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PLANS—IN COMPETITION AND *in* REALITY

BY EGERTON SWARTWOUT, F. A. I. A.

"**Y**OU can't just publish a lot of plans without a story" said the Editor. "But there isn't much that can be said about a lot of plans especially by the man that made 'em and—." "Never mind, just write what you've just told me; I must have a story, two thousand words, three, anything you want, and I must have it Monday. Good-bye."

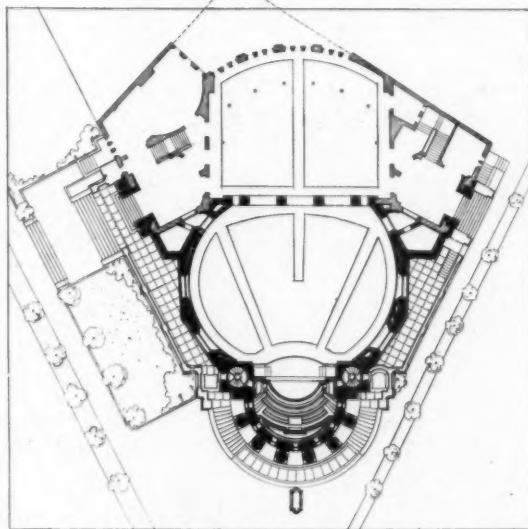
Domineering men, these editors! If you have an article you think is rather good, but one in which pictures are out of place, they insist on pictures, must have pictures; and then again if you give them pictures you must have a story to go with them. I wonder what old Sam Johnson said when they insisted that he put pictures in his dictionary; probably Boswell had to expurgate his remarks, but now look at the dictionaries. They'll be putting pictures in telephone books the next thing you know.

But if I don't give the old man something, he'll write a story himself, so here goes.

Now the whole thing started in this way, about a year or so ago. The Architectural League was good enough to accept, for their exhibition, the competitive plans for the Elks Memorial, but when the time came to deliver the drawings I found the Elks Commission wanted the elevation for a meeting they were going to have, and in a hurry I redrew the elevation from the working

plans, and Mr. Githens made a very good rendering of it; and, then, as the plan had been changed a little as well as the elevation, I thought it might be interesting to redraw the plan from the working drawings so that it could be compared with the competition drawings. It seemed to me that the real plan was better than the competition plan,

not only as a scheme, but better in *poché*, and I decided it would be of interest, at least to me, to redraw some other plans of buildings we had built, and compare them with the competition drawings. And so, when I had a chance, I redrew the plan of the Missouri Capitol as it is built. I couldn't trace from the original; it was too big; but the plan of the George Washington Memorial was actually traced, as the working drawings were made at sixteenth, and I also had traced the little church at Washington and the Macon



ROGER WILLIAMS MEMORIAL BAPTIST CHURCH, WASHINGTON, D. C. FROM WORKING DRAWINGS

EGERTON SWARTWOUT, ARCHITECT

Auditorium. I have presented these redrawn plans with the greatest simplicity for I wanted to have the *poché* count for what it was and not be dependent on floor or ceiling indication, and I think a comparison of the plans of these three buildings will show that the plans have not suffered as plans in their development; I think in each case they are better, and the *poché* works out better, and is even heavier in reality than in the competition drawing. The result surprised me a good deal, as in the de-

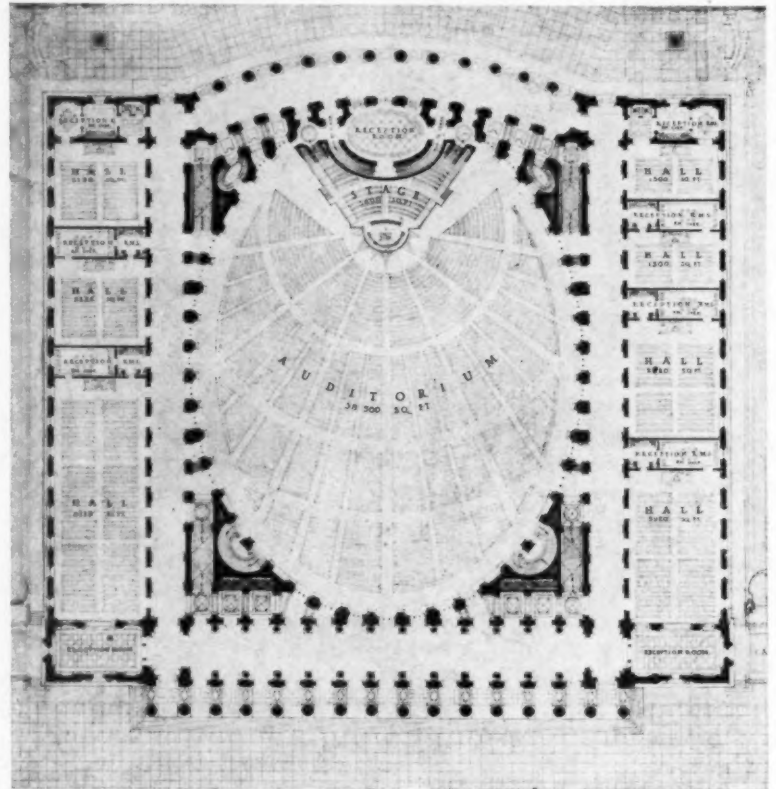
(Copyright, 1924, The Architectural & Building Press, Inc.)

velopment of the working drawings little thought was given to the looks of the plan; it was the natural development of the design of the exterior, and in the interior, naturally, each room was separately considered.

And I think these plans show another thing too: that the scheme of an accepted competition drawing is rarely changed materially. There is a pleasant little fallacy, which I believe was started by the late John Carrère, that a competition was only for the purpose of selecting an architect and that the real work of design began after the working drawings were started, and that it would be better, really, to write a program for a Public Bath and let the successful competitor build, unfettered by previous conceptions, the Public Library that was the ultimate object of the competition. In the application of this theory it is often stated in competition programs that the object of this competition is the selection of an architect and not a scheme, and the architect when selected shall at his own expense, etc., make such revisions of the scheme as the commission shall in their wisdom, direct, etc., etc. And, generally, in the colloquial language of the comic strip, it's a lot of banana oil. There may be, of course, cases in which a radical change of scheme has been insisted on, but I don't know of any. Of the three examples I've shown, there

is only one that has been changed at all; the others are almost identical in size and detail as well as scheme. The changes made in the Missouri Capitol were in every case of our own suggestion, and it took a pretty stiff argument on our part, and the making of many models and drawings to get the Commission to consent to them. The position they took was one that I think most commissions would naturally take, and that was that being a public commission, appointed by the Governor for a specific purpose, they had decided, after some pressure it's true, to take the advice of The American Institute of Architects and to hold a competition based on the code of the Institute,

and they had appointed certain prominent architects as judges of this competition and those judges had decided that a certain plan was the best of those submitted, and that therefore, having accepted the findings of the judges they were bound to carry out the scheme essentially as it was first presented. I think most commissions or committees would look at things in this way. I know that I was not even listened to when I asked the Commission to consent to a radical change we



THE ORIGINAL COMPETITION DRAWING MADE IN 1914. GEORGE WASHINGTON MEMORIAL, WASHINGTON, D. C.

TRACY & SWARTWOUT, ARCHITECTS

proposed. I always had an idea that the typical Capitol plan was wrong. It put the legislative chambers on the third floor in order to get room for administrative offices on the first two floors, and consequently the chambers and the rotunda were not directly accessible from outside, and there was naturally a lot of dark unusable space on the lower floors under the Senate and House. I asked the Commission to consent to a scheme whereby the legislative floor was only about six or eight feet from the grade, and the legislative portion, the Senate, House, and committee rooms and lobbies and dome formed a separate unit, with the administrative portion in a separate building

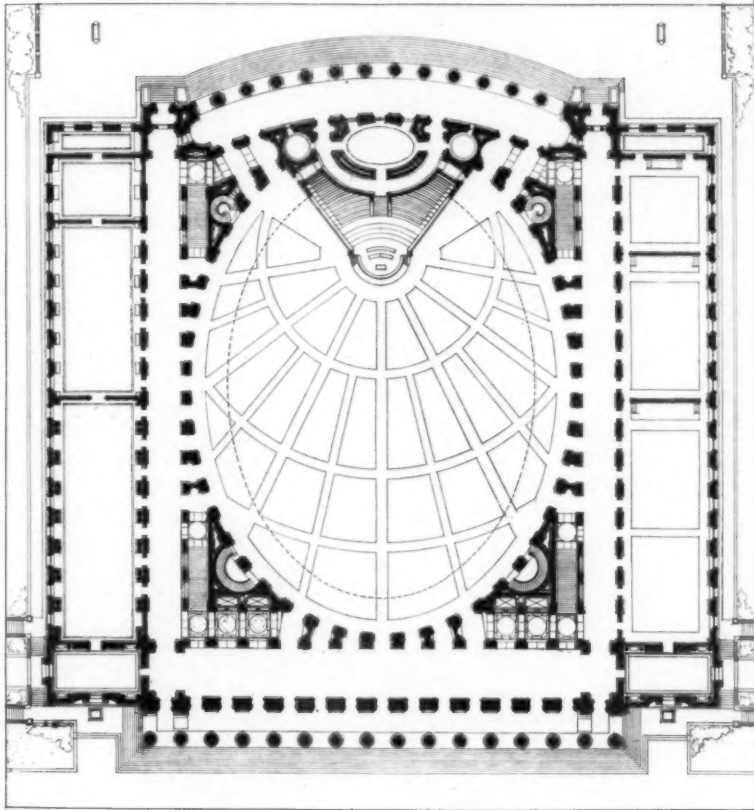
or in wings at the side and to the front of the dome, forming a sort of forecourt. I'm sure it would have been a better scheme, but the Commission would not hear of it; they said the scheme had been approved by the judges and themselves, and had been published in the papers and they would not run the risk of such a radical change. We did get them to change the porticos. We got rid of the boxlike projection back of the front portico by removing the side lobbies which were unneces-

rotunda, or rather an extension of it, separated by a sort of bridge carrying the circulation of the upper floor, but open above this to the height of the great arches under the dome. By this scheme there is a head to the plan and the segmental portico looks very well from the outside, much better than a true semicircle would, because the larger sweep of the segment falls into much better harmony with the circles of the dome above. Beyond these two changes the differences are minor.

I only regret we did not make one more change and let the grand staircase cut through the circulation and start directly from the dome. We really haven't got quite enough length to the staircase. We could not very well push the portico further out, and the space gained by the interruption of the circulation would have given us a little easier gradient. I don't think the Commission would have objected, but somehow the circulation looked very important on plan; actually it was not important at all, as a slight application of common sense might have shown us; the side corridors were for the legislators and not for the public, and the circulation was across the corridors to the committee rooms and not along them, and there is practically no need of communication between the Senate and House, that is by these corridors, and it would have been a good thing to have cut off direct public entrance to these cor-

ridors. But we did not think of that till too late.

Now, as I have said, there are practically no changes in the other two plans. In the George Washington Memorial, the main dimensions are the same, and even the spacing of windows on the flanks is almost identical. When we started to restudy the elevation for a model in the spring of '19, I tried to get a pavilion at the rear of the side elevation similar to that on the front end, but it could not be done; no other arrangement of windows would work, so that the centers of the windows would agree with column centers in the auditorium itself. In the final plan we have retained

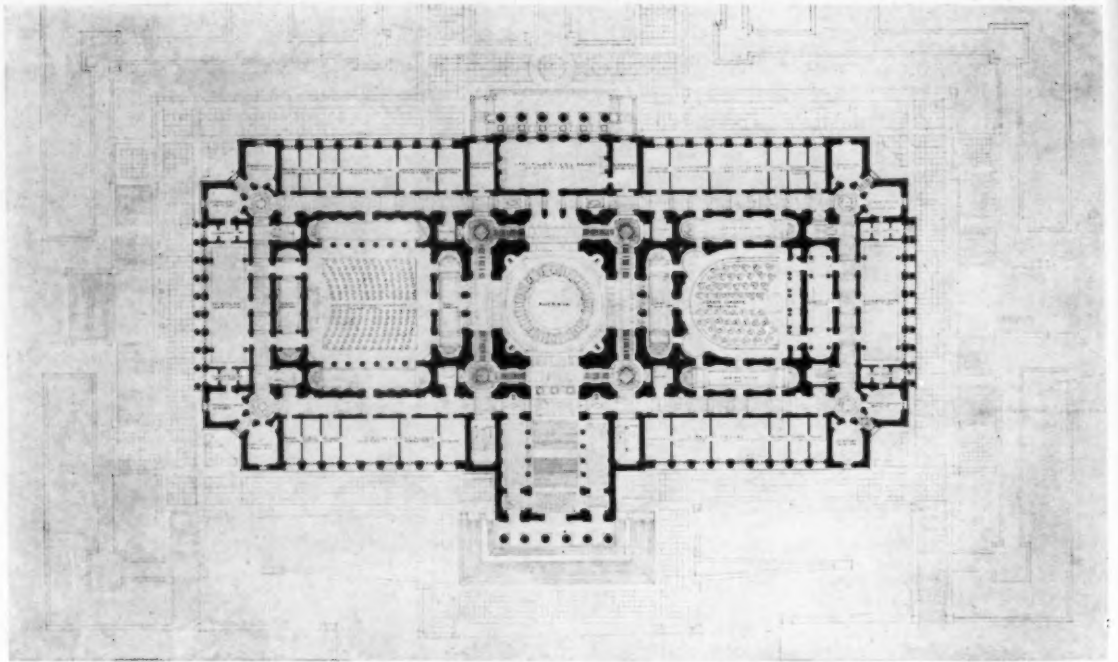


TRACED OVER A WORKING DRAWING OF THE CONTRACT SET MADE IN 1921. THE INTERIOR TREATMENT OF THE WINGS IS NOT YET FINALLY DECIDED

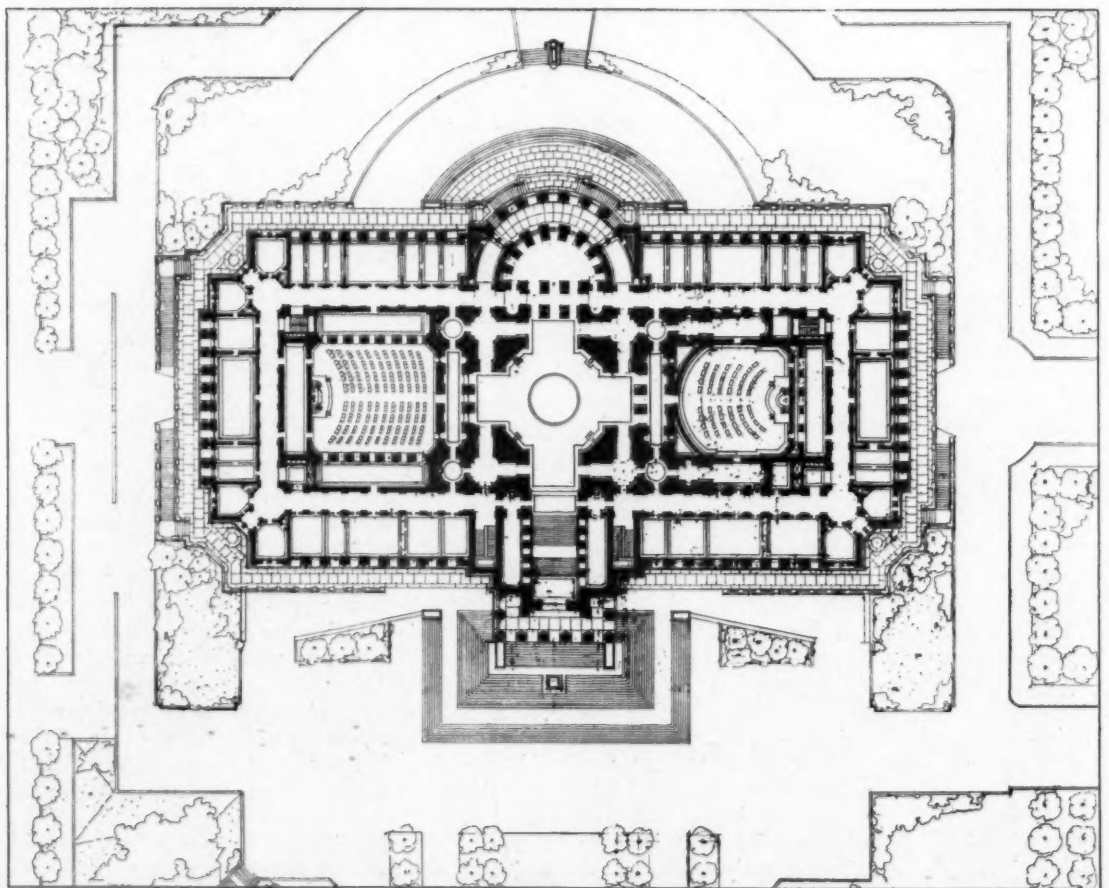
GEORGE WASHINGTON MEMORIAL, WASHINGTON, D. C.

TRACY & SWARTWOUT, ARCHITECTS

sary, and extending the flanks of the portico back toward the building, and we made the rear portico segmental to agree with a change in shape of the legislative library. I always felt the dome as originally planned had no termination. There was a long monumental approach up the great staircase, but the rotunda stopped right at the wall of the dome. We found that the legislative library was not a room of great importance; as a matter of fact they had no books to put in it, as the library had been burned in the fire that destroyed the old Capitol, and the Board finally consented to make this library really a part of the



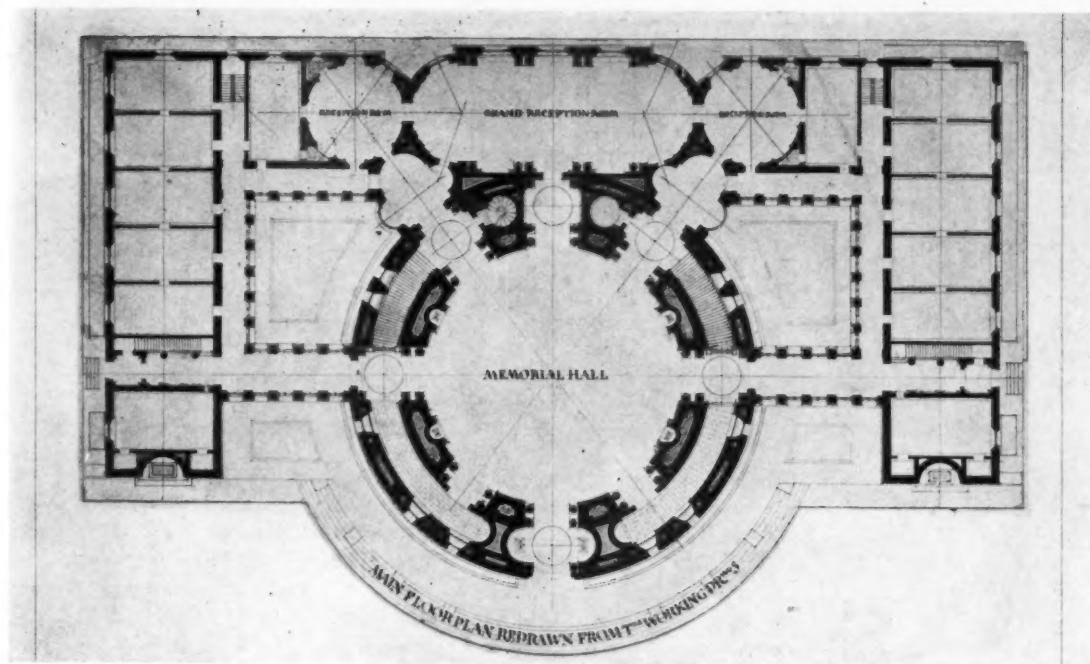
COMPETITION DRAWING MADE IN 1912



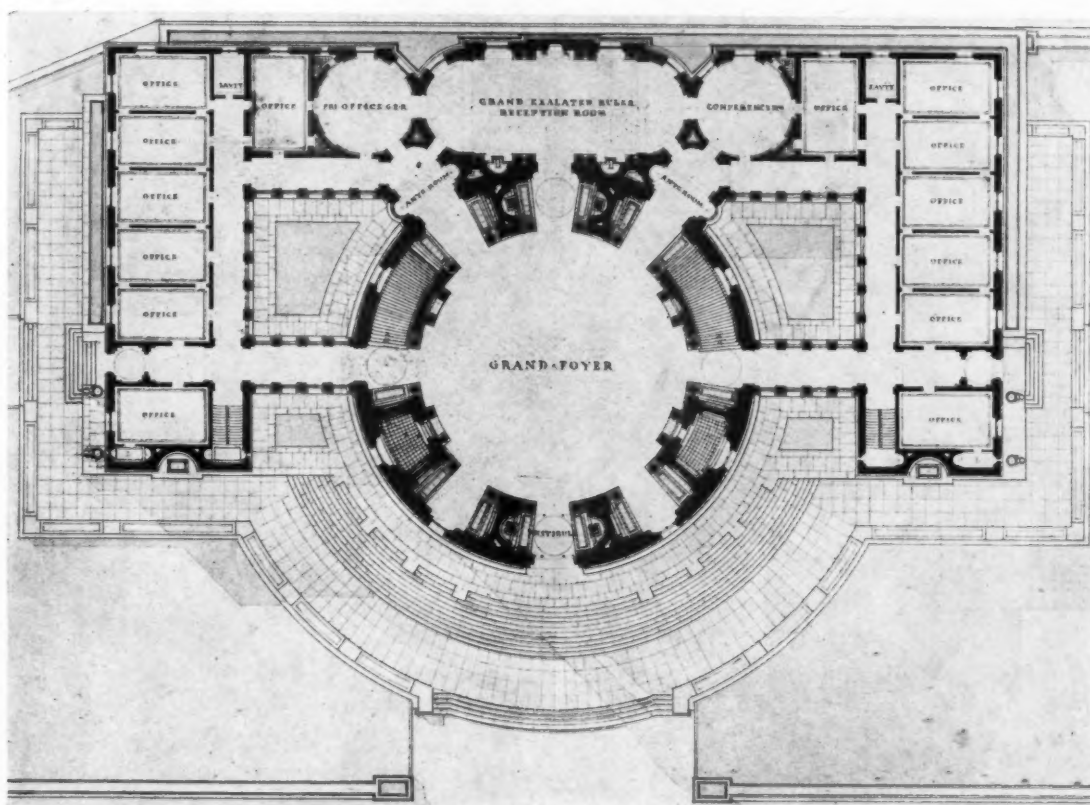
REDRAWN FROM THE WORKING DRAWINGS WHICH WERE MADE IN 1913

MISSOURI STATE CAPITOL COMPETITION

TRACY & SWARTWOUT, ARCHITECTS



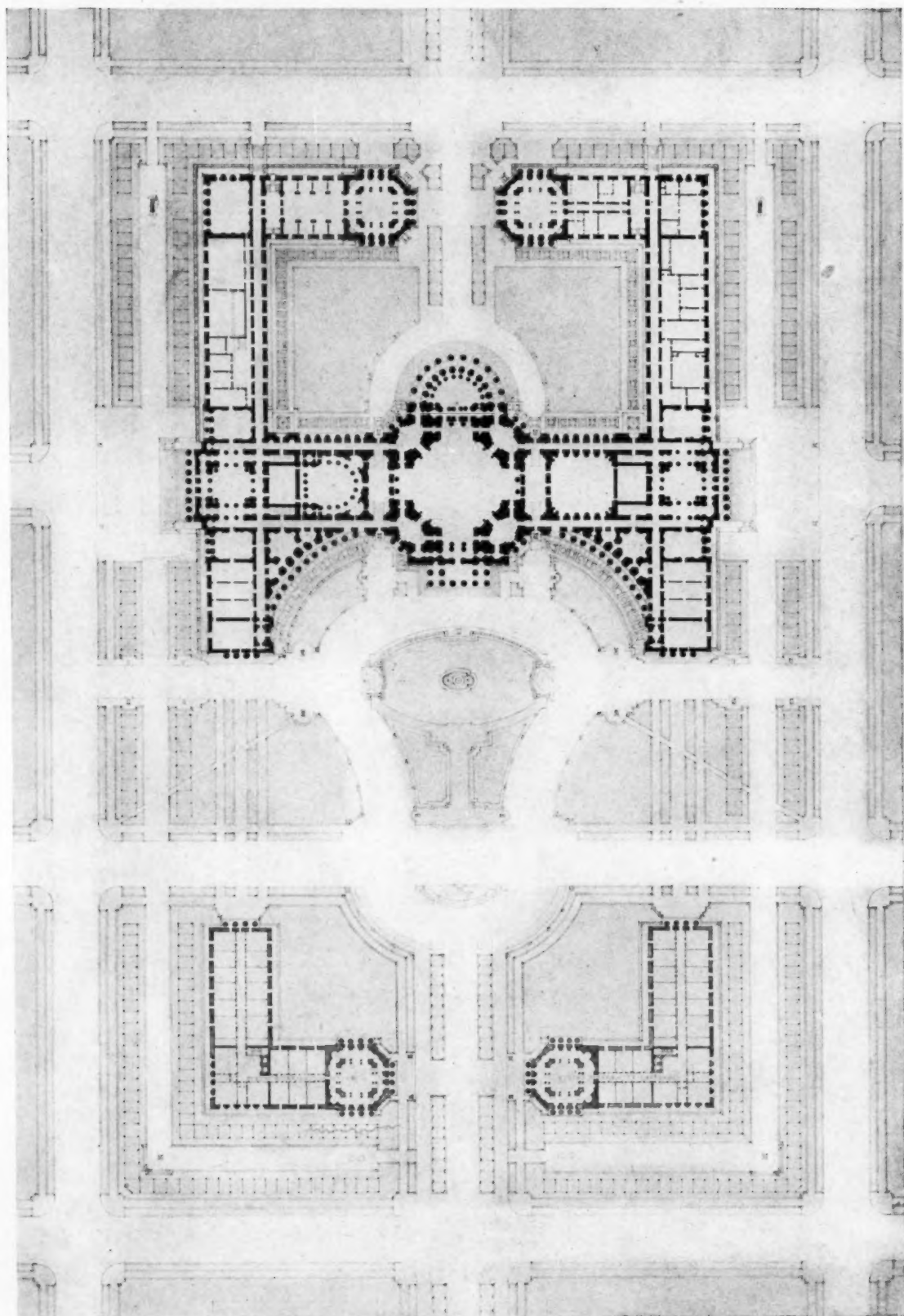
REDRAWN FROM THE WORKING DRAWINGS



COMPETITION DRAWING MADE IN 1922

ELKS NATIONAL MEMORIAL

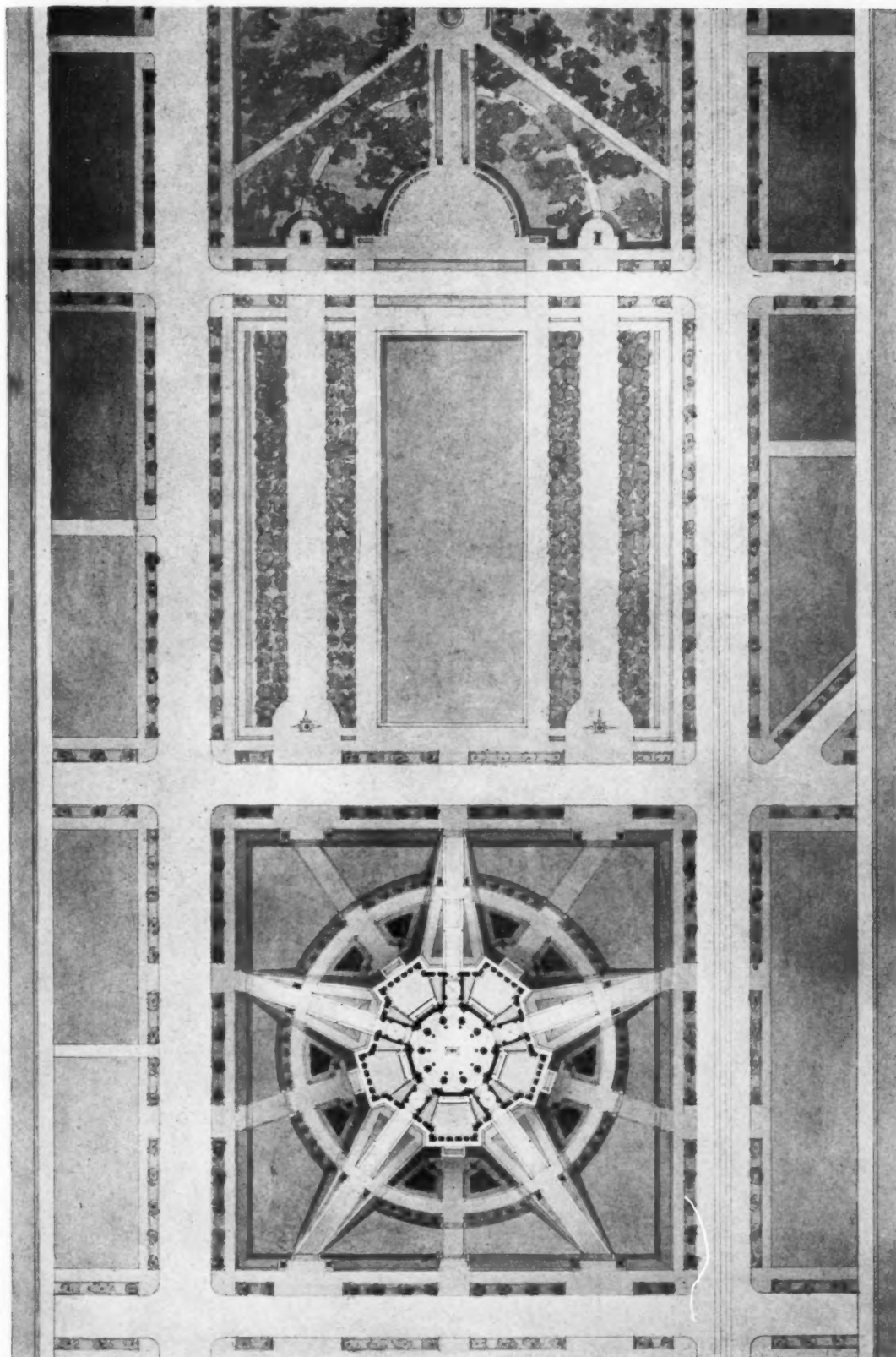
EGERTON SWARTWOUT, ARCHITECT—J. HOLLIS WELLS, ADVISORY ARCHITECT



COMPETITION FOR A PUBLIC BUILDING, UNACCEPTED

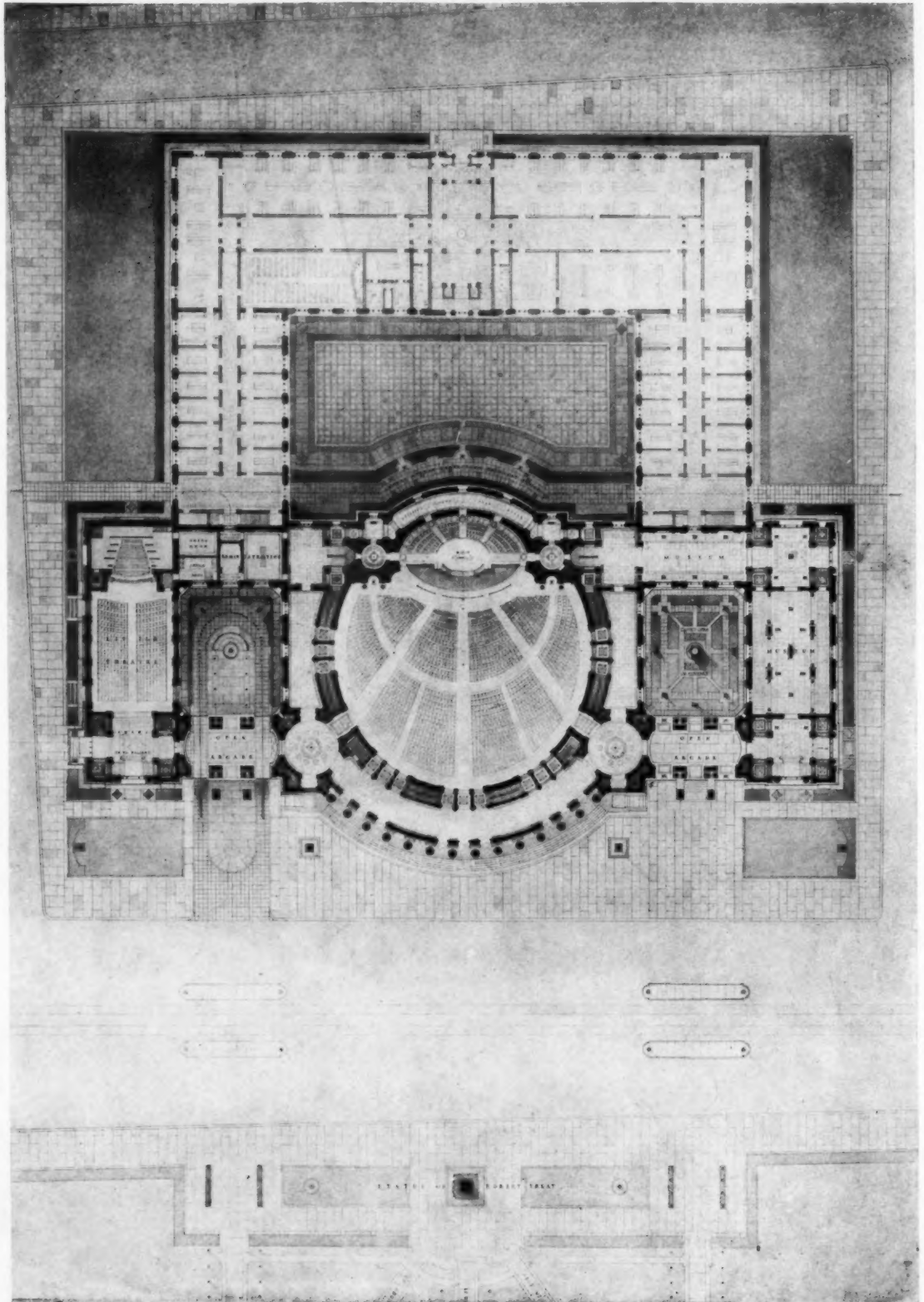
TRACY & SWARTWOUT, ARCHITECTS

An attempt to design a dome that would carry down to the ground, that would be a dome and not a lantern



AN UNAPPRECIATED ATTEMPT TO MAKE A PLAN BASED ON THE EMBLEM OF THE LEGION

A competition stunt, pure and simple,—not very pure, but simple enough as it turned out



AN EARLY ESSAY IN COMPETITION DRAWING, ALSO UNAPPRECIATED

The elevation was really good

the elliptical reception room under the stage and also the circular retiring rooms; it may seem, on the face of it, a little forced to put two monumental little retiring rooms on the axis, but after all what could you do; they could not be square and a circle is more pleasing and no more expensive than an irregular shape, and we needed the space in the *poché* for ducts and pipes. As I have noted in the caption the interior treatment of the side wings is not definitely settled and only the walls are shown in the working drawing, and we have only indicated what may be done, but aside from this the drawing is traced from the working plan. The Elks Memorial is substantially unaltered, except that I have changed the location of the stairs in the wings and thereby have gotten one more bay in the connecting corridors, and reduced the width of the wings, which is a distinct improvement in elevation, and which makes a better plan too, I think.

