

THE AMERICAN ARCHITECT

FOUNDED 1876

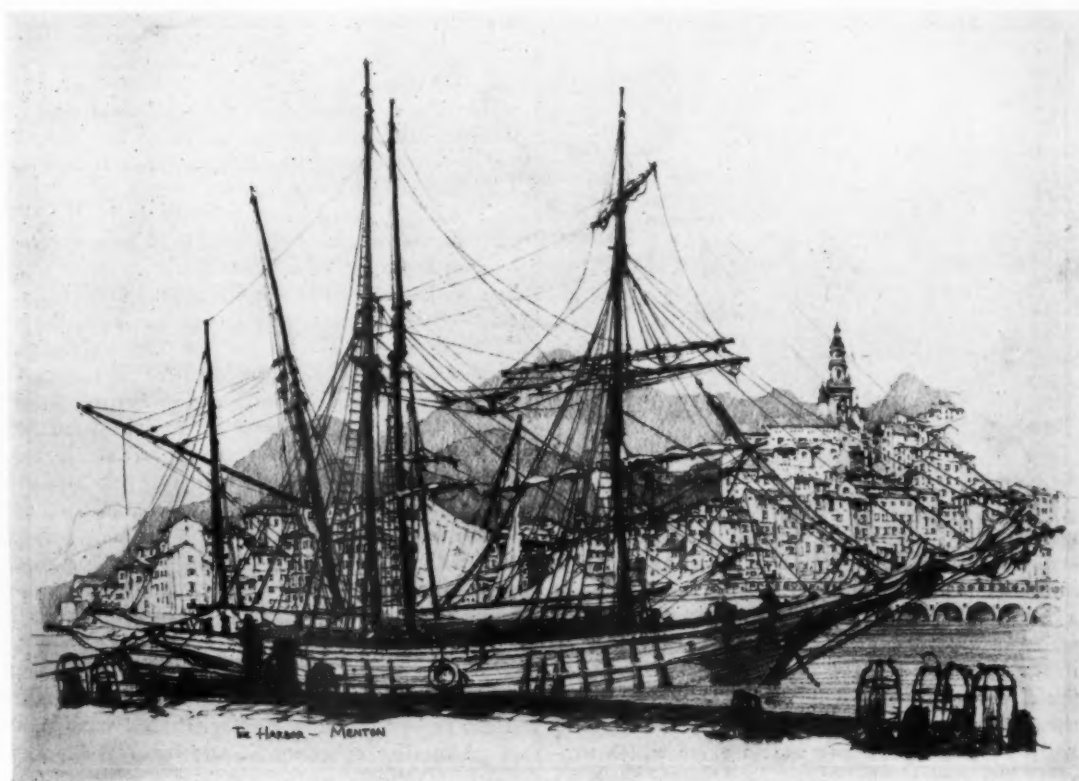
NEW TOWNS FOR OLD OR "WHAT HAPPENED TO MENTON"

By SAMUEL CHAMBERLAIN

Illustrated with Drypoints, Lithographs and Sketches by the Author

THERE is probably no more unoriginal place to write about in all France than the very civilized bit of coast which lies between Monaco and the Italian border. The word painters of the travel agencies pound off palpitating paragraphs about it. The

magazines of the *haute monde* in England would no more think of not publishing frequent photographs and articles about it than they would consider omitting their raincoat advertisements. The bookshops contain dozens of travel books devoted



THE HARBOR, MENTON

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to this sector, written by retired army Colonels and dear old ladies, books which vary their mild observations on ultra-respectable Menton with worldly discussions of the wickedness of Monte Carlo and the whims of roulette and chemin de fer. This permits the authors to introduce a private "system" or two, without which no roulette plunger is complete.



THE CATHEDRAL, NICE

The more confidential "systems," which are almost guaranteed to earn a good weekly living for the assiduous gambler, are enclosed very mysteriously in sealed envelopes, and are sold to the gullible at a hundred francs a throw. Wedged in between sealed volumes with intriguing titles such as "Life in the Harem Unveiled," (also calculated to tempt the cloistered Englishman), are at least twenty of these envelopes, each with a highly complicated and very sure formula to beat a game which supports the entire principality of Monaco with its nightly gains. Whatever one may write about this

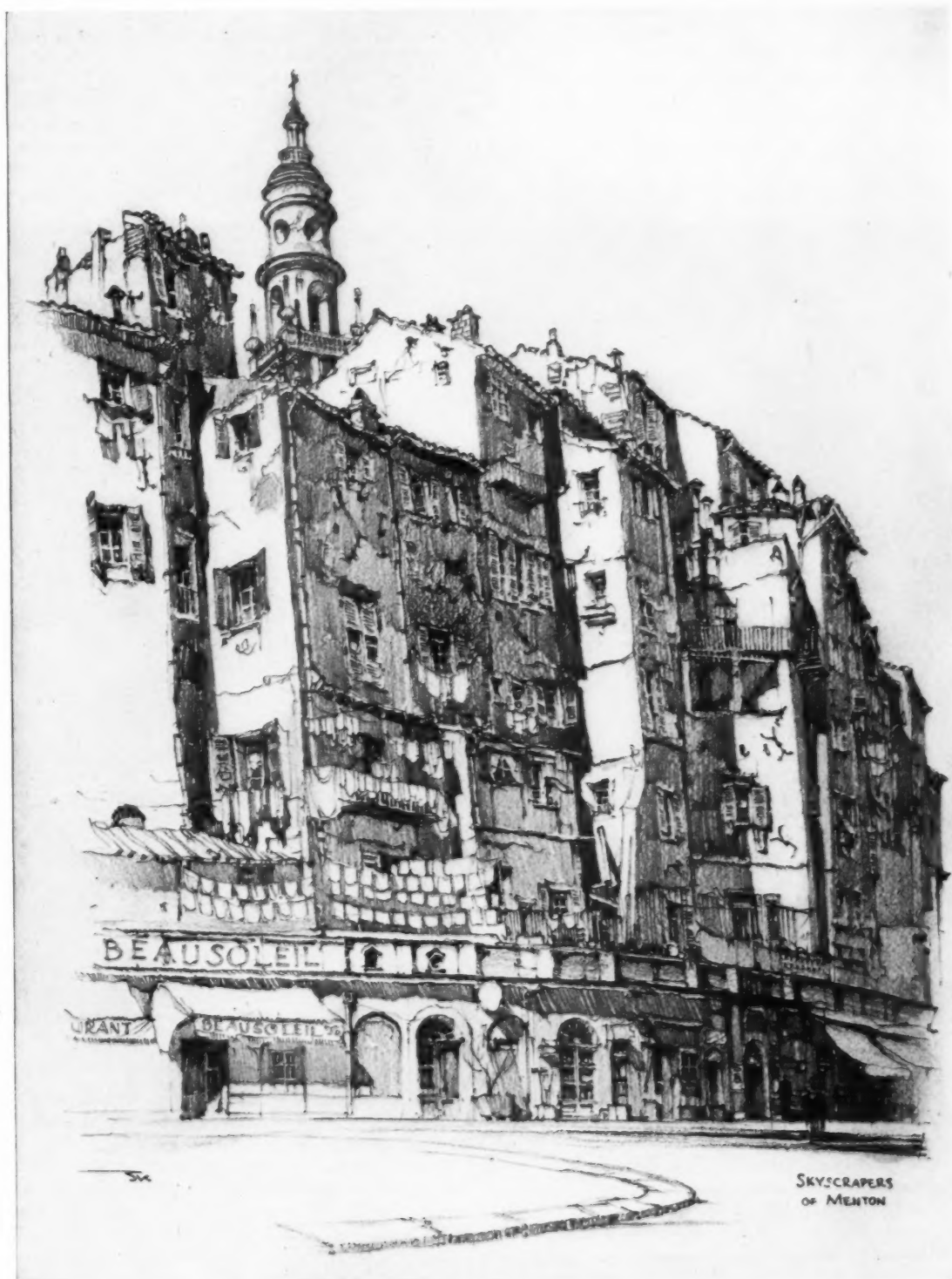


LES OLIVIERS, MENTON
(From the Original Drypoint)

region is sure to have been written before, and this hibernating correspondent wishes to beg your indulgence, promising faithfully never to choose such a hackneyed subject again.

The old town of Menton is like the bright body of a butterfly whose gaudy wings have sprouted out on two sides, tinselled with the dross of frivolous villas and pretentious hotels. Originally it was a city of much beauty and romance and blood-curdling adventure. Its narrow old streets were lined with palazzos. Patrician damsels sat on the doorsteps knitting and exchanging *bon mots* with affable courtiers. But since its sale to France by Monaco in 1861 it has become demure and dowdy, devoted to the sedate amusements of convalescents.

Nevertheless the chaotic gallery of complex planes which make up le vieux Menton can be submitted as the most complex bit of form and color on the whole Riviera. Seen through the shifting screen of masts and ropes and patched sails of vagrant fishing boats, the rising profile of old Menton stands out gloriously against the flat blue-violet of the mountains. Crowning this opalescent chess board is a cemetery of strange solemnity, shaded with groves of plume-like cypresses. Their funereal blackness contrasts sharply with the rain-washed tombstones and the cloudless cobalt of the sky. Aubrey Beards-



FROM THE ORIGINAL SKETCH BY SAMUEL CHAMBERLAIN

ley is buried here, high above the hub-bub of the fishing port. It is a spot of absolute repose and serenity, despite the beaded wreaths and tin violets. Add an impossibly bright blue-green to the water, bright orange to the sails and a faded emerald to the rust-streaked hulls of the boats and you have a theatrical drop gaudier than the wildest fancy of a scenic artist. It is a subject one often dreams about but really never expects to find in existence.

lotteries and "games of skill and chance." The practical French offer wash bowls or boxes of lump sugar or live pigeons as prizes. These, with the aid of gongs and spangled skirts and much facile oratory, succeed in prying the Saturday night workman away from a respectable portion of his wallet.

The square before the cathedral is the most operatic thing in Menton. It is covered with an elaborate mosaic, effected with mere pebbles which have



MENTON

Seen at closer range, the interlocking skyscrapers of Menton are found to spring from a number of levels along the water's edge, the lofty abodes of laundresses, shoemakers and tinsmiths. The sunlight scorches them in the early morning, gradually twisting around their many-tinted surfaces until, at noon, they become solidified into a few planes of luminous shade. There are Brangwynesque sites, so dramatic that no exaggeration in drawing could give the illusion of their forcefulness. Such a spot is the cliff of walls and shutters and balconies which loom over the remains of a visiting carnival, stray

been ground to flatness by countless footsteps. On two sides are the huge Baroque facades of the cathedral and the ornate Eglise des Penitents Blancs, glittering gold and pink and buff and pale green. Opposite is the conglomeration of old houses, vaults and gateways shown in the drypoint here reproduced. Splendor on two sides, ragged picturesqueness on a third and the bright vista of the Italian frontier on the fourth,—such is the setting of this, the most eminent spot in Menton.

So much for the old town. Of the new tinselled wings, by far the most appealing is that which lies



MENTON

FROM THE ORIGINAL SKETCH BY SAMUEL CHAMBERLAIN

to the East on an olive-grown slope, known as Garavan. This settlement extends to the very edge of France, to the international bridge which joins the two countries. There is a fascination about this animated pass. It bristles with uniforms and formalities. Troubadours sing loudly before the charabancs filled with bespectacled tourists. Pedestrians stand grinning between boundary posts and have their pictures taken. Automobilists rush to send postcards embellished with Italian stamps. Many a discontented opponent of the regime would give his last penny to slip over this narrow bridge, and more than one has attempted to crawl over the mountains into France, or to steal by in a rowboat in the dead of night.

Some truly beautiful examples of domestic architecture have sprouted in Garavan, as well as some of the most ghastly. Of the former, particular mention should be made of "Les Colombiers," an ambitious estate which has blossomed into something very beautiful, if somewhat showy, under the hand of Ferdinand Bac. Monsieur Bac served as architect, mural painter, decorator and head gardener, and then rounded out his work by writing and illustrating two handsome volumes on the villa and its gardens. Among the latter mentioned villas is the preposterous property of that celebrated novelist

and exile, Blasco Ibanez. Its outer gate features three large tile portraits of Messieurs Balzac, Cervantes and Dickens, done up in the manner of blue Dutch windmills in a cafeteria. This villa runs the monstrosities on the outskirts of Cannes a close race for the distinction of being the Most Indecent Piece of Architecture on the Cote d'Azur. Any self-respecting and moderately modest member of the profession will shade his eyes and look the other way when passing, in the manner of a chaperone at the Folies Bergere. One is filled with conjectures about the portly Spaniard, after gazing horror-struck at what he calls Home. What color pajamas must he wear? What is his taste in cravats? What is the color scheme of his tiled bathroom?

The other wing of Menton may be sketched in a few words. Tea shops, band concerts, poodles, dear old ladies with towering hats and green lined parasols, glistening white hotels, prosaic boulevards, solicitous cab drivers, grocery stores loaded with choice brandies and spirits and Bass Ale, bloater paste and shrimp sauce,—and more tea rooms. Seven hundred and seventy-nine chauffeurs spend their mornings shining the under sides of the fenders of seven hundred and seventy-nine immaculate and frightfully expensive cars.

To be quite *en regle* in the new Menton, one must conform to one of three standards best exemplified by the following details of male attire:

Class A—A bright blue coat, double breasted, with brass buttons and a tight waist; a lavender silk shirt with royal purple monogram, a stick with a green snake skin handle, a monacle, a jaunty feather in the cap, a florid mouchoir and cravat. Mannish make-up and perfume by Bourgeois. Finger nail polish by Roger et Gallet. A thoroughbred pup is indispensable. This kind usually speaks five languages and finds Menton intolerable after tea time. In the evening they rub elbows with the King of Sweden and Count Salm at the Sporting Club in Monte Carlo.

Class B—This is the home-spun school. Coarse tweeds, plus fours, socks with tassels and elongated spats. A ruddy complexion and a well veined nose. These are the best patrons of the "American Bars" and the be-bottled grocery stores. The favorite diversion is to puff a pipe and gaze speculatively at shop windows filled with imitations of Lalique glass, Venetian leather and tortoise shell. The vast part of the population of the new Menton falls in Class B.

Class C—contains the remaining inhabitants. The costume is very formal, stiff shirt and white bow tie. These are the waiters.

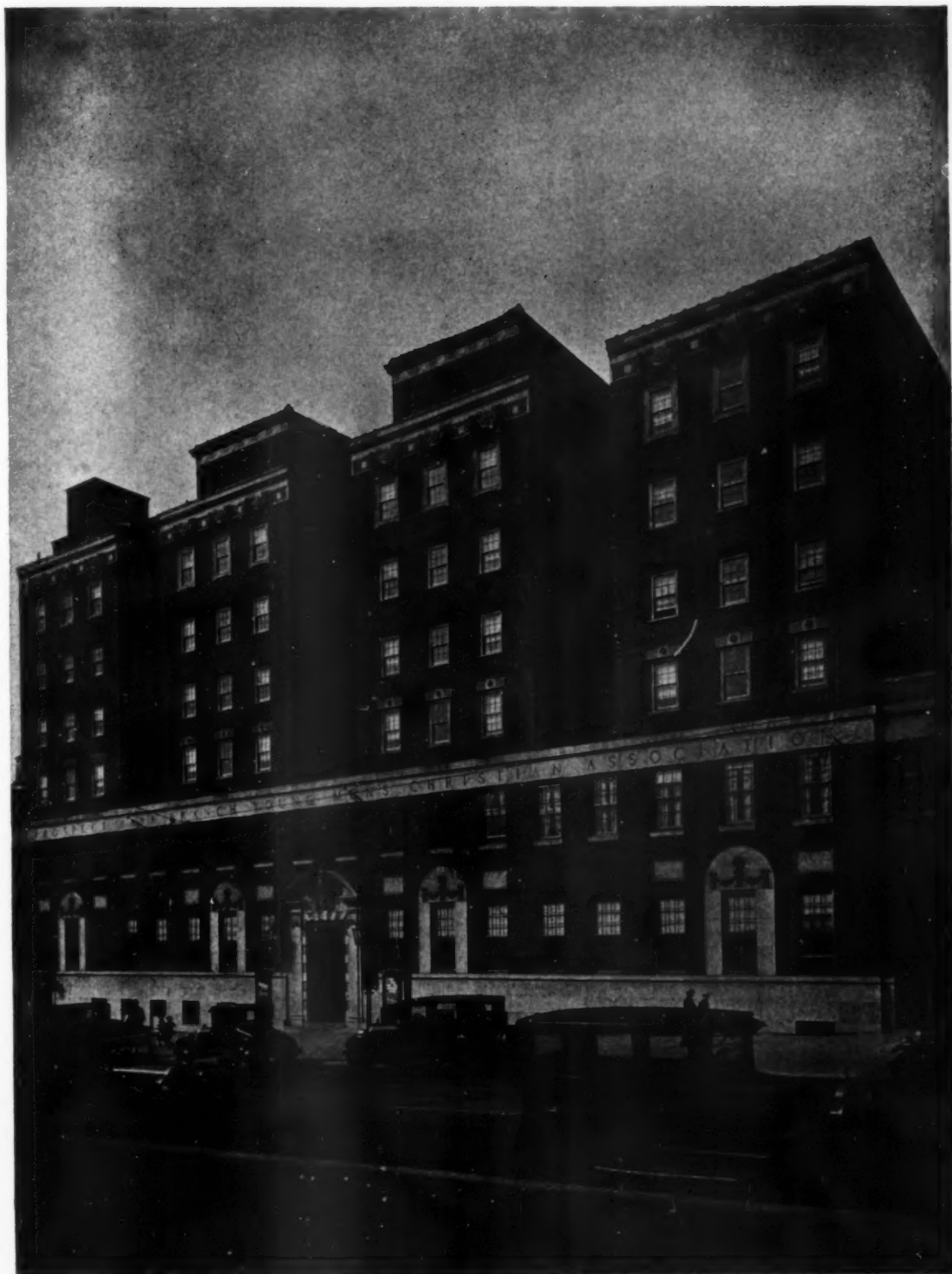
Ah me! The Menton that was and the Menton that is! What a theme for a mellow philosopher!



A MENTON GATEWAY

(From the Original Drypoint)

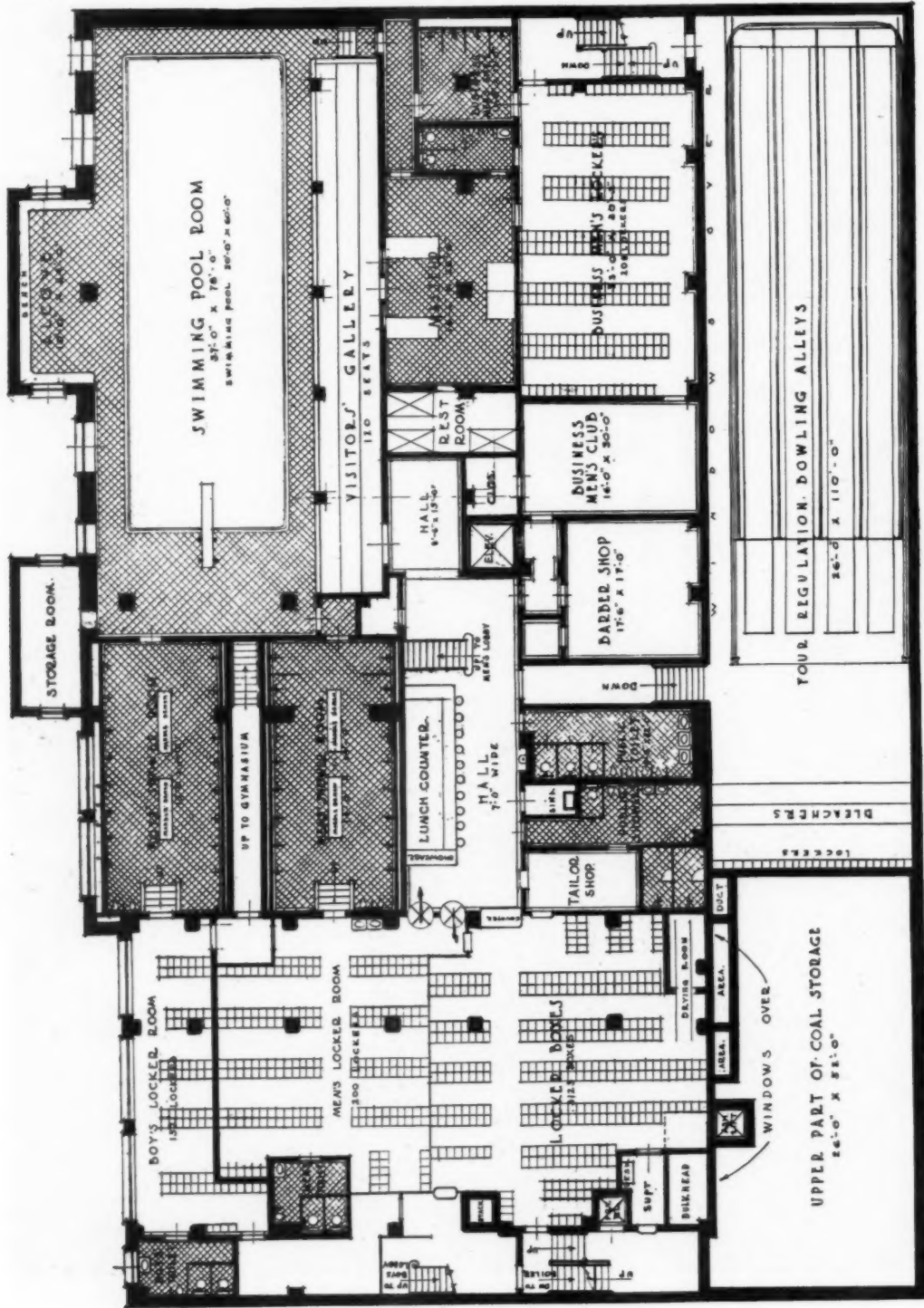
Articles by Samuel Chamberlain, European correspondent of THE AMERICAN ARCHITECT, written in his characteristic style and illustrated with his clever original sketches, appear regularly in issues of the 20th of each month.



PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT

(See plan on back)



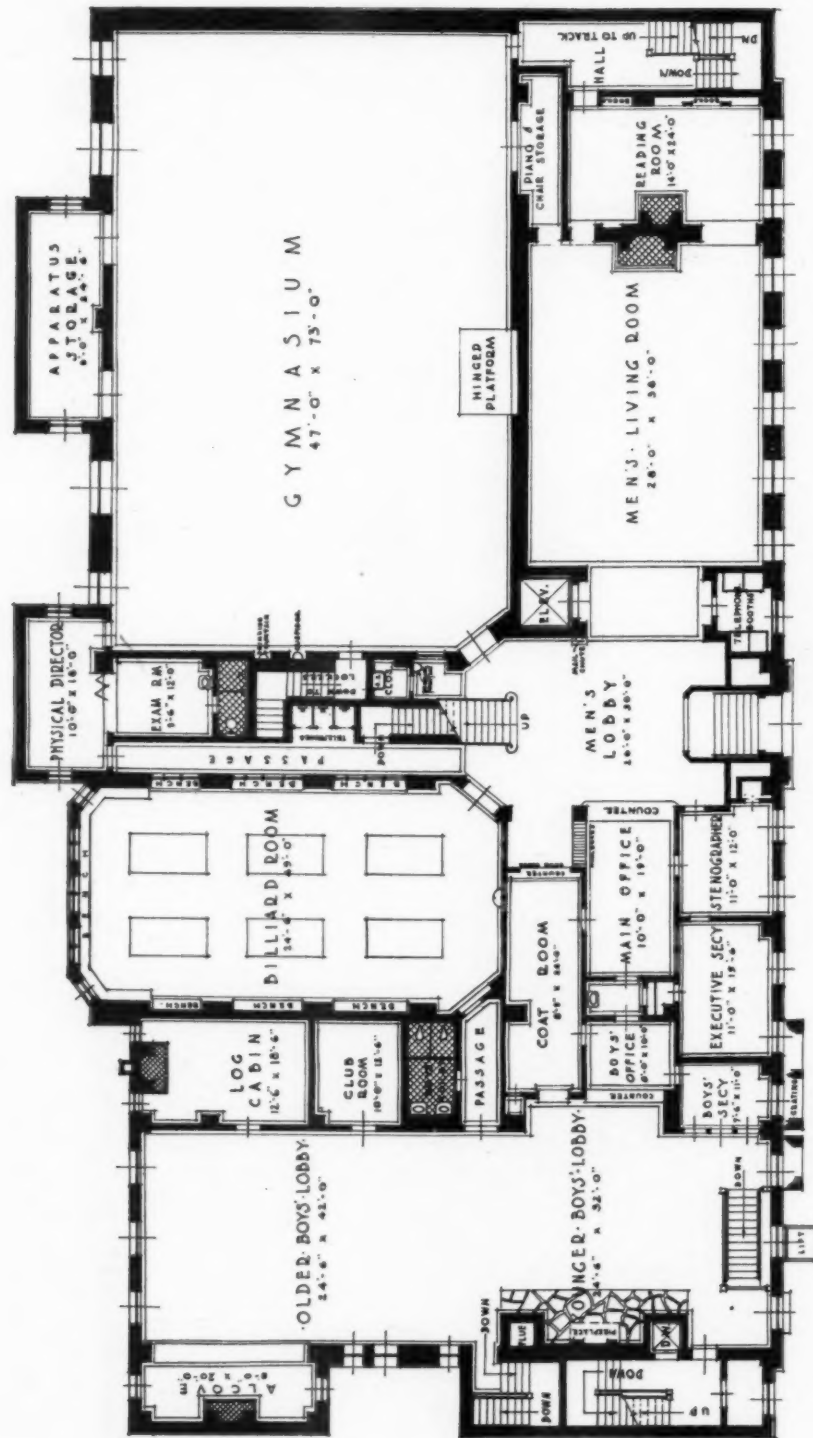
BASEMENT PLAN

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT



DETAIL OF PRINCIPAL ENTRANCE
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT
(See plan on back)



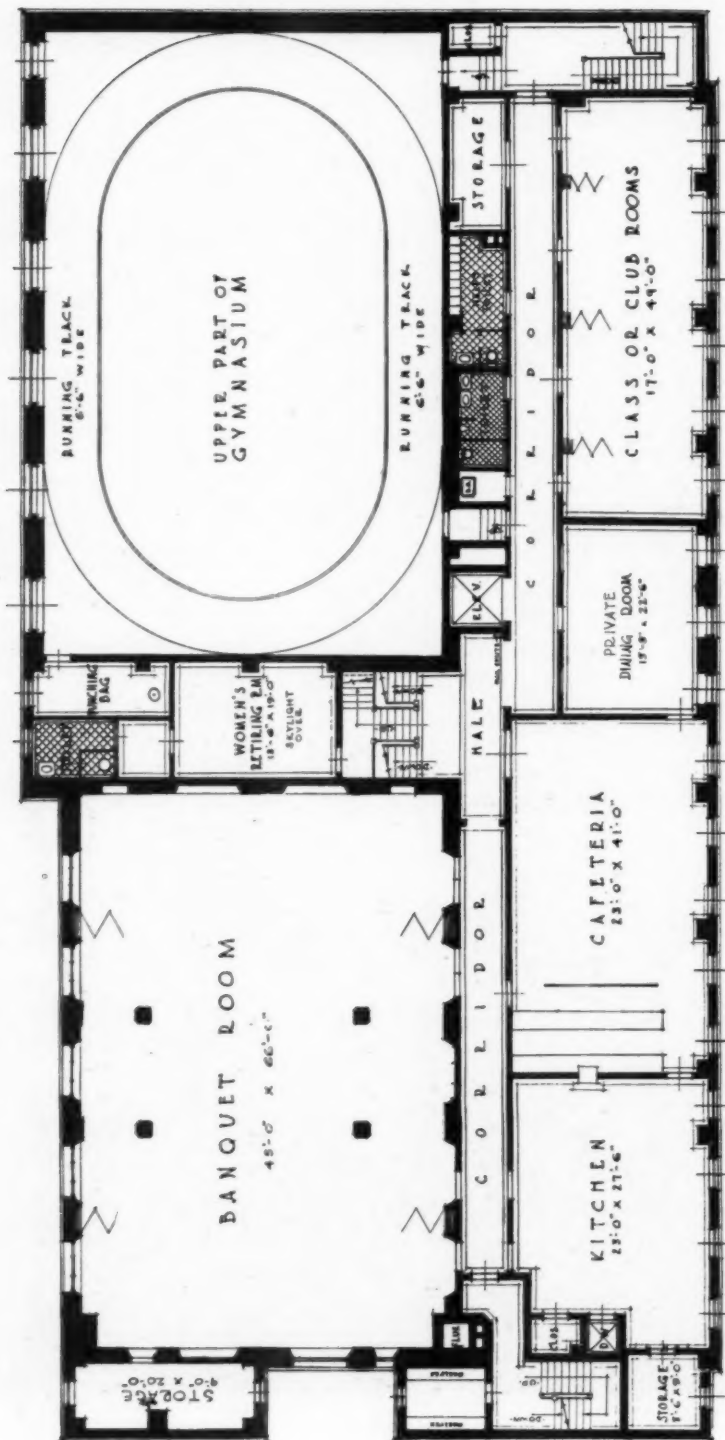
FIRST FLOOR PLAN

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT



BOYS' ENTRANCE
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT
(See plan on back)



SECOND FLOOR PLAN

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT

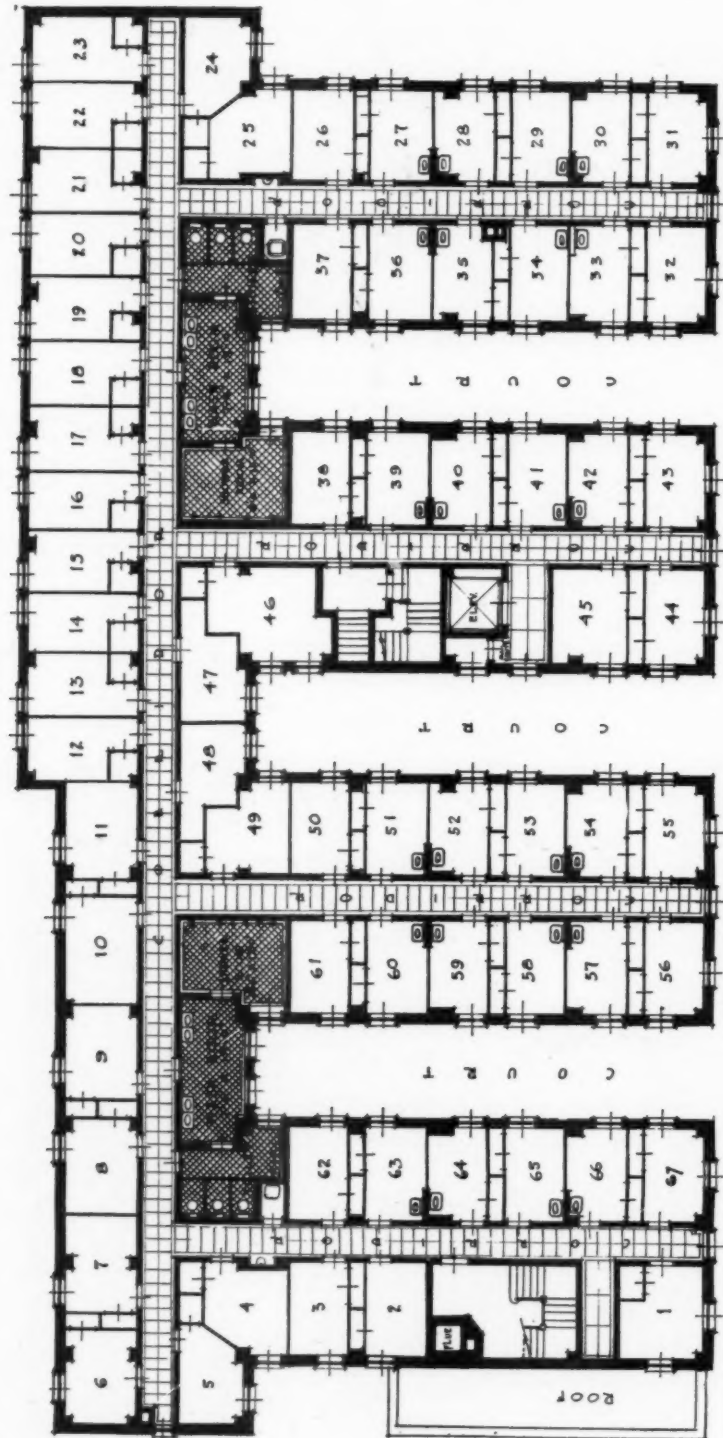


READING ROOM

PROSPECT PARK (BROOKLYN) BRANCH. Y. M. C. A.

JOHN F. JACKSON, ARCHITECT

(See plan on back)



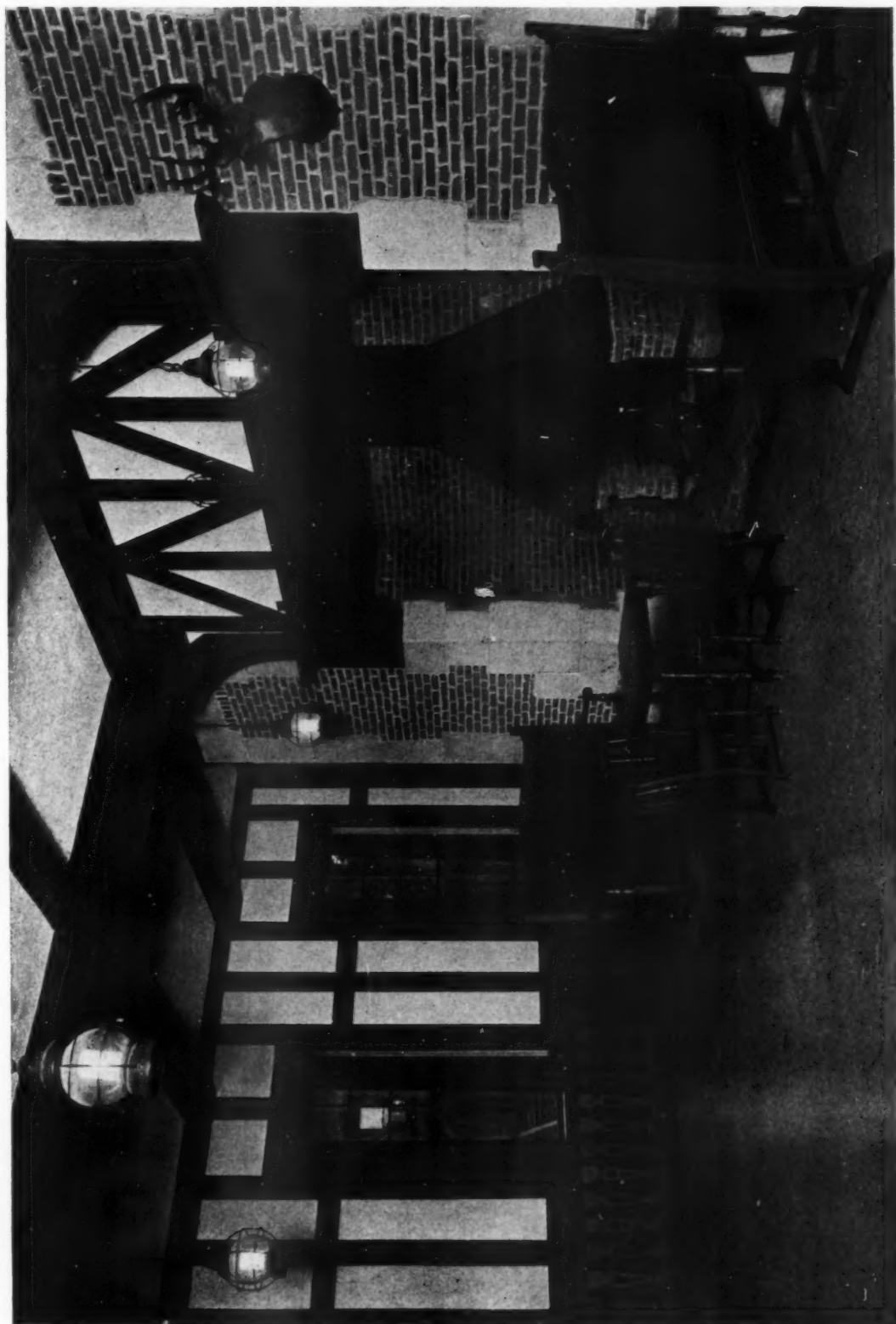
TYPICAL BEDROOM PLAN

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT



GROUP DINING ROOM
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT



BOYS' ROOM

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT



THE POOL

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT



THE LOG CABIN IN BOYS' DIVISION
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT

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PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, *Architect*

By W. H. DEWAR, *Executive Secretary*

Y. M. C. A. buildings, like most other types of buildings, have undergone great changes with the changing needs of the organization. Within the memory of those little passed middle life, many Young Men's Christian Associations had their quarters in rooms over stores or other business properties. A few rooms, used for table games, socials, religious meetings, and a quiet room for a library were in most Associations the extent of the equipment. Later came an enlarging of facilities to provide billiard rooms, bowling alleys, and gymnasia. Preceding each of these additions, there was much earnest discussion as to whether providing such opportunities for young men would really be helpful to them, or would encourage them to spend time in unprofitable ways.

The next step in housing Young Men's Christian Association activities was the more ambitious one of erecting what were frankly termed Young Men's Christian Association buildings. The earlier of these buildings had stores on the ground floor, for the purpose of providing income. This was necessary because Y. M. C. A. service, except that pro-

vided for business men's groups, was, and still is, given at a cost greater than the membership fee paid by the boys and young men: the difference was then made up by rentals from the stores, and subscriptions of contributors.

In recent years the store type of construction has been abandoned, and the entire building is used exclusively for Y. M. C. A. purposes. Nearly all city Young Men's Christian Association buildings now have living quarters for resident members. The development of this service provides for the young man of limited income, a home with wholesome surroundings and companionship, during the difficult period of his adjustment to a complex city life. The income from the rooms replaces that formerly secured from the stores, and a service in line with the aims of the Association is rendered the young man.

A large modern Y. M. C. A. building presents so many problems peculiar to the needs of Y. M. C. A. work, that there is an increasing tendency to seek the service of architects who have specialized to some degree in this type of construction. The new Pros-



BUSINESS MEN'S CLUB

pect Park Branch of the Brooklyn and Queens Young Men's Christian Association, shown herewith, is a case in point. It was the sixtieth Y. M. C. A. building designed by the architect, John F. Jackson, and is an interesting example in planning a building for the modern program of Y. M. C. A. activities. Here is a building so designed as to give maximum opportunity for work with small groups, in line with that trend in present day Y. M. C. A. methods. This result is not attained at the sacrifice of large space units, but rather by having such units flexible in size and possible of division into smaller rooms.

On entering the building, one is impressed by this

trance to the offices, the main desk, the coat room, and mail boxes for resident members are in the lobby.

The assembly room on the second floor can be used as a large unit for banquets and meetings. It has a portable stage with footlights and border lights. If smaller units are desired, this room can be divided into three sections. The location of the kitchen makes service very convenient to either the banquet room or restaurant.

The group dining room, done in a modified Spanish treatment, provides a meeting place for small groups and committees, where meals can be served, if desired. A novel feature in the end of this group



THE BILLIARD ROOM

change to small units of space instead of a very large space given to lobbies, as is the case in the older Y. M. C. A. buildings. Here we have a small lobby which is not intended for social use but only to serve as a distribution lobby. One does not have the feeling of being in a cramped and small room, however, because of the view of other rooms and the activities in these rooms that is possible from this distributing lobby. From the lobby one looks through an archway to the living room, and beyond that through to the reading room. Activities in the gymnasium can also be seen from this lobby. The billiard room is entered from the lobby and here, too, glass doors make possible a view of its interior. En-

dining room is a blackboard which is concealed when not in use by the doors shown in the photograph, which have the appearance of cabinet doors.

On this same floor is a group of four club or class rooms. This space also can be thrown into one large unit if necessary.

The boys' division section of this building is done in half-timber treatment. By a study of the plan, it will be seen that this section presented a problem. There were the smoke stack and freight elevator projecting into the room, and these features were treated in such a way that an angle nook is provided, which becomes one of the best features of the room. It is significant that this boys' division, which is de-



VIEW IN ENTRANCE HALL
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT



AT TOP: THE LUNCH BAR. AT BOTTOM: GYMNASIUM
PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.
JOHN F. JACKSON, ARCHITECT



LIVING ROOM

PROSPECT PARK (BROOKLYN) BRANCH, Y. M. C. A.

JOHN F. JACKSON, ARCHITECT

signed to withstand the hard usage given it by boys, is of equal beauty and character with other sections of the building. A unique feature is a club room, finished as the interior of a log cabin. This is intended to be more than a novelty. It is planned to have a real place in the program and message of the Young Men's Christian Association. Many Y. M. C. A. boys have had their most vital and helpful experiences in the Summer camp, and the log cabin club room is a continual reminder of those out-of-door days.

The soda fountain or lunch bar provided in the main basement hall is a completely equipped unit with provision for serving light luncheons, comparable to the best modern drug store equipment. Other service features that are provided in the basement include a barber shop, a masseur department and a tailor shop. The tailor shop is located next to the locker room so that members may have their clothes pressed while engaged in gymnasium activities. This shop also has a window in the main hall so that residents of the building may leave their clothes to be serviced. The man in charge of the tailor shop also controls the public shower baths for non-members through a window looking directly into this department.

