

THE AMERICAN ARCHITECT

The ARCHITECTURAL REVIEW

VOL. CXXIII

WEDNESDAY, APRIL 25, 1923

NUMBER 2418



Fig. 1. Room in an English house, "The Truth About Blayds"

Designed by Norman Bel-Geddes

This set represents the Realistic school at its best, though Bel-Geddes is too versatile an artist to be easily pigeon-holed with it. The interior is designed with a vigor and simplicity rarely encountered in this type of set. The few furnishings are tastefully arranged, and give the play the proper background and "atmosphere," and that is all important. The artists of the Realistic school are too prone to forget that "the play's the thing," and cumber up the stage with many meaningless objects

STAGE SETS—PART I*

BY ROI L. MORIN

ONE of the oldest and most banal ways of beginning a paper is by means of an apology, yet it seems that either an apology or an explanation is due for introducing into a technical periodical a subject which would appear, at first hand, to pertain rather to the so-called "art" magazines. But this curious association of ideas is a fallacy, as one may readily see after a moment's thought, for what art other than architecture is more closely related to the design of stage scenery? Surely not painting or sculpture, nor even dramatic literature itself, for modern scenic art has gone far beyond contempor-

ary dramatic literature. A scenic artist is no more than an architect with a highly developed sense of color, who is a student of dramatic literature, and is familiar with the mechanics of his craft, such as, for instance, the materials of construction, wood and cloth, and the use of pigment in conjunction with lighting instead of pigments *per se*, as a painter uses them.

Architecture is not merely a laying of brick and a mixing of mortar but has diverse and curious branches, not the least of which is scene design. This was fully appreciated by the men who directed the large exhibition of The Architectural League of New York in 1921, at the Metropolitan Museum, when a large room was

*A sketch of the modern work on the legitimate stage, in no wise related to the huge, impressive, realistic settings in the movies.

given over almost entirely to drawings, photographs and models of stage sets.

Modern stagecraft is at odds with itself because it is so strangely close and at the same time so alien to the work of an architect. It is close because the architect's trained imagination and his schooling in design and composition serve as an excellent foundation in the event that he turns to the stage. On the other hand, much that he has learned about "periods," etc., and his propensity toward realistic design will prove disastrous unless it is properly controlled. *Yet this is none the less true of any other art or craft.*



Fig. 2. Courtyard scene before the Tower of London, "Richard III"

Designed by Robert Edmond Jones

The Expressionistic-Realistic setting. An example of work by an artist of the new school, still strongly influenced by the old. The simplicity and strength of the few bold details suggest the coldness and cruelty of this bloody drama. The same set with slight changes was used for street scenes, etc.

The mere mechanics of designing sets of the proper period, with details in scale and furnishings in keeping would be comparatively simple to the average intelligent draftsman, but modern stagecraft has opened up vistas of which the old school never dreamed, and the mere function of designing a room in the Tudor style, or a street in Venice *au naturel*, is regarded as a mere rudiment of the profession in the theatre. Stagecraft today is suggestive and symbolical, and seeks to reveal to the observer the inner significance of the drama.

Several years ago a beautiful new theatre was opened in New York, designed by an architect who was thoroughly conversant with his work, both from the practical and æsthetic viewpoints. The architect was also commissioned to design the stage setting for the opening performance of a new play. The result was an English panelled room in good taste, as real as the living room of a country house on Long Island, but utterly banal from the viewpoint of modern scene design, which shuns literal presentation.

Strange to relate, few architects have turned to stage work, though many have become art directors in the movies. Most of the scenic artists today are easel artists who have been drawn by the

irresistible fascination of the stage. The Englishman, Gordon Craig was a dilettante painter and actor; the Germans, Reinhardt and Linnebach were respectively directors and stage mechanics; in this country, Joseph Urban, Norman Bel-Geddes and Jones were painters, while the Russian, Bakst, is a decorative painter of the highest order. It is the purpose of this paper to show what these men are doing.

Modern stagecraft may be divided into two distinct, and utterly different schools. Realism and Expressionism. The school of Realism came into vogue some fifty years ago, and its purpose is, as one may gather from the title, to reproduce a literal picture of the scene, i.e., every infinite detail of time, place and action is thought out and shown meticulously.

The school of Expressionism came into being early in this century, and though of slow growth,

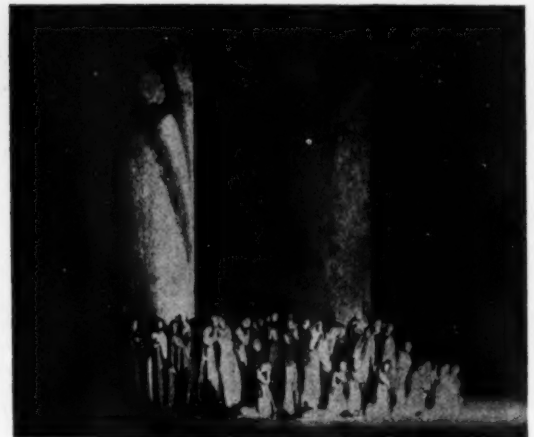


Fig. 3. Cathedral scene, "Faust"

Set by Max Reinhardt, the most famous German producer

Drawing by Robert Edmond Jones

The Expressionistic school showing the best that it has so far developed. Reinhardt combines the qualities of the scenic artist with the ingenuity and scholarship of a director. He delights in arranging mob scenes and grouping masses of people on the stage, controlling their movements.

In this scene two huge columns towering up against black emptiness suggest the massive proportions and scale of the cathedral. Crimson light pours over the congregation from an unseen altar on one side, throwing quivering shadows of a cross on the nearer column.

is now well known and recognized, and bids fair to oust the Realistic school from the artistic theatre. Its purpose is to suggest rather than to show, to simplify the setting so as not to distract attention from the play itself, to express the depth and tempo of the drama symbolically.

Given the same play to mount, the two schools will proceed along different paths, and the solutions of the problem will be utterly dissimilar. Given "Macbeth," let us say, the Realistic school will design a precise Scottish castle, with costumes faithful to the period, a manufactured Burnham



Fig. 4A



Fig. 4B

Fig. 4A. Forest scene, "Parsifal"

Fig. 4B. Klingsor's castle, "Parsifal"

Designed by Joseph Urban

These designs were made for the first production of Wagnerian operas outside of Bayreuth, at the Metropolitan Opera House in New York, and are the finest work of an artist frankly of the Realistic school, guided in this particular, by the pioneer of the Expressionistic school, Adolphe Appia. The forest scene is an adaptation of Appia's design

Wood, to appear uncannily like the genuine thing, or even, in extremes, a real wood is purchased from some nearby nursery, and the stage is embellished, or encumbered by these pseudo-realities to the detriment of the play; whereas the Expressionistic school will merely attempt to suggest (and after all the finest scenic art can be no more than such an attempt) the stark, barbaric tragedy of these warriors of the North; Dunsinane Castle, a few huge gray arches; Burnam Wood, an indistinct and ill-forboding dark mass in the background, and the heath at night a pale, awesome and empty place.

Most of the great playwrights of the past half century have been exponents of realism, from Ibsen to Eugene O'Neill, and as a consequence the bulk of modern dramatic literature is easily adapted to the realistic style of presentation, as for instance, when a play distinctly portrays the life, customs and manners of a definite society (especially modern) in a definite time and place, it is difficult to show anything but a literal picture of their surroundings. Still many plays, even

of realism, have an uncanny way of slipping into expressionistic sets with good grace. At the time of writing, Ibsen's epic "Peer Gynt" is being presented in New York in a lavish setting, the like of which Ibsen never dreamed. The fact of the matter is that the modern scenic artists have travelled much faster than their contemporary playwrights, and at the present time there is a dearth of modern plays worthy of their achievements and they are turning to revivals of Shakespearean and old Greek tragedies to find an outlet for their genius.

Many of the realistic dramas may be even more truthfully, vigorously and impressively presented by the expressionists, and some are frankly expressionistic, though perhaps unconsciously on the part of the writers.

The leader of the modern stagecraft movement is Gordon Craig, though he is neither the originator of the movement nor the most vigorous talent at play. Craig is a theorizer and it is his opinions in book form that have influenced stage artists. Adolphe Appia, an Italian-Swiss was the pioneer. Fully thirty years ago he cried out in a wilderness



Fig. 5. Two Drawings for "Die Walkure"

By Adolphe Appia

The first is the setting itself showing the scene as it appears at the rise of the curtain; the second is the same scene as Wotan goes



Fig. 6. Drawing room in an English country house, "The Circle"

Set by Clifford Pember

Mr. Pember, himself an Englishman and an architect, gave this fine comedy a distinguished setting. The set was not changed throughout the three acts, hence the elaboration

of realism for simplicity of stage setting. He quarreled with the use of false perspective, (painted scenes were given a distorted perspective toward the rear so that when an actor moved up-stage he was in a different scale relation with the background from down-stage. This custom originated with no other than Andrea Palladio, the Italian architect.) painted shadows, and bad lighting, and finally, in desperation he made designs for a number of Wagnerian operas, and published his opinions in 1899, under the title, "Die Musik und die Inszenierung," a book which is sound to this day.

Max Reinhardt has done more actual producing. Taking the ideas of Craig and Appia, his indefatigable industry turned theatre after theatre under his direction, and he produced results which attracted world-wide attention. In France one man stands out above the others in this work, Jacques

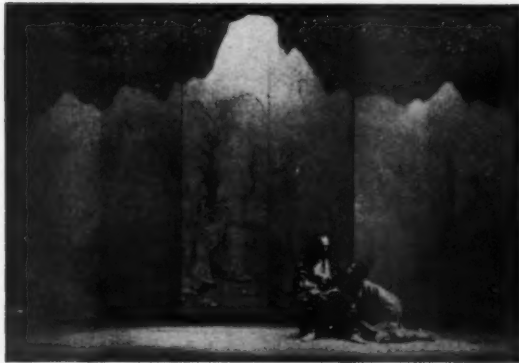


Fig. 8. "The Faithful"

Designed by Lee Simonson

From the point of view of scenery alone, this is the finest work that the New York Theatre Guild has thus far exhibited. A Japanese costume play, Mr. Simonson happily conceived the idea of mounting it entirely with Japanese screens, both for interior and exterior scenes. The beauty of these screens, which is almost entirely deleted through the medium of a halftone cut, was intoxicating. A memorable bit of work in the American theatre. The play was a financial failure



Fig. 7. A reception room in the Russian Imperial palace, age of Catherine the Great, "The Czarina"

Designed by Norman Bel-Geddes

The costume play, inevitably realistic, which every artist likes to design. The costume of the Czarina Catherine was gorgeous

Copeau, though his theories are not always as sound, nor his work as effective, as artists elsewhere.

In this country the new ideas have been infused into the commercial theatre for the past ten years and we are likely to outdo even the Russians and the Germans in the next few years. Norman Bel-Geddes, Joseph Urban, Lee Simonson and Robert Edmond Jones are doing remarkable work.

The latter in particular, can match the finest work abroad. Fully fifty per cent of the finest settings in New York, either realistic or expressionistic, are done by Jones.

Arthur Hopkins, the American producer who has been instrumental in allowing Jones' talent full play, has stated the case against the realistic setting, in his facetious little book, "How's Your Second Act?" "An attempt at exact reproduction challenges the mind of the audience to comparison. If a Child's Restaurant* in all its detail is offered, it remains for the audience to recall its memory photograph of a Child's Restaurant and check it up with what is shown on the stage. The result



Fig. 9. The mill scene, "Samson and Delilah"

Design by Grunewald, Royal opera in Stockholm

Drawing by Robert Edmond Jones

The drawing speaks for itself in showing what the Expressionistic artists can do with a simple set and the proper balance of light and shadow

of the whole mental comparing process is to impress upon the observer that he is in a theatre witnessing a very accurate reproduction, only *remarkable because it is not real*. So the upshot of the realistic effort is further to emphasize the unreality of the whole attempt, setting, play, and all. So I submit that realism defeats the very thing to which it aspires. It emphasizes the faithfulness of unreality."

This, one must bear in mind, is from a foe of Realism. On the other hand the realists regard Expressionism as an exotic, neurotic and formless art. What one must quarrel with primarily, is neither Realism nor Expressionism, but bad art. An artistic setting of the realistic school is quite as effective as an expressionistic one, provided it is not encumbered with too much detail. But

*Such a scene was actually produced several seasons ago by David Belasco, in a play called "The Governor's Lady."



Fig. 11. "Pelleas and Melisande"

Drawing by Robert Edmond Jones

An imaginative sketch in black and white by the peer of American stage designers. This photograph, taken from a small scale model, shows how Mr. Jones works. First pen and ink (rough) sketches, to get the proper "atmosphere," then colored drawings, later a small model lighted, and then the scenery itself. A fascinating undertaking and not unlike work in the drafting room

just as the realists are too meticulous, there is a tendency among the extremists in the new school toward too much abstraction in their work; a bareness, an alien touch which makes the set look so odd that it actually distracts the attention from the play.

(To be concluded)



Fig. 10. The Sicilian scene, "Follies of 1923"

Designed by James Reynolds

A thing of wondrous beauty through the use of strong colors and brilliant light. Scheme was undoubtedly influenced by the work of the Russian artists, notably Bakst

SHORT TALKS ON LIVE TOPICS—II

J. Monroe Hewlett, of Lord & Hewlett, architects, on the relation of the Architect to the Theatre

"MODERN stagecraft is at odds with itself, because it is so strangely close and at the same time so alien to the work of an architect," writes Roi L. Morin in his article on Stage Sets in this issue.

Just to what extent might an architect, in view of his special training, find a field of useful endeavor in modern stagecraft? We were not entirely clear, so we sought an interview with J. Monroe Hewlett. Mr. Hewlett having combined the study of mural painting with his studies in architecture in Paris, in 1889 and 1892, his interest has always turned toward decoration and kindred subjects. His settings for the American production of "Chanticleer" about fifteen years ago, were followed by various other productions in the field. Among these are "Iphigenia in Tauris" for the Metropolitan; "A Kiss for Cinderella" for Maude Adams; "Freedom" produced at the Century during the closing weeks of the late war.

Mr. Hewlett frankly dissented from Mr. Morin's ideas as to the status of "realism" and "expressionism" at the present time. He said that fifteen years ago the point of view expressed would have had more significance. What at that time was felt to be a symptom of revolt has today become a modifying influence.

"It seems to me," continued Mr. Hewlett, "that the time has arrived when it is best to cease unprofitable discussion about this, that and the other 'ism,' and to try to make it clear that excellence in artistic matters does not depend on the particular

'cook book' that the artist goes to for his recipe, nor on the particular label that he, or his admirers choose to allot to his work.

"In scenic setting," said Mr. Hewlett, "as in every other branch of art, there will always be realism, symbolism, impressionism, expressionism;—the final valuation of the artist's work will depend not upon any statement of his principles, but on something in his work distinctively personal to him.

"In connection with stage work, as in literature, painting and sculpture, I hope there will always be a public ready to appreciate the varying degrees of realism, combined with varying degrees of unreality. We surely need both poetry and prose," he said, "and a taste for literal description is in no way inconsistent with the love for pure fantasy or even pure nonsense.

"But," he emphasized, "the realism must be illuminated by imagination and poetic fancy just as the unreality must be pervaded by consistency and taste.

"Do I believe there is a field for architects in the development of modern stagecraft," said Mr. Hewlett, repeating our query. "Most decidedly. My own work in that direction has proven to my satisfaction that there is no field of artistic endeavor which offers architects so fine an opportunity to educate themselves by experiment in decorative effects and, conversely that the education of architects, covering as it does a certain familiarity with many branches of arts, should make their contributions to this particular field of especial interest."





Entrance Front

THE HOUSE OF E. GUY DAWBER, ARCHITECT, LONG WITTENHAM, BERKS, ENGLAND

THROUGH the courtesy of *The Architects' Journal*, of London, we are able to present herewith a series of interesting pictures of the country house of Mr. E. Guy Dawber, architect.

As every architect knows who has been so fortunate as to visit rural England, the countryside has a most alluring charm. Mr. Dawber's house and its surroundings are typical and in every way worth while.

In a recent issue of *The Architects' Journal*, in which these pictures were presented, the following interesting description appears. It is stated:—

"Mr. Guy Dawber's house at Long Wittenham, near Abingdon, was designed by himself before the war. It is of red brick with a tiled roof. The gardens were all planted and laid out by the architect, and when the photographs were taken in August were well nigh at their best.

"Long Wittenham is a quiet little village in the Thames Valley. It is a mile or two from the near-

est railway station, and a mile or two from the nearest town. Journeying by train, you get out at Didcot Junction, an hour's run from Paddington on the Great Western main line. Leaving Didcot—which seems very new and very ugly—you are faced by the generous slopes of the valley, and a white and lonely high road. You feel a long way from London, and begin to wonder why you should go back.

"A mile or so, and you turn off the road and take to a narrow path across a wide cornfield, which seems to claim you straightway as does the sea or the desert. Your boots get red with trampled poppies, and then the tiled roofs of a village appear from behind distant trees. The road through the village is very quiet, and there seems no one of whom to ask the way.

"Mr. Dawber's house stands somewhat hidden from the road, and from the garden no other house seems near. The prevailing quietness of the place seems to have entered into its very design. There is nothing special to be said about



View from Garden



The Garden
House of E. Guy Dawber, Architect



Drawing Room



Dining Room

House of E. Guy Dawber, Architect

it. You notice that it has big chimneys, and then again notice that the chimneys are not big after all.

"The house is very much part of the garden, and the things of the garden have begun to fasten themselves to it. Walking to the back, you find yourself looking down a level lane of grass, which runs between what is almost an avenue of margerites and sweet-williams. Big trees—oaks,

and elms, and ash—stand around, and at the foot of the garden have taken up an unbroken line. Between them you see green fields stretching away over rolling country.

"The deep loggia at the back of the house adds much to its quality. It seems so much a place to sit in during the day and behold that row of giant trees, and to sit in at night and behold those trees knee deep in mist."

ARCHITECTURAL QUALIFICATIONS AND EMPLOYMENT

SOME editorial comment in a recent issue of *The Builder* of London, is worth reading by architects in this country, where conditions obtain, exactly similar to those set forth as present in England. The editorial states in part:—

"In a notoriously overcrowded profession like that of architecture, where the prospects of remunerative employment are, with few exceptions, uncertain at the best of times, and competition is keen, every practitioner who is faced with the problem of a living to earn must be deeply interested in the economic value of the course of studies that had ended in his being stranded on the lee shore of a private practice. In this period of depression, many an architect blessed with involuntary leisure must have wondered whether any other methods that he might have employed would have yielded better results; but even in times of great financial stringency some fortunate people manage to keep afloat on top of a busy office, and it is a matter of vital interest to all their admiring brethren to learn something of the secret of their success.

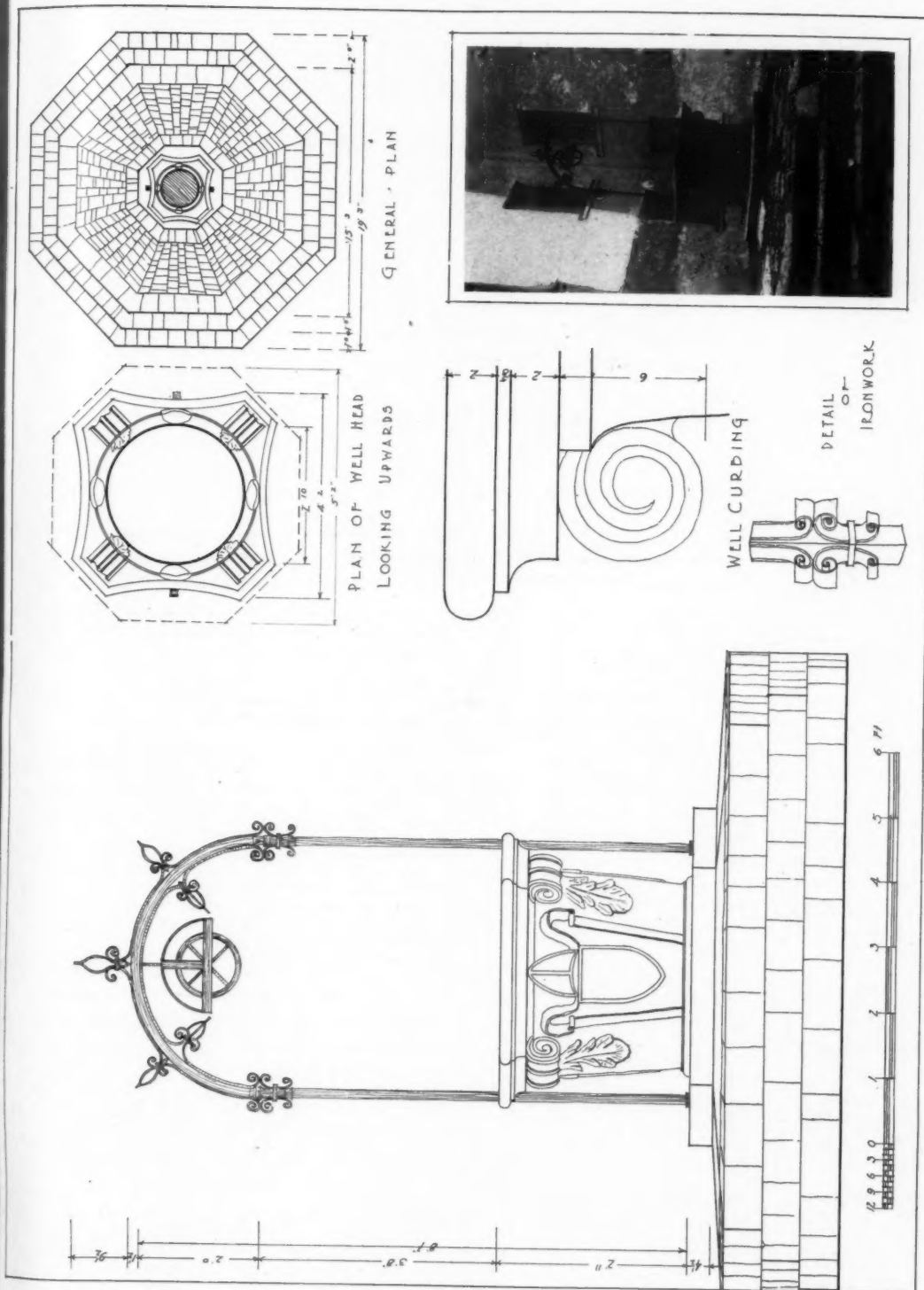
"To the students who are now preparing to enter the ranks of the profession the question is even more important in that there are many anxious observers who think that, unless they can feel assured of employment in the future, they would be better advised to develop their talents in some other direction before they commit themselves too far. To those architects who are blessed with adequate financial resources, apart from their practice, the matter is not so urgent unless they view the situation in an altruistic light and wish to order their affairs as will be best for the profession at large, or, conversely, to exploit their favored position scientifically to their own uttermost pecuniary benefit.

"Another architect to whom the financial side of employment is a secondary consideration is he who allows himself to become interested in his work for its own sake, and the absorbing nature of many architectural problems may be pleaded in his ex-

cuse. Financially considered, however, he is, we recently heard it stated, 'the worst enemy, not only to himself, but to other members who have to regard their profession as a means of livelihood.' It was argued that, absorbed in one of the many branches of his art, as in a delightful hobby, he is seldom an ideal man of business and seems to prefer to starve in his beloved career rather than to abandon it for any more lucrative employment. His qualifications may be of an unofficial nature and his studies pass unrecognized by any scholastic or professional body, but that counts for little since, to the student, study itself is an end as well as an aim.

"Rather more than 500 years ago Geoffrey Chaucer contrasted the poor thin book-loving clerk with the jovial monk, whose learning may have been less but whose worldly wisdom was decidedly greater; while the clerk had as yet no benefice and was rendered unfit for one by his bookish habits, the monk 'a manly man, to be an Abbot able,' appealed to the poet as the more sensible fellow, well advised to hunt instead of study, and grow fat instead of lean. Minutely specialized research may be a distinct handicap to an architect unless it can be made to apply to the tastes and needs of the present day. The brothers Adam succeeded in turning archaeological data to account in their own time, but their qualifications as students at Spalatro were associated with others of a distinctly practical nature, and the invention of a suitable composition in which to cast their moulded ornament synchronized with the demand for it. English taste, too, wearied with the heavy bonds of architectural propriety and the orders, happened to be ready to welcome the dainty fare their studies enabled them to provide.

"Ours is an age more decidedly given over to specialization, and by the time a student can claim to have mastered the long introductory course of any branch of research he has probably delved a deep rut for himself from which he will find it extremely difficult to turn."



WELL HEAD, ARCHBISHOP'S PALACE, FERRARA, ITALY

MEASURED AND DRAWN BY ROBERT M. BLACKALL, 35TH HOLDER, ROTCH TRAVELLING SCHOLARSHIP
THE AMERICAN ARCHITECT, SERIES II.
FRENCH AND ITALIAN DETAILS

FORTY YEARS AGO

Excerpts from THE AMERICAN ARCHITECT, April 21-28, 1883

THE collapse of three buildings is chronicled.