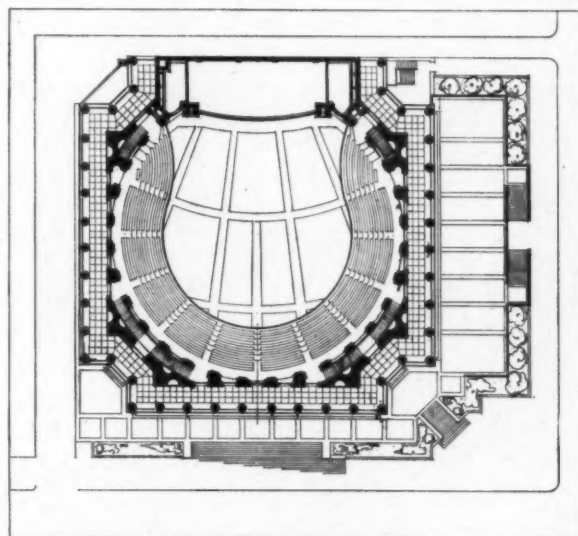
The Macon Auditorium and the Washington Church were put in because the plans were rather unusual; they were not competitions and the plans as shown are tracings of the working drawings, blacked in.

The Macon building is quite large, 175 feet square, and seats about 4,000. The plan shown is the gallery plan; there is on the first floor a ten foot corridor extending around three sides of the auditorium with double doors in the center of each bay, so arranged that they come directly opposite the doors of the auditorium, and opposite the gallery stairs; the circulation does not cross. The exterior order is a modified Greek Doric on a basement at the gallery level. The Washington Church has a curiously shaped site at the intersection of 16th Street and Columbia Road. There was an old church on the rear of the site, that is a portion of a church, and the problem was to hook this old building up with the new church so that the old portion could be used as a Sunday School, and on occasion thrown

into the main church, the opening between the two being filled with movable partitions covered with heavy curtains on the church side.

The three competition plans are published for no particular purpose except that they are rather interesting as plans. Plans have always had a peculiar fascination for me. I like to look over the plans in Guadet and in Letarouilly, where the indication does not obscure the *poché*. I like to look at the early Grand Prix, the ones published in engraved form in the first part of the last century, and above all I like to try to make a monumental plan myself. I suppose I like it all the more because what little I know of plan was most laboriously picked up and not taught. I never

had the advantage of school training and my only education, architectural, was in the office of a very distinguished firm of architects who unfortunately did not regard plan as anything more than a necessary concomitant to an elevation, so naturally for me the elevation was the whole thing. Years ago we won a big monumental competition, the plan of which is not here shown. The general scheme was good, and the elevation simple and dignified, but the indication, of



MACON AUDITORIUM, MACON, GA.
EGERTON SWARTWOUT, ARCHITECT

the plan particularly, was pretty bad. Still we won on the scheme; and a year or two later we went into another larger competition in which we were second. The judges were good enough to say our elevation was the best, but the plan was atrocious, unpractical and childishly presented. They rubbed it in a good deal about that plan, and I must confess I got very much peeved. My partners were really very decent about it, but I couldn't help feeling they thought I acted like a goat in that competition. And I suppose I did. I never thought of the plan at all. So I resolved to study plans, and ever since then for fifteen years I've been collecting plans, studying plans and trying my best to make plans, and some day I hope I'll be able to make a real good one.

WILLIS POLK

1865—1924

A letter appreciative of Willis Polk, his life and work, from Bernard R. Maybeck

To the Editor,
THE AMERICAN ARCHITECT:

IN the sudden passing of Willis W. Polk, Jr., on September 10, at the age of 59, we who loved the man for his very high and noble ideals, feel there can be no tribute to his genius in words that could do him justice. The expressions of our affection for him and admiration of his character and appreciation of his work are now taking form and soon we hope to have ready a tribute in stone to the memory of the man. This memorial is to be placed in the California School of Fine Arts in San Francisco. It will convey to future generations an appreciation of his worth and the high esteem in which he was held.

It was back in Kansas City where I had an office, and around 1890 that I first met Willis Polk. Hearing that I was a Beaux-Arts man, he came to see me. Our acquaintance ripened into friendship. He did not remain long in Kansas City, nor did I. We met again later in San Francisco. Conditions were not very satisfactory at that time and Mr. Polk did not get the foothold he expected. Among the friendships he had formed was one with a Rev. Joseph Worcester. It was through Mr. Worcester that he became acquainted with Dan Burnham, and in the course of time we find him in Mr. Burnham's office in Chicago. Some years afterward he returned to San Francisco representing D. H.

Burnham & Co. In this capacity he became very successful and established a name for himself.

Willis Polk was always interested in the civic improvement of San Francisco, and it was largely through his effort that a city planning scheme was initiated. When Mr. Burnham came out here to work out a scheme, Mr. Polk became his able assistant. He introduced a scheme for the improvement and beautification of lower Market

Street in connection with the Ferry Building, but the scheme was never carried out. Perhaps it can be better appreciated in what high regard he was held when we learn that he was Chairman of the Executive Council and afterwards Chairman of the entire Architectural Commission of the Panama Pacific International Exposition. At the time of his death he was working upon one of the two buildings of the War Memorial group to be located in the Civic Center, the one which is to house



WILLIS POLK

the Municipal Theatre. While living in New York City some years ago, he was partly instrumental in organizing the New York Architectural Club.

While Willis Polk designed many prominent office buildings and homes of well known citizens, he seemed to think that the Water Temple on the property of the Spring Valley Water Company at Sunol was his best work. The photograph I send (see page 424) does not adequately convey its beauty.

BERNARD R. MAYBECK.

HIGH BUILDINGS—AN AMERICAN VIEW*

BY LEWIS MUMFORD (of Brooklyn, New York)

I HAVE been recently looking through the report of a discussion on high buildings for London; and I am happy to see how sensibly most of the members of the R.I.B.A. treated the matter, and how sympathetic they were to Raymond Unwin's accurate criticism of the conditions the high building has created in America. The history of the American skyscraper has been dealt with so misleadingly by all sorts of amateur investigators and special pleaders that perhaps a glimpse of its real history would serve to aid Londoners in their discussion of the problem, although it seems to me that the last word on its economic and social defects were spoken by Mr. Unwin in the paper to which I have referred.

So cloudy have been our notions as to the skyscraper's reason for existence that a distinguished American geographer, Ellsworth Huntington, has even attributed the growth of the high building in New York to the narrowness of Manhattan Island; whereas it is plain to anyone who troubles to consult contemporary maps that there never was any physical lack of building space on Manhattan Island during the years when the skyscraper was undertaking its first timid flights. The exciting cause of the high building was the discovery, during the 'eighties, that the ground rent of a plot increased in value in proportion to the height of the building erected thereon. This discovery was not exactly new; but the means of profiting by it were new, for it was not until the passenger elevator—first used in a tower adjacent to the Crystal Palace in New York in 1854—was invented that it became possible to build upwards without restriction.

Even before the steel cage was used instead of the supporting wall, buildings of masonry were put up in Chicago to the height of fifteen stories. The development of the skyscraper was, however, greatly facilitated by the use of structural steel beams; for the new lightness and thinness of wall, which this construction permitted, made it possible to erect skyscrapers on very narrow lots; and furthermore, placed practically no limit upon the height to which the building might go, except that set by the character and depth of the foundations. There is no need to go into the notorious defects that resulted from the growth of the skyscraper in America, particularly in New York and Chicago: it is much more important to realize that these defects are inseparable from any ad-

vantages that the high building may offer. I note that there are sanguine people in London who fancy that it is possible to have high residential buildings surrounded by open spaces and gardens; they even talk as if the problems of housing might be solved on a grand scale by erecting such buildings; but these are paper illusions!

Once a high building is erected the land about it automatically becomes too valuable to be used for gardens: the carrying charges for such idle land are so great that it must be speedily turned over to building. This in fact is what has happened repeatedly in the outlying sections of New York when, to attract tenants to their high apartment houses, the landlords have surrounded them with playgrounds and tennis courts. The economic paradox is that open spaces can be conserved in great quantities only by spreading the buildings out over the land and keeping low the number of persons per acre; once the population is concentrated in tall buildings, the surrounding open spaces are doomed to disappear.

Visitors to New York may attempt to refute this notion by pointing out the new apartment houses on Park Avenue, where the great internal court is a garden; unfortunately the cost of these apartments offers no index as to what must happen to the community at large when it attempts to live in such a style, or rather, it points to the fact that without a Park Lane income it is quite impossible to apportion open spaces on this scale. That the view from tall buildings is frequently glorious, that an apartment or an office thirty stories above the ground is as salubrious as an aerie or a Swiss Kurort, and that the skyscraper itself may be an aesthetic success—all these views are true but, alas, narrow. They neglect the fact that one must judge the achievements of the high building from the base rather than from the pinnacle, and from this point of view it is neither a social, an economic, nor an aesthetic success. A single tall building may be a monument; a nest of tall buildings destroys the sense of scale and blots out the approach to any one of them, and this is what has happened in the Grand Central district of New York, in spite of zoning and heights of buildings regulations. In less than six months after its erection the excellent Shelton Hotel, for example, has been completely hidden by other skyscrapers; and in another part of the district, the same thing has happened to the Bush Tower, which once stood in solitary glory.

*Reprinted from *The Architects' Journal* of London.

As for the effect upon the life of the community that has been caused by the congestion of the workers in great lofts and offices during the day, and in dismal, distant dormitories at night, the waste of energy, time, and human strength has been so great that it practically robs the urban worker of the benefits that he might otherwise have derived from the eight hour day and a living wage. I say nothing about the vast expenditure of coal for transportation and for artificial light; nor about the increased cost of fireproof construction and fire prevention devices like the automatic sprinkler; but it should be obvious that the visible quantitative losses from this intensive form of congestion could be readily treated in dollars and cents. Moreover, it needs no very shrewd eye to see that New York is rapidly approaching the point where, as in Imperial Rome, vehicular traffic will be prohibited from its principal streets during the day; where, in spite of numerous man-sewers, called subways, which have been provided for the plebeians, the transportation system will be no longer adequate to its daily load. To build a sufficiently great recreation area which shall be accessible to this concentrated population is even now impossible, and the more high buildings are erected the more remote the possibility becomes.

But why, says the Brighter and Higher Londoner stubbornly, should we not enjoy the high

building without suffering from its defects? The answer is plain: it is much simpler to decentralize the population, and to build new centers of commerce and industry, than it would be to readapt the existing city to high buildings. If new enterprises must find a place in London, it is much simpler to provide for the steady exodus of the older industries to garden cities and villages than it would be to attempt to make room for everybody in a city that is already overcrowded. The problems of congestion occasioned by the high buildings are so huge that in New York Clarence Stein, the Chairman of the New York State Commission on Housing and Regional Planning, has publicly stated that he sees no way of solving them without instituting a thoroughgoing policy of industrial and regional planning, which will deliberately colonize and restore the countryside and at the same time depopulate, to a degree, the metropolis itself. London's city planning problems are already huge enough, it seems to a sympathetic American, without assuming the additional burdens that the high building will carry with it. As Mr. Unwin has well said again and again: There is nothing gained by overcrowding! In America we are just awakening to this fact, and we hope it will not sound too familiar to the Londoner to have any effect. The debacle of Regent Street is a bad sign, but we trust it is not a harbinger of worse to follow.



WATER TEMPLE, SUNOL, CAL., WILLIS POLK, ARCHITECT

EDITORIAL COMMENT

THE HOUSING SHORTAGE, particularly as relating to large cities, has since the great war, been the cause of a most decided change in the domestic lives of urban dwellers. It is within the last five years that the apartment house hotel has seen its greatest development. This type of building, ranging from its original form of two rooms, to the larger and more pretentious suites, is being erected in most large cities in constantly increasing numbers, and is in successful operation in most instances.

The latest development is a type similar to the Lake Shore Drive Hotel in Chicago, illustrated in this issue, where the hotel and the apartment house hotel, the transient and the permanent dweller, are housed in one large group, planned to provide conditions of comfort and convenience for each type of occupant. To provide these essentials, many ingenuities of planning have been evolved. A study of the plans of these buildings becomes as interesting, and perhaps more important than the features of their designing.

In the elements of decoration and furnishing are presented some problems of more than usual interest. Unfortunately we have yet to overcome the tendency toward flamboyancy in the interior design of hotels. The average hotel guest seems to favor, to patronize more largely, the hotel where the surroundings provide novelty and decided change from the home atmosphere.

There can be no doubt that the composite taste of our travelling public needs refinement, and perhaps a good way to impart it would be to educate the people who crowd our hotels, by simpler and better elements of design. But hotels, like theatres, are only successful when they "give the people what they want" and until a means is found to make the people "want" what they should have, we shall expect but little change in hotel interior design.

Perhaps no class of building erected in New York during recent years better shows what zoning regulations have done to improve the aspect of the city skyline than these towering structures, where "set-backs," complying with the zoning law, have provided opportunities of which architects have been quick to avail. The accessories of penthouses and the sprinkler tanks find natural cover in these step-like progressions and the effect is one that is beginning to impart a most desirable and artistic aspect.

IN AN ARTICLE, Advertising and the City, by H. V. Lanchester, reprinted in this issue from *The Architectural Review* of London, the author regards as pathetic that after an architect has given all he has in the designing of a building's façade, it should become "a mere scribbling block" for advertising the client's business.

We are fortunate in this country as to disfiguring signs on buildings of the newer and better types, and while we have small reason for complaint there are exceptions which serve to irritate the man on the street who takes his architecture seriously. The newer buildings erected in shopping districts are notable examples of freedom from disfiguring signs. In fact, aside from the occupant's name,—as a rule treated structurally as part of the design and inconspicuously placed,—there are no signs. These large firms, it is gratifying to note, have learned the true commercial value of good architecture, and do not seek to disfigure their buildings. A regrettable omission is that of street numbers. This results in much loss of time in locating a given address and it is a matter that might properly be taken up and corrected by city authorities. Like Emerson's often referred to "mouse trap man," these large firms wish to infer that it is not necessary to identify their buildings by signs and placards and that their widespread reputation and the excellence of their wares have taught the world to "make a path to their doors."

London, as stated in an earlier issue of *THE AMERICAN ARCHITECT*, is striving to increase the artistic value of its display advertising. The disfiguring posters displayed in the "underground" are being replaced by better ones, designed by artists of reputation. Some examples accompany the article. But there is decidedly room for improvement.

The Fifth Avenue Association in New York has worked to good purpose along that thoroughfare. There are few, if any, disfiguring signs on the Avenue buildings. Contrast the appearance of the Fifth Avenue busses with the advertisement-covered trams that ply on London's principal thoroughfares.

There is much yet to be accomplished in the matter of display advertisement out-of-doors and on the printed page. But the past decade has worked a very decided change and conditions are gradually improving.

There certainly is intimate relation between ad-

vertising and art, and it is becoming closer each year. As the client is coming to realize that he must have his building fully as good as, if not better than, his wares, so is the advertiser learning that if he is to attract attention to the thing he wants to sell, he must present his "story" in a dignified and artistic manner.

This matter of advertising procedure is becoming a good method of artistic education of the people. It may come to pass that the display of advertising will have one of the best influences in our aesthetic development.

* * *

CORRESPONDENCE

AND, AGAIN PRECEDENT

OSWALD C. HERING, A. I. A., REPLIES TO MR. POND

To the Editor,

THE AMERICAN ARCHITECT:

YOUR editorial of July 30, approving the suggestion of the *Herald-Tribune*—of how to preserve the Madison Square tower—and Mr. Boring's able address "What is Precedent doing to American Architecture," quite naturally have gotten under Mr. Pond's skin. You can't expect a Republican to hold the same political opinions as a Democrat, or that Morgan would get chummy with Trotsky or that *escargots farcis* could supplant ham and eggs as the most popular American dish.

Mr. Pond draws a column—not a classic one—Heaven forbid—a typically modern one, in print, of analogy between literature and architecture and then asks "Is there need to press it further?" Well, to be quite frank, "No." Because as a matter of fact there is no analogy—and pursuing it one gets as far away from the subject as one does in endeavoring to extract the square root of zero. Our best American architecture has not been made, as Mr. Pond infers, "by piecing borrowed parts into a highly academic composition," and plagiarism in architecture is justified, as it is in sculpture, when the purpose is educational. It would be just as proper, for example, and a mighty sight more effective, to build a full size reproduction of the Parthenon in Central Park, and put it to work as a picture gallery, than to exhibit it indoors, piecemeal, or in the form of tiny models. The world, fortunately, is full of good reproductions of masterpieces of painting and sculpture.

Where would American architecture be today if we had not had McKim and White and Bacon? We had Richardson and Sullivan—and we still have Pond and Frank Lloyd Wright—but the reason that America stands at the head in architectural accomplishments today is because of influences such as the classics at the Chicago Fair, and McKim's Roman railroad station, and White's Spanish tower. These buildings developed in the American people a sense of taste—good taste—in architecture. Seeing is believing (should I use quotes?) and the shrewd American business men soon saw that good taste pays and they now demand it even for their business buildings. So we were given the Gorham Building and the Bush Terminal Building and a thousand others that combine beauty with the practical. I can't recall whether or not I have seen the spirit of architecture sculptured, but I picture a dominant central figure flanked by two others representing precedent and good taste. There was nothing to suggest that originality in design is of prime importance. Architecture which expresses the function of the object, which exhibits a logical employment of the material used, and which offers a pleasing proportion of light and shade, is good architecture whether it is "original" or not.

Mr. Pond gets down to "brass tacks" when he says that ferro-concrete cannot be used to express architecture in the same way that one uses stones and bricks. I wrote pages about that in "Concrete and Stucco Houses," published fourteen years ago. And when Professor Boring comments on the misfit of a French room in an American home, and says that Greek art reached its highest expression in the time of Pericles, and suggests that danger lurks on the outskirts of originality and that following precedent "brings us back to good taste after the aberrations of those newly discovered American styles which bob up now and then," I hastily turned the pages of my new book "Economy in Home Building" (Mr. Pond advertises *his* book, so why shouldn't I mine?) to find practically the same words. The facts are that I was writing my book at the same time that Mr. Boring was preparing his address, and both writings went to press about the same time—mine in March. The question is now—will Mr. Pond accuse Professor Boring of plagiarizing—or will he accuse me? Very possibly—both. For neither of us wrote anything particularly new. We merely wrote the truth!

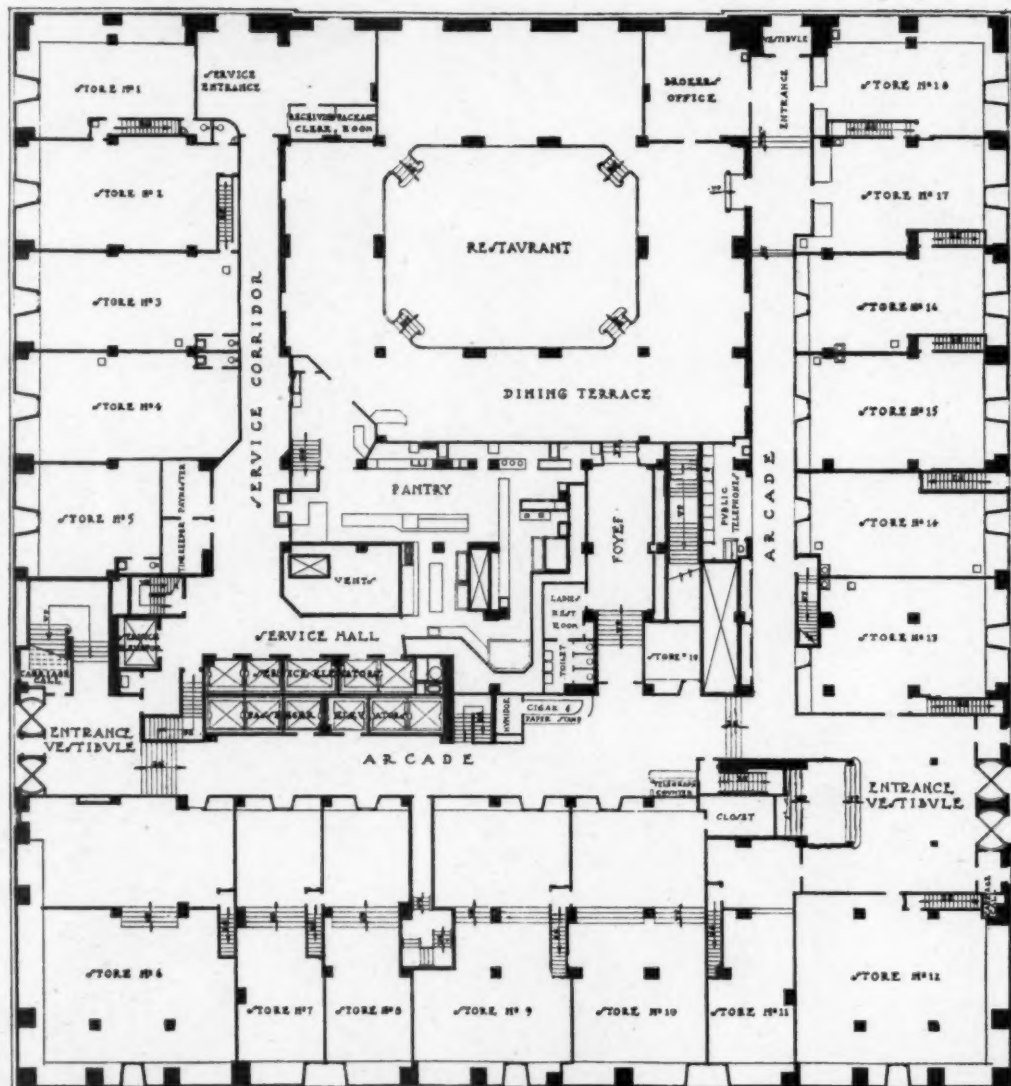
(Signed) OSWALD C. HERING



VANDERBILT AVENUE FRONT
THE ROOSEVELT, NEW YORK
GEORGE B. POST & SONS, ARCHITECTS

(See plan on back)

THE AMERICAN ARCHITECT
November 5, 1924. Plate 145

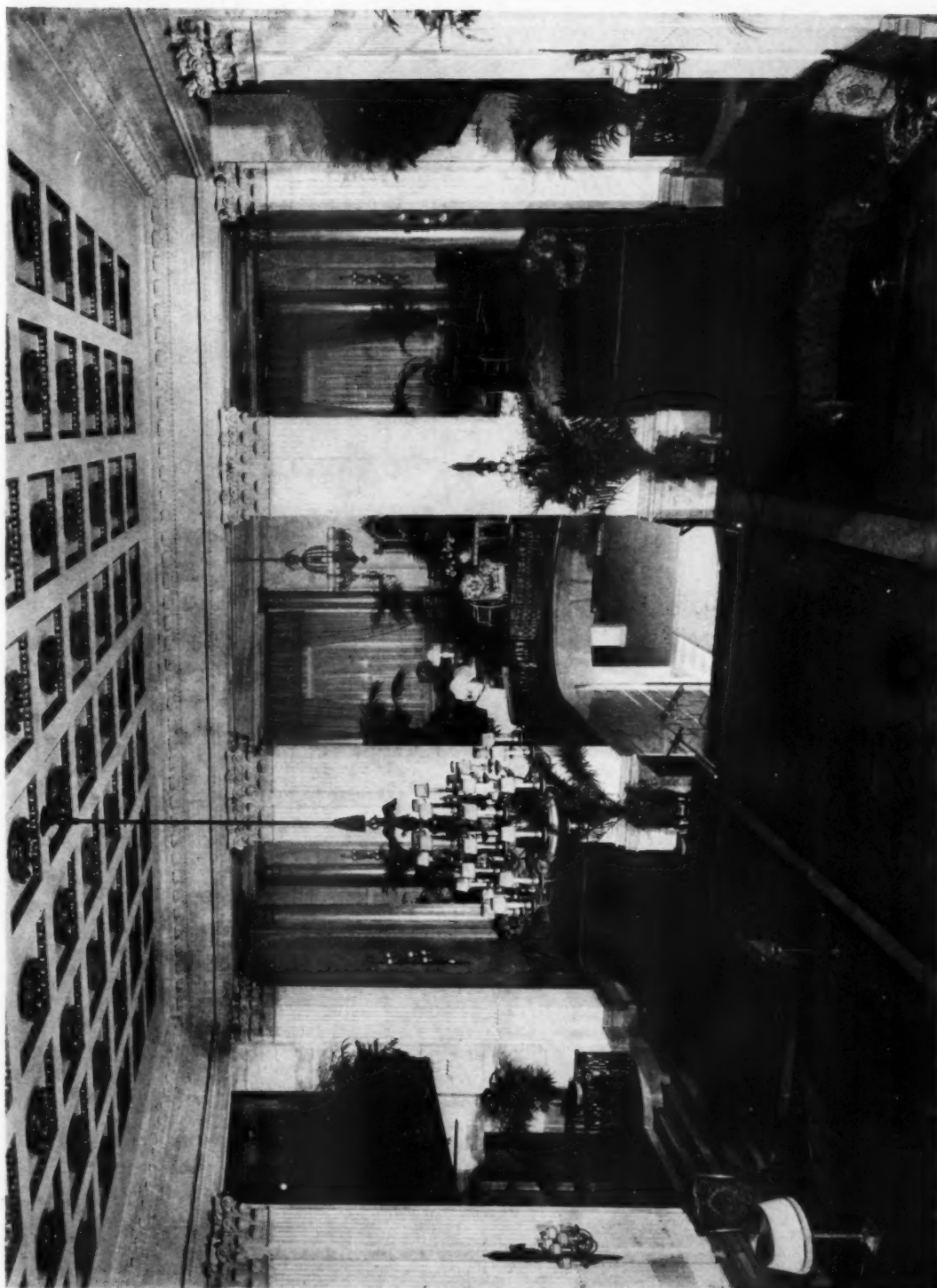


GROUND FLOOR PLAN
 THE ROOSEVELT, NEW YORK
 GEORGE B. POST & SONS, ARCHITECTS



VIEW LOOKING NORTH ON MADISON AVENUE
THE ROOSEVELT, NEW YORK
GEORGE B. POST & SONS, ARCHITECTS

(See plans on back)



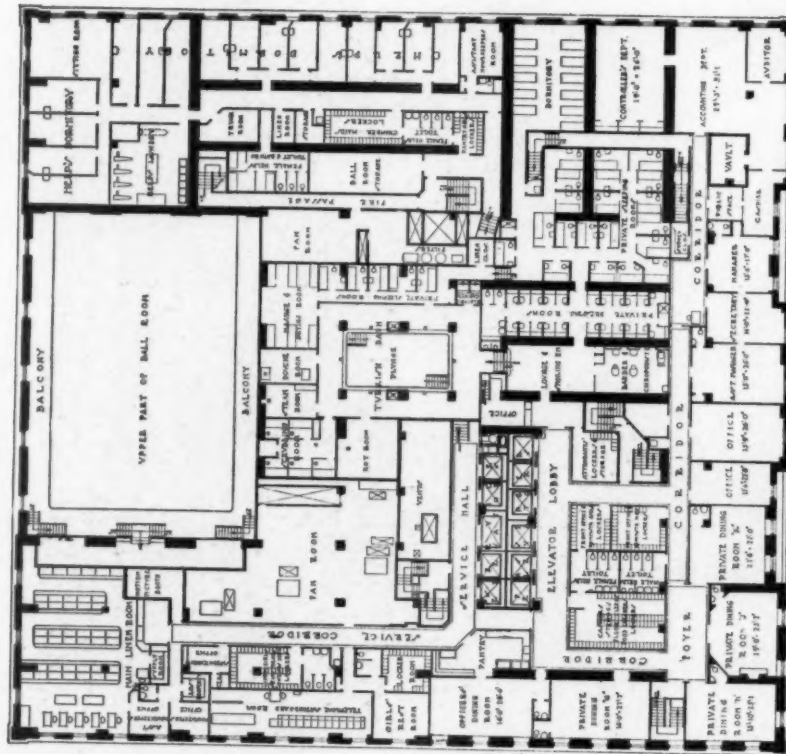
MAIN LOBBY, LOOKING TOWARD MADISON AVENUE

THE ROOSEVELT, NEW YORK

GEORGE B. POST & SONS, ARCHITECTS

(See plans on back)

THE AMERICAN ARCHITECT
November 5, 1924. Plate 147

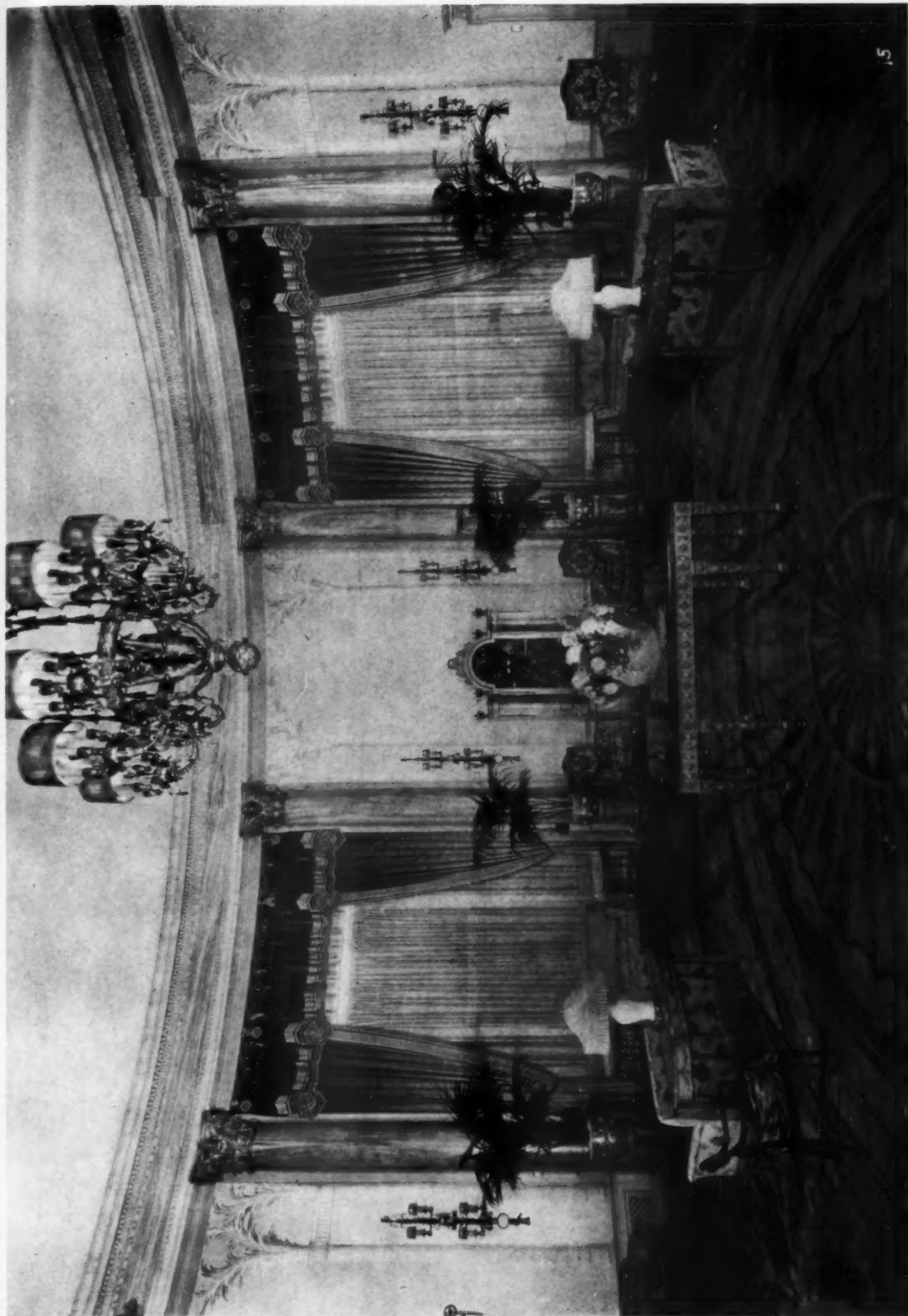


SECOND FLOOR PLAN



TYPICAL FLOOR PLAN

THE ROOSEVELT, NEW YORK
GEORGE B. POST & SONS, ARCHITECTS



PALM ROOM
 THE ROOSEVELT, NEW YORK
 GEORGE B. POST & SONS, ARCHITECTS

THE AMERICAN ARCHITECT
 November 5, 1924. Plate 148



BALLROOM

THE ROOSEVELT

GEORGE B. POST & SONS, Architects

The first capital New York Hotel under the zoning laws

BY MORGAN G. FARRELL

WHEN the new Hotel Roosevelt was thrown open to the public in September and the stream of guests and visitors began to flow in and take possession, the last stage in the solution of a unique building problem was finished.

