARCHITECTS.

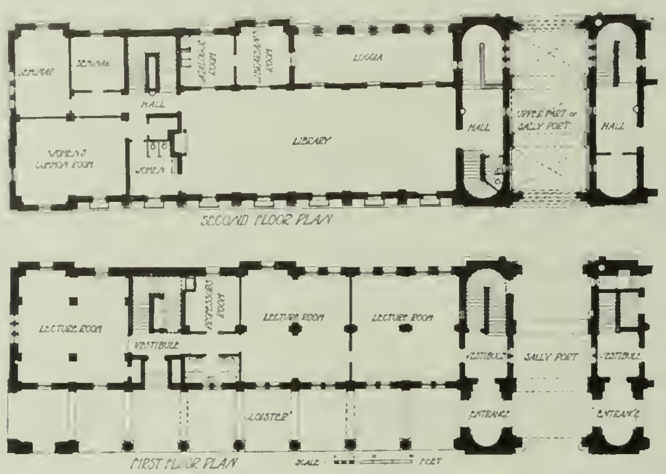
THE SITE, FROM THE ADMINISTRATION BUILDING.

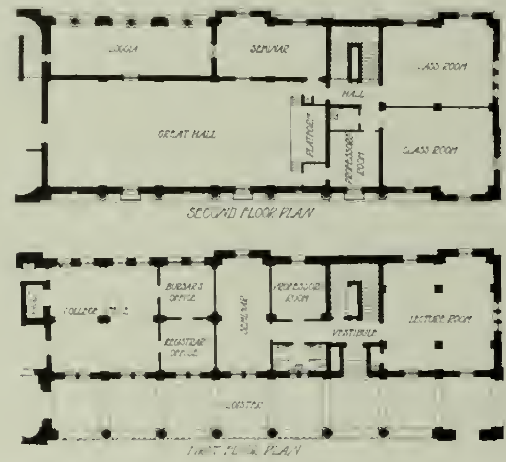
The Administration Building Of The Rice Institute, Houston, Texas.

FRANZ WINKLER.

THE Rice Institute, established by Mr. William H. Rice as a college for higher education and research, has already considerably transcended the plans and intentions of its founder. In the long interval since his death, the fund he set apart for it has greatly accumulated, not only by the natural accretion of the income, but also by the unexpected appreciation of the securities in which the principal had been invested at the time of the death of the testator. Their charge thus grew on the hands of the trustees. They found themselves in control of a sum adequate not only to the comparatively modest purposes of the originally projected "institute," but really equal to the realization of the modern and American notion of an "university." There is, in fact, a "State University" of Texas "in posse," and its authorities have invoked excellent architectural advice as to its lodgment, though it does not appear that its actual buildings are worthy of any architectural consideration. Nevertheless, the charter of the university has the respectable antiquity, for a Southwestern institution, of twenty-seven years, having been issued in 1883. According to the latest available statistics, it has the more than respectable undergraduate membership of 2,758, and there are about 80,000 volumes in its library. It is true that Texas is a large state, large and "sparse," and that Austin, its capital, and by the charter of the State University the seat thereof, is a jealous city by right of its political preëminence, as well as by right of its aspirations as a Southwestern "boom-town." But when one considers how neighborly Austin and Houston are, according to any computation of vicinage, and how specially neighborly they are in view of the magnificent distances of well-railroaded Texas, it does look highly absurd that there should be one institution of university pretensions at Austin and another at Houston. It is not as it was in Colonial times, when every nuance of Biblical Christianity had to have its separate and peculiar propaganda in the shape of a college. There can be no sectarianism in the project of the State University of Texas. We know that there is none in the project of the Rice Institute, which is as disinterested and uncommitted a benefaction in the interest of higher education an any project could be. All to which the trustees of the Rice Institute are apparently bound is to see that the intentions of the founder are carried out and that his memory is duly preserved and honored in the institution or "institute" of his foundation. All to which the legislators of Texas are bound is to see that the ingenuous youth of Texas, "at which," in the language of the Portuguese grammar, "they have" dedicated particularly "the State University" should have the opportunity of the best possible education on the most reasonable possible terms. So that the usual question recurs with peculiar cogency, Why should the State of Texas and the trustees of the Rice Institute not "get together"? It would not be fair to say that as things are now, each party is endowing a "lame duck." The resources on either hand are too ample to allow of that interpretation. But it is not at all unfair to say that an opportunity is offered to establish a single institution which would be of far more educational weight and instance than the two unconnected institutions which, as things are now, are to compete for the higher education of the "ingenuous youth" of Texas, instead of co-operating in it. It would be necessary to that desirable end, no doubt, for the mountain, meaning the state, to come to Mahomet, meaning the Rice Institute, since "Mahomet" has already made more important architectural committals in the bigger city than "the mountain," in the smaller, though the smaller happens to be the capital.

All this, to be sure, is not architecture, and perhaps we ought to apologize for inflicting it on the readers of a technical periodical. It appears that there have been divided counsels about the architecture itself of the Rice Institute. Although that architecture was committed from the first to excellent architectural hands, in fact, to the same firm from which emanated the actual construction of the administrative building, of which we present a series of illustrations, we recall a published design for the auditorium of the proposed institute which would scarcely be congruous with the design of the building which has been executed. What the two designs had in common appears to have been the conviction on the part of each of the designers, unless, as is with difficulty conceivable, they were the same designer, that the conventional "collegiate" architecture, in which, at Princeton and elsewhere, the architects have had their own successes, was not at all the thing for so exceptional an endowment as that which Mr. Rice had proposed for his "institute"; that what would do for the succession to Nassau Hall, on what Holmes has so inaccurately described as "Princeton's sands," would not do on the interminable plains of Texas, on which there was no architectural precedent, except haply one of Spanish origin. The design referred to for the auditorium reverted to the Moorish architecture of Spain, and even behind that to its Saracenic original. It was frankly Asiatic, with its big cupola, its cloistered and umbrageous arcades, its plain surfaces, evidently intended to receive a decoration of encaustic tiling.





