

Cartier's Grove

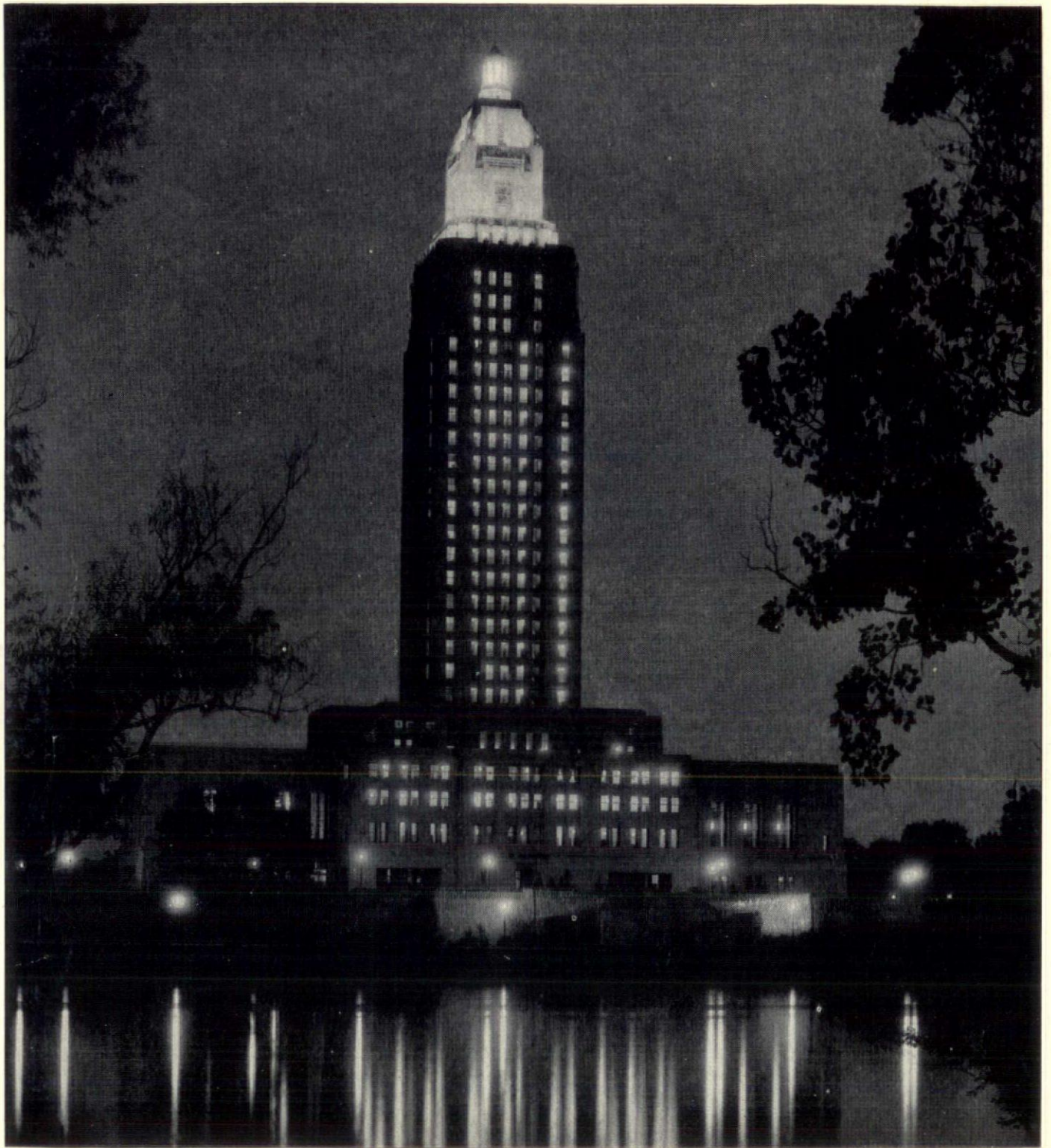
ARCHITECTURE

The Professional Journal

April, 1933
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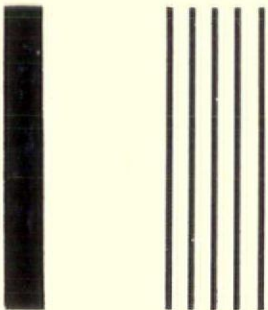
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ARCHITECTURAL LEAGUE OFFICERS

THE annual election of The Architectural League of New York has resulted in the choice of Arthur Loomis Harmon, of Shreve, Lamb & Harmon, to be president, succeeding Julian Clarence Levi, whose term will expire on May 4. Other officers elected for a one-year term are: D. Putnam Brinley, first vice-president; Ernest Wise Keyser, second vice-president; Noel Chamberlin, third vice-president; Otto W. Heinigke, fourth vice-president; Ralph T. Walker, fifth vice-president; Archibald M. Brown, secretary; and Giles Whiting, treasurer.

BETTER HOMES MEDAL AND AWARDS

ROYAL BARRY WILLS of Boston has been awarded the gold medal for 1932 in the small-house architectural competition conducted under the sponsorship of *Better Homes in America*. The medal was awarded for Mr. Wills's design for the home of Maurice A. Dunlavy, of Brookline, Mass. Honorable mention in the same class, one and a half stories, went to Charles S. Keefe, of New York, for the house of John J. Farrell, Darien, Conn.

First honorable mention in the one-story class was won by Leland F. Fuller for his own residence in Santa Monica, Calif. Honorable mention, also in the one-story class, went to Ralph C. Flewelling, of Beverly Hills, Calif., for the house of Doctor Seeley G. Mudd in Santa Barbara County, Calif.

William Wilson Wurster, of San Francisco, received first honorable mention in the two-story class for the house of Doctor Alister Mackenzie near Santa Cruz, Calif. Other honorable mentions in the two-story class were given to William Webb Sunderland, of Danbury, Conn., for a house in Newtown, Conn.; to Rollin C. Chapin, of Minneapolis, for his own house; and to Miss Elisabeth Coit, of New York, for the house of Miss Anna B. Van Nort, Croton Heights, N. Y.

PRINCETON PRIZES IN ARCHITECTURE, 1933-1934

TWO competitive prizes of eight hundred dollars each, in the School of Architecture, Princeton University, are announced for the year 1933-34. The purpose of these prizes is to permit men of unusual ability, who desire to complete their

professional training, to profit by the opportunities offered by the School of Architecture, the Department of Art and Archaeology, and the Graduate School of Princeton University.

The prizes will be awarded as the result of a competition in design to be held from 9 A.M., May 20, 1933, to 9 A.M., May 31, 1933. The right is reserved to withhold either or both awards in case no candidates are considered to have reached the required standard. The winners will devote the following school year to the study of advanced architectural design, and such other subjects as they may elect.

Candidates for these prizes shall be unmarried male citizens, not less than twenty-one nor more than twenty-seven years of age on September 1, 1933, who have been employed as draftsmen in architects' offices for not less than three years, or who have otherwise demonstrated their ability in architectural design.

Applications to enter the competition must be filed on or before April 22, 1933. For application blanks and regulations governing the competition and award, address The Director, The School of Architecture, Princeton University, Princeton, N. J.

FERRUCCIO VITALE, 1875-1933

FERRUCCIO VITALE, nationally known landscape architect, died of pneumonia at his New York home, after a long illness, on February 26. Mr. Vitale was born in Florence. After graduation from the Royal Military Academy of Mo-



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dena, he was commissioned in the Italian army, and came to the United States in 1898 as military attaché to the Italian Embassy. In 1902 he resigned from the service, and two years later began to practise in New York. In 1921 he became a naturalized citizen.

Mr. Vitale designed and supervised a large amount of widely varied work in his professional activities, some of the better-known examples being: Meridian Hill Park, Washington; the town plans of Scarsdale and Pleasantville, N. Y.; and many large estates in the vicinity of New York, Chicago, Philadelphia, and Pittsburgh. A few of his clients were Percy Rockefeller, R. B. Mellon, Myron C. Taylor, J. F. Carlisle, and Carl Schmidlap.

President Coolidge appointed Mr. Vitale for a four-year term on the Fine Arts Commission in 1927. More recently he was made a member of the Architectural Commission for the Century of Progress Fair at Chicago. Mr. Vitale was a founder of the Lake Forest Foundation for Architecture and Landscape Architecture, and established several scholarships there and at The American Academy in Rome, of which he was a trustee. He was a Fellow of the American Society of Landscape Architects, and former president of its New York Chapter. He was a member of The Architectural League of New York, which, in 1920, awarded his firm its gold medal in landscape architecture, the first one to be given. He was an honorary member of the American Institute of Architects.

Mr. Vitale was created a Chevalier of the Crown of Italy when he was twenty-three years old, serving at the embassy at Washington.

Mr. Vitale practised for many years under his own name. In 1932 the firm name was changed to Vitale & Geiffert, Mr. Alfred Geiffert, Jr., having been associated with him for twenty-five years, and as a partner for eight years. The practice of the firm will be carried on under the same firm name by Mr. Geiffert.

PERSONAL

Edgar Albright, architect, announces the resumption of his practice of architecture at 101 Park Avenue, New York City.

Oliver Reagan, architect, has opened offices for the practice of architecture at 101 Park Avenue, New York City.

Why Escalators

were installed in the Metropolitan Life Building

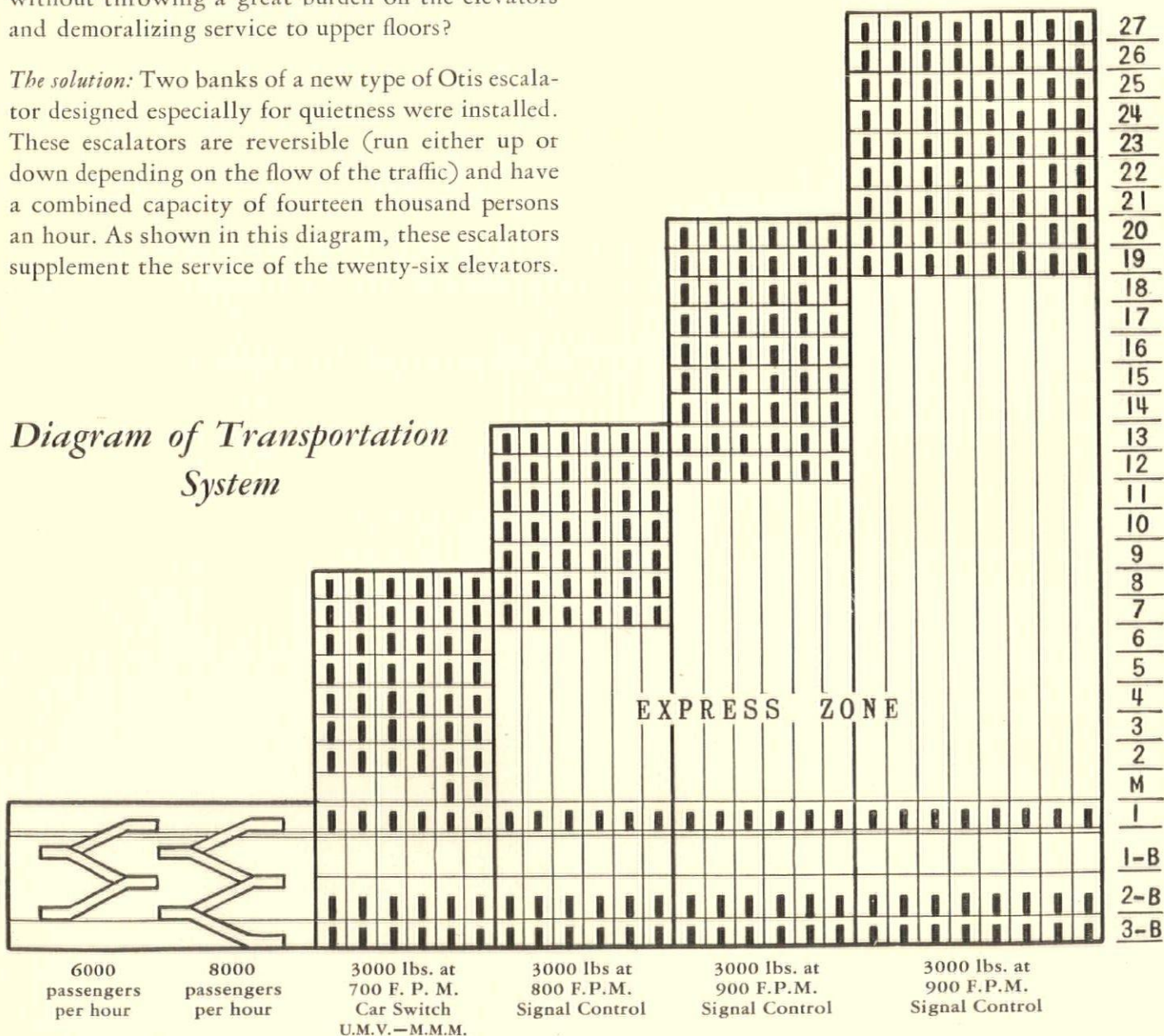
The problem: In the new building of the Metropolitan Life Insurance Company, of New York City, the restaurants were placed at the second and third basement levels—thirty-four and forty-eight feet below the ground. At lunch time a great crowd of people (eight thousand employees in the first unit alone) would want to go to these restaurants and afterwards to the street before returning to work. How could the traffic of this noon-hour crowd be handled without throwing a great burden on the elevators and demoralizing service to upper floors?

The solution: Two banks of a new type of Otis escalator designed especially for quietness were installed. These escalators are reversible (run either up or down depending on the flow of the traffic) and have a combined capacity of fourteen thousand persons an hour. As shown in this diagram, these escalators supplement the service of the twenty-six elevators.

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Diagram of Transportation System

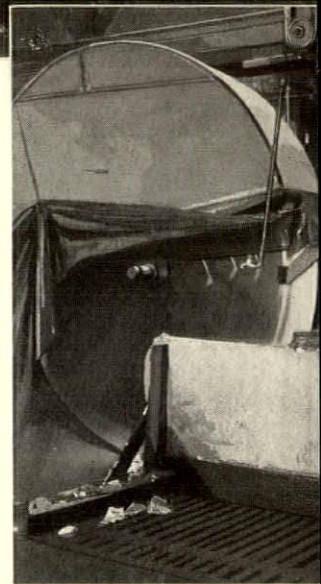
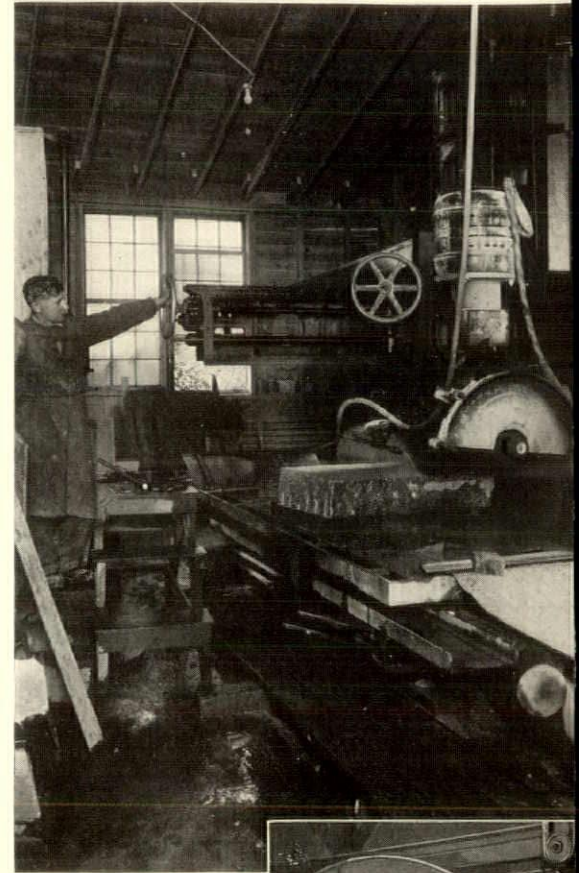
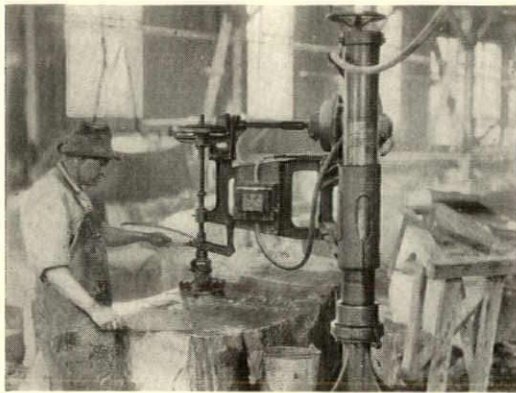


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TECHNOLOGICAL

“TECHNOCRACY” may be a fad. But in so far as it deals with machine production, it is worth noting. To get back to the dictionary—“technology is the application of science to the arts.” The design and construction of buildings is an art. Modern development of the art demands highly technical machinery to achieve its great masterpieces. Machines are growing increasingly useful and mankind is bound to be the debtor.



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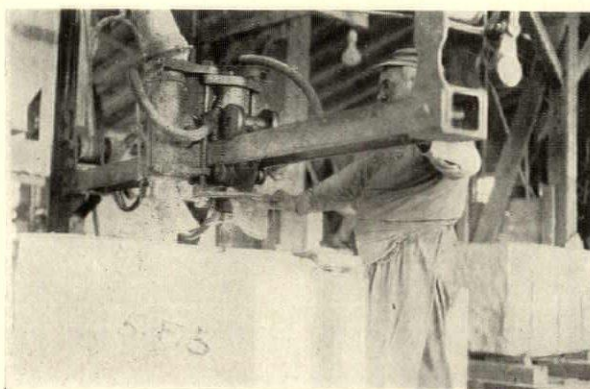
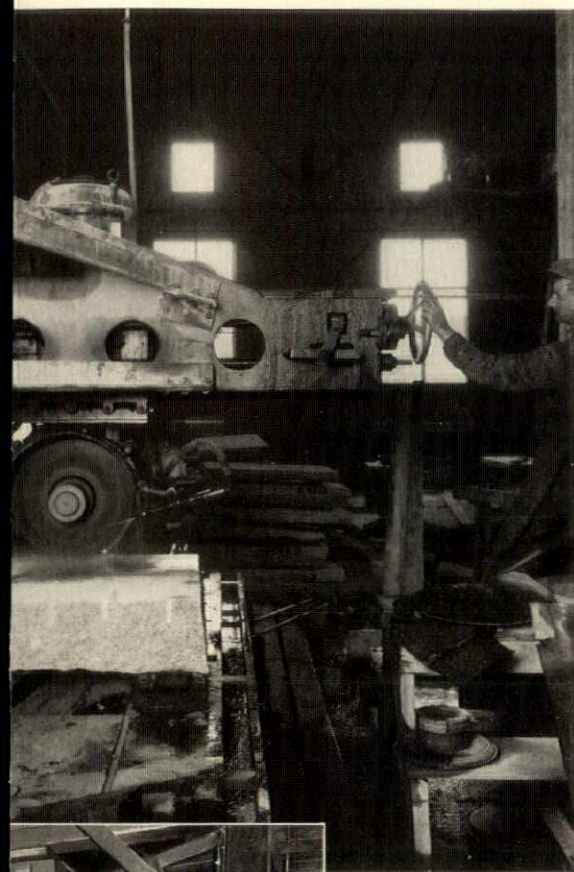
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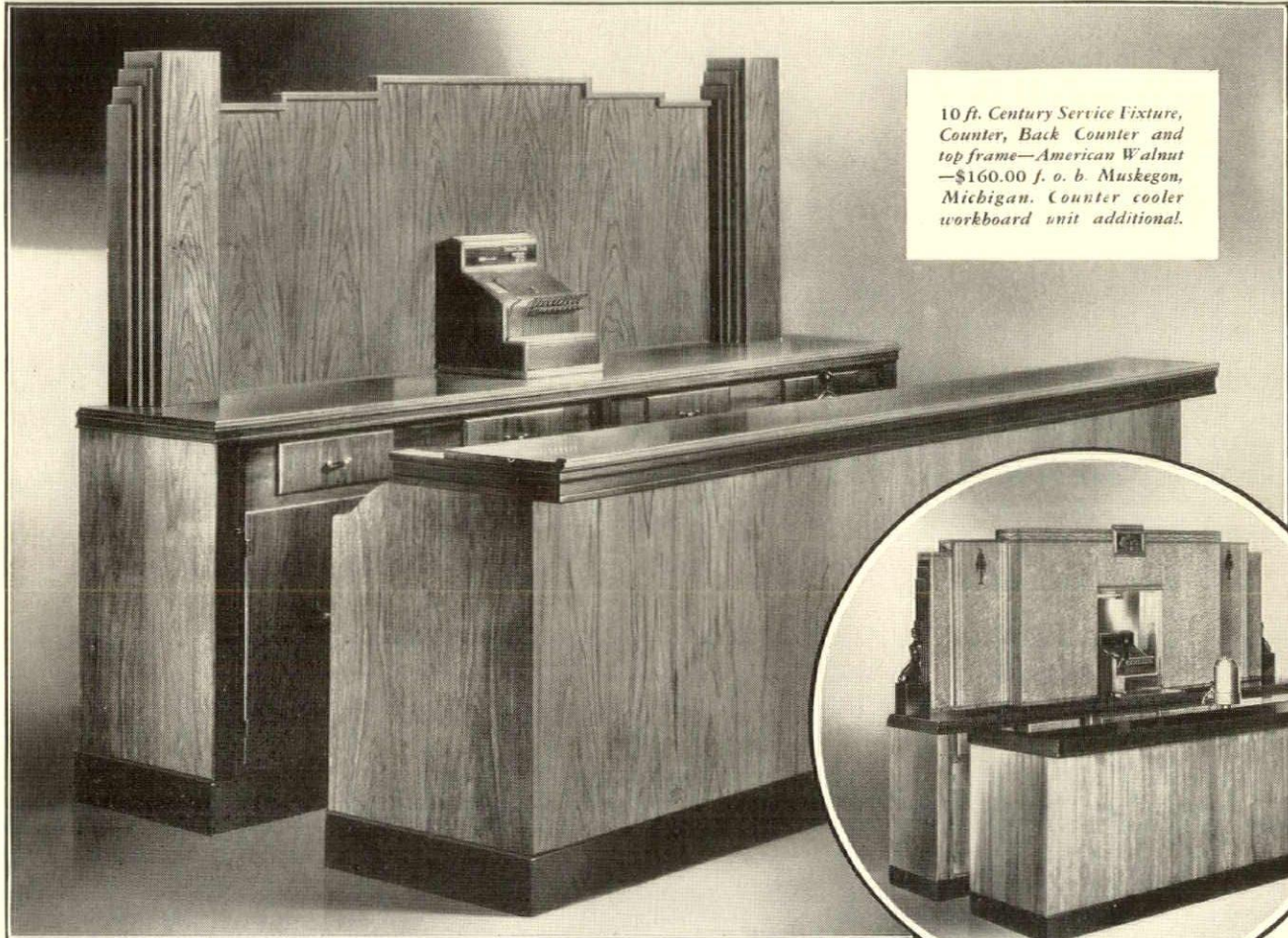
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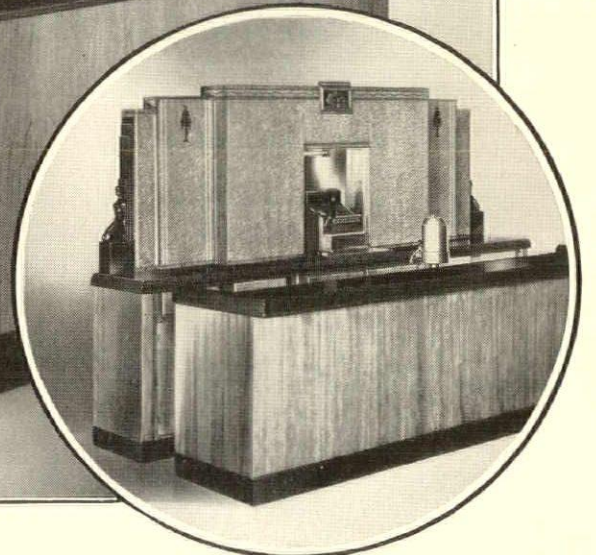


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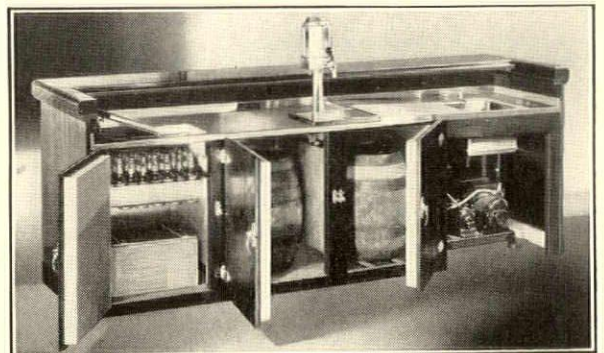
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THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. LXVII, NO. 4

