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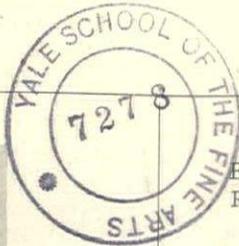
Number 2579

The AMERICAN ARCHITECT

JANUARY

1930

FOUNDED 1876



The Cover

REPRODUCED from a water color sketch by Louis Skidmore, showing the windlass house of one of the twenty-three fourteenth century Monasteries Meteron built on the high cliffs at Kalabaka, Greece. A hand-operated windlass and basket forms the only means of access. Seven of the monasteries, five of which are occupied, still remain to delight the lover of the picturesque.

Mr. Skidmore held the Rotch Travelling Fellowship and is a member of Buckley & Skidmore, Chicago architects

Next Month

ADVERTISE?—How can the architect safeguard his livelihood? The president of the Michigan Society of Architects presents some startling facts and revolutionary ideas.

CLIENTS—A southern architect with keen wit tells how he handles his clients.

GLASS—An eight-page section shows architectural details in glass.

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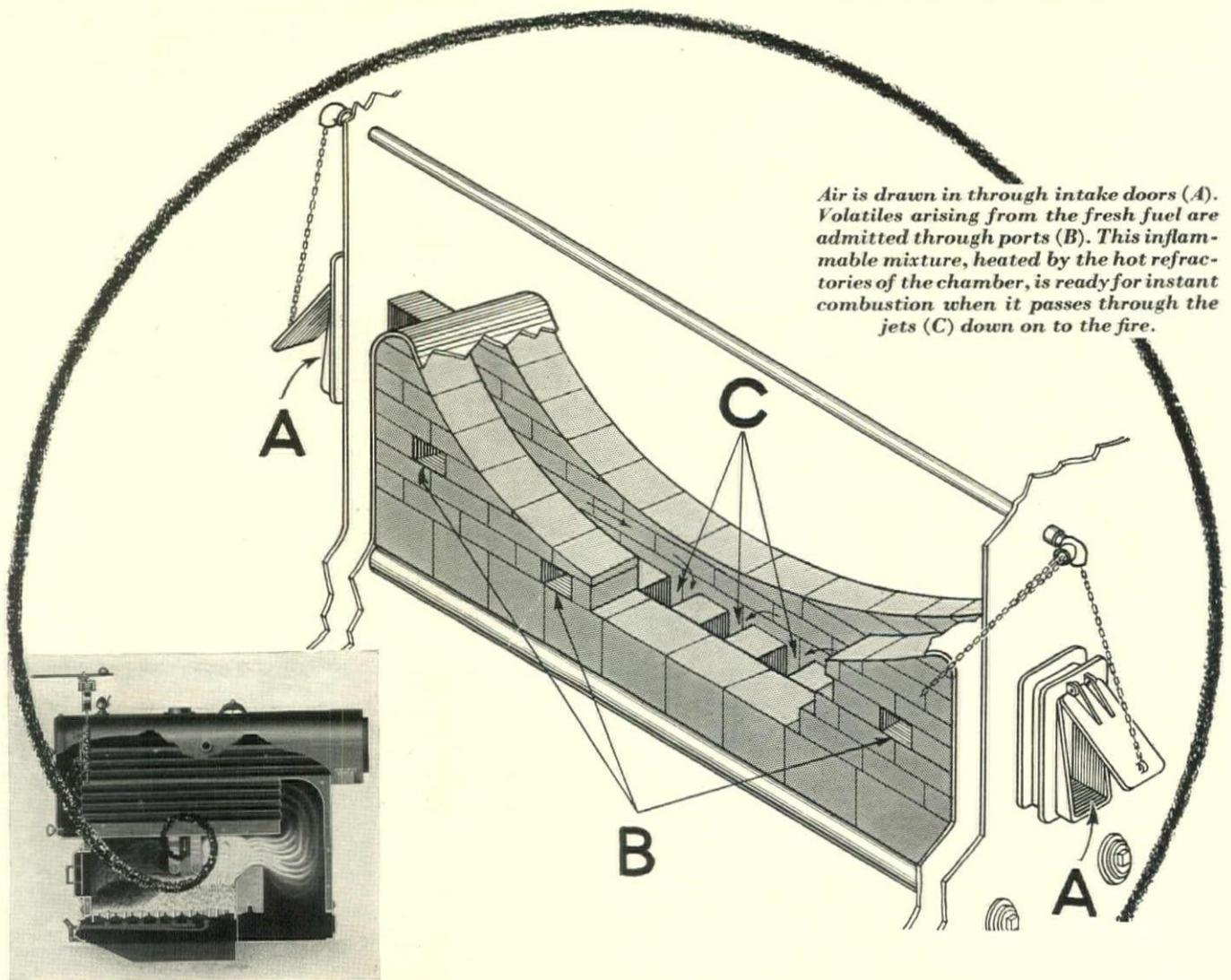
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Cover, a water color by Louis Skidmore

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A refractory chamber with intake doors on both sides of the boiler admits the additional oxygen essential to smokeless combustion, but which cannot be drawn through the fuel bed alone.

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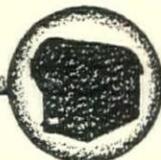
heats the air before passing it down on to the fire.

Here it mixes with the soot-laden gases streaming under the chamber. The refractory baffle wall to the rear sets this inflammable mixture whirling in a turbulent eddy of incandescent flame. Oxygen and gases become thoroughly mixed. All smoke and combustibles are burned. The auxiliary chamber beyond provides additional space for completing combustion before entering the flues.

For complete facts, write Heggie-Simplex Boiler Company, Joliet, Ill.; representatives in principal cities—telephone and address listed under "Heggie-Simplex Boilers."

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STEEL HEATING BOILERS



EVERY ARCHITECT CAN

Advertise Architecture

By Benjamin F. Betts

DURING the construction of the Chrysler Building in New York City, the name of the architect appeared upon a sign over the sidewalk bridge. While the public realized that an architect was directing the work on the Chrysler Building, there are numerous instances where the fact is not so evident.

Due to modesty that leaned over backwards, architects have hidden their light under a bushel and then cried lustily when the newspapers gave all credit to the contractor. The profession has been more at fault than the newspaper editors, for architects have failed to properly identify themselves with buildings which they have designed.

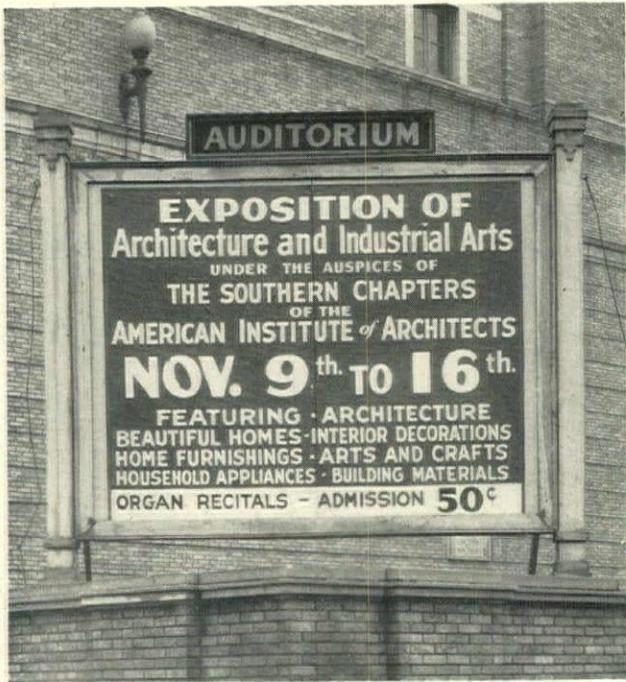
The public, seeing buildings under construction well labelled with contractors' signs, may be pardoned for assuming that contractors are the most important factors in the building industry. With due regard to the merits of builders, architects should be jealous of the standing of their profession. When they insist upon its recognition architects will no longer be viewed as makers of sketches and blueprints who have little if anything to do with the erection of buildings.

OLD prejudices are fast disappearing. A new day has dawned in the business world. A new attitude toward the selling of architecture and the value of architectural service must be developed.

Architects in general have frowned upon the idea of having their names placed upon buildings in course of construction, holding the practice to be undignified, unprofessional, and savoring too greatly of self-laudatory publicity. In taking this stand the profession has neglected to consider the value of the idea as a means of advertising architecture.

The architect's name should appear upon the sign, not to advertise the individual or firm, but rather to impress upon the public the fact that the building is being erected under the direction of an architect. And what harm if the architect should receive thereby a little well deserved publicity?





The SOUTH begins to SELL ARCHITECTURE to the PUBLIC

By Benjamin F. Betts

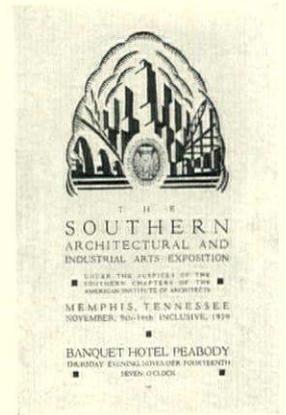
CAMPAIGNS to acquaint the public with good architecture and the value of capable architectural service have been widely discussed for many years. The architectural profession as a whole has condemned advertising by individual architects. Collective or group advertising of the profession is a subject that has been more talked about than seriously considered. Today, existing conditions in the building industry are such that the question of selling architecture to the public must soon become an important issue, if architects are to maintain their position of leadership. While this question presents many factors for solution, and for success must depend upon the coordinated efforts of architects throughout the United States, certainly no mistake can be made through efforts to bring architecture to the attention of the public by means of properly conducted exhibitions and similar ventures.

The Southern Architectural and Allied Arts Exposition held in Memphis, Tennessee, from November 9 to 16, 1929, was the first architectural exhibition in which an attempt has been made to interest the general public in any one large section of the United States. It was an important undertaking for these architects to assume, a fact that makes the credit for the success of the venture the more deserving. The Exposition was a success and well worth the hard work that the program demanded.

The Exhibition Hall of the Memphis Municipal Auditorium was transformed into booths and galleries for the display of architectural, and building material and equipment exhibits. A concert hall adjacent to the exhibition hall provided an ideal location for public gatherings. Conference rooms on the second floor of the Municipal Auditorium were utilized for meetings of the Producers' Council, the Tennessee Chapter of the American Institute of Architects, and the Regional Conference of Southern Architects.



M. H. FURBRINGER
*Chairman, General Exposition
Committee*



A large sign board in front of the Auditorium building and near the street called attention to the exhibition in progress.

The Memphis street cars carried posters advertising the exhibition and similar posters were distributed about the city. The daily press carried mention of the exhibition and activities connected with it.

The Southern Architectural Exposition compared favorably with any similar exhibition held in recent years in the United States. Smaller in scale than the average New York Architectural League exhibition, it was the better for it. One could comfortably view the exhibits and not leave the building feeling that much important material had been overlooked. Those in charge of future exhibitions, wherever held, would do well to keep them small and carefully selected as to quality of exhibits. The Memphis Exposition was well arranged and the exhibits were well displayed.

THE idea of a Southern Architectural Exposition was conceived about two years ago by E. R. Denmark, editor of the Southern Architect and Building News, who suggested in the editorial columns of that journal the possibility and advisability of holding an architec-



"We Must Sell Architecture to the Man in the Street"

said President Hammond at a luncheon of the Southern Architects held in Memphis, Tennessee, November 14, 1929.

THE BOARD OF DIRECTORS OF THE AMERICAN INSTITUTE OF ARCHITECTS. LEFT TO RIGHT—STANDING

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tural show in the South. He succeeded in interesting a number of architects in the idea with the result that the exhibition was sponsored by all of the Southern chapters of the American Institute of Architects. Henry E. Harman, publisher of the *Southern Architect*, not only gave the movement his whole hearted support but also provided several medals to be awarded to architects for work of architectural merit.

In organizing the exhibition, Max H. Furbringer, of the firm of Jones and Furbringer, Memphis, was made chairman of the general exhibition committee. The value of his initiative and untiring efforts to coordinate the various supporting committees, arrange the program and exhibits, and direct the exposition cannot be overestimated in accounting for the success of the venture. The various committees required to perfect an exposition on the basis of a well organized machine are to be complimented and their work cannot pass unmentioned.

While the work of the various committees responsible for the success of the Southern Architectural and Allied Arts Exposition merits only the highest praise, there is one criticism that can be made and that should be recognized and guarded against in all future exhibitions wherever held. This is the matter of securing the cooperation of the daily press. Exhibitions of this order are held largely in the interest of the public as a whole and not merely for the benefit of any one group. As a result they contain a large amount of material that

can be and should be given wide publicity in the newspapers. It is necessary only to see that the matter is properly presented to the newspaper editors, if possible in a form that can easily be made ready for publication. Such cooperation is essential to create a proper atmosphere and focus public attention on an opportunity to view the best architecture of an entire section of the country during a relatively short period of time. If wide spread public attention cannot be obtained, the effort required to organize and produce a large exhibition goes largely for naught.

THE above criticism should not be construed as indicating that any committee of the Southern exposition failed to recognize the importance of publicity, for such was not the case. They did not however, secure the newspaper support to which they were entitled.

Newspaper cooperation is not difficult to secure. The procedure is simple and requires only a proper presentation of a worthy cause to the newspaper publishers or editors. It is desirable, too, that this contact with the editors be established some months before the news as such is available. Several of the leading architects in the city should arrange for interviews with editors of the newspapers and, after informing them as to the object of their undertaking, should seek to convince them of the worthiness of the cause, its value to the public and its interest to the community. After this is done the problem becomes a (Continued on page 104)

Speakers at the South's Exposition



"If architects do not assume leadership..."

By F. P. BYINGTON

President of the Producers' Council

At a luncheon in Memphis, Tennessee, on November 13, 1929, F. P. Byington made an address that should have been heard by every practicing architect in the United States. He said:

It must be apparent to all that 'The old order changeth, giving place to new.' Signs are abundant in this country today; we stand at a parting of the ways. On every hand we see building construction under way without proper architectural supervision. Many of our large realty development corporations and contracting organizations seem disposed to form their own architectural departments. Is it because the architect is believed to be impractical, and that buildings can be better planned and better built under the control of these organizations; or is it because the services of an architect are believed to be an unnecessary expense?

"Public taste in this country is improving. In that undeniable fact lies the promise that, if the architectural profession is alive to its opportunity, its future and more dominant influence in building operations are assured. As our people rise culturally they will recognize more and more the need of the trained specialist in the design of their buildings. They will ask and demand this leadership in giving expression to their aspiration in that line. *But leadership passes always to the group which steps out and boldly seizes it. If the architectural profession does not do so, some other group will—engineering, contracting or realty operating interests will forge to the front as the dominating factor, and the standards they hold out in aesthetic and practical points of design and construction will be the standards which the public will be led to accept and make its own.*

"Consider for a moment the nature of architecture. It is not only engineering. It is not only good practical construction. It is not only the development of real property in a sound manner. It is all these three, and then something more—that beauty which only the architect can mould; that beauty which gives added value to these three essentials, and expresses the soul and life of our civilization as we would wish this expressed.

"The Producers' Council, a national organization representing sixty-one of the country's major industries, a group representing over two million persons employed

in over nine thousand factories, mills and plants, and having a combined capital of nearly twenty-two billion, five hundred million dollars, together with the potential powers I have intimated in the facts and figures quoted, stands four square in back of the American Institute of Architects in any proposed program it may wish to adopt for keeping the architect at the head of the procession in the conduct of our building operations."

Create an Architecture

The opening meeting of the Southern Architectural and Allied Arts Exposition was held in the concert hall of the Memphis Municipal Auditorium. J. E. Holmes, a prominent attorney of Memphis, was the principal speaker. Portions of his address follow:

SLOWLY but surely the eyes of the American people are turning toward the South, which seems now to be generally conceded as the land of opportunity. Our population is on the increase, our commerce is on the up-grade, and our industry is going forward with rapid strides. We now have banking and investment organizations which are able to finance construction enterprises. We have contractors and builders who are able to build. We have capital which is not afraid of building investments.

"The question I want to ask tonight is this. From an architectural standpoint, are we ready for the day which approaches? However artistic the architect may be, he must at the same time plan the building in such a way that it is adapted to usable purposes and will stand the mutations of time, and the demands of commerce, industry and increased population. In architecture structure is indispensable. The school house is

Urge Architects to Sell the Public

“The architect
is too MODEST”

By
MILTON S. BINSWANGER

Guests at the banquets of the Southern architects in Memphis November 14, 1929, were addressed by Milton S. Binswanger, one of Memphis' leading manufacturers, who said:



If there is any service that I could render to the architects at this time it might be to emphasize what I have reason to believe is the opinion of many, that architects have, at least for the last one or two generations, and likely for a longer time, underestimated their position and service; and they have quietly suffered from such influences, for it has lead the public, who is the beneficiary of their excellent work, to be indifferent.

of the SOUTH

says

J. E. HOLMES
of the
MEMPHIS
BAR



built that children may have a place to assemble for instruction; the church is built that men may there worship; the home is built that families may have a place of abode. In architecture the structure cannot be forgotten. But at the same time it may be a thing of beauty.

“If the Old South is arising out of the dead ashes of a dead past, and is taking on the spirit of an age of industry and scientific development, why not let the buildings speak of that new spirit of adventure and accomplishment? Why not let it be truly expressive of the South, its aspirations and ideals?”

“In this course of modesty they have not done the thing that would be creative of the most good for all. Like many virtues we individually possess, unless they are emphasized by understanding and appreciation of others, we do not fully develop them. By demanding, not in an arbitrary way, but in a reasonable way, the proper appreciation of the work you are doing, you not alone serve yourself but open a way toward the creation of finer buildings for whatever purpose intended, and the public at large is the greater beneficiary.

“There is a means to the end suggested and I probably do not advance you a thought that has not been present with you for a very long time, but I do urge you to put into practice a *campaign of education*, which can be done only through well presented expressions of your purpose to serve and the economic value of your service. These expressions should appear in every good publication in the country, not for a period of two or three months but discreetly over a period of several years in order that you may emphasize to those who should avail themselves of your services, the great economy in doing so, and that all who can see and have reasonable human sensibilities can benefit from your skill which has been developed by education and experience. You cannot, as architects, alone provide the necessary funds. You have a right, an unquestioned right, to request others to help you, more particularly those who are producing and distributing building materials. They are really anxious to help you, for in doing so they likewise help themselves. You have possibly, in not pursuing this course, paid the price in being over-sensitive as to the ethics of your profession and have felt that the seeking of opportunities to serve have been undignified. As I see it, this has been an unnecessary attitude.

“Owners have had a wrong impression regarding the cost of architectural services. Many have felt the cost of this service high or unnecessary. While it may be difficult to evaluate, it can be said that one slight mistake in construction can far outweigh in expenditure the cost of the architect's fee.”

The public viewed exhibits of the

SOUTH'S BEST WORK



Goodman

JURY OF AWARDS

THREE OF THE jury of awards of the Southern Architectural and Allied Arts Exposition: J. Monroe Hewlett of New York, Louis La Beaume of St. Louis, and Myron Hunt of Los Angeles, caught resting from their duties as judges of the best work shown at the exhibition. J. Herndon Thompson of New Orleans, Harold Bush-Brown of Atlanta, and Gabriel Ferrand of St. Louis, the other three judges, were obliged to leave Memphis before the work of the jury was completed

THE gold medal awards made by the jury of awards of the Southern Architectural and Allied Arts Exposition were presented through the cooperation of the Southern Architect and Building News, Henry E. Harman, Tebbs & Knell, Milton S. Binswanger, Walk C. Jones and Dr. Charles E. Diehl. The jury of awards selected the best designs submitted and classified as public buildings, commercial work, domestic work costing over and under \$20,000, ecclesiastical work, educational institutions, and for the best presentation by an individual architect.

Special honorable mention was made of the following:

For residential work: J. Duncan Forsyth, M. H. Overleer house and J. K. Cleary house; Barber & McMurry, T. O. Cooch house, and twin house of Mrs. A. H. Yeaber and Mrs. J. R. McDowell; Hentz, Adler & Schutze, Vaughn Nixon house; Jones & Furbringer, J. P. Norfleet house; Scroggs & Ewing, Lanier Branson house.

Public buildings: Warren, Knight & Davis, Walton County Court House.

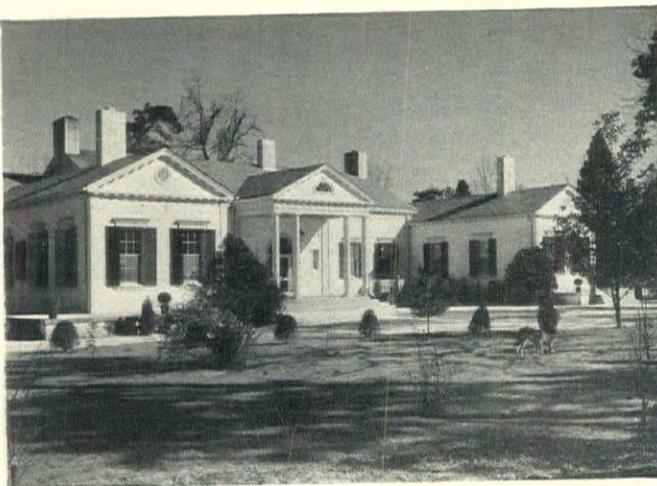
Commercial buildings: Atlee B. & Robert M. Ayres, Smith-Young Tower; Emile Weil, Inc., Canal Bank & Trust Co. Building.

Ecclesiastical work: George Awsumb, Idlewild Presbyterian Church.

Educational institutions: Barber & McMurry, McCampbell School; Edward & Sayward, Valdosta Woman's College, Henry C. Hibbs, Chambers Building of Davidson College.

Special honorable mention was made of the manner of presentation of the exhibits submitted by Fred H. Elswick of Louisville Ky. and J. Duncan Forsyth, Tulsa, Okla.

The jury also made especial mention of the Metairie Golf Club, Favrot & Livaudais, architects; rendering of the proposed Farnsworth Building, designed by Nowland Van Powell, E. L. Harrison, architect; Children's Clinic, Geo. Mahan, Jr., and Everett Woods, architects; Woman's Building, Tri-State Fair, Geo. Awsumb, architect; restorations of two houses at New Iberia, Iowa, and Vacharie, La., by Armstrong & Koch, architects; and the Tebbs & Knell photos of Southern Colonial work.



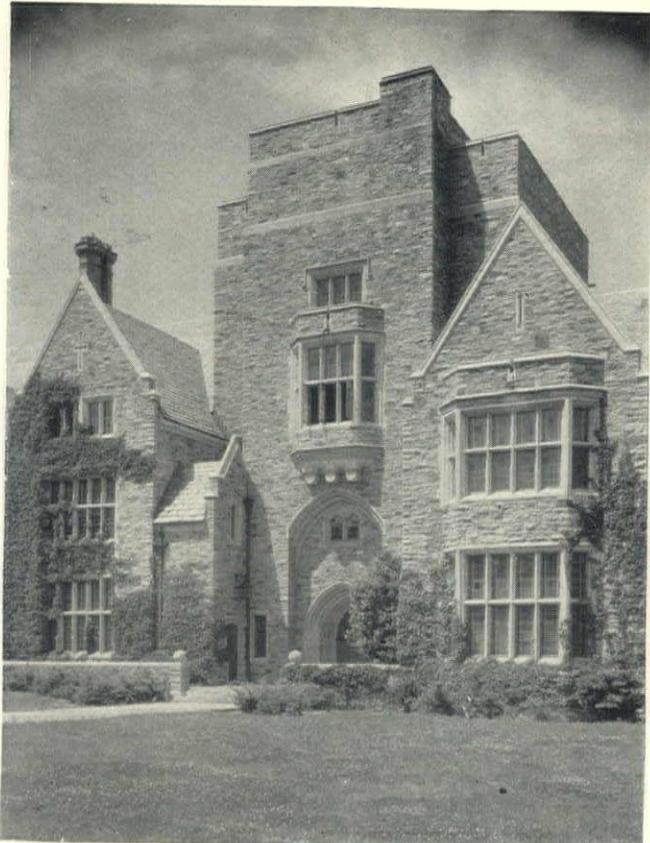
Tebbs & Knell

Gold Medal award for Domestic Work:
Col. R. R. McCormick House,
Aiken, S. C., Willis Irvin, architect



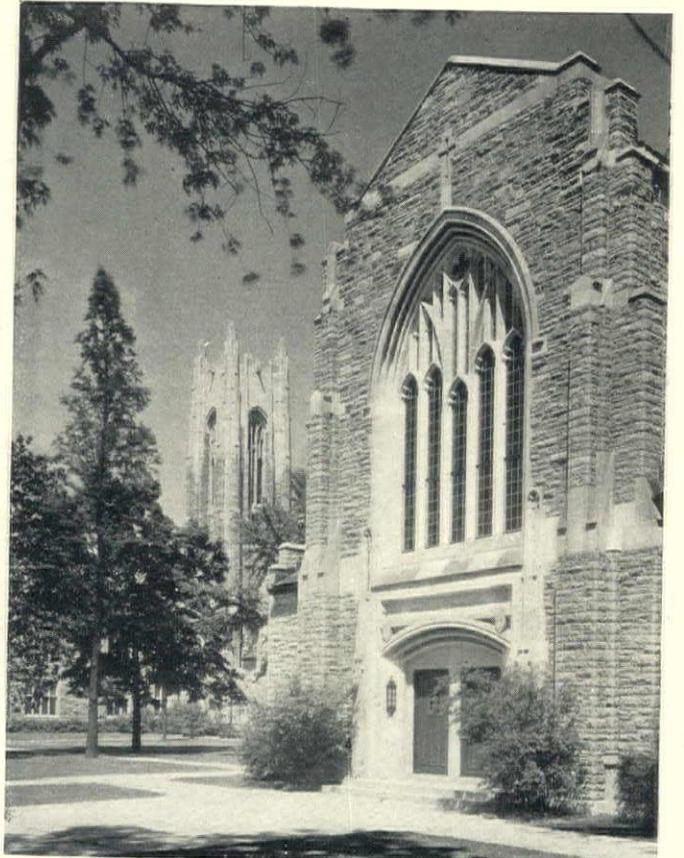
Tebbs & Knell

Gold Medal award for Domestic Work:
Hugh Goforth House, Knoxville,
Tenn., Barber & McMurray, architects



Tebbs & Knell

Gold Medal award for Educational Institutions: Entrance Tower of Southwestern University, Memphis, Tenn. Henry C. Hibbs, architect



Tebbs & Knell

Gold Medal award for Ecclesiastical Architecture: Chapel and Bell Tower, Scarrett College, Henry C. Hibbs, architect



Gold Medal for Public Buildings: Municipal Auditorium, San Antonio, Texas, Atlee B. & Robert M. Ayers, architects



Gold Medal award for Presentation of Exhibits: Pidgeon-Thomas Iron Company Building, Memphis, Tenn. E. L. Harrison, architect

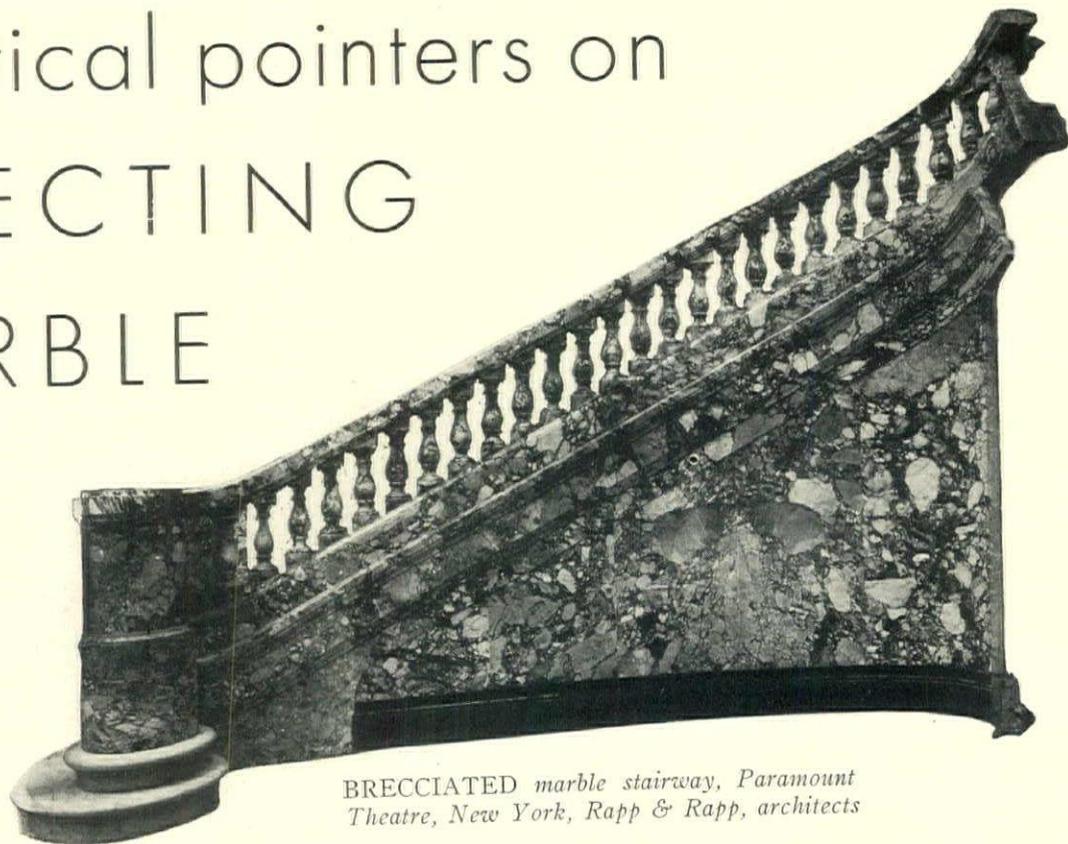


Tebbs & Knell

Gold Medal award for Commercial Buildings: Office Building for the Alabama Power Company, Birmingham, Ala. Warren, Knight & Davis, architects

practical pointers on SELECTING MARBLE

By
Harold F.
Podhaski



BRECCIATED marble stairway, Paramount Theatre, New York, Rapp & Rapp, architects

Based on a series
of interviews with
leading authorities

THE greatest care and thought may be given to selecting a harmonious color scheme that can be economically carried out in marble, yet if at least a fundamental working knowledge of its properties as a building material is not had, the result may be the selection of a marble that will not hold up under the atmospheric conditions to which it is subjected. For while the life of the finer grades of pure marble will generally range from 50 to 100 years or more, the mineral composition of many of the colored or mottled marbles is such that any extended exposure to climatic changes may cause their early disintegration.

Marble is a material so extensively used that the architect who is unfamiliar with its properties, and the part they play in determining its structural qualities, will be well advised to acquire that knowledge before he specifies its use. And particularly is this true of the colored or mottled marbles that are generally used for ornamental purposes, for while pure marble is nearly always one of the most durable of building materials, the colored varieties have often been known to develop structural imperfections because of the nature of their mineral contents or their lack of uniform texture. However, it should be remembered that some of the colored marbles are also durable.

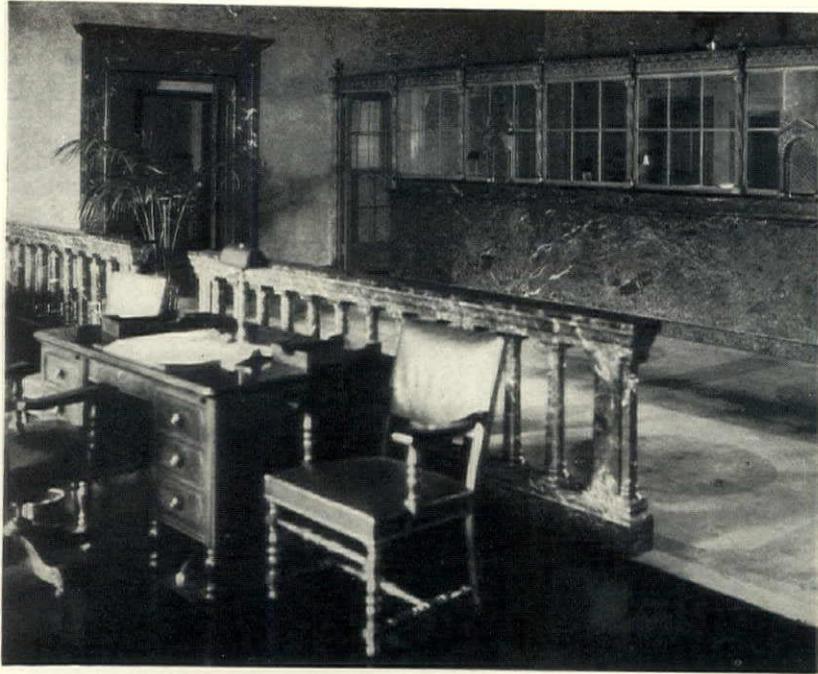
- I. DURABILITY a—Structure:
1. Massive
 2. Banded
 3. Brecciated or Fragmentary



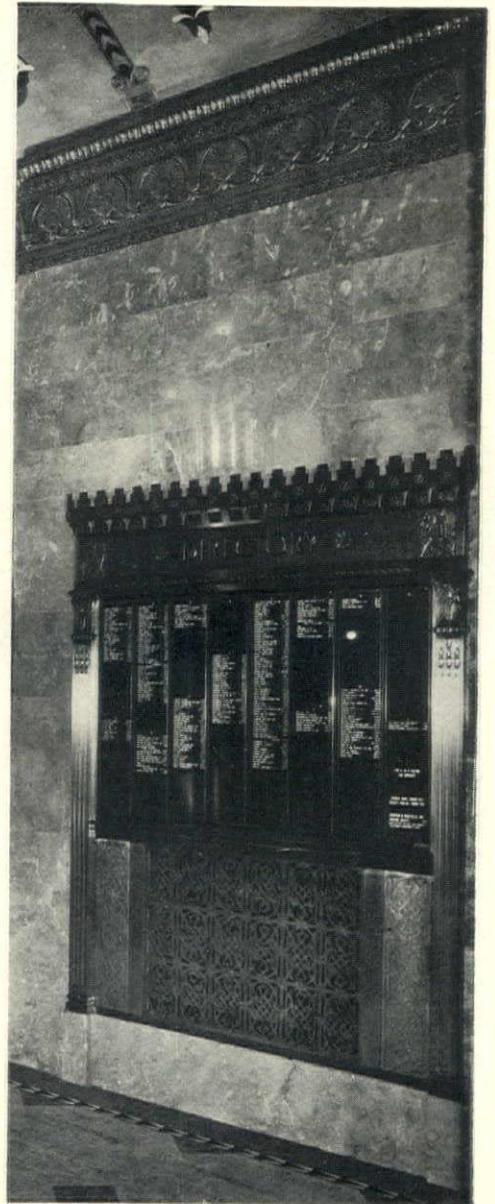
BOTTICINO MARBLE, from Italy, is used for this staircase and travertine for the floor with border mosaics of Levanto marble. Lobby of Farmers Loan & Trust Building, New York. Starrett & Van Vleck, architects

b—Texture:

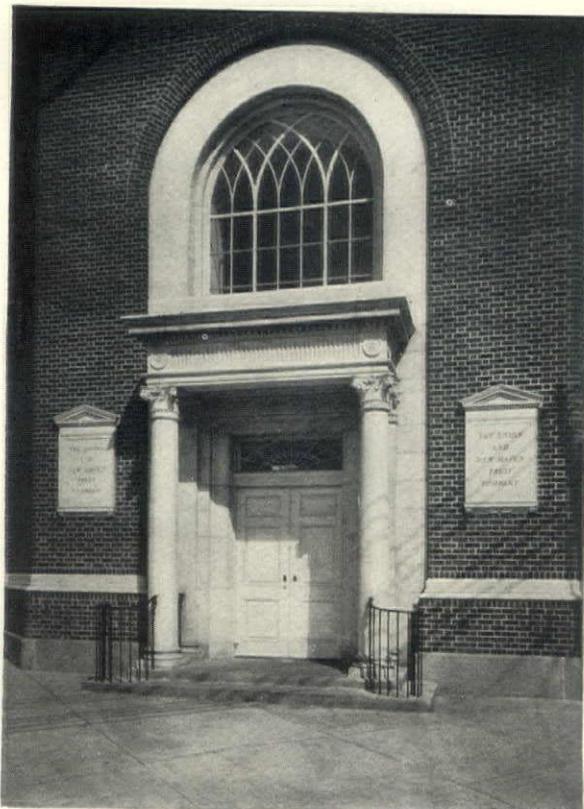
1. Coarse, Medium or Fine Grained
2. Evenly Grained
3. Unevenly Grained



ABOVE, red Levanto marble from Italy. Lobby, Lawyers Title & Mortgage Building, White Plains, N. Y. A. J. Thomas, architect



RIGHT, St. Genevieve golden veined marble from Missouri. Lobby, French Building, New York. French Company, architects



LEFT, Georgia white marble. Entrance, Union and New Haven Trust Co. Building, New Haven, Conn. Cross & Cross, architects

VAN ANDA

c—Mineral Composition:

d—Absorptive Qualities

1. Porosity
2. Climatic Conditions
3. Effects of Humidity
4. Effects of Frost
5. Effects of Atmospheric Gases.

II. ABRASIVE RESISTANCE

Location of Marble in the Building

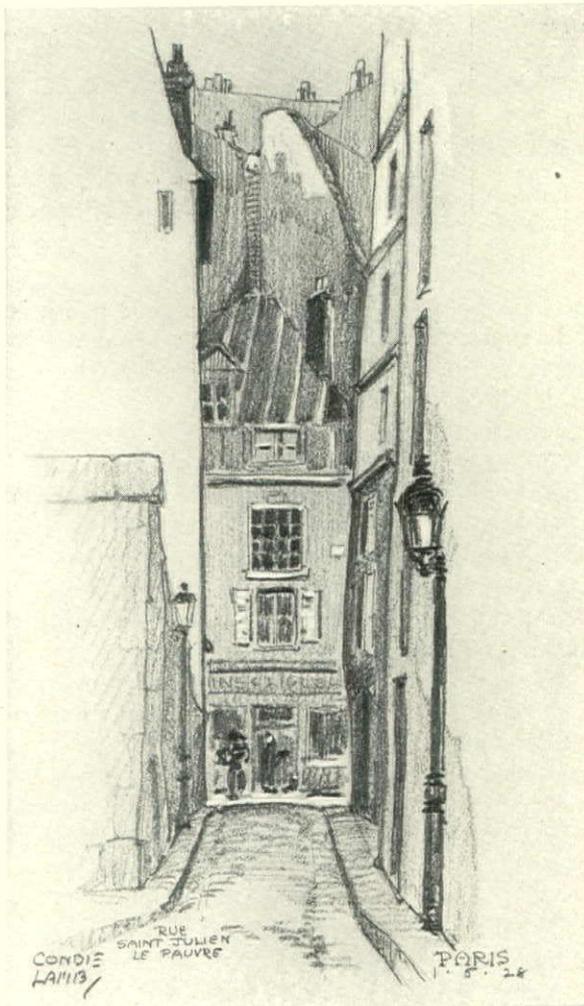
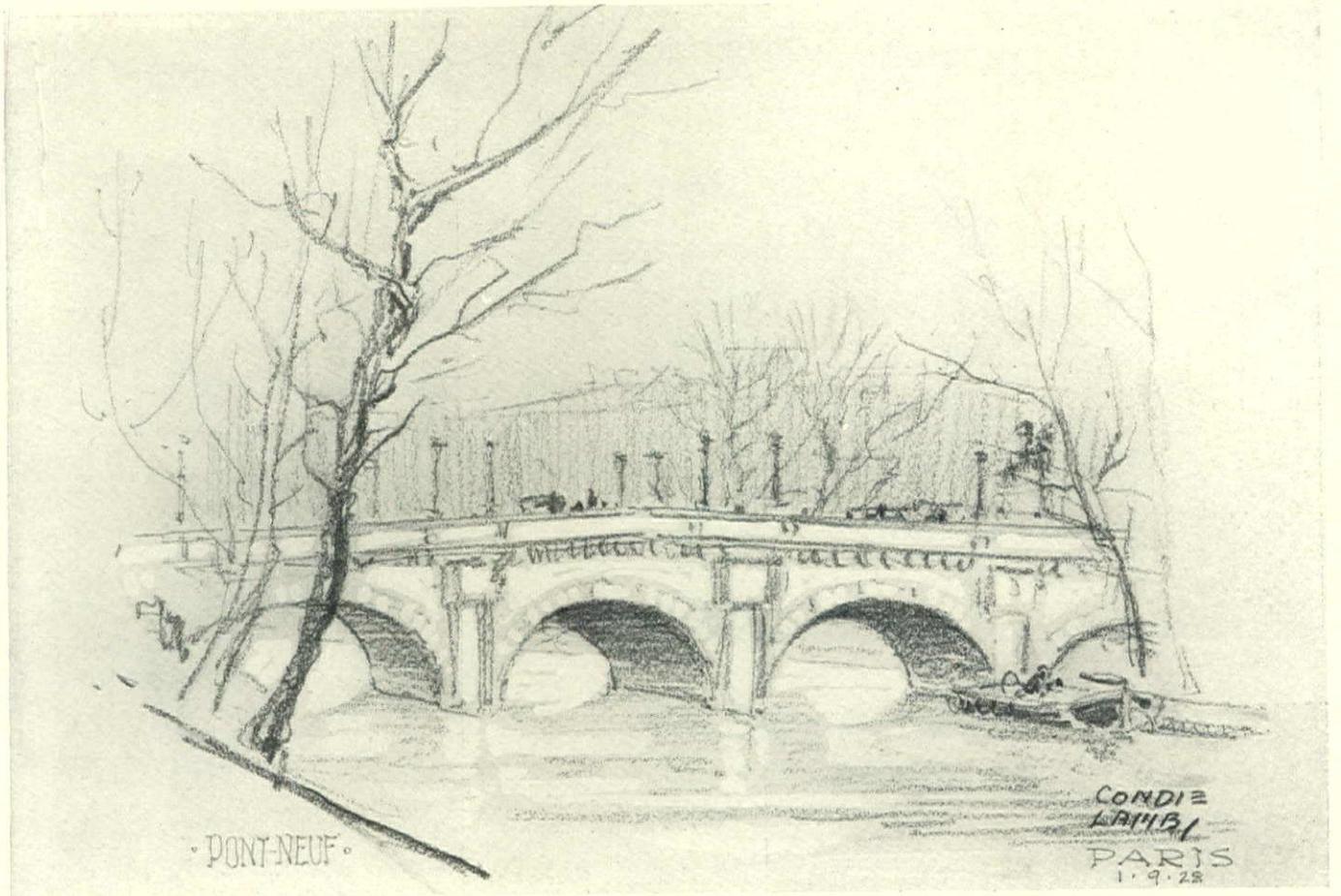
III. FIRE RESISTANCE

In the strictest sense, marble may be defined as a crystalline limestone having a granular structure,

though any limestone that is capable of taking a good polish is also often referred to as marble. Because of the fact that marble is a brittle material, and while it does possess some degree of elasticity, as do all construction materials, it cannot change its shape more than a small fraction of an inch without rupture. But this is not a matter to which much attention need be directed, for where marble is put to decorative use, it is seldom called upon to undergo any great amount of stress.

