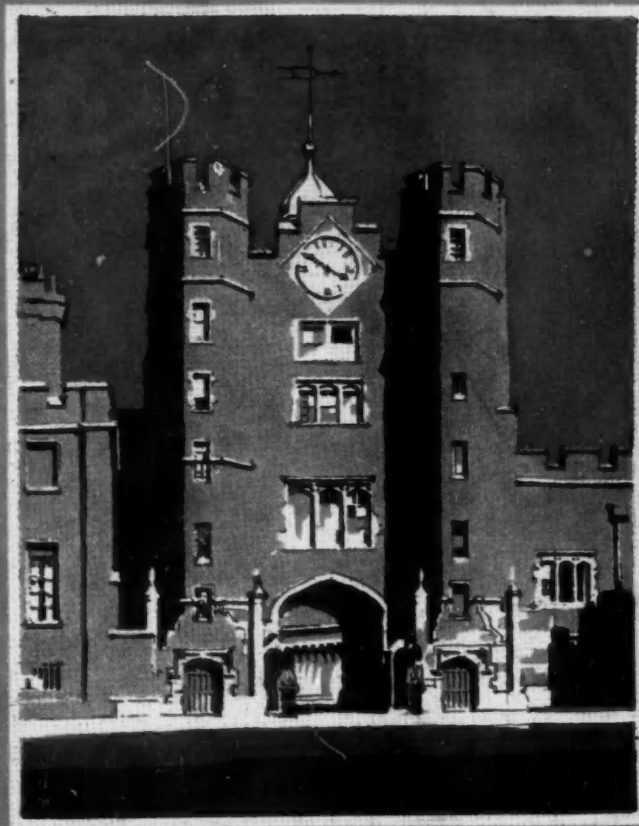


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"OAKLEY," ST. FRANCISVILLE, LOUISIANA
FROM A PENCIL SKETCH BY WILLIAM P. SPRATLING

The ARCHITECTURAL FORUM

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Old Plantation Architecture in Louisiana

PART I. THE EARLY PERIOD, AND HOUSES OF THE BAYOU COUNTRY

Text and Sketches by WILLIAM P. SPRATLING, Professor of Architecture, Tulane University

A MAP of the lower parts of the state of Louisiana would show to one who is not familiar with the section an almost unintelligible maze of strangely wandering waterways and curiously scattered shapes of land. The Mississippi River is seemingly ever-present, flowing southward from Natchez and Vicksburg in the north, down by St. Francisville and Baton Rouge, through an old and particularly rich stretch of country something over one hundred miles in length; to New Orleans and thence to the Gulf. The last part (the "Lower Coast"), is through a very low and sparsely settled country;—little settled due to the terrible floods and storms that have from time to time devastated the region. From the east bank of the river, inland above New Orleans, the land seems to rise slightly and become firmer and a little rolling in the direction of Mississippi. Above Baton Rouge this tendency to become hilly is decidedly and almost suddenly apparent, and around St. Francisville, some 30 odd miles above Baton Rouge, the little hills of rich red earth take on an almost fantastic quality. These bluffs, for the most part heavily wooded, manifest themselves boldly on one side of the river, while directly on the other (the Pointe Coupee Parish side) is to be found the characteristic low land of the bayou country.

The bayou country, which includes the lower parishes of the state, and in particular those of Evangeline, Iberville, Ascension and St. Landry, is most certainly unique. Here are to be found geographical and building conditions that are peculiar to no other section of the United States. The country to which it is most nearly similar in this respect would be Holland. However, for us the chief interest lies not so much in these physical conditions as in the actual historical and architectural aspects. The early colonization of Louisiana,—the French settlers with their language and customs, the accumulation of French traditions, the effects of the Spanish regime, the many great historical happenings, and the names which have figured in those happenings,—all this forms a background of color

that is undeniably rich as well as highly picturesque.

In an article of this kind the great difference remarkable between the homes of the southern or bayou-marked portion of the state and the development that took place farther north forms the most logical mode of division. The reasons for these marked differences have most natural foundations. It seems that only a short time after the French and Spanish had invested New Orleans and the lower territory, there was a migration to Louisiana of settlers from South Carolina. The English-bred people, traveling overland westward and southward, settled in two principal communities,—the largest group at St. Francisville on the Mississippi, and the other near Natchitoches in the northwestern part of the state. We have, then, three distinct sources of traditions in Louisiana. Predominant, of course, is the French; tempering this is the Spanish influence; and then, in a sphere of its own, the English, expressing in a small way all the ideals and niceties of Georgian tradition to be found along the Atlantic seaboard, and particularly in the more southern states.

In attempting to obtain accurate historical data concerning the examples of note of these pioneer days, one finds such things as dates a little elusive. New Orleans itself was founded about 1718, and there are houses still extant that date back to the coming of the first French colonists. In New Orleans the great fire of 1788 and the resultant building activity of the following years may be said to mark the end of the early period, and probably that date, roughly speaking, will serve as well for the plantations whose prosperity was so interdependent with that of the city. The earliest plantations undoubtedly obtained much of their inspiration and charm from the influence of such houses as that made famous in "Madame John's Legacy," on Dumaine Street, in New Orleans. In and around the city are to be found many fine old houses of this type. Bayou St. John, the landing place of Bienville, founder of the city, contains several examples of early plantation architecture, notable among them the fine and stately Schertz residence.



SARPY PLANTATION, ON THE EAST BANK OF THE MISSISSIPPI



"OAK ALLEY," ON THE WEST BANK OF THE MISSISSIPPI



"Three Oaks Plantation," Chalmette

Several miles above New Orleans and on the east bank of the Mississippi, we find the magnificent old Sarpy house. In this splendid example will be found expressed all the best traits and the most characteristic details of that early type executed on a very extensive scale. Here are to be found the brick and stucco columns on the first floor, with that so graceful and so characteristic detail, the wooden turned colonnettes, on the second. The openings are French, and the central doors with their delicate fanlights carry one back to the fine old residences of New Orleans. The dormers are also notable. The finest thing about the house is the grace and lightness which marks the whole, and which has been carried out in such excellent spirit in the proportioning of the parts. Today the sight of the

old house is a little bit saddening, crowded as it is on the front with the levee, and in a state of obvious decay, and menaced by the encroaching river.

Just below New Orleans some three or four miles, with one side in the shadow of a massive factory, —a great and world-famous sugar refinery,—and crowded on the other side by a levee and a steamship slip, is "Three Oaks Plantation." The type represented by this example was a development later than that of the Sarpy mansion. This is the better known kind of plantation house and fits more accurately the popular conception: "Three Oaks" is one of the historical landmarks of Louisiana, having been at one time the residence of General Beauregard. It is not difficult to imagine the life of the Old South and its aristocracy among such a setting



THE LILY POOL, "SHADOWS OF THE TECHE," NEW IBERIA



"LEIGHTON PLANTATION," BAYOU LAFOURCHE

as this. Simplicity and dignity are here perfectly expressed. The house is quite well preserved, and age has contributed a certain mellowness. The row of stately old columns, eight on the front, have acquired just sufficient discoloration, and the grand old triple oak has become just sufficiently gnarled with its gesticulating old limbs to lend the place a feeling of romance, of old time, ante-bellum dignity.