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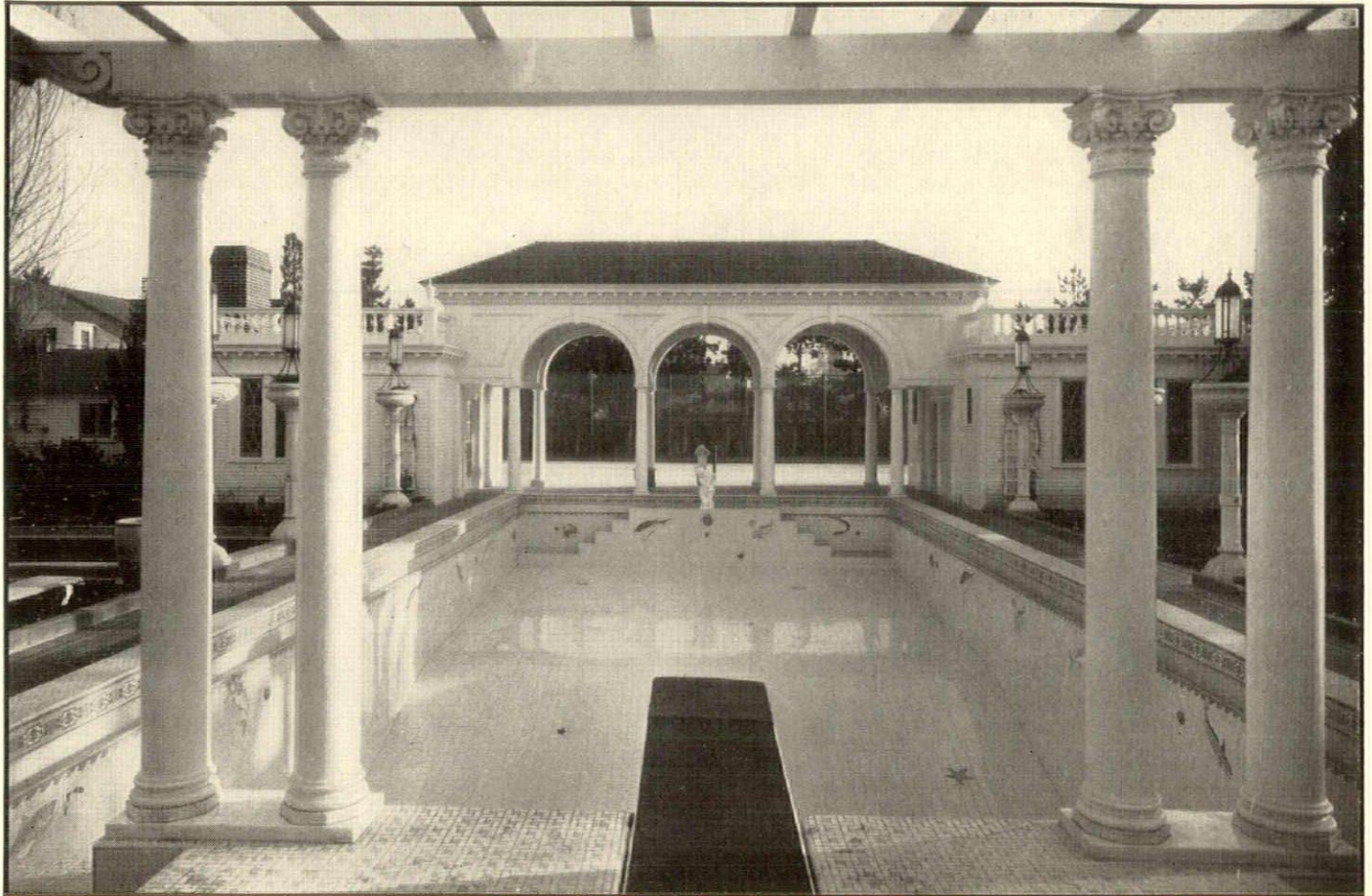
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ARCHITECTURE is published monthly, appearing on the 28th of the month preceding date of issue. Price mailed flat to members of the architectural and allied professions, to any address in the United States, \$3 per year in advance; to all others, \$6; add \$1 for Canadian postage and \$2 for foreign postage. Single copies, \$.50. Advertising rates upon request. Entered as second-class matter, March 30, 1900, at the Post-Office at New York, N. Y., under the Act of March 2, 1879.
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ARCHITECTURE

❖ VOLUME LXVII

APRIL 1933

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The Renaissance of Carter's Grove

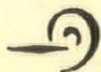
ON THE JAMES RIVER, VIRGINIA, NOW THE HOME
OF MR. AND MRS. ARCHIBALD M. McCREA

By *W. Duncan Lee*

Photographs by Robert W. Tebbs

I STARTED to head this "The Restoration of Carter's Grove," but I feel that the word "restoration" has been stretched far out of shape and I don't want to start an argument right at the beginning. An old building can be and should be faithfully restored, and left at that, if it is to be used for museum purposes solely, but if a person buys an old house, pays a lot of money for it, and intends to use it as a year-round home, he is not going to be satisfied to take his bath in a tin-foot-tub and go to bed with a candle in one hand and a warming-pan in the other just for archæological reasons.

So, the job has got to be a "restoration—plus," and the plus is a great big part, like the plus in those cost-plus contracts. What is there must be brought back to its original condition. What has been destroyed must be replaced in keeping, and the whole preserved for the future. This we may call "restoration." Where enlargements are absolutely necessary, a precedent of the period should be found and followed, and while this cannot be truthfully called a restoration as applying to this building, it is still a restoration of a condition of the time as shown by other examples.



Where the building is to be adapted to modern living conditions, much equipment must be installed for which no provision was made in the original structure, and this is where the "plus" comes in. In the first place, this whole establishment contained only four bedrooms. It's true there was a large up-stairs hall, bigger than any of the bedrooms, but you just can't sleep 'em all over the floor now as they did in old times. Then, too, there had to be room for

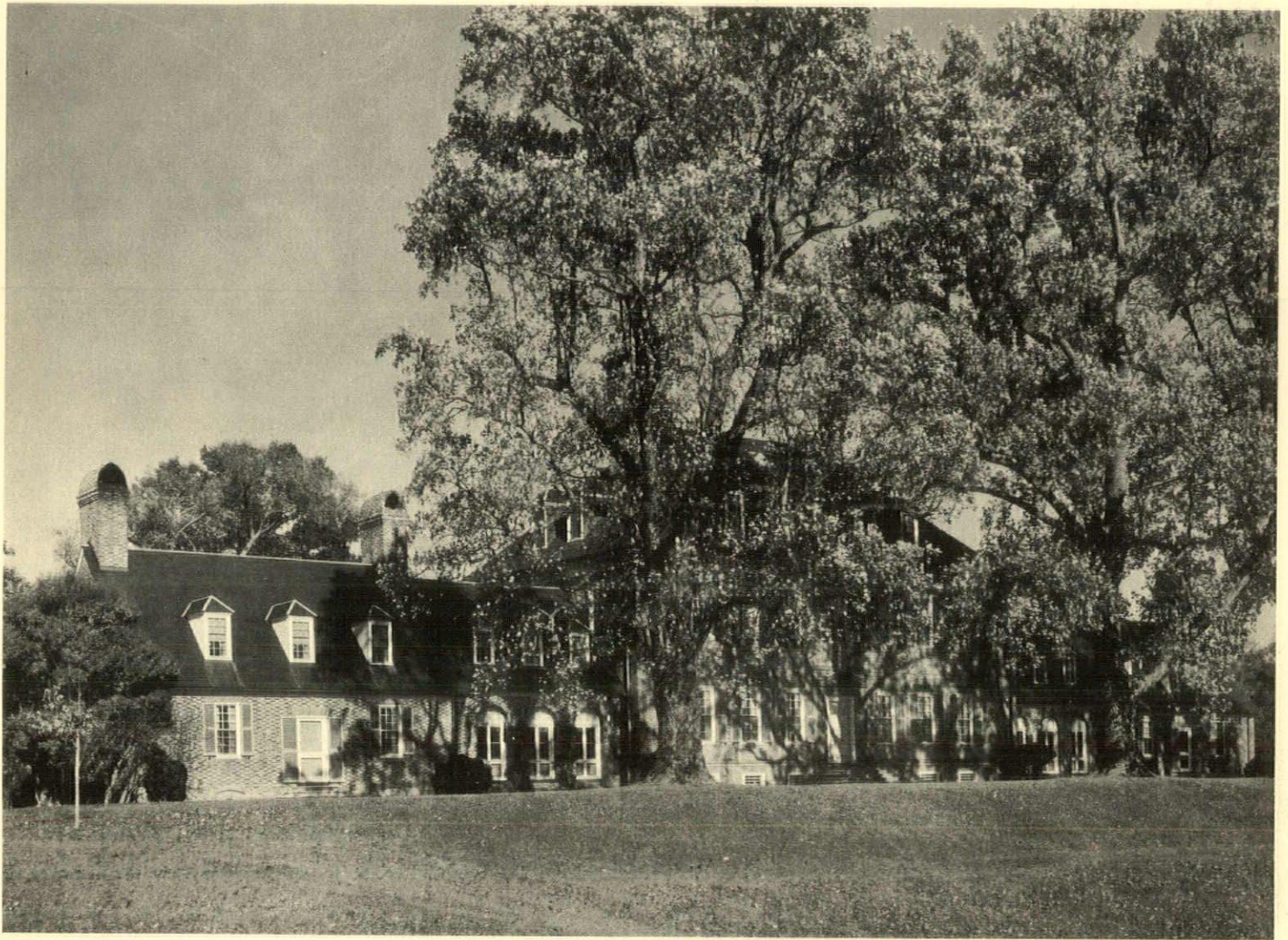
some baths and closets without cutting up the original bedrooms. This wasn't so bad, though, for there was a space of twenty-five feet between the main house and the wings on each side; this had to be filled in anyhow, to bring the kitchen in touch with the dining-room and to make the office of use as part of the house.

This kind of a gap between the house and wings never existed in Maryland. The houses there, of the same period as Carter's Grove, were built in five units, and the idea began seeping into Virginia from the Maryland border toward the close of the eighteenth century, as evidenced in Woodlawn in 1799. If Burwell, of Carter's Grove, did not intend from the first to connect up his three units, it is very probable he would have done it eventually if he had not moved from here to Carter Hall about the time Woodlawn was built.



The Burwells started their building operations just at or before the beginning of the eighteenth century, with the erection of the building which later became the kitchen wing. Some years later, the owner stepped off one hundred and twenty-two feet due west and built another building exactly like the first, and it later became the office wing. From this we believe he knew at the time just what size building he would erect between the two as his main dwelling. We might be justified in going further and assuming that when he recovered from his third building operation, he would go on and connect the three units up, as has now been done, with a stretch to the whole of a little over two hundred feet from end to end.

Anyhow, filling those gaps helped to provide much additional space, but what was still needed was all those things which man has been



The river front, which looks out upon the James under the protection of the two giant tulip poplars. The present additions to the old mansion are the connecting links between end buildings and the main house

able to devise in the past two hundred years for his own comfort and satisfaction and which we now call "modern conveniences." To provide these with the minimum of disruption to the original work and still preserve the atmosphere of an eighteenth-century house was a real problem, and something which I think we have accomplished. Even more important than the additional room and modern conveniences, however, was to make certain of the structural safety of the building, to overcome two hundred years of deterioration, to safeguard against further ravages of time, and, as far as possible, to secure protection from fire; and all done with the least possible removal and no injury to the original. Of course, this could have readily been done by taking down all panelling, removing all plaster and taking up floors, but to do this

where it could be avoided seemed a sacrilege. However carefully old panelling may be removed and replaced, in the doing something is lost that cannot be recaptured.



The problem here, then, became one of four parts: First, enlargement; second, structural restoration; third, period restoration; and, fourth, modern equipment. The owners and I visited the property several times before the purchase was made, and since the possibility of enlargement in keeping with the period was one of the conditions of purchase, this was fully discussed and agreed upon so that the first set of sketches, with minor changes, was ac-

« ARCHITECTURE »



The little end building in the foreground—the kitchen wing—was the earliest of the group. Some years afterwards the other end building was built, directly in line with it, and finally the main house. Possibly Carter Burwell intended a group of three buildings, but just as probably he might have eventually linked them together

cepted. Thus, the first part of the problem was practically settled. On the same visits, an attempt was made to determine what structural restoration was needed, but this, so far as the main house was concerned, was impossible, since no structural members were exposed except in the cellar. The office wing, on which no repairs had ever been made, and the kitchen, were in bad shape except for the walls. A connection between the main house and kitchen had been built some twenty years ago. This we did not like and decided to replace. The examination in the cellar of the main house showed all timbers so rotten from one to three inches on the bottom that they could be pinched off with the fingers, and a worse condition where these went into the wall was suspected. But the house was such an exceptional architectural ex-

ample, so adaptable to the owners' requirements, and so ideally situated, that the purchase was decided on.

As to the period restoration part, the first visit to the place settled that. Even the terrible walnut and mahogany stains, high-gloss varnish, and china-white enamel could not hide the beauty of that panelling. The detail so closely followed the Georgian oak rooms of the time that I felt convinced that the builder, brought over from England to do the work, had carefully selected his wood and did not intend it to be painted or stained. The great temptation was to order, at once, carloads of varnish remover and dozens of painters and get down to the surface of that mellow old Virginia pine that we knew was there. But somebody remembered that the plumbers and steamfitters were yet to



The dining-room, the woodwork of which is in old ivory—all the original panelling. When the present restoration was contemplated, the fireplace had been bricked up. For this interior and others shown in the following photographs the decorating was done by O. E. Mertz & Company

come, and varnish was a good protection from greasy finger prints, so this had to wait; but eventually we were rewarded with a revelation of even greater beauty than we had suspected.

As to the fourth part of the problem, well, there was a fair-sized family and there would be plenty of guests, so there had to be baths and lots of them—not makeshifts, but real baths with all the trimmings. Heat everywhere, two-hundred-foot run of pipes and eight floor levels, and, to save that panelling, automatic control for every radiator. Electric lights of course, 'phones most everywhere, electric refrigerators, electric cooking, insulation, etc., etc. It began to look as if we had bought four walls, a roof,

and some lovely panelling, and somewhere under and between these we had to hide a lot of things that Burwell got along without and never missed.

In three years of slow and painstaking work, it was done, and there are eleven bedrooms, seven baths, ten other rooms, a sub-cellar heating plant and a super-attic storage space. The equipment is as complete and the house, I believe, is as structurally sound as if it had been built entirely new. No panelling was removed from the walls for the purpose and only a few floor boards taken up, but every pipe, radiator, wire, and even electric switch, is completely hidden. Except for the thermostats

« ARCHITECTURE »



This is the New Room, added by W. Duncan Lee to join the main house to the old office building, the interior of which may be seen through the doorway at the left. Here, too, the woodwork is old ivory

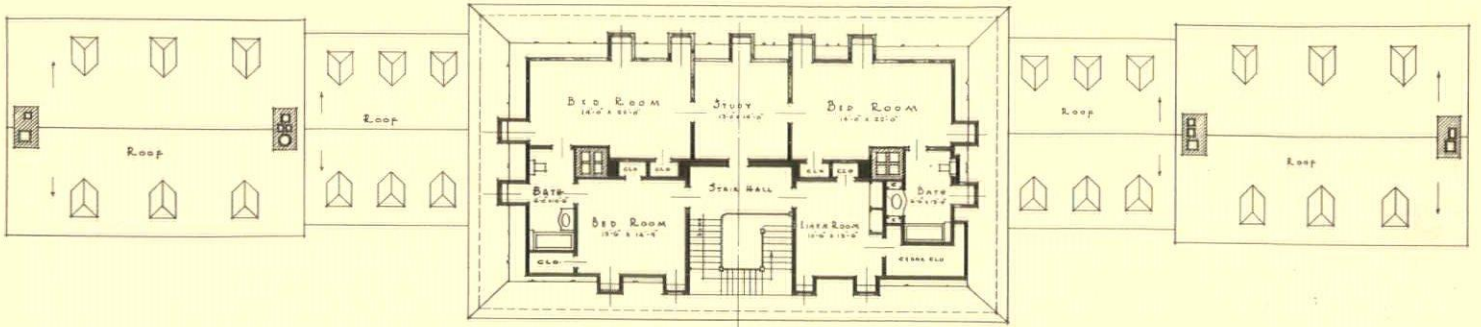
and electric bulbs in the fixtures, there is nothing in evidence that was not there in the early part of the eighteenth century.

The purchase of the property was made just before Christmas, 1927. Survey and plans of existing buildings were started January 2, 1928, and sketches were completed and approved January 27. Working plans were completed February 28, 1928. Before plans were completed, arrangements had been made with a builder, himself an expert mechanic and craftsman, to take charge of the work at the site on a salary basis. Work was started March 1, with a small picked force which was increased as required. All carpentry, painting, and miscel-

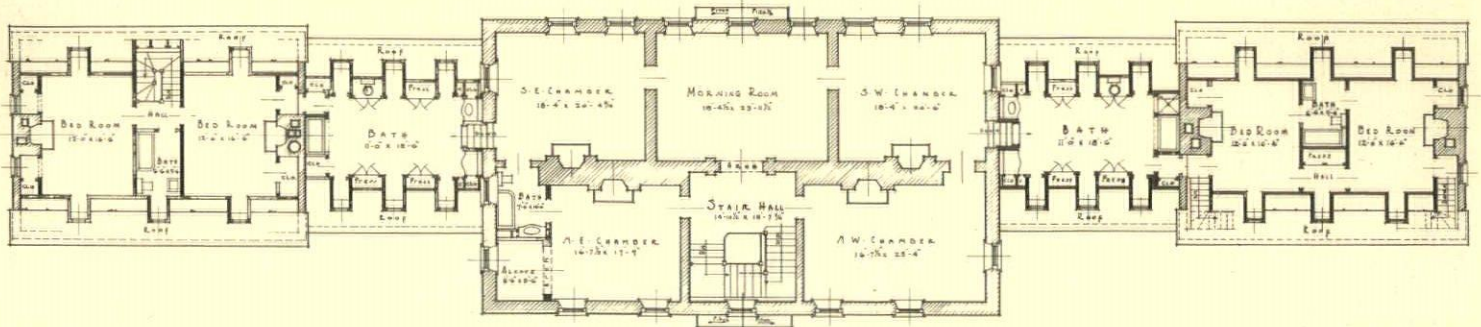
laneous work was done by selected men, all payrolls and bills for material being approved by the foreman, superintendent, and architect, and then paid by the owner. Separate specifications were prepared for each trade, and bids were taken and contracts awarded as their work was needed. This method avoided many changes and consequent extras after contracts were awarded. No sub-contractors were allowed to do any cutting into old work.

On completion of the three years' work, it was found that the entire amount paid out for overhead, profit, and administration on construction work was a fraction less than five per cent of the cost of the work.

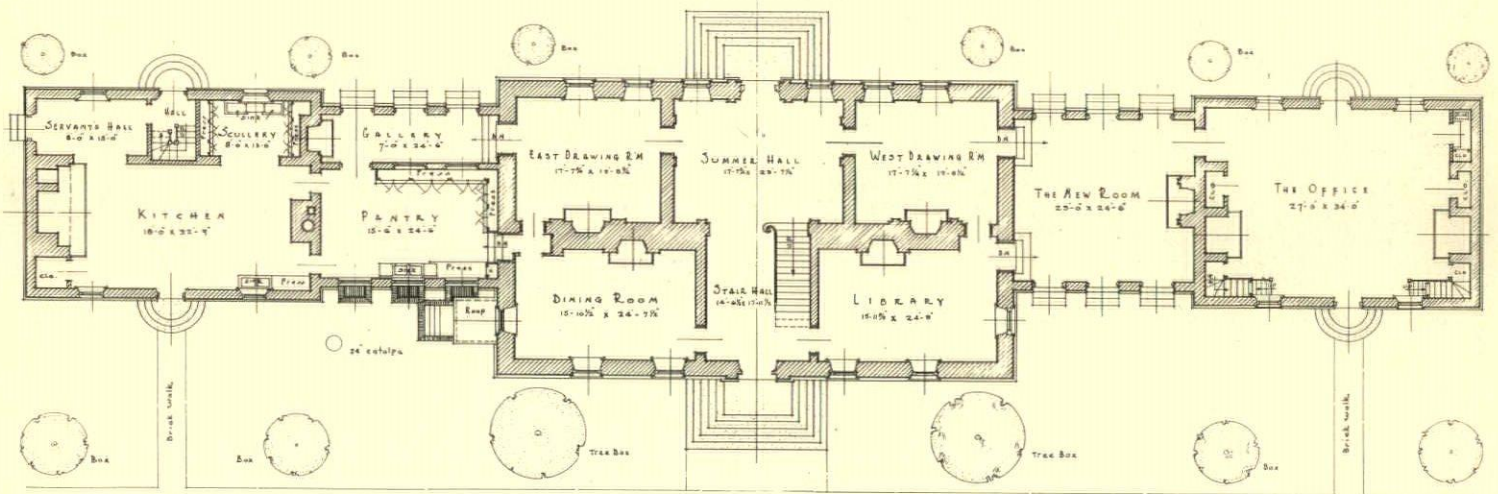
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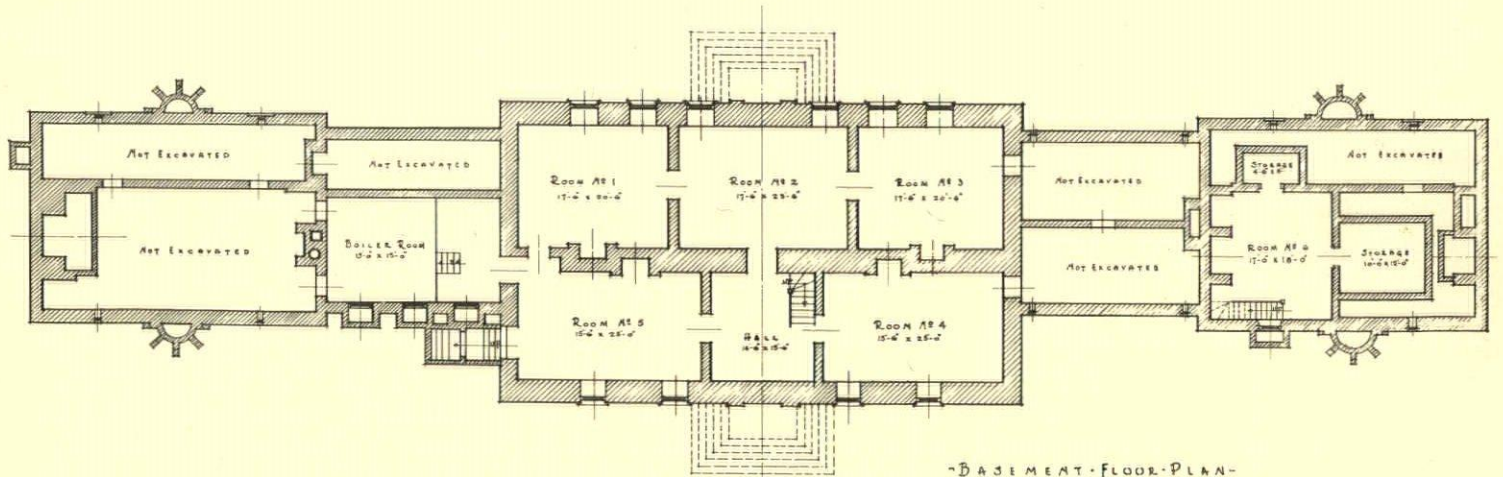
-ATTIC FLOOR PLAN-