About two years ago the owners commissioned the architects, George B. Post and Sons, to design a hotel building to be erected on the block between Vanderbilt and Madison Avenues and Forty-Fifth and Forty-Sixth Streets in New York City. The block is in the zone north of the Grand Central Station owned by the New York Central Railroad whose yards on two levels extend beneath the entire area from Lexington Avenue to within a short distance from Madison Avenue.

The substructure of the yards has been designed to carry the streets and avenues as well as the superstructure of buildings to be erected over the tracks. The class of buildings is restricted to hotels, apartments, office buildings and others of a public or semi-public character. The design must be in keeping with the requirements of a general plan prepared by the architects of the railroad when the new Grand Central was built.

Obviously the spacing of the steel columns in the railroad yards was governed by the layout of the trackage, with the requirements as supports for the vertical members of buildings, to be erected upon them in the future, an important but secondary consideration. Any building operation in this area is subject to the inspection and supervision of the railroad, since the safety of its passengers and the free movement of its thousand trains a day must be insured. Moreover the buildings to be erected must be insulated as far as possible from the adjacent steel members of the street supporting structure and must be cushioned where they rest on the steel foundation columns so that the vibration of the substructure may not affect the building, nor be limited by the weight of it.

There is no elasticity in this stage of the problem. The railroad's requirements are necessarily fixed and must be met.

Since the Roosevelt was to extend quite to Madison Avenue, about two-thirds of the ground floor area would be supported by the steel of the yards and the remaining third would rest upon new footings to be excavated from solid rock. Here was an engineering feat of the first magni-

tude: to plan a structure whose aggregate calculated live and dead load would total five hundred and sixty thousand tons upon a base, part of which was unyielding rock and the rest steel subject to continuous and violent vibration.

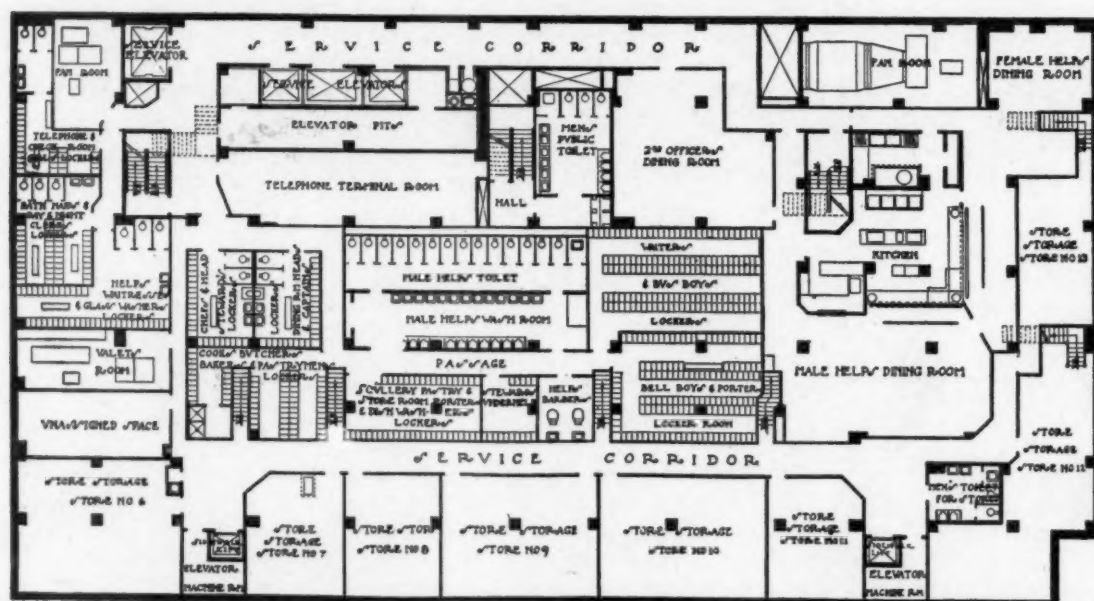
But the architectural, engineering and economic problems are so interlocked that a general view of the whole is necessary before considering the means by which each was solved.

We have reviewed the conditions at the site. Upon such a foundation the hotel must be reared. What other restrictions are to be met? First: the height is limited to about twenty stories by the property restrictions. Second: the floor area must taper away toward the top as none of the

ing. However it might be shaped in plan to provide daylight exposure to all the chambers on the room floors, the cubic contents of the hotel would still be confined by the restrictions mentioned.

Another decisive factor working toward the same end was the high cost of building. A cubic foot of fireproof hotel cost somewhere in the neighborhood of sixty cents. If the other factors had not set bounds to the hotel's volume, the cost would effectually have done so.

The economic question considered by the owners, then, could be stated about like this: "We can have some twenty-three stories of building including basements and mezzanine, aggregating



FIRST BASEMENT FLOOR PLAN

surrounding streets are very wide and the municipal zoning ordinances will require such "set-backs" that the upper stories may be reduced in area to an extent which would make them unprofitable. Third: there is no counting upon going down below grade to gain volume for the possible basement area is not very extensive to begin with—about one-third the amount usually available—and moreover the bottom is rock. Besides a multiplicity of lower levels is economically out of the question since communication with upper levels is almost invariably maintained by running up and down stairs, to the neglect of the elevators. And there is a limit to the number of flights of stairs employees willingly traverse.

Thus to begin with there was a severe limitation of the maximum displacement of the build-

ing. However it might be shaped in plan to provide daylight exposure to all the chambers on the room floors, the cubic contents of the hotel would still be confined by the restrictions mentioned.

In that form the problem was turned over to the architects for solution. As it was finally worked out the apportionment of the space was about as follows:

Third Sublevel:
(20,000 sq. ft.)

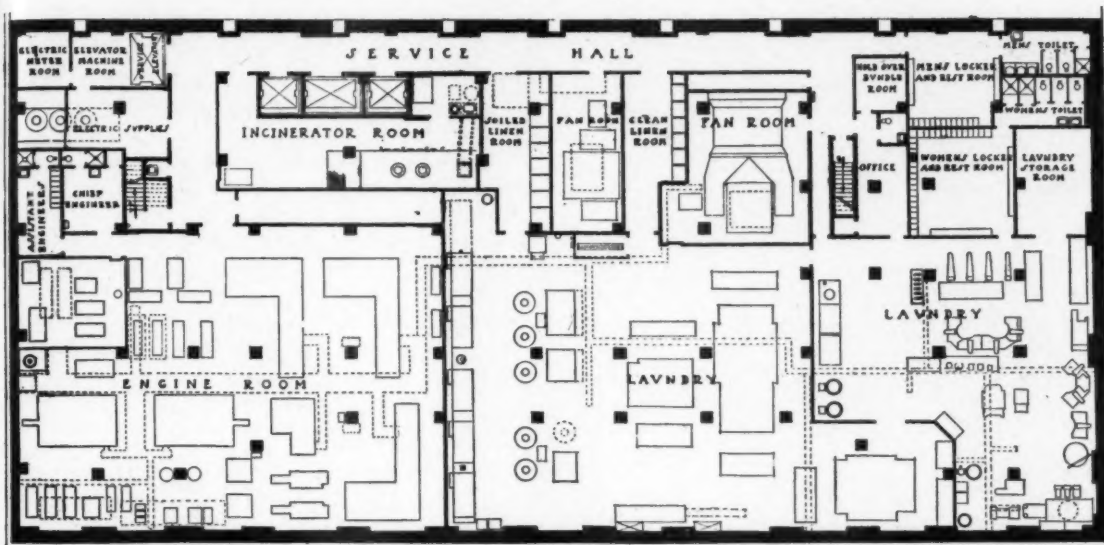
Second Sublevel:
(20,000 sq. ft.)

First Sublevel:
(20,000 sq. ft.)

Engine room, incinerator room, laundries, fan rooms, etc.

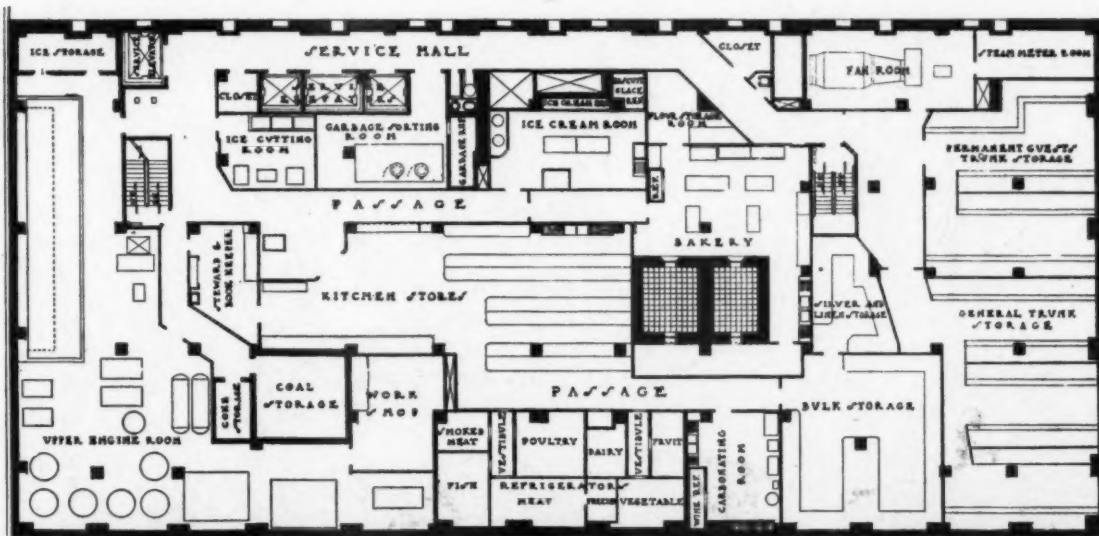
Ice making, storage, etc., food storage, trunk and bulk storage.

Shop storage basements, help's dining, locker and toilet rooms.



THIRD BASEMENT FLOOR PLAN

- | | | | |
|--------------------------------------|---|--|---|
| Ground Floor:
(42,000 sq. ft.) | Shops, restaurant and pantry. | Second Floor
(Continued) | private dining rooms, and Turkish bath. |
| First Floor:
(42,000 sq. ft.) | Lobbies, lounge, palm room, dining and breakfast rooms and main kitchen. | Third to Eighteenth Floors:
(433,000 sq. ft.) | Chambers. |
| Mezzanine Floor:
(30,000 sq. ft.) | Balcony lounge, barber, beauty parlor, ball, banquet and private dining rooms and pantry. | Nineteenth Floor:
(14,000 sq. ft.) | Paint, carpenter, print shops and bedrooms for female help. |
| Second Floor:
(37,000 sq. ft.) | Executive offices, help's dormitory, linen rooms, | On the third floor are also located the roof-garden and ventilating fans for the upper structure. The available area of the mezzanine is reduced by the clear story area of the lobby, dining and palm rooms and the second floor by the upper part of the ballroom. | |



SECOND BASEMENT FLOOR PLAN

A tabulation of these areas as productive and non-productive of revenue, is as follows:

	Total Area	Productive	Non-Productive
Third Sublevel	20,000	6,500	13,500
Second Sublevel	20,000	6,000	14,000
First Sublevel	20,000	6,000	14,000
Ground Floor	42,000	34,000	8,000
First Floor	42,000	24,000	18,000
Mezzanine Floor	30,000	24,000	6,000
Second Floor	37,000	10,000	27,000
Third to Eighteenth Floor	433,000	333,000	100,000
Nineteenth Floor	14,000		14,000
Total	658,000	443,500	214,500

That is, about 69% of the total floor area produces revenue while 31% is absorbed by indirectly productive or non-productive departments, including also the elevators, stairways, corridors, fan rooms, etc.

Of course, the revenue areas vary considerably in annual income. A bedroom containing 200 sq. ft. if rented every day for a year would bring in \$7 per sq. ft. while a shop 40 ft. x 60 ft. might rent for \$12,000, bringing in a certain \$5.00 a sq. ft. Or a lobby concession as a cigar stand renting for \$6,000 might occupy some 100 sq. ft. at \$60 a sq. ft.

In outline the architects' solution included the following salient and novel features:

(a) The assignment to upper floors of departments usually confined to the subgrade levels such as the kitchens, barber shop and beauty parlor, Turkish bath and dormitories, help's quarters, repair shops and mechanics' rooms and so on.

(b) The assignment of the entire floor at grade to shops on three street fronts, the remainder being devoted to a restaurant, brokers' offices, etc.

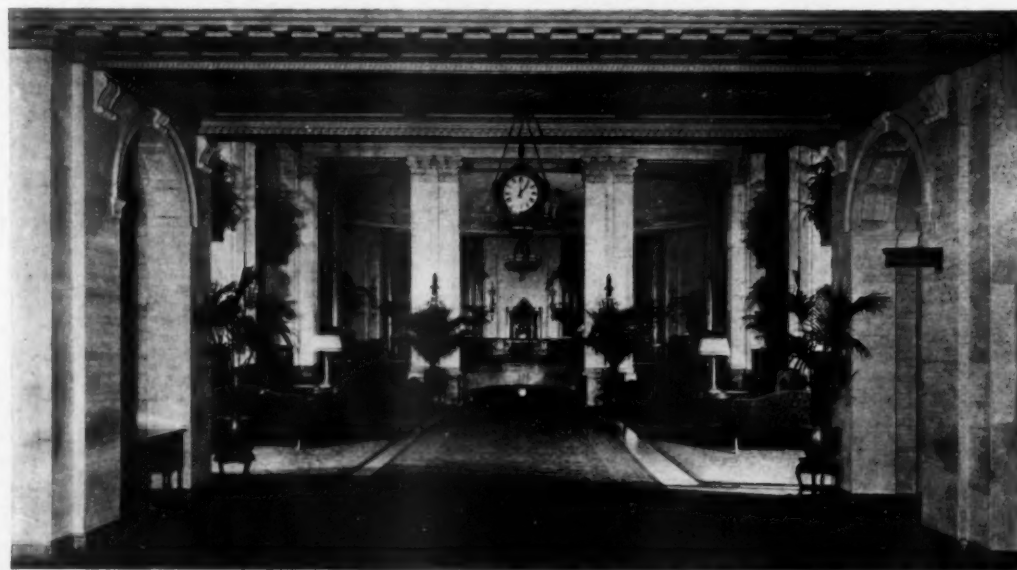
(c) The utilization of the truss floor above the clear spans of the lobby, palm, dining and breakfast rooms in part for the executive offices and other non-productive departments as well as for revenue.

(d) The reduction of the floor heights by ingenuity of design in the room section of the hotel.

The first item was less a matter of choice than necessity. On account of the limited basement area the departments mentioned had to be placed elsewhere. In point of convenience the main kitchen, for example, is strategically better situated on the first floor than in the basement, for it is in a central position with the dining and breakfast rooms on either side of it, the restaurant below and the banquet and private dining rooms above it. Thus food can be prepared or partly prepared in the main kitchen and finished and served from the pantries on the ground and mezzanine floors.

Certain utilities such as the barber shop, beauty parlor and Turkish bath are more pleasantly and conveniently situated on an upper floor than in a basement. So are executive offices, dormitories and other quarters of the staff. The assignment of the top story or penthouse to repair shops is open to criticism. They are too far from their control officer, the chief engineer, from the material receiving room, and from the parts of the hotel where the demand for repairs would be greatest. Moreover the roof garden possibilities are sacrificed.

The shops are among the few departments which really belong in the subgrade regions. Others are the power and ice plant, food and



MAIN LOBBY. LOOKING TOWARD MADISON AVENUE

other storage, laundries, and employees' locker rooms.

The decision to assign the entire first floor to shops and a restaurant marked a frank acceptance of the new order of hotel economy. Hitherto the shops have been rather shamefacedly tucked away as far out of sight as possible. It is interesting, therefore, to find an entire floor built for the sole purpose of income from a source quite foreign to the hotel function. As a result the stores are well arranged and spacious. Some of them have storage basements below, and all of them face on one of three street fronts. Nearly all of them also open on the interior arcade, an advantageous provision, since the tunnel connecting the hotel with the Grand Central Station terminates in the arcade.

Another conspicuous example of space efficiency is the second floor layout. The lobby floor is so laid out that all the main rooms have clear spans, so that the steel framing over them consists mostly of big trusses framing in both dimensions. When this section of the steel cage was going up it was difficult to see how the space between trusses could possibly be used for anything but storage, as it usually is. In operation, however, this space is actually more efficiently assigned than would have been thought possible. The trusses are built into thick partitions with openings where the diagonals permit; and the floor itself houses the executive offices, Turkish bath, help's dormitories, linen room, fan room and a multitude of small, special departments.

When the question of reducing first cost was being considered, a very radical step was determined upon. It was to reduce the floor to floor height to 10 ft. 2 in. throughout the room stories. To retain a clear room height of 8 ft. 2½ in. called for keen ingenuity in the structural design. The next section describes how it was done. As the floor height in other hotels is usually 11 ft. to 12 ft. the overall saving was at least 20 ft. in the height of the hotel or 600,000 cu. ft., nearly ten per cent of the total volume.

The determination of the fixed space factors having been made, the next stage in the development of the plans was put up to the engineers. It will be noted that the several steps on the way to the finished product were wisely and logically



DETAIL IN THE LOUNGE

handled. The steel structure was designed *next*, not after the general plans had been finished.

Perhaps the railroad's officials expected builders to take the underground column layout and carry it on up, fitting the building around it the best way they could. The architects of the Roosevelt did nothing of the kind. They had long since worked out a modulus, or floor unit for hotels of this type and they intended to stick to it. The unit, which is flexible according to requirements, is a square including two rooms, their baths and wardrobes. The steel columns in general are at the corners of the room section of the square. The girders are run parallel to the corridors. Both columns and girders are built into partitions so that the clear height of the room is not affected by girders projecting into it. Moreover all the floor beams are of the same depth and frame across the building. Thus the panel between the girders is of uniform height throughout, giving perfect freedom of location to the inter-room partitions. And the clear height of 8 ft. 2½ in. has been maintained.

So the co-ordination of the room and structural layout determined the column spacing of

the superstructure; and while the railroad layout had to be considered it was not permitted to govern. As the upper columns terminated at the trusses over the lobby floor, the supports of the latter were not necessarily in line with the upper tiers. In spite of the compromise so effected, a grillage of plate girders had to be set upon the railroad steel upon which the superstructure was erected.

It so happened that the Vanderbilt Avenue wall was four feet outside the last row of supporting columns. This wall and the overhanging floor areas are carried on cantilever brackets at each floor level, the whole construction being

which run up seventeen stories above their top chords. They are about fifty feet long which means that two columns rest upon their chords. One of the trusses carries a load of 1,500 tons. The construction at the set-backs is standard. The set-back columns rest upon girders at the level where the change occurs.

It goes without saying that the whole steelwork layout is special, heavy and expensive. Considering the floor area, 660,000, the total weight of steel is out of all proportion. It is in fact, 10,000 tons, about 30 lbs. per sq. ft. an unusually high figure. The highly special nature of the structure with the great proportionate tonnage of



THE LOUNGE

essentially two rows of columns, close together, the outer or overhanging row being supported at the base by a heavy, inclined strut and at each floor level by connecting members, both of which were riveted to the inner or direct row of columns.

Except for the connections to the yard columns the structure of the hotel is completely insulated from the rest of the yard or street structure. Also all its columns rest upon lead pads. The purpose is to prevent the mutual reaction of vibrations in one structure or the other, as well as to eliminate a too great rigidity. On account of the part steel, part rock foundation, the hotel structure must be permitted to yield.

The trusses at the second floor level are of interest in that they support the bases of columns

trusses and plate girders increased the unit erection cost considerably beyond the normal figure for more nearly standard buildings of equal volume. It is said that the maximum carrying strength of a single column was 2,000 tons, 25% greater than the corresponding load on an average column of the Woolworth Building.

Among other features of interest to the engineer is the power plant. Many of the buildings in the same zone are built entirely over the tracks and hence have no basements at all, so that there is no roof for a power plant. In such cases steam for heating and electric power for elevators, other motors, lighting, etc., is purchased from the railroad. In the Roosevelt the engineers elected to purchase high pressure steam only and to in-

stall steam-driven engine generators, ammonia compressors and auxiliaries. The exhaust of these units is used for the building heating system, hot blast systems and in the kitchens, laundries and Turkish bath wherever low pressure steam will serve. It is calculated that the electric power costs less when generated in this manner than it would if purchased direct.

The architects' problem, it will be seen, was to offset the high cost of the structural layout and the limitation of volume by a high efficiency of income-producing space utilization. In addition they were obliged to satisfy the decorative requirements of a high-class hotel with minimum expenditure. That they succeeded admirably in the first is apparent from the accompanying illustrations. A careful analysis of the means used to produce the effects indicates that they were equally successful in the second.

The selection of the Colonial style of architecture with its chaste and simple ornament helped to solve the problem not only for the permanent structure but for the furniture, hangings and fixtures as well. In the public rooms the solution resolved itself into the proper treatment of flat surfaces. There were no columns or projecting girders and floor beams to consider. The structural scheme had eliminated them. Each large room presented only its four walls and ceiling. The desired effect must be attained by applying ornament to these and by the thoughtful handling of the openings.

The architects have therefore drawn freely upon the fine old mansions of the South of the late Eighteenth Century for detail, with happy effect. The discriminating beauty of the ballroom is an example. It is altogether Colonial in feeling; and may well be so since every detail is authentic. The ceiling detail is from Kenmore in Virginia, the iron balcony rail from an Adam design, the cornice from the Brewster House in Charleston and the windows from the Chase house in Annapolis.

Of equal fidelity to the original models are the other public rooms: lobby, palm room, dining rooms and lounge. They all reveal the certain touch of designers working in their own element.

It is all a refreshing relief from the uncertain if not utterly meaningless detail not uncommon to hotels. Finally the design is so deftly accomplished that the most casual and unanalytical visitor feels its influence as he enters the lobby.

The furniture and furnishings are chosen with the same taste. In the palm room the furniture is of the Adam period, in the dining room it is of modified Chippendale and in the lounge it is of the William and Mary Colonial type. The photographs illustrate the effect achieved.

With the economic requirement in mind the

decoration of the private rooms has been executed with the same note of simplicity and taste. The more pretentious apartments are furnished in purely Colonial style, with corresponding furniture, flowered paper, chintz hangings, four-posters, glass night lights in the old model and so on. The average room has tinted walls with light, molded panels, narrow metal trim painted to match the walls, kalamein doors with walnut or mahogany finish and furniture of the period. Radiators are of the less obtrusive wall type which have the additional advantage of leaving the floor beneath clear for easy cleaning.

Passing generally over the building there are some novel conveniences which merit notice. The public telephone booths, for example, are connected to the general ventilation system, thus eliminating the customary heat treatment of Summer patrons. There is a nursery where children may be left in charge of a qualified guardian in the absence of parents. For those whose parental instincts evaporate in a predilection for Pomeranians there is a kennel, the first of its kind, where the animals may associate with their equals for a change.

The terraces formed by the set-backs which the building ordinances require, are devoted to good use, for the rooms opening on them have French windows for egress and are reserved for semi-permanent guests. The terraces are divided off by wood grilles, are set with growing plants, and furnished with bright colored awnings, wicker chairs and tables and floor coverings. They serve admirably as private porches for the adjoining rooms.

In connection with the Turkish bath there are fifty small sleeping rooms. Though a well known feature of bath establishments, this is an innovation in hotel practice. It provides a slight reservoir of extra rooms during rush periods when the regular rooms, (numbering 1,000) are occupied.

On the third floor is a hospital suite including separate waiting rooms for help and guests, treatment room, rest rooms and doctors' apartments.

There are a few suites with drawing room, dining room, three bedrooms, maid's room, dressing room and pantry.

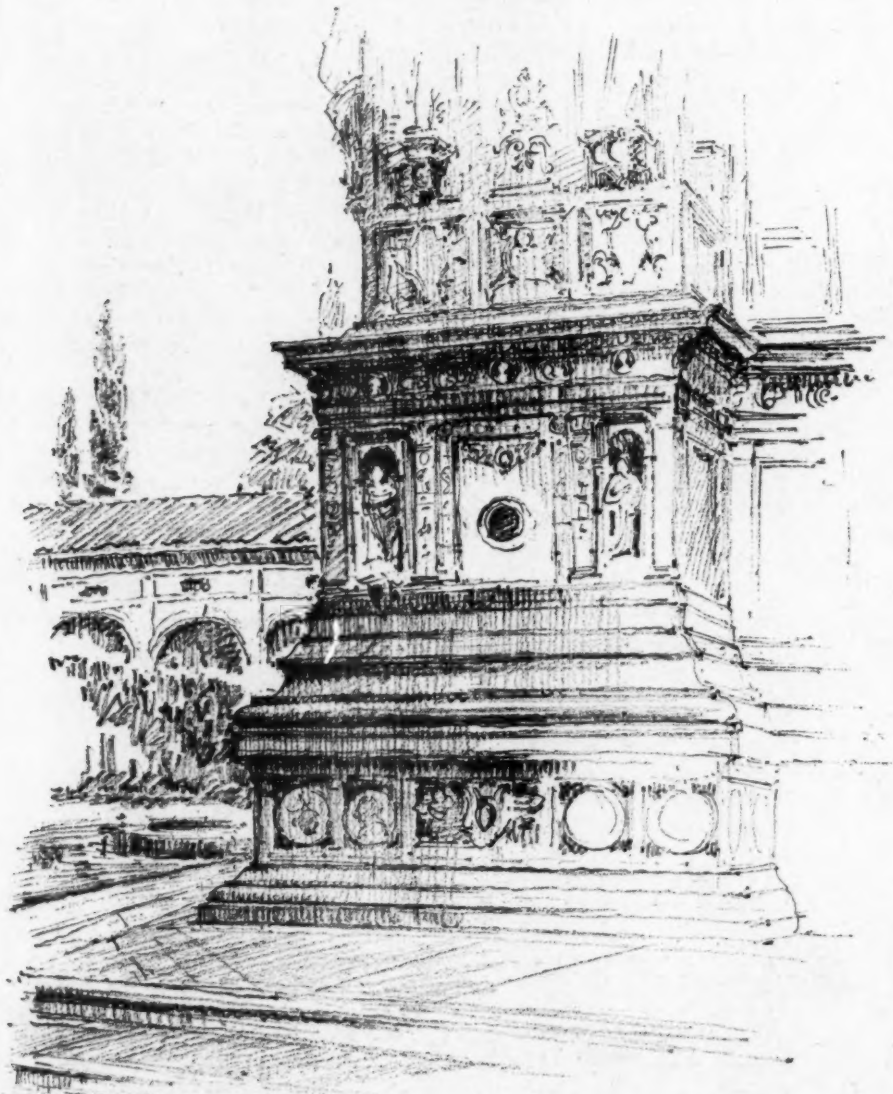
An interesting novelty is the telephone typewriter equipment for transmitting messages to floor clerks or the several hotel departments. This is a recording apparatus similar to the telautograph but recording in type instead of handwriting.

It is quite conceivable that the plan of a hotel whose volumetric capacity was so closely restricted and whose total equipped cost was so great (\$12,000,000) could have led to the construction of an unproductive building, under less capable handling.

Those who are skilled in such matters may satisfy themselves that the Roosevelt has been developed as a paying investment by estimating the income from rooms, public and private dining rooms, stores, concessions, laundry and all the various services. It must be recalled in arriving at the economics of management of a hotel of this type and size that it is one of twenty-three controlled by the same owners. Purchasing for

twenty-three hotels is a vastly different matter from purchasing for one or two.