A three story brick hotel at Greenville, Texas, fell in during the night, causing thirteen fatalities. General structural weakness is given as the cause. A wall of a five story warehouse at Rochester collapsed, wrecking a section of the building. It was constructed during the Winter with a foundation made of small stones, not well bonded. The first two feet of the wall were laid in "lime water" and for the rest ordinary lime was used. It is estimated that this wall, disregarding anchors which were not used, by Rondelet's rule should have been "about four and one-half feet thick at the ground, diminishing by successive offsets to the top." As built the foundation was only two and two-thirds feet thick. The third collapse was a new five story brick warehouse owned by the Champion Reaper Company at Chicago. Overloading a wooden cap on a second story post beyond endurance and its failure caused the disaster. Too much dependence was placed on a shaken piece of wood or on the discrimination of a porter.

* * *

An interesting series of tests is to be made at the Exposition of Railway Appliances at Chicago. Among other things the efficiency of upset rods will be investigated.

* * *

Eight thousand men are employed on the excavation for the Panama Canal. Eight or ten locks are contemplated.

* * *

A great advance has recently taken place in the price of stock in the Keely Motor Company, and preparations seem to be making for another display of the powers of the mysterious agent. In this motor, as described by the New York *Commercial Advertiser*, "vibrations are produced" in the interior of the machine "by the theory of interatomic ether acting upon molecular construction" and this "creates a disturbance of equilibrium so as to produce a pressure of one hundred tons to the square inch."



House by Hartwell & Richardson, Architects, Reproduced from the full page illustration in THE AMERICAN ARCHITECT, issue of December 15, 1883

At a regular meeting of the New York Chapter, A. I. A., held on April 11, 1883, the secretary read the will of the late Levi Hale Willard, Esq., bequeathing the bulk of his fortune to the Metropolitan Museum of Art for the founding of a museum of architectural casts, models, photographs and engravings. Resolutions were adopted reading:

Whereas, Mr. Napoleon Le Brun, Practicing Member of this Chapter and Fellow of the Institute, has, by his able setting forth, seconded by his son, Mr. Pierre L. Le Brun, of the claims of the Art of Architecture, been the direct means of securing to this Chapter the disposal of a large fund bequeathed by the late Levi Hale Willard, Esq., to found a museum of architecture, and

Whereas, prompt and hearty recognition is due to the origin of an event which, as THE AMERICAN ARCHITECT says, "seems likely to mark an era in the history of architecture in this country," as it certainly does in the history of the Institute and of its New York Chapter, therefore

Resolved, that the warmest thanks of this Chapter are eminently due to the Messrs. Le Brun, father and son, and are hereby tendered to them, and

Resolved, that a copy of these preambles and resolutions, signed by the President and Secretary of the Chapter, be presented to the Messrs. Le Brun.

Messrs. A. J. Bloor and Emlen T. Littell were then appointed the colleagues of Napoleon Le Brun on the Commission designated by Mr. Willard's will.

* * *

A formal announcement has been made that the East River suspension bridge will be opened to the public on the twenty-fourth of next May.

* * *

Illustrations: Competitive design for an office building on Battery Place, New York, for Cyrus Field, Esq. Charles B. Atwood, architect, New York; Rambling Sketches by T. Raffles Davison; Mount Morris Bank Building, New York. Lamb & Rich, architects, New York; House of John Farr, Esq., Short Hills, N. J. James Lord Brown, architect, New York; Perspective of the Broad Street Station, Philadelphia, Pa. Wilson Brothers, civil engineers and architects.

EDITORIAL COMMENT

WHEN THE INSTITUTE voted to award to Arthur F. Mathews of San Francisco its 1923 Gold Medal for painting, it showed a very fine appreciation of the art of a man who has so consistently pursued his work. Beginning his professional career as an architectural draftsman, he gravitated to that phase of art in which he has become so proficient through such practical paths as designing and lithographic work. This practical preliminary experience has served him in good stead. He has never for a moment lost the proper attitude of the architect, even while engaged in the most serious and important efforts that a mural painter may undertake.

We first met Mathews in his studio in San Francisco some ten years ago. This studio was a large building, the painting room being on the second floor. Here he was surrounded by canvases large and small, in all the various stages from start to finish that are the usual surroundings of every artist. On the ground floor was a shop where a group of more than forty skilled workmen was engaged, under Mathews' supervision, in the execution of the finest examples of cabinet work and furniture design. Mathews' ability to get things done seemed to be enormous. The relaxation from the strong mental effort of painting he secured by his supervision of the group of competent craftsmen he gathered about him. This dual effort afforded the finest relaxation of one from the other of the art and craft that engaged him. The result is shown in the high character of his work as a painter.

It is a pleasure to note the Institute's recognition of so capable a man and so clever an artist, and his success and the way he set about to attain it may be studied with profit by painters.

* * *

KANSAS CITY CHAPTER of the A. I. A. has earned the gratitude of the entire profession by its good work in securing recognition for architects in the daily press. The tendency of newspaper reporters to ignore the architect when some important building has been referred to and to exploit the owner, the politicians and even the ladies who poured tea on the occasion of the building's formal opening, has been many times referred to in these columns. So very thoroughly has the Kansas City Chapter impressed upon the local press of that city the necessity for recognition of the architect that in no case is the architect's name omitted and he is now sure of proper acknowledgement.

These excellent results may be secured, by equally efficient action, by every architectural organization.

* * *

FROM SOME PRE-CONVENTION notes printed in the April issue of the *Journal of the A. I. A.*, we learn that it is planned to arrange for a procession and pageant on the occasion of the presentation of the Institute's Gold Medal to Henry Bacon for his design of the Lincoln Memorial. This dignified affair will be held practically out-of-doors in daylight. A procession is proposed along the edge of the lagoon in Washington, to end at the portal of the Memorial where with appropriate ceremonies, Mr. Bacon will receive his medal. Further it is proposed that each chapter will provide distinctive banners and pennons, and "it is expected," to quote the notes, "that a suitable simple robe will be provided for those taking part in the procession." Why the robe?

The occasion in question is a part of an annual convention's proceedings when it is inferred that the most dignified aspect may be assumed and a rightful attitude toward the profession maintained. Why then should architects dress themselves in gowns on so solemn an occasion? If to mark the fact that architecture is a learned profession and an art, why not let the men who have earned academic degrees wear the gowns that mark them? Then the public would be impressed perhaps, but even then many would call it affectation. Why not wear the semi-formal dress that men affect on such occasions?

* * *

THE PROPOSAL to devote the morning sessions of the convention of the Institute to be held in Washington next month, entirely to business is a good one. The balance of the convention hours is then available for visiting the various special exhibitions that are proposed, for meetings, and the important illustrated addresses that are on the program.

While conventions are, of course, business meetings and should be conducted as such, they are the one occasion during the entire year when men, living widely apart, may get together and know one another. We have many times noted the utter loneliness of delegates during the evenings at the convention hotel,—particularly during the last Washington convention when, it will be recalled, the three days were marked by a persistent downpour of rain and the "no smoking"

rule. It would seem that a "get-together" committee would be a good idea—a half dozen men who would see that the bashful delegate was introduced to his visiting brethren and that there was the best expression of good fellowship.

We have noticed some well intentioned men going about this pleasant work of evenings, and we have watched the very successful outcome with considerable satisfaction.

* * *

WHAT SHALL WE DO about the billboard?

Just now London is becoming wildly excited over the question of hoardings, the English name for billboards. A bill recently presented in Parliament insists that the eye should be given the same protection that the law already has given to the ear.

But even from the layman's point of view, states *The Architects' Journal*, it is high time the poster nuisance was stopped. One day, of course, we may be left regretting their disappearance as much as we regret the old London cries, but that we are willing to risk. Is there a street in London which has not been made hideous by announcements of patent pills? Is there a village in England where the glaring red and yellow of somebody or other's soap advertisement has not plastered all the walls? Nor even by night is the nuisance hidden. The sky signs of Piccadilly Circus have made it the most foolish place in town. Surely no one with mind grown beyond the fireworks of age can care for this sort of thing? Not even by keeping your eyes steadily cast down upon the pavement is there any escape. Reflections of mutton chops and pencils are cast before you upon the very footway. The clouds, too, reveal the delicate tracery, wrought in smoke, of somebody's patent washer or syrup.

The crowning intrusion on the rights of an already long suffering people appears to be reached by the sky writing aeroplane. We have seen the railroad rights of way made nightmares to the daylight travelers; we have motored over fine country roads made hideous by insistent advertisements. Our sense of patriotism has been assailed by the placing of enormous billboards alongside of some historically treasured building. Wherever the public may go for rest and recreation, there the right is denied them by these vulgarly insistent signs. And now we may not quietly cast our eyes to the skies. The beautiful color is marred by the whisp-like lines of an advertisement.

Seems as if the time to call a halt has been reached. We should keep this out-of-doors advertising down to earth, and there put it under proper control.

WHEN ALL IS SAID and done, it must be acknowledged that there has developed a certain good artistry in billboards. In most instances the lettering is good and the spacing makes correct composition. When a pictorial effort is made, as a rule, it is fairly well done. That much we shall have to concede. As the billboards are controlled by a comparatively few corporations, they show what may be accomplished by a centrally directed effort.

Contrast the billboard with building signs and all is favorable to the former. Every tenant follows his own idea of what is right and proper and the consequence is chaos. In many of the larger buildings, owners seek to control the character of the signs displayed and the result speaks for itself. If some supervision of building signs could be had, architects would be greatly pleased. As it is now they more often find that the façade of a building to which they have given careful study has been entirely ruined by the disfiguring signs that cover it.

* * *

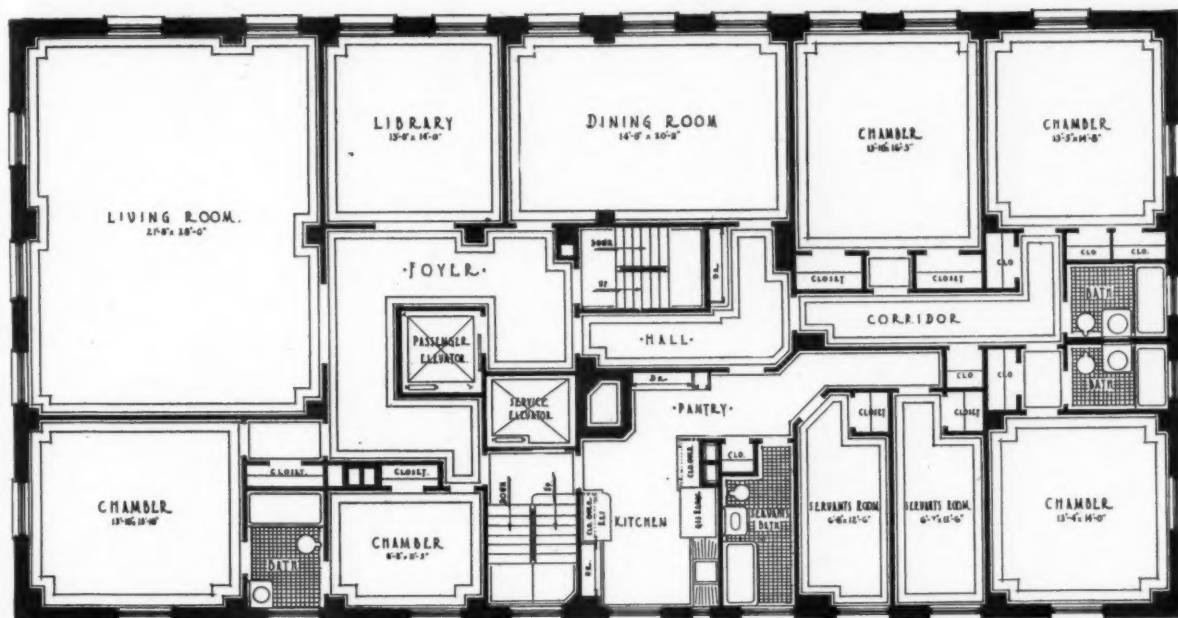
ROYAL CORTISSOZ, art critic for the *Tribune*, in a closing lecture of a series delivered at the Metropolitan Museum of Art, placed in an obscure corner, with other passing fancies, the so-called modernistic movement in art. Said he, "The matter of American taste has vastly improved in the last fifty years, and the best mirror of present day taste in this country is furnished by our architecture. The Americans are a business people, and for that reason they now demand, and have demanded for a long time, that their business and public buildings represent the best development of our architecture."

Mr. Cortissoz is exactly right. If American architects had clung to the modernistic fads and fancies that at one time or another have appeared in this country, we would be in our architecture today, in the same regrettable position as that group of modernistic painters who are trying to mislead the nation into undesirable paths. Fortunately, the leaders in the architectural profession in the United States have been sane, cultured, right-thinking men. They have kept the art of architecture safely in line with its best traditions. The result is one that should bring a fine sense of satisfaction to every man who contemplates it.

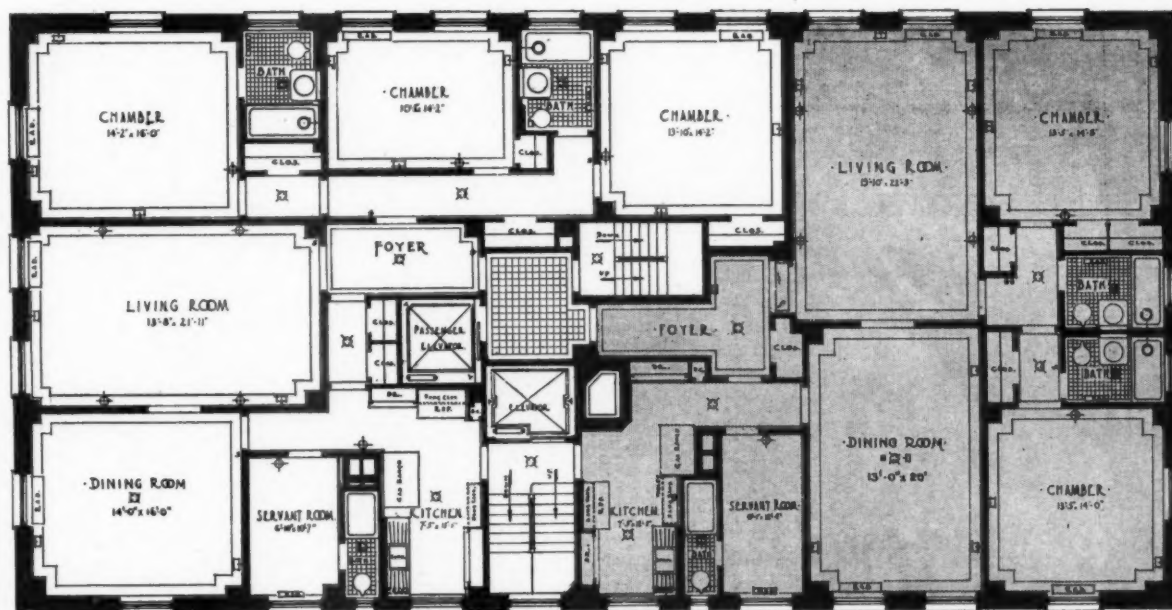


APARTMENT HOUSE, 108TH STREET AND RIVERSIDE DRIVE, NEW YORK

ALFRED C. BOSSOM, ARCHITECT



TYPICAL PLAN, 10TH TO 14TH FLOORS, BOTH INCLUSIVE



TYPICAL FLOOR PLAN

APARTMENT HOUSE, 108TH STREET AND RIVERSIDE DRIVE, NEW YORK

ALFRED C. BOSSOM, ARCHITECT



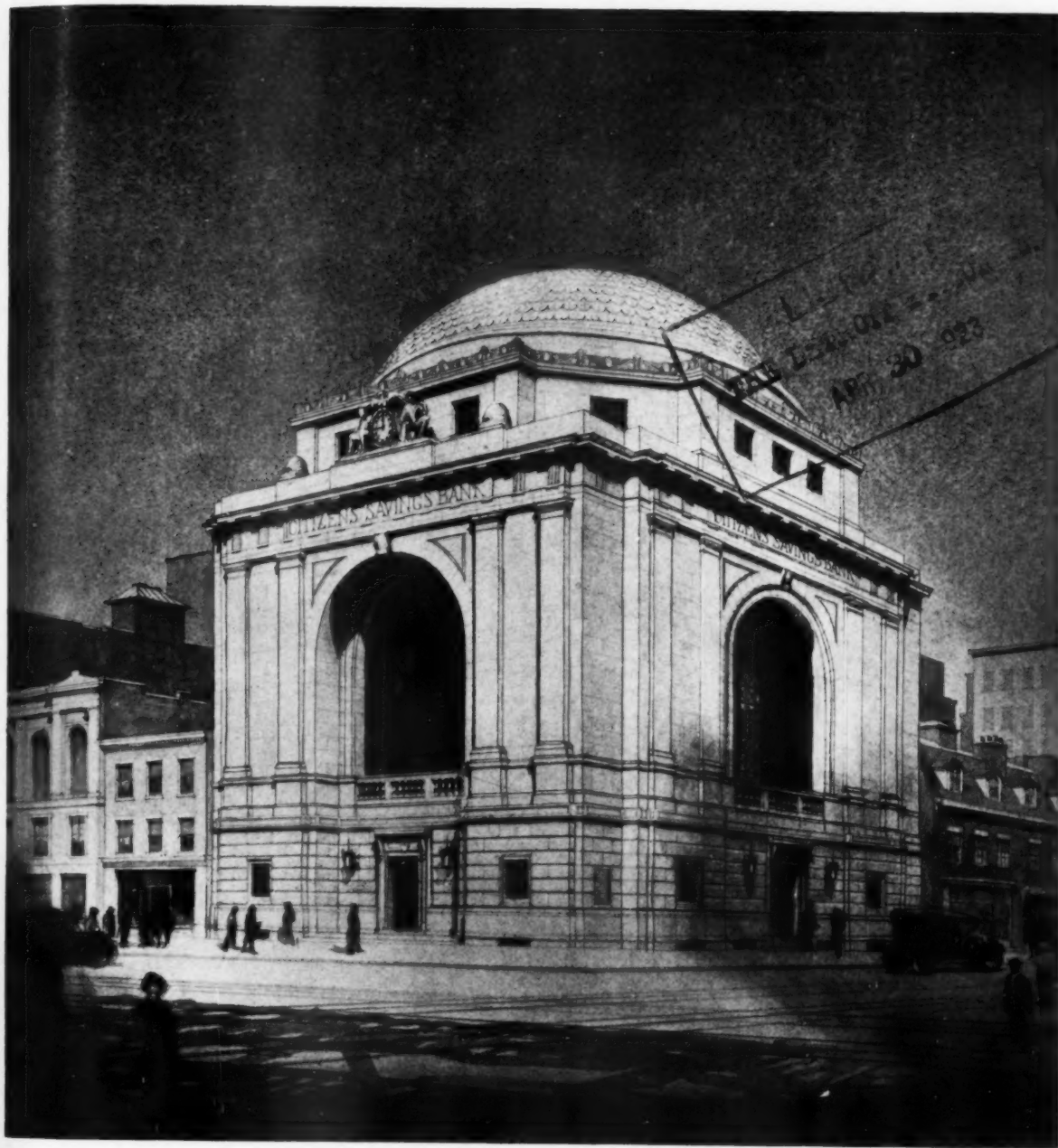
DETAIL OF PRINCIPAL ENTRANCE

APARTMENT HOUSE, 108TH STREET AND RIVERSIDE DRIVE, NEW YORK



DETAIL OF LOWER STORIES

APARTMENT HOUSE, 108TH STREET AND RIVERSIDE DRIVE, NEW YORK



CITIZENS' SAVINGS BANK, NEW YORK

CLARENCE WILSON BRAZER, ARCHITECT



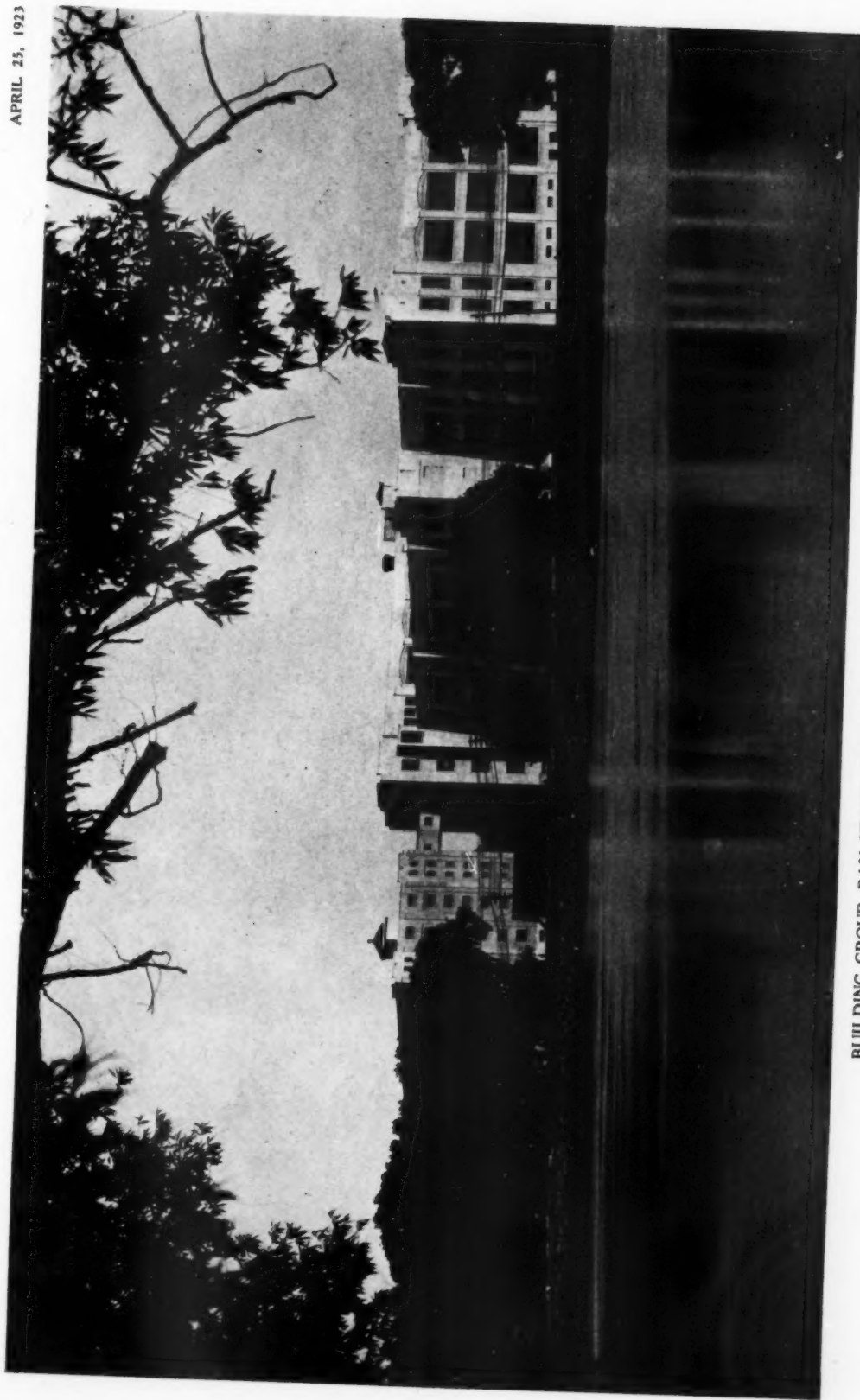
BUILDING OF CRUNDEN-MARTIN MANUFACTURING CO., ST. LOUIS, MO.

T. P. BARNETT & CO., ARCHITECTS



MONTGOMERY, WARD & COMPANY'S BUILDING, ST. PAUL, MINN.
LOCKWOOD, GREENE & CO., ARCHITECTS AND ENGINEERS

APRIL 25, 1923



BUILDING GROUP, BAY STATE COTTON CORPORATION, LOWELL, MASS.
LOCKWOOD, GREENE & CO., ARCHITECTS AND ENGINEERS

REVIEW

THE AMERICAN ARCHITECT—THE ARCHITECTURAL

VOL. CXXIII, NO. 2418

XUM



HOUSE OF JOSEPH PLANT, ESQ., ELMSFORD, NEW YORK
BUCHANAN & KAHN, ARCHITECTS





A CORNER MANTEL

HOUSE OF GEORGE A. HARRIS, ESQ., WEST 82ND STREET, NEW YORK

BUCHMAN & KAHN, ARCHITECTS



A GARAGE AT SCARSDALE, NEW YORK
JULIUS GREGORY, ARCHITECT

APR 30 1923



OFFICE BUILDING OF RESTRICK LUMBER CO., DETROIT, MICH.
ABRAHAM & WOOD, ARCHITECTS

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Foreword

THE four drawings by T. Raffles Davison, here presented, are reproduced from a series recently exhibited at The Architectural League of New York. When that exhibition was sent to this country, Sir Aston Webb, president of the Royal Academy, wrote a foreword, printed, in part, below. Sir Aston stated:

"The name of Raffles Davison may be said to be a household word to English architects, and is probably well known to many of our colleagues in the United States.

"Raffles Davison possesses an extraordinary power of rapid and accurate draftsmanship together with a highly developed and sympathetic feeling for the best work and for the best manner of showing it.