-SECOND FLOOR PLAN-

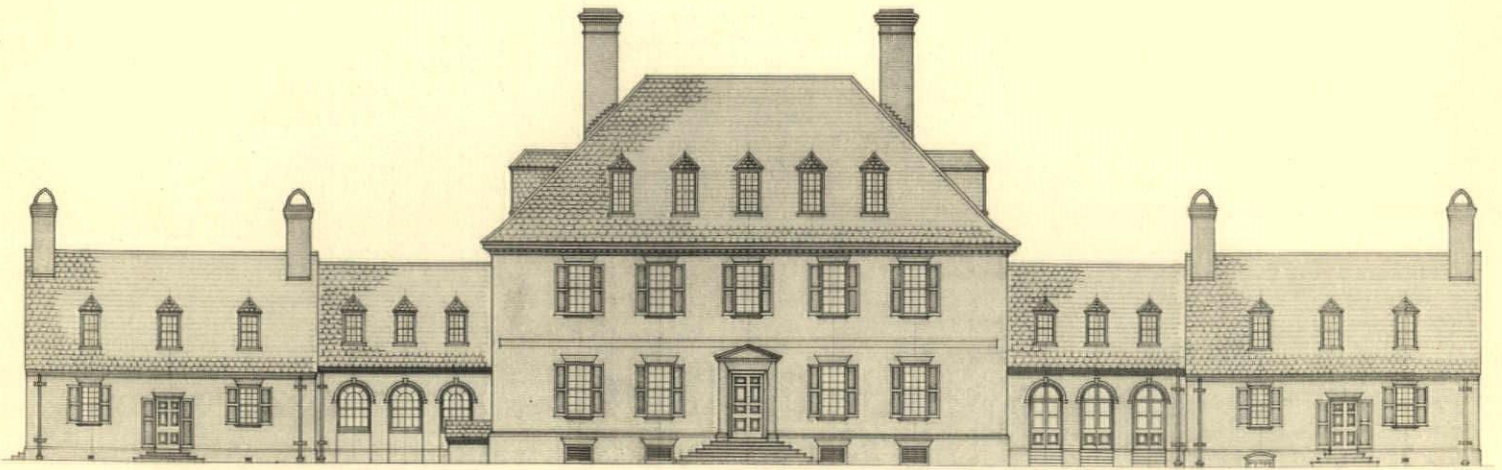


-FIRST FLOOR PLAN-

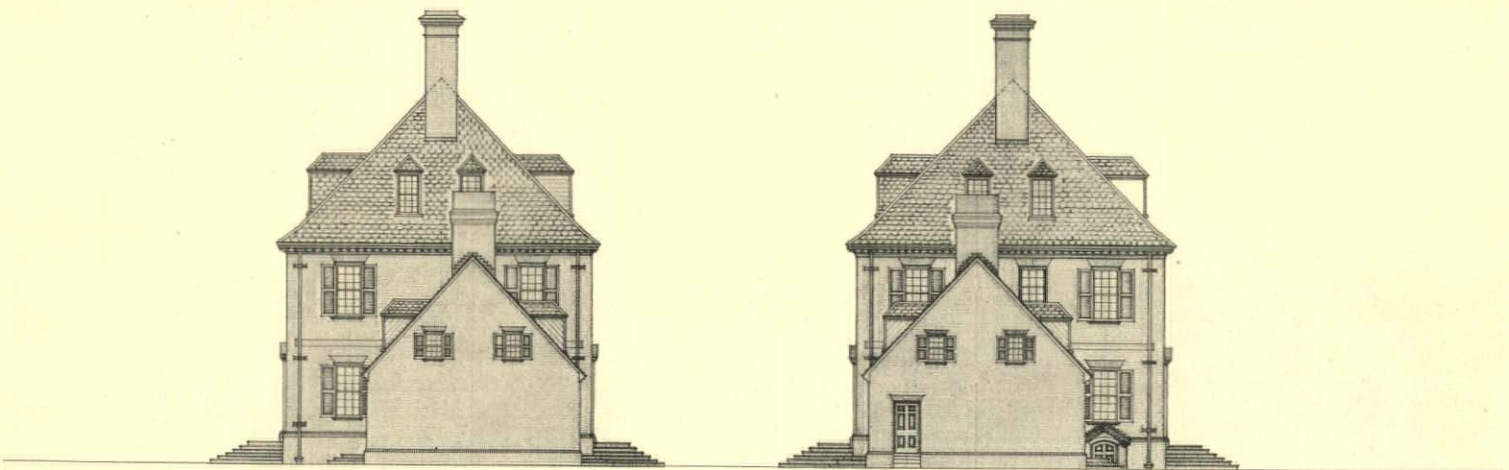


-BASEMENT FLOOR PLAN-

Floor plans of Carter's Grove on the James River as restored, 1928-32, for Archibald M. McCrea by W. Duncan Lee, architect

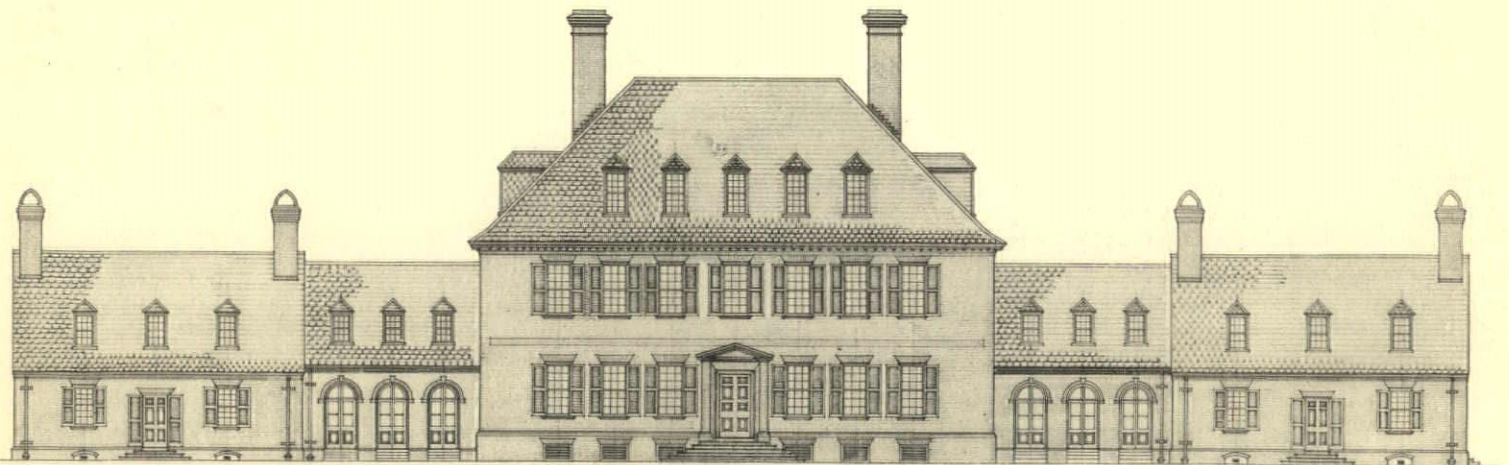


-NORTH OR LAND ELEVATION-



-WEST ELEVATION-

-EAST ELEVATION-



-SOUTH OR RIVER ELEVATION-

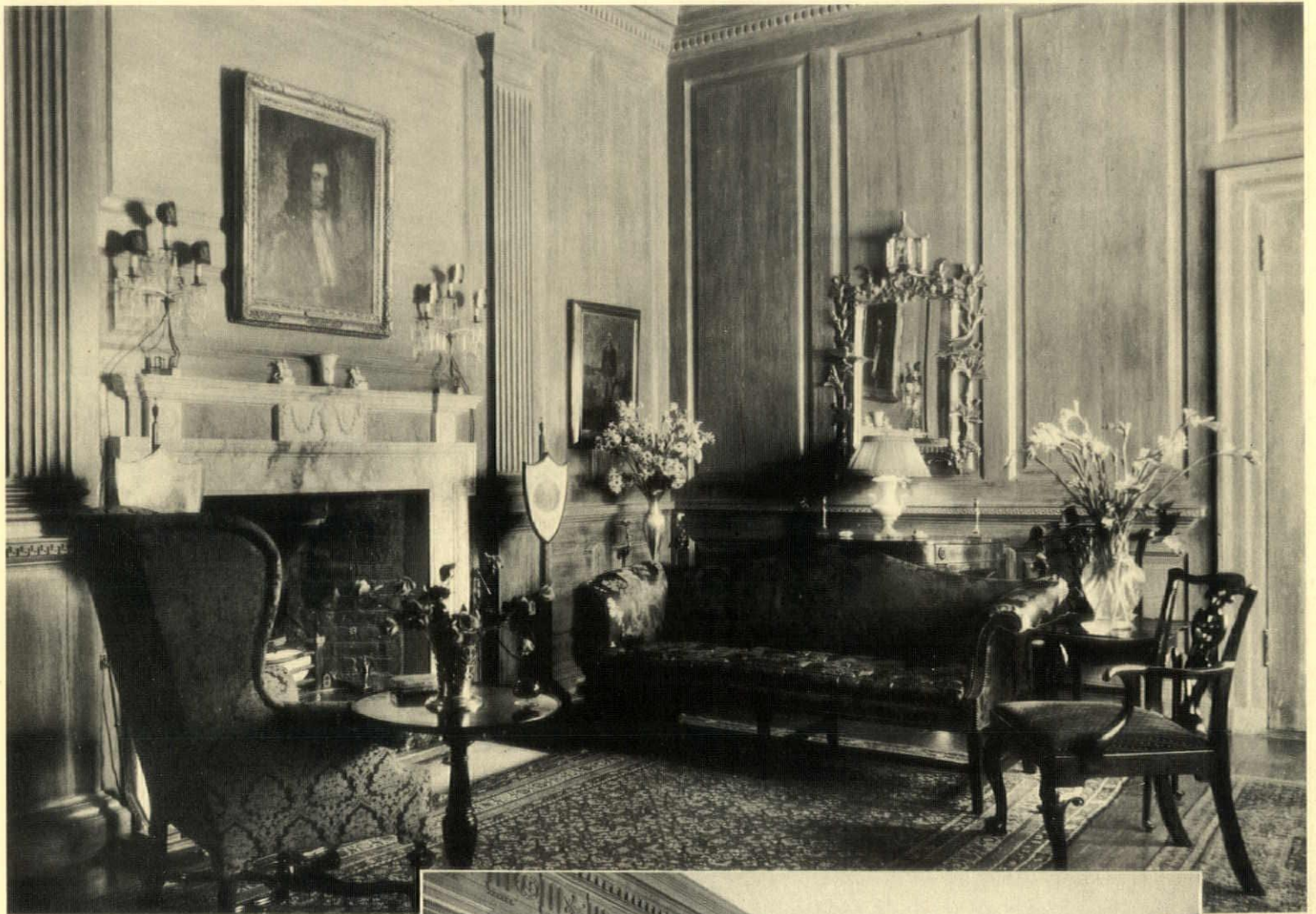
Elevations of Carter's Grove on the James River as restored, 1928-32, for Archibald M. McCrea by W. Duncan Lee, architect



The hall. The stair treads and risers are of pine, the treads having a walnut nosing nailed on, and these countersunk nail heads are covered by plugs of holly or box in five different designs

The kitchen. Mr. Lee built the fireplace and chimney on the original foundations. There is a curious local custom to be observed here in the heavy timber lintel over the corner opening, this timber carrying a brick wall

◀ ARCHITECTURE ▶



The West Drawing-room. The panelling of pine had not been painted until 1907. It has in the present restoration been cleaned off and left in the original natural finish. The marble is the original, probably brought over from Italy



The East Drawing-room. Floor and panelling of pine are entirely the original work. The flooring, incidentally, is of boards $1\frac{1}{4}$ to $1\frac{3}{4}$ inches thick, square-edged, dowelled—not nailed—to joists

◀ ARCHITECTURE ▶



Above, Mr. McCrea's Room, formerly the office. The fireplace is original, but not the woodwork. The large portrait is of Governor Spottswood, an ancestor of Mrs. McCrea's. Below, the riding stable. This is entirely new, but Mr. Lee has used old brick and timbering throughout. The roof is of slate





Photographs by Gabriel Moulin



Chinese
Y. W. C. A.
Building,
San Francisco,
Calif.

JULIA MORGAN,
ARCHITECT

Above, a general view of the building with its main entrance. It is one wing of a larger residential hotel building of the same organization, the walls of which may be seen above the wing roof. At left, the hallway, looking towards the main entrance on Clay Street. The color scheme is in green and red; the floor, concrete painted while still damp.



Detail of the east tower and roof composition. The nearer roofs are of handmade tile, the walls of brick and cast stone



◀ ARCHITECTURE ▶

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A corner of the patio, with its little fish pond. The wall tile above this pond are of a fish-scale pattern in green

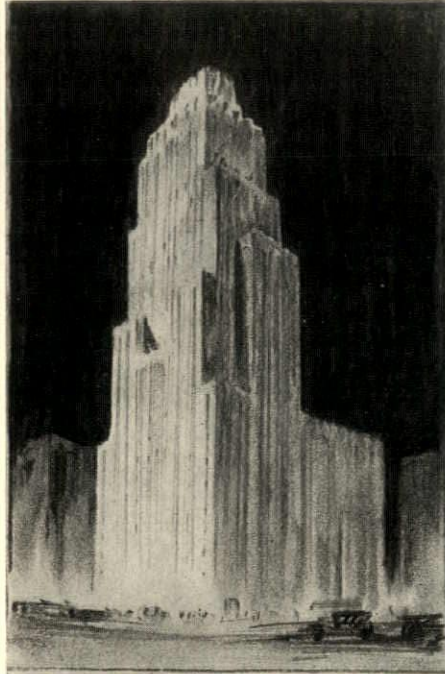


The entrance lobby in which the color scheme includes a Chinese green, lacquer red, gold and blues. The posts are in red, the ceiling red and green, with stenciling in gold and blues—all lacquered

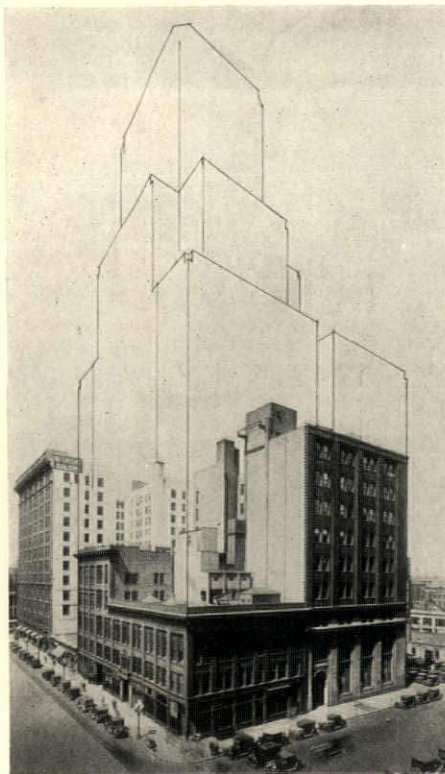
The Creation of a Telephone Building

NORTHWESTERN BELL TELEPHONE SYSTEM'S MINNEAPOLIS UNIT AND SOME OF THE UNUSUAL PROBLEMS PRESENTED TO THE ARCHITECTS, HEWITT & BROWN

NEARLY every architectural commission brings its own particularly individual problems, and the Minneapolis Telephone Building had rather more than its share of difficulties. On the site were: one three-story building, one five-story building, and one nine-story building, all used by the Telephone Company to a degree of intensity measured by its need for a much larger structure. It was required of the architects to design and supervise the erection of this new building without disturbance of the existing service—even to the extent of keeping noise from reaching the operators, dust from delicate mechanism, and jar from the myriad electromagnets of the switchboards. To further complicate the



Above, the first rough sketch for the building. Below, the three existing buildings on the site, to be replaced by the building shown in outline

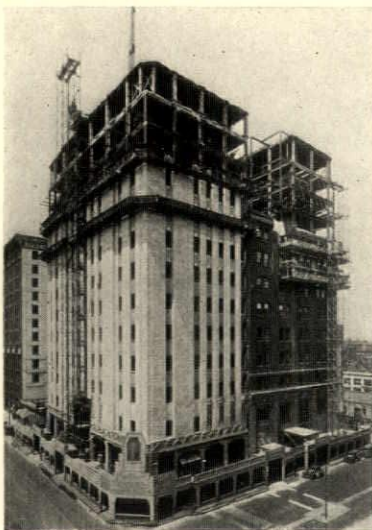


situation, the job was erected during one of the hottest summers on record in that section of the country, and at the height of the building activity the telephone service was further burdened by a large convention, straining the long-distance department to the limit.

The three- and five-story buildings lacked adequate strength and ceiling height, and could not be remodelled. During the War, anticipating the advent of the automatic system, the Northwestern Bell Telephone Company entered upon a building programme which contemplated covering the entire site. Certain building laws and height restrictions at that time prevented them from building more than nine stories; a portion of a building was built on the north side of the lot



A photograph showing the progress of the work on June 2, 1931



A photograph showing the progress of the work on July 27, 1931



to the extreme height then permissible. War-time restrictions also exercised a decisive influence on the contemplated layout. Finally in 1928-29 the problem of needed expansion was again taken up, and after months of close study the new building was started in the spring of 1930.

As now built, this building is twenty-four stories in height with thirteen stories over the entire property, which is 132 feet by 157 feet, surmounted by an eleven-story tower having two setbacks. There are three basements. The height of the building, however, is equivalent to that of a thirty-story office building. In designing telephone structures, a minimum allowance of 12 feet 6 inches clearance is made for those floors which are to house equipment as compared with a ceiling height in the ordinary office building of from 10 to 10½ feet. The strength of the building is such as to carry 150 pounds live load to a square foot, as compared with the ordinary building with its capacity of about 75 pounds per square foot.

In order to comply with the ordinances and to permit operation within the nine-story building without interruption, it was necessary to build the new structure in five units as follows:

Unit No. 1. That portion of the new structure, up to the height of the nine-story building, on the area occupied by the three-story building.

Unit No. 2. Structure of corresponding height on the area occupied by the five-story building.

Unit No. 3. New structure in the space occupied by rear stairway and chimneys of the nine-story building.

Unit No. 4. New structure within the space occupied by the elevators and lobby of the nine-story building.

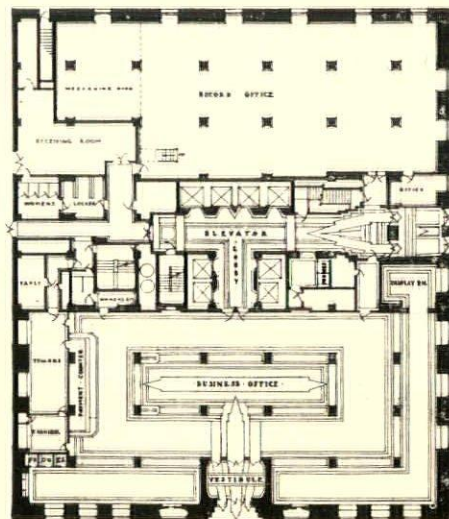
Unit No. 5. That part of the new structure from the tenth floor up over the entire area.

In order to provide sufficient exits with stairway and elevator accommodations at all times for the personnel in the nine-story building, it was necessary to erect the fundamental structure of Units No. 1 and No. 2 and install temporary elevators and stairways in them before wrecking that portion of the nine-story building in which Units 3 and 4 were constructed.

Provision for three basements under the entire structure also presented several interesting problems. It necessitated the demolition and removal of all the basement walls and floors and the footings under the two old buildings and further excavation to a depth of 42 feet below the surface of the street with column footings extended to a depth of 22 feet below the third basement. This placed the bottoms of the caissons for the footings 10 feet below the surface of the Mississippi River above the dam.

Outside of the nine-story building 45 caissons were blasted through rock to that depth and a seam carrying a veritable underground river was encountered a short distance below the river level. To complete the sinking of the caissons below this level necessitated pumping from 1,000 to 1,500 gallons per minute continuously. Incidentally, many interesting and some rare fossils were found in strata from 40 to 50 feet below street level.

Another of the problems encountered in the work of excavation was the terrific street pressure exerted on the



Plan of the first floor

Progress of the work on August 25, 1931

Progress of the work on October 30, 1931

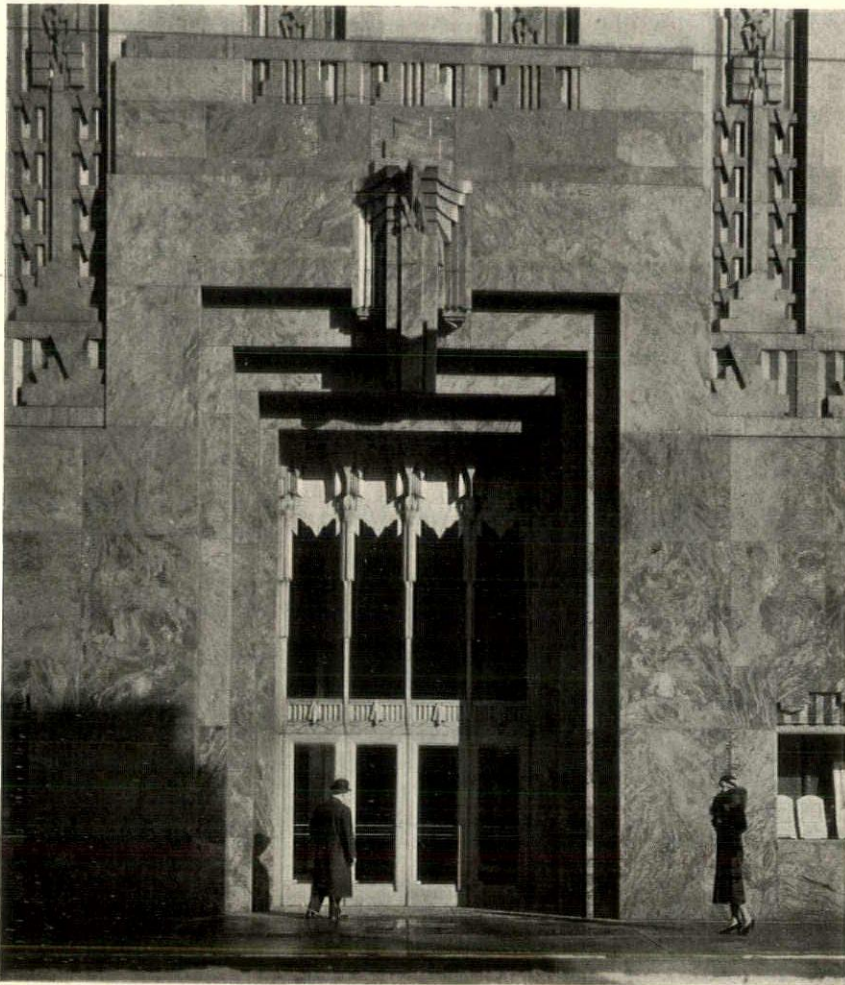




The completed building with its twenty-four stories, thirteen of which cover the entire plot of 132 by 157 feet. There are 237,000 square feet of usable space in the new building as compared with 116,000 in the old buildings. There is a main entrance on Fifth Street and employees' entrance on Third Avenue

Photograph by Howson

◀ ARCHITECTURE ▶



*Photographs by
Howson*

*A detail of the Fifth Street entrance to the public quarters, as it appears
by daylight and at night*



street side of the pit. This was solved by open cribbing so spaced as to permit the placing through the apertures of the column footings and steel work.

One of the interesting developments on this subject, also, was the use of delayed charges of dynamite in excavating. Because of the danger of interruption and impairment of telephone service by jarring or vibrating the thousands of sensitive relays in the equipment housed by the nine-story building, it had been decided to do all excavating through the rock strata by the "plug and feather" method—a much slower and more expensive method, ordinarily, than blasting.

It was found that by detonating several small charges of dynamite at intervals of fifteen seconds, the same results were obtained without damage to the equipment in the adjacent building. A satisfactory gas exhaust system was devised, enabling the builders to use the delayed charge method in sinking caissons for five additional column footings under the occupied nine-story building.

Another interesting construction feature was presented by the refacing of three sides of the nine-story building, replacing windows with new to conform to the new design, all without interfering with the delicate equipment or the operations within. All the above, including the riveting of four additional stories immediately over the long-distance toll rooms, was accomplished without damage or annoyance to the operators. Temporary partitions were erected inside the wall lines on all floors for their protection, these partitions heavily insulated with hair felt, between the faces and around the sides. A temporary system for providing fresh air throughout the rooms was installed. Despite the high temperatures, the presence of dust outside the partitions, and the noise of riveting machines and other equipment, the operators reported very little disturbance throughout the work.

The stripping and refacing operations proceeded from the top down. Two hanging scaffolds were erected two stories apart. The lower scaffold was used for stripping the old walls and

removing the old windows, and the upper one for setting new steel windows and laying new stone ashlar. Before the work was begun all the windows, glass, and stone were on the job. Progress was made at the rate of one story stripped and refaced each week.



