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The EARLIEST MISSION BUILDINGS of SAN ANTONIO, TEXAS

BY ATLEE B. AYRES, Architect

THE most beautiful survivals of Spanish American architecture on this continent are to be found in the five old Franciscan missions in and near San Antonio, Texas. Eloquent memorials of the opening battle of the great conquest of the American wilderness, they remind us of a heroism and religious devotion now little remembered. Revealing a strong Spanish influence architecturally, these ancient buildings are monuments to the first great architect on the American continent. Huicar, a Spaniard, an architect and incidentally an artist, is accredited with designing all of these ancient buildings. His was the first attempt to achieve beauty made by white men in America. How beautiful was his conception, and how wonderful its execution without tools or skilled workmen, the accompanying illustrations will prove.

MISSION SAN JOSE

Of these missions, which combined church, monastery and fortress, the most famous is the Mission San Antonio de Valero, known wherever heroic deeds are honored, as the Alamo. This old church with a remnant of the flanking walls stands yet on Alamo Plaza in the very center of the modern city of San Antonio.

What is known as the first mission, Mission Nuestra Señora De La Purissima Concepcion, is about two and a half miles from the Main Plaza. The corner stone for this mission was laid in the year 1731 by Father Bergara and Captain Perez. It is the best conserved mission in the state of Texas; repairs have been made recently and religious services are now conducted in the church regularly.

This mission is constructed in that quaint and peculiar style, the style of all missions. Some savants have tried to describe and classify this style of architecture as "Christianized Moorish" style, but plain "Mission Style" seems to fit best after all.

In the center of the square front of this mission, flanked on either side by a belfry, whose top is furnished with a beautiful dome, there is the principal door, surmounted by a triangular façade. Beyond a doubt, the impression is distinctly "Moorish" but the church itself, facing West, is built in the shape of a cross, and there the Moorish impression is lost entirely. The whole outside of the building is covered with some sort of a mortar or cement which is applied in various geometrical forms.

The one tower contained a room in which were kept the sacred vestments and other articles not in daily use. In the other tower was the baptistry and also an altar. The walls of the baptistry are

decorated with various emblems, among them the cord of the Franciscans, a serpent, and the pictures of the seven sorrows.

A vestibule between the towers forms the entrance to the church. A dome, said to be far more beautiful in its proportions than the dome of the Capitol at Washington, permits the entry of light into this house of God, the very atmosphere of which breathes devotion.

The choir loft is still fairly intact, and the acoustics of this church are remarkably perfect. The sacristy is most noteworthy for the thick

uated about six miles from San Antonio and is the most beautiful of all missions in Texas. Its historically correct name is Mission San Jose y San Miguel de Aguayo, and was so named in reverence of Saint Joseph and in honor of Marquis San Miguel de Aguayo, formerly a Spanish Governor of the Province of Texas. Its construction was started in the year 1720 and it was completed March 5, 1731. Although Father Nunez under the direction of Venerable Father Margil erected this mission, the credit of carving the various statues and ornaments goes to no less a personage

INTERIOR, MISSION SAN JUAN

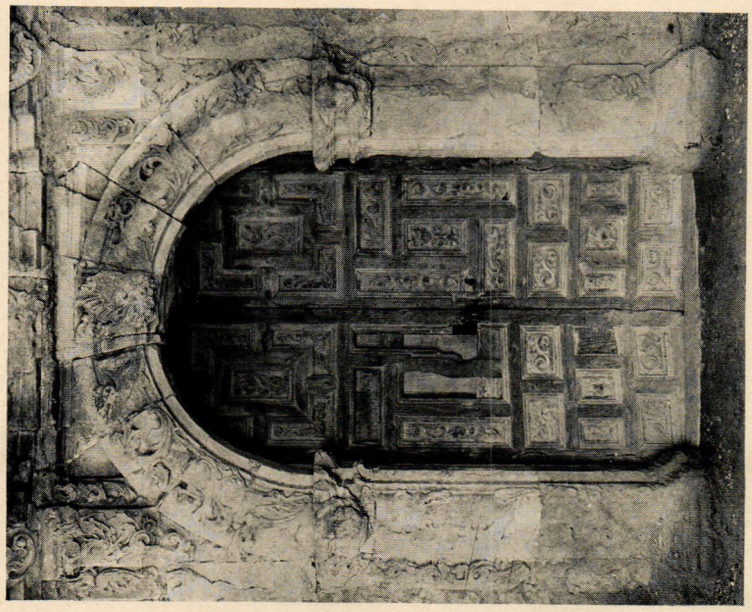
walls, into which cabinets of real antique design are built; the heavy and ancient candlesticks are of great interest.

The front entrance of the chapel bears above the center of its doorway a shield with arms and devices, upon which is carved in Spanish the legend: "With these arms be mindful to the Mission's Patroness and Princess, and defend the state of her purity." Over this winds, circling in and out, the flagellum or knotted scourge of the Order of St. Francis.

The second mission, Mission San Jose, is sit-

than that of the celebrated artist, Huicar, who came from Spain during the time when this mission was being erected. He spent several years beautifying this church with his immortal art. The whole building is well proportioned and constructed of very strong calicanto (mixture of lime and gravel) and a rough, sand granite, very light and porous which was secured from the quarry of Concepcion Mission.

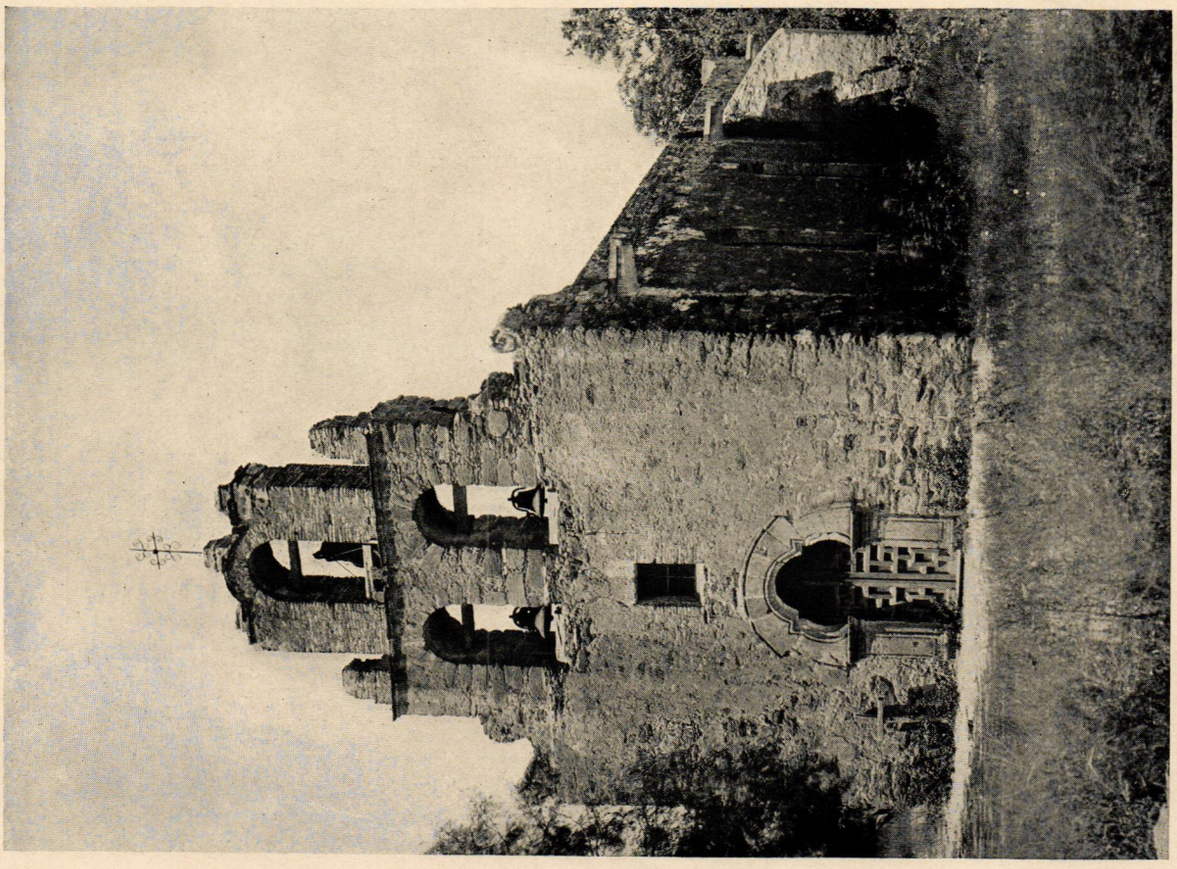
The carvings of this mission are marvelous. The façade is especially rich in design, statues of Our Lady of Guadalupe, San Jose, San Bene-



ABOVE: ENTRANCE, MISSION SAN JOSE, BUILT 1701

AT LEFT: MISSION SAN JUAN CAPISTRANO

EARLIEST MISSION BUILDINGS OF SAN ANTONIO, TEXAS



dictine, San Augustine, San Dominic and San Francisco occupying recesses with conch-like canopies of wonderful designs. Many sacred hearts, from one of which grows a lily and from another extends a ventricle, are strongly in evidence, as are the forms of cherubs, only a few in good preservation—all these blended with conventional patterns in curves and scrolls; the acanthus leaf, and the pomegranate design, emblem of plenty, are often repeated here as elsewhere in both exterior and interior decorations. In the chapels are the remains of some paintings by old masters,—

MISSION OF SAN JOSE

The Annunciation to Elizabeth, the Flight into Egypt, and one of the Christ Child, worthy of Murillo. In spite of their extreme mutilation by time, these canvases, all but destroyed and now placed between glass to be held together, still portray as in the beginning, their sacred theme.

There is an attractive arched opening that leads to the entrance of the chapel. The stone formation is very rich and with the carved panelled doors makes it a most interesting part of the building.

The South window of the baptistry is considered by connoisseurs to be the finest gem of architectural ornamentation existing in America today. The carvings, as mentioned above, were the work of Huicar, the sculptor. This window is said by experts to be as perfect in form and workmanship as anything found in the cathedrals of the Old World. Its curves and proportions are a perpetual delight to the eye as it is of that kind of art which does not satiate, but ever reveals some fresh beauty in line or curve. Its "reja" or wrought iron grating should be particularly noted.

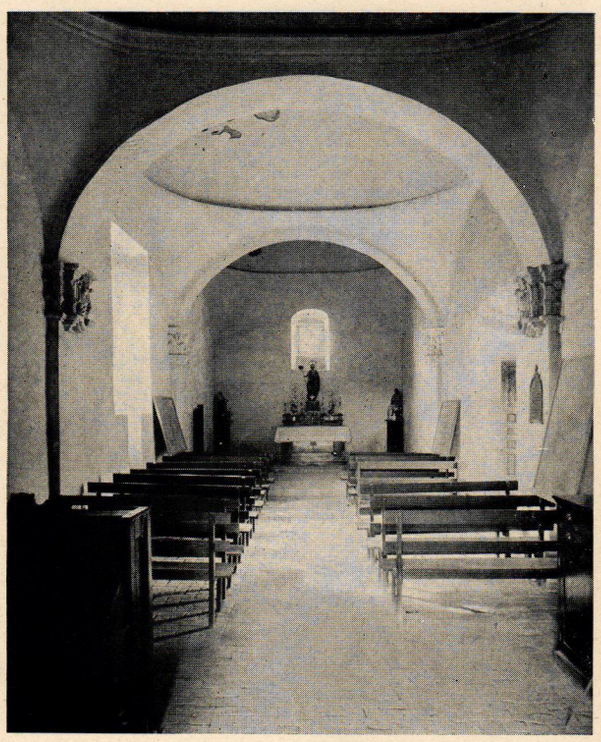
The walled square of this mission has entirely disappeared. The roof and one side of the great church have fallen but the beautiful front, the graceful arcades of the residence of the fathers, the towers, the baptistry chapel or sacristy with its serrated enclosing walls and triple domed roof and the large granary with flying buttresses and stone arched roof still remain. These with the well, store rooms, refectory, kitchen, almoner's room with its window "of the voices," cells and corridors are a delight to antiquarian and student.

The third mission, San Juan Capistrano, which is situated about three miles South of Mission

MISSION SAN JOSE

San Jose, was built in the year 1731. It is named in honor of St. John the Baptist and in memory of a well known friar of the Franciscan order, de Capistrano.

The plan of this mission in general, perhaps, can be best discerned and studied; the old mission square, the granary, the church, the convent, the living quarters for the Indians, the work and school rooms are still there, even to this day. Perhaps it is not as imposing in general appearance as some other missions, yet the quaint and peculiar mission atmosphere pervades all structures, and the church, which was never finished, is of an architecture all its own. Simplicity of construction marks this church; the steeple is a part of the East wall, constructed in graceful curves with large oval and open belfries. There is still one of the old bells hanging there.



INTERIOR OF MISSION SAN JOSE

There is some beautiful fresco work inside of this church, a curious mixture of Old and New World ideas. Detail of Moorish design, a Roman arch, an Indian figure and pigments. A painted rail attracts the eye, then the elaborately painted Roman arch in red and orange over the doorway. This decoration is of a decidedly Moorish design, zigzag strips and blocks of color with corkscrew and tile work, and pillars of red and orange blocks. These pillars are about twelve feet high and support another line or rail of color and upon this upper line is a series of figures of musicians, each playing a different instrument. The lower rail, which is the much

MISSION AT GOLIAD, TEXAS

ABOVE: PORTAL, MISSION OF OUR LADY OF THE IMMACULATE CONCEPTION

AT LEFT: MISSION SAN FRANCISCO DE LA ESPADA

more elaborate of the two, supports here and there a flower pot and flowers in incongruous colors of bluish green, and dull red, carnations and roses being prime favorites with an occasional cross on a painted pedestal or dado.

The fourth mission, San Francisco De La Espada, is situated about nine miles from San Antonio along the river. This mission was originally founded in the year 1690 by Father Manzanet on the old San Antonio Road in East Texas but was moved to its present location in the year 1730.

Part of the surrounding wall is still in a fair state of preservation and the entire surrounding wall can readily be traced, except on the side next to the river. On the Southeast side of the wall there is still one of the bastions, a sort of fortification, a tower for defensive purposes and of decidedly martial appearance. There are said to have been three or four located in the wall at certain intervals. Close to the ground there are four apertures through which cannons were discharged at the advancing foe, while about eight feet from the ground there are seven loop-holes for sharpshooters in time of an attack.

Among the interesting ruins one will find the well, the aqueducts, parts of the convent and the chapel.

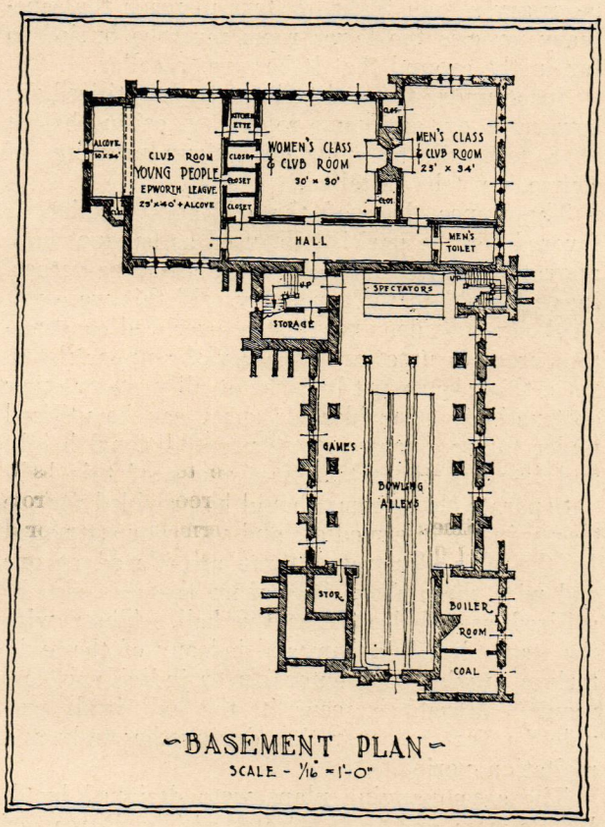
MISSION OF OUR LADY OF THE IMMACULATE CONCEPCION

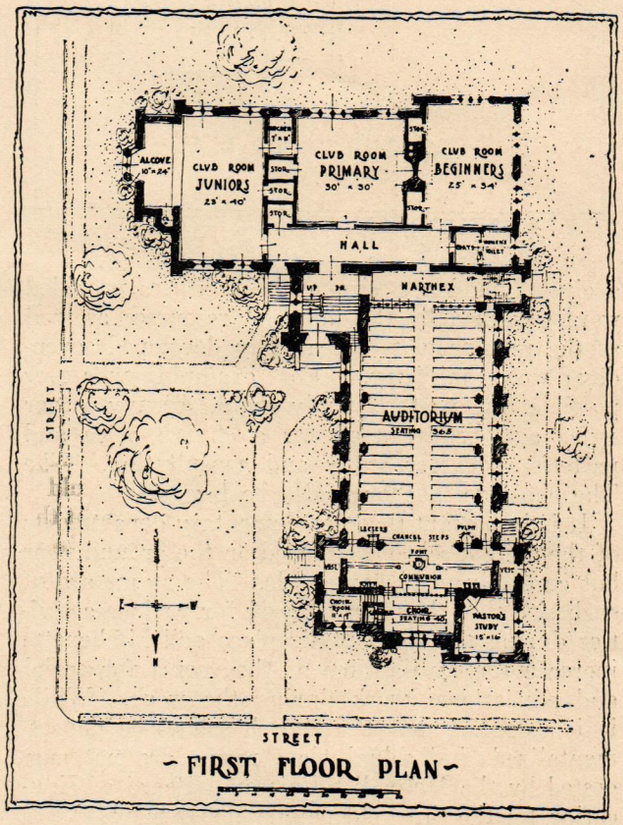
BUILDING A SEVEN-DAY-A-WEEK CHURCH

BY ELBERT M. CONOVER, Director, Bureau of Architecture of The Methodist Episcopal Church

A MORE churchly design, provision for departmentalized church schools (formerly known as Sunday schools but with the development of week day religious education, the designation Sunday school is insufficient) and reduction to a minimum of space that can be used but occasionally, mark a noticeable trend in the current development of Protestant church architecture.

The plans illustrated have been developed with a view to providing for the fullest possible use of the entire plant without hampering any part for its major use.



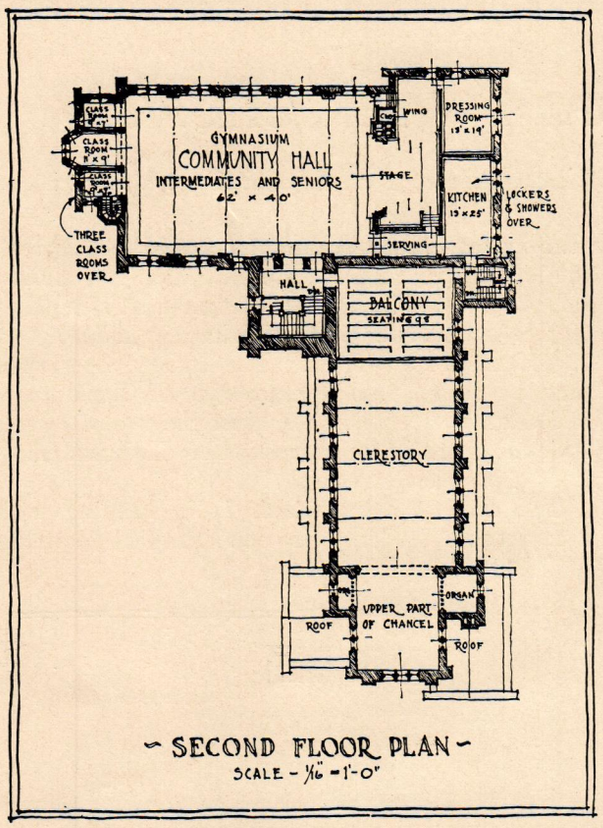


An exterior is not shown for the reason that the floor plan and the facilities required and provided are not to be confined to a single type of architecture, and it is desired to leave unhampered local traditions and art as well as the freedom of the practicing architect who may be called on to execute a seven-day-a-week church design. All must, of course, be controlled by Christian motive.

The Methodist Episcopal Church Bureau is frankly favorable to Gothic as the highest expression of church architecture but does not undertake to foist this upon a section unfavorable to Gothic or where the profession has not had a happy experience with Gothic. The Bureau does urge that the design used be expressive of Christianity and sternly sets its face against the use of classic styles as an adequate expression of Christian tradition, aspiration and faith.

The chancel arrangement is in keeping with a noticeable tendency in non-liturgical churches toward a more artistic and orderly service of worship. These churches are beginning to insist upon a recognition of their status as legitimate churches rather than outcast "sects." This recognition has begun at home. The evidence of this awakening church consciousness appears in the demand that *churches* rather than *meeting houses* be built; that services of worship be provided for as well as "preaching services."

The plan shown was developed to meet the requirements of a Methodist Episcopal Society in



a city of moderate size. The facilities provided were governed by the financial resources as well as the requirements for a fully developed seven-day-a-week ministry. For example, wherever possible, the pastor's study should occupy larger space and be arranged for a church office and pastor's room for study and consultation. The The choir room should also be larger.

It is important that the elementary departments of the church school be placed on the ground floor but certainly not below grade. The rooms are of such size that they can be used for various activities during the week. A fireplace and kitchenette increase the availability of the rooms for social and educational work during the week. While it is essential that the church school be departmentalized, individual class rooms are not suggested by the Methodist Episcopal Board of Education for the three elementary departments. With the development of sound pedagogical methods, and the increased number of trained teachers in church schools, it becomes possible to have larger classes and consequently the amount of space monopolized for any one activity is reduced. Storage space ample to provide for a change of furniture required for a multiple use of the rooms must be provided.

Basements are acknowledged to be bad for any type of educational or social work, except swimming. However, for reasons of economy, basement space must frequently be utilized. To reduce the "cellar feeling" a retaining wall may be constructed parallel to the walls of the church at a distance sufficient to admit light and air to the ground floor rooms.

The auditorium should be the most accessible room in the church. It should be available for private devotion every day in the year. Hence, the advice not to have a hall under the auditorium. If a parish hall is constructed there, the required ceiling height (14 feet as a minimum) makes necessary a high flight of steps to reach the sanctuary, or else the lower room must be buried so far in the ground that it becomes a cellar.

Space under the auditorium can be utilized for bowling alleys and game rooms. A ceiling height of 8 feet will be sufficient. Soundproofing, of course, must be installed.

The upper floor of the education section is favored for the parish hall, used as banquet hall, recreation and social hall or for all large gatherings not held in the sanctuary. If this were put on the ground floor heavy steel overhead construction becomes necessary to carry the upper floors, since this room must be clear of all posts or other obstructions. Considerable space can be utilized under the roof trusses to secure additional height and increase the total effectiveness of this hall.

Separate class rooms should be provided for the classes in the intermediate and senior departments. In the plan illustrated three are placed at one end with three above in a space that can also be utilized as a balcony for the hall. These with the stage, dressing room and balcony of the auditorium provide nine extension or individual class rooms. Movable screens in the hall itself provide for further separation during the study and recitation period.

The accompanying plans were designed by J. W. Banham and S. G. Coates of The Bureau of Architecture of The Methodist Episcopal Church, Walter H. Thomas, consulting architect.

EDITORIAL COMMENT

LEARNING THAT WELLES BOSWORTH had been appointed architect member of the committee to administer the fund given by John D. Rockefeller, Jr., for the restoration of monumental buildings in France, we wrote Mr. Bosworth for some authoritative information as to the work of the committee. Mr. Bosworth replied as follows:

"The committee is officially called "La Comité Franco-Americain pour la Restauration des Monuments." The other members are Ambassador Jusserand; the late Premier and man of letters, Gabriel Hanotaux; the one-time ambassador to Russia, M. Paleologue, now president of the 'Amis de Versailles;' and Colonel H. H. Harjes, of the firm of Morgan, Harjes, Paris. We work in collaboration with the 'Direction des Beaux-Arts,' whose directeur is M. Paul Léon.

"After going into all the needs of Reims, Versailles and Fontainebleau, we voted credits at our June meeting to cover the following:

"The cost of the new roof over the nave, choir and the two arms of the transept of the Cathedral at Reims, including lead roofs, gutters, and the erection of the spire, called clocher à l'ange, 40 meters high; ornaments and figures of lead repoussé; interior carillon, and so forth:

"At Fontainebleau, the rebuilding of many of the roofs; the re-establishment of the planting; partial repaving of the courts, with attention to drainage; the putting in condition of many of the apartments, including restoration of paintings, reconditioning woodwork, repairing of tapestries, and so forth:

"At Versailles, the restoration of the little Theatre of Marie Antoinette; rebuilding and reconditioning of the woodwork of the windows and doors throughout the Palace of Versailles, the two Trianons, and the Orangerie; in the Parks and Gardens, the renewing of the hedges and plantations; clearing off the dead branches from the trees and grounds; regravelling the alleys and putting the avenues in commission, including drainage; rebuilding of terraces; reconditioning of the trophies on the balustrades crowning the Palace on the side toward the Gardens, etc; also a thing long desired by the French people, which was voted not long ago afresh, is the removal of the great statues from the Court of Honor, placed there under Louis Philippe.

"There are many minor details involved and much other work is to follow, but these are the principal items in hand at present. The French people have themselves done a great deal on these buildings, and this is merely in supplement of what they have done and are unable to do further because of the strain their Government has been under since the war. I am sure your readers will take satisfaction in having America, who owes so much to the French tradition, come to their relief at this time."

We feel sure that every architect in this country will regard with the greatest satisfaction the fine start that has been made in this important movement and equally gratified to learn that the work will be carried forward by a committee composed of men, who each in his separate field represents the highest efficiency.

* * *

THE CONTRACTOR'S BOND is an important factor in the building industry. Its influence on the business of architecture is not fully appreciated by many members of that profession. There are too many architects who will accept a proposal, which is plainly too low, as a basis of a contract. Often they are urged by the owner to do so. The actuating motive must be the foolish idea that they can get something for nothing. Business transactions which are influenced by such incentives can never eventuate satisfactorily for anyone—not even the architect. The only satisfactory building operation is one from which the contractor makes a reasonable profit.

Unfortunately, some bonding companies have been careless, to say the least, in becoming surety for contractors who were incompetent, dishonest or who had bid too low for the work to be done. Such a course is manifestly unfair to the competent, honest and reliable contractor of whom there are many. The only way to place the business of building construction on a satisfactory basis is to prevent the irresponsible contractor from securing a contract bond.

Steps leading to this end are under way through the joint action of the Associated General Contractors of America and a committee representing the bonding companies. It is difficult to understand why organized architects are not a party to this work. It vitally affects their business and the national, state and local architectural organizations should bestir themselves and become active in the matter. Their co-operation will be welcomed.

CORRESPONDENCE

PROFESSOR FERRAN'S ADDRESS

To the Editor:

REFERRING to your editorial comment of July 16: "America Loses Albert Ferran."

How on earth can any architectural periodical with your illustrious name be so super-gracious to be unmindful of the defense of everything American, and particularly the American schools of architecture?

Albert Ferran is out of tune with all American ideals. I am reconciled to have every French instructor of architecture, of which there are many, (including my own *alma mater,*) who are not in sympathy and full accord with all things American to go back to his overrated Beaux-Arts.

Albert Ferran reminds me of an "Extracting Specialist" who wants to cure all human ailments by pulling out all of the teeth. As professor of design at the Tech he was obsessed with the idea that the students should spend all their time under his influence, learning to draw; the all important science of learning to build is too inconsequential to require any of a student's time!

I am sold to the idea that no student emerging from any architectural school of architecture, even the diploma from the high aloof Beaux-Arts would fit him to be worthy of his hire,—but any graduate of an American school will at least be fortified with that "smattering" to which Ferran refers, that will enable that graduate to become a professional architect in fact—not theory, if he puts forth the effort and gathers the application of experience, in the employ of a practicing architect. I have the strong conviction that the professional services of an architect consist in the wise and judicious expenditure of a client's money. This function is impossible with only the knowledge of drawing, or the meaningless creation of a fantastic dream.

The American system of architectural education is absolutely sound. It is naturally only a preparation for future endeavor. Thus graduates from any school will or can only succeed according to the probability curve. I fail to see that the French system has wrought any wonders in the slope of this curve by their system so much bragged about. This curve follows the law of human equation which does not change.

It is a sad and melancholy fact that the student architects have all been inoculated with that semi-hyphenated bacteria sent out free by Beaux-Arts *alma mater* enthusiasts. They have arrogated to themselves the all important work of looking after architectural education in the U. S. A. Note that Ferran is in complete sympathy with their methods. It looks as if the rights of the American Institute of Architects have gone by default. They took the "shot" of bacteria without an anaesthetic, and sit in a coma while it is broadcasted that there can be no future to American architecture without transcending through the French system.

Pray, tell me why American periodicals permit this perfidy? Why do they let go unchallenged these ignominious aspersions on the American schools of architecture?

WILLIAM T. SCHMITT,
Oklahoma City, Okla.

PRESIDENT WAID EXPRESSES THANKS OF THE INSTITUTE TO MR. ROCKEFELLER

One Madison Avenue, New York, N. Y.
June 18, 1924.

Mr. John D. Rockefeller, Jr.,
26 Broadway,
New York, N. Y.

Dear Mr. Rockefeller:

AMERICANS appreciative of masterpieces of architecture are greatly pleased to know of your fine gift toward the restoration and preservation of the Cathedral at Rheims and the Palace of Versailles.

Permit me in behalf of the American Institute of Architects to express a word of tribute to your wise beneficence. Our profession can but take great satisfaction in this provision for two of the world's architectural monuments.

Respectfully yours,
D. EVERETT WAID, *President*

26 Broadway,
New York June 19,1924

Dear Mr. Waid:

I AM in receipt of your courteous letter of June 18. Please accept my thanks for the expression of appreciation which it contains on behalf of the American Institute of Architects in connection with my recent gift to France. The knowledge that this gift has been so generally approved by art lovers in this country as well as in France has added to my pleasure in making it.