This idea of maximum supervision with a minimum number of attendants is carried out throughout the building and results in efficiency and economy of operation.

The building faces South and advantage has been taken of this exposure by making the courts open to the front, so that virtually all of the 258 rooms providing for 266 resident members, get sunlight some time during the day.

A special service to the man living in the building is the maintenance of an infirmary. This unit comprises a nurses' living room, a private room, a ward with two beds, and a dispensary.

On the top floor is also provided an apartment for the matron of the building. A feature not usual is the provision for a secretary's study room, located on the top floor of the building.

Visitors to this building have been impressed by the atmosphere of quiet, homelike beauty. It is felt that this end has been achieved through having the architect counsel with the owners on the selection of the furnishings throughout the building. In fact, a considerable portion of the furniture, such as tables, writing desks, bulletin boards, etc., was designed by the architect, with the result that there is complete harmony throughout.

BILLBOARDS

IN England, during the course of a debate before the Oxford Union, America was assailed as being responsible for the fashion of smothering pleasant landscapes under a jumble of billboard advertising. And surely the speakers did not go too far, states the *New York World* editorially. We started this thing and we have carried it to such limits that the tourist cannot travel anywhere in this country, either by rail or by automobile, without having his eyes tortured by these everlasting signs.

There is, without a doubt, a strong sentiment against this condition, for it is a dull man indeed who does not realize that his Sunday jaunt would be much more pleasant if he could only gaze on green hills instead of gaudy encomiums of this man's ketchup, another man's soap and still another man's motor oil. Yet this sentiment has never made itself felt in a manner sufficiently effective to produce concerted action. Why? Part of the reason is easy to see. Newspapers, which are the natural medium for the expression of popular sentiment, hesitate to deal with this question. Some of them are afraid advertisers will be offended and cut off fat revenues; some of them are afraid they will be suspected of a move to force advertisers to buy newspaper space.

These are real considerations; nevertheless we venture to raise this issue. Is it decent for adver-

tisers to ruin the whole American countryside in their efforts to sell their wares? Is it good business? Is a man likely to be attracted to a product that is advertised in such a way as to irritate him? How many sales resulted from the talcum powder advertisement which is painted on the cliff across the Potomac from Harpers Ferry, W. Va., and which cheapens an otherwise magnificent view? Our advertisers might do well to think these points over.

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CITY PLANNING IN FRENCH TOWNS

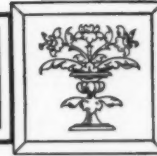
As a result of a French law in 1924, obliging all towns of more than 10,000 population to subject their growth to a system of city planning, the suburbs of Paris probably will be divided into zones according as industrial, commercial or residential buildings are allowed to predominate.

Paris itself has developed without such control and it is regarded as impracticable to apply the new ruling to the older quarters.

City planning is a post-war development in France, the first actual zoning regulations to be applied in the country being those of Strasbourg, which were enacted under the German régime there and taken over by France along with other laws and institutions prevailing in Alsace and Lorraine.



EDITORIAL COMMENT



THERE are in general two types of draftsmen. Both may be capable of making drawings that are accurate, complete and through clever draftsmanship are pleasing to the eye. To one type the drawing is a series of lines acceptable as an example of the draftsman's proficiency with the pencil or pen. To the second type the drawing is a means to an end and in addition to being an acceptable working drawing there is indicated an appreciation of the possibilities and limitations of the materials shown on the drawing. One is academic, based upon theory and knowledge acquired in school; the other may also be based upon theory but there has been added to it that invaluable asset, practical knowledge and experience. Many men leave architectural schools and enter architects' offices as draftsmen. Little or no opportunity has been afforded them to acquire a first-hand knowledge of the characteristics of materials that enter into the construction of buildings. To many this knowledge is limited to a reading acquaintance and information acquired from experienced men in the office. Such knowledge can never be as valuable as that acquired through actual association with the materials and personal knowledge of how these materials are worked by craftsmen or machines.

Every architect knows that no matter how well a building composes on paper, it will not appear well in execution unless materials suitable to the design are selected, correctly detailed and finished. Architects having a large practice cannot personally see to every detail, and much must be delegated and left to the judgment of others in their employ. But whether the practice is large or small, it still remains a fact that every architectural draftsman must have reasonable knowledge of the materials he depicts on paper if he would work intelligently and achieve results in the executed work.

It is hardly to be expected that every draftsman can also be a craftsman in stone, wood and metal; nor is it essential that he actually perform the manual labor required of the craftsman. It is possible, however, for him to secure through association and observation, an appreciation of how the craftsman works and the things that can or cannot be done with the materials commonly used in building construction. Through observation he would learn that fine grained woods can be worked to small mouldings with beautiful subtle contours, but that coarse grained woods must be worked full and bold. He would learn that certain stones are susceptible of delicate carvings and that others are not. The effect produced by polishing certain stones would be

known. The different ways in which the different metals can be worked to secure a variety of effects, the fact that iron cannot be handled in the same manner as brass, would become not only a matter of knowledge but a thing to be felt and expressed in the drawings.

In the pressure of the work to complete the drawings, the desirability of providing draftsmen with the opportunity of becoming familiar with the intimate details of how materials are worked, if not lost sight of, is deferred for a more convenient time and that probably never arrives. Elsewhere in this issue there is outlined a plan recently inaugurated by the New York Chapter of the A. I. A., that will provide for periodic visits to the shops of various craftsmen by the drafting room staffs of architectural offices. This plan is excellent in conception and through schooling draftsmen in the realities of building by the study of the problems of craftsmen, can hardly be other than productive of better buildings, through a more intelligent preparation of drawings and use of materials. Other chapters of the A. I. A. could advantageously adopt the plan in principle with such modifications as might be necessary to meet local conditions. Where group action is not feasible, the idea could be utilized by individual offices. Craftsmen welcome the opportunity to cooperate with the architectural profession. Forethought, judicious visits to work shops, and, if possible, an opportunity for the draftsman to compare his drawings with work in the shop, should produce future results that will repay the cost of such visits made on office time.

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REPORTS have reached this office that the latest addition to the Atlantic passenger fleet is to feature a real twenty foot bar, of the type which some of us may recall, a church auditorium and a sidewalk cafe which is peculiarly characteristic of the French boulevards. The question immediately arises whether this is in sympathy with marine architecture. It seems to suggest a setting for motion pictures rather than the decorative treatment of an ocean liner. Successful architectural design is based on honesty and sincerity. On board a steamer it would seem to us more logical to create surroundings which will make the passenger's voyage more pleasant in an environment which does not attempt to deceive him into thinking that he is still on shore. This is the same old story of affectation, with which we are so afflicted these days.

EVERYBODY'S BUSINESS

By FLOYD W. PARSONS

THE greatest stumbling block in the progress of man has been what we call the natural forces. Included in this category are various forms of unharnessed energy, nearly all of them being either direct or indirect products of the action of the sun. It is for this reason that when we seek the causation of tornadoes, floods, abnormal weather variations, crop failures or static, we always end up with eyes and minds focussed on the blazing orb around which our earth revolves.

The ancient astrologers were not far wrong in their belief that the violence or inactivity of the sun's radiation has a profound influence on human health and well-being. An eminent astronomer at a recent congress of scientists said that the extra radiation that reaches us from the sun near the end of each sunspot cycle stirs the nervous system and fosters unrest throughout the earth. The Russian upheaval of 1917, the French Revolution in 1789, and a long series of earlier insurrections all coincided with times of maximum sunspot activity.

We no longer believe that the positions of the planets and the moon in the signs of the zodiac—the twelve constellations that appear to circle around the Polar Star—determine the fate of the new-born child. But the facts at hand do clearly indicate that something causes the machinery of man to alter its speed at more or less regular intervals of time.

Tens of thousands of evil germs succumb to sunlight exposure, so that periods of plague and pestilence are favored by a reduction in radiation and the simultaneous lowering of body resistance.

We have developed a working knowledge of the atmosphere above us for 10 or 12 miles. It is clear that the warm air rises in the tropics, returning to the Arctic where it descends and starts once more on its journey to the equator. But as to the secrets of the upper air, not much do we know except that the air is thinner, oxygen and nitrogen have practically disappeared and hydrogen, helium and free electrons probably reign supreme. As we go up, the temperature drops, reaching 60 degrees below zero at an altitude of 10 miles. Studies of shooting stars and other phenomena, have resulted in great differences of opinion concerning the "electric roof" of the atmosphere and the temperature and density of the upper air. In this virgin field of research lies the key to many problems such as the aurorae, magnetic storms and "skip distance" or silent areas in radio broadcasting.

Milliken and Bowen, wizards of the infinite, tell us of electric winds that whistle past the earth's atmosphere at the speed of light—186,000 miles a second. These strange winds are really masses of

radiation, for according to the new conception, light is not merely wave lines in ether, but comes in lumps of assorted sizes which have both mass and inertia. These "winds of space" blow ceaselessly from those sources of light and life which we call the sun and the stars. By virtue of their mass and speed they exert a pressure on the surfaces of all planets and whatever else they touch. Such cosmic rays are developed by the destruction of matter in far-off stars, some of them so distant that although light travels at such an incredible speed, the rays that reach the earth tonight started toward the earth hundreds of thousands of years ago.

If we reduce the heavens to a scale in which the earth is no larger than the tiniest germ visible under a microscope, then the sun would be only a dust speck three-hundredths of an inch away, and our entire solar system would be less than an inch across. On this scale, the nearest star would be 1500 feet away and our private universe or star cloud would have a diameter of about 9000 miles.

Searching the heavens for the secrets of life is far from being a waste of time. The astronomer is just as likely to discover the clue to infinity as the physicist. On every hand are puzzling questions. Are there living organisms on other planets? Have our own planets been thrown off from a central orb, or have they been picked up by the sun in its whirl through space, as the earth picks up meteorites? Is our solar system cooling off or heating up? Are the spots on the sun immense volcanoes thousands of miles in diameter and shooting great geysers of super-heated gases tens of thousands of miles into space, bombarding the earth with electrical bullets, or are they gigantic whirlpools set up between the moving layers of gases within the sun?

Each scrap of new knowledge helps in our search for the master key of the universe. Evolution really begins with the formation of the atom. But for the origin of matter we may look to the stars as the source of the electrons and protons necessary to the construction of atoms. It is for such reasons, as well as its close proximity that the sun must become an object of ever-increasing interest to man. It is our power plant—the source of all the energy that sustains life. From it we get the vital ultra-violet rays that build health, and from it come the variable forces that create destructive hurricanes and manufacture weather. Eventually a better knowledge of the sun and its changing spots will make long-distance weather forecasting a valuable and dependable science. Droughts, floods and abnormal temperature changes will be anticipated and losses of life and property avoided.



A HOUSE AT MAMARONECK, N. Y.

HENRY J. BERTRAM, ARCHITECT



A HOUSE AT MAMARONECK, N. Y.

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HENRY J. BERTRAM, ARCHITECT





A HOUSE AT MAMARONECK, N. Y.
HENRY J. BERTRAM, ARCHITECT

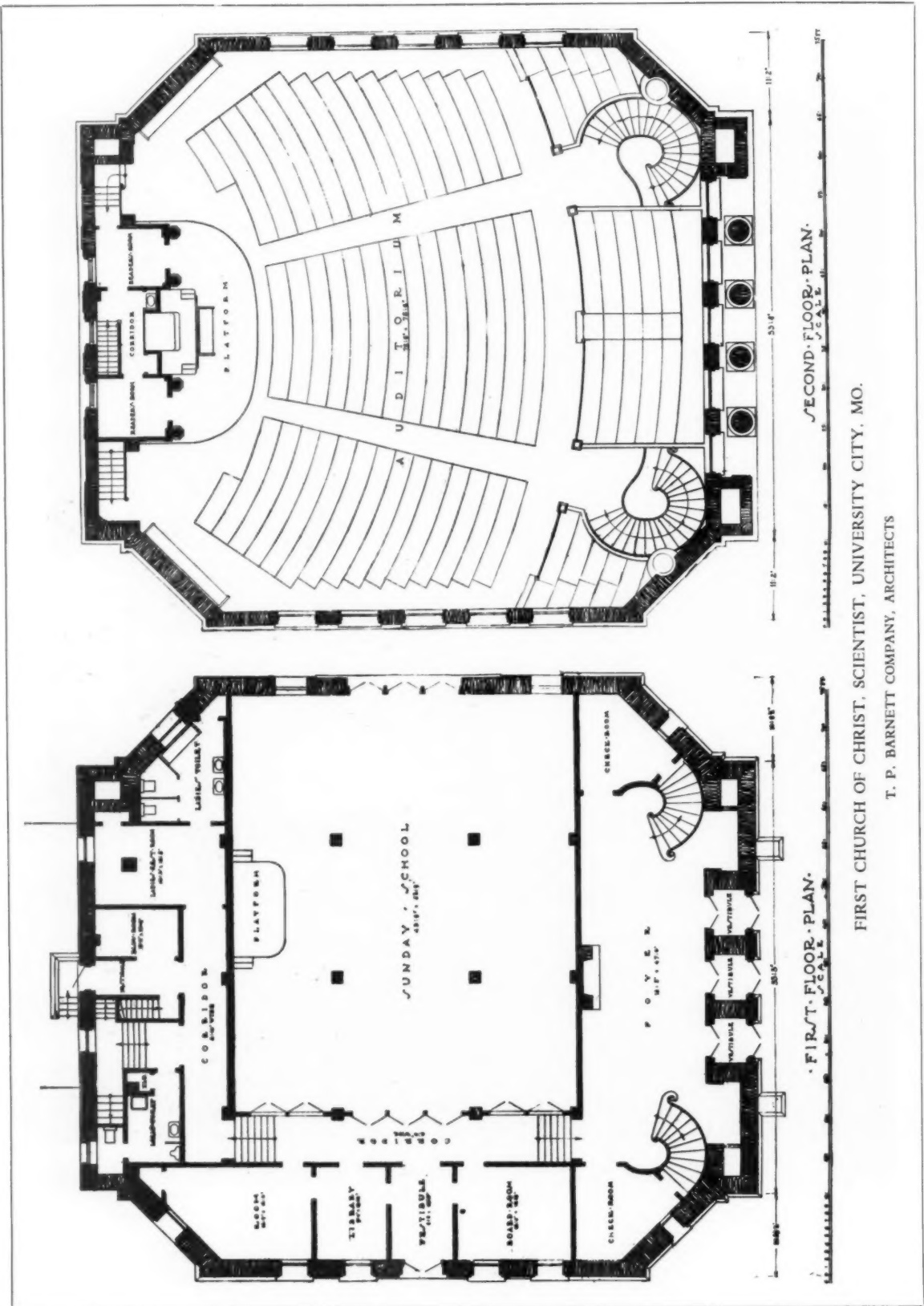




FIRST CHURCH OF CHRIST, SCIENTIST, UNIVERSITY CITY, MO.

T. P. BARNETT COMPANY, ARCHITECTS

(See plans on back)





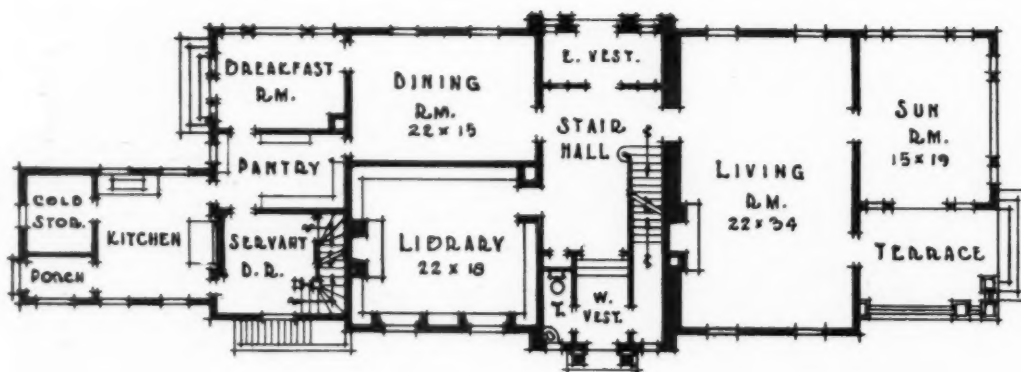
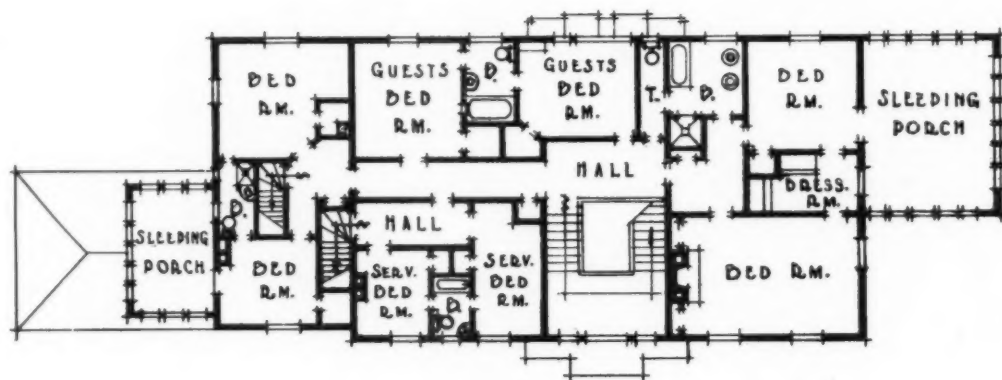
FIRST CHURCH OF CHRIST, SCIENTIST, UNIVERSITY CITY, MO.
T. P. BARNETT COMPANY, ARCHITECTS



HOUSE OF DR. A. M. COLE, INDIANAPOLIS, IND.

HERBERT FOLTZ, ARCHITECT

(See plans on back)



HOUSE OF DR. A. M. COLE, INDIANAPOLIS, IND.

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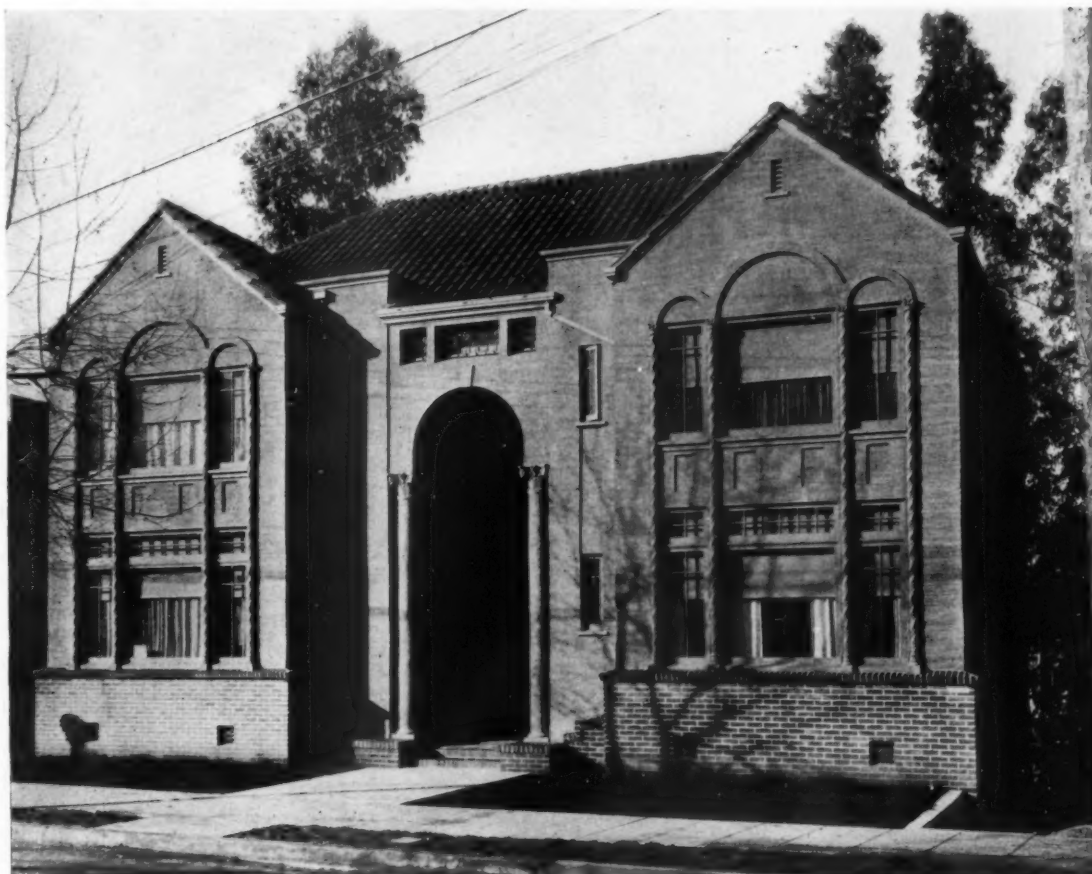


HOUSE OF DR. A. M. COLE, INDIANAPOLIS, IND.