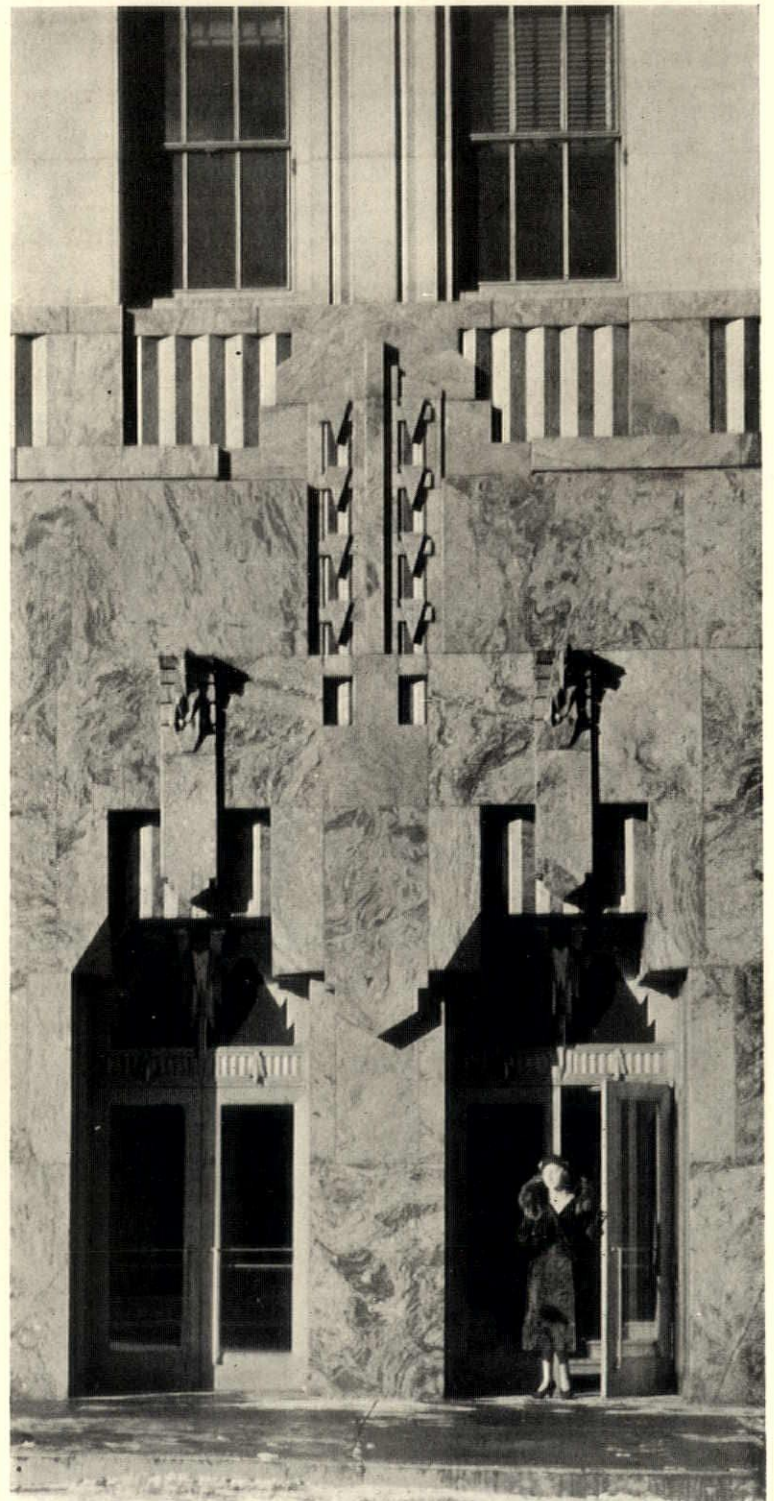
The usual procedure of placing compensation insurance was departed from considerably; the owner insisted upon a single policy for all workman's compensation and public liability insurance covering all the crafts and trades on the entire job, the premiums being billed to each organization in proportion to its pay roll. The insurance company assigned a safety engineer to the job, who worked in close co-operation with the resident organization in maintaining safe working conditions. A safety committee was set up consisting of representatives of the owner, the general contractor, the architect, and the insurance company. This committee met weekly to discuss suggestions and plans for the prevention of accidents and the general maintenance of safe working conditions, and short regular

weekly meetings were held with all the foremen, so that the necessity of always keeping on the lookout for carelessness was kept before them. There were no unusual or novel protective devices used but as a result of these efforts, which were an innovation on construction work in this area, the record was very encouraging. According to the figures of the insurance company, the losses sustained were 70.5 per cent of the losses normally experienced for an equivalent volume of pay roll based upon the normal Minnesota level.



The employees' entrance on Third Avenue, as shown in the photograph above by night, and at the right, by day

Photographs by Howson





Photograph by Howson

Detail of the upper part of the tower

« ARCHITECTURE »

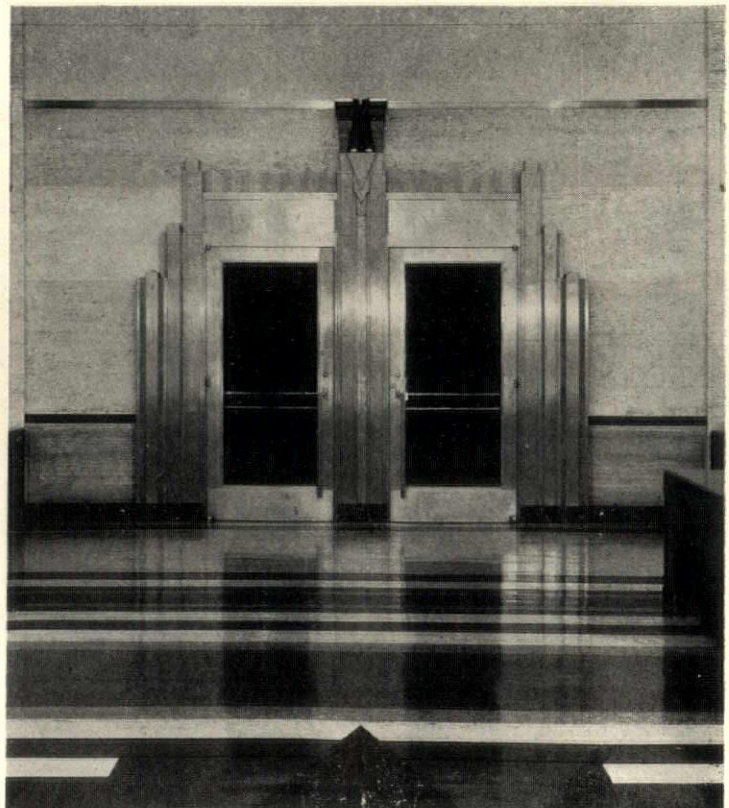


Photographs by
Howson

*The central part of the elevator bank on the main floor as seen from
the lobby leading into the business office*

*Detail of the mail box in the
elevator lobby*

*Double entrance to the elevator lobby from
the business office*





*Photographs by
L. owson*

One end of the business office, showing the payment counter backed by the cashier's office and tellers' space, with public telephones at the left

Below, a view lengthwise in the business office, with the main entrance at the left, and the payment counter directly ahead. The lighting, it will be noticed, is indirect, from the aluminum troughs near the ceiling





Making shop drawings of full-size details as derived from the architect's drawings. All full sizes, of course, are measured with a terra-cotta shrinkage scale—13 inches equal 1 foot

The Making of Terra-cotta

A PICTORIAL REVIEW OF THE MAIN OPERATIONS INVOLVED IN ITS PRODUCTION AS PHOTOGRAPHED BY F. S. LINCOLN IN THE ATLANTIC TERRA COTTA COMPANY'S PLANT AT PERTH AMBOY, N. J.

In the model-making shop. Plain units such as ashlar blocks or simple cornice details can be profiled in plaster of Paris. Small ornaments, as rosettes, modelled in clay, can be attached to the plaster model

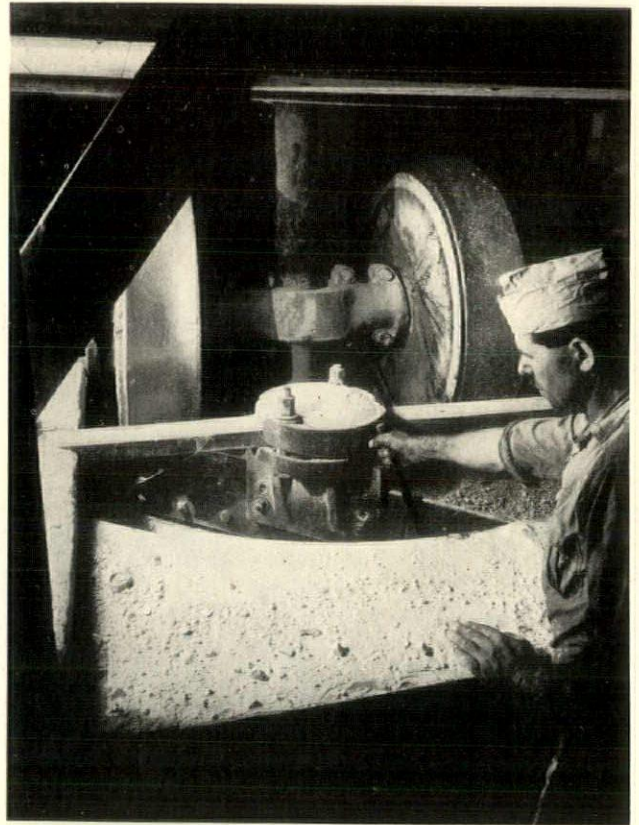


In the moulding shop. From the original models plaster moulds are here made. From these moulds an almost unlimited number of terra-cotta units can be manufactured, if desired

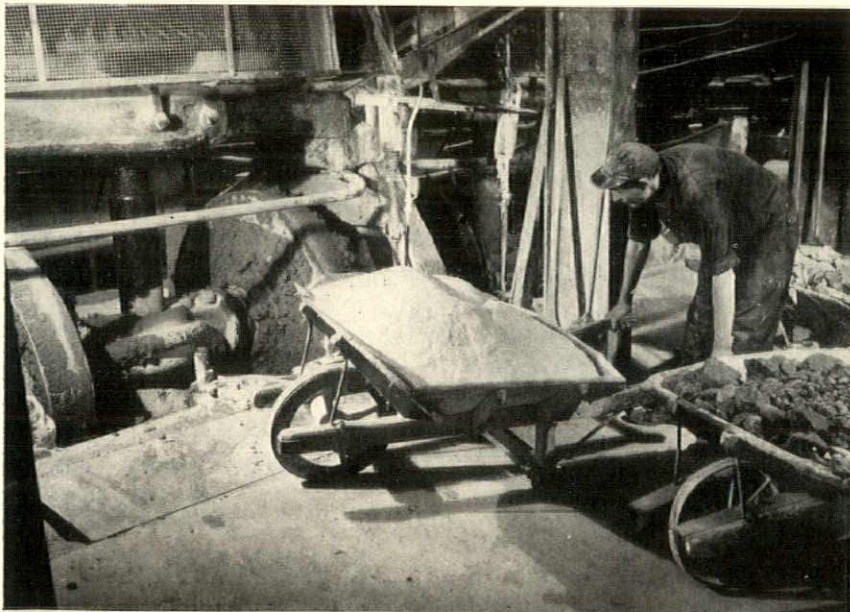




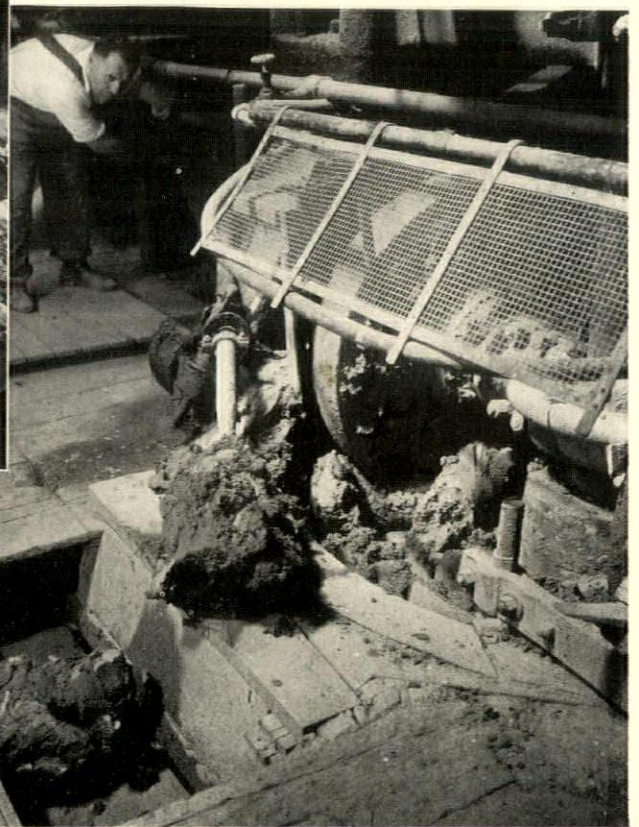
In the modelling studio. Here all ornamental details that depart from plain surfaces are modelled by sculptors or skilled modellers, to be approved by the architect before moulding



Here is the process of grit grinding. Previously fired clay is ground to grit, technically known as "grog," and this is added to the terra-cotta clays in order to control shrinkage



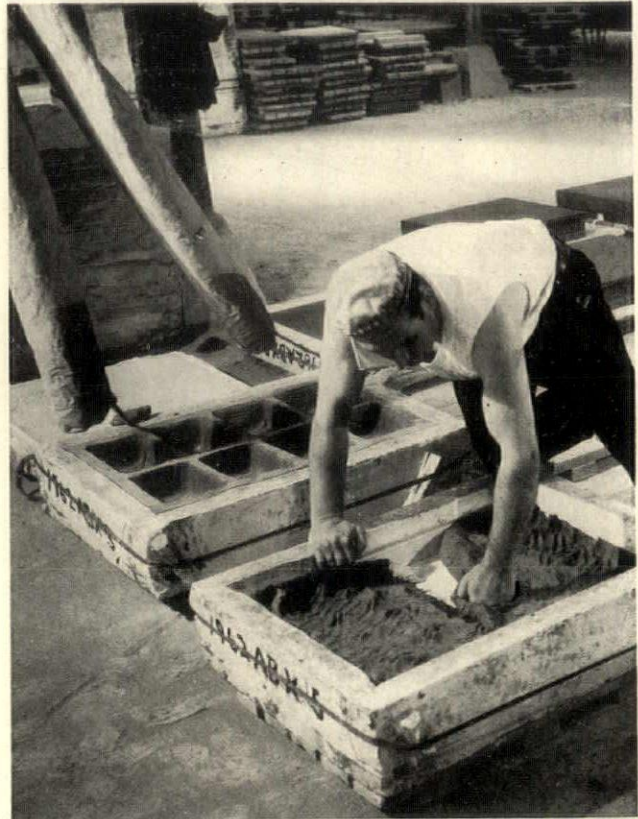
Clay milling. The clays are selected for definite physical properties such as plasticity, for instance, and are accurately combined to exact formula. About one-third of the mixture is grit



Below, clay milling, at the other end of the machine. After the clay body has reached a specific consistency it is removed by large wooden scoops wielded by workmen who must possess strength as well as skill



Clay milling again, where the clay is extruded and carried away on an endless belt. A workman cuts the continuous band of extruded clay into pieces that can be handled more easily

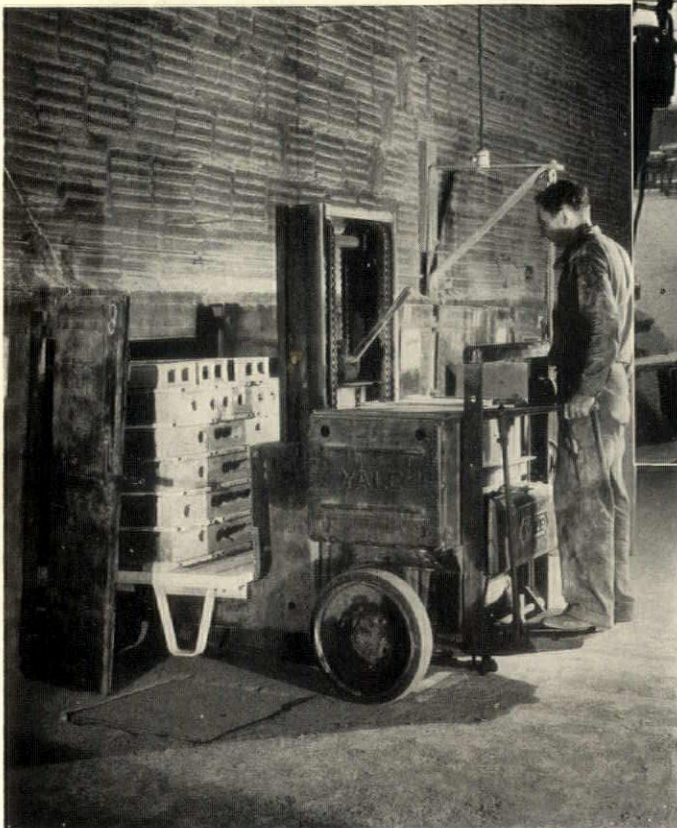


The pressing department. Here the plastic clay is pressed into the plaster moulds. The clay walls are usually about one inch thick with webs to give the necessary strength and stability

Going into the drying tunnels. The pressed pieces remain in the mould until the clay stiffens, due to a slight drying, then the pieces are "finished," and placed in these drying tunnels



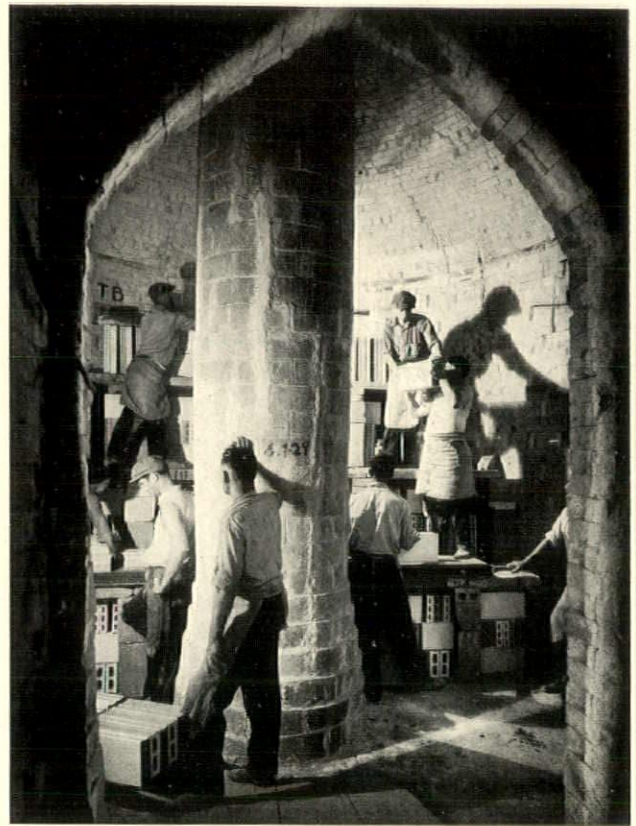
In the spraying department where, by means of compressed air, the exposed surfaces of the terra-cotta are covered with the ceramic mixture or "slip" which, in the firing, develops the desired color or glaze



« ARCHITECTURE »



In the polychrome department, where the colors are applied by hand brush or air brush directly to the clay surface. Abbochrome colors are a mottled combination of three or more tones applied simultaneously



Loading the kiln. The clay pieces are carefully placed in large kilns which are of the muffled type. That is, the flames and combustion gasses pass through flues without touching the terra-cotta

Firing the kiln. The heat is gradually increased until the temperature reaches 2300° F. Then the fires are dropped and the kilns are allowed to cool, causing a slow annealing of the terra-cotta

After firing, the terra-cotta is temporarily assembled, the joints being squared and cut to proper alignment or size. Here each piece is numbered to denote its position in the building





Photographs by Samuel H. Gottscho

The Architectural League's 48th Annual Exhibition

GOLD MEDAL IN ARCHITECTURE.—To Henry R. Shepley, of Coolidge, Shepley, Bulfinch & Abbott, for the New York Hospital. This award is made for the orderly arrangement of the many and varied parts of an unusually complex problem, and the excellence of plan and originality of the design.

GOLD MEDAL IN ARCHITECTURE.—To Thomas Harlan Ellett for the design of the Cosmopolitan Club, New York City; a fresh and personal interpretation, beautiful in its simplicity of form and material.

GOLD MEDAL IN DECORATIVE PAINTING.—To Thomas H. Benton for his decorations in the Whitney Museum in recognition of the freshness of his viewpoint, the vigor and mastery of his technique, and the authentic originality of his work.

GOLD MEDAL IN SCULPTURE.—To Leo Friedlander for the distinguished and monumental qualities shown in the studies for the Arlington Memorial Bridge Equestrian Groups, and for the originality in his work as displayed in its relation to architecture.

GOLD MEDAL IN LANDSCAPE ARCHITECTURE.—No award.

GOLD MEDAL FOR DESIGN AND CRAFTSMANSHIP IN NATIVE INDUSTRIAL ART.—To Joseph Urban for his model of a stage setting for a religious pageant and play. The award is for excellent craftsmanship

and design used in a dramatic manner and in keeping with its grand purpose.

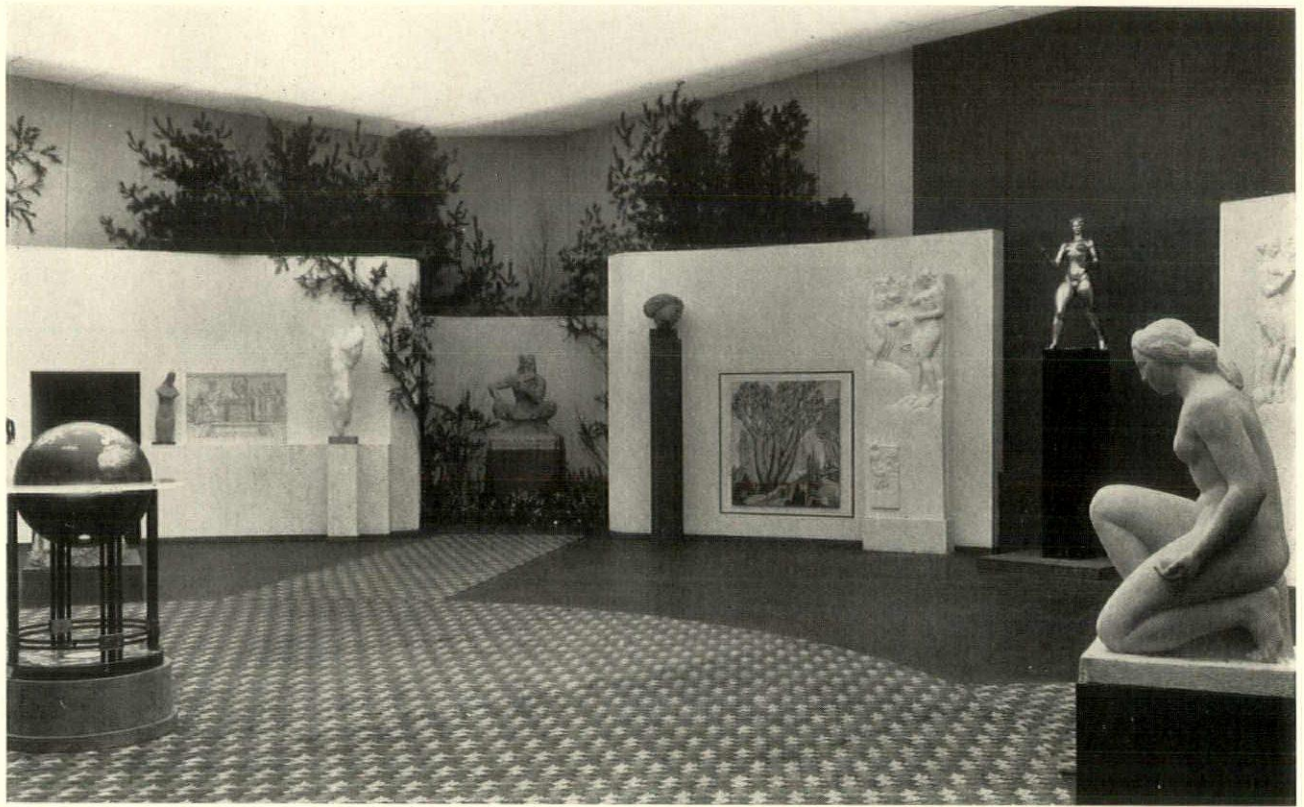
MICHAEL FRIEDSAM MEDAL.—To George G. Booth, Founder of Cranbrook Foundation, Michigan, for the establishment of the Cranbrook Foundation at Bloomfield Hills, and for his far-reaching knowledge and help in the field of Art in Industry.

HONORABLE MENTION.—To Harvey Stevenson, of Harvey Stevenson, Thomas & Studts, for the Peter B. Olney House; for the simplicity and balance of mass, the restrained handling of details in sympathy with the materials, and a quality of comfort and quiet dignity which may be enjoyed and bequeathed to later generations.

AVERY PRIZE FOR SMALL SCULPTURE.—To Benjamin Franklin Hawkins, for Fountain for Day Nursery.

BIRCH BURDETTE LONG MEMORIAL PRIZE.—To John Wenrich for his rendering of Building No. 1, Radio City, and in recognition of his sympathetic and highly artistic presentation in color of architectural subjects.

THE PRESIDENT'S MEDAL.—To Joseph Urban for his architectural treatment of the Galleries of the American Fine Arts Society Building as a setting for the present League Exhibition, and for his effective installation of the exhibits in the show.



Joseph Urban's setting for and presentation of this year's exhibition gave it a unity which previous exhibitions have rarely attained. The color scheme is of white and red for the walls, the carpet being in yellow, orange, and green. The ceiling of the high galleries was lowered by stretching muslin over a grille of wires diffusing through this the lighting from above



Friday, January 27.—Went to the formal opening of the new Home Office Building for the Metropolitan Life Insurance Company, in which Dan Everett Waid and Harvey Wiley Corbett have produced a well-balanced combination of essential machine and attractive working environment. Just half of the building has been finished for the present, that half costing, I should judge, well over ten millions. The invited guests were taken through the building in groups, and I was fortunate enough to find myself with Chester Aldrich, Dwight James Baum, George Licht, and Robert J. Reiley. We were particularly lucky in being shown the work by Richard A. Tissington who, Mr. Waid tells me, has been very largely responsible for the detail design of the building. All of the working space is air-conditioned; some of the floor area, I should judge, is fully eighty feet from a window, so that indirect lighting is used, increasing in intensity with the distance from the window. The ceiling, all of acoustic tile, steps up in six-inch lifts from a low in the interior to just above the windows, thus providing the large amount of space needed for ducts without cutting off the daylight that would have been lost by furring down the whole ceiling. There are fourteen thousand people served with lunch in the basements on each working day—some of them from the adjoining building. The problem of conveying this population from the various departments to the basement and back was a difficult one. Mr. Corbett tells me that the first draft of the elevator engineers left practically no space in the building for anything but elevators. By a staggered schedule over two and a half hours, special elevators convey each department to the cafeterias in the basement. The stream through the latter is constant, and after lunch the employees find their way to the first floor by escalators, using the elevator system from the first floor back to their respective departments.