"In style also he is equally at home. It may be a Norman Church or a perpendicular one—it does not matter; a fifteenth century Manor or a Georgian one, a Saxon tower or one of Wren's city churches.

"In modern work his pen is so sensitive that you have no more difficulty in fixing the author than if you were before the building itself.

"And with all this technical accuracy the artistic and picturesque side is never overlooked, so that the drawings are in every way as attractive to the painter, the amateur and the general public as to the architect and sculptor.

"A hard worker all his life, these drawings show a wonderful record of achievement unique of its kind, and a careful examination of the later work will show the same power and artistic insight as the earlier."



ST. MICHAEL ROYAL, THE BURIAL PLACE
OF DICK WHITTINGHAM

SIR CHRISTOPHER WREN, ARCHITECT

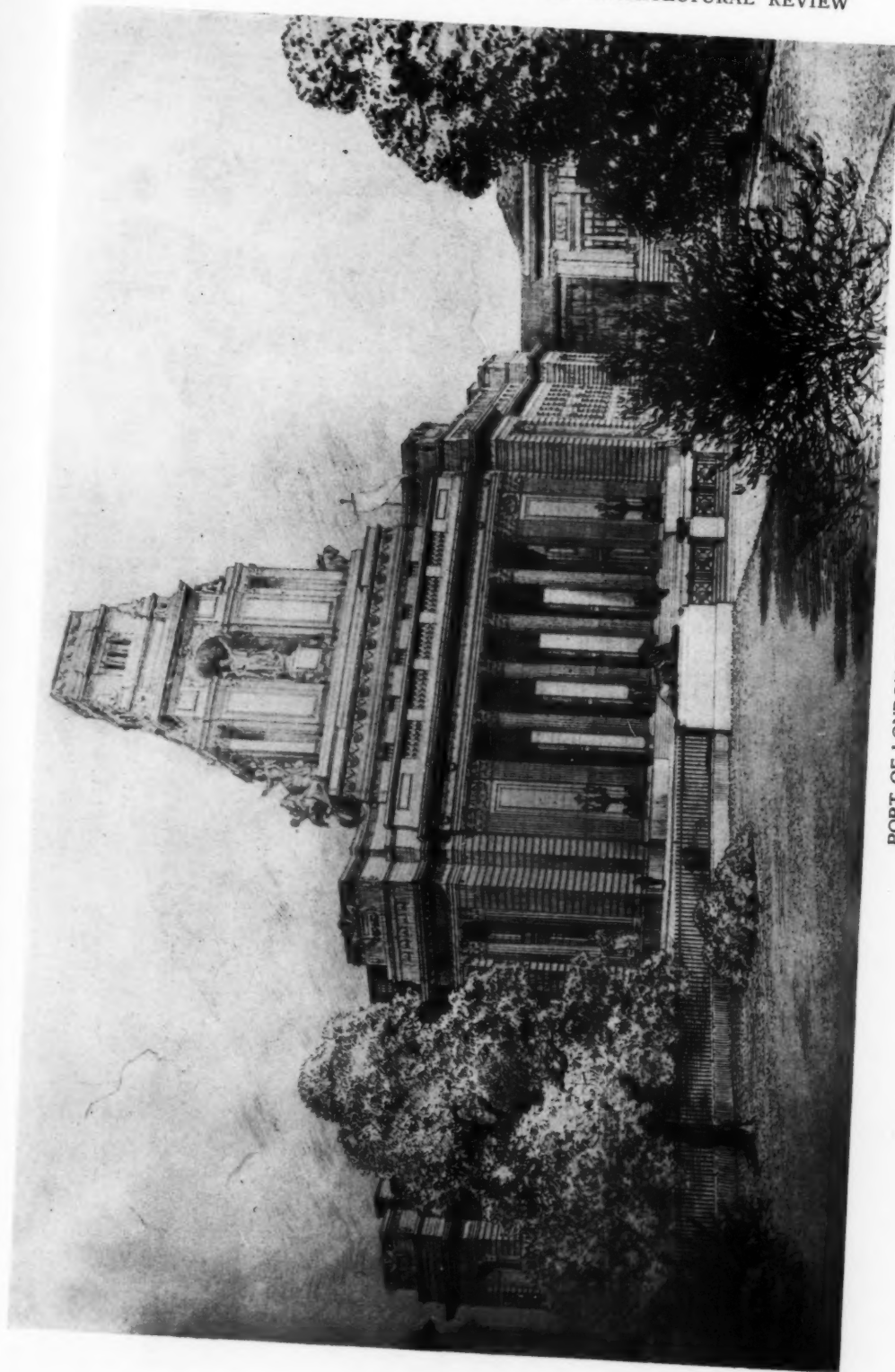
(From the original drawing by T. Raffles Davison)



ST. MARY-LE-BOW, CHEAPSIDE, LONDON

SIR CHRISTOPHER WREN, ARCHITECT

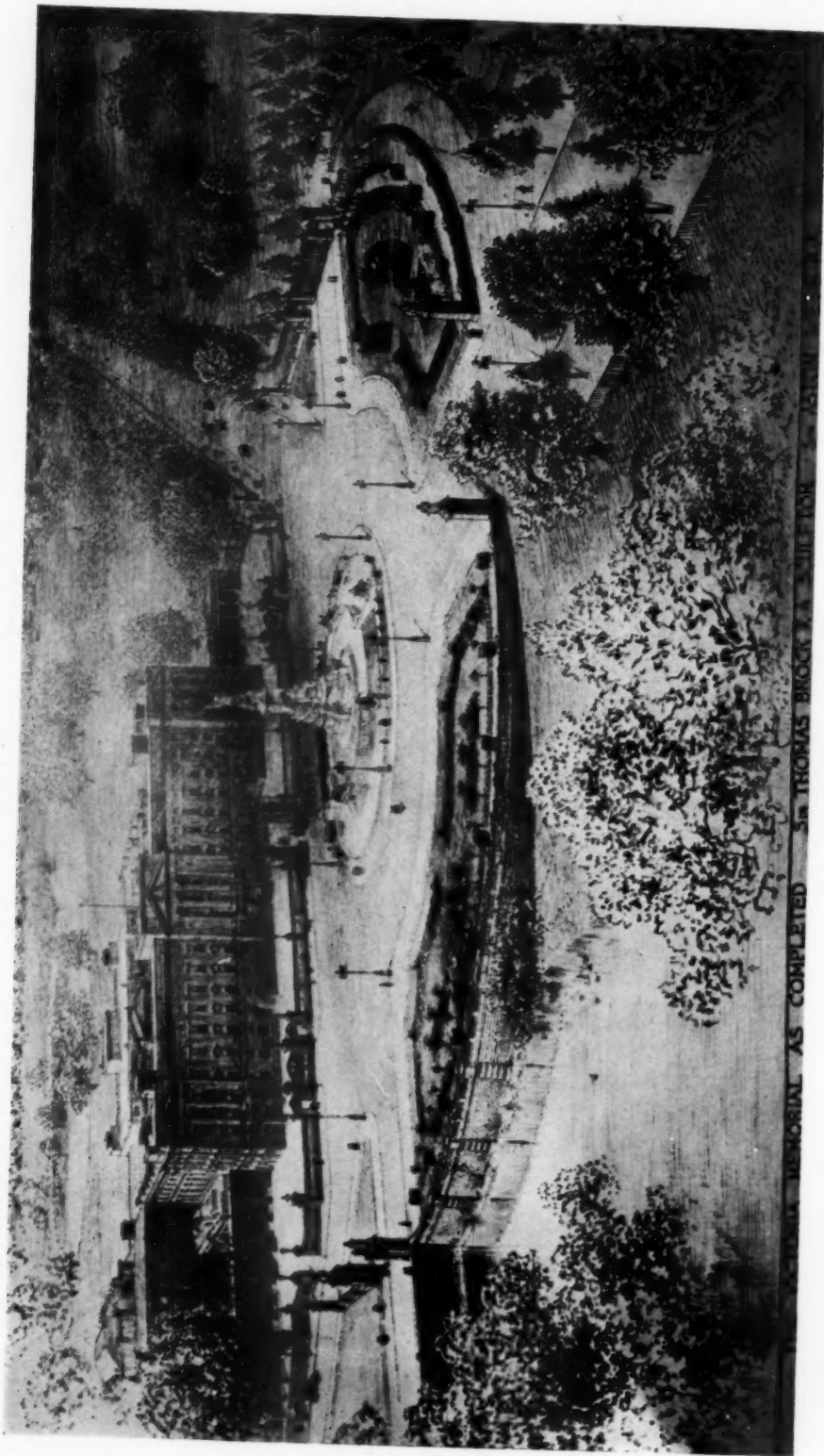
(From the original drawing by T. Raffles Davison)



PORT OF LONDON BUILDING

SIR EDWIN COOPER, ARCHITECT

(From the original drawing by T. Raffles Dartson)



THE VICTORIA MEMORIAL

SIR ASTON WEBB, ARCHITECT

(From the original drawing by T. Raffles Davison)

BEAUX-ARTS INSTITUTE OF DESIGN

ACTING DIRECTOR OF THE INSTITUTE—WHITNEY WARREN

ARCHITECTURE, RAYMOND M. HOOD, DIRECTOR—SCULPTURE, JOHN GREGORY, DIRECTOR

INTERIOR DECORATION—ERNEST F. TYLER, DIRECTOR

MURAL PAINTING—ERNEST C. PEIXOTTO, DIRECTOR

Special Notice to Students

BY special arrangement with the Society of Beaux-Arts Architects, there appears in each issue of THE AMERICAN ARCHITECT an average of five pages devoted to the presentation of drawings selected from the Beaux-Arts Institute of Design exhibitions, and also the listing of awards and the promulgation of all notices to students. These matters will be exclusively presented to students of the Beaux-Arts Institute of Design through the pages of THE AMERICAN ARCHITECT. By arrangement with the publishers of THE AMERICAN ARCHITECT, a special student subscription rate of \$5.00 per annum has been secured. Further particulars with reference to this service to Beaux-Arts students may be obtained by addressing THE AMERICAN ARCHITECT, 243 West 39th Street, New York City.

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF MARCH 13TH, 1923

SECOND PRELIMINARY COMPETITION FOR THE

16th PARIS PRIZE

SOCIETY OF BEAUX-ARTS ARCHITECTS

"A SUMMER HOTEL"

A private corporation owns a tract of 800 acres located on rolling ground fifty miles from an inland city. They propose the development of a 400 room summer hotel with dependencies and recreational facilities.

The character of the ground and the orientation make the higher portion at the Northeast corner of the property most desirable as the site of the hotel proper with its services. It is this section which is to be considered in this problem.

This area is rectangular, bounded on the North by an automobile road, on the East a lot line and on the South and West the golf course, aviation field, small lake, etc., making up the 800 acres.

The Requirements are:

1. Ground floor of hotel
 - a. Lounge and dining rooms with services
 - b. Theatre seating 500
 - c. Indoor swimming pool
 - d. Utilities and shops
2. Six two-story cottages of 2 apartments to each floor
3. The tennis courts with pavilion containing two covered courts
4. Outdoor swimming pool
5. Garage facilities for 150 cars
6. Stables for sixty horses
7. Two service buildings, 75 rooms each
8. General plan shall include entrance and service drives, scheme of gardens, planting, etc.
Property, 1,500 ft. East and West by 1,000 ft. North and South

JURY OF AWARDS:—H. O. Milliken, J. G. Rogers, R. M. Hood, B. W. Morris, Henry Bacon, B. G. Goodhue, Charles Butler, E. L. Tilton, R. H. Dana, Jr., M. B. Medary of Philadelphia, Charles A. Coolidge of Boston, and Benno Jansson of Pittsburgh.

NUMBER OF DRAWINGS SUBMITTED:—15.

AWARDS:—

PLACED FIRST AND SECOND MEDAL: I. J. Loeb, Chicago Sch. of Architecture, Chicago.

PLACED SECOND AND SECOND MEDAL: L. Rombotis, Univ. of Pennsylvania, Phila.

PLACED THIRD AND SECOND MEDAL: H. K. Bieg, Chicago Sch. of Architecture, Chicago.

PLACED FOURTH AND SECOND MEDAL: R. B. Thomas, Atelier Hiron, N. Y. C.

PLACED FIFTH AND SECOND MEDAL: R. De Ghetto, Atelier Hiron, N. Y. C.

PLACED SIXTH—(FIRST ALTERNATE) AND SECOND MEDAL: E. W. Klee, Carnegie Inst. of Tech., Pitts.

PLACED SEVENTH—(SECOND ALTERNATE) AND SECOND MEDAL: R. Schmertz, Carnegie Inst. of Tech., Pitts.

THIRD MEDAL (H. C. FOR PARIS PRIZE): E. Albright, Columbia Univ., N. Y. C.

MENTION: E. L. Babitsky, Atelier Wynkoop-Seymour, N. Y. C.

CLASS "B"—III ANALYTIQUE

"A PAVILION IN A GARDEN"

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, W. E. Shepherd, Jr., H. R. Sedgwick, E. D. Litchfield, F. C. Hiron, F. C. Hitchens, G. S. Koyl, A. E. Flanagan, and A. L. Guptill.

NUMBER OF DRAWINGS SUBMITTED:—198.

AWARDS:—

FIRST MENTION PLACED:—G. B. Allison, Carnegie Inst. of Tech., Pitts.; P. H. Shonberg, Atelier Corbett-Koyl, N. Y. C.; E. F. Wallden, Atelier Parsons-Chicago Archtl. Club, Chicago; H. G. Rieber and F. R. Lyster, "T" Square Club, Phila.; F. P. McArthur, Univ. of Kansas, Lawrence.

FIRST MENTION:—T. J. McCormack, Cincinnati Archtl. Soc., Cin.; H. Sload, R. R. Young, C. O. Carland and W. S. Forsyth, Carnegie Inst. of Tech., Pitts.; M. C. Basen, F. O'Brien and P. Sanfilippo, Jr., Atelier Corbett-Koyl, N. Y. C.; E. M. Watson, Cleveland Sch. of Art, Cleve.; W. M. Ferrari, Atelier Hiron, N. Y. C.; W. F. Mullay, Los Angeles Archtl. Club, Los Angeles; L. E. Bowen and R. Kerr, Jr., San Francisco Archtl. Club, San Francisco; A. L. Taranin, Univ. of Southern California, Los Angeles.

SECOND MENTION:—H. C. Symes, Atelier Barber-McMurry, Knoxville; O. C. Clarry, J. L. Hautman, J. B. Bell, and G. Franz, Cincinnati Archtl. Soc., Cin.; S. Fiordelise, H. Thayer, O. Osborne, C. A. Lundquist, H. K. Murray, D. C. Doig, G. Pope, R. J. Kridel, U. Schoenberger, T. B. Garman, A. H. Rousseau, H. H. Schmidt, J. Tillotson, J. S. Douglas, V. Galier, Elizabeth Constantine and E. M. McMillin, Carnegie Inst. of Tech., Pitts.; S. Ackerman, Atelier Corbett-Koyl, N. Y. C.; F. DeRosa, A. D. Bartholomew, J. P. Fay, N. R. Mastrangelo and H. C. Loney, Columbia Univ., N. Y. C.; R. M. Hovanetz and Edith C. Fisher, Cleveland Sch. of Art, Cleve.; G. T. Bassett and J. J. McMahon, Catholic Univ., Wash., D. C.; F. O. Kellman, W. R. Rosche and J. G. Meem, Atelier Denver, Denver; O. Getzlaff, Atelier Gelleke, Milwaukee; J. M. Leonte, Atelier Fougner, Newark; A. E. Davis, Jr. and D. G. McDevitt, French Curve Atelier, Trenton; H. A. Simpson, Atelier Hiron, N. Y. C.; L. M. Faber, T. V. Nichols, F. E. Rhinehart, R. W. Pearson, B. Krinsky and R. B. Aley, John Huntington Poly. Inst., Cleve.; J. E. Rogers and G. B. Briney, Los Angeles Archtl. Club, Los Angeles; J. M. Longmire and F. G. Rice, Atelier Memphis, Memphis; W. F. Petty and Olga Vanture, Atelier Norfolk, Norfolk; H. F. Bosert, H. O. Nelson, F. Ahlson and B. Olson, Atelier Par-

sons-Chicago Archtl. Club, Chicago; R. L. Novak, C. N. Diffin, C. O. Morrison, L. I. Duhart, C. H. Roos, A. Giambalvo, E. R. O'Hanlon, A. C. Reid, E. M. Hammond, C. J. DePeri, S. Tantsorski, G. Minton, Jr., and O. P. Hugo, Pratt Inst., Brooklyn, N. Y.; F. C. Pearce, H. D. Davies and E. B. Sterrett, Atelier Penn State-Pa. State College, State College; R. H. Burden, A. Hoyland, J. A. Britton, E. M. Allewelt, Jr., Theodosia Burr, and E. G. Wheeler, Syracuse Univ., Syracuse; L. O. Bradford and H. Langley, San Francisco Archtl. Club, San Francisco; S. J. Gritti, F. J. Duane, J. Andrews, T. W. Pulman, H. E. Johnson, Jr., F. F. Schumann, and W. J. Brach, "T" Square Club, Phila.; H. J. Steinbomer, W. T. Whiteside, Jr., A. Fehr, W. T. Kirkgard, G. Harker, W. Kleine, F. W. D. Roberts, and G. G. Decker, Univ. of Texas, Austin; M. L. Lemon, L. W. Pidgeon, and J. Savage, Univ. of Southern California, Los Angeles; E. C. Johnson, E. Abuchl, W. P. Cunningham, H. Petersen, G. H. Duffield, Univ. of Kansas, Lawrence; W. R. Johnson, J. L. Orrick, E. Dunlap, M. Wells, R. G. Gulley, B. F. Hart, and C. M. Loving, Univ. of Virginia, Charlottesville; L. W. Bindon, E. Montgomery, Helen Graham, G. M. Shigaki, J. I. Mattson, and R. J. Pearce, Univ. of Washington, Seattle; R. E. Schwab, Univ. of Louisville, Louisville.

CLASS "B"—III PROJET

"A BANK IN A SMALL COMMUNITY"

In a certain town the bank which serves the community has retained an amount of personality unusual in such institutions. Its directors are broadminded men of affairs who have the interest of their part of the country at heart. Its policy has been to develop the civic pride of the community; its money has been lent freely toward building a finer type of dwelling and stores, toward developing factories and industries which are well planned and intelligently operated.

On a corner lot, 60' x 90', a maximum space of 4,000 sq. ft. is to be occupied by the new building. The directors feel that banks have developed a too commercial and standardized appearance and plan and that their architect should not necessarily be influenced by modern precedent.

The requirements are:

1. A main banking floor which shall contain:

- An entrance vestibule and ample space for the public
- Space for the receiving, paying, and note tellers, each with two wickets on the public space
- A savings department with two wickets
- A working space much larger than these
- Space (into which the public may be admitted) for the president and other officers
- Vaults for money, securities, and books of the bank
- A ladies' waiting room

2. The basement, entered by an interior stair, shall contain a safe deposit department and retiring rooms for men and women. The remainder of the basement, with access from the working space, contains locker rooms and toilets for employees and such mechanical equipment and storage as the bank may require.

3. A directors' room or rooms should be placed either on the main floor or in a small gallery above it.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, J. H. Freedlander, A. C. Bossom, H. M. Woolsey, E. S. Hewitt, J. W. O'Connor, H. W. Corbett, F. C. Hiron, F. C. Hitchens, O. Faelton, G. M. Simon, S. W. Morgan and A. L. Guptill.

NUMBER OF DRAWINGS SUBMITTED:—219.

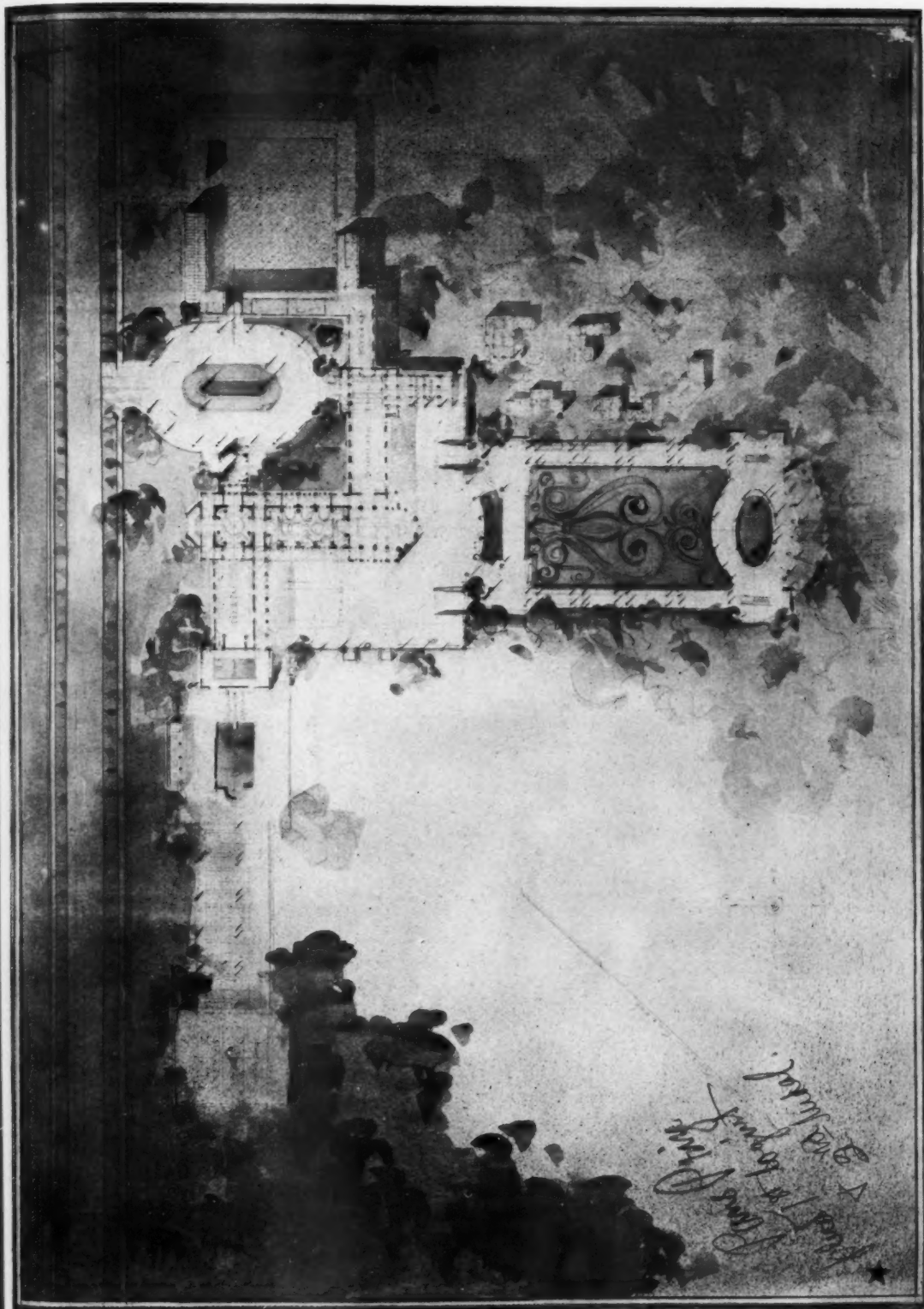
AWARDS:—

FIRST MENTION PLACED:—H. B. Tross, Carnegie Inst. of Tech., Pitts.; E. O. Holien, Univ. of Minnesota, Minneapolis.

FIRST MENTION:—F. J. Taylor, W. W. Hibbs, L. Cousins, J. D. Mawhinney, and J. R. Reed, Carnegie Inst. of Tech., Pitts.; V. Pribil, Atelier Corbett-Koyl, N. Y. C.; Dorothy M. Sigman and J. F. Wolfe, George Washington Univ., Wash., D. C.; R. F. Hennessey and A. Strom, Univ. of Minnesota, Minneapolis; H. B. Hoover, Univ. of Washington, Seattle; P. E. T. Silvius, Univ. of Southern California, Los Angeles; M. L. Sorey, Univ. of Kansas, Lawrence; E. E. Penfield, Atelier Wynkoop-Seymour, N. Y. C.; W. Faulkner, Yale University, New Haven.