HERBERT FOLTZ, ARCHITECT

A GROUP OF BUILDINGS OF MODERATE COST

WITH DETAILS OF CONSTRUCTION, MATERIALS AND CUBIC COST



APARTMENT HOUSE AT BERKELEY, CALIFORNIA—LEONARD H. FORD, ARCHITECT

THE BUILDING IS OF FRAME CONSTRUCTION ON A CONCRETE FOUNDATION. THE BASE IS OF BRICK VENEER, ABOVE WHICH THE WALLS ARE FINISHED IN STUCCO, SCRAPPED WITH A WIRE BRUSH. THE ROOF IS OF TILE. THE WALLS ARE OF WOOD SHEATHING AND IN CERTAIN CASES HOLLOW TILE AND METAL LATH. THE WALLS ARE ALL INSULATED AGAINST SOUND. THE BUILDING IS EQUIPPED WITH STEAM HEAT; DRAINAGE IS SUPPLIED BY A SEWER SYSTEM, AND WATER SUPPLIED FROM A PUBLIC SUPPLY. PLUMBING FIXTURES ARE OF ENAMELED IRON. AN ELECTRIC REFRIGERATION SYSTEM IS INSTALLED, AND THE BUILDING IS LIGHTED BY ELECTRICITY. THE BUILDING IS ALSO EQUIPPED WITH WATER SOFTENERS AND A GARBAGE DISPOSAL PLANT. THE INTERIOR WALLS ARE PAPERED. THE TRIM IS OF MAHOGANY, AND THE CEILINGS ARE IN SAND FINISHED PLASTER. THE DOORS ARE ALSO MAHOGANY. THE BUILDING WAS ERECTED IN 1926 AT A COST OF 30 CENTS PER CUBIC FOOT



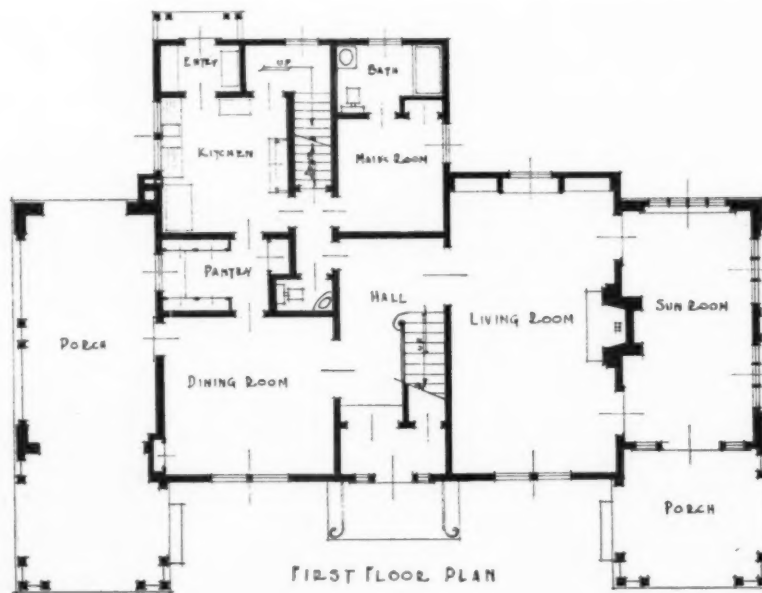
PLAN OF SECOND FLOOR

APARTMENT HOUSE AT BERKELEY, CALIFORNIA—LEONARD H. FORD, ARCHITECT

THE APARTMENTS ON THE FIRST AND SECOND FLOOR ARE SIMILARLY ARRANGED. THERE ARE TWO APARTMENTS ON EACH FLOOR, ONE BEDROOM IN ONE APARTMENT AND TWO BEDROOMS IN THE OTHER. EACH APARTMENT CONTAINS A LIVING ROOM, DINING ROOM, KITCHEN, AND BATH. THE LIVING ROOM IN ONE APARTMENT IS EQUIPPED WITH AN OPEN FIREPLACE. IN ADDITION TO THE MAIN STAIRS, THERE ARE SERVICE STAIRS IN THE REAR LEADING TO THE BACK HALL AND KITCHEN



AT TOP: FRONT VIEW. AT BOTTOM: REAR VIEW
HOUSE IN MISSION HILLS, KANSAS CITY, MO.—CLARENCE E. SHEPARD, ARCHITECT



HOUSE IN MISSION HILLS, KANSAS CITY, MO.—CLARENCE E. SHEPARD, ARCHITECT



ENTRANCE DOOR
HOUSE IN MISSION HILLS, KANSAS CITY, MO.—CLARENCE E. SHEPARD, ARCHITECT



INTERIOR ARCHITECTURE

MODERN TENDENCIES IN THEATRE DESIGN

BASED on the principle which is being continually emphasized in the articles of this department—that character should be given to the design of a building, both inside and out, by the purpose that it is intended to serve—it would seem justifiable to say that the design of a theatre should be theatrical. And yet, that is hardly the word to use. Theatrical is commonly interpreted as meaning an illusion, an effect, something unreal, and these are all terms which have no place in architecture. They are, however, directly applicable to stage settings, so that the word theatrical would seem to refer more to the stage than to the building proper. There is a fine distinction between the stage and the theatre itself. It is true that the dominant purpose of the theatre is to offer entertainment to its patrons. But this is really more true of the stage than of the theatre. Actually the entertainment is limited to the stage.

The theatre, on the other hand, affords its patrons—those who pay to witness the performance depicted on the stage—opportunities to enjoy this entertainment to the fullest, comfortably, and amidst pleasant surroundings. There, then, lies the purpose of the theatre, by which character is given to its design—to stimulate the imagination of those that enter in order that the spirit of romance may be quickened, allowing them to enjoy the performance to the utmost.

It was not so very long ago that the theatre was looked upon as a luxury. The masses did not frequent the theatre, and, when they did, they were obliged to occupy seats in the top of the house, and looked down longingly at those more fortunate, in full evening dress, seated in orchestra stalls. The "movies" have revolutionized the theatre. They have made the theatre democratic. People of all



ENTRANCE TO PARAMOUNT THEATRE, NEW YORK—C. W. & GEO. L. RAPP, ARCHITECTS

classes pay the same price,—a price which all can afford—sit side by side, see the same performance, and all are made equally comfortable. An unusual condition has thus been brought about, which accounts in no small measure for the present tendency to create elaborate theatre interiors—designs which often fairly ooze ornament, in which an undecorated surface is seldom seen, and luxury is suggested in every detail.

The audiences in these motion picture theatres are largely made up of the masses. These people revel in luxury and beauty which are beyond their means. They, therefore, patronize those theatres which appeal to them most in luxury and beauty. At the same time, these theatres satisfy the intelligentsia. To them, their ornateness is not a suggestion of luxury, but serves actually as a stimulant to their imagination. It thrills the one class and attracts the other.

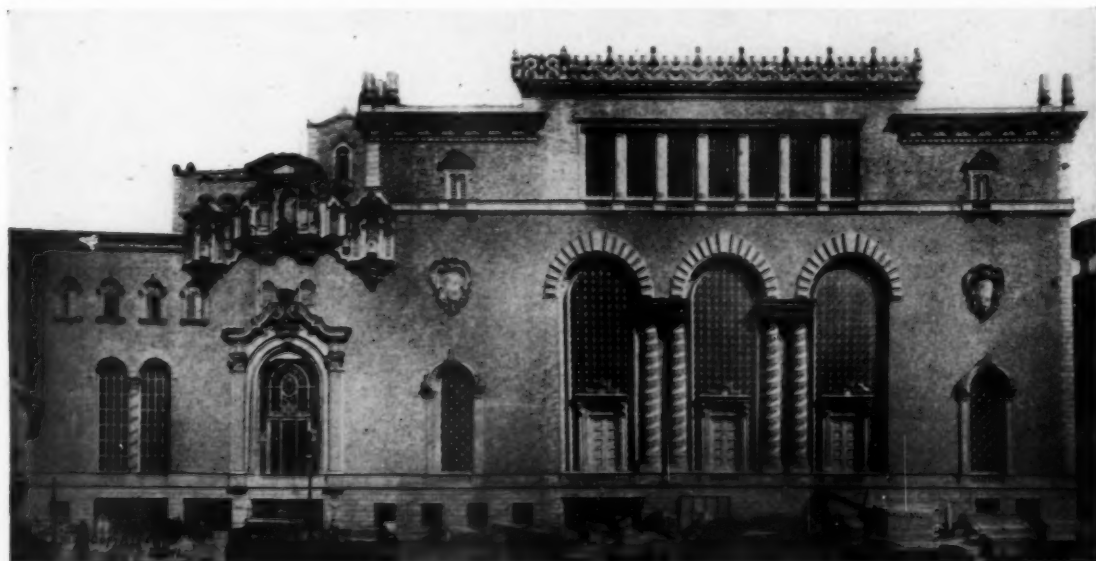
The plan of a theatre is largely a matter of seating. In the larger houses in the metropolitan districts, where land cost is high, it is necessary to include as many seats as possible in order to reduce the cost per seat. This necessitates mezzanine and balcony floors in addition to the orchestra. The actual layout of these several floors is governed to a very great extent by building codes and fire laws enforced in the various cities. Projection and sight lines, too, must be properly considered. Based on these stipulations, the problem is to give the occupant of every seat in the house a clear and unobstructed view of the stage. Ten or fifteen years ago, it might have been necessary to allow of an unobstructed view of the screen only. But, today, the photoplay is only

a part of the entertainment which the motion picture theatre presents. It is often preceded by "jazz" and classical selections by a capable orchestra, and followed by solo or chorus numbers which are presented with elaborate stage settings. These, then, necessitate a clear view not only of the entire stage, but of the orchestra as well.

Modern engineering skill has come to the assistance of architects in the solution of this phase of theatre design. The piers and columns which supported the balcony in the old-fashioned theatre are now dispensed with, so that one seat is just as good as another, and apparatus may be installed by which the floor of the orchestra pit is raised so that during a feature number the musicians are in clear view of the audience, and when the picture goes on, they are again lowered out of sight.

The modern motion picture theatre must allow for the presentation of numbers which require a full stage setting, as well as a screen. Acoustics, too, must be considered, and not only sight lines. Dressing rooms, property rooms, and an organ,—sometimes simply to relieve the orchestra and break its monotony; at other times, to furnish the music instead of an orchestra—are all essential in the modern theatre; also a screen room, where future run pictures are demonstrated and selected, and a rehearsal room, whereby overtime on the part of the orchestra is eliminated, for, during the organ numbers, the orchestra is rehearsing its next week's score.

The modern theatre is neither a motion picture house nor a legitimate theatre. The problem which its plan and design present is one which requires most careful study and consideration.