Three intellectual bouts were put on tonight in Sloane's gallery, opening the exhibition of works by unemployed draftsmen. William Sloane Coffin, president of the Metropolitan Museum, presided, the subject discussed being "The Picture in the American Home." Two architects, two decorators, and two painters argued respectively their points of view. H. Van B. Magonigle and Ely Jacques Kahn represented the architects; Horace B. Moran and Eugene Schoen, the decorators; with Hobart Nichols and Leon Kroll presenting the side of the painters. It was a good evening's entertainment, touching lightly on such far-reaching questions as: "Did the coming of the easel picture distort the logical age-old progress of wall decoration?" "Should an interior be an entity in itself to induce a mood, or should it be a background for pictures?" "How much right has a man, unskilled



The Editor's Diary

in design, to create his own environment? If we admit that he may live for himself as he pleases, what about his family and his guests?" "Has any good easel painting a chance to deliver its message effectively excepting under some such custom as that followed by the Japanese in their *tokonoma*?" All of which, it will be seen, furnish more than enough material for an evening's discussion.

Monday, January 30.—Milton F. Kirchman, a graduate student of New York University's College of Fine Arts, makes an interesting point in an article published in the college paper, *The Column*. His point is that either our criticism of architecture is defective, or else architecture itself does not explore the realm of emotion. In painting or in music we ascribe qualities in a work of art to the personal equation—we say that a composition is morbid, moody, fanciful, light-hearted. Architecture undoubtedly has been in certain periods marked by the personality of the age or of the location. Rococo was definitely an emotional expression, Baroque another. Has architecture of today become merely a mathematical matter of volume and of lines?

Tuesday, January 31.—Charles F. Abbott, executive director of the American Institute of Steel Construction, is found among the growing ranks of those who see clearly the need for a real programme of public works put into effect to halt the downward spiral. It is a curious thing that in the restrictions governing the R. F. C. loans there is the inexplicable provision that loans on self-liquidating projects are made at five to six per cent; loans for direct relief may be had at three per cent. In other words, we prefer to make it easier and cheaper for the State to borrow for a dole instead of for useful labor. With the need for relief doubling each year in geometrical progression, it is obvious that providing work instead of a dole for the present twelve million unemployed is the only way out.

Wednesday, February 1.—David M. Dunning, Jr., an engineer connected with the New York State Temporary

Emergency Relief Administration, met with the architectural editors at luncheon today, and told us something of the startling growth and difficulties of relief needs. It seems very hard to arouse smaller communities to the realization that they have community needs which might well be undertaken in these times when the Relief Administration fund pays for the labor involved. Instead, many of these communities say in effect: "We need nothing that we know of, but we are slowly starving to death." Possibly the answer is that any community so moribund as to know of no way in which it can improve itself, deserves to starve.

Thursday, February 2.—Charles C. Zantzing over from Philadelphia. He tells me that the "renovizing campaign" instituted in that city is apparently producing results. The city was districted, and individual solicitors in team groups called on property owners to have them agree to spend money on necessary or desirable building, remodeling, or renovating. The total pledged in this way, I understand, was about sixteen million dollars. There is no check-up, I believe, as to whether this money is being spent, but the announcement of the fact alone seems to have been of some service in stimulating business.

Tuesday, February 7.—Joined the illuminating engineers at the International Music Hall this morning to have a look at some of the electric achievements therein contained. Figures as to wattage, size of switchboards, number of lamps, and that sort of thing, are tiresome and mean little, except to the engineer. Three outstanding factors, however, seem today to constitute practically the whole of any lighting problem. The three seem rather commonplace and trite, yet their full recognition is perhaps even now not always found. In the first place, the illuminating engineer considers comfort and necessity in visibility. He must provide enough light for the task of the occupant. The second consideration is the architectural necessities—are there to be many sources, or only one, and what form may these take? In the third place, the illuminating engineer is enabled, partly by his control of color, quantity, and direction, to induce the desired moods in the occupants. One particular characteristic that is emphasized in the achievement of Clyde R. Place, Eugene Braun, and Professor S. R. McCandless is that these men are no longer satisfied to have mere light sources; instead, they utilize directional light in every single one. The great chandeliers in the main foyer, for example, are designed to throw all the light down; to another set of sources, hidden in the ceiling, is given the task of lighting the murals, and incidentally, by a nearly white light,

rather than by the amber light coming from the visible ceiling fixtures and side wall brackets on the mirrors. These latter, incidentally, are designed to throw all their light horizontally; and so with every source, whether it be one of the many lighting the stage, or one lighting a lady's face before a mirror in the powder room.

Saturday, February 11.—In the matter of museums, the American Federation of Arts reports that during 1932 eleven new museum buildings were brought to completion, the average cost of which was a million dollars. Gifts and bequests to museum funds, normally about half a million dollars, amounted to well over five millions. Another interesting, and not surprising, finding of the association is that the interest in and sale of prints have been increasing rapidly at the expense of easel paintings.

Wednesday, February 15.—Bela W. Norton dropped in to tell me of the progress being made in Mr. Rockefeller's Williamsburg restoration project. The work contemplated at the outset, providing for the rebuilding of the capitol, governor's palace, and the restoration of Duke of Gloucester Street, is nearing completion. The palace and the capitol are enclosed, so that they are coming to an end of the work. Not that the whole town is to be considered finished, for as time goes on there will doubtless be other minor buildings rebuilt or restored, all depending, I suppose, upon the public's reception of Mr. Rockefeller's efforts. It is unlikely that there will be any comprehensive publication of the work for some time to come, since there is much to be done in landscaping.

Friday, February 17.—The Forty-eighth Annual Exhibition of The Architectural League opened last night with the usual ceremonies, excepting that the announcement of awards was put off until the twenty-fifth.

The Show is utterly different from anything that has been done before. Joseph Urban has turned the old galleries in the American Fine Arts Building into such a homogeneous unit that one is first impressed with the setting, and only secondarily and long afterwards with any intrinsic interest of the exhibits. In a word, it is a show, rather than an exhibition—and a very effective show at that.

The usual League affair is so overflowing with new creations, new ideas, beautiful achievements, that one is utterly unable to assimilate the whole without repeated visits. This year, however, the lack of buildings recently completed, and the general demoralization of the profession, has had its effect. Among the chief items that one finally singles out are Coolidge, Shepley, Bul-

finch & Abbott's Cornell-New York Hospital; John Russell Pope's Yale gymnasium; Thomas H. Ellett's Cosmopolitan Club in New York City; a group of Frank Forster's romantic country houses; Delano & Aldrich's Yale Divinity School; Paul P. Cret's now rather familiar Shakespeare Library; Edwin H. Hewitt's Minneapolis Telephone Building; and a number of good country houses, including a particularly charming one in brick by Harvey Stevenson, Thomas & Studds.

The Show is divided into three main parts, with an additional corner off the hall devoted to a particularly impressive exhibition of modern housing here and abroad. Of the three main parts, the first as one enters is given over to theatre design in its many forms, ranging from Robert Edmond Jones's mario-nettes, to individually lighted models of stage settings.

The second division is given over to architecture and landscape architecture, while the Vanderbilt Gallery itself, the third and largest unit, contains the sculpture and mural painting. I must confess to a feeling of disappointment in the last named division. With the exception of Thomas Benton's original sketches for the Whitney Museum murals; Leo Friedlander's superb but tiny plaster model of an equestrian group for the Arlington Bridge; D. Putnam Brinley's sketch for one of his Huckleberry Finn subjects; and Benjamin Hawkins's dolphin fountain for a day nursery, I found little to hold my attention.

In speaking of the housing exhibit, Clarence Stein tells me that this material is to be used as a travelling unit under the guidance of the A. I. A. Committee on Housing—a sub-committee of the Committee on the Economics of Site Planning and Housing. Cities in which there is sufficient public interest to have the exhibit may arrange for this through the committee merely by paying the cost of transportation, boxing, and insurance.



Tuesday, February 21.—With Edmond R. Amateis to see what the returning men from The American Academy in Rome have been doing, as exhibited at the Grand Central Art Galleries. Some of Burton Kenneth Johnstone's architectural drawings are particularly good, and the work of Sidney Biehler Waugh in sculpture shows great promise. We were fortunate in meeting Miss Brenda Putnam, an exhibition of whose work was in an adjoining gallery. It was a treat to see and discuss with Miss Putnam some of the things she has been doing, among which we were particularly interested in the Puck for a fountain

of the Folger Library, a marble portrait head of Amelia Earhart, a particularly lovely portrait in marble of a three-days-old infant, and, among Miss Putnam's latest work, "Midsummer." I was struck by the fundamental difference in viewpoint between Amateis and myself; to his sculptor's mind the subject was of secondary importance, the artist's facility of expression and technique the things that held his interest. Lacking his sensitive feeling for these sculptural nuances, I was impressed rather by the subject and the more obvious merits of the interpretation. "Midsummer," for instance, seemed to me little more than a fat woman; to Amateis it was a highly successful effort to express the marvellously intricate and voluptuous folds of flesh.

Thursday, February 23.—The English language is a rather unsatisfactory instrument in some ways. As an example, when we were collecting the material for the Portfolio in this issue on the subject of verandas, the question of the proper title came up. What are the differences between a veranda, a porch, a piazza, a portico, a loggia, an arcade? Even architects use these terms interchangeably to a large extent—a practice that is fairly well justified by the dictionary. Here are the Standard Dictionary's definitions:

Veranda—An open portico or gallery extending along one or more sides of a building.

Porch—A covered structure forming an entrance to a building; outside and with a separate roof, or as a recess in the interior as a kind of vestibule.

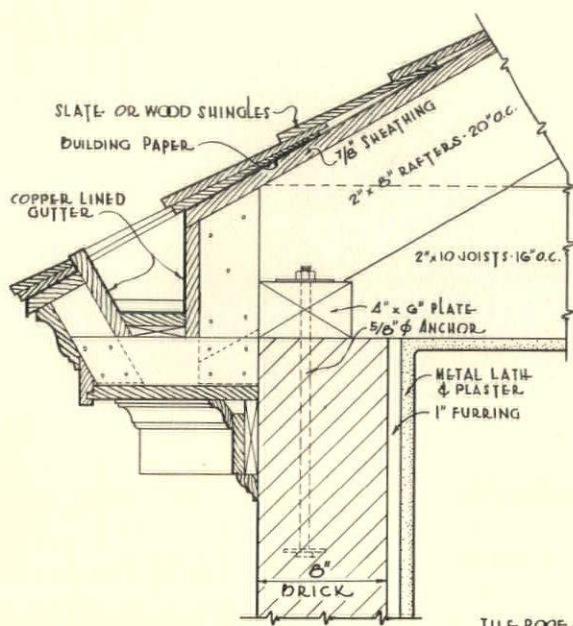
Piazza—A covered and usually colonnaded walk or gallery on the outside of a building; from the erroneous seventeenth-century application of the word to the arcades in the Covent Garden, London. Hence a veranda or porch.

Portico—An open space or ambulatory, with roof supported by columns, sometimes as a detached colonnade, but generally as a porch before the entrance to a building.

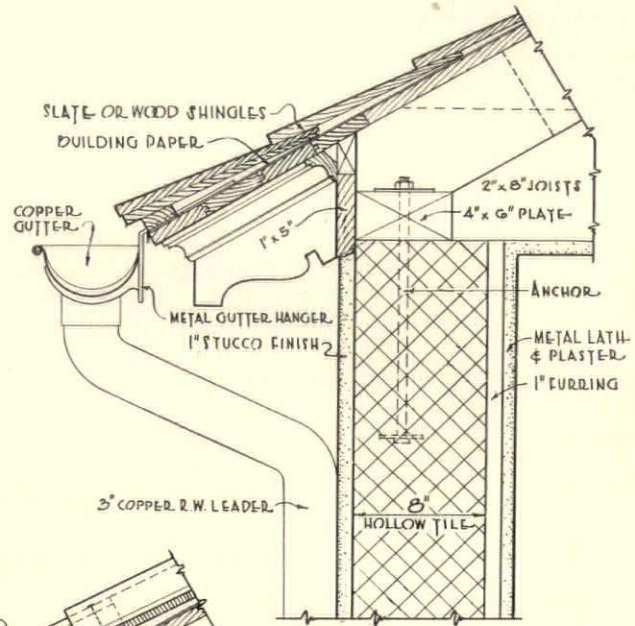
Loggia—In Italian architecture (1) a covered gallery or portico, especially when in the upper part of a building, having a colonnade on one or more sides, open to the air. (2) A large ornamental window, often projecting from the wall, and forming a chief feature of the design, as frequently in Venetian architecture.

Arcade—A vaulted passageway or street; a vaulted roof.

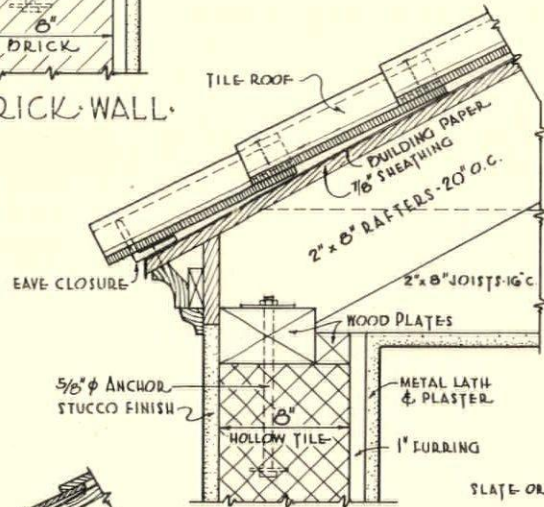
If one can sift any definite conclusions from all of the above, I suppose it might be that a porch belongs inseparably with an entrance. The examples in this month's Portfolio, it will be seen, are not entrance porches, and possibly some of them are not, truly, verandas, but there seems to be no other inclusive term for this sort of outdoor living-room.



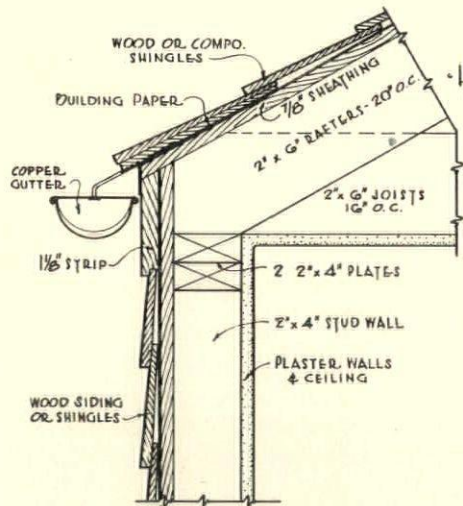
• BRICK WALL •



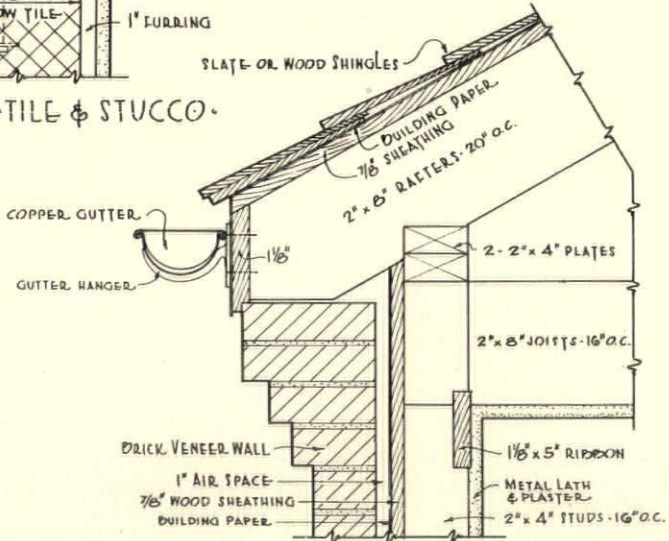
• HOLLOW TILE & STUCCO •



• HOLLOW TILE & STUCCO •



• STUD WALL & SIDING •



• BRICK VENEER & STUD WALL •

• VARIOUS RESIDENTIAL EAVE DETAILS •
 A SERIES OF WORKING DRAWINGS BY JACK G. STEWART

• SCALE 0' 2' 3' 6' 9' 10'

• PLATE NO. 35 •

BOOK REVIEWS

THE HOMES OF THE PILGRIM FATHERS IN ENGLAND AND AMERICA (1620-1685).

By MARTIN S. BRIGGS. 211 pages, 6 by 9 inches. Illustrations from photographs and drawings. New York: 1932: Oxford University Press. \$4.75.

There has been no lack of literature relating to the Pilgrim Fathers themselves, but of the homes of the settlers, built during the first sixty years after the landing at Plymouth, we know very little. The author starts his researches with the English towns from which the early settlers came, follows their movements in Holland, and notes the Dutch influence on their architecture. With this background and a careful search among contemporary chronicles, he is able to reconstruct, at least more fully than has ever been done, the early homes of the Pilgrims. The author is not satisfied with mere superficial resemblances, but takes up in detail matters of plan, primitive timber construction, the making of doors, finished woodwork, and hardware.

HOMES AND GARDENS OF ENGLAND.

By HARRY BATSFORD and CHARLES FRY. Foreword by LORD CONWAY of Allington. 62 pages of text and 175 plates, 6½ by 9 inches. Illustrations from photographs, plans, and drawings. Printed in Great Britain. New York: 1933: Charles Scribner's Sons. \$3.75.

There is surely no lack of literature on the homes and gardens of England. Messrs. Batsford and Fry, however, have felt that there was a distinct need for a comparatively small and handy book that would cover the subject for the general reader without the detailed requirements of the student of architecture. The illustrations are good and, among the well-known examples illustrating the various periods, there will be found a number of smaller and less familiar ones.

INVESTIGATION OF WARM-AIR FURNACES AND HEATING SYSTEMS. Part V.

By ARTHUR C. WILLARD, ALONZO P. KRATZ and SEICHI KONZO. 158 pages, 6 by 9 inches. Illustrations from photographs and diagrams. Bulletin No. 246. Pamphlet binding. Urbana, Ill.: 1932: Engineering Experiment Station, University of Illinois. 80 cents.

This bulletin is the eighth to be published under a co-operative agreement between the National Warm-Air Heating Association and the University of Illinois. A research in warm-air furnaces and furnace heating systems was begun in October, 1918.

HYDROTHERAPY IN HOSPITALS FOR MENTAL DISEASES.

By REBEKAH WRIGHT. Foreword by JAMES V. MAY. 396 pages, 6 by 9 inches. Illustrations from photographs and plans. Boston: 1932: The Tudor Press, Inc. \$3.

The architect will find herein specific recommendations for the design of hospital construction in the hydrotherapy departments. It is quite evident that

the author of the foreword, Doctor James V. May, superintendent of the Boston State Hospital, has little faith in the present status of the architect's knowledge regarding these requirements. He is of the opinion, rather, that hospital construction, as a whole, should be planned by hospital physicians.

MOUNT VERNON. Its Owner and Its Story.

By HARRISON HOWELL DODGE. Edited and arranged by EDWIN BATEMAN MORRIS. Introduction by OWEN WISTER. 232 pages of text and 31 illustrations, 5½ by 8 inches. Illustrations from photographs. Philadelphia: 1932: J. B. Lippincott Co. \$2.50.

Colonel Dodge has been resident master of Mount Vernon for nearly forty-five years—longer, of course, than George Washington's term of ownership. He knows every brick, shingle, and boxwood plant of the place, and shows a marked ability to infuse the reader with his own enthusiasm. A large part of his reminiscences, of course, deal with the visitors who have come to see the nation's shrine in these decades—practically every well-known personage who has visited America.

TOWN AND COUNTRYSIDE. Some Aspects of

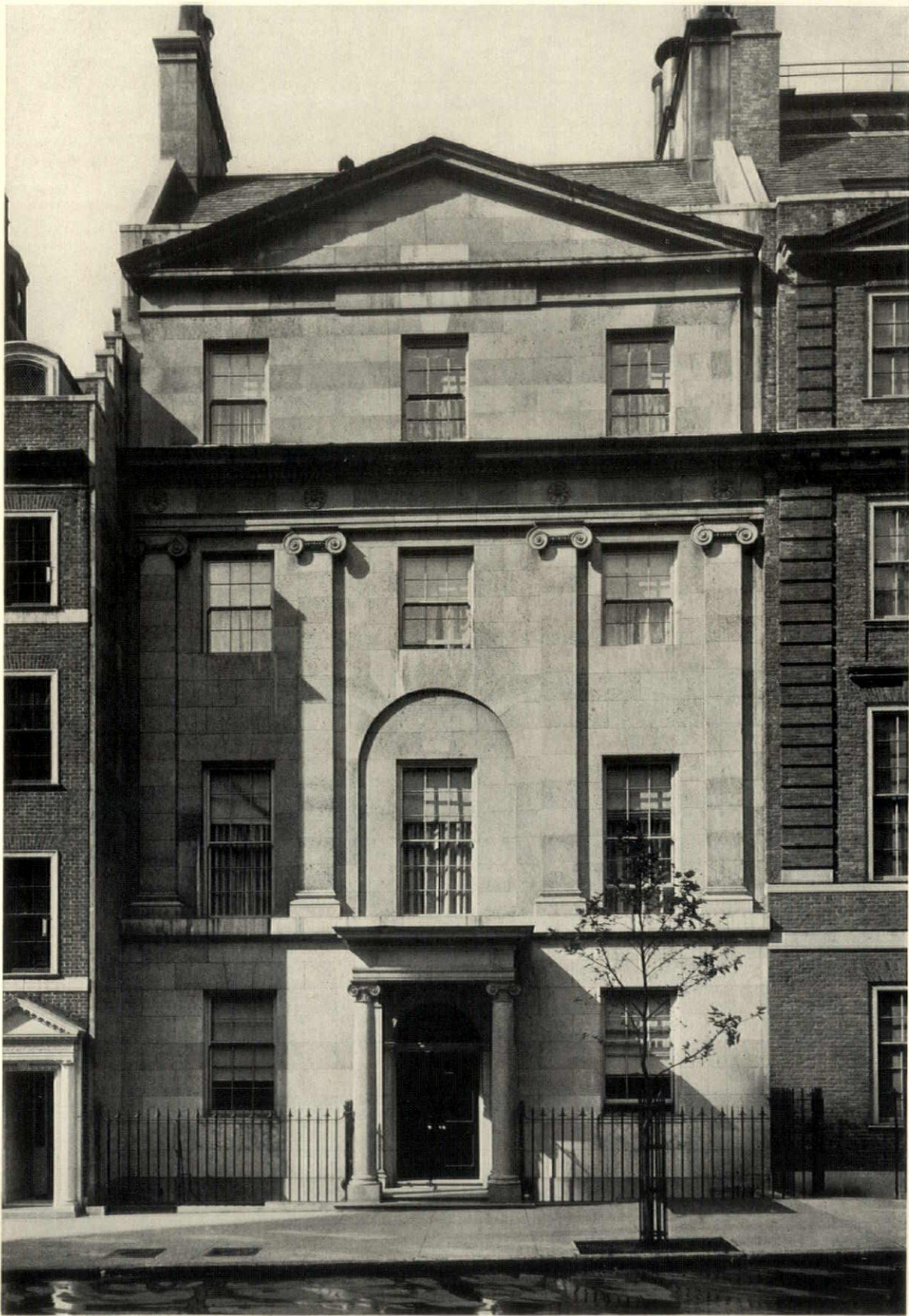
Urban and Rural Development. By THOMAS SHARP. 224 pages, 7 by 9¾ inches. Illustrations from plans, maps, and photographs. Printed in Great Britain. New York: 1932: Oxford University Press. \$4.50.

Here is a stimulating book by a man who is more than perturbed over the fact that England is destroying the character of her towns and also of her countryside despite the garden cities and suburbs of which she is so proud. Mr. Sharp agrees with Trystan Edwards in his belief that the art of civic design has been killed by the science of town planning. The diffusion of towns resulting from our trying to make them look like the countryside, and the ruling of straight motor roads and high-tension lines across the countryside, are practices that will, if they have not already done so, kill all the beauty and character of the town and of rural England.

BAROQUE GARDENS OF AUSTRIA.

By G. A. JELlicoe. 40 pages, 12 by 17½ inches. Illustrations from photographs, plans, and old prints. Printed in Great Britain. New York: 1932: Charles Scribner's Sons. \$25.

There is an unmistakable individuality in the gardens built under the Habsburg Dynasty, even though there are distinct echoes of Italy, France, Spain, the Netherlands, Turkey, and North Africa. Mr. Jellicoe's scholarly and beautifully presented study of these Baroque gardens was made possible through the Bernard Webb Studentship at the British School at Rome. The drawings, which are plentiful and well executed, were finished by Alison Shepherd. The contrast of the gardens as shown by old prints with photographic records of today, comprise one of the most interesting features of the work.