Very sincerely,
JOHN D. ROCKEFELLER, JR.

Mr. D. Everett Waid, President,
The American Institute of Architects,
1 Madison Avenue,
New York City.

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

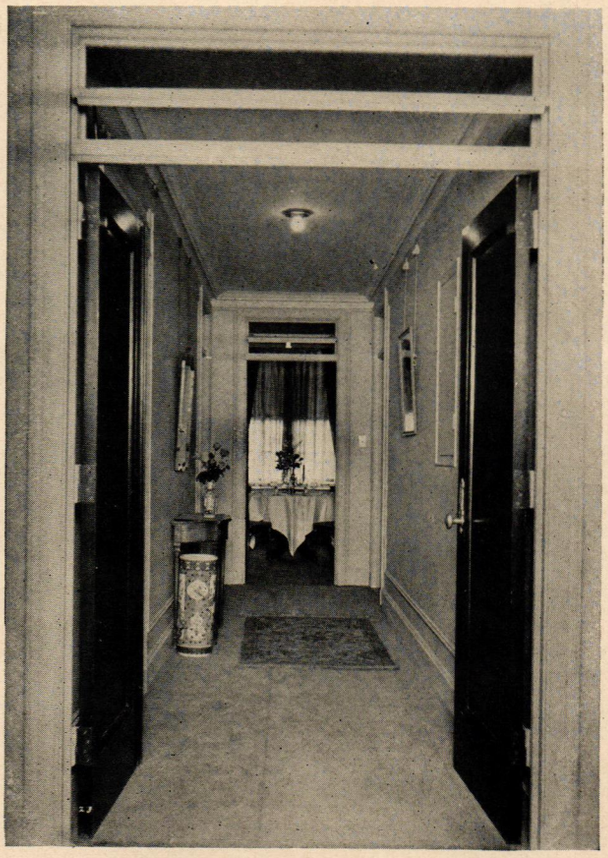
SCHULTZE & WEAVER, Architects

IN selecting a type of architecture characteristic of the feeling and traditions of the South, it was quite natural that the architects for the Atlanta-Biltmore Hotel adopted Georgian.

The location on West Peachtree Street, between Fifth and Sixth Streets, covers an area of approximately four acres in the heart of Atlanta's residential district, and the group of buildings will, when completed, consist of the hotel and four detached apartment units, all of fireproof construction with all modern improvements and varying in height from ten to twelve stories of which the hotel and one apartment unit have been completed.

The exterior is of red tapestry brick laid in English bond with broad white joints, trimmed with limestone and architectural terra cotta.

The plot plan gives the feeling of a country club in the midst of a city, for while the ground floor with entrances from West Peachtree and Sixth Streets forms an arcade devoted to thirteen shops and a grill room 58′0″ x 75′0″, the main floor above, comprising the lobby 46′0″ x 62′0″, dining room and ball room each 57′0″ x 86′0″, is entered by two flights of marble stairs from the arcade floor, and also from the garden in the center, laid out in broad stretches of lawns, flower beds and walks shaded by oak trees, around which circles the driveway entering from Fifth Street.



ENTRANCE TO SUITE

Instead of the roof garden, characteristic of the city hotel or club, the garden is so spacious as to permit of a terrace easily accommodating six hundred for tea and dinner dances and such a setting with colored lights festooned from ornamental lamp standards as seen through the trees gives the feeling of the most refined seclusion.

Standing in the lobby, which is finished in black and gold marble, and natural finish mahogany, the vista extends nearly two hundred feet in either direction into the ballroom and into the dining room. These two rooms and also the lobby are two stories in height.

On the mezzanine floor are the writing gallery, executive offices and private dining rooms. Above are ten bedroom floors, the first having a number specially designed sample rooms with wide doors, drop shelving and door beds.

On nine typical floors are suites of five rooms at each end of the building so arranged as to be divided into smaller units or single rooms and in the center, overlooking the garden, are suites of two and three rooms, the remainder devoted to bedrooms, 11′0″ x 18′0″ and 13′6″ x 18′0″, practically all of them being double rooms.

Each apartment suite has its private serving pantry equipped with plate warmer, refrigerator, sink and cupboard.

The typical bedrooms are similar in finish and furnishings, the walls having panel and picture moulds and painted a soft French gray, with carpets to match, and painted wood furniture. Each room has a tiled bath with built-in tubs and sanitary accessories.

Interior and exterior details carry out the same XVIII Century architecture as do also the furniture and furnishings.

All the public rooms face the street or garden and in addition are connected with the very efficient mechanical ventilating system which also takes care of all service rooms and bathrooms.

The bedrooms are all outside rooms also facing the street or garden and have transoms opening to the main corridor, which affords ideal ventilation.

The hotel is nearly 400 feet long and contains 560 rooms, each with bath.

The apartment building contains eighteen suites of six rooms and two baths, and four suites of two rooms and bath.

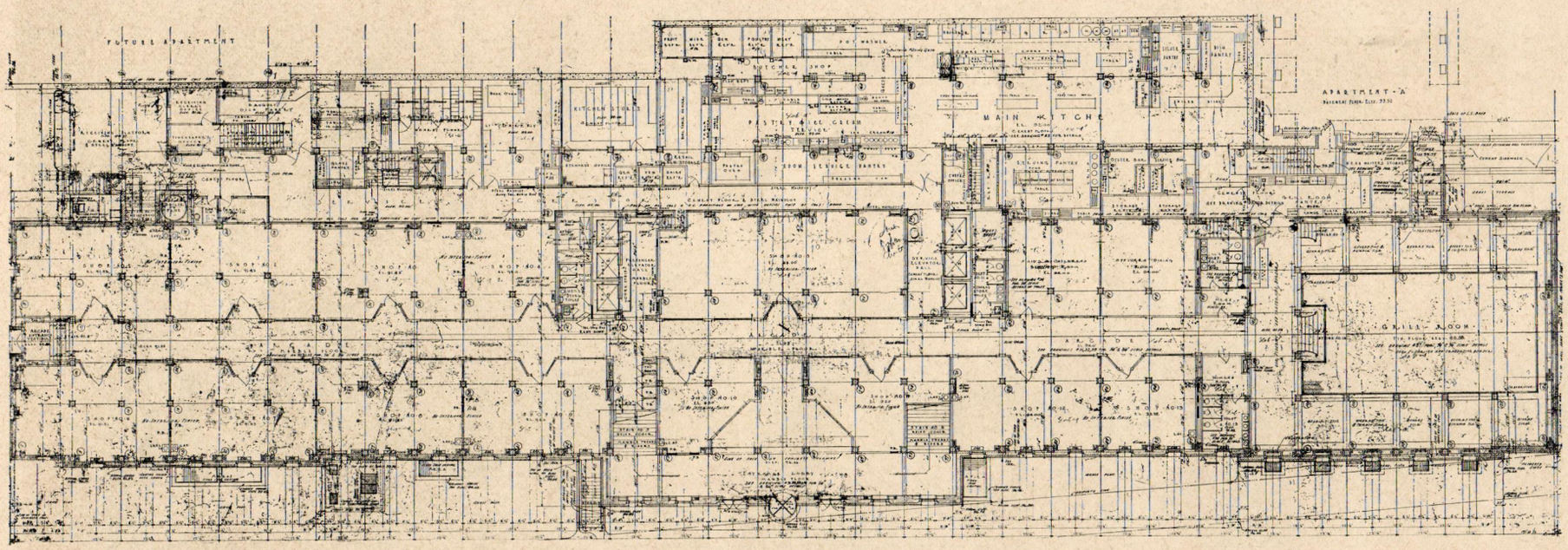
Starrett Brothers, Inc., were the builders.

HOTEL AND APARTMENT, COURT SIDE

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

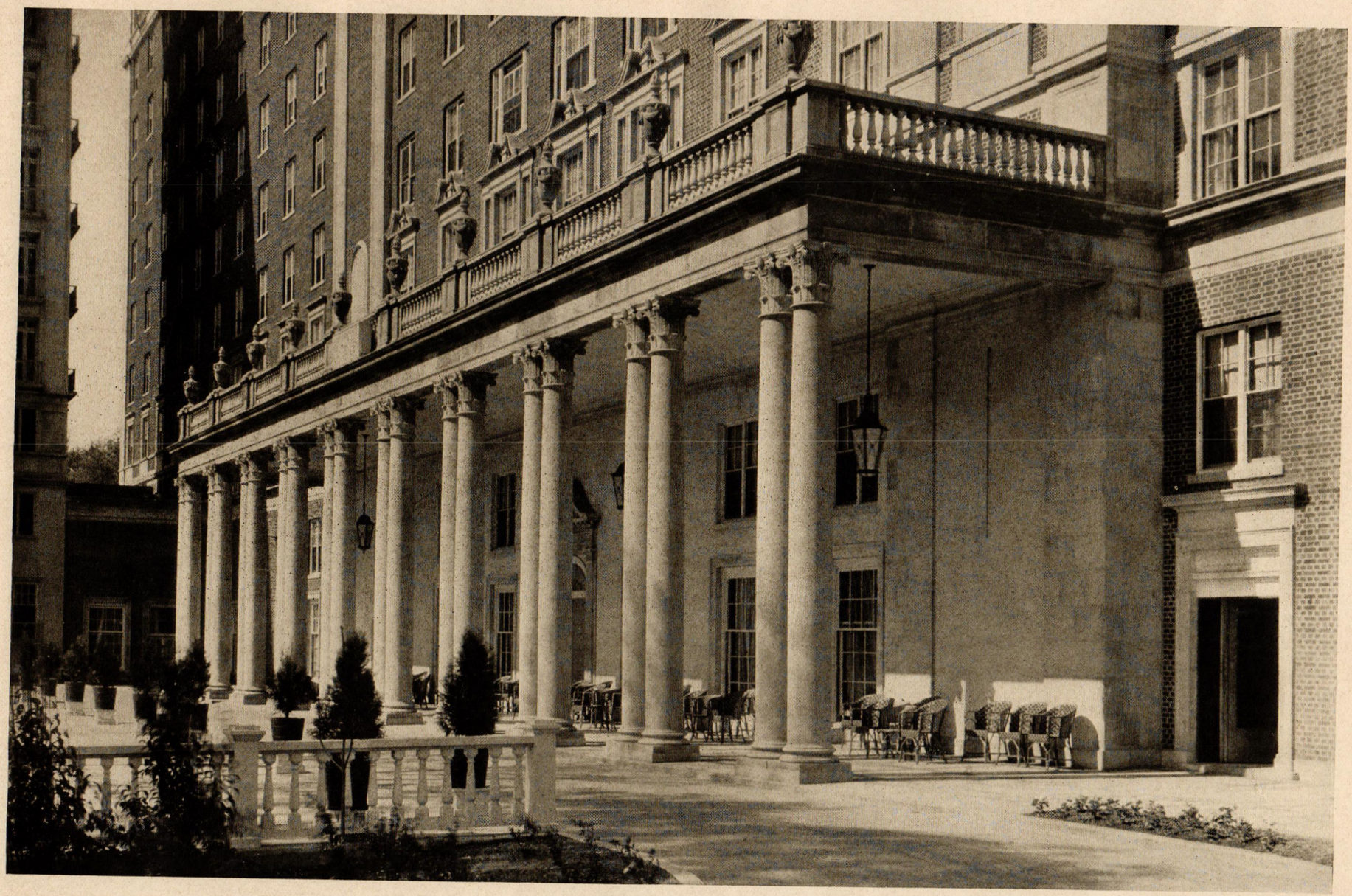
(See plan on other side)



FIRST FLOOR PLAN

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

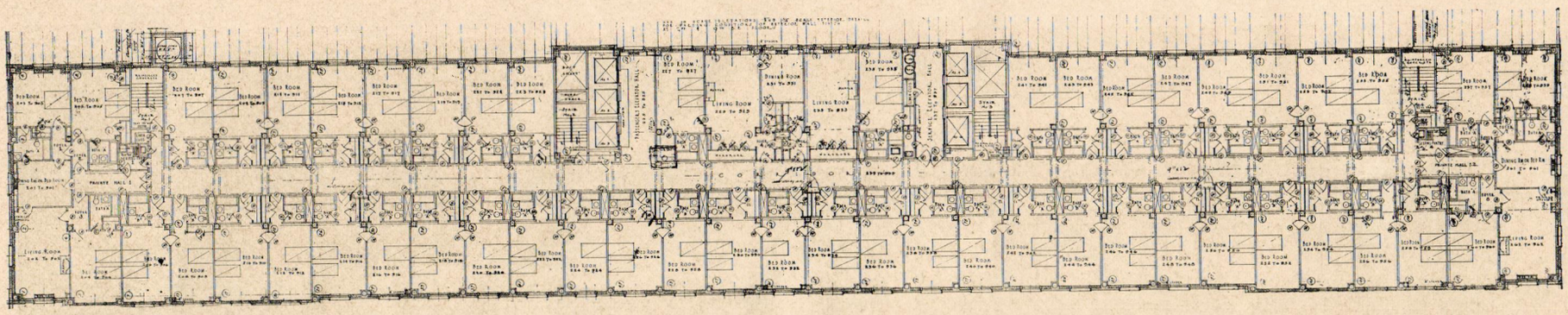


TERRACE DETAIL

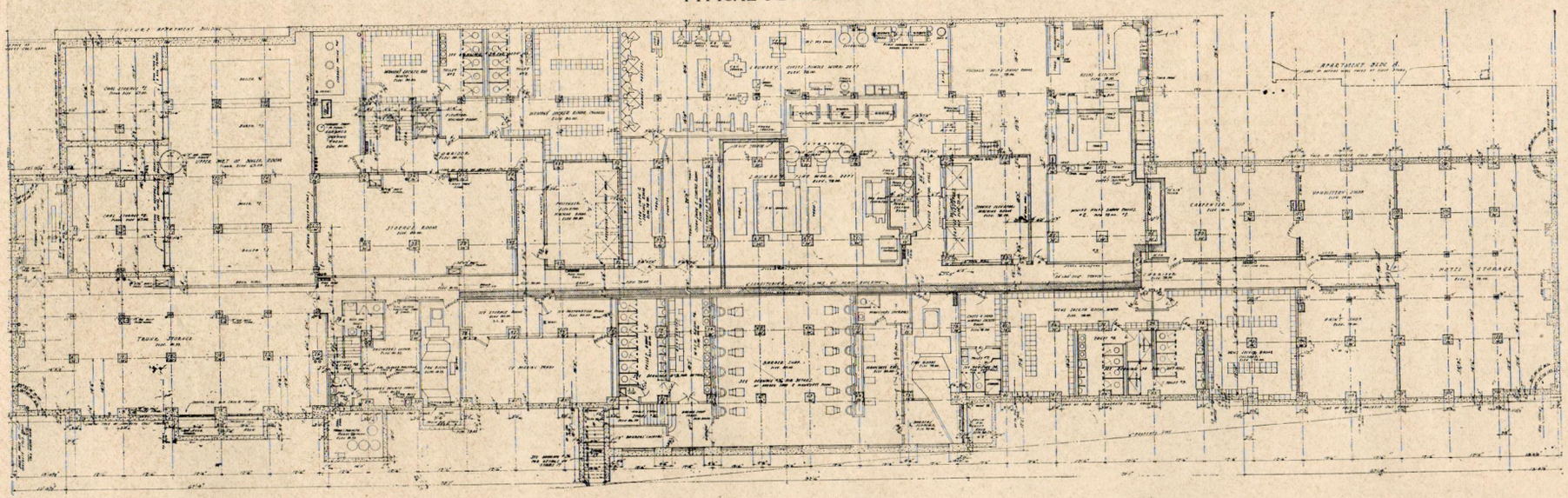
ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

(See plans on other side)



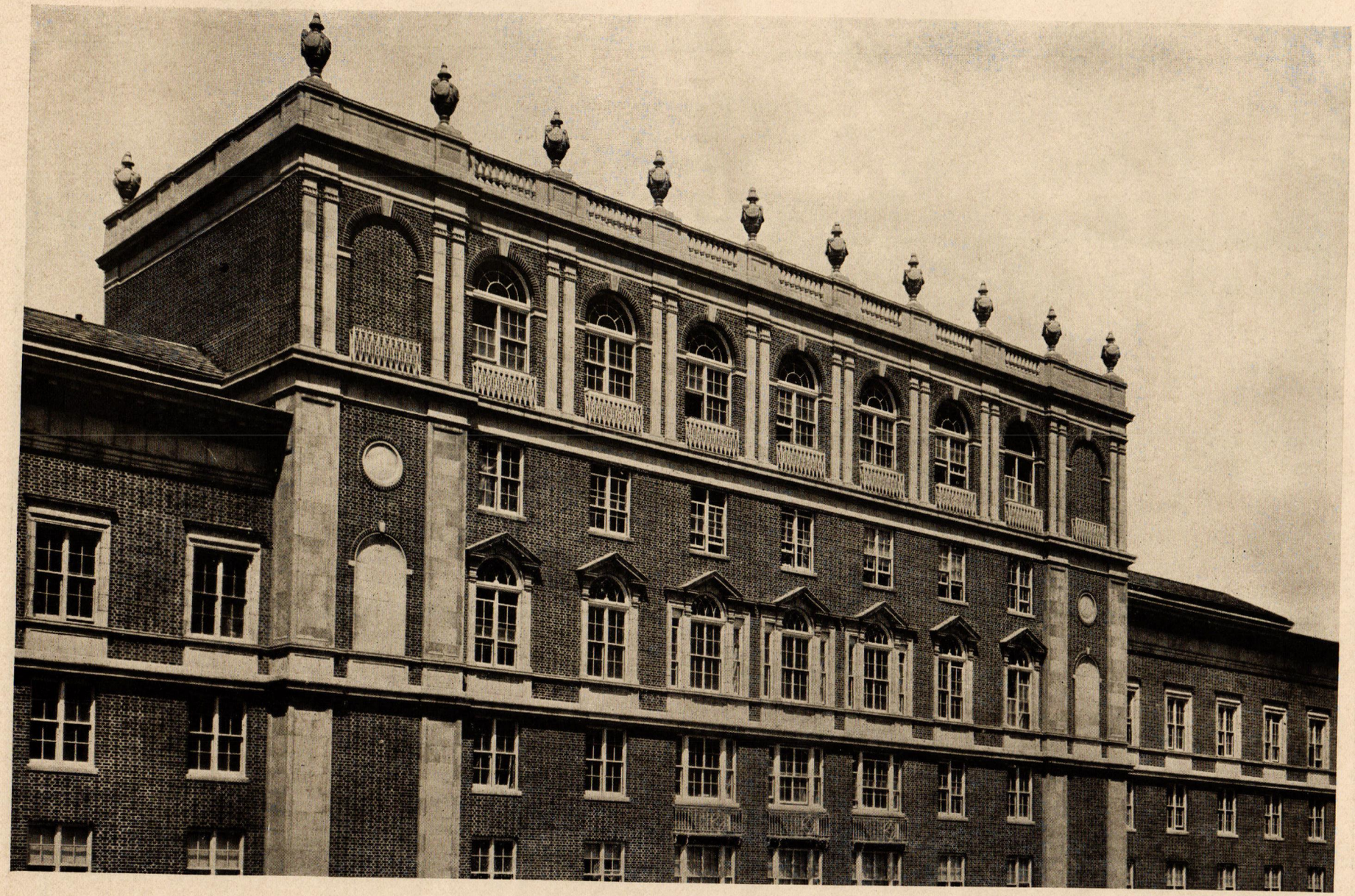
TYPICAL FLOOR PLAN



BASEMENT PLAN

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

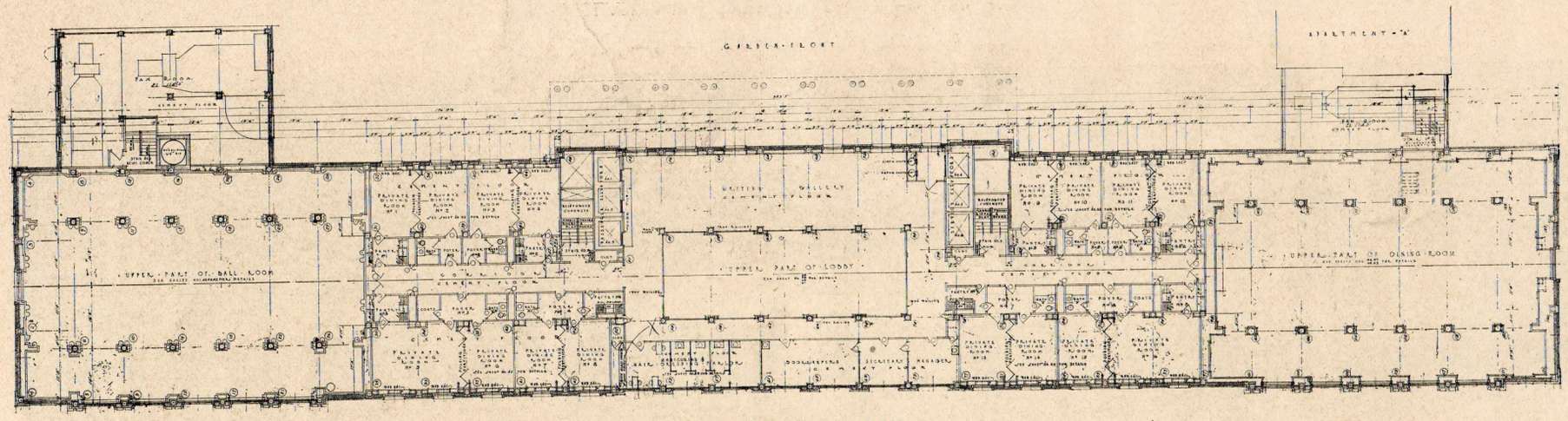


TOP CENTRAL DETAIL, COURT SIDE

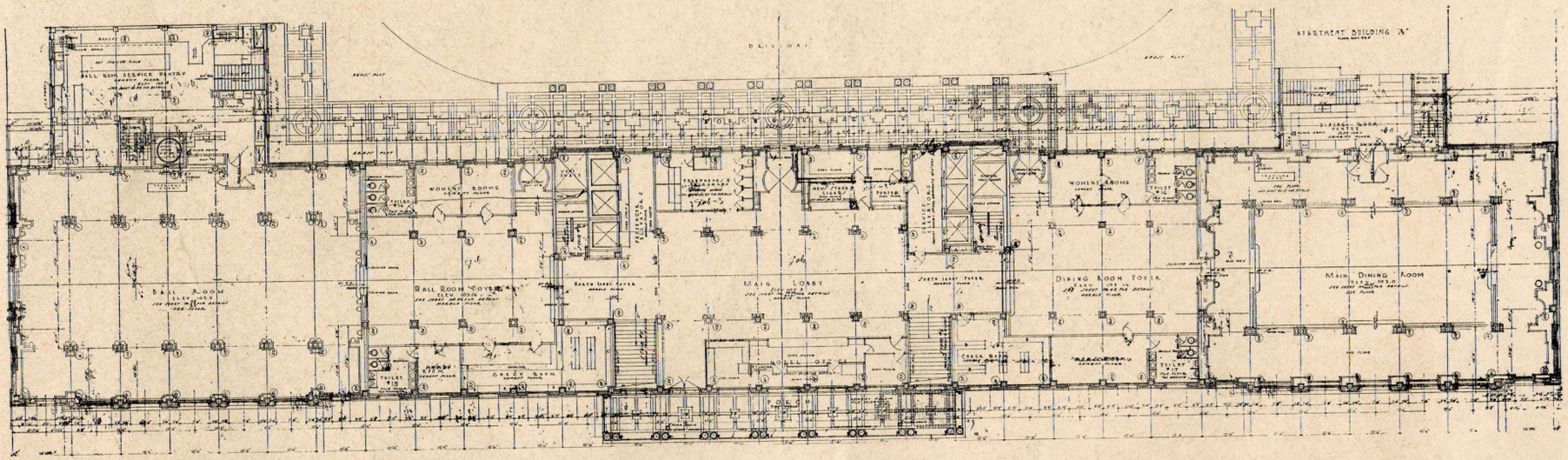
ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

(See plans on other side)



MEZZANINE FLOOR PLAN



MAIN FLOOR PLAN

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

BALL ROOM

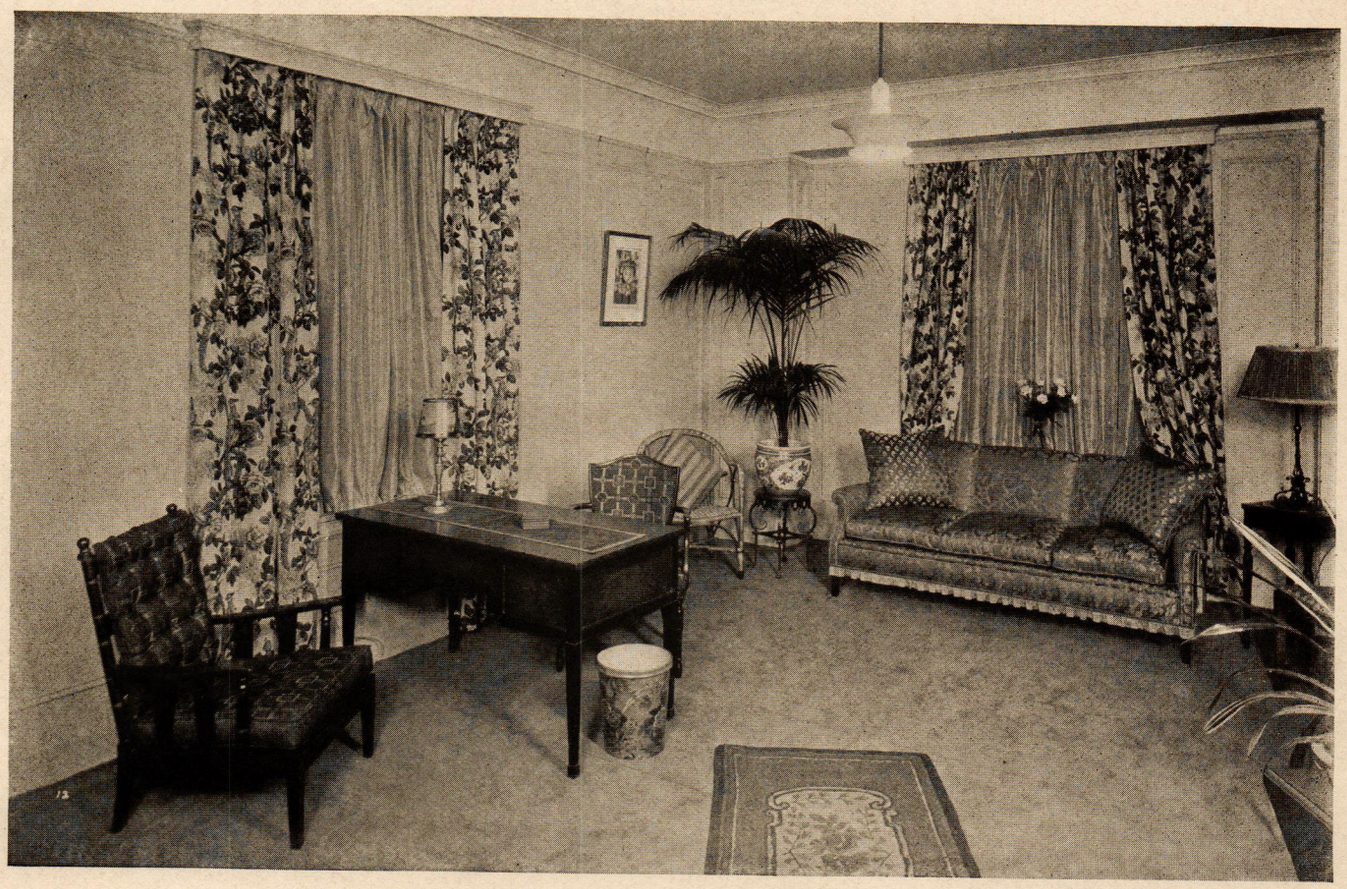
ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS

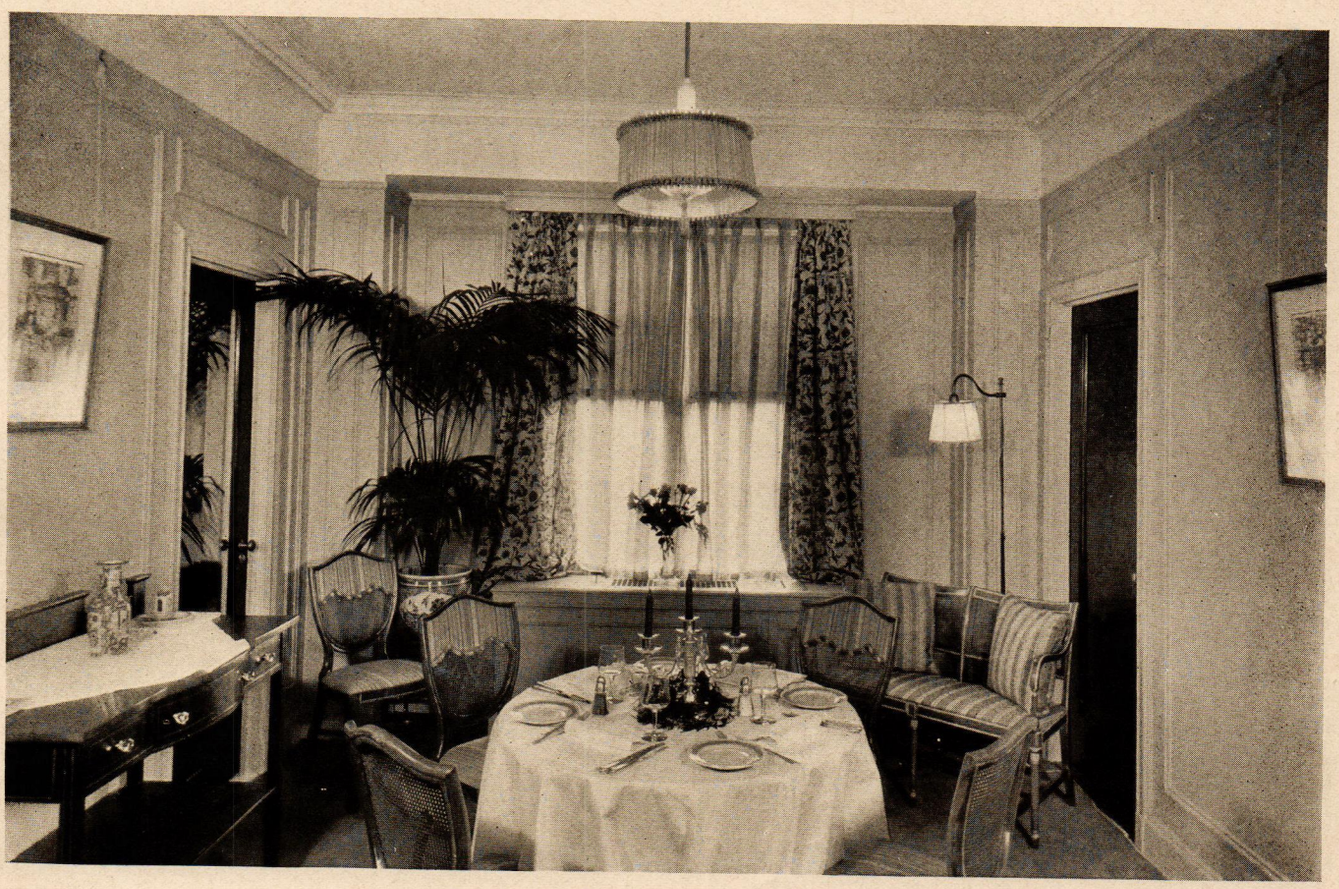
MAIN DINING ROOM

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS



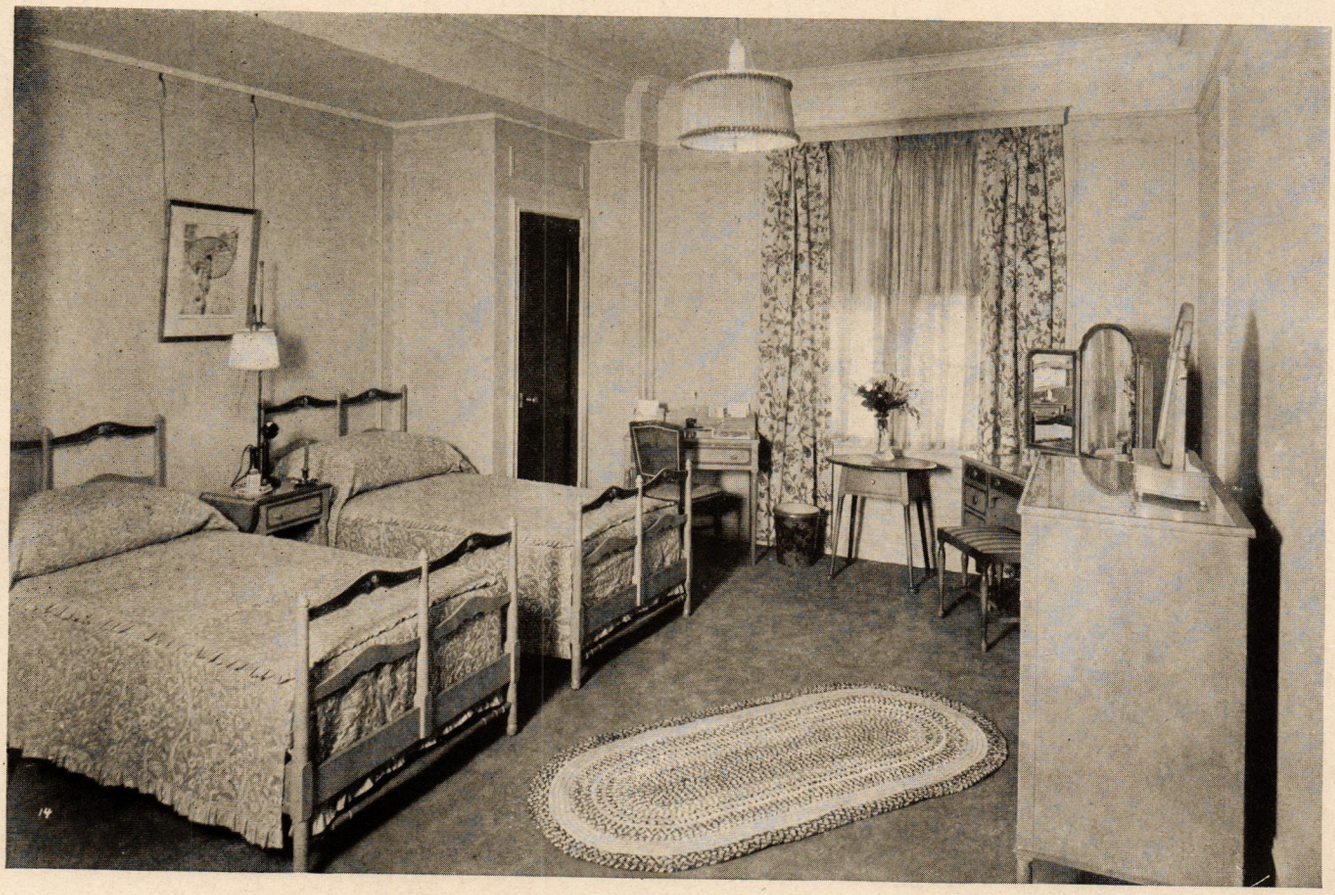
LIVING ROOM OF A SUITE



DINING ROOM OF A SUITE

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS



BEDROOM OF A SUITE

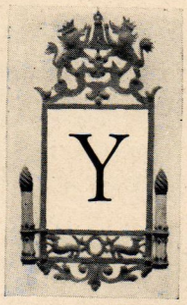
FOYER TO MAIN DINING ROOM

ATLANTA-BILTMORE HOTEL, ATLANTA, GA.

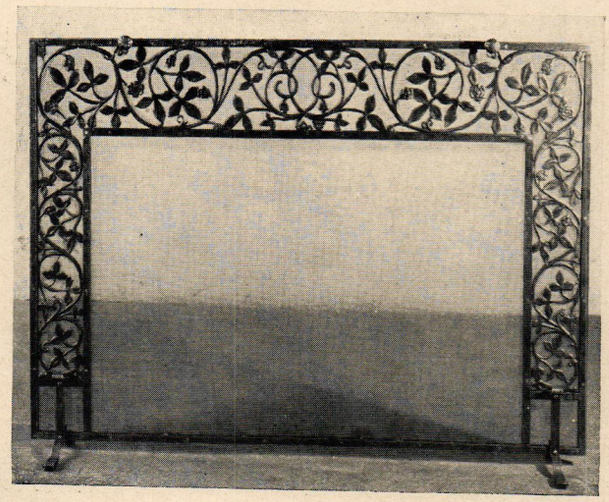
SCHULTZE & WEAVER, ARCHITECTS

INTERIOR ARCHITECTURE

Decorative Iron *in an* Interior Scheme

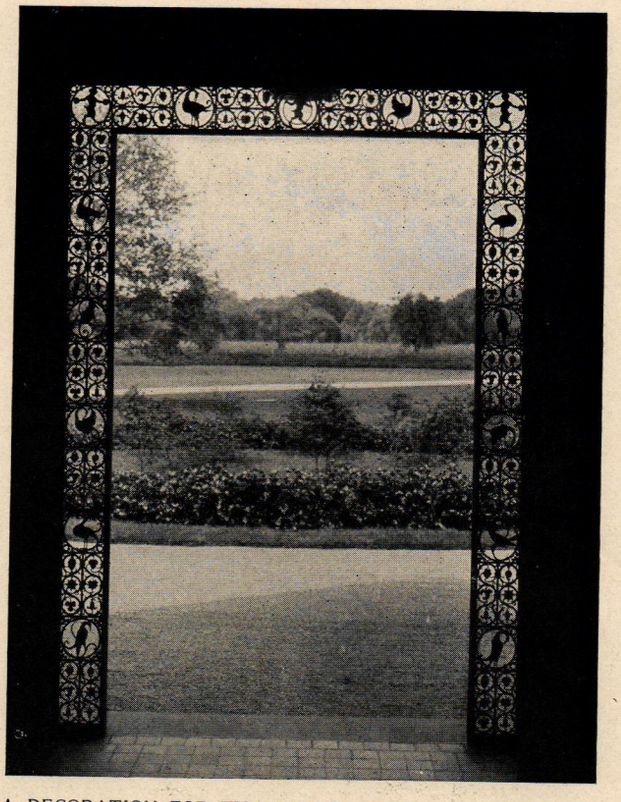


EARS ago, when iron was first used as a medium of architectural design, what we now know as mechanics were then artificers, workmen were craftsmen and carpenters were cabinetmakers. Ironwork, like the products of all other materials, had that artistic quality that hand-wrought methods only can produce, and thus its decorative value was readily appreciated. With the arrival of machinery, castings, stock patterns, and all the conventional routine accompanying quantity production, metal products lost much of their primary interest and took on a more structural value. Importations of original speciments of the old school and appreciation of their hand-wrought qualities made especially conspicuous in comparison with the modern machine-made product to which we had become accustomed, has led to a revision of factory methods tending to preserve the artistic effect of the hand-wrought product, although still produced under the influence and discipline of modern mechanical contrivances. Further than this, there has been an importation of old-world craftsmen versed in the art of decorative ironwork, many of whom still abound in the countries of Europe, and with their establishment in business here, a beginning, at least, has been made in the development of the workman trained in the methods which distinguish the artificer from the artisan.



THE UNATTRACTIVE WIRE MESH OF THE FIRESCREEN IS MADE ALMOST INVISIBLE BY AN INTERESTING ORNAMENTAL IRON BORDER

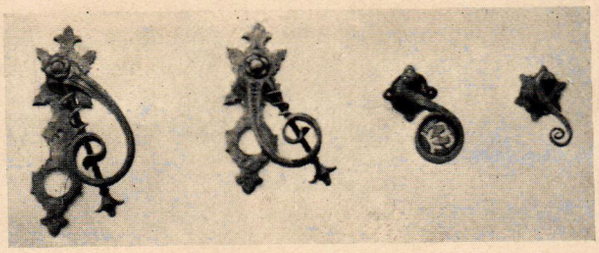
The Italians and Spanish of the fifteenth and sixteenth centuries were probably the first to take advantage of iron as a decorative product on anything like a large scale. The interior court of the *palazzo* featured its iron balconies, railings and hanging lanterns; the *patio* abounded in iron grilles, gates and brackets. With the present revival of interest in the simple architecture which so characterized the old Italian and Spanish styles, it is quite natural that iron, one of the happiest mediums of decorative furnishings which they so successfully combined with the rough plaster walls, should appeal also to the designer who looked to them for inspiration in other lines.



A DECORATION FOR THE INSIDE AS WELL AS THE OUTSIDE OF THE DOORWAY. LOOKING INTO THE DAYLIGHT THE SILHOUETTED IRON ORNAMENT IS UNUSUALLY ATTRACTIVE

Fundamentally, iron seems to be a structural material. Its strength, its weight and its tenacity all are in its favor as such. If, however, the structural can be made decorative at the same time, half the battle of design will be won. The Italian and Spanish architects of those days employed iron in a manner to do just that. As balcony

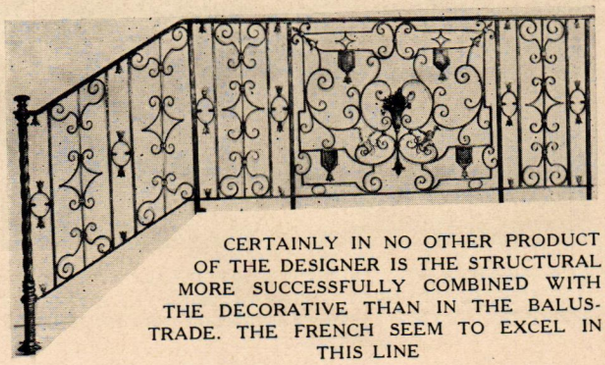
railings, stair balustrades, gates and grilles, they combined in iron the structural with the decorative with results that are worthy of most careful study and imitation. While, serving in this two-fold purpose, we find iron first brought into the field of decorative materials, the distinct decorative qualities which it was found to possess proved that it no longer needed to depend on any structuarl purpose for its successful adaptation or



SEVERAL INTERESTING IRON LEVER HANDLES. THE DECORATIVE COMBINED WITH THE STRUCTURAL

application. Decorative iron thus became a trade for the master craftsman.

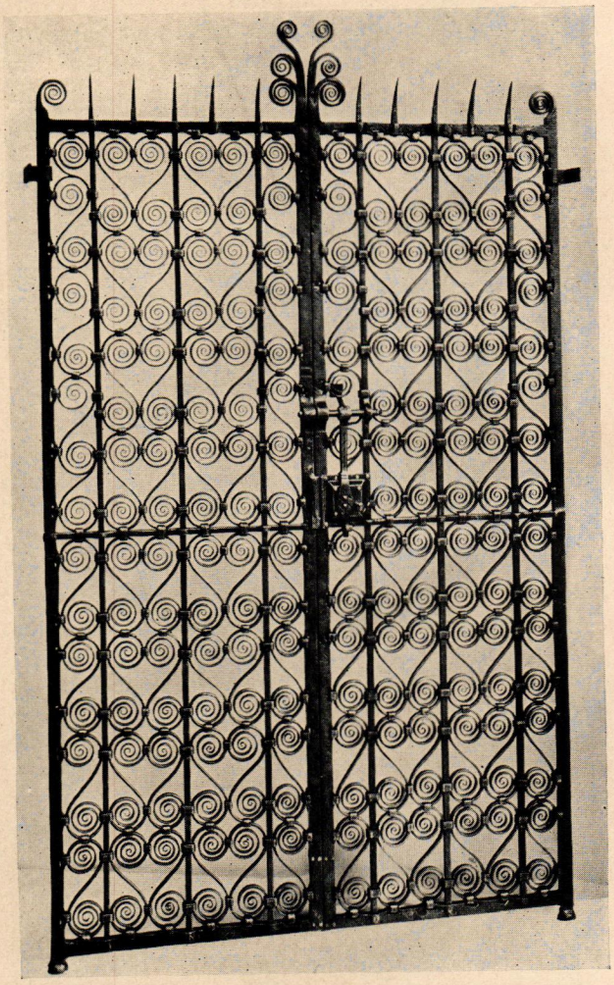
On account of its pronounced contrast to other decorative materials when used in a scheme of interior architecture, as wood, plaster and upholstery fabrics, a little iron goes a long way. It should be used sparingly. A touch of it in a scheme will at once create interest by its conspicuousness afforded by this contrast. The need for good design is thus emphasized, for when interest is effected by material alone, satisfaction must be offered by design. This resolves, then, into the question as to what constitutes a good iron design. First consideration must be given



CERTAINLY IN NO OTHER PRODUCT OF THE DESIGNER IS THE STRUCTURAL MORE SUCCESSFULLY COMBINED WITH THE DECORATIVE THAN IN THE BALUSTRADE. THE FRENCH SEEM TO EXCEL IN THIS LINE

the natural qualities of the metal itself,—its strength, its power and its malleability. The principal reason for the complete failure of *L'Art Nouveau* style of decoration, which made such a bold attempt several years ago to take its place in the history of art, was in the basing of its designs wholly on the forms of nature. The Rococo style of many years before, had also relied strongly on nature for its ornament, but, in using natural forms, they were then superimposed on a foundation of art. A successful design for ironwork should be so adapted. Before considering the forms to be used in the design, the nature of the material in which it is to be excuted must be understood. Such a statement is in no wise limited to iron designs. Second consideration must be given the natural method of fabrication.

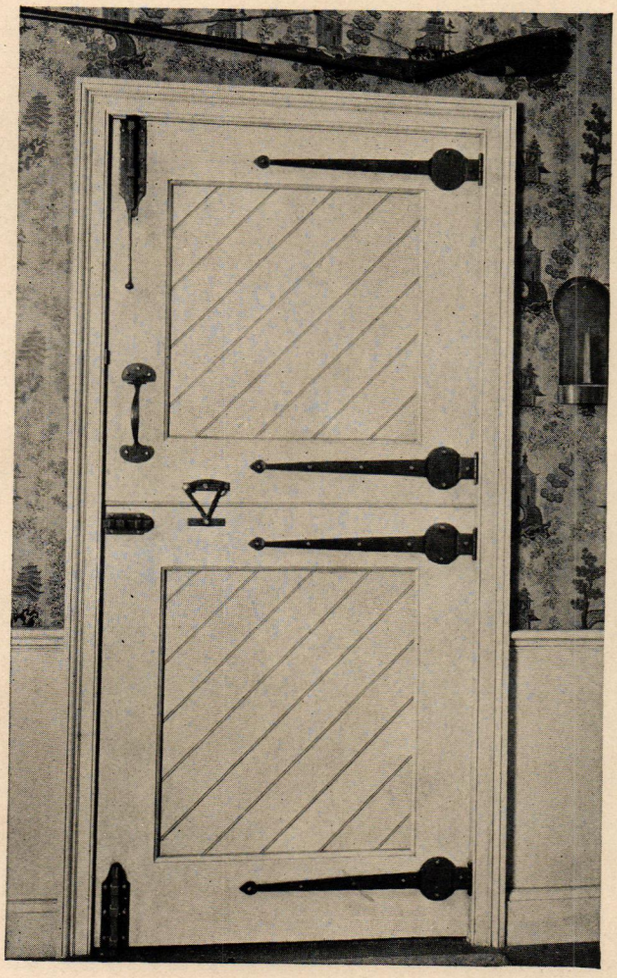
In substance, the design for ironwork will be affected in three ways. The first of these is in its detail. Although the strength of the metal has been conquered by modern machinery to such



THE USE OF IRON GATES IN INTERIOR SCHEMES HAS TAKEN ON AN ADDED INTEREST WITH THE REVIVAL OF OLD SPANISH IDEAS

an extent that it can be twisted and turned like a piece of tin, the beauty of the iron design, as evidenced in its detail, will be wholly lost if that fact of mechanical operation is made apparent. To include only such twists and turns in the detail of the design which human power alone could effect will retain in the finished product the natural qualities of the metal, and secure, at least, a natural method of fabrication. Secondly, the

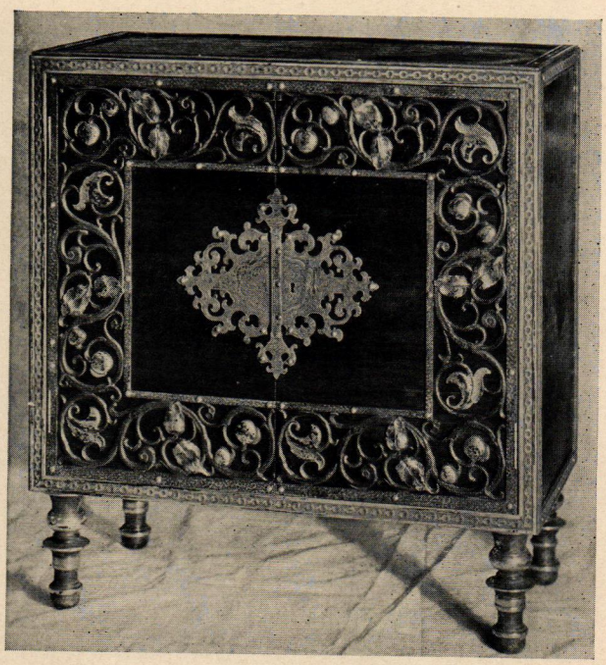
natural qualities of the metal will determine the scale of the design. Placed beside a wood chair leg, say, two inches square, an iron leg for a chair of exactly the same size and proportions to be in the same scale might be five-eighths of an inch square. The natural power of the iron is understood at a glance and its scale is determined in relation to it. Thirdly, the natural malleable quality of the metal affects the texture of the finished product. Heating the iron and hammering it while it is red hot into the shape desired gives the metal a texture which is lacking in the machine-made product, unless artifically produced.



THE ART OF THE IRON WORKER APPLIED TO A PRACTICAL PURPOSE. A DOOR IS GIVEN MORE THAN ORDINARY INTEREST WITH DECORATIVE HAND-WROUGHT HARDWARE

Although the Italians and Spanish were the first to adopt iron as a decorative product, they were by no means entirely responsible for its development as such. The earliest designers, of whatever nationality, found its main asset to be in its wonderful possibility of combining the decorative with the structural. The French delighted in it as a balustrading material, and probably some of the finest balustrades that the world has ever seen were designed and executed by the craftsmen of France. The small towns of Normandy are full of beautiful examples of ironwork of that period, and England, too, can boast of its share of decorative iron products. But in them all it can be seen, although sometimes beneath the surface, the touch of the old Italian or Spaniard, and naturally so, for they were actually imported into these foreign countries to teach their craftsmen the new-found art. And so are we learning it today.

Having become familiar with the principles which enter into the making of a good iron design, it is next necessary to determine when to use it, and why. Earlier in this article the statement was

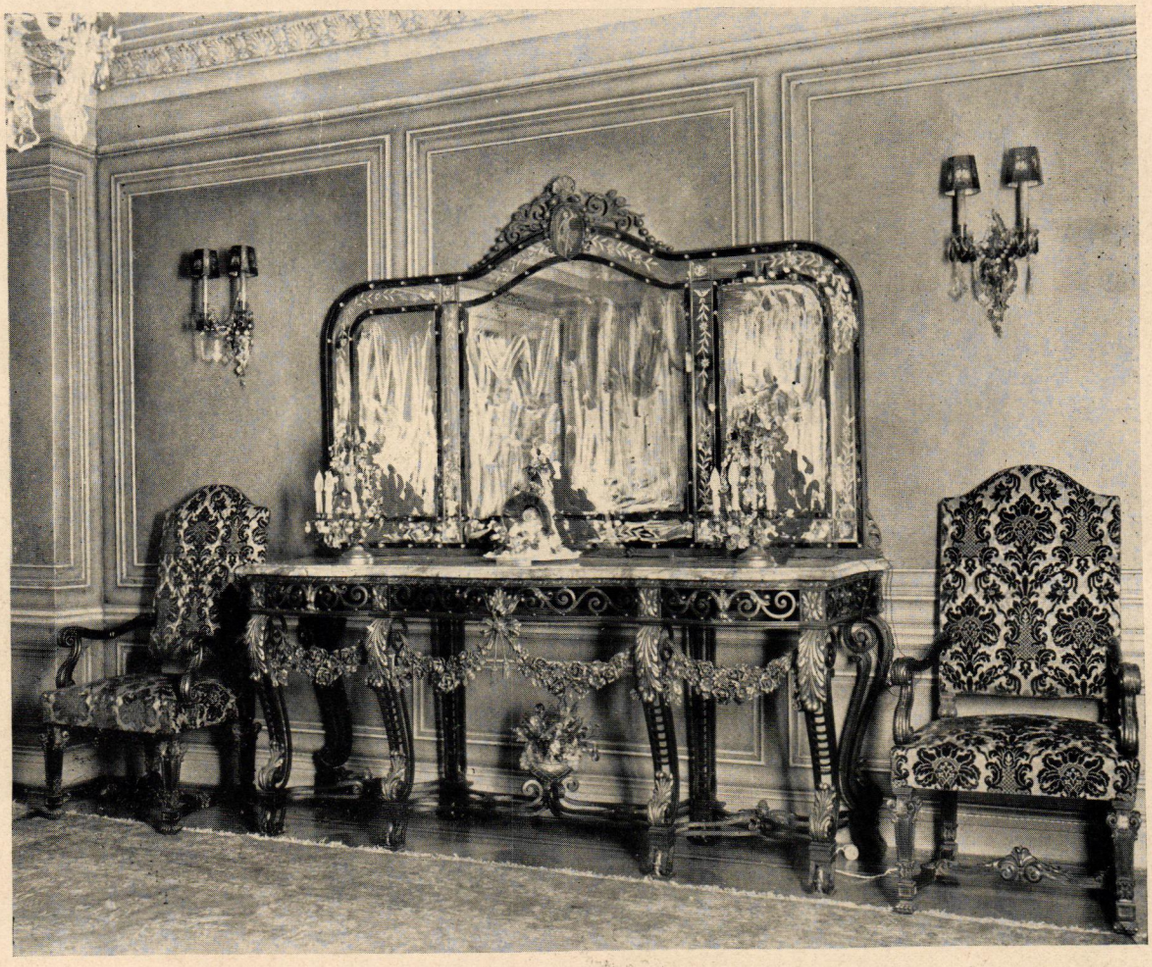


ILLUSTRATING THE EFFECT OF COMBINING IRON AND WOOD IN A DESIGN. THE IDEA WAS FIRST CONCEIVED, NO DOUBT, BY THE SPANISH, AS EVIDENCED IN SOME OF THEIR EARLY PIECES

made that iron should be used sparingly. That statement is open to amendment. Added as a feature to the decorative scheme, it does, as remarked, create interest quite out of proportion to its distribution. In such cases, the statement as made holds good. There are times, however, when it seems advisable that the entire scheme portray a character combined with which iron would be more in harmony than in contrast. In that case, iron could be and should be used freely, for iron has a character which is not common to many other decorative materials, or structural ones, either. It might be described as crude or cold, hard or rude. In such a case, the statement then, must be amended to read that iron should

be used sparingly or entirely in a decorative scheme, meaning, of course, where it is adaptable. When used in any great quantity, it casts a spell over the entire room which no other material can quell. Thus it must not only be used throughout the entire scheme, but all other decorative and structural materials which enter into the scheme must be in accord with it. That is, they must be in the same crude or hard character. On page 189 is reproduced a photograph of an entrance hall which illustrates this point to perfection. The balustrade, the console table, the mirror above it, and even the hardware on the doors are all of iron. Iron dominates the scheme completely. As a consequence, all its products and materials are treated to harmonize with iron in character and in design. The walls are carried out in very rough plaster, the floor is of tile, the door trim, with its simple detail, is in keeping, and the doors themselves, of solid wood, thoroughly harmonize. The unity of detail, scale and texture throughout all materials makes for complete harmony. Iron is still conspicuous in the scheme, but, in this case, on account of the quantity of it used and not on account of its decided contrast. Contrast enters in through other channels, through the color scheme, perhaps.

This discussion applies more especially to schemes in which iron is used as a purely decorative material. When it has a decidedly structural meaning as well, the reason for its use is conceded and it does not, therefore, influence the rest of the scheme to the same extent. Take a room, for instance, in which iron lighting fixtures are used. Iron has a real structural significance there, and its decorative value is secondary, although materially assisting. It is not necessary, however, for iron to appear anywhere else in the



DINING ROOM IN APARTMENT OF MEYER ROSENBERG, NEW YORK CITY

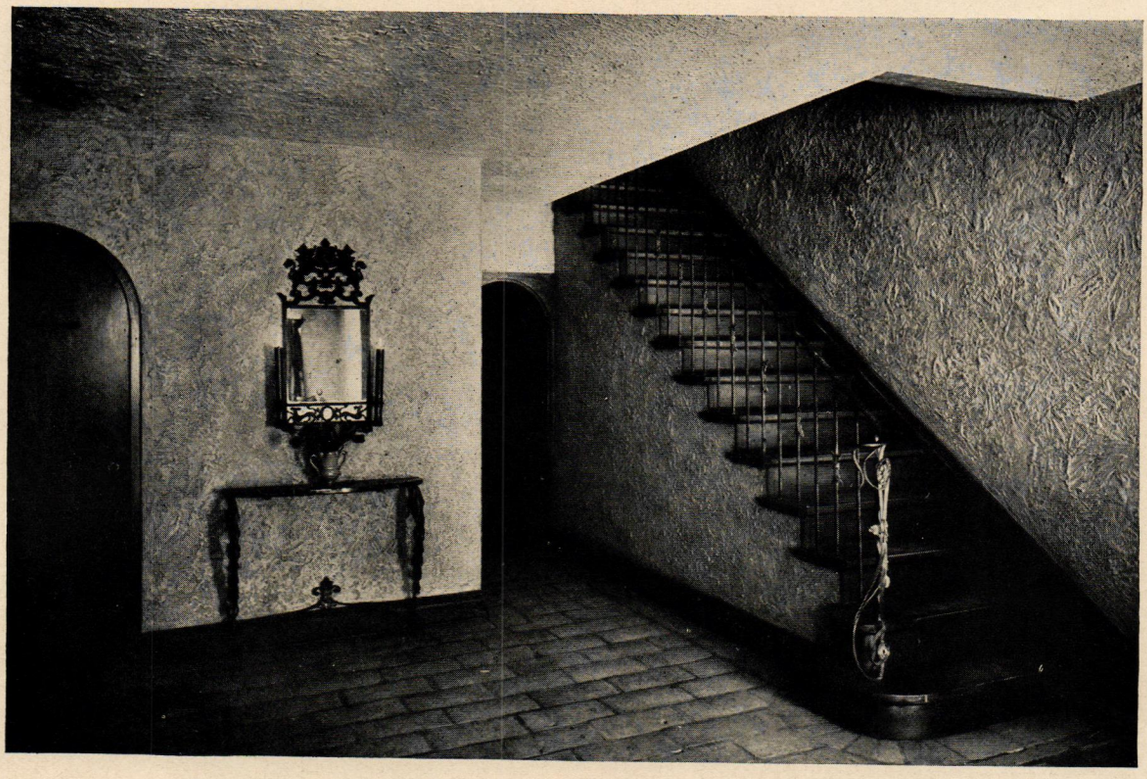
HERTS BROTHERS COMPANY, DECORATORS

The iron sideboard is made a feature of a rather elaborate decorative scheme. The design of the iron pieces, although often of very fine detail, is always in keeping with the natural qualities of the metal and its natural method of fabrication

scheme. Its reason is entirely accounted for, and the striking contrast is thus overlooked. In such cases, if it seems desirable to bring a metal product again into the scheme through some other channel, either structural or decorative, use iron for the sake of retaining unity.