In the final analysis, however, the capacity of the Roosevelt to pay will rest upon the extraordinary efficiency of the layout, and the careful balance of income producing auxiliaries. The management and owners are to be congratulated upon their choice of architects and of builders. It is a thoroughly well executed work.



John P. Morgan

CERTOSA DI PAVIA - OCT. 13-23.

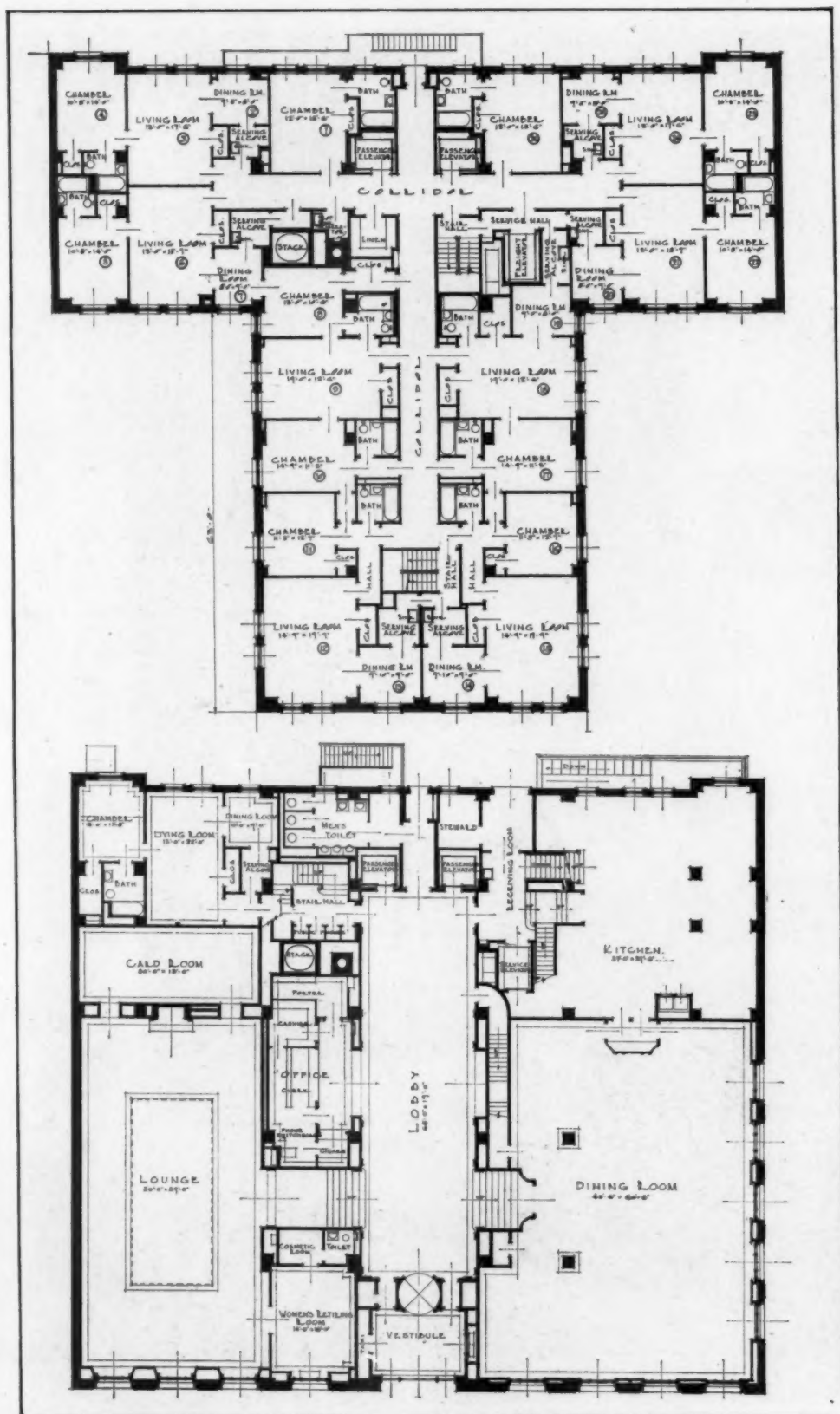
FROM THE ORIGINAL SKETCH BY JOHN P. MORGAN



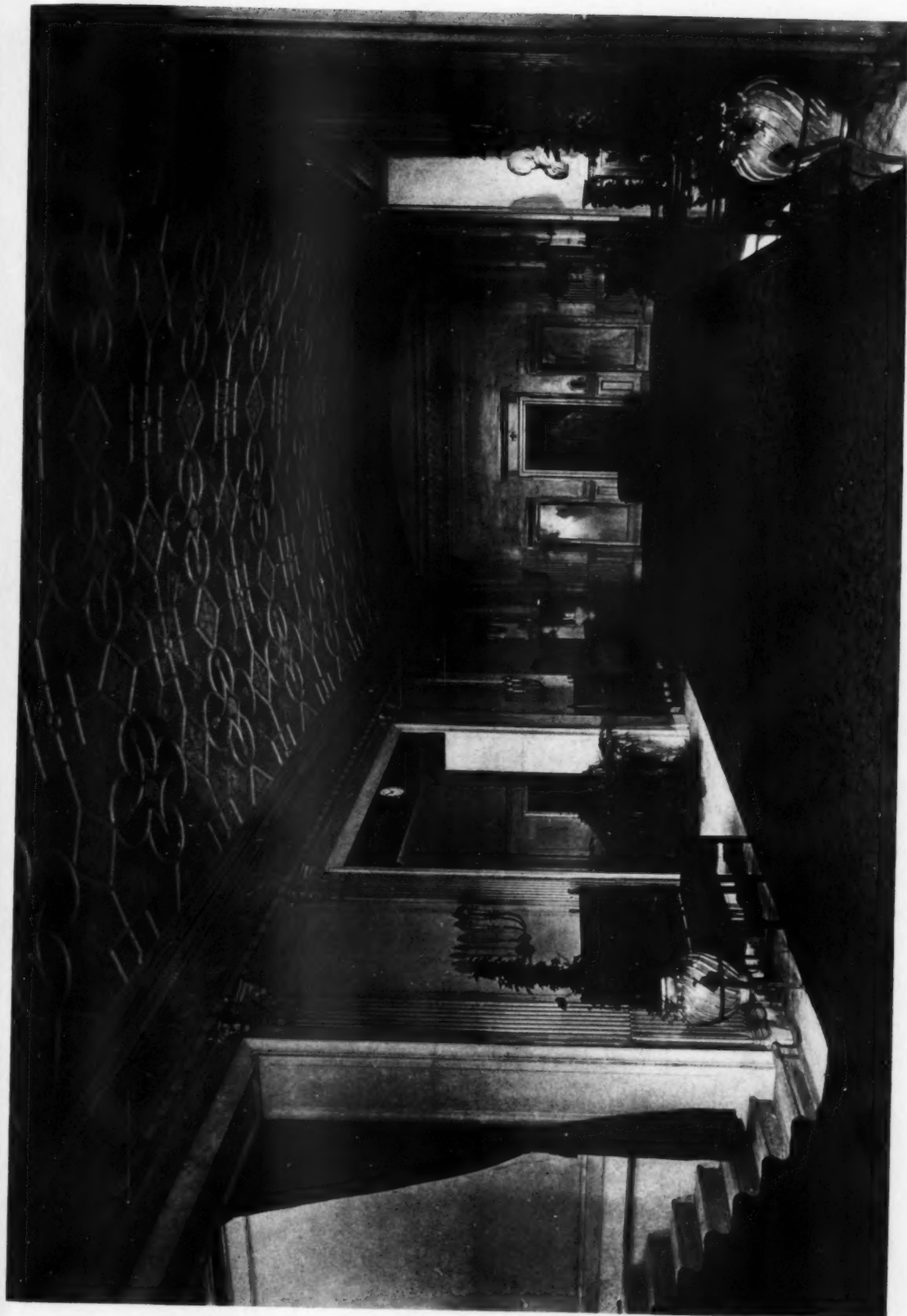
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.

FUGARD & KNAPP, ARCHITECTS

(See plans on back)

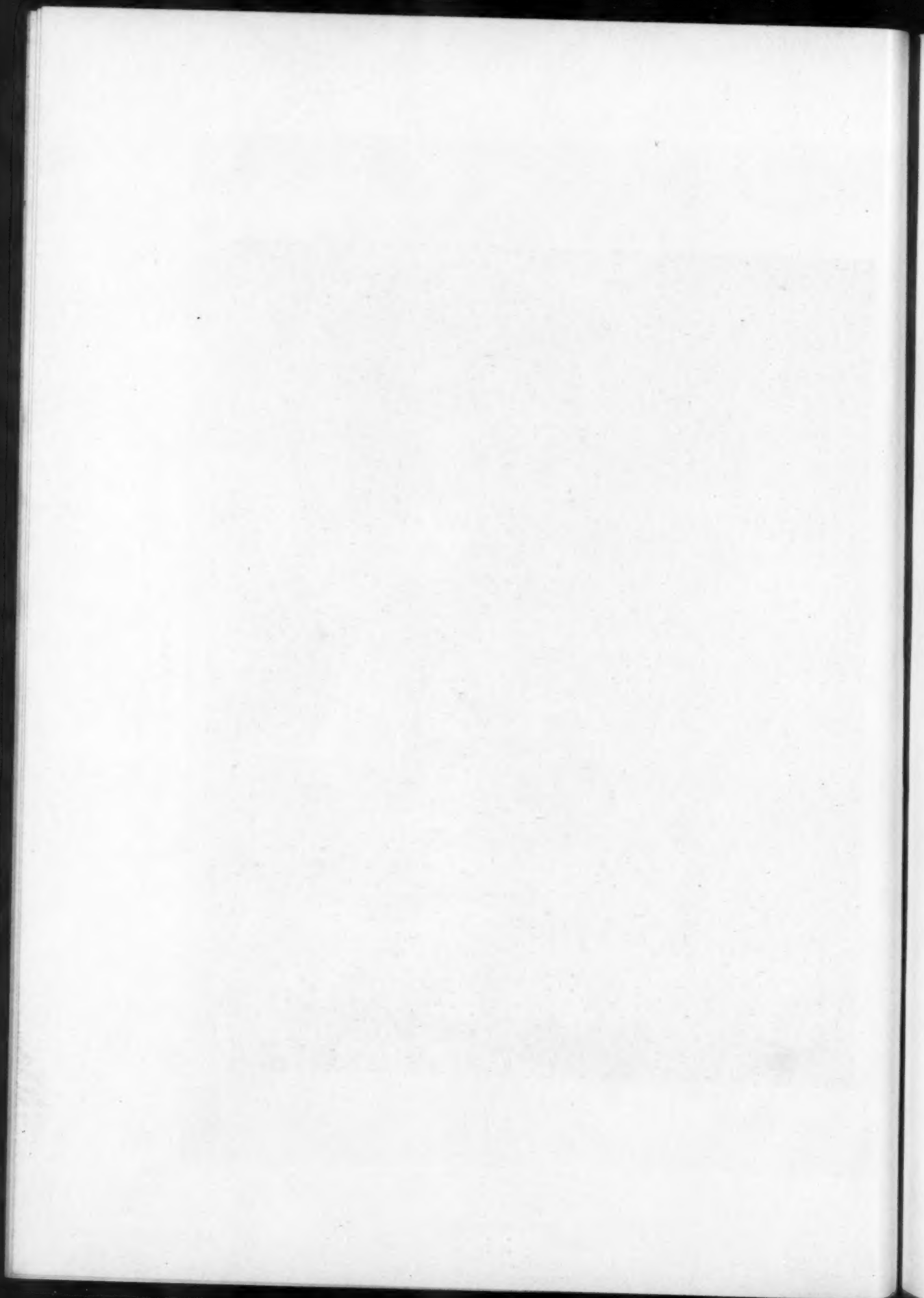


GROUND AND TYPICAL FLOOR PLANS
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS



THE LOBBY
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS

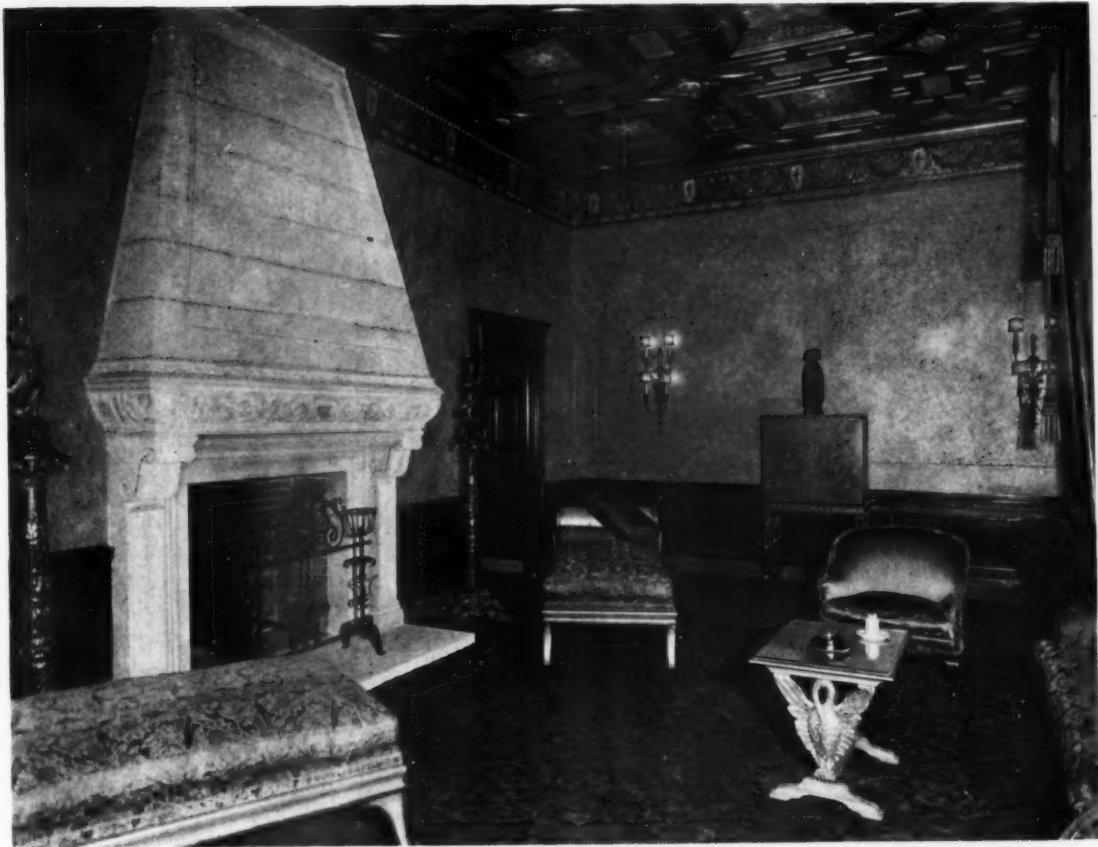
THE AMERICAN ARCHITECT
November 5, 1924, Plate 150





THE RESTAURANT
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS

THE AMERICAN ARCHITECT
November 3, 1934. Plate 151



THE LOUNGE, SOUTH END



CARD ROOM

LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.

FUGARD & KNAPP, ARCHITECTS



THE LOUNGE



VIEW FROM LOBBY TO LOUNGE
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS



LADIES' PARLOR



ROOF GARDEN
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS



TYPICAL LIVING ROOM

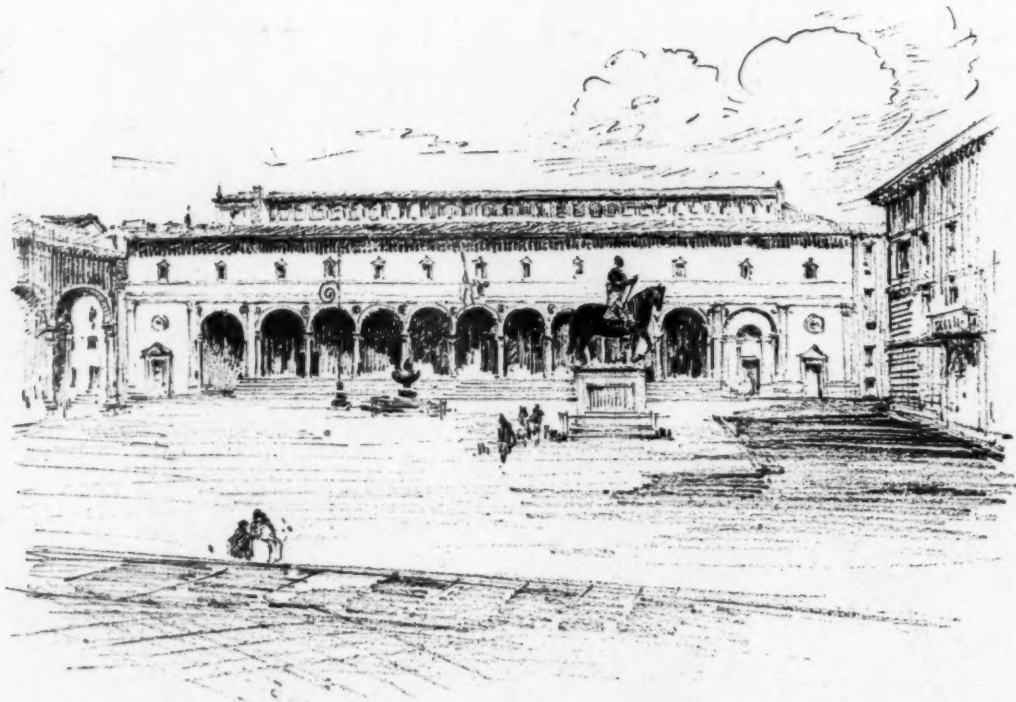


TYPICAL SINGLE ROOM
LAKE SHORE DRIVE HOTEL, CHICAGO, ILL.
FUGARD & KNAPP, ARCHITECTS



PONTE VECCHIO - NOV. 10 - 1913

John P. Morgan.



FLORENCE.

John P. Morgan.

SKETCHES IN ITALY BY JOHN P. MORGAN

The ADVERTISER and the CITY

BY H. V. LANCHESTER

Reprinted from The Architectural Review, London

A SHORT time ago "Punch" illustrated a pathetic episode in the career of a rising architect who, having freely burnt the midnight oil in devising a striking façade for a commercial client, found it speedily converted into a mere scribbling block for notifying the said client's business in gigantic lettering. There is a spice of humor in this, but it happens in actuality so frequently, and with an emphasis so incapable of exaggeration, that the joke has lost its savor, and it is not alone the designer, but also all who have an attachment to beauty who are the sufferers. It is useless for us to wring our hands and exclaim with Hamlet: "The time is out of joint." Rather let us review clearly and steadily the conditions of the age in which we live and see how far demands with which we may not personally sympathize are nevertheless justifiable, and how far we can go toward meeting them without disloyalty to our fundamental views.



FLOODLIGHTING AT NIGHT. AN ARTISTIC AND DIGNIFIED ADVERTISEMENT

It will lead us nowhere to assume an attitude of intransigence toward the advertiser, and to condemn him and all his works. His activities are demanded; he has, from the psychological standpoint, a genuine science of his own; and he is not always entirely without an appreciation of artistic effect. Possibly there may be something to be done with him. Let us hope so, for he is obviously too firmly entrenched to be dislodged.



A POSTER BY E. McKNIGHT KAUFFER

Now, the position of the artist face to face with the advertiser is a simple one. The theory of the latter aims at making the strongest impression practicable with the means at his disposal, with the sole reservation that he may not go beyond the point acceptable to the public he seeks. The only criticism likely to move him is one suggest-

ing that he is restricting his clientele by some crudity or blatancy without an equivalent compensation in vigor of attack. The route the advertiser elects, depends, of course, on the public he wishes to reach, but we can, without undue optimism, accept the proposition that there is a large and increasing proportion of the public to whom the advertisement with distinction and charm will make as effective an appeal as one which sacrifices this to the attempt to shout down its surroundings. If this be the case there is little excuse for the architect and his fellow artists who appear to have hitherto deliberately ignored the advertisement in their schemes for buildings and other civic decorations. It must be admitted that there are just a few exceptions to this, among the more notable being "La Samaritaine," in Paris, where the design for the façade devotes a large portion of its surface to inscriptions without sacrificing consistency or grace. But these exceptions are rare, and as a consequence buildings pass from the architect's hands only to meet with the fate already mentioned.

In designing future structures the remedy is obvious, and the architect should ascertain the maximum that is likely to be desired in advertisement and should frame his design accordingly. If his art has vitality he should be able to adapt it to these conditions, disconcerting as they may at first appear. As regards existing buildings there is less hope of a satisfactory solution, but something might be done by collaboration between the advertising entrepreneur and a broad-minded architect or decorator.

The assumption that there is antagonism between effective display and artistic presentation may be challenged, and the too frequent attempts to outvie preceding ones in size and insistence often defeat their own ends. The science of expression has its place in the arts, and thus it is truly a form of art to attain to the maximum of effect with economy in the employment of space, color, and contrast.

The hoarding with its posters often illustrates this. It is by no means the rule that the largest poster with the most glaring colors makes the more definite impression. The one that does, generally possesses some quantity of art that enables it to fix its purport on the mind owing to superiority in the art of expression. Of course, at present, owing to the rudimentary stage at which we find the art of the advertisement, such notable examples are in a minority, but there are clear indications of progressive effort and encouragement of this would surely be a much wiser course than the attitude of repression taken up by those who are antagonized by the crudity and vulgarity of many advertising schemes.

Even in regard to the glaring, illuminated

signs that are rapidly making our city streets a nightmare, it is possible to conceive a revolution in method that would transmute the present chaos into artistic unity. Some already approximate to the method of the firework display, which is, in intention, an imaginative effort designed to give gratification to the eye; and though such dis-



A POSTER BY AUSTEN COOPER

plays usually fall no less short of their aim, those of the Italian artists have reached a point which lift them within the circle of the arts. In like manner, by considered co-operation, the artificial lighting of our streets and buildings might be such as would fill them with delight, and even the dreaded inscriptions of the advertiser might be made contributory to the mass effects.

Hitherto, the problem of the city has been approached in far too timorous and faltering a spirit. We can recognize the grace of the mediæval conception and the dignity of that of the Renaissance, and we lovingly preserve all that we can of their vanished charm. Nuremberg and Oxford could ill be spared, and who would part with Bath or Bloomsbury, but these cannot be taken as models

for our own day without affectation. The spirit that so expressed itself has gone, and it is not for us either to deplore or rejoice that this is the case, but to set to work to interpret and translate into material form by such gifts of logic and imagination as we possess, the needs and aspirations of the age we live in. The task would be easier but for our heritage of cities whose history is written in their streets and buildings, and whose traditions claim our loyalty.

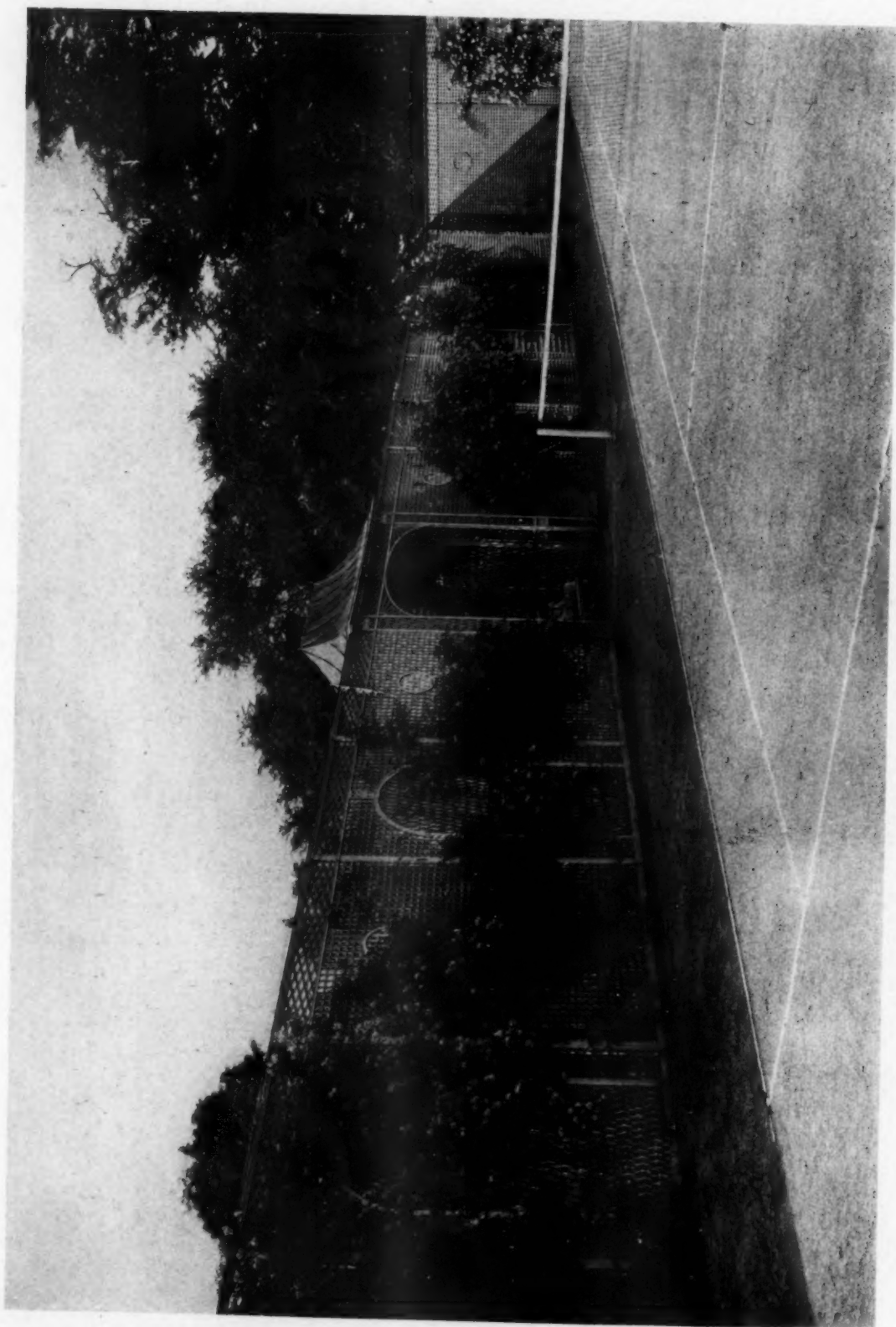
The task of linking old and new without discord is an almost impossible one, and must probably be to some extent abandoned, leaving the matter to the rectifying touch of time and event. Fear of these discordances must not be allowed to impel us to an endeavor to follow slavishly past traditions and thus stultify legitimate develop-

ments. The accusation that our towns are dull and depressing is partially due to the acceptance of traditional forms incapable of adaptation to modern desires. Even our schemes of transport and communication are to some extent makeshifts, employing obsolete plant and arrangements, while most of our buildings are frankly designed on a basis lacking in validity in regard to their inception as a natural outcome of the demands of purpose, or of economic propriety.

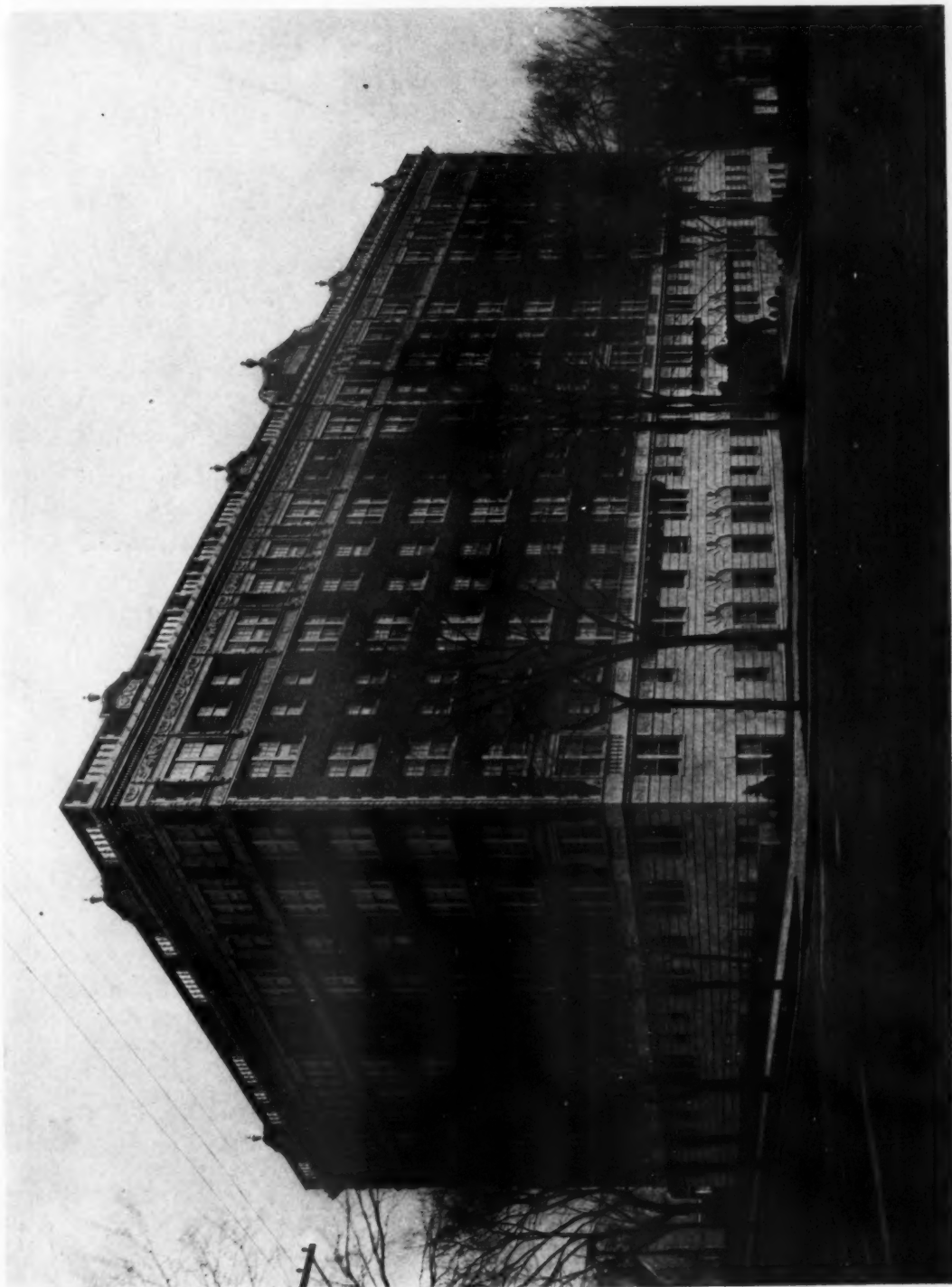
A new canon of beauty cannot be invented in a day, but we do not help ourselves toward gaining one by disregarding modifications in social life and aspirations, and by refusing to adapt our modes of expression to these, which should be the radical factors in determining the form our designs should take.