In determining the structural quality of any variety of marble, the first point to consider is durability, the requirements for which will largely depend on the location of the marble in the building. If for exterior use, it must necessarily withstand the various weathering agencies; if used as a floor tile or in stairways, it must be capable of withstanding abrasion from the ceaseless wear of footsteps.

As has been pointed out in the above table, the factors by which the durability of marble is determined include its structure, texture, mineral composition and absorption. But it must be remembered in this connection that these form a sort of a chain, each link of which is about of equal strength, and so one influences the other. Therefore, while stones containing calcium and magnesium carbonates very often do not weather well, a piece of marble that is (Continued on page 96)



· from
portfolio and
sketchbook

DRAWINGS on the lighter side of architecture as well as those of more serious office studies are desired by THE AMERICAN ARCHITECT. The editors wish to hear from men who have not heretofore had their work published in architectural journals as well as from those whose work has been of a scope which has made them nationally known. Modest payment is made for such sketches as may find their way into these pages.

On this and facing page are sketches of interesting spots in Paris, by Condie Lamb, a student of architecture who decided to turn artist. The drawings are pencil on white drawing paper with highlights touched up with Chinese white.

CONDIE
LAMBY

RUE
LAMARTIN
ET
RUE DU
FAUBOURG

MONTMARTRE

PARIS
1-6-28



H. P. Van Arsdall

Of two architectural offices handling an equal volume of work, the better managed will bring the greater financial return and the greater service to the client.

Mr. Van Arsdall is regarded as one of the most capable managers in the architectural profession. He has written much on the subject of architectural organization and accounting, is a well known lecturer on hospital construction, and is a member of the architectural firm of Samuel Hannaford & Sons, of Cincinnati, Ohio.

If any business is to achieve permanent success, it must be continually well managed. This applies as much to the practice of architecture as to other businesses. If a man has exceptional designing ability it does not necessarily follow that he will succeed in the practice of architecture. Designing ability must be combined with sound business and managerial sense.

During the past twenty years, the writer has seen many promising architectural geniuses embark from well managed offices and paddle their own canoes in the business stream—until the strong currents of “poor management” tossed them upon the rocks of failure. Such an experience often weakens a man’s ambition and causes him to abandon a profession which he might otherwise have honored.

It is practically impossible for one person to acquire

Managing an
office is

A SIMPLE JOB

By H. P. VAN ARSDALL

a complete knowledge of all branches involved in architectural practice. The subject is of such magnitude that it requires many minds to grasp and apply its many details. The same condition exists in the practice of medicine, where we find special technicians in the various branches of the profession. In architecture we must have designers; draftsmen; structural engineers; heating, ventilating and electrical engineers, all of whom are technicians in their line; but their work must be coordinated and directed by an individual with sound business judgment. To the young man beginning the practice of architecture, the writer suggests that he admit his deficiencies and associate with someone possessing those qualifications he lacks. He can then be reasonably assured of success.

There are many details and problems in the management of an architectural office which will be discussed in order, viz.:

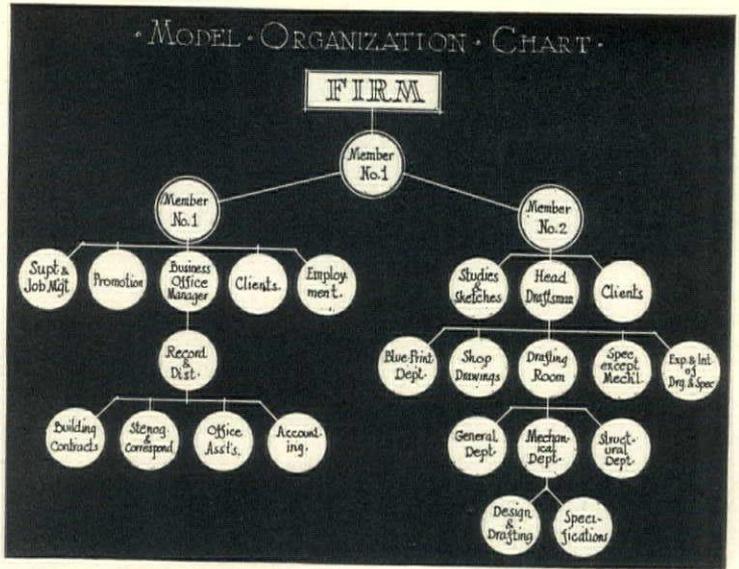
ORGANIZATION may be defined as the associating as a unit of certain individuals for the purpose of producing certain things for profit, and the division of authority among these individuals to the end that the whole works harmoniously. “Team Work” is indispensable. In the practice of architecture there are three types of organization, viz.:

INDIVIDUAL PROPRIETORSHIP is the simplest form of organization, where one person is in complete charge and responsible for every act. All authority is vested in this one person, who is at liberty to make decisions without consulting others. The principal objection to this form of organization is that a one man concern

Board of Education of the Lebanon Village School District			
Lebanon, Ohio			
Total Cost of Buildings		\$17,617.75	
Total Other Conts.		\$39,820.00	
Cost per sq. ft. complete - 30' x 30' floor			
without			
Heating & Ventilating			
Equipment, etc.		\$1,000.00	
Aug 7 General Contract - Including:			
(a) General Contract			
(b) Foundation Concrete & Cement			
(c) Drypanes Prof. Construction			
(d) Brickwork & Gut. Stone			
(e) Iron & Steel Work			
(f) Roofing Sheet Metal Work			
(g) Carpentry Floors			
(h) Carpenter Work			
(i) Painting			
(j) Mosaic & Slate Work			
(k) Plumbing			
(l) Mason & Laying			
Plumbing	The Dawson-Crowell Co.	1,529.22.00	326
Masonry	Brown & Alexander	1,744.72.00	
Electric Work	The H.P. Stephens Co.	2,926.62.00	
Carpentry	The Columbus Building Co.	1,410.90.00	
Roofing	Wm. W. White Dry Co.	482.75.00	
Local Carriers	Columbian Express Works	426.00	
Steel Work	Wm. Metal Products Co.	2,300.00	
Change Order #1:			
Sept 5 Credit on Cash Book - The Dawson-Crowell Co.	Cr.	1,529.22.00	326
Change Order #2:			
Sept 23 Credit on Cash Book	Cr.	2,877.00	326
Change Order #3:			
Sept 20 Credit on Cash Book	Cr.	2,877.00	326
Change Order #4:			
Sept 10 Credit on Cash Book	Cr.	855.50	326
Change Order #5:			
Oct 2 Credit on Cash Book	Cr.	2,877.00	
Change Order #6:			
Oct 21 Credit on Cash Book	Cr.	2,877.00	

FORM 1 . . . Building contracts, change orders, credit orders and payments to contractors are entered in a book

FORM 2 . . . The individual contract amount and a record of all payments made is kept in a ledger



When an architectural firm consists of two partners, their work may be divided as suggested by this chart

Note: Board meets second and last Thursday of each month. 326

Board of Education, Lebanon, Ohio - The Dawson-Crowell Co.

1929		1929			
Aug 30	Cash Treasurer 1	3,077.00	Aug 7 General Contract	1,529.22.00	
Sept 23	" " 2	6,102.65	Sept 20	Chg. Order #3 add	2,877.00
Sept 5	Chg. Or. #1 Cr.	532.00	23	" " #4	855.50
6	" " #2	2,250.00			
Oct 8	Cash Treasurer 3	7,772.10			
21	" " 4	9,886.50			

often makes ill considered decisions, whereas with two or more minds working jointly, better results might follow. Individual proprietorship is not recommended except in the smaller offices.

PARTNERSHIP:—A partnership may be defined as an association of two or more persons for the purpose of combining capital, skill and labor in the prosecution of business for profit. With a partnership, it is easy to divide authority.

One member of a partnership usually has a general knowledge of architecture, combined with sound business sense and a reasonable amount of executive ability. The second member of the partnership should be a designer of considerable ability with a good working knowledge of construction. If there are more than two, the third member may be a person well versed in structural design and with a good general knowledge of mechanical engineering.

In the opinion of the writer, this is the best form of organization, and probably the most profitable.

In the preparation of a partnership agreement, the articles should embody the following:

First, the names of the contracting parties.

Second, the firm name.

Third, the purpose for which the partnership is formed.

Fourth, the amount of capital invested by each member and the division of profits and losses.

Fifth, the system of accounting.

Sixth, the method of conducting business and the duties of each partner.

Seventh, the privileges and rights of each partner.

Eighth, the method of dissolving the partnership.

CORPORATION:—A corporation is a legal body and has its origin under some State law. A corporation has the power to own property in its own name; it can sue and be sued, whereas a partnership can do neither. It is financed by the sale of shares of stock of equal value. The individual stockholder's voice in the operation of the company depends entirely upon the amount of stock held. In the case of death of any stockholder, his heirs have the right to transfer the stock to other individuals, unless the stock certificate specifically states otherwise.

One can readily see that this type of organization might encounter many difficulties on the death or with-

No. 4. Cincinnati, Oct. 21, 1929
OFFICE OF
SAMUEL HANNAFORD & SONS
ARCHITECTS

To B. of E. Lebanon Village School Dist.
The Dawson-Evans Co.

Amount of Contract, \$	<u>152,922.00</u>
Additions,	<u>372.50</u>
	<u>153,294.50</u>
Deductions,	<u>877.00</u>
Total, \$	<u>152,417.50</u>

Present Estimate	<u>10,985.00</u> less 10%	Present Cash	<u>9,886.50</u>
Previous Estimates	<u>18,787.50</u> less 10%	Previous Cash	<u>16,908.75</u>
Total Estimates	<u>29,772.50</u> less 10%	Total Cash	<u>26,795.25</u>

Received Order for \$9,886.50 on account of General Contract for new School Building Lebanon, Ohio

OFFICE OF
SAMUEL HANNAFORD & SONS
ARCHITECTS

No. 4. Amount of Cash \$9,886.50 Cincinnati, Oct. 21, 1929.
To Board of Education, Lebanon Village School District

We Herely Certify that The Dawson-Evans Company is entitled to payment of Nine Thousand Eight Hundred Eighty-six ⁵⁰/₁₀₀ DOLLARS, being 90 per cent. of our estimate on account of General Contract for new School Building Lebanon, Ohio

Amount of Contract, \$	<u>152,922.00</u>
Additions,	<u>372.50</u>
	<u>153,294.50</u>
Deductions,	<u>877.00</u>
Total, \$	<u>152,417.50</u>

Present Estimate	<u>10,985.00</u> less 10%	Present Cash	<u>9,886.50</u>
Previous Estimates	<u>18,787.50</u> less 10%	Previous Cash	<u>16,908.75</u>
Total Estimates	<u>29,772.50</u> less 10%	Total Cash	<u>26,795.25</u>

(Model) Architects

\$ _____ 192
Received from _____ DOLLARS
As per above Certificate _____ Contractor
Contractor must fill out affidavit on reverse side before presenting to owner for payment.

FORM 3 . . . A certificate of payment to the contractor is shown above. Form 3 A: To the right below is the reverse side of Form 3. It is an affidavit for the contractor to sign when receiving payment from the owner

drawal of a stockholder. The corporate form of organization cannot be recommended.

Division of Working Organization:—After the working organization reaches maturity, there should be developed a chart outlining a complete working arrangement and defining clearly the authority and duties of each individual. The posting of such organization chart in the drafting room eliminates overlapping of authority and dissention among the various individuals.

The model organization chart illustrated is a suggested arrangement, which of course may be altered to suit different offices. It may be helpful to describe its operation in a general way.

The firm is illustrated by the rectangle at the top of the chart. Just below is placed Firm Member No. 1, who is usually the senior member, a man with an executive mind who directs the business policy, solicits business, makes all contacts, interviews clients and exercises a general supervision over the entire office.

On the right is Member No. 2, who consults Member No. 1. His duties in general consist of overseeing the drafting room departments, which may be subdivided as follows:

First:—*Studies, Sketches and Interior Decoration.* This department concerns itself with the development of all preliminary studies, sketches and estimates, followed logically by the preparation of finished sketches and estimates for presentation to the client.

Second:—*Clients.* After the preparation of rough preliminary sketches, it is well for Members No. 1 and No. 2 to confer jointly with the client to see that the sketches are being produced in accordance with his ideas.

AFFIDAVIT OF ORIGINAL CONTRACTOR

STATE OF Ohio }
Hamilton COUNTY } ss.

Cincinnati, Ohio, Oct. 21, 1929
(City and Date)

A. W. Dawson
being first duly sworn, says that he is President of The Dawson-Evans Company, the Original contractor having a contract with the Board of Education, Lebanon Village School Dist. the Owner, of School Building situated on or around or in front of the following described property in Lebanon, Warren County, Ohio, viz: _____ whereof _____ was the owner, part owner or leased.

Affiant further says that the attached statement shows the names of every sub-contractor in the employ of the Dawson-Evans Company, giving the amount, if any, which is due or to become due to them for any of them for work done, for machinery, material or fuel furnished or for labor done to date hereof under said contracts.

That the amounts due or to become due to said sub-contractors, material men and laborers for work done or machinery, material or fuel furnished to date hereof, to The Dawson-Evans Company is fully and correctly set forth opposite their names, respectively, in the aforesaid attached statement and further evidenced by certificates of every person furnishing machinery, material or fuel, hereto attached, and made a part hereof.

Affiant further says that The Dawson-Evans Company has not employed or purchased or procured machinery, material, or fuel from, or sub-contracted with any person, firm, or corporation, other than those mentioned in the attached statement, and owes for no labor performed, or machinery, material, or fuel furnished, under said contracts, other than those set forth in the aforesaid attached statement.

(Model Form)

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE, at Cincinnati, Ohio this 21st day of October, A. D. 1929.
Notary Public, Hamilton County, Ohio State _____

During this conference the chief draftsmen should be present to receive the suggested changes and information first hand. After the preliminary meeting, all matters of importance should be confirmed in writing to the client. This is often the means of saving considerable labor.

Third:—*Production Department.* This department is supervised by the chief or head draftsman. It is customary for the head draftsman to have in charge the production of all working drawings, and the general supervision of the mechanical and structural departments. His decisions should be final in all matters of draftsmanship and construction details, except when in his judgment important decisions should be referred to a firm member or, where definite agreement cannot be had, with the mechanical and (Continued on page 88)

SAMUEL HANNAFORD & SONS
ARCHITECTS
CINCINNATI, OHIO

DATE Sept. 6, 1929 ORDER NO. 2
OWNER Board of Education, Lebanon Village School Dist., Lebanon, Ohio
CONTRACTOR The Dawson-Evans Company

IN LIEU OF SOLID COMMON BRICK AS SPECIFIED ON THE ABOVE REPORT JOB, CONTRACTOR IS HEREBY INSTRUCTED TO SUBSTITUTE "DELAWARE DOUBLE COMMON BRICK" AS MANUFACTURED BY THE MOORES-CONEY COMPANY, IN ACCORDANCE WITH MOORES-CONEY COMPANY'S LETTER OF AUGUST 21ST TO THE ARCHITECTS, AND GEORGE CORNUELLE'S LETTER OF AUGUST 20TH.

Credit..... 325 00

TOTAL Credit 325 00

(Model Form)

APPROVED _____ CONTRACTOR DATE _____
 _____ OWNER DATE _____
 _____ ARCHITECT

Samuel Hannaford & Sons
Architects
Dixie Terminal Bldg., CINCINNATI, OHIO

Report on High School Building, Lebanon, Ohio
For week ending Friday, August 16, 1929 F. H. Spencer

Saturday, August 10/29. Weather fair. Men working: General Contractor started to work and has two men laying out building.

Monday, August 12/29. Weather fair. Men working: Same crew working as on Saturday the 10th.

Tuesday, August 13/29. Weather fair. Men working: Two men laying out building; four laborers cutting down trees and grubbing stumps.

Wednesday, August 14/29. Weather fair. Men working: Seven laborers clearing site; plumbing contractor on job and is to have crew here just as soon as pipe for water and gas service arrives on job.

Thursday, August 15/29. Weather fair. Men working: Same crew working as Wednesday the 14th; with two teams plowing foundation and two carpenters building office.

Friday, August 16/29. Weather fair. Men working: 2 carpenters building offices; 7 laborers cutting down trees and on odd jobs; 12 laborers and 1 foreman tearing down old barn; started excavating basement at noon with 1 shovel operator and helper; 2 truck drivers and 1 laborer.

Everything on job going along O.K.

Respectfully,
 SAMUEL HANNAFORD & SONS
 By _____ (Model Form)

FHS-HTW

FORM 4 . . . When changes are made in the work, this order is signed by architect, owner, and contractor, each, together with the superintendent in charge of the work, receiving a copy

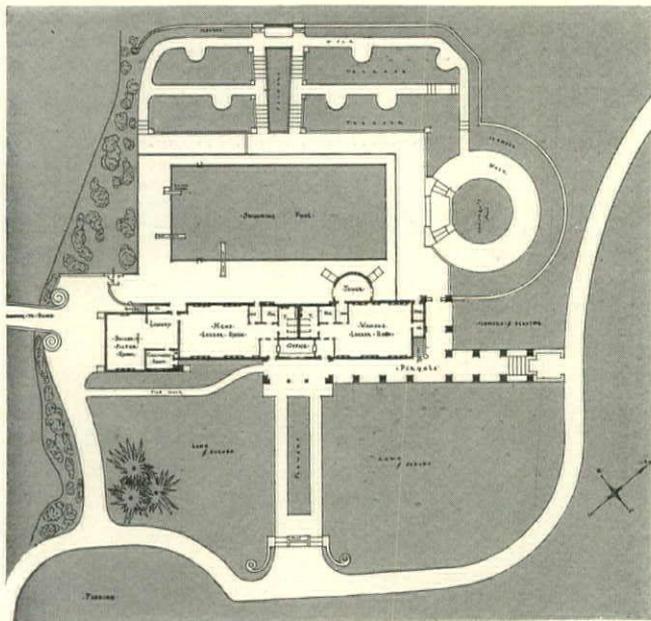
FORM 5 . . . Typical weekly report made by the superintendent recording progress of work and furnishing convincing evidence that the superintendent is actively on the job

494 School Building for the Board of Education, Lebanon Village School Dist., Lebanon, Ohio

DATE	DESCRIPTION	SCALE	ON	DRAUGHTSMAN	OWNER	GENERAL CONTRACTOR	CARPENTER	
6-14	1. Basement Plan + Details	1/4" = 1'-0"	Check	E.P.C. H.B.W.	Board of Education	The Dawson-Evans Co.		
	2. First Floor Plan + Details	1/4" = 1'-0"	"	"	"	8-6-29 - 7 Sets Blue Prints		
	3. Second Floor Plan + Details	1/4" = 1'-0"	"	"	"	6-18-29 - 1 Set		
	4. Roof Plan + Details	1/4" = 1'-0"	"	"	"	Blue Prints 1 to 8		
	5. Rear (West) Front (East) Elevations + Details	1/4" = 1'-0"	"	"	"	2 Specs "10" 2 "X" 2 "9"		
	6. South + North Elevations Details + Sections	1/4" = 1'-0"	"	"	"	Specifications		
	7. Sections + Details	1/4" = 1'-0"	"	"	"	2 to 2, inc.		
	8. Miscellaneous Details + Elevations	1/4" = 1'-0"	"	"	"	8-30-29 - 1 Set Blue Prints		
10-1	9. Basement Plan, Plumbing, Heating, Ventilation + Electric Work	1/4" = 1'-0"	"	"	"	1 to 2, Inc. Spec "F"		
10-2	10. Heating, Ventilation + Electric Details	Varies	"	"	"			
10-3	11. Basement Plan - Plumbing	1/4" = 1'-0"	"	"	MASON	STONECUTTER	ROOFER AND SHEET METAL	
10-4	12. Laboratory + Kitchen Plans, Showing Plumbing Connections	1/4" = 1'-0"	"	"	"	Plumber		
11						CONCRETER	IRONWORKER	
12						PAINTER	MARBLE-WORKER	
13						BRICKLAYER	ELECTRICIAN	
14						HEATER	PLASTERER	
15						GLAZIER	MISCELLANEOUS	
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
	SPECIFICATIONS							
A	General Conditions	Q	Composition Floors	M	Plumbing	S	Laboratory Equipment	
B	Elevation, Base + Cement	H	Carpenter Work	N	Heating	T		
C	Hydram Roof Construction	J	Plastering	O	Electric Work	U		
D	Archwork + Shut Stone	K	Marble + Slate Work	P	Laboratory Equipment	V		
E	Iron + Steel Work	L	Framing	Q	Local Services	W		
F	Roofing + Sheet Metal	M	Glazing + Sillazing	R	Steel Lockers	X		

FORM 6 . . . The drawing record book lists all drawings and specifications for the job, drawings being indicated by numbers and specifications by letters. The book records all essential data

WHITE STUCCO used on the exterior of this club house follows, in texture, the traditions of early Californian adobe structures. Floors of the second story terrace are of red padre tiles. Large oil jars of special design add decorative interest to the terrace parapet. A fresh water swimming pool adjoins the club house. The water is heated, filtered and circulated. . . . The small turret seen in the view below contains the boiler flue. The pool is of reinforced concrete



The San Clemente BEACH CLUB

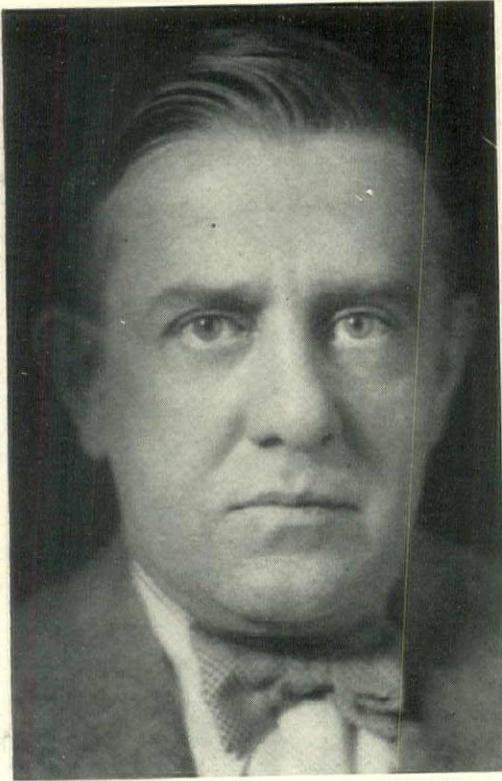
San Clemente, California

Virgil Westbrook
Architect





DECORATIVE MEXICAN TILES lend color to the frieze carried around the tower. The locker rooms for women are reached through the tower. Wood work of the second story balcony has been permitted to assume its natural weathered color. Hand made red mission tiles cover the roof. Rea padre tiles used on the terraces recall the roof color. The building is of frame construction. The long low lines of the structure seem particularly appropriate for the site



WHY

Architects and Engineers

must have

LARGER FEES

for Set-Back Design

by Albion N. Van Vleck
of Hurlbut and Van Vleck
Consulting Engineers

BECAUSE of the rapid development of set-back construction in most of the congested centers throughout the United States, I have become convinced that the time is not far distant when the structural engineer will be compelled to increase his service fees for the handling of this type of work. Indeed, I might even go so far as to say that the engineer who finds that set-back construction is coming to comprise a fairly large part of his work will either *have* to increase his service fees, or seek to earn his bread and butter in some other and more profitable field of endeavor.

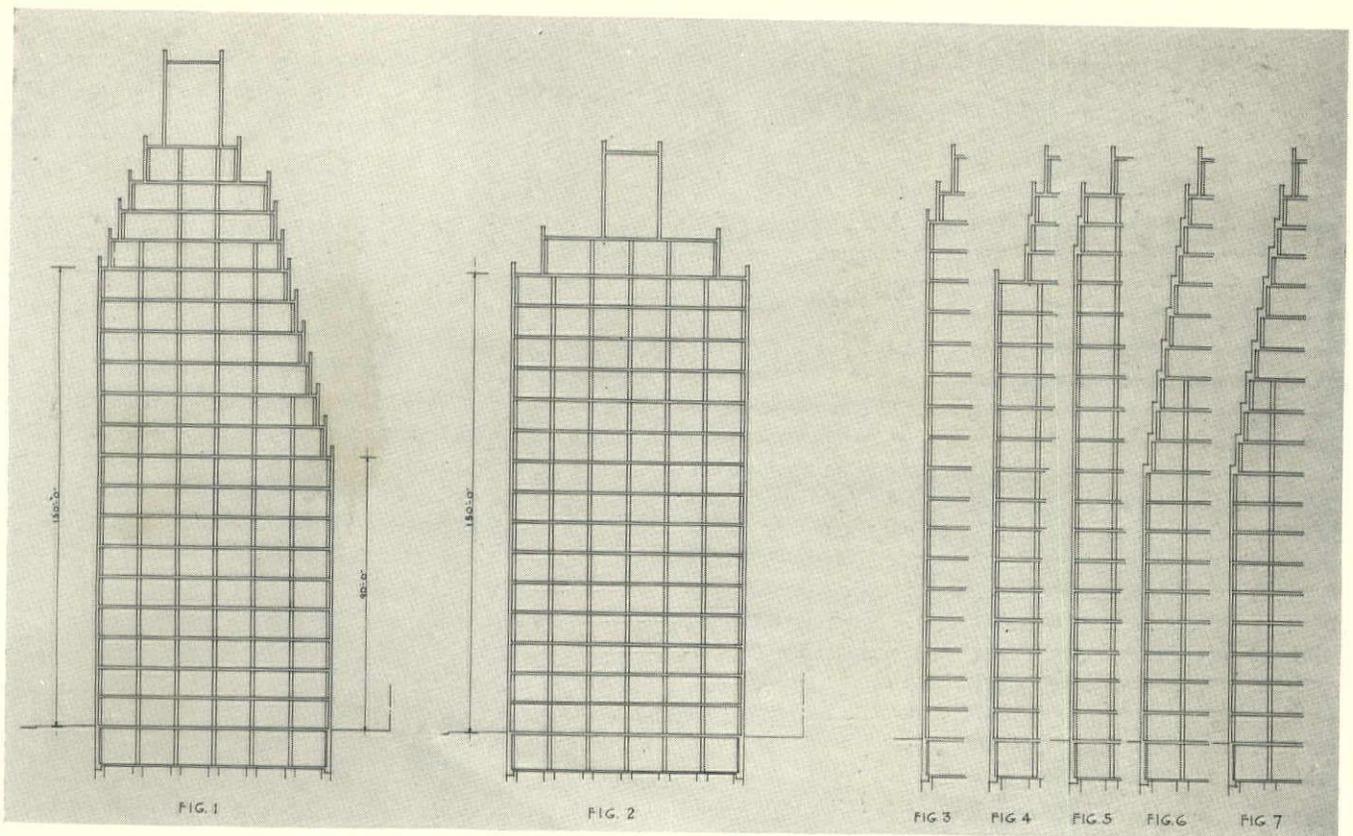
In making so broad and drastic a statement as this I fully realize that I am perhaps laying myself open to adverse criticism from certain quarters, but at the same time I might add that I am equally as convinced that the architects themselves will also be forced to increase their fees, for insofar as set-back construction is concerned the members of both professions find themselves in a somewhat kindred position. If the architect who may doubt the truth of this statement has ever had any experience in drawing plans for this type of structure, I would suggest that he make a careful investigation of his costs in the handling of these projects; and if he doesn't find that compared with other types of buildings they were substantially larger, then there must be something radically wrong with his cost system. For while the various intricate problems that may be involved in set-back construction can readily enough be solved by applying to them the ordinary laws of architectural and engineering art, the increased planning, designing, dimensioning and inspection work that this type of building requires has added so greatly to the costs of both the architect and engineer that increased fees is the only apparent solution to the problem.

Briefly the reason why set-back construction has so greatly increased the costs of architectural and engineer-

ing work, as compared with those for other types of buildings, is occasioned by the fact that the average project of this nature practically doubles the labor of dimensioning, increases the necessary amount of designing not less than 20 to 25 per cent. and in some cases even as much as 75 to 100 per cent., and requires the placing of a larger amount of complicated structural members, which in turn greatly increases the amount of inspection work that must be done.

Any reader who has ever prepared the plans for a set-back building will undoubtedly vouch for the truth of this assertion. But for the benefit of those architects who may not as yet have been called upon to handle work of this type, I should like to explain briefly exactly why set-back construction so greatly increased the labor and the costs of the engineer.

In a building of the type where the columns are continuous from top to bottom, it is obviously a simple calculation to figure out the loads they must carry, which, of course, are more or less uniform throughout the entire structure. But in set-back construction this problem is not so simple, due to the fact that columns are offset at the various set-back floors, and must therefore carry an irregular distribution of loads. It can be readily seen that the amount of designing, dimensioning and drafting room work that the structural engineer must do is greatly increased, for not only do special girders have to be designed for use at the various set-back floors that are capable of carrying these eccentric loads, but the amount of riveted work is also increased, a larger tonnage of complicated fabrication has to be used in the building, and special provisions made for transmitting the wind stresses. All this extra work of designing, dimensioning, inspecting and the like, naturally is costing both the architect and the engineer more money. I am therefore frank to confess that I see no other way out than an increase in (Continued on page 92)



Sections showing why set-back construction requires more plans

ACCORDING TO NEW YORK CITY LAWS

FIGURE 1: Multiple dwelling on an interior lot fronting on a street one hundred feet wide, with typical set-backs necessary to secure the maximum rentable area

FIGURE 2: Tenement house designed under the old law for an interior lot fronting on a street one hundred feet wide. From the start of the set-back at 90', six less floor plans are required than for the building shown in Figure 1 if a maximum rentable area is desired

FIGURE 3: Street wall and permitted two-story dormer of a multiple dwelling on either a corner or an interior lot fronting on a street one hundred feet wide

FIGURE 4: Section through lot line walls of a multiple dwelling on a corner or interior lot fronting on a street one hundred feet wide

FIGURE 5: Section through yard wall up to and within 40' of the building line of a multiple dwelling on a corner lot fronting on a street one hundred feet wide

FIGURE 6: Yard wall, if built to within 60' of the building line on a corner lot. This same section would be that of the outer court walls of a multiple dwelling on a corner or interior lot fronting on a street one hundred feet wide

FIGURE 7: Inner court walls of a multiple dwelling on a corner or interior lot fronting on a street one hundred feet wide



A PARTMENT now under construction in New York City, designed by Electus D. Litchfield. Set-backs on opposite sides are similar to those shown in Figure 1

As It Looks

One Dollar Plan Service

ONE of America's popular national magazines recently announced "A New House-Plan Service for \$1.00." "House Patterns," as they call them consist of elevations, plans, details, perspectives, and specifications all ready for blue printing "without additional expense for redrawing." The house pattern for a "modified Georgian Colonial house" has certainly been too greatly modified. Another design, stated to be "a new Dutch Colonial Conception," is most decidedly a new conception. A third design, No. 293 for "a half-timbered garden home, attractive in design and economical in cost," is no doubt economical in cost. Frankly this sort of thing usually annoys us, but in this instance we are given a new idea. Why not purchase these tracings and sell the blue prints for five hundred or one thousand per cent profit? This is a good business proposition and would eliminate the high cost of drafting and specification writing. Seriously what are we going to do about it? Public education that would enable home owners to distinguish good architecture from bad and make them realize that a plan service is not architectural service would ultimately and automatically correct this evil. As long as the public will buy, stock plans will be sold. Stock plans for houses in most cases do not render a public service. They have, today, little justification if any for existing. They are high paid contributors to the ugliness of our towns and cities. One dollar is too much to pay for fifty cent designs.

Floor Level Changes

THREE remarkable things about England were reported by a French traveler in the late fifteenth century, which were "that the people did drink in boots, eat raw fish, and strewed all their best rooms with hay." This latter custom was the reason for different floor levels for various rooms, as doors had to be high enough from the lower floor to permit of their swinging out over the rushes or straw. Rushes on the higher floor kept drafts from blowing under the door. Even Queen Elizabeth had her presence chamber at Greenwich strewn with rushes, as was the stage in Shakespeare's time. This quaint old custom is probably the historical precedent for houses built today with one room lower than another.

When We're Antique

WHAT brings value to a thing that is old, worn-out, long past its natural period of usefulness? Samuel Butler, in his "Essays on Life, Art and Science," answers the question, cynically, but with a keen insight into the psychology of the antique. "When a thing is old, broken, and useless we throw it on the dust-heap, but when it is sufficiently old, sufficiently broken, and sufficiently useless we give money for it, put it in a museum, and read papers over it which people come from long dis-

tances to hear. By-and-by, when the whirligig of time has brought on another revenge, the museum itself becomes a dust-heap, and remains so till after long ages it is re-discovered, and valued as belonging to a neo-rubbish age—containing, perhaps, traces of a still older paleo-rubbish civilization. So when people are old, indigent, and in all respects incapable, we hold them in greater and greater contempt as their poverty and impotence increase, till they reach the pitch when they are actually at the point to die, whereon they become sublime. Then we place every resource our hospitals can command at their disposal, and show no stint in our consideration for them."

They Become Depositors

ANNOUNCE the proposed building of a new branch bank and every contractor and sub-contractor, hoping to get a slice of the business, hurries to open an account. That is one of the by-products of profitable bank building, a secret exposed recently by a leading New York banker. 'Tis to laugh.

Architectural Uses of Materials

PERHAPS some of our readers have wondered as to our motive in publishing in recent issues of this magazine a series of details of various materials used in building construction. These details have been selected by the editors to visualize, in so far as possible, the possibilities and limitations of the material illustrated. These details are not intended to be inspirational, but rather to suggest the characteristics of individual materials. Few things are as important in architecture as a correct understanding of the uses and handling of the basic materials commonly used in building construction. Every material should be used for its own sake, frankly and honestly, and complete advantage should be taken of its inherent good qualities.

More Health In Buildings

FIFTEEN billion dollars is four national doctor's bill, according to Dr. Henry G. Langworthy, writing in the Nation's Business. He says, "The industrial captain is beginning to realize as never before that every dollar he spends in reducing absence resulting from sickness, accidents or colds saves many dollars for his corporation." There are few greater causes for sickness than lack of ventilation, poor lighting, draughts and other preventable things that are in the power of the architect to correct. We wonder how a prospective office building client would react to an architect's suggestion that he build and advertise office space on the basis of mechanical equipment and excellence in planning that insures a maximum freedom from sickness with its consequent lost hours.

to the Editors

Get the Young Men to Work

WALK JONES of Memphis, Tenn., presented an excellent idea before the Tennessee Chapter of the American Institute of Architects at the Southern Architectural Exposition last November. He suggested that the committee offering nominations for new officers of this chapter give serious consideration to the proposal of the names of young men for election. Institute chapters are too often officered by the older men whose council is invaluable, but who would be glad to be relieved of the duties of active office and the necessity of serving on committees. Give the young men a chance. Put them to work. It will give them greater interest in the Institute. They will get more out of it. It can do the Institute no harm. And it may do good.

When Not to Remodel

REMODELING is a fine thing when it is not carried to excess. Too often, though, it is a readaptation of old buildings that are structurally on their last legs. Witness the recent collapse of two buildings in New York City, where ten workmen were injured while they were reinforcing retaining walls which supported the two structures. And witness too, the story told of a Philadelphia architect who undertook to remodel a delightful old house at a cost not to exceed ten thousand dollars—and spent sixty thousand dollars doing it!

Don't Hang 'em So Close

ARCHITECTURAL exhibitions seldom want for material to exhibit. The hanging committee is usually faced with a perplexing problem. It is not easy to eliminate material that has been submitted. It requires courage and above all good judgment. But be that as it may, the average committee has a tendency to hang exhibits much too close together and as a result, exhibits lose much in effectiveness and are not easily viewed. This is a matter that can well be given careful consideration by the committee in charge of the placing of exhibits at any exposition, even though it may mean the exclusion of some meritorious work. One good exhibit effectively displayed is worth two hung too close together to be properly viewed.

More Competition for Architects

COMPLETE sets of working drawings, specifications and details will be furnished with all orders for 'Steel Framing' for the homes shown in this book." So reads a sentence from a recent advertising booklet which introduces seventeen sketches of houses with accompanying floor plans. This should interest the home owner, as it will save him an architect's fee. On the other hand, the Bangor Slate Association, in publishing

some church designs submitted in the recent Christian Herald competition, stated: "Regardless of size, no church can afford to build without the services of an architect. A good architect is as essential to a church building committee as a captain to a ship. His experience will guide the committee safely through shoals of bad design, shoddy material, and useless expenditures."

Five Days for Building

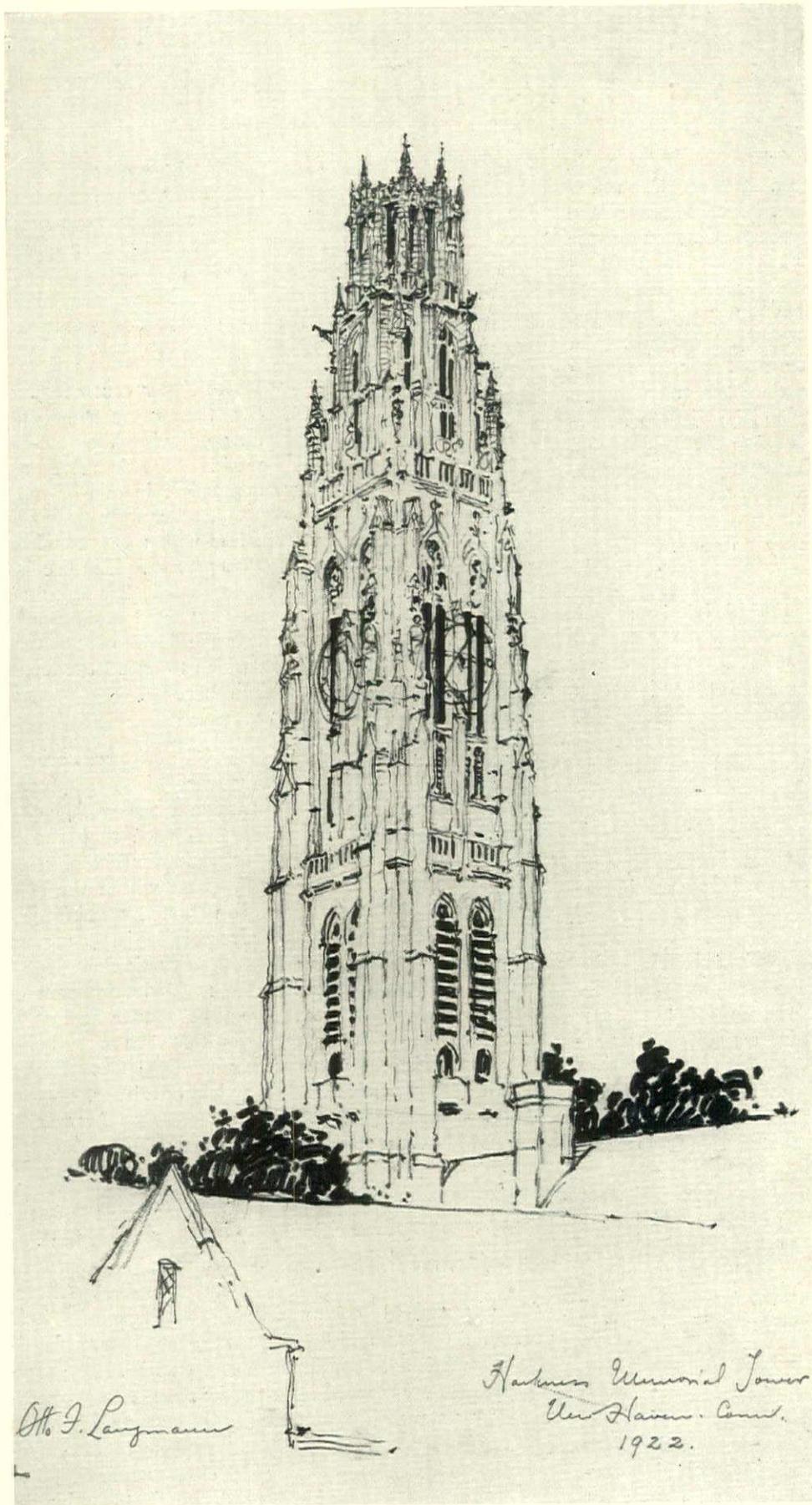
THIRTY per cent of building trades craftsmen are now enjoying the five-day week. More than five hundred cities and towns have adapted it in one or more of the building trades. Logically, other industries may be expected to follow suit in line with the gradual reduction in the number of working hours. The peculiar part about all this reduction is that it has been accompanied not only by an unprecedented minimum of unemployment but also by a wage level higher than ever before. More leisure in which to spend the larger income one earns is not a bad circle at all.