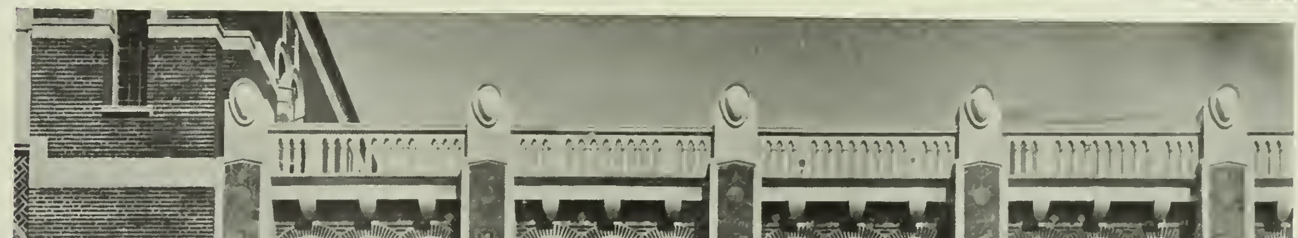
In Xanadu did Kubla Khan
A stately pleasure-dome decree.

With its Asiatic connotations, this design for the culminating and central building of the group carried also a "sub-tropical" suggestion. And this sub-tropical suggestion was repeated in the design of the same period (1909) for the administration building, in which one detects the germ and "leit-motif" of the administration building now realized in actual bricks and mortar and inlay of "semi-precious," regarded as building material of quite precious, stones.

All beholders will promptly agree upon two points in the

CLOISTER FROM DORMITORY TO REFECTORY.

CLOISTER, ADMINISTRATION BUILDING.

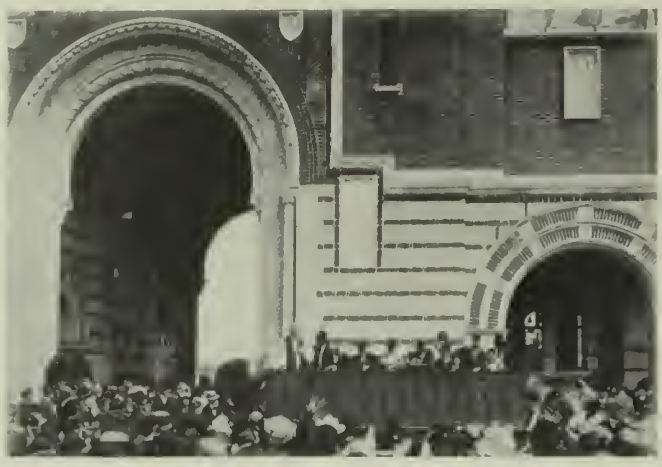


DETAILS OF WEST AND EAST FRONTS.

THE ADMINISTRATION BUILDING, THE RICE INSTITUTE, HOUSTON, TEXAS.

Cram, Goodhue & Ferguson, Architects.

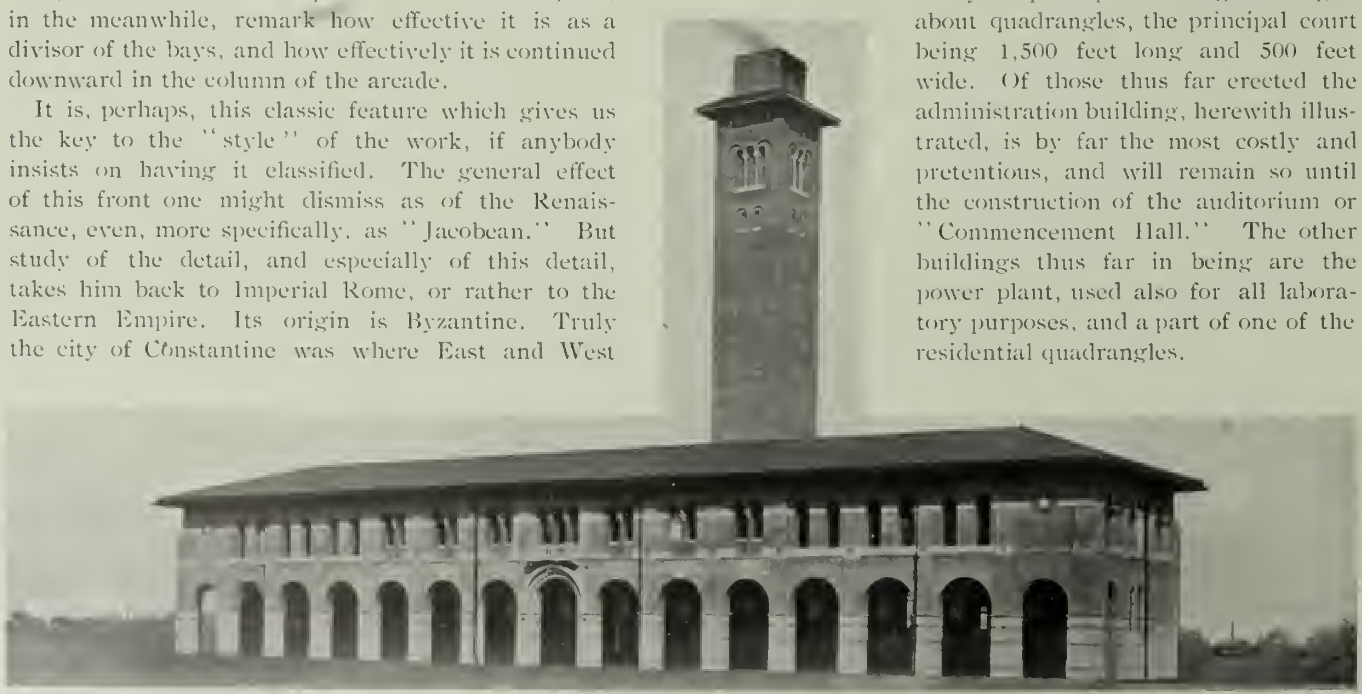
design of the one distinctly "architecturesque" building thus far erected in pursuance of the scheme for the Rice Institute. One is, that it is a highly interesting building. The other is, that it is not at all "the regular thing" in collegiate architecture. One notes with pleasure on each of the fronts that the architecture is first of all expressive, that there is no concealment of the actual facts and real requirements in deference to a preconceived "elevation," but, contrariwise, an exposition of these, and afterwards a successful attempt to bring them into an orderly relation which shall give the two sides by no means necessarily an exact and formal symmetry, but an effective balance, and enable the composition of the "features" into a countenance, and the bringing of the variety into unity by means of a predominant feature. This predominating and unifying feature is, of course, the central four-square mass, which gives ample abutment to the great arch of entrance. But observe on the west front, in which the arcaded cloister of the basement appears, the difference of the treatment of the two wings, no doubt corresponding to "differences of administration" in the apartments which they front, and note how the differences give life and variety to the architecture of the façade without impairing its unity. The two wings are effectively correspondent as masses, but compare the differences in the bays on either hand. The classical column, with the broken entablature above, will excite your interest, perhaps your antagonistic interest, when you come to look at it; but, in the meanwhile, remark how effective it is as a divisor of the bays, and how effectively it is continued downward in the column of the arcade.