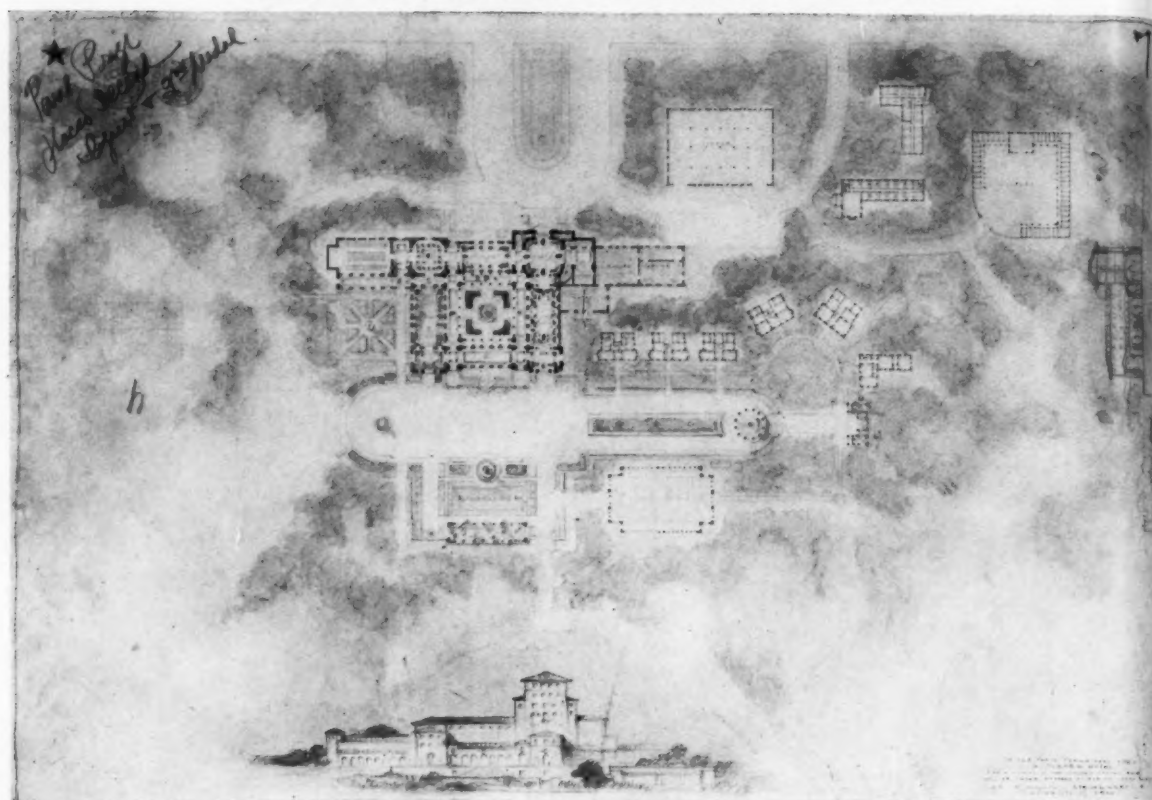
SECOND MENTION:—D. W. Barber, Atelier Barber-McMurry, Knoxville; Elizabeth Burkhardt, K. O. Sonnemann, M. A. Brace, A. F. Muhl, W. C. Pyle, G. D. Schade, A. S. Vincent, D. S. Garber, G. A. Deacon, C. J. Billmeyer, V. A. McGowan, A. M. Ham, F. M. Critchlow, V. G. Tilbrook, L. R. Turcotte, A. D. Reid, B. G. Martin, W. F. Koppes, C. P. Zimmers, J. P. Crowgey, K. H. Snyder, N. B. Parker, A. K. Goehring, H. L. Carter, J. W. Everhard, H. I. Lynch, E. M. Plant, J. F. Taylor, and A. B. Lowstuter, Carnegie Inst. of Tech. Pitts.; G. S. Brock, Jr., B. Vorsanger, Jr., J. E. Miller, C. J. Keller, and J. P. Bills, Catholic Univ., Wash., D. C.; G. F. Trapp, D. E. Milone, S. F. Abrahms, A. E. Klueppelberg, M. P. Dyke, L. R. Claeson, and A. Goodman, Columbia Univ., N. Y. C.; R. Frazier, F. Fredericks, Jr., W. E. Munn, and G. B. Hammond, Cleveland Sch. of Art, Cleve.; W. Bloodgood, Cincinnati Archtl. Soc., Cin.; A. W. Butt, Jr., W. G. Jamieson, Mary McCullough, and R. E. Stiffler, Atelier Denver, Denver; J. H. Lapish, H. Bradley, C. M. Woodward, M. C. Hobson, and F. L. Soars, George Washington Univ., Wash., D. C.; H. Silverman, S. Baum, J. M. Judge, and J. T. Wallwork, Atelier Hiron, N. Y. C.; E. D. F. Horley, F. Sakata, N. S. Zajack, A. E. Shrimpton, J. Delmissier, A. J. Broadstone, H. A. Dallwigk, and F. J. Schlosser, John Huntington Poly Inst., Cleve.; T. Fletcher, Los Angeles Archtl. Club, Los Angeles; J. H. Dowd, E. R. Wilson, J. F. Mullins, J. H. Savolaine, H. A. Gaul, and S. Pokalsky, Atelier Penn State-Pa. State College, State College; F. W. Roudeshush, J. S. Shanley, R. L. Powell, and A. P. Davis, Princeton Univ., Princeton; J. M. Hodgdon and W. F. Swenson, Atelier Parsons-Chicago Archtl. Club, Chicago; W. M. Stryker, J. D. Miller, F. C. Hageman, R. Stadelman, and A. E. Hansen, Southern Branch-Univ. of California, Los Angeles; A. Llorens, E. Malczewski, K. A. Marvin, W. D. Edgerton, E. Weiner, S. E. Chambers, F. W. Hunt, J. S. Palmer and F. C. King, Jr., Syracuse Univ., Syracuse; J. H. Geering and G. E. Koster, San Francisco Archtl. Club, San Francisco; H. S. Shaw and G. T. Daub, "T" Square Club, Phila.; F. A. Barcus, Thumb Tack Club, Detroit; E. D. Stevens and E. K. Hodgkins, Univ. of Virginia, Charlottesville; J. A. Walquist, E. L. Johnson, R. F. Boxmeyer, M. J. Markusen, H. H. Witte, W. A. Backstrom, T. L. Sime, and E. V. Nielsen, Univ. of Minnesota, Minneapolis; J. G. Wells, F. J. Niven, K. McLeary, and W. G. Markle, Univ. of Texas, Austin; T. Jacobsen, E. P. Newbeury and A. K. Arai, Univ. of Washington, Seattle; P. E. Murphy, D. L. Bartels, L. C. Banks, and S. M. Cundiff, Univ. of Southern California, Los Angeles; J. Radotinsky, Univ. of Kansas, Lawrence; J. Claus and R. H. Blatter, Atelier Wynkoop-Seymour, N. Y. C.; H. P. Staats, H. O. Williams, I. Horton-III, R. W. Ramsdell, and C. F. Ferrari, Yale Univ., New Haven.

H. C.:—D. M. Patterson, Carnegie Inst. of Tech., Pitts.; T. Yuniyoshi, V. N. Antonelli, and H. H. Rabin, Columbia Univ., N. Y. C.; F. W. Gloege, W. Smith, T. M. Bandurraga, E. J. Steiner, and A. M. Johnson, Southern Branch-Univ. of California, Los Angeles; C. A. Langzett, "T" Square Club, Phila.; E. W. Hawkins, Univ. of Minnesota, Minneapolis; H. S. Gannaway, C. R. Gaskill, Jr., M. O. Frank, and W. W. Heath, Univ. of Texas, Austin; E. W. Osgood and Helen Geri, Univ. of Washington, Seattle.



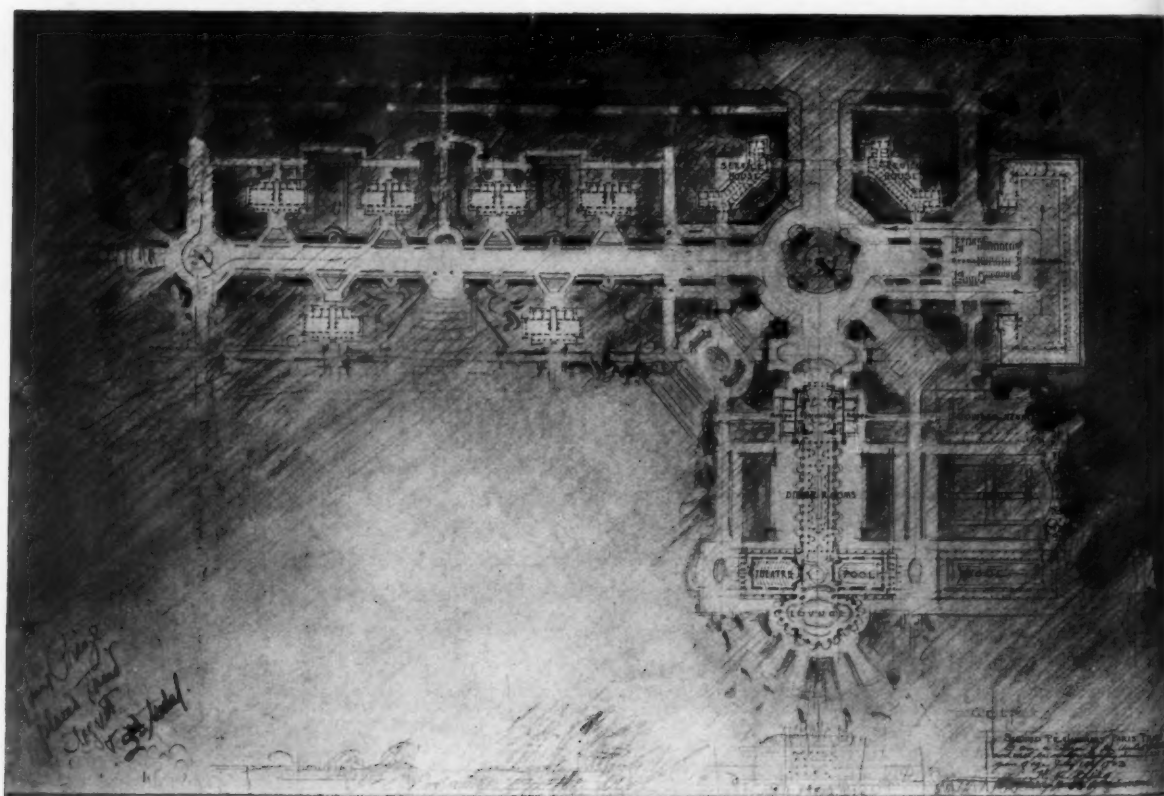
I. J. LOEB, CHICAGO SCHOOL OF ARCHITECTURE
SECOND PRELIMINARY COMPETITION FOR 16TH PARIS PRIZE—A SUMMER HOTEL

PLACED FIRST—SECOND MEDAL



PLACED SECOND—SECOND MEDAL

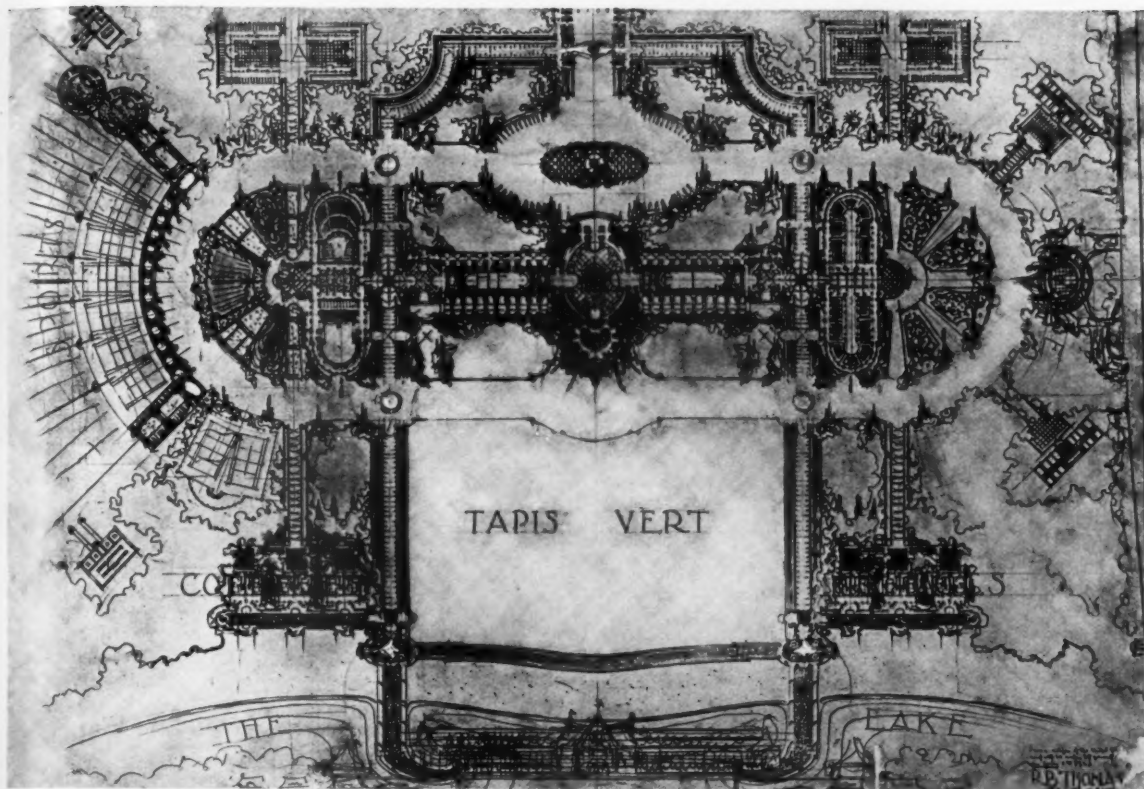
L. ROMBOTIS, UNIV. OF PA



PLACED THIRD—SECOND MEDAL

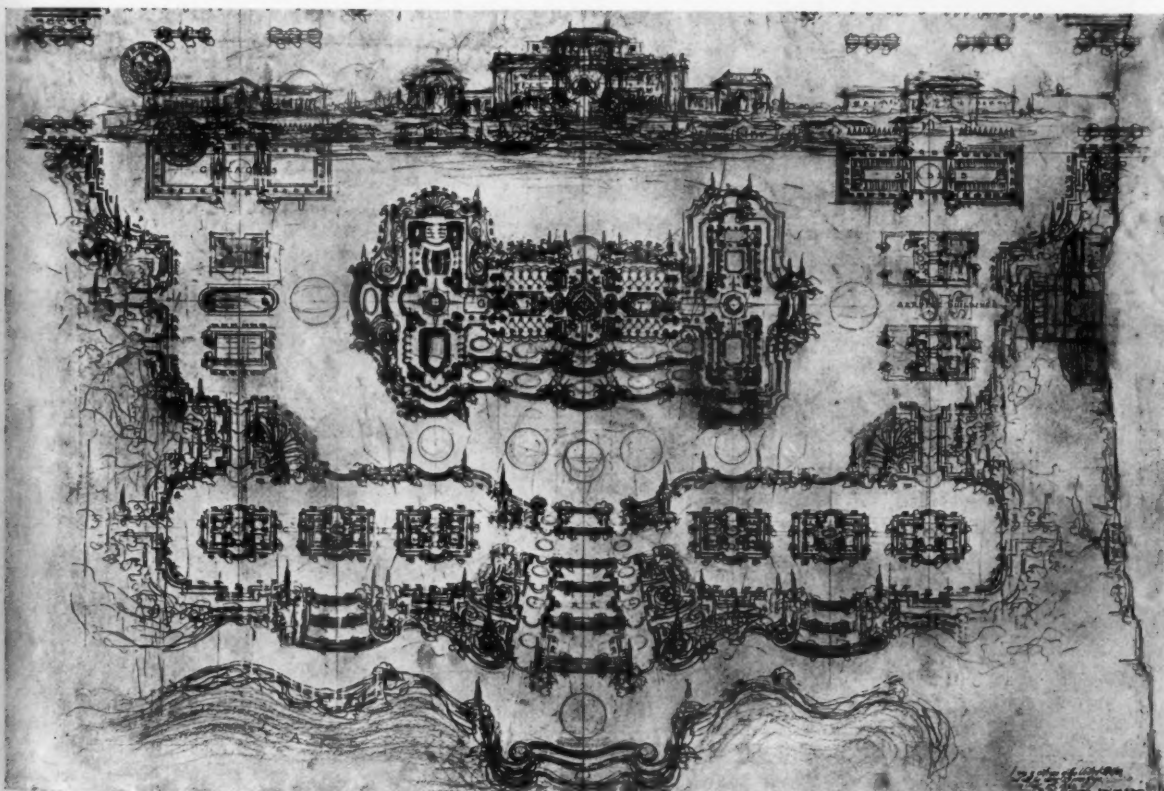
H. K. BIEG, CHICAGO SCHOOL OF ARCHITECTURE

SECOND PRELIMINARY COMPETITION FOR 16TH PARIS PRIZE—A SUMMER HOTEL



PLACED FOURTH—SECOND MEDAL

R. B. THOMAS, ATELIER HIRON



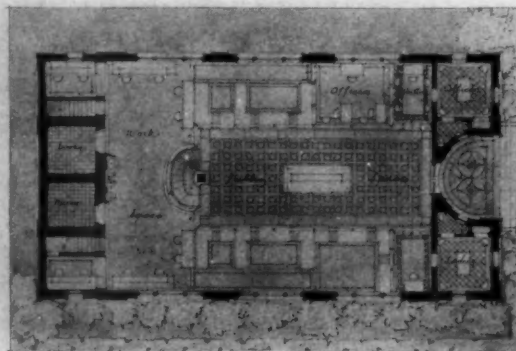
PLACED FIFTH—SECOND MEDAL

R. DE GHETTO, ATELIER HIRON

SECOND PRELIMINARY COMPETITION FOR 16TH PARIS PRIZE—A SUMMER HOTEL



© A BANK FOR A SMALL TOWN ©

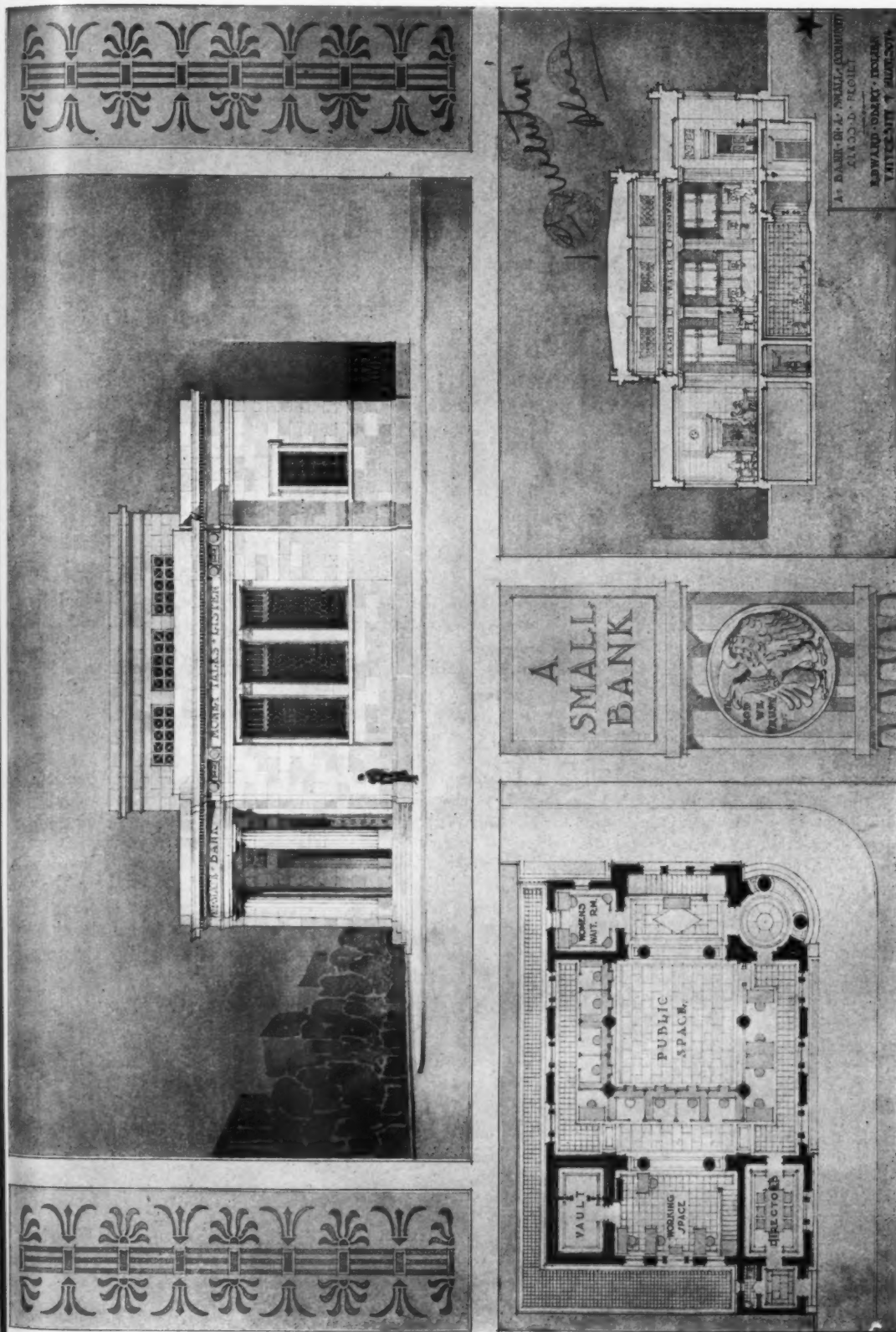


A BANK IN A SMALL COMMUNITY
H. B. TROSS, ARCHT.
COLUMBIA, MISSOURI

FIRST MENTION PLACED

H. B. TROSS, CARNEGIE INSTITUTE

CLASS "B"—III PROJ—A BANK IN A SMALL COMMUNITY



FIRST MENTION PLACED

CLASS "B"—III PROJET—A BANK IN A SMALL COMMUNITY

E. O. HOLIEN, UNIVERSITY OF MINNESOTA

COMMUNICATIONS

Live Loads

THE importance of basing live load code requirements on facts and not fancies cannot be too insistently mentioned at this particular time when the Department of Commerce is making an intensive study of the subject. In the March 28 issue of *THE AMERICAN ARCHITECT* there appeared an article entitled Live Loads in Office Buildings. The necessity of securing such data of other kinds of buildings is very strongly presented in the following letter. This letter should bring forth a prompt and generous response from architects and engineers.

To the Editors:

The article appearing in *THE AMERICAN ARCHITECT* of March 28, 1923, based upon a study made by C. T. Coley, M. E., Manager of the Equitable Building, New York City, describes a survey made of existing floor load conditions in that building and is the most complete study of its kind of which I have knowledge. The work was undertaken at the request of the Building Code Committee of the U. S. Department of Commerce. The efficient thoroughness with which this work was done is plainly evident, and the Committee is highly appreciative of Mr. Coley's splendid co-operation.

The Committee has received numerous requests that it use its influence to standardize building code requirements for allowable floor loads in all ordinary occupancies, complaint being freely made that existing requirements are widely variant, even in cities near each other. These variations result in annoyance and confusion to architects and engineers, and, so far as such requirements are unduly severe, they waste material and uselessly increase building costs.

The Committee desires to comply with these requests, and to this end is endeavoring to secure all possible information of actual floor load analyses or calculations upon every kind of occupancy, except that for private dwellings, which is of minor importance and has already been treated in the first Report of the Committee dealing with Minimum Requirements for Small Dwellings.

There is very little to be found in print upon the subject. A search of the Libraries of Congress and of the United Engineering Societies revealed practically nothing upon the weight of ordinary commercial or industrial occupancy, except some excellent studies of office occupancies made by C. H. Blackall, of Boston, which are summarized in the article, and an extensive anal-

ysis of loading due to motor truck storage by E. L. Verveer, published in *Engineering News-Record*, February 9, 1922.

The weight of human beings in congested and freely moving masses has also been quite well determined by Professor L. J. Johnson in this country and Mr. Kernot, of Melbourne, Australia. C. J. Tilden, (*Transactions, American Society of Civil Engineers*, 1913), also made rather extensive studies of the impulse effect of moving masses of people in sitting, rising, and rapid movement from one position to another, as on bridges or boats.

Doubtless many investigations of floor loading have been made for private purposes in various classes of occupancy, and if copies of these could be obtained for Secretary Hoover's Committee they would be of real service in its work. I urgently request, therefore, that you publish this letter, hoping that it may prompt others to send us, as a contribution to the general good, similar data which they may have upon the subject.

Office building loadings are fairly well covered by the facts now possessed, though additional information would, of course, always be welcome and helpful. We are, however, very greatly in need of data on loading in schools, churches, hotels, assembly halls, theatres, hospitals, workshops, factories, printing establishments, machine shops, public garages, etc. If a person has any floor load studies and has not the opportunity to have the work duplicated, but would be willing to loan the material to the Committee, it would be very gladly received and promptly returned after being summarized. It is also hoped that this appeal may stimulate others to make similar surveys in some of the above named occupancies for the aid of the Committee.

It must be remembered that such contributions are the only possible way the Committee can secure the much needed material. As all the Committee members are giving voluntary service to the work which is intended for public benefit, they feel justified in urging such generous co-operative assistance as will permit logical recommendations to be deduced from well established facts, and which can be presented in a form sufficiently conclusive of their correctness to warrant general adoption as standard floor load requirements for various types of buildings.

Yours very truly,

IRA H. WOOLSON,
Chairman, Building Code Committee of the
Department of Commerce

DEPARTMENT OF ARCHITECTURAL ENGINEERING

THE RAMP GARAGE

Illustrated by Three Recent Examples of Different Types

THE increasing number of motor cars has developed several problems that are engaging the best architectural and engineering talent. In fact, so diversified are these new conditions and demands that scarcely any class of persons is unaffected. Even the manufacturers of motor cars give earnest study to these matters which, unless correctly disposed of, will affect the industry. These conditions are not serious in very large cities only, but are common in some degree to all urban centers.