It is rare that a room is treated in a scheme in which iron is the controlling influence. A sun porch might convey this character, or even a breakfast room. In the majority of rooms, however, iron is not allowed to dominate, and, when used, is only injected to add interest. The problem in such cases is how best to bring it into the scheme without allowing it to control. Several suggestions are found in the accompanying illustrations. The combination of iron and wood is especially interesting. The small cabinet shown on page 187 illustrates this idea. Heavy grained woods, like oak, chestnut and perhaps walnut are appropriate to combine with iron. The old Spanish craftsmen made use of iron in this way, an example of which is seen in the table so popular today in the revived interest in Spanish ideas. A curved piece of iron, often ornamental, tied the legs together and acted as a brace to the heavy wood top.

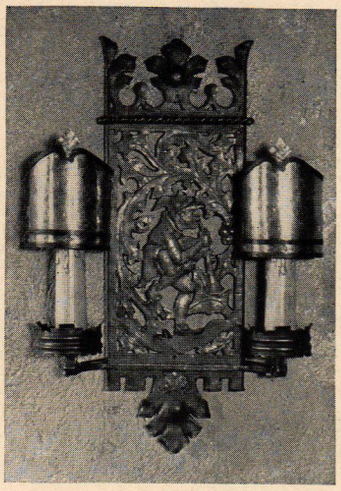
In looking to the old Spanish for ideas and inspiration, we find another suggestion which has proved to be very adaptable to modern decoration. That is in the use of the interior iron gate. The history of the interior gate is in itself interesting. Many centuries ago, the sacramental vessel was perhaps the most precious thing that the church in Spain possessed. These vessels were made frequently of silver or other rare metal, and their value was no doubt tremendous. Aside from this, they had a sentimental attachment to the church which could not be expressed in terms of money. It became the duty of the church, therefore, to guard these vessels in absolute security. Thus was the *reja* originated. A gate of ornamental iron, in design suitable in every way to its sacred surroundings, was hung at the opening to the sanctuary, in which the sacramental vessel stood. While in its modern adaptation, the interior gates lose a certain amount of interest on account of having no structural value as a protection—a quality which made the old *reja* so approriate—



ENTRANCE HALL OF THE HOUSE OF DR. H. R. MIXSELL, NEW YORK CITY

FRANK J. FORSTER, ARCHITECT

Iron plays a very important part in the decorative as well as the architectural scheme. A balustrade with a very interesting newel, a console, a mirror above with brackets attached, and ornamental hardware on the doors are all made of iron. They are appropriately combined with rough plaster walls and a tile floor and solid wood doors



WALL BRACKET OF IRON WHICH COMBINES WITH ITS PRACTICAL VALUE A REAL DECORATIVE INTEREST

they can be made to serve a decorative purpose which is not out of place. On page 186 is illustrated a pair of interior iron gates which would add interest to most any scheme.

Again taking the cue from the old Italians and Spanish, we find wonderful possibilities in design in iron from the standpoint of shades and shadows. This phase of the subject has not been touched upon, for, in a later article in this department, it is intended to take the subject up in detail. It is unfortunate, however, that such little attention is given in design to the use of shades and shadows. The free and open designs with which iron can be executed presents an opportunity for interesting cast shadows which should be taken advantage of. It requires but a glance at some old time photographs to see how well the Italians and Spaniards grasped this opportunity.

IRON USED AS A PURELY DECORATIVE PROPOSITION. AN ORNAMENT IN SILHOUETTE PLACED OVER A MANTEL PIECE GIVES A CERTAIN PERSONALITY TO THE ROOM

A PURELY DECORATIVE USE OF IRON MADE TO SERVE A PRACTICAL PURPOSE. THE IRON BRACKET CARRIES A HAMMERED COPPER BOWL FOR FLOWERS AND PLANTS

Architects are invited to correspond with the editor of this department regarding any problems of interior design or the availability of materials.

Acknowledgment is made to the following firms for their courtesy in supplying illustrative material: P. A. Fiebiger, Kantack, Heath & Warman, The Segar Studios, Inc., Arthur Todhunter, Samuel Yellin.

The LONDON GUARANTEE *and* ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, Inc., Architect

THE London Guarantee and Accident Building occupies one of Chicago's most prominent building sites. Its commanding position, facing the south plaza of the Michigan Boulevard Bridge, makes it the outstanding structure when viewed from the north, the great open areas of the bridge plazas, the Chicago River and the proposed River Street improvement. To utilize this location to the best advantage, in order to obtain the finest architectural design and the maximum revenue production, the architect was confronted with several difficult problems—all of which were successfully solved. It was awarded the Gold Medal for 1923 by the Lake Shore Trust and Savings Bank for the best designed building erected during the preceding year in the North Central District of Chicago.

VIEW FROM THE RIVER

A major problem in planning was caused by the inability of the owner to acquire title to a property 24′0″ x 55′-0″ facing on Michigan Boulevard. The position of this tract is indicated by the court in the typical floor plan. Considerable study was given to the possibilities of improving this small lot as an independent project. It developed that any building erected on it could not be more than three or four stories high, because in a higher building the walls, elevators, stairs and utilities would consume approximately forty per cent of the entire area. The cost of construction and operation would be excessive and the returns in revenue would be inadequate, owing to the narrow frontage and the comparatively great depth of the property. It was then decided to use this area as a permanent light court and build around it in such a manner that it could be incorporated in the lower five floors of the building if it were eventually acquired. The upper floors were to be left as originally designed. After construction was started the property was secured and utilized as originally planned.

The principal elevation of this building faces the plaza where it can be observed from great distances and from several directions. The importance of its designing was recognized and many studies were made of it. The property line on this front is irregular and in order to secure a symmetrical elevation it was necessary to set the building back about 6′-0″ from the lot line on one side and an easement of this valuable ground was made to the city. The owners were finally convinced that the surrender of the property would be offset by the improved appearance of the building. A partial compensation accrued because the city permitted the placing of two portico columns partly on the city property at its widest point.

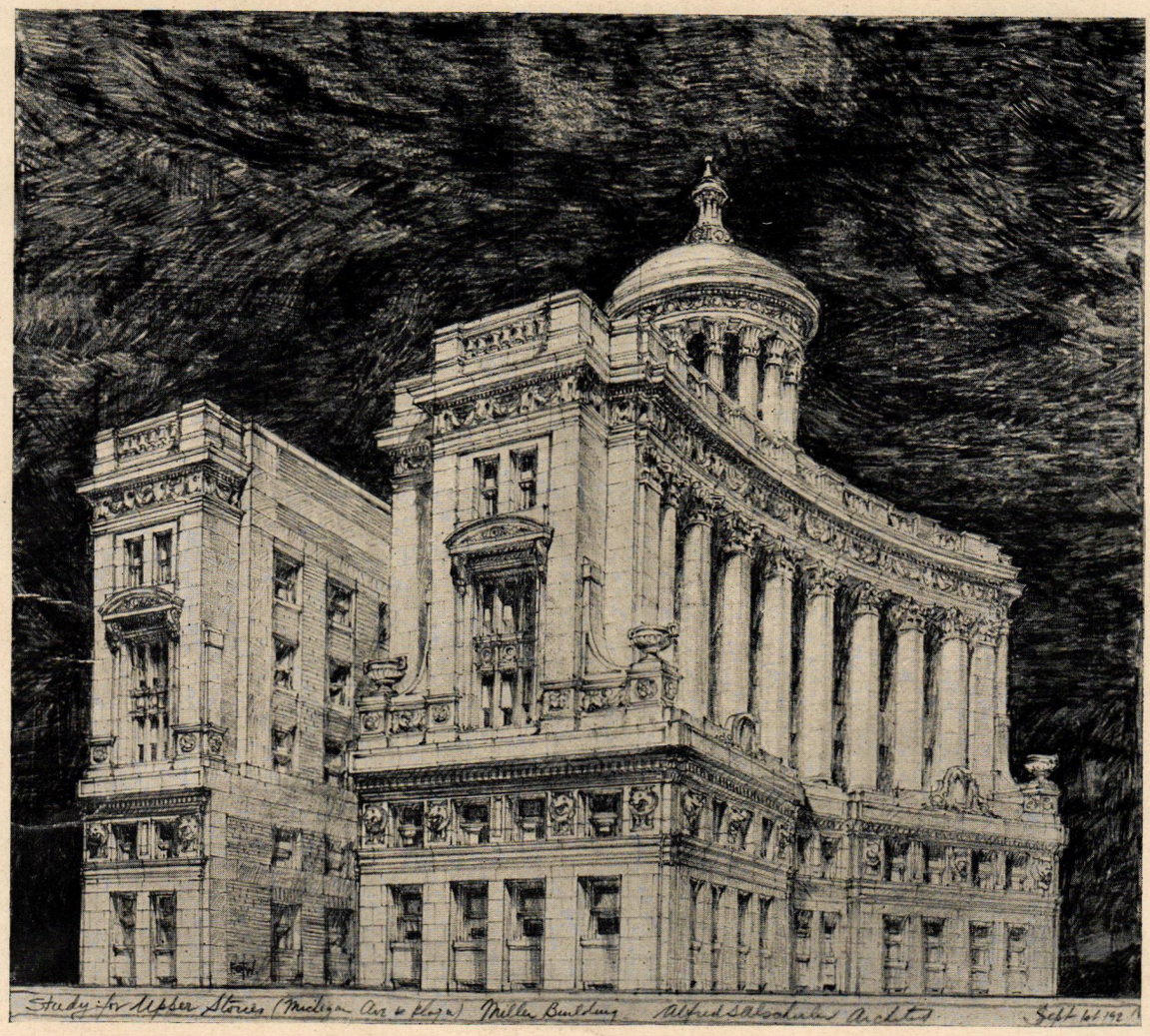
The two wings on either side of the court facing Michigan Boulevard presented a difficult problem as their widths were 24′-0″ and 44′-0″ respectively, and it was naturally desirable to secure a symmetry of design. After several trials, it was decided that each of these two wings should have a predominant feature in the upper stories in the

form of pylons, which are exactly alike. To accomplish this balance, the device of setting back the upper stories of the wider wing was employed. This, in turn, made possible the curvilinear treatment of the upper stories facing the plaza which added much to the effectiveness of that elevation.

The cupola has no practical use except for purely architectural purposes. It was also considered desirable to have a monumental entrance which would, of course, require a height in excess of the first story and possibly result in a loss of rentable area on the second floor. It was finally decided that this added height should be provided only for the vestibule and that the lobby remain entirely within the height of the first story.

The irregular shape of the site, affected by the small piece of property previously referred to, as well as the possibility of a future extension to the west, made the planning of this building most interesting and the problems were finally solved in the manner indicated by the plans.

The exterior of the building is made of Indiana limestone; the first floor vestibule and lobby of Travertine stone with floors of Carthage, Tennessee and Westfield green marble. The corridors above the first floor have Alabama marble wainscoting with floors of Carthage marble, and with Westfield green marble borders. The wood trim throughout is Mexican mahogany.



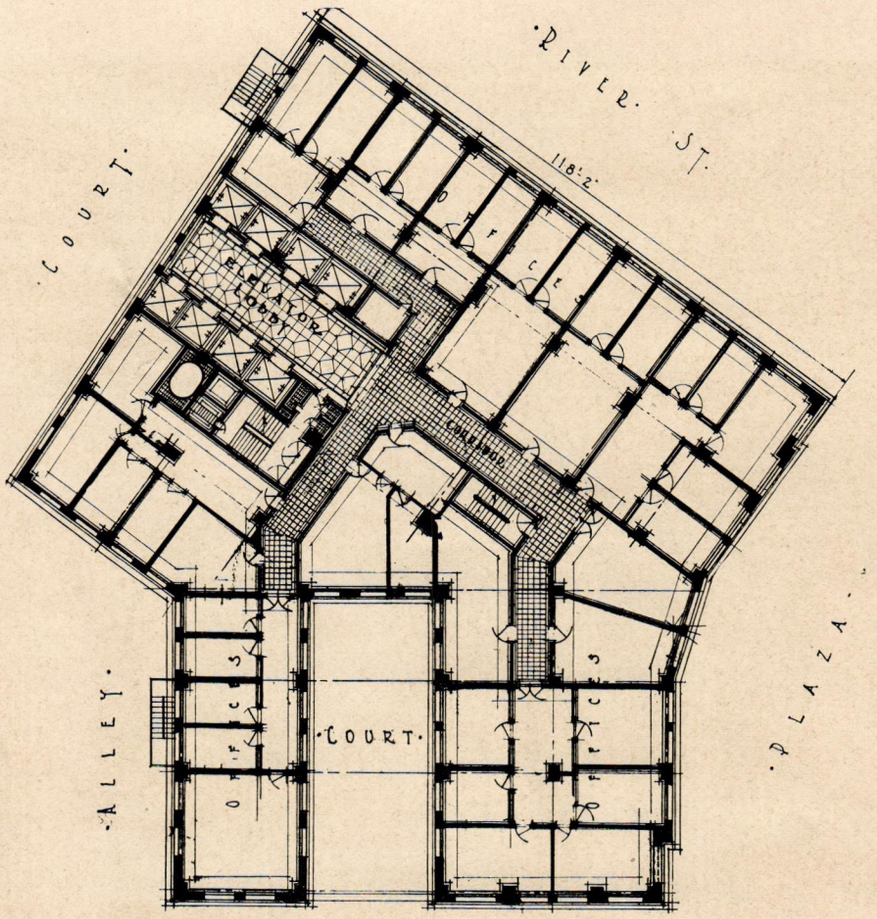
PRELIMINARY STUDY OF TREATMENT OF UPPER STORIES

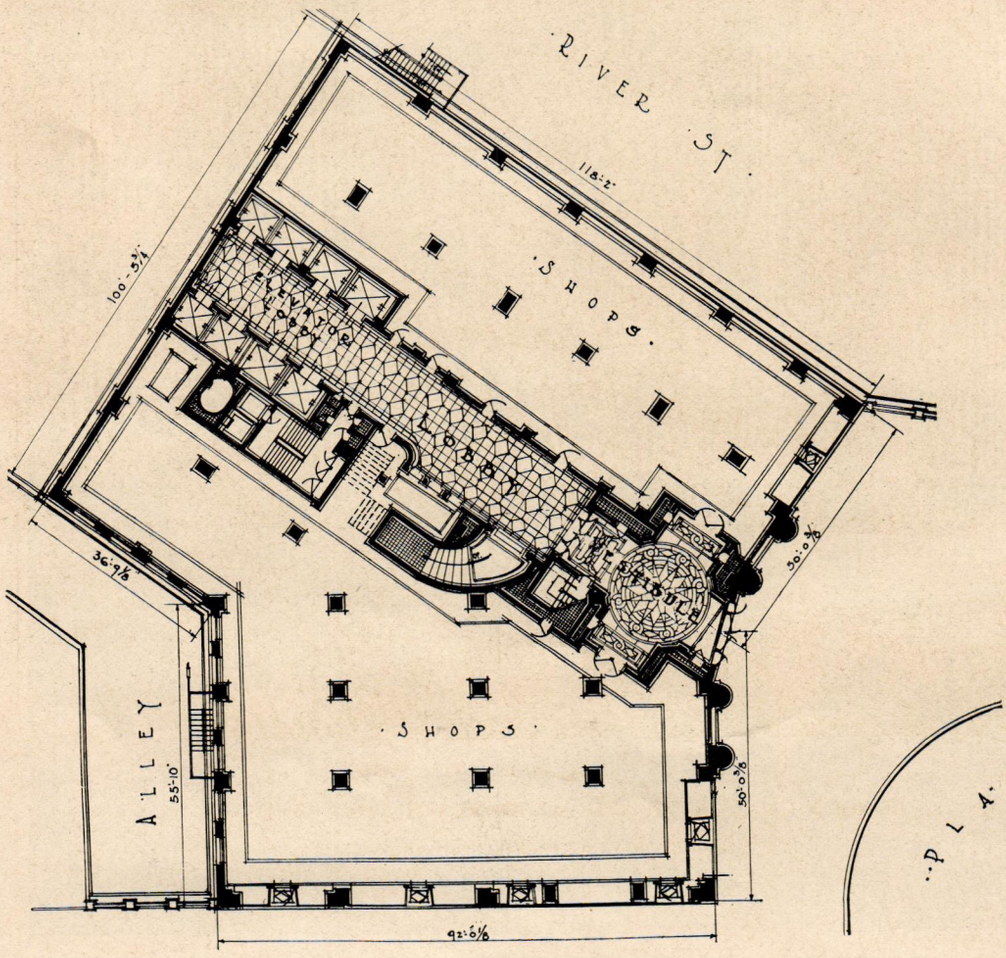
(From the drawing by F. O. Tupper-White)

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

(See plans on other side)





LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

DETAIL OF MAIN ENTRANCE

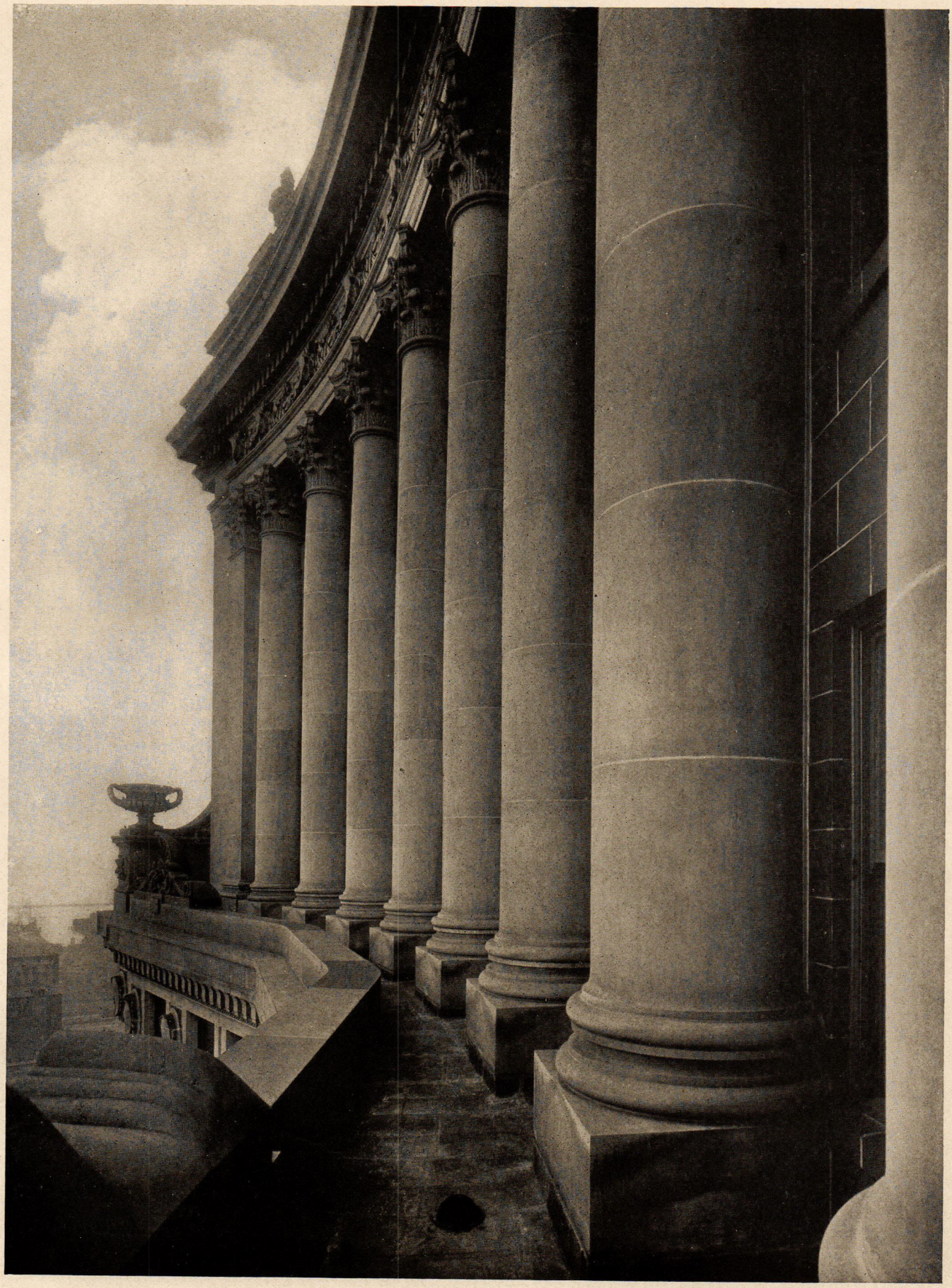
LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

DETAIL OF UPPER STORIES ON MICHIGAN AVENUE

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT



DETAIL OF UPPER COLONNADE, FACING PLAZA

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

DETAIL OF CUPOLA

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

DETAIL OF ENTRANCE VESTIBULE

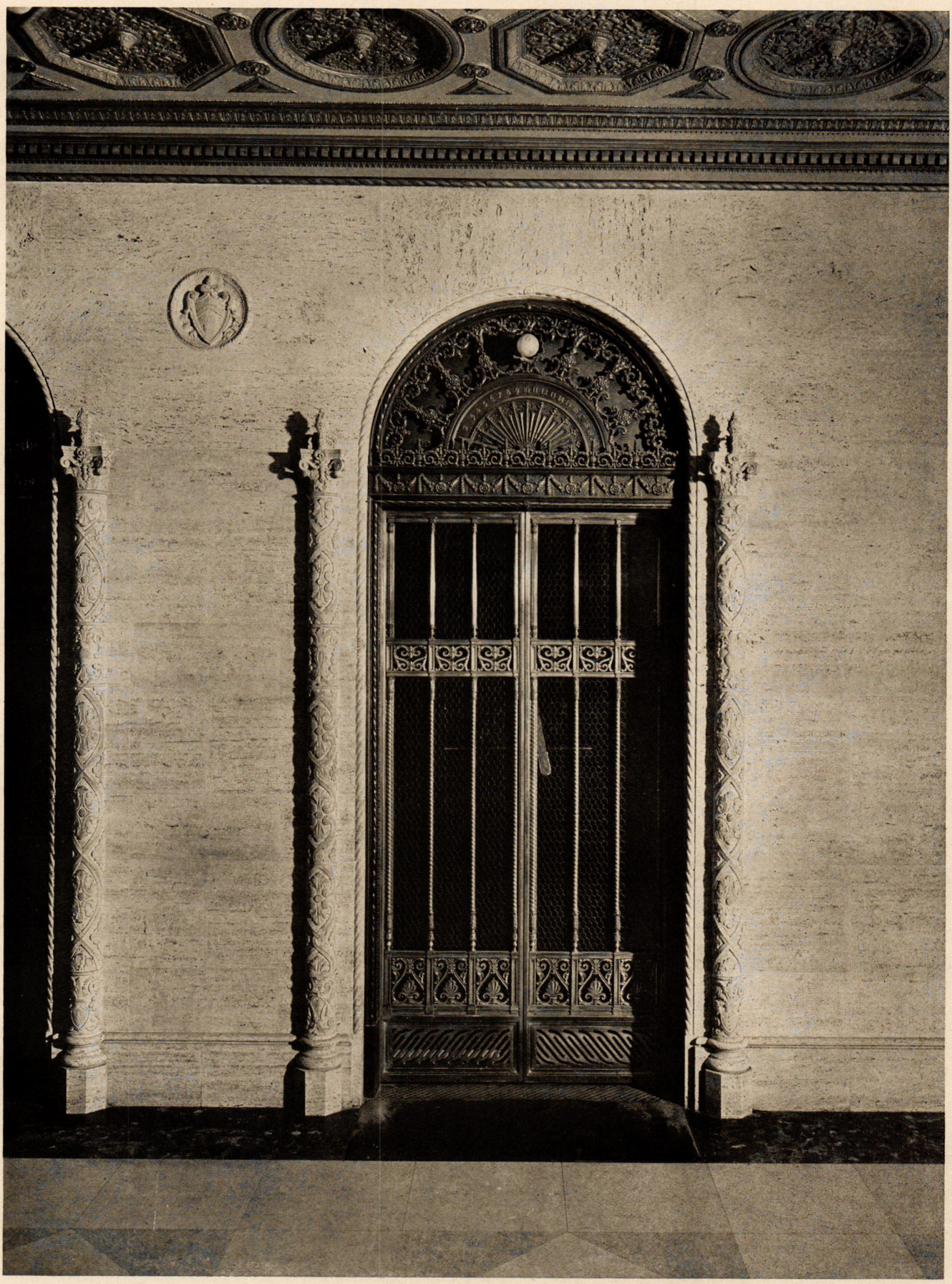
LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

CORNER OF MAIN ELEVATOR LOBBY

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT



DETAIL OF ELEVATOR DOORS

LONDON GUARANTEE AND ACCIDENT BUILDING, CHICAGO, ILL.

ALFRED S. ALSCHULER, INC., ARCHITECT

REVIEW *of* RECENT ARCHITECTURAL MAGAZINES

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

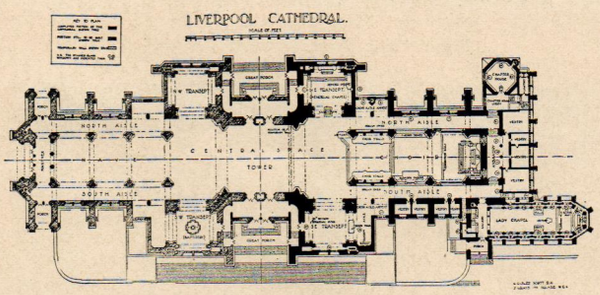
WE are continually being told by all sorts of earnest writers in those magazines for which earnest writers always write, that this is a commercial age, an age of invention and industrial development, a new, wonderful modern age, and that everything that is to be done in the arts of painting and sculpture and architecture nowadays must be new and wonderful and modern, and that if it isn't, it is merely the rattling of dry bones and is reactionary and plagiaristic. Now there can be no quarrel with the first part of this statement, unless indeed the quarrel would be on the ground that such a statement is unnecessary, another glimpse of the obvious. There are signs aplenty to show that unfortunately commercialism is indeed rampant, and there can be no question that our age is modern, a most natural

From "The Builder," London

LIVERPOOL CATHEDRAL
GEO. GILBERT SCOTT, R. A., ARCHITECT
VIEW OF THE COMPLETED SCHEME, BY T. RAFFLES DAVISON

concomitant to be sure, and in many respects it can even be called a wonderful age, but the second part of the statement is decidedly a *non sequitur*. If, for example, it has been the habit of painters in the past to represent the moon as silvery and round merely because it happens to look that way, the field of the earnest modernist seeking for a new and wonderful expression is obviously limited to fancy and not to fact; he must make a square moon or a heart shaped one or one of some other pleasing shape and he must paint it pink or green if he wants to be modern; and if the sculptors of classic time have moulded the human figure as they saw it in the best developed types, the modernist, to be a modernist, must perforce model his figure in a fashion never before seen on earth, and it must be acknowledged that viewed in the light of novelty he has often achieved a notable success. Similarly the architect must close his eyes to all that has been done and invent some perfectly new and original form that will express the steel frame or concrete construction of modern times. There are countless other allus-

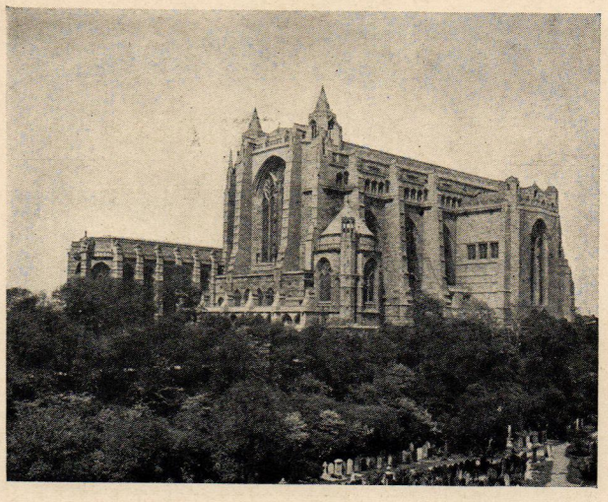
From "The Builder," London



LIVERPOOL CATHEDRAL PLAN

ions that would be pertinent, but to pursue the subject further would raise the cry of hobby riding and draw another letter from Mme. X, and therefore we merely present as a sort of horrible example an exterior and an interior view of the Church of Notre Dame at Le Raincy, Seine-et-Oise, France. Here is a distinctly modern church,

From "The Builder," London

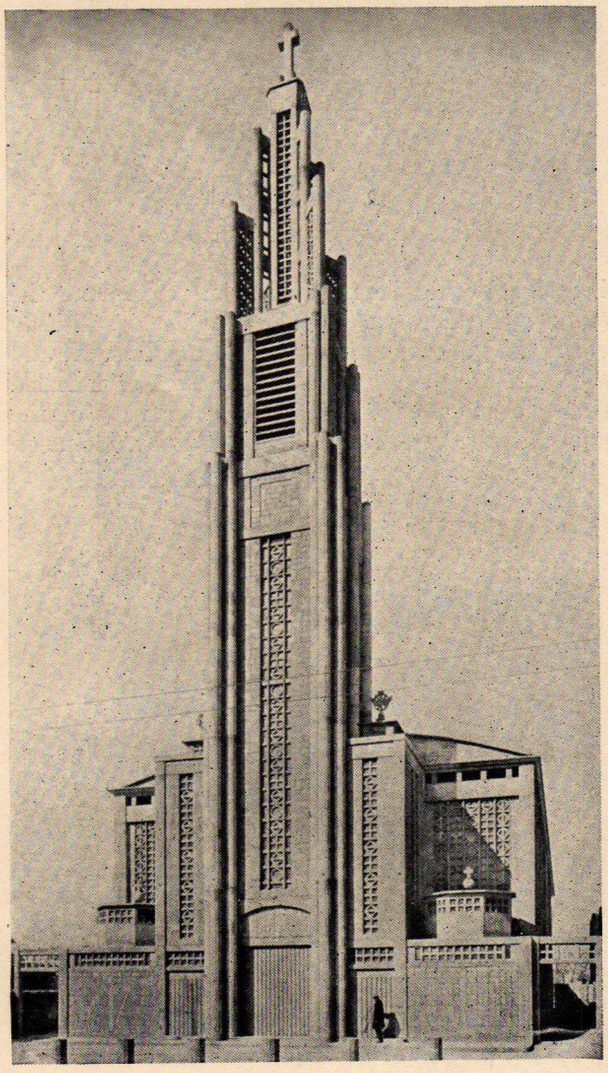


THE CATHEDRAL CHURCH OF CHRIST, LIVERPOOL
VIEW OF THE CATHEDRAL FROM THE NORTH EAST ACROSS ST. JAMES' CEMETERY
G. GILBERT SCOTT, ARCHITECT

done in reinforced concrete in a most practical and ingenious manner. It seems to seat a large number of people, and, being all windows, it is economically lighted. The buttresses on the tower might have been cheaper if they were square, but it may be that the builder had at hand a number of forms for concrete piles and was thereby enabled to indulge in a moderate and inexpensive flight of fancy. Of course, we sincerely hope that the Germans will never again get into France, still—

But it is pleasant to think that all modern churches are not modern, and in point of fact it is most pleasant and not a little remarkable to think that they are building churches at all in this commercial age. And yet they are, a large number of them, and of a most pleasing variety and generally of a very high degree of excellence.