DEDICATION DAY, RICE INSTITUTE, HOUSTON, TEXAS.

It is, perhaps, this classic feature which gives us the key to the "style" of the work, if anybody insists on having it classified. The general effect of this front one might dismiss as of the Renaissance, even, more specifically, as "Jacobean." But study of the detail, and especially of this detail, takes him back to Imperial Rome, or rather to the Eastern Empire. Its origin is Byzantine. Truly the city of Constantine was where East and West met in architecture, or rather whence they diverged, the Western departure to become "Romanesque" and the Eastern "Saracenic." The "style" of this administration building is not, like that of the yet unbuilt auditorium of which the design was contemporaneous with it, Oriental "of the most Eastern East"; but it has its Orientalism all the same. It is Oriental of the near East, Levantine, Byzantine. And this character is emphasized by the carving of the capitals, of which the foliage is of that spinose kind which was introduced into our architecture by Richardson, and the disappearance of which, with Richardson's vogue, was regretted by many, including, as one is glad to note, the architects of the present building.

The Oriental impression is promoted, also, by the use of variegated marbles, in conjunction with the local rose gray brick, and an ivory-tinted marble from the Ozark mountains, which are the principal materials. The Ozark marble, of which the ivory tint is flushed with rose, is used here for the first time. In the shafts or the capitals of the column, and in panels or medallions, are also employed green and white Broccadillo from Vermont, purple Negallo, red Verona, verd antique, Istrian stone, purple, green, and white Cippolino, violet Brecca, and tiles of turquoise blue and malachite green. The large columns of the west cloister are of pink Texas granite. All exterior metal work is of green bronze.

The architectural scheme of the institute comprises thirty-six principal buildings, arranged about quadrangles, the principal court being 1,500 feet long and 500 feet wide. Of those thus far erected the administration building, herewith illustrated, is by far the most costly and pretentious, and will remain so until the construction of the auditorium or "Commencement Hall." The other buildings thus far in being are the power plant, used also for all laboratory purposes, and a part of one of the residential quadrangles.


THE POWER PLANT.
Cram, Goodhue & Ferguson, Architects.

The Emmet Building, New York City.

MADISON AVENUE AND TWENTY-NINTH STREET.

J. STEWART BARNEY AND STOCKTON B. COLT, ARCHITECTS.

THE architects of the Emmet Building were presented with a rather curious problem which arose from the sentimental attachment of the owner to the site. He had lived on Madison avenue for most of his life, and while realizing that the character of the street had changed from a residential to a business one, and that it was impossible longer to continue the occupancy of the old-fashioned brownstone house, either with comfort or with profit, he did not desire to move from the location. He therefore erected an office and loft building, not as a speculative procedure, but as a permanent investment, and made the upper story of it into a housekeeping apartment. Inasmuch as the building was to be not only an investment but his own permanent residence, he thought it desirable to erect something of good architectural character, which, although it should be a practical loft or office building, should at the same time have the distinction which every one wants in his own private house. The architects, by a somewhat different treatment of the upper story, have made plain the line of demarcation between the business portion of the building and the residence, and have successfully solved a very interesting problem, as will be seen by the accompanying illustrations.

In the design of the building emphasis was laid as strongly as possible on the vertical lines, in a manner not dissimilar to those in the Times Building, the West Street Building and the Woolworth Building, three of the most excellent tall buildings in New York. The stories intermediate between the base and the large arches at the twelfth story are perhaps the most agreeable that have yet been designed in this type, which although in its vertical treatment is suggestive of Gothic, is far from being derived from Gothic; the base in fact rather resembling the early French Renaissance combination of classic forms.