GARDEN, MRS. HARRIET PRATT, GLEN COVE, L. I.
SUNDIAL BY EDWARD McCARTAN, SCULPTOR



DETAILS OF LANDSCAPE ARCHITECTURE
TENNIS COURTS, ESTATE OF RICHARD ROWLAND, RYE, N. Y.
DWIGHT JAMES BAUM, ARCHITECT

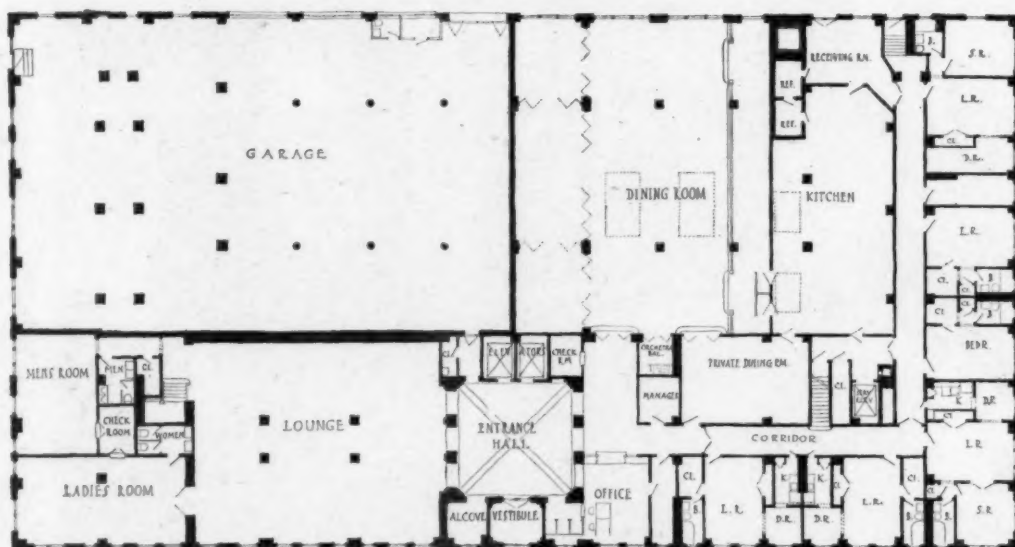
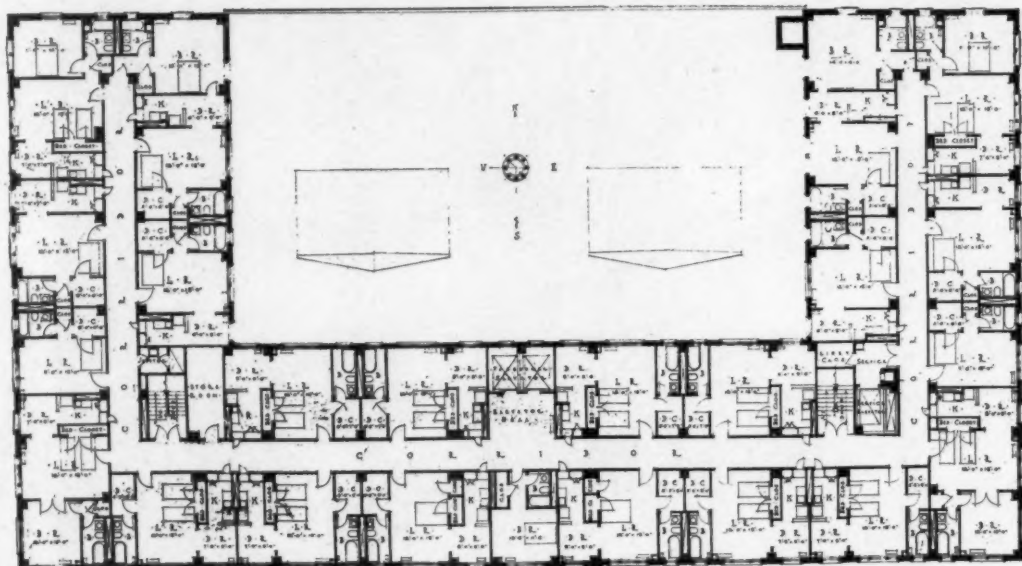


THE BELLERIVE, KANSAS CITY, MO., AN APARTMENT HOUSE HOTEL

PRESTON J. BRADSHAW, ARCHITECT

(See plans on back)

THE AMERICAN ARCHITECT
November 5, 1924. Plate 153



THE BELLERIVE, KANSAS CITY, MO., AN APARTMENT HOUSE HOTEL

PRESTON J. BRADSHAW, ARCHITECT



THE BELLERIVE, KANSAS CITY, MO., AN APARTMENT HOUSE HOTEL

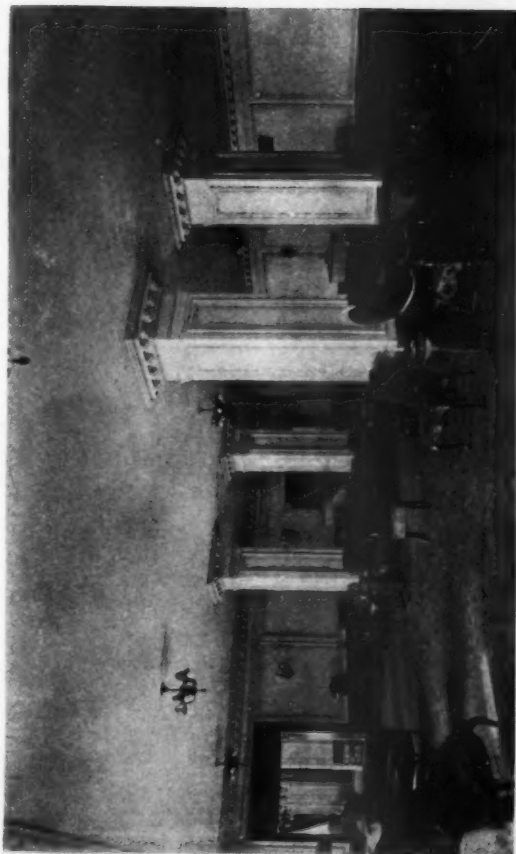
PRESTON J. BRADSHAW, ARCHITECT



DETAIL OF UPPER STORIES

THE BELLERIVE, KANSAS CITY, MO., AN APARTMENT HOUSE HOTEL

PRESTON J. BRADSHAW, ARCHITECT



THE AMERICAN ARCHITECT
November 3, 1924. Plate 196



THE BELLERIVE, KANSAS CITY, MO., AN APARTMENT HOUSE HOTEL
PRESTON J. BRADSHAW, ARCHITECT

The BELLERIVE, AN APARTMENT HOTEL, KANSAS CITY, MO.

PRESTON J. BRADSHAW, Architect

THIS building has a frontage of 205 feet on Armour Boulevard with wings extending back 109 feet along Warwick Avenue on the West and the lot line on the East. It is of reinforced concrete construction, eight stories high. The first two stories are of terra cotta and the upper stories of matt brick in various tones of red. The main cornice and the embellishments of the top story windows and the quoins are of terra cotta.

The ground floor contains the main dining room and private dining rooms, a large lounge and retiring rooms for men and women, all of which are

located in the West half of the building, the East half being devoted to apartments.

In the rear occupying a space under a part of the West wing and the court is a large garage for the accommodation of the tenants. This garage is entered from Warwick Avenue.

Above the first floor the building is divided into apartment suites and hotel rooms. The suites are of the kitchenette type of two and three room units with bath. The hotel rooms are so connected with the apartments that they may be added to them to form a four room apartment unit if desired.

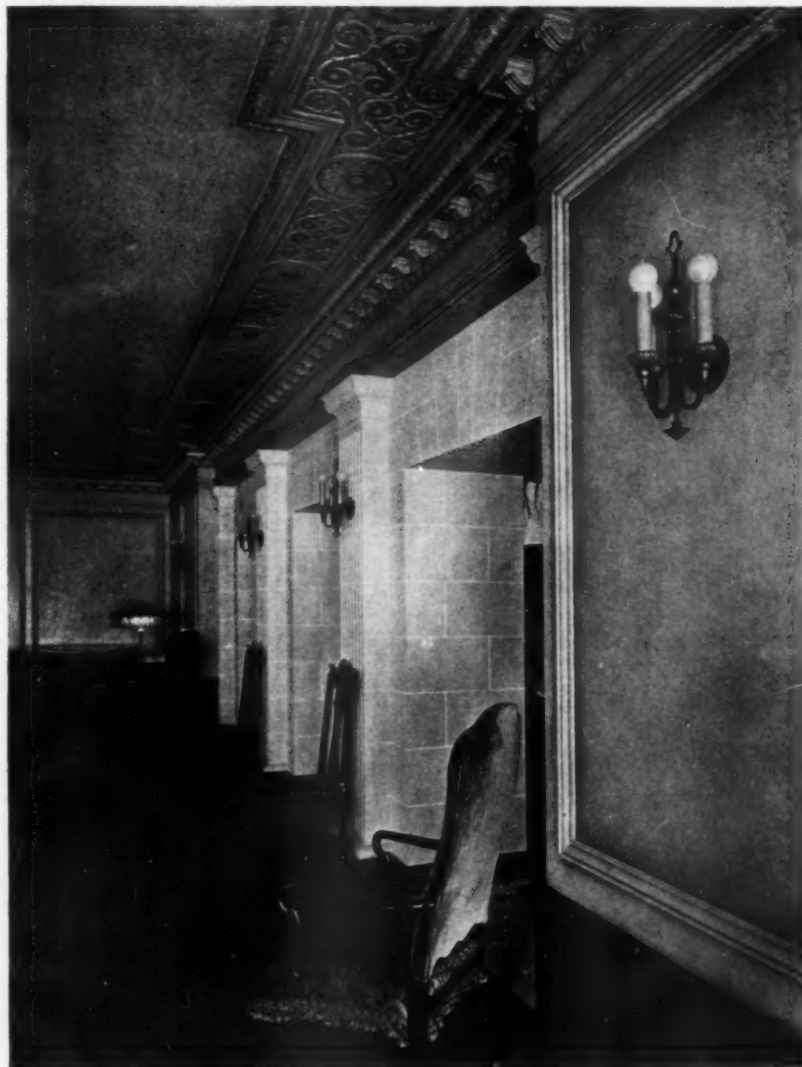
There are on each of the typical floors, twenty apartment suites totaling forty-four rooms and five single rooms with bath, giving a total per floor of forty-nine rooms and twenty-nine baths and a total in the building of three hundred and fifty-six rooms and one hundred and eighty baths, including the first floor apartments.

All of the typical floors, except the baths and kitchens, are of cement finish and are carpeted. The wood trim is painted a warm gray enamel and the plastered walls and ceilings are done in a lighter tone of the same color. The doors are stained walnut.

A vacuum system of steam heating is used and all heating and plumbing risers are concealed.

All bedrooms and living rooms are provided with door beds. The structure is equipped with an incinerator for the use of apartment tenants.

The building was erected under the sublet system and was completed in eight months.



THE LOUNGE



DETAILS OF LANDSCAPE ARCHITECTURE
SWIMMING POOL, ESTATE OF RICHARD ROWLAND, RYE, N. Y.
DWIGHT JAMES BAUM, ARCHITECT



IN A TYPICAL LIVING ROOM OF AN APARTMENT IN THE PARK LANE, NEW YORK
SCHULTZE & WEAVER, ARCHITECTS

INTERIOR ARCHITECTURE

An Important Addition to the New Hotel Life of New York City

IN stagecoach and tavern days hotels were "houses of call," a temporary lodging for a brief period. With the lapse of time and the radical changes of social custom, hotel life has been completely transformed. Some there are who will contend that the ascendancy of the hotel menaces the integrity of the home. It is not our intention to discuss that point, but we are disposed to dwell on conditions as they really exist and not as they perhaps should. Now that woman's sphere is not altogether the home and she is invading to a greater or lesser degree the activities of daily life that at one time knew only men's work, less time is spent in the homes and that time has been, by reason of many utilities, robbed of much of the domestic responsibility. The apartment hotel is undoubtedly the result of these conditions, but in its facilities for housing, it caters to two very different types of hotel dwellers. A greater or lesser degree of permanency characterizes the life of the ordinary apartment house dweller. The decorative elements, therefore, be-

come fixed or regulated to the aesthetic taste of a single family. On the other hand, the transient hotel, with its very much mixed patronage, must be "all things to all men," and must strive to attain that end by decorations and accommodations that will satisfy and appeal to the greatest number of guests. The apartment hotel invites both these types of hotel dwellers.

The permanent living apartments of the present generation are notably characterized by simplicity and informality, which is in direct contrast to the rich splendor and even garishness which are features of the public rooms of hotel life. This tendency is well demonstrated in the decorations of the Park Lane, a new apartment hotel on Park Avenue, New York City, recently opened. The first or street floor is taken up by a large public dining room, a ballroom, and office quarters. The twelve floors above are devoted to small apartments, consisting generally of one or two bedrooms, a living room and bath. The modern city dweller is taking more to this manner of living



TWO VIEWS OF THE BALLROOM OF
THE PARK LANE, NEW YORK
SCHULTZE & WEAVER, ARCHITECTS

than ever before. The simplicity of home life can easily be retained in the apartments of hotels like these, for they are simple in decorations. They may be furnished by the occupant, if desired. For diversion and entertaining, the dining room on the street floor offers all that could be desired. But a public dining room, by the scope of the appeal which it must make, offers a problem in decoration not easily solved. It must satisfy the tastes of all types of people. Those that relish simplicity and austerity must find equal satisfaction as those that crave elaboration and ornamentation. The dining room of the Park Lane tends to this result, although it

must be admitted that there will be much more satisfaction expressed by the latter type than by the former.

Recently, while discussing the general subject of decorations with a prominent architectural decorator, a definition of the word decorating was sought. The reply is worth repeating: "Decorating is the means of influencing the state of mind of the observer." This somewhat contradicts the statement made above of satisfying all taste. Rather by this definition, the decorator would attempt so to influence the mind of the observer that he would even change his taste. This is purely psychological, but it is true that there is more psychology in decorating than is generally admitted. This dining room, though, is impressive, and, therefore, influential, al-



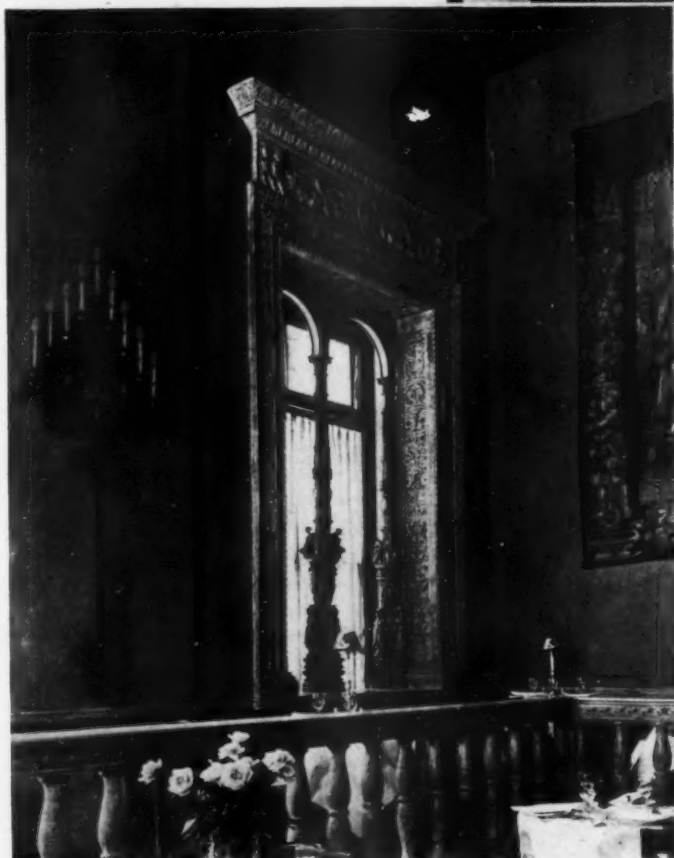
though it might be said to be somewhat over-ornamented. The trim, low dado and balcony balustrade are of stone, set off against rough plaster walls. On these walls are hung seven large tapestries, which give the key to the color scheme of the room. The soft gray tone of the stone is prominent in them and the fact that they are a real part of the decorative scheme is evident. The trim of the windows and doors is rich in ornament, some of which is brought out in polychrome and gold and a walnut ceiling, also richly ornamented, is similarly treated. The chairs and tables are of walnut. The windows are draped in a dull blue, repeating the blue prominent in the tapestries, and a figured carpet covers the entire floor. Handsome iron wall brackets add further interest to the decorative scheme.

Rather undue prominence seems to have been given to the service entry to



DETAILS IN THE MAIN DINING ROOM OF
THE PARK LANE, NEW YORK

SCHULTZE & WEAVER, ARCHITECTS



the kitchen, always an awkward, but necessary detail of a large dining room. The architect's idea was, he states, to make this more like a piece of furniture in scale, than as a part of the architectural treatment. This entry is built of walnut, richly carved, with panels treated with elaborately painted decoration. Its colors and ornament seem to put it in the architectural scheme, although otherwise it has no connection with it. Nor can it be said to be in scale with the furniture. It therefore becomes, and unfortunately, an unduly prominent feature of the decorative scheme of this room.

The entrance lobby properly emphasizes what to expect in the dining room beyond. Travertine walls, relieved at certain places by sections of walnut panelling, rich in detail

and painted ornament, support a beamed ceiling, the soffits of each being elaborately decorated in color. The panels of the ceiling between the beams are painted a dull red, and the field of the



LOOKING FROM THE MAIN LOBBY INTO THE ELEVATOR HALL, THE PARK LANE, NEW YORK
SCHULTZE & WEAVER, ARCHITECTS

Oriental rug which covers the floor below reflects the same color. The elevator lobby, opening from the hall, is similarly treated, and a decorative screen identical in detail and ornamentation to the panelling on the walls, opens to the foyer of the ballroom. A rather unusual novelty features the decorations of the elevators, in that each elevator car is treated in a different color.

The ballroom lobby, a low ceilinged room, is painted in a soft green, and this color is employed in a lesser degree of importance in the scheme of the ballroom. The walls and ceiling of the ballroom are rich in decoration and ornament, but of unusual and interesting detail. Walls are in a deep cream with certain ornament touched off in gold, while the ceiling has a decidedly green cast that is pleasing, especially as the hangings at the windows are of a deeper shade of the same color, and the carpet, a small figured design, is dominated by greens.

The apartments in this apartment hotel are rented furnished or unfurnished. The walls are panelled, and painted in a neutral tint, which allows for furniture of whatever taste the tenant may prefer. A typical living room, furnished to demonstrate its possibilities, is shown at the head of this article.

The Park Lane will undoubtedly attract those whom it was designed to serve. In an environ-



ANOTHER VIEW OF THE MAIN LOBBY OF THE PARK LANE, LOOKING TOWARD THE DINING ROOM
SCHULTZE & WEAVER, ARCHITECTS

ment of wealth and magnificence, it takes its place properly. The state of mind of the one who enters has been influenced to such a degree in arriving at its portals that it expects, and therefore is glad to find perfect accord within.

READING COURSE ON INTERIOR DECORATION

A BETTER appreciation of home building and home decoration may be gained from following the new reading course—House Planning, Interior Decoration and Furniture—recently issued by the American Library Association, 86 E. Randolph Street, Chicago. The course introduces in an interesting way nine books dealing with these three closely related subjects. The titles are arranged in progressive order and are described with helpful notes as to their content and value.



A FRENCH SITTING ROOM AT THE ART-IN-TRADES CLUB EXHIBITION
E. A. BELMONT, DECORATOR

ANNUAL EXHIBITION of the ART-IN-TRADES CLUB, NEW YORK

THE Third Annual Exhibition of the Art-in-Trades Club, now current at the Waldorf-Astoria Hotel, New York City, marks an epoch in the development of art in craftsmanship, especially as related to those products which go into the making of a scheme of interior decoration and furnishing. The exhibition comprises twenty-three rooms, each one completely decorated and furnished. There is the finest indication of valuable co-operation on the part of the decorator and the manufacturer, who are apparently united in a common purpose,—to promote a fine respect for the beautiful and to develop honest, conscientious craftsmanship. The rooms are, in almost every case, representative of some particular decorative period as related to the home, ranging from the Spanish-Italian entresol, through an Elizabethan living room, an Eighteenth Century library and a Regence dining room, to a French bedroom. Each room is credited to a certain decorator, and the name of each manufacturer collaborating in the setting is given on the announcement.

It would be difficult to name one particular room as more interesting than another. A French

sitting room, however, appealed to us, especially as it illustrates a principle which this department has often stressed, the essentials of unity in design, color and scale. A Toiles de Jouy fabric, hung on the wall panels of the room is also used for the window draperies and the furniture covering. The color scheme is here very simple, for the reason that the pattern of the material is printed in one color, red, on a cream ground, and the room might not appeal to as great a number of tastes as one of more varied and more colorful decorations. Yet the result is satisfying and restful. A photograph of the room is shown at the head of this article.

All of the furniture exhibited is of the highest quality, both in design and workmanship, and if its craftsmanship may be credited to the activities of the Art-in-Trades Club, the members may be satisfied that they have accomplished all that they undertook. As an instance, there is illustrated a dining room in which some beautiful Chinese Chippendale furniture plays a very important part in the decorative scheme. A panelled library has an architectural suggestion in its de-

sign that is to be strongly commended. This room, it might be stated, will, after the close of the exhibition, be set in place in a house in the South. A man's den, by Tiffany Studios, is interesting in its soft green tints, enlightened by a painted glass window and glass lamp shades.

An account of this display of art in crafts would not be complete if mention were omitted of the very excellent ironwork exhibited. There are interior gates, grilles, lighting fixtures, fire sets, and accessories, all wrought in a manner that shows how important has been the advance of the art of the ironworker in the United States.

This exhibition sets a high standard in expression of artistic ideals by a practical application of the principles of art to the decorating and furnishing of the house. Architects may, with profit, well give this exhibition time and study. There is much there that will aid them in the visualization of their future problems. As has been often urged in these columns, such an interest on the part of architects will result in a closer co-operation between architect and decorator, for the decorator, by the quality of this exhibition, has proven worthy of such co-operation. The Art-in-Trades Club is to be congratulated for having assembled an exhibition so dignified, educational and artistic.

A NEW SCHOOL OF INTERIOR DECORATION IN CHICAGO

WE learn with much interest of a course in practical interior decorating inaugurated this Fall in the Fine Arts Building at Chicago under the direction of Mrs. Paula Gosreau and Mr. Leonard C. Brothers, both connected with the interior decorating department of Carson, Pirie, Scott & Company of that city. They announce that the school will provide those who contemplate taking up interior decoration as a profession with a working knowledge of all branches of this profession. One of the basic principles on which the policy of the school is founded is that co-operation between architect and interior decorator is entirely necessary to the completion of a successful result in any decorative undertaking. A series of very instructive lectures has been arranged to be delivered by men and women actually engaged in selling interior decorations in the City of Chicago. Some of the subjects of these lectures are Interior Decoration as a Profession; Painting and Wall Treatments; Floors and Coverings; Scale, Balance and Harmony; Relation of Client, Architect and Decorator; and others which make it appear that the course will stress the practical and business sides of the profession, as well as the purely decorative and artistic elements. We look for real results from such a school and general spread of the idea so very well considered.



ENGLISH XVIII CENTURY DINING ROOM AT THE ART-IN-TRADES CLUB EXHIBITION
FRANK PARTRIDGE, INC., AND STAIR & ANDREW, INC., DECORATORS

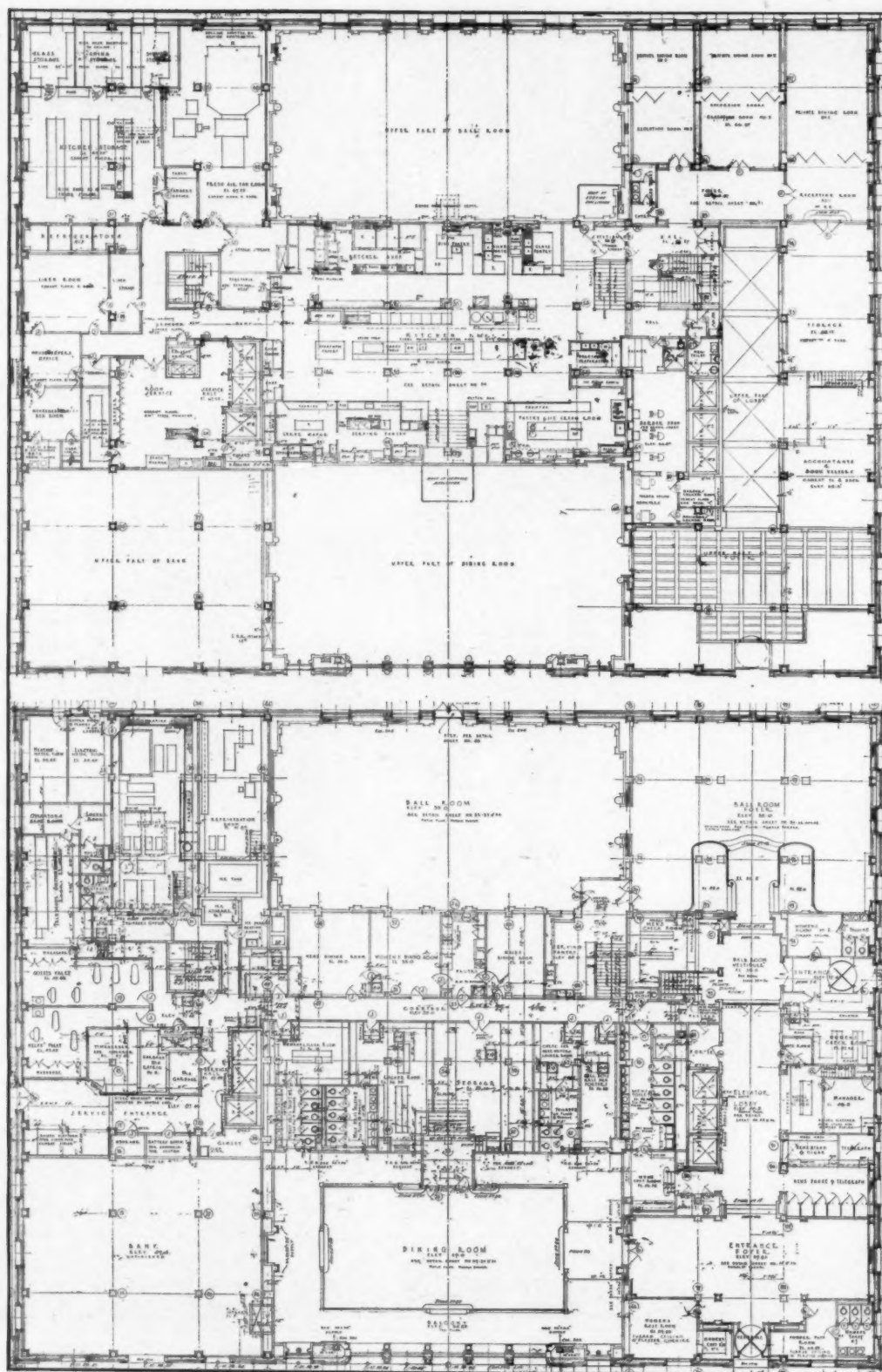


THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL

SCHULTZE & WEAVER, ARCHITECTS

(See plans on back)

THE AMERICAN ARCHITECT
November 3, 1924. Plate 157



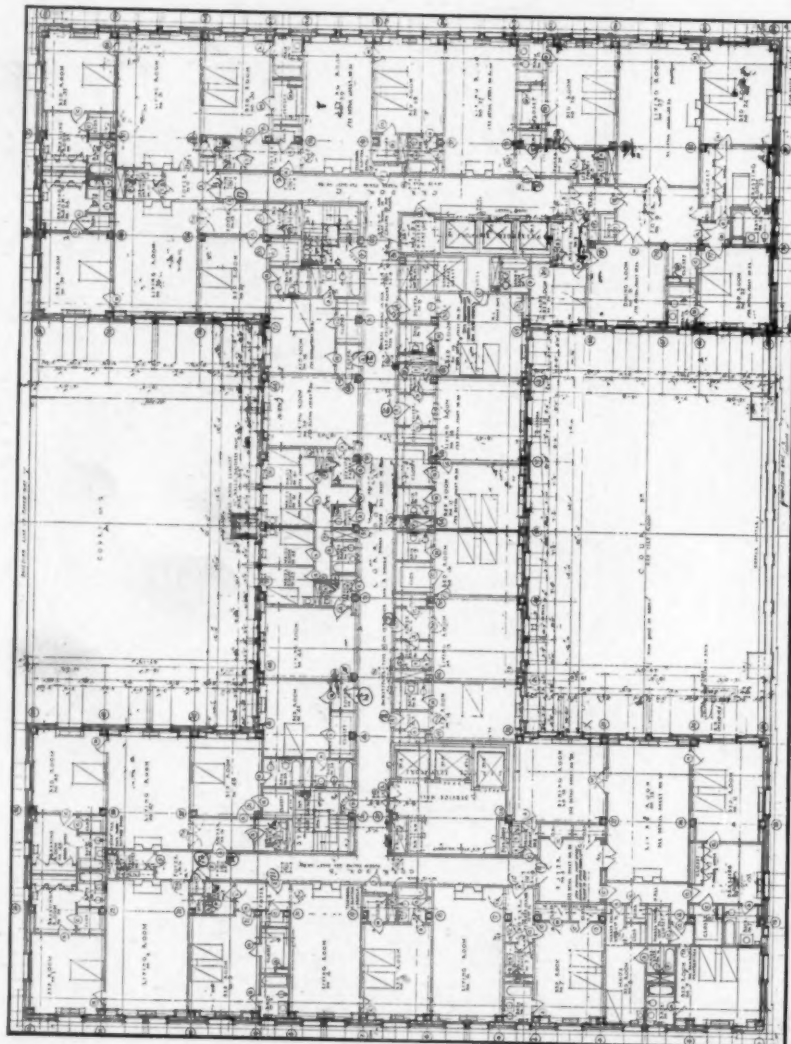
MAIN AND MEZZANINE FLOOR PLANS
 THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL
 SCHULTZE & WEAVER, ARCHITECTS



DETAIL OF LOWER STORIES
 THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL
 SCHULTZE & WEAVER, ARCHITECTS

(Typical Floor Plan on Back)

THE AMERICAN ARCHITECT
 November 5, 1924. Plate 158



TYPICAL FLOOR PLAN

THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL

SCHULTZE & WEAVER, ARCHITECTS

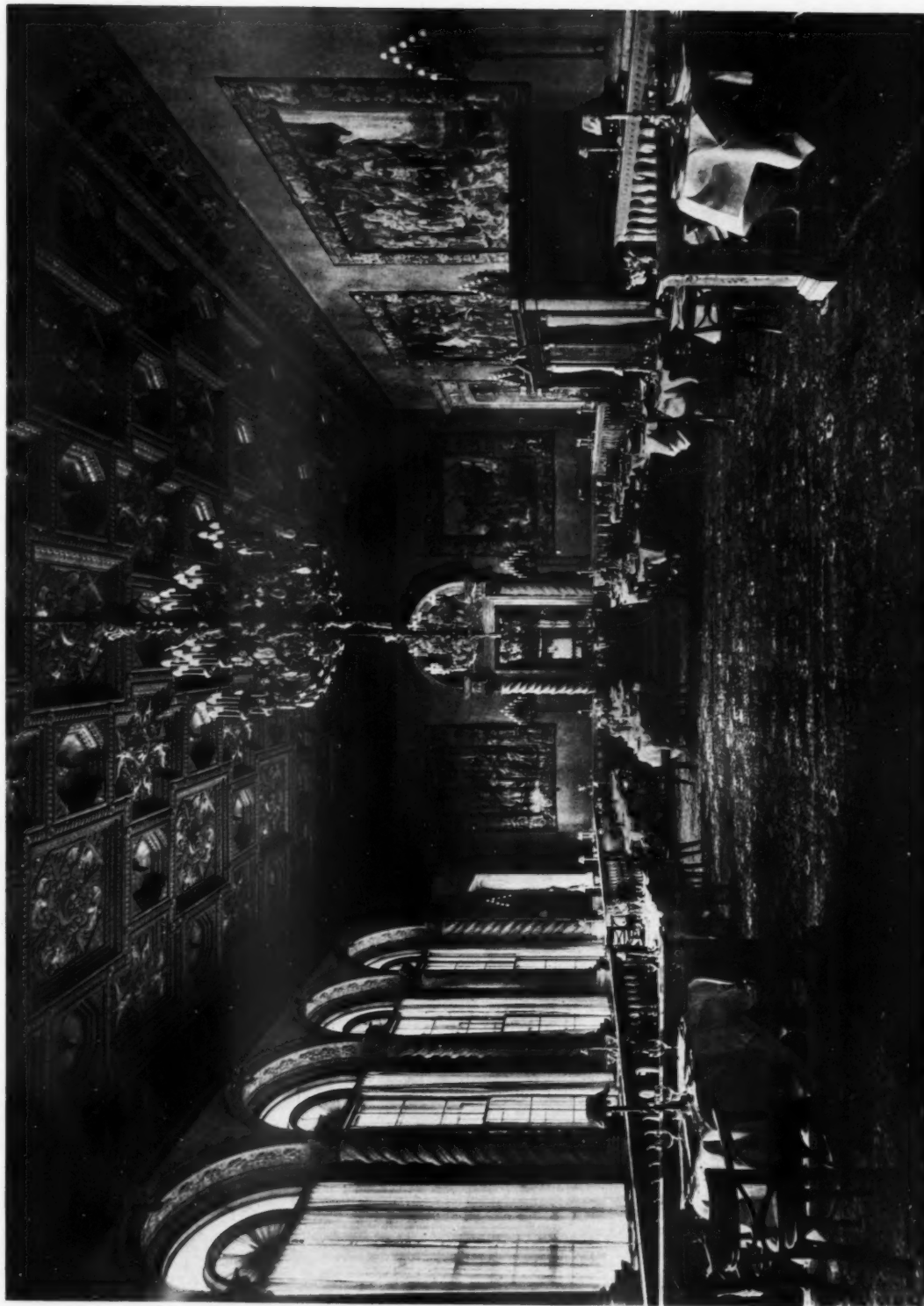


DETAIL OF LOWER STORY

THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL

SCHULTZE & WEAVER, ARCHITECTS

THE AMERICAN ARCHITECT
November, 5, 1924. Plate 139

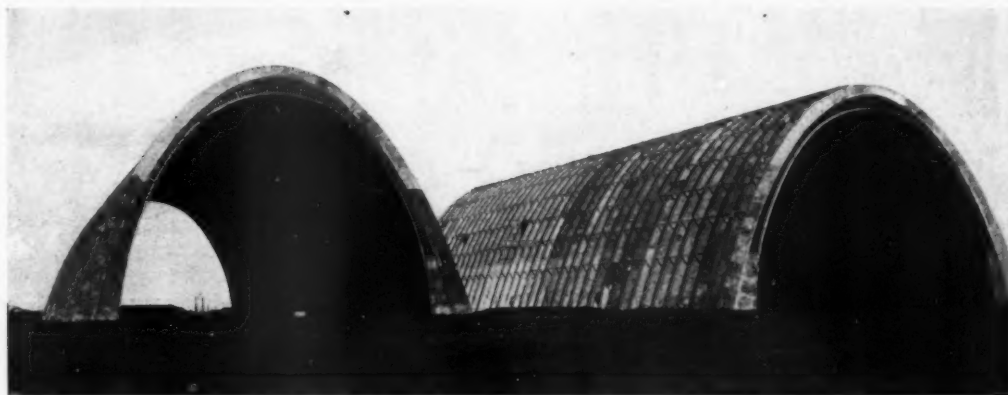


DINING ROOM

THE PARK LANE, NEW YORK, AN APARTMENT HOUSE HOTEL
SCHULTZE & WEAVER, ARCHITECTS

THE AMERICAN ARCHITECT
November 5, 1934, Plate 100

ENGINEERING *and* CONSTRUCTION



TWO REINFORCED CONCRETE HANGARS BUILT AT ORLY, NEAR JUVISY, FRANCE. THEY ARE 1000'-0" LONG, 300'-0" WIDE AND 196'-0" HIGH. THE ENDS WILL BE CLOSED BY METAL DOORS SWINGING OUTWARD

HOUSING a DIRIGIBLE in a REINFORCED CONCRETE HANGAR

THE publication of this article is not made with the idea that the design and construction of buildings of this kind and magnitude will become common in America. While the designing of such buildings would probably be confined to a limited number of architects, the principles of design involved are such that they may be adapted to buildings intended for other purposes. The construction of this building must have at least one effect, that of inspiring architects with the idea of the possibilities of solving very unusual problems successfully and by methods heretofore untried. The erection of these buildings clearly illustrates the freedom which can be enjoyed by the designers who attack their problems as things to be accomplished without reference to what others may have done.