REPRODUCED FROM ARCHITECT'S RENDERING OF EXTERIOR OF ROXY THEATRE, NEW YORK

WALTER W. AHLSTHLAGER, ARCHITECT

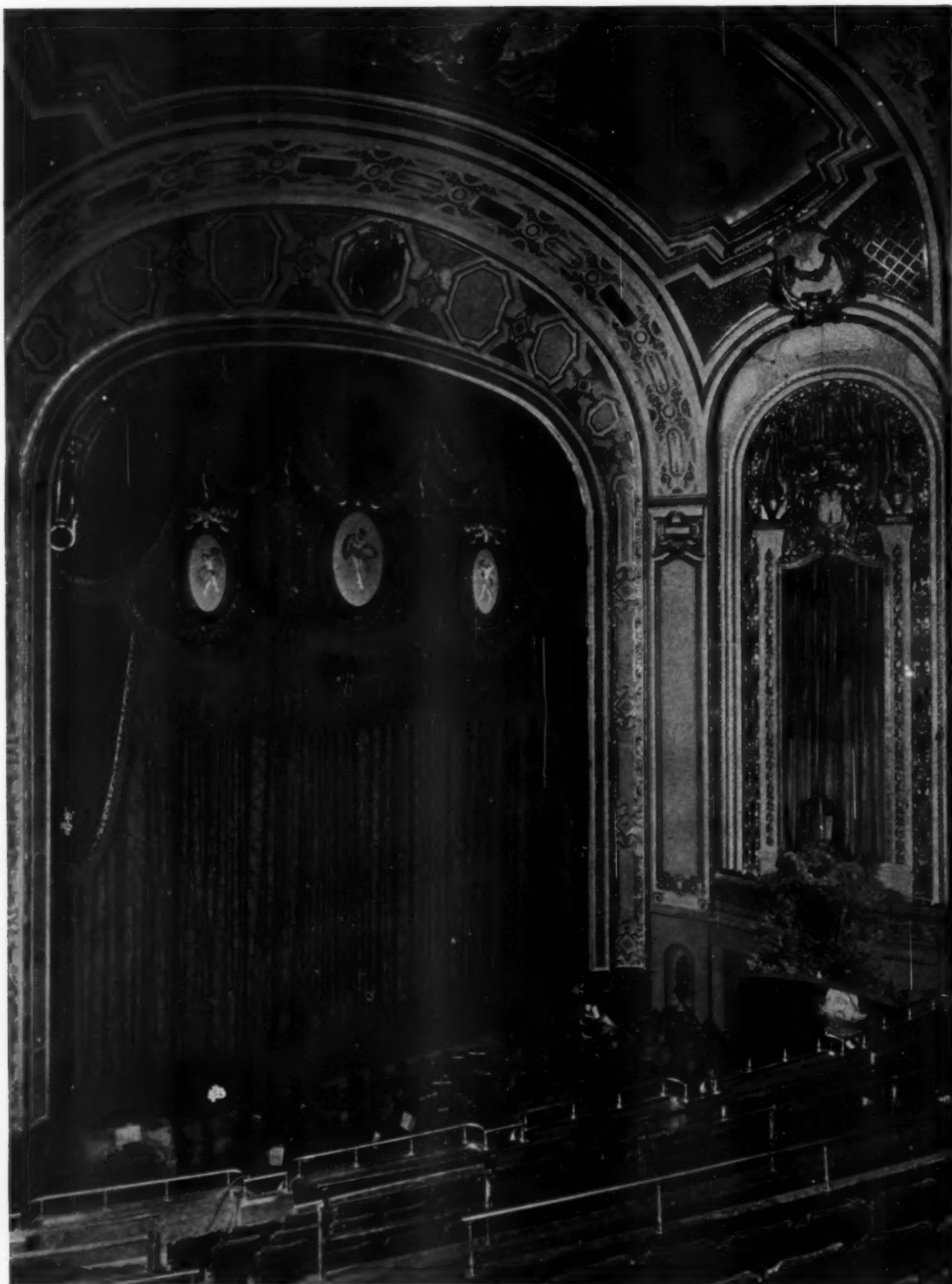


LOOKING DIAGONALLY ACROSS THE ORCHESTRA, SHOWING BALCONY SOFFIT



GENERAL VIEW OF LOGES AND BALCONY SOFFIT

PARAMOUNT THEATRE, NEW YORK—C. W. & GEO. L. RAPP, ARCHITECTS



THE PROSCENIUM

PARAMOUNT THEATRE, NEW YORK—C. W. & GEO. L. RAPP, ARCHITECTS



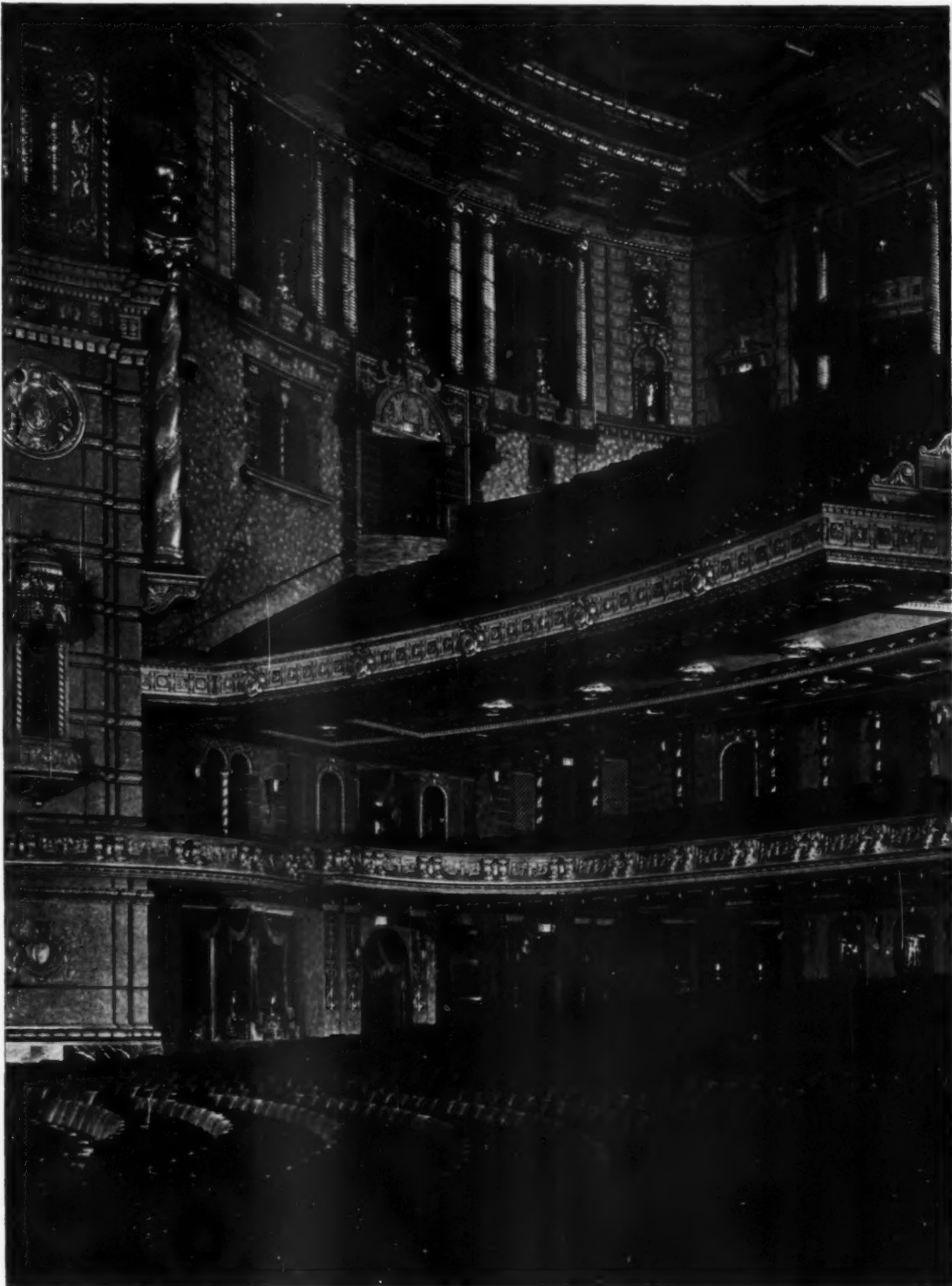
LOOKING DIAGONALLY FROM THE STAGE

PARAMOUNT THEATRE, NEW YORK—C. W. & GEO. L. RAPP, ARCHITECTS



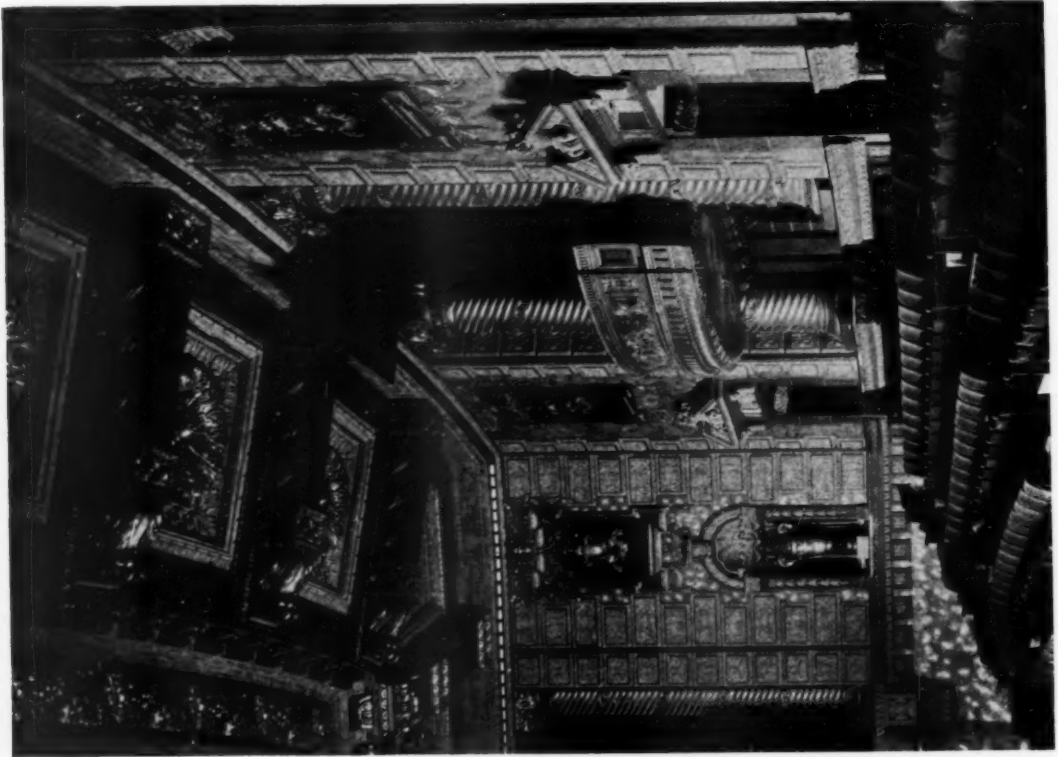
THE PROSCENIUM

ROXY THEATRE, NEW YORK—WALTER W. AHLSCHLAGER, ARCHITECT



LOOKING DIAGONALLY FROM THE STAGE

ROXY THEATRE, NEW YORK—WALTER W. AHLSCHLAGER, ARCHITECT



LOOKING DIAGONALLY ACROSS THE BALCONY—ROXY THEATRE, NEW YORK
WALTER W. AHLSCHLAGER, ARCHITECT

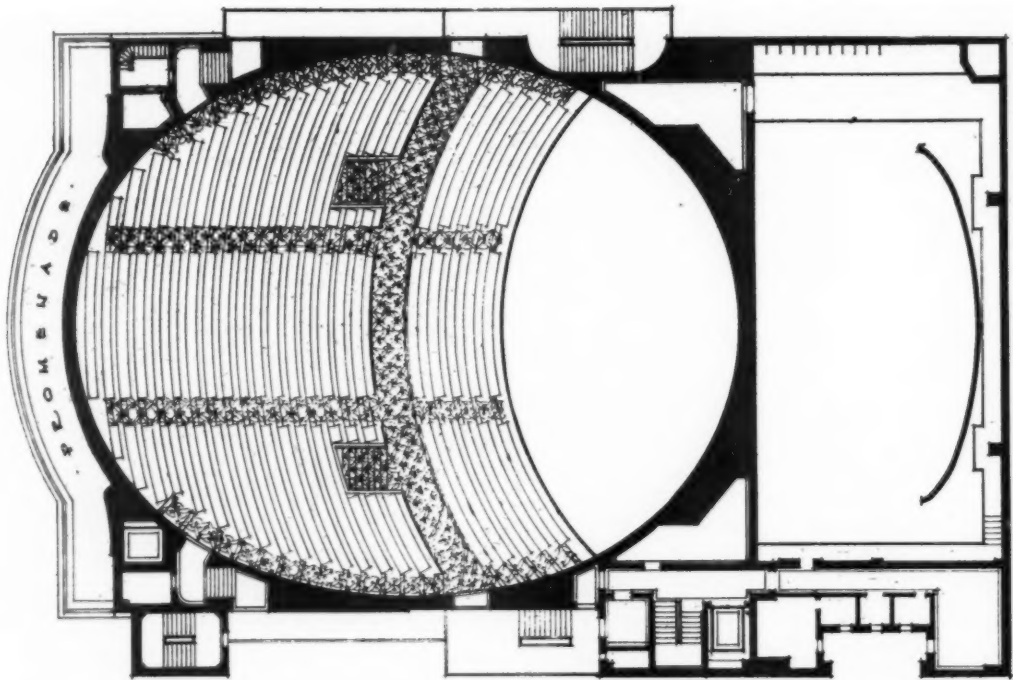


LOOKING DIAGONALLY ACROSS THE BALCONY—PARAMOUNT THEATRE, NEW YORK
C. W. & GEO. L. RAPP, ARCHITECTS

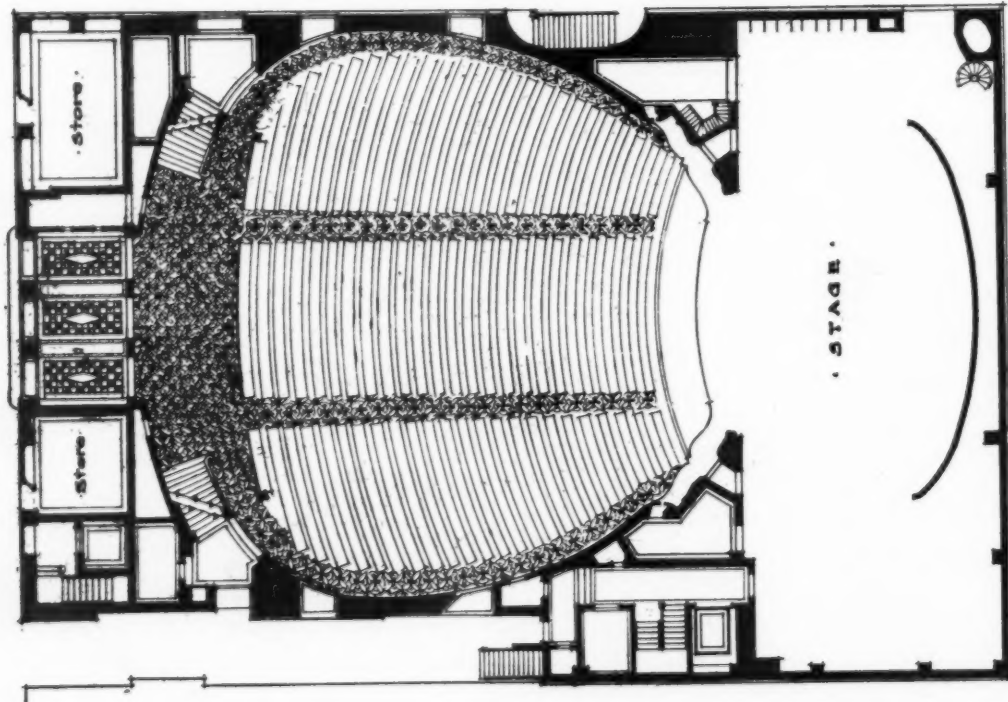


EXTERIOR VIEW OF THE ZIEGFELD THEATRE, NEW YORK

JOSEPH URBAN AND THOMAS W. LAMB, ASSOCIATED ARCHITECTS



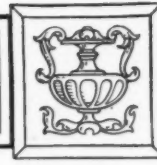
BALCONY PLAN: ZIEGFELD THEATRE: NEW YORK CITY



ORCHESTRA PLAN: ZIEGFELD THEATRE: NEW YORK CITY

PLANS OF ORCHESTRA AND BALCONY—ZIEGFELD THEATRE, NEW YORK

JOSEPH URBAN AND THOMAS W. LAMB, ASSOCIATED ARCHITECTS



REPORT OF INVESTIGATION TO DETERMINE THE PERMANENCE OF STRUCTURAL STEEL IN BUILDINGS

By FRANK W. SKINNER, M. AM. SOC. C. E.

ARCHITECTS, engineers and builders have always been aware of the tendency of all ferrous compounds to corrode. It is but natural and to be expected that precautions of various kinds were employed to prevent corrosion. For that reason, the performance of structural steel in actual use has been most satisfactory. In considering the subject of the corrosion of structural steel, it must be remembered that no structural material is immune from the destructive action of the elements—air, water and temperature changes.

In 1918, the writer presented a paper on "The Life of Iron and Steel Structures" to the International Engineering Congress, held at San Francisco. In the preparation of this paper an exhaustive investigation was made of the subject. Eight years later the writer made another comprehensive investigation of the subject. The last investigation confirmed and strengthened the conclusions established by the former investigation.

A feature of the second investigation was sixty very carefully prepared and considered questions which were submitted to more than one thousand prominent architects and engineers and officials in charge of steel frame buildings and other structures. An unusually large number made replies, many of them at length, answering all questions specifically with numerous suggestions and expressions of opinion as well as statements of recent facts.

A remarkable unanimity of experience and opinion was disclosed in all phases of the questionnaire. For instance, four questions as to the actual danger

SINCE the first use of structural steel in building construction in the '80s, sufficient time has elapsed to measure its durability and establish its probable useful life. This can be done only by inspecting its present condition and considering the surrounding conditions of exposure to destructive agents and the period of time it has been in use. Because of its use in buildings, constructed on sites whose values have since increased greatly, in many instances to an extent making it profitable to either enlarge or demolish the original structure to provide sites for larger and better buildings, the structural steel has frequently been exposed to inspection after years of service. Mr. Skinner has carried on a personal investigation of the permanence of structural steel in buildings for a number of years. The results of this investigation are set forth in the accompanying article.—The Editors.

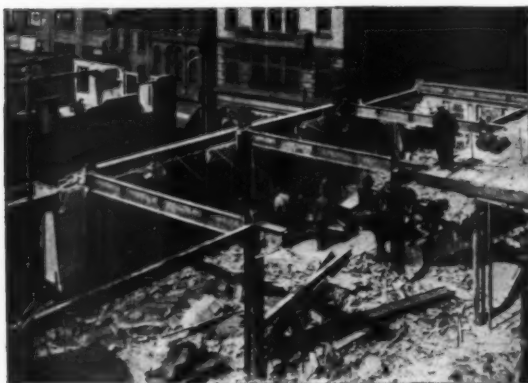
and damage from corrosion received 727 replies, of which only eight mentioned buildings which had been damaged by corrosion. The tabulated returns from the questionnaire show that character of exposure to corrosion, and portions usually exposed in order of importance, are—column bases, places where debris and dirt collect in contact, brine and salt water, parts near the ground, alternate wetting and drying, salt air, heat, accumulation of condensed water, weather, leaks, no circulation of air, active agents such as chemical

fumes and liquids, substructures, contact with coal or ashes, great dampness, very thin steel, basement steel, roof members, steel in outer walls, retaining walls, grillages embedded in poor concrete, chemical plants, sidewalk beams, parts supporting architectural details, coal and boiler rooms. To the question as to the feasibility of protecting steel in buildings and other structures, eighty per cent of the replies stated that entirely adequate protection could be provided.

There are five distinct causes or types of corrosion: (1) Atmospheric corrosion is the most common and is caused by the contact of air and water with unprotected steel; (2) underground corrosion caused by contact with earth, ashes or concrete which is capable of absorbing moisture; (3) submerged corrosion where the steel is in direct contact with water in which there is usually a limited amount of dissolved oxygen, and is greater when submerged in salt water and where the surfaces are alternately submerged and exposed to the atmos-

phre; (4) chemical corrosion caused by exposure to corrosive chemical solutions or vapors; (5) electrolytic decomposition caused by electric currents of external origin leaving the steel, and extremely rare in the framework of buildings.

Variations in the usual chemical composition of commercial steel have little effect on its resistance to corrosion, except that steel alloyed with a very small percentage of copper is much more resistant to cor-



BLENHEIM APARTMENTS, PHILADELPHIA, ERECTED IN 1901, DEMOLISHED IN 1927. STEELWORK WELL PRESERVED AND FREE FROM CORROSION

rosion. The presence of an electric current accelerates corrosion. Corrosion is three times as rapid in pure oxygen as it is in air. Large masses of steel do not corrode as rapidly in proportion to the area of the exposed surface as smaller masses do under the same conditions. Chemically considered, corrosion is the reverse of smelting and develops the same amount of heat that was required for the original reduction of the ore.

Paint is a perfect protection against corrosion when it forms a complete, continuous, unbroken film that prevents contact between the steel and air and moisture in combination, or oxygen, corrosive chemicals or vapors. Paints suitable for this purpose have been developed by manufacturers. A dense covering of concrete or gunite also provides protection and in many situations masonry enclosure is sufficient. When concrete or masonry is used they must be of such a character as to positively prevent the passage of moisture by absorption or otherwise.

It is not laboratory investigation and scientific discussion that will establish the fact of the permanence of steel construction, but rather observation of actual performance. Perhaps none are better qualified in this respect than wrecking contractors who have demolished or altered old structures.

For twenty-five years Jacob Volk has been a wrecking contractor in New York City and during that time has demolished structures containing at least 200,000 tons of structural iron and steel. Mr.

Volk has never found any member of the main framework dangerously corroded and very seldom any serious corrosion even under bad conditions or when in some cases unprotected from considerable moisture. In general, the condition of the steel is excellent and practically uncorroded. Generally, as a matter of convenience, all structural steel is sold for junk, after which it is sorted out and ninety per cent of the beams and some riveted girders are sold for new building construction.

G. W. Jump, President, Jump Housewrecking Company, Philadelphia, specifically states that in his experience he has never found structural steel seriously corroded or that there was any appreciable loss of weight due to that cause. When buildings are wrecked the steel beams and columns are generally free from rust and the beams are usually sold for use in new buildings.

W. Waixel, for more than twenty years president of the Garden City Wrecking Company, Chicago, states that he has wrecked more than one hundred buildings containing large amounts of structural steel and that the steel was invariably in good condition. Interior beams and columns were usually without trace of corrosion whether painted or not. Usually the beams were entirely uninjured and sold for stock, painted and re-used.

Architects and engineers are observers whose opinions and experiences are of the utmost importance because they are responsible for the owner's safe investment in durable building construction. Their observations may well be accepted as the normal behavior of steel frame construction.



BLENHEIM APARTMENTS, PHILADELPHIA, ERECTED IN 1901, DEMOLISHED IN 1927. STEELWORK AS CLEAN AND IN AS GOOD CONDITION AS WHEN FIRST ERECTED

Samuel C. Weiskopf has been one of the most prominent consulting engineers in New York City since structural steel was first introduced. Mr. Weiskopf is quoted:

"I have examined parts of the steel framework of many important buildings that were exposed by demolition or changes or extensions from ten to thirty years after erection and I have

never seen any deterioration from corrosion sufficient to threaten the safety of the building.

"Where water has collected around columns or girders or where the paint has been removed or was defective, or was originally omitted, there may be discoloration or light surface rust but seldom enough to perceptibly impair the cross-section except possibly in carelessly designed roof houses and the like where light steelwork is unprotected from the weather and is not kept well cleaned and painted.

"In the interior of ordinary closed buildings not exposed to smoke, steam or acid fumes, there is little need of painting to protect structural steel from corrosion. Beams and girders are protected by the floor; ceiling and roof construction and columns are usually enclosed so as to be dry and clean. Columns and beams built into outside thin brick walls may be exposed to moisture penetrating cracks or the porous bricks and should be thoroughly painted when erected. Foundation beams and girders should be thoroughly waterproofed by enclosing in permanent masonry, usually concrete, and should never need to be exposed for inspection. The properly designed and maintained steel framework of a building should never become seriously damaged by corrosion.

"Alterations made in the Bankers Trust and Stock Exchange Buildings, New York, exposed portions of the structural steel framework fully twenty years after their erection, and showed them in all cases to be in excellent condition.

"In the Harriman Bank Building, New York, three first story steel columns were removed after many years' service and none of the steel in them or elsewhere was corroded or showed any signs of deterioration. * * *

"In excavating for the Bankers Trust Building, New York, there were removed from the wet sand, pieces of 18-inch hollow steel piles that had been in service, unpainted, for twenty years, and were uninjured by corrosion."

A. J. Palmer, Engineer, George A. Fuller Company, says:

"A few years ago, about twenty-five years after its erection, the George A. Fuller Company made extensive alterations of a New York hotel, cutting out 14 columns and removing several hundred tons of structural steel, all of which was in excellent condition and showed no serious corrosion. A large part of the old I-beams were used again, probably 300 tons of them."



FORREST THEATRE, PHILADELPHIA, ERECTED IN 1905. DEMOLISHED IN 1927. BALCONY GIRDERS AND STEELWORK CLEAN AND FREE FROM CORROSION

Professor W. A. Boring, Columbia University, a prominent architect of New York City, states:

"I examined, unofficially, the steel which came out of a building torn down fifteen or twenty years ago at the corner of Broadway and Wall Street to make room for the present Bankers Trust Building. This steel had been in the building a great many years, and the bloom of the mill was on it still

when it was taken out. I am convinced that if steel is properly protected there is really no practical limit to its durability, if it is not overstressed."

Cass Gilbert, architect of the Woolworth Building, has an international reputation. Mr. Gilbert writes:

"The first condition necessary to the permanence of structural steel is that it shall be thoroughly protected from damage by water, fire, and chemical or electrical action, and such pro-



FORREST THEATRE, PHILADELPHIA, ERECTED IN 1905. DEMOLISHED IN 1927. STEELWORK WAS FOUND TO BE FREE FROM CORROSION

tection should be constantly and rigidly applied and maintained.

"Under usual conditions and with proper maintenance and attention I do not believe there is or will be occasion to fear injurious corrosion in structural steel. If such precautions are not taken the danger is constant and likely to cause serious trouble. Such trouble may not be immediately apparent and in fact may be unobserved for many years but ultimately will appear with results that are dangerous and difficult to overcome. The fact that this danger exists is not a sufficient reason for avoiding the use of structural steel but it is a sufficient reason for giving it the best possible protection.

"It has been my constant endeavor throughout my practice to maintain a very high standard in this respect, but I find that it is increasingly difficult to maintain this standard in view of the fact that the rapid methods of building now in vogue and the carelessness of owners, as well as of other contractors, tend to a lessening of vigilance in this matter. * * *

"The use of cinder concrete for floor construction constitutes, in my opinion, another danger. * * *

"I have noted several cases where deterioration in minor portions of the secondary steel framework has occurred due to the penetration of moisture from leakage or absorption. It could and should have been prevented if the building has been continuously under proper care with periodical inspection. * * *

"I have occasionally found examples of steel or iron corroded apparently by steam or gas where due precautions had not been taken to thoroughly exclude this form of attack and while these instances are not numerous, they are of such a character as to suggest that no precautions should be omitted to thoroughly protect the steelwork from moisture rising as well as from moisture descending. In short, all columns should be parged or thoroughly covered with cement as well as with paint and should be solidly encased in brick or other fireproof material. Where steelwork is embedded in concrete it should be thoroughly cleaned of initial rust. It is not necessary that it should be painted provided the cement is in direct contact with the steel."

E. A. Munger, New York Telephone Company, says:

"The regular construction of the New York Telephone Company includes annually from twelve to fifteen important buildings, that cost from \$200,000 to \$500,000 each and contain a large amount of structural steel, and are equipped with apparatus involving the constant use of a large quantity of electric current.

"In thirty years' experience with the construction and maintenance of these buildings, I have never found a single instance of straight electrolytic action. In buildings having important electric connections there is certain to be electric leakage but this has a much greater effect on any other metal than on steel so that the electrolysis of the latter, should it occur, would be negligible."

One of the most notable examples of immunity from corrosion, when no special pains were taken to prevent it, is afforded by the famous Madison Square Garden, one of the first buildings in which structural steel was used, which after thirty-five years' service showed not even a trace of corrosion in ninety-nine per cent of its steel beams, columns, girders, purlins, braces and especially in the great roof trusses over the arena which apparently had never been repainted since their erection. They were in absolutely perfect condition so that they were removed with especial care to provide for their re-erection in a new building.

The above and many other communications and reliable data make it evident that under ordinary conditions of construction and maintenance, such as are found in good buildings, adequate protection is generally afforded the structural steel framework. No fear need be had of serious corrosion except under specially adverse conditions, such as exposure to wet cinders, acid, steam, leaks, acid fumes, brine and other active destructive agencies which should and can be discovered and guarded against. In general, enclosing the steel of buildings in cement, concrete or masonry, and painting it are complete protection.

Bridges are more exposed to corrosion than almost any other steel structures because of the corrosive effects of smoke and locomotive blasts. They are entirely unenclosed and subject to the full effects of rain, snow, fogs and ice; the constant action of wet, salt air near the seacoast; leaking and draining from the floors, and often brine drippings from refrigerator cars; in addition to which some parts of the structure are somewhat inaccessible and others are entirely so, for painting.

Nevertheless, the universal testimony of a large number of the most experienced bridge engineers, and engineers of maintenance of ways, are unanimous in their statements that railroad bridges never, and highway bridges seldom, are replaced on account of deterioration from corrosion. Most of them consider that with regular standard cleaning and painting, corrosion is negligible. In high and dry climates many railroad bridges go unpainted for ten or fifteen years, and are still in excellent preservation. On the Pennsylvania Railroad alone there are more than 500 bridge spans still in service that have been in use for about thirty years and some of them still longer.

Since corrosion is practically negligible under such severe conditions there can be no hesitation in disregarding its effects for the enclosed and protected steel in well maintained buildings. This conclusion is well supported by the evidence here presented.