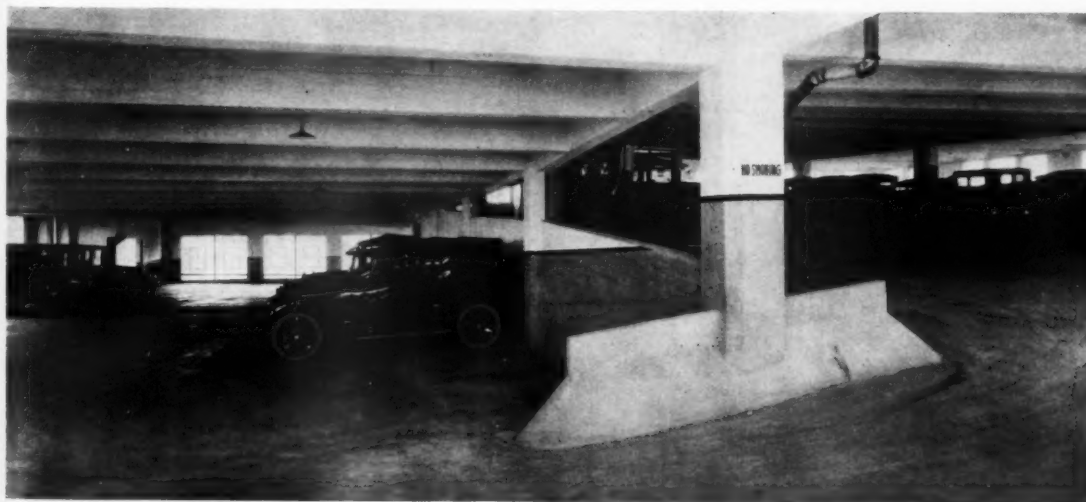
Of these problems, the housing of motor cars in garages is very important. The garage is intended to be a revenue producing building, otherwise it is a failure. Disregarding the elements



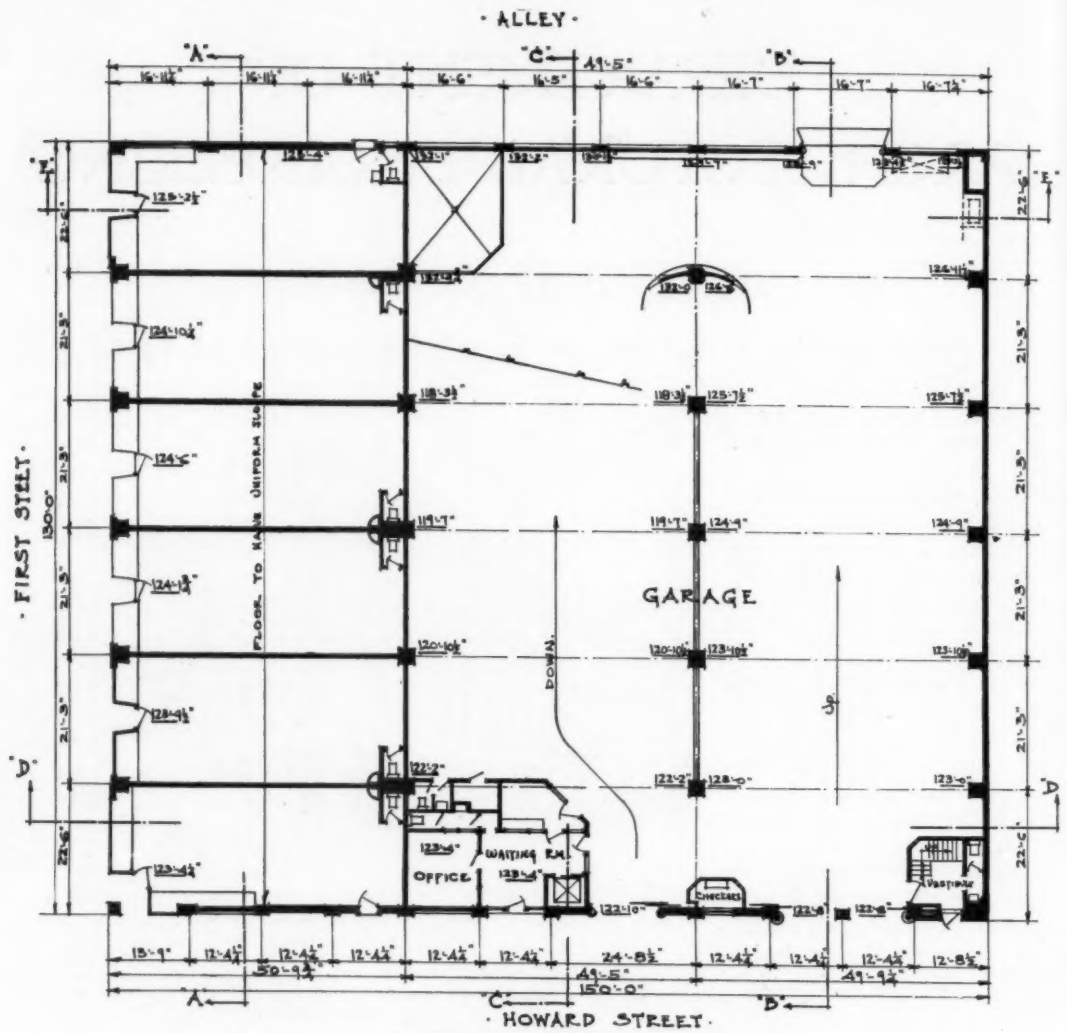
Fort Shelby Garage, Detroit, Mich.

Albert Kahn, Architect

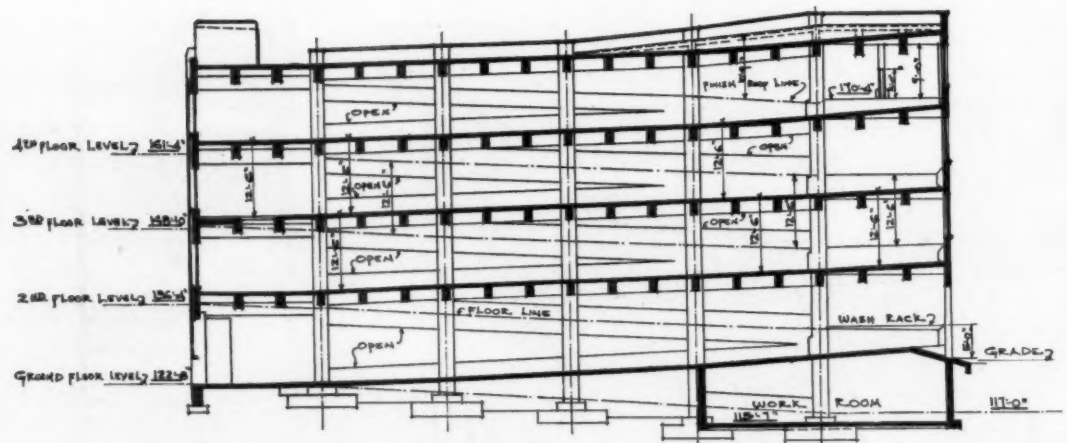
Four story with ramps extending two-thirds of the length of the building.
On these ramps two rows of cars are parked with the aisle between in the center



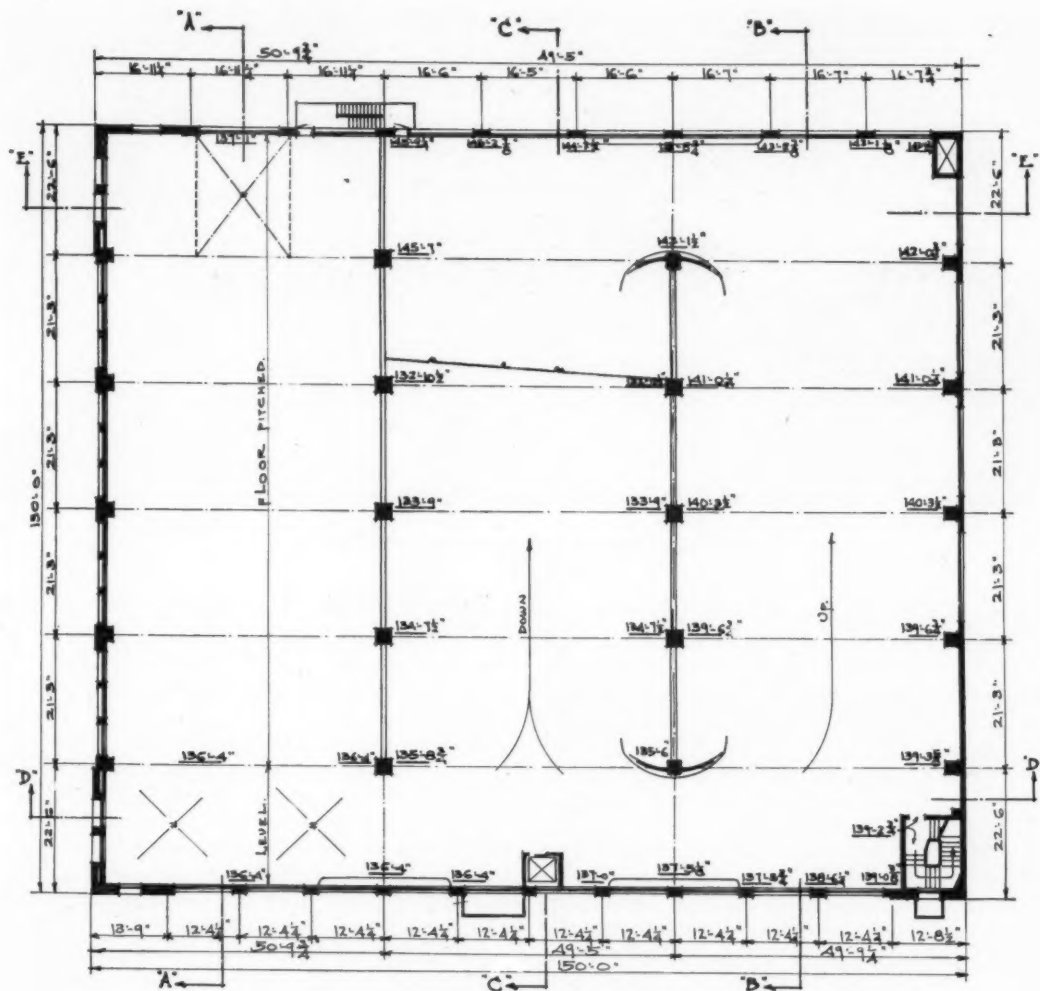
Fort Shelby Garage. Typical floor looking toward corner of First and Howard Streets



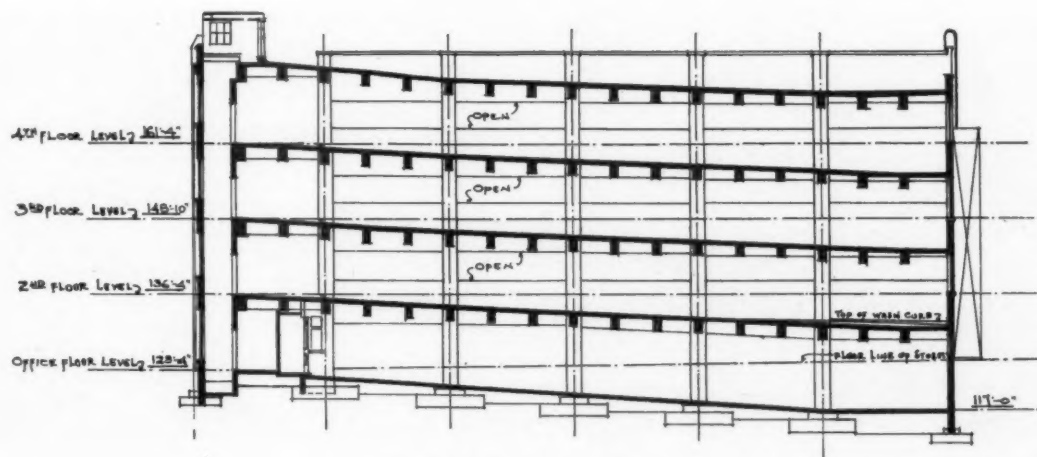
Fort Shelby Garage. First Floor Plan



Fort Shelby Garage. Section B B



Fort Shelby Garage. Typical Floor Plan



Fort Shelby Garage. Section C C



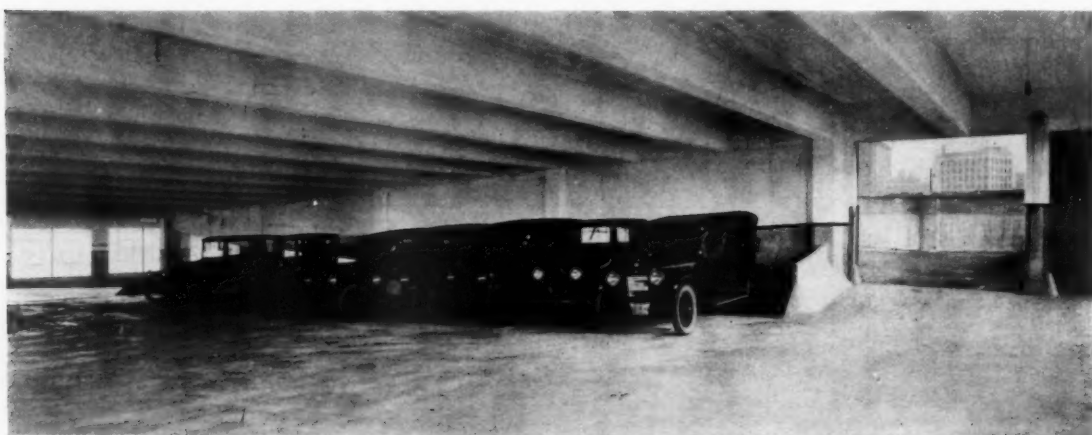
Fort Shelby Garage. Typical Floor looking toward the alley

of personal management and location, both very important factors, the object is to secure a maximum proportion of storage or rentable space. Whatever the plan, the column spacing, units of width and length of sections must be correctly proportioned. It has been found that a width unit of about 50 ft. is required to allow for an aisle for circulation and have a parking space on each side thereof. The length is not so important because the parking width of one car is a comparatively small unit.

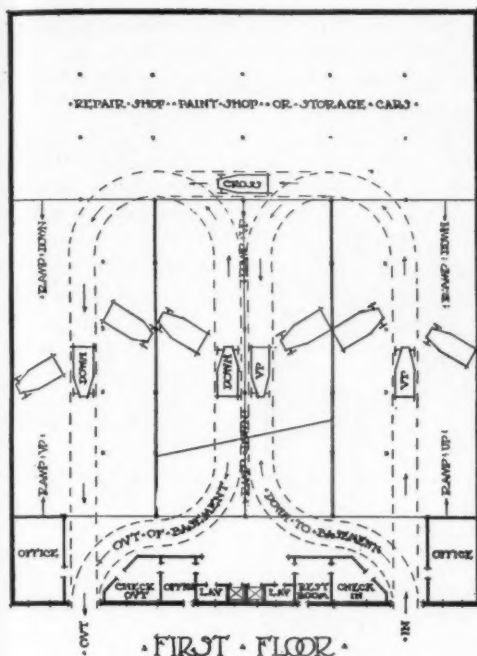
The cost of land, building construction and operation has, in very many places, made the one-level or ground floor garage an unprofitable investment. This fact was understood several years ago and led to the construction of the multi-level garage in which the elevator, very naturally, was

used as the means of transporting the motor cars from the ground to other levels. Without discussing the merits of this system, it can be said that the moving of motor cars to and from various levels under their own power appealed to many persons as a satisfactory scheme.

To accomplish this, recourse was had to the inclined plane or ramp. In the first buildings of this kind the different floors extended over the entire area at one level which necessitated a ramp long enough to elevate the car the story height. It is easily apparent that this was the first solution of the problem because all previous building construction was of that type. Some architects and engineers have departed from this precedent and have planned floors whose levels extend over only one-half or less of the total ground area. This



Fort Shelby Garage. Fourth floor rear showing opening to roof

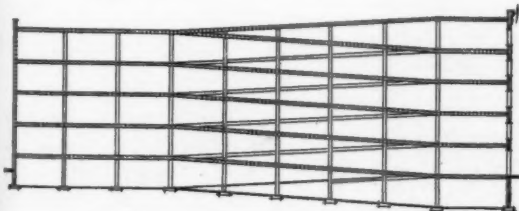


Ramp Garage, E. F. Brickell, Architect

scheme requires a ramp one-half the length that is required in the first scheme.

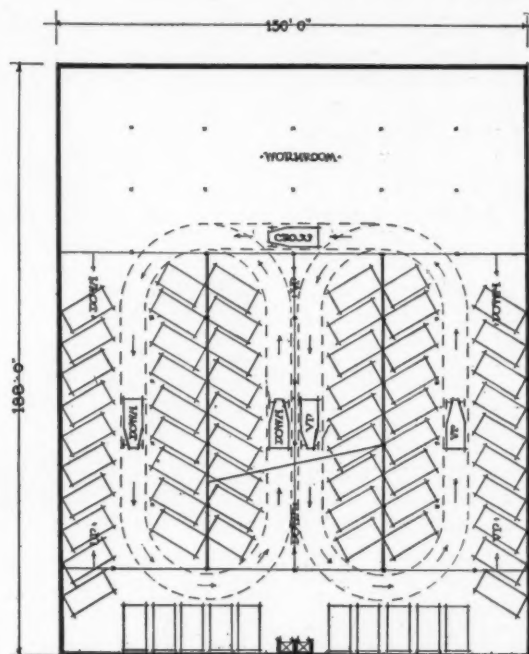
Two distinctive types of ramp buildings have been developed. In one, the ramp is used exclusively for transporting the motor cars; in the other, the ramp is used for that purpose and as a parking space as well. This latter type will be illustrated by two examples.

The Fort Shelby Garage in Detroit was designed by Albert Kahn, architect. It is located on two streets with an alley in the rear. It is a four story and basement building entirely devoted to garage purposes except a portion of the first floor which contains six store rooms. There are two entrances on Howard Street and one on the alley. The building is 150 ft. wide divided into three 50 ft. bays and it is 130 ft. deep divided into six bays.

Longitudinal Section
Ramp Garage, E. F. Brickell, Architect

The floors of the 50 ft. section containing the stores on First Street are practically level. The floors of the two adjoining 50 ft. bays are inclined in the four interior panels, forming a ramp 50 ft.

wide by 85 ft. long. The end panels of these sections on the street and alley fronts are warped surfaces. The inclination of the ramp and variation of floor levels are shown by the figured grades as noted on the plans and sections. The traffic is in both directions in the center aisle of these ramps. A person can drive from the street level to the fourth floor level and at each floor level on Howard Street can drive into the level portion



TYPICAL FLOOR

Ramp Garage, E. F. Brickell, Architect

over the stores on First Street. At the fourth floor rear an opening leads to the roof which can be used for out-of-door storage.

The outstanding feature of this design is the parking of cars on the ramp. This is clearly shown in the illustrations. The pitch of these ramps is very small per foot of run as shown by the figured grades. This makes the placing of the car in its parked position quite easy and with no bad effects on the car itself.

The low walls at the side of the ramps serve as supporting reinforced concrete girders. The opening between these girders permits the driver to observe an approaching car on the other ramp. These openings are noted on the sections and shown in the illustrations, which also show the small pitch of the ramps and the ample space available for the moving cars.

A ramp leads to the basement, a portion of which is used as a work room. The first floor

contains a waiting room, office, small stock room, checkers office and toilet rooms. A passenger elevator serves all floors and an enclosed stairway and exterior fire escape serves as means of egress from the upper floors. Facilities for washing the motor cars are located throughout the building.

Another garage of this type is designed by E. F. Brickell, architect, Bradford, Pa. This design differs from the Fort Shelby Garage in that the traffic is one-way only on each ramp. The crossover to change from up to down travel is made at the level portion of the floor. These ramps are designed for a 6 per cent grade and the level portions of the floor will vary in depth according to the depth of the lot. Where this level space is more than an aisle and parking space wide, the additional space can be used for workshops or dead storage. As in the Fort Shelby Garage

this scheme requires a width of 50 ft. units with a variable depth. Ample facilities are provided for offices, checkers, waiting rooms and toilets. Passenger elevators serve all floors. Stairways and fire escapes can be provided if required by local or state building codes. The building is

designed to be of fireproof construction with structural steel frame and concrete floors.

An interesting example of a garage where the ramps are used for traffic only is the Motoramp Garage at Binghamton, N. Y., designed by T. I. Lacey and Son, architects. The d'Humy Moto-

ramp type of construction was selected for this building. The building was originally constructed and used as an armory and later converted into a motion picture theatre. Not being well adapted for that purpose, the interior construction was entirely removed and reinforced concrete floors and ramps installed. This is an excellent example of what can be done with antiquated and unprofitable theatre or other buildings which are to be found in almost every community. Usually such buildings are well located for garage purposes. They are of such size that conversion

into garages is practicable. The capacity of this building is about 180 cars and trucks.

This system is such that the building is divided vertically into two parts so that the floor levels of one section come approximately half-way between the floors of the other section as shown by the

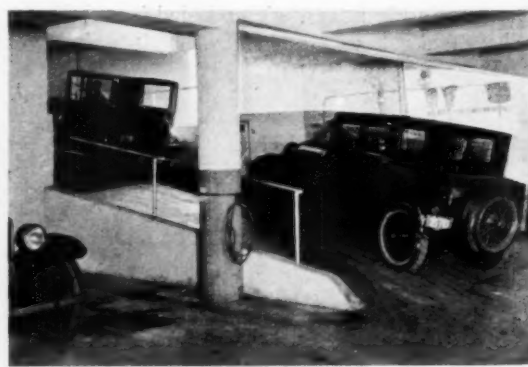


Motoramp Garage, Binghamton, N. Y.

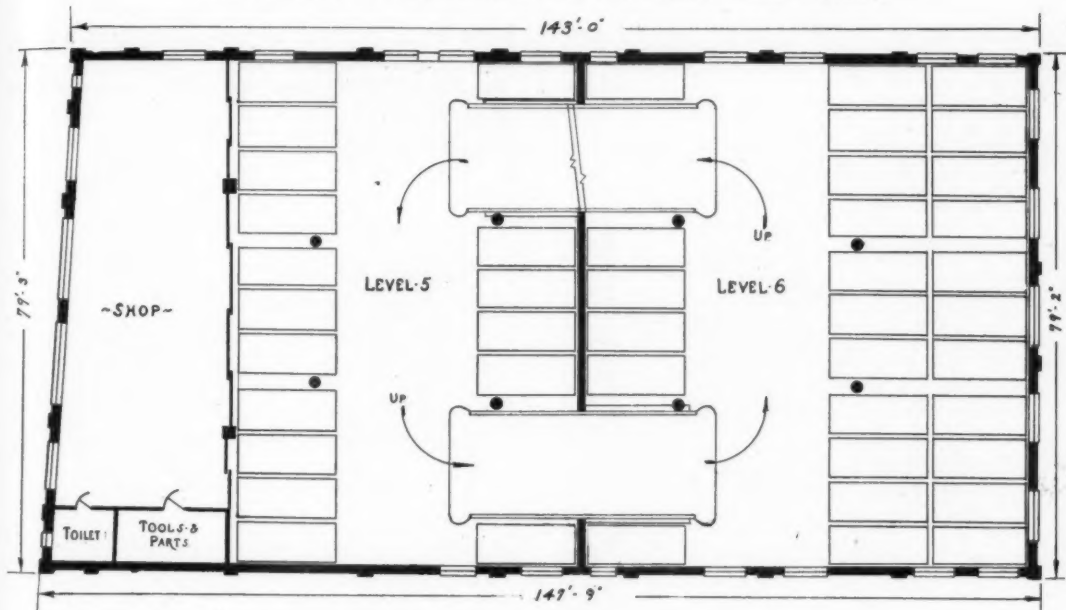
T. I. Lacey & Son, Architects



Motoramp Garage. Ramp $2\frac{1}{2}$ car space wide not intended for cars to pass and indicates that a 2 car space width is ample for one way travel



Motoramp Garage. Short ramp "visibility" and ease of turning. Ramps extended 4 or 5 feet into aisle, reducing pitch without interference with traffic

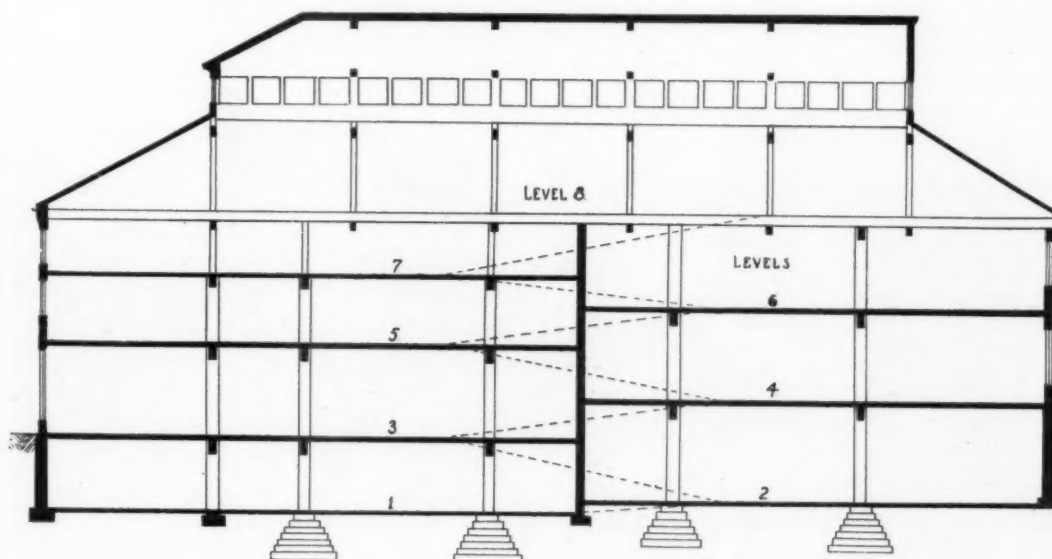


Motoramp Garage. Typical Floor Plan at Levels 5 and 6

longitudinal section. The sections are separated by a transverse wall in which openings are made for the ramps. The sides of the ramps are open, permitting the driver to see far enough ahead to avoid traffic difficulties. In this case drivers occasionally pass on the ramps although this was not intended when the work was designed. The plan was to have the traffic pass on the aisles and this is done without noticeable delay with under heavy traffic. Where extremely heavy traffic is found, as in a four or five hundred car garage,

separate ramps for up and down travel are desirable.