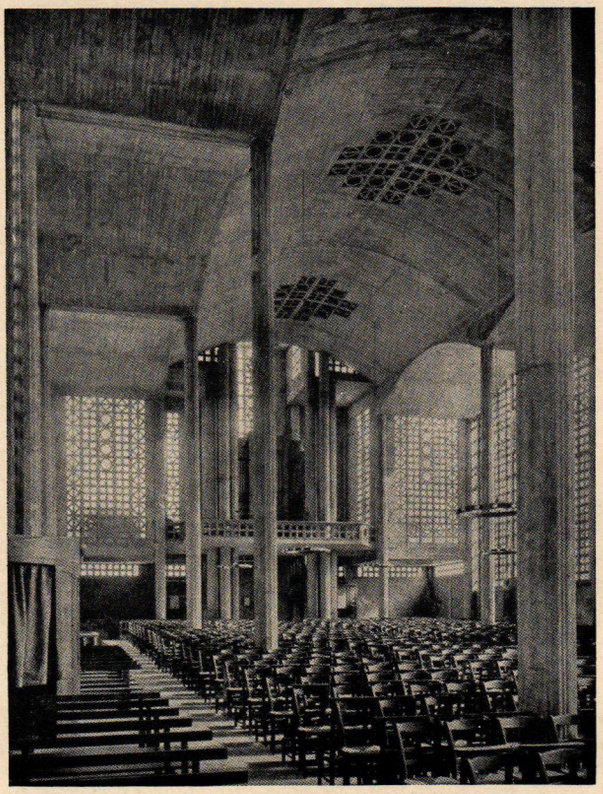
From "The Architectural Record"



MAIN FACADE
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. AND G. PERRET, ARCHITECTS

In the last ten years there have been built many country churches that were good, some Gothic or nearly so, some Colonial and some just churches; there has been much large work that is fine and there are at least four great cathedrals now in course of erection. It all goes to show that Christianity is not dead but is growing,

From "The Architectural Record"



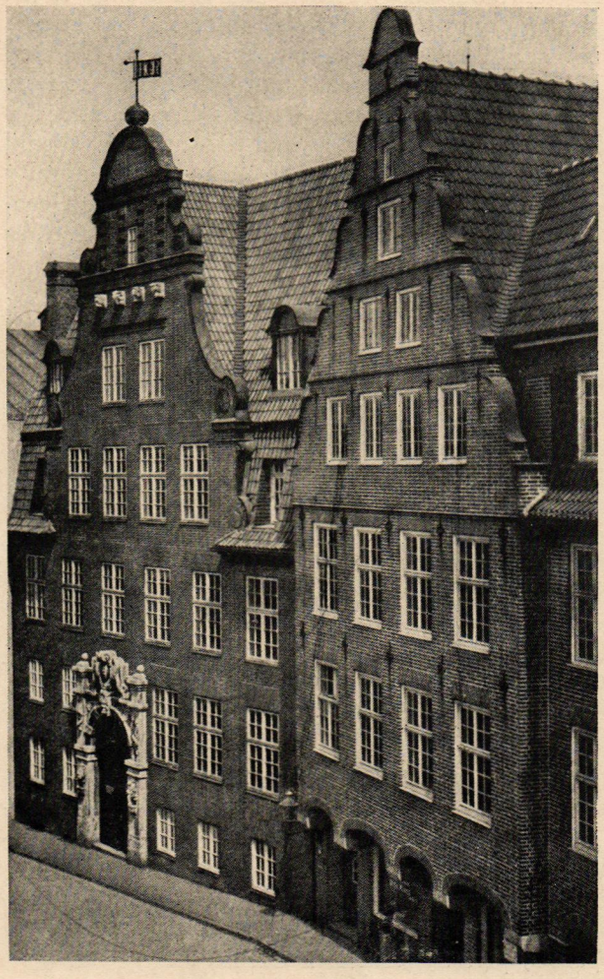
LOOKING TOWARDS TOWER
CHURCH OF NOTRE DAME AT LE RAINCY, SEINE-ET-OISE, FRANCE
A. AND G. PERRET, ARCHITECTS

and that the atheism adopted as a national creed by the filthy crew in power now in Russia, and from them copied by certain moderns in this country as being smart and up-to-date, is merely a passing phase that is unnatural to all rational human beings. That it is remarkable that churches are being built in this commercial age is not then because the will to build is lacking but because of the difficulty in obtaining the means. In the old days there was but one church and that church was rich and powerful; now there are thousands of sects, unfortunately more or less antagonistic to each other and sometimes divided among themselves, disassociation is general, and money to build comes only from public subscription and occasional benefactions. It is relatively easy to raise millions for an office building or hotel but it is hard to build a cathedral, and yet they are being built. The English

magazines lately have profuse illustrations of the Liverpool Cathedral which has recently been consecrated. It is an extremely remarkable thing, this Cathedral, unquestionably one of the best church buildings of modern times, and most remarkable of all, it was designed by a very young and therefore inexperienced man. Some may say, some who are sceptical of the value of competitions in general, that it is chiefly remarkable because of the fine result that has come from a competition, but in this we cannot agree. In any case it was won in competition some twenty years or so ago by G. Gilbert Scott, then not much past his majority, and though there was much natural hesitation in confirming the award to such a young man, and though the confirmation was only made after the appointment of a more experienced architect as an associate, the Cathedral as it stands is Scott's design and his is the glory.

The plan, or rather the scheme, is unusual and without precedent. There are, or there will be when completed, two sets of transepts. This has been done, but never as Mr. Scott does it. His scheme is practically symmetrical each side of the central tower, the so-called central space being composed of the tower and the two large bays opposite the transepts, and this central space is considerably wider than the choir or the nave proper, and more than double the area of the nave. This symmetry may be a little too noticeable in the completed building; there may possibly be a lack of unity, the interest may have a tendency to stop at the central space and not go on to the end of the choir, to the reredos and to the high altar, but this is conjectural, and the real effect can only be approximated from a large and carefully made model. The exterior is simple and massive and of great scale, in point of fact the scale is so great that to judge from the photographs it defeats itself; the building does not look as large as it really is. The buttresses seem unnecessarily shapeless and the sharply pointed turrets or lanterns or whatever they are at the east end seem a little unhappy. Doubtless there should be something there, some accent, but these seem either too much or not enough. The square head windows in the side of the transept seem out of character. They are much too prominent. T. Raffles Davison evidently thought so for he has suppressed them in his fine drawing. But these points are minor and they are advanced with all diffidence: we do not feel competent to criticize Gothic art. The Cathedral, even in its unfinished state, is a noble achievement. The interior is even better than the exterior, very impressive, powerful, and dignified, and the detail is extremely fine. The treatment of the stone work is excellent, the jointing being particularly happy. It would be interesting to know just how Mr. Scott laid out his joints. They have a free look that only comes from work cut on the job. Perhaps they do such things better in England than they do here, perhaps the stone cutting plants there are not all run by machinery and all stones drawn out, figured and ticketed. We have always promised ourselves that some day we will arrange matters so that on our next building the courses will be of random heights and the vertical joints will come at

From "Moderne Bauformen"

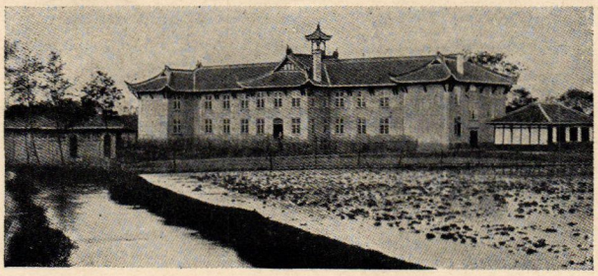


BUILDING IN LUBECK
WILLI GLOGNER, ARCHITECT

will, and we have even so specified it, but we have inevitably found that the stone cutter's idea of random is to have all courses the same height and all stones the same length except for an awkward shaped closure in the most prominent place, the clause at will being interpreted to mean just four inches from the corner instead of twelve. But to return to the Cathedral; there has been some discussion in the English papers as to the style, whether it was really Gothic or whether it was Gothic with a dash of Classic or whether is was just modern Gothic. Our own better judgment warns us that with our

scant knowledge of the subject we should avoid this point but we really can't let it alone. We have a strong feeling that the plan is Classic and that a good Classic interior could be made of it barring the fact that the interest would be in the center and not at the altar; we cannot help feeling, much as we admire the interior, that while Mr. Scott has obtained great power and majesty by the simplicity of his scheme, he has by that very simplicity lost the wonderful perspective, the mystery, the play of light and shade that is the great glory of the true Gothic interior. St. Peter's is magnificent but it is not Amiens. A cathedral is not merely a great hall, nor is it a place to hear sermons; it is for the proper performance of a highly ritualistic service, and the cathedral should lend to that service all the solemnity, the dignity and the mystery that the mind of man can conceive. Take an extreme case, a pagan case to be

From "The Builder," London



WEST CHINA UNION UNIVERSITY: SCATTERGOOD MIDDLE SCHOOL
MESSRS. FRED. ROWNTREE, F.R.I.B.A., & SONS, ARCHITECTS

sure, the Hypostyle Hall at Karnac; the enormous columns, the brilliant light from the Clerestory gradually fading until the outer rows of the columns are lost in obscurity, the endless vistas, the impression of infinite space, the color the haze of the incense, the procession of richly garbed priests—that is a Cathedral.

And there is another point in the treatment of modern Gothic such as the Liverpool Cathedral and the work of Mr. Goodhue; the enormous masses of plain masonry and the relatively small scale of the detail. It is effective, particularly in a drawing but the small scale of the detail does not always give greater size, on the contrary, the contrast in scale often seems to reduce the real size. And then too, there is a tendency to boxiness in the use of plain surfaces, and all the most charming detail in the world cannot give shape or proportion to a square box; at a distance the detail is lost and the crude shape only remains. In the old work, as we see it, the detail was not particularly small, but on account of the broken surfaces, and the light and shade, an almost lacelike effect was obtained. But all this by the way. The fact remains that the Liverpool Cathedral in England and Mr. Goodhue's work in America, St. Vincent Ferrer's, the Intercession and St. Thomas's, all are masterpieces, well designed and well built. The future of church architecture is *not* in reinforced concrete.

Some time since, in these columns, we took occasion to animadvert rather strongly on certain recent work in India, saying, if we remember right, that certain buildings in Bombay might well have been erected in Brooklyn and that others in Calcutta had a striking resemblance to similar structures in Kalamazoo, the inference being that when you are in Rome it is well to wear a toga. We were really quite serious about that, although we hedged a bit by conceding that there might be somewhat of a difficulty in adapting the exterior of the Taj Mahal to the inner requirements of a railway station. We have recently been given a little food for thought on this subject by the publication in *The Builder* of London of a series of views of the West China Union University which is, we infer, somewhere in West China. We felt a little conscience stricken when we saw the West China Union University. Could it be that Mr. Rowntree had taken our flippant remarks seriously, and in a frantic endeavor to Chinify the building he had already erected, induced the Board of Trustees to sanction an extra and turned up the corners of his nice tile roofs and put the little pagoda dewdad on the chimney? It seems hard to face, but it looks that way. But what should he have done? Or what would you, gentle architectural reader, do if you had such an alliterative problem as a Union University in West China? Would you do a Colonial stunt or Tudor Gothic or would you merely lay out a ground plan, give a few story heights and let some experienced West Chinaman play the part of George and do it. It is a neat question and we pause for an answer.

Skipping hurriedly from West China to Germany we reproduce from *Moderne Bauformen* a building in Lubeck which evidently fulfills some good purpose, just what we can't make out from the title, but whatever it is it is a very welcome relief from the German work that is usually published and the architect, Willi Glogner, is to be congratulated. In our own magazines *The Architect* publishes some views of Manhattan College by James W. O'Connor, James F. Delaney, Association, which are simple and interesting, particularly the entrance to the Administration Building, some work in Los Angeles of great charm and appropriateness by Morgan, Walls and Clements and an extremely good bank, the Integrity Trust Company in Philadelphia by Paul Phillipe Cret. Here is a little building that is distinctly Classic but not in the least archaeological. Here is no rattling of dry bones.

STADIA—PART IV*

BY ROI L. MORIN

IN modern stadia, economy is undoubtedly the most important single factor entering into design, otherwise we should build the monumental masonry structures of the ancients, instead of light concrete and steel stadia cloaked with classic lines. But the cost of stone masonry is prohibitive under modern labor conditions, and designers vie with each other to produce practical schemes with the greatest possible economy. At Tacoma, Washington, a stadium was built in a natural basin at a cost of $6.75 a seat for 30,000 seats. The Palmer stadium at Princeton, a reinforced concrete structure, costs but $8.50 a seat for 50,000 seats. This is not a safe figure by which to judge, however, as it did not include actual seats, spectators being forced to sit on the concrete steps. Moreover the Princeton stadium is not structurally sound, having spalled and cracked in an alarming manner. It is gradually being rebuilt. Too much speed was demanded during construction.

At the University of Iowa, in Iowa City, a unique, all-steel stadium was built at a cost of $6.60 per seat. This structure was described and illustrated in THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW of April 11, 1923, Vol. CXXIII, No. 2417.

In this article two stadia, the low unit cost of which is an interesting consideration, will be described—the University of Kansas stadium, at Lawrence, Kansas, and the Stanford University stadium, at Palo Alto, California.

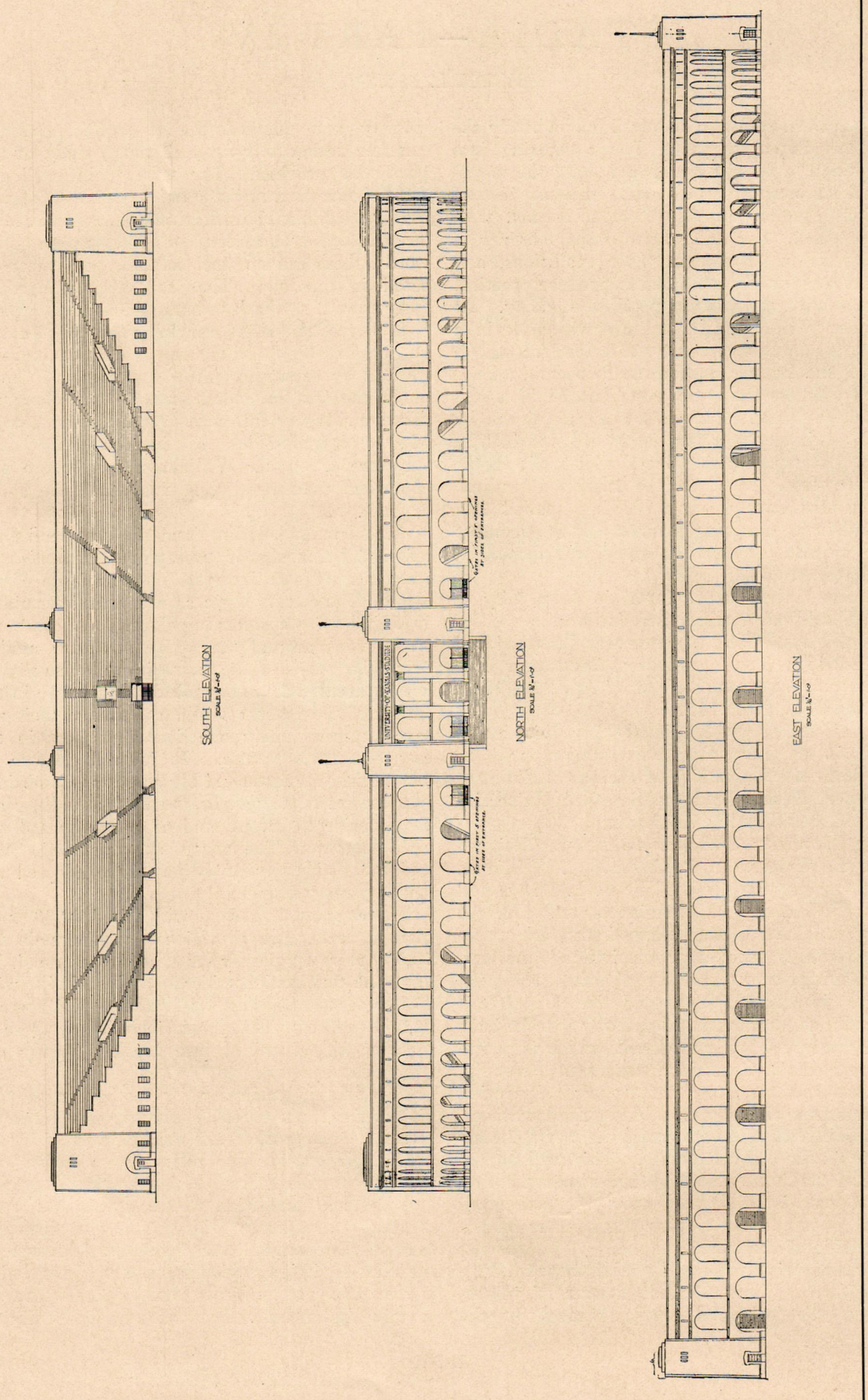
The University of Kansas stadium was designed under the direction of Professor C. C. Williams, consulting engineer, assisted by F. L. Brown and L. H. Dodds, designing engineers, and LaForce Bailey, architect. It is a U-shaped structure, whose architectural features are much similar to the Harvard stadium, except that the colonnade, along the parapet, is omitted, the second tier of arches is blanked, and a monumental gateway is to be built at the center of the curved end, which is not to be found on the Cambridge structure. Secondly, the cross section shows that the wall separating the seats from the playing field is quite low, thereby avoiding what is considered the worst characteristic of the older structure. This wall on the Harvard stadium is so high, or rather the first row of seats is so elevated above the field level, that it is impossible to view the runners on the nearer side of the track.

The design is simple and straightforward. Professor C. C. Williams made a tour of inspection to the principal stadia throughout the country and adopted the U-shaped reinforced concrete design only after thorough study of this particular problem. The term "reinforced concrete" when used in these articles serves to signify that the columns, beams, girders and slabs are all of reinforced concrete construction; in other words, there are no steel columns or girders encased in concrete. The seats are arranged in forty rows 2′-4″ back to back, the slope is a parabolic curve, the risers varying from 9½″ at the bottom to 13½″ at the top. The structure is divided by expansion joints laterally (97′ apart along the straight sides, and 80′-10″ along the curve, making seventeen sections). The advantages of the bowed sides, as in the Ohio State structure, Professor Williams found "more psychological than real," and not worth the added expense.

Access to and egress from the seat banks are afforded by means of twenty-five *vomitorias* arranged at regular intervals in the middle of the slope. These exits begin as ramps and terminate in flights of steps leading down to a concourse which runs around the entire structure, underneath the stands. These stairs, in unbroken flights, are apparently the most undesirable feature in the design of the Kansas stadium, although their use saved approximately one dollar per seat in the cost of the structure. It is well known to anyone who has attended big games at Cambridge that the stairs, though broken up by landings are far inferior to ramps, and are sometimes downright dangerous. The new structures at Ohio State and the University of Illinois have adopted the ramp system completely.

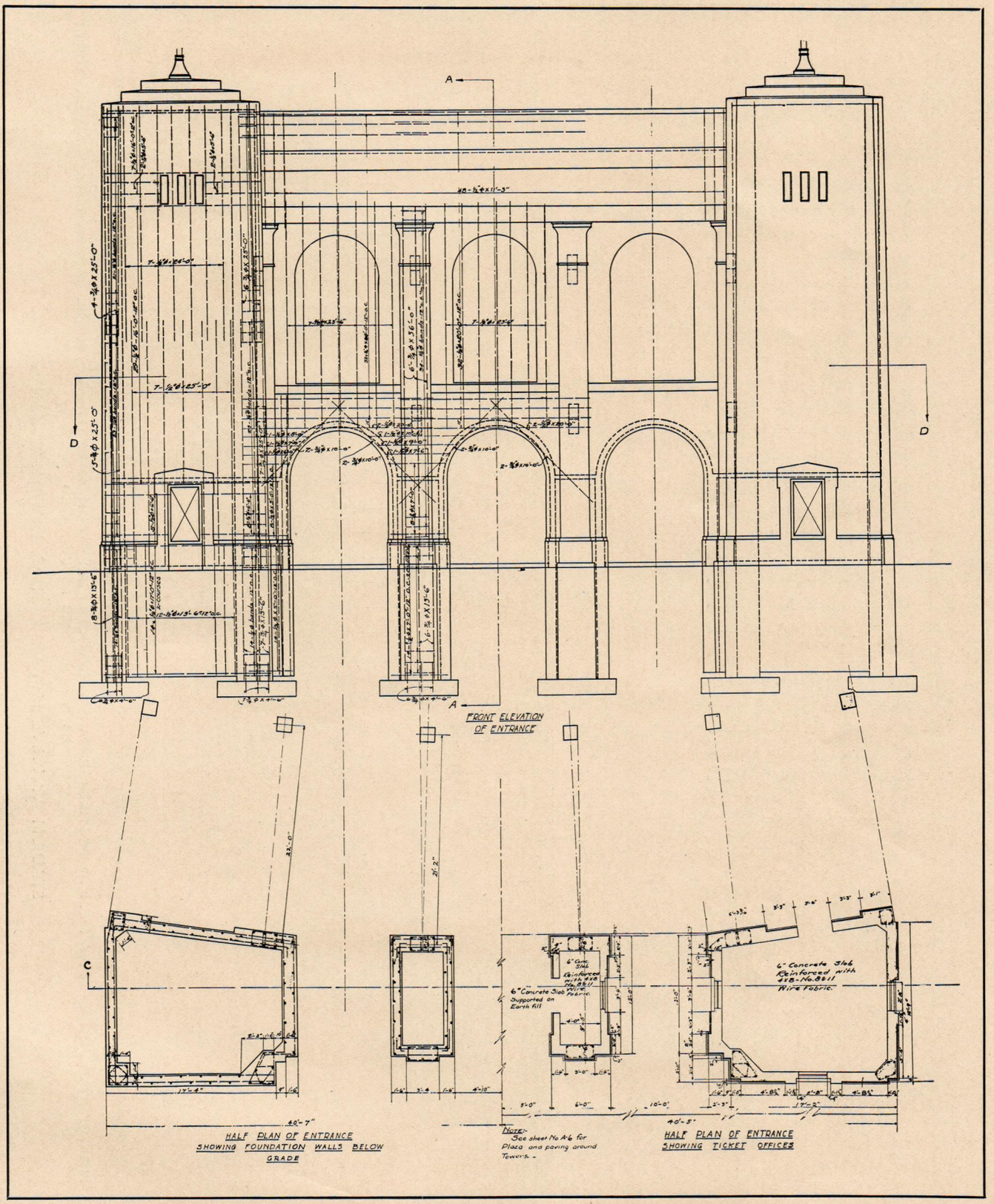
The completed stadium will afford 32,000 permanent seats, and provisions can be made for 10,000 more temporary seats, at the open end. To date, the two straight sides have been built, with 15,000 seats, and the total structure will average $11.50 per seat. This figure includes plank seats of Fir, on galvanized iron brackets firmly anchored into concrete.

The field is primarily for football, with provisions for track events, a quarter-mile track 21 feet wide and a 220-yard straightaway. Under the stands considerable effort and expense was made to provide space for sheltered track events, and handball facilities. Four men's and four women's toilets are provided at regular distances beneath the stands. An interesting feature of the Kansas design, which has not yet been built, is the two end towers. These towers are to contain club rooms, offices, showers and training



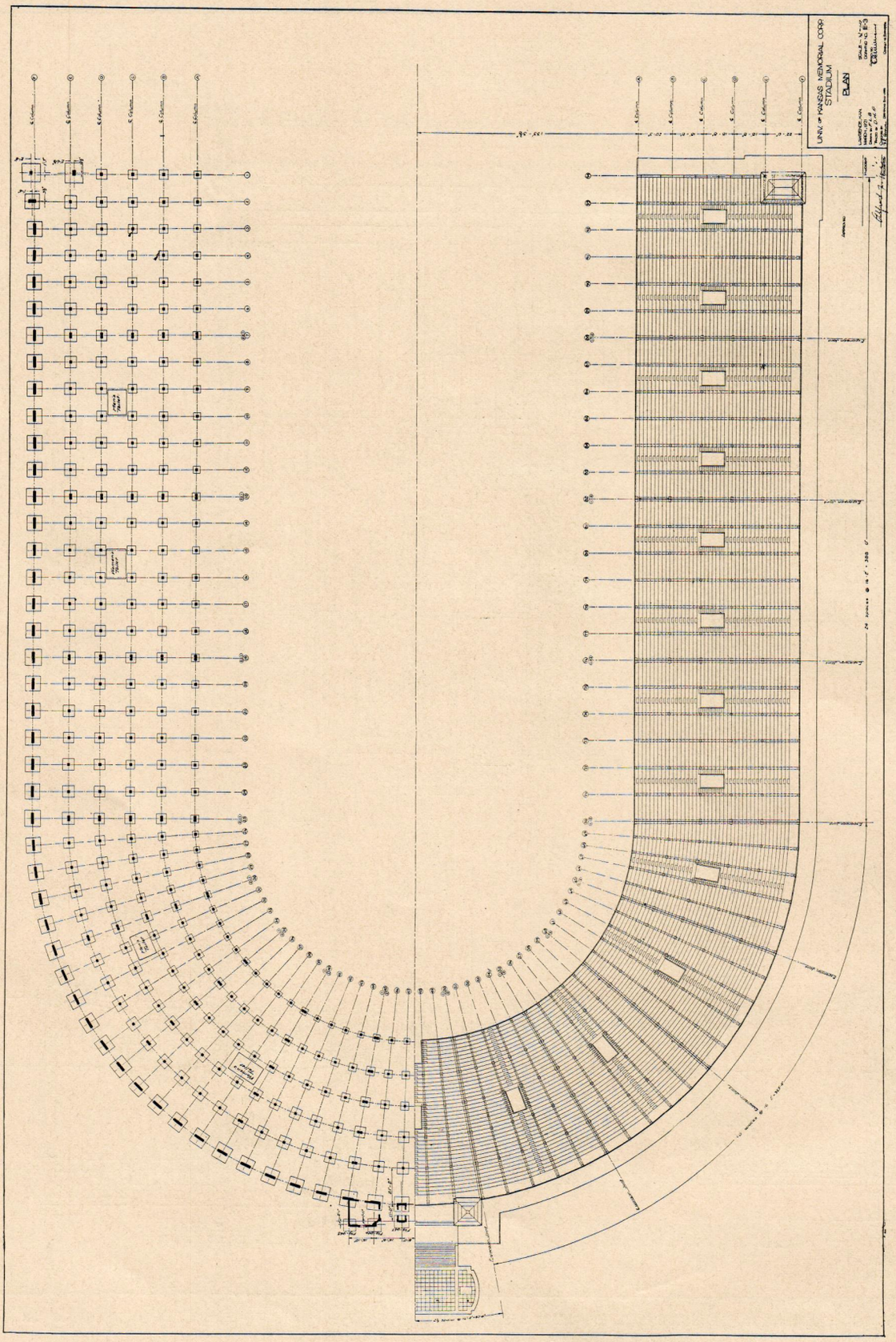
REAR, FRONT AND SIDE ELEVATIONS OF THE STADIUM. THE TOWERS ARE SUPPRESSED IN MAGNITUDE IN ORDER THAT THEY MAY NOT DETRACT FROM THE UNITY OF THE ENTIRE STRUCTURE

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS



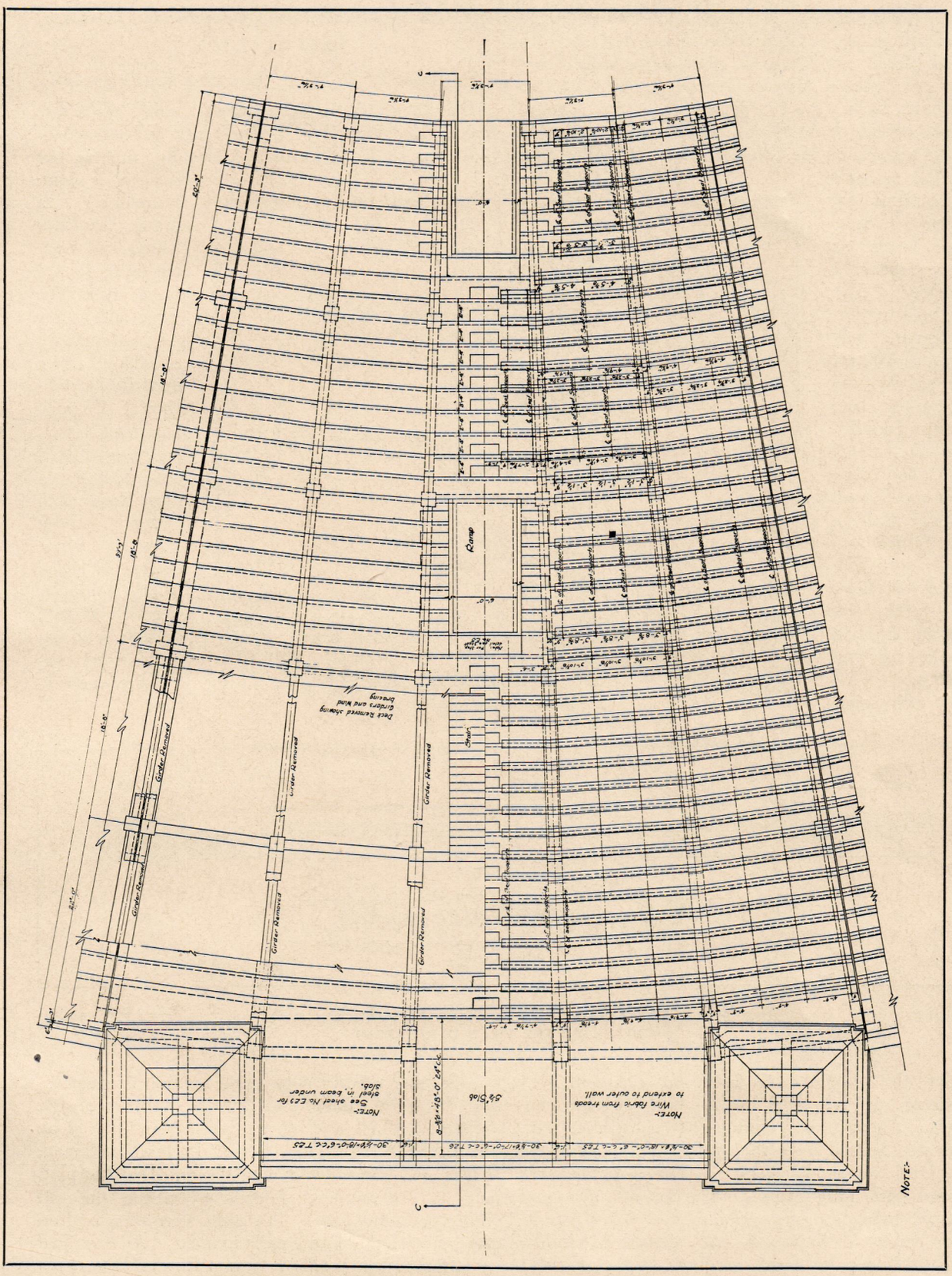
PLAN AND ELEVATION OF ENTRANCE TOWERS. MEMORIAL CHARACTER OF STRUCTURE IS DISPLAYED IN THE STRAIGHT LINES AND OVERLYING TABLETS

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS



HALF PLAN OF STADIUM AND HALF PLAN OF FOOTINGS. EXPANSION JOINTS 97 FT. APART HAVE PROVED TO BE SATISFACTORY. AMPLE TOILET FACILITIES PROVIDED AS INDICATED

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS



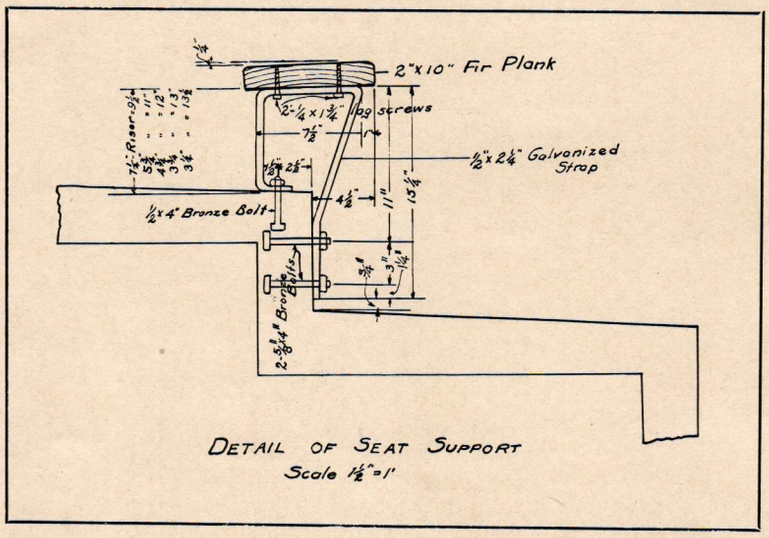
PLAN OF SECTION AT MAIN ENTRANCE. THE LARGE GATEWAY AT GROUND LEVEL AT CENTER IS FOR ADMITTING PARADES DIRECTLY TO THE FIELD

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS

rooms for the varsity, freshmen and visiting teams. Enclosed passages from these rooms lead directly to the field. At the main entrance a large doorway gives access, through a tunnel, directly on to the field, to be used for parades, etc.