A third distinct type of the very old house is shown in that of "Oakley," near St. Francisville. This house is in the territory which at a later date was settled by the South Carolinians already mentioned. In itself, however, it is a purely pioneer type. Being unique in this respect, it has little to offer the architectural analyst of traditional characteristics. "Oakley" is the oldest known mansion in that section, having been built supposedly about 1800. It has many admirable qualities. The first of these, naturally, is that it "belongs" and springs directly from the soil and from the conditions of those pioneer days which saw its erection. The house is essentially well designed. The first story, solidly constructed of brick, supports above it two full stories and a large attic. At either gable end the house is flanked with fine, tall chimneys, the whitewashed brick of which contrast pleasingly in texture with the weatherboarded and weather-

stained sides of the building. The feature of the house is the heavy shuttering employed on the front and sides of both the second- and third-story verandas. These verandas, being broad and set high above the surrounding yard, possess with their green shuttering a sense of coolness and livability eminently suited to the climate. The approach is very simple, consisting of a single broad sweep of steps leading directly to the second-floor or living veranda. The basement, true to the Louisiana tradition, where water is ever present a little below the surface, is entirely above ground and contains, besides the kitchen and storage space, several spare rooms. The interior trim, shutters, etc. of this charming old house exhibit the most excellent craftsmanship, and the mouldings are reminiscent of the French work in New Orleans, some of which even yet remains.

"Oakley" is one of the few plantations still under the original ownership, and it is indeed a most pleasant old place to visit. It is situated on a plantation road, and the foliage and shrubbery contained in the yard so successfully conceal the building that one is unaware of the proximity of the mansion until well within the yard. The setting is very happily chosen, the trees, crepe myrtles, and the more or less exotic shrubbery appearing sophisticated and aged in keeping with the character of the house.



"Madame John's Legacy," Dumaine Street, New Orleans

Dense shadows are cast on the house itself and on the clean-swept, white-sand-strewn yard. The effect is most felicitous and lends to the house a picturesque quality all its own. Incidentally, the custom of having a carefully swept, sanded yard is peculiar to the South. In Louisiana the foliage is usually so luxuriant and grass and other growths so rank that one rarely finds, except toward the hilly section above Baton Rouge, this trivial but charming custom carried out. It is characteristic of Louisiana.

To return southward to the bayou country, the bayou, being navigable, originally formed an avenue of development, and the largest plantations are to be found on these principal waterways. Chief among these historic streams should be mentioned Bayou Lafourche and the gracious Teche. Along Bayou Lafourche, from the river at Donaldsonville southward for a stretch of 50 miles or more past Napoleonville and Thibodeaux, lies a very beautiful and once very rich section. The examples of plantation architecture found in this region, while not so numerous possibly as along the river from New Orleans to Baton Rouge, the "Upper Coast," are yet distinctive and unusual. The names of "Belle Alliance," "Maidwood," "Woodlawn," and "Rienzi," are among the more important of the section. "Maidwood" belongs among the later examples. In spite of this classification, it is still interesting as an early example when one considers the tales of

how it was built entirely by slave labor, including the hewing of the timbers, etc. It probably belongs to about the 1830 to 1840 period. In character it is very classical, being composed of a central colonnaded and pedimented mass of two stories with symmetrical side wings of one story subordinated to the central portion. The formal classicism of the house, which is very large, is relieved by the exquisite detailing of the Greek Ionic capitals of the great portico's columns. These are carved from cypress and are really rather fine. The wings contribute an even greater degree of charm with their petiteness of scale and the repetition of the pedimented idea of the main building. Their walls are relieved with simple little flat Doric pilasters at the corners and at intervals between each window from front to back. The interior is even more grand than the exterior. There is much excellent plasterwork in the best manner of the Greek Revival, and the effect is most pleasing. The planning is simple and arranged about a central hallway from front to back, the length of the hall being divided off with columns. Practically the entire interior of the left wing of the building is devoted to a tremendous ballroom, used during Civil War days as a convalescent hospital, and in these more modern times probably experiencing some disuse as a ballroom.

"Maidwood" is located two or three miles below Napoleonville and faces the bayou. Only a few



"Maidwood," Bayou Lafourche

miles farther on is found another charming old house of the same general type. It is "Woodlawn," and conforms to the type represented by "Maidwood" only in plan and period. In place of the pediment there is a heavy entablature; very Greek in detail and surmounted by a parapet which is subtly stepped toward the center of the facade, obtaining emphasis at that point. Also, the building is much smaller in scale, more compact, with heavier columns across the front, those at the ends being formed of square piers, paneled. This gives it a very original touch. As at "Maidwood," there are side wings, but in this instance an entirely different sort of effect is

obtained through the discoloration of the pink and tan colored walls, caused by action of rain and sun.

On the other side of the Bayou Lafourche, in the same direction and only a mile or so outside Thibodeaux, we discover "Leighton Plantation," the residence of the Price family. Architecturally it is difficult to place this building, as it is very indeterminate in general characteristics. Here are quiet seclusion and a certain sort of homeliness. The house is very large, and one takes in at a glance the broad sweep of a long roof, indicating a thick-bodied structure, the length of the building being fronted with a deep, single-storied veranda with typical, flat, post-like columns. Large dormers breaking the roof line are very charming with round-headed, shuttered windows. The time we visited "Leighton" was late one afternoon. The long shadows with streaks of emerald green stretched themselves the length of the broad lawn. The light in the moss and thick foliage of the live oaks possessed an almost dramatic quality. As we studied the house, a string of white geese marched their solemn way across one corner of the picture, and somehow completed the scene!

The Bayou Teche region is a little remote. Historically, the two or three principal towns are very interesting. St. Martinsville at one time bade fair to become almost as important as New Orleans in the (then) French province of Louisiana. Many are the tales told of rare finds in the way of antiques, including French furniture of the Louis, fine silver, and so on, all of which takes us back to the days when that region was reached through Vermillion Bay and



Gate, the "Darby" Place, New Iberia

Grand Lake, by vessels directly from France, the mother country.

In this part of the country very early examples of note are a bit difficult to locate, but beginning with the period of about 1800 to 1830 we find many houses of extremely interesting types. Among these an outstanding example is the very well known "Shadows of the Teche," at New Iberia, the home of Weeks Hall. This house deserves a great deal of attention. As an example of what may be done to one of these old houses after it has endured 15 or even 20 years of total neglect, the house would probably best be treated in a monograph by itself. In type and plan it is rather

small, with six columns on the facade through the two stories, and a single-pitched roof which extends out to the classic entablature borne by the columns. The order employed is Roman Doric. A most characteristic feature of the house consists in the principal stairway's being on the exterior, at one end of the facade and behind *jalousies*. It is a happy solution for a problem. The house is very complete in spite of an element of compactness, and there is an auxiliary service stairway on the interior. In fact, the impression one receives of the house as a whole is that of completeness and intimate perfection throughout, from the execution of the finest mouldings to the planting with an artist's eye of the garden and of every foot of the surrounding grounds which belong to the house.