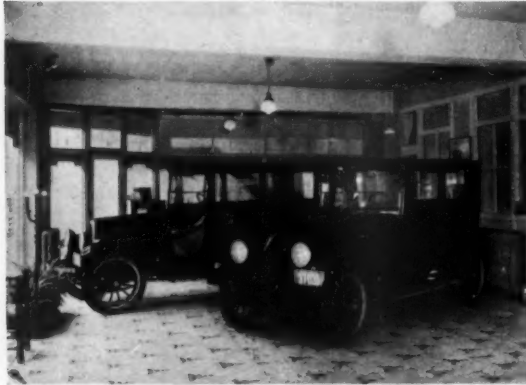
In this garage the ramps were designed with a width of two and one-half car spaces or 16 ft. It is found that a ramp width of two car spaces is sufficient to permit a car to turn from an aisle into a ramp when they are at right angles to each other. A car space width is from $6\frac{1}{2}$ to 7 ft. The method of carrying the ramps 4 or 5 ft. out into the aisle, which is 20 ft. wide, has the advantages of reducing the pitch of the ramp



Motoramp Garage. Longitudinal Section

without interference with traffic. The illustrations show the ease with which the turn into the ramp is made.

On level 5 a repair shop is located and closed off by a series of sliding doors. This permits a car to be run onto the shop floor space it is to occupy and makes possible a smaller shop than usual.

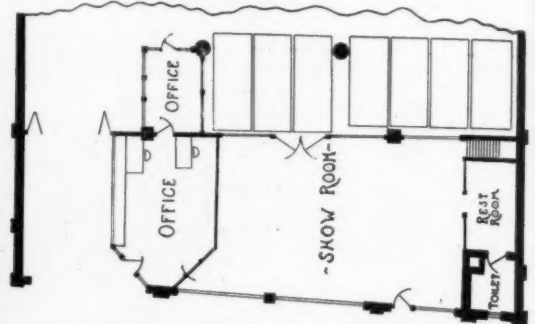


Motoramp Garage. Theatre lobby converted into showroom

The parking of cars outside the shop has not been found to interfere with the operation of the shop. Two rows of cars are parked along the rear wall. This does not interfere with the operation of the garage in this case as care is taken to use this space for cars that are to leave late. This

scheme has worked out very successfully in a great many garages.

In this building the theatre lobby was used as a sales room with offices, waiting room and toilet

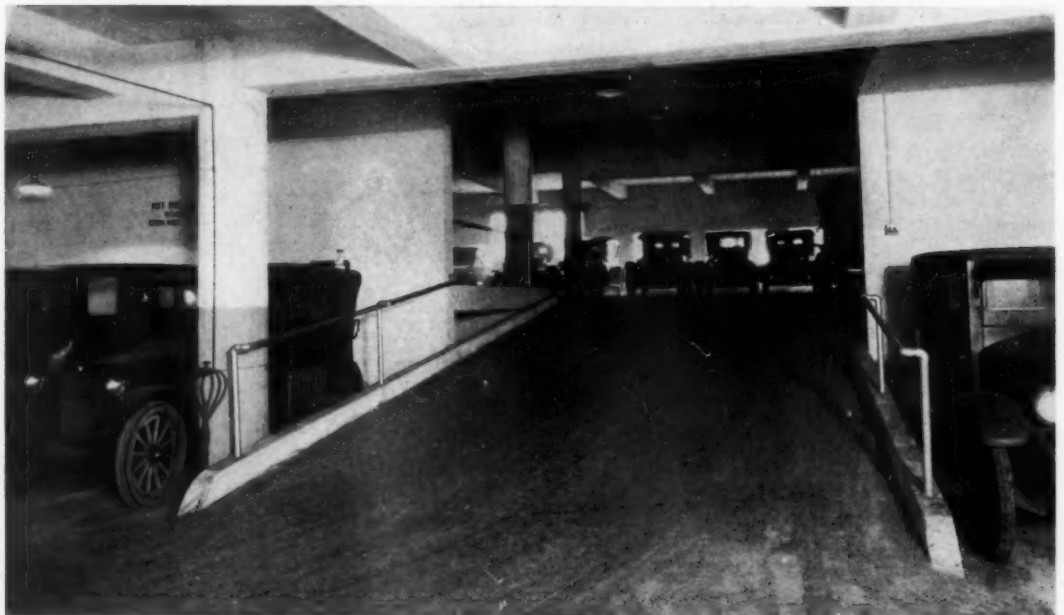


Motoramp Garage. Part of First Floor Plan

adjoining. The roof truss space at level 8 is used for storage, the floor being supported on the lower chord of the trusses which are in turn supported by posts. Level 2 is designed for truck storage. Wash racks are located in the corner of levels 4 and 6, with steep pitch to the center and a curb about 5 in. high.

In this type of garage the transverse wall can be left out and a curb and gas pipe railing substituted.

On the three types of garages here shown and described patents have been granted or are pending.



Motoramp Garage. Head-on view of ramp

II. BRICK—ITS STRUCTURAL VALUE

BY G. C. MARS, Ph. D.

WHEN Vitruvius recorded the best architectural practice of his day, nearly two thousand years ago, he gave *firmitas* as the first requirement of a good building. Evidently he had in mind something far more than firmness in the sense of mere rigidity, secured by proper methods of construction. He meant that the architect was to erect structures that *endure*; and, while this durability requires workmanlike and skillful building practice, the best constructed house in the world, unless built of enduring material would not be "firm" in his sense of the word.

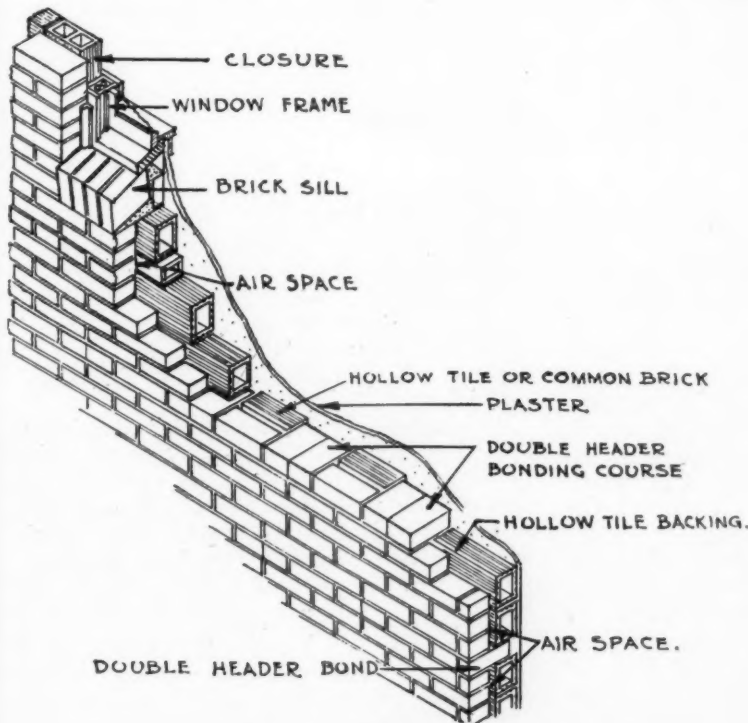
are many different kinds and qualities of bricks, as well as good and bad methods of using them, the architect must know something about their manufacture and characteristics; and also about the best methods of using them in order properly to prepare his designs and specifications and to superintend the construction." (Part I, "Mason's Work," page 311.)

But as the variety of uses to which brick may be put is considerable, the question of quality will depend upon where and how the brick are to be used. For example, it would be fatal to build a sewer, a foundation, or the outside of a wall of salmon brick, but on the other hand these soft-burned brick would be just the thing for the inside of a chimney or the backing of a wall. Building codes are pretty definite on such matters, and there is little danger of going astray on the brick selected for a definite purpose, if the architect or owner, exercises ordinary care in his selection.

Innumerable tests, official and unofficial, have been made on the crushing strength of building brick. In the last edition of the Kidder - Nolan Handbook (17th, 1921) this strength is shown as ranging all the way from 6,000 to over 14,000 pounds per square inch, and one brick tested by Kidder took the enormous weight of 22,351 pounds to the inch.

But as the mortar used in brick construction is always weaker than the brick, the tests on brick piers give the practical data about the

crushing strength of brickwork which the builder wants to know. As the results involve, besides the compressive strength and rupture modulus of the brick themselves, such varied elements as methods of bonding, cross section and height of piers, kind and age of mortar, the details of the tests, which are necessary to give an intelligent understanding of the results, are too elaborate for presentation here. The interested reader may consult such official bulletins as No. 27, University of Illinois

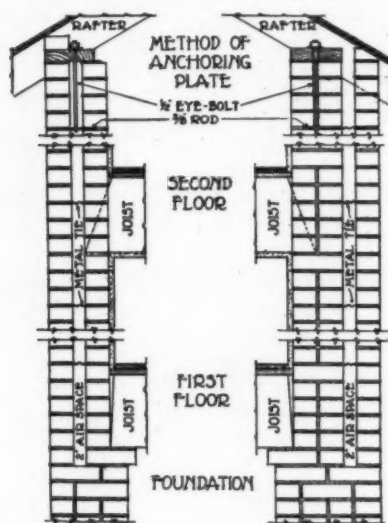


Face Brick on Hollow Tile, 8" Wall

Among the materials that have distinguished themselves in the long history of building, on the score of durability at least, brick has held its own.

On the subject of durability, Kidder's "Building Construction and Superintendence" has the following to say: "As far as durability is concerned, good bricks are practically indestructible either from the action of the weather, from the acids of the atmosphere or from fire." The author, however, very properly adds that "as there

Engineering Experiment Station, Sept. 29, 1908, and No. 111 Technologic Papers of the Bureau of Standards, Compression Strength of Large Brick Piers, Sept. 20, 1918 (Gov't Printing Office). Suffice it to say, the architect may divide any of



Hollow or vaulted Brick wall

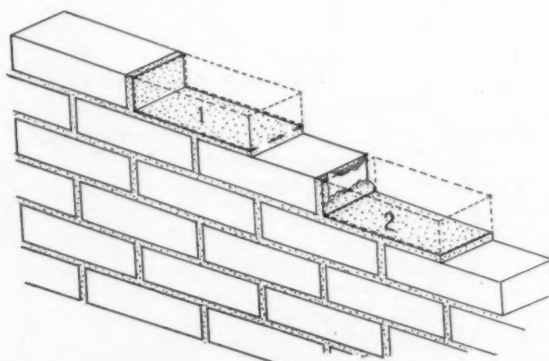
the results by four and still have a vast margin of safety that will permit him to sleep in peace of nights. Especially is this the case with face brick where the problem hardly arises, or if it does arise, the builder, under modern methods of construction, may be sure that the brick of any reputable manufacturer goes far beyond any requirements laid upon it. The face brick manufacturer necessarily burns his brick to a hardness that endures outside conditions, which results in strength that far exceeds all structural demands.

There are, however, two or three other questions of more direct interest than crushing strength in the brick wall. Take dampness, for example. Regarding dampness there is a good deal of popular misapprehension based on the fact that soft-burned brick will permit moisture to go through the wall. It is, therefore, taken for granted that the brick for the outside of a wall should be burned so hard as to be practically non-absorbent like a piece of glass. Unfortunately, brick as hard as this are difficult to lay as they tend to slip or "float" on the mortar bed, and do not bond so well with the mortar. Depending upon the clay or the method of manufacture, first grade face brick will absorb all the way from 5% to 20% of their weight without essentially affecting the question of dampness in the wall. The only concern is to see, on the one hand, that the brick is not so hard as to prevent a strong cohering bond with the mortar, and, on the other

hand, that it is not so absorbent as to permit penetration of moisture.

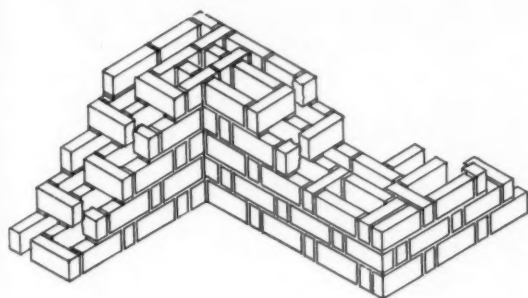
Owing to widespread and conflicting reports on this subject, the writer three years ago sent out a questionnaire to the members of the American Face Brick Association, asking for data on the subject. Amid a number of controversial claims, there was a consensus on the point that the mortar joint accounted for the dampness, except where a builder was foolish enough, for the sake of economy, to use a soft, under-burned brick on the face of the wall. To remedy this defect the members offered different advice. A few recommended the use of a colorless waterproofing on the surface of the wall, others an integral waterproofing in the mortar, but nearly all opposed the use of any waterproofing whatever as ineffective or harmful, and insisted on the proper mortar joint as adequate. One reply gave an account of a test made on an 8-inch brick wall built with especial attention given to the joint. A cement mortar was used, every bed and vertical joint thoroughly filled, and the inside surface plastered and tinted so as to show dampness readily. After a hose, with a nozzle pressure of 45 pounds at a distance of 5 feet had been played directly on the wall for several days a small damp spot, hand size, appeared on the inside of the wall. Examination proved that a weak head joint corresponded directly to the damp spot on the interior surface. The engineers present claimed that the test was equivalent to a driving rain storm in a hundred mile gale. In building a brick wall, the head joint, because too frequently neglected, should have especial care.

In contrast with this last result, is the claim of a brick contractor, recently made to the writer, to the effect that he did not care how poor the mortar joints in the face of the wall were as long as the spaces between the vertical tiers of brick were thoroughly slushed. This, in his experience, proved effective against dampness. Doctors certainly differ. At a meeting recently held in one of our largest cities, at which were present a num-



Right and wrong head joints
1. Proper Slushing. 2. Insufficient Slushing

ber of prominent architects and brick mason contractors, the latter were asked how they read the architect's specification on slushing brick walls. Amid considerable good-natured banter one of the leading mason contractors, whose experience covered many years of large work, flatly said that no matter what the architect specified; he would not have his brick layers slush the inner joints of the



12" Ideal Wall

wall; first, because, since it is wholly unnecessary as a bonding factor, it is a waste of time and money, and, secondly, because to leave the mortar out makes a drier and better wall.

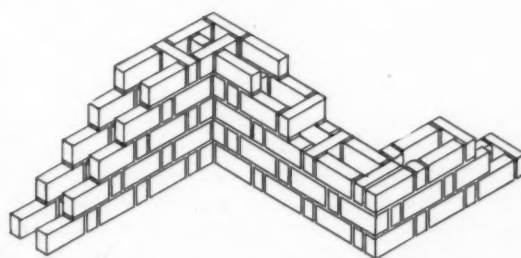
While it is not possible to dogmatize when experts disagree, still with considerable testimony on hand, from all sides, one must form some sort of judgment. And the testimony seems to show pretty clearly that the right practice in building the exterior brick wall, the practice that brings the best results, is first to use a sound, well burnt brick for the facing with a soft brick for backing; secondly to make every joint, bed and head, perfectly tight, while leaving open joints between the vertical tiers; and, thirdly, to protect projections and exposed tops, and to provide water-tight cornices and gutters.

If, in addition, care be taken to see that the proper mortar is used to meet the conditions, nothing further is needed to be assured of a dry wall. That is, while in warm, dry climates, a lime mortar may be entirely satisfactory, in other localities a cement-lime mortar, with a percentage ratio of from 10% to 50% of lime putty or hydrated lime to cement should be used. The lime not only makes the cement more workable but up to a certain extent makes it more impervious. For outside brick walls it is believed that a general use of a 1-1-6 cement-lime mortar would always give, on the whole, the best results, although experience will teach the individual builder the special practice along this line he finds best in his locality.

In this same connection, arise the questions of the efflorescence or scumming that occasionally appears on brick walls, and sweating. Efflorescence, which is a subject about as mysterious as the veiled prophet of Khoresand, is always connected with conditions of excessive moisture.

Some soluble salt, such as the sulphate of magnesia or lime in the brick, in the mortar, or developed by the union of the two, is brought to the surface and deposited as the damp wall dries. The manufacturer of first grade face brick cures the evil in clays that may happen to be affected by using barium carbonate or the like, during the process of manufacture, that renders the salt insoluble, and so harmless. But the mortar may develop it and his efforts are thus nullified. The sand and water should be free from such impurities or reagents as produce any soluble salts. Nor should common salt, mauger the advice of some building manuals, ever be mixed with the mortar in cold weather to prevent freezing. Efflorescence is so perverse that if the building is on damp ground, it may even crawl out of the soil and stain the lower courses of a masonry wall. Here the remedy would be to dampproof the lower courses. The general remedy of waterproofing the entire wall to prevent occasional efflorescence develops the difficulty of getting a preparation to work that is really economical, effective, and entirely colorless so as not to stain the brick. In summing up a discussion on this subject, the writer in Kidder's "Building Construction and Superintendence," Part I, "Mason's Work" (p. 399), concludes "that if reasonably hard bricks are used for facings, the joints closely examined and filled and all brick projections and exposed tops waterproofed and provided with drips, but little efflorescence will appear." In fact, if this sort of precaution is taken in properly constructing a brick, as well as any other masonry wall, problems of dampness or scumming will be practically settled.

The allied problem of sweating on the interior surfaces of solid masonry walls requires a different treatment. The coolness of the wall, in conditions

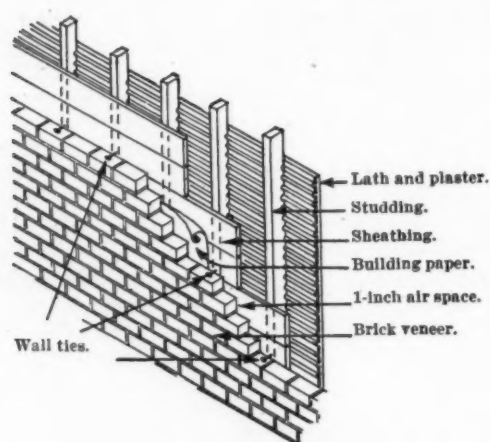


8" Ideal Wall

of atmospheric humidity, permits the deposition of moisture which may be both unwholesome and unsightly. In the first place, this may be largely avoided by the proper construction of the wall as already indicated. But, to make sure, the simplest and most effective precaution is "furring." That is, instead of plastering directly on the wall, the wall is first "furred" so that an open space is left behind the lath and plaster. This is accomplished in various ways. Metal non-furring

plugs may be set at frequent intervals in the wall during construction, and to these is attached metal lathing, or the metal lathing itself may be provided with strips to hold it out from the wall. Split hollow tile also are made for furring purposes, or 1 x 2 inch wooden strips may be nailed on the wall to which is attached the wood or metal lath. We should always recommend, with 8" solid brick walls, in climates showing a high mean humidity that, in order to counteract any defects in building, some such furring method be used.

Another defect sometimes seen in a brick wall is cracking. The brick themselves rarely show the crack which zigzags along the mortar joints. This results from two faults of construction. The first is a poor foundation; either the soil under the footing is loose or soft in spots or the footing itself is not adequate. A little extra care in getting down to solid ground, properly drained if need be, or in providing a continuous footing of sufficient bearing strength will prevent settling in the superimposed brickwork. The second cause, above referred to, is the improper placement of



A Brick Veneer Wall

openings. Openings, so far as possible, should be arranged in a vertical line, for it is evident that a heavy mass of masonry above an opening is sure to develop strains that threaten local settlement with its consequent unsightly cracks. Here, too, a little foresight or just common sense will prevent subsequent regrets.

In a word, where dampness, scumming, or settlement appears in a brick, or any other masonry wall, it may be put down in almost every instance as due to a lack of proper care in construction.

There is really only one kind of a brick wall, and that is a wall built of brick. With its stretchers overlapping in the length of the wall, thus distributing the pressure of the units uniformly throughout the wall mass, and with its

headers properly placed, securing a transverse bond, the brick wall makes a sort of monolith which experience and time have proved to be about the most secure and permanent wall, against the destructive onslaughts of fire and the gnawing tooth of the elements, that can be built. It comes about as near to giving structural satisfaction, or *firmitas*, as anything thus far humanly devised. The brick wall may have, as all human inventions, its own peculiar defects, but when built in a thoroughly workmanlike manner it stands upon its own merits, facing time, as it were, without fear and without apology, secure in a sense of its own enduring strength.

Other types of brick walls have been devised with the aim of meeting local conditions, improving on the original, or saving money, each of which makes its own claims or has its own apologists. These types may be named here, but otherwise left to the Board of Fire Underwriters, the honorable board of aldermen, or the judgment and means of individual builders.

The first type is a modification of the solid brick wall and takes two forms. The first is the so-called hollow or vaulted wall, recommended by its advocates, in spite of its extra cost, for its insulating value. In this wall, the inner or outer tiers of brick are separated by an air space and bonded either by headers or metal ties. This wall has had a considerable vogue in the East but finds little encouragement in the West.

The second form is an old type of brick wall, recently resuscitated and featured by the Common Brick Manufacturers' Association of America, which has given it the name of "the ideal wall." In this wall the brick are set on edge and, as the bonding header is eight inches long, an open space, except where the headers cross, is left between the successive vertical tiers of brick. Its advocates claim that it dispenses with furring, and saves in brick, mortar, and time required to lay the wall. It has met with approval in certain localities for building small houses, but how the attempt to adapt this form of construction to the use of face brick will work out remains for the judgment and taste of builders generally to determine.

Next to the hollow brick wall comes the wall of hollow tile, faced with brick. The claim here is also economy and insulation. Each hollow tile element takes the place of several brick and the hollow spaces, it is claimed, protects against moisture and cold, or heat. The various types of hollow tile must be permitted to make their own individual claims. While the fire underwriters and city fathers have not as yet put this wall on the same footing with the solid wall, it must be said that it has many advocates among architects and builders who regard it as the best burnt clay wall built.

Finally, we come to the so-called veneer wall which is simply frame construction with a

tier of face brick built around it in place of the clapboards or shingles. This construction is popular in many parts of the country and, while condemned by some architects and builders, is approved by many others as being, when properly built, "structurally sound for houses of moderate size, economic in first cost, safe against exterior fire risk, durable, and exceptionally dry and easy to heat." But because of the frame construction the Fire Underwriters and Councilmen do not put

it on the preferred list, with the brick house.

In conclusion, what may be said for brick from a structural point of view is that its history and its present widespread use give sufficient evidence of its enduring strength. It fully meets the Vitruvian requirement of *firmitas*. What may be said of it from an architectural or artistic point of view remains for the following paper.

Editor's Note: This is the second of a series of three articles by Dr. Mars. The third article to appear in a succeeding issue will treat of The Artistic Value of Brick.

THE LICENSING OF BUILDERS

A letter from the Secretary of The Master Builders Association of Boston
in defense of the General Contractor

The Editors,

THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW:

WE note in your Editorial Comments in your issue of December 20, 1922, what you have to say in regard to "licensing of builders" and the "growing in favor of dispensing with general contractors and placing control in the hands of architects," etc. etc.

While we do not wish to comment adversely upon your argument, and indeed the writer has long entertained some, at least, of the views you express, we are quite disturbed by the implications that seem to be involved in certain expressions you have used. For instance where you infer that when the architect has "general charge" and deals "personally with all the artisans and tradesmen" the owner will be relieved of "staggering extra costs," the implication seems to us to be that the general contractor has been delinquent in this connection, and that under a new order, where the architect assumes the active responsibility as indicated, this danger will be averted.

"Extra costs" almost invariably result from modifications in the original demands of specifications and drawings and it seems to us an unwarranted assumption either that the "cost" of these modifications are made "staggering" by the intent of the general contractor to take advantage, or that when the architect has the matter entirely in his hands and is responsible for the outcome that the "stagger" will be taken out of the costs.