The details of reinforcing are indicated in some of the accompanying illustrations. The foundation bed is a clay stratum on which 1½ tons were used as proper bearing capacity. The live load including impact was taken as 100 lb. per sq. foot of horizontal projection. In addition to steel rods, the seat slabs were reinforced with a wire fabric.

Approximately 25% of the total cost was involved in grading and draining the field and space

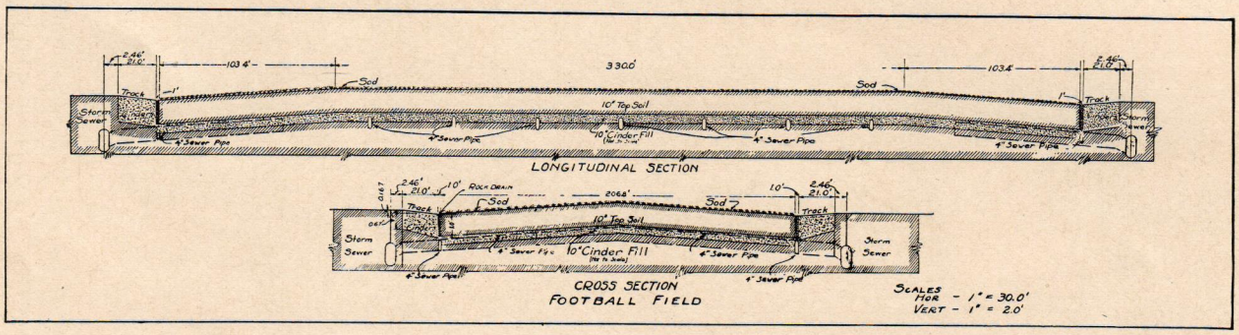


SECTION OF STADIUM SEAT. THE GALVANIZED IRON STRAP AND GRAY PAINTED FIR PLANK BLEND WELL WITH THE NATURAL COLOR OF THE CONCRETE. THE SEATS ARE FOUND TO BE COMFORTABLE. THEY PROJECT SUFFICIENTLY TO PERMIT THE FEET OF SPECTATORS TO SWING UNDER AND ALSO TO PREVENT CLOTHING FROM COMING IN CONTACT WITH THE RISER

Leland Stanford, Jr., University Stadium, Palo Alto, Cal.

Professor C. B. Wing, Architect and Engineer

On the Pacific coast a great rivalry exists between the University of California and its aristocratic neighbor, Stanford University, and as the former is completing a new stadium which will rival anything in the East, even the large and costly new structures at Ohio State and the University of Illinois, Stanford has already completed last season, a new Bowl of a size, seating capacity, and design similar to the famous Yale Bowl*, though of a less pretentious nature in construction.

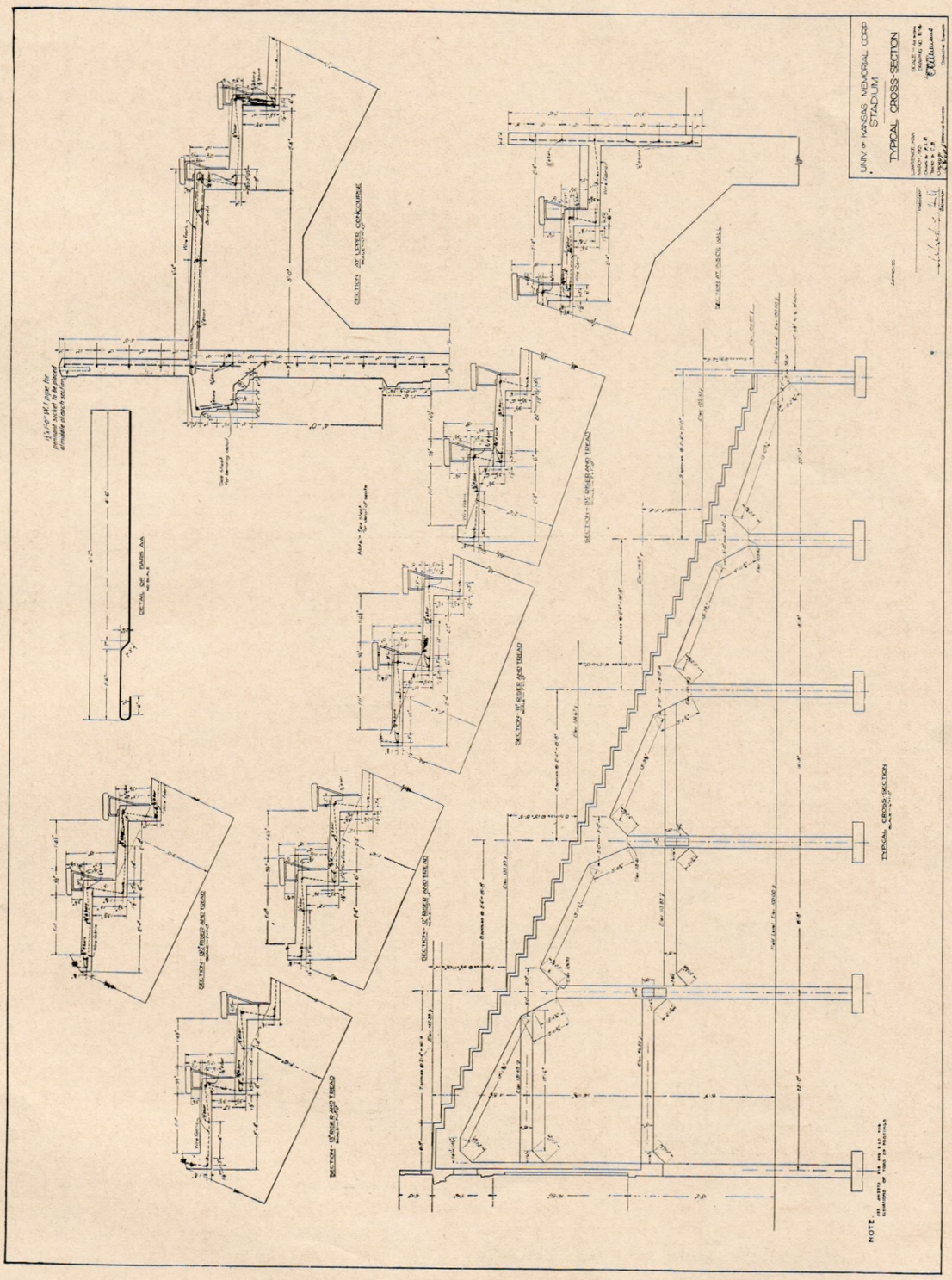


LONGTITUDINAL AND CROSS SECTIONS OF THE FIELD (ENLARGED VERTICAL SCALE). THE "TURTLE BACK" SURFACE OF THE FIELD IS APPARENT

under the stands. A layer of top soil was removed and 6″ tile drains laid 50′ on centers. Above these drains a 10″ layer of cinders was spread over the entire field, and above this 10″ of sandy loam. The surface was sodded with blue grass. The top of field and drains slopes on approximately a 0.5% grade. The track is built of 12″ screened cinders with a 4″ top layer of one part clay and three parts cinders screened through a ¼″ screen. It pitches 2″ toward its inner edge, and is crowned with a ½″ dressing of cinders, ¼″ screen.

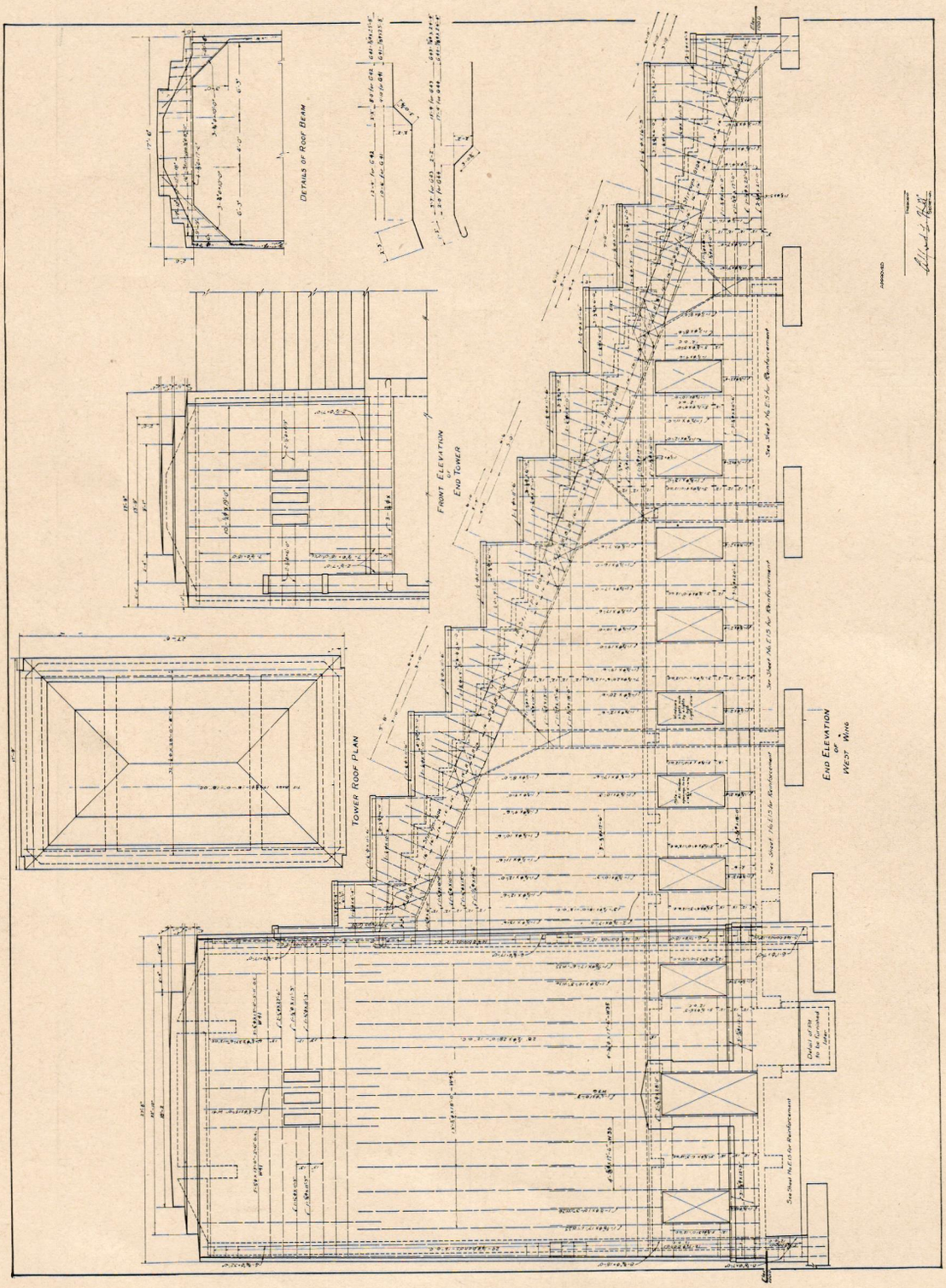
One may readily note, upon making a comparative study of the general layouts, that the design of the Stanford stadium was greatly influenced by the structure at New Haven. In both instances, a huge pit was excavated in the midst of the plot, and an embankment formed by piling the soil along the outer edge. The seats were then laid on the inner slope of this embankment. At Stanford no attempt was made to tunnel through the earth to give access to the seats, nor to build retaining

*For complete data on the design of the Yale Bowl, see the reprint of the Transaction of the American Society of Civil Engineers, Vol. LXXXI, p. 249 (1917).



CROSS SECTION OF STRAIGHT SIDE SHOWING GENERAL STRUCTURAL ARRANGEMENT. UPPER RIGHT SHOWS SECTION OF PROMENADE AND PARAPETS

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS



SECTION THROUGH END TOWER SHOWING THE ARRANGEMENT OF THE REINFORCING STEEL AND THE GENERAL END TREATMENT

STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS

walls at the outer and inner perimeters of the embankment to support the earthwork. Access to the seat banks is obtained by means of twenty-two flights of stairs up the outer slope, which lead to an esplanade 15′ wide at the top, thence to forty-five stepped aisles down the inner slope.

The "bowl" shape is broken by the introduction of a 220-yard straightaway, which is not to be found at Yale; a quarter-mile running track also encircles the field, hence the Stanford structure accommodates track as well as football. A deep gulley was excavated, back to the starting point of the 220-yard, down to the level of the playing field, and this part of the track is *not* bridged over as in some other structures.

The seats are wood planks, on wood pedestals, securely fastened to wood sills laid directly on the earth slope. In the California climate it is expected that these seats will last ten to twelve years. By that time the embankment will have fully settled, and a coating of concrete and asphalt will be spread over the slope before the seats are renewed.

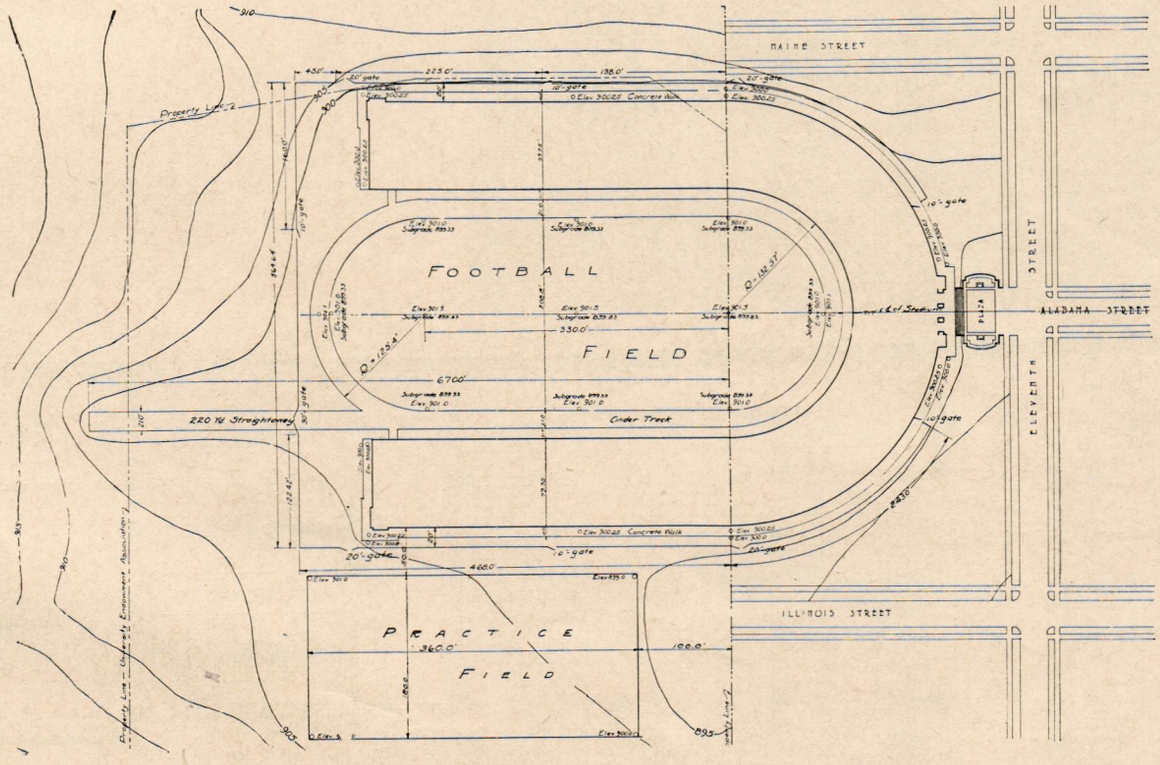
The playing field is 23′ below the natural grade, and the top of the embankment is 36′ above. The slope is a parabolic curve, along which are laid sixty-five rows of seats, affording a total present seating capacity of 61,000, making the Stanford structure one of the largest in the country.

The dimensions of the Stanford stadium are curiously similar to those at Yale, *viz:*—

	Yale	Stanford
Length of oval at field	500′	562′
Width " " " "	300′	355′
Distance of nearest seat to center of field—Sides	152′	173′
Do. —Ends	254′	285′
Distance of highest seat from center of field—Sides	375′	303′
Do. —Ends	475′	415′

The larger dimensions of the inner perimeter at Stanford are due to the running track, whereas the more comfortable seating arrangements at Yale necessitate a greater space back to back of rows, making the outer perimeter greater.

The Stanford stadium is a highly successful operation, in fact it is probably the most successful of the less expensive structures. The principal merit of the stadium is in its graceful lines and setting in the landscape. The outer embankments have been profusely planted and made to blend in the surroundings. The cost has been extraordinarily low, even considering the wooden construction; the entire work involving an expenditure of but $215,000, or approximately $3.50 per seat.



STADIUM AT UNIVERSITY OF KANSAS, LAWRENCE, KANSAS

PLAN OF STADIUM SITE SHOWING AVENUES OF APPROACH AND GROUND SLOPES. THREE WIDE WELL PAVED STREETS LEAD DIRECTLY TO THE ENTRANCE AND SIDE PARKING SPACE, WITH A CROSS-STREET FROM OTHER TRAFFIC WAYS

PEOPLES NATIONAL BANK,

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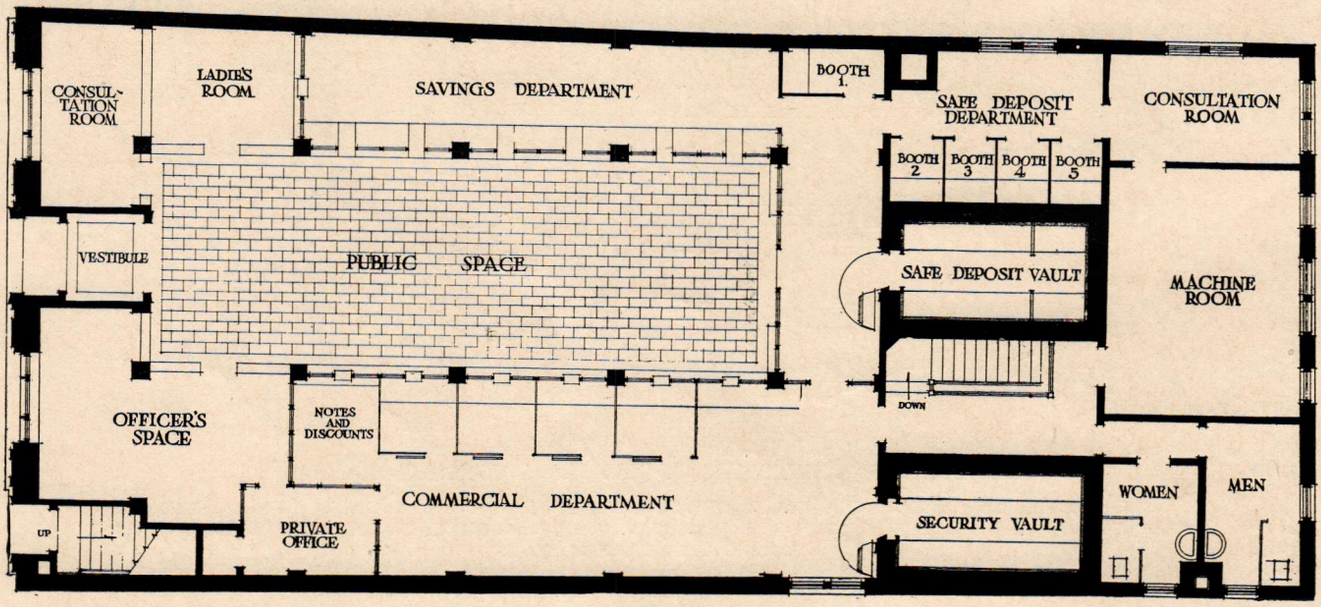
THOMAS M. JAMES COMPANY,

ARCHITECTS AND ENGINEERS



ARCHITECTURAL ENGINEERING

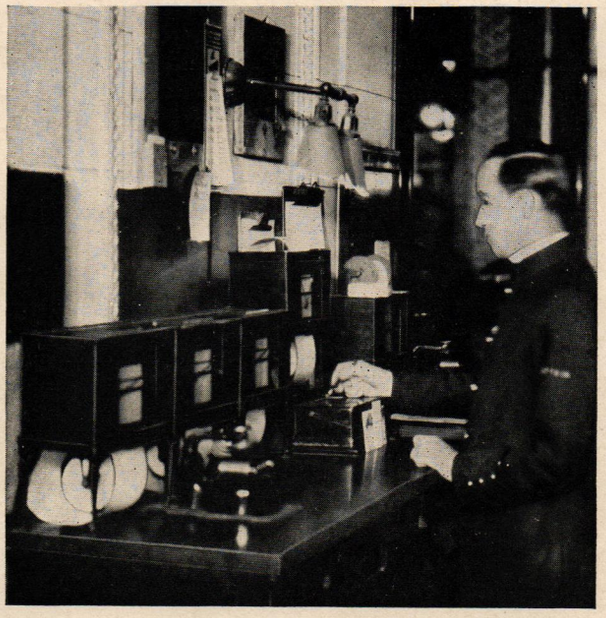
HOTEL INTER-COMMUNICATION

The Efficient Service Rendered *by a* Telautograph System *of* Communication

BY R. S. FRODIN*

THE telephone service connecting all departments of a hotel was adequate for its purpose until within recent years. The unusual amount of labor turnover which occurred in the larger hotels compelled their operators to seek an improved means of inter-communication which would eliminate error in the transmission of messages and, at the same time, would make a permanent record of them. The making of a permanent record fixes the responsibility for errors of omission and commission on the part of the persons involved, and confronted with this condition, the employees naturally give more strict attention to the proper performance of their duties. The number of telephones in a standard installation could not be reduced as there still remained the necessity for a means of communication between the guest room and the operating department and outside points. It was to supplement this essential telephone service with a means of communication which could deliver special messages as rapidly as a telephone and make a written record of them, that the telautograph system was adopted. The favorable consideration of the telautograph was due largely to the experience of many banks which used that system for the secret and instantaneous transmission of inquiries and replies which are peculiar to banking operations. The reliability of such a service is established by the fact that these institutions transfer funds on the authority of telautograph communication. The adoption of this means of communication in several large hotels resulted from this favorable bank experience.

THE ROOM CLERK DISPATCHING A MESSAGE ON THE TELAUTOGRAPH



THE BELL CAPTAIN'S STATION

The installation of this device in a large western hotel made it necessary for the writer carefully to consider all of the elements of such an inter-communicating system. This is necessary in all hotel projects because of the different relative positions

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of the front office, the housekeeper, engineer, telephone switchboard and other operating departments of a hotel. The installation of this system of inter-communication served its purpose with such great satisfaction that a description of it is here made.

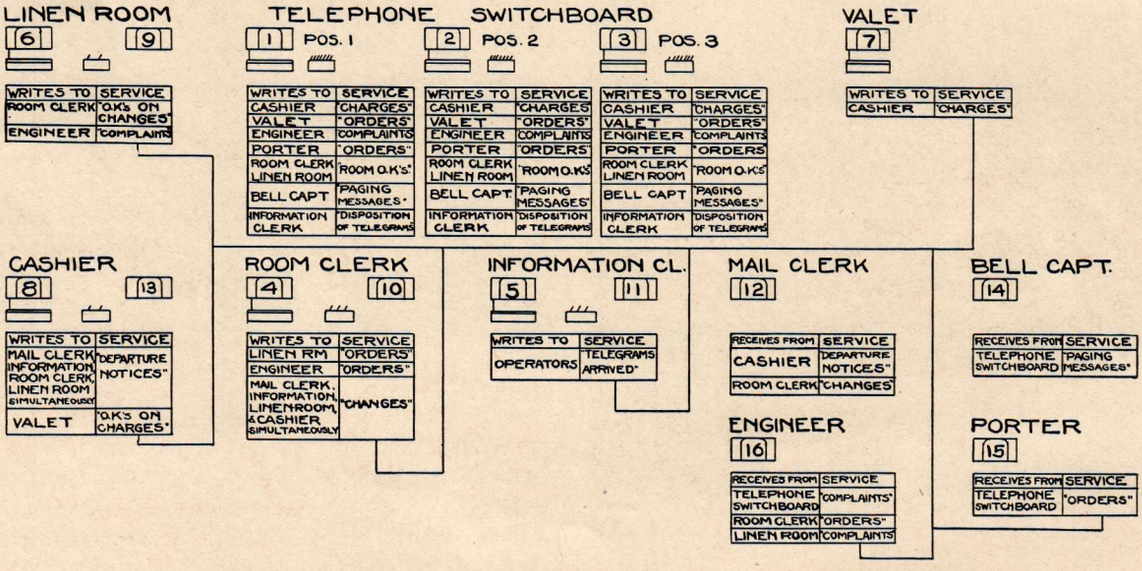
THE INFORMATION OPERATOR RECEIVING AND DISPATCHING BY TELEPHONE AND TELAUTOGRAPH

The scheme consisted of the placing of a transmitting station at the telephone switchboard which was connected to the stations of the porter, kitchen, engineer, cashier, housekeeper and bell captain, selectively, and a special key connected the operator with the housekeeper and room clerk simultaneously. Messages received over the house telephone from a guest room intended for the porter were written direct to the porter's telautograph, making a record and preventing a misunderstanding of the guest's room number. This is done without delay although the head porter might be busy talking on the telephone or attending to the wants of a guest at his desk. The telautograph message is torn off and handed to a porter, thus authorizing him to secure the key at the room clerk's station.

When a guest desires kitchen service the order is telephoned to the operator who writes it direct to the kitchen. If this kitchen service is such that it would require the services of a waiter, the guest would be informed that a waiter is being sent and a telautograph message to the kitchen would be to this effect. The use of the telautograph obviates the necessity of having one employee stationed continuously at the telephone in the kitchen. It also eliminates the possibility of waiters going to the wrong room and insures the proper fulfillment of the guest's orders.

Heating, ventilation, lighting or water service troubles in a guest room are reported to the operator who transmits the complaint, by telautograph, direct to the engineer's office. As the engineer is away from his post a considerable portion of the time, the advantage of this system is quite apparent as it usually requires several telephone calls to reach the engineer in his office. The telautograph message, however, is awaiting the engineer on his return to his station.