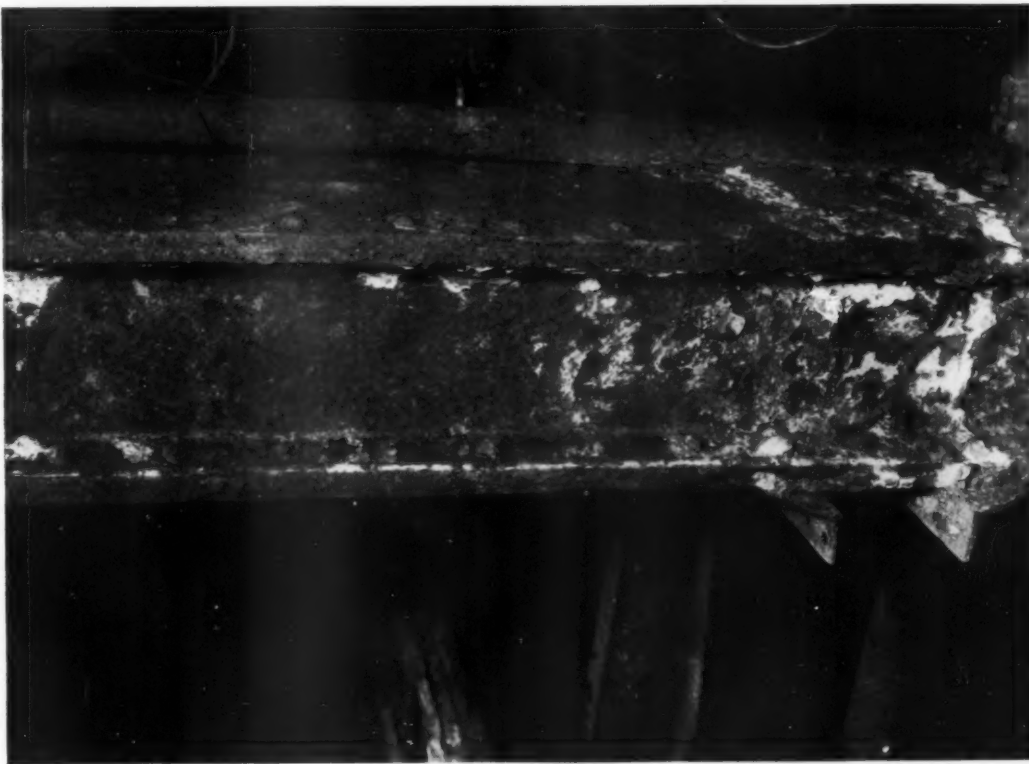
Notwithstanding the general resistance of structural steel to corrosion, often when ill protected, it is quite possible to injure or even destroy structural steel by subjecting it to dangerous conditions through ignorance, carelessness or neglect. The results of such misuse are fortunately slow enough so that they may always be detected by reasonable inspection and the corrosion checked and repaired.

The following examples of destructive corrosion should serve as warnings against imposing improper conditions and negligence. In all cases injury to the steel could have been absolutely prevented by reasonable care, attention, moderate expense of protection and maintenance.

One of the most impressive cases of rapid and extensive corrosion due to inexcusable neglect combined with poor design and lack of protection is that of a portion of the tower supporting the statue of Diana, Madison Square Garden, New York, described in THE AMERICAN ARCHITECT, issue of December 20, 1925. The upper portion of the structural steel framework, exposed to all the severities of weather at a high and unprotected elevation, was protected only by a copper sheathing which became damaged at a certain part of the tower only, and freely admitted water, which together with atmospheric moisture, perhaps combined with electrolytic action, practically destroyed that part of the structure. This part of the tower which was seldom, if ever, visited, never inspected, painted or repaired, was badly corroded. When it was removed, about thirty-five years after erection, it was in a dangerous condition and required very careful handling. The horizontal flanges of the circular plate girders, made of 3" x 4" angles, and portions of the web, had entirely disappeared. Great flakes of rust several inches in length and more than 1/8 inch thick could easily be detached. Parts of the metal furring and framework, to which the copper sheets were attached, had entirely disappeared.

The conditions were such as to invite rapid corrosion which might easily have been entirely prevented if the steel framework had originally been properly protected, frequently inspected and occasionally repainted.

Another instance is that of the steel framework supporting a large copper cornice which was anchored through terra cotta blocks. After many years the copper developed holes and open seams and admitted water freely which followed the steel tees and angles into the recesses in which they were placed. This caused them to corrode badly, forming such thick scales of rust that they forced open the



BOILER AND COAL ROOM WHERE WATER RAN OVER SLACK ILLINOIS BITUMINOUS COAL. DISSOLVED ACIDS PENETRATED THE FIREPROOFING AND DESTROYED THE PROTECTIVE PAINT ON THE STEELWORK, CAUSING CORROSION OF THE STEELWORK. UNDER THESE CONDITIONS STEEL MUST BE PROTECTED WITH AN ACID-PROOF COATING, AND THE FIREPROOFING EITHER OF TILE OR CONCRETE MUST BE ABSOLUTELY WATERPROOF AND ACID-RESISTING. NO CORROSION FOUND IN OTHER PARTS OF THE STRUCTURE

horizontal joints between the terra cotta blocks, allowing more water to enter from the face of the cornice and increasing the corrosion.

The I-beams carrying the concrete floor of an express platform in the New York Central Terminal Building, New York City, were continually wet with brine from fish barrels and, after a few years, large holes corroded through their flanges. They were still good enough to be retained in service after being cleaned and reinforced and protected from future brine drippings. This is the only case of dangerous corrosion that has occurred and there have been no other cases of even serious corrosion of the main framework which is kept painted and is in excellent condition.

In conclusion, it is found that, under favorable conditions, structural steel may exist for an indefinite period uninjured by corrosion.

When exposed to injurious conditions, structural steel, if unprotected, may be subject to rapid and serious deterioration by corrosion.

It is possible in all cases, where steel is a suitable material for use, to protect it so as to entirely prevent corrosion.

Structural steel cannot corrode except under the continued presence of moisture and oxygen.

In dry, warm air corrosion is negligible, except when exposed to acid fumes or gases.

The greatest factors for corrosion in buildings are moisture, acid fumes and corrosive liquids.

Moisture and injurious chemical reagents are dangerously maintained against the surface of steel by the accumulation and retention of dirt and debris that could be removed.

The best protection against corrosion is afforded by keeping the steel well cleaned and covered with

a perfect coating of satisfactory paint or by enclosing it in a waterproof covering of concrete.

When exposed to certain kinds of fumes and acids, steel should remain exposed to view.

In most cases, the corrosion of steel in buildings would become obvious before it endangered the safety of the structure.

The steel in the interior of dry, warm and clean buildings never corrodes, and scarcely needs paint as a protection.

The principal possible causes of corrosion in office buildings and the like are hasty construction, the laziness, incompetence and carelessness of workmen and the indifference, parsimony and sometimes ignorance of designers, superintendents and owners.

In general, it is entirely practicable, at reasonable cost, to eliminate all danger of deterioration from corrosion by intelligent and proper attention to the design, fabrication, erection, protection, inspection and maintenance of steel structures.

ARC WELDING COMPETITION

A COMPETITION, the purpose of which is to encourage improvements in the art of arc welding, and extend the application of the process, has recently been announced by the American Society of Mechanical Engineers. The three best papers will be awarded amounts of \$10,000, \$5,000 and \$2,500 as first, second and third prizes, furnished by the Lincoln Electric Company of Cleveland, Ohio. All papers to be eligible must be forwarded to the American Society of Mechanical Engineers, 29 West 39th Street, New York City, before January 1, 1928. For further information communications should be addressed to the Society at the above address.



SUSQUEHANNA RIVER BRIDGE AT HAVRE DE GRACE, MD. OPENED FOR RAILROAD TRAFFIC IN 1878 BY THE PENNSYLVANIA RAILROAD COMPANY. CONVERTED TO A HIGHWAY TOLL BRIDGE IN 1910. AN UPPER DECK ROADWAY INSTALLED FOR TWO-WAY TRAFFIC IN 1927. ORIGINAL METAL IN PERFECT CONDITION

A PRACTICAL TEST OF MODERN VAULT CONSTRUCTION

BANK vaults that have been demolished have usually been in use over so long a period that observation as to their resistance to wrecking would be of little value in view of present day construction methods. When a vault is removed even but a few years after its erection, it becomes an object of more than popular interest to bank vault engineers. Wrecking contractors' workmen operating in the open with every facility given them to easily "crack" the "strong box" have a distinct advantage over the bank vault burglar. Where the construction resists the efforts of the workmen to a marked degree, it may confidently be expected to resist the burglar even more effectively.

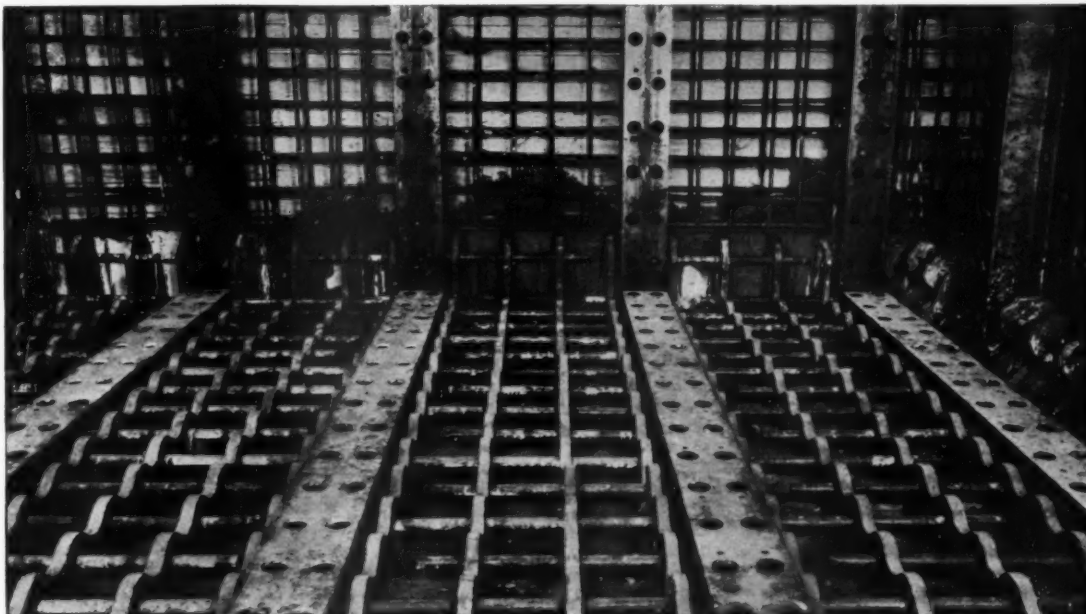
About six years ago, the Mechanics and Metals National Bank of New York required a vault of much larger capacity than the one then in use. It was decided to install a two story vault of modern construction. Separate foundations were necessary and many structural difficulties had to be overcome to install in the old building this vault weighing about 2,500,000 pounds. The engineering work was in charge of Frederick S. Holmes.

Following the recent merger of the Mechanics and Metals National Bank with the Chase National Bank of New York, plans made to demolish the old building and replace it with a thirty story structure included the removal of this comparatively new vault. The building was removed to the street level

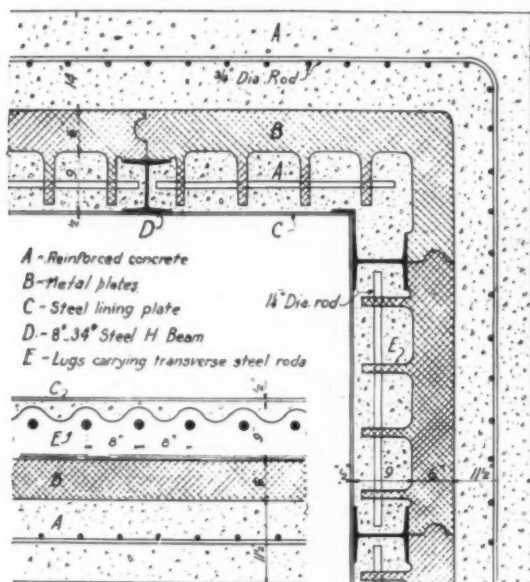
while work was begun on the vault. The vault construction, however, taxed the resources of the wreckers and required a period of about two months to completely demolish it.

It is understood that this vault was the first of this particular design to be erected. The walls 27 inches in thickness were composed of concrete, a lining of special metal cast in plates, steel columns and steel plates. The outside of the vault was built of concrete 14 inches thick reinforced horizontally and vertically with $\frac{3}{4}$ inch steel rods 6 inches on centers. Special metal cast in plates 6 inches thick about 30 inches high and 40 inches long were used as an interlining next to the concrete. This interlining was made of a matrix combined with an aggregate of magnesium oxide fused at a temperature of 8000° F. in an electric furnace. Eight inch steel "H" columns were placed inside as structural supports and located at the vertical joints of the plates. The plates and columns were so bolted together that no bolts were exposed on the outside. One-half inch steel plates bolted to the H columns formed the inner face or lining of the wall. The space between the steel plates and the special cast plates was filled with reinforced concrete. This reinforcement consisted of $1\frac{1}{4}$ inch rods extending through lugs cast on the plates for this purpose.

The contractor employed to remove the vault had anticipated cutting it apart in sections, convenient to



INTERIOR CONSTRUCTION OF RECENTLY DEMOLISHED VAULT OF THE MECHANICS AND METALS NATIONAL BANK, NEW YORK CITY. NOTE THE H COLUMNS, REINFORCEMENT OF CONCRETE CASING, METAL PLATES AND LUGS CARRYING THE TRANSVERSE $1\frac{1}{4}$ " STEEL RODS USED TO REINFORCE THE CONCRETE LINING OF THE INTERIOR



DETAILS OF CONSTRUCTION OF DEMOLISHED VAULT,
MECHANICS AND METALS NATIONAL BANK

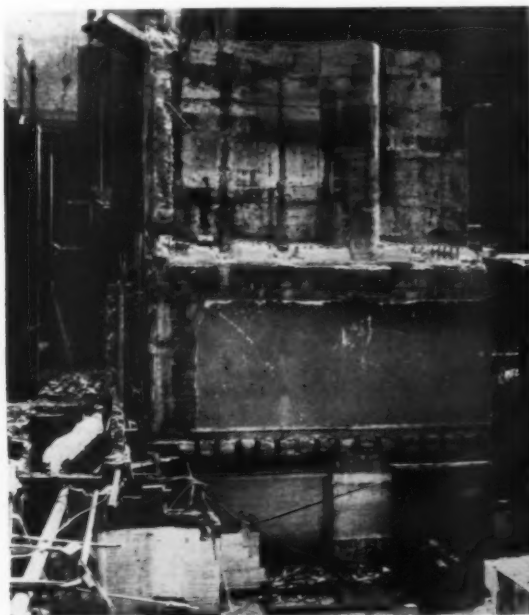
handle, by means of oxy-acetylene torches. This procedure proved impractical due to the resistance offered by the plates to drilling or burning by means

of the most powerful torch available. It was found necessary to first strip the concrete from the exterior and to then remove the $\frac{1}{2}$ inch steel plates forming the lining of the interior of the vault. The removal of these plates exposed the inner flanges of the H columns. The roof plates were next removed by cutting the exposed bolts from the inside. Sufficient concrete was removed from the inside wall to permit the cutting of the H columns with an oxy-acetylene torch. Hydraulic jacks of 2000-ton capacity were then used to lift out the cast plates. Three tiers of plates were removed at a time by tipping them off the wall by means of hydraulic jacks.

The accompanying illustrations will give the reader an intimate account of the method of construction used in the design of the vault of the Mechanics and Metals National Bank. The difficulties encountered in demolishing this vault would make it appear that this type of construction may be regarded as highly resistant to attack from the outside.

PARIS MASONRY SCHOOL

A TRADE school of masonry, stonecutting and reinforced concrete has recently been established in Paris. It provides students with sleeping quarters at 1 franc a night and meals at 3 francs 50 centimes each. Payment is made for student labor.



VAULT AT THE MECHANICS AND METALS NATIONAL BANK, NEW YORK CITY

AT LEFT: DEMOLITION OF VAULT IN PROGRESS ON MARCH 18, 1927. VAULT WAS TWO STORIES HIGH, 22' x 23' x 30' OVERALL. AT THE TIME THE ABOVE PHOTOGRAPH WAS TAKEN THE EXTERIOR CONCRETE CASING HAD BEEN STRIPPED FROM THE UPPER PORTION OF THE VAULT AND THE METAL PLATES OF THE INNER LINING ARE SEEN EXPOSED TO VIEW. AT RIGHT: VIEW OF INTERIOR CONSTRUCTION OF VAULT TAKEN AT THE TIME THE VAULT WAS BUILT. METAL PLATES AND LUGS ARE SEEN SET IN POSITION BEFORE REINFORCING BARS HAD BEEN INSERTED. ONE SECTION OF FLOOR AT EXTREME RIGHT HAD BEEN PLACED. THE H COLUMNS AND ROOF SUPPORTS ARE CLEARLY SEEN



The Savoy Plaza

McKim, Mead & White, Architects;
Tenney & Olms, Consulting Engineers;
George A. Fuller Co., General Contractors;
Jarcho Brothers, Plumbing Contractors.

THE Savoy Plaza Hotel, New York, will be permanently protected from rusty water by the use of Anaconda Brass Pipe for hot and cold water lines.

Jarcho Brothers, plumbing contractors, report that the use of this lifelong pipe with brass fittings added only 5.69% to the cost of the plumbing installation over the cost of the best grade of corrodible pipe and fittings. Anaconda Brass Pipe is trade-marked and guaranteed by The American Brass Company, General Offices: Waterbury, Connecticut. Offices and Agencies in Principal Cities.

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THE LAW AS TO ARCHITECTURE

By CLINTON H. BLAKE, JR., of the New York Bar

AN architect expressed to me the other day a very interesting point of view with respect to the recommendations which I have made from time to time as to the advisability of a contract between the architect and the client and with respect to my statement of the law as to the ownership of plans.

The position which this architect took and which is apparently shared by at least a substantial number of other architects is as follows: With respect to the plans, he claims that from time immemorial it has been the recognized custom of the profession that the plans belong to the architect and that it is ridiculous and irritating to the profession to state that the legal rule is otherwise. With respect to the necessity of a contract, he claims that the execution of a written contract between client and architect tends to lessen the dignity of the profession and to treat it as a business and not as a profession. Both of these criticisms are perfectly understandable and deserve to be answered. The answer to each of them is, to my mind, conclusive and entirely clear.

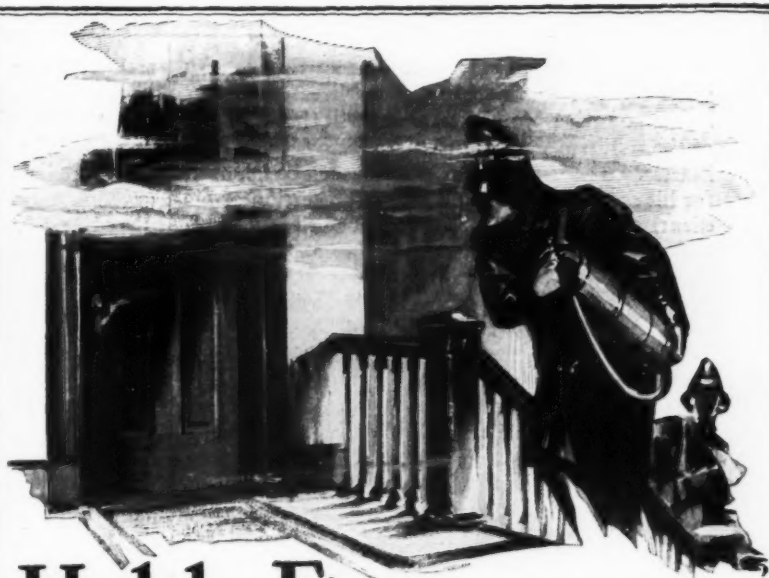
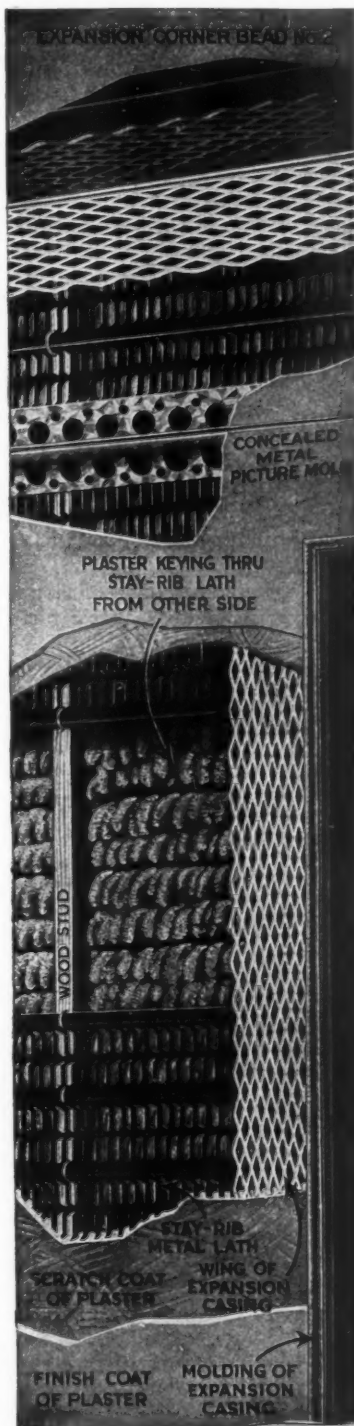
It is true that the custom of the profession has for years, in any event, been to treat the plans as the property of the architect. The plain and unescapable difficulty is that the courts, in passing on the question of the ownership of the plans, have disregarded any such practice and have held distinctly that the plans, in the absence of a special agreement to the contrary, belong to the client who orders and pays for them. In other words, they treat them as they would any other merchandise or product of human intelligence and work. For the members of the profession to shut their eyes to this legal proposition would be extremely foolish. The retention of ownership in the plans by the architect is a matter of real importance, and the custom in the profession on this point was based upon sound reasons. The architect who proceeds with his work, without an agreement that the plans shall be his property, deliberately runs the risk of having the owner invoke these legal decisions against him. I see no reason why any architect ordinarily should run this risk and every reason, in the ordinary case, why, in common sense and sound judgment, he should protect himself against it and secure a simple and proper agreement recognizing his ownership of the plans which he creates. Otherwise, he will find that, if the issue is raised by one of his clients, at any time, the court will rule that his claimed ownership of the plans is no more sacred than the ownership of other property and that the client will be considered as the purchaser of the plans, exactly as the purchaser of a painting or other work of art or of any commercial object is considered as having acquired title to it.