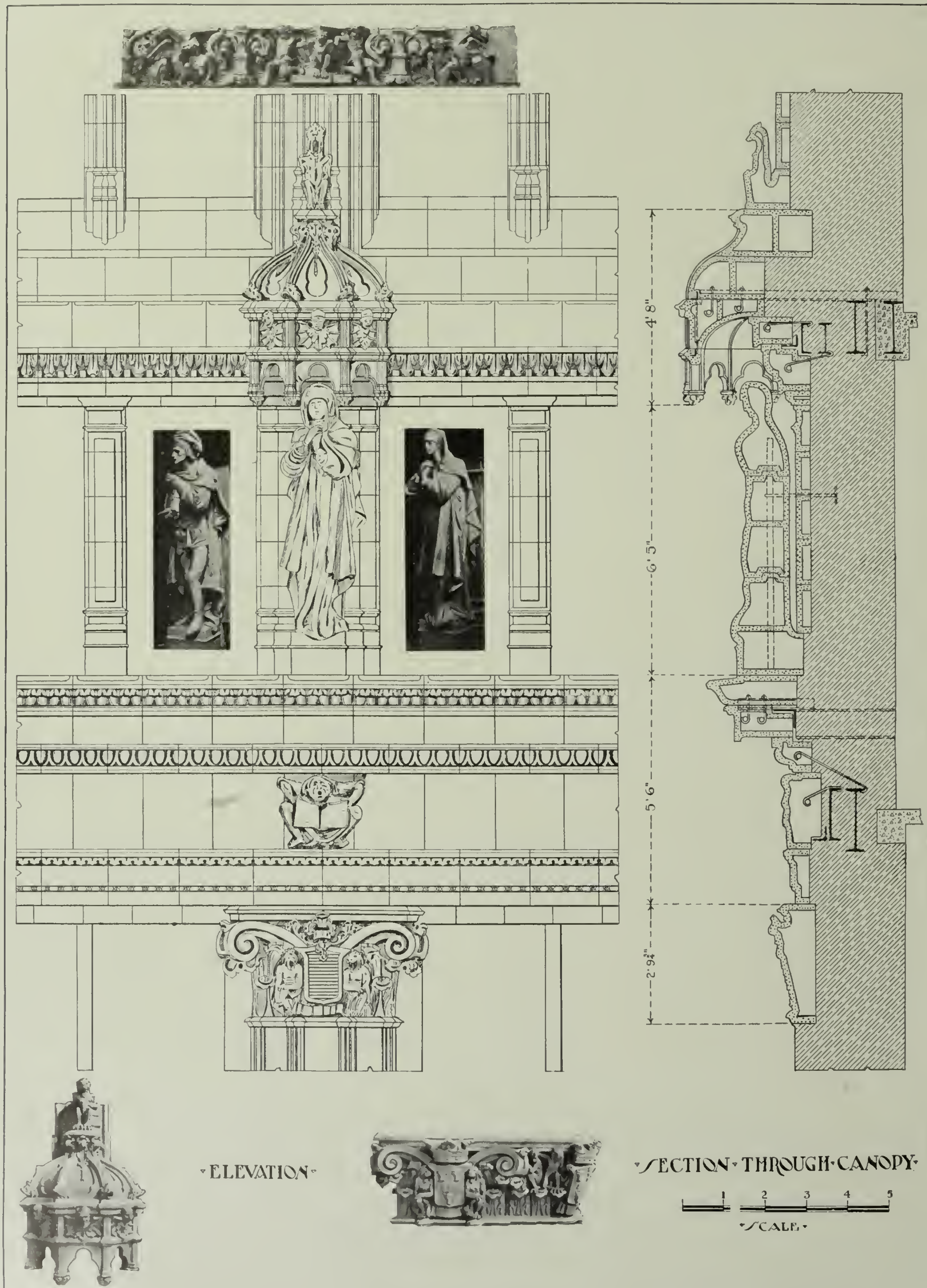
One of the most interesting features in the whole structure are the columns of the lower two stories, which are of green marble inlaid with vertical lines of limestone, — a scheme which in form has perhaps had prototypes in early Gothic, but which in such a combination of material is a unique, beautiful, and clever piece of work. The first three stories are faced with limestone, and those above are of architectural terra cotta with metal panels between the sills of the windows and the heads of the windows below them, through the shaft of the building, with an attic of brick and terra cotta.

The use of the terra cotta in this building requires particular and favorable comment, in that no attempt has been made to disguise the nature of the material, which is frankly a fireproofing for the steel work within. The accuracy with which the vertical lines have been maintained with no feeling whatever of motion adds to the reputation of the material. The terra cotta is of a warm gray limestone color with dark olive green for the background of the band below the third story, in the arches at the twelfth, and in the cornice, but this color has not been made to serve the place of form, but rather to emphasize and decorate form; a method much more satisfactory in the long run than any attempt to replace form by color. We have become accustomed to the construction of elaborate and beautiful detail in this material, but it is interesting to learn that even the statues and grotesques are cast terra cotta, a most unusual procedure in such large pieces, and which opens up further fields to its already extensive possibilities. The modeling of these pieces is of an unusual character.

Perhaps the greatest element in the success of the treatment of this building is the fact that the architects have scaled their detail down to that of the material employed, without losing character and distinction to the building as a whole. They have not found it necessary to employ enormous overhanging cornices, which are not only bad as reducing the light on already too narrow streets, but are, of course, when constructed in the usual way merely elaborate shams. They have managed to terminate the shaft firmly and distinctly by multiplying the small members, which even in their multiplicity are neither confused nor involved, but clear and logical both as to their architectural fitness in the design and as to explicit revelation of the material employed. It is refreshing to find this material, which is so useful and satisfactory both in appearance and price, frankly expressed, with an impression of great richness which in any other material would be almost prohibitive. The small pieces in which terra cotta can be properly manufactured, and the plastic quality of the detail as opposed to the large pieces and carved detail of stonework, can be used to quite as good effect as stone for certain positions; and to endeavor to conceal the material as if it were something to be ashamed of, is not the highest form of art. The Greeks very frequently employed terra cotta in decorating their stone architecture; but they did not use it like stone; and this is one of the many lessons of the classic school we have left unlearned.

The same thoughtfulness in regard to the genuine structure of the building as a steel framework overlaid with a fireproof covering is observed throughout. Every one knows that none of the great marble or granite columns in the lower stories of tall buildings are anything but veneers; here the architects have obtained a firmness of design resulting from an order in the lower story without attempting to force it to express a structural function; they have simply mosaiced the various members which make up an order, into an agreeable composition used as a decorative motive only. The same thing is true of the shaft, where the terra cotta is treated purely as a fireproof, weather-proof, and decorative covering for a steel frame.