The moment a guest concludes an outside telephone call the operator writes the room number and amount of the charge direct to the cashier. Those familiar with hotel operation are aware that some people use the telephone just before leaving their room to check out. The charge for this service must reach the cashier before the guest checks out or the hotel loses the amount involved. Because of the greater speed and accu-

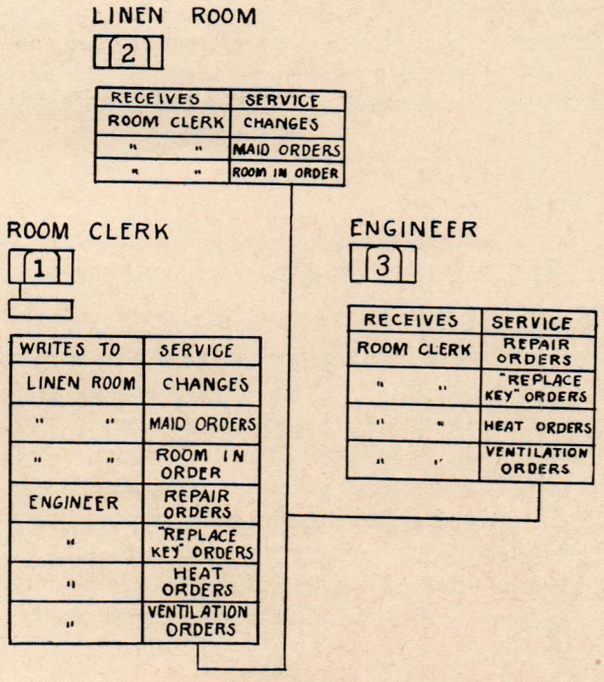


TYPICAL TELAUTOGRAPH INSTALLATION FOR A HOTEL OF 200—500 ROOMS

racy of this system it has proved far superior to any other method of transmitting these charges.

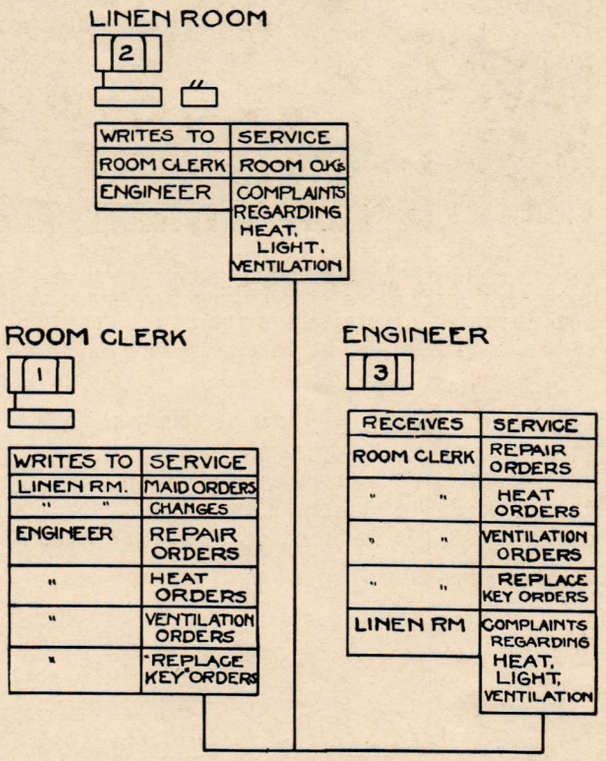
The operator writes the guest's telephone order for maid service direct to the housekeeper. This accurate method of transmission affords the housekeeper a perfect check on the movements of the maid, as the time is always written on each telautograph message.

Calls for guests requiring paging are transmitted by the telephone operator to the receiving station at the bell captain's desk. If the bell boy is unsuccessful in locating a guest by paging, the telautograph message, after being torn from the instrument, is placed in the guest's key box so that on his return to the hotel the message in its entirety is delivered to him. In addition to this service the line is used for the purpose of ordering supplies for guests which require the services of a bell boy. By this means a complete written record is maintained at all times as a check on the operation of the bell boy service. Such service cannot be satisfactorily maintained by means of verbal communication.



TYPICAL TELAUTOGRAPH INSTALLATION FOR A HOTEL OF 50—100 ROOMS

A special connection for dual service to the room clerk and housekeeper permits the operator to transmit to each of them, at one writing, "room O. K." reported by the maids as soon as vacated rooms are in order. This enables the housekeeper promptly to dispatch an inspector to look over the room and the room clerk to arrange at once the placing of a waiting guest in the properly prepared room. At the room clerk's station one transmitting connection is made direct to the linen room and the engineer. On this instrument the room clerk reports his changes as rapidly as they occur, which enables the housekeeper better to dispatch the maids in regular order and eliminates the possibility of placing guests in an unkempt room. Misunderstandings between the housekeeper and the clerk, which were



TYPICAL TELAUTOGRAPH INSTALLATION FOR A HOTEL OF 100—150 ROOMS

frequent under the old system, are now obviated because of these written records. The room clerk's connection to the engineer's station permits him to send orders pertaining to those repairs and adjustments which are in charge of the engineer.

The charges against a guest room from the telephone switchboard or the valet are transmitted direct to the cashier. Valet service charges are sent directly from that station to the cashier. This arrangement proves itself to be exceedingly valuable because of the fact that occasionally prepaid guests desire valet service performed and such guests sometimes neglect to call at the cashier's desk before leaving the hotel. With this system, the valet is required to secure an O. K. from the cashier on each order received or to collect the money on completion of the service, a telautograph record showing the amount so collected.

This system of inter-communication has been found to be so satisfactory that it is being installed in large and small hotels. The diagrams presented

THIS TELEPHONE SWITCHBOARD IN ONE OF THE LARGEST HOTELS IN AMERICA IS COMPLETELY EQUIPPED WITH TELAUTOGRAPH INSTRUMENTS FOR EACH OPERATOR

in this article indicate clearly the scope of the telautograph service, why it is necessary and where its stations should be located. It naturally follows that in hotels of a larger capacity than those for which diagrams are shown, a more extended system would have to be installed. The system described could not be called a standard one for all hotels, as each one has local conditions peculiar to itself.

The correct planning and equipment of any kind of building can be accomplished only by having a definite knowledge of the factors which constitute the use of the building. Reliable and instantaneous means of inter-communication is but one of the many things that contribute to the satisfactory and economical operation of an hotel. That its importance may be recognized in its true relationship, is the purpose of this article.

The hotel provides the conveniences and comforts of a residence for the guests. It consists of the building and its equipment which functions through the operating organization. The guest communicates with the world through the telegraph, the telephone and the mails. The guest room will soon be connected with the chosen radio broadcasting station. The guest's contact with the operating organization is with the employees and by the telephone. The guest has no direct contact with the telautograph and its work and service is little known. The telautograph is, however, the instrument of service which correlates all of the elements of the operating department and makes possible that effective and satisfying service which distinguishes American hotels.

PLAN WEATHER TESTS OF WIRE SCREENS

TESTS to determine the relative resistance to atmospheric corrosion of wire screens of different metals are planned by the Bureau of Standards of the Department of Commerce in co-operation with the American Society for Testing Materials. The metals to be included in the test are copper, commercial bronze, low brass, aluminum bronze, silicon bronze, and Ambrac metal. All materials will be tested in the form of Standard No. 16 mesh screens.

The screens will be exposed to the weather in four locations: an inland location, an industrial center, a seacoast, and a tropical seacoast. The cloth of each material will be exposed on a painted frame that will withstand the weather. Three types of frame will be used; 12 x 12 inch wooden frames, 30 x 36 inch wooden frames, and 30 x 36 inch metal frames. The tests will be made in co-operation with the manufacturers of the materials. The Bureau of Mines, the Bureau of Lighthouses, and the Panama Canal will co-operate with the Bureau of Standards in making the exposure tests.

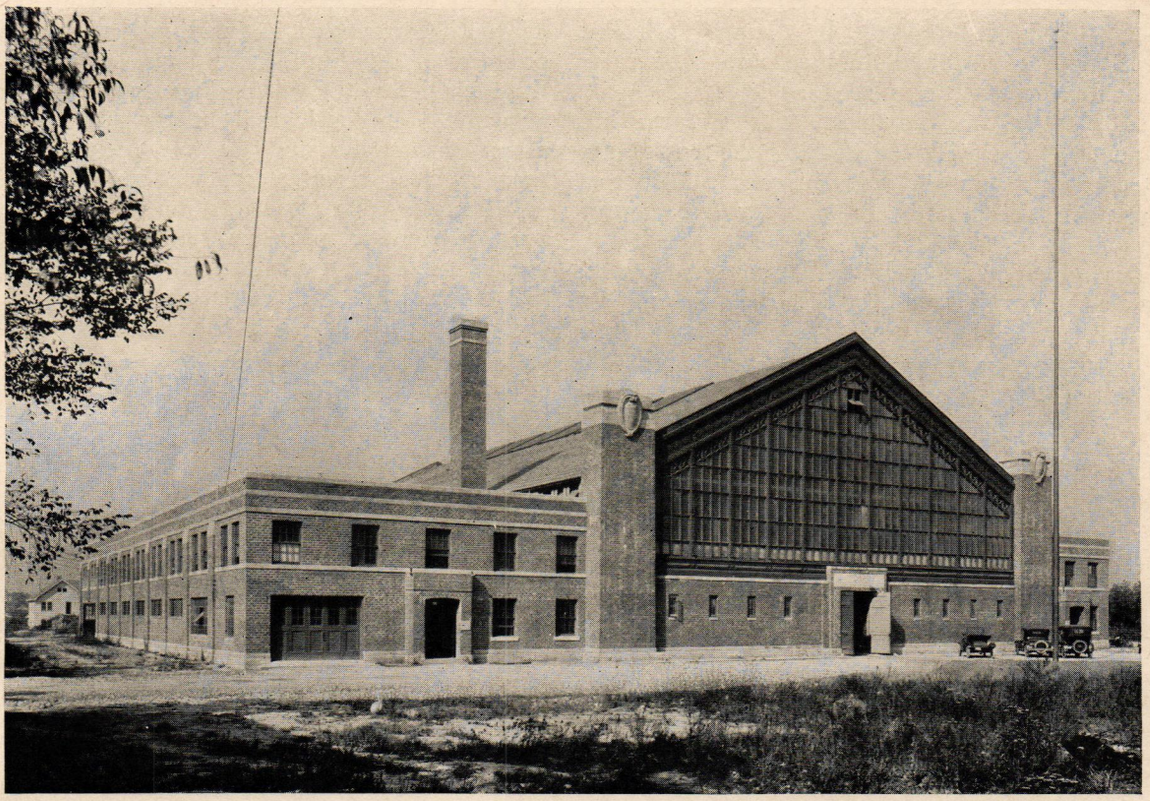
STEEL REINFORCING BARS TO BE SIMPLIFIED

PROPOSALS for simplification of the varieties of steel reinforcing bars will be considered at a meeting Sept. 9 in the Department of Commerce, Washington, D. C., it is announced by the Division of Simplified Practice, under whose auspices the conference will be held. Based upon an analysis of experience and sales demand, it has been suggested by representative dealers that the following sizes of steel reinforcing bars be used as a basis for a simplified practice recommendation:

SQUARE: ½, 1 1⅛, and 1¼ in.

ROUND: ⅜, ½, ⅝, ¾, ⅞ and 1 in.

Many rolling mills, manufacturers, dealers and consuming interests have already adopted these sizes. Endorsement of the recommended sizes will be asked from Government departments and technical bodies, as well as architects, contractors, engineers, bridge and road builders and other consuming interests.



TROOP A ARMORY AND RIDING ACADEMY, CLEVELAND, OHIO
THE WATSON COMPANY, ARCHITECTS AND ENGINEERS

TROOP A ARMORY *and* RIDING ACADEMY, CLEVELAND, OHIO

THE WATSON COMPANY, Architects and Engineers

A TWO-PURPOSE building is not common and for that reason the Troop A Armory and Riding Academy at Cleveland, Ohio, presents some unusual features. There are common elements to both uses, such as stable quarters and the riding ring, but the service rooms are entirely different. In this project much care was given to the planning, resulting in a most satisfactory operating condition. The exterior design is particularly appropriate, being a radical departure from the stereotyped battlemented style that has characterized the majority of American armories. How security is derived from a battlemented wall is not apparent, and its use tends to give a false impression. As no building can be made secure from attack when modern methods of warfare are employed, it is then reasonable to provide a moderate measure of ability to resist attack and then design for use. The use of this building is made evident by the great glazed gables and skylighted roof.

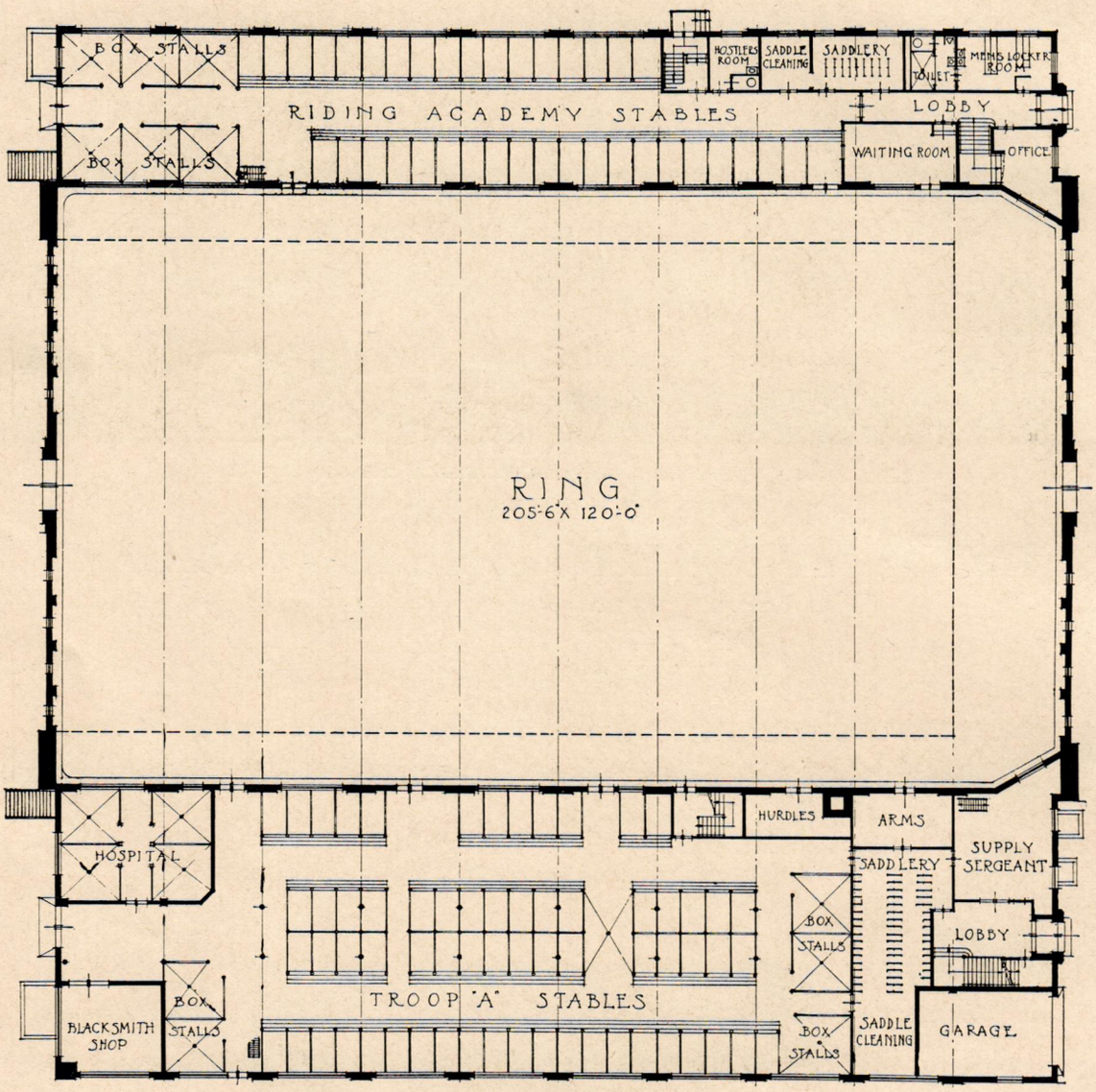
The ring is naturally the nucleus of the project and it is 120′-0″ x 205′-6″ in size. The building is so constructed that it can be extended 100′-0″ in length if desired. The height from floor to ridge is about 62′-0″. A wide balcony is across the front end of the ring and a narrow balcony is along each side, having a total seating capacity for about 1000 spectators. The balconies have a clearance of 14′-0″ above the floor and the space

THE ASSEMBLY

under them is lighted by lamps attached directly to the underside of the floor. The arena is lighted by fixtures placed about 40′-0″ apart and 32′-0″ above the floor. The fixtures are suspended from the lower chord of the trusses, are fifteen in number and have in each a 750 watt lamp which illuminates 1600 square feet of floor area.

Daylight is provided by the large glazed gables, the clerestory windows over the balconies, and by means of skylights in the roof. The light is uniformly distributed.

The roof of the ring is supported by structural steel trusses and timber purlins on which is placed 2″ wood sheathing covered with composition roofing. The ring is ventilated by opening the clerestory windows and certain panels in the gables by mechanical operators which are controlled from the balcony or main floor, and also to some extent by ventilators placed in the skylights. In some armories of this kind there have been provided fixed sprinklers for wetting the ring floor. These have not been considered entirely successful and after considerable study it was decided to omit them for the present. Sufficient radiation is provided in the ring to heat it to about 40° F. in zero weather and provision has been made for enclosing part of the balcony with glass and heating that portion to 70° in zero weather.

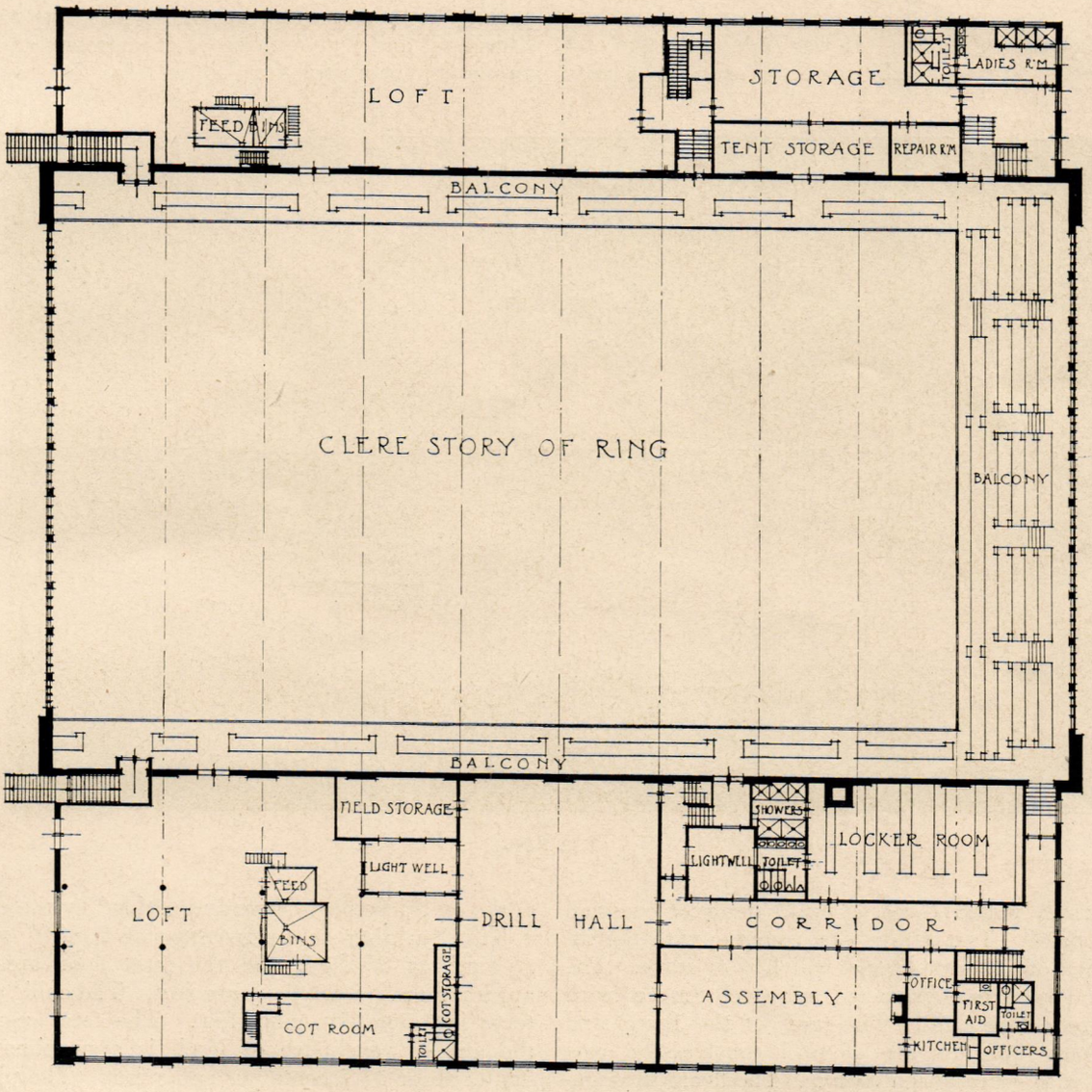


FIRST FLOOR PLAN

The Troop quarters are located on the South side of the ring. Under the front portion of this part of the building are the boiler and the coal storage rooms and also the ammunition vault. At the right of the main entrance to this portion of the building are the Supply Sergeant's quarters and at the left of this entrance lobby is the garage for the trucks. In the entrance lobby is located the main stairway leading to the second floor.

Immediately in the rear of the lobby are the saddlery, saddle cleaning room and the arms room. Back of these three rooms are located the Troop stables which contain sixty-six standard stalls, 5′-0″ x 9′-0″ in size, and five box stalls. In the rear of this is located the hospital, consisting of four box stalls and the blacksmith shop, which is separated from the balance of the stable by fireproof partitions and doors.

size. There are also located on this floor the officers' room, office and first aid room, kitchen, shower and toilet rooms and storage rooms, all arranged as shown on the plans. On the North side of the ring are the riding academy quarters, on the first floor of which are located the office, waiting room, men's locker, shower and toilet rooms; the stairway and other utility rooms. In this portion of the building there are thirty-five



SECOND FLOOR PLAN

The ventilation of this stable is secured by means of skylights and ventilators at the top of light wells extending through the second story. The stalls have clay floors with concrete gutter and the alleyways are finished with paving brick, which gives a sufficient foothold to prevent slipping. The Troop quarters on the second floor consist of a locker room equipped with about eighty lockers, an assembly hall 50′-0″ x 25′-0″ in size, and a drill hall approximately 58′-0″ x 40′-0″ in

standard stalls and six box stalls of the same size used in the Troop quarters. The standard box stall is 12′-0″ square. On the second floor of this section is located the ladies' shower and locker room, the balance of the space being used for storage and loft purposes and for a rifle range.

The office of the riding academy, the waiting room and the Supply Sergeant's room in the Troop section are provided with windows that overlook the ring so that it is under observation at any time.

Access to the gallery is secured mainly through the academy entrance. There is another entrance to this gallery, however, through the Troop quarters. Exits from these galleries are located at the rear and at each side. Thus ample means of exit is provided in case of danger.

No heat is provided for the stables except that radiated from the unprotected steam mains. All of the office, assembly room, drill hall and toilet rooms are heated to 70° F.

The exterior walls are constructed of second quality paving bricks. It was found that the cost of walls laid up with this brick compared very favorably with the cost of walls made of common clay brick. The trim is cast concrete with the exception of the water table, which is of stone. The second floor is constructed of steel frame with concrete floor slabs. The roofs of the Troop and academy quarters are of mill construction covered with composition roofing. The floors throughout the office sections, the loft, etc., are finished with cement, with the exception of the assembly hall and drill hall—which are used for dancing—which have composition floors. The drives along the building are 8″ thick and made of crushed slag intended to provide a surface adapted to riding purposes.

It will be noted that the plan is so arranged that the two uses of the building can be kept entirely separate and distinct with the exception of the ring, which is common to both. This building is located on a fifteen acre tract of land facing Fairmount Road in Shaker Heights, adjoining the city limits of Cleveland. Fairmount Road is parallel with and adjacent to the park system of Cleveland and this location of the armory affords ample opportunity for riding in the public parks on bridle paths already provided by the city.

THE RING

This building has a frontage of 218′-0″ with a depth of 203′-0″, and the total floor area is approximately 80,000 square feet. The cubic contents is 1,590,000 cubic feet. The total cost of the armory, exclusive of land, is approximately $250,000 or 15.7 cents per cubic foot. The plans for this building were begun in February, 1922, bids received on August 10, 1922, and the contract let shortly thereafter. The building was occupied by the Troop May 15, 1923.

BEAUX-ARTS INSTITUTE *of* DESIGN

Official Notification of Awards

Judgment of May 20, 1924

CLASS "A"—V PROJET

"AN ARMY POST"

On a broad plain near a frontier town there is to be established an Army Post which, under normal conditions, will be garrisoned by one regiment of infantry. Proper attention shall be paid to the soldiers' health, comfort and instruction, by providing ample space, light and air, plenty of trees, good roads, depots and modern buildings laid out in such a manner as to preserve the integrity of the various units, and to make a fitting background for military services and ceremonies.

There is to be, as usual, a Post Headquarters unit permanently located here which does not change when the regiment, and the administration which is a part of their organization, moves to another post.

The requirements of the program are:

1. Administration. This includes (in one or more buildings): Reception room and offices for the Colonel and regimental staff; Small military library; Room for court martials; Mess room for officers, with kitchens, etc.
2. Post Headquarters. This includes (in as many buildings as necessary): A small office building; Barracks for a permanent quartermasters department of 25 men; Depots for clothing, arms, provisions, warehouses, workshops, fire department, etc.; Stables for 85 horses and 24 mules; Accommodations for 27 escort wagons, 8 autos, 2 trucks.
3. Regimental Service Company and Headquarters Company Barracks (there are 200 men in each of these 2 companies).
4. Barracks for 3 Battalions. (In as many buildings as necessary). Each battalion includes 1 headquarters company, 3 rifle companies and 1 machine gun company. Each company has approximately 200 men divided into 3 platoons.
5. Post Hospital. Which should be isolated, with accommodations for 60 beds, 3 surgeons and 35 men.
6. A Gymnasium and an Athletic Field; rifle and pistol ranges.
7. A small Guardhouse, near the entrance.
8. A large open space for ceremonies and close order formations.

The property set aside for this group measures 1000 feet by 1600 feet. The large manoeuvring ground and the residential quarters for officers are outside of this composition and are not a part of the program.

JURY OF AWARDS:—H. O. Milliken, W. E. Shepherd, Jr., J. G. Rogers, H. Greenley, J. A. Gurd, E. Necarsulmer, C. I. Berg, L. G. White, J. W. O'Connor, E. F. Sanford, Jr., L. S. Butler, F. C. Farley, M. Price, P. P. Cret, H. Hornbostel, J. V. VanPelt, F. C. Hirons, G. S. Koyl, and C. Grappin.

NUMBER OF DRAWINGS SUBMITTED:—61.

AWARDS:—

FIRST MEDAL:—W. Pyle, Carnegie Inst. of Tech., Pitts.; G. F. Trapp, Columbia Univ., N. Y. C.; J. F. Booton, A. M. Butts, and J. L. Evans, Univ. of Pennsylvania, Phila.

SECOND MEDAL:—C. J. Pellegrini, Carnegie Inst. of Tech., Pitts.; P. Simonsen and D. K. Frohwerk, Atelier Hirons, N. Y. C.; L. I. Kahn, Univ. of Pennsylvania, Phila.

FIRST MENTION:—G. A. Deacon, H. A. Page, H. L. Carter, A. M. Ham, H. C. Douden, H. Lynch, W. F. Koppes, and A. D. Reid, Carnegie Inst. of Tech., Pitts.; H. E. Maddox, Jr., Atelier Corbett-Koyl, N. Y. C.; W. E. Page, Columbia Univ., N. Y. C.; A. S. Phillips, and C. F. Bieler, Atelier Denver, Denver; A. O. Angilly, H. B. Hays, and J. Gambaro, Atelier Hirons, N. Y. C.; W. E. Willner "T" Square Club, Phila.; D. Kosvich, A. B. Gallion, F. W. Lang, and R. Mattson, Univ. of Illinois, Urbana; D. H. Urffer, and G. B. Allison, Univ. of Pennsylvania, Phila.; A. H. Goddard, Atelier Wynkoop-Seymour, N. Y. C.; D. Douglass, C. F. Ferrari, and W. Ferrari, Yale Univ., New Haven.

SECOND MENTION:—A. Thormin, Carnegie Inst. of Tech., Pitts.; H. Pruyor, L. Moore, and D. D. Streeter, Columbia University, N. Y. C.; B. K. Jones, Clemson Agricultural College, Clemson College, S. C.; W. P. Graydon, Georgia Sch. of Tech., Atlanta; S. I. Baum, Atelier Hirons, N. Y. C.; O. Ammon, T. W. Rayburn, D. H. Early, W. A. Sampson, C. M. Williams, and H. S. Sands, Ohio State University, Columbus; W. E. Armantrout, and E. I. Harrison, Univ. of Illinois, Urbana.

HORS CONCOURS:—A. Ehrenrich and M. G. Maybeck, Columbia Univ., N. Y. C.; W. H. Speer, Atelier Denver, Denver.

CLASS "A"—V ESQUISSE-ESQUISSE

"A PAVILION AND LANDING PLATFORM"

On a private estate a rocky ledge stands 20′-0″ above a lake. On top of this ledge the owner desires to erect an observation pavilion and at the water's edge a boat landing which shall be connected with the pavilion by an outside staircase or ramp. The paviion shall not exceed 30′-0″ in any dimension.

JURY OF AWARDS:—W. E. Shepherd, Jr., C. I. Berg, J. A. Gurd, J. V. VanPelt, F. C. Hirons, and G. S. Koyl.