It is not necessary, although it is advisable, that the agreement covering the plan ownership should be in writing. The difficulty with a verbal agreement is that it is less conclusive and more difficult of convincing proof. It is not necessary, either, that the written agreement should be at all formal in its character. If the architect objects to the Institute form of agreement or any other similar form, he can cover the point by an exchange of letters. If he is really interested in maintaining the position of the profession with respect to the ownership of plans, however, he will in every case take the trouble to cover this point by an agreement, formal or informal, sufficiently definite to make clear the fact that the plans belong to him and that the ownership of them does not pass to the client at any stage of the proceedings.

With respect to the second point which my friend raises, namely, the effect of a contract on the dignity of the profession, I frankly disagree. I can see nothing cheapening to the profession in an agreement outlining the work which the architect is to do and the terms upon which it is to be done. Just as it is necessary to cover by agreement the question of the ownership of the plans, so, in my view, is it necessary to cover the many other points with which the contract between the client and the architect ordinarily deals. If one go to an artist and order a painting, the artist does not in any way lose his status as such or cheapen his profession if, before proceeding with the work, he stipulates the price to be paid for it. The agreement as to this may be oral or it may be written. The principle involved remains the same. The very fact that the architect is a professional man places upon him an obligation to his client to make clear to the latter the basis upon which his work is to be done and the agreement covering their professional relationship.

In addition to all of this, whether the practicing architect likes it or dislikes it, he will, in my opinion, be exceedingly foolish to close his eyes to the fact that the practice of architecture today involves many business questions and considerations. The successful architect today must be more than an artist. He must have, himself, or someone in his organization certainly must have, good business sense and judgment, and he must make use of these qualities himself or through others, both for his own protection and for the protection of his clients' interests.

The American Institute of Architects has very clearly indicated its sympathy with the idea of a contract between architect and client by preparing and making available to the profession its standard form of this contract and its schedule of minimum charges. There surely can be nothing unprofessional



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in the practicing architect employing this or any other form of contract. I cannot believe that either layman or other professional man will think the less of the architect or look upon him as any less wholeheartedly a professional man, because he seeks, both for his own protection and for the protection of his client, to avoid misunderstandings with respect to the services which he is called upon to perform, and, by reducing the terms of his employment to definite form, makes clear to all concerned the basis on which his professional services are rendered.

The discussion is an interesting one. If any of the readers of THE AMERICAN ARCHITECT care to express themselves further with respect to either the ethical or practical side of the questions involved, I shall be glad to have them do so. A free discussion of points such as this is of benefit to all concerned. They are of sufficient importance to every practicing architect to merit his careful thought and consideration. I shall be glad to give such additional space as I can in this department to further discussion of any new considerations which may be urged or by way of clarification or elaboration of points of view already considered, if this be necessary. I should dislike exceedingly to see any architect fail to protect himself by a proper agreement through a misapprehension either of his legal rights with respect to the plans or of his professional status.

LEGAL DECISIONS

THE plaintiff prepared plans for the defendant, and the defendant paid for them, after he had gone over them with the contractor, who later erected the building. Six months later, the construction of the building was begun and a new contract was made between the architect and the defendant for the supervision of the building by the architect, including the supervision of heating and plumbing work, which was not provided for in the original plans and specifications, for which payment had been made. The client himself watched the erection of the building daily, and made a contract with the plumber and steamfitter for the installation of an oil heating equipment. This was improperly located, some of the evidence showed, and because its base was set too high, a proper distribution of heat throughout the building was not obtained. This evidence was contradicted by the architect, however, who stated that he saw the heating plant after it had been installed and believed that it was placed at a proper level. The trial court submitted to the jury, as a question of fact, the question of whether the

architect had or had not been negligent, and the jury returned a verdict for the architect for the amount of the commission which he claimed under the agreement for the supervision of the work. On appeal, the court held that, while there was a considerable question whether the boiler should not have been placed at a lower level, yet upon the evidence, the defect, in the court's opinion, was not so apparent to a qualified observer as to necessitate a finding, as a matter of law, that the architect had been guilty of negligence by failing to insist that the boiler be installed at a lower level. The court further held that the first transaction under which the plans had been prepared and paid for was complete and that the defendant was not entitled to recoup, as against the present claim of the architect, for the defects which he claimed characterized the plans previously prepared. The court pointed out that he had accepted them on the judgment of his contractor and after an examination, and that it was too late, after six months had gone by, to object to details which were apparent on the plans at the time they were presented and accepted and paid for by him.

Wolf v. Dimond, 129 Atlantic 342.

PLAINTIFFS sued the defendant, an architect, for damages which they claimed they had suffered as a result of his negligence in the performance of his services. The two chief items of damage claimed were that the building had been so erected that the eave overlapped the eave of an adjoining building, also owned by the defendant, and that the defendant had negligently allowed the use of 5½ inch flooring instead of 4½ inch in certain instances, as called for by the specifications.

The court found that the overlapping of the eaves would not affect the selling value of the premises to any great extent, and that it might have a certain value in keeping the space between the houses and their opposing walls dry. The court also found that, inasmuch as the clients did not complain of this while the building was being erected, their allowance for damage on this item should be very moderate. The court found that, with respect to the flooring, the wider boards would be more liable to warp and that some allowance should be made. The court finally set off the commission due the architect against the claim made by the client on the other items and held that neither side was entitled to recover as against the other.

MacDonald v. Edey, 3 Dominion Law Reports 893.



WEBSTER HALL APARTMENT HOTEL
Pittsburgh, Pennsylvania

Architect—HENRY HORNOSTEL
Contractors—EVERETT WINTERS COMPANY

Carney Cement was used for all the mortar in this project.

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A MOVEMENT FOR CLOSER RELATIONSHIP BETWEEN ARCHITECTURAL DRAFTSMEN AND CRAFTSMEN

EXPEDITIONS of the drafting staffs in the offices of New York's architects to the shops and studios of the arts and crafts involved in the production of buildings will be made under the direction of the New York Chapter of the A.I.A.

The aim is to establish closer relationships between the architectural draftsmen and the craftsmen of the building trades, according to a report of the Chapter's Committee on Education.

Better buildings, it is believed, will result from schooling the draftsmen in all the realities of building through a first-hand study of the problems of the craftsmen.

"We are convinced," the report states, "that a constant effort must be made to assure contact between draftsmen and craftsmen, in order not only to maintain the vitality of our art, but to prevent a vast amount of wasted effort in the drafting room, due to a lack of understanding of the possibilities and limitation of materials and workmanship.

"The ignorance of the average draftsman of such operations as the sawing, planing and polishing of stone and marbles, the modeling and casting of bronze, or the forging of iron is abysmal, and is expressed in many an expensive detail drawing.

"There is in all architects' offices the constant tendency, produced by pressure of work, to hold the men so closely to the production of drawings that we believe we can discern the growth of a generation of designers and detailers who are losing all contacts with the materials of architectural construction, and with the arts and crafts which prepare them for use in our buildings.

"We have particular reference to the artistic aspects of our work, for we realize that the structural and mechanical aspects are most often handled by men who actually superintend at least a portion of their work in the field, and so maintain contact with the realities of production.

"Members of the New York Chapter of The American Institute of Architects are asked to arrange for the entire drafting force working on a building to visit, at least once during the course of the job, all the shops such as cut stone, terra cotta, marble and mosaic, decorative plastering, modeling and sculpture, bronze and ironwork, woodworking, decorative and mural painting, furniture and draperies, where work is being executed for that operation, when these shops are within a reasonable radius of travel.

"We believe that the knowledge of the possibilities and limitations of materials and craftsmanship which will result from the carrying out of this plan will be most helpful to the art of architecture and all allied arts and crafts.

"To make a definite start on this program, the Committee is now securing the co-operation of a selected list of shops and studios, within convenient reach of the offices, all representing high standards of artistic achievement, where members of the architects' staffs will be welcome visitors."

Shops and studios with which arrangements for expeditions have already been made include those devoted to marble and stone, metalwork and lighting fixtures, cabinet work and furniture, modeling, carving, plastering and art stone, glass, mosaics, sculpture, mural paintings and decorative design, leather, landscaping, and textiles.

The plan is to send the draftsmen in groups to the shops. There will be none of the architects present, so the draftsmen may talk freely with the craftsmen. There is no question about the willingness of the craftsmen to co-operate.

An unexpectedly cordial response has been received both from the architects of the New York Chapter and from craftsmen in the building trades. Over thirty architectural offices have replied and will send probably double that number of men to the shops for one or two visits a month. All of the craftsmen notified have responded favorably. Many of the City's most prominent architects are supporting the plan.

No matter how fine a design is, in the last analysis it cannot be entirely successful unless it is carried out with an inspired and accurate execution of the smallest details.

HENRY RUTGERS MARSHALL, F.A.I.A., DEAD

HENRY RUTGERS MARSHALL, F.A.I.A., died on May 2nd after a brief illness. Mr. Marshall was seventy-five years old. He was born in New York City on July 22, 1852, the son of Henry Perry Marshall and Cornelia E. (Conrad) Marshall. He was graduated with the degree of A.B., from Columbia in 1873, and three years later he received the degree of A.M., at the same institution. The degree of L.H.D. was conferred upon him by Rutgers in 1904, and in 1910 Hobart made him a Doctor of Science.

In 1878 he began practice as an architect, and in 1881 he married Miss Julia R. Gilman, who died in 1888. After the death of his wife he turned to university work, and became lecturer on aesthetics at Columbia University in 1894-'95. The next two years he spent as lecturer in the same subject at Yale, and in 1915-'17 he lectured at Princeton University.

During many years he served as a member of the New York Art Commission. In 1919, fourteen



Memorial Art Gallery, Rochester, New York

McKim, Mead & White, Architects

Zenitherm Company, Inc., Newark, New Jersey

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years after the expiration of his term as commissioner, he was offered the position of secretary to the Municipal Art Commission, which he accepted. He held this position until the day of his death and virtually became the executive of the commission.

Throughout his long and useful life, Mr. Marshall gave valuable service, but none of more lasting nature than his well directed efforts to maintain the artistic integrity of New York City. Under his direction, the Municipal Art Society became a model for every similar organization in the country. He stood bravely in the defense of municipal art, and that New York has not been compelled to receive statues, tablets and similar features, offered by well meaning but often misguided groups or individuals, was largely due to his untiring effort. He will be greatly missed.

THE ELEVENTH INTERNATIONAL CONGRESS OF ARCHITECTS

AT A recent meeting of the permanent committee of the International Congress of Architects held in Paris, it was decided to hold the Eleventh International Congress in Amsterdam and The Hague from August 29th to September 4th. This will be the first truly International Congress of Architects held since the war.

The Tenth Congress, held in Brussels in 1922, although international, was confined to the allied and friendly powers, but to the coming Congress Germany and Austria, in fact all of the countries of the world, are cordially invited. It is fitting that such a meeting should be held in a neutral country like Holland. The architects of the Netherlands have long desired this meeting and are exerting every effort to make it a notable gathering and one of value. Five of the subjects thus far decided upon to be discussed are:

1. International Competitions
2. Legal Protection of the Title of Architect
3. Architectural Copyright
4. Architecture as Practiced by the Architect and by the Architect-Builder
5. Artistic Development of Architecture since 1900

A more detailed program will be published later.

The International Congress of Architects was organized in Paris in 1867, where the first three meetings were held. The fourth was held in Brussels in 1897, the fifth in Paris in 1900, the sixth in Madrid, in 1904, the seventh in London in 1906, the eighth in Vienna in 1908, the ninth in Rome in 1911, and the tenth in Brussels in 1922.

These great international gatherings have brought architects together from all parts of the world to discuss matters of great importance to the entire profession. They have lasted from a week to ten days and, although not unlike conventions of

The American Institute of Architects, are naturally on a much larger scale, and being in countries of great architectural interest, the visits and excursions to architectural monuments and the brilliant receptions and entertainments offered by the various governments—for these Congresses are always under the auspices of the country in which they are held—make these gatherings of thrilling interest to all who are able to attend. These meetings are truly inspiring and all American architects are urged to attend the coming Congress.

Those expecting to be present will kindly communicate with the Secretary of the American Section, Geo. Oakley Totten, Jr., 808 17th Street, Washington, D. C.

The American Committee of the International Congress of Architects, comprises:

Cass Gilbert, Chairman
 William A. Boring, F.A.I.A.
 Glenn Brown, F.A.I.A.
 J. Monroe Hewlett, F.A.I.A.
 William Rutherford Mead, F.A.I.A.
 C. Howard Walker, F.A.I.A.
 C. C. Zantzinger, F.A.I.A.
 Geo. Oakley Totten, Jr., M.A.I.A., Secretary

ELECTED TO MEMBERSHIP OF NATIONAL ACADEMY OF DESIGN

ANNOUNCEMENT was recently made of the election of thirteen men and women artists as associate members of the National Academy of Design. Those who may now write A. N. A. after their names are: painters, George M. Bruestle, Maurice Fromkes, New York; Lillian Westcott Hale, Charles Hopkinson, Marie Danforth Page, Boston; Douglass Parshall, Santa Barbara, Cal.; E. K. K. Wetherill, New York; sculptors, John J. Gregory, Lee Lawrie, New York; Albert Laessle, Philadelphia; architects, Benjamin W. Morris, Egerton Swartwout, New York; Glenn Brown, Washington.

WEST COAST WOODS ARCHITECTURAL COMPETITION

FOLLOWING are questions on a number of points submitted by competitors, together with the answers by J. Lister Holmes, professional adviser, in the West Coast Woods Architectural Competition:

Q. Have any arrangements been made for passing plans through the Canadian and American customs houses?

A. Arrangements have been made for R. H. H. Alexander, Secretary, British Columbia Lumber & Shingle Mfrs., Ltd., 917 Metropolitan Building, Vancouver, British Columbia, to act as the representative of the West Coast Lumber Bureau in connection with the West Coast Woods Architectural

350,000 sq. ft. of MEYER Steelforms



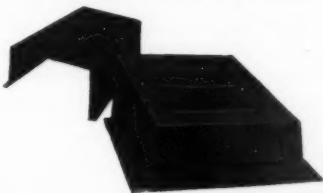
"The Wardell,"
Detroit Apartment Hotel—
Weston & Ellington,
Architects, Bryant & Det-
wiler Company,
Contractors.

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THE general contract for "The Wardell" at Detroit was let January 13, 1926, and the building was ready for occupancy September 1, 1926. This speed of erection was made possible by the use of Meyer Removable Steelforms in the joist floor construction. The simple centering required for this particular form makes possible the quick removal and re-use of the forms from floor to floor.

It is thru such performances and their saving in concrete, steel, formwork, time and labor, that these heavy 16 gauge Meyer Steelforms are winning recognition for their economy throughout the entire Middle West.

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Ceco Reinforcing bars are of the most efficient type. Their bond resisting value being determined by the lugs placed at right angles to the axis of the Bars. Tested by Robt. W. Hunt & Co.



Our Engineering department is technically trained, ready to assist architects and contractors in designing the reinforced concrete portion of building work.



Our Free "Handbook of Fireproof Construction" explains in detail the advantages of Ceco products. Address our Omaha office, Dept. 271

Competition. All architects in Canada who participate in the Competition are requested to send their designs to Mr. Alexander in Vancouver, who will see that the designs are passed through the customs and delivered in proper form to the professional adviser in Seattle. All those in Canada who enter the Competition should have their designs in the hands of Mr. Alexander in Vancouver not later than 4 P. M., July 20, 1927, so as to allow sufficient time for delivery of the drawings to the professional adviser before the closing date.

Q. Shall the perspective drawing be clear and sharp or in sketch form?

A. This is at the option of the competitor.

Q. Are there any obligations in entering this competition?

A. None whatever.

Q. Is it permissible for two persons to submit a joint drawing or one person two drawings?

A. Two persons may join in submitting one drawing or any competitor may submit as many as he or she chooses.

Q. Does the delivery refer to mailing time or delivery in Seattle?

A. No drawing received later than 5 P. M., August 1, 1927, at the office of the professional adviser, in Seattle, will be accepted.

WHEAT STRAW TO BE USED IN A NEW INSULATING BOARD

WE have recently received announcement of the formation of a company at St. Joseph, Mo., for the purpose of manufacturing insulating board from wheat straw.

The mill, which is now being built within a few miles of the geographical center of the United States, will be of modern concrete and steel construction, 935 feet long by 200 feet wide, equipped with the latest machinery having a capacity of more than 100,000 square feet of finished insulating board per day.

The project is said to be the result of experiments conducted by Dr. Sidney D. Wells, who for many years was in charge of the Forest Products Laboratory at Madison, Wis. Insulating board is used extensively for building purposes and in the manufacture of refrigeration devices. The greater amount of that manufactured at the present time is made from cork, sugar cane, wood pulp, flax and other fibres. It is claimed that board made from straw has a very high rating as an insulating material.

The list of officers, directors and stockholders appended to the announcement includes many names of men of national prominence in business and financial affairs.

It is stated that the new mill will be in operation about July 1st of this year.

PERSONALS

Voorhees, Gmelin & Walker, architects, announce the removal of their offices from 342 Madison Avenue to 101 Park Avenue, New York City.

L. O. Berg, architect, of Mitchell, S. D., has moved to 1924 Broadway, Oakland, Calif., where he is engaged in the practice of ecclesiastical architecture.

Clarence W. George, architect, announces the opening of his offices at 203 Becker Building, Aberdeen, Wash. Manufacturers are requested to send catalogs and samples.

McLean & Iarrobino, architects, have opened an office at 30-15 Broadway, Long Island City, N. Y., for the practice of architecture. Manufacturers' catalogs and samples are requested.

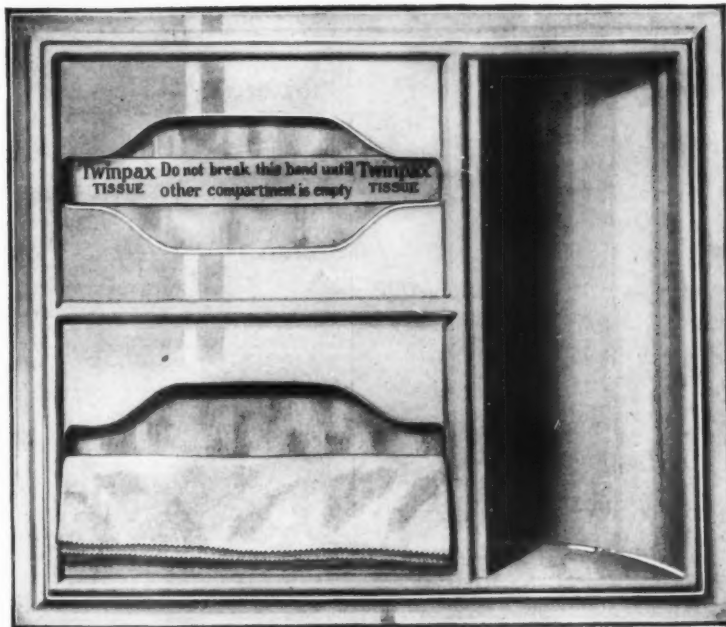
Hewitt-Miller-Shirey, Inc., are now installed in their new quarters at 609 Petroleum Securities Building, Los Angeles, Calif., where they will continue the practice of architecture and engineering.

T. Firth Lockwood, architect, of Columbus, Georgia, has opened branch offices in the Royal Building, Albany, Georgia, under the management of L. Doyle Raines. Manufacturers are requested to send literature to the Albany office.