When you say that "it is gratifying to learn" that "the spread of the custom" (making the architect the responsible master builder) "is regarded with dismay in the offices of general contractors,"

we again feel that the implications involved are not warranted, indeed are distinctly open to protest. If the custom is spreading as you say, and of this we have as yet only your statement to support such a fact, we seriously question the charge that contractors are "dismayed" by the situation.

The custom of general contracting has grown up largely from the desire of owners to make one concern responsible for the carrying out of the entire job, thus avoiding the making of numerous contracts with the unescapable confusion resulting where the various parts are not under one authoritative direction.

This custom has distinct advantages considered solely on economic as well as administrative grounds, and it also has disadvantages, but our wish is not to argue in favor of the custom but to voice our protest against your editorial slam against the general contractor *per se*.

Realizing as we do that a very large proportion of contractors for major portions of building work, have been forced into being "general contractors" for the whole of the work involved, assuming not only responsibility for the execution of the portions not in their own especial field, but for the solvency of the sub-contractor, and for assuming this responsibility in all too many cases receiving no recompense, (under duress of losing the job), we feel safe in saying that such contractors will not be "dismayed" but rather rejoiced when this responsibility is transferred from their shoulders to those of the architect master builder.

Yours very truly,

The Master Builders Association of Boston

WM. H. SAYWARD,

Secretary

T Square Club Exhibition

THE Philadelphia Chapter, A. I. A., and the T Square Club will hold their annual joint exhibition on May 12 to 27, in the Art Alliance galleries.

It is expected that this important annual exhibition will be of unusual interest. The Chapter and Club have a long record of successful exhibitions, conducted in a manner to promote a strong interest in architecture and the allied arts.

Downtown League Awards

IN accordance with its annual custom, the Downtown League, New York, recently awarded the prize for the best building erected downtown during the year 1922 to the New York Stock Exchange for its building at 7 Wall Street. This building was designed by Trowbridge & Livingston, architects. The prize for the best alteration downtown was awarded to the D. P. Harris Hardware and Manufacturing Company, Inc., for the alteration made at 99 Chambers Street. Here an old five story building was converted into a modern six story structure. Jean Jeauime was the architect.

Summer Courses at Carnegie Institute

CCOURSES to interest nearly anyone in need of technical training will be given this Summer at Carnegie Institute of Technology, Pittsburgh, according to a preliminary announcement. The variety of the subjects has been increased by the addition of many new courses, and special emphasis will be placed on these courses that have been outstanding successes of former years. The Summer session is, of course, arranged primarily to fill the needs of teachers and under-graduates, but it will doubtless attract many men and women who have found themselves handicapped without the instructions and training that this Institute is enabled to give.

The Carnegie Summer School will open June 25 and continue for eight weeks until August 17. Six weeks' courses will be conducted from July 2 to August 10. The College of Fine Arts, the College of Engineering, the College of Industries, the Margaret Morrison Carnegie College, and the Division of General Studies are included in the Summer program.

Dormitory accommodations will be available for out-of-town students, and in connection with this announcement a substantial decrease in the rates for board and room on the campus, is noted, in comparison with the rates of former post-war years.

Of special interest to readers of this magazine are the courses in architecture. In the College of Fine Arts, courses will be given in Design, Working Drawings and Superintendence of Works, and Outdoor Sketching. In the College of Industries, the Department of Building Construction is offering various courses in Architectural Drawing.

International Competition for Government Palace in Montevideo, Uruguay

THE Pan American Union now has in hand the rules governing the international competition for plans for the Municipal Palace to be erected in Montevideo, the capital of Uruguay. The Palace will not only contain the offices of the municipal government, but those of the national government as well. Competitors are requested to utilize, if possible, the foundation already existing upon the site, which has a dimension of 337' by 505'. It is the intention to have the building constructed principally of stone quarried in Uruguay. The architects are asked to provide for a bell tower as a part of the general plans.

The competition will close on August 8 of this year. The winner of this competition will receive a prize of 10,000 pesos (the peso is equal to \$.85 United States gold). The second prize will be 5,000 pesos, and the third 3,000 pesos. The Jury of Awards has been authorized to divide an additional 5,000 pesos among other competitors, should their work merit this recognition. The erection of the Palace will be in charge of the successful architect, who will receive 3 per cent of the total cost as additional compensation for this work. A plan has been worked out to keep secret the names of the competitors until after the awards have been made, and even then only the names of the prize winners will be known to the Jury and to the public.

Copies of the ground plan and full details can be supplied by the Pan American Union, Washington, D. C.

Italy Buys Historic Church

THE Italian Government, it is learned, has bought for 1,600,000 lire the church and monastery of St. Hadrian, erected in the seventh century by Pope Honorius I, on the site of the ancient Roman Senate House built by Julius Caesar and Augustus. The brick walls of its façade date from Diocletian. The object of the Government is to preserve the remains of the Senate.

REVIEW OF RECENT ARCHITECTURAL MAGAZINES

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

IT seems to be evident that a magazine has to have pictures in order to be popular. My own conception of a strictly professional magazine is one that has neither pictures nor advertising, but I presume such an adventure could only be undertaken by the Standard Oil or by the Sage Foundation. The *Journal of the American Institute of Architects* has published some extremely good pictures; the subjects have not always been as architectural as might be expected from the name of the magazine, and some that were architectural were not well chosen, and some, especially some woodcuts, were atrocious, but generally they are good, and in the April number there are a half-dozen or so colored prints that are excellent, the prints being reproductions of decorations by Arthur F. Mathews, the Institute Gold Medallist in 1923.

In the same number is published a letter to the Editor anent the Dome of St. Peter's and signed by Victor L. S. Hafner, Fellow in Architecture, American Academy in Rome. Mr. Hafner therein takes umbrage, in fact takes a good deal of umbrage, at a criticism made some time since in these columns of an article of his in the Decem-

ber *Journal*, and he most umbrageously "opines that he (the critic) needs some correction in his facts" and he "judges that he (still the critic) believes that the *paid* critic has exclusive right to the press." "Surely," he pleads, "the investigator should likewise have his place; he should even be encouraged to present his researches, especially if he has spent many days of careful study upon the originals." I have ventured to italicize one of the

words of Mr. Hafner, in the hope that a rich blush of shame may mantle the stern cheek of him who rules the finances of THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW, and I hasten to assure Mr. Hafner that by all means the investigator who has spent days of careful study should have his place—and keep it. There have been investigators who

have even spent years, and no one has objected at all. The objection comes not because they are investigators, but because of the conclusions they have drawn from their investigations, and more particularly because of the things they advocate, which are based on these conclusions. For example MM. Perrot and Chipiez, most persistent investigators, became convinced that columns in

From "The Architectural Review," London



House at Woodbury, L. I., N. Y.

John Russell Pope, Architect

From "The Architects' Journal," London



Greenwich Hospital

Sir Christopher Wren, Architect

From "The Builder," London

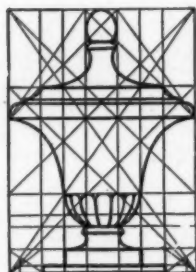


First Prize design for a £5 Note

By Cecil Smith

early Greece were of wood and turned upside down. No one objected to that; these primitives had quaint notions; but further on in the records of these persistent investigators one reads that the Heraion at Olympia had its wooden columns re-

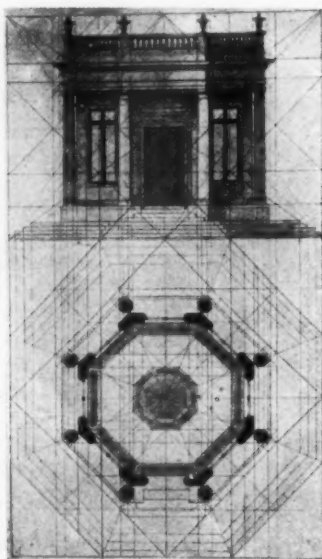
From "Architecture"



Detail

A design for a Tea House

The Hambidge Theory,
by A. A. Southwick



placed one by one with new stone columns, and then there arises a most natural doubt as to the probable appearance of the temple with half its columns upside down and half of them right side up. Still no one seriously objected, but if these same persistent investigators should strenuously advocate the restoration of the Parthenon in the same manner as the Heraion they would cease to be investigators and would become investigated. So also the unknown investigator that discovered that the founder of St. Clement Danes had a bright blue shield in his coat of arms; there could be no possible objection to a harmless bit of medieval frippery; but when the vestry of St. Clement's were induced to paint the clock faces bright blue, there was an indignant protest in London; and if the idea were carried still farther and the entire exterior painted bright blue, there would be a riot.

Now, this was the basis of the criticism of Mr. Hafner's article. If Mr. Hafner thinks it is worth while to spend days or months or years in measuring the model of the Dome, and if the Academy in Rome thinks that is the best use a student can make of his time, there can be no objection except perhaps from those who feel that better things might be done; but there must be serious objections when there is published in the official journal of the Institute, with the sanction of the Academy, an article which in its opening sentence advocates the addition of a row of con-

soles and statues on the dome of St. Peter's like candles on a birthday cake.

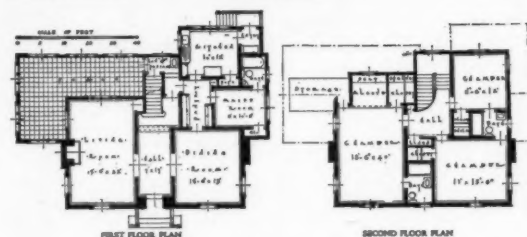
Whether Michelangelo ever made a model before the one in question, and I'm sure he did, or whether he himself abandoned the consoles and statues, and I'm sure he did, or just what is the contour of the dome, which I'm sure no one knows, all these are interesting points, but only interesting to the architect or to the patient investigator. What is important to the public in general, as well as to the architect and what should be important even to the patient investigator is the fact that the dome as it now exists is much finer than the model, and is much finer than any other dome in the world; and it is finer because of the things

From "The Architectural Forum"



Plans by Tiller Architectural Plans Co.

VIEW FROM THE ROAD



House at Scarsdale, N. Y.

W. Stanwood Phillips, Architect

left off it. This is not merely one critic's opinion; it is the consensus of all opinions, and I repeat my former regret that such articles should be published.

As to the correction of facts which Mr. Hafner "opines" is necessary, let me state at once that I have never seen the model and will probably never make any effort to see it. Its value is merely historical. There is perhaps no record that Michelangelo who, by the way, appears in Mr. Hafner's

letter under this name and not as Michelangelo as he did in his former article, made any models prior to this one, but there is also no record that he had breakfast on the day the model was completed, but the strong probability is that he did. In addition to this strong probability there is the certainty that prior models were made because in no other way could anyone, even Michelangelo himself, have made the curious break-back of the cornice over the buttress columns, the meaning of which seems to have escaped the investigator even after reading my letter. The break exists in the model, naturally, but it could have only been made as the result of study of a prior model, and a careful comparison of the photographs of the model with a large detail photograph of the dome shows conclusively this break is increased somewhat in actuality. As to the omission of the consoles and statues, Mr. Hafner says that "Giacomo Della Porta who was responsible for the completion of the cupola after Michelangelo's death, was a pupil of the great master" and that it was incredible that he would have departed from the original scheme in so vital a matter as the height of the Dome without notice being taken of it.

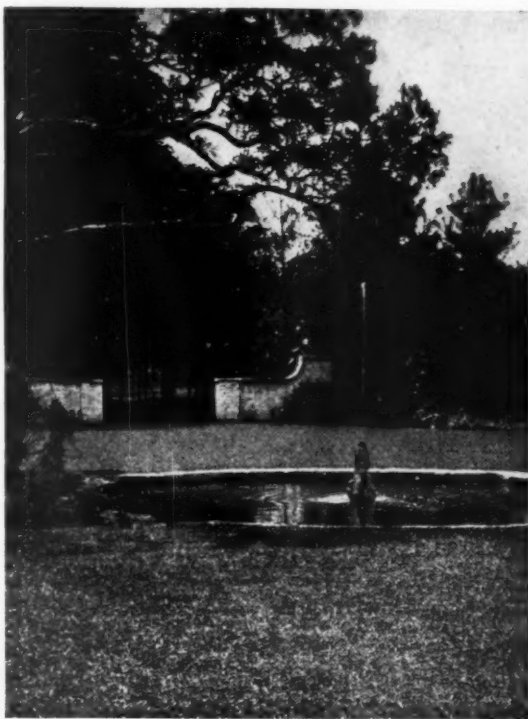
Surely the omission of the consoles was as vital a change as the added height, and if Michelangelo left verbal instructions for the one, so he did for the other. Perhaps on his deathbed he adjured his pupil on his fealty to make these changes. "Heighten 'er Giacomo, heighten 'er, and for the love of Mike leave off those damned statues." The statement of Mr. Hafner that "Sixtus V omitted the consoles and statues probably because of a lack of funds and his desire to see the dome free from scaffolding during his pontificate" is disingenuous and could apply only to the statues. The consoles would cost but little, and would be built with the wall and the statues could be put up at any time; and a careful study of detail photographs shows no evidence of any arrangement of the stonework

to provide for the future addition of the consoles.

As to the architectural effect these consoles and statues would have, it is palpably apparent Mr. Hafner has not had enough practical architectural experience to understand my article. Such projections are not comparable to the flutes on a column because the column has a simple definite silhouette in spite of the flutes, and because the arrises only count. The effect would be comparable, as I have said, to the candles on a birthday cake. Mr. Haf-

ner also "would like" to have me know the exact curve of the dome, and reproduces a plate from Fontana which has mysterious diagonal lines somewhat like Mr. Hambidge's, and probably quite as accurate. I'm really disappointed that a patient investigator could not do better. I myself could do as well with a telephoto print and a pair of compasses. To be sure, reference is made to a cut or inlay in the pavement outside the walls which showed the exact contour, but this has been regrettably destroyed by the hand of time and the over-zealousness of the Commissioners of Street Cleaning. This is a loss, because all New Yorkers remember with keen appreciation the red star inlaid in the pavement in front

From "The Architectural Forum"



From "Landscape Design for the Modern Country House"

of Macy's store which showed so accurately just how a red star should be made. And so I still don't know just what the contour of the dome is, and the exact figures therefor. Perhaps some day someone will put up a scaffold and measure it.

Mr. De Witt Clinton Pond, M. A., continues in the April number of *Architecture* his interesting and valuable articles on Drafting Room Mathematics. There may be some who will question the use of the word interesting as applied to mathematics, in or out of a drafting room, but no one will deny the value. And yet, to me, the articles are interesting because they are simply and clearly written. When I was in college, a few years ago; that is, it seems only a few years ago; I was never very keen on math. Sines and

cosines and the like had a peculiar repulsion. I never knew what they meant, and, as I remember, no professor ever tried to explain what they did mean. I managed to obtain a sort of parrot-like fluency in the subject and I memorized the formulas, but the underlying principles were unknown; and it is only in the last few years that I ever did know what they meant. I had been ac-

Since then I've taken a positive pleasure in working out complicated intersections, and while I would not set up as a rival of Mr. Einstein I get along quite well. I would have gotten along more quickly if I had had Mr. Pond's articles, and when he collects them in book form I'm going to get a copy for my drafting room—and see that it's used.

There are other uses to which mathematics can be put that are not to be encouraged architecturally. For example in the same issue of *Architecture* there appears an article by Mr. Albert A. Southwick which he calls a study in Dynamic Symmetry, in which there are mixed up together all kinds of cube roots and squares and diagonals and root two and root five and quotations from Aristotle and Mr. Jay Hambidge. "The common daisy" it will interest many to know, "is the most convenient verification of root five" because it has "twenty-one rows of fleurettes radiating from the center in one direction, and thirty-four in the other." Now, botany was never a favorite study with me and I don't know what fleurettes are, but I must confess I don't see how even fleurettes could radiate in one direction. It sounds very mystical, and rather like the daisies on which

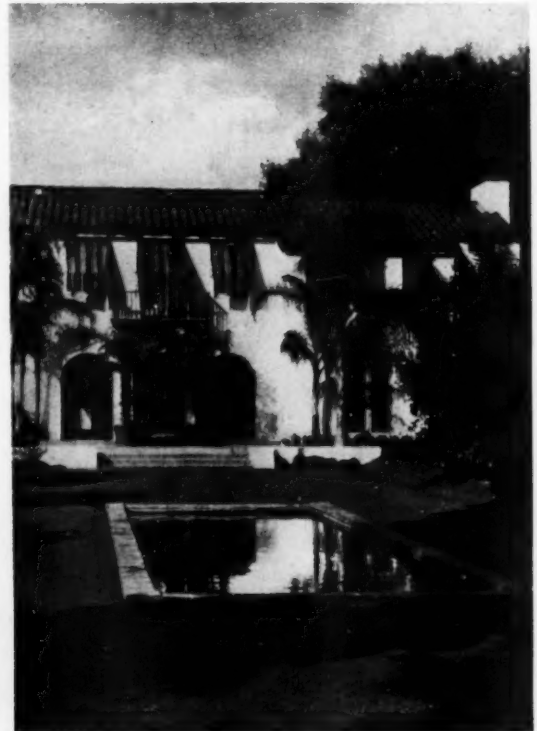
From "The Architect," London



Houses of Parliament, now Bank of England

customed to rely entirely on engineers for all complicated figures and I accepted blindly what they gave me. One day, about a couple of years ago, I was very much interested in the development of a complicated plan on a most irregularly shaped plot of ground. There were no right angles in it, and no two lines were parallel. It was a holiday as I remember, and all the engineers were playing golf, and I was desperate, and as a forlorn hope I got down a copy of Kidder and started to relearn trigonometry. The surprising thing was that it seemed quite simple; with the aid of tables I had never used before I worked out all the dimensions I needed, and they checked graphically.

From "The Architectural Forum"



House at Pasadena, California
Johnson, Kaufmann & Coate, Architects

From "The Architectural Forum"



Detail of a house at Chestnut Hill, Pa.
R. Brognard Okie, Architect

Conan Doyle's fairies were perched. But doubtless it is all to be explained by root five. Mr. Southwick, who confesses he is not an architect, nevertheless shows how easy it is to be one and he proposes a little first year problem in architecture to himself and solves it neatly by the aid of diagonals and squares and root five and the golden section, and some very mean proportionals. The problem is a tea house, the subject being probably chosen because the tea plant is a perfect demonstration of root two, and it is a well known fact that lumps of sugar are perfect root fives. We take pleasure in reproducing the result in plan and elevation, together with a little urn or teacaddy which adorns the roof. The stroup seems to be omitted, but that is probably because it came outside the square. Mr. Southwick is very modest

about this work of his and says "His (Mr. Hambridge's) discoveries cannot constitute a royal road to design, and least of all do they provide a substitute for genius," in which statement we heartily concur, but we cannot concur with the oft repeated statement that "It was because no one was better pleased with the uncertain results of personal judgment that the use of the metre, the foot, or of some module has been so persistently maintained." If this piece of queer English means anything, it means that the disciples of Mr. Hambridge cannot get it out of their minds that the module is only a means of expressing in figures certain proportions in actually existing things, and that it does not mean that anything was ever designed by the adoption of any preconceived mathematical proportion.

Annual Convention, A. I. A.

THE fifty-sixth annual convention of The American Institute of Architects will be held in Washington, D. C., May 16 to 18, both inclusive. Hotel headquarters for delegates will be at the Powhatan Hotel, Eighteenth Street and Pennsylvania Avenue.

An outstanding feature of this meeting will be the pageant and presentation of the Institute Gold Medal to Henry Bacon as a tribute for his design of the Lincoln Memorial. For details and program of the convention, address E. C. Kemper, Executive Secretary, The Octagon, Washington, D. C.

Arbitration Educational Week

DURING the week of May 14 to 20, inclusive, commercial and trade associations, chambers of commerce, boards of trade, and social and fraternal organizations in New York City and throughout the state will unite in an effort which will have for its ultimate object the wider use of arbitration in controversies and disputes where questions of fact and not of law are to be determined. The arbitration law of New York, as amended in 1920, gives binding legal status to the decisions of arbitrators and the courts have decreed they will entertain no appeals from the decision of an arbitration on any questions of law or fact. Judges and lawyers have given hearty approval to the statute and to the efforts being made by various organizations to secure for it more general recognition and use.

Like most other laws, and statutes so little is known of it by the general public throughout the state that the best possible results in putting a stop to the flood of litigation in the courts and relieving the congestion of the court calendars are far from being attained. It will be the aim of the organi-

zations co-operating in Arbitration Educational Week to bring the arbitration law to the attention and knowledge of the greatest possible number of residents of the state. It is the belief of these organizations that when the public in general comes to know of the existence of the law, advantage of its benefits will be more generally availed of and a definite improvement in the crowded court conditions will be effected.

There are some 27,000 cases on the calendars of the Supreme Court in New York and Bronx counties alone. As the records show that only about 8,000 cases can be disposed of in the course of a year it is estimated that the final decision in a case is not as a rule reached until three years after it is first recorded. By the use of arbitration the great majority of commercial and business disputes could be decided in a week or two and many of them in a day or less than a day.

A Contrast

CONSEQUENT upon the repairs now in progress in connection with the Great Hall at Hampton Court Palace, states a recent issue of *The Builder*, of London, visitors thither may observe an unusual example of contrast in building materials. Here in the Clock Court, a quadrangle enclosed by the weathered buildings of Wolsey's Palace, are stacked the requisite materials for the work now in hand. One side of this cobble paved court is adorned by the Colonnade, erected by Sir Christopher Wren to screen part of the Tudor edifice, and thus one here sees the mellowed dark red bricks of the early sixteenth century and the discolored grey Portland stone of the late seventeenth century, cheek by jowl with twentieth century rolled steel joists. These styles display the work of three successive periods, the interval between each of which is roughly two hundred years.

PERSONALS

Flournoy & Flournoy, architects, announce the removal of their Washington office to 1211-A Connecticut Avenue.

Harry B. Aarens, architect, announces the removal of his office to Room 1005, 109 N. Dearborn Street, Chicago, Ill.

Lewis Colt Albro, architect, announces the removal of his office from 2 West Forty-seventh Street to 2 West Forty-fifth Street, New York City.

Max Maltzman, architect, has opened offices for the practice of his profession at 51 Cornhill, Boston, Mass. Manufacturers' samples and catalogs are desired.

Grayston C. Musgrave, architect, has opened offices at 207 American National Bank Building, Bristow, Okla. Manufacturers' catalogs and samples are desired.

Palmer Rogers, architect, announces the removal of his office from the second to the sixteenth floor of the Architects' Building, 101 Park Avenue, New York City.

M. Margolin, architect, 1384 St. Marks Avenue, Brooklyn, N. Y., announces that he is revising his file of references and is desirous of receiving manufacturers' catalogs and samples.

H. G. Anderson who formerly was connected with Mowbray & Uffinger, architects of New York City, has now become an associate of Harry Lucht, architect, 242 Fulton Terrace, Cliffside Park, New Jersey.

Lawrence V. Sheridan, 323 East Forty-ninth Street, Indianapolis, Ind., announces that he is prepared to devote a limited amount of time to the professional practice of landscape architecture and city planning.

John M. Howells, Raymond M. Hood, associated architects, have opened their Chicago office at 722 Monroe Building, 104 South Michigan Boulevard, and will be pleased to receive catalogs from building material manufacturers and dealers.

L. Twinem Henderson, architect and landscape gardener, announces his establishment of an office on East Woodrow Avenue, St. Clairsville, Ohio, for the general practice of architecture and landscape gardening. Manufacturers' samples and catalogs are desired.

Gilbert Stanley Underwood, architect, 6779 Hollywood Boulevard, Los Angeles, Cal., wishes to receive manufacturers' material and catalogs for the purpose of renewing his files.

It is announced that O. L. Hill is opening an office in Bedford, Ind., for the general practice of architecture and engineering and will be pleased to receive manufacturers' catalogs and data.

Frank D. Chase, Inc., engineers and architects of Chicago, have established a branch office at 533-534 Title Insurance Building, Los Angeles, Cal. Manufacturers' catalogs and samples are requested.

Philip T. Drotts, architect, wishes to announce the removal of his office from 623 Reliance Building to Room 300 Reliance Building, Kansas City, Mo. Manufacturers' samples and catalogs are requested.

Announcement is made that T. L. Sorey has opened an office for the general practice of architecture at 233 Terminal Arcade Building, Oklahoma City, Okla. Manufacturers' samples and catalogs would be appreciated.

Fowler, Seaman & Company, architects, wish to announce the removal of their offices from the Broad Street Bank Building to the Fitzcharles Building, 25 N. Montgomery Street, Trenton, N. J., and also the changing of the firm name to The P. L. Fowler Company. The personnel of the firm will remain the same.

George Herbert Gray, architect and community planner, announces the removal of his offices from 367 Prospect Street to Suite 918-921 First National Bank Building, New Haven, Conn. Mr. Gray further announces that he has taken over the organization, records, equipment and good-will of the late Leoni W. Robinson as his successor.

An exhibit of water color and pen and ink sketches made in New York, California, London and France by Charles Edward Hodges, is now being held at the Public Library, Hudson Park Branch, 66 Leroy Street, New York City. Mr. Hodges was for a number of years resident architect at The Leland Stanford Junior University in California. He closed his offices in San Francisco, where he practiced for eight years, to become engaged in overseas work. At present Mr. Hodges is a resident of New York City.