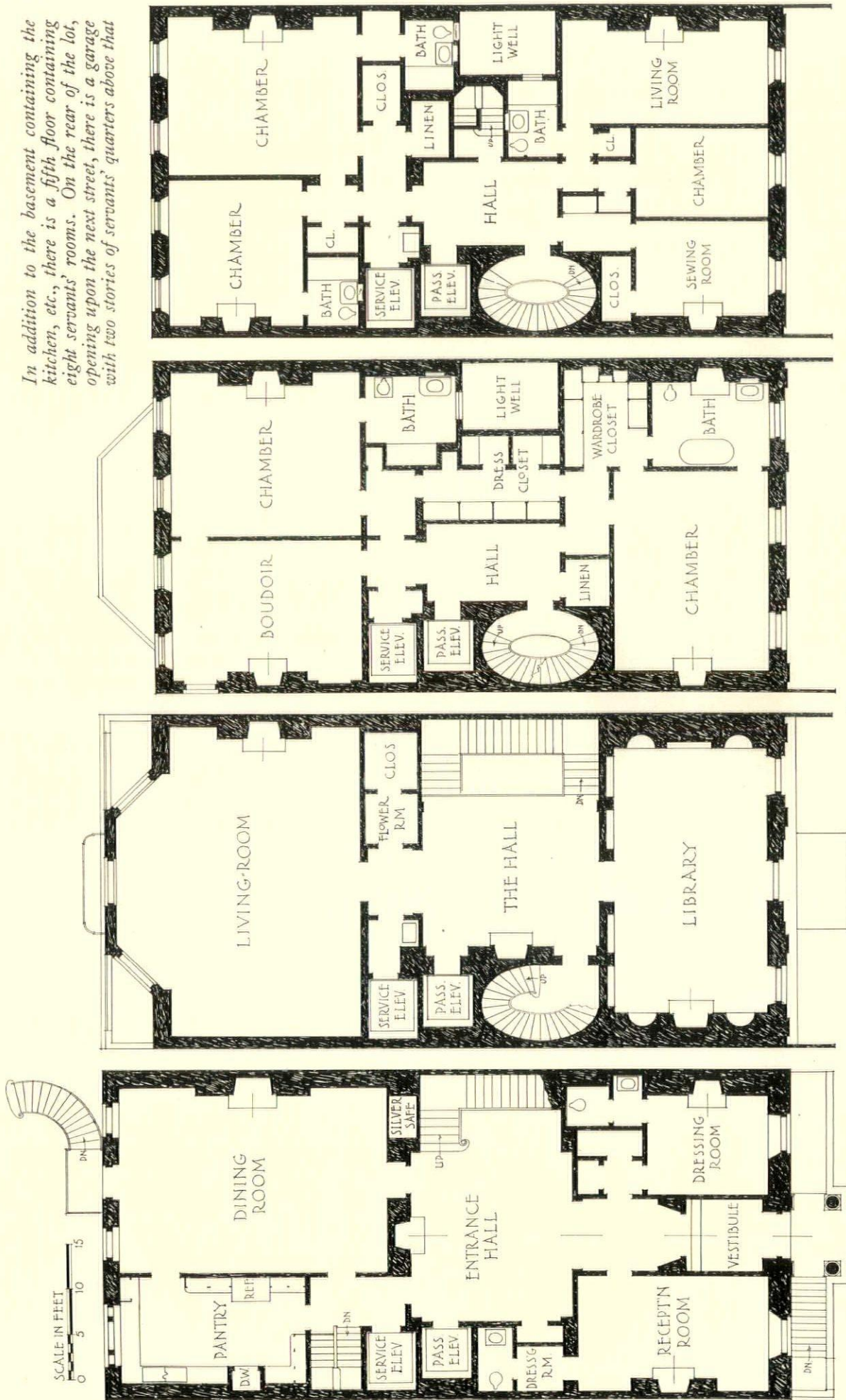


Photographs by Mattie Edwards Hewitt

MOTT B. SCHMIDT, ARCHITECT

House of Vincent Astor, New York City

In addition to the basement containing the kitchen, etc., there is a fifth floor containing eight servants' rooms. On the rear of the lot, opening upon the next street, there is a garage with two stories of servants' quarters above that

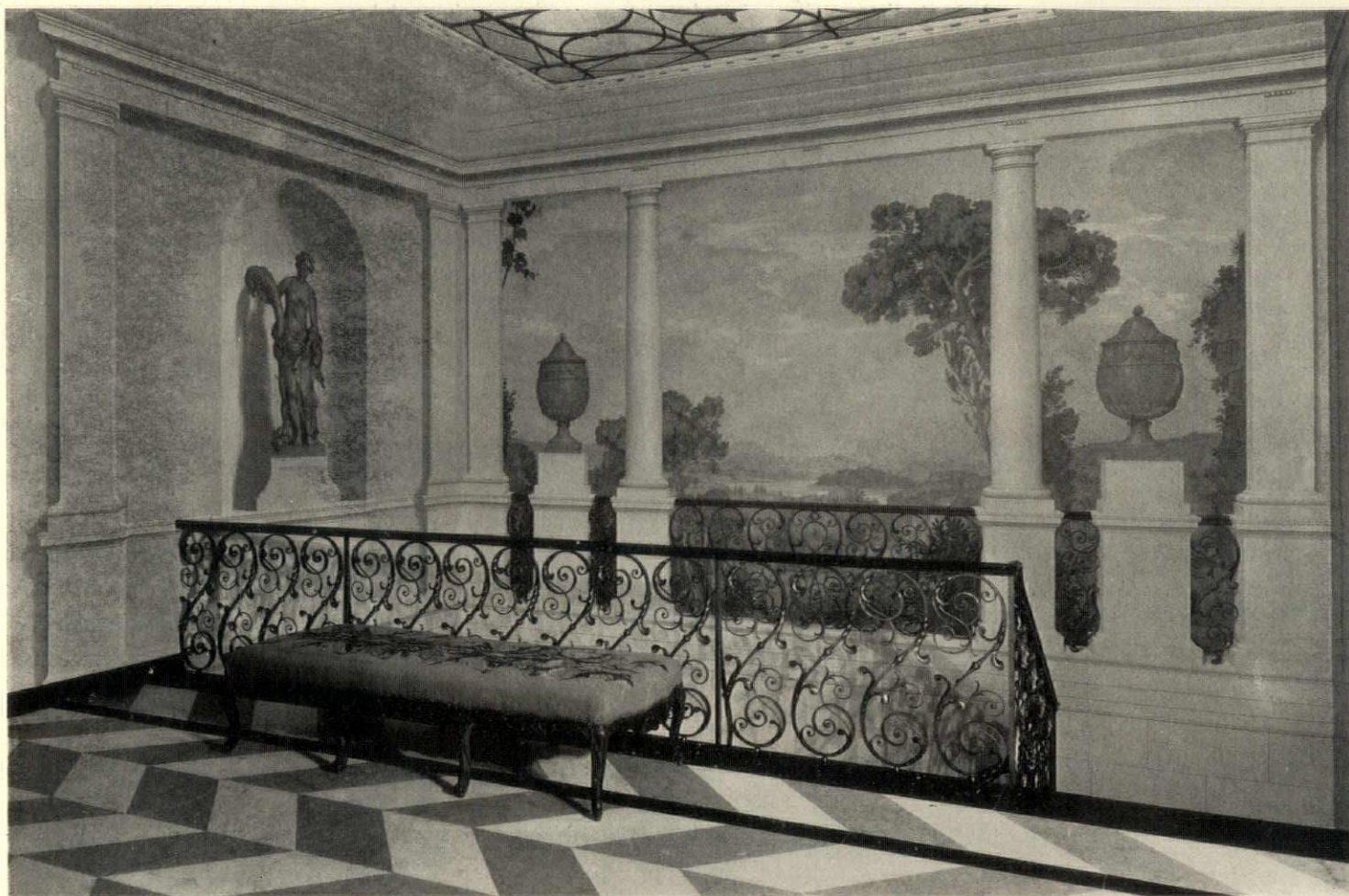


Fourth floor

Third floor

Second floor

First floor

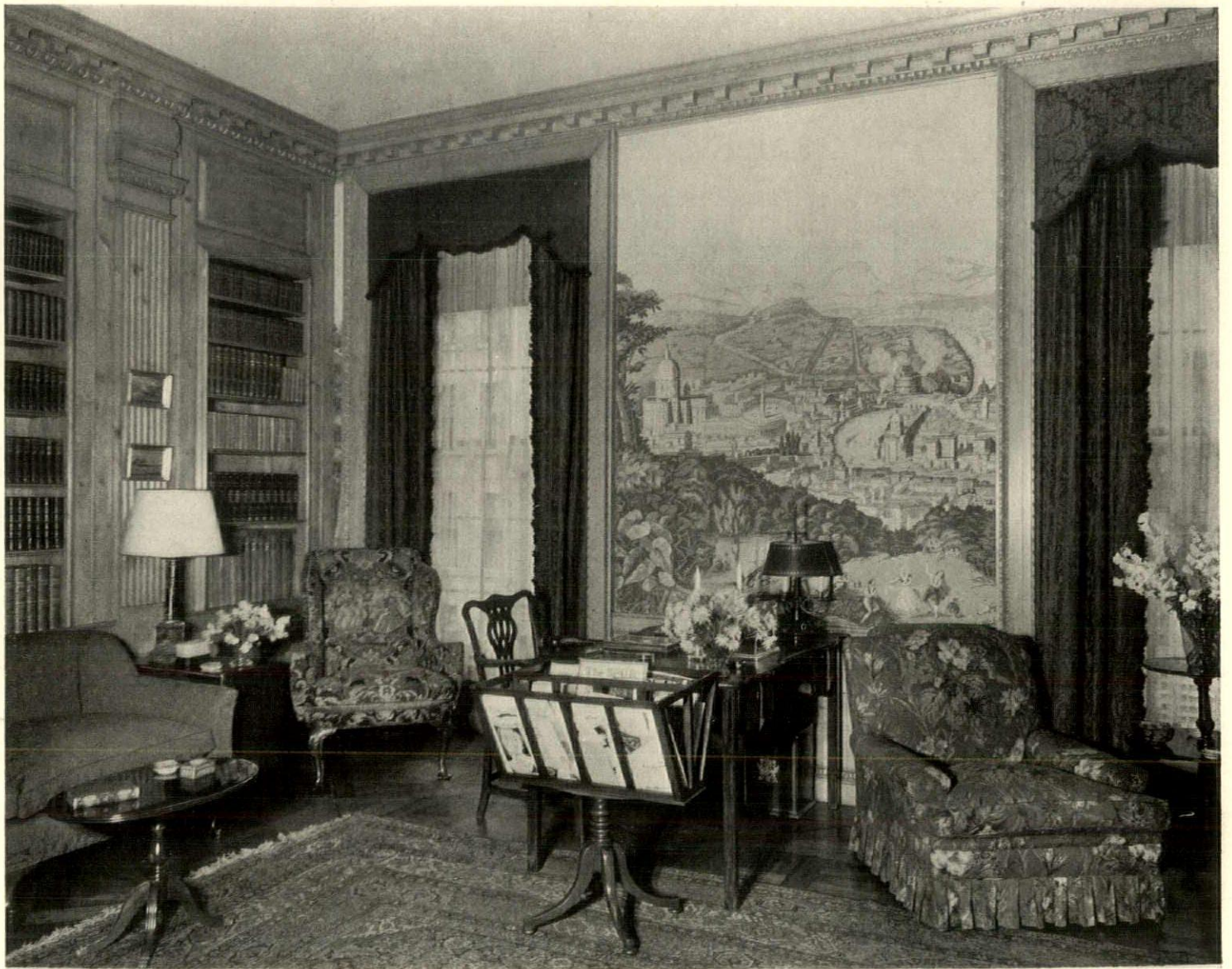


The hall at the top of the stairs leading up from the entrance hall. Allyn Cox painted the walls in his individual realistic style. The niche is, of course, perfectly flat, and the stair railing of wrought iron, polished and lacquered, is painted in facsimile on the far wall. The floor is of yellow Verona and Alabama cream marbles, with a black edge



The entrance hall, with a glimpse of the dining-room beyond. The floor is of black, white, and yellow Verona marble; the stairway of Belgian black marble with a yellow carpet. The dining-room beyond is panelled in pine, painted white

◀ ARCHITECTURE ▶



A corner of the library. It will be noticed that the book shelving has been changed somewhat from the niche motive shown on the plan. The woodwork is of waxed pine, the hangings of green damask. The wall panels, of which one appears here, are of old French wall paper in sepia, representing the cities of Europe



In the living-room the walls are painted a bluish green taken from an old panelled room in the Philadelphia Museum. The dado and the cornice are carved wood. For the hangings light beige damask is used over under-curtains of flame-colored taffeta, with gauze sash curtains matching the wall color. The floor is an old French parquet; the mantel, an antique of white marble with color marble inlays



A glimpse of the hall through the living-room doors. These doors are of old San Domingo mahogany, veneered, with old English chased brass locks. The door surround is of carved wood



The reception-room on the first floor, into which has been fitted an authentic Louis XV boiserie painted by Huet and Perrott. The general color scheme of this painted panelling is red and gold with overdoors in blue and gold. The rug is an eighteenth-century Samarcand woven with silver thread

Some Pitfalls in Supervision

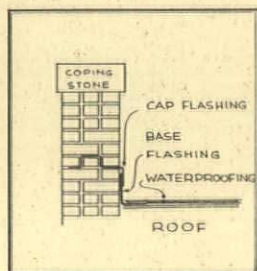
By *W. F. Bartels*

XXX. ROOFING AND SHEET METAL

(CONTINUED)

GENERALLY when stone or brick walls project above the roof, the flashing is in two sections: the cap flashing and the base flashing. The cap flashing should extend into the wall within an inch or so of the other side. Of course the contractor's money—in the form of time and material—can be saved by extending the metal only a short distance through the wall: hence the superintendent must be on his guard. The cap flashing may be of the plain type which should step up; that is, in a brick wall, extend in over one brick, turn up over another, and thence to the outside. Or, the flashing may take the shape of an inverted "U" in order to avoid any chance of loosening the bond in the wall. An interlocking type prevents loosening the flashing in a wall by binding into the mortar, thereby preserving the solidity of the wall. Another type of flashing has an insert for the base flashing.

All cap flashing should be well lapped, and extend down over the base flashing three inches. Base flashings should preferably be set in the waterproofing—hot pitch, then nailed down. The roofer is apt to argue that the top layers alone will be adequate insurance against leakage, but the superintendent must be adamant in insisting on the forementioned practice. The top edge should fit tightly against the wall and extend well under the cap flashing. The base flashing should extend at least six inches above the high point of the roof. It is disconcerting for a superintendent to find on examination that the base flashing extends up only a half inch or so under the cap flashing. All flashing around pipes, flag poles, etc., must be given careful consideration. Flashings for valleys must be carefully lapped and soldered where necessary. Flashing for chimneys should be well built in while the job is under construction, in order to render masonry operations unnecessary after the building is completed. The metal should go through the chimney and turn up several inches around the flue. This will prevent those disagreeable decorations at the roof line noticeable around so many chimneys. In the case of



beams exposed to the weather in fireproof structures, covered by rules regarding fire towers, etc., they are generally first covered with concrete and then with a metal protection. The metal protection should extend well into a raglet and be properly calked.

Once, while inspecting a building which the owner was forced to take over from the builder in the course of construction, I recommended that copper flashing be put around the stair bulkhead. The flashing was to have its edge turned and inserted into a raglet of at least $1\frac{1}{2}$ " depth, calked tightly with lead, and finally with an elastic calking compound. All this was agreed to and the work started. I watched the man and noted his progress. The mason had not skimmed on the cement, and the mortar between the bricks was hard. Coming back the second day I was amazed to see not only the flashing completed, but the raglet calked. I inquired how many men had worked on it. The foreman naively told me, "just the one man." From this I knew that the raglet could not have been made $1\frac{1}{2}$ " deep and that the calking could never have been finished by one man in such short order. So, despite the assurance that the "flashing was all right," I jerked a piece out. It was easy to do. It extended inward only about $\frac{1}{4}$ ", was not turned, and, instead of lead calking, had only an elastic calking compound. Needless to say I required an inspection and approval of each step on the job thereafter. Proper workmanship may easily be done, *during construction*, at a relatively low figure.

And not to be forgotten are the specification provisions for the flashing on wood window heads, window sills, and other weather stops that the architect has seen fit to require. In all this work it will be well for the superintendent to remember that although water will not run uphill of its own accord, it will go anywhere under pressure—and this is the condition which exists in a driving storm.

A superintendent was once asked to find the cause of a wet floor in a large one-story building having a well furred brick wall. After

each hard storm water would appear on the first floor just inside the wall. The brickwork was well laid up and the roof apparently did not leak. Finally it was decided that the only way to find out was to try one section at a time with the aid of the local fire department. First the wall was kept wet continually for several hours but no water appeared. Then the roof was deluged. No spots or evidences of a poor roof appeared, but the water again appeared on the floor. Then the inspector donned rubber coat and boots and went up the ladder. The gutter was too small to carry the water off, but the difficulty did not lie there. The flashing appeared to extend well up under the shingles. However, the gutter was made up of two pieces. One was fastened to the top of the wall and formed the exterior portion of the gutter, while the other served as flashing and gutter. Their junction was not soldered and hence before the gutter filled to overflowing all the water that could go between these two pieces ran down the inside of the wall. Once found, a solution was comparatively simple. But all this could have been prevented had adequate thought been given to the de-

tail and to the tinsmith's private shortcuts.

Gutters are generally made of hard copper. The superintendent should see that they are properly fastened or supported. They should be well pitched and be strong enough to come through the winter without bellies or sags. Of course, if copper is used the superintendent will see to it that no other metal comes into contact with it, and that any nails used to fasten it are of copper, brass, or bronze. The superintendent should see that a suitable copper basket is furnished to be placed over the leaders to prevent leaves from going down the pipes. Leaders must be well supported and be of adequate size to carry off all the water the gutters convey to them. There should be as few bends as possible in leaders. If possible they should not be left unprotected at their base when placed along the edge of driveways or in other locations where they may be dented or injured by automobiles. The bottom piece or shoe—generally put on when the leader does not discharge into a sewer line or cesspool—should never be mitered at right-angles or merely soldered on with the expectation that it will hold fast. If possible the shoe and leader should be of one piece.

MECHANICAL APPURTENANCES

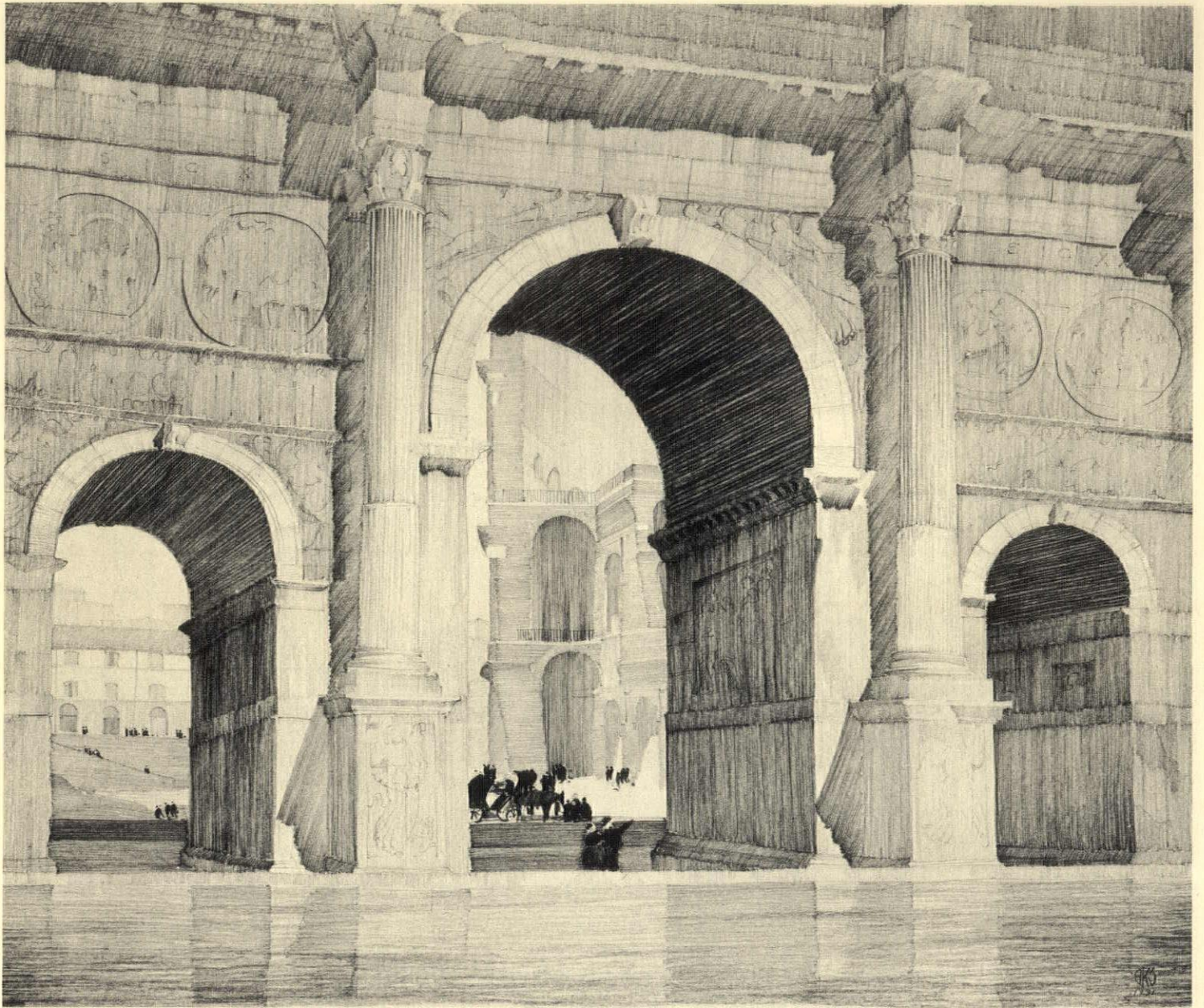
What might be termed the mechanical appliances of a building are too often left to the prejudiced judgment of those interested in furnishing them, to the imagination of a so-called mechanical expert, or in the lap of the gods. Yet usually these appliances are vital factors in the maintenance of the building and if not properly chosen will figure all too prominently later in the "cost of operation" account. As buildings become more and more mechanized it is of paramount importance that the architect thoroughly familiarize himself with the mechanical details of his building.

Tanks, which may be for house, fire, or suction purposes, should most certainly be well investigated. The relatively small wooden tank formerly seen on the top of the five or six story flat has now grown into an enormous container, resting on the top of a sixteen or twenty story apartment dwelling, and is now usually concealed by a design artifice of one sort or another. Generally these wooden tanks are of pine or cypress. The wood should be dry and the abutting edge of each plank properly bevelled. It is

well to be sure that the heartwood is on the inside of the tank. The round hoops securing the sides should be of wrought iron, with their connections staggered. Inasmuch as the wood will swell when wet, the hoops are not pulled up tight when the tank is first erected. However, the superintendent should see to it that they have been properly adjusted before he certifies to the final completion of the work.

When steel tanks are placed on the interior of fireproof buildings the slab beneath them will sometimes be poured before the dunnage beams are set (the beams actually carrying the tank). This sometimes leads to error in setting the dunnage beams, which should be placed exactly as called for on the plan, and no risk taken which might cause the load to rest where supports are not sufficient to carry it. The superintendent should insist that the drainage pan called for is provided, because failure to do so will cause a wet or damp floor when the tank sweats. A waterproofed floor may be substituted for the pan.

(To be continued)



ARCH OF CONSTANTINE

*From the drawing in pencil by Burton Kenneth Johnstone,
1932 Fellow, The American Academy in Rome*

« ARCHITECTURE »



MARKET SQUARE, NUREMBURG

*From the drawing in pencil by Burton Kenneth Johnstone,
1932 Fellow, The American Academy in Rome*

« ARCHITECTURE »



The Architectural Observer



IT has frequently been said that an architect does his best work when his cost restrictions prevent his using anything and everything he would like in the way of materials. We do not know that such restrictions are responsible for this frank use of scored hollow-tile blocks in a pent-house on the Mission Inn at River-

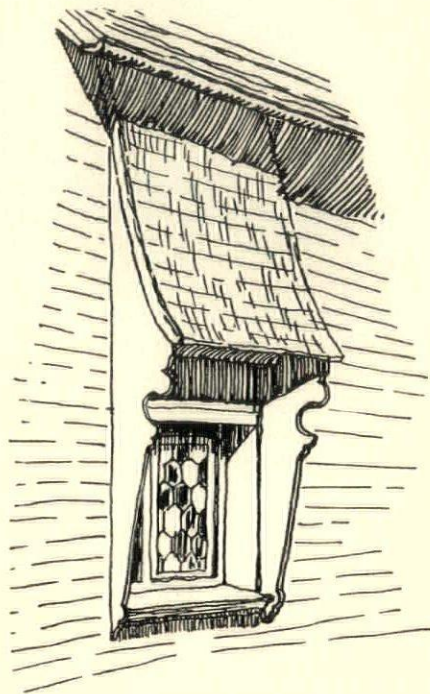


side, Calif. Perhaps the architect, G. Stanley Wilson, used it because he liked the effect of the color with his tile roof. In any event he employed the same pattern, uncovered, inside as well as out.

THAT necessary evil, the picture moulding, has been moved from below a frieze space up to the ceiling, and sometimes back again. Here is an ingenious scheme as developed by J. Prölsdörfer, Karlsruhe, and illustrated in the *Deutsche Bauzeitung*, which is in effect a very small slot in the plaster. It is fastened on the studding and serves as a ground for the plaster. The usual hooks will fit it.