In this same locality are to be found the "Lady of the Lake Plantation" and many others, including the romantic old "Darby" place, which itself contains material for another fantasy in the manner of Poe. This entire region, in fact, abounds in romance.

Returning southward along the west bank of the river, one comes across various old houses of important historical architectural significance. Among these an old and very typical place, "Oak Alley," claims our attention. Here is a grand old house still in its glory. And its magnificent grove of oaks is certainly a glorious sight. There are 15 of them on either side of the broad avenue, stretching from the house itself to the river. "Oak Alley," with all its splendid traditions and beautiful acres, has recently passed into new hands, and is to be thoroughly restored to what was its appearance in its palmy days.

Security Bank of Chicago

CHILDS & SMITH, Architects

THE chief problem encountered in the planning of the Security Bank of Chicago, at the corner of Chicago, Milwaukee and Ogden Avenues, was the necessity of securing a monumental building with a monumental bank lobby on an unusually and irregularly shaped plot. It was decided that this could be best accomplished by designing the exterior with no definite relationship to the interior plan, a most unusual conclusion, but a conclusion which the successful completion of the building has seemed to justify.

It will be noted how very irregularly the interior columns are placed; compared with the location of those on the exterior; yet once within the building, on account of the different angles of the exterior facades, this incongruity is not apparent. Although the building is practically an individual banking structure, there are incorporated in it a number of offices on the upper floors, for the time being to be rented to outsiders, until they are taken by the bank.

The design of the exterior of the bank is a free adaptation of Italian Renaissance. Four tall fluted pilasters with Corinthian caps divide the main facade into five bays. In the center bay is located the main entrance door to the bank, executed in richly

carved stone showing an elaborate design characteristic of this style. Supported on graceful console brackets, the cornice of this door is ornamented above by a conventionalized American eagle. Giving added importance to the main floor of the building, a richly carved frieze course continues the decorations of the entrance door completely around the three street sides of the structure above the first floor windows. Heavier piers of plain stone, which emphasize and give strength to the corners of the building, help to support the well designed and massive entablature surmounted by a low stone parapet on which in Roman letters is the name of the bank.

The banking room is very well lighted by many windows, as well as by a skylight over the rear portion of the room, and by clerestory windows. The height of the main floor gives to it a monumental character and dignity, which are still further emphasized by the very fine and heavily coffered ceiling which is supported by massive Corinthian capped piers and pilasters. The clerestory arrangement of the second floor around the high open lobby of the bank is successfully treated with groups of well proportioned windows divided by muntins suggestive of Greek and Roman architecture. Above the



Security Bank of Chicago
Childs & Smith, Architects



ENTRANCE DETAIL, SECURITY BANK OF CHICAGO
CHILDS & SMITH, ARCHITECTS



MAIN BANKING ROOM, SECURITY BANK OF CHICAGO
CHILDS & SMITH, ARCHITECTS

space set aside for the cages of the various paying and receiving tellers, back of which is located the principal vault of the bank, a glass ceiling successfully treated in the Roman style greatly adds to the amount of light obtainable in this working portion of the bank. All of the furniture in the public space, such as writing tables and benches, shows the same massive type of Roman design as do the other details of the interior. In fact, the entire effect of the interior of the bank is more suggestive of Roman than Italian Renaissance architecture. This is particularly true of the ceiling, in which not only the design but the architectural ornamentation also suggests a Roman rather than a Renaissance design. There is no indication in the exterior design of this building of the high ornamental banking room within, but in character and scale there is real consistency.

In the basement are located the vaults, of the latest and most scientific design. The safe deposit vault contemplated will accommodate about 16,000 boxes, the 17 coupon booths being so arranged that they can be increased to double that number upon doing away with the Community Room. In addi-

tion to these 17 coupon booths, there are eight consultation rooms, committee rooms, etc., which may be used in conjunction with the safe deposit department. This department is also provided with men's quarters, women's quarters, officers' toilets, etc., and is in close proximity to a passenger elevator and stairway leading to the public lobby above. There are also ample trunk vaults, archive vaults, etc.

To the rear of the vaults is a special service department with a cafeteria and kitchenette for the bank employes, an arrangement found to be very satisfactory, inasmuch as the employes can always be present at the bank and on call should any matter arise during banking hours which would require their special attention. Oil is used as fuel in the boiler room. Large fan rooms are provided to insure proper ventilation of the basement. The banking floor is arranged with the usual departments, in conjunction with the officers' space, detail mention of which need not be made here. The directors' room is on the mezzanine floor; it is a circular room with a round table, and is provided with windows which look down into the lobby of the banking room.



Another View, Main Banking Room, Security Bank of Chicago

Childs & Smith, Architects

✓ "Casa Bournita," Greens Farms, Conn.

GOODWILLIE & MORAN, Architects

By HARRIET SISSON GILLESPIE

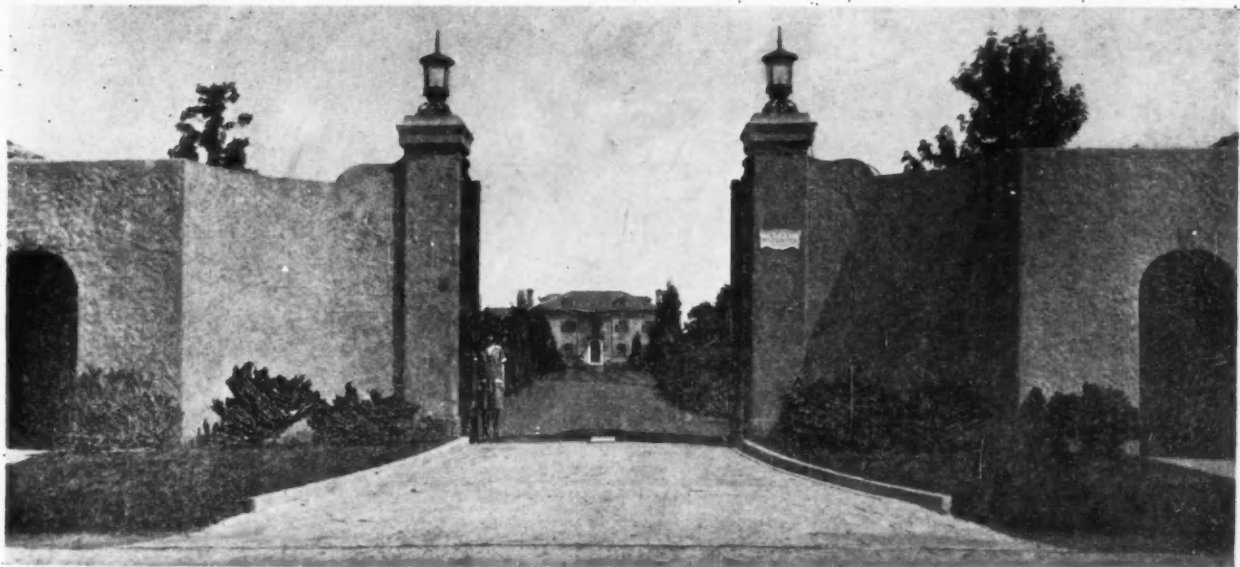
SERENE and beautiful as any an ancient villa in Tuscany, of which it is so engagingly reminiscent, stands "Casa Bournita,"—"the little house of the Bourne's,"—overlooking the blue waters of the Sound at Greens Farms, Conn., the summer home of Arthur K. Bourne of New York and Pasadena. Occupying a superb site on a ten-acre tract lying between the Shore Road and the Sound, from which may be seen the purple shores of distant Long Island, the house embodies all the romantic elements of its Italian prototype.