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DEPARTMENT OF ECONOMICS

Economic Factors Which Underlie Construction Activity — Prepared for THE AMERICAN ARCHITECT by the American Chamber of Economics, Incorporated*

WHEN the Federal Reserve Board announced that the construction of the Little Rock branch Federal Reserve Bank would be held in abeyance "until building costs were lowered," it made public a statement brimful of significance to the building and construction industry. Its echo was heard in Chicago, where, according to the *Economist*, the construction of a new 3000-room hotel was delayed because of the advancing cost of the job. Again, Mr. Hoover's advice to the President, in regard to the temporary suspension of the Government's building program, carries the implication that the costs of erection are expensive ones, and that they are not likely to be reduced until the abnormal demand for new construction subsides. It is not at all unlikely that repeated and similar protests will be heard from various parts of the country as the boom develops and prices rise.

Advancing costs are the inevitable successors to a spell of intense activity, and are themselves the economic correctives that attempt to reinstate a more normal balance between demand and supply. Now costs have only developed as a factor in the future building situation within the last three months, yet, under the stimulation of extraordinary demand and movement within the trade, they are beginning to assume what looks suspiciously to be formidable proportions.

For ordinary purposes, costs of building and construction may be divided into three main groups: the price of building materials; the trend of wages; and the level of money rates.

Quotations of building materials have been steadily rising since the first of the year, and the immediate outlook is for a gradually rising price level. Later in the year this advance may be halted, especially if the expanding efficacy of costs arrests the progress of the building boom, or if demand is deadened or nullified by seasonal

or adverse developments outside the industry. Until these events actually happen, the quotations of building materials may be definitely expected to display strength.

A number of underlying economic factors justify such a belief. In the first place, common feeling in regard to the whole industrial future is sanguine, and the materials trade is fairly blazing with optimism.

Born of faith, concrete demonstration, and judgment, it is remarkable what an effective role a bit of psychology can play in the scheme of things economic. Confidence is of fundamental importance, and basic in its significance. The trend of confidence in the materials trade is one of increasing exaltation. The immediate future is particularly radiant. A shortage exists in many lines. Expanding industry is creating a greater well of demand. Prices generally are rising, and money rates, though stiffer, are still relatively easy. Why wouldn't the trade fairly beam with it all?

A second underlying factor, the trend of which supports a forecast of higher materials prices, is speculation. Willingness to assume a speculative risk is born of confidence and low money rates. Within the past twelve months these two prime requisites have not only been prevalent to a tempting and inviting degree, but have displayed no little animation in their activity. Speculation in the building materials markets has been neither gross nor glaring, but the assiduous buying in anticipation of future requirements has resulted in a rather acute upward trend of price curves. Purchases for immediate needs

COST OF BUILDING MATERIALS

Department of Labor Index
(1913=100)

	1918	1919	1920	1921	1922	1923
Jan.	161	176	274	192	157	188
Feb.	161	173	293	280	156	192
Mar.	164	171	297	173	155	
Apr.	169	169	300	167	156	
May	170	173	293	165	160	
June	172	189	275	163	167	
July	177	209	269	160	170	
Aug.	179	226	265	156	172	
Sept.	179	229	255	156	180	
Oct.	177	229	240	159	183	
Nov.	177	232	215	163	185	
Dec.	177	248	204	158	185	

*The American Chamber of Economics conducts a consultation and educational service for executives, in economic principles. Its Supervising Director is George E. Roberts, Vice President of the National City Bank of New York. Co-operating with the Chamber are James B. Forgan, Chairman of the Board of First National Bank, Chicago; Frank A. Vanderlip, Financier and Economist, New York; Samuel Insull, President, Commonwealth Edison Company, Chicago; Joseph H. Defrees, Ex-President, United States Chamber of Commerce; Henry S. Pritchett, President, Carnegie Foundation; Edward J. Nally, Managing Director, International Relations, Radio Corporation of America.



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would not have produced the same result.

In addition to beaming confidence and greater speculative activity, another cause of higher materials quotations has been the heated and abnormal activity within the building industry itself. The Winter's slump was not only not much of a depression for depth, but was less of one from a view point of longevity. Spring business has asserted itself unusually early in a record January and a record February. Early returns of contracts awarded in March give promise of being likewise exceptional. Purchasing power generally is increasing. Abnormal and pressing needs for materials, plus increasing buying ability inevitably result in higher prices, but particularly if shortages in those materials exist. The market becomes a seller's affair, premiums are offered for prompt shipment, and a higher price level is the direct consequence of this heat and rush of business.

Then, too, the general price level is an advancing one. This feature is a buoyant support to the upward march of the building commodity group, which, obviously, would be much better off without the assistance. They have had too much encouragement already, that is, too much to make the feeling that there is going to be two or five years of good building at all secure. Since January 1, 1922, the general level of wholesale prices of some 200 commodities chosen by the Bureau of Labor Statistics rose from 138 to 157, or 19 points. Now the Bureau classifies these commodities into a list of nine general groups. The building and construction materials group has led the advance of this list with a gain in the fourteen months of 35 points. When these acquisitions vary from 9 to 35 points, and when the average gain is about 19 points, it is quite obvious that the advance made by the building and construction group is clearly out of line with that of the rest of the list.

A genuine effort is being made by the larger and more representative concerns to check this upward movement. It is generally felt in these more responsible circles that heavy gains in prices are economic boomerangs of the most effective kind. An honest attempt is being made by many to iron out a peak in the price movement, confident that it would result in a longer spell of unusual, if not record, activity. Reports are that these big producers are altering their production programs,

lifting the stress from the margin of profit, and emphasizing volume of output, record turnover, with a narrower margin between the unit cost and the unit selling price. Such a policy is certainly commendable.

A fourth underlying economic factor, which should share in the responsibility for enhancing materials values, is hardening interest rates. Increasing speculative demand for money, both in security and produce markets, coupled with a rapidly advancing commercial and industrial call for financial accommodation have tightened rates

perceptibly. If the speculative demand for money recedes, which it is likely to do if rediscount rates are heightened, the increasing momentum that the pace of industry has been accumulating would be sufficient to keep rates strong for some months to come. As industrial activity progresses it becomes more and more certain that repeatedly greater demands upon the money market will some day be reflected in higher rediscount rates and higher open-market rates. Com-

mmercial loans made by member banks are increasing. Rediscounts, which these member banks make with their respective Federal Reserve banks, are likewise increasing. It doesn't appear to be the policy of the Federal Reserve Board to finance an industrial boom, so it may be said with reasonable safety that higher rediscount rates, and consequently higher market rates, are not remote prospects.

Coupled with these underlying factors are three other forces, not so fundamental in their import, but none the less significant and momentous in their ultimate effect upon the price of building materials. The first is the fact that this extraordinary demand for materials started unusually early in the season. Second, by this early activity, stocks were caught low and have never been permitted to accumulate to their normal size and variety, both because of the pressure of demand and the inability to obtain prompt shipments. Inadequate transportation facilities are, of course, the third factor and have been, indeed, the most consequential of the three.

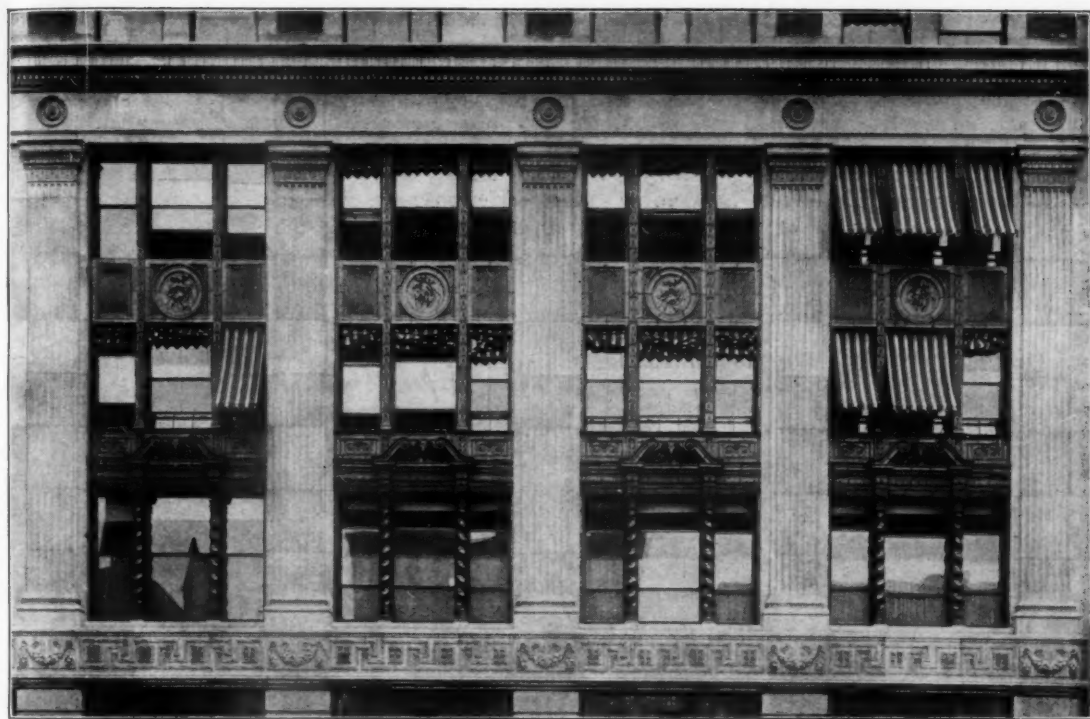
The car deficit, while it appears to be improving on paper, is still a menacing and very aggravating feature. Inability to get cars always results in premiums offered for immediate delivery and in inventory shortages, both of which tend

WAGES NEW YORK FACTORY WORKERS

(average weekly earnings)
(Department of Labor Reports of New York State)

	1918	1919	1920	1921	1922	1923
Jan.	\$16.81	\$23.03	\$26.52	\$27.61	\$24.43	\$26.22
Feb.	17.66	22.07	26.47	26.77	24.17	26.26*
Mar.	18.71	22.20	27.87	26.96	24.57	
Apr.	19.25	22.11	27.80	26.20	24.15	
May	19.91	22.23	28.45	25.86	24.59	
June	20.44	22.51	28.77	25.71	24.89	
July	20.78	23.10	28.49	25.26	24.77	
Aug.	21.23	23.85	28.71	25.43	25.10	
Sept.	22.31	24.83	28.73	25.07	25.72	
Oct.	22.34	24.41	28.93	24.53	25.59	
Nov.	21.60	25.37	28.70	24.32	26.04	
Dec.	23.18	26.32	28.35	24.91	26.39	

*Tentative.



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in their cumulative and ultimate effect to raise the level of prices. What rising costs will do to prevent shortages in various lines of builders' supplies, car deficits and inadequate transportation facilities promise to nullify by delayed shipments. Daily demand for cars in January averaged some 73,000 in excess of supply. This figure had worked up to an average of 81,000 in February and was reported as approximately 75,000 March 14. Statistically the situation looks slightly better, but in the face of record Spring traffic, outstanding improvement may hardly be expected. Actual experience in the situation causes dealers to exhibit no little concern. Embargoes are all too common for the trade's comfort.

Besides the rising price of building materials, the second chief attribute of the rising costs of construction is the upward trend of wages. They have been rising steadily for about a year. Remarkable activity in commerce and industry and restricted immigration have brought about a dwindling supply of workmen, skilled and unskilled, and the general situation gives every indication of becoming worse before it is better.

In a great many sections agreements with the unions for the ensuing year have been consummated, and although the labor horizon is not threatening, and promises little immediate trouble, the fact that the economic advantage is flowing from the employer to his organized employee cannot be denied. The pronounced demand for skilled and unskilled workmen and the inelastic supply both accrue to the advantage of the union man. If commodity prices should take a sharper and more acute turn in their ascension, the probability of a multiplicity of labor troubles would be heightened. The architect should keep a sensitive finger on the pulse of labor, for if 1923 is to be a banner year it must successfully avoid these costly disputes.

A final essential influence steadily acquiring potentiality, and one which promises to dim the ardor of building by contributing to rising costs, is the trend of the mortgage money market. There has been some concern as to the supply of long time money. Mortgage companies report a flood of applications for loans of lengthy duration. Building and loan companies likewise have been besieged. This notable demand will undoubtedly push the rate of mortgage money to higher levels. Furthermore, the general commercial money market is moving into higher territory, which fact alone makes investors reluctant to tie up funds for long periods at relatively low rates. Furthermore, this growing commercial and industrial demand for money of itself would contribute to stiffer rates in the general market. A great

deal depends upon the much discussed policy of the Federal Reserve Board as to the future of money rates. This only need be kept in mind: a low rediscount rate means a low open-market rate, as a rule, and a high rediscount rate results in a stiffer open-market rate. The going price of mortgage money is one of the open-market rates. What the Federal Reserve Board and the various Reserve Bank directorates do about the rediscount rate in the coming two or three months will give some indication of their policy.

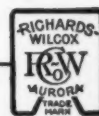
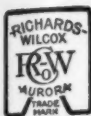
So in keeping abreast of the trend of construction costs the architect should diligently watch the tendency of the quotations of building materials, the trend of wages, and the market of mortgage, or long-time, money.

Pitted against these rising costs are the heroic factors of demand, working to make this year pile up the \$5 to \$7 billion total which has been predicted for it.

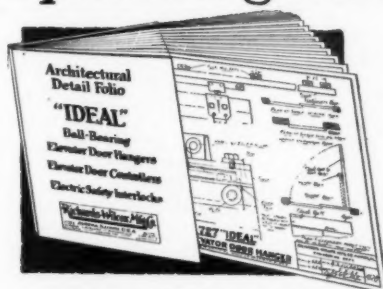
In the ranks of these forces of demand the building shortage should probably be accorded first place. From 1914 to 1921 war restrictions, abnormal prices, and, after the crash, a year of depression, all resulted in the accumulation of an enormous deficit, variously estimated from \$6 to \$7 billion. While the building situation is still "in the red" in this respect, there is every indication that the shortage is growing less and less acute. As a factor in the volume of future building, the urgency that existed in 1914-1921 is a dwindling one.

Rising to take its place, however, are the expanding needs of industry, and indeed most every other kind of active enterprise. The elated feeling over future prospects, the bustle, hustle and enthusiasm which a little speculative activity has created, plus the increasing ability to purchase one's requirements, all suggest very strongly expansion and extension—and more business for the architect. And business will continue to display concrete evidences of developing prosperity unless there occur in the meantime ugly and threatening developments abroad, labor unrest at home or inordinately high money rates. The latter contingency is the most removed of the three.

In emphasizing the rising tide of building costs we do not mean to depreciate unjustly the part that the immense and as yet unsatisfied demand is going to play in the immediate future of the building industry. That is evident everywhere—almost overwhelmingly so, unless the observer removes himself from among the trees in order to see the forest. From there he can grasp the tremendous part which rising costs are soon to play in the industry.



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Publishers, THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW.

Bulletin No. 27

Serial No. 68.10

TENTATIVE SPECIFICATIONS FOR PIVOTED BUCKET CONVEYOR

(The form of this bulletin conforms to the arrangement of Elements of a Specification as given in Bulletin No. 5, ANALYSIS OF A SPECIFICATION.)

I. CONTRACT AND LEGAL

1. Parties:
2. Drawings:
3. Agreement:
4. Terms of Payment:
5. General Conditions:
6. Regulations and Codes:
7. Standards:
8. Patents:

II. ECONOMIC

SCOPE OF CONTRACT:

9. Work Included:
10. Work not Included:

METHODS OF COMPARISON OF BIDS:

11. Methods:
12. Basis:

13. Detailed Information:

14. Conditional Payments:

III. GENERAL DESCRIPTIVE

15. Characteristics and Service Conditions:
16. Location:
17. Railroad Siding:
18. Visiting Site:
19. Working Facilities:

IV. PRELIMINARY PREPARATION

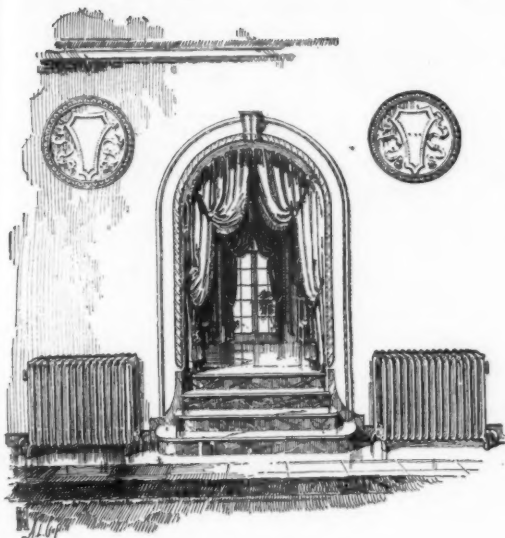
20. Field Measurements:
21. Shop Drawings:
22. Samples:
23. Models:

V. MATERIALS

24. Properties, Chemical and Physical:
25. Sizes, Weights, Gauges:
26. Quantities:

VI. DESIGN AND CONSTRUCTION

27. Conveyor:
28. Buckets:
29. Conveyor Supports:
30. Rails, Rail Stands, Guards, Brackets:
31. Conveyor Casing:
32. Conveyor Chain:
33. Conveyor Wheels:



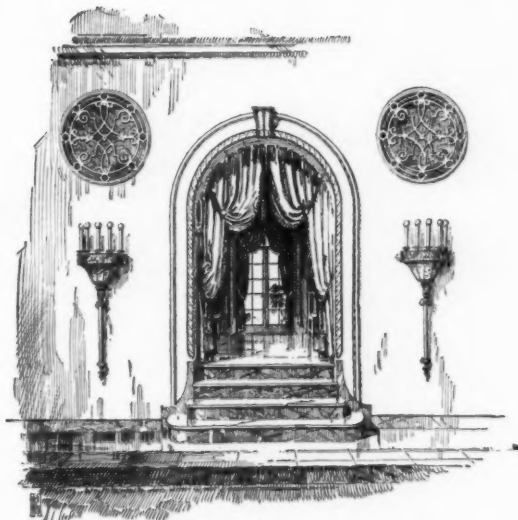
Why not Ferrocraft enclosures?

Ferrocraft Grille Suggestion Number 11

FAR be it from us to be so bold as to criticise an architect, for either the use, or location of radiators.

But you will agree, it is however quite within our province to suggest either Ferrocraft grille enclosures to soften their obtrusiveness; or Ferrocraft grilles for the indirect and mechanical system outlets.

Therefore, from time to time, we are going to show examples of before and after effects, so to speak, of which this is suggestion 11.



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40. Tripper Belts:
41. Safety Guards:
42. Finish:
43. Protection of Work:

VII. SCHEDULES

44. Shipment and Delivery:
45. Field Operations:

VIII. RESULTS

46. Inspection and Performance:
47. Guarantees:
48. Tests:
49. Rejection:

Plan Dormitory for Barnard College

IT is learned that Columbia University is planning the construction of an eleven story dormitory for women, to be built as a wing of Brooks Hall, in the Barnard campus group. Plans for this building, estimated to cost approximately \$750,000, have been prepared by McKim, Mead & White, architects.

Dayton Chapter, A. I. A.

IT has remained for the Dayton Chapter of the A. I. A. to inaugurate a very practical scheme for the betterment of small house design. The members of the Chapter have each prepared a complete set of drawings for a small house and turned them over to the Chamber of Commerce to be sold for a nominal fee.

The plan has proven successful. A sufficient number of plans has been sold, and the example has been so good that it is believed the small house builder has become awakened to the value and perhaps necessity, of good design. This valuable effort has been supplemented by the preparation of suitable articles for publication in the daily press. A most valuable campaign of education in good architecture has been set afoot and good results are already apparent.

Summer Session, American Academy at Rome

FOR the first time in its history the American Academy at Rome will conduct a Summer session, a course of lectures and archaeological exercises for graduate students, it is announced. They will be under the charge of Professor Grant Showerman, Professor of Latin of the University of Wisconsin, who is the Annual Professor of the school and has resided in Rome for five years. The course will consist of three lectures a week on the history of the City of Rome from its origin

to the present time, the work of a grade to entitle to credit at American universities.

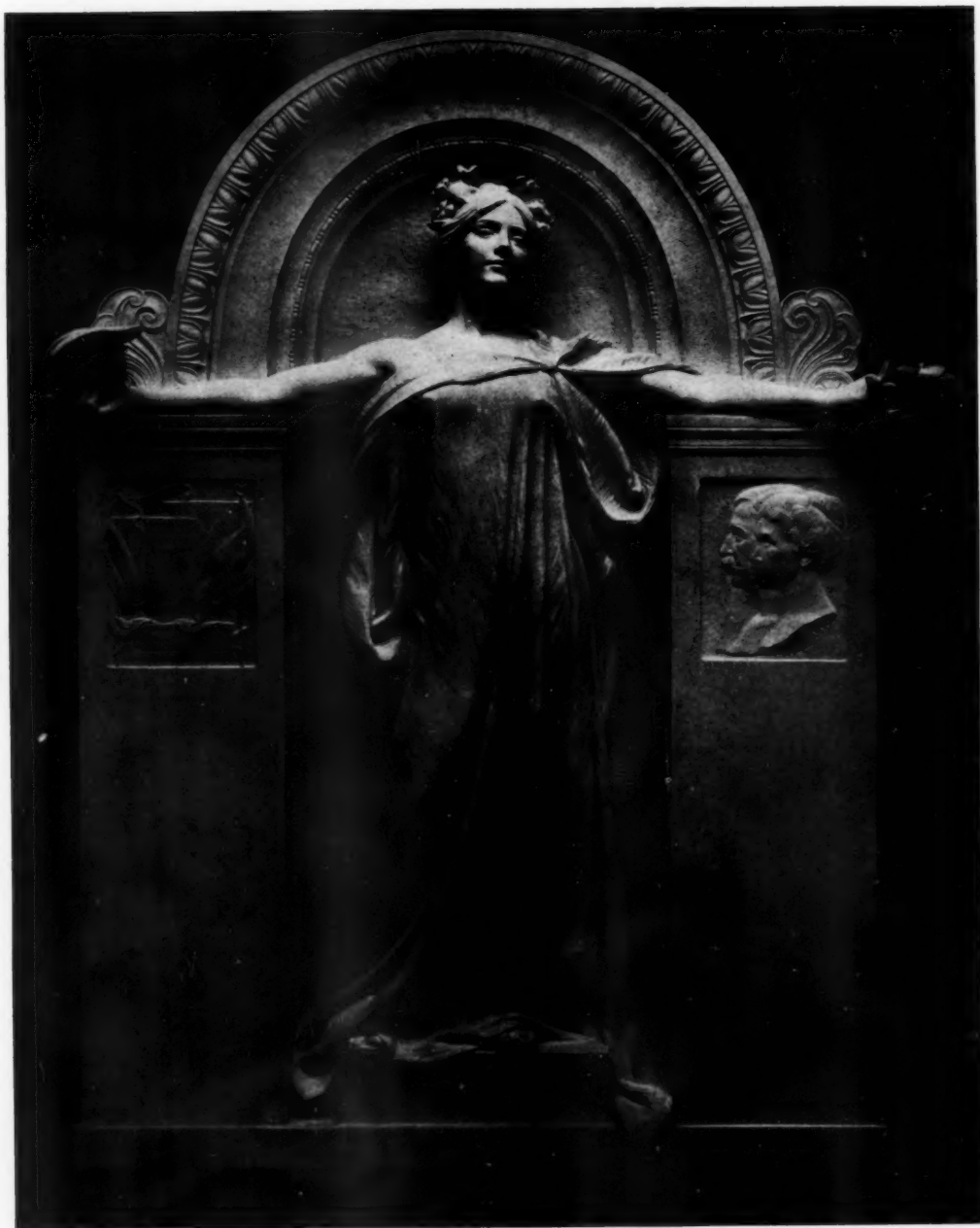
Lectures will be given at the academy building, and students will have free use of the library and other facilities for their work. The fee is \$50. Facilities for the study of the Italian language and literature are available. Application should be made to the American Academy in Rome, Summer Session, Rome 29, Italy.

The Society of Architects of London Scholarship to America

THE Society of Architects has instituted a Scholarship of the value of three hundred pounds (£300) to be offered annually for three years in succession and afterwards at such periods as may be decided upon, for the encouragement of travel for the purpose of studying modern architecture abroad. The holder of the first (1923) Scholarship will be required to visit America for a period of not less than six months or more than twelve months in order to prepare and afterwards submit to the Society a report bearing upon some aspect of the development of modern architecture, such as will form a valuable addition to the information and original thought at present available on the subject.

Candidates must be British subjects under the age of forty years, and the Scholarship will be awarded by the Society on the recommendation of a Jury of well known British architects who will have the advice of a prominent American architect. One essential qualification will be the production by the candidate of evidence of a very high standard of architectural attainment.

There is no entrance fee, and potential candidates may register their names at once with The Society of Architects, 28, Bedford Square, London, W. C. I., for particulars of the conditions and entry form when issued.



"ACHIEVEMENT," FIGURE FORMING PART OF THE WILLIAMS MEMORIAL, ATLANTA, GEORGIA
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