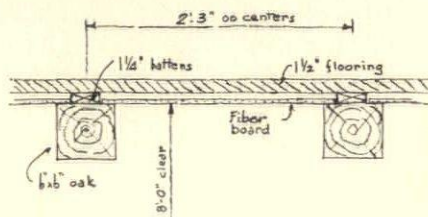


THE meticulous housekeeper, as an architect's client, sometimes objects to the use of steel casement windows on the grounds that a sudden rain storm is likely to damage

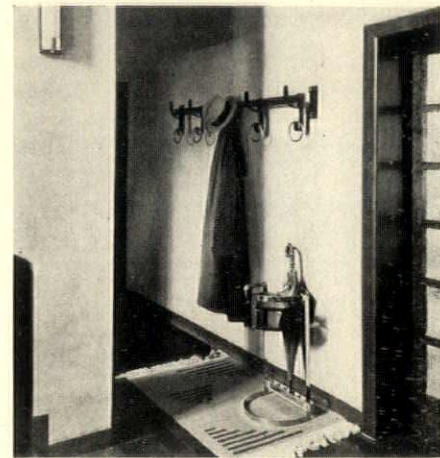


her hangings. Possibly the only way to prevent such damage is by some sort of hood over the outside, unless the windows happen to be close enough to the overhanging eaves to be protected by their projecting soffit. Here, however, is an idea that might serve for adaptation. It is a detail from the Swiss chalet as reproduced by a contributor to *The Architects' Journal* of London.

HERE is a simple solution of the problem occasionally incurred in domestic architectural practice where one wants to show the structural beams in a ceiling. It is, of course, a modification of the familiar mill construction, using an inch and a half floor, splined. This variation was developed by L. A. Culliford, an architect of Beckenham, England.



THE designer of interior details who would find some way out of the difficulty of hanging heavy wraps merely by a tape on a hook, is usually driven to the coat-hanger on a pole. Here, however, in a villa at Canavese, Italy, a coat rack has been built in by Pagano-Pogatschnig & Levi-Montalcini, which avoids the



hanging of a coat by its tape through the use of the metal ring. Incidentally, the umbrella rack, it will be noticed, provides a small receptacle for the drip.

PRIVACY for sun bathing is encountered by the architect as a problem more and more frequently. Hans Zimmerman, an architect of Stuttgart, publishes in *Bauzeitung* his utilization of a flat-roofed extension to a house in a rather crowded suburban community. He gains privacy by vertical awning curtains fastened to rings, so that they may be pulled to any desired place in the perimeter.



Selling Architectural Services Today

By Rion Bercovici

IN order to sell his services today the architect must be able to talk to business men in their language. He must present his case from the angle of his ability to do work that will sell—merchandise, services, floor space, and anything that is housed. The architect cannot just be a merchant of even the most expert *architectural and building counsel*: he must be a merchant of *auxiliaries to salesmanship* in one form or another.

To do this successfully he must adjust himself to the rhythm of the times. Through intelligent analysis and utilization, the depression, instead of serving as the ultimate sales refusal of a prospective client, may be the most potent sales argument in favor of the architect.

This adjustment requires a new philosophy of the architect's service, and in some cases a completely new orientation in his own mind concerning his function. This adjustment, however, can be made, and must be made. Otherwise, the architect is in danger of finding himself belonging to a profession that is suffering, perhaps above all others, from attrition due to dearth of nourishment from the formerly regular and normal flow of new business.

With nourishment failing in these erstwhile green, but now arid, pastures, the architect must look for salvation, and even survival itself, to new fields, and must be able to adapt himself to changed conditions. If he attempts to survive purely as a recluse architect, he is doomed. His opportunity lies in filling the rôle of one of the few indispensable counsellors to various phases of an ailing business structure. He must, in many cases, drop the rôle of specialist and be content to carry on as a general practitioner. Colorless as this part may be, in comparison to more creative work, it is one that may be built into a substantial source of business. Recognition of this new development, and his place in the changed business structure, is the architect's life-line today.

A highly paid medical specialist may not be

There are architects today who sit in their offices, like the doctor who has just hung out his first shingle, awaiting with more or less patience the client, who, unless through some miracle, is unlikely to appear. There are others who go out to seek the client, holding it to be no breach of professional ethics if one can show a man that it is in his own interest to undertake some kind of building—and such a demonstration is not particularly difficult even in these times. Here is the picture of such possibilities as drawn by our investigator, in the realm of stores and restaurants.—EDITOR.

eager to assume the practice of a general practitioner, but it may often be today his only opportunity to carry on his profession. Through this field, besides surviving economically, he keeps himself in touch with his

art, and accumulates a fund of invaluable experience, perhaps developing new specialties. This parallel holds true for the architect.

It is made dramatically clear in opportunities often unnoticed by the architect. In the specific cases of restaurants, delicatessen shops, and smaller retail establishments, the architect has an opportunity to synchronize his work with the needs of business. Competition in this field is sharp, and trade depends to a very great extent upon appearances of the establishment and effective presentation of merchandise.

A restaurant, for example, is more than a retailer of cooked foods combined in various ways. It is selling an atmosphere of quiet, rest, or even diversion, in keeping with its policy and the class of customers to which it caters. In this respect there is a good opportunity for the architect. He may discover a real need for his services, and he can point out this need intelligently to restaurant operators, and to realty men and property owners in whose structures there are unrented restaurants or floor space available for such use.

Until quite recently the cafeterias and the cheaper eating places, especially in the East, made very little effort to present an attractive appearance to the customer. Relying on price appeal, they did not think any inducements beyond that, and cleanliness, were necessary. Keener competition, however, and economic changes, have altered this policy. For example, the "new poor" and the white-collar class, who formerly ate in more expensive restaurants, are compelled to eat in cafeterias and the cheaper eating places because of their reduced incomes. An intense effort to obtain the regular patronage of this class is being made today. There are numerous instances. Some of the chain cafeterias in New York City are as different as possi-

ble from the noisy, clattering cafeteria of yesterday. With individual tables, attractive lighting, and modern display of food, they attract many customers. Certain new cafeterias utilize the modern note in their restaurants; others have followed the policy of creating national atmospheres to lend romance to the prosaic business of eating.

Often, expert inspection and analysis by an architect can aid the restaurant owner at a very small cost. An interesting example has recently been furnished by the Broadmoor Restaurant in New York. Ely Jacques Kahn, architect, noticed how noisy the place was. Advising the owner, acoustic treatment was given to the ceiling at a cost of about five hundred dollars, a minor alteration that added considerably to the value of the restaurant, giving it added appeal in a highly competitive neighborhood.

This sort of assistance can be rendered by wide-awake architects noticing circumstances deleterious to business that may be overcome by low-priced methods and devices.

Mr. Kahn is keen on the value of business knowledge to the architect, and pointed out that James B. Newman, of his firm, is giving Princeton University architecture students a course in the underlying business principles of the profession. Mr. Kahn also believes that there is a potential and currently neglected field for architects in industrial designing of fabrics, metals, and so forth. He advocates the establishment of educational facilities in these arts.

"The architect should be enabled to analyze the entire status of a project," said Mr. Kahn,

"in such a way that he can talk intelligently to builders, real-estate people, financiers, and merchants.

"The architect should know his own exact position in the general business structure. He should be familiar with all the elements that enter into building, from financial set-up and promotion to leasing and utilization of floor space in a profitable manner. He should keep informed and be on the 'inside' of building activities. He should know in advance when his services may be needed. If this is unethical, every businesslike architect is unethical."

Mr. Kahn pointed out another architectural opportunity in the possibility of modernizing the many empty theatres throughout the country, and making them more easily rentable.

Roswell Barratt, New York architect, noticed that the grocery department of Fortnum & Mason, exclusive English specialty shop on Madison Avenue, was so lighted that attention, instead of being concentrated on the groceries for sale, was attracted to the British coat-of-arms and the glaring ceiling.

Through the simple expedient of advising the installation of a modern reflector, the intensity of the illumination on the merchandise was increased to such an extent that attention and sales were spurred considerably. The physical cost of this installation was about one hundred dollars. Its value to the store was many times that amount.

Mr. Barratt is enthusiastic about the possibility of architects creating a new class of work on a consultant basis.



A corner of the Fortnum & Mason store before and after an architect had called their attention to the possibility of selling more goods through better lighting

Photographs by Werner Associates



"Drawings often scare off a prospective client," he said. "Somehow, they are associated in his mind with money and complexity. If you can do work without drawings, you have a distinct advantage today.

"I am a great believer in architects cashing in as much as possible on their experience. There are many consulting jobs waiting for the wise architect who realizes the necessity for this kind of service. Co-operation with engineers, owners, and builders is an important factor in this type of work."

Mr. Barratt believes that there is much work available in the inspection of new and renovated buildings and the giving of miscellaneous advice, even down to the suggestion of appropriate paint.

"I have had the good fortune recently," he said, "to obtain a lucrative commission because I good-naturedly gave one man advice about painting his house, when I had every right to refuse such advice, as he had turned over a job on which I had been working to another architect. He wanted me to give him counsel that would prevent his wife from ruining their house with an inappropriate paint. I gave him this advice. Not long afterward, the country club of whose house committee this man was chairman, burned down. The job for the new building came to me.

"Widespread consulting work does more than bring in money to the architect. It builds a circle of friends and contacts that may prove extremely valuable in a business way as a foundation for future work."

In this respect it is interesting to note the similarity of Mr. Barratt's consultant services with the practice obtaining in England and France, where architects act as continual counsellors to their clients, long after a building has been erected. The lack of new work on a scale comparable to our own makes this an important feature of the architect's activities. Similar conditions in this country are apparently creating similar results.

"I find it convenient to charge for many of these jobs on an hourly basis," said Mr. Barratt, "and have little difficulty in getting my money. Contact with lawyers and doctors has mentally prepared the business man for payment on a fee basis for expert advice. As a matter of fact, I don't see why experienced architects cannot let it be known they are a sort of informal counsel and research bureau, acting for the building owner, or lessor. In this way

they may perform a service of great value to the community, while building a profitable niche for themselves."

The work done by Mr. Barratt for Fortnum & Mason is an example of the proper way of selling the kind of architectural service that is of direct benefit to a business. Fortnum & Mason were sold on the idea because they realized that it would aid in selling their goods. The architect analyzed the lighting situation from the standpoint of the service rendered by the store, *i. e.*, the selling of groceries. Through his technically superior knowledge of what could be done in a given situation, plus his observation of the store's needs, he knew how it was possible to present the merchandise in a better manner to the customer. That combination of knowledge was bought by the store. If he had approached Fortnum & Mason from the standpoint of architectural design, fitness or beauty, the reply would probably have been, "We can't spend money for anything like that today." This cannot be the reply when the store is shown how it may sell more merchandise. The architect has geared his services into the functional workings of a business organization. That is the main line of thought he must keep in mind in obtaining this kind of work.

The architect should also keep in mind current social and business conditions, and their relation to possible purchasers of his services. There are other factors in the offing that must be considered by the wide-awake architect. The legalized selling of beer and wine will naturally tend to the building of new types of restaurants, as well as the modification of existing establishments. Those institutions remodelling themselves on the pattern of German beer halls, wine halls, Parisian cafés, etc., will have the edge on their more sedate competitors.

In a word, the architect might well constitute himself a seller of business presentation. He should sell architectural service and its results, not only as something convenient and appropriate, but as a permanent and valuable aid to the store and its functions.

Effective presentation is as important to business today as a clean collar to a business man. Even if his business is not as profitable as yesterday, the business man wears a clean collar or he is utterly hopeless. Without it, he loses not only his standing among men but his own morale as well. Business needs the clean collar today more than ever before, and the architect can supply this need.

THE SEVENTY-EIGHTH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS
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ARCHITECTURE'S PORTFOLIO OF VERANDAS

*Subjects of previous portfolios are listed below
at left and right of page*



*Below are the subjects of
forthcoming Portfolios*

The Eagle in Sculpture

MAY

Eaves Returns on
Masonry Gables

JUNE

Exterior Lettering

JULY

Entrance Driveways

AUGUST

Corbels

SEPTEMBER

Pew Ends

OCTOBER

*Photographs showing interesting
examples under any of these head-
ings will be welcomed by the Edi-
tor, though it should be noted that
these respective issues are made up
about six weeks in advance of
publication date.*

❖1926
DORMER WINDOWS
SHUTTERS AND BLINDS

❖1927
ENGLISH PANNELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

❖1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

❖1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930❖
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS

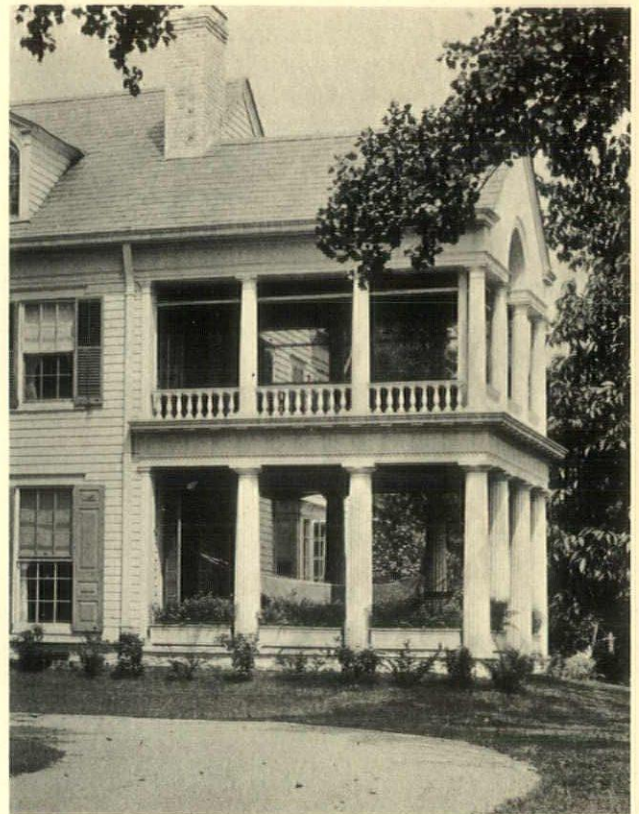
1931❖
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNS
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS

1932❖
RADIATOR ENCLOSURES
INTERIOR CLOCKS
OUTSIDE STAIRWAYS
LEADED GLASS MEDALLIONS
EXTERIOR DOORS OF WOOD
METAL FENCES
HANGING SIGNS
WOOD CEILINGS
MARQUISES
WALL SHEATHING
FRENCH STONEMWORK
OVER-MANTEL TREATMENTS

1933❖
BANK SCREENS
INTERIOR DOORS
METAL STAIR RAILINGS



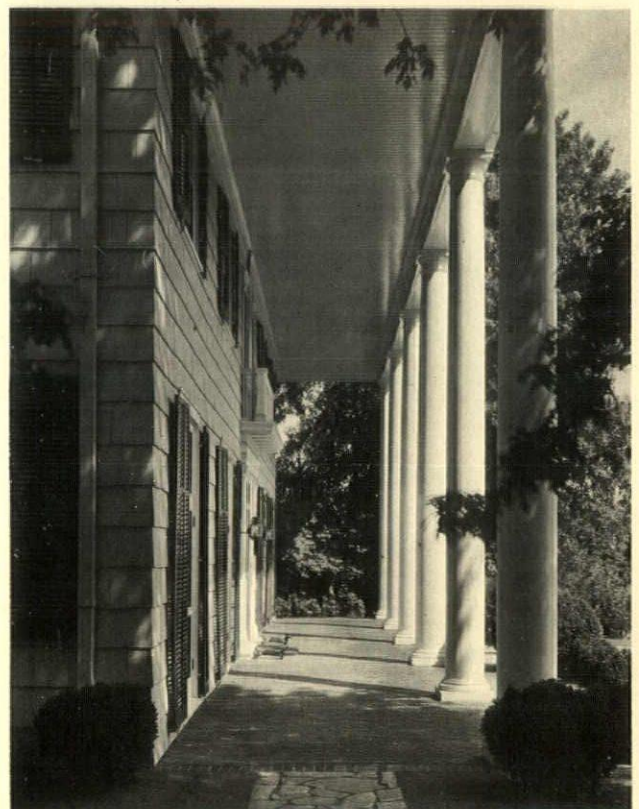
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Electus D. Litchfield

Charles H. Higgins

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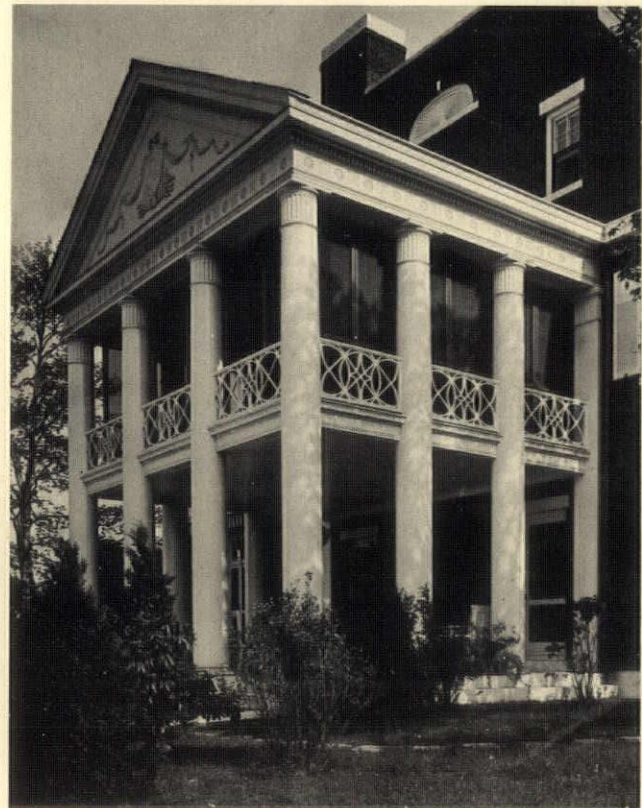
Adams & Adams



Philip L. Small & Associates

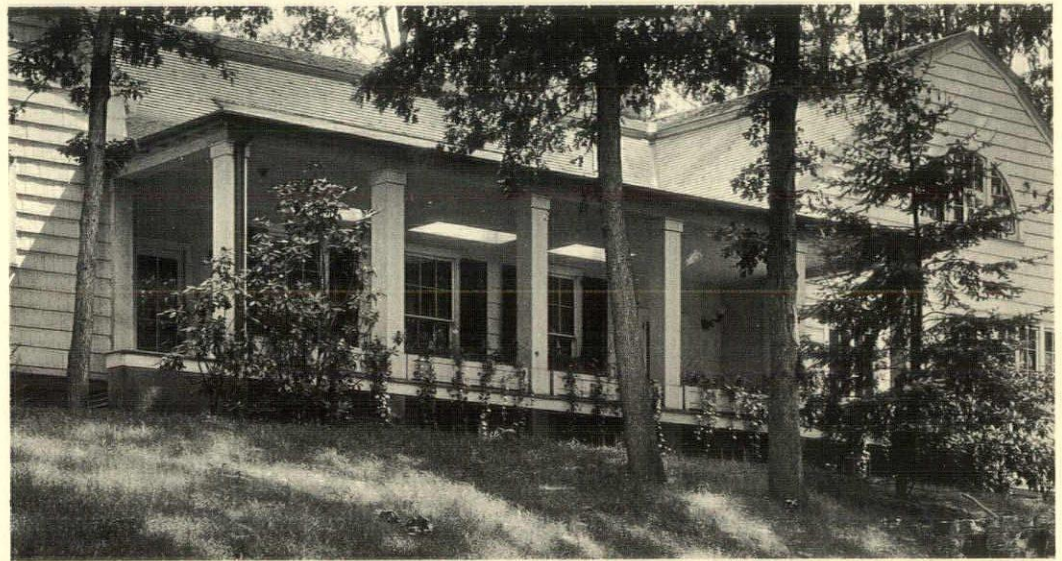
Robert Wiseman

Aymar Embury II





*Van Cortlandt
Manor House,
New York City*



Guy Lowell



*Walter John
Skinner*

*Edward Buehler
Delk*



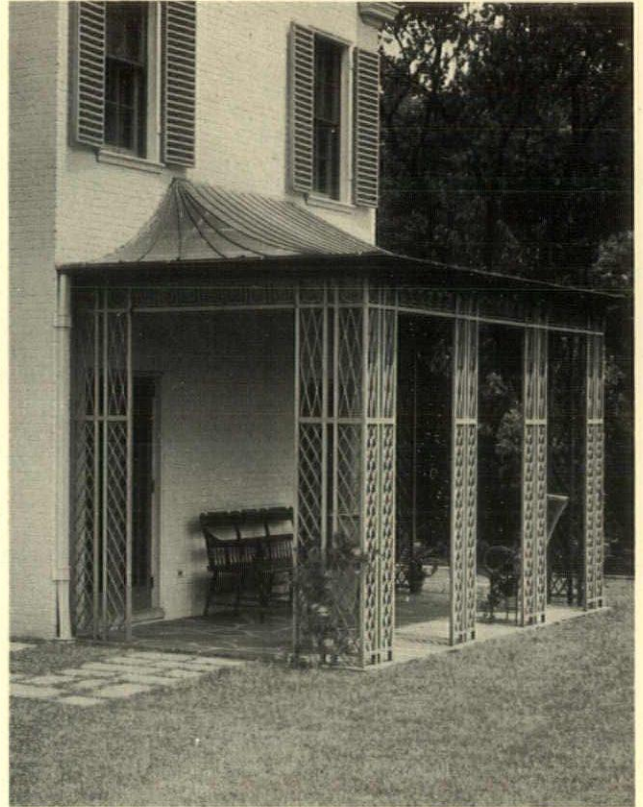
*Hentz, Reid
& Adler*



*McKim, Mead
& White*



Bradley Delehanty



John M. Bell

Sir John Soane

Roland E. Coate





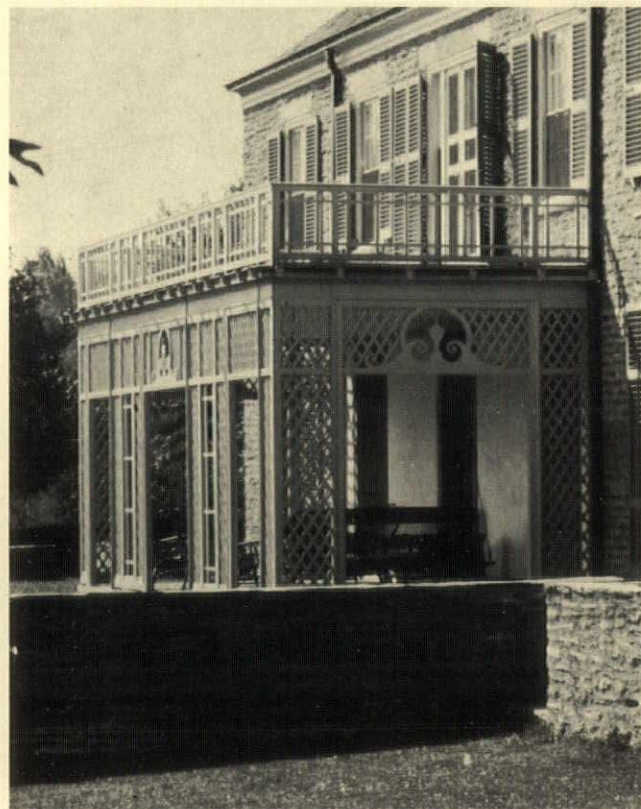
Evans, Moore & Woodbridge



Leigh French, Jr.