A new partnership has been formed for the practice of architecture, known as the firm of Kenneth M. Murchison, with offices in the Architects' Building, 101 Park Avenue, New York City. The partners are Kenneth M. Murchison, F.A.I.A., Bruce Price Post and J. Hunter Field.

Hugo E. Magnuson, formerly senior member of the firm of Magnuson & Kleinert, architects and engineers, 250 Park Avenue, has withdrawn from the above partnership and has formed an association with Leroy P. Ward and Harry J. Kerrigan with offices in the Graybar Building, New York City.

Everett H. Merrill and John C. Rahn announce the consolidation of their interests under the firm name of Merrill & Rahn, architects, engineers and contractors, and the removal of offices from 4475 Santa Monica Boulevard to Suite 617 Financial Center Building, 704 South Spring Street, Los Angeles, Calif.



A Reserve Package of Toilet Tissue is Always at Hand in this Fixture

THIS new double chamber fixture insures a continuous supply of toilet tissue. Either chamber may be filled when empty.

Illustration shows recessed type, made of high quality white tile. Fixture may also be had in any desired color.

Twinpax fixtures are also made in projecting type to

be attached to wall or tiling.

Twinpax fixtures are made especially to dispense Twinpax toilet tissue, recognized for its superior quality. Because of the universal demand Twinpax toilet tissue is easily obtainable.

Architects are invited to send for blue prints and full information regarding Twinpax fixtures.

NATIONAL PAPER PRODUCTS COMPANY
CARTHAGE, N. Y.

Architectural Service Division

Our A. I. A. Filing Catalog will be mailed upon request.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

NEW OFFICERS OF THE ARCHITECTURAL LEAGUE
OF NEW YORK

AT the annual meeting of The Architectural League of New York, held on May 5, the following were inaugurated:

President, Kenneth M. Murchison
1st Vice President, Eugene Savage
2nd Vice President, Chester Beach
3rd Vice President, A. F. Brinckerhoff
4th Vice President, Leon V. Solon
Secretary, Walter D. Blair
Treasurer, F. Livingston Pell

Executive Committee, Term Expiring May, 1930

Alfred Geiffert, Jr. C. Paul Jennewein
Francis L. S. Mayers

Mr. Murchison, the new President, is also the President of the Society of Beaux-Arts Architects.

YEAR BOOK OF THE SOCIETY OF ARCHITECTS

THE sixteenth annual printing of the Year Book of the New York Society of Architects has been received. Ever since its first volume was issued, we have felt considerable satisfaction in commenting on its usefulness, the care that has marked its compilation and the many pages of valuable information it yearly contains. This year's printing is a book with flexible leather covers, and contains 460 pages of printed matter. It is a compendium of all the essential laws, rules and regulations as referring to building in the State of New York. There are many things an architect can learn from this manual that saves time and trouble in hunting down. For example, it presents the building code and regulations as to zoning in New York. A special table sets forth the width of streets on Manhattan Island, mechanics' lien law, registration of architects and the tenement house law.

MODERN ARCHITECTURE ASSAILED IN ENGLAND

PRIME MINISTER STANLEY BALDWIN emerged recently as an uncompromising critic of modern English house architecture and sounded a call to Britons to return to the old Tudor cottages of two centuries ago. "The beautiful old cottages of England," he told the Royal Society of Arts, "seem to have risen with a spontaneity wholly lacking in those abortions of red brick and slate which have risen over the country since the industrial era began." Good housing, the Prime Minister asserted, was a great civilizing power, and England had been neglecting it in the last few generations. "We want to bring the old houses back into the main stream of the national life," he said.

Mr. Baldwin moved a resolution supporting the action begun by the Royal Society of Arts to preserve the ancient cottage architecture and pledging assistance in the establishment of a fund for this purpose. Sir Alfred Mond, M. P., denounced the "denuding" of the English countryside of its "pictures, statuary and very stones" by Americans.

MOVE IN FRANCE TO PREVENT SALE OF ANTIQUES
TO UNITED STATES

AROUSSED by the transfer to the United States of many works of art, chateaux and other objects which could be classed as historic public monuments, Henri Auriol, Deputy for Haute Garonne, has, it is learned, recently prepared a measure which, if approved, will prevent such sales to Americans and other foreigners.

M. Auriol says that 32,000 historic monuments in France are going into decay for lack of State funds to keep them up. Antique dealers are reaping huge profits through sales to American millionaires and others. The bill would definitely place ruined chateaux, objects of art, etc., in the category of State treasures and authorize the seizure at ports of any of these destined for shipment abroad.

"France has already been despoiled of many of her priceless works of art and it is high time that an end was put to this shameful practice," said M. Auriol.

OLD CHIMNEYS

A GERMAN correspondent, whose letter I published some time ago, writes *Astragal* in *The Architects' Journal*, London, declared that buildings have souls. I have never doubted it. Since they are born, since they exist for a certain length of time, suffer old age, and ultimately die, they may be said to live. They must breathe, because when their various structural materials have lost their porosity, they decay and are turned to dust. Old chimneys lean to the northeast, as if to offer up smoky incense to some Mecca there. This I have been assured again and again, but never was any explanation vouchsafed. And now I have found it, and here it is: The southwest face of a chimney becomes hotter during the day than the northeast face; then at nightfall the sudden marked drop in temperature develops greater shrinkage. This phenomenon may be regarded as being like the progressive lengthening of a bar of cast iron that is alternately heated and cooled. If brick or stone is alternately heated and cooled, it probably expands progressively up to a certain point, causing the southwest face of a chimney to increase in height. Old chimneys *should*, therefore, lean to the northeast.

THE AMERICAN ARCHITECT

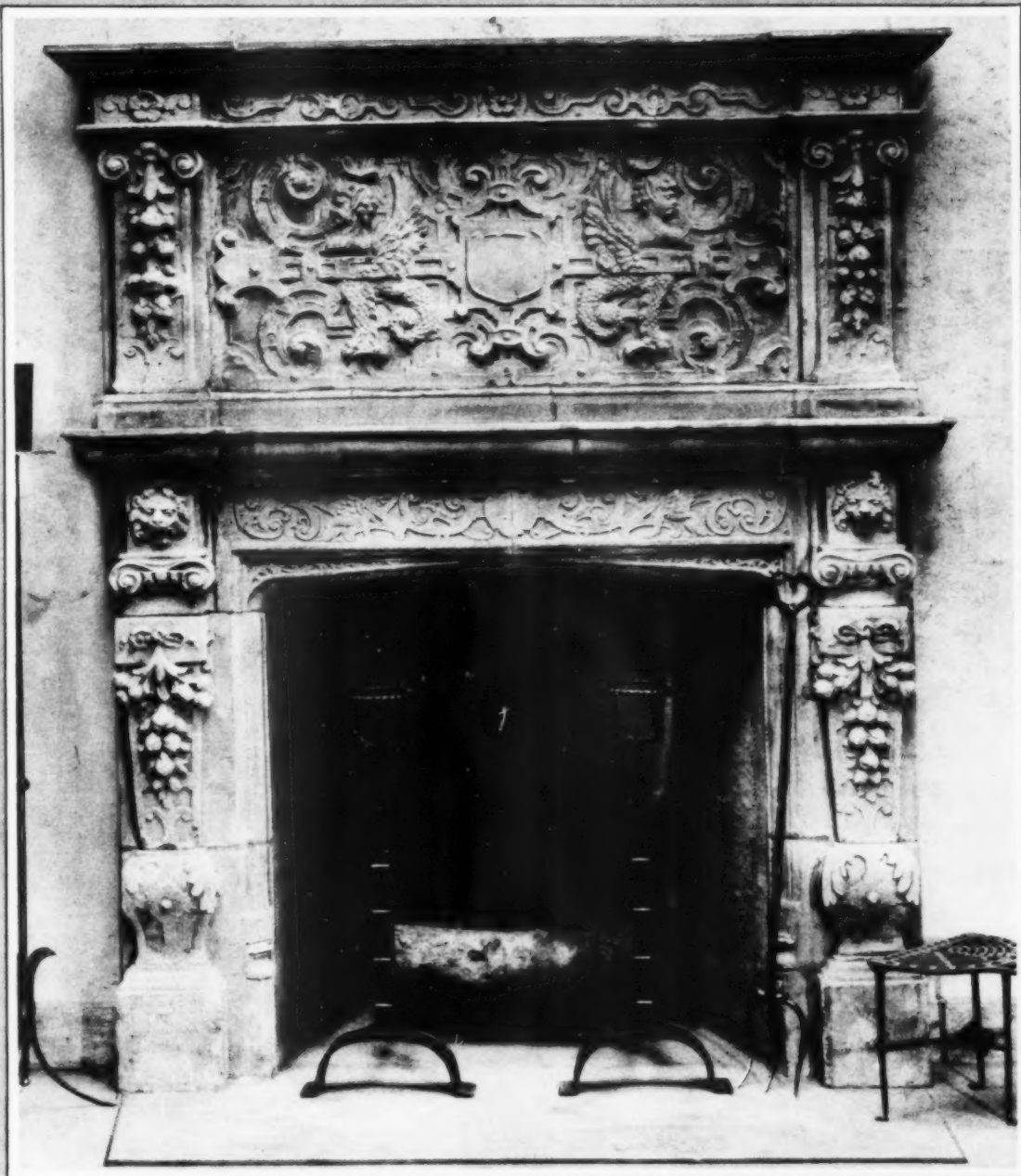
IN TWO PARTS

PART II

MAY 20, 1927

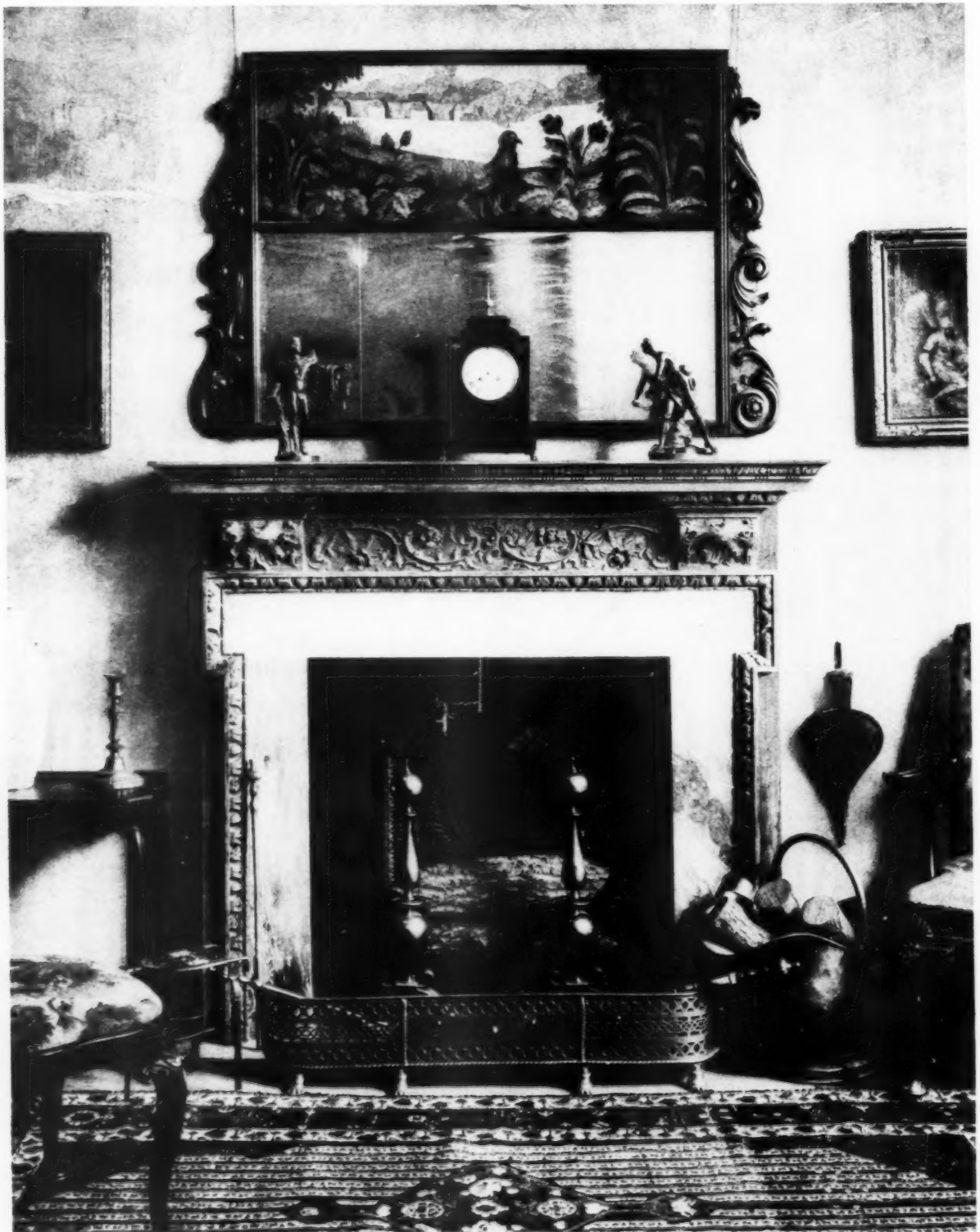
TOPICAL ARCHITECTURE SECTION

←————→
MANTELS



ORIGINAL CARVED STONE MANTEL OF THE JACOBEOAN PERIOD

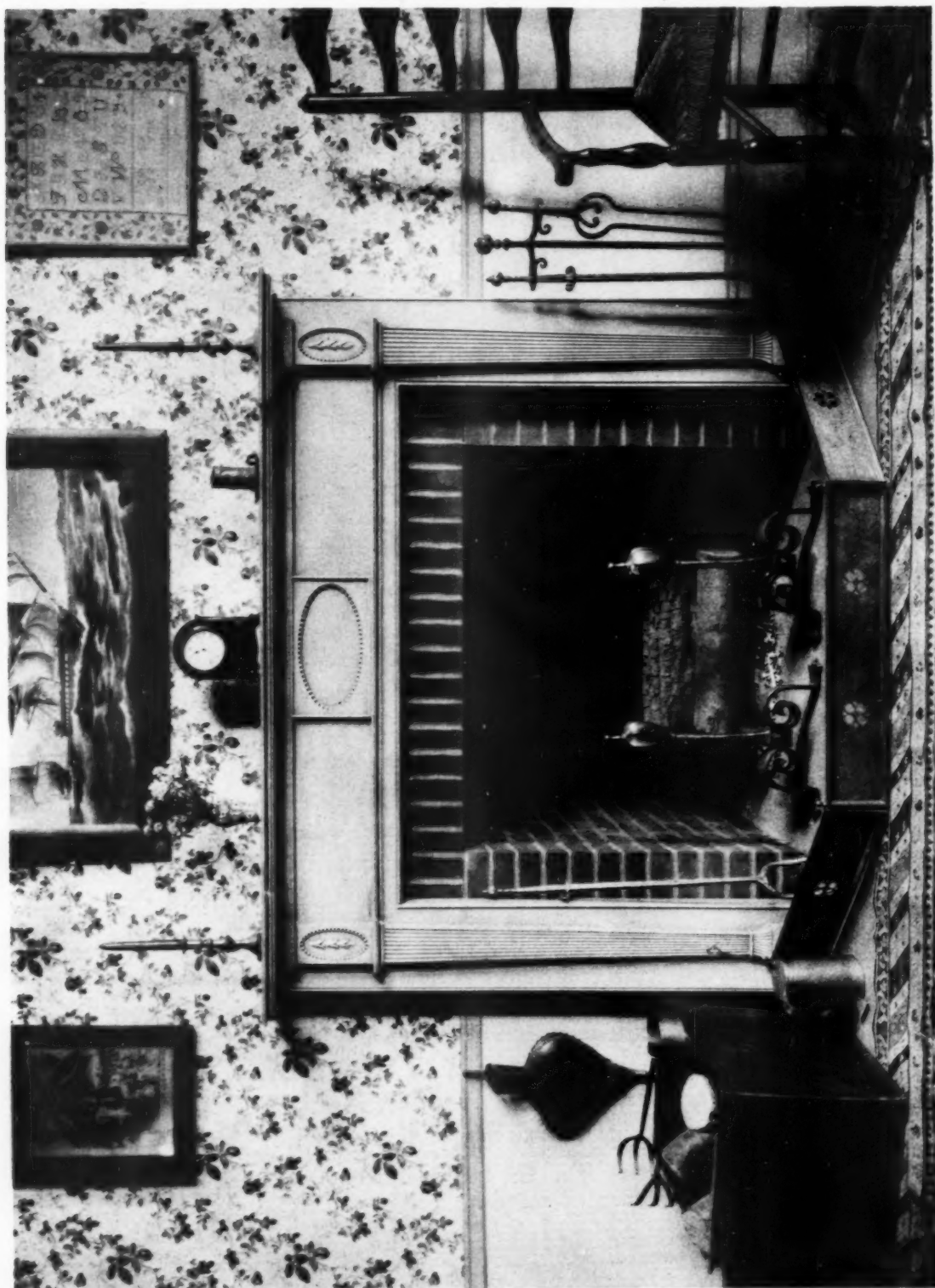
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AN ORIGINAL GEORGIAN MANTEL IN NATURAL WOOD
WITH MARBLE FACINGS AND HEARTH



TYPICAL WOOD JACOBEOAN MANTEL AND OVERMANTEL
WITH STONE FACINGS



AN ORIGINAL COLONIAL MANTEL OF SIMPLE LINES AND INFORMAL PROPORTIONS

THE PUBLISHERS' PAGE

TO the man on the side lines the big outstanding fact of the recent convention of The American Institute of Architects was the public recognition upon the part of the Institute of the place which related arts and industries have in the successful achievement of creditable architectural work.

The keynote of this recognition was sounded by President Milton B. Medary in his opening address. The theme was further developed by C. Grant La Farge as chairman of the Committee on Allied Arts. Various strains were amplified by members of the allied arts and crafts in the persons of Flavel Shurtleff, President of The American Society of Landscape Architects, Arthur Covey for the mural painters, John Gregory, sculptor, and Lorentz Kleiser, Vice-President of the Arts and Crafts Club of New York. The final chord was struck by A. K. Baylor of the General Electric Company, speaking on behalf of the Producers' Council in his luncheon talk to the Institute on "Give and Take."

The essence of the discussion was that the architect, while continuing to be the guiding genius of all good building, could not reach his highest achievement without recognizing and drawing upon the experience and knowledge of all those related in any way to the structure he envisions.

With the complexity of our social and civic problems; with a growing appreciation on the part of the general public that architecture embraces more than four walls and a roof or some added embellishment; with the rapid development by science and industry of conveniences, necessities, safeguards and luxuries, there has come about a growing interdependence and respect.

From the time of Michael Angelo there have always been some master builders or architects who, in themselves, possessed the combined abilities of all the arts and crafts, but the rapidity with which our modern civilization moves might make the task too great today for even him to cope with. Some of our structures of this generation have served their useful purpose and been replaced by others in a shorter span of years than it took to construct many of the ancient masterpieces of architecture.

A half century has seen the change in architecture in this country from a very mediocre average to the position of leadership in world design. Much that is ugly and uninspiring is still built, but there is a con-

stantly growing improvement in every type of structure which mirrors the efforts of the architectural profession to attain that perfection which it longs to have the opportunity to express.

The arts and crafts directly allied to architecture, as enhancing the beauty of design, have always had some measure of recognition but it is only within a comparatively few years that any credit has been given the producers of materials and equipment entering into the fabrication of structures for the success of the architects' work.

The first public step toward such recognition was taken in 1921 when the Directors of the Institute invited certain manufacturers of building materials to attend a conference on "Better Advertising to Architects." From this conference grew the "Producers' Section" of the Structural Service Committee of the Institute. In 1923 a further development brought forth the Producers' Research Council, or as it is now known, the Producers' Council, which contacted with the Institute through a special committee of the Institute.

Even though the contacts thus established constituted a quasi recognition of the important position occupied by the material man, there were many members of the profession, both within and without the Institute, who looked upon the producer with a sense of toleration, if not suspicion. Happily, however, the more intimate intercourse which has been possible between the Producers' Council and the Institute committees has clearly developed the fact that the material men are sincerely desirous of serving the profession in a way in which they can be of greatest help and with the least amount of effort on the part of the architect.

While the Producers' Council at the present time has in its membership a comparatively small number of all the purveyors of material in the building industry, its activities are creating greater confidence in all material men and the methods it develops may well serve as a pattern for others to follow.

It, therefore, cannot help but be gratifying to architects and producers alike that the Board of Directors of the Institute recommended, and the convention approved, an extension of the activities of the Council and the continuance of the relationship between the two for a further period of at least five years.



PRIEST HOUSE IN SIAM
FROM THE ORIGINAL SKETCH BY PROFESSOR FERENC IMREY

THE AMERICAN ARCHITECT