Rectangular in shape, it is marked by the distinctive fenestration common to the villas of Tuscany, and the resemblance is further accentuated by the typical red tile roof, and in particular by the inimitable coloring of the stucco walls, such as one finds nowhere else in the world so harmoniously developed as in this enchanted region of northern Italy. The elusive play of light and shade upon the soft rose, salmon, buff and amber surfaces is indescribably charming, and its interest is enhanced by the decorative appeal of the ornamental grilles, balconies and similar details which lend it an air of old world charm. The evident harmony of the house and the setting is indicative of the perfect accord of the transplanted type with its present surroundings, and is a convincing argument in favor of our following Italian precedent in this country. A number of admirable examples may, to be sure, be pointed out, but the adaptations in most instances fall far short of possessing the idyllic charm to be found in the ancient villas of Siena, Aretri and Fiesole.

Domestic architecture in America is entering upon a new era. The limitations imposed by the Vic-

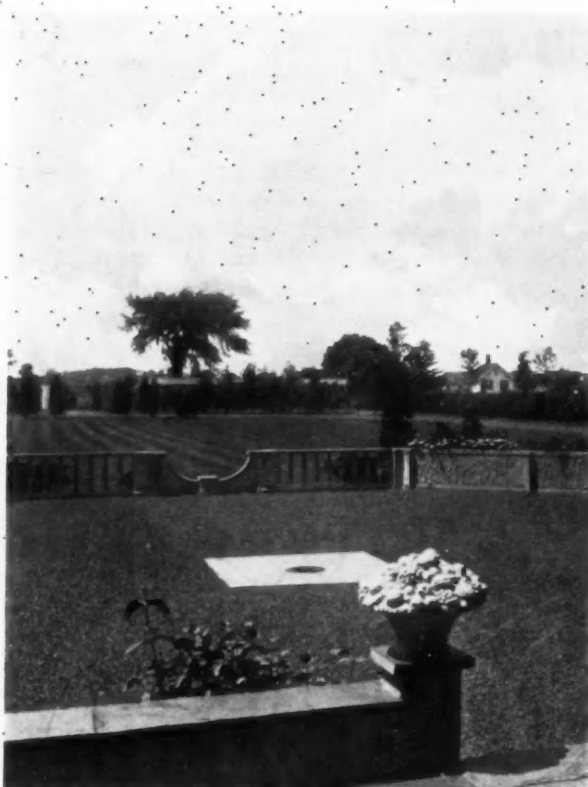
torian age are rapidly passing, and the somberness of that depressing period is giving way to an atmosphere of European splendor and to the glory of a past rich in architectural tradition. And the fact that the expression of European ideals can be accomplished here without loss of their subtle elements is splendidly exemplified in the Bourne house, designed by Goodwillie & Moran, of New York, who in their adaptation of the type have made a valuable contribution to American country house architecture. Reminiscent also, to a degree, of the arborial treatment surrounding those gracious Tuscan villas, hidden behind the high walls along the country roads, is the landscape work, carried out under the direction of Robert Wheelwright, Professor of Landscape Architecture at the University of Pennsylvania, for here cypress, pine and ilex supply a classic note.

A low stucco wall of graceful design divides the estate from the highway and serves to mask those less interesting but very essential features, the superintendent's lodge and the garage. Pierced by small openings with iron grilles and decorated at intervals with colorful plaques in Della Robbia style, it curves in at the entrance to meet great iron-bound doors of weathered oak that might present a somewhat formidable aspect were they not so distinctly decorative in character. Just within the enclosure Mr. Wheelwright has heightened the feeling of intimacy and seclusion for which the Italian villas are famous by using profuse planting to screen the main facade and to soften the lines of the house, which is approached by drives branching to right and left, encircling a *tapis verte* and meeting at the forecourt. Only the most tantalizing glimpses of the mellow facade are



Photos: Dix Duryea

Entrance Gate, "Casa Bournita," Greens Farms, Conn.
Goodwillie & Moran, Architects



A View of the Forecourt, "Casa Bournita"

to be caught through the aisles of dwarf fruit trees, the cypress, pine and ilex massed before the entrance, and it is not until the drive is entered that the full beauty of the composition which the architects have achieved stands revealed. All the indefinable quality of the old work has been retained, and the colorful structure stands silhouetted against the vast expanse of the sparkling waters of the Sound, with skies as blue as any that ever looked down on Fiesole.

The spirit of Tuscan architecture is all-pervading, and not a little suggestive of the Villa Galileo near the little village of Aretri, but more reminiscent perhaps of the Villette at the Villa Palmieri, San Domingo, between Florence and Fiesole. The handling of the masses, and the typical and pleasing fenestration, no less than the treatment of the roof with its wide projecting eaves, are salient points of similarity of design, to which the rich color, inevitably present, and an important stimulus to the aesthetic charm of the Italian villa, adds a final note.

The forecourt and the terrace (itself enclosed by a low balustrade with planting) further accentuate the engaging beauty of the main facade. This forecourt is ingeniously made one with the house by long sweeping curves tying into quoined piers with pine cone finials. These terminate walls, that on one side pierced for a grilled door, and that on the other screening the service portion. A fence of French split palings screens the laundry yard on the left and



Garage, "Casa Bournita," Greens Farms, Conn.
Goodwillie & Moran, Architects

continues the line of the high surrounding hedge.