An Important Zoning Question

ZONING ordinances are today recognized as indispensable to the average city. An ordinance that should be given early and serious consideration is that of regulating the height of buildings erected within the zone of airports. High buildings constructed within these zones could easily render an airport practically useless. A lesson should be learned from the situation now faced by every community through the rapid development of automobile transportation. No time should be lost in protecting the large investments that are now being made in airports as well as their serviceability. If you did not read Francis Keally's article on airport zoning, published in the December issue of *THE AMERICAN ARCHITECT*, we would suggest that you do so now.

Branch Chapters are Worth While

MANY chapters of the American Institute of Architects consist of members scattered in widely separated communities. Meetings are held at rare intervals and as a result contact with Institute matters is not as intimate as it should be. The Tennessee Chapter, recognizing this situation, elects a vice-president from each important city in the state. Members of the chapter in each city are thus able to meet frequently under the direction of a chapter officer. The North Texas Chapter has solved the problem by establishing branch chapters in cities under its jurisdiction. The branch chapters meet, maintain contact with Institute affairs without hardship to any of its members. In both cases the chapters proper hold regular meetings. Other chapters might well consider the plan adopted by the Tennessee and North Texas Chapters.



from portfolio
and sketchbook

THE drawing on this page is that of the Harkness Memorial Tower, New Haven, Conn. Made with red sanguine crayon on plate surface paper by Otto G. Langmann, of the architectural office of Hobart Upjohn, New York. Mr. Langmann studied architecture at Harvard and Columbia, and spent eighteen months abroad

Otto F. Langmann

Harkness Memorial Tower
New Haven, Conn.
1922.

To the right, looking east on Murray Street, New York. The delicacy of the Woolworth Tower strikes a modern note that contrasts strongly with the antiquated but rugged elevated structure. Made with blue crayon on soft, coarse Japanese paper by Otto F. Langmann



1929.

Otho F. Langmann



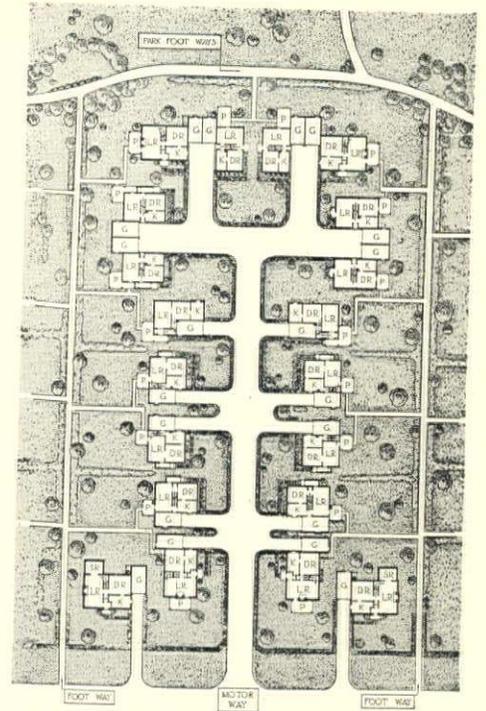
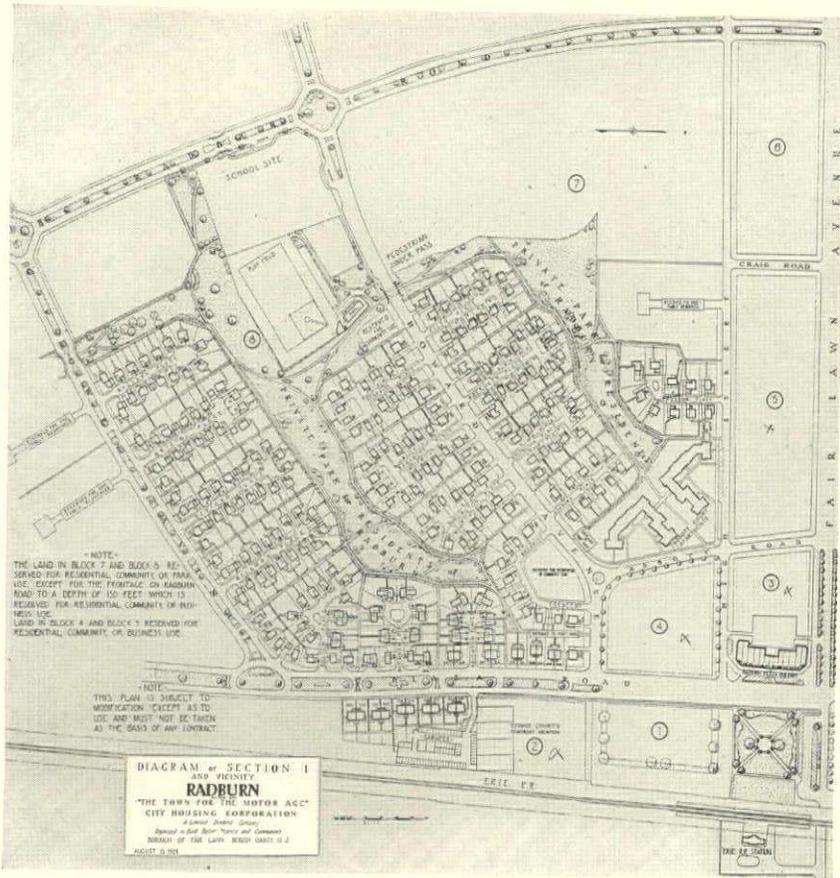
RADBURN: a town

THE only town in the world exclusively designed to meet the needs of this automobile age in a practical manner is being constructed in northern New Jersey by the City Housing Corporation, of New York. And though the project is, as yet, but in the early stages of its development, in its safety street plan there seems at least to have been found a reasonable solution to one of the most serious of our present day problems—the successful handling of motor traffic. Experience long since has proven that automobile travel can never be properly and safely controlled by a multitude of rules and regulations, even with an army of traffic officers on hand to enforce them.

Planned as a unit, the town of Radburn, New Jersey uses a new street plan which successfully meets present day conditions resulting from the almost universal use of motor cars. It represents the first scientific effort that has ever been made to establish a community exclusively designed to minimize the danger of automobile accidents. Yet there were other things to consider, too, for in planning this "Town for the Motor Age" it was the desire of the builders to create not only a community that would be as safe and sane as it would be possible to make it, but one in which these elements might also be successfully combined with those of beauty in appearance and the utmost in modern efficiency.

Instead of following what is usually referred to as the gridiron or checkerboard street system of the horse and buggy age common to a majority of our towns and cities, a new safety street plan has been carried out at Radburn by which a separate system of sidewalks, completely removed from the motor traffic roadways, has been provided. At no point in the residential section do the pedestrian sidewalks skirt the highways. What is still more important is that this system has been so devised that a pedestrian can start at any given point and proceed on foot to any other place in the town without the necessity of once crossing a street used by automobiles.

At first thought one might be inclined to consider this virtually a physical impossibility without the erection of an underpass or overhead crossing at street intersections, obviously not a matter to be considered because of the great cost involved. Yet, though Radburn is a fair-sized town covering some fifteen average blocks, or an area of about one square mile, this result has been achieved in a more or less simple manner by the safety street plan which, in this initial unit of the town, provides only a single underpass. As to the truth of this the writer himself can vouch, for he traversed seventeen blocks, covering a distance of well over a mile, without crossing a motor-traveled street on a single occasion, and only once making use of the underpass.



Motor and foot traffic are successfully separated. Radburn's gardens, parks, and recreation centers are important features

Planned for SAFETY



The plan requires but one overhead crossing

In the ordinary town or city, automobile traffic is a never-failing cause of concern to parents, for in these days when nearly everyone owns an automobile, and there are unfortunately many drivers who are not as careful as they might be, the crossing of a street has become a rather hazardous undertaking even for grown-ups to say nothing of the children. So when we pack our youngsters off to school in the morning, knowing that there are streets to be crossed enroute where lurks the ever present danger of accident, it is but human

that we should worry about them and take every care.

In the bird's-eye view and plan of Radburn one is given a clear conception of the idea involved in the safety street plan, and the common sense methods the planners have employed in order to minimize the danger of traffic accidents and to alleviate congestion without sacrificing efficiency, at the same time to maintaining community appearance and retaining the important element of economy.

THE wide thoroughfare that may be seen running through the center of the town is one of the principal arteries of motor traffic in that section of New Jersey and it therefore forms a dangerous highway for pedestrians to cross. Running from this highway on either side there are a series of closed-end streets that have been constructed for the exclusive use of automobiles, with an alternating series of streets or footways for pedestrians. Obviously, therefore, each one of the houses must virtually have two fronts, one which faces the automobile driveway while the other faces the sidewalk. Thus friends who may arrive by automobile, as well as the grocer, the milk-man, the coalman, and all others who drive, go to either the motor entrance or to the service entrance as the case may be, by way of the short dead-end streets around which the houses are grouped. On the opposite side of the house there is



Gardens and houses of simple design add to community appearance

another entrance for the use of those who may come on foot. This entrance opens onto a wide garden which, it might be added, is an attractive feature of each individual house in Radburn, and contributes much to the beauty of the community as a whole.

The sidewalks facing these gardens connect with a footway system running through and around the parks at the rear of the closed-end streets. So efficiently have the planners done their work that at no point in the residential section of Radburn do these sidewalks cross either the closed-end streets or the main traffic avenue. Thus the designers have made it possible for one to visit every single house in the town of Radburn without once crossing a roadway that is used by automobiles.

PERHAPS one of the most interesting features of this safety street plan is the manner in which the closed-end streets or motorways have been laid out. For, while it might not be readily apparent that the Radburn street system greatly differs from that of other towns and cities, there does exist a difference that has the result of automatically curbing at street intersections, in a more or less simple manner, careless speeding to which so many drivers seem addicted, and which probably causes more serious automobile accidents than any other factor.

The usual custom in town or city planning is to follow the checkerboard system, laying out the streets in a

continuous line in two directions so that they intersect each other every block at an approximate angle of ninety degrees. At Radburn, however, this method has been somewhat altered, for while the closed-end streets for automobiles run into the main traffic highway at a ninety degree angle, they are not continuous because the points at which they enter either side of this highway are not directly opposite each other as is the ordinary custom. Therefore, even though a motorist may be tempted to speed on across the wider thoroughfare from one street to another, without regard for other cars that may be approaching this intersection from his right or left, it is not a temptation to which he can yield. Foresight of those who planned the town of Radburn has automatically curbed speeding at intersections with the main highway, because the motorist is compelled to make either a right or left turn on entering the main highway before he can continue along the street on the opposite side; and must necessarily reduce the speed of his car. It is a method of street layout that on consideration seems to be simplicity itself, and yet, as occasionally happens, it is one of those simple things on which great issues so often may hang.

Located in the borough of Fair Lawn between the cities of Hackensack and Ridgewood, New Jersey, about a dozen miles or so as the crow flies from New York City, the town of Radburn (Continued on page 128)



Streets of SAFETY

PORCH DETAIL and view of a pedestrian street. Playgrounds are provided for children to assure safety from automobile accidents. Gardens and parks add to the good appearance of this town. The houses are varied in design but harmonious in character

BELOW is shown a view of one of the dead-end motor streets. It is sufficiently wide for practical use and properly landscaped so that it provides for an unobstructed view by automobile drivers



ARCHITECTURE

has become a

BUSINESS

as well as an

ART

by Harvey Wiley Corbett, F.A.I.A.



I HAVE frequently asked myself this question in the past few months: Has the architectural profession as a whole become truly modern? And what do we mean when we say "modern"? Is that merely the definition of some new forms of ornament and architectural dressing, some new uses of old materials, or fresh uses of new materials? Or have we as a professional group become modern in the sense of fitting ourselves—measuring up to the requirements of modern business, modern living, modern industrialism? Are we still the dilettante "dress-makers" of the Renaissance serving only the potentates and the wealthy few? Or are we to be the dominant factor in the development of the modern building world, directing, controlling and advising in a measure all forms of building construction?

We shall not have "modernism" worthy of the name unless some fundamental changes in the affairs of life have occurred. I believe the last fifty years have seen social, economic and structural changes, greater than the whole history of previous time has witnessed. Socially the wealthy and powerful *few* have become the well-to-do *many*. Economically, every type and form of building demand treatment by architects because of their more comprehensive sense of arrangement. Structurally, new materials of all sorts and kinds, factory-made and machine-assembled, have come into wide use in the building world.

ARCHITECTURE used to be an art, a one-man job so to speak, and was carried on for a limited and select group. In ancient days it was confined to enshrining the deities. In Roman times, the state as well as the deities required a proper architectural setting. In the middle ages, religion claimed the major abilities of the architectural designer. In the Renaissance, princes and great families needed an architectural background.

But today, business, commerce, industrialism are the major forces in life with the state and education running a close second, and all of these are based on *rational economics*.

Architecture is no longer a one-man job. The complications of a modern building require the brains of many expert minds. Architecture has become a business as well as an art, and the architect as an individual, and the architectural profession as a group must take cognizance of this fact.

NO profession covers so broad a field nor takes so many years of preparation, study and apprenticeship. To render satisfactory service these days requires a very sizable organization built upon lines of expert knowledge and business efficiency. The public should know what such service means, but it can't know and never will know until the profession as a group organizes effectively and tells it so. Until that time comes, the intricate work of an architect will remain a closed book to most people.

We must take a page or two from the book of experience of our great industrial groups; bring our own members to a realization of their responsibility and then co-ordinate, synchronize and establish our group activities so that the nation as a whole may know the service we are capable of rendering.

That is the most important work before The American Institute of Architects today, and if it can be done we will no longer have the interminable rows of unsightly fire-trap houses, the poorly planned and inefficient industrial plants, the ill-conceived, incommodious and disorderly city, the makeshift school and government building, but in their place will rise garden suburbs, pleasing and efficient industrial plants, cities of impressive beauty and real comfort, and state and educational groups of great dignity.



an Easy Way to specify L U M B E R

by Dudley F. Holtman

M. Am. Soc. C. E.

Dudley F. Holtman is a civil engineer of Chicago, Ill., who, until recently, was construction engineer of the National Committee on Wood Utilization of the United States Department of Commerce. He is the author of "Wood Construction."

◆ *There have been such radical changes in the lumber industry within the past few years that many architects are still writing specifications of the horse and buggy age. Mr. Holtman tells not only how to specify and use lumber in accordance with modern standards, but also how to make sure that the specified grades are used and how, at the same time, to cut inspection costs.*

LUMBER specifications have not kept pace with changes that have taken place in the lumber industry, especially in the past ten years. It is not difficult, however, to understand why this is so. In fact it is exactly what was to be expected. Lumber specifications are mainly the product of custom and tradition which has become constantly more deeply entrenched as the years have gone by. It is hard enough to change the habits of a single generation, but habits that have been handed down through several generations are unusually persistent. So it is quite natural that reforms in lumber purchase practice have lagged behind advances in manufacture and grading. Lack of knowledge of these changes, however, has prevented us from perceiving either the direction or the significance of the changes that have taken place.

It is not possible to use wood economically in the twentieth century on the basis of seventeenth century

standards. An architect would not consider using a fifty year old specification which gave only a general description of the material for steel or concrete. The practice of using one hundred year old specifications for wood cannot give satisfactory results, yet such specifications are in common use today.

Production conditions have changed rapidly in the last 25 or 30 years. Each timber region has added its share of new species and varieties of wood until today there are some ninety species of wood suitable for some kind of structural use. Such lumber is made and sold in from six to nine grades, each grade intended for some particular purpose or class of uses. The architect, therefore, has a wide range of choice in specifying lumber in construction work.

A uniform system of grading, that will simplify lumber specifications and make it easier to specify the kind of material that is most suitable for a particular use, has been developed and officially promulgated under the auspices of the Division of Simplified Practice of the U. S. Department of Commerce. Commercial grades based upon these standards have been written into the grading rules of various lumber manufacturing associations. These revised grading systems are designed to fit grades for uses more closely than was possible ten years ago. All the grading rules in the universe, however, will contribute not one single thing to the economical use of lumber unless they are used. The architect literally holds in the palm of his hand the fate of this whole simplification movement so far as the lumber industry is concerned. Lack of understanding or lack of sympathy on the part of those who use lumber will scrap the work of ten years. On the other hand, intelligent use of the new grades by architects will result in economies which should interest every designer of buildings. Such a practice will not only enable them to specify exactly what they wish to use, but also to make sure they get it, cutting inspection costs at the same time, if grade-marked lumber is specified.

Grades of lumber suitable for HOUSE CONSTRUCTION

	Posts	Sills	Girders	Joists	Stubs	Rafters	Sub-flooring	Sheathing wall and roof	Siding	Finish Floor	Interior Trim finish and woodwork	Exterior Trim	Lath	Shingles	
														Wall	Roof
SOFTWOODS															
Western Red Cedar	—	no. 1 com. dim.	—	—	—	—	no. 2 com. bds.	no. 2 com. bds.	B & Btr.	—	B & Btr.	B & Btr.	no. 1	B	A
Red Cypress	no. 1 com. dim.	do.	no. 1 com. dim.	no. 1 com. dim.	no. 2 com. dim.	no. 1 com. dim.	do.	do.	B	—	C-D	C-D	—	Primes or *A*	Bests or *A*
Douglas Fir (Coast Type)	do.	B & Btr.	B & Btr. (v. g.)	B & Btr.	B & Btr.	do.	—	—							
Douglas Fir (Inland Empire)	do.	C & Btr.	C & Btr. (v. g.)	C & Btr.	C & Btr.	—	—	—							
White Fir	—	—	do.	do.	no. 1 com. dim.	do.	no. 1 com. bds.	do.	do.	—	C & Btr.	C & Btr.	do.	—	—
Eastern Hemlock	do.	do.	do.	do.	do.	do.	no. 2 com. bds.	do.	D & Btr.	D & Btr.	D & Btr.	D & Btr.	do.	—	—
W. Coast Hemlock	—	—	—	do.	no. 2 com. dim.	do.	do.	do.	B & Btr.	B & Btr. (v. g.)	B & Btr.	B & Btr.	do.	—	—
Western Larch	do.	C & Btr.	C & Btr. (v. g.)	C & Btr.	C & Btr.	—	—	—							
Longleaf and Shortleaf	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Southern Pine	do.	B & Btr.	B & Btr. (v. g.)	no. 1 com.	B & Btr.	do.	no. 1	select							
No. Car. Pine	do.	B & Btr.	B & Btr. (v. g.)	no. 1 com.	B & Btr.	do.	—	—							
Arkansas Soft Pine	do.	B & Btr.	—	C	C-D	do.	—	—							
Idaho White Pine	—	—	—	do.	do.	do.	no. 3 com. bds.	no. 3 com. bds.	—	—	—	—	—	—	—
Sugar Pine	do.	B & Btr.	—	C	C-D	do.	—	—							
North. White Pine	do.	C & Btr.	D	C	C-D	do.	—	—							
Norway Pine	do.	B & Btr.	—	C	C-D	do.	—	—							
Pondosa Pine	do.	—	—	C	C-D	do.	—	—							
Calif. White Pine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Redwood	ht. 1 com.	ht. 1 com.	ht. 1 com.	ht. 1 com.	do.	ht. 1 com.	no. 2 com. bds.	no. 2 com. bds.	A	—	A	A	do.	*A*	clear v. g.
Eastern Spruce	no. 1 com. dim.	do.	no. 1 com. dim.	do.	no. 3 com. bds.	—	—	—	—	do.	—	—			
Sitka Spruce	—	—	—	—	—	—	do.	no. 2 com. bds.	B & Btr.	—	B & Btr.	B & Btr.	do.	—	—
Tamarack	do.	do.	do.	do.	do.	do.	—	—	—	—	—	—	—	—	—
HARDWOODS															
Beech	—	—	—	—	—	—	—	—	—	first grade	grade A interior trim	—	—	—	—
Birch	—	—	—	—	—	—	—	—	—	do.	do.	—	—	—	—
Maple	—	—	—	—	—	—	—	—	—	do.	do.	—	—	—	—
Oak	—	—	—	—	—	—	—	—	—	first grade Qtd. or Plain	do.	—	—	—	—
Other Hardwoods	—	—	—	—	—	—	—	—	—	—	do.	—	—	—	—

To make this possible and to enable the architect to identify lumber after purchase, the principle of stamping lumber with a grade-mark and trade-mark has been incorporated in the uniform system of grading known as the American Lumber Standards. A large number of lumber manufacturers are now grade-marking their products and it is possible for lumber consumers everywhere to secure upon request a guarantee of the quality and the accuracy of shipments of lumber coming from any part of the country.

An outstanding example of the importance of correct specifications is in the field of mill work. Wasteful practices among specification writers and draftsmen have come about from the fact that no definite standards had been set forth in the lumber industry previous to the last few years. It was common practice to specify 15/16" mouldings, believing that 1/16" would be ample for finishing on the moulding and even for sanding, basing the specification on the assumption that one inch stock was fully one inch thick.

On the contrary, to produce 15/16" mouldings it is necessary to go to 1 1/4" stock, greatly increasing the cost of the material entering into the manufacture of the finished product.

Those manufacturers who are producing large quantity runs of stock materials and who are showing exact sizes in their literature instead of nominal thicknesses, in order that the architect may safely specify the fin-

THESE THREE TABLES indicate the grades of the more common commercial species of lumber that are considered most suitable for ordinary building uses. It should be remembered that it is not possible to produce grades of lumber that will be identical, grade for grade, regardless of species. The species itself determines the inherent quality of the lumber in the various grades

ished face, are rendering a real service. Some manufacturers, however, are still listing their materials under the nominal thickness. As a result, architects drawing materials from these sources may not be getting what they anticipate, since they are using the nominal thickness as a final thickness.

The architect necessarily is interested in contour and design. Manufacturers who take the architect's specifications literally and furnish the forms he has designed, unless the architect has carefully studied lumber standard sizes, often lose out in competition. A good example of this is in the matter of casing and base. A four-inch hardwood board will produce at best only a 3 5/8" casing, and a six inch hardwood board only a 5 1/2" or 5 3/8" base. Another example is the specification of 2 1/2" sill stock where all the inclination is put on the top of the sill. A practice which is just as good and much more economical is to use two inch sill stock so handled that

Grades of lumber suitable for INDUSTRIAL BUILDINGS

	Posts	Girders	Beams	Heavy Flooring	Wall Plates	Truss Members	Rafters	Roof Planking	Form Lumber
SOFTWOODS									
Western Red Cedar.....	com. str. tbrs.	select str. beams	select str. beams	no. 1 com. hvy. flg.	com. str. joist and plank	no. 1 com. hvy. joist	no. 1 com. dim.	no. 1 com. hvy. roofing	no. 1 com. bds. and dim.
Red Cypress.....	do.	do.	do.	do.	do.	do.	do.	do.	no. 2 com. bds. and dim.
Douglas Fir (<i>coast type</i>)...	do.	str. beams	str. beams	do.	do.	com. str. joist and plank	com. str. joist and plank	com. str. joist and plank	no. 1 com. bds. and dim.
Douglas Fir (<i>inland empire</i>)	no. 1 com. dim. and tbrs.	no. 1 com. dim. and tbrs.	no. 1 com. dim. and tbrs.	do.	no. 1 com. dim. and tbrs.	no. 1 com. hvy. joist	no. 1 com. dim.	no. 1 com. hvy. roofing	do.
White Fir.....	—	—	—	—	—	do.	do.	do.	do.
Eastern Hemlock.....	com. str. tbrs.	select str. beams	select str. beams	do.	com. str. joist and plank	do.	do.	do.	do.
West Coast Hemlock.....	do.	do.	do.	do.	do.	do.	do.	do.	do.
Western Larch.....	no. 1 com. dim. and tbrs.	no. 1 com. dim. and tbrs.	no. 1 com. dim. and tbrs.	do.	no. 1 com. dim. and tbrs.	do.	do.	do.	do.
Longleaf and Shortleaf: Southern Pine.....	no. 1 com. tbrs.	st. sq. edg. sd. beams	st. sq. edg. sd. beams	do.	no. 1 com. tbrs.	no. 1 com. tbrs.	no. 1 com. tbrs.	do.	do.
North Carolina Pine.....									
Idaho White Pine.....	—	—	—	—	—	no. 1 com. hvy. joist	no. 1 com. dim.	do.	no. 2 com. dim.
Sugar Pine.....	—	—	—	—	—	do.	do.	do.	no. 1 com. dim.
Northern White Pine.....	—	—	—	do.	—	do.	do.	do.	no. 3 com. bds.
Norway Pine.....	—	—	—	do.	—	do.	do.	do.	no. 1 com. dim.
Pondosa Pine.....	—	—	—	—	—	do.	do.	do.	no. 2 com. bds.
California White Pine.....									
Redwood.....	com. str. tbrs.	select str. beams	select str. beams	block	com. str. joist and plank	do.	do.	do.	no. 1 com. dim.
Eastern Spruce.....	—	—	—	—	—	do.	do.	do.	no. 2 com. bds. and dim.
Sitka Spruce.....	com. str. tbrs.	select str. beams	select str. beams	—	com. str. joist and plank	do.	do.	do.	no. 1 com. bds. and dim.
Tamarack.....	—	—	—	no. 1 com. hvy. flg.	—	do.	do.	do.	do.
HARDWOOD FACTORY FLOORING				TOP FLOOR third grade					
Beech.....	—	—	—	do.	—	—	—	—	—
Birch.....	—	—	—	do.	—	—	—	—	—
Maple.....	—	—	—	do.	—	—	—	—	—

Grades of lumber suitable for AIRPLANE HANGARS

	Sills	Studs	Plates	Rafters	Truss Members	Sheathing wall and roof	Siding	Trim exterior and interior windows and door frames
SOFTWOODS								
Western Red Cedar.....	no. 1 com. dim.	no. 2 com. bds.	A-B	B & Btr.				
Red Cypress.....	do.	do.	no. 2 com. dim.	do.	do.	do.	C-D	C-D
Douglas Fir (<i>coast type</i>).....	do.	do.	do.	do.	do.	do.	B & Btr.	C
Douglas Fir (<i>inland empire</i>).....	do.	do.	do.	do.	do.	do.	C & Btr.	C & Btr.
White Fir.....	do.	do.	do.	do.	do.	do.	do.	C & Btr.
Eastern Hemlock.....	do.	do.	do.	do.	do.	do.	D & Btr.	D & Btr.
West Coast Hemlock.....	do.	do.	do.	do.	do.	do.	C-D	—
Western Larch.....	do.	do.	do.	do.	do.	do.	C & Btr.	C & Btr.
Longleaf and Shortleaf: Southern Pine.....	do.	do.	do.	do.	do.	do.	B & Btr.	C
North Carolina Pine.....								
Idaho White Pine.....	do.	do.	do.	do.	do.	do.	C	C-D
Sugar Pine.....	—	—	—	—	—	—	Idaho white pine C & Btr. sugar pine C	—
Northern White Pine.....	do.	do.	do.	do.	do.	do.	C & Btr.	C-D
Norway Pine.....	do.	do.	do.	do.	do.	do.	C & Btr.	C-D
Pondosa Pine.....	do.	do.	do.	do.	do.	do.	C-D	C-D
California White Pine.....								
Redwood.....	do.	do.	do.	do.	do.	do.	pondosa pine C & Btr. Cal. white pine A-B	A
Eastern Spruce.....	do.	do.	do.	do.	do.	do.	—	—
Sitka Spruce.....	do.	do.	do.	do.	do.	do.	C	C
Tamarack.....	do.	do.	do.	do.	do.	—	—	—

part of the inclination of the sill is produced by raising the back edge of the sill, and all machining, so far as the thickness of material is concerned, is done on the top face. This method takes advantage of the entire thickness of the original piece, there being no waste except such as will produce the necessary contours.

Cooperation in the field of mill work between architects and mill workers in creating successful designs within the limits of American lumber standards will result in definite savings.

Because of its economical aspects and its adaptability to changing conditions, lumber has been used extensively in the development of our new transportation industry. Lumber has made possible the construction of many airports, when other available materials were automatically barred from consideration by lack of funds.

Obsolescence, due to loss of utility, is an important factor to reckon with in a growing and developing enterprise. With one or two exceptions, almost any type of construction will insure (Continued on page 128)



LEADER HEAD IN RESIDENCE DESIGNED
BY JOHN OAKMAN, ARCHITECT

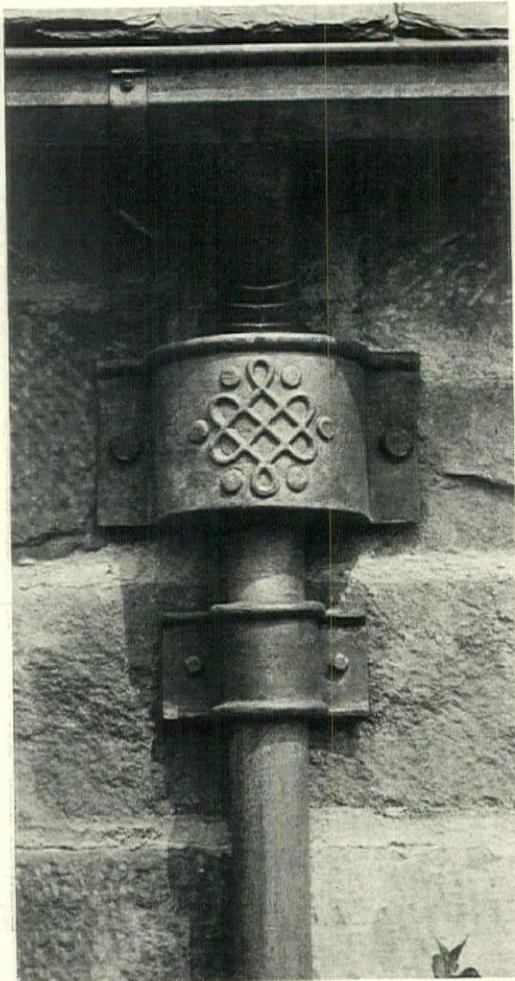
LEAD, THE PRECIOUS METAL as it has been called, has been put to practical uses by man throughout the centuries. Of its early history, little is known beyond the fact that it was used by the Assyrians, Egyptians, and Romans. Lead, being a soft metal that is malleable, easily cut, and durable, serves many practical and decorative purposes



8
pages of
LEAD
details

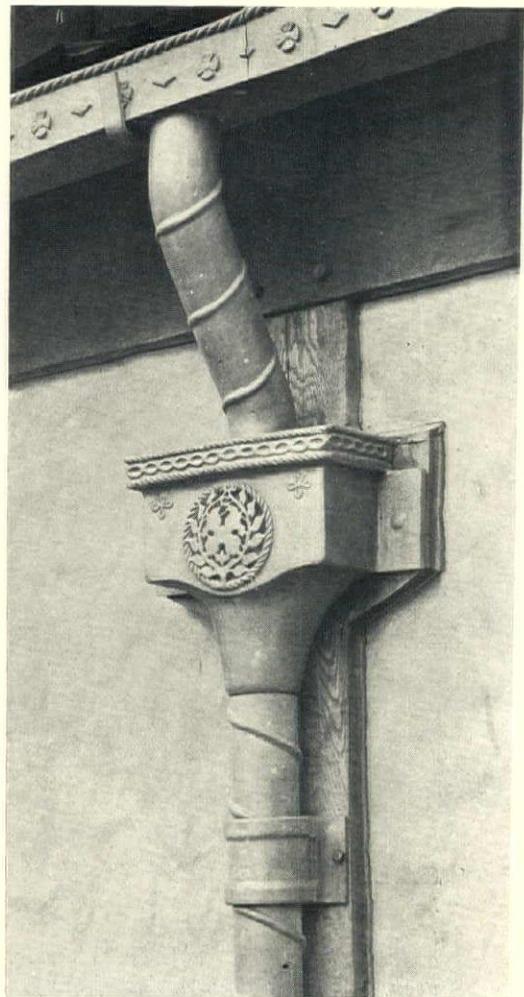
THE BAY WINDOW at the top of this page is from the house of Daniel Lipsky, Great Neck, L. I. Arthur Coote, architect. . . . The ship at the right is a gateway ornament, Harrison Williams Estate, Bayville, N. Y. Delano & Aldrich, architects



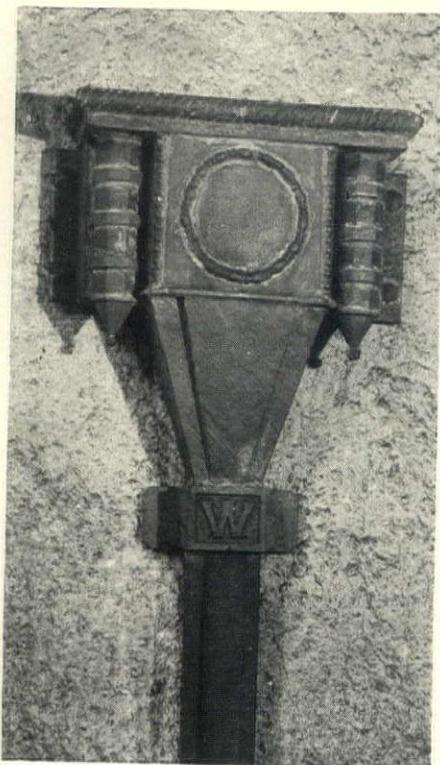
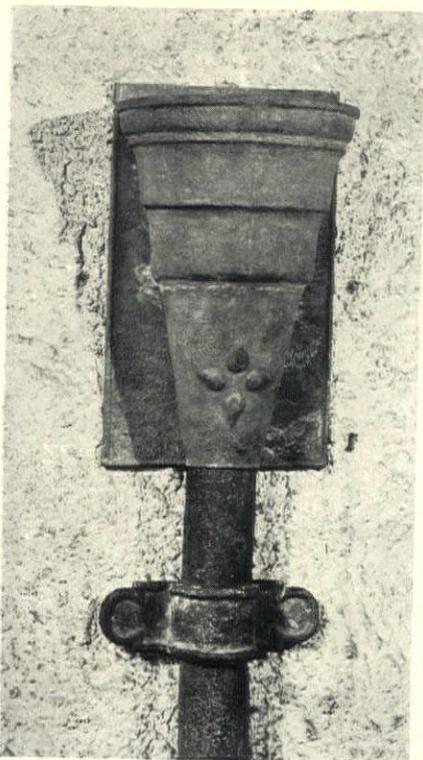


GUTTERS, LEADERS, HEADS



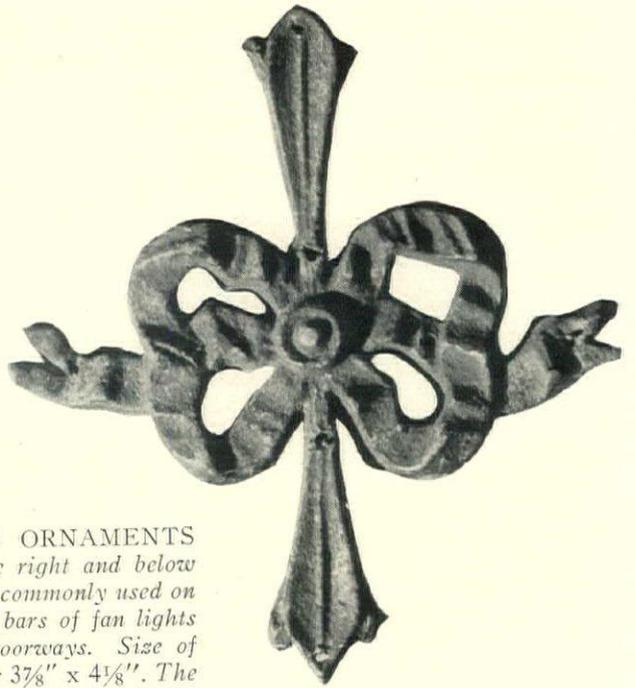


a n d S T R A P S o f L E A D

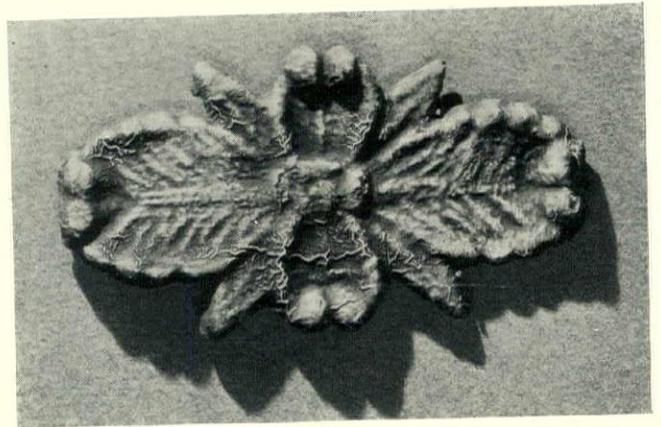




GIRL'S HEAD AND AN EAGLE that are typical of cast lead technique. The head, reproduced from an old figure, is 7" wide and 10" high. The eagle is 20" wide, 22" deep, and 30" high exclusive of the pedestal

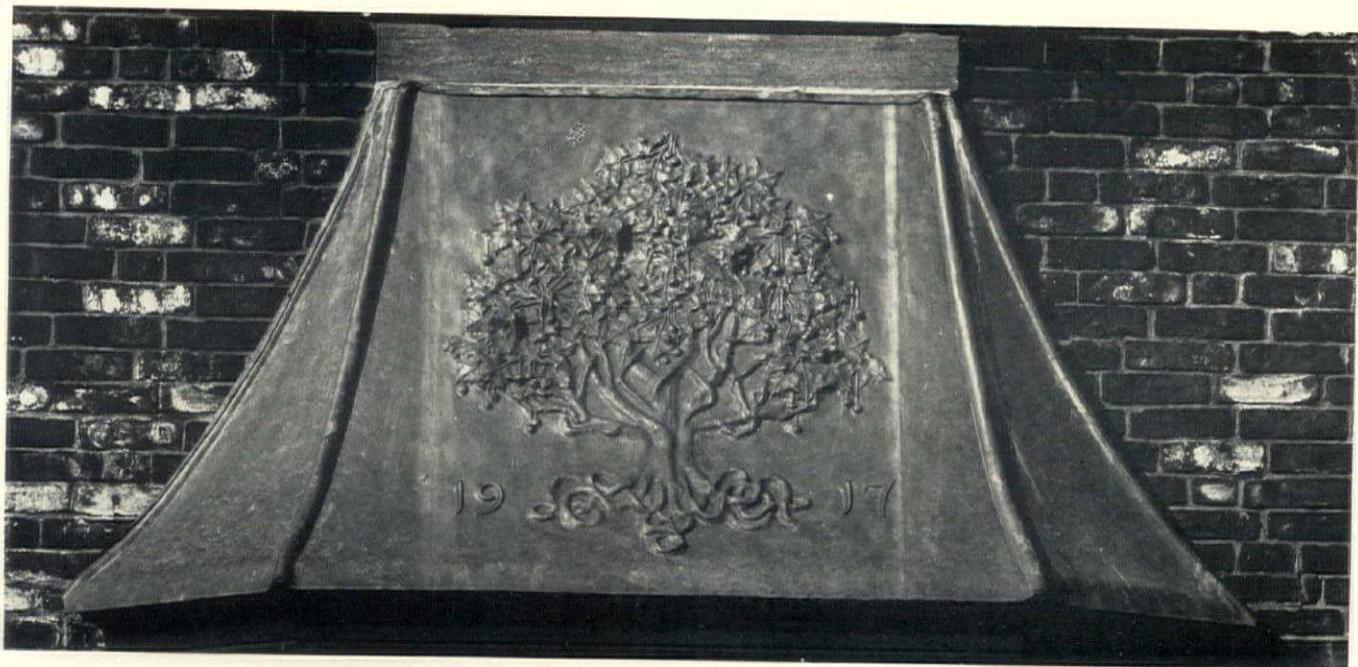


THE TWO ORNAMENTS shown to the right and below are of a type commonly used on the dividing bars of fan lights of colonial doorways. Size of the wreath is $3\frac{7}{8}$ " x $4\frac{1}{8}$ ". The floral ornament shown full size