When the French Government decided

to build two hangars for dirigibles at Orly, near Juvisy, it asked for plans and bids to be submitted on general specifications prepared for that purpose. The plans submitted by M. Freyssinet were accepted. These were judged by the committee to be the most practical, simple and, at the same time, the most economical.

The design consisted of a long arch of corrugated appearance closed at each end by huge metal doors, swinging outwards. Each of these two structures

measures 300 meters (nearly 1000') long, 59.3 meters (about 196') high, and 91 meters (about 300') wide. They are readily seen quite some fifteen miles across the country from the road in the Bois de Vincennes. The nature of the soil was such and the load so light, per square feet of supporting surface, that a simple foundation of reinforced concrete under each end of the arch



A VIEW SHOWING THE OUTER AND INNER SURFACE OF THE HANGAR AND ALSO ARRANGEMENT OF THE WINDOWS IN THE ROOF

was sufficient. Trenches were dug about 6'-6" deep and 25' wide extending the entire length of the hangar, in which were placed 3' thick slabs of reinforced concrete. On this foundation a low base or stub was built which projected about one meter



VIEW SHOWING A PORTION OF THE FOUNDATION AND A PORTION OF THE FIRST SECTION OF THE ARCH COMPLETED. THE FORMS ARE REMOVED AND RESET BY MEANS OF THE DERRICK WHICH IS ATTACHED TO THE TRUCKS

above the ground level and which conformed to the corrugated outline of the superstructure. The sections of the structure, which have the appearance of "accordion pleats," are referred to by the French as *zores elements*.



ONE SIDE OF THE LOWER SECTIONS OF THE ARCHED FORM-SUPPORT IN POSITION, THE OPPOSITE SECTION BEING RAISED AND THE CENTER, OR KEYSTONE SECTION, RESTING ON A MOVABLE TRUCK

Along the inner side of the hangar walls and parallel to them, tracks were laid for their entire length. On these tracks was placed a large truck which had a reinforced concrete platform. This truck was movable from end to end of the building. On this reinforced concrete platform there was erected a wooden scaffolding 18 meters high,

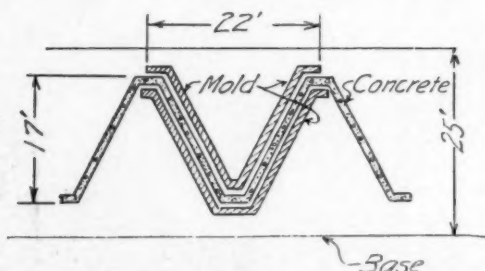
surmounted by a derrick. The scaffolding was made universally mobile by a transverse motion across the concrete truck platform. The scaffolding supported the forms for the concrete. The exterior form consisted of removable sections which were placed for each pouring, with the aid of the derrick, after the reinforcement and braces had been put in place. After the form was entirely constructed there remained only to pour the concrete. The interior form was rolled back with



HOISTING THE CENTER OR KEYSTONE SECTION OF THE ARCHED FORM-SUPPORT INTO POSITION. THE LOWER SECTION OF THE CONCRETE ARCH ON EACH SIDE OF THE HANGAR IS COMPLETED

its movable scaffolding after the concrete had set. The exterior forms were then taken down and the platform moved forward 7.5 meters, the length of one *zores element* or segment. After moving the platform to its new position, the same operation was again repeated.

The main portion of the arched form-support was constructed in a similar manner. The support for the forms was made in three sections consisting of a key which weighed 30 tons and two



A CROSS SECTION OF A ZORES ELEMENT AND THE INNER AND OUTER FORMS FOR THE CONCRETE

sides, each weighing 45 tons. The two side sections were raised into position by means of masts of various lengths with a hydraulic jack elevator. When these were in place the third, or keystone section, was hoisted by the derricks and fastened in place.

The form-support was then assembled and was self-supporting. The lower end of the form-support arch rested on a concrete girder which was in effect a hinge. This girder was placed on elevators which allowed a movement of about 35' vertically. These elevators were constructed of two pieces opposite each other and rested on large concrete platform trucks. Each of these upright pieces was grooved vertically and in this groove moved the ends of the girder on which the arch actually rested. At the base of each groove was a hydraulic jack which raised the girder about 6' at a time. By this means the arched form-support could be raised and lowered on both sides and still maintain a perfectly level position.

mounting the forms again, the time required for completing a segment was seven days. Each Monday regularly the advance was made—one segment forward. Each of these segments is about 34' wide from the center of one key to the next and 15' deep. At the top of the hangar the thickness of the concrete on the sides of the segment is only 9 cm. and 20 cm. on the tops and bottoms; while at the lower part of the hangar walls the thickness runs up to 34 cm. The hangars are stiffened by horizontal brace beams extending from one gable to the other which prevents possible distortion by wind action.

The hangar is lighted by 2428 square windows of yellow mica or glass placed in the outer ridges



One of the wooden arched form-supports is shown at the right with its ends resting on the reinforced concrete platform truck. The ends of this arched form-support consist of a reinforced concrete beam which is moved vertically about 35'-0" by means of hydraulic jacks. The vertical guides which house the ends of this reinforced concrete girder are shown at the right lower end of the arch. In the arch shown at the left one section of concrete has been poured complete. The arched form-support has been moved to the next section, elevated in position, and the forms placed so as to complete the concrete arch. After the concrete is poured and set the outer form is removed, the arched form-support is lowered sufficiently for the lower form to clear the concrete, and it is moved forward to the next position

After the concrete arch was poured complete and set, the outer forms were removed and the supporting arch was lowered and the inner form removed from its position. After the inner form was in place, the outer form sections were raised and assembled by means of the derricks, and the inner and outer forms were separated by octagonal concrete blocks which were made with hollow cores. Through these cores were passed bolts connecting the inner and outer forms, thus preventing them from separating when the concrete was being poured. Carrying out this process of work, including letting the concrete harden and dis-

of the segments. There is also a system of ventilation which permits the escaping of foul air and at the same time prevents water from entering through these ventilators which are placed at the top of the structure. In order to provide access to all parts of the dirigible, five trolley rails have been attached to the intrados of the arch and runways of reinforced concrete suspended from them. To gain access to these runways, concrete stairs have been built at each side of the doorways.

It is interesting to note that practically every part of the equipment—windlass, derricks and supports for the arch forms—was made entirely of



THE ARCHED FORM-SUPPORT ASSEMBLED AND SELF-SUPPORTING, READY TO BE RAISED VERTICALLY INTO ITS FINAL POSITION. THE FOUR DERRICKS ARE USED FOR PLACING THE FORMS, RAISING THE REINFORCING STEEL AND THE CONCRETE.

wood or concrete. The originality of the design and the economy of construction make this the most outstanding project of its kind.

CONCRETE TO SAVE TOWER

REINFORCED concrete is to be used to prevent the collapse of the great tower of the Strasbourg Cathedral, designed by Jean Hultz in 1439. The original footings of the tower are of stone masonry on wooden piles.

COLOGNE CATHEDRAL

THE Cathedral of Cologne, the greatest example of Gothic architecture in Germany, is, it is learned, falling into decay as no funds are available for its proper maintenance. The cornerstone was laid in 1248, and the work of building was not completed until 1880.

INSULATION VALUE OF PAINT AND ITS EFFECT IN REDUCING CONDENSATION

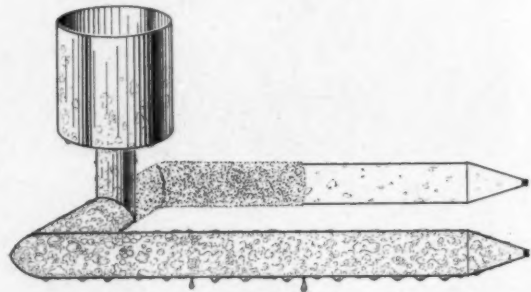
By HENRY A. GARDNER*

METAL pipes carrying cold water in rooms that are warm, often show beads of water upon the surface, due to condensation of the moisture in the air. The collected drops of water may fall upon valuable contents in a room, and thus be objectionable. If such pipes are coated with three or four coats of paint, condensation can be reduced to a marked extent, as a thick paint film is a good insulator. If, however, cork painting is resorted to, condensation may be reduced to an almost negligible degree. This is indicated by some experiments just conducted with an apparatus, constructed for the purpose. The large container shown in the illustration was filled with ice water which flowed down into two lateral pipes having small corks at the end. One of these pipes was left bare, and the other was cork painted for one-half its length and painted in the ordinary way on the other half. The cork painting was done according to the following method:

Apply a priming coat of metal protective paint. Next apply a coat of under-cork composition consisting of spar varnish containing about 40% of pigment. Inert pigments or colored pigments may be used as desired.

While this coating is setting up, ground cork is applied by hand, pressing it firmly against the "tacky" varnished surface to which it will adhere. A thick coating of cork should be placed on the pipe. After drying over night, two coats of oil paint may be applied over the work. Paints which form thick films, such as enamels, are best

for this purpose. Colored paints or paints having a low emissivity or radiating power should be useful from this standpoint. This is the reason why paints of low radiating efficiency are best to use for the fronts of furnaces, stoves, and ovens, where it is desired to reduce radiation and why white paints are best to use upon radiators and



APPARATUS CONTAINING ICE WATER TO SHOW EFFECT OF PAINT AS AN INSULATOR. LOWER PIPE, BARE METAL. UPPER PIPE PAINTED AT LEFT END WITH "CORK PAINTING" AND AT RIGHT END WITH PAINT BUT NO CORK.

pipes where it is desired that there should be the greatest radiation.

Cork painting is used quite widely in naval work, on interior surfaces of living quarters, store rooms; magazines that are directly exposed to chilling by conduction through metal, or by the action of wind or water; and upon surfaces in general, where sweating would occur through opposite extreme of temperature.

Scupper pipes and surfaces of framing between store rooms and tanks are often cork painted. White paints are generally employed because of their aid to illumination.

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THE DYNAMIC EFFECT of MOVING FLOOR LOADS

Stresses Measured in the Floor and Balcony of a College Gymnasium

THE amount of impact loads due to crowds of people, has always been a matter of more or less conjecture. Definite information on this subject is scarce and a report of some tests, recently published in the *Engineering News-Record*, is of interest and value. It is to be hoped that these tests can be continued to include the effect of dancing, marching and the movement of crowds in corridors and on stairways.

Impact measurements on a balcony floor under a crowd of cheering students were made at Iowa

part of the balcony of the college gymnasium, originally built as a running track. Its framing consists of floorbeams of two 8-in. channels projecting out from the walls of the building at right angles to the line of the balcony and supported by a 1 5-16 in. hanger rod at the forward end. These beams are spaced 12 to 13 ft. apart and carry timber stringers and a plank floor. Stresses were measured in a hanger rod and in the flanges of a floorbeam. The measurements at these two points are given in the last six columns of the

IMPACT MEASUREMENTS ON BALCONY OF COLLEGE GYMNASIUM

Iowa State College, Ames, Iowa; Tests made May 23, 1921, by 1921 Class in Civil Engineering

Test	Kind of Dynamic Load	No. of Observations	No. of Men	Total Weight Lb.	Floor Area Occupied		Load			Stress in Suspension Rod			Stress in Floorbeam		
					Sq. Ft.	About	Lb. per Sq. Ft.	About	Static	Total	Per Cent	Dynamic	Static	Total	Per Cent
1	Crowd rising on toes and dropping on heels at 2-sec. intervals.....	10	23	3,637	40	90	..	..	..	..	..	..	2.75	3.45	25
2	Crowd starts by rising on heels and ends by jumping, 1-sec.....	10	23	3,627	40	90	4.5	6.0	35	2.85	5.65	100	..	..	..
3	Crowd rising on toes and dropping on heels, 1-sec. intervals.....	10	23	3,627	40	90	2.25	3.2	40	2.75	4.8	75	..	..	..
4	Crowd swaying in standing position, 5-sec. intervals.....	10	23	3,627	40	90	1.1	1.8	70	3.7	5.2	40	..	..	..
5	Crowd teetering on toes, 5-sec. intervals....	10	41	6,300	54	116	2.1	5.6	165	5.6	14.2	155	..	..	..
6	Crowd rises from chairs. Floor space entirely filled with chairs.....	2	41	6,300	163	39	1.9	3.0	50	5.2	7.5	45	..	..	..
7	Crowd teetering on toes, 1-sec. intervals...	9	81	12,100	132	92	3.8	5.3	40	9.7	13.2	35	..	..	..
8	Same, followed by jumping.....	5	81	12,100	132	92	3.8	7.5	100.0	9.7	21.7	125	..	..	..
9	Similar to eight.....	10	81	12,100	132	92	3.6	6.6	80	9.1	16.2	80	..	..	..
10	Crowd swaying from side to side.....	10	81	12,100	130	93	3.5	3.8	10	8.4	10.0	20	..	..	..
11	Crowd giving college yell. Standing position	10	81	12,100	..	..	3.5	4.8	40.0	8.4	19.0	45	..	..	..
12	Same.....	10	81	12,100	..	..	3.1	4.3	40.0	8.2	12.3	50	..	..	..
13	Crowd sitting on chairs, rising suddenly together.....	2	70	10,500	235	45	2.9	4.5	55.0	6.5	9.2	35	..	..	..
14	Crowd teetering on toes.....	..	..	..	..	..	2.2	3.0	35	..	..	..	..	..	..
15	Same.....	..	..	..	..	..	2.7	4.2	55	6.0	9.4	55	..	..	..
16	Crowd jumping mildly.....	..	..	..	..	..	3.0	7.5	150	7.5	15.7	110	..	..	..
17	Crowd teetering on toes.....	11	95	14,250	161	89	3.9	5.1	30	9.9	13.2	35	..	..	..
18	Same.....	8	95	14,250	161	89	3.9	7.0	80	9.5	21.7	130	..	..	..
19	Crowd cheering: Ames yell.....	8	95	14,250	161	89	4.2	4.8	15	9.0	11.2	20	..	..	..
20	Same, Locomotive yell, mildly.....	8	95	14,250	161	89	4.8	5.4	10	9.5	11.0	15	..	..	..
21	Same, vigorously.....	8	95	14,250	161	89	4.8	7.5	55	9.5	14.0	50	..	..	..
22	Same, Deaf and Dumb yell.....	8	95	14,250	161	89	3.9	5.3	35	9.0	10.8	20	..	..	..

State College, Ames, Iowa, two or three years ago to determine what allowances should be made in design of buildings to provide for the load effect of motion due to excitement in a crowd of people. Publication of the results was deferred in the expectation of continuing the experiments, but as no time has been found for the additional tests, the results have now been made available by Professor A. H. Fuller, professor of civil engineering, who conducted the tests. A large amount of impact test work on bridge floors that has been done since that time gives greater confidence in the impact measurements on building floors.

A general summary of the measurements is given in the table herewith. As will be seen, groups of men numbering from 23 to 95 and weighing from 3,600 to 14,000 lb. were used as the load in the several tests. The test floor was

table; the percentages of increased stress, or dynamic effect, are those given in the last and fourth-from-last columns, which it will be seen check each other very closely.

The table includes two sets of measurements, 1-13 and 14-22; they were made about a year apart, by different test parties of students, but will be seen to be quite consistent. All stresses given were measured; i.e. the "Static" stresses were measured while the load was at rest, but they agreed well with calculated stresses.

Mere swaying of a crowd appears to produce moderate impact effects, 10 to 30 per cent. Similar moderate effects occur when a college yell is given "mildly." Vigorous delivery of the yell, which involves considerable jerking of the bodies of the yellers in unison, produces higher impacts, up to 50 per cent. Deliberate rhythmic movement or jumping of the crowd increases these

percentages up to 100, 125 or 150 per cent.

Static floor loads ranging from 40 to about 100 lb. were represented by the group of students as arranged on the test area of the floor. The maximum impact percentage of 155 to 165 per cent coincided with the heaviest static load, 116 lb. per sq. ft., giving a static equivalent of total load effect of about 300 lb. per sq. ft. Other high measurements, with static loading of about 90 lb. per sq. ft., represent an equivalent total load of about 200 lb. per sq. ft.

Supplementing the balcony measurements, some stress measurements were made on the main floor of the gymnasium on an occasion when a crowd was assembling. The framing consists of steel beams supported on columns. The measured stresses were quite low, not exceeding 3,000 or 4,000 lb. per sq. in., and the observed impacts were almost negligible (less than 10 per cent). In this case the movement of the crowd was not in rhythm.

IMPURE WATER AND THE STRENGTH OF CONCRETE

THE Structural Materials Research Laboratory of Lewis Institute, Chicago, has issued Bulletin 12 entitled Tests of Impure Waters for Mixing Concrete. This is an authorized reprint from the copyrighted proceedings of the American Concrete Institute, 1924. The tests were conducted by Professor Duff A. Abrams in charge of the laboratory.

Strength tests of Portland cement concrete were made at ages of 3 days to 2 1-3 years, using mixing waters of a wide range of types, many of which were thought to be unsuitable for use in concrete. Sixty-eight samples of water were tested in two different investigations; 52 samples were collected from different sections of the country; 14 were from the Chicago district. Among the waters tested were sea and alkali waters, bog waters, mine and mineral waters, waters containing sewage and industrial wastes, and solutions of common salt. Tests of fresh waters (including distilled) were made for purposes of comparison. About 6000 tests are included in this report. Reference is made to a number of other investigations on related subjects.

This is a valuable contribution to literature pertaining to concrete and the data is presented in the usual clear, understandable and authoritative manner which is characteristic of Professor Abrams' reports.

WATER POWER IN CANADA

OF the mechanical power now in use in Canada for all purposes except steam railroads and motor cars and lorries, 70 per cent is produced

by water and 30 per cent by fuel. Great relief to the fuel situation has been obtained from hydro-power development, of which Canada still has vast resources.

A COMPARISON OF TYPES AND COST OF FIRE-PROOF CONSTRUCTION

AT the March meeting of the Western Society of Architects, Chester L. Post presented a paper devoted to the comparison of types of fire-proof construction. This was followed by a paper by Arthur F. Klein in which he made an analysis of the costs of these various types. Mr. Post's paper was limited to the methods of design employed in the different types of standard fire-proof construction. The description of each type was concluded with a statement of its advantages and adaptability. A general conclusion was given concerning the relative merits of these types.

In his paper Mr. Klein gives the cost of ten different kinds of construction based on standard conditions, thus establishing very accurately comparative costs. These are given in detail with items and unit prices which would enable others to arrive at a true comparison at any time by substituting the current unit cost. This feature makes the paper valuable to designers.

Mr. Post, through his long experience with Condron & Post, in designing all types of structures and Mr. Klein, experienced for many years as Vice President and Chief Estimator of the R. C. Wieboldt Company, are particularly fitted to present the subjects discussed in a most thorough and authoritative manner.

These papers have been reprinted from the Journal of the Western Society of Engineers by the Portland Cement Association, of Chicago, for free distribution to those who are interested.

SALTS IN OIL SMOKE INJURE SLATE ROOF

SALTS contained in the soot from an oil burner were found by the Bureau of Standards of the Department of Commerce to be the cause of extensive decay in the slate roof of the building in which the burner was housed. These salts, being soluble in water, were leached into the slate by the rains and were recrystallized in dry weather. The formation of the crystals tends to pry the particles of slate apart and produces an effect similar to frost action only much more severe.

The disintegration of the slate was first noticed about six years ago and in some parts of the roof it has progressed to the danger point. It manifests itself only on the interior and is invisible from the outside. The process begins at the edge of the shingles and progresses along the direction of the cleavage, reducing the slate to powder.

PAINTS of HIGH LUMINOSITY to REDUCE REFRIGERATION LOSSES

BY H. A. GARDNER and H. C. PARKS*

DURING the summer months, surfaces painted in dark colors rapidly absorb heat rays and become very hot. When white paints are used, the painted surfaces are slow to absorb heat rays and consequently will be found many degrees cooler. An application of this principle might well be made to conserve ice and keep refrigerator cars and ships at a temperature sufficiently low to preserve perishable foodstuffs for a longer period. At the present time, refrigerator cars are usually painted an orange color, while refrigerator ships are generally painted battleship gray. Both of these colors rapidly become warm and transfer their warmth to the compart-

ice was also experimented with, but it was found difficult to obtain uniform temperatures in each can because of the difficulty of transferring the ice in exactly equal quantities without loss of temperature. After placing the liquids in the inner cans, the covers, which were spread over the upper surface. The outer containers were then sealed at the top. A row of the varicolored con-

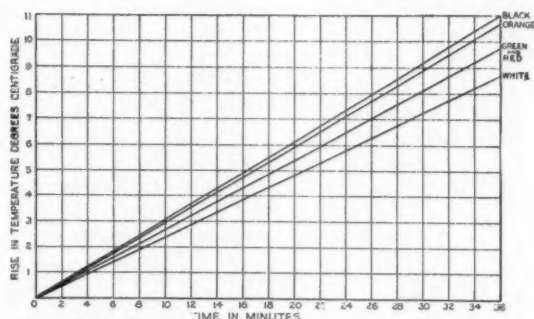
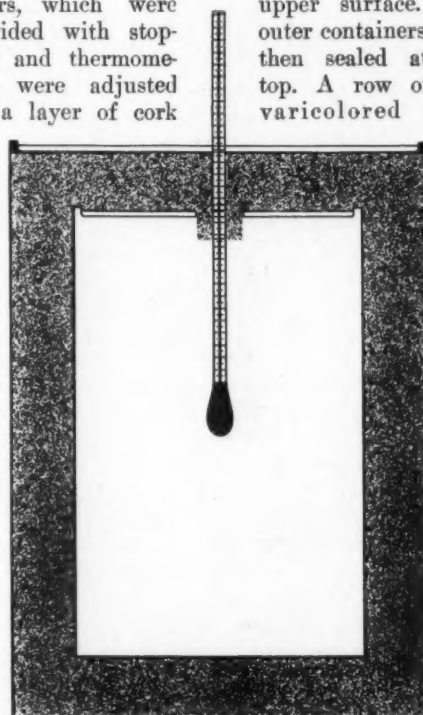


CHART SHOWING COMPARATIVE RISE IN TEMPERATURE OF LIQUID IN CANS PAINTED DIFFERENT COLORS

ments. Losses in ice and foodstuffs may result. White or light tints of paint should be adopted for both of these carriers. This is indicated by the results of some experiments just conducted, which are described below.

Experimental carriers were constructed of friction top containers. A double wall effect was obtained by placing a pint container inside a quart container. Ground cork (about 1/16 to 1/8 inch in diameter) was filled in between. The exterior surface of the outer container was painted in two-coat work, each with a different color. Several containers were thus prepared and filled at the same time with a low temperature refrigerating liquid. The liquid used was ice water in one instance, and a solution of solid carbon dioxide gas in acetone in another instance. The latter had a temperature of 40° C. Closely comparable results were obtained with these two liquids. Cracked



INNER CONTAINER FOR REFRIGERATING LIQUID. CORK-AIR INSULATION. OUTER CONTAINER PAINTED IN VARIOUS COLORS. THERMOMETER PROVIDED FOR LOW TEMPERATURE WORK

tainers was placed out-of-doors in the sun, and thermometric readings made every minute. At the end of thirty minutes, the black cans could not be handled because of their high temperature (140° F.) ** The white cans could be handled comfortably, indicating a much lower temperature. Later experiments with white metallic pigment powders indicated that they do not give as efficient results as a white paint, but superior results to most tinted or colored paints.

* Institute of Paint and Varnish Research, 2201 New York Ave., N. W., Washington, D. C.

** On the roof of Laboratory at Washington, Aug. 6, 1934.

The rapid transfer of heat apparently took place from the outer can through the layer of "cork-and-air" insulating space, and then through the inner can into the liquid. This transfer of heat was very rapid, as is shown by the temperatures recorded at the end of thirty minutes. It is conceivable that much greater differences might be shown at the end of six or eight hours time on a freight car in a sunny yard or even in transit. Convection might, however, play an important feature in the latter instance.

The results obtained in these tests would suggest the use of white or light tints of paints rather than dark colors, on refrigerator cars or ships.

FEW LIMESTONE BEAMS KEEPING STRAIGHT

PROGRESSIVE sagging during long continued application of load has occurred in most of the eighteen limestone beams undergoing fatigue tests at the Bureau of Standards. None of these beams have broken yet. The greatest amount of bending in addition to that produced by the initial application of the load is .005 inches, while the average is .002 inches.

These beams are 28 inches long between supports with a section 4 inches wide by 1½ inches thick. They are supported at their ends and carry at the middle a load equal to two-thirds of the load required to break them. In this condition they have remained now for about 16 months and will remain for a long time to come. The load is to be increased however.

Many cases of fracture in stone buildings have occurred, the Bureau states, in which the load was not excessive and in which failure appears to have resulted from long continued application of the load. Marble and granite slabs have been known to assume a permanent bend or warp under a very slight load, and incidents of this warping in the case of marble can generally be found in old graveyards. Such warping is less common in granite, but a case has come to the Bureau's attention in which some granite steps were warped to such an extent that they had to be redressed, as a result of being left on the ground for some time before use.

THE PHYSICAL PROPERTIES OF MATERIALS

THE Bureau of Standards has issued the second edition of Circular No. 101 entitled Physical Properties of Materials, pertaining particularly to the strengths and related properties of metals and wood. This circular contains 204 pages and is a valuable reference document for those who are interested in this subject. It is complete and represents the latest information available. It can be procured from

the Superintendent of Documents, Government Printing Office, Washington, D. C. Price 40 cents.

RULES FOR GRADING CALIFORNIA PINE

THE California White and Sugar Pine Manufacturers' Association, 600 Call Building, San Francisco, Cal., has issued the new rules for grading California pine which became effective September 15. These rules have been revised to conform to the recently adopted American lumber standards which were formulated under the direction of the Department of Commerce.

The Association is now distributing copies of the new rules upon request from interested parties throughout the country.

INVESTIGATIONS AT THE BUREAU OF STANDARDS

AMONG the investigations under way at the U. S. Bureau of Standards, which will develop useful and interesting data for architects and engineers are the following:

STREET LIGHTING

A paper entitled "A Survey of Street Lighting Practice in the United States" was prepared and presented at the annual convention of the Illuminating Engineering Society. This paper gives data on the cost of street lighting per capita and per mile, and the average levels of illumination in cities of different sizes.

ELECTRIC STRAIN GAUGE FOR USE IN STUDY OF MASS CONCRETE

In co-operation with Engineering Foundation, the design of a carbon resistor cartridge for measuring deformation in mass concrete has been undertaken, with particular reference to the study of arch dams. A design has been completed and an experimental cartridge made up which is now being given a series of laboratory trials to determine temperature and other effects. It is planned to make up a number of these cartridges and embed them in concrete with a view of determining the effects of shrinkage and other factors as an aid to interpreting results obtained in field work.

TECHNOLOGIC PAPERS, BUREAU OF STANDARDS

TECHNOLOGIC Paper No. 250 of the U. S. Bureau of Standards deals with the identification of pulp and paper fibres. It may be had from the Superintendent of Documents, Washington, D. C., for 15 cents a copy. A feature of the publication is a set of colored plates illustrating fibre compositions as they appear under the microscope.

Circular No. 154, entitled "National Standard Petroleum Oil Tables," was issued recently and may be had from the Superintendent of Documents, for 30 cents a copy. It contains tables based on the results of an investigation of American petroleum oils made by the Bureau of Standards and published as Technologic Paper No. 77.

The LAW as to ARCHITECTURE

BY CLINTON H. BLAKE, Jr., of the New York Bar

I HAVE had occasion at various times to say a word of caution with respect to the difficulties which may arise in cases where the client intermeddles in the building operation. If the architect allows him to do this and to authorize or direct changes in the work and departures from the plans and specifications, there is a real danger of loss to the architect and of claims against him, unless he protects himself by some proper notice to the client that he will not be responsible for any work other than that which he personally directs and approves.