NUMBER OF DRAWINGS SUBMITTED:—43.

AWARDS:—

FIRST MENTION:—C. Stiehl, Armour Inst. of Tech., Chicago; J. Gambaro, Atelier Hirons, N. Y. C.; E. Snyder, Univ. of Pennsylvania, Phila.; W. Ferrari, Yale University, New Haven.

SECOND MENTION:—R. V. Faro, Armour Inst. of Tech., Chicago; A. E. Klueppelberg, Columbia Univ., N. Y. C.; A. R. Martin, Jr., Chicago, Chicago; A. D. Reid, Carnegie Inst. of Tech., Pitts.; T. E. Hibben, Atelier Daggett, Indianapolis; A. O. Angilly, Atelier Hirons, N. Y. C.; W. E. Armantrout, and A. B. Gallion, Univ. of Illinois, Urbana; G. B. Allison, Univ. of Pennsylvania, Phila.; A .H. Goddard, Atelier Wynkoop-Seymour, N. Y. C.; W. Faulkner and D. Douglass, Yale University, New Haven.

CLASS "B"—V ESQUISSE-ESQUISSE

"A PRESIDENTIAL INAUGURATION PLATFORM"

The inauguration ceremony of the president of one of the great republics is always held out of doors before a great multitude of people in the most imposing square of the city.

At one end of this square and facing it are the buildings of the Senate and the House of Representatives. Between them is an open space 200 ft. wide giving access to public gardens at the rear of the buildings. At a point midway between the buildings, on a line with their front walls and facing the square the permanent inaugural platform is to be built.

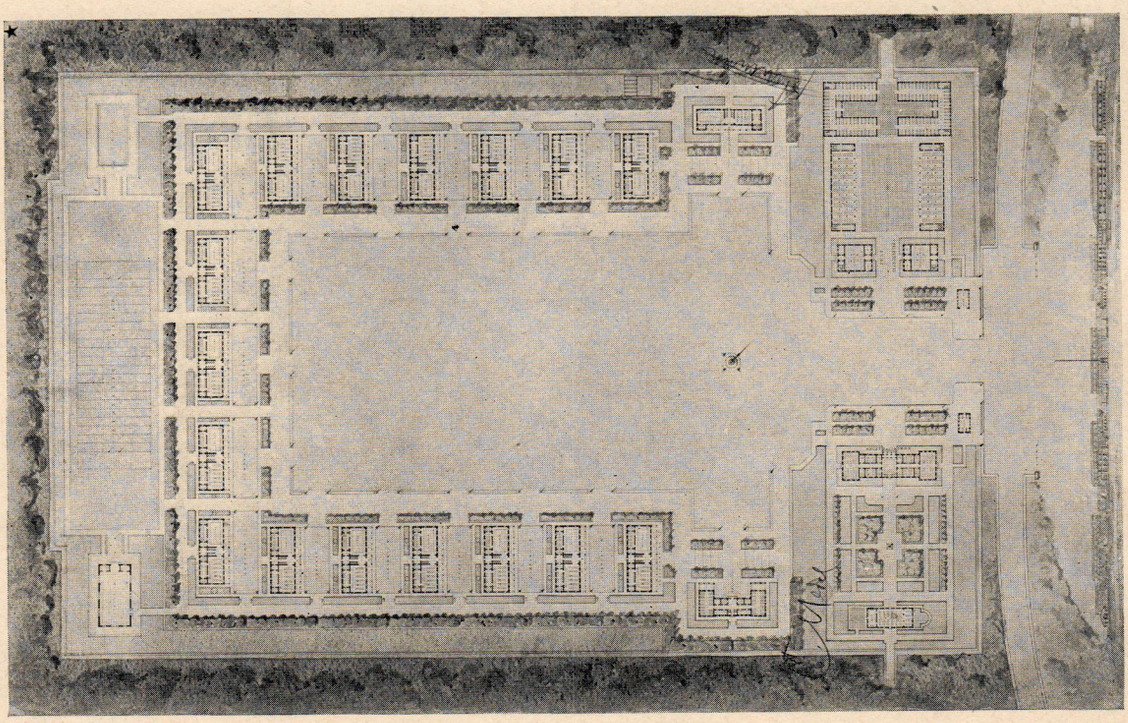
This will consist of a rostrum or platform with place for 5 or 6 people so designed as to give very great prominence to the figure of the President when he takes the oath and subsequently delivers the inaugural speech. A small but very fine room of reception giving access to the rostrum is also called for, either beneath it, or at the rear; in the latter case it should make an imposing background and the rostrum might even be conceived as a loggia or balcony motive in its wall. The materials employed are to be permanent. The space covered by the construction shall not exceed 50′ in either direction.

JURY OF AWARDS:—H. O. Milliken, W. Warren, E. Necarsulmer, E. P. Mellon, A. Phillips, F. C. Farley, and C. Grappin.

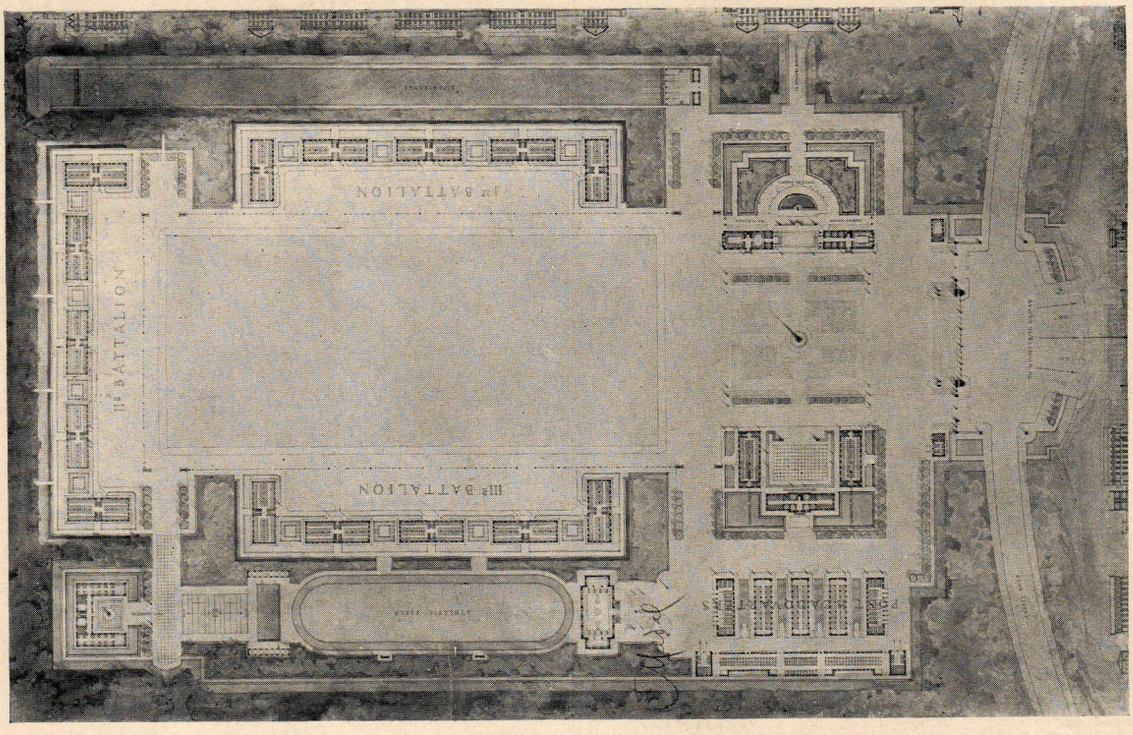
NUMBER OF DRAWINGS SUBMITTED:—100.

AWARDS:—

SECOND MENTION:—J. E. Jackson, "T" Square Club, Phila.; P. M. Duncan and W. H. Schilling, Yale University, New Haven.



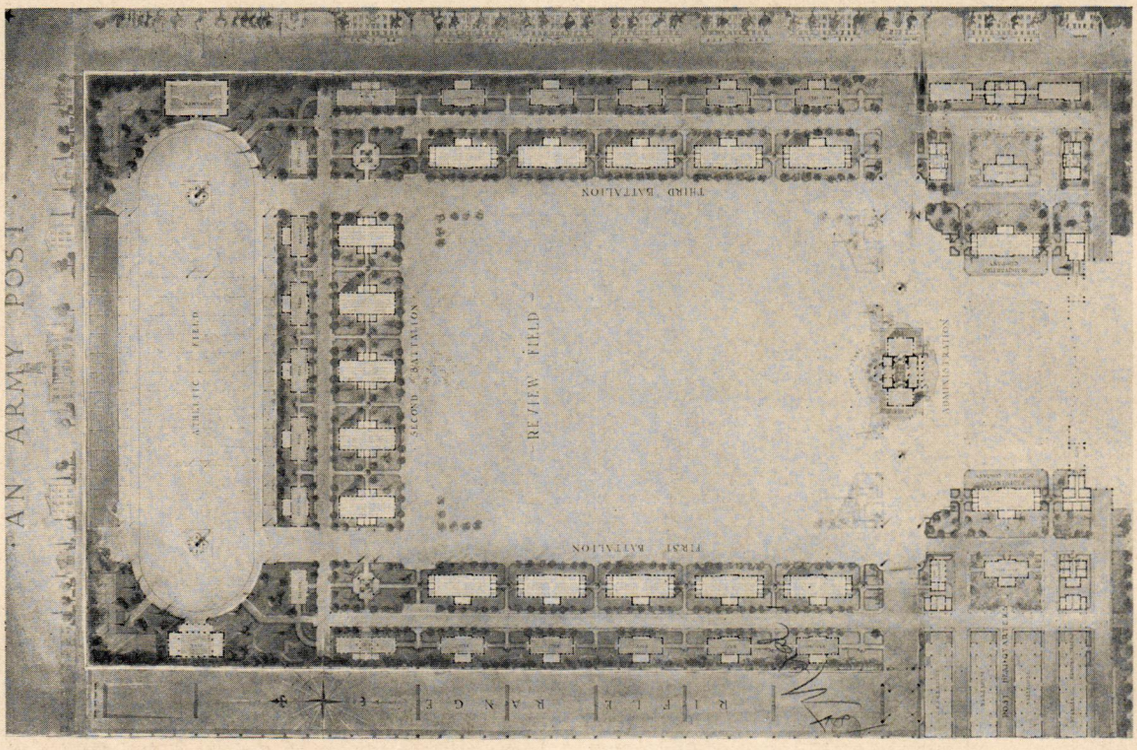
A. M. BUTTS — FIRST MEDAL — UNIV. OF PENNA.



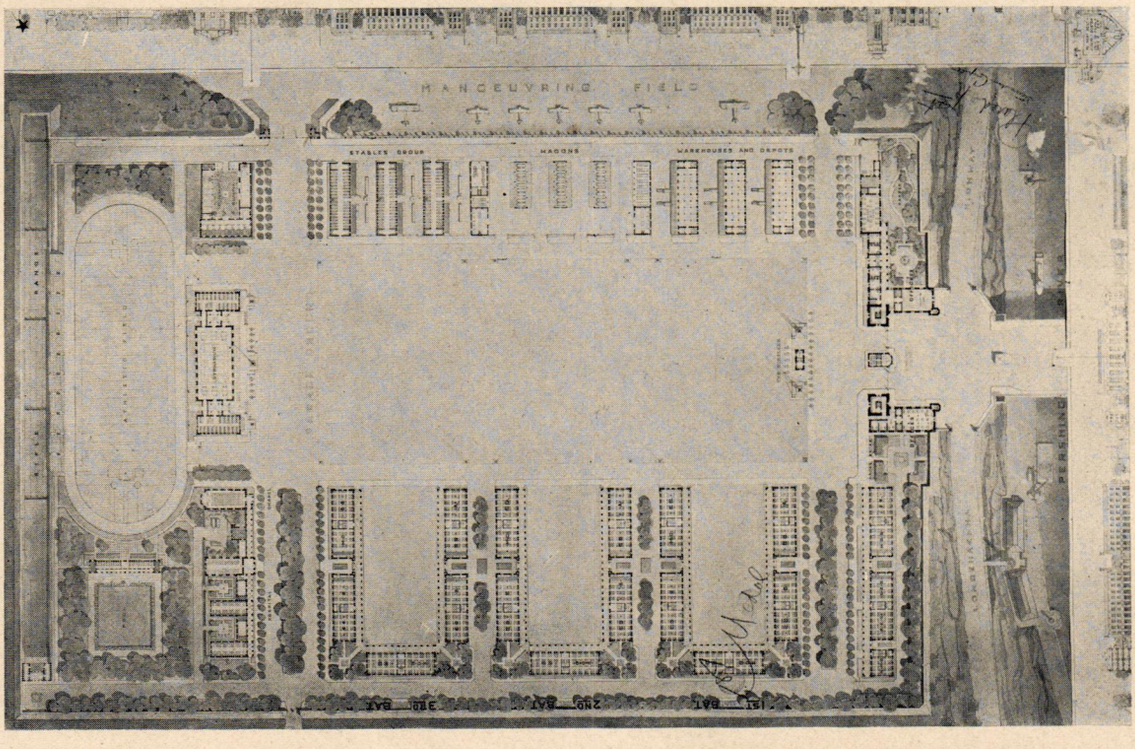
J. L. EVANS — FIRST MEDAL — UNIV. OF PENNA.

CLASS "A"–V PROJET—AN ARMY POST

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



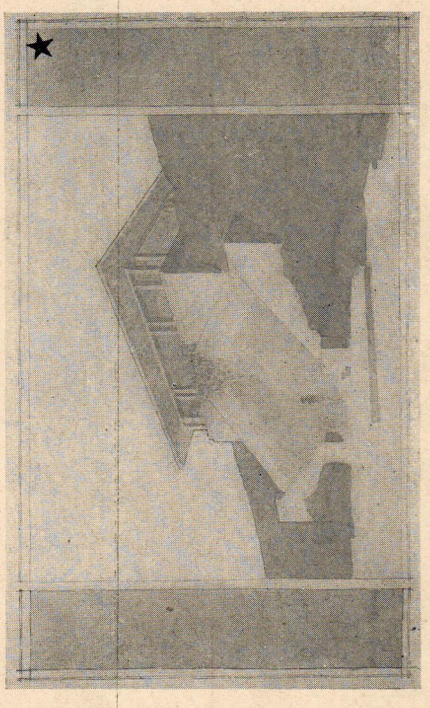
COLUMBIA UNIV. FIRST MEDAL G. F. TRAPP



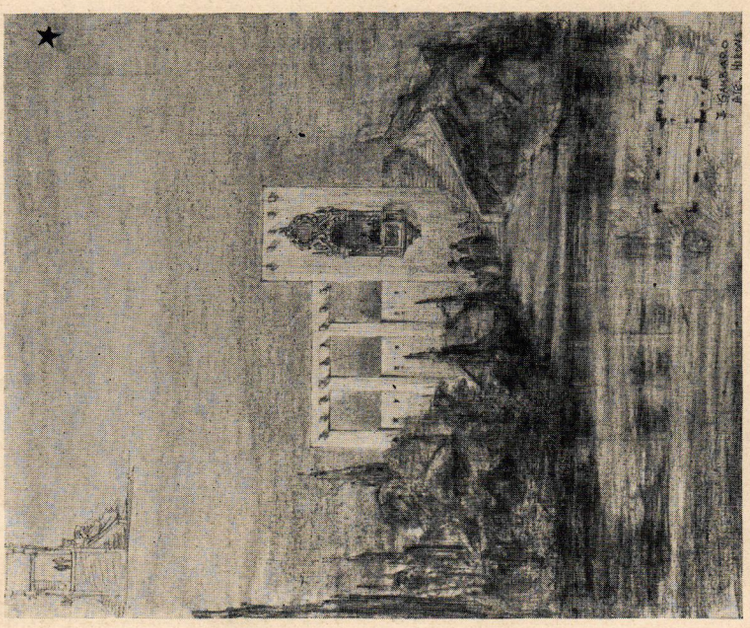
UNIV. OF PENNA. FIRST MEDAL J. F. BOOTON

CLASS "A"–V PROJET—AN ARMY POST

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



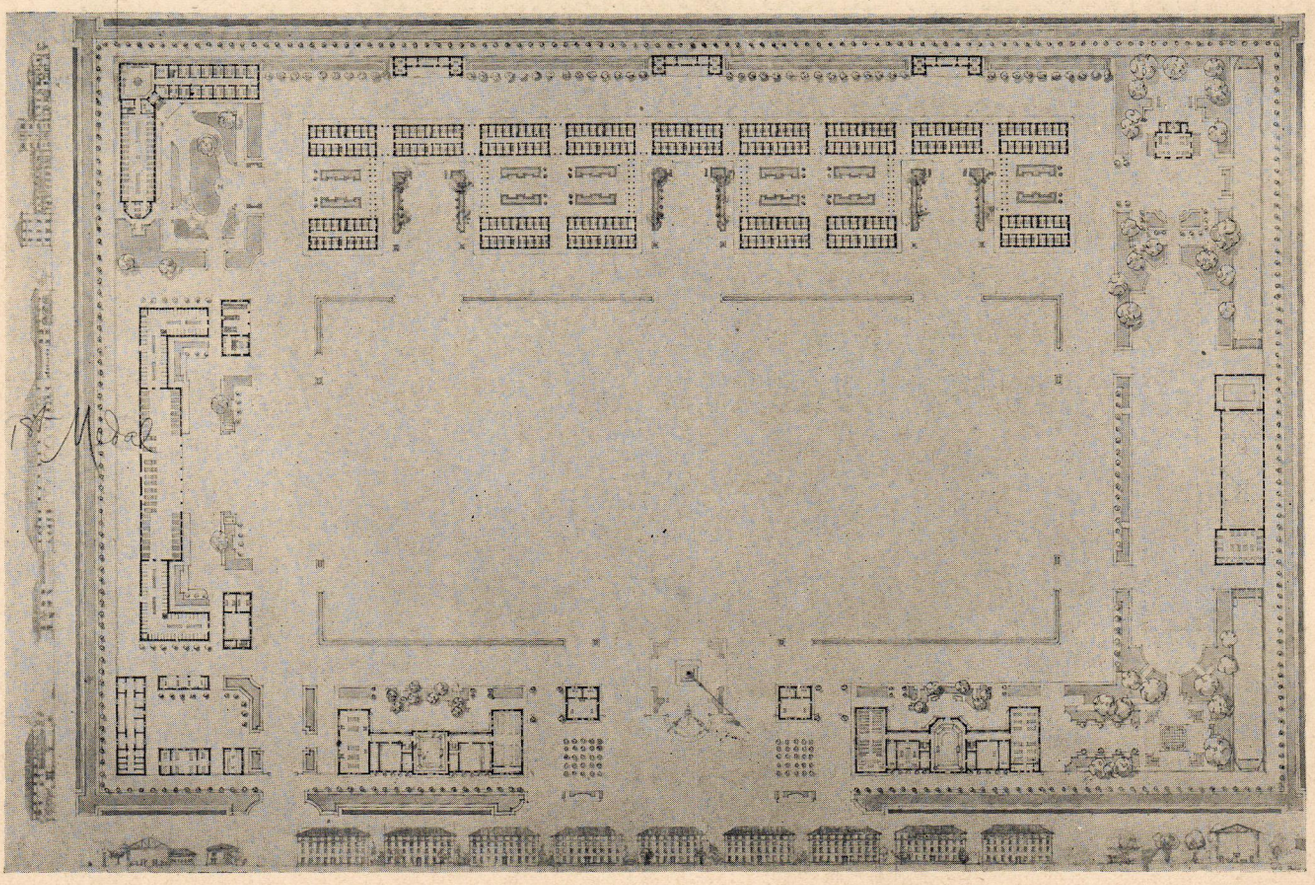
C. STIEHL FIRST MENTION ARMOUR INSTITUTE



J. GAMBARO FIRST MENTION ATELIER HIRONS

CLASS "A"–V ESQUISSE-ESQUISSE

A PAVILION AND LANDING PLATFORM



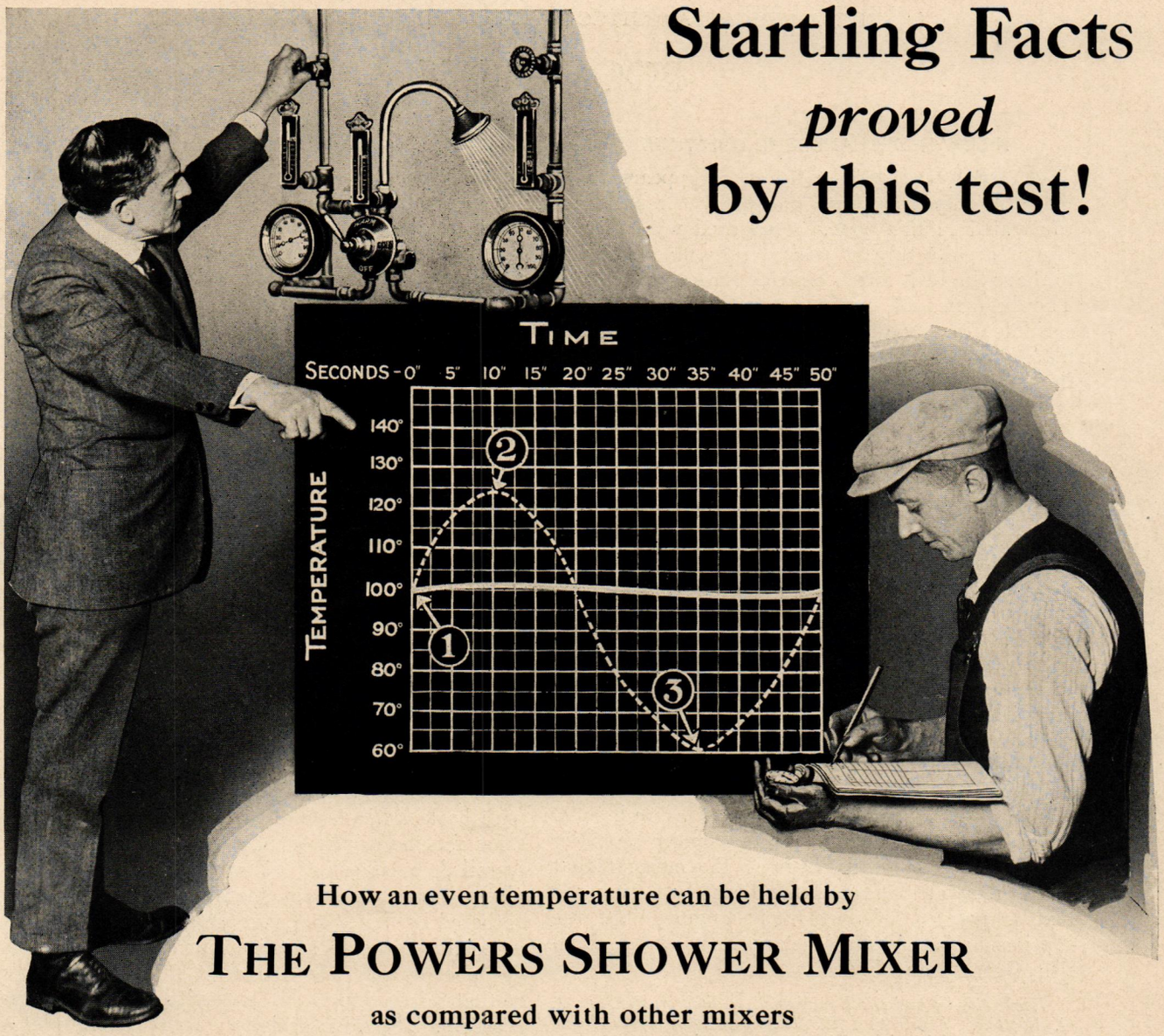
W. C. PYLE FIRST MEDAL CARNEGIE INST.

CLASS "A"–V PROJET

AN ARMY POST

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

Startling Facts *proved* by this test!



How an even temperature can be held by

THE POWERS SHOWER MIXER

as compared with other mixers

Conditions of the Test

Temperature of cold water is 40° F., hot water 170° F. Pressure on both lines 50 lbs. Handle of Mixer is turned to "WARM" and temperature of water flowing from shower head is 100° F.

At Point 1. Cold water pressure is cut down to 10 lbs., hot water pressure is still 50 lbs.

Result. *With ordinary shower mixers,* temperature rises 25° in 10 seconds. See dotted line on chart. Bather under shower would get a "shot" of hot water.

With a Powers Mixer, temperature of water remains constant at 100° F. See solid white line on chart.

At Point 2. Cold water pressure is restored to 50 lbs., hot water pressure is cut down to 10 lbs.

Result. *With ordinary mixers,* temperaure of water drops 65° in 25 seconds; bather under shower would get a "shot" of cold water here.

With a Powers Mixer, temperature of water remains constant at 100° F.

At Point 3. Pressures on hot and cold water lines is 50 lbs. With equal pressures, temperature of water with ordinary mixers returns to 100° F., the starting point.

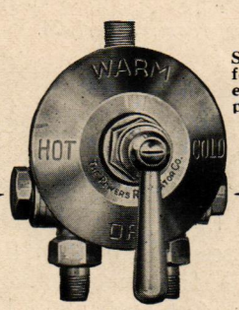
Conclusion. *Ordinary shower mixers* do not protect bather from scalding or sudden "shots" of cold or hot water caused by pressure changes when nearby showers, faucets or flush valves are used. *A Powers Mixer,* regardless of violent pressure changes, always holds the water at whatever temperature is desired.

Send for free Booklet!

Write for our booklet describing the Powers Mixer. It gives a fair and impartial analysis of every type of shower mixer, shower test data, testimonials, etc.

THE POWERS REGULATOR COMPANY
2797 GREENVIEW AVE., CHICAGO
NEW YORK - BOSTON - TORONTO - and 30 Other Offices

Comes in four styles



Style A for exposed piping

THE
Powers Mixer

Is Non-Thermostatic,
Abolutely Scald-proof!
Has no Packing
No Diaphragms
No Fuller Balls

It positively stops those unexpected "shots" of cold and scalding hot water common to the bath equipped with the ordinary mixer.

Install a POWERS MIXER *in the First Place*

(2828A)

BOOK NOTES

NIEUW-NEDERLANDSCHE BOUWKUNST

MODERN Dutch architecture appears to be in a state of flux, judged by the buildings illustrated in this book. Compared with the old Dutch architecture it seems, in some instances, to have broken away entirely from precedents. The influence of American architecture is discernible in some of the buildings illustrated, notably on schoolhouses, factory and public buildings—one of the latter reminiscent of Goodhue's Nebraska State House. Some interesting small shop fronts are shown, very attractive and different from those in this country. It seems as though they could be studied to our advantage. The horizontal effects introduced into some of our mid west domestic architecture have been used by the Dutch architects with pleasing results.

One studies and restudies many of the illustrations in order to determine how some of the textural effects of wall and roof are secured. They appear strange to us but are undoubtedly pleasing in the original and worth considering. Admirers of brick work will find some unusual details of such work which are well worth their study. Some of the buildings will be rather severely criticized, as is to be expected.

The effect of the book is that of a fresh note. It first arouses curiosity and later many restudies for the purpose of discovering the element that makes it so attractive. Unfortunately for us, the text is printed in the Dutch language but the captions of the illustrations appear in Dutch, English, German and French.

Nieuw-Nederlandsche Bouwkunst. Edited by Prof. Ir. J. G. Wattjis. Illustrating 113 *buildings with many plans.* 9¼ *x* 12. *Published by Uitgevers-Maatschappy "Kosmos." Amsterdam, Singel* 24.

OLD DOMESTIC ARCHITECTURE OF HOLLAND

ONE experiences a feeling of relief as the pages of this book unfold the characteristics of the old Dutch domestic architecture. It possesses a spirit of honest simplicity that sets it aside from many other styles of architecture. The use of stone in these buildings was very rare, but when used it was employed in such a manner as to give an individual note to the design. It is fortunate that many materials are scarce and expensive in some localities, thereby causing them to be used with a fine sense of restraint consonant with good designing. The individual note of these houses is one of the fundamental reasons why all of them seem to us like old friends; each is a personality with its own place in this wide world. Under the present conditions, when houses are built solely as a speculation, to be let at a high rental or to be sold at a profit, they are treated like slaves brought to the market where there is no place for dignity or character.

This book contains an introduction by Dr. Ir. D. F. Slothouwer, architect, in which the characteristics of these buildings and the reasons therefor are explained. It cannot fail to be of value to those who are interested in domestic architecture where individuality is a desirable element. The photographs were taken by the editor, Mr. Yerbury, and the measured drawings were made by E. R. Jarrett, A.R.I.B.A.

Old Domestic Architecture of Holland. Edited by F. R. Yerbury, Secretary of The Architectural Association. 78 *plates of photographic reproduction and* 24 *plates of measured drawings.* 9½ *x* 12. *Published by the Architectural Press, Ltd., 27-29 Tothill Street, Westminster, S. W.* 1 *London. Price* $7.20 *postpaid.*

SPANISH DETAILS

WITH the recurring interest in architecture and decoration of the Spanish at its best, it is natural that a demand for examples of fine Spanish work would be met by the publishers with books which would present ideas and inspiration for the execution of such designs. "Spanish Details," a collection of over one hundred loose plates made from photographs and drawings gathered by William Lawrence Bottomley, is thus especially valuable at this time. While some of the photographs are somewhat familiar, it may be that this is due to the similarity of detail which typifies all Spanish designs. Many of the plates are accompanied by descriptive captions by Mr. Bottomley which give details of color scheme, as well as calling attention to particular architectural features of the illustration. Interspersed in the collection are many scale drawings of interesting matter, among which those of decorated ceiling beams and ironwork are especially instructive and educational. The plates concern, on the whole, exterior design, but those showing details of the patios and ceilings have decided interest for the designer of the interior also. Mr. Bottomley says in his introduction, that the illustrations have been selected with especial regard for their application to modern work in this country. For that reason the collection is lacking in designs of an over-elaborate nature and makes each plate of value to architects.

Spanish Details, by William Lawrence Bottomley. One hundred and five plates of photographs and measured drawings of Spanish Architecture and Decoration. Published by William Helburn, Inc. New York. $15.00 *bound.*