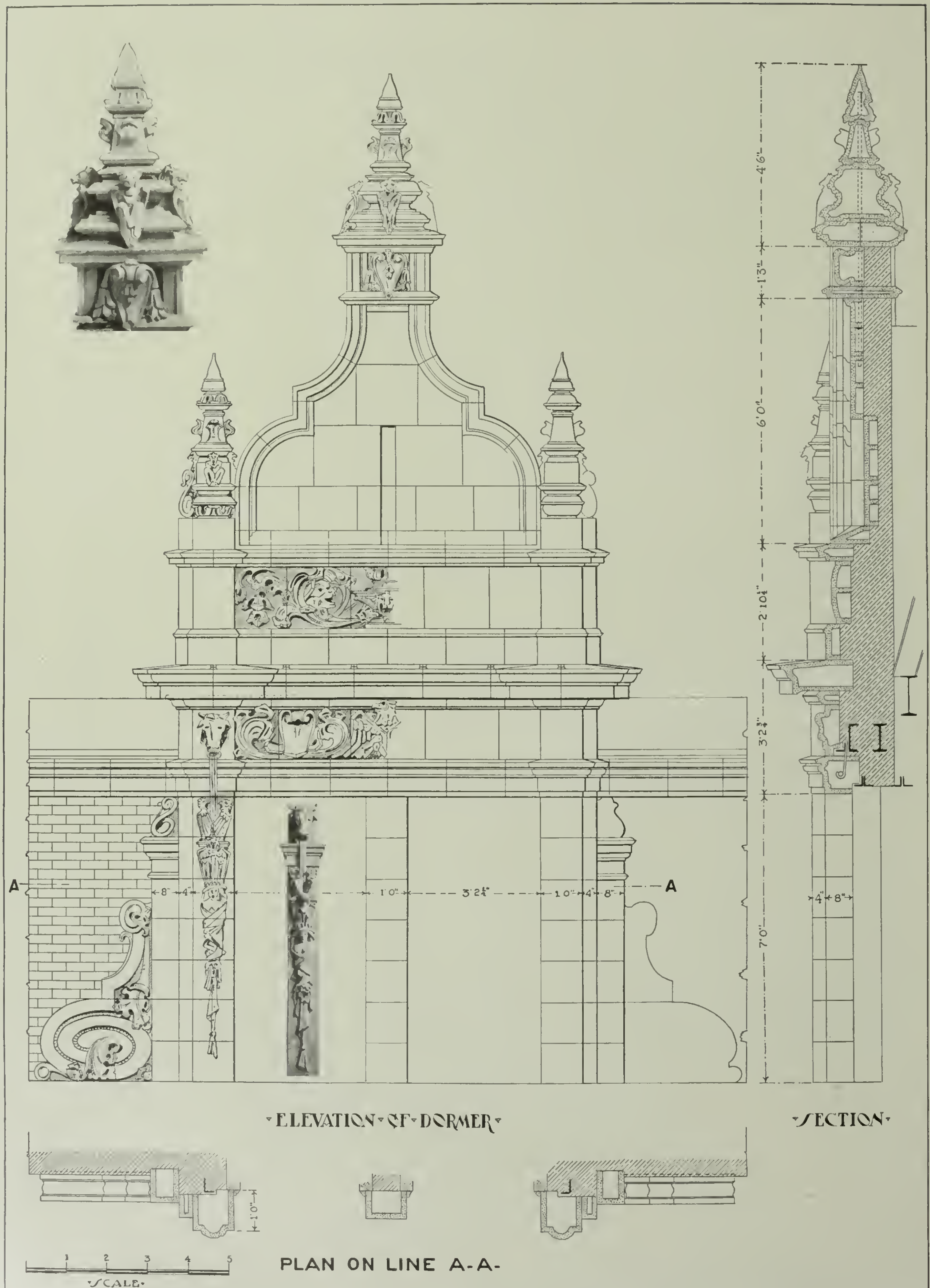
It may be said of this building without lack of appreciation of other tall building work, that it is one of the few structures which approximate the true line of development of tall building architecture, both in its design and in its selection and use of material. The classic order is neither neglected as useless nor employed as a fundamental, certain motives of Gothic and Renaissance work have been, if not embodied entire, at least suggestively useful in the design, and the whole building hangs together in a manner which might be totally unexpected if its elements were named, although when seen the exquisite propriety of their relation is at once evident.



Terra Cotta Details. J. Stewart Barney and Stockton B. Colt, Architects

THE EMMET BUILDING, NEW YORK CITY.

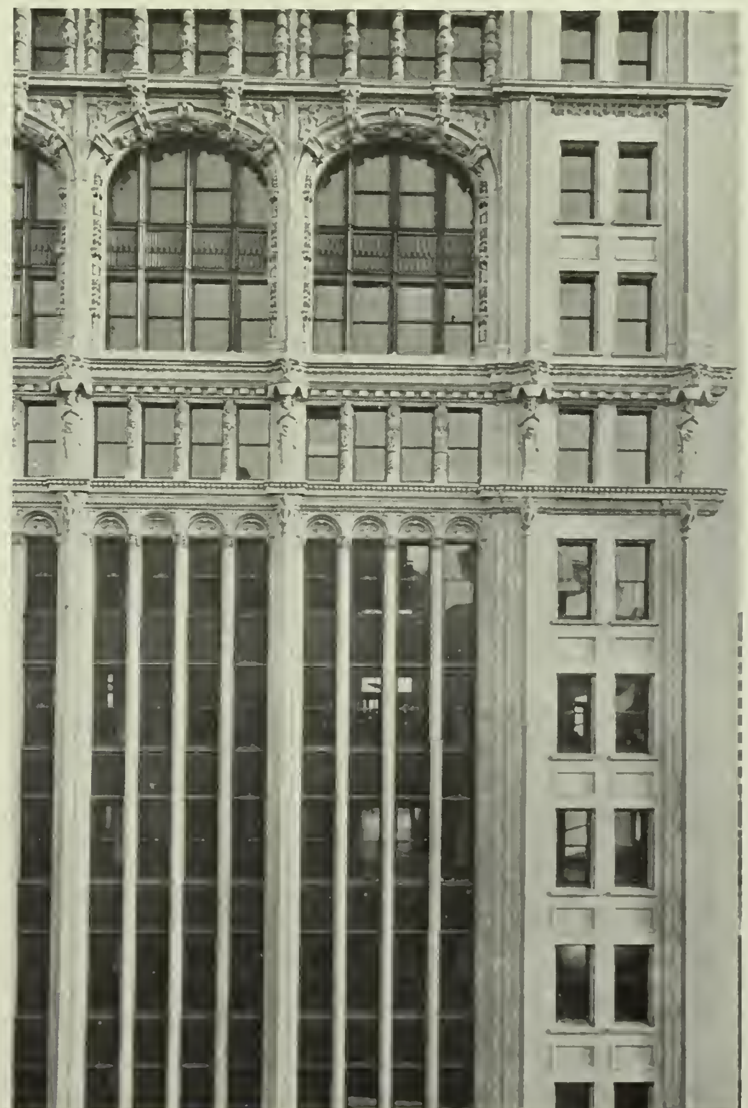
THE EMMET BUILDING, NEW YORK CITY.
J. Stewart Barney and Stockton B. Colt, Architects.



Terra Cotta Details. J. Stewart Barney and Stockton B. Colt, Architects.

THE EMMET BUILDING, NEW YORK CITY.

ENTRANCE DETAILS.



SHAFT.

THE EMMET BUILDING, NEW YORK CITY.

J. Stewart Barney and Stockton B. Colt, Architects.

Editorial Comment and Miscellany.