I have just had submitted to me a situation which well illustrates the need of caution in a situation of this character. An architect entered into a written contract with a client for the performance of the usual architectural services. The contract was not the standard form and did not make as clear as does the standard form the distinction between ordinary supervision and the supervision to be supplied by a clerk of the works. It did, however, state that a clerk of the works might be employed by the owner, if desired.

The job was residential and involved a stucco construction and an entirely unique architectural result conceived by the client and insisted upon by him. During the course of the work, the client continually appeared on the job and remained there for long intervals and undertook to give directions to the contractor and to the architect for various changes, not only in matters of design, but also in matters of construction. Among other things, he demanded that deep slashes should be made in the stucco and that the stucco mixture should be changed in some vital respects. The architect protested against this latter procedure, and pointed out to him that the stucco would be greatly weakened, if his proposals were adopted, and that the architect could not be responsible for the results. Somewhat similar conversations were had with respect to other details of the construction. The architect pointed out the danger of having the work done as the client demanded, and said that he could not be responsible for the results.

Nevertheless, the client insisted on the correctness of his position and that his commands be carried into effect. The architect seems to have contented himself with his oral protests and statements. Apparently, there are no letters or written memoranda evidencing his statements to the client, and the client now denies them *in toto* and endeavors to throw upon the architect the blame for the damage which resulted from the construction. In this case, also, the client

insisted in over-ruling the advice of the architect with respect to the choice of the contractor and elected to enter into a contract with the lowest bidder and to take a chance on receiving a proper job. The architect advised against this course, to no avail. The client also refused to employ a clerk of the works, when it became apparent that the job was not being properly handled by the contractor, and stated that the supervision of the architect would be sufficient.

As we have often had occasion to note, it is well established that the architect does not make any guarantees against improper work or materials and is not liable for any damages in the event that he uses due care, skill and diligence in his work. The trouble in the case to which I now refer, however, is that the client has decided, apparently, that there is a chance of recovering from the architect and so recouping himself for the damage which has resulted from his own refusal to follow the advice of the latter. In view of his denial of the statements of the architect with respect to the conversations which they had there is presented a clean-cut issue of fact between them.

If the architect, when the client undertook to go over his head in his directions to the builder, and to disregard his advice with respect to the choice of the contractor and the methods of construction to be followed, had gone on record with brief letters, stating his objection to the courses adopted by the client and that he could not be responsible for the results, his present position would be infinitely stronger. In the suit which the client has brought for damages, the submission of these letters should, of itself, insure the success of the architect. In the absence of such written documents, it becomes necessary for the architect to submit to the court and the jury oral testimony with respect to the conversations which he had with the client. Doubtless he will be able to substantiate his case in this way, but the ultimate result is far more doubtful than it would be if written evidence were available.

It is the part of ordinary prudence and common sense to reduce to writing, and keep a proper record of, any protests or statements as important as those which the architect in this case made to the client. Where a client insists on pursuing a course which is not approved by the architect and the latter continues on the job and does not retire, he should at the least not fail to go on record in writing in clear terms as to his position and the fact that he can assume, and assumes, no responsibility whatever for any ill results which

may flow from directions of the client which are inconsistent with the plans and specifications. It is a very simple matter to say in a couple of paragraphs that the responsibility must be the client's and that the architect will not be responsible. The dictation of such a letter will occupy probably five minutes and it may obviate a law suit involving days in court, the employment of attorneys, the attendance of witnesses and all of the uncertainties which necessarily characterize the trial.

The safest course under conditions such as these is to serve such a written notice and at the same time retire as architect, thus definitely casting upon the client the burden of assuming full responsibility himself for any work done thereafter. For many reasons, an architect dislikes to retire when the job is in course of completion. If he makes his position entirely clear by written documents, it will in many cases be wholly unnecessary for him to do so. He will proceed at his peril, however, if he trusts simply to oral protests and continues to supervise work of which he does not approve, without reducing his expressions of disapproval to writing and making a record which will prevent any comeback on him in the future if damage results from the work done.

LEGAL DECISION

PLAINTIFFS, a firm of architects, entered into a contract with a Board of Education for the preparation of plans and specifications and supervision of the construction of a high school. The contract, among other things, specified as follows:

"7. The Board shall pay the architect as and in full compensation for his services hereunder six per cent upon the entire cost of the building; payments to be made as follows:

"1 per centum when the final preliminary study is adopted. 2 per centum when the working drawings and specifications are completed and adopted. 1 per centum when the contract is awarded. 1 per centum in monthly installments, prorated in accordance with the monthly certificate for payment to the contractor or contractors. 1 per centum upon the completion and acceptance of the building."

The contract provided further that the Board reserved the right to terminate the contract in case of the death of the architect or upon fifteen days' written notice and that, in the event of any such termination, the architects should "be entitled as full compensation to the percentages then due." The Board was given the right to reject any and all bids. The architects made an estimate of the cost of the work. The lowest bid received greatly exceeded this estimate and was also far beyond the amount of any funds available for the erection of the school. The Board thereupon rejected the bids, without objection on the part of the architects. Thereafter the matter was temporarily abandoned and, upon the death of one of the architects, the contract with them was rescinded

under the clause in the contract giving the Board the right of rescission above referred to.

In a suit for the compensation due the architects for the preliminary work performed by them, various questions were presented as follows:

"(1) Were plaintiffs entitled to 6 per cent upon the full cost of the building, though it had not been erected? (2) Was this percentage to be reckoned upon what the cost would have been, had the work been done at the time the bids were received and rejected? (3) Was it competent to prove that the contract with plaintiffs was cancelled because of their threat to bring suit, if they were not paid?"

The court held that the words "they shall be entitled as full compensation to the percentages then due" refer only to the particular percentages applicable to the situation as it existed at the time of the cancellation, and that the words "percentages then due" must be given their usual meaning and that:

"If the building was not erected, only 3 per cent was to be paid for the preliminary study and the preparation of working drawings and specifications. There was, however, some work actually done, and for this plaintiffs are entitled to 6 per cent of its actual cost; we say 6 per cent, instead of 5, because there was a 'completion and acceptance of the building,' so far as concerns this particular work."

The court further held:

"It was also erroneous to estimate the 3 per cent on the excessive cost, arising out of the unusual conditions prevailing when the bids were received. As already pointed out, 1 per cent was due when 'the final preliminary study is adopted,' and an additional 2 per cent when 'the working drawings and specifications are completed and adopted.' There was then no other 'cost of the building' except the 'estimates of cost of construction,' calculated by plaintiffs themselves, and hence the 3 per cent, if then paid, as the contract provided it should be, necessarily would have had to be computed thereon. Appellee's contention that these 'estimates of cost presented to board, were but rough estimates largely based upon data received from defendants' superintendent of buildings,' is of no moment. They were none the less plaintiff's estimates, prepared for the purpose of enabling the board to determine whether or not it would ask for bids, and must be held binding, therefore, in case of a decision, in good faith, not to proceed."

Again the court held that the words "the percentages then due" referred to the time of cancellation, but did not refer to the "cost" on which those percentages were to be calculated, and said in this connection:

"Clearly they were to be compensated for the work actually done, not for that which might be done, and equally clearly they were to be measured by the value of the work at the time it was done, not at some later time, when the basis might be either more or less, and certainly not when an unexpected contingency greatly changed the status...."

"It follows that so far as the present record discloses, the jury should have been told that the 3 per cent was to be calculated on the \$643,025 'estimate of cost of construction' prepared by plaintiffs and accepted by defendant, plus the additions of \$190,515.96 made by consent of the board."

Finally, with respect to the question of the alleged threat by plaintiffs to bring suit, the court held that this evidence should not have been accepted, because among other reasons the defendant, the board, had the right to cancel the contract and the reason for this cancellation was therefore wholly immaterial.

Orth v. Board of Education (Supreme Court of Pennsylvania) 116 Atlantic 366.

BEAUX-ARTS INSTITUTE of DESIGN

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF SEPTEMBER 30, 1924

CLASS "B"—VI ANALYTIQUE

"A LOGGIA IN THE FACADE OF A BUILDING"

A large and important residence stands in a broken foot-hill country. The architecture of the building, which is occupied in summer only, is of a character suitable to a hot climate. On one side there is a gentle slope, on which are situated the approaches and gardens. On the other side, however, the walls rise abruptly from the cliffs along a deep and narrow ravine, in which runs a mountain torrent. On the opposite side of the ravine from the building, at a somewhat lower level, winds an unimportant public road, from which the façade may be viewed in its entire extent. The road and ravine slope steeply, disclosing to view a wide and fertile valley.

In the façade of the building overlooking the ravine and the valley the owner wishes to place a loggia, where he can rest on a hot afternoon, enjoying the cool air rising from the torrent, and looking out over the view from a lofty point of vantage. The design of this loggia forms the subject of the present problem. It may be placed at any point in the façade the designer may select, and shall not exceed 50'-0" in length.

JURY OF AWARDS:—E. S. Hewitt, H. R. Sedgwick, H. O. Milliken, J. H. Freedlander, W. E. Shepherd, Jr., E. F. Sanford, Jr., C. H. Aldrich, R. H. Pearce, H. W. Corbett, G. S. Koyl and A. L. Kocher.

NUMBER OF DRAWINGS SUBMITTED:—26.

AWARDS:—

FIRST MENTION:—G. Svalland, Atelier Hiron, N. Y. C.; L. Greenwald, Atelier Parsons—Chicago Architectural Club, Chicago.

SECOND MENTION:—A. LaGiglia, Atelier Blum, N. Y. C.; F. G. Rice, Atelier Cairns, Memphis; C. L. Wiseman, Carnegie Inst. of Tech., Pitts.; B. T. Hibshman, Cleveland Sch. of Art, Cleveland; S. J. La Sosa, Atelier Hiron, N. Y. C.; O. A. Getzlaff, Atelier Kirchoff, Milwaukee; J. A. Barrows, Atelier Norfolk, Norfolk, Va.; G. Riehl, New Orleans Arts and Crafts Club—Atelier Feitel, New Orleans; B. K. Johnson, Atelier Parsons—Chicago Archtl. Club, Chicago; J. McGrath, Atelier Sibley-Licht, Palisade; R. H. Corliss, W. Freeman, O. Hooker, Jr., J. E. Fennacy, and O. M. Bullock, Jr., San Francisco Archtl. Club, San Francisco; W. T. Whiteside, Jr., University of Texas, Austin.

CLASS "B"—VI PROJET

"A LIGHTHOUSE"

On a headland jutting out into the sea, the U. S. Government proposes to build a lighthouse. Dangerous shoals a few miles off the coast make it necessary that the light should be eighty feet above the ground at the spot where it is to be erected.

The light which is to be of the usual Government type should not exceed twelve feet in diameter. Around the base of the light will be an open balcony for observation. The size of the shaft, which is to be of brick, stone or concrete painted white, is not determined but it should be of massive, solid construction.

In connection with the lighthouse and adjoining it, is the keeper's house, which should provide an ample living room, kitchen and two small bedrooms. Forming a part of the house shall be the chamber for the siren which is used during foggy weather. This room, small in size, is where the compressed air tank with its accompanying motor will be located.

JURY OF AWARDS:—E. S. Hewitt, P. A. Cusachs, H. O. Milliken, J. H. Freedlander, W. E. Shepherd, Jr., E. F. Sanford, Jr., C. H. Aldrich, J. C. Levi, R. H. Pearce, H. W. Corbett, G. S. Koyl, A. E. Flanagan, and A. L. Kocher.

NUMBER OF DRAWINGS SUBMITTED:—57.

AWARDS:—

FIRST MENTION PLACED:—D. S. Nelson, Atelier Parsons-Chicago Archtl. Club, Chicago; G. W. Rustay,

Pennsylvania State College, State College; F. Kruger, San Francisco Archtl. Club, San Francisco.

FIRST MENTION:—J. Boehle and A. R. Mohr, Atelier Corbett-Koyl, N. Y. C.; H. W. Swenson, Atelier Hiron, N. Y. C.; F. Ahlson, Atelier Parsons-Chicago Archtl. Club, Chicago; K. E. Ponsford and H. T. Anderson, San Francisco Archtl. Club, San Francisco; J. C. Ehrlich, Atelier Sibley-Licht, Palisade; Helen Belford, Univ. of Southern California, Los Angeles; W. F. Young, Atelier N. T. Vorse, Des Moines.

SECOND MENTION:—Nel Rodriguez, J. Krendel, H. B. Herts, Jr., A. I. Goldberg, J. C. Byers and N. R. Mastrangelo, Columbia University, N. Y. C.; C. B. White, Atelier Cunningham, Wash., D. C.; K. C. Kruchten, F. Bellini, C. A. Smart, I. Dollinger, J. Blumenkranz, and F. J. Ryan, Atelier Corbett-Koyl, N. Y. C.; W. E. Munn, Cleveland Sch. of Art, Cleveland; H. W. Damon, Jr., Carnegie Inst. of Tech., Pittsburgh; R. C. Dean, Atelier Cairns, Memphis; J. M. Hodgson, The Chicago Atelier, Chicago; R. W. Legg, L. A. Turcotte, J. K. Delamarre, and G. Kirkpatrick, Atelier Hiron, N. Y. C.; Rose Connor, 526 La Loma Road, Pasadena; J. M. Scanlon, 1451 Broadway, N. Y. C.; W. Nevara, Atelier Parsons-Chicago Archtl. Club, Chicago; E. G. Von Storch, R. W. Robinson, and D. E. Kennedy, Pennsylvania State College, State College; R. C. Williams, T. G. Ruegg, and H. W. Taylor, San Francisco Archtl. Club; A. N. Johnson and C. P. Erickson, Univ. of Minnesota, Minneapolis; W. B. Tupper, Univ. of Southern California, Los Angeles; A. M. Linn, Atelier N. T. Vorse, Des Moines.

CLASS "A"—VI PROJET

"A MEMORIAL TO BENJAMIN FRANKLIN"

The City of Philadelphia proposes to erect on an important site, a memorial to Benjamin Franklin. The ground available, 300'-0" square, is flanked by four city streets with a wide avenue approaching on the axis of the property from the south.

Benjamin Franklin was a statesman, philosopher, inventor and printer. His life, led upon simple, unostentatious lines, had a profound influence not only upon the times in which he lived but upon civilization of the present day. This character of extreme simplicity should be considered in the treatment of the present problem.

The composition should contain the following elements:

An heroic statue of Franklin.

An assembly hall seating 1000 people with stage for lectures and concerts.

A museum for the preservation of objects and documents of interest pertaining to Franklin. This latter may be treated as a separate building or as wings of the main building.

A rostrum for open air speaking.

JURY OF AWARDS:—E. S. Hewitt, P. A. Cusachs, H. O. Milliken, J. H. Freedlander, W. E. Shepherd, Jr., E. F. Sanford, Jr., C. H. Aldrich, J. C. Levi, R. H. Pearce, H. W. Corbett, G. S. Koyl, A. E. Flanagan and A. L. Kocher.

NUMBER OF DRAWINGS SUBMITTED:—25.

AWARDS:—

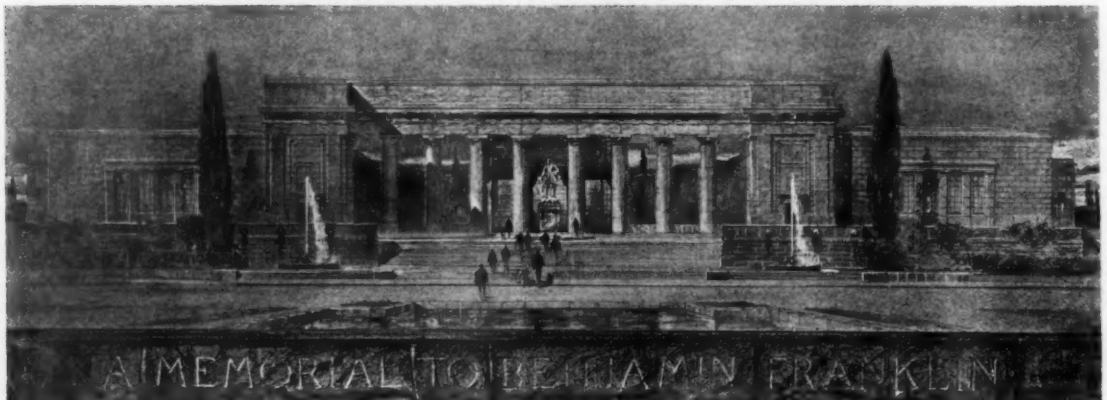
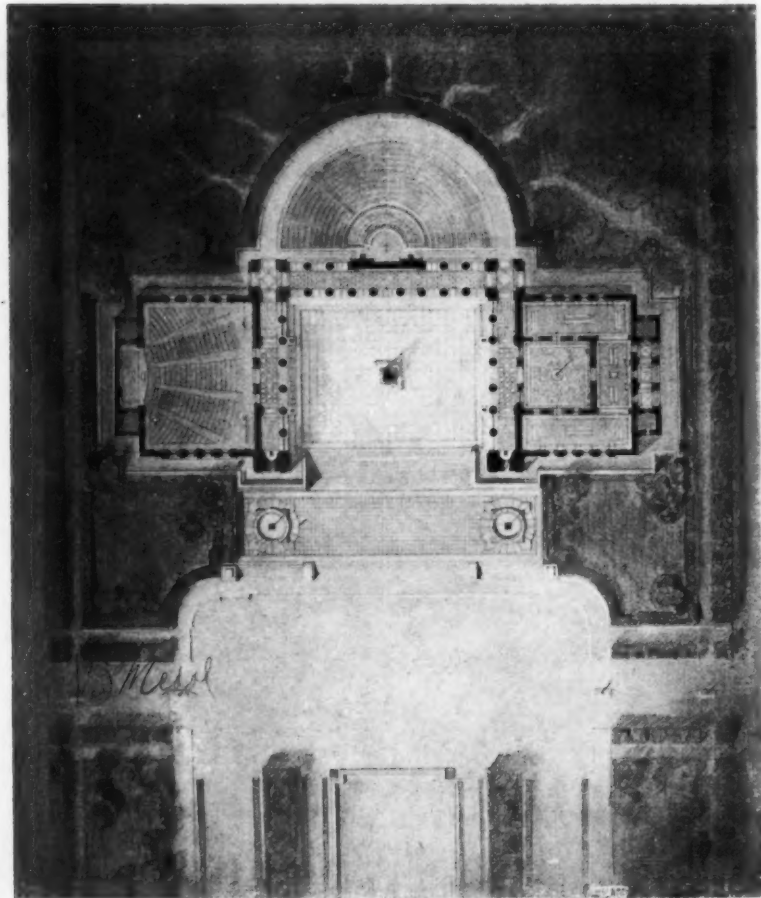
FIRST MEDAL:—G. D. Conner, The Chicago Atelier, Chicago.

SECOND MEDAL:—D. Douglass, Atelier Corbett-Koyl, N. Y. C.

FIRST MENTION:—P. Jacobson, Armour Inst. of Tech., Chicago; V. Pribil, Atelier Corbett-Koyl, N. Y. C.; A. O. Angilly, Atelier Hiron, N. Y. C.; J. Roca, Univ. of Pennsylvania, Philadelphia; W. Ferrari, Yale University, New Haven.

SECOND MENTION:—V. Viscarello and N. L. Flint, Armour Inst. of Tech., Chicago; S. Baum and D. K. Frohwerk, Atelier Hiron, N. Y. C.; G. F. Trapp, Southwest Atelier, Little Rock; E. R. MacDonald, San Francisco Archtl. Club, San Francisco.

HORS CONCOURS:—A. J. Waldeier, Columbia University, N. Y. C.; H. H. Haggans, Patron—J. V. Van Pelt, N. Y. C.; W. H. Schilling, Yale University, New Haven.

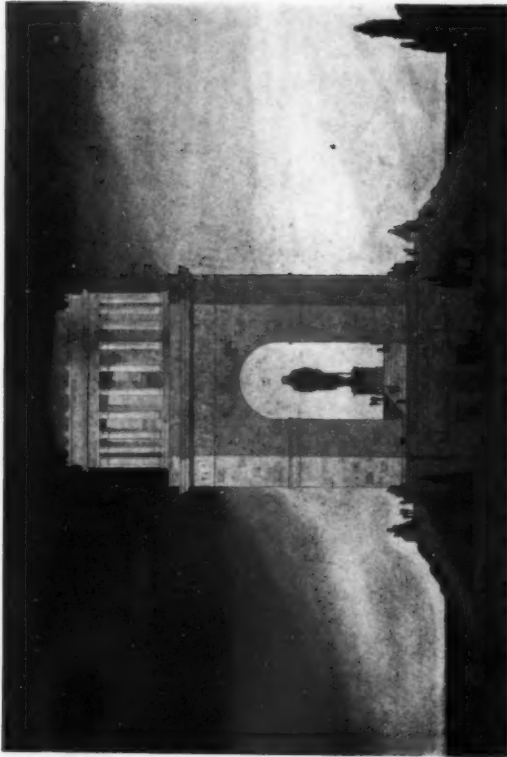


G. D. CONNER

FIRST MEDAL

THE CHICAGO ATELIER

CLASS "A"—VI PROJET—A MEMORIAL TO BENJAMIN FRANKLIN
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



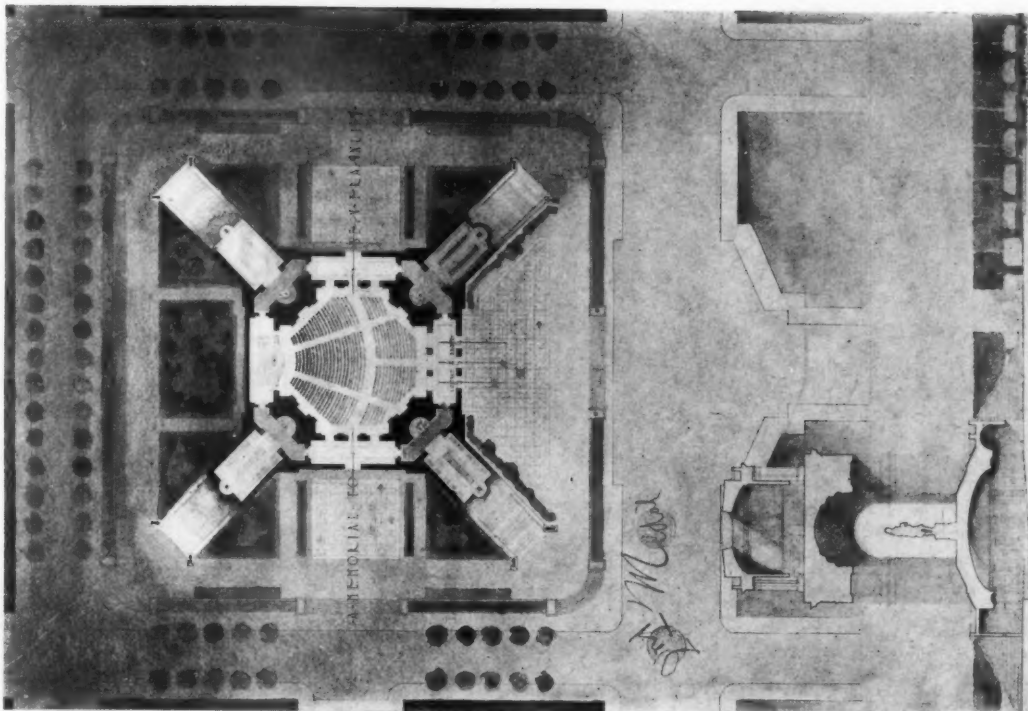
SECOND MEDAL

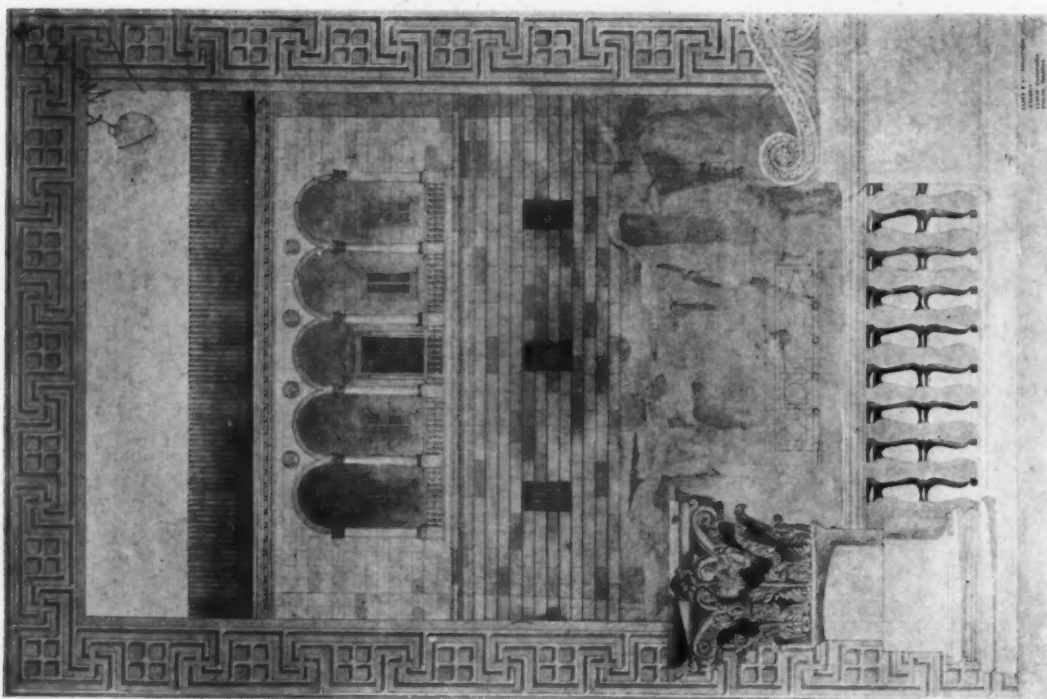
D. DOUGLASS

ATELIER CORBETT-KOYL

CLASS "A"-VI PROJET—A MEMORIAL TO BENJAMIN FRANKLIN

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



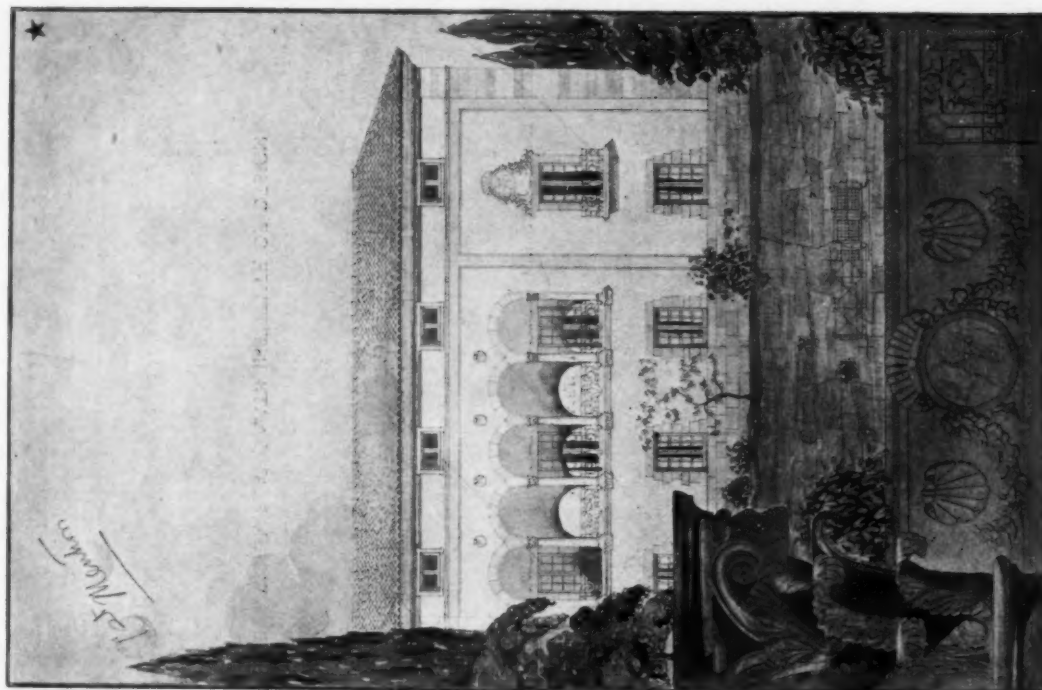


FIRST MENTION

ATELIER PARSONS—CHICAGO ARCHTL. CLUB

G. SVALLAND

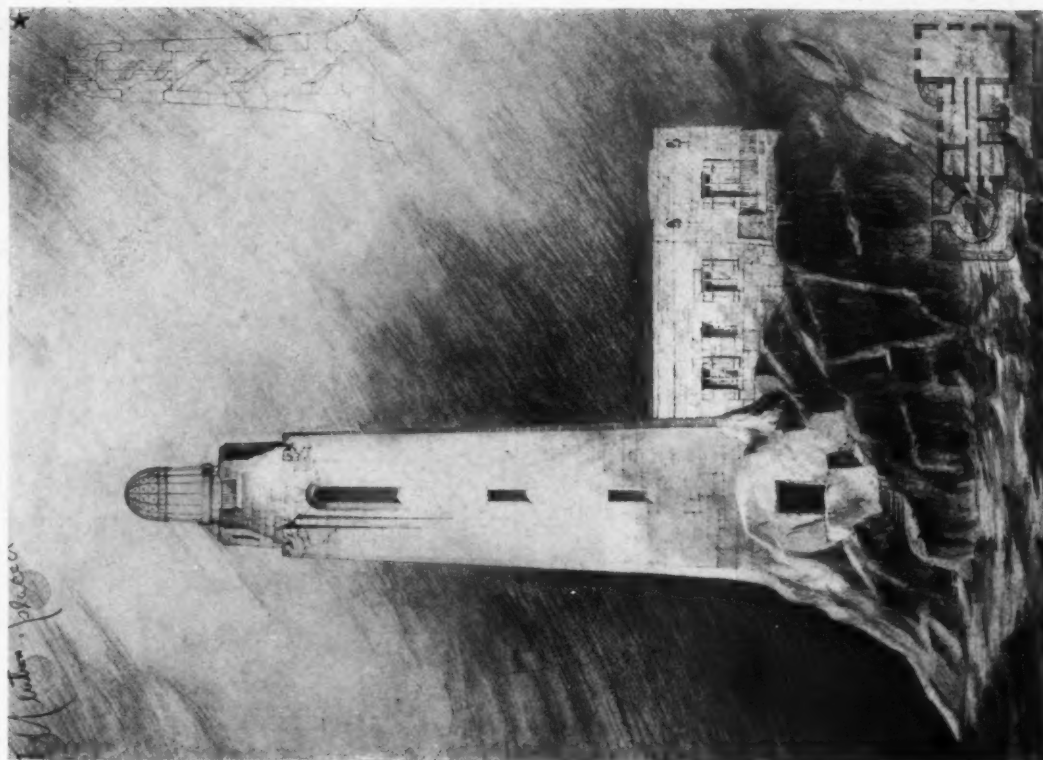
L. GREENWALD



FIRST MENTION

CLASS "B"—VI ANALYTIQUE—A LOGGIA IN THE FACADE OF A BUILDING
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

ATELIER HIRONS



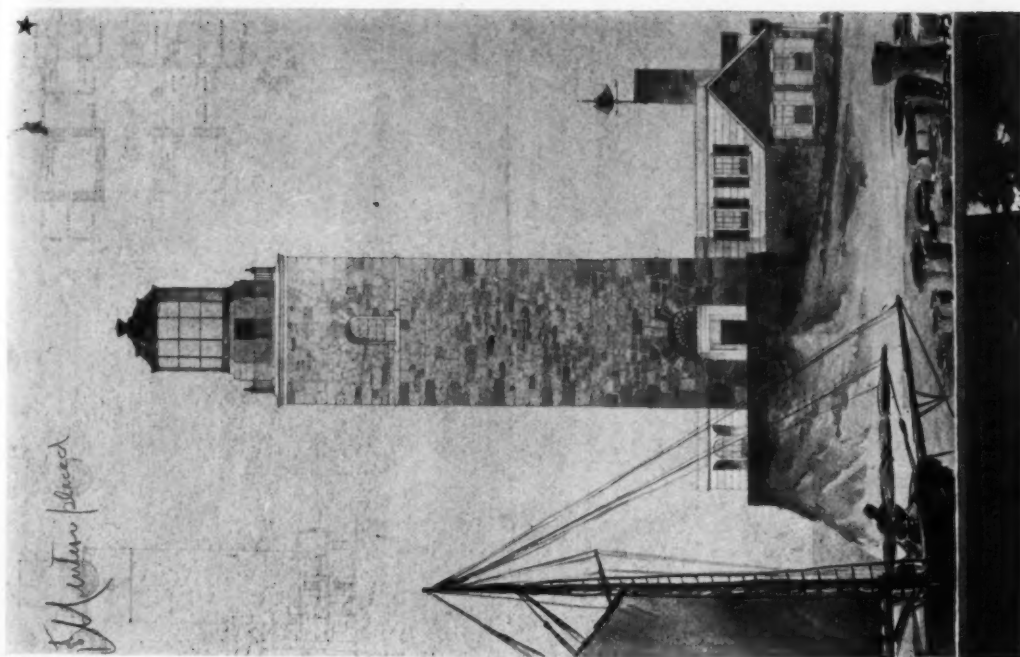
FIRST MENTION PLACED

D. S. NELSON

ATELIER PARSONS—CHICAGO ARCHTL. CLUB

CLASS "B"—VI PROJET—A LIGHTHOUSE

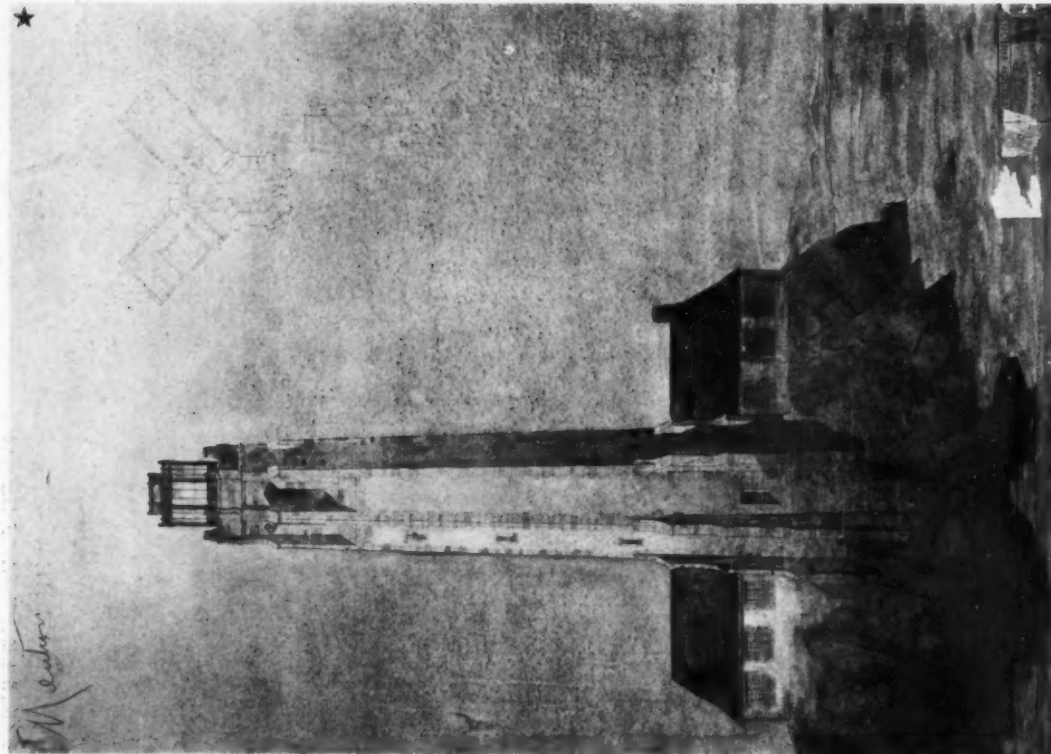
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