Huszagh & Hill

Edmund B. Gilchrist





Delano & Aldrich

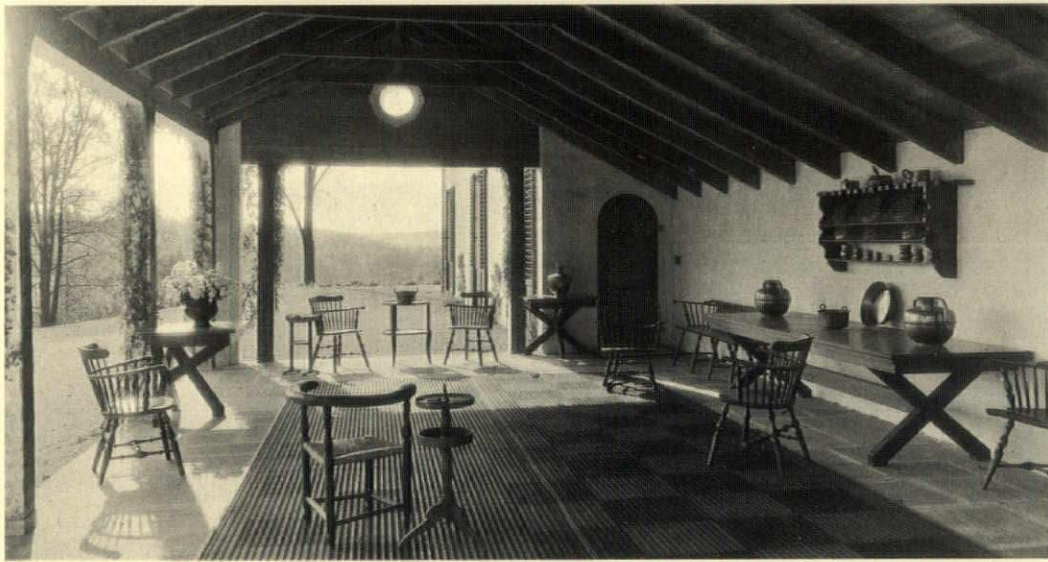


Alfred Heideman



Wesley S. Bessell

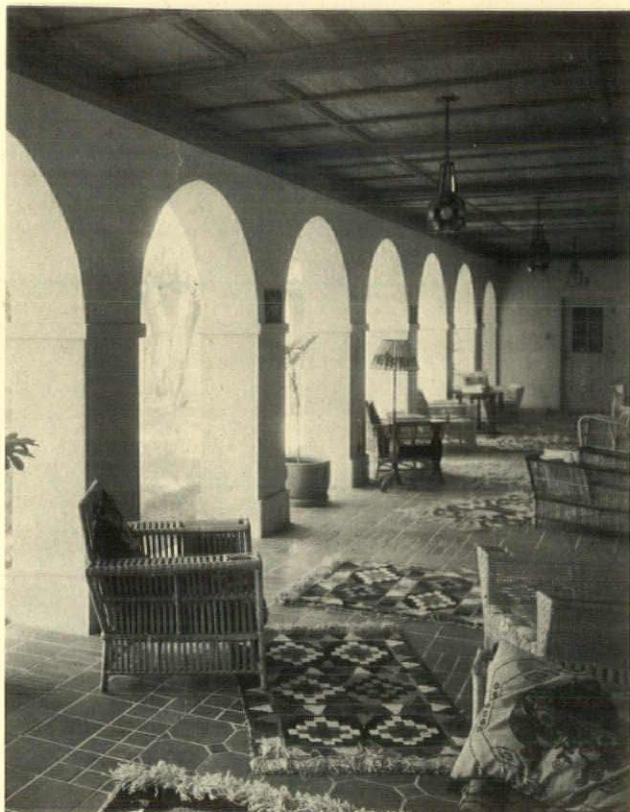
Edward S. Paxson



Bradley Delehanty



*B. F. Chapman
and
H. M. Woolsey*



Weston & Weston

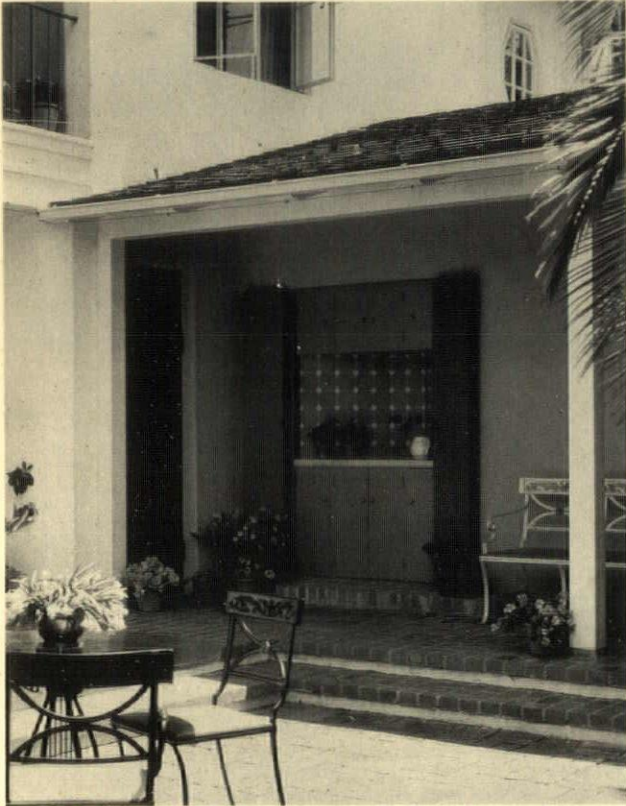


Roland E. Coate

Roland E. Coate

R. H. Heath





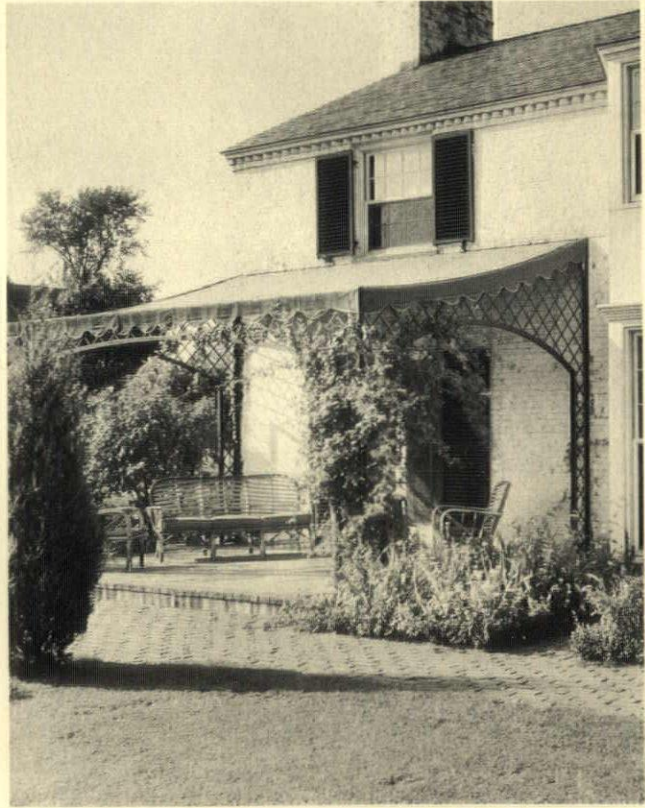
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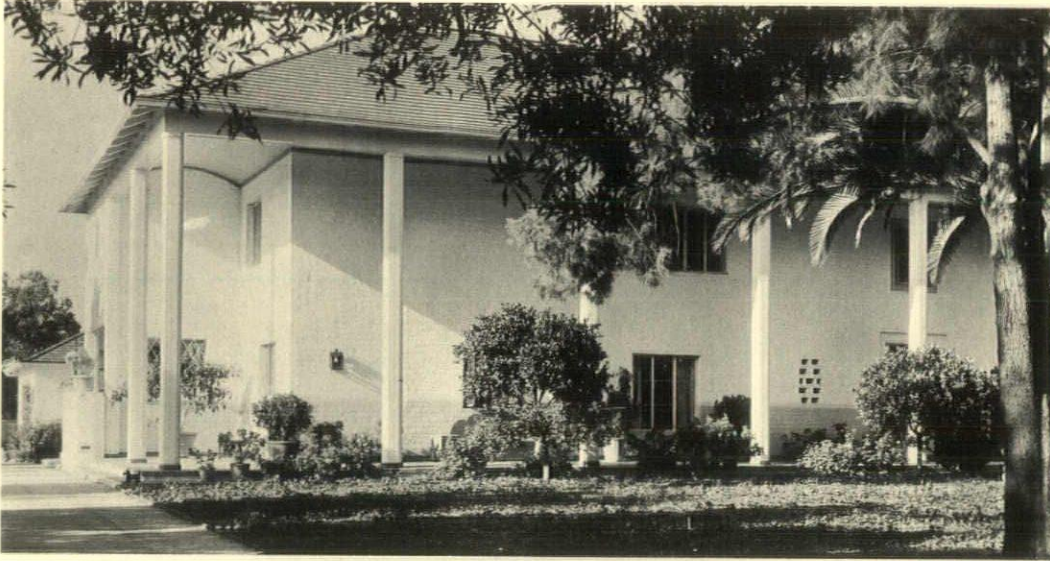


Kilham, Hopkins & Greeley

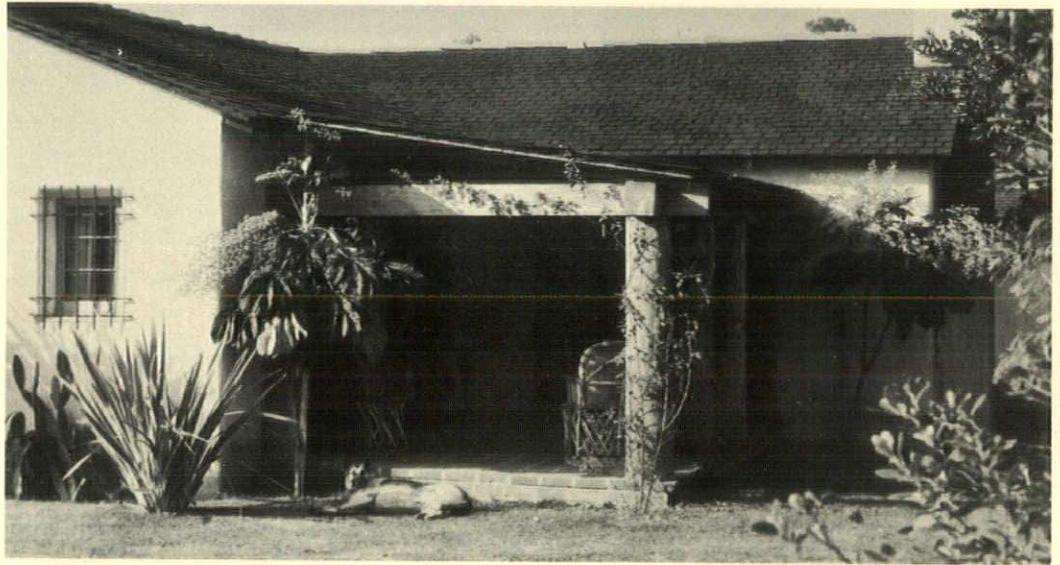
Wallace Neff

Godwin, Thompson & Patterson





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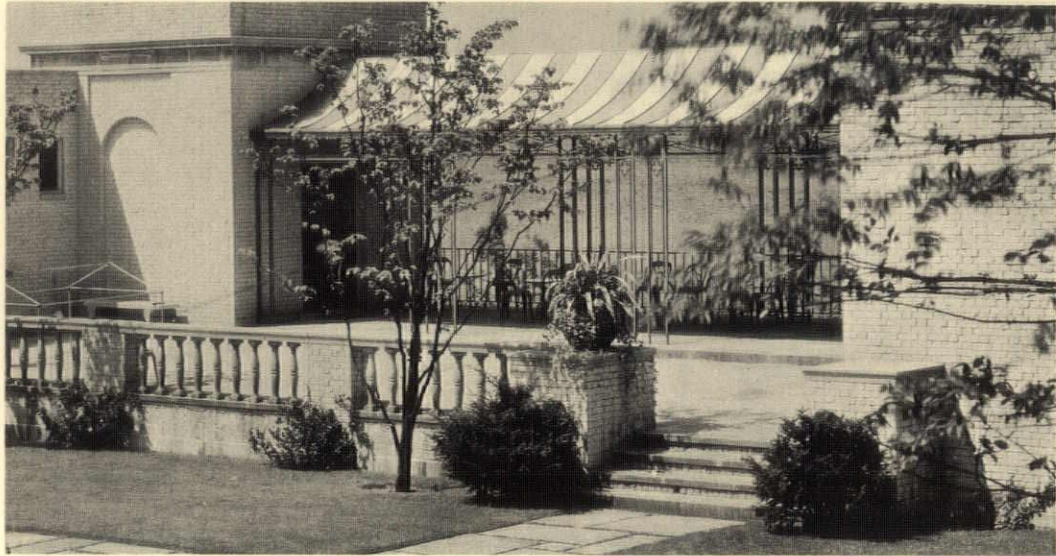


*Donald D.
McMurray*



*G. W. Harris;
Mary Jane Colter*

*William Pitkin,
Fr., &
Seward H. Mott*



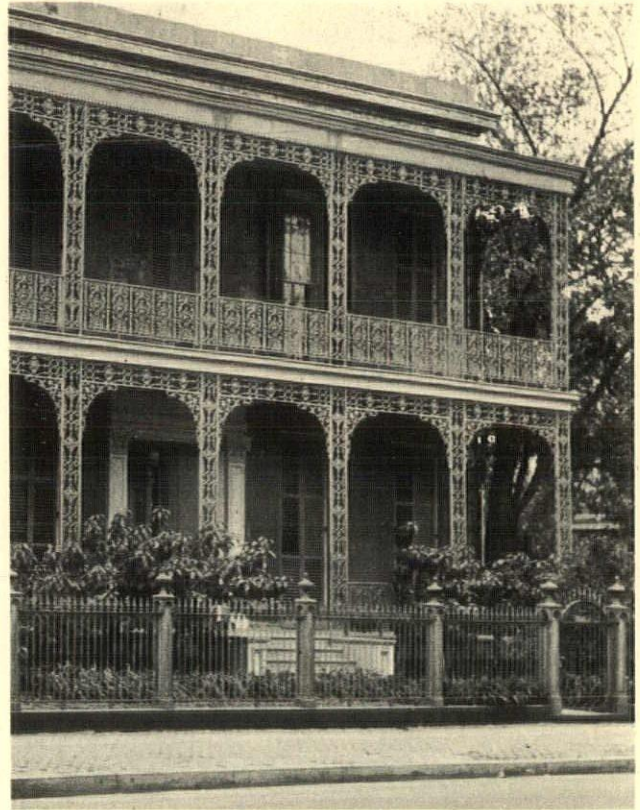
*Leigh French, Jr.;
H. D. Eberlein*



*Frederick
Kennedy*



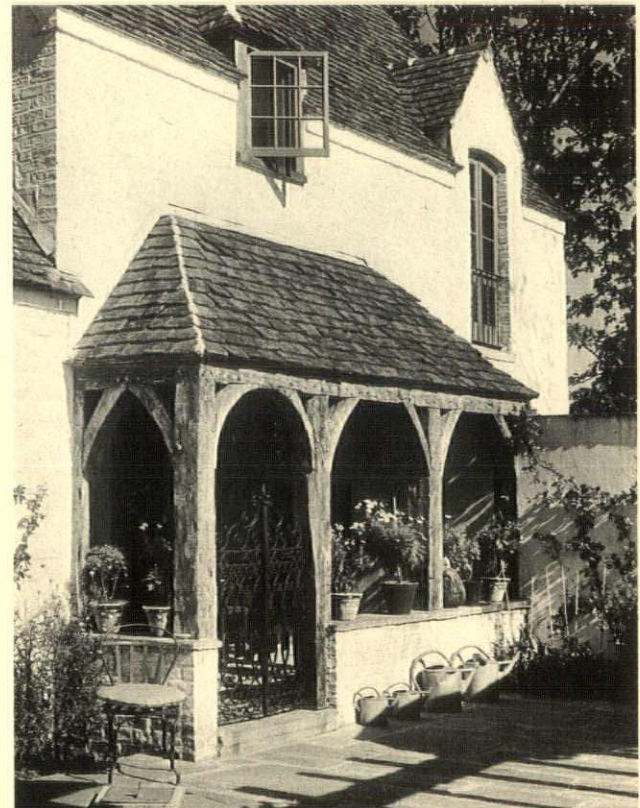
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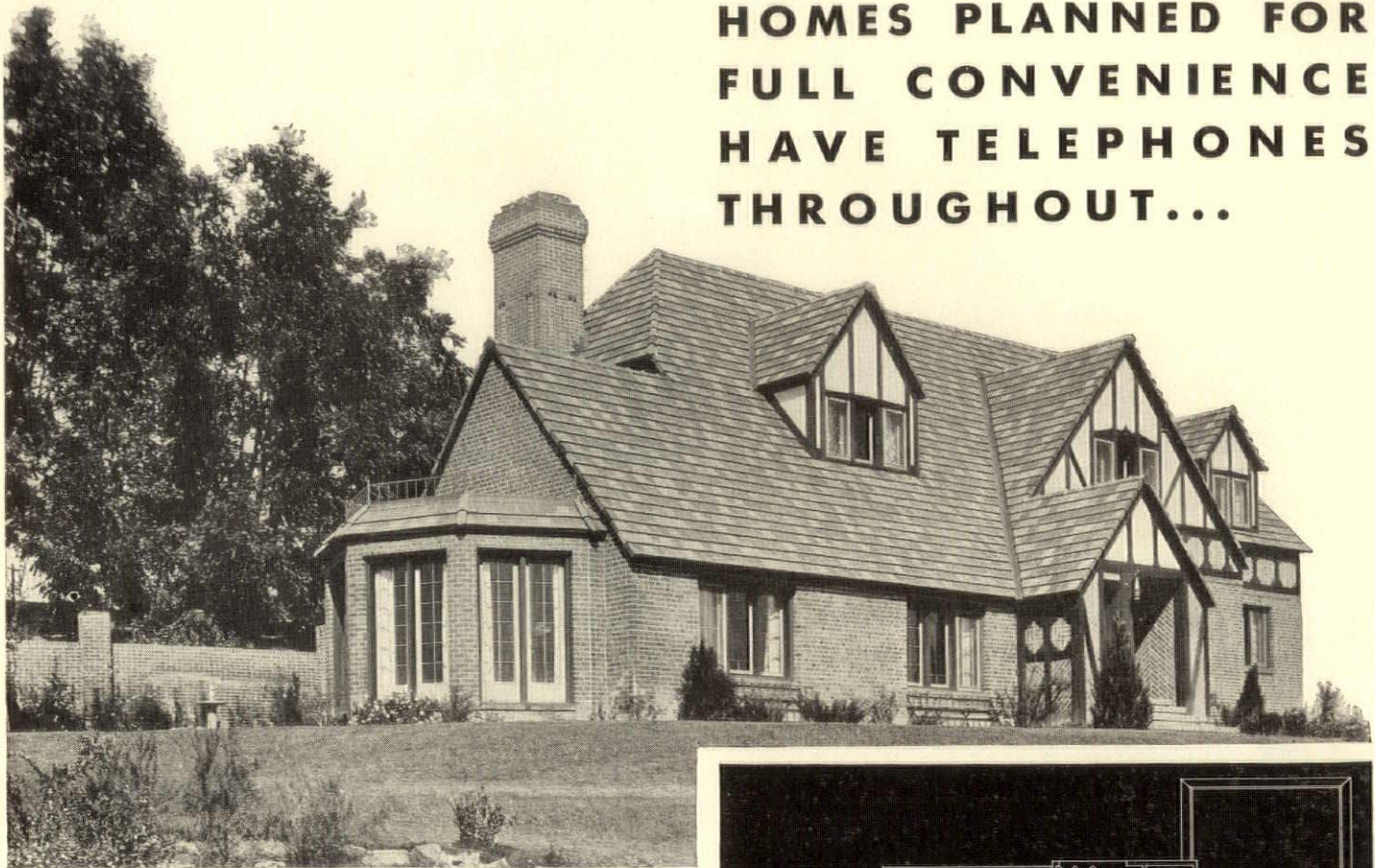


*J. Larkin
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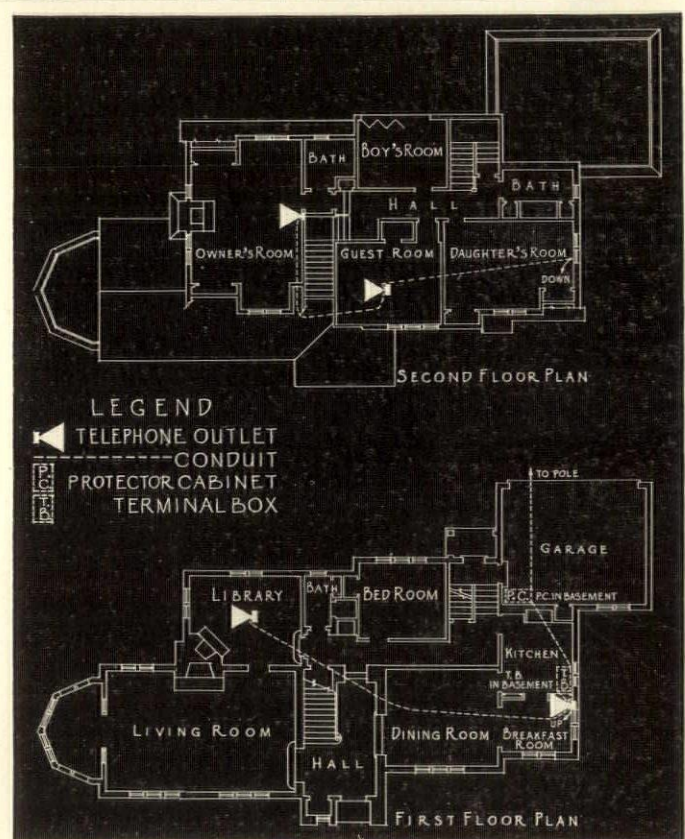


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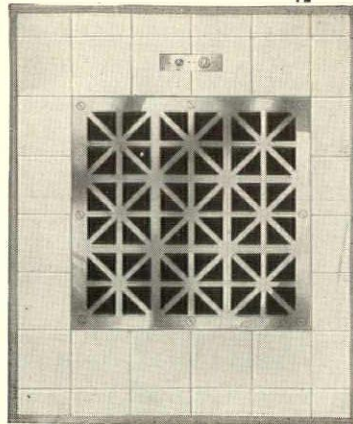


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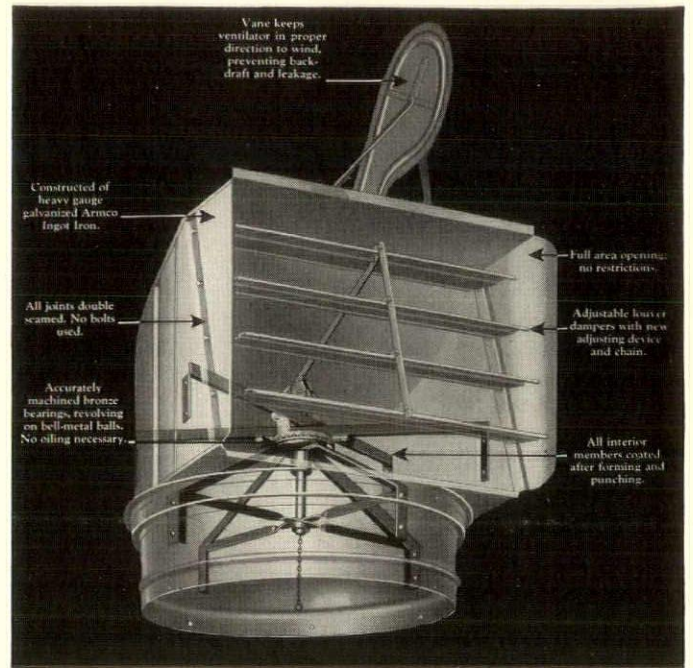


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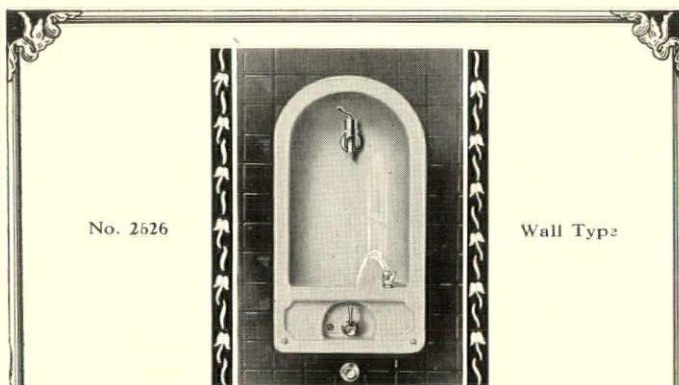
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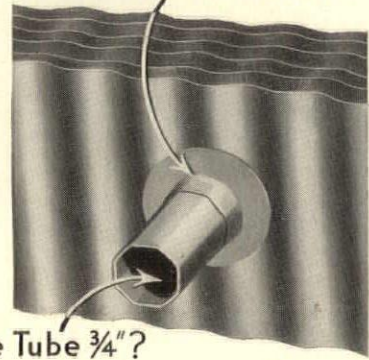
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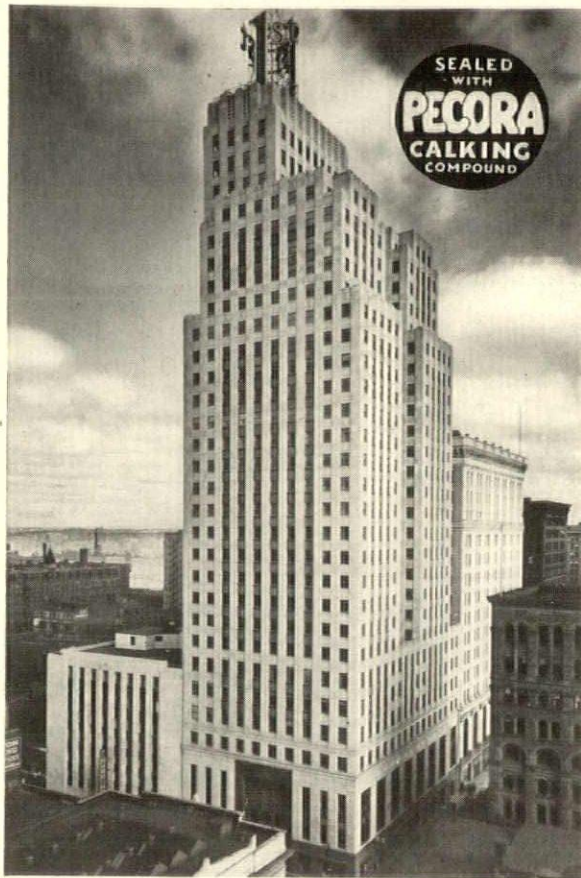
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