DIRECTOR LORD ON THE TEACHING OF ARCHITECTURE.

AT a dinner recently given by the alumni architects of Columbia University, Mr. Austin Willard Lord, the new director of the Architectural School, delivered an address which was in the nature of an inaugural. The address from which we quote is interesting as an expression of Mr. Lord's ideas of how architecture should be taught.

I suppose, after all, there are only two things to consider, viz., what to teach and how to teach it. You are aware of the fact that there has been a wide difference of opinion as to what to teach. We are all struggling to find out how to teach it. I look upon an architectural school as a place to teach architecture. In the term "architecture" there is a double meaning — first, "design"; second "construction." In other words, a man to be an architect should have a trained sense of proportion which should enable him to combine beautifully materials to be used in construction.

As to method, from time immemorial architecture has been produced, each nation or people producing it in its own way. How the majority of these nations have produced their architecture, what their ideals have been, how they arrived at their conclusions, how they actually made their designs, no one can tell. We only know that results were produced. Out of the wisdom of the ages and other conditions brought about by innumerable causes, undefinable, a system has gradually been evolved which has resulted in the formation of a school to teach the art of architecture. The French have developed this system and overdeveloped it. The Italian makes little progress in these days and is satisfied with his past glory. The German has loved his archaeology but to-day is wandering far afield and is pursuing new methods and developing a new style. The Briton is satisfied with his own architecture, and we, with our gods in Paris, are trying to compass the whole earth.

TOWER OF GENERAL ELECTRIC CO. BUILDING, BUFFALO.

Built entirely of Atlantic white matt terra cotta, made by Atlantic Terra Cotta Company.

Eisenwein & Johnson, Architects.

Contrary to general opinion, the French do not teach Classic Architecture or Gothic Architecture, Romanesque, or any other kind of architecture. On the contrary, their whole method is based on a system of first finding out the conditions and then proceeding in a logical way to develop structures and fit these conditions. If we are not following this method in America, the most of us think we should follow it and, in my opinion, we are fast approaching the time when we shall follow it unreservedly to the end. This, indeed, is the "ideal" system which we are striving to follow in Columbia.

I do not believe that the best results can be obtained where an architectural department is an adjunct to a university, for the simple reason that the methods which must necessarily be applied in the teaching of an art are so absolutely different from the methods employed in teaching any other subject. But we are only beginning in this country — we cannot do everything in a hundred years. Time is the solution of the problem, and I believe we are on the right track. When our present schools are organized into one central school of art we shall then have an organization calculated to develop the student under the most favorable conditions. We are criticized for our method of teaching architecture through the medium of the elements of so-called Classic Architecture and the application of these elements. I think I am right in saying that this has come down to us as a tradition. It is simply a method of teaching "Proportion" through the medium of certain forms. If any one will propose better, more logical, more interesting, more inspiring forms, there is no doubt of their adoption. One suggests that we teach Gothic, another that we teach Byzantine or Romanesque, and so on. In the absence of anything better in the way of form, we are proceeding on the basis as at present established after hundreds of years of experience.

As to the method I am trying personally to follow, a few words will suffice. I believe that we should start with the Greek orders, as in them are exemplified the purest art we know and the simplest forms with which to deal. It is along the line of least resistance to take the student. Starting with the Greek orders, I do not mean that a man shall draw out the various orders as well as he may, using unlimited time in the operation. I believe the student should start with the building of which the order may form a part and that it should be made clear that there are other elements in the beginning of this operation that are vastly more important to teach him than the mere order. He should know the value of a wall, of the openings in that wall and the spaces between those openings, of the elements that go to enrich those openings, to emphasize them, to give them character, to make that wall do its work artistically and constructionally — in other words, to make it architectural; to learn that that building has a base, a certain height, a crowning member called the cornice, a roof, either flat or pitched; and by degrees he learns that it has a certain length in relation to its breadth and that these two proportions should have a certain relation to its height. In other words, we are teaching him "form."

Now we might go on analyzing and philosophizing and we come back to the original proposition that it is all a matter of proportion. Once the student knows proportion he can apply it to any style, to any structure, to any object intended to be useful or beautiful in the world.

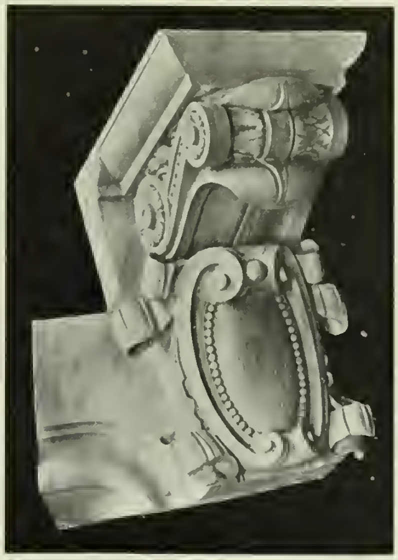
As the student becomes possessed of a general knowledge of the elements, we take up with the plan and develop it along the same lines and in the same way. Accompanying this instruction he must study the value of color, the use of materials, and the application of modern scientific appliances in the development of his building. The men in my department are compelled to draw every day of their school course, great stress being laid upon free-hand draw-

DETAIL EXECUTED BY NEW JERSEY TERRA COTTA CO.
Hazzard, Erskine & Blagden, Architects.

DETAIL BY NORTHWESTERN TERRA COTTA CO.
Grossman & Proskener, Architects.

ing in the various mediums. Cultivating the bent of the student is the paramount idea. If the students wish to specialize in architectural engineering they have that privilege in the engineering department; but, as my department is not an engineering school, only such teaching on constructional lines as will enable him to construct reasonably and well is attempted. Prescribed courses in history have been reduced to the minimum with a view to encouraging the student to work out his own salvation by reading and thinking and by observation. We are conserving their strength and their time for things architectural and artistic, that they shall acquaint themselves as far as possible with things that are lying at our very doors. They shall know what the museum has in store for them, and shall use its resources as far as possible to their advantage.

The architect's training should embrace instruction in all the arts, and he should work in closer relation with other artists — the sculptor and the painter. He should work in much closer relation with the engineer, and we are all satisfied that the engineer should work more in harmony with the architect, or at least be possessed of certain architectural knowledge which would aid him in designing the various structures that it is a part of his work to build.