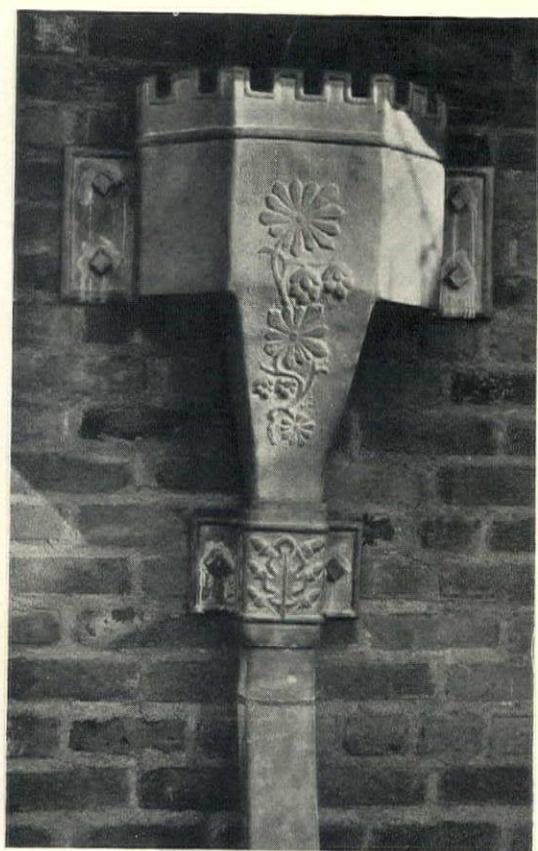
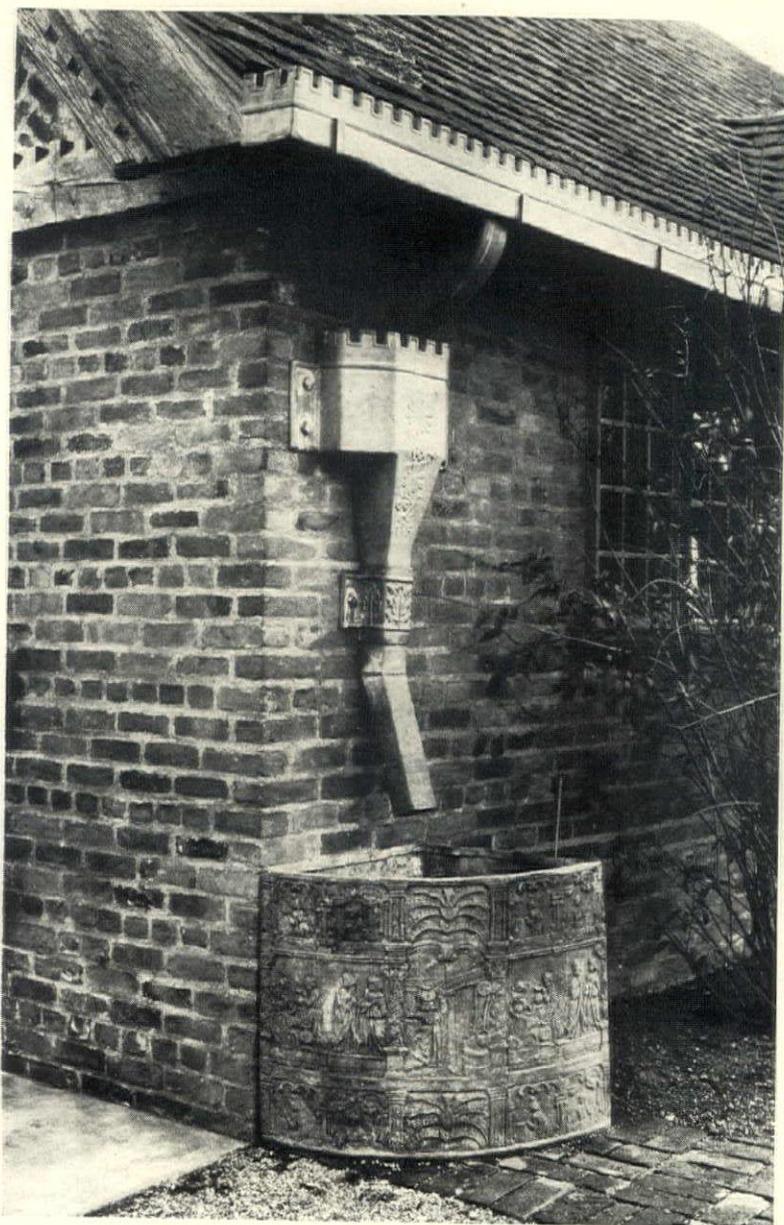


A CISTERN that is typical of the use of lead in England and France. It is not unlike many of the early baptismal fonts





A BAY WINDOW ROOF that illustrates an interesting use of lead. It is from the house of James N. Hill at Locust Valley, N. Y. Walker & Gillette, architects



GUTTER, LEADER HEAD, and cistern combined in an unusual manner. The composition is not obtrusive due to the quality of self effacement that is more or less characteristic of lead. The raised design noticeable on the cistern is used with restraint on the leader head and omitted on the gutter. The serrated edge of the head is recalled on the gutter. This example is from the gardener's cottage of the Holmes Estate, Sands Point, N. Y. Edgar Williams, architect



THIS DANCING BOY is reminiscent of the cast lead figures long looked upon with favor as garden ornaments for estates in France and England. It is thirty-eight inches high



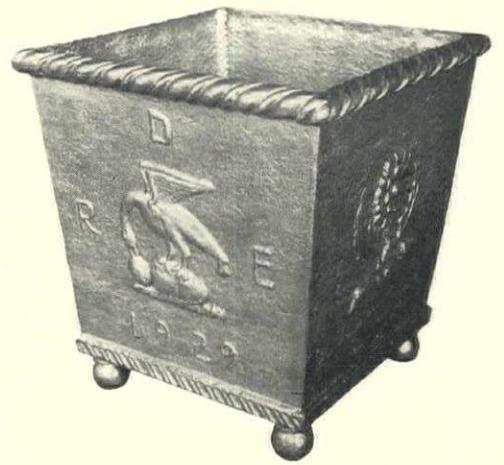
A DRINKING FOUNTAIN, from the garden of a family that takes thought of its fancy-bred dogs. The lead, as it oxidizes, becomes an unobtrusive color that readily harmonizes with stone



FLOWER BOXES OF LEAD are practical as well as ornamental. Lead is susceptible to a wide variety of uses. When exposed to the atmosphere, a suboxide or tarnish is formed on the surface by the union of oxygen of the air with the lead. If the tarnish is not removed it protects the lead against further oxidation



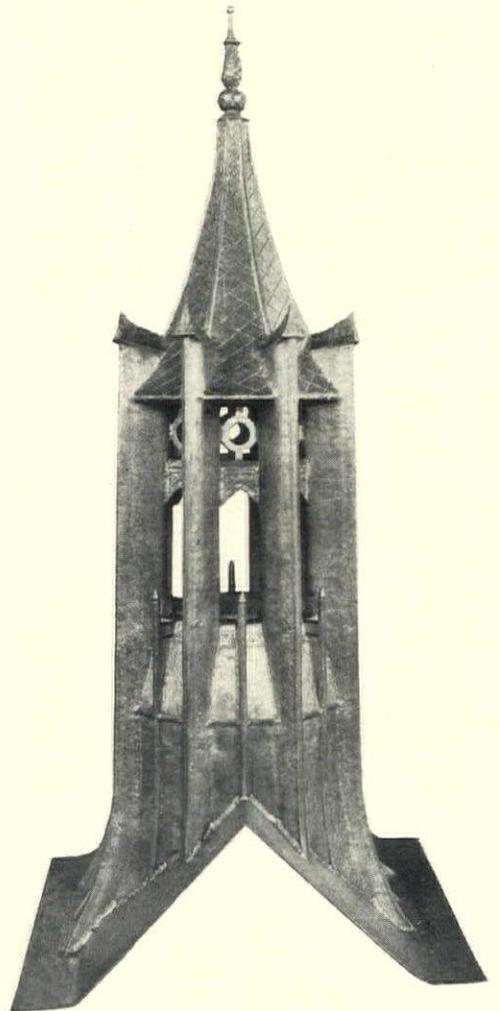
A MAIL BOX of soft lead with pierced openings. The thistles of cast lead are over one hundred years old. They were originally gilded and used as ornaments of a colonial doorway



WASTE BASKET of hard lead, a material differing from soft lead in that it contains antimony. This gives it the quality of stiffness that adds greatly to its field of usefulness

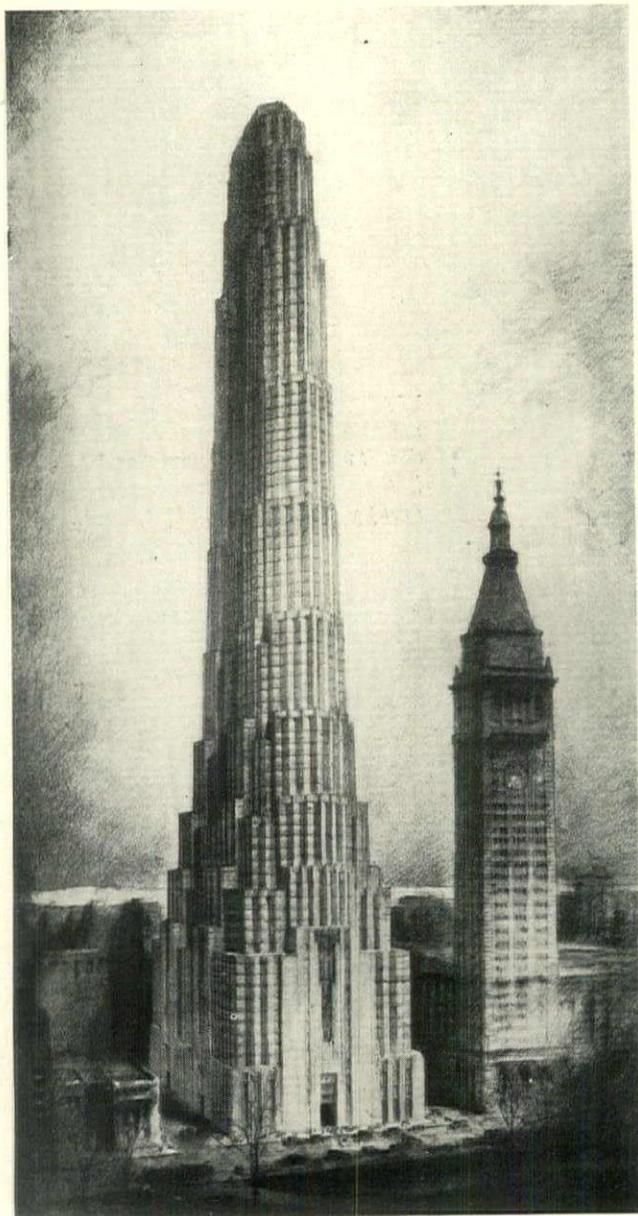


LEAD FLASHINGS can be made to assume interesting decorative forms. Few materials compare with it for softness of effect and gentle dignity. The above example is from the house of Julius Sussman, Great Neck, N. Y., Arthur Coote, architect



FINIAL of lead, a material frequently chosen for this type of ornament because of its natural finish that requires no care

WHAT ARCHITECTS



Tentative hundred story building of the Metropolitan Life Insurance Co., New York. D. Everett Waid and Harvey Wiley Corbett, architects

Two Billion Building Expenditure
Predicted for Next Six Months

A. I. A. to Educate Public on Architecture

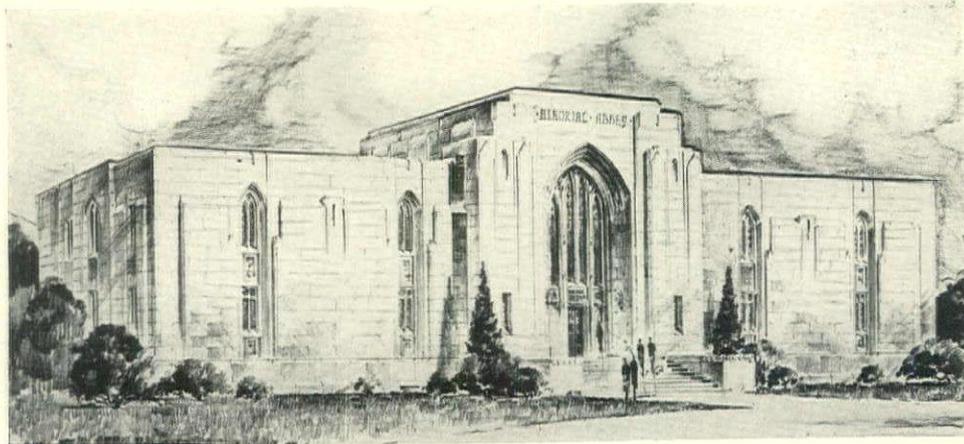
Model Mortgage Law Ready

A CAMPAIGN to educate the public about good architecture and good environment is being started by the American Institute of Architects, for American cities are ninety per cent ugly, according to Charles H. Cheney, chairman of the Institute's City and Regional Planning Committee, who further says: "The seriousness of the situation lies, however, in the fact that the percentage of new buildings, really esthetically good, is not increasing. In some cities it is even decreasing. The building inspectors tell us they are getting fewer plans today than formerly by men trained to produce good design." The Institute is using moving pictures to illustrate how Washington is being developed as the city beautiful. The film is being shown before high schools, colleges, chambers of commerce, civic bodies, women's clubs, art bodies and other organizations.

IF mortgage laws were uniform throughout the United States, vast savings that would be effected could be passed down to the borrower and make the mortgage a more liquid security, is the opinion of General F. M. Bass, speaking before the recent annual convention of the Mortgage Bankers' Association of America. He was talking about the model mortgage law that is all drawn up, tested, and ready to be presented to the legislatures of various states.

A BUILDING program during the next six months in excess of two billion dollars, exclusive of major engineering projects, is forecast by Nicholas Roberts, president of S. W. Straus & Co., New York.

ONE hundred stories is the tentative ultimate height of the new building of the Metropolitan Life Insurance Company, New York, although only thirty-two stories have been actually contracted for as the first unit of the operation.



Memorial Abbey, a two million dollar mausoleum of granite, marble and bronze which will be erected in Cypress Hills Cemetery, Brooklyn, N. Y. The building will include 2,500 burial crypts. Gregory B. Webb, architect

ARE TALKING ABOUT

Hood Talks About
His Most Satisfactory Jobs

Reserve Bank proposed for New Jersey
Building and Loan Associations
Best Source for New Employees

Foundations, however, will be laid to bear whatever weight they may be called on to support. To service the 30,000 employees that would be employed in such a building, the architects have suggested moving stairways for the first thirteen stories. The exterior would be marble to the first setback, after which glass and metal would be used, so as to gain maximum light. The architects are D. Everett Waid and Harvey Wiley Corbett.

THAT the wide-spread influence of trans-oceanic airplane travel is just around the corner may be gleaned from a published statement of Westcott & Mapes, engineers. This statement says in effect that they have been asked to bid on the structural work of a plane to fly seven hundred miles an hour, which would mean six hours from New York to Lon-



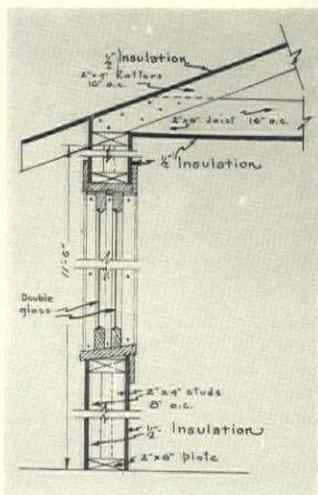
Sketch of proposed Elks Temple, Detroit, Mich.
Malcolmson & Higginbotham, architects

Sketch of proposed
office building at El
Paso, Texas, for
Chas. N. Bassett.
Trost & Trost, archi-
tects and engineers



don. The plane is intended to carry five hundred passengers and to have a crew of one hundred. The craft will have a wing spread of about five hundred feet and cost \$5,000,000. The necessity for zoning land around flying fields will soon be an urgent necessity!

A SUMMING up of factors affecting the building industry is reported by Printers Ink, an advertising journal, which made a wide-spread investigation immediately after the recent Wall Street fiasco. It says: "The building-material market is spotty. Although there seems to be a fairly general recession in building projects for homes, apartments, hotels, office structures and the like, a number of market centers point to extensive projects already authorized by municipalities, counties and states. Here is reflected a nation-wide policy that never before has operated in times of business uncertainty—the policy of government, Federal, State and local, to withhold public building for times when "private" building is less active than normal. There is a belief that not only building work, but real estate, will feel a favorable reaction from the return of money, and of attention, to normal purposes and normal interests."



Sound-proof construction of walls and ceilings of studio erected on the stage of the Minneapolis Municipal Auditorium for use at the Eighth Annual Northwest Radio-Electrical Show. Wall studs were staggered. Illustration is by courtesy of the Insulite Company

REDWOOD holds paint very satisfactorily and requires no special treatment," according to the Forest Products Laboratory, in correcting statements attributed to it, which have appeared in the daily press. The discolorations sometimes found on painted redwood and other species are usually caused by the accumulation of moisture in the wood back of the paint, and are the result of such abnormal conditions as improper design, faulty construction, or abnormal conditions prevailing within the building. Staining is usually accompanied by blistering and peeling of the paint.



“SOARING STEEL”

*is the title given by Samuel Chamberlin to this dry point which he made of
the Daily News Building, Chicago*

Trusses and Cantilever
Girders Carry Chicago
Air-rights Newspaper
Plant and Office Build-
ing over Railroad Tracks



ENGINEERING FEATURES

of the Daily News Building, Chicago

Holabird and Root, Architects

By W. B. GRAY

*engineer in charge of structural design,
Holabird and Root*

WHILE air-right buildings have been built over railroad tracks in New York City and Philadelphia, Pa., the Chicago Daily News Building is the first large building for general public use to be so built in Chicago. The structural problems presented by air-right buildings are to a certain extent

similar in character. In the case of the Chicago Daily News Building, however, railroad conditions and heavy floor loads encountered in the design of a newspaper printing plant introduced factors that make the structural design of this building of unusual interest.

The Chicago Daily News Building is built over the Chicago, Milwaukee & St. Paul Railroad tracks, between Madison Street, Washington Boulevard, Canal Street and the Chicago River. It is twenty-six stories high, eight stories being occupied by the newspaper plant and offices of the Daily News, and the remaining eighteen stories being rentable area. The first difficulty encountered in the structural design of the Daily News Building was the location of columns. At the south end of the lot, coming from the Union Station, there are twelve tracks. These diverge into eight tracks at the north end of the property. This diverging of tracks necessitates many switches and crossovers on the property, thereby making the placing of columns between tracks impossible at some places and at predetermined locations in others. In the north and south direction, the columns were determined by being placed 20'-0" on centers. A column was located wherever these lines crossed a space between tracks which was wide enough to accommodate one. In some cases it was necessary to place the column on a skew to give the necessary clearances.

Spans varied from 30 ft. to 102 ft. The minimum limit of side clearance was 7½ ft. from center of tracks to edge of columns. The (Continued on page 100)



Site of the Daily News Building. Dark rings show the location of caissons ready to receive steel columns. Other caissons are being dug along the river front

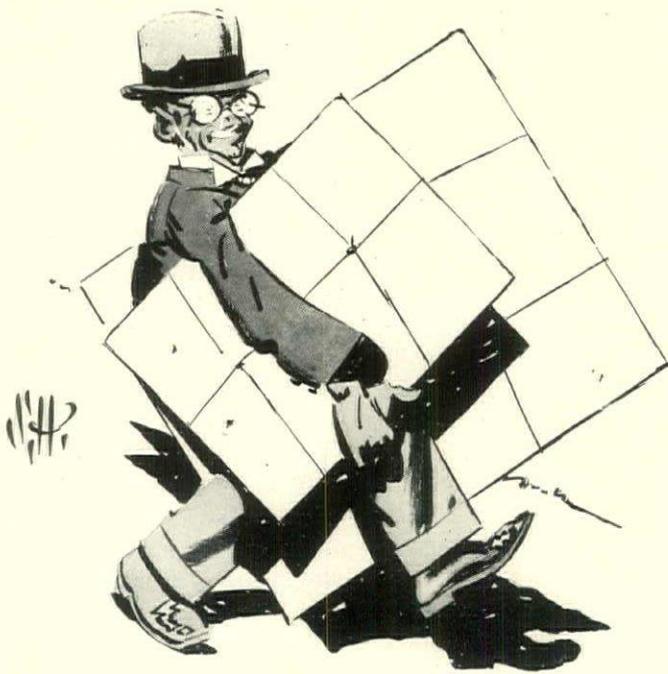
SPECULATIVE SKETCHES?

SURE... we tried it once

By FRED B. O'CONNOR

WHY, Hello Gus! When did you get in town? You're just in time. The town is going to put up a City Hall and we sure do need it. It will probably be a million dollar job and if you are in a receptive mood, let's accept this invitation that I got in this morning's mail from the Architectural Advisor. While I'm not a believer in hit or miss competitions, this one is no doubt on the level because it has the approval of the American Institute of Architects' Committee on Competitions. Six other architects, four of them from New York have been invited, but that doesn't mean anything; the sketches are based on a program prepared by the Architectural Advisor and while it's a speculation, it's on the level. What do you say?"

"Well Elmer, you sure have competition trouble," says Gus "but I'm game," thinking all the time that Elmer needed his services to put up some peppy sketches. And thinking too that with the competition under the "approval of the American Institute of Architects" there wouldn't be much chance to pull any wires or a joker



Gus personally handles a two man's job

Last month Lancelot Sukert told what he thought about speculative sketches. This month Fred O'Connor, an architect of Syracuse, New York, has a word to say, he too having read the page reproduced here



from the pack of bulletins issued by the Institute. Send up the program, Elmer, when the Architectural Advisor mails it to you and I'll get out my beam compass and go to work. I won't need my slide rule until we get the job.

One day, along with the March winds, the program blew in, with sixty days to make the best designed Dutch or English Colonial City Hall in these vast United States—and ample time to carefully read the program from cover to cover and backwards too. The history of the city with all its details almost expressed the style of architecture. Among the numerous paragraphs of the requirements was stated, "Attention is called to the desirability of the Mayor, City Clerk, City Comptroller and City Treasurer being convenient of access, as a large number of people have business with these offices. THE FIRST FLOOR IS DESIRABLE." When you turned to the next page of the program under "Drawings" it was stated that the "3rd sheet" should show "Plans"—"FIRST FLOOR, 2ND FLOOR and BASEMENT."

Well! what could be more clearly stated, a TWO story and basement building with the executives offices on the first floor, convenient of access. The pencils grinded and the paper rolled off by the yard until at last out of the confusion came the finished "speculative sketches"—just as the "approved program" called for. What could be sweeter! Cubic contents within the stated amount and a generous balance left over.

"Nothing to it," says Elmer, "it's a knock-out; sure winner. Wrap up the drawings and don't forget to put in the 'plain, opaque, sealed envelope' containing our

"NOTHING TO IT,"
says Elmer. . . . "It's a
knockout; sure winner"



name." With considerable difficulty *Gus handles a two man's job* and gets the ungainly size bundle to the express office in time for delivery to the Architectural Advisor before the zero hour.

"Nothing to do now, Elmer," says Gus, "but grind out those full size details on that job we've been holding up while working on the speculative sketches and wait for the Jury's verdict."

"Picking a jury, by the way, isn't like picking all the red roses from one bush," says Gus to Elmer. "What was the idea of selecting four architects from New York to act as judges, when four of the competitors were from New York and the other three competitors from the city about to have a new City Hall? Why not pick a jury outside of either city and not make any announcement of the architects selected until after the award of the competition is made?"

"Does seem strange," answers Elmer, "but no need to take the matter up with the Mayor or Common Council, for they will tell you, its all up to the Architectural Advisor."

After patiently waiting for several weeks, Elmer and Gus received the jury's announcement that McKimmey, Need and Black, a New York firm, had been awarded the job.

"Well! I'll sure be anxious to see the winning design," says Elmer to Gus, "so keep your eyes open for

the Architect-Journals. They are going to publish it."

Sure enough! In the June issue of one of the architectural magazines came the winning design. And what a shock to Gus and Elmer! The jury must have thrown the program out the window, for the award had been made for a THREE story building with basement when the program called for TWO stories and basement. The "joker" was pulled when the competitor called the first floor, which was entirely above grade, the "ground floor" and the next floor above, some twenty-four or more steps above the grade, the "first floor."

Can you imagine the poor public climbing twenty-four steps to see the Mayor, when the program distinctly stated the executive offices should be of easy access? In other words, when is the "ground floor" the "first floor"? And if it isn't the first floor, then it's the basement and what the winning competitor called basement must become sub-basement, which the program didn't call for. There is nothing, by the furthest twisting of the imagination, that can make the floor of any building on a level lot, entirely above or on grade known as other than the first floor. But this interpretation is just another something that the Architectural Colleges forget to teach during the long four years of grind.

Moral:—Keep out of "Speculative Sketches," even when they are "approved."

40% of Falls in Houses Occur on

STAIRWAYS

Old Rules Should Be Discarded
for Comfort and Safety

By George E. Eichenlaub



MR. EICHENLAUB, an architect and engineer of Erie, Pa., is active in seeking to prevent the passage of a Pennsylvania state law fixing the proportions of stairs. He indicates in this article that generally accepted rules for stairs do not necessarily provide safe stairs. Desiring data that will aid in obtaining safe stairs he would appreciate readers of THE AMERICAN ARCHITECT contributing their experiences with good and bad stairs

THE State of Pennsylvania is about to rule that future stairways of all public and semi-public buildings are to "lie within the limits of pitch at 33 to 36 degrees and the sum of the riser plus the tread shall not exceed $17\frac{1}{2}$ inches."

Hearings were held in various cities but "No constructive criticism was received on the stair question." It may, therefore, be assumed that all architects, engineers and interested parties are in agreement with the "rule" that has been in use for many years, is taught in our universities, and is commonly used by architects to determine proportions of treads and risers.

Is this rule a safe one to follow? The Travelers Insurance Company furnishes data which shows that "falls" head the list of fatal accidents in houses and that of all falls, some 40% occurred upon stairways. While these accidents may have resulted from faulty foot-wear or other causes, no data seems to be available on faulty or badly proportioned stairs.

The accompanying graphs indicate a few stairways, some ideal, some not so good, and some bad. They also indicate the location and use of the stairs as found, and with the use of good judgment, the data may have value to designers. A study of the graphs will prove disturbing, since

they show that "the rule" does not settle the question of proportioning stairs.

Analysis shows that the really good stairways lie at the limit of the rule or beyond it being less in pitch and more than the sum of the rise plus the tread, or the contemplated size limit of $17\frac{1}{2}$ ".

The graph of the "walking stairway," Fig. 1 at A, shows a $6\frac{1}{2}$ " rise by 30" tread, without nosing, which is comfortable enough going up and not bad coming down, but is not recommended. If this tread were about 24" it might be better. Since no stair of such dimensions has been found to date, it is just another guess of another architect and might be good descending, but restricted in stride of ascent. A 2" nosing may then cure that design, making it good in both directions,

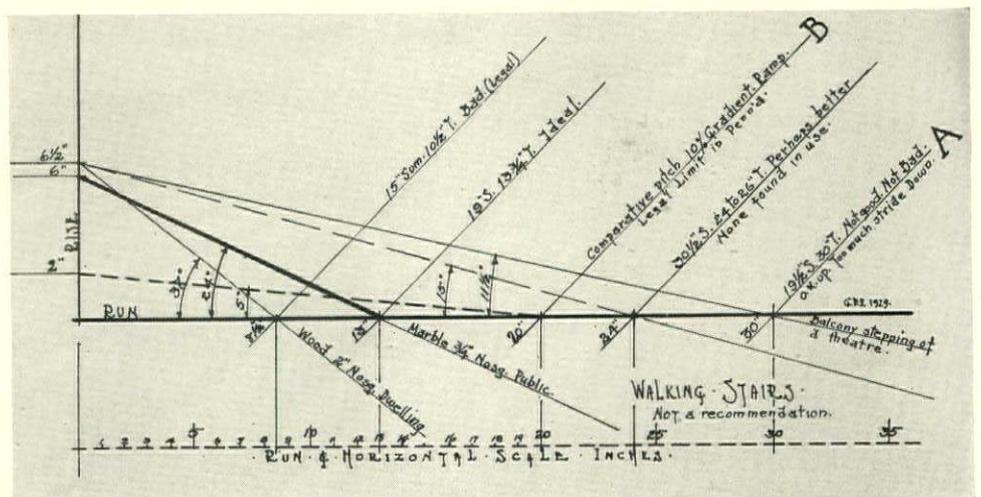
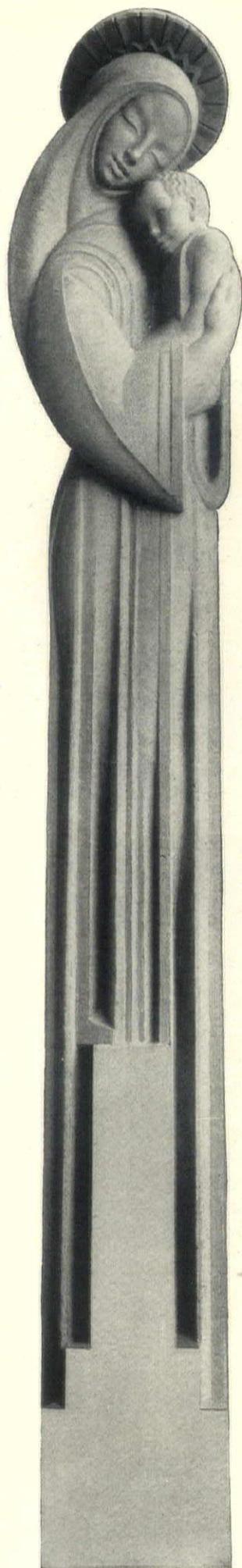


FIGURE 1: Graph analysis of stairways, showing rise, run and pitch. It indicates that many stairways designed by "rule" are dangerous



THIS modern conception of Madonna and Child, as well as other ornamental features of St. Thomas the Apostle School, was produced by sculptors of The Northwestern Terra Cotta Company, after design, Shattuck & Layer, Architects.

For the delicate modeling of those fine designs which give character and beauty to a building and mark it with the individuality of its designer, Northwestern Terra Cotta is the ideal present-day material. It reproduces with great fidelity the designer's finest conceptions; the sculptor's masterpieces. Besides these advantages, the repetition of decorative motifs in terra cotta distributes the original modeling cost fractionally to each piece, thus linking high quality with true economy.

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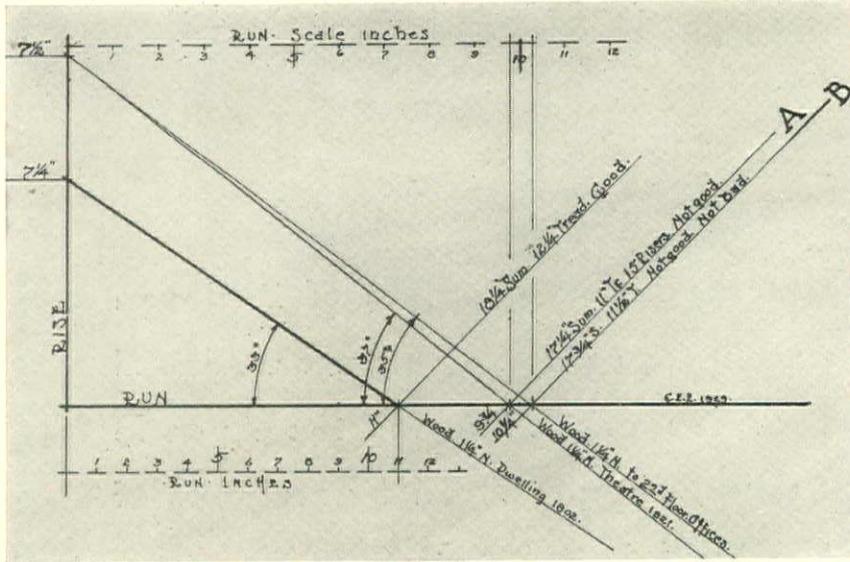


FIGURE 2: Graph of good and bad stairs. That at "B" would be better with a wider tread, giving more pitch to the stair

for short distances; say from three to ten step flights.

The pitch of a 10% ramp, about 5 degrees, the legal limit at present in Pennsylvania, is shown for comparison in Fig. 1 at B, beyond which pitch a stairway must be used. It is well known that any riser under 6" in height is uncomfortable and a 1" to 4" riser is dangerous. What to do? I am not satisfied that 10% is a practical, end-safety limit; it may be another guess of some other architect who said it first, and all the rest followed, until in time a mere opinion finally became a law, if you please, to guide the ignorant and restrain the unscrupulous. It might also be added *good law is not so bad*, but it is important that architects make the laws good, in so far as they are affected in their work by such laws.

What can be substituted for "the rule?" Why have a rule? This office uses no hard and fast rule but our stairways for the past several years have been universally successful to that extent where we have much unsolicited favorable comment, where only adverse words, if any, are heard for stairways in general.

About fifteen years ago, this, then young, architect designed a Sisters' Home and thought, as many would, that a woman being of smaller stature would require a stairway of smaller or minimum rule dimension. The riser was made 6 1/2", the run 8 1/2" with a 2" nosing making a 10 1/2" tread. The result was terrible. The 2" nosing along with a landing halfway to the second floor merely made the stairs usable. Yet this stairway at 36 degree of pitch and 17" sum of "rise and tread" would lie with-

comfort of our clients and the evanescent glory of this young architect.

These pertinent notes scribbled in the office "Kidder" serve now as our guide in stair design:

"7"x11" with 1 1/2" nosing is ideal for a house and not bad for any condition. To juggle the rise by 1/4" up or down does no harm; to increase the run up to 2" does no harm; to increase the nosing projection does no harm if structurally sound, but the nosing shall not be decreased unless the decrease is added to the run; in such case we favor a shallower rise or greater tread. Headroom should be 7'0" in the clear at nearest point of stairs for public work; minimum 6'0" clear above riser below and 5'0" measured perpendicular to the string, but may be reduced for steep stair or ladder.

"8"x8 1/2"x1 1/2" in Eichenlaub Block, 1870. Dangerous, any condition.

"7 1/4"x10"x1 1/2" Austin Bldg. 1913. Good. 12" treads would better it. (Continued on page 120)

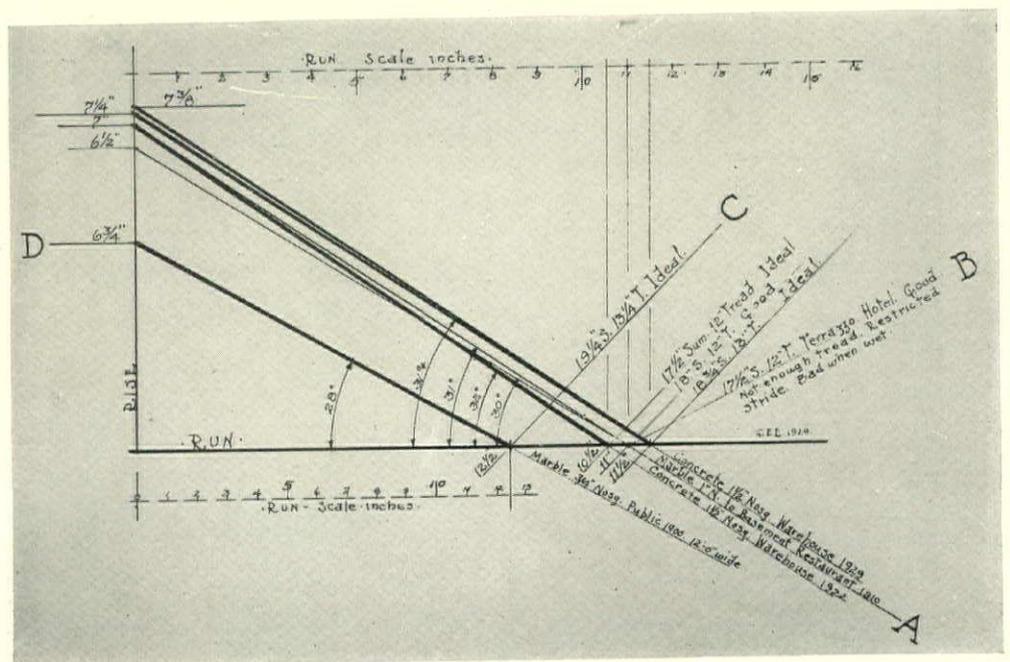


FIGURE 3: Graph analysis of good stairs measured in various buildings



*The same mellow quality of this ancient tile roof at Dijon, France,
can be obtained here in America by using IMPERIAL Roofing Tiles.*

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FOR JANUARY 1930

67

Employed
for Life?
well



YOU'RE FIRED!

By George F. Kaiser

WHAT HE DID. When Bronson was injured while in the employ of the engineering firm of Dibble & Dole, he was most modest in his demands. That was in the days before there were compensation laws. When the injuries seemed to be permanent, Dibble told him not to worry. "There will always be a job for you here," he said. "As far as you are concerned, your job is permanent."

The years went by. Finally Dibble & Dole were taken over by a big construction company. Bronson, sure in the promise made him, didn't worry, but one day he was told that his services were no longer needed. "But I have always understood I had a life job," he said. "I was told the job was permanent and I believed it."

WHY HE DID IT. Most people would have thought the same way Bronson did as, to the layman, "for life" or "permanently" means for a certain definite period.

WHY HE SHOULDN'T HAVE DONE IT. Bronson should not have proceeded on that theory, and should not have waived any claim he might have because of the promise made to him. An agreement to employ a person permanently, according to the court decisions, is nothing more than an employment to continue indefinitely, or until one or the other of the parties, for some good reason, sees fit to sever the relations of employer and employee. Bronson could have resigned at any time, and therefore could also be discharged.

The church wasn't built and the architect . . .

WHAT HE DID. "I'd like to throw a little business your way," Jenkins told Anning. Anning was a young architect and Jenkins was head of the trustees of the church Anning attended. "I'll tell you what to do," he continued, "Draw up plans for a new church building of about the type and cost we have been talking about, and if we decide to build I'll see that you get the job." Anning prepared plans and submitted them. "Fine," said Jenkins, "They'll do nicely."—and that was the last Anning heard of the matter until he telephoned Jenkins. "The project has been abandoned," Jenkins said. "I'm sorry you're not going ahead," replied Anning, "but I think I should be paid for my plans."

WHY HE DID IT. Although Anning knew he was

not entitled to payment for acting as superintending architect, he thought he was entitled to compensation for preparing plans, because he had actually furnished them and had been told, "they'll do nicely." That was why he asked for payment.

WHY HE SHOULDN'T HAVE DONE IT. If an architect voluntarily draws plans with the hope or expectation of being employed as architect and superintendant, he cannot recover for his services if he is not employed. There must be a contract of employment, either expressed or implied. Thus, too, an architect gets nothing for plans and specifications if his remuneration depends upon the happening of an event that never comes to pass.



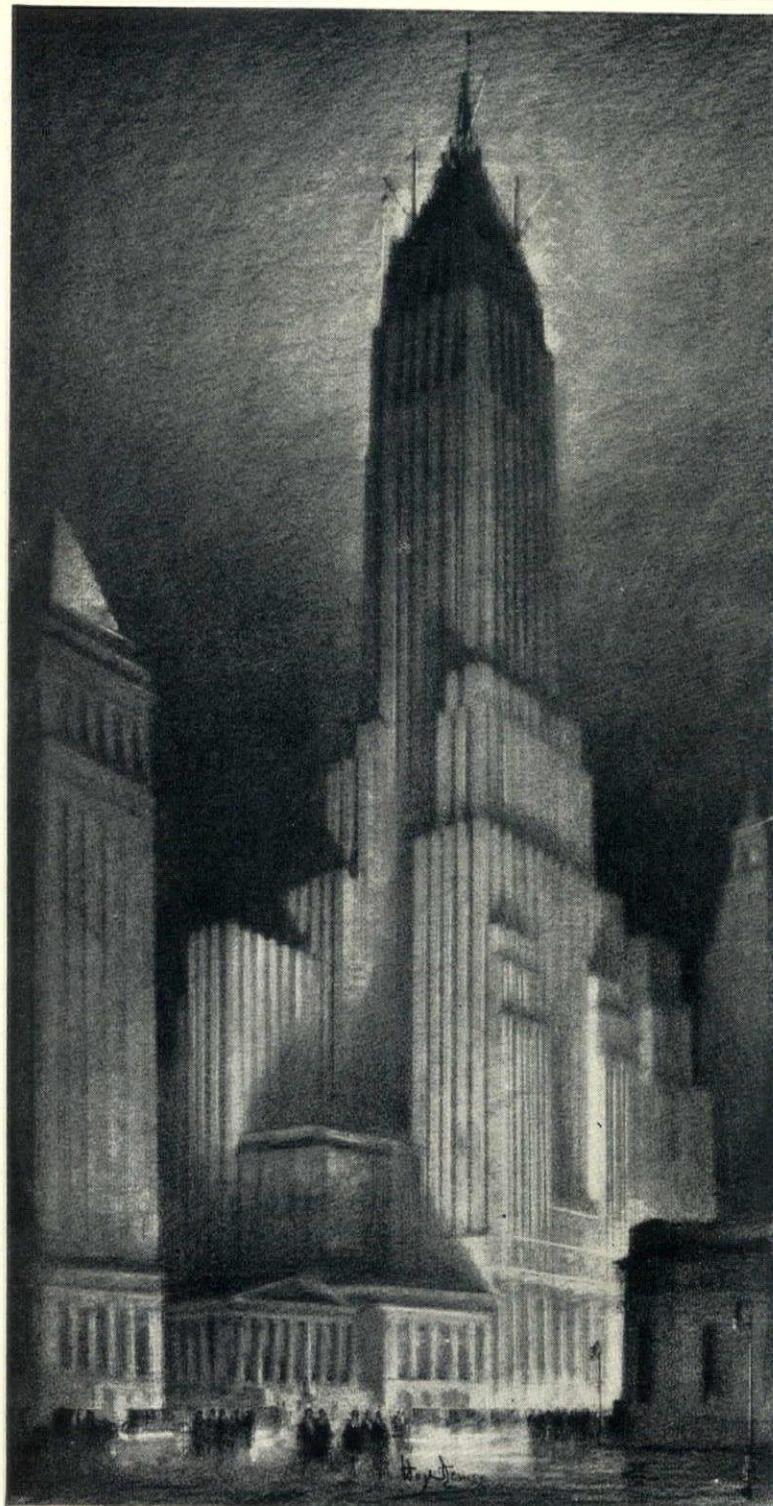
STEEL

proved before it is used

A STEEL structural member is a finished product before it goes into place. Its manufacture has proved—through constant inspection . . . test . . . analysis—that steel is qualified to serve anywhere, any time, with unfailing strength and unquestioned security. The very nature of the manufacture of structural steel—its unvarying chemical composition, its shaping through repeated rolling processes—forestalls any possibility of hidden weaknesses. Steel is *proved* right before it is shipped from the mill.