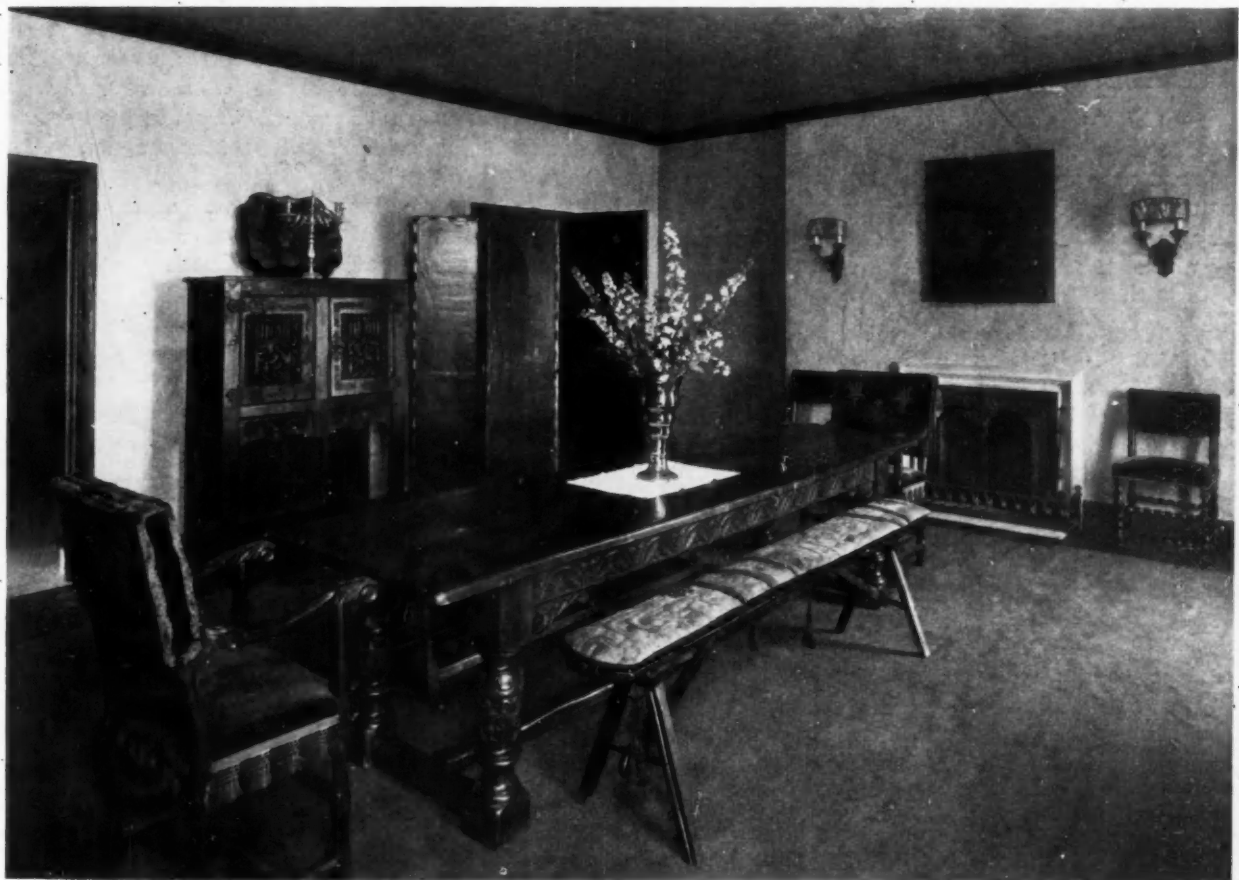
The characteristic handwork of the stucco walls, with the indefinable coloring only to be found in the sunburned surfaces of Italian villas; the wood blinds with their fixed louvers painted a faded blue-green; the *staccato* effect of the mediæval ironwork and the distinctive roof of mission tile that catches up and repeats the wall color;—all these aid in completing a picture of singularly strong appeal. The roof treatment, indicative of the extreme fidelity to detail observed by the designers, is worthy of special mention, for the tiles are laid with random exposures, without horizontal lines; the tones are all agreeably blended, and even the edges are cracked off to give the free and unstudied effect which age has wrought in roofs of the old and picturesque European villas.

Both the entrance and the loggia are trimmed with stone as near the color of the *pietra serena* employed in Italian construction as could be had. The entrance door of mediæval flavor, of weathered oak with Spanish nail heads and handwrought hardware, is framed in an arch of stone quoins. A hanging balcony overhead suggests Spanish tradition, and above it is a curiously interesting iron rod with Spanish heads from which a Roman awning may be hung.

A fitting entry into an appropriately treated interior is the truly palatial foyer, which very properly strikes the dominant note in the decorative effect and is marked by the same sense of color values that dis-



Foyer and Entrance Gates, "Casa Bournita"



Dining Room, "Casa Bournita," Greens Farms, Conn.
Goodwillie & Moran, Architects

tinguishes the exterior. Both the walls and ceiling of old ivory plaster exhibit the peculiar textural quality of the outer surfaces, but the tones are modulated to suit the indoor use. The deep, simply moulded cornice of weathered oak is in pleasing harmony with the wall tones and the floor of travertine, and it constitutes an admirable foil for the rich damasks, tapestries and early Italian furniture and a highly dignified portrait of Mr. Bourne's mother.

Old ironwork is a decorative asset to the value of which we in America have accorded tardy recognition, excepting always those marvelous examples found on the Pacific slope; but in developing the design of "Casa Bournita," the architects have followed closely European usage, and it is to the rare expression of this medium that much of its convincing similitude is due. Superb gates of ornamental ironwork, based on Italian precedent, guard the entrance, and a noble grille, hung with Florentine damask, serves to screen the foyer from the stair hall to which similar gates give access. The staircase, the *chef d'œuvre* of the composition, evidences the extreme refinement of detail and fine workmanship to be achieved by this means. A gem of lightness and grace, self-contained in its type of construction, it winds up in a pure elliptical curve, and at the upper floor is met by other ornamental iron gates of equal form and symmetry. Slender balusters of iron of varying design, reinforced with a twisted scroll, start from a newel once part of an ancient candelabrum. Niches are set in the wall and lined with glazed Spanish tile in gay colors; and the lantern and side lights, reproductions of antiques, are in character.

Mr. Bourne made but few stipulations with the architects in planning his house, and these mainly affected the essentials of a gentleman's place in the country. There was to be no striving for effect, no ostentatious display, but rather did the owner express a preference for the refinements of a home that was to be that of a young and growing family, whose interests he had most at heart. As a result, a subtle harmony of purpose is apparent, not only between the house and the grounds but also between the architectural treatment and the furnishings. The house itself is arranged so as to afford the utmost comfort and convenience for the family, with rooms of generous proportions, commodious servants' quarters, and kitchen equipment that is the last word.

An atmosphere of refined simplicity pervades the house. The living and dining rooms are dignified examples, based almost wholly on Italian tradition, though the richly beamed ceiling in the former room is Spanish rather than Italian in type. Each of the rooms contains treasures gathered by Mr. Bourne on his travels or selected by him from noteworthy collections, and all have been assembled so as to emphasize rather than destroy the intimate home atmosphere. The second floor, given over to the master bedrooms, is conspicuous for its convenience of arrangement and pleasing harmony of treatment. The walls and trim are done in soft colors, with painted

furniture to correspond. The bathrooms have the most modern of fittings, with tile floors and enameled walls. A loggia, opening off the children's room, affords delightful play space and does duty as a sleeping porch as well. The governess shares her suite with the youngest child, and a valuable feature is a convenient kitchenette for the hygienic preparation of the baby's food.

Especial attention was given to time- and labor-saving methods in planning the culinary department. The walls and ceilings are of enamel with trim of metal to finish the openings and floor base, the metal being applied flush with the walls. The floors themselves are covered with bright-colored linoleum. Steel dressers and cupboards are built in with no cracks or mouldings to act as dust catchers. An incinerator disposes of rubbish. Although gas is used for fuel, there is electricity for refrigeration, plate warmer, percolator and similar requirements of the household. One novel feature is a special kitchenette apart from the regular kitchen for the preparation and cooking of vegetables; another is a fruit closet, fitted with wire shelves and provided with outside ventilation.