DETAIL EXECUTED BY NEW YORK ARCHITECTURAL TERRA COTTA CO.
Palmer, Hornbostel & Jones, Architects.

We overdo in a measure the work of specializing in the various branches of our work. This specializing is, of course, brought about by the requirements of the times, but we should not forget the great periods of the Renaissance and how the artists of those times — architects, painters, and sculptors — were in many cases masters of the three arts and were constructing engineers at the same time. We know that the fortifications of the old Italian cities were in most cases built by these artists, and their varied qualifications led them to other fields of intellectual endeavor. The architect's training should embrace a knowledge of city planning and of the planning of landscape, and must necessarily cover all problems, both artistic and scientific, which affect in any way the existence of the people. This whole operation of teaching architecture is practically a business undertaking on an artistic basis. It is a bread and butter proposition.

TERRA COTTA FOR THE EMMET BUILDING, NEW YORK CITY.

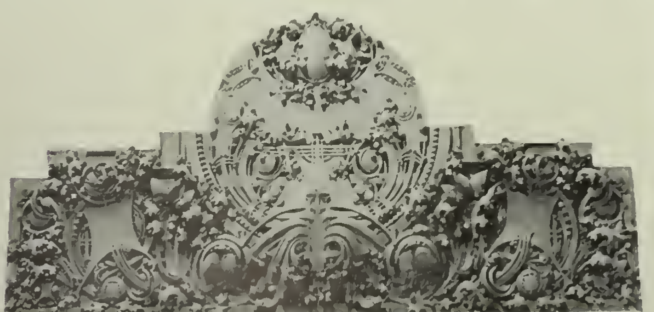
THE architectural terra cotta for the Emmet Building, described and illustrated in detail in this issue, was furnished by the Federal Terra Cotta Company.

BUILDING OPERATIONS FOR NOVEMBER AND PAST ELEVEN MONTHS.

OFFICIAL building reports from some fifty building centers throughout the country, as compiled by *The American Contractor*, New York, show an aggregate gain of eighth and one-third per cent for November as compared with November, 1911; and the past eleven months show a gain of five and one-fifth per cent as compared with the same months of the past year. The building industries enjoyed prosperity last year, and it is gratifying to know that this year promises to be still better. Over one hundred per cent increase for November was scored in the following cities: Atlanta, 199 per cent; Duluth, 251; Indianapolis, 183; Kansas City, 153; Nashville, 309; St. Joseph, 105; Worcester, 194. The principal gains during the eleven months were made at: Atlanta, 53; Buffalo, 40; Detroit, 35; Los Angeles, 34; Fort Wayne, 32; Manchester, 86; Rochester, 32; Toledo, 44.

IN GENERAL.

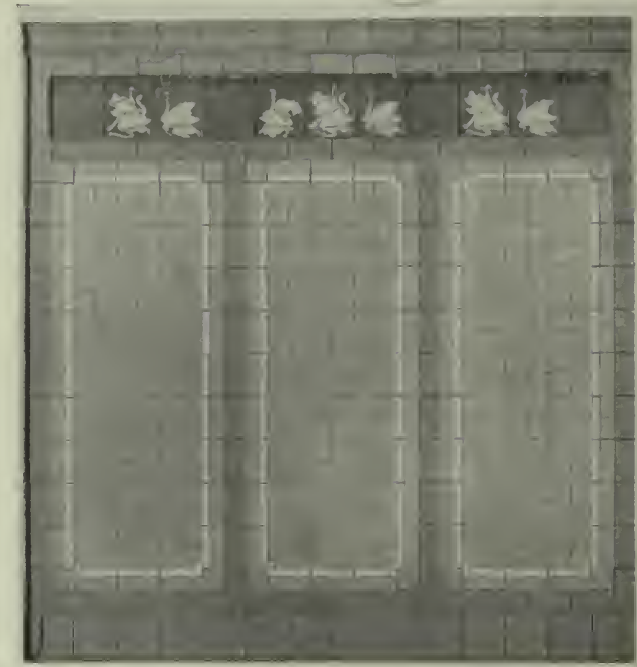
The University of Pittsburgh, Department of Industrial Research, Pittsburgh, Pa., is conducting an investigation



DETAIL EXECUTED BY AMERICAN TERRA COTTA & CERAMIC CO.
Louis H. Sullivan, Architect.

DETAIL BY O. W. KETCHAM TERRA COTTA WORKS.
Joseph Evans Sperry, Architect.

PUBLIC LIBRARY, INDIANAPOLIS, IND.
Built of Mosaic Brick-laid Flemish Bond. Made by Western Brick Company.
Foltz & Parker, Architects.



A WALL OF ROOKWOOD FAIENCE TILES.

of the effects of smoke on building materials. Information is asked from dealers and manufacturers as to the

STABLE AND GARAGE BUILDING, CLEVELAND, OHIO.
Roof of Imperial Spanish Red Tile. Made by Ludowici-Celadon Company.
Abram Garfield, Architect.

effect smoke has on the various materials which are used in the exteriors of buildings.

Edgar I. Williams, holder of the "Roman Prize" in architecture, has accepted a position as instructor in architecture at the Massachusetts Institute of Technology.

The Medal of Honor of the New York Chapter, A. I. A., has been awarded for 1912 to Charles A. Platt, for country houses.

Mr. John S. Siebert, architect, formerly of Cumberland, Md., has opened offices in the Spreckels Building, San Diego, Cal.

HOUSE AT CLEVELAND, OHIO.
Built of Ironclay Roman Brick.
C. S. Hopkinson, Architect.

APARTMENT, NEW ORLEANS, LA.
Built of Steel Gray Brick. Made by Hydraulic Press Brick Company.
Diboll, Owens & Goldstein, Architects.

CHURCH OF ST. JOSEPH, BABYLON, L. I.
The brick and tile used in the exterior and interior, were furnished by O. W. Ketcham, Philadelphia and New York.
Reiley & Steinback, Architects.

The Twenty-eighth Annual Exhibition of the Architectural League of New York will be held in the building of the American Fine Arts Society, 215 West 57th street, from Sunday, February 2d, to Saturday, February 22d, inclusive. Exhibits discharged Monday, February 24th.