Specify steel with thorough confidence. Use it with assurance, for its properties are *known*. Build with steel to save time in construction, to bring sooner occupancy and quicker dividends. Use steel to defeat obsolescence—for steel buildings and bridges are most quickly, easily and economically altered . . . extended . . . remodeled . . . removed. Steel by test, by experience, by common acceptance, is the most suitable material for modern construction.

A Technical Service Bureau is at the disposal of architects, engineers, owners and others who have need of information which can be supplied through the American Institute of Steel Construction, Inc.



Free to architects only! This Hugh Ferriss rendering will be mailed on request. It is enlarged to approximately one and one-half times the size of the above illustration and reproduced on special stock for framing.

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A building at Hadleigh. From "The Minor Architecture of Suffolk"

Minor Architecture of Suffolk

By Dexter Morand. Published by Lohn Tiranti & Co., London, England. Illustrated. 9½ x 12½. Price 17/6.

BEAUTIFUL houses of Suffolk, built in days long past is a subject that has been well presented in this book, which is a collection of artistically printed plates done on one side of the sheet only, and tipped in. The intention of the book has been to present the smaller of the Suffolk houses, those done by local architects rather than by the talent from London. As a consequence, the work is of considerable interest and reflective of the life of historic Suffolk.

Much of the work is quaint, much suggestive of a train of thought bound to inspire ideas, and much is strangely modern in its conception and general handling. Altogether the book is one which is well worth adding to the library of those interested in domestic architecture, particularly if they incline towards the English style. It is an interesting record of an interesting period, showing a sound and honest expression of Suffolk life.

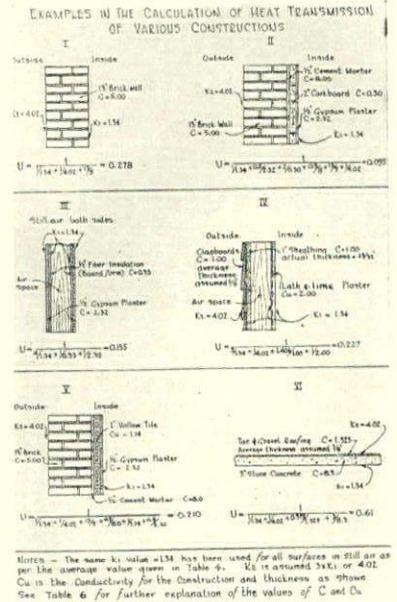
Mechanical Equipment of Buildings

Vol. 1, Heating and Ventilation. By Louis Allen Harding, B.S., M.E., and Arthur Cutts Willard, S.B. Published by John Wiley & Sons, Inc., New York. Illustrated. 963 pages; size 6½ x 9¼; price \$10.

HERE is the second edition of a well known work by men widely recognized as authorities in their respective fields. It is intended as a reference book for architects and engineers and contains sufficient theoretical and commercial data to make it of practical use in the designing room.

The book is exhaustive in its treatment, covering heat transmission of buildings and insulating materials,

estimating seasonal heating requirements for various types of buildings, heat transmission and dimensions of direct radiators, direct steam heating, exhaust steam heating, direct hot-water heating, heating water in tanks and pools, electrical heating, air analysis and ventilation laws, aid conditioning by washing, humidifying, cooling and drying, automatic temperature and humidity control, preparation of plans, specifications and estimates, fuels and combustion, and a number of other subjects. There are many tables, and equipment and installation diagrams.



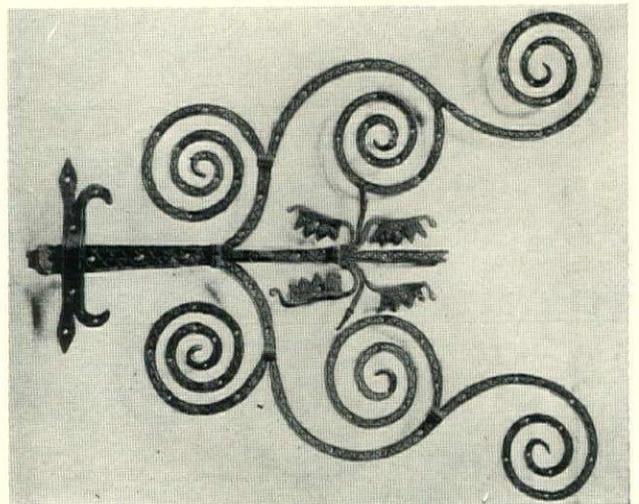
Notes - The same k value of 1.34 has been used for all surfaces in still air as per the average value given in Table 4. K is assumed 3xKs or 4.02. Cu is the Conductivity for the Construction and thickness as shown. See Table 6 for further explanation of the values of C and Cu.

From "Mechanical Equipment of Buildings"

Wrought Iron and Its Decorative Use

By Maxwell Ayrton and Arnold Silcock, F.F.R.I.B.A. Published by Charles Scribner's Sons, New York. Illustrated. 196 pages; size 10 x 12½; price \$17.50.

WROUGHT Iron Through the Ages, as Seen Through the Eyes of Two Architects," might well have been the title of this book, which shows unusual taste in its presentation of work from the earliest times



Twelfth century hinge bands and strapwork. From "Wrought Iron and Its Decorative Use"

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APARTMENT-LIVING gives the kitchen a new importance. It is no longer "servants' quarters," but a room which tenants themselves use freely and frequently. New standards of beauty and cleanliness mark the modern apartment house kitchen or kitchenette—which explains why those who visit residential buildings with an eye to leasing or buying apartments are invariably pleased when they find that a far-sighted management has provided floors of *Sealex* Linoleum or *Sealex* Treadlite Tile in the kitchen.

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up to today. Many of the beautiful examples of craftsmanship which are here gathered together were almost unknown before the publication of this book, and reflect much credit on the care and wide knowledge with which the authors approached their subject. The pictures are drawn from many sources, but especially from English country houses and churches.

The general history of wrought iron is covered, with text and reproductions illustrating the various periods and smiths of various sections, such as the Welsh smiths, those of the west of England, and so on. The text is interesting and informative, being supplemented by an adequate index to facilitate consultation of a book which is a worthwhile addition to the designer's library.



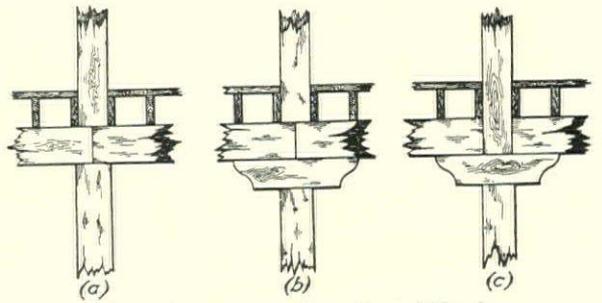
Mail box, New Jersey Bell Telephone Building.
From "Book of the Boston Architectural Club"

The Book of the Boston Architectural Club for 1929

Published by the Boston Architectural Club, Boston, Mass. Illustrated. 158 pages; size 10½ x 13½; price \$5.

EACH year the Boston Architectural Club publishes a book of plates illustrating outstanding recent buildings, with a liberal sprinkling of reproductions of parts of the architects' drawings. The 1929 book, just off the press, shows excellent judgment in its selection of buildings to be illustrated. It might be said that accompanying details which are reproduced are only such as are outstanding details in outstanding buildings.

Among the buildings illustrated are 333 North Michigan Avenue, Chicago; the Panhellenic Tower, New York; Motor Mart Garage, Boston; Maccabees Building, Detroit; Cassall Building, Los Angeles; The Bok Singing Tower, Mountain Lake, Florida; First National Bank, Northampton, Mass.; Telephone Building, Syracuse, N. Y.; and many others equally outstanding. The book impresses one as being an eclectic collection of the best work in each section of the United States.



Defective construction. From "Handbook of Building Construction"

Handbook of Building Construction

By Hool and Johnson. Published by the McGraw-Hill Book Company, New York; in two volumes totaling 1511 pages; size 6 x 9¼; illustrated; price \$10.

THIS is the second edition of a book containing exhaustive data for architects, designing and constructing engineers, and contractors, compiled by a staff of fifty specialists under the direction of two editors-in-chief, George A. Hool, S.B., consulting engineer and professor of structural engineering at the University of Wisconsin, and Nathan C. Johnson, M.M.E., consulting engineer. A great deal of new text has been added in this edition.

The book covers the designing and detailing of members and connections of various kinds of structural materials, building materials and their properties, general designing data, construction methods, estimating, mechanical and electrical equipment, and a variety of other valuable information.

There is an excellent index to facilitate finding required material and the book is a thoroughly comprehensive one that bears the stamp of authority.

City Planning

Edited by John Nolan. Published by D. Appleton and Company, New York. Illustrated. 513 pages; size, 5½ x 7½; price \$3.50.

PROBLEMS that confront practically all towns and cities are dealt with in "City Planning," which is the second edition of a book first published in 1916 and now revised and enlarged by the addition of new chapters. It presents the lines of investigation, planning and control which have been found most sound in theory and most successful in practice, being the work of sixteen men each thoroughly experienced in the subject he writes about.

Some of the subjects covered in the book are subdivision of land, public control of private real estate, public and quasi-public buildings, local and minor streets, neighborhood centers, general recreation facilities, park systems, water supply and the city plan, navigable and non-navigable waters, railroads and industrial districts, transportation and main thoroughfares and street railways, the effect of rapid transit on the city plan, residential and industrial decentralization, fundamental data for city planning work, city financing and legislation, regional planning and zoning. The book also contains a bibliography and a good index.

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Have a Word to Say

THE CLIENT'S POINT OF VIEW

From Henry Ives Cobb, Junior, F.A.I.A. New York

Editor, The American Architect: I read Miss Boyle's article with a great deal of interest. There is many a true word spoken in jest, and Miss Boyle's remarks seem to me to be the legitimate complaint of a sensible layman.

There are always two sides to every question, however, and I think a lot of misunderstanding could be avoided if each of the parties to the building of a house would use just plain common sense and try to put himself in the other fellow's shoes.

Miss Boyle's remarks about blueprint "elevations," I know, are the usual feeling of the person who is not used to looking at drawings and visualizing what they mean in three dimensions. But after all why should the ordinary person, not an architect, be used to doing this visualization? The architect is so accustomed to thinking in three dimensions and reducing this thought to the flat two dimensions, which his drawings of necessity are, that he is inclined to forget that this is not "as easy as rolling off a log." Perspectives do help but I am sure that it is this lack of the real power to visualize from a drawing which is the real trouble.

I think it would help a lot if the client could realize that what the architect is really trying to do is to find out what his client *really* wants. The architect is not trying to be "high hat" but he knows so well how often what a client says he wants is so badly expressed, or so indefinite in the client's mind that the architect feels he must *tell* the client what he wants.

If the client would really seriously spend a little time deciding *what* he *definitely* means and then have enough confidence in his architect to leave to him *how* this result is to be accomplished it would give better results.

I sometimes think that just because everyone is born and brought up in some kind of house he thinks that thereby he knows how to design one. True design is not just a few vague ideas about the size of the living room and the color of the brick but a true visualization of the problem as a whole, the weighing of the importance of one detail as against another in its relation to the whole, and the eventual working out of these relationships into a *harmonious* result. This is what a competent architect is trained to do and what he is paid for.

No one would think of going to a doctor in whom he has confidence and saying, "Doctor, I think I have indigestion," and then trying to face him down when he says "You have appendicitis," and yet that is what many people figuratively do to their architect.

A little confidence in the earnestness and competence of the architect would help. Because I do think that most architects are really so interested in their job that what looks like arbitrary high-handedness, or gentle pity

for the client's dumbness, is really an attempt on the architect's part to give his client what the architect's self-respect as a designer demands of him.

The budget question is one of the sorest I know. There I think that the boot is on the architect's leg to a great extent. He is inclined to forget that "the cost of the house" does not necessarily mean to a client only what is technically included in "the house" from the architect's standpoint. What the client means by "cost" is the hole in his bank account made by the whole operation. It is up to the architect to point out to his client, from his knowledge of building operations, all the foreseeable expenses that are likely to occur and let the client eliminate or make some allowance for them. In that way the architect can go ahead and plan a house in which cost, as well as design, takes its proper place in the harmonious whole.

The difficulty of course lies in the fact that the client does not realize that it is impossible to give as accurate an estimate of the cost of a house from the preliminary sketches, which are usually used as data, as for a suit of clothes, for instance.

Many indeterminable factors enter in—time, weather, wage conditions, the changing whims of the owner, all must be allowed for.

But I do think that an article such as Miss Boyle's gives both laymen and architects food for thought, and I think that if there were a little more confidence in the integrity and earnestness of the architect on one side, and a little more putting himself in the other fellow's shoes on the other, a lot of heart burnings could be avoided.

Briefly, why doesn't the architect and the client play the game with all the cards on the table from the beginning?

ONE MAN'S WAY OF SATISFYING CLIENTS

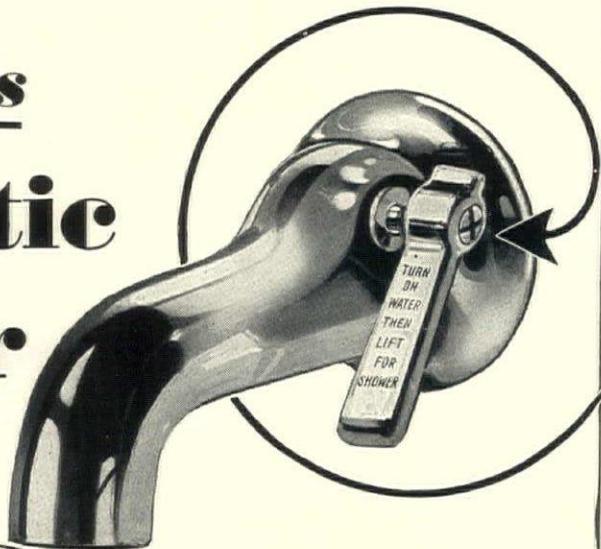
From Bem Price, Architect, Birmingham, Alabama

Editor, The American Architect: I got mad this morning at home about a very trivial matter and started to leave the house without my breakfast but remembered it was Sunday; we always have brains, and eggs with toast and bacon for Sunday breakfast, so I stuck around but was still mad so came on to the office. I forgot to tell you what I was mad about—and don't think I shall.

As a matter of fact, I am still mad; but in looking through the magazines that have accumulated on my table I came across yours in its new form and I like it. I subscribe to thirteen architectural and kindred magazines but I don't seem to get much pleasure out of them, yours included. Maybe this has been my fault in not going into them carefully enough but I enjoyed your November issue. The next time I get all swelled

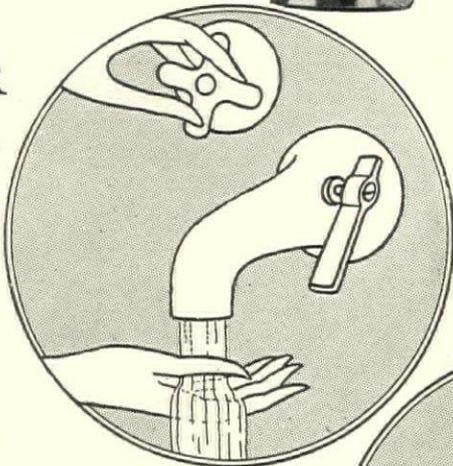
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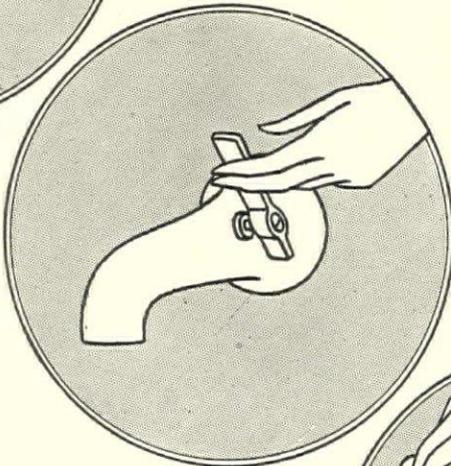
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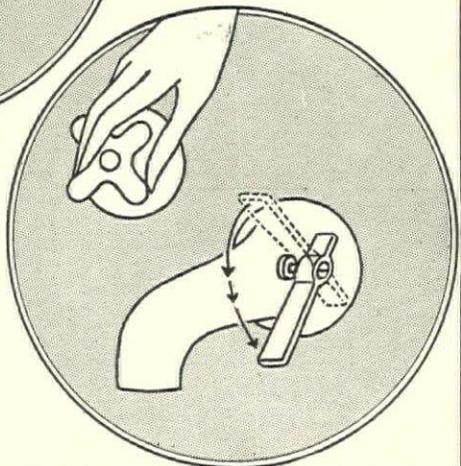
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up like I am this morning, I will try one of the others and maybe I will enjoy it too.

Ruth Boyle is exactly right in demanding that the architect tell the client the whole story in the beginning. I have been doing that for twenty years and have found it pays.

I haven't a single residence in the office and haven't had for some time. I have done some right creditable residences in my time but only for clients who don't want to be misled. The other prospects go somewhere else after they hear the full story. You would be surprised to know how many wives want the architect to become a party to deceiving the husband as to the ultimate cost so they can "get him started," as they express it.

In residence work, I almost invariably make it a point to go to the client's present abode, usually in the evening, on the excuse of it being more convenient for the wife to discuss her wants without the interruptions of the office, but in reality to size up their mode of living if I do not already know. You understand of course, that the husband is always present. If not too bold a proposition, I get myself asked to dinner because in the serving of a meal the host gives one a pretty good idea of the scale of living.

Then too, the client will not always tell the architect the whole story. Just recently a client's wife was very much put out because I had not made easy provision for adding two additional bedrooms. They had been married just a short time and had only one child, so how was I to know. An architect simply cannot be expected to know everything.

I am not trying to vent my spleen on you just because I am a little cross this morning, but enjoyed your recent issue and just wanted to tell you about it.

NOTE:—Mr. Price refers to Ruth Boyle's article in the November *American Architect*, "I'm Going to Hire an Architect—and How I Dread It!"

WE MUST CHANGE WITH THE TIMES

From Francis Keally, A.I.A. New York



Reprinted by special permission from the *Saturday Evening Post*. Copyright, 1929, by the Curtis Publishing Company

Editor, The American Architect: . . . Do you think this same idea is applicable to the new architecture as opposed to the old school?

KEEPING GOOD WORK AT HOME

From Charles W. Frank, A.I.A. Akron, Ohio

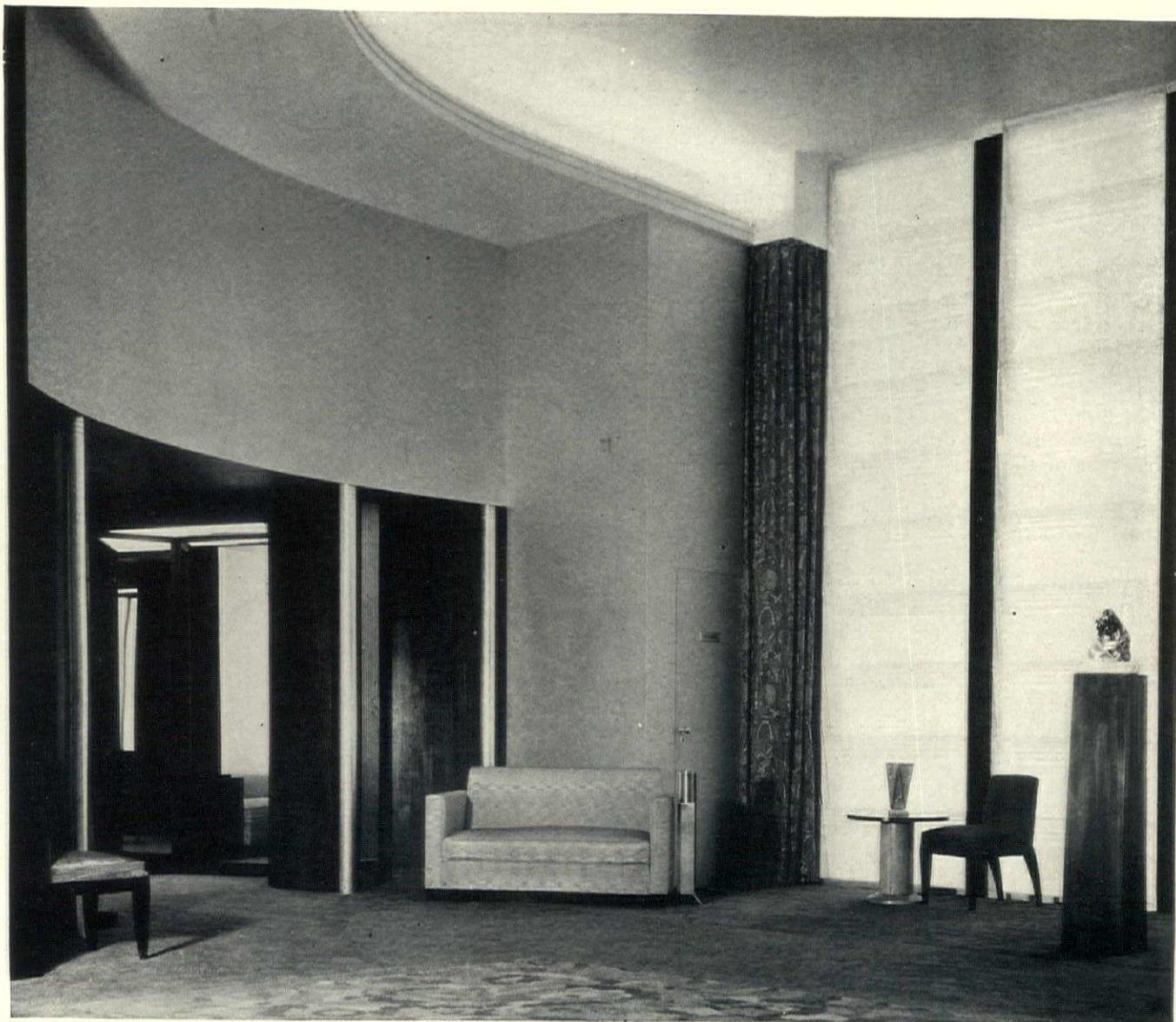
Editor, The American Architect: . . . Your question, "Can We Keep the Good Business at Home?," was meant seriously, I suppose, but it gave me such a hearty laugh that I was unable to continue the text portion; but I assume that, having asked the question, you expect an answer, and probably a solution to the problem, if there is one. I am going to give you a few good reasons why we can't keep the good business at home, and I feel that my advice in the matter will be so valuable to you that, in order for you to increase your circulation, all you will have to do is to mark each copy and send it to the architects who do not receive *THE AMERICAN ARCHITECT*, if there are any that are so dumb. Having done that, you may sit down and write me a check for ten per cent of the revenue received from your increased circulation, or else make me a life subscriber to your very valuable publication.

All kidding to one side, your monthly pamphlet isn't so bad, and since you have been livening it up with humorous articles we like it so much the better.

As you probably know, Akron is the rubber center of the world, as well as being the Greek for seven hills. Having such a mountainous topography, we local architects are constantly surprised with new buildings behind this hill or the other, and when we investigate we find that they are usually masterpieces of some famous New York or Chicago architect who has romped into town with his yellow gloves, cane and derby hat and made the hicks so ashamed of themselves that they handed him the job on a platter. We can't adopt the same method of dress or approach without getting pushed off the sidewalk or being sent to Probate Court for medical examination.

Several months ago, one of our large stores decided to build a two million dollar building and, having learned about it before they even made up their own minds, I conferred with them on the matter of architectural services, but I was astonished to find that a high-pressured salesman from Chicago had beat me to it, and had the job all sewed up in a basket. In order to let me down easy the president of the concern explained in detail how it was necessary to hire a specialist. He further stated that if they were spending only a couple hundred dollars a local man would be all right, but spending two million dollars, of course, was an entirely different matter.

I said to him, "I suppose a rug isn't any good unless you spend two thousand dollars for it," to which he casually replied, "No! But you don't see many good shows under \$5 a seat," which all goes to prove a local architect's fee, while being legitimate and high enough, is too low in comparison with that of well known out-of-town architects. In this case, he paid 8% and liked it. In fact, they were made to like it, and so far as I can see the only part of the building where a specialist should have been employed was on the exterior, which had a lot of windows, a few doors, and a few belt courses and a cornice. The interior is a pretty good loft building with plastered walls. (*Continued on page 106*)



WHITMAN & GOODMAN
Architects

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Rambusch considers it a privilege to have executed the silver and black painted decoration of the Saks-Fifth Avenue Fur Shop, under the direction of the Architects, Whitman and Goodman of New York City

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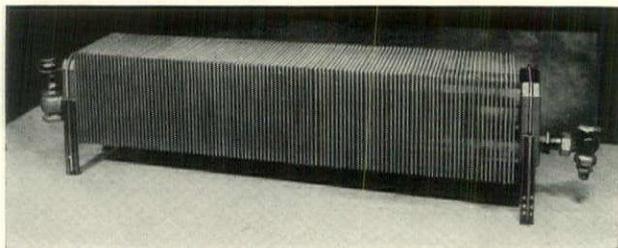
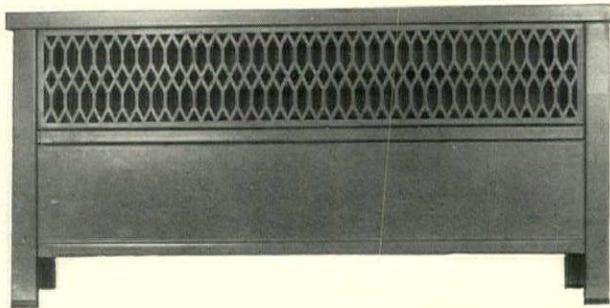
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"G-E Fiberduct" is the name of a non-corrosive raceway for underfloor wiring in concrete floors developed by the General Electric Company, Schenectady, New York. The system is so designed that outlets may be installed safely and economically at any point and at any time during the life of the building. The product is composed of impregnated fibre with a wall thickness of 3/16" and a cross sectional area of three square inches. The duct is oval in shape and is so designed that when concrete is poured over it, an arch is formed. It is adapted to either cinder fill or monolithic construction.

Radiator Cabinet and Heating Unit

Heating efficiency and attractiveness are combined in a new radiator placed on the market by the Heintz Manufacturing Company, Philadelphia, Pa. It is composed of two units, an outer cabinet and a concealed heating unit of fine construction. The cabinet is designed so that cool air enters at the bottom, passes over the heating unit and is forced into the room horizontally.



Humidity Control for Houses

Vaporflo is the name of a new device placed on the market by the Whitehead & Kales Company, Detroit, Mich. It is attached to any type of heating plant and operated directly from it. The process consists of vapor escaping from a floor opening to be absorbed by the air, keeping a normal balance between the amount of heat and the normal moisture content of the air.

Terra Cotta Development

Abbochrome colors are a recent development in terra cotta manufactured by the Atlantic Terra Cotta Company, New York. They consist of combinations of two or more harmonizing colors shaded and merged together. The texture is slightly rough and the surface dimly luminous. They may be used for both exterior and interior purposes.



Sectional Electric Range

An electric kitchen range that can be built up or taken down like a sectional book-case has been developed by the Armstrong Electric & Manufacturing Co., Huntington, West Virginia. The complete unit comes in sixteen parts, making the same range readily adaptable to large or small kitchens. It is possible for only part of the range to be bought at first, other parts being added at will. It is also possible for the outlines of the range to be changed to conform with changes in the kitchen furnishings. All the parts are light and easily handled.

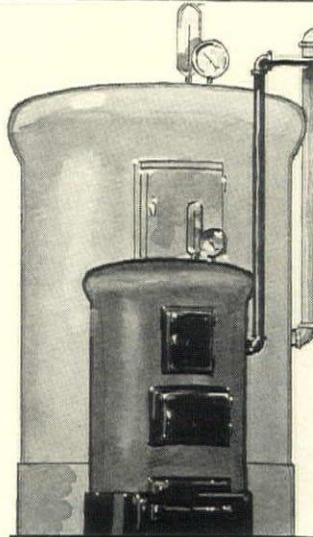
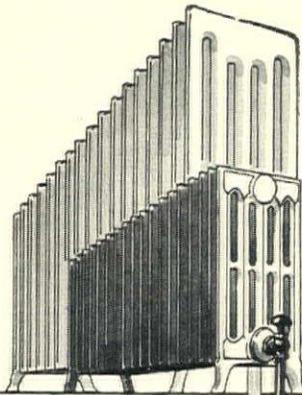
Marblmetal Partitions

Partitions made of marblmetal, which is a fabricated material consisting of sheet steel faces between which is a special sound-deadening and non-absorbing insulation, have been developed especially for toilet partition use by the Mills Company, Cleveland, Ohio. Hardware used is chromium plated.

Mazda Lamps Now Colored on Inside

The Edison and National lamp works of the General Electric Company have announced that development work has been completed on the application of the inside colored process to the 10-watt, 110-115-120 volt, S-11 intermediate screw base Mazda lamp. Three lamps, which were formerly supplied colored only on the outside, are now available in the inside colored finish in the full line of standard colors, including red, yellow, green, blue, amber-orange, flametint and white. The inside colored finish represents a distinct advantage over the outside coating in this lamp, particularly in its application to outdoor signs and decorative lighting. With the inside colored finish, the bulb has a smooth outside surface which has less tendency to collect dirt, is more easily cleaned, and the colors are not affected by the weather.

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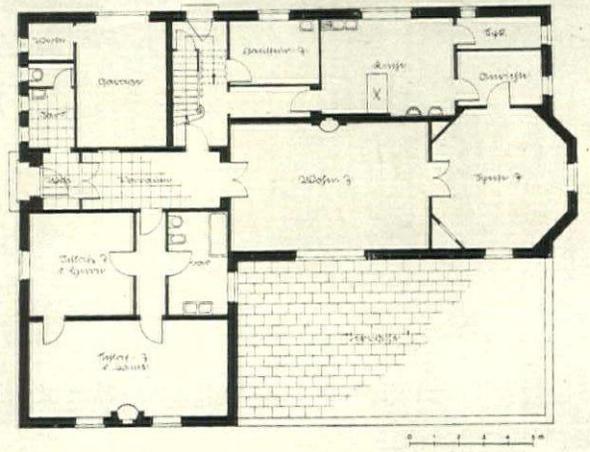
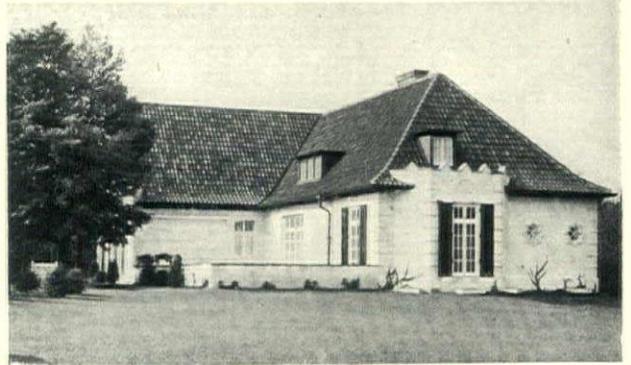
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Times Furnishing Company Limited, Holborn, England. C. J. Eprile, A. R. I. B. A., Architect. From the "Architect & Building News," issue of October 18, 1929



House for H. Volker, built in 1926, in the woods town of Wohldorf, a suburb of Hamburg, Germany. Reproduced from the September, 1929, issue of "Baukunst"



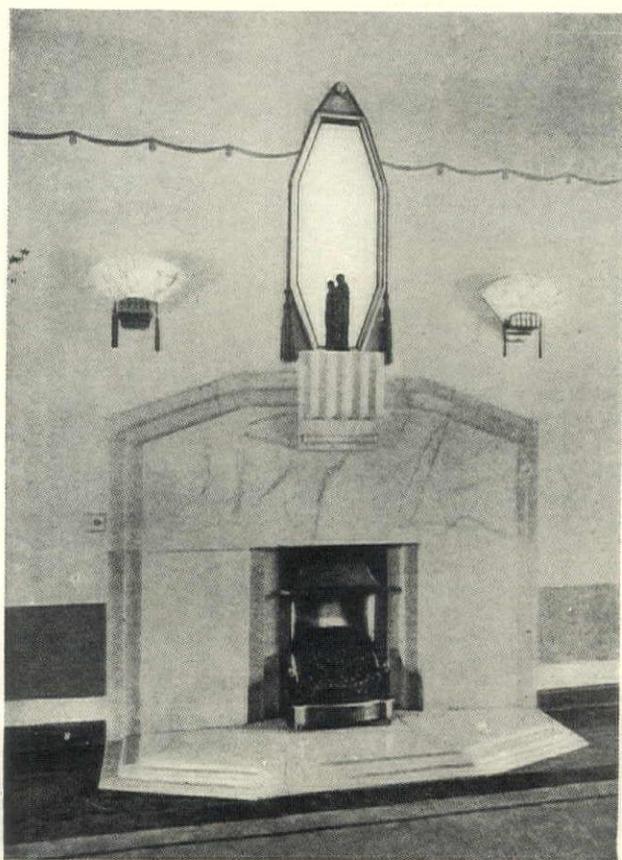
"Le poete et Pegase": one of the decorative allegories sculptured by the late Emile Antoine Bourdelle for the Theatre des Champs-Élysees, Paris. From the "Architects' Journal" of London, for October 9, 1929



Chesterton Windmill, Warwickshire, which has been attributed to Inigo Jones. From the "Architect & Building News," October 18, 1929



Cold Storage house, Kuhlaus Union, Altona-Neunmuhlen. Reproduced from the September, 1929, issue of "Baukunst"



Drawing room fireplace, house of T. S. Tait, Hempstead, England. From the "Architect & Building News," October 18, 1929



Northcliffe House, Bristol, England. Herbert O. Ellis and Clarke, F.F.R.I.B.A., Architects. From "The Builder," October 25, 1929

NEW CATALOGS

Covering What Manufacturers Have to Say About
the Advantages and Uses of Their Products

CATALOGS ON PUMPS

The Economy Pumping Machinery Co., Chicago, Ill., has just published three new catalogs. One, "Horizontal and Vertical Non-Clogging Centrifugal Pumps," describes a line of pumps designed particularly for pumping water containing solids of all kinds, such as rags, sticks, stone, stock, scale, etc. Another, "Small Multi-stage Centrifugal Pumps," explains a line of small capacity multi-stage pumps suitable for boiler feeding, hydraulic press service, high pressure water supply, etc. A third, "Non-Clogging Sump Pumps," describes pumps designed for draining all kinds of sump, refuse pits, etc., where solids may collect with the water. Catalogs give details of construction, capacity tables, and other data.

PRACTICAL PLANNING FOR CHURCH FOOD SERVICE

This book contains illustrations of church and social centers together with their plans showing methods of food service planning, an article entitled "The Efficiently Designed Church Kitchen and Its Relation to the Architectural Plan," another article on "How Expert Church Kitchen Planning Will Reduce Labor and Improve Operation," and a third article on "Some Helpful Thoughts About the Buying of Kitchen Equipment." It is issued by the John Van Range Company, Cincinnati, Ohio. A. I. A. file No. 35 c.

HOT-COLD CENTRAL HEATING

An illustrated booklet describing heating equipment using gas and manufactured by the General Iron Works Co., Cincinnati, Ohio. Explains how the equipment can be used to humidify and deliver cool clean air in summer. Gives data on comparative costs of coal-fired steam systems as against automatic gas-fired. Contains pictures of typical installations.

MACOUSTIC CONTROLS SOUND

The second edition of a booklet illustrated in colors and issued by the Macoustic Engineering Co., Ltd., Montreal, Quebec. It describes the properties of Macoustic, which is a sound absorbing material put on like plaster, and furnished in a variety of colors. Illustrates some of the many textures possible. A. I. A. file No. 39 b.

RODDIS FLUSH DOORS

An illustrated catalog of the Roddis Lumber & Veneer Company, Marshfield, Wis. Explains and illustrates how these doors are made, shows the various types of doors made in excellent engravings that picture the grain of the various woods used. Illustrations include, mirror doors, wood transoms, louver doors,

French doors, inlaid waiscoting, and X-ray doors. Several pages devoted to door sections. A. I. A. file No. 19 c 12.

INDUSTRIAL DAYLIGHTING

"Industrial Daylighting by the Fenestra Method" is the title of a booklet issued by the Detroit Steel Products Company, Detroit, Mich. It offers a non-technical presentation of certain principles in daylighting developed by the company's engineering research department in co-operation with the Department of Engineering Research of the University of Michigan. It tells how to get evenly distributed light, the effect of dirt on industrial windows, daylighting through side-wall and through roof windows, why skylights always collect dirt, monitor windows vs. skylights, shape of monitors, how to figure the daylighting for a building, daylighting values for sloping windows, painting to increase interior daylight, kind of glass to use, controlling glare, and so on. The booklet is intended as a companion booklet to "Industrial Airation by the Fenestra Method," which is a presentation of certain principles in ventilation developed by the same co-operation of authorities which resulted in this booklet.

CAULKING WITH VULCATEX

The Horn Power Vulcatex Gun and the caulking compound or elastic cement, known as Vulcatex, as manufactured by the A. C. Horn Company, Long Island City, N. Y., is illustrated and described in a folder issued by that company. It includes a detailed analysis of the necessity of sealing all open joints in buildings and how this may be done.

MOVING TREES FOR BEAUTY

What trees are best to transplant for landscaping purposes is described in this booklet of the Davey Tree Expert Co., Kent, Ohio. It is illustrated with pictures showing houses before large trees were transplanted and after. Much space is devoted to showing how this kind of work is done.

LIGHTING FIXTURES

The Kayline Co., Cleveland, Ohio, issues in a filing envelope with several sections an extremely valuable collection of sketches of lighting fixtures for various purposes together with booklets on the general subject of lighting. A. I. A. file No. 31 f 23.

DIEBOLD SAFES

Booklet illustrating and describing safes made by the Diebold Safe & Lock Company, Canton, Ohio. Explains how they are constructed, gives dimensions of various sizes, and shows interior equipment for different models.

INFORMATION ON FRIGIDAIRE

"Information for Architects and Builders" is the name of a booklet describing Frigidaire, issued by the Frigidaire Corporation, Dayton, Ohio. The various models are illustrated together with a complete description of each. Individual and multiple systems are illustrated and described. Explains provisions of building codes that must be considered. Two pages devoted to location of compressors where multiple installations are made. Systems for commercial use described. Covers water coolers, room coolers, storage cabinets, ice cream cabinets, etc. A. I. A. file No. 32 d.

DECORATIVE FINISH FOR ACOUSTICAL SURFACES

How to obtain a washable paint finish in any color desired on acoustical plasters, felts, board, etc., is described in a booklet issued by the U. S. Gutta Percha Paint Co., Providence, R. I., and called "Acoustolight, a Decorative Finish for Acoustical Surfaces." This is a paint applied either by brush or spray, declared not to impair the porosity of the surface. Prominent installations are illustrated, together with directions for applying. A. I. A. file No. 25c.

SIGNALING SYSTEMS

A booklet of the American District Telegraph Co., New York, illustrating and describing the various A. D. T. protective signaling systems such as watchman's systems, fire alarm systems, miscellaneous signalling equipment such as telephone systems, signalling equipment for sprinkler supervisory and valve alarm systems, recording equipment, and systems for similar uses.

MORTAR COLORS

"Standard Specifications and Recommendations for Using Clinton Mortar Colors and Clinton Cement Colors" is the title of a folder issued by the Clinton Metallic Paint Company, Clinton, N. Y. The folder is interesting, concise, and is accompanied by a sheet showing color combinations. A. I. A. file No. 3 k.

MCQUAY MODERN RADIATORS

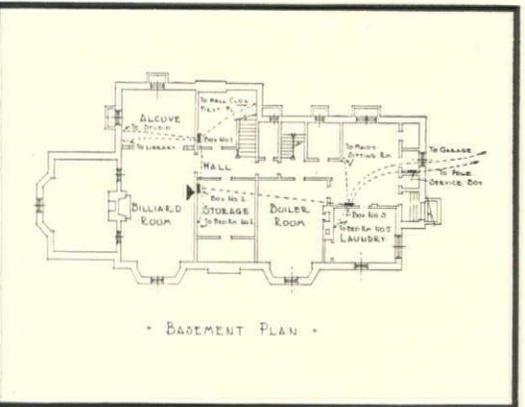
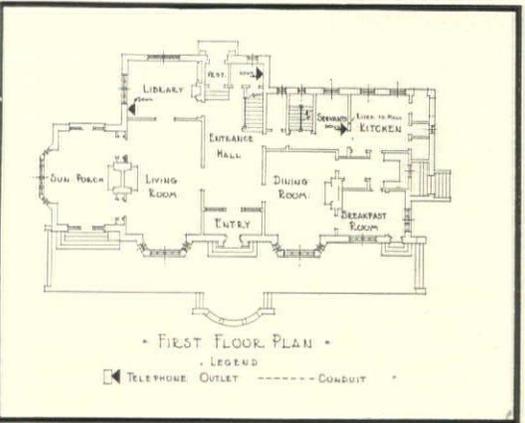
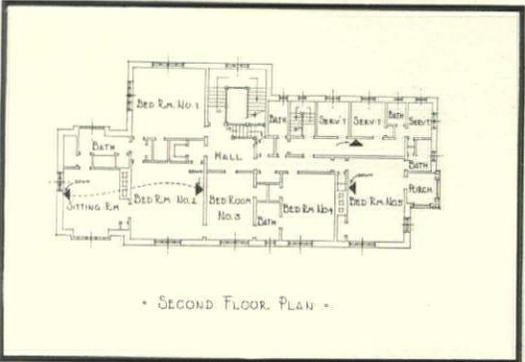
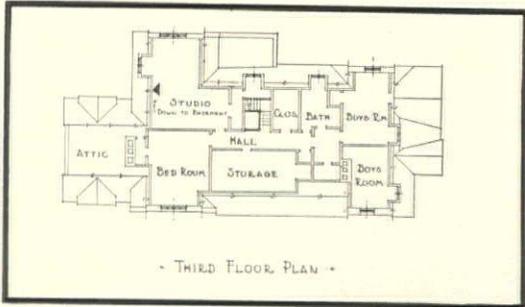
Illustrates the various types of concealed and cabinet radiators manufactured by the McQuay Radiator Corporation, Chicago, Ill. Many installations are illustrated, showing how the equipment can be used. Tables of sizes are given, together with specifications. A. I. A. file No. 30c 4.