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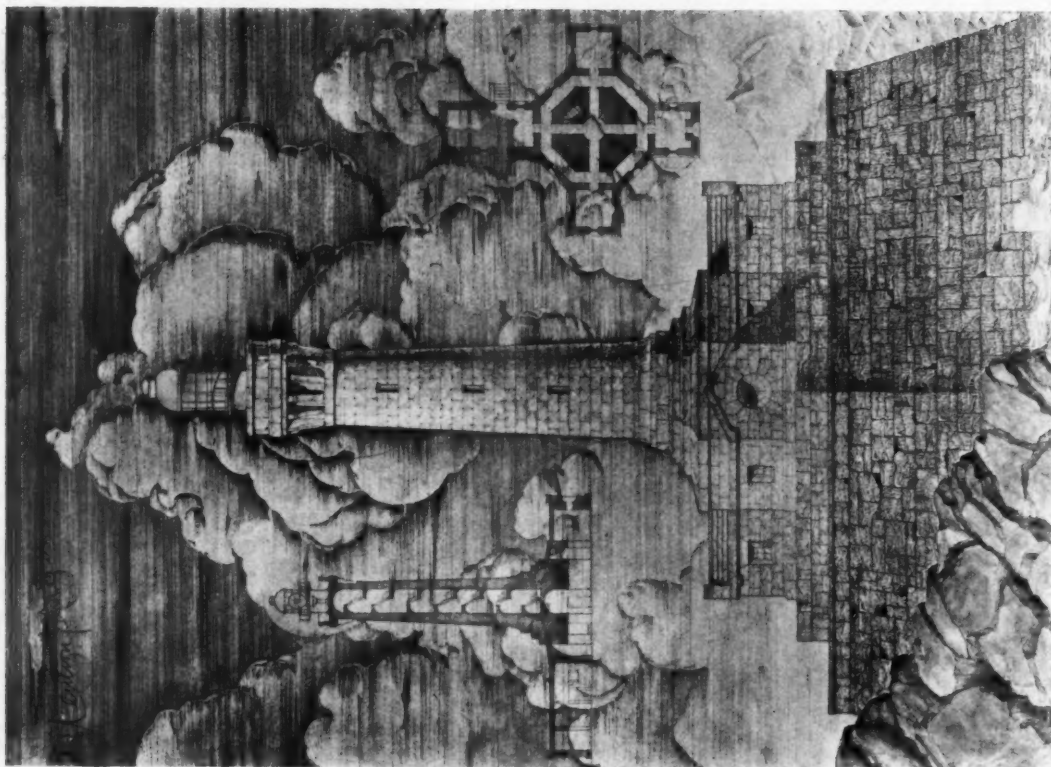
G. W. RUSTAY

PENN. STATE COLLEGE



FIRST MENTION

ATELIER HIRONS

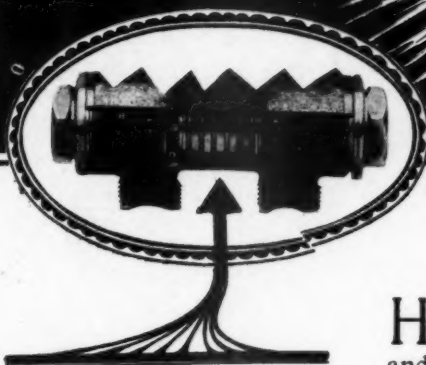


FIRST MENTION PLACED

F. KRUGER

SAN FRANCISCO ARCHTL. CLUB
H. W. SWENSON
CLASS "B"-VI PROJET.—A LIGHTHOUSE
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

The POWERS SHOWER MIXER



Pressure Equalizing Valve

Without this feature, a Powers mixer would simply be another shower mixer.

This valve is a floating piston which controls and equalizes the pressures of hot and cold water before they enter the mixing chamber.

No matter how violently water pressures vary, it provides the positive safeguard against scalding and unexpected temperature changes.

FREE

Write for copy of our book "How to Prevent Scalding and Repair Troubles in Shower Baths."

-a total eclipse!

HERE—at last—is the mixer every user of a shower bath has long wanted! It is a new and entirely different type of mixer. **It is not thermostatic**, yet it has the safety feature found in thermostatic mixers, with less complication and at a lower cost.

Because of its Pressure Equalizing Valve, a Powers Mixer surpasses and casts into the shade all past attempts to protect bathers from sudden "shots" of cold and scalding HOT water. It IS absolutely Scald-Proof!

Reduces Repair Troubles

This mixer has no thermostatic coils, no diaphragms, and no composition valve seat washers on hot water inlet to wear out and need frequent repairs. Its sturdy all-metal construction insures a durability not equalled by any other mixer. Comes in 4 styles, for exposed and concealed piping.

THE POWERS REGULATOR COMPANY

33 years of specialization in automatic temperature control

ATLANTA
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SPECIFICATIONS

RECENTLY there has come to our notice a volume entitled "SPECIFICATION" which is published in England. This volume presents specifications for various branches of construction and equipment work and in addition, describes materials and methods.

Since architects quite often wish to procure antique glass or glass of a presumably antique character, it is thought that the following descriptions of some kinds of such glass which is taken from this volume, will be of interest.

"Cathedral Sheet is an unbleached sheet made with the imperfections of old glass, consisting of bubbles, striations, and irregular flattening. It has a quasi-antique effect that is restful and pleasing, and gives that substance to a window that prevents it appearing as a 'hole in the wall,' which is often the case when perfectly plain glass is used. The leaded windows in old churches and manor houses are usually of a similar kind of glass. It is made in various quiet tints.

"Specky Sheet is a production on the same lines as Cathedral Sheet, but the 'specks' are multiplied and the imperfections are increased, so that when cut into small pieces it still has a pronounced antique appearance. It is made in deeper tints and more decided colors than Cathedral Sheet.

"Ambeth Glass, originally derived from Italy, is now made at Sunderland of very fine quality in many tints and colors. Its principal value is in leaded and stained work, as it fires well and stains excellently. The texture varies from nearly clear with a wet-looking surface to almost densely obscured, so that it is possible with this glass to obtain a graduated effect from quite clean to an absolutely obscured outlook.

"'Antique' Glass, a sheet glass, is of precisely the same make as mediaeval glass, hence this glass is in all respects 'antique' and is in no sense an imitation but a reproduction. In color also tradition is largely responsible, with the result that the color of antique glass is more varied and much finer than that of ordinary commercial glasses. The manufacture of this glass is confined to London, Birmingham and Sunderland. In each case the work is in the hands of one family who have made it hereditary. English antique glass is known all over the world, and no glass is equal to it for the production of the highest class of stained glass windows. It is made in very small quantities and small sheets, and is, therefore, costly and only used by artists in stained glass

or leaded work of high quality. The color range is unlimited.

"Crown glass is made in large discs. The molten metal is taken on a rod and whirled till the centrifugal force has flattened the knot of glass into a disc some 6 ft. across. In the center of the disc where the rod is broken off occurs a blob or 'crown.' From this the glass radiates, decreasing in thickness into a fine flawless expanse edged by a ridge or selvedge. The glass is slightly convex, a quality that imparts a peculiar charm to it when the curved surface is fixed with the slight bulge outwards. The available squares are those that can be cut between the central blob, which extends some 6 in. and the marginal ridge, seldom above 18 in. square. The 'crown' or 'bullion' is used for quasi-antique work, and fetches a high price, so much so that imitation crowns are specially made to meet the demand. Crown glass is characteristic of Georgian work, and is therefore now much more in demand than a few years ago. The prices vary from 2s to 5s per foot according to size and quality, the larger sizes costing the higher price. Small panes with crowns of less than usual boldness are cut from discs of 12 in. to 18 in. diameter. Discs of less than 12 in. diameter are known as 'roundels.' They are made in all colors, from 1 in. diameter upwards.

"Norman and early English style of glass is made in slabs by blowing the metal into a square case-bottle mould and cutting the sides of the bottle out into slabs. No other glass gives quite so brilliant and jewel-like an effect as slab glass, which, used either as square panes leaded together or as inserted pieces in leaded or painted work, is extremely effective. Slabs are made in all colors and in sizes up to 7 in. x 12 in.

"Triplex Safety Glass consists of two pieces of glass between which is introduced a sheet of transparent zylonite. Triplex glass is indistinguishable in appearance from ordinary plate glass, the adhesion of the layers with transparent cement under high pressure rendering compound character imperceptible. Triplex, however, is virtually unbreakable, and, although it may get cracked, it remains airtight, watertight, and fire-resisting. It is also burglarproof, as it cannot be cut with a diamond."

ORNAMENTAL IRON SPECIFICATIONS

To add one item to the list of materials spoken of in the last issue, it might be well to mention



*The PARK LANE, New York: Schultze and Weaver, Architects;
George A. Fuller Co., Builders; Nason Manufacturing Co., Jobbers;
John McMillan, Plumber*

KOHLER

And the PARK LANE

For the Park Lane, one of the most recent and exclusive of the apartment hotels of New York's fashionable Park Avenue section, Kohler "Viceroy" built-in baths were selected. There are two hundred and ninety-five of them in this aristocratic and luxuriously appointed hotel.

Kohler Enameled Plumbing Ware is approved by discriminating architects for its beauty of design and for the quality and uniformly fine color of its enamel. Kohler Ware may be identified by the name "Kohler," unobtrusively fused into the enamel of every fixture.

KOHLER OF KOHLER

Kohler Co., Founded 1873, Kohler, Wisconsin
Shipping Point, Sheboygan, Wisconsin

BRANCHES IN PRINCIPAL CITIES

MANUFACTURERS OF ENAMELED PLUMBING WARE AND KOHLER AUTOMATIC POWER AND LIGHT 110 VOLT D. C.

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Monel metal which has been used to some extent in architectural cast metal work. Monel metal is quite expensive but it produces very beautiful results and because of its nature does not require painting. The advantage of omitting painting lies not only in the cutting out of extra original and maintenance costs but in taking advantage of the interesting gray color of the metal for the general color scheme of the metal work.

The iron foundrymen must have had some experience in the casting of Monel metal before undertaking its use for finished work but there is sufficient information at hand in the offices of the producers of this material to enable any efficient foundryman to use it to good advantage in the production of clean-cut and straight castings.

In the same manner mentioned in the last issue respecting the care in the preparation of the outline for the scope of work included in the ornamental iron specifications, equivalent care must be given the matter of checking shop drawings, and this, of course, must be specified so that the contractor will know what he has to do and what he may expect in the way of preparing and submitting shop drawings. The preparation of shop drawings must be started immediately after the award of the contract and two or more copies should be submitted for the approval of the architect.

Shop drawings must show in detail all profiles and sections, especially where they come in contact with other materials. All forms of anchorage that are to be built in before the items anchored are installed, must be indicated on the shop drawings. Methods of anchorage or fastening that will be installed with the finished work should be shown with equal finality as it may be necessary to make some provisions for receiving these anchorages in the surrounding masonry, stone or other work. In other words, shop drawings must show complete methods of shop construction, fitting together and field installation. In addition, some care must be expected in solving problems of support for certain cast members such as long mullions or spandrels. These matters of support may not have been indicated in any way on the architect's drawings, but they must be expected in order that the finished work shown on the drawings can be supported in the position assigned.

The shop drawings should be very carefully checked by the contractor before their submission to the architect, and the architect at the same time should see to it that the shop drawings of contractors furnishing surrounding material where such drawings have been prepared, are furnished to the iron contractor, preferably before he submits his drawings. Sometimes this cannot be done, but there should be in the paragraphs for shop drawings, some note regarding the interchange of drawings with other contractors.

The matter of modeling ornamental work must be given a great deal of thought. It is presumed that the specification writer will know the class of foundrymen who will figure on the work and he should have some conception of their modeling ability. If the iron contractor is to prepare his own models for inspection by the architect, the specifications will require as good modeling as for any other part of the work even though it may be expected that the modeling will not be up to the standard of modeling for plaster or carved marble work. If the owner is furnishing models—and this, by the way, is the preferred method of handling this part of the work—the specifications must require that the contractor receives the models at some point either at the studio of the modeler, in which case he will pay all charges for transportation to his shop, or he will receive them at his shop. If a great number of models are involved in the work, the matter of transportation charges, if not definitely determined by the specifications, undoubtedly would be the subject of a controversy.

No matter by which method models are produced, they must be produced to the scale required by the iron foundryman for his pattern work—that is to say, if he requires it, the full size details and the models must be made to a shrinkage scale. The specifications should require that the iron contractor furnish this information before the architect commences preparation of his detailed drawings.

If the iron contractor is furnishing his own models, the specifications might well require that the models be hung in the modeling shop approximately as in the position as to height and light as will obtain in the final work as installed in the building. If the owner is furnishing the models it would be expected that the owner's modeler will place the models in this position as a matter of course, although the specifications should not consider that this is understood without stating it.

The ornamental iron contractor should prepare his moulds directly from the plaster casts taken from models, making all due allowance for the draft required, or other contingencies in moulding and casting work. The specifications should require that all modeled cast iron conform as nearly as possible to the plaster models as shop practice will permit. The contractor should be required to furnish photographs of the models if he makes them and photographs of the cast ornamental work after having been removed from the moulds and finished in some way to give a good conception of the work that may be expected for delivery. The specifications must require that if the work cast does not conform to the plaster castings as revealed by the photographs or by personal inspection, all such work will be condemned and new work substituted for it.



*Federal Reserve Bank, Cleveland, Ohio • American Walnut
Walker & Weeks, Architects*

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THUMB TACK CLUB OF DETROIT TO HOLD EXHIBITION

THE Thumb Tack Club of Detroit will hold its Fourth Annual Architectural Exhibition at the Detroit Museum of Arts, November 17 to 30 inclusive.

Any inquiries regarding the Exhibition should be addressed to Clair W. Ditchy, General Chairman, 324 McKerchey Bldg., Detroit.

RECONSTRUCTION IN THE SOMME

NOTWITHSTANDING the cessation of building activities toward the end of the year, states *Engineering News-Record*, French reconstruction work in the Department of the Somme for 1923 greatly exceeded that for 1922, according to a report from Consul Davis B. Levis to the Department of Commerce, the value of the work for 1923 reaching 500,000,000 francs (\$27,159,152). Repairs to dwelling houses and farm buildings, already nearly finished, will be completed in 1924. Out of a total of 33,376 dwellings, 30,560 have been repaired, 5,439 of these during 1923. The figures for farm buildings are: total, 16,897; repaired 12,866; during 1923, 3,252. Some dwellings and farm buildings never will or can be repaired, for various reasons. It is significant that in both rural and town dwellings much attention is being paid to sanitation and modern conveniences. Fully 92 per cent of the new structures are of brick.

EMPLOYMENT IMPROVES AND WAGES ARE STEADY

EVERYTHING points to a slow but steady improvement in industry, says the National Industrial Conference Board. The latest survey of wages, hours and employment in twenty-three leading manufacturing industries, covering the month of August, shows a definite upward tendency in the number employed and in the average of hours of work per wage earner.

The rapid curtailment of industrial and business operations in the Spring, together with the cautious hand-to-mouth buying for immediate needs through the Summer has apparently decreased inventories to that point where public needs for consumption are producing better conditions.

Employment from July to August stood at 71% of the number employed in June, 1920, but, as the Board points out, comparisons of present conditions with those of a boom period are often misleading and the present conditions reflect a fair course of normal progress. Employment is at least 5%

higher than it was in 1914. Further evidence of improvement is shown in an increase of nearly one-half hour in the average week worked per wage earner and of more than an hour in the average hours of plant operation from July to August.

It is a remarkable fact that in spite of an industrial depression of some severity, with very few exceptions, wage rates have maintained the high levels which were reached in the boom period of last year. Although average hourly earnings of all wage earners dropped 3 cents in August over July, they still remain 127% above the level of July, 1914, and not far from the level of a year ago. "Real" earnings declined slightly between July and August due to increase in living costs, the purchasing power of hourly earnings falling from 41% to 39% above the July, 1914, level. The Board's monthly survey of the cost of living shows very little change for the month, August 15 to September 15, the principal changes being a 2% increase for food and 1% decrease for clothing. The cost of living has decreased 20% since the high peak of July, 1920.

Further evidence that industrial conditions are improving is found in a summary of wage changes throughout the United States during the month ending October 14, made by the Board which reveals forty increases and six reductions.

XIITH INTERNATIONAL CONGRESS OF ARCHITECTS

THE Proceedings of the XIth International Congress of Architects held in Brussels, September 4-11, 1922, under the auspices of the Societe Central d'Architecture de Belgique has just been received.

The publication is unique as it gives an insight into particularly the European point of view of such subjects as the following: The Responsibilities of the Architect; Schedule of Charges; The Appointment of State and Municipal Architects; Architectural Copyright; The Aims and Duties of the Architect; Women Architects; Public National and International Competitions; City Planning; Small Houses; The Regional Influence of Architecture; The Preservation of Historic Monuments.

An International Exhibition of Architecture was also held in connection with the Congress and many of the works exhibited have been reproduced in portfolio form by the Societe Central d'Architecture de Belgique. A few copies of the proceedings and the portfolio of drawings may be had from the Secretary of the Congress, R. Moenaert, Rue Artan, Brussels.

QUALITY LEAVES

ITS IMPRINT



As Silent and Sure as the Close of Day

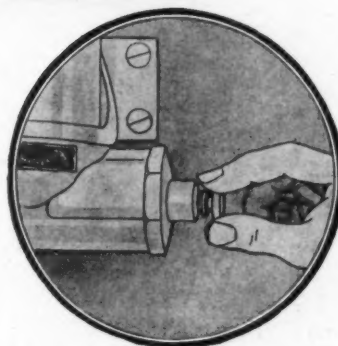
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NATIONAL MONTHLY BUILDING SURVEY

THE volume of building permits issued and plans filed throughout the country during the first nine months of the present year was, as set forth in a nationwide survey of building operations prepared by S. W. Straus & Co., of New York, between six and seven per cent ahead of the corresponding period in 1923. This is indicated by the complete official reports from the 320 leading cities and towns which showed \$2,778,740,612 compared with \$2,601,816,803, a gain for the nine months' period of \$176,923,809.

The Eastern and Southern sections of the country made praiseworthy gains during the three-quarters period. In the East a 16 per cent increase was shown while the 49 leading cities of the South made an aggregate increase of 13 per cent. The Central and Far Western sections of the country displayed slight losses.

Among the large cities, New York made a new high record during the three-quarters of the year, the total in plans filed for the period being \$681,693,000 compared with \$575,015,000 last year, a gain of \$106,678,000 or nearly 20 per cent. Detroit, Philadelphia, Boston, San Francisco, Milwaukee, Baltimore, Dallas, Denver, Providence, Louisville and Rochester made gains worthy of notice.

The showing in September was slightly better than for the nine months' period. Every section of the country revealed greater potential activities. The Southern cities gained 20 per cent; Eastern, 12 per cent; Western, 4 per cent, and Central, 2 per cent.

The twenty-five leading cities of the country gained about \$12,000,000 over September, 1923, and \$17,000,000 over September, 1922.

The reports indicate that in both New York and Chicago the gain in building activities has been somewhat checked. Plans filed in New York were \$45,748,315 as against \$44,104,374 in September, 1923, and \$49,628,756 in September, 1922. Chicago reported the issuance of building permits amounting to \$22,228,200 as compared with \$27,874,705 in September last year, and \$12,263,100 in September, 1922.

An interesting feature of the month's report was the return of Los Angeles to third place among the cities of the country, although it ranked fourth for the nine months' period.

Detroit continued to show tremendous building activities, the amount of permits issued being \$12,542,789, compared with \$9,708,726 in September, 1923. Large gains for the month also were made in Cleveland, Boston, San Francisco, Washington, Milwaukee, Indianapolis, Cincinnati, Denver, Providence, Philadelphia, Baltimore, Dallas and Louisville. All of the twenty-five leading cities of the country showed gains in September, excepting five.

PERSONALS

Frank Grad, A. I. A., has moved his architectural offices to 1023 Broad Street, Newark, N. J.

Samuel M. Hitt, architect, has moved his office from 901 Main Street, to 114 West Tenth Street, Kansas City, Mo.

Lyman Farwell and A. Lawrence Valk have formed a partnership for the general practice of architecture with offices in the Laughlin Building, 315 South Broadway, Los Angeles, Cal.

Theodore B. Wells, architect, First National Bank Building, Grand Forks, N. Dak., has recently taken over the architectural office of Bert D. Keck who left that city to locate on the Pacific Coast.

W. J. Smith, architect, has opened an office for the practice of architecture in the Blankfield Building, Derby, Conn., where he would be pleased to receive manufacturers' catalogs and samples.

Fred B. Klein, architect, announces the opening of offices at 407-409 Commercial National Bank Building, High Point, N. C., where he would be pleased to have manufacturers send catalogs and samples.

F. M. Godwin, W. F. McCulloch and G. R. Thompson, architects, announce the removal of their offices from 350 Madison Avenue to Room 1403 in the Berkeley Building, 19 West Forty-fourth Street, New York City.

Arthur J. Wills, architect and engineer, has moved his offices from Minneapolis to 1519 City Hall Square Building, 139 North Clark Street, Chicago, Ill. Manufacturers' catalogs and samples, especially those relating to apartment buildings, auditoriums and office buildings, are requested.

Theodore L. Condron and Chester L. Post announce the formation of the firm of Condron & Post, 53 West Jackson Boulevard, Chicago, Ill., to continue the engineering practice carried on by them under the name of Condron Company since 1912 and by Mr. Condron since 1901.

The architectural firm of Mayer & Mahnken has been dissolved. William Mayer, Jr., senior member of the firm will continue the practice of architecture at the old address, 711 Bergenline Avenue, West New York, N. J., which was established in 1909.



Tomb of Cortesia Serega, Church of Sant Anastasia,
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(From a revised and enlarged edition of "Color in Architecture" published by the National Terra Cotta Society.)

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Early Renaissance Italy did not hesitate to use Terra Cotta for embodying some of its noblest work in architecture and decorative sculpture.

The above illustration occurs in a revised work on Color in Architecture permanently bound and amplified with many new color plates giving suggestions for polychrome treatment based on the best historic precedent. This is now available for distribution to members of the architectural profession.

As the edition is limited, copies can be supplied only when professional identity is made clearly evident in requests written upon official stationery. Address:

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THE Board of Governors represent memberships in the following national societies: American Institute of Architects; American Society of Civil Engineers; American Society of Mechanical Engineers; American Institute of Electrical Engineers; American Society for Testing Materials; American Concrete Institute; American Iron and Steel Electrical Engineers; indicating the scope and activities of The American Specification Institute.

THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW has gratuitously set apart this section for use by The American Specification Institute. The Editors and Publishers assume no responsibility for any statements made, or opinions expressed.

The purpose, simply stated, is to afford an organization which, it is believed, will become a most important element in architectural practice and building operations, a medium through which it may, without expense to itself, reach a class of readers that are most intimately identified with the field of the activities of The American Specification Institute.

Publishers, THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW.

THERE have appeared in these columns, during the past three years, numerous reasons and arguments for membership in The American Specification Institute. These reasons and arguments are multiplying as time passes and the committees of the Board of Governors produce bulletins for distribution to the membership.

There appears to be a misapprehension, given emphasis from time to time through correspondence to the Executive Secretary's office, that documents of the Institute are available to non-members upon request. Also, some readers of this page seem to feel that the matter published here is not complete enough for their use.

It is, of course, not to be expected that all of the work of the Institute would be published broadcast, so that "all who run may read." Rather, the matter that has been published has been presented not only as a matter of general information but also to indicate to non-members something of the work of the Institute and something of the interesting material that non-members are failing to procure.

The Institute will continue to restrict the distribution of its publications to the membership

gratis. All bulletins published may, of course, be procured by non-members at a charge based on the value and comprehensiveness of the work. Such charges, however, will be considerably in excess of the annual dues and it will be to the financial benefit of all who may gain profit from the work of the Institute to become members. There is one other advantage in membership that is directly related to the matter of profit. The bulletins generally are tentative and are so denominated when published. It is not known when revisions will be made but it is certain in many cases revised publications will be made within a year after the original publication. These revisions are made in the interest of greater comprehensiveness, greater accuracy or more concise statements of materials or methods requirements. Members receive these revised bulletins, but non-members will not.

For the benefit of those readers of THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW who are not members of the Institute the following statement of the organization and work together with membership requirements is repeated. Further information may be secured from the office of the Executive Secretary at the above address.



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THE AMERICAN SPECIFICATION INSTITUTE ORGANIZATION

The Institute is a professional organization; it is incorporated "not for profit" and all income is devoted exclusively to operating expenses. All officers serve without compensation.

OBJECTS

To increase and distribute the knowledge and to improve the methods of writing specifications for engineering and architectural materials, equipment and structures.

SCOPE

The Institute is active in all fields of architecture and engineering and all such professional activities are represented in the membership.

METHODS

Specifications and information are collected from other organizations and sources and made available for the use of the members by actual distribution or reference.

The objects are accomplished by the exchange of specifications, information and ideas, which are studied, discussed and arranged in standard form and distributed to the members.

All specifications and information are distributed in the form of bulletins and the Institute handbook.

RESULTS

The activities of the Institute result in standard specifications based on broad experience and knowledge. Such specifications systematize the work of the specification writer and produce contracts which are to the mutual advantage of the owner, contractor and manufacturer.

INSTITUTE PUBLICATIONS

The publications of the Institute are distributed to members without charge. Volume I of the SPECIFICATION RECORD is priced at \$10.00 and is available as long as the supply lasts; the bulletins are available at five cents per page with a minimum charge of twenty-five cents.

MEMBERSHIP REQUIREMENTS

Article III. Membership

Section I. Membership in this Institute shall consist of the following grades: Active, Associate and Honorary members and Patrons. No persons who are engaged in the production, manufacture or distribution of materials that are purchased or used under specifications shall be eligible to membership.

Section II. Active members shall not be less than twenty-five (25) years of age and shall be persons who devote their entire time or a part thereof to the writing of specifications.

Section III. Associate members shall not be less than twenty-five (25) years of age and shall be (a) testing and laboratory engineers who are engaged in research relating to materials or methods that are subject to or included in specifications and (b) instructors in specification writing in architectural and engineering schools.

Section IV. Honorary members shall be persons who have rendered distinguished service to the art or science of specification writing.

Section V. Patrons shall be persons who have contributed to the financial support of the Institute.

Section VI. With the exception of Honorary members, all members shall have the privilege of voting and shall be eligible to hold office. Honorary members shall not be entitled to vote or hold office, but shall be entitled to all other privileges.

DUES

Article V. Annual Dues

The annual dues for Active and Associate membership and Patrons shall be fifteen dollars (\$15.00) and shall be payable annually on the first day of May of each year.

THE INCREASING IMPORTANCE OF DEFINITE GLASSWARE SPECIFICATIONS

IT is general knowledge that adequate lighting systems in industrial plants and stores are important factors in increasing production and sales. The result of tests made is, that production can be increased 12.5% and sales can be increased 29% through the installation of an effective lighting system. Thus a responsibility is placed upon the architect to provide buildings with the most efficient lighting system possible.

Architects can no longer be content with delegating to others this responsibility. They must not be willing, either, to make indefinite blanket-specifications or to resort to such old-fashioned phrases as "adequate" or "equal." The specification must be definite. They must concern themselves with providing clients not merely with light but with correct light—light that produces increased results in production and sales.

The need of efficient lighting extends beyond the commercial and industrial fields, to civic buildings, hotels, institutions, libraries and particularly schools. School authorities, from the standpoint of eyesight conservation alone, are interested in the development of efficient lighting systems and are exacting proof from competing glassware manufacturers concerning the efficiency of their lighting glassware.

From different sources, architects may receive definite and dependable data on which to base satisfactory specifications. The importance of the correct specifying of lighting glassware is a matter that should not be neglected by architects.



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