Leslie N. Iredell, architect, has removed his offices to the Littlefield Building, Austin, Texas. Manufacturers' samples and catalogues requested.

At the annual meeting of The Association of the Alumni of the American Academy in Rome, held November 20, 1912, the following officers were elected for the ensuing year: President, H. Van Buren Magonigle; vice-presidents, H. A. McNeil and Barry Faulkner; secretary-treasurer, Harry E. Warren, 37 Liberty street, New York City.

BUILDING AT 33D STREET AND BROADWAY, NEW YORK CITY.
Entire façades of Gray Terra Cotta made by South Amboy Terra Cotta Company.
Rouge & Goldstone, Architects.

Reid Brothers, architects, San Francisco, have opened a branch office in the Vancouver Block, Vancouver, B. C., with W. E. Reid in charge.

Edward F. Maher and Charles A. Winchester have formed a copartnership for the practice of architecture with offices at 8 Beacon street, Boston.

The Fred A. Jones Building Company, of Dallas and Houston, Tex., announce the removal of their Birmingham office to the new American Trust and Savings Bank Building, with Mr. Carroll Blake in charge.

The Western Brick Company, Danville, Ill., will place two new lines of brick on the market in 1913. Samples may be had now.

The members of the Master Builders' Association of Boston at a meeting held recently voted to make a separate and specific charge for compensation insurance rather than to make an increase in charge for labor per hour. In this way the owner's attention is forcibly drawn to the matter and he will learn that compensation insurance is a factor of cost with which he must reckon.

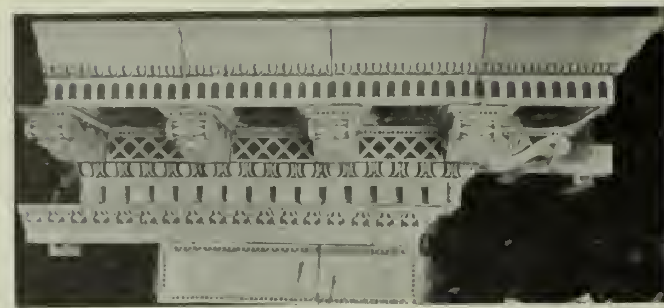
James B. Urquhart and J. Carroll Johnson have associated for the practice of architecture; offices, National Loan and Exchange Bank Building, Columbia, S. C.

Ellis D. Gates, a graduate of the Ceramic School of the Ohio State University, and well known for his connec-

HOUSE AT EDGEWOOD, PA.
Built of Natco Hollow Tiles. Charles Barton Keen, Architect.

tion with the manufacture and sale of architectural terra cotta, has opened an office at 103 North Water street, Mobile, Ala., for the handling of building supplies and specialties.

Harding & Upman, architects, Washington, D. C., have dissolved their copartnership.



CORNICE FOR POST OFFICE AT SHREVEPORT, LA.
Executed by Conkling-Armstrong Terra Cotta Company.
James Knox Taylor, Architect.

C. L. Harding will carry on the work now under contract with offices in the Woodward Building. Frank Upman has opened offices for independent practice in the same building.

William L. Bell, architect, has opened an office in Atlanta, Ga. Manufacturers' samples and catalogues requested.

ONE HUNDRED BUNGALOWS—THE TITLE OF A 120 PAGE BOOKLET WHICH CONTAINS ONE HUNDRED DESIGNS FOR HOUSES OF THE BUNGALOW TYPE SUBMITTED IN THE COMPETITION RECENTLY CONDUCTED BY THE BRICKBUILDER. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

THE NATCO HOUSE—THE TITLE OF A NEW 72 PAGE BOOKLET WHICH CONTAINS A SELECTION OF DESIGNS SUBMITTED IN COMPETITION FOR A HOUSE TO BE BUILT OF TERRA COTTA HOLLOW TILE AT A COST OF SIX THOUSAND DOLLARS. ALSO ILLUSTRATIONS OF HOUSES BUILT OF THIS MATERIAL, TOGETHER WITH ARTICLES DESCRIBING CONSTRUCTION, ETC. PRICE, 50 CENTS. ROGERS & MANSON, BOSTON.

A Rare Opportunity

Beautiful Old Colonial Brick from Breckinridge Manor House in Virginia. Now stored on railroad siding. For interesting particulars apply to *Edwin West, Jr., 527 Fifth Avenue, New York City.*

G. Broes Van Dort Co.

Importers of and Dealers in

ARCHITECTURAL PUBLICATIONS

20 WEST JACKSON BOULEVARD
CHICAGO, ILL.

We have several positions open for good all around draftsmen who are not employed.

BOILERS AND RADIATORS

MANUFACTURERS OF

Water Tube and Return Flue Boilers
Plain and Ornamental Direct Radiators
Direct-Indirect Radiators
Indirect Radiators

For Steam and Water Warming

Send for complete illustrated catalog

THE H. B. SMITH CO.

Westfield, Mass. New York
Philadelphia Boston

"TAPESTRY" BRICK

TRADE MARK—REG. U. S. PATENT OFFICE

BULLETIN

RECENT WORK, illustrated in this issue of THE BRICKBUILDER

While none of our latest buildings have been selected for publication this month, we have, nevertheless, been more than busy on several large works requiring the best of brick.

FISKE & COMPANY INC
FACE BRICKS } ESTABLISHED IN 1864
FIRE BRICKS }

25 Arch St., Boston Arena Building, New York

Linoleum and Cork Covering FOR CEMENT FLOORS

Linoleum secured by waterproof cement to concrete foundation can be furnished in plain colors or in inlaid effects.

Cork Carpet in plain colors.
Elastic, Noiseless, Durable.
Is practical for rooms, halls, and particularly adapted to public buildings.
Should be placed on floors under pressure and best results obtained only by employing skilled workmen.

Following are examples of our work:

Brookline Public Library. R. Clipston Sturgis, Architect.
Marshall Office Building, Boston. C. H. Blackall, Architect.
Boston State Hospital, Boston. Messrs. Kendall, Taylor & Co., Architects.

A small book on this subject, and quality samples, mailed on application. We solicit inquiries and correspondence.

JOHN H. PRAY & SONS CO.

Floor Coverings—Wholesale and Retail

646-658 WASHINGTON STREET - BOSTON, MASS.

Continuously in this business for 93 years