COMPRESSED CONCRETE PILES

A booklet issued by the MacArthur Concrete Pile Corp., New York, illus-

(Continued on page 124)

New Beauty and Smartness— with Modern Telephone Convenience



In the residence of Mr. Philip N. Lawes, 56 Highland Avenue, Montclair, N. J., there are ten telephone outlets, including one in the garage and one in the basement. Conduit built into the walls and floors conceals the telephone wiring.
W. LESLIE WALKER, Architect, New York City.

A FEATURE of modern telephone convenience which is of particular interest to architects is that it adds to the *appearance* of a house, as well as providing greater convenience and comfort for the occupants. Telephones today are not only an indispensable means of communication, they have become a part of home decoration. Planning for the telephone arrangements in advance of construction makes it possible to utilize modern facilities to full advantage.

Conduits are placed within the walls to all points where telephone service may be desired immediately or in the future, avoiding the necessity of exposed wiring at any time. Underground service entrances conceal the wires coming from the outside. Attractive wall niches or cabinets for instruments and directories are constructed in some instances, especially where space is limited. Many other things contribute to utility and smartness.

It is desirable that architects consult freely with representatives of the telephone company in planning for telephone convenience in new or remodeled houses. No charge is made for this service. Just call the Business Office.





Residence:
Harrison, N. Y.

Julius Gregory,
Architect

A slate roof is the logical choice for the half-timbered house in the English style. To secure perfect harmony, however, the roof must be especially designed. Where Tudor Stone is specified our Architects' Service Department co-operates with the building architect in this important detail.

Rising and Nelson Slate Company

WEST PAWLET, VERMONT

Architects' Service Department: 101 Park Avenue, New York City

CHICAGO

DETROIT

PHILADELPHIA

BOSTON

SHOWMANSHIP

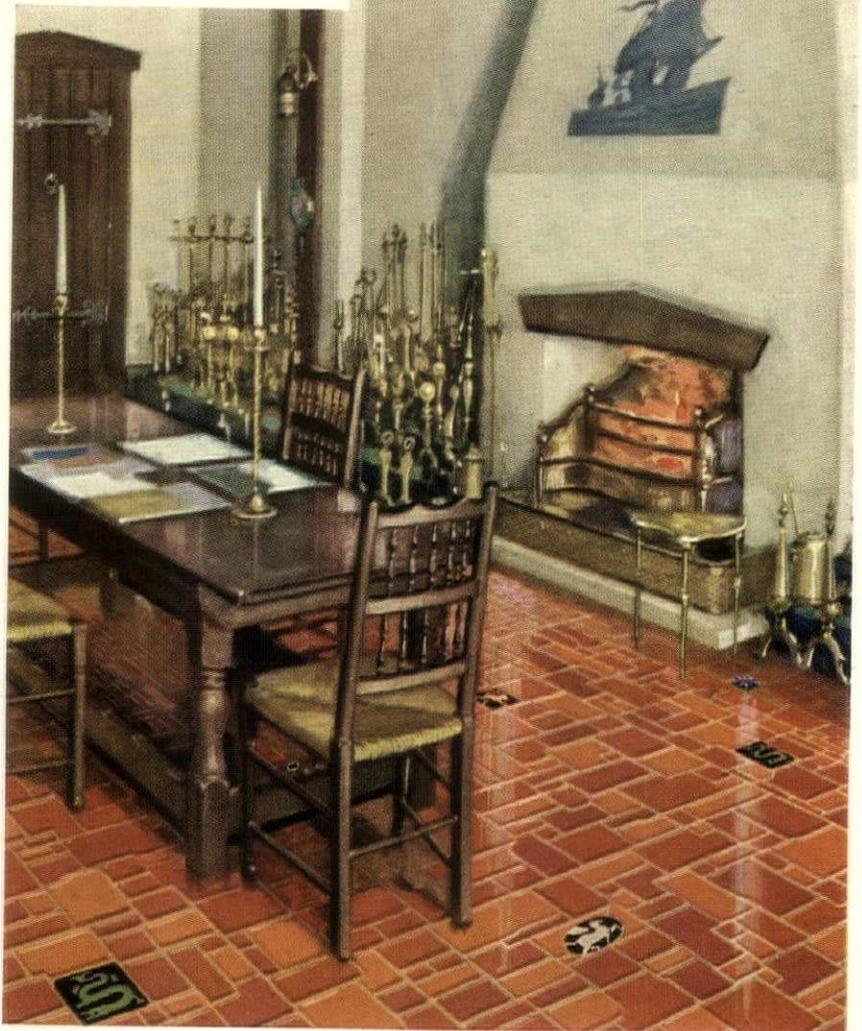
*The key word in planning
smart sales settings*

IN this dress-up age settings are most important. People like to dress up their homes, do their trading in dressed-up offices, do their buying in dressed-up stores. Today the setting makes the sale, and showmanship is the basis of every successful sales setting.

The modern architect can put snap, zest, and eye-appeal into any business interior if he makes the floor part of the sales setting. Notice how McKinney has done it here for forged iron hardware. The metal work on display is of Old World influence and demands an Old World setting. A hand-set tile design is in keeping, but modern conditions suggest a more modern floor. Armstrong's Linoleum supplies both the beauty of Old World hand-set tile and the convenience of modern linoleum.

General Electric puts showmanship in the selling of refrigerators throughout the country by the selection of Armstrong's Linoleum Floors for a sales-attracting background. Name almost any product or service—you'll find some leader who has enlisted the selling aid of these modern business floors.

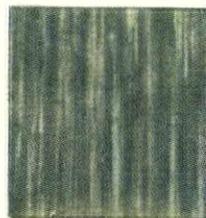
Armstrong Floors will last for years without warping or cracking—without so much as losing their original mellow tone. Let us tell you more about this foot-easy, eye-appealing floor . . . and about the Accolac Process surface that keeps it fresh and bright. Ask for a copy of our new file-size specification book or consult Sweet's. Address the Armstrong Cork Company, Floor Division, Lancaster, Pa.



YOU ARE CORDIALLY INVITED TO VISIT THE MCKINNEY PERMANENT EXHIBIT AT THE ARCHITECTS' BUILDING, 101 PARK AVENUE, NEW YORK CITY. THE FLOOR IS ARMSTRONG'S EMBOSSED INLAID, NO. 6061.



"Brilliant colors have been used in floors for centuries. Today there is a renaissance in this country of the appreciation and desire for more colorful and beautiful architectural ensembles in home, office, and showroom." FRANCIS KEALLY, A. I. A.



Look for the
CIRCLE A
trademark on
the burlap back



ANOTHER
ATTRACTIVE
FLOOR IS ARM-
STRONG'S JASPÉ,
GREEN, NO. 19

Armstrong's Linoleum Floors

for every room in the house

PLAIN . . . JASPÉ . . . INLAID and EMBOSSED . . . also ARMSTRONG'S LINOTILE AND CORK TILE



A new sink in the modernistic spirit— **TRENTONIAN**

THE modernistic style of the new TRENTONIAN expresses the touch of individuality so desirable in modern day kitchens. Its very simplicity of design and excellence of construction place the TRENTONIAN entirely "in character" with today's trend toward finer fixtures.

This latest contribution by Trenton is an all-porcelain, double compartment sink with integral back and center partition, on porcelain pedestal supports, with iron straps to wall—60" long, 26" wide and 7" height of back.

Any architect can unhesitatingly specify the new TRENTONIAN with full assurance of the utmost satisfaction on the part of his client.

THE TRENTON POTTERIES COMPANY
TRENTON, NEW JERSEY, U. S. A.

National Exhibit Rooms
101 Park Ave., New York City
Entrance on 41st Street

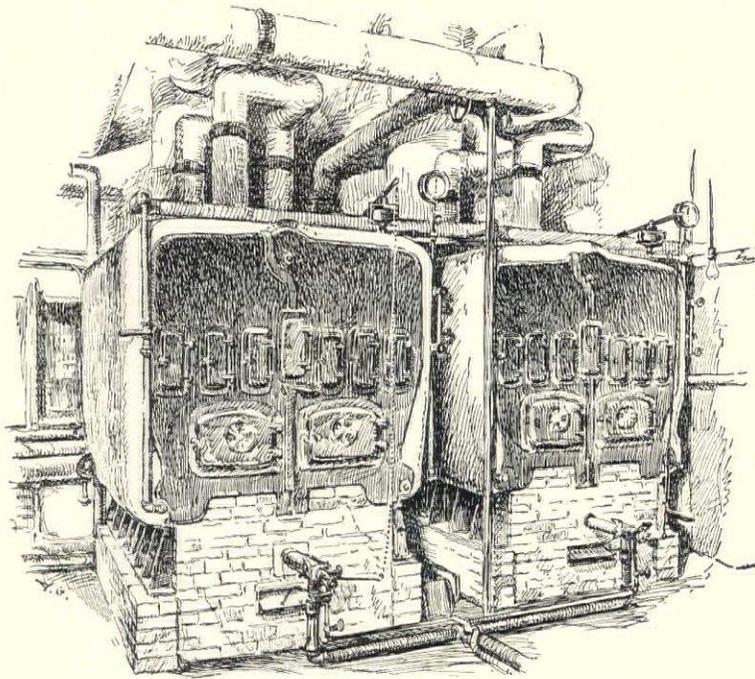
Sales Offices in
Philadelphia, Boston
and San Francisco

Export Office: 115 Broad St., New York City

TE-PE-CO

PLUMBING FIXTURES





The drawing, taken from a photograph, shows the boilers installed at the Church of Saint Nicholas of Tolentine, The Bronx, New York City.

Delaney, O'Connor and Shultz, Architects.
Johnson and Morris, Heating Contractors.

Where Oil Is The Fuel Burnhams Have An Extra Claim

If it be so that generally speaking no dollar and cents economies are resultant from using oil as a fuel, it's then apparent that any boiler not adaptable to oil, makes its actual operating cost more. From the very start of oil burning, the fact that Burnhams were so largely used in oil burner show rooms, points to the fact of their economy.

Surely no concern would deliberately use a boiler that showed up anyway but to the burner's advantage.

The basic reason behind Burnham's fuel oil economies is unquestionably their long fire travel. So long in fact that if in a straight line it would be 3 times as long as the boiler itself now is. This same feature, of course, makes it one of equal economy for all fuels. Such are frank statements of facts.

Burnham Boiler Corporation

IRVINGTON, NEW YORK

New York Office: Graybar Building, 420 Lexington Avenue

Representatives in many principal cities of the United States and Canada

It is Easy to Manage an Office

(Continued from page 32)

structural engineers. This department also has its subdivisions, viz.:

(a) Shop Drawings: When contractors submit shop drawings for checking, the head draftsman turns them over to individuals in the drafting room familiar with the original working drawings. The drawings are then carefully checked, errors are noted and the drawings returned for revision. This procedure continues until the drawings are approved.

(b) Specifications: Specification work is usually divided among two or more individuals. It is customary for the mechanical engineer to write the heating and ventilating, plumbing and gas-piping, electrical work and other mechanical branches. The structural branches of work are usually written by a firm member or someone else especially fitted for such work.

Specification writing, often carelessly and ignorantly done, is one of the important phases of architectural practice and deserves the utmost care in production.

THERE are many offices that do not check a specification after it is written. This omission is to be condemned. It has been demonstrated time and again that regardless of who writes a specification, errors and omissions creep in. This fault in specification writing can be practically eliminated when the work is checked by a person who has had no connection with the job in its production. The checker views the job with an open mind and approaches it from the standpoint of a contractor. He carefully examines the drawings, takes off all notes which have a bearing on the specifications, and at the same time studies the plans and details from the contractor's view point to see that the work can be built or put together as drawn. After taking off all notes, he reads the specification and sees that every item has been included and clearly specified. To some architects this additional labor may seem unnecessary, but in the writer's opinion it is service to one's self and eliminates the most embarrassing thing an architect has to contend with—extras and mistakes.

(c) Explanation and interpretation of drawings and specifications during the period that bids are being taken and while contractors are estimating: Questions often arise as to what is the intent of the drawings and specifications. Interpretations should be made by one man, usually the head draftsman; when a decision is reached on some obscure passage in the specification the information should be sent out to other contractors bidding on the work; when bids are received, all questions are settled and the interpretation can be incorporated in the specification in the form of an addenda, or in the body of the building contract.

(d) Drafting Room: The drafting room is usually in charge of the head draftsman, who allots all work to the various draftsmen and sees that the work is carried through to final completion.

Supervising a drafting room is a problem and requires a great amount of diplomacy on the part of the head draftsman. The average draftsman is more or less

temperamental and has to be considerably handled to produce successful results, either in quality or quantity.

Each man in the drafting room should be instructed as to his duties and his relation to other men.

When sketches are ready to put in production, a well defined schedule should be prepared stating in detail such things as the type of partitions to be used, door frames, doors and various kinds of flooring, etc. This schedule, placed in the hands of each man working on the job, eliminates errors and unnecessary questions.

Considerable waste often occurs due to the careless handling of tracing paper and tracing cloth. Much of this can be avoided if standard size sheets are made by the office boy at the beginning of a job. The office boy can also place border lines on the drawings and have them in readiness when required by the draftsmen.

All other supplies such as pens, pencils, erasers, etc., should be kept under lock and key and dispensed as they are needed.

Another serious problem is the filing of drawings, blue prints, and catalogues. The writer has found that one of the most efficient methods of filing drawings is to place them in a vault, flat on shelves, or in drawers which measure approximately 40 x 50 inches. The drawer or space between shelves is approximately three inches, which is usually ample room for the average job. In case the job is of such magnitude as to require more space, two shelves or two drawers may be used. On the face of the shelf or the drawers placed a card with the name of the job upon it. Drawings of small jobs, where little space is required, may be filed in a cabinet equipped with pigeon holes approximately 4 inches square and forty-two inches deep.

On the completion of a building and when there is no longer any need to refer to the working drawings, all tracings and shop drawings, together with a complete copy of specifications, should be carefully rolled into a bundle, wrapped, tied, tagged, and filed away in the store room.

CARING for catalogues has always presented many difficulties, due to many manufacturers getting out catalogues of a size different from that recommended by the American Institute of Architects. In recent months, however, the majority of concerns are conforming to the Institute's recommendation as to sizes and it is now possible to file catalogues in a standard vertical letter file, classified as "Electric Supplies," "Roofing," etc. or according to the A. I. A. standard construction classification. Catalogues that are too large to fit into this system of filing should be placed on shelves which are easily accessible.

The drafting work may be sub-divided into three parts, the first of which is the architectural drawing department, second structural and third mechanical. The three divisions should cooperate so far as possible to the end that the architectural department can proceed in an orderly manner and at the same time be provided with information concerning the sizes and spacing of

INTERIOR STUCCO

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**BEST BROS.
KEENE'S
CEMENT**

Always "BEST" for Plastering

MODERN effects in interior stucco, unusually beautiful and of enduring quality, are readily attained by the use of BEST BROS. Keene's Cement. This pure gypsum product, because of its uniform high quality, easy workability and super strength, assures satisfaction and economy on any job... large or small. A letter or card will bring you further interesting details.

BEST BROS. KEENE'S CEMENT CO.

1060 W. 2nd Ave., MEDICINE LODGE, KAN.

Sales Offices in: New York, Chicago, Detroit,
St. Louis, San Francisco, Atlanta

(31)



A stucco interior done with BEST BROS. Keene's Cement in the Plaza Theatre, Kansas City, Mo. Architects: Edward W. Tanner & Boller Bros.; Builders: J. C. Nichols Companies; Plasterers: Walter Plastering Company.



Corner of living room of Dr. Willard P. Earnsey, Rockford, Ill. Bradley & Bradley, Architects; Clyde J. Safford, Contractor; Louis O. Daedler, Plasterer.



Living room of the LeRoy Bush residence, St. Louis. Maritz & Young, Architects; Higbee Construction Co., Contractor; George Robertson, Plasterer.

structural members such as columns, beams, etc., while the mechanical department furnishes all information concerning ducts, radiators, piping, boilers, etc.

It is a great convenience for an architect to have his own structural and mechanical engineers. When the engineering is done outside of his own office it often happens that many changes must be made in the architectural drawings to accommodate these branches, whereas when they are in his own office much of this is eliminated, with consequent large saving.

ALL departments noted on the left branch of the chart report to Firm Member No. 1. This department concerns itself with employment, clients, business office, promotion, superintending and job management.

Employment: Firm Member No. 1 interviews all prospective employees, secures their history, then in conference with the head of the department where the applicant will work, determines upon salary, etc.

Clients: Firm Member No. 1, being the main contact man, should, so far as possible, meet all clients when discussing the terms of contract, in the submission of sketches and in the settlement of any disputes, etc. It is good practice, on occasions, to bring other firm members into these conferences so that the firm will not be known as a one man concern.

Promotion: Every architect has a certain amount of this to do when any building project has to be financed by the client through other sources. In this connection, Firm Member No. 1 should take the active part, showing in detail the estimated cost of the building, the estimated revenue, and making suggestions as to the manner of financing.

This is somewhat outside the duties of an architect but present day business often requires it; someone in the organization must have sufficient knowledge to guide and protect the client in the negotiations.

Superintending and Job Management: A superintendent can "make or break" an architect either by efficient or careless handling of a job. Therefore, use only good men.

IN a large office, there should be one general superintendent having complete charge of all jobs and under him individual inspectors actively engaged at the building. Inspectors should keep accurate daily reports, copies of which are sent to the owner at the end of each week. On the completion of the building, these reports constitute a complete history of the building project.

Business Office: The business office should have a manager who is in charge of all financial and building contract records, correspondence files, documents, specification file, accounting, and the supervision of all business office employees.

Waiting Room: The waiting and reception room should be in charge of a competent young lady, capable of answering questions about bidding, award of contracts and other routine matters.

Filing: The business office should have a modern system of filing for letters, documents, superintendents' reports, bids, accepted proposals, etc.

For letters, any standard vertical file case is suitable. The drawers of these cases measure approximately

12" x 11" and are 3'0" in depth, all properly indexed. Correspondence relating to buildings is filed in separate folders by number or name. Letters referring to one job are all placed in one folder, except when the job is of such magnitude that it is necessary to make a subdivision; then provide a folder for each branch of the work.

There should be a record book showing the name of every job, the year it was erected, its total cost and cost per cubic foot. The cost per cubic foot may be subdivided, showing the cost per cubic foot for structural branches, cost per cubic foot including heating and ventilating, and cost per cubic foot including furnishings and equipment.

Documents, as well as bids, contracts and accepted proposals, should be filed in a document file case under the job name. All papers relating to one job should be placed in reversible folders.

The weekly reports of the building construction superintendents should be filed in folders in a separate filing case.

Stenographic note books should be carefully filed away in chronological order.

On completion of any job all correspondence, documents, etc. are filed under the job name in "Jumbo" filing cases, placed in a fireproof vault.

Standard Forms: Every office should have a complete set of standard forms consisting of large and small size envelopes, letterheads, contracts, bonds, superintendents' reports, time cards, extra orders, certificates for payment to contractors, etc. A few forms developed by the writer, which have proven quite satisfactory, are shown in the accompanying illustrations.

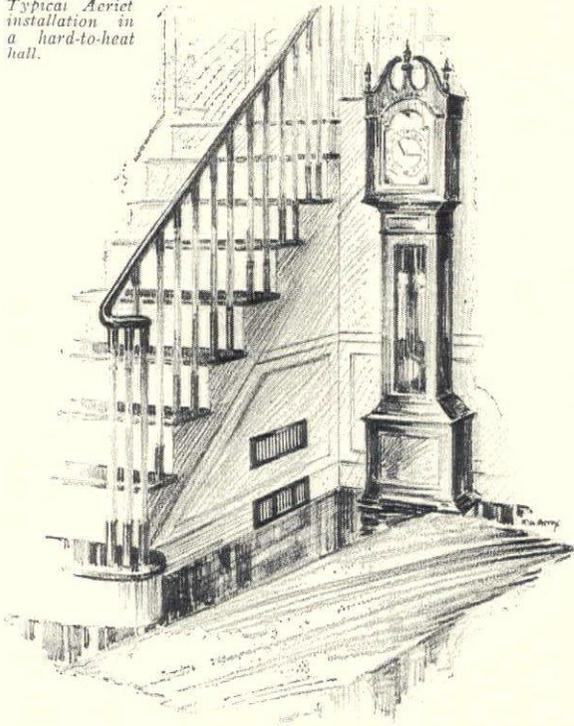
THE record books for recording building contracts, change orders, credit orders and payments to contractors, consist first of a multi-page bound contract book, of which form No. 1 is a typical page. The contract ledger page is illustrated by form No. 2. When contracts are awarded for the construction of a building, the name of the job and its proper address is written at the top of the page (form No. 1). Just below, on the first line, leave a blank where the "Total Cost" can be inserted when the building is completed. On the next line, state the "Cubic Contents," next leave a blank to insert the "Cost Per Cubic Foot Complete" and the "Cost Per Cubic Foot" without heating, ventilating, equipment, etc. Below is entered the date of the contract, all branches of work the contract covers, the name of the contractor and, in the ruled column, the contract amount. In the adjoining ruled column is inserted the reference number of the ledger page where a record of the payments on the contract are kept.

Form No. 2, ledger page, shows the individual contract amount, and a record of all payments.

Form No. 3 illustrates a certificate of payment to contractor. This is self explanatory and needs no comment. On the reverse side of the certificate is a form (form No. 3-A) of affidavit for the contractor to sign when receiving payment from the owner. The affidavit form printed on the reverse side of the certificate is a convenience to the contractor.

The change order, from No. 4, is used when any changes are made in the work. This order is signed by

Typical Aeriet installation in a hard-to-heat hall.



Introducing—

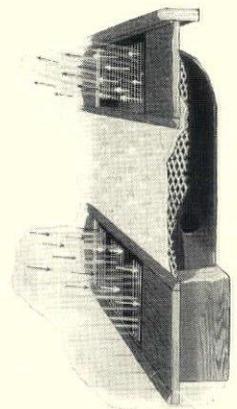
A New Equipment and a New Era in Domestic Heating

WHOLLY enclosed within walls and partitions, the motor-driven Air-Way Aeriet projects warmed air—not heat—from concealed units in each room, warming from the lowest level up, rather than from the ceiling down, positively diffusing the desired temperature evenly throughout the living area of the room. Silent, vibrationless, providing automatic thermostatic control in each room, here at last is the ideal of all architects and engineers made practical and at a cost that puts it easily within the vast market for a new and better heat supply and control. The Air-Way Aeriet is the only motor-driven concealed heating unit for this purpose. Write for complete information and data.

Easy Installed—Simple In Design—Positive in Operation

THERE are no valves to regulate on the Aeriet. The heating element connected to steam or hot water supply is integrally cast of unbreakable, non-corrosive, heat-conducting alloys. A specially designed, silent, vibrationless electric motor operates the blower-type fan which forces the abundant circulation of air through the unit, utilizing every available B.T.U. The complete motor and fan assembly is readily accessible. The entire compact unit, replacing hundreds of pounds of cast iron radiation, is entirely concealed. It diffuses no heat when not in operation. Individual automatic thermostats in each room electrically switch on the motor the instant the temperature drops one degree, shutting off automatically when the desired temperature is regained.

Air-Way Aeriet is described, illustrated and explained in a comprehensive book that should be in the library of every architect and engineer. We will gladly send you a copy. Write for it.



Sectional view of Air-Way Aeriet installed beneath the window and between partitions. Arrows diagram the movement of the cold air entering and warmed air deflected out into the room instead of rising along the walls as with old and obsolete systems.

Please send me the Air-Way Aeriet book.

Name

Title

Address

Firm

AA

AIR-WAY ELECTRIC APPLIANCE CORPORATION

TOLEDO, OHIO

(Heating Systems Division)

the owner, by the contractor, and by the architect. It is the means of avoiding controversy regarding "extras" and "credits" when a job is completed. Usually these orders are drawn in quadruplicate. One is given to the owner, one to the contractor, one to the superintendent in charge of the work, and one retained in the architect's office.

THE superintendent's report, form No. 5, is merely a record of the progress of the work and is evidence to the owner that the superintendent is on the job.

Form No. 6 is a typical page from the "Drawing Record Book" showing a list of all drawings made for the job, also a complete list of all specifications. The specifications are lettered A, B, C, etc. while the drawings are numbered 1, 2, 3, etc. This book shows the date the drawings were made, the scale of the drawings, whether they were on cloth or paper, the initials of the draftsman and a record of those persons who receive blueprints.

Firm Financial Records & Cost System: No matter how small or large an office, it should have a system of accounting. Such a system permits the architect to know his exact costs and profits, and furnishes him with all information in the preparation of tax returns. Cost records are very valuable when a client abandons a job, as you are then in a position to show your exact

costs to the owner and determine upon a reasonable fee when settlement is made.

In the August 11, 1920 issue of the "American Architect," a complete accounting system is described by the writer, showing all books and forms required. Space does not permit of its further discussion here.

It is the writer's opinion that any person entering upon an architectural career will do well to systematize, in so far as possible, every procedure in his office in order that his organization will function harmoniously and efficiently.

Any article on the management of an architect's office must of necessity be predicated by the complete and wholehearted acceptance, on the part of the aspiring candidate, of the advice of the well-known veteran of the profession, who is quoted as saying to his inquiring young friends, "There are three things essential to success: First, get the job; Second, get the job; Third, get the job."

We are fully agreed that this is a "sine qua non" and make it the point of departure.

Presuming that the first job has been secured, the acceptance of the foregoing advice, at least in essence, will be of great assistance in capturing the second and third jobs and eventually reaching the position where the "job seeks the man."

Larger Fees for Setbacks

(Continued from page 36)

fees for such projects as those involving modern set-back construction.

In order that I may offer you a still better illustration of at least a few of the more important changes brought about in the average engineering office by the set-back type of building in comparison with other usual types, let me tell you, briefly, of an apartment house located in the East Seventies in New York City.

This particular building occupies a site 100 by 100 feet and faces upon a street that is 100 feet in width. This means that if it were a structure of simple and straight-forward design, its height would be limited under the terms of the old Tenement Law in New York to one and one-half times the width of the street, which would be 150 feet high or about fifteen stories, without set-back. For a building such as this, it would have been necessary to prepare only seven separate plans to cover the structural engineering phase of the job; because of the uniformity of the column loads and the fabrication throughout, the engineering work would thus have been a more or less simple matter. But as the new Multiple Dwelling Law required the set-back construction, the engineering problems were found decidedly more difficult from the outset, and every single phase of this particular work took almost twice as much time as it would have for the more simple type of structure. In the first place, the set-backs started at the ninth floor, and while the building is to be only sixteen stories in height, it was found necessary to prepare no less than fifteen separate plans to take care of the various engineering items, or more than twice as many as would

have been required for a building under the old Tenement House Law.

While I do not believe that the average increase in the number of engineering plans for set-back construction would be quite as large as this, the case is one, I think, that very well illustrates something of the task the engineer is up against in handling this type of work. The increase in overhead costs are so apparent that even the layman can see designing costs must necessarily take a sharp turn upward if very many projects of this kind pass through the office.

The increased designing and dimensioning work required is well evidenced by the fact that in the building referred to, of the thirty-eight columns there are only six that carry through with a uniform load from roof to footings. Thus there are thirty-two columns that carry eccentric loads located at the various set-back floors. It is therefore necessary to carefully calculate these loads and provide for them in the column section and special girders, to say nothing of allowing for the unusual bending moments in the girders produced by this loading. Again, we find that in this building we shall have to use a considerably larger tonnage of complicated fabrication than would be the case if it were an ordinary structure. Of course this increases the inspection work and its costs.

Another point that I think most architects will find of interest is the fact that set-back construction is also costlier to the owner, because of the larger tonnage of steel and added labor that is required in such a building.

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If the apartment house just referred to were designed in the ordinary way it would have required somewhere between 950 to 1,000 tons of steel, including the columns, girders, beams, grillages, etc., whereas in preparing the engineering plans for this particular building we find that it will require 1,120 tons of steel, an increase of approximately 12 to 18 per cent. While this alone adds quite a bit to the ultimate cost of the building, there is still another important point to be considered, and that is the fact that in set-back construction we find that the cost per ton is also greater, because of the number of columns that have to be carried on girders at the various set-back floors, which materially increases the amount of riveted work, complicated fabrication and other labor and material costs.

When architects and engineers ultimately find that the demand for this type of construction, with the resultant complicated designing, forces them to increase their service fees, this also will add to the total cost of the building. However, I might also point out that the owner need not worry about such increased building costs, for set-back construction permits him to erect a taller structure with a consequently larger revenue than would be possible if he confined the operation to the maximum height of ordinary design allowable under the new law.

As an instance of this, in the apartment house referred to the owner will have a sixteen instead of a fifteen-story building, with approximately 10 per cent more rental space, which means in turn an increase of at least 10 per cent. in the rental income. This is enough to more than offset the added costs of the building in a comparatively short time.

When I said at the outset of this article that unless the structural engineer doing much set-back construction work is able to obtain a greater fee for his services on such projects, he will have to seek his living in some other field of endeavor, I know that I made a statement to which many readers will likely take exception. And yet I believe that this is a truthful statement which could very easily be proven by relating a few of the rather unfortunate experiences of some engineers in the

handling of set-back construction jobs on the present basis of payment for their services.

There is one well-known firm I know of that recently handled the structural engineering work for a large building of the set-back type that would have netted the company a profit of something like \$800 had the structure been erected along lines of ordinary construction. As it was a set-back project, however, the increased work of designing, dimensioning, inspection, etc., added so greatly to the engineering costs that this firm will consider itself fortunate if the office costs and the fee balance on this particular operation—and very fortunate indeed if it is able to net a profit exceeding \$100. Another well-known engineer told me recently that of eight set-back construction projects on hand not a single one but had failed to increase his overhead costs by at least 25 per cent., while in some cases the costs were approximately 100 per cent. larger.

A third case is that of a leading architectural firm in the East operating its own engineering department. It has found that the overhead costs are substantially larger for set-back construction not only in the engineering department but also in the architectural department.

Capable and efficient engineers are unquestionably a vital and important link in the chain of building progress. I do not think it possible that the correlated professions and interests will ever permit this chain to be weakened by employing inefficient engineers in preference to the paying of increased service fees. For while the average layman—and even a good many of the architects, I might venture to add—may not be as thoroughly conversant as they should be with the true functions of the structural engineer, the responsible architect and contractor has long since learned in the hard school of experience that the efficient engineer is a factor of the greatest economical importance in the field of construction—that his ability and his experience, his judgment and integrity, his thorough knowledge of the labor he is called upon to do, is just as essential to the quality, the safety and the permanence of the structure as the materials and workmanship that enter into its making.

Conventions and Expositions

January 18—30	<i>International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.</i>	March 15—22	<i>National Better Home and Apartment Exposition, Madison Square Garden, New York; April 14—21, New Haven, Conn.; April 22—29, Waterbury, Conn.; April 30—May 7, Hartford, Conn.</i>
January 27—31	<i>International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.</i>	March 31—April 5	<i>Twelfth Annual Home Show, Grand Central Palace, New York.</i>
January 28—31	<i>Annual Meeting American Society of Heating and Ventilating Engineers, Philadelphia.</i>	May 20—October 1	<i>Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.</i>
February 3—8	<i>Common Brick Manufacturers' Association of America, Memphis, Tenn.</i>	May 21—23	<i>American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.</i>
February	<i>Convention American Concrete Institute, New Orleans.</i>	May 26—30	<i>International Congress of Building and Public Works, London.</i>
March—April	<i>International Exhibition of Housing and Modern Industrial Applied Arts, Nice, France.</i>	June 19—30	<i>Pan-American Congress of Architects, Rio de Janeiro, Brazil.</i>
September	<i>International Architects' Congress, Budapest, Hungary.</i>		

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Pointers on Selecting Marble

(Continued from page 27)

principally made up of these carbonates may prove very durable if it is of fine-grained texture, the advantage of the latter more than offsetting the disadvantages of the former.

THE structure of marble may be massive, banded or brecciated. If massive, it is usually pure, as mottled or colored marbles of large size are comparatively rare. Marble of banded structure is taken from the quarry in the form of blocks which may be fairly large, but ordinarily are not very thick. Brecciated structure may be described as a sort of mosaic of large proportions; it is quarried in various shapes and often is comparatively small in size. Most of the colored marbles are of banded or brecciated structure and represent the type commonly used for ornamental purposes.

In the selecting of any building material for exterior use, the principal point to consider, of course, is the ability of that material to resist the ravages of external forces. In the case of marble, disintegration on exposure to atmospheric conditions may be due to a number of causes, but in most parts of the United States its most destructive enemy is frost. Still other important causes of disintegration may be extreme climatic changes such as are experienced in most of the northern states, or an excessive amount of humidity common to some of the southern and western states. Atmospheric gases are also injurious, particularly sulphuric acids contained in smoke. The texture of the stone has a great deal to do with its ability to successfully withstand these conditions.

Whether the grains in a piece of marble may be coarse, medium or fine, their uniformity is highly desirable, for lack of it often has an adverse effect on the absorptive qualities of the stone. This is caused by the fact that where the texture is uneven, the grains are more elongated in one direction than they are in another, which is likely to result in splitting or cracking on exposure of the stone to external forces.

Though marble is a very impervious material and therefore of low porosity, water can enter even the most minute of pores. The pores in marble are of varying size, but this is not important if they are straight and open, for in that case they will permit the ready drainage of such water as may be absorbed; on the other hand, if they happen to be narrow and tortuous, as is sometimes the case, they serve to impede the drainage and thus may bring about early disintegration. If moisture enters during frosty weather, it is apt to prove particularly injurious, usually causing the chipping and flaking off of fragmentary pieces of stone. It might also be mentioned that, if the liquid entering the pores happens to carry any coloring materials with it, these may also prove injurious by causing discoloration.

If any of the various factors by which the durability of marble is determined is more important than the others, it would be the nature of the mineral contents of the stone. For while pure marble is nearly always one of the most durable of building materials, the colored or mottled marbles used for decorative purposes are *not*

always durable. And the reason they are not is because of the very thing that accounts for their colors—impure mineral contents.

The mineral impurities that are found in most marbles include graphite, mica and pyrite in the pure grades, while these constituents also occur sometimes in serpentine and other colored marbles. Tremolite is found in most of the finer dolomitic marble, while chert is still another mineral that occasionally occurs in marble of all kinds. The reason these minerals are rarely injurious to the pure marble is because of its fine or uniform texture, which in the case of such marble happens to be a factor of greater importance to the durability of the stone than the mineral contents. Other minerals that are commonly found in composition with marble, mainly in the colored and mottled varieties, principally include calcium and magnesium carbonates, silicate minerals, iron oxide and other iron compounds, hornblende and pyroxene.

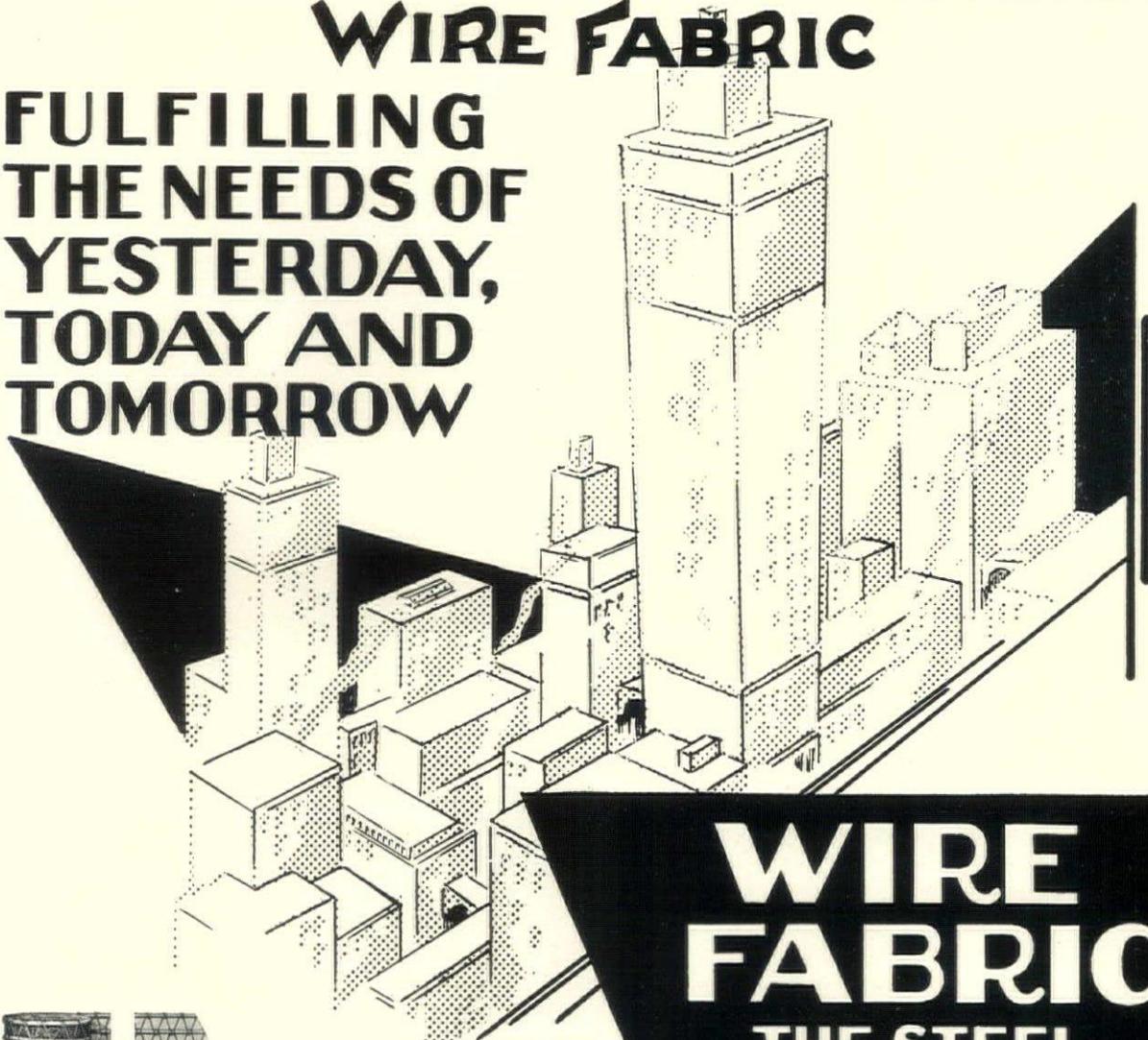
Colored or mottled marble is apt to weather rapidly if it contains calcium or magnesium carbonates, while silicate minerals in marble often have the result of making it very resistant to decay. However, it is impossible to give any definite rule concerning the durability of all of the colored marbles, for such knowledge can be acquired only by careful and exhaustive study.

MARBLE is found in almost every known color, as well as in mottled or variegated colors, hardly any two of which are exactly alike. Most of the pure marble that is used for construction or monumental purposes in the United States is domestically quarried, coming from a belt that in the East extends from northern Vermont to Alabama, with isolated deposits occurring in some of the western states. The colored or mottled marbles used for decorative purposes are to some extent imported, but many of them also are found extensively in this country. Of the better known and more commonly used colored marbles quarried in the United States, the pink and brown varieties used for flooring, wainscoting and structural ornamental work come from Tennessee, Vermont, Missouri, Alabama, Utah, New Jersey and Maryland. Another marble of remarkable beauty found in Vermont is Champlain red, a bright red product that can be very effectively used for ornamental purposes where this color may harmonize with the general scheme. Serpentine marbles, which are usually of a green or greenish-yellow tint but sometimes occur in various shades of brown, black or red, are quarried to some extent near Roxbury, Vt., and also are found near Easton, Pa., Westfield, Mass., and Philipsburg, N. J., as well as in various parts of Maryland and Georgia. Most of the serpentine marble, however, is imported from Europe, and it is well to bear in mind the fact that while it makes a very attractive appearance, it is usually unsafe for exterior use in severe climates because it easily loses its polish, and is likely to crack along the veins that traverse it.

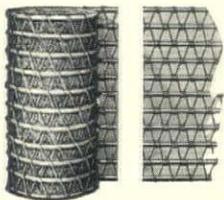
The National Association of Marble Dealers divides

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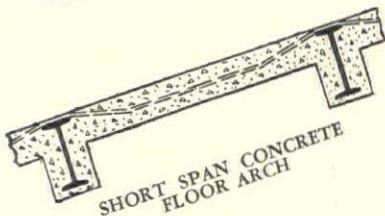
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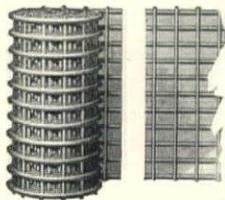


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marble into the four following classes according to soundness, durability and working qualities:

GROUP A

The varieties here listed are known as sound marbles which require no sticking, waxing, or filling, and possess the most uniform and favorable working qualities. An asterisk (*) denotes the more commonly used imported marbles.