The southern facade of the house is quite naturally influenced by the physical beauty of the site, the inspiring sweep of the grounds to the water's edge, and the vast unobstructed view of the Sound; and in order to afford full enjoyment of the pleasing outlook, the living rooms were given positions of prominence, and the flagged terrace, where in summer the family life inevitably centers, is accorded a place of due importance. Here also the colorful wall surface vies in artistic appeal with the picturesque ironwork. The latter finds its best expression in the graceful hanging balcony off from Mrs. Bourne's room, a balcony which, supported on stucco demi-vaults springing from ornamental caps, is enclosed by an unusual railing in which flower pot holders have been worked into the design.

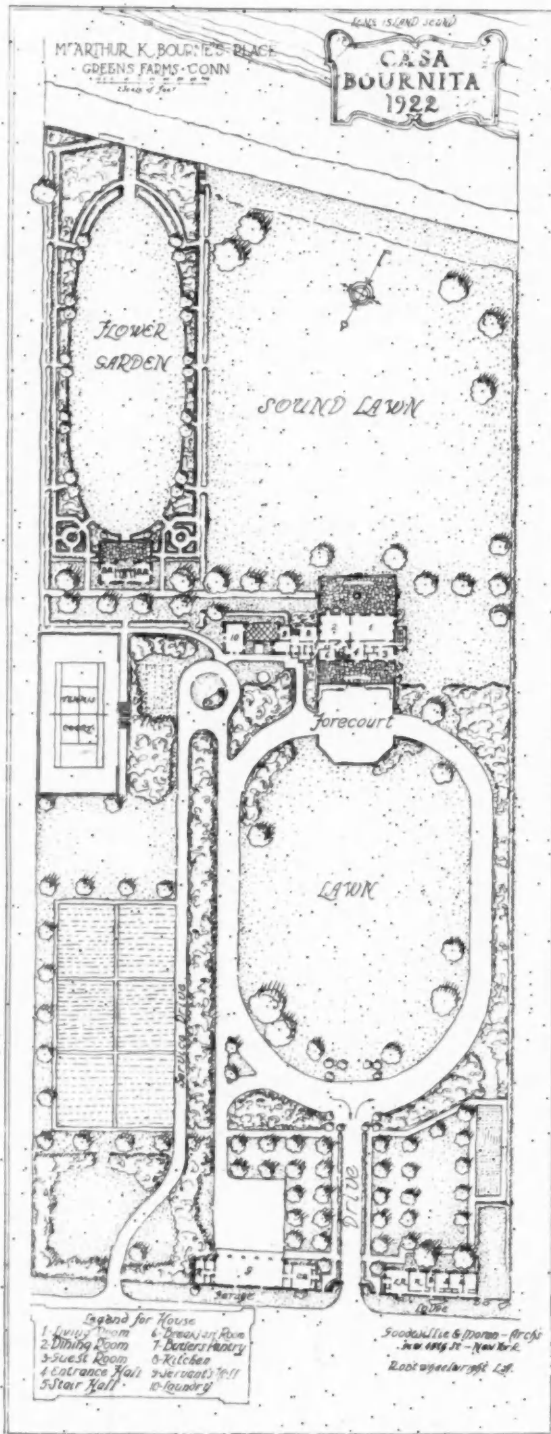
All the French windows on the Sound side have iron grilles, and the door to the terrace is provided with iron gates. The entrance is surmounted by an Italian lantern of mediæval pattern which is supported upon ornamental wall flanges. Tall, conical pines stand, sentinel-like, on either side of the door, and with their bases screened in a mass of English ivy they strike a pictorial note in the decoration. The terrace itself is distinguished in color and ornament, the floor of parti-colored flagstones repeating the tones of the stucco walls. The flags are laid to center about a huge central stone, carved to imitate an old-time compass, with the cardinal points, and with the arrow pointing to the north. Enclosing the terrace is an ornate stucco rail embellished with flower pot terminations. This is a home to which art and nature have contributed liberally, and which but for geographical limitations might well be one of those romantic villas on the sunny slopes of the hills of Fiesole, outside of Florence, which supplied so great a measure of its mellow and appealing charm.



Photos, Dix DuBois

"CASA BOURNITA," HOUSE OF ARTHUR K. BOURNE, ESQ., GREENS FARMS, CONN.
GOODWILLIE & MORAN, ARCHITECTS

Plans on Back

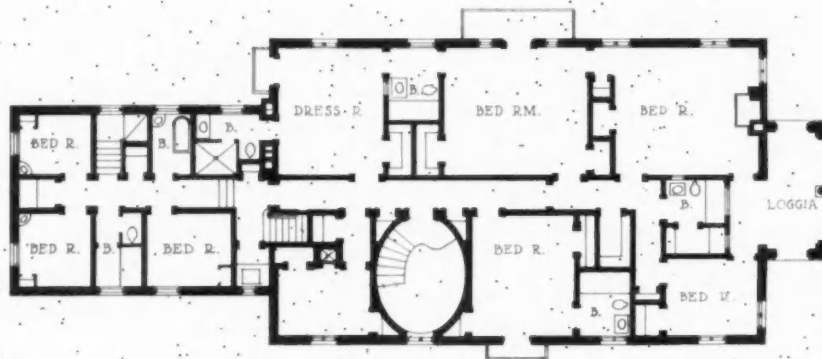


PLOT PLAN OF ENTIRE ESTATE

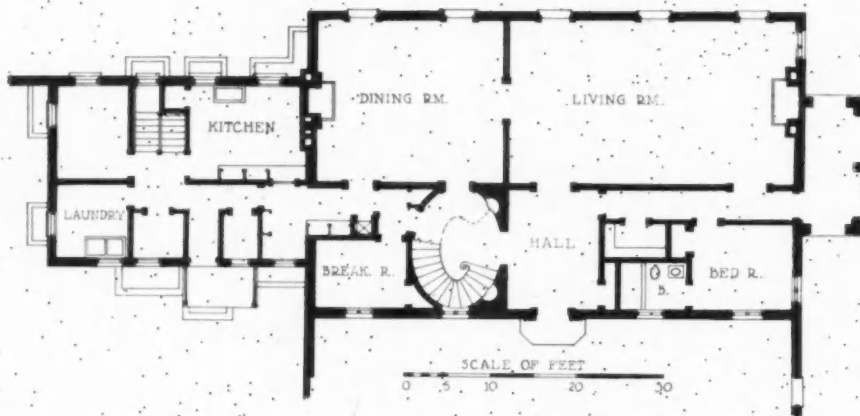


Plans on Back

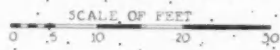
TERRACE AND GARDEN FACADE, "CASA BOURNITA," GREENS FARMS, CONN.
GOODWILLIE & MORAN, ARCHITECTS



SECOND FLOOR



FIRST FLOOR



PLANS, "CASA BOURNITA," GREENS FARMS, CONN.