Alabama	Lee
Alaska Token	Logan Missouri Gray
Blue Vermont	Mankato Pink
*Caen Stone	Napoleon Gray
Carthage	Pentilicon
Chassignelle	Red Ark Fossil
Clarendon	Regina
Colorado White	Tennessee
Georgia Cherokee	Vermont French Gray
Georgia Creole	Vermont Lepanto
Gravina	Vermont Pearl Gray
Italian English Vein	Vermont Verdoso
Italian White	Vermont White Grades
*Kasota Pink	Wellington Cream

GROUP B

The varieties here listed are of a character similar to those of Group A, but possess slightly less favorable working qualities, or occasional natural faults. A limited amount of waxing and sticking is necessary.

*Alta Vein	Italian Statuary Vein
Batesville	*Kasota Yellow
*Belgian Black	Mankato Yellow
Bianco Statuary	Middlebury Italian
*Blanco P	Regal Blue
*Breche Blanc	*Travertine
Champlain Black	Vermont Champlain
*Champville	Jasper
Colorado Travertine	Vermont Champlain
Eastman Cipollina (Light)	Lyonnais
Eastman Cipollina (Dark)	Vermont Champlain
Eastman Cream (Light)	Oriental
Eastman Cream Statuary	Vermont Pavonazzo
Eastman Cream Green	Vermont Royal Antique
(Veined)	Vermont Swanton Black
*Fossgraynel	York Fossil
Glens Falls Black	

GROUP C

These varieties include marbles of rather uncertain working qualities, marbles that contain geological flaws, or in which the voids, veins and lines of separation are common. They require more or less sticking, waxing and filling, and a free use of various forms of reinforcement.

Alabama Fancy Grades	*Brecia Fiorito
*Basseville	*Campan Melange
*Blue Belge	*Cenere
*Bois Jourdan	Eastman Heidelberg
*Botticino	*Emerald Curley Green
*Breche Opale	*Escalete
*Breche Pavonazzo	*Famosa
*Breche Stazzema	*Furst Gray
*Breche Violette	*Hautesville

Italian Pavonazzo
 *Jaune Benou
 *Juraville
 *Rosato
 St. Genevieve
 *Skyros "A"
 *Skyros No. 12
 *Skyros No. 14
 *Tavernelle Clair
 *Tavernelle Fleury

*Tavernelle Rose
 Tinos
 Tranivelle
 *Verdello
 Vermont Verde Antique
 Verd d'Estour
 Verona Red
 *Verona Yellow
 *Wallen Gray
 Westfield Green

GROUP D

This group includes many of the highly colored varieties of marble much used for decorative purposes. In quality the marbles are somewhat similar to those of Group C, but their soundness and working qualities are less favorable, and they contain a large proportion of natural faults.

*Alps Green	*Monte Aurato
*Biegenelle	Moreisque
*Black and Gold	Nebo Golden Travis
*Breche Oriental	Numidian Pink
*Breche Rose	Numidian Red
*Brocatelle Violette	Numidian Yellow
*Byzantine	*Onyx
*Campan Rouge Griotte	*Portoro Rose
Cardiff Green	Rosso Aligante
*Cipollino Greek	Rosso Antico
*Cipollino Swiss	*Rouge de Rance
Eschaillon	Rouge Etrusque
Fleur de Peche	Rouge Royal
*Florido Rose	Royal Jersey Green
*Forest Green	*Royal Rose
Genca Green	St. Baume
Grand Antique	Siena Gray
*Griotte	Siena Yellow
Jasos Arobico	Sylvan Green
Juane De Brignolis	*Verde
*Languedoc	Vert Antico
*Levanto	Vert Campan
Maurin	Violet de Brignolis

* More commonly used imported marbles.

The following statement concerning the waterproofing of marble is issued by the National Bureau of Standards, Washington, D. C.:

Under certain conditions of exposure it may be found desirable to apply a treatment to the backs of marble slabs in order to prevent penetration of moisture or various liquids. Bituminous coatings are frequently used for this purpose. A treatment which appears to be more durable under most conditions consists of paraffin applied either in the molten condition or in solution. Usually a more satisfactory seal can be obtained by heating the marble surface somewhat above the melting temperature of paraffin, applying the wax in a molten condition, then driving it in by further application of heat. Where marble slabs are to be exposed to continual dampness, as on a damp wall, this is probably the best treatment to use. . . . Paraffin treatments are not well adapted to use on the exposed surface of marble work since discolorations will be caused on light-colored marbles.

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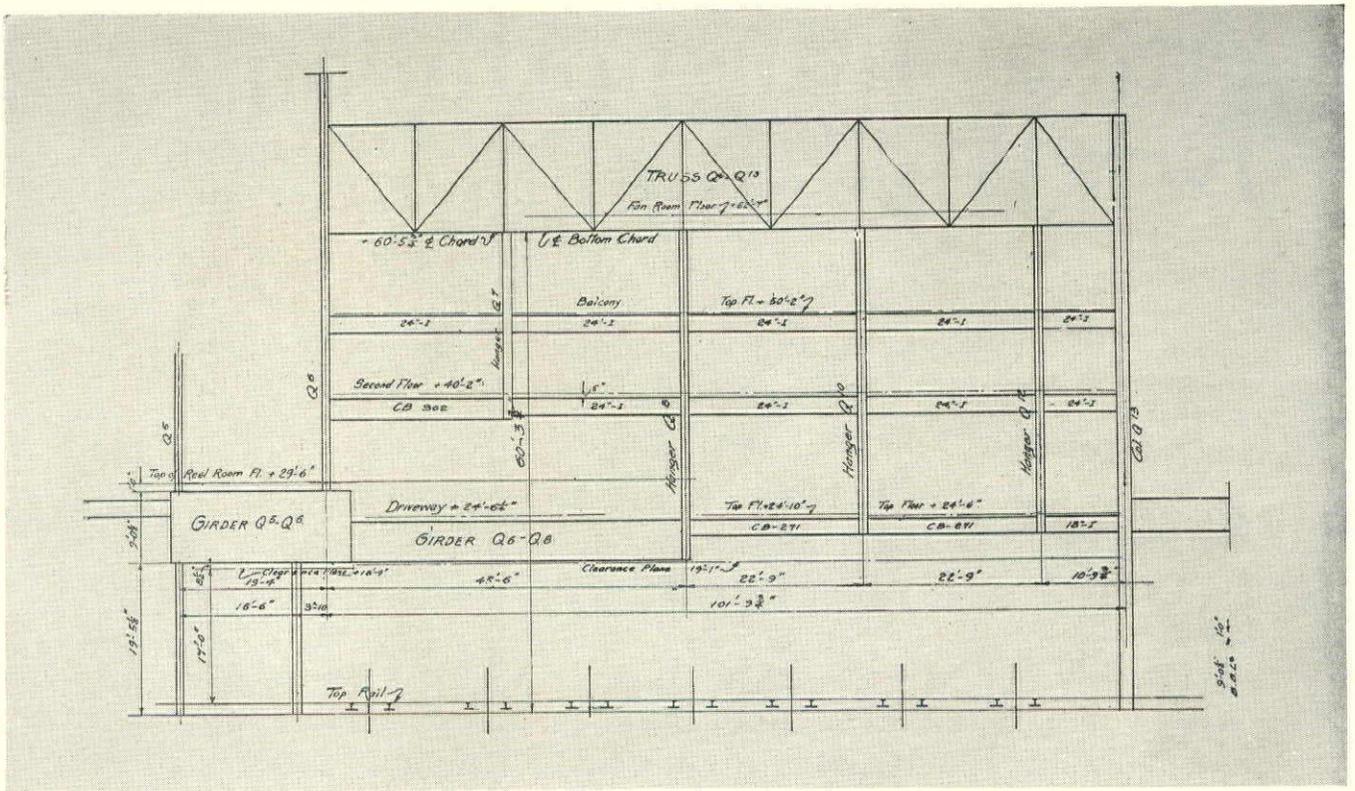
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A section showing some of the unusual engineering features of the Daily News Building. Three floors are suspended from a truss, one end of which rests on a column supported by a cantilever girder

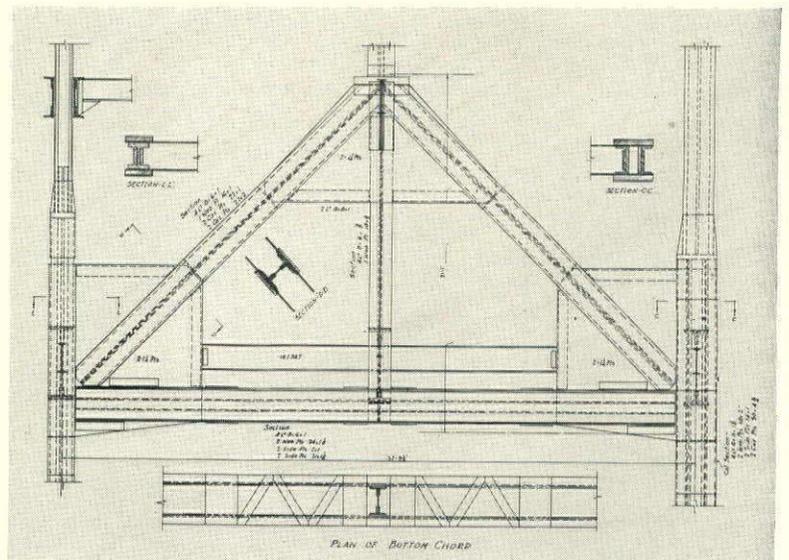
Chicago Daily News Building

(Continued from page 61)

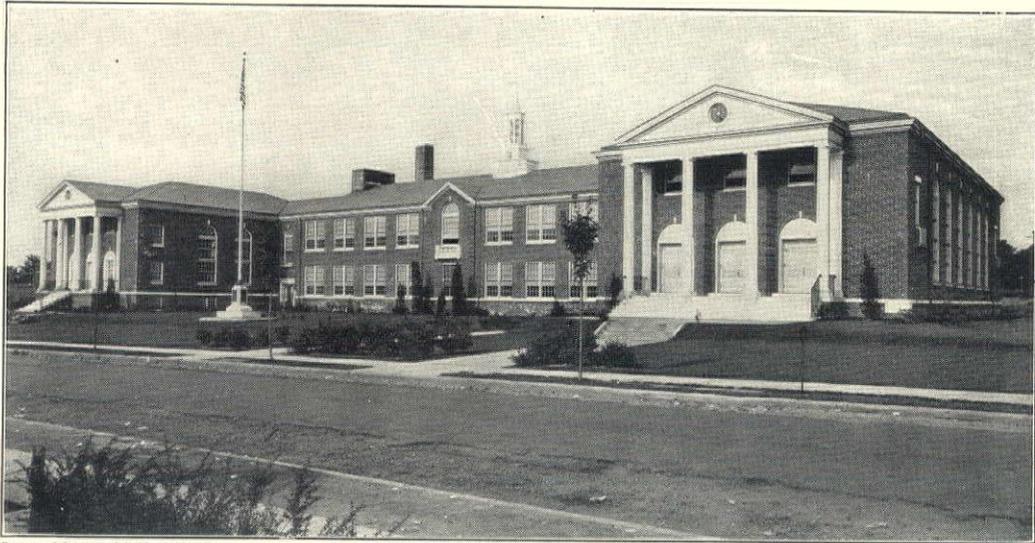
overhead clearance required was 17 feet above the rails and 8 ft. above the middle of platforms.

The columns as located at the track level would not satisfy the requirements of an office building and printing plant, so it was necessary to have a transfer floor which was established directly over the tracks at elevation +29'-6" and called first floor. Conditions required the use of heavy and complicated framing. Cantilever plate girders were used to a large extent, the largest girder being 12'-0" high, built of two single girders weighing 65 tons each. At the north end of the lot on five column lines there are five plate girders of shallow depth restricted by the clearance above and below. To relieve the secondary stresses caused by the deflections of the girders, pin connections are used at both ends. In some cases pin connections were required because it was found impracticable to design riveted connections of sufficient strength to take care of the bending at supports. On the next five column lines north there is a span of 100 feet where it was impossible to place a column. To span this distance it was found necessary to use trusses, which were located between the fourth floor and the roof of the north wing; this, because of architectural features, being the only possible place for their location. These trusses, which are one story high, carry the roof on

the top chord; on the bottom chord, the fourth floor, and on hangers, the three floors below. An unusual feature in the design is that, due to the heavy stresses developed in them, these trusses are built without splices on the chords. At the east end of the trusses it was impossible to extend the columns down to the track level, so an A-frame was used. (Continued on following page)



These trusses carry columns over the railroad tracks
A frame truss detail of the Daily News Building



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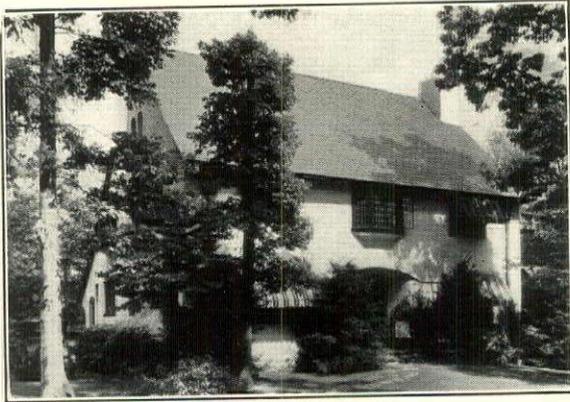
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At approximately nine feet below the first floor elevation is a ceiling which forms a smoke chamber for the removal of smoke, gas and steam and ventilates the track area under the building. Through this ceiling, directly over the center line of each railroad track, there is a slot. The locomotives passing under the building belch forth their smoke into this chamber, which in turn is connected with a stack that extends up through the Daily News Building discharging gases into the atmosphere at the roof. By-pass flues and fans aid these gases to pass up the stack.

The columns of the main building rest on caissons to rock, while the columns of the plaza rest on caissons to hard pan. The caissons are of 1: 1: 2 concrete mix, the largest being 9'-0" in diameter. The railroad tracks are supported on a concrete slab. Great care was used to insulate the building columns and caissons against vibration, caused by passing trains, by keeping all concrete slabs clear of columns and by placing asphaltic insulation packing around the columns at these points. The tops of the caissons were lowered and a thick bed of clay was maintained between the track slab and the building caissons. Walls were placed between columns to protect them in case of car derailment. These walls extend from caisson to caisson and are also insulated against vibration. The press room is located on the first floor. The presses are anchored to a 12" concrete slab below which is a 3" layer of cork. A 2" layer of cork extends completely around the sides of the slab. This cork insulation keeps the vibrations from being transmitted to the structural frame. The supports and anchors of the presses are in the upper slab and do not connect with the structural framing or concrete floors.

At the river side, starting at the dock level, a shaft extends to the elevation of -45'-0", where it connects with a tunnel extending west under the railroad tracks to the main building. This shaft and tunnel is equipped with paper conveying machinery.

In sinking the caissons in the south end of the lot, considerable trouble was encountered with water. Sheet piling was driven in thirty foot lengths from the hard pan level through the water bearing strata to bed rock. It was then possible to excavate the core.

At the top of the building there are many set-backs, such as are used in modern office building design. These set-backs caused the offsetting of columns and required girders to support these offset columns, but no unusual difficulties were encountered. The typical floor construction was concrete joist. In erecting this building it was necessary to carry on operations and not interfere with train schedules. This made the erection more expensive and difficult than is usually the case in work of this type. The caissons between the tracks were sunk from a temporary wood structure built high enough to permit the passage of trains under it.

An Advertiser Slips

THE inside back cover of THE AMERICAN ARCHITECT for December carried an advertisement of the Thorp Fire Proof Door Company, illustrating elevator doors used in the Minnesota Building at St. Paul. The name of the architect was misspelled as Hansler instead of Charles A. Hausler.



THE floor of this delightful kitchen by Ludlow & Peabody is of blue and buff triangular tiles. The walls are of buff with blue tiles forming the base, window sills and walls of the recess. The cabinets are painted a soft harmonizing green.

This hooded tiled recess into which the stove is built is both charming and practical. It conducts all vapors from the kitchen and adds a note of individuality.



YOU DERIVE the greatest benefit from Ceramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor for the quality of his work.

LUDLOW & PEABODY have made this kitchen a room individual, livable and interesting by the use of Ceramic Tiles—real tiles.

Utilizing all the modern labor-saving conveniences—clothing them in restful but colorful tiles—Ludlow & Peabody have turned the kitchen, a room formerly associated with drudgery and drabness, into a room of individuality and cheer.

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The South Begins to Sell Architecture

(Continued from page 21)

relatively simple one. The editors merely assign reporters, who are capable of effective work, to the task and arrange for a reasonable amount of space in their papers to properly present the facts. News releases are helpful in many instances but should not be depended upon for all of the publicity desired, as personal contacts with members of the correlated interests, established well in advance of a meeting, convention or exposition, are of utmost importance.

Through meetings of the Board of Directors of the American Institute of Architects, the Tennessee Chapter of the A. I. A., the Producers' Council and a regional conference of Southern architects combined with an outstanding exhibition of architectural work. Thus the architects of the South were given an unusual opportunity to bring architecture before the public. The organization was further able to direct the attention of the public, residing in a large section of the United States, to architecture and the architectural profession. This alone made the exposition worth while.

EVEN a brief description of the first Southern Architectural Exposition cannot well omit reference to a particularly fine collection of photographs of architecture of the "Old South" that were hung in the exhibition. The jury of award, in its report, made particular mention of ". . . the superb group of photographs of Southern Colonial work by Tebbs & Knell."

Gabriel Ferrand, professor of design, Washington University School of Architecture at St. Louis, served on the jury of gold medal awards. Referring to the exposition, he said that he believed it to be one of the finest that he had ever seen, and that the exhibits were on a par with the best exhibits seen at other shows.

Architectural expositions of this order are of great value to the public at large as well as to the profession itself. An opportunity is offered to elevate public taste in architecture. People are impressed by the various types of buildings shown. There is created in them the desire for better buildings. They are made to see the advantage and desirability of well designed buildings. As a result they approach an architect with a better appreciation of what he can do for them. Later, they bring to him more good ideas and fewer bad ideas of which they must be divested. Members of the profession are given an opportunity to compare the work of their contemporaries and to keep abreast of what is being accomplished in various localities.

The exhibits of the producers of building materials and equipment acquaint the public and the profession alike with new developments in the field of building construction. The value of such exhibitions cannot be over estimated and it is to be hoped that, with the Southern Exposition brought to a successful conclusion, other sections of the country will be given the courage to set about immediately arranging for similar exhibitions as a part of a campaign to educate the public on the value of the employment of architectural service.

Campaigns to sell architecture to the public, heretofore, have been carried on in a more or less desultory

fashion and with but temporary local effect, if any. In New York City the Architectural League has for several years conducted exhibitions that attracted public attention in that city. The New York Chapter of the American Institute of Architects during the past year has carried a page in the Sunday edition of the New York Herald-Tribune. The Chicago Chapter has recently followed suit by arranging for a page in the Sunday edition of the Chicago Herald and Examiner. Architects in Pittsburgh and elsewhere have made use of newspaper space in which to bring their message before the public. In Philadelphia the T Square Club has held exhibitions which until that held in 1929 received but scant public attention. The latest exhibition by this organization was held in Wanamaker's Department Store and was the most successful, so far as reaching the public in Philadelphia is concerned, that this organization has ever held. Exhibitions held by most architectural clubs have rarely, if ever, secured the public notice that they warranted.

An account of the program presented at the Southern Architectural and Allied Arts Exposition follows:

The Exposition was opened with a private view for invited guests on Saturday evening, November 9. The address of welcome was made by a representative of the Hon. Watkins Overton, mayor of Memphis. Walk C. Jones, A. I. A. responded and was followed by the principal speaker of the evening, J. E. Holmes, of the Memphis Bar. At the close of Mr. Holmes' talk, the exhibition was declared open and an opportunity was given the assembled guests to view the architectural galleries and exhibits. On the following Monday the exposition was opened to the public. On Tuesday, Wednesday and Thursday, the Producers' Council convened in the Municipal Auditorium to discuss matters of mutual interest to the Council and to the architectural profession. The Producers' Council dinner, held at the Peabody Hotel on Tuesday evening, was perhaps the most successful and well attended that the Council has ever had. The speakers at this dinner included E. L. Harrison, of Memphis, J. Monroe Hewlett, and William Orr Ludlow, of New York, and Louis La Beaume, of St. Louis. The Council is to be congratulated upon the splendid program provided for this occasion.

THE Tennessee Chapter of the A. I. A. met on Wednesday and Thursday. On Wednesday, the Board of Directors, A. I. A., the Producers' Council, visiting architects and contractors were the guests of the Tennessee architects at a luncheon at the Peabody Hotel. C. Herrick Hammond, president of the American Institute of Architects, F. P. Byington, president of the Producers' Council, and Daniel Garber, general manager of the Associated General Contractors of America, were the speakers. President Hammond condemned in no uncertain terms an article by T. T. Flagler attacking the architectural profession as a whole. The article originally appeared in the Nation's Business and has been given wide publicity in several contractors' magazines. Mr. Garber asked for the cooperation of the architectural



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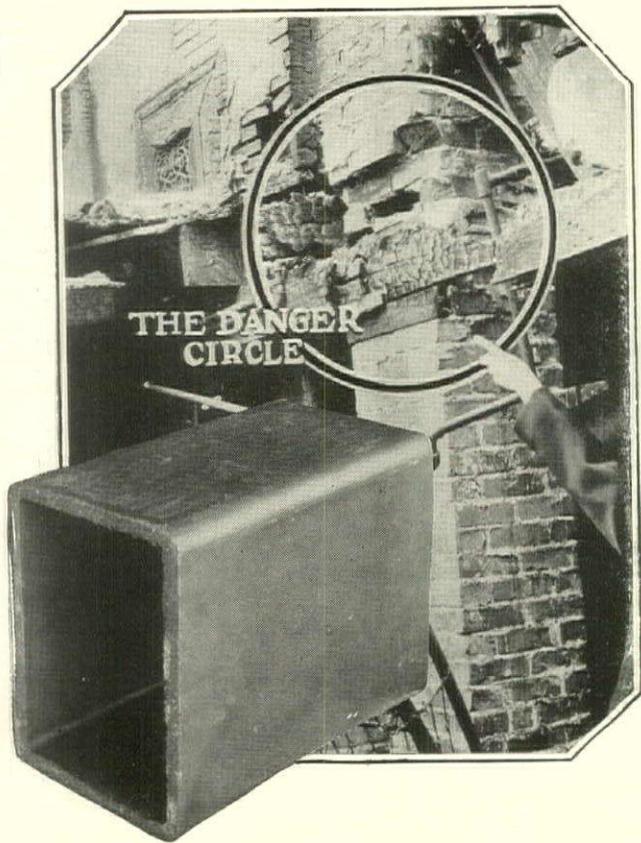
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profession in correcting the evils of existing lien laws, bonding methods and unfair competitive bidding in the building industry. Mr. Byington urged that architects assume leadership in the building industry before some other group does so.

On Wednesday evening the public was invited to attend a meeting held in the Concert Hall of the Municipal Auditorium. Dr. Edwin Mimms, of Vanderbilt University, delivered an inspiring address on, "Beauty and Romance in Building." Following Dr. Mimms' address, E. C. Greenwood, of the National Electric Light Association and LeRoy E. Kern, technical secretary of the Structural Service Committee of the A. I. A. exhibited and described a model of an unusual system of colored lighting installed in the St. George Hotel, Brooklyn, New York.

The Board of Directors of the American Institute of Architects met in Memphis on Wednesday, Thursday and Friday. A regional conference of all Southern Architects was held on Thursday. This meeting was followed by the showing of a moving picture film illustrating the development of the plan of the city of Washington, D. C., from its inception to the present, and the plans now existing for its future development.

A banquet was held at the Peabody Hotel on Thursday evening for all architects and guests. The speakers of the evening were the Hon. Watkins Overton, J. Monroe Hewlett, F. P. Byington, and Milton S. Binswanger. Following the addresses, C. Herrick Hammond presented the gold medal awards to those architects selected by the jury of awards. The evening was concluded by the presentation of "A Day on the Plantation" by the Jubilee Singers.

A LETTER ABOUT KEEPING GOOD WORK AT HOME

(Continued from page 76)

Home folks will patronize home architects only on cheap work, regardless of the organization you maintain or your own personal ability. In sixteen years of practice I find that invariably this is the case. Another instance (before I give you the solution to the problem): A prominent tire manufacturer called me in to design what he explained to be a typically French chateau.

Of course, I took him seriously, and, after two years of study and changing of preliminary drawings, it was decided that we had the right solution and we started and we finished working drawings. At their completion he advised me that due to the high prices of building he expected to wait six months or a year before he started construction, and I waited along with him until one nice day I discovered the well studied French chateau under construction.

Rushing into his office, all out of breath, I demanded an explanation, and got one. "My dear fellow!" he said, "Don't you realize that I am spending \$150,000 for this house, and that I can't employ you as the architect? Why, this is probably the last house I will ever build, and if it was any other type except French I would certainly be glad to give you the job, but I had to find a well known Boston architect who specializes in French design." (Continued on page 108)



THE HOTEL GOVERNOR CLINTON, New York City
Murkatroyd & Ogden, Architects

SARGENT HARDWARE... *to help assure a hearty welcome*

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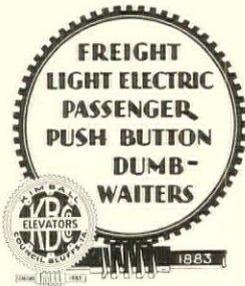
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Kansas City, Mo.
Philip T. Drotts,
Architect



I sat at his desk with my mouth open and finally summed up enough nerve to say, "My God man! There isn't such a thing as a specialist in French design."

"Oh yes there is," he pondered, "and although he is going to cost me more than you would I will probably get a better home. At least, I can't afford to take any chances, because this house is going to cost a lot."

But I got a good look at that French specialist, driving a very swank car, and I made up my mind to have a talk with him, not about the job, of course. That bird had a line of chatter that made me heartily ashamed that I had ever even considered doing a French house. Of course, it was his first French house too, and, therefore, he followed my plans and elevations so accurately that you can't tell the difference.

These out-of-town fellows not only mesmerize the local magnates into giving them a large fee, but they soak them for special engineering service, salaries and traveling expenses. It's a gift.

Now here is the valuable part of this letter, the one point for which I claim I should be granted a patent, a Carnegie medal or the Nobel Peace Prize. Here's how I solve it. Why bump your head up against a brick wall? Let the out-of-town birds come in and get your business, and you go into their town and get theirs. That is a fifty-fifty break, and fair and square.

The only requisite that is required is to fight fire with fire and adopt the identical methods that your competitors employ. Be a SPECIALIST, regardless of what you go after. Recently I became a specialist in college dormitory work, never having done any of it before, and supplanted an architect who had been doing this kind of work for twenty-five years. In one gesture, I got back about four times as much work as he has taken away from me. Last month, never having designed a theatre, except in sketch stages, I immediately became a theatre specialist, and how beautifully it worked! There isn't anything to it, and the final solution to the problem now comes.

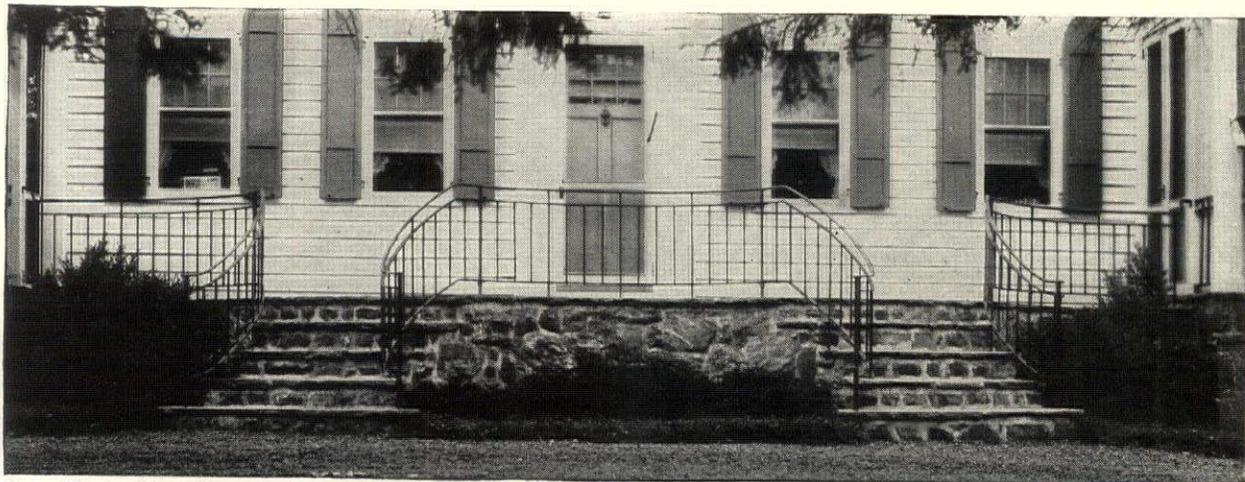
Show your local people that you can go out of town and get jobs as big as or bigger than those that exist in town, and you immediately place yourself on the map in your own burg. Anyone can do it, if I can, because I am as dumb as they make them, having a college degree and long experience in good offices.

ARCHITECTS LACK COMMON SENSE

From a New Zealand Subscriber

Editor, *The American Architect*: May I congratulate you upon your October issue? Your two short articles on "The Stock Plan" and upon "Speculative Sketches" are to be especially commended. If the *American Architect* can drive home the stupidity of the speculative sketch, the harm it is doing the profession, if only in the way it cheapens it in the eyes of the building public, and if it can succeed in compelling architects to earnestly resolve to have done with this iniquity, then your journal will have deserved well of the profession.

The architectural profession appears to be suffering throughout the world from a lack of common sense and business-like attributes on the part of its practitioners, and also such lack of belief in themselves and the value of their services as to suggest want of backbone.



Home of Charles Butler, Far Hills, N. J.

Hyde & Shepherd, Architects

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Whether it's a simple stair-rail or heavy ornamental balustrade, FISKE with over 70 years of experience in this highly specialized work is prepared to fulfill the most rigid requirements of architect and builder.

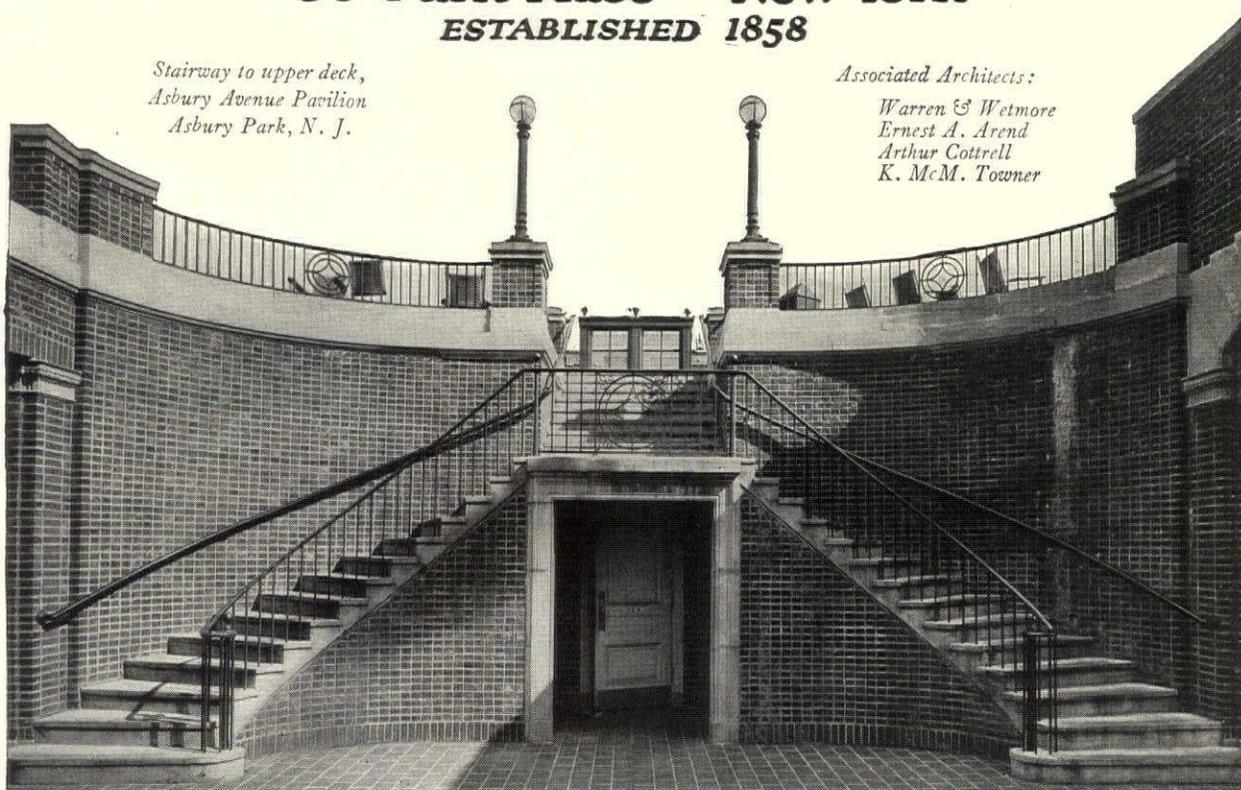
“Metal work by FISKE” has become a familiar expression among architects

whose confidence in the artistic and productive ability of FISKE has been bred in years of close cooperation. And FISKE points with pride to scores of owners completely satisfied with the artistic appearance, durable construction and perfect detail of its installations. Write for illustrated catalogue of ornamental metal work.

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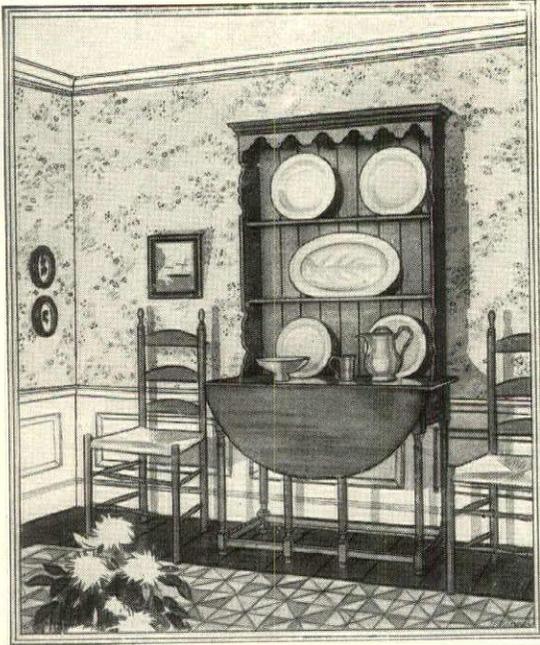
*Stairway to upper deck,
 Asbury Avenue Pavilion
 Asbury Park, N. J.*

*Associated Architects:
 Warren & Wetmore
 Ernest A. Arend
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 K. McM. Towner*





Recommend Wall-Tex to these two classes of clients

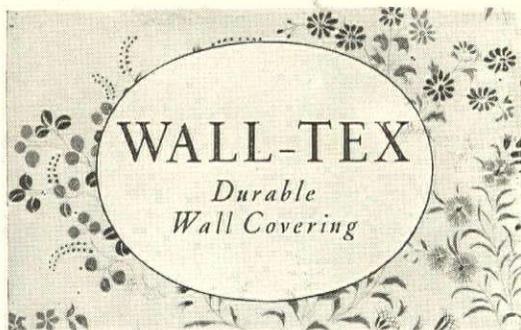


THE CLIENT who never needs consider price, finds in Wall-Tex the embodiment of his artistic ideals. For this wall fabric offers him new designs of great beauty. Here's an opportunity to create murals of unusual loveliness! On the other hand, that client whose means are restricted, is even more enthusiastic over the unusual wearing qualities and attending economies. Here is a sound investment; a durable fabric wall covering.

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What Architects Are Talking About

(Continued from page 59)

WHO won the race between the architects of the Chrysler Building and the Bank of Manhattan Company Building is still a moot question, since its answer depends on the viewpoint as to which is the taller building. The Chrysler building has a total height of 1,030 feet, counting the famous flag pole, which is ninety-five feet more than the top-most point of the Bank of Manhattan Building. But the tenants of the top story of the latter are higher than the tenants of the top story of the Chrysler Building. Thus stands the race between William Van Allen and H. Craig Severence, each of whom had been commissioned to design the tallest building in the world. Both buildings will soon be topped by the eighty-story Empire State Building, to be erected on the site of the old Waldorf-Astoria. It is stated that new plans will provide for this building having a height of eleven hundred feet, not counting the flag pole.

RAYMOND M. HOOD, in discussing how efficient operation might make up the time lost by the five day week now in effect in New York City, said before the New York Building Congress: "To me the chief key to the situation is going to be in very close co-operation between contractor, architect and owner. The most satisfactory jobs I have ever worked on, from the point of view of speed, economy and quality, in fact from every point of view, have been those where, right from the beginning, the client and the architect and the contractor and the renting agent, if it is a renting job, sat in. They sat in over conferences, and as soon as the piece of ground was bought, everybody came into it. We have grown more or less accustomed to that through the cost plus and fee system. My own feeling is that it is through those channels that we are going to simplify the operations and make the gains necessary to the carrying of the five-day week.

SEVEN per cent of the buildings on Manhattan Island, New York, are over ten stories high, according to the Regional Plan of New York and its environs, and prevent the rise of land values spreading to larger areas. The report states, "Allowing for all factors it is questionable if high buildings create more land value than they destroy even in their own neighborhood, while over wide districts their effect, in the aggregate, must be to depreciate values in proportion as they retard reconstruction of old buildings, reduce the demand for land by using air rights, and cast a shadow on other buildings."

THE National Association of Real Estate Boards wants to find out what a "home" is. So it is offering a prize of \$250 for the best definition, which must not be more than twenty-five words. Entries will be received up to January 1, and the winner will be announced February 1.

A PLEA to architects has been made by the Housewives' League of France, which wants no parlors, corridors, steps, joints, cornices or faulty floor plans. There are over six million women in France who do double duty as wage-earners and housekeepers and want house work kept at a minimum. They feel that the children's room should have

NATIONAL COPPER-STEEL PIPE ...

*in the
beautiful Lexington*

HOTEL LEXINGTON
New York City

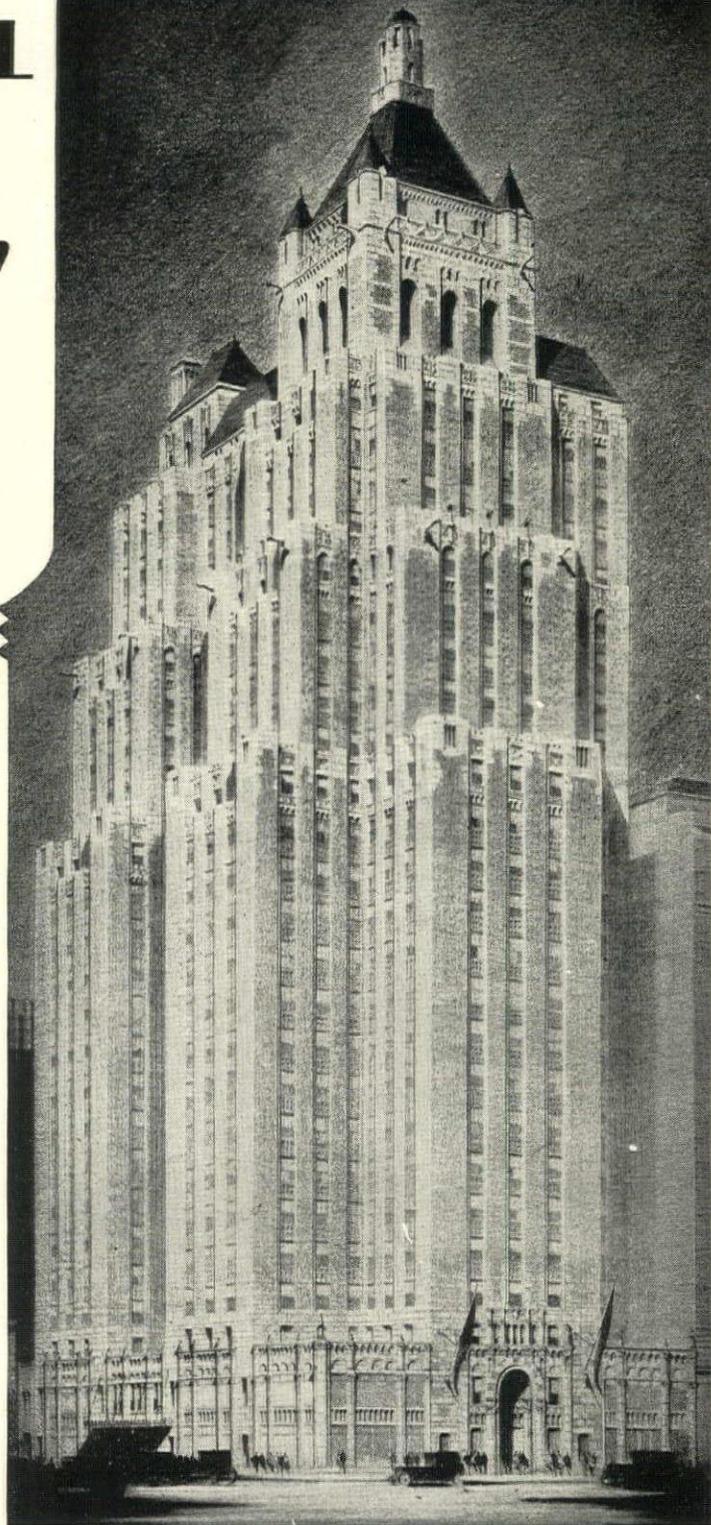
Architect: Schultze & Weaver, New York City
Consulting Engineer: Clyde R. Place, New York City
General Contractor: Turner Construction Company, New York City
Heating Contractor: Baker, Smith & Co., New York City
Plumbing Contractor: Geo. E. Gibson, Co., New York City

NEW York's newest hotel . . . an exemplification of modern hotel creation . . . beautiful without . . . beautiful within. Situated in the Grand Central Zone of America's greatest city, the Lexington boasts of impressive companionship . . . many of New York's finest buildings are its neighbors. In this zone are the Chrysler Building, Chanin Building, Graybar Building, Postum Building, New York Central Building, Park Lane Hotel, Roosevelt Hotel, The Barclay, and the Ambassador . . . all mighty in their fame . . . all contain National Pipe.

Thus, the architects, contractors and engineers, valuing highly the responsibility of planning such a structure, specified and used tried and proven equipment . . . equipment that befitted the building . . . its neighbors. National was used for the major pipe tonnage, including National Copper-Steel Pipe (especially resistant to atmospheric corrosion) in the soil, waste, vent lines and rain leaders. National Copper-Steel Pipe was also used in part of the drainage lines of the Chrysler Building, mentioned above.

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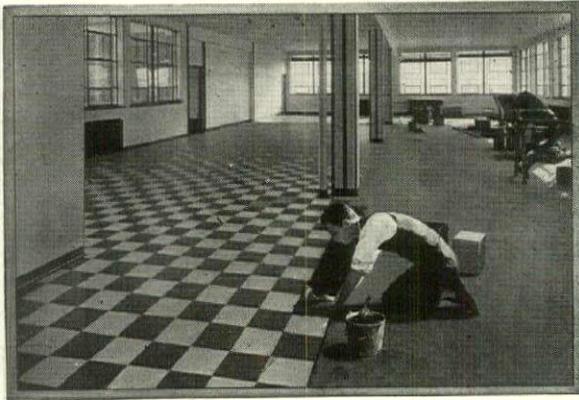
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- A variety of color tones that harmonize with any artistic layout, including black, maroon, red, brown, green. Sana-bestos tiles are also manufactured in two color marble effects (but not in light colors.)

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Sana-bestos Tiles for industrial use are manufactured $\frac{1}{2}$ inch in thickness. They may be laid either in our special plastic cement or in concrete. When laid in concrete they can be used out of doors as well as indoors, with excellent results.

Sample tile and descriptive literature sent upon request

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Established 1906



glass doors so that the mother can watch them without leaving her work. Floors and walls should be made of waterproof material that will not suffer from having the hose turned on it. Doorknobs and handles should be made of glass to save polishing. To permit the use of every handy electrical device, each room should have at least four outlets. The protest is evidently aimed at officials who will have charge of the construction of thousands of houses under government supervision, according to the new Loucheur law.

DO visitors to our shores think we have queer habits of housing ourselves? Apparently so, from what a popular English writer, Mrs. Alec Tweedie, has to say about us: "When the threshold of an ordinary American home is once crossed, there are no more doors, and everybody forgets about locks. One lives in public. One feeds in the dining-room, feeling that a dozen people in the adjacent rooms may be listening to every word. If one plays the piano in the drawing-room, every other occupant of the house has to be soothed or irritated; for no door can be shut even to muffle the sound. If Tom proposes to May, every member of the family and every domestic in the place can hear their sweet nothings. Privacy there is none. It is a doorless existence. Even the bedrooms often open out of one another, and a bathroom is not unusually halfway between the two."

CITIES which have one hundred or more buildings over ten stories high are listed, together with the number of buildings, in "The Skyscraper," house organ of the Thompson-Starrett Company, Inc., as follows: New York, 2,479; Chicago, 449; Los Angeles, 135; Detroit, 121; Philadelphia, 120; Boston, 104. Of the one hundred and seventy three cities of over 50,000 population investigated, 36 have one or more buildings over 20 stories high, 59 cities have less than five buildings as high as 10 stories, and 42 cities have no buildings as high as 10 stories. New York has 188 buildings over 20 stories, Chicago boasts of 65 and Philadelphia claims 22.

THERE are now about fifteen hundred airports in operation in the United States, with over a thousand more proposed. Roosevelt Field, Mineola, N. Y., now the largest as regards number of ships to be accommodated, will soon yield the palm to that at Secaucus, N. J. The influence that such ports will have upon the development of our country may easily be seen when one stops to consider that such airports involve the construction of exposition halls and recreation grounds, personnel building for teachers and students, hotels, and other accommodations suited to the many activities connected with airport development.

LET us not have a false prosperity," recently advises Irving Lee Bloch, vice-president of the Long Island Title Guarantee Company, New York. "Stabilize the present existing building supply by providing adequate financing for the payment of mortgage liens as they fall due."

A HOUSE built round like a silo has been constructed by Joseph Landress at Cottage Grove, Oregon. The first floor consists of one large room with the kitchen located outside of the circle. Upstairs are three bed rooms and bath.

THE Alpha Chapter of Tau Sigma Delta Honorary Fraternity in Architecture and Allied Arts at the University of Michigan announces the following elections to membership: Professor W. C. Titcomb, assistant Professor H. A. Fowler, J. A. Hornstein, J. M. Frissel, P. E. Knudsen, J. R. Bringloe, E. F. Martin, D. M. White, C. W. Mead and

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1400 Lupton Heavy Casement Windows are used in the Cook County Court-house and Jail, Chicago, Ill. Eric Hall, County Architect. Great Lakes Construction Co., General Contractors

HEAVY casements, more than any other type of window, are subject to the skill of the individual workman. At Lupton the best workmen are put on the heavy casement jobs. These men have served a rigid apprenticeship before working on these fine windows. Their craftsmanship, combined with the finest of machine-equipment, has made Lupton

the first name in the heavy casement field.

The superior qualities of Lupton Heavy Casements have been recognized by leading architects. Whenever the finest is desired, Lupton Heavy Casements are usually specified. Complete details are available in your current edition of *Sweet's*. David Lupton's Sons Co., 2201 E. Allegheny Ave., Phila., Pa.

LUPTON
WHERE STEEL IS FUSED WITH SINCERITY

R. F. Outcalt. These elections to membership consist of senior students and professors in architectural schools of the United States and England who have attained a certain high standard of scholarship.

CCOORDINATION of the human factors entering into the production of an income-producing office building was urged by R. H. Shreve, of Shreve, Lamb and Harmon, before the Building Managers and Owners Association of New York at a recent meeting. He said: "The designer, the owner, the builder, the real estate agent and the manager should compose the creative group to devise, build and equip the structures. This group should sit as a building committee directing decisions which the architect, as secretary of the committee, incorporates in the minutes, that is, in the plans and specifications."

THE average cost of a one-family house built during 1929, excluding the land, is placed by the Department of Labor at \$4,902. This is the average cost of 43,320 one-family houses built in eighty-five cities during the past year. Washington, D. C., showed the highest average cost with Chicago above that for New York. Apartment house costs per family were lowest in St. Louis and highest in the borough of Manhattan, New York.

HOLABIRD AND ROOT, Chicago architects, were the first exhibitors at the series of expositions to be held by the Architectural League of New York. At a dinner in their honor, Raymond M. Hood, president of the League, expressed the opinion that the average building on Michigan Avenue, Chicago, is better than the buildings on either Fifth or Madison Avenues, New York.

A COMMISSION of seven was recently appointed by the health commission of New York City to study city

noises and how they might be abated. Not only will various street noises be studied and their affect on the human system noted, but sound-absorbing building construction will be investigated and recommendations made for the guidance of architects, contractors and property owners.

THE Societe des Architectes Diplomes par le Gouvernement Francais yearly awards a medal to the school of architecture in its American group, which has shown the best record of application and accomplishment in teaching architecture along the lines followed by L'Ecole des Beaux Arts, Paris. The medal for 1929 was awarded to the school of architecture at Harvard.

ELIHU ROOT has been given a gold medal by the National Academy of Design as a recognition of his services in making Washington "the city beautiful." He was one of the first to revive the original plan endorsed by George Washington, and sponsored the bill creating the Commission of Fine Arts with broad powers over buildings since erected in the capital.

THAT particular attention should be paid to wind bracing and earthquake-proof construction, even in sections considered free from such disturbances, is indicated by the recent eastern earthquake, reaching from Long Island to Halifax. Trans-Atlantic cables lying on the bottom of the ocean were snapped in two, three out of four French lines made useless, and Western Union and Postal cables suffered.

A CARVED ice box *a la* Louis XIV has been announced as an addition to the family parlor. Most good parties end up in the kitchen anyway, where ice is handy, and so why not do something to make the parlor keep the company where it was supposed to be—when the party started?

A New Bayley Bulletin Is Ready For You!

A NEW BAYLEY BULLETIN, containing complete information on Bayley Chinookfin Heaters, is now ready for you. To the engineer or executive who has the responsibility of selecting or specifying indirect heaters for heating, ventilating, air conditioning, process drying, tempering coil or other service, this new bulletin will prove a valuable reference book.

Chinookfin Heaters possess remarkable features; a copper indirect radiator as safe for tempering coil service as for reheaters—a single header divided into steam and return chambers—individual radiating tubes with individual feed through individual circulating pipes. Write for Bulletin No. 29-C which describes the Chinookfin in detail.

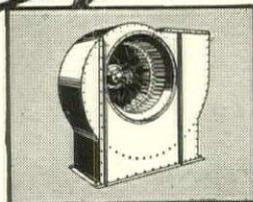


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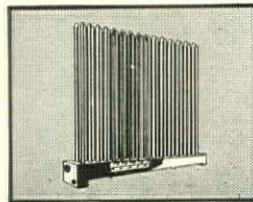


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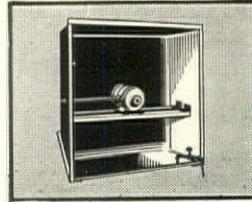
FANS



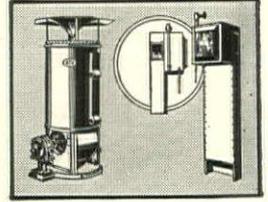
HEATERS



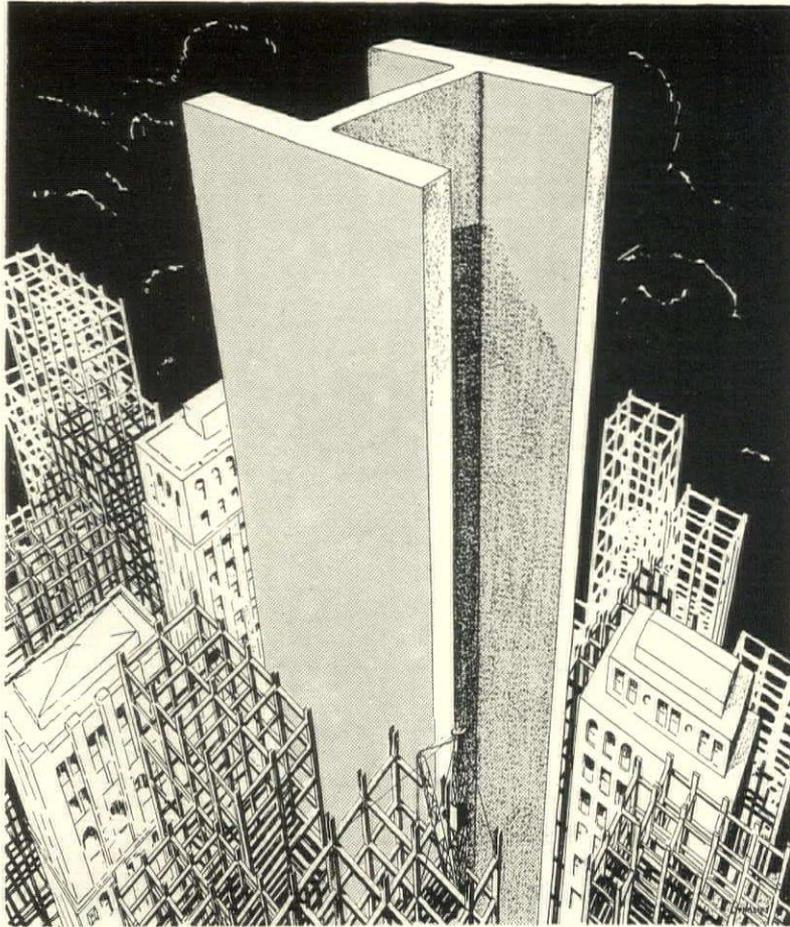
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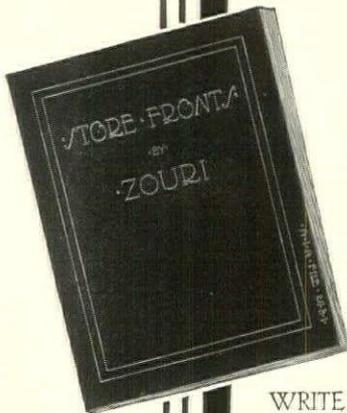
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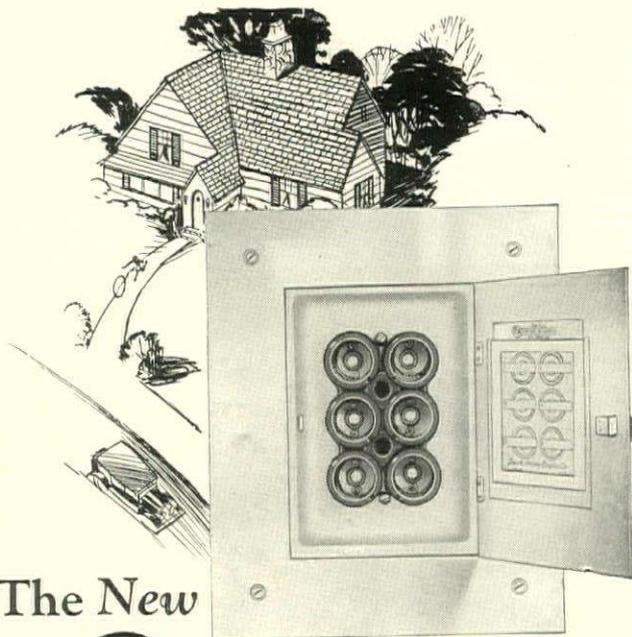
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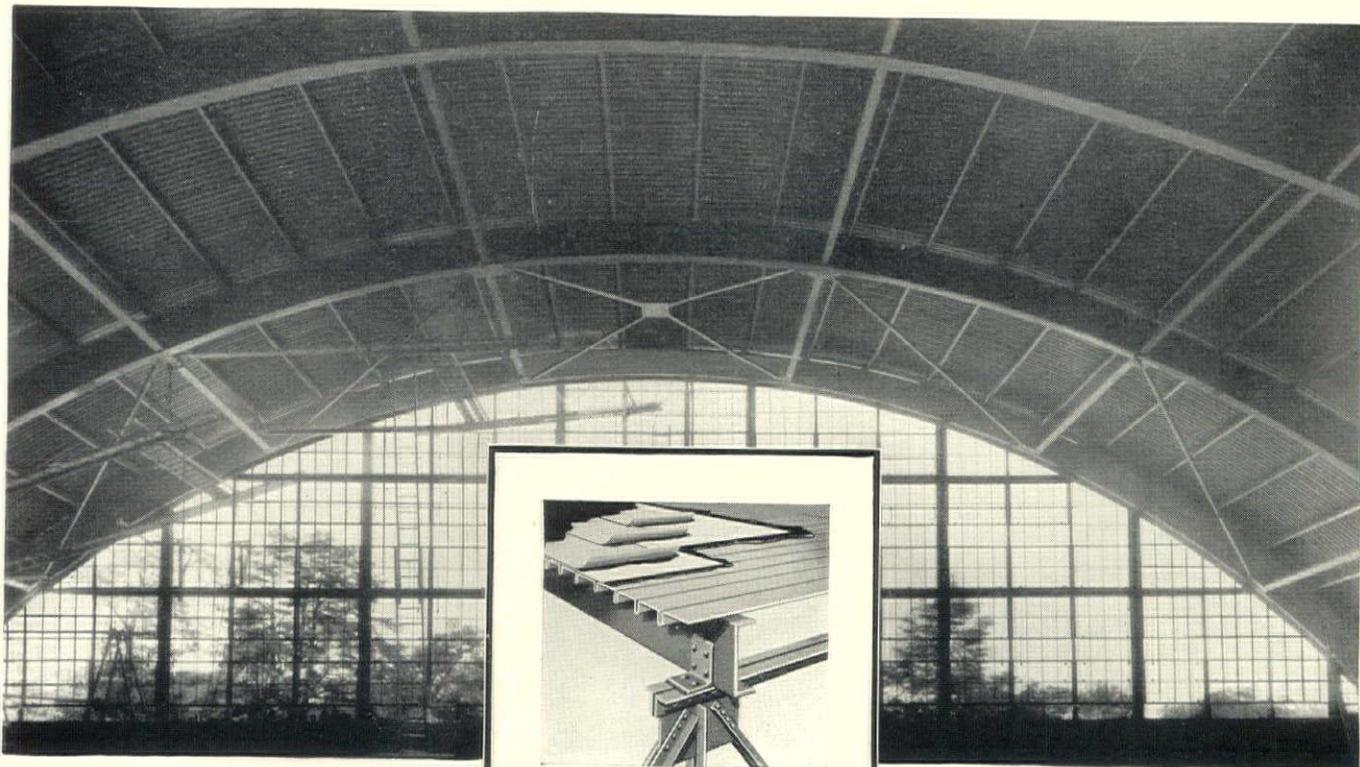
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Mahon Steel Roof Deck installed on the Tennis Arena at the Brookline Country Club, Brookline, Mass.
Garvin Haddin, C. E., designer

House Falls Occur on Stairways

(Continued from page 66)

"8½"x9"x2"—11"T. Yelgerhouse Attic. Passes but not encouraged.

"7¼"x11½"x2"—13½"T. Warehouse or industrial ideal. Waldinger 1922.

"7"x11"x1½"—12¼". Flickinger Warehouse 1928. Ideal.

"7½"x9¾"x1½"—11¼". Theatre. Too steep. 11—12" run with 2" N. is O.K."

In planning, we always keep the above in mind and correct provision is made for the stairs at almost any sacrifice of space, which works out usually to be not such a great drawback after all is done. The riser is taken around 7" as the middle or average figure; 6" and 8" are extreme limits for risers and only used for inferior stairs.

Studying the graph with 7½" risers, Fig. 2, we see runs of 9¾" (at A) and 10¼" (at B) with 1" nosings. The shorter run is not good and the longer run is only passable; both approach legality according to the proposed state rule, which is perhaps inspired by the National Safety Council. We believe, and have tried out in practice, that the above stairs would be made safer, more practical and comfortable by giving added width to the run and tread, thus taking the better stair even further outside the proposed law.

While it is general to associate the ease of a stairway more with the riser, this writer has come to the conclusion that the tread width is the more important

factor in design for ease, safety or user-comfort. The wooden tread limited to 11½" width, because of the nominal 12" maximum width of stock available, is really the minimum width for any practical stairway.

Rather than propose a new rule, I just now would bid for better standardization of nomenclature concerning stairs in general.

Pitch and rake mean the same thing. Pitch is preferable here.

Run and tread are confused by nearly all; the run is the horizontal measure from riser to riser and used in laying out or building the stair.

The tread is the run dimension plus the nosing or extension past the designed riser.

A standardized indication as 7"x11"x2"—13" means a 7" rise, 11" run, 2" nosing and 13" over all tread, or use 7"x13"—2"—11", which means 7" risers, 13" treads minus 2" for nosing which equals or gives an 11" run. The first is better on plans for the stair-builder, the second for measuring existing stairways.

Consulting other graphs before me, there are some stairs approaching similarity with some marked "Ideal" and some "Not so good," which brings up the further question in design and related proportion of rise and tread with this conclusion: "The greater the width of stairway between closing walls or balustrades, the less pitch and the more easing required for user-comfort, which amounts to safety also." For instance, the

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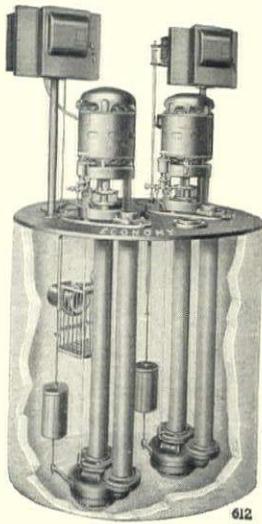
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NEW YORK OFFICE

101 PARK AVENUE

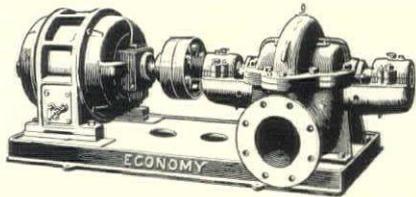
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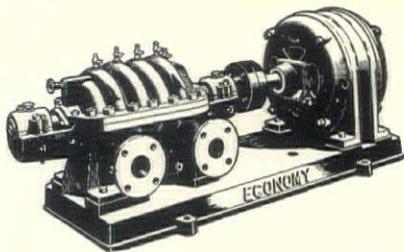
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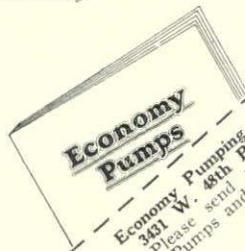
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7"x11"x1"—12" marble stairway to basement restaurant, Fig. 3 (at A) apparently is as we would make it. Yet we would not mark it 100% in use. True, the nosing is only 1" and a 1½" or 2" full nosing might bring it within the scope of perfection, since this would automatically give us a tread 12½" or 13" in place of 12" as found, but when it is known that this marble stair is full 10'0" wide between walls and has 10 risers in one flight of steps, it becomes apparent that 6½" risers might be chosen to advantage; but the same graph shows (Fig. 3, at B) exactly that condition in the main stair up to the lobby of a modern, first class, \$3.00 a night and up, city hotel; built about 1927, and designed by a good architect. He evidently did his best and had ample room for this very important stairway, which must exert important influence on the success of the business of the hotel in this case.

Polished terrazzo is used, akin to marble, so the comparison with Fig. 3 (at A) is fair. Stair at 6½"x 11"x1" with 12" treads, 10'0" wide is marked merely "Good. Not sufficient tread. Restricted stride. Bad when wet." Thus we know that the deduction to improve the restaurant stair by reducing the riser height thereof is open to question. Now one of two other things can be done. The first is to increase the 11" run to 12" or 12½" and then risk a little by making a 1½" nosing. Since a marble tread only 1" thick might chip off in use, by using a 1½" thick tread, we can have the 1½" nosing. Second, if both these stairways had 2" nosings, giving us 13" treads, they would be much improved and might even earn the "Ideal" mark.

Still consulting Fig. 3 showing 6¾" risers (at D)

lying between the 6½" and 7" existing stair condition, we find that a 12½" run with 1" nosing to give a 13½" tread would be an ideal arrangement for the purpose designed (at C).

All of which leads me to say that a rule is hardly workable, but a series of graphs as outlined offer a speedy and workable solution, which the lawyers happily would find it difficult to write into a "consarned 'nother law." Then, too, the pigmy architect with bandy legs could be guided by such graphs without the necessity of adopting them for his own house.

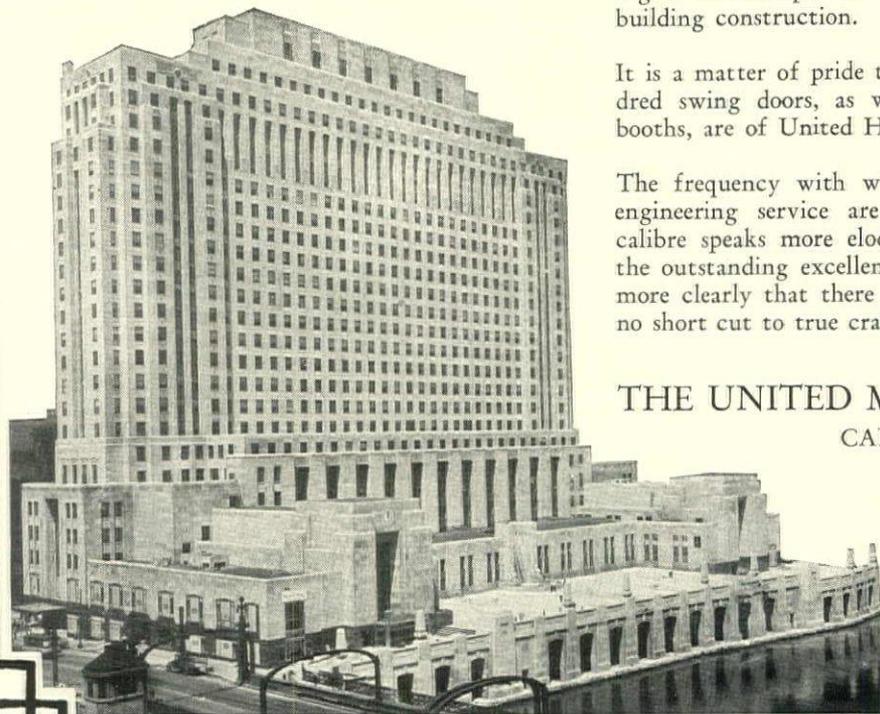
Additional Credit on Wilputte House

AFTER the December issue of THE AMERICAN ARCHITECT was in the mails, the Editors were informed of the very fine landscape work that Clarence Fowler, landscape architect, had done on the grounds of a house illustrated in that issue, that of Louis Wilputte at New Rochelle, of which Julius Gregory was the architect. This is one of the houses where architect and landscape architect worked together from the very beginning, with the fine result that intelligent cooperation almost invariably brings.

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OFFICES IN ALL PRINCIPAL CITIES

New Catalogs

(Continued from page 82)

trating some of this company's piles after they had been in the ground for a long time on various jobs. Explains MacArthur method of compressing dry concrete.

SEWAGE EJECTORS

Heavy duty screenless submerged type sewage ejectors made by the Yeoman Brothers Company, Chicago, Ill., are illustrated and described in bulletin No. BS-8000. Gives tables of sizes and ratings, extra equipment, typical specifications, and various data of interest on this class of equipment. A. I. A. file No. 29 c 1.

PERFORATED AND CAST NEWMAN GRILLES

Illustrated booklet of the Newman Manufacturing Co., Cincinnati, Ohio, manufacturers of perforated and cast grilles made of bronze, brass, steel, copper, nickel, zinc, monel metal, aluminum and special alloy sheets. A different design is illustrated on each page, together with tables showing the unit sizes.

CROUSE-HINDS PRODUCTS

A 280-page catalog, known as Catalog 220, bound in cloth, covering condulets,

groundulets, plugs and receptacles manufactured by the Crouse-Hinds Company, Syracuse, New York. Is a complete illustrated record of the types of products made by this company. Prices are given.

CLAY BUILDING BLOCK

The Federal Terra Cotta Corporation, New York, has issued a number of pages in blue print form showing the use of their machine-made clay building block as laid up in walls, partitions, etc. The various sizes of blocks, moldings, etc., are shown. A. I. A. file No. 9 c.

VENETIAN BLINDS

Catalog No. 26 of the Burlington Venetian Blind Co., Burlington, Vt., illustrating a number of various kinds of buildings in which Burlington venetian blinds have been used. It also contains a page of color illustrations showing the various colors in which the blinds may be furnished.

INCINERATORS

Josam-Graver incinerators, made by the Josam Manufacturing Co., Michigan City, Ind., are illustrated and described

in a folder, which includes two loose leaf sheets of sections showing manner of installation. A. I. A. file No. 35 j 41.

PRINCETON CHEMICAL LABORATORY

"Knight-ware in the Princeton Chemical Laboratory" is the title of a booklet illustrating the chemical laboratory of Princeton University, and issued by Maurice A. Knight, Akron, Ohio.

ELECTRIC HEAT IN INDUSTRY

This is a forty-eight page illustrated bulletin, issued by the General Electric Company, Schenectady, N. Y., which illustrates the application of electric heat to groups of basic operations commonly found in industrial plants.

LIGHTER STRUCTURES

Reprint of two articles on structural developments of aluminum which recently appeared in the Engineering News-Record. Written by Robert L. Streeter, vice-president in charge of fabrication of the United States Aluminum Company, Pittsburgh, Pa., from which reprints may be obtained.

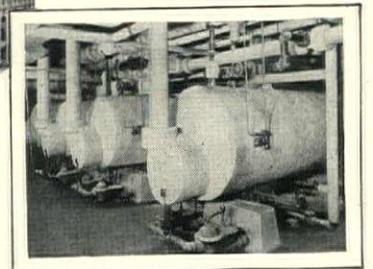
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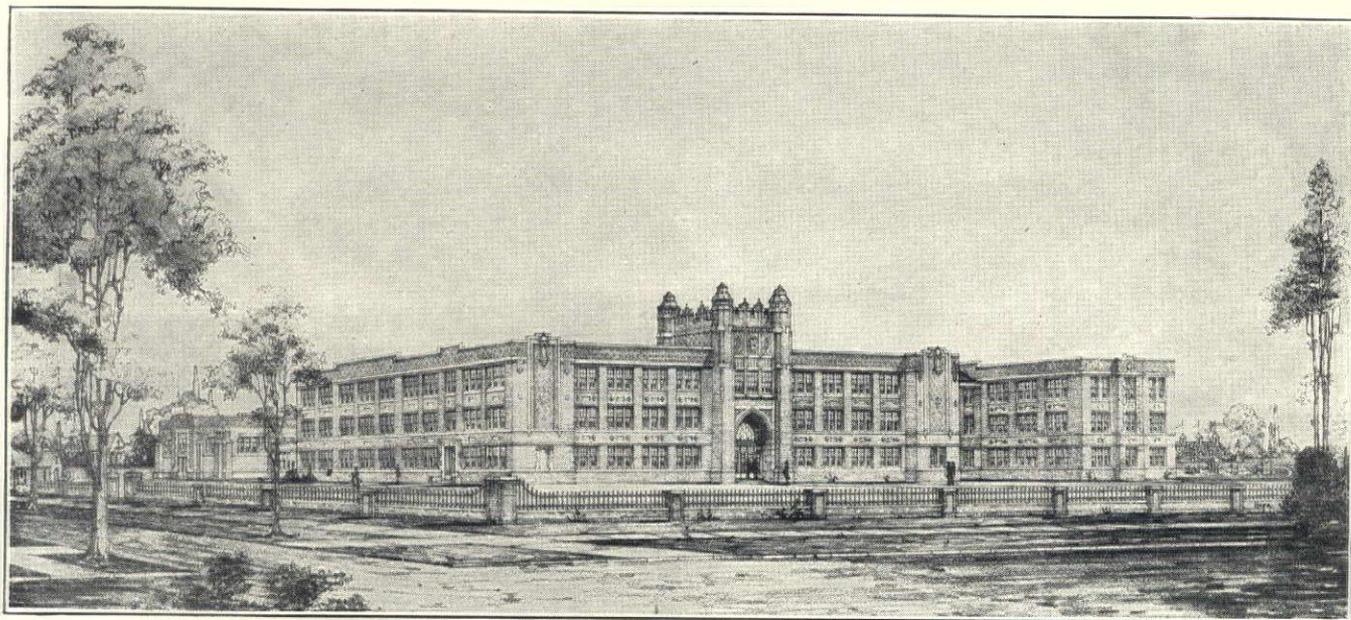


Ross & MacDonald — Architects

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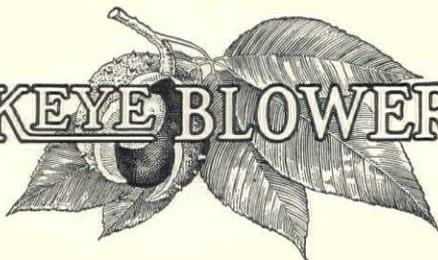
The Capitol Hill Senior High School Building pictured above, is part of Oklahoma City's school building program. Buckeye Heatovens were chosen to deliver fresh, filtered, tempered air to each room of this fine, modern school building.

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HOME & FIELD

a magazine expressing the modern balance between the old and the new in homes and decoration of distinction

Contents for January

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- PATIO FURNITURE AND ITS CHARACTER, *Ann Elliot.*
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- GARDENER'S GOSSIP.
- NEW CONVENIENCES IN HOUSEHOLD EQUIPMENT.
- TRADE FACTS FOR HOME BUILDERS.
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- SEWAGE DISPOSAL IN THE COUNTRY, *F. N. Bolles.*

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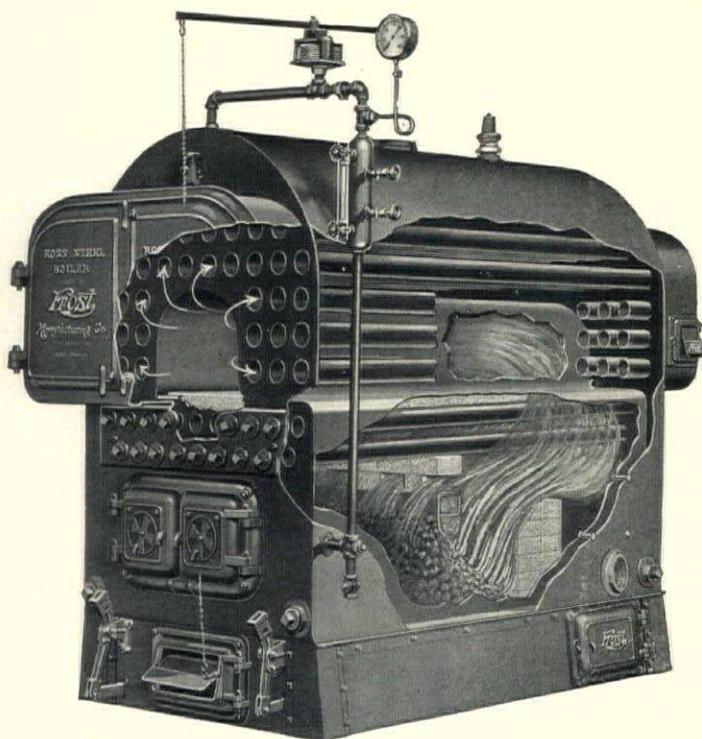
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ROSS STEEL BOILERS

An Easy Way to Specify Lumber

(Continued from page 49)

longer structural life than will probably be needed, and a large proportion of hangars now in use presumably will be removed, remodeled, or torn down before they are structurally unsafe or unserviceable. In view of the fact that many hangars to be built in the near future will in many instances be removed or remodeled to meet unforeseen demands, the advantages of lumber are worth considering. Commercial air transport is an infant industry and at present it is impossible to foresee all of its requirements. Lumber buildings are light, sufficiently flexible to withstand the effects of moving, and are readily remodeled or adapted to new purposes. No imported skilled artisans are required to build them.

Architects should be familiar with experiments recently conducted at the United States Forest Products Laboratory, United States Forest Service, which demonstrated conclusively that diagonal sheathing is definitely superior to horizontal. There has been much conversation about the relative merits of sheathing laid diagonally or horizontally but until lately there has been no test evidence to support either contention.

The mailing of sheathing boards, their application to the panel frame—that is, horizontal or diagonal—the character of bracing and the effect of windows and doors cut into the panel were all tested, as was the stiffening influence of wood lath and plaster.

It was found that diagonal sheathing with two nails at each stud crossing was two to four times as rigid as horizontal sheathing similarly nailed, depending upon the size and nature of the openings, the least difference applying to a wall pierced by window and door openings.

Diagonal or so-called herringbone bridging between studs contributes very little to the stiffness of a horizontally sheathed panel. Diagonal braces, 2x4", cut in between the studs, added about 50 percent to the stiffness of the panel, but 1x4" braces let into the outside of the studs increased the resistance to longitudinal pressure, 150 to 300 percent. Panels with door and window openings were less improved by such bracing than full panels, but let-in braces still proved by far the most effective. Using more than the customary and necessary two nails at each stud is not worth the extra cost of nails and labor, regardless of whether sheathing is laid horizontally or diagonally.

Curiously enough, wood lath and plaster alone furnish greater rigidity to a wall than does any type of sheathing and bracing, and this applies to walls with or without openings.

Panels sheathed with green lumber and allowed to dry out had only about half the resistance to distortion as did the panels made of seasoned lumber. To a large extent wall stiffness is directly dependent upon the lateral resistance of the nails. Consequently it is to be expected that any working of the nails due to wetting and drying of the studs and sheathing would have a pronounced effect on wall stiffness. However, the accidental wetting of well-nailed wood sheathing is seldom a factor in reducing wall stiffness. A long period of wetting followed by drying would of course have a marked effect.

The attitude of both consumer and producer toward

the whole problem of improved wood utilization in the construction field will have a marked influence upon the cost of construction. Few species and few grades involve practically no important choices. Many species and many grades make it necessary to choose carefully and wisely to get the best results for the least money.

Close working cooperation between the architect and the lumber manufacturer and dealer will result in a wiser and consequently in a more economical use of the products of our forests. It is wise use that creates value and it is value that men cherish and preserve. A wiser use of lumber and wood products in building construction will not only tend to reduce construction costs but will furnish an incentive to grow forests.

Our forests represent a renewable national asset. As this asset becomes more valuable through more intelligent and more complete use there will be a business incentive to grow forests. The architect can make a real contribution to this end by shaping his specifications to the material in such a manner that lumber can be utilized with the utmost economy and, at the same time, sacrifice nothing in respect to strength or durability.

A Town Planned for Safety

(Continued from page 44)

represents the best work of a distinguished group of architects and town planners, they included: Clarence S. Stein, former chairman of the New York State Commission of Housing and Regional Planning; Henry Wright, former chairman of the Committee on Town Planning of the American Institute of Architects; Frederick L. Ackerman, who during the World War was Chief of the Design, Housing and Town Planning Division of the United States Shipping Board; Andrew J. Thomas, well known as a designer of multi-family housing; Thomas Adams, director of the Regional Plan of New York and Environs for the Russell Sage Foundation; Robert D. Kohn, who was Chief of the Production, Housing and Town Planning Division of the United States Shipping Board during the war, and Raymond Unwin, technical expert for the Greater London Regional Planning Committee and President of the International Federation for Housing and Town Planning.

Two years ago the site now occupied by the initial unit of this development was rolling farm land, the ingenuity of this distinguished group of men has transformed it into what may be well described as a unique residential community—unique for the present at least, though it is hardly likely to remain so because of the popularity the idea has won from the very outset; a popularity that may ultimately bring about the development of this motortown idea in other sections of the country adjacent to some of our more congested metropolitan centers. For the Radburn safety street plan is the most effective solution city planning science yet has found to the serious problem of handling automobile traffic.

The same skill which devised the Radburn street plan also was devoted to the planning of its houses, which are so arranged that the

(Continued on page 130)

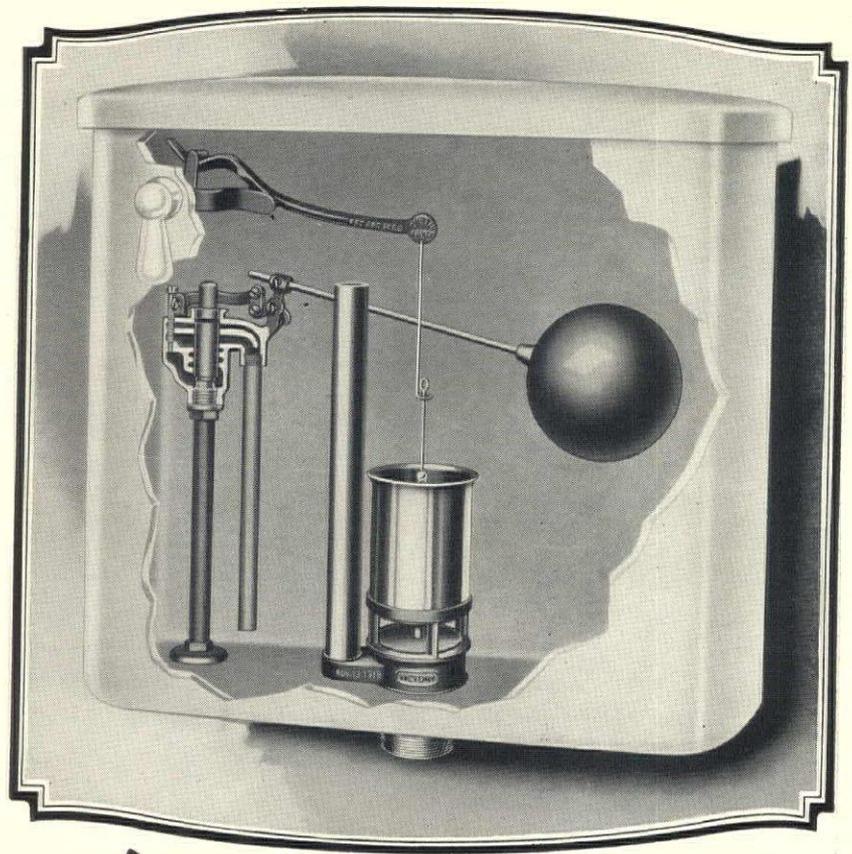
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A Town Planned for Safety

(Continued from page 128)

living rooms face on pleasant gardens. The houses are of varying color, design and finish, some having brick exteriors, some clapboard and some shingle. The garages are attached to the houses and for the most part are entered by way of the kitchen.

Finally, a word or two might also be said about the provisions the builders of this model town have made for parks and playgrounds, as about fifteen per cent of the total area of the town is given over to those facilities.

To be really complete, and to provide fully for family life and growth, a home must of course be something more than four walls. No matter how attractive a house may be, it will fall short of present day requirements if its location does not offer ample opportunities for recreation to children and grown-ups alike. As Radburn is unique in its safety street plan, so is it unique in the extent to which facilities for play and recreation have been provided for.

For the older children and adults, sections of the parks have been made into sizeable fields for playing baseball, football and other sports, and nearby there are tennis courts. But most important of all are the large, well-equipped playgrounds for the children that may be reached from any part of the town without the crossing of a single street used by motor cars. Thus there is no necessity for the youngsters of Radburn to do their playing in the streets where fast moving traffic is a constant source of danger.



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