GOODWILLIE & MORAN, ARCHITECTS



DETAIL, TERRACE FACADE, "CASA BOURNITA," GREENS FARMS, CONN.
GOODWILLIE & MORAN, ARCHITECTS





FORECOURT AND TERRACE, "CASA BOURNITA," GREENS FARMS, CONN.
GOODWILLIE & MORAN, ARCHITECTS





STAIR HALL, "CASA BOURNITA," GREENS FARMS, CONN.
GOODWILLIE & MORAN, ARCHITECTS





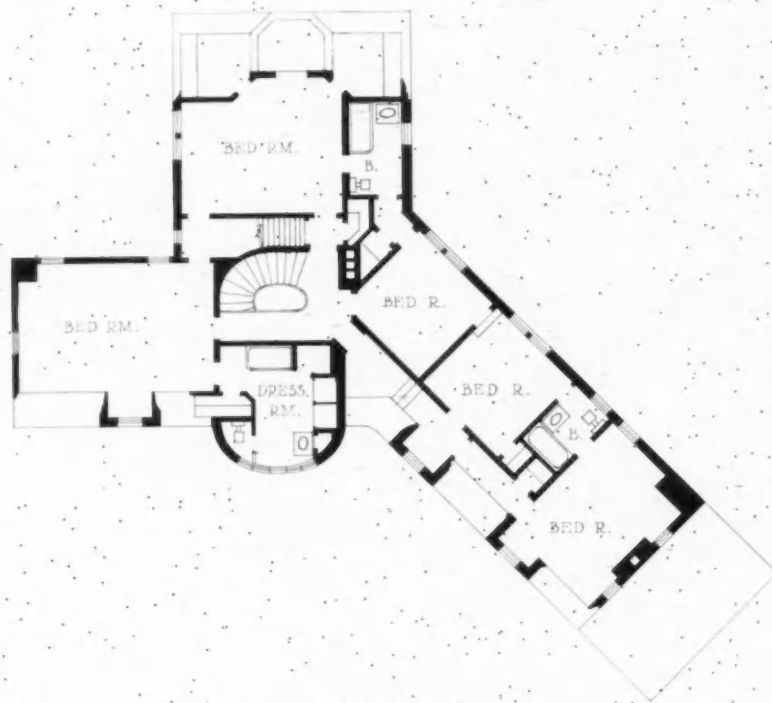
TERRACE



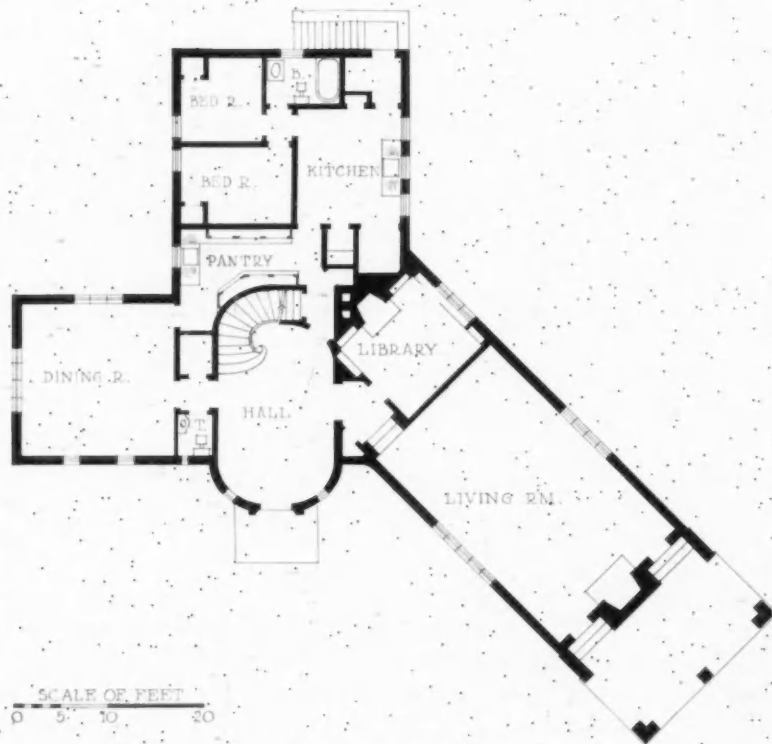
Photos. John Wallace Gillies

STAIR HALL, HOUSE OF E. R. TROXSELL, ESQ., BRONXVILLE, N. Y.
LEWIS BOWMAN, ARCHITECT

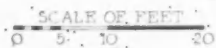
Plans on Back



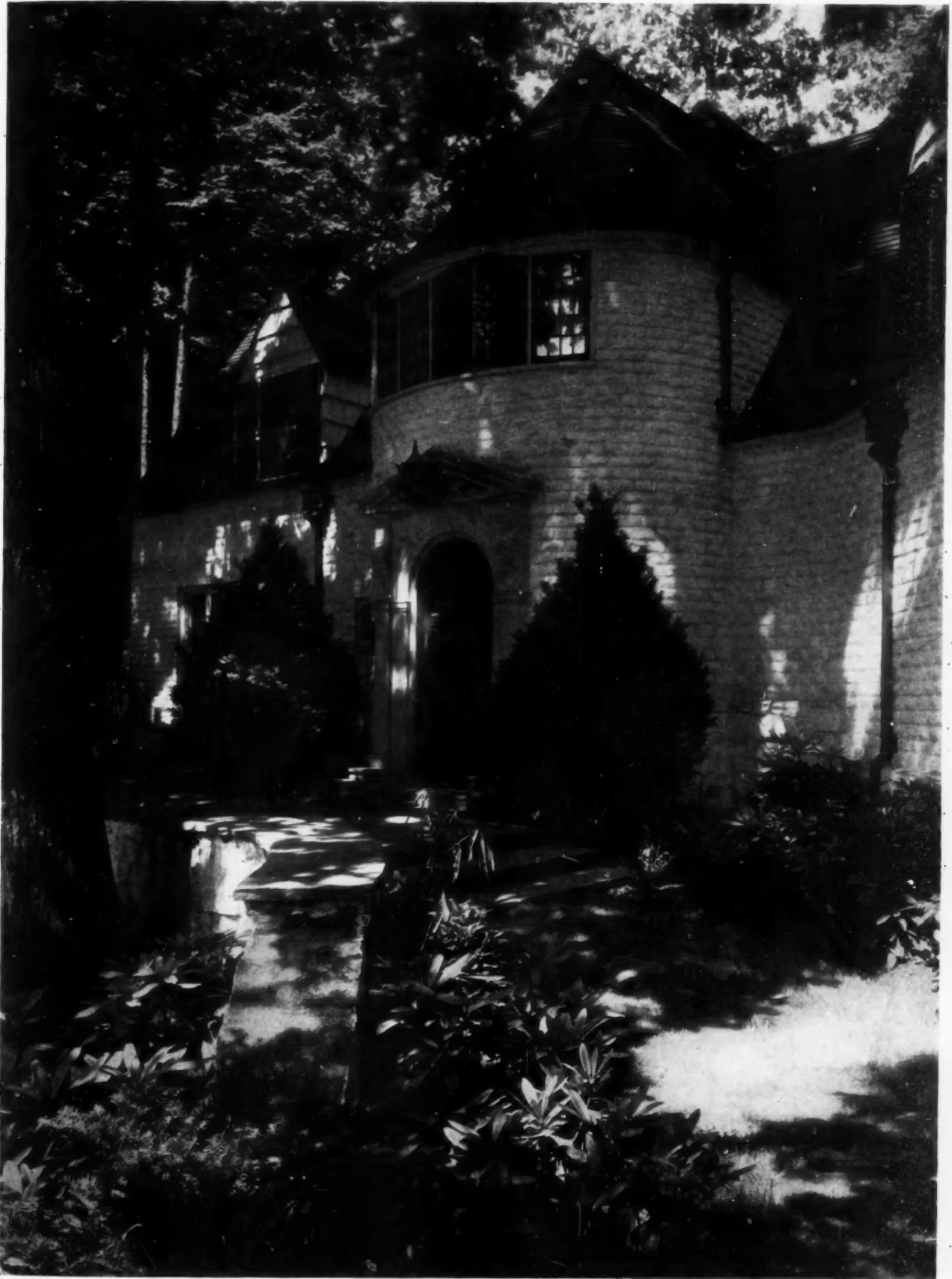
SECOND FLOOR



FIRST FLOOR

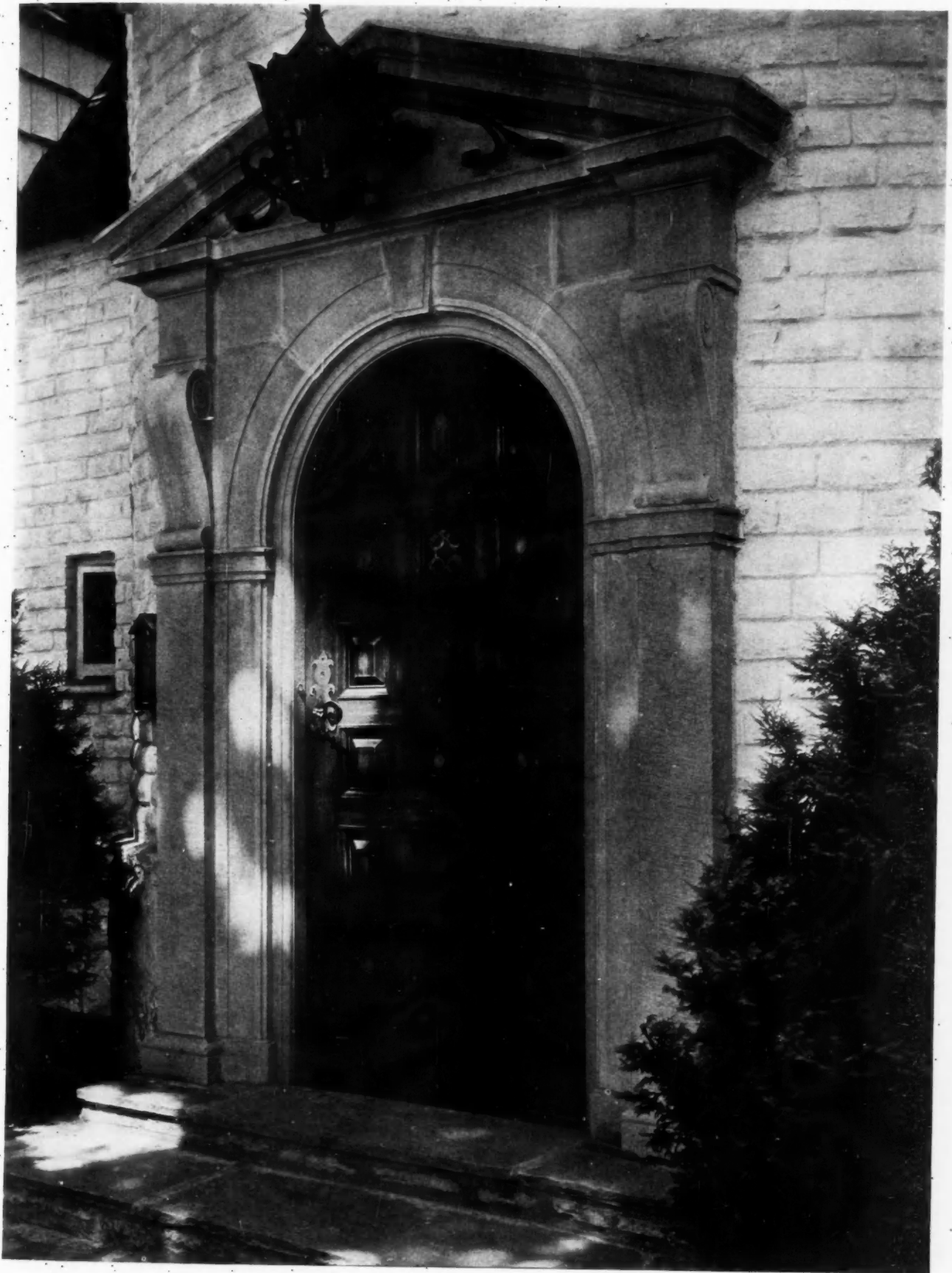


PLANS, HOUSE OF E. R. TROXSELL, ESQ., BRONXVILLE, N. Y.
LEWIS BOWMAN, ARCHITECT



ENTRANCE FACADE, HOUSE OF E. R. TROXSELL, ESQ., BRONXVILLE, N. Y.
LEWIS BOWMAN, ARCHITECT





DETAIL OF ENTRANCE; HOUSE OF E. R. TROXSELL, ESQ., BRONXVILLE, N. Y.
LEWIS BOWMAN, ARCHITECT.

Early Ironwork in Charleston

By ALBERT SIMONS AND SAMUEL LAPHAM, JR.

IF one makes any study of the architecture of our forefathers in this country, one soon discovers that one has become engaged in research, not alone into architecture but into all the accessories of architecture as well. These accessories, one discovers, include all manner of crafts and involve all degrees of craftsmanship. The smallest attempt to explore any of these enticing bypaths can but bring the realization that each is a subject with a full development and history of its own. The histories, however, of these minor arts and crafts are not generally recorded, as are those of the major arts, but have to be gleaned from references half lost in dusty records of other matters, and in some cases gathered from oral tradition. To do full justice, therefore, to any minor branch of craftsmanship as practiced in a locality, one should devote painstaking research as well as years of time to it. This is not always possible, and the architectural profession still has much to learn about the minor arts of the times of the colonies and the early republic. Under this condition one can only realize in passing that the wood carving, the hardware, the mantels and the ornamental ironwork of our historic buildings have a history of their own, and one then returns to the general subject of architecture with a feeling that many rich veins of secondary interest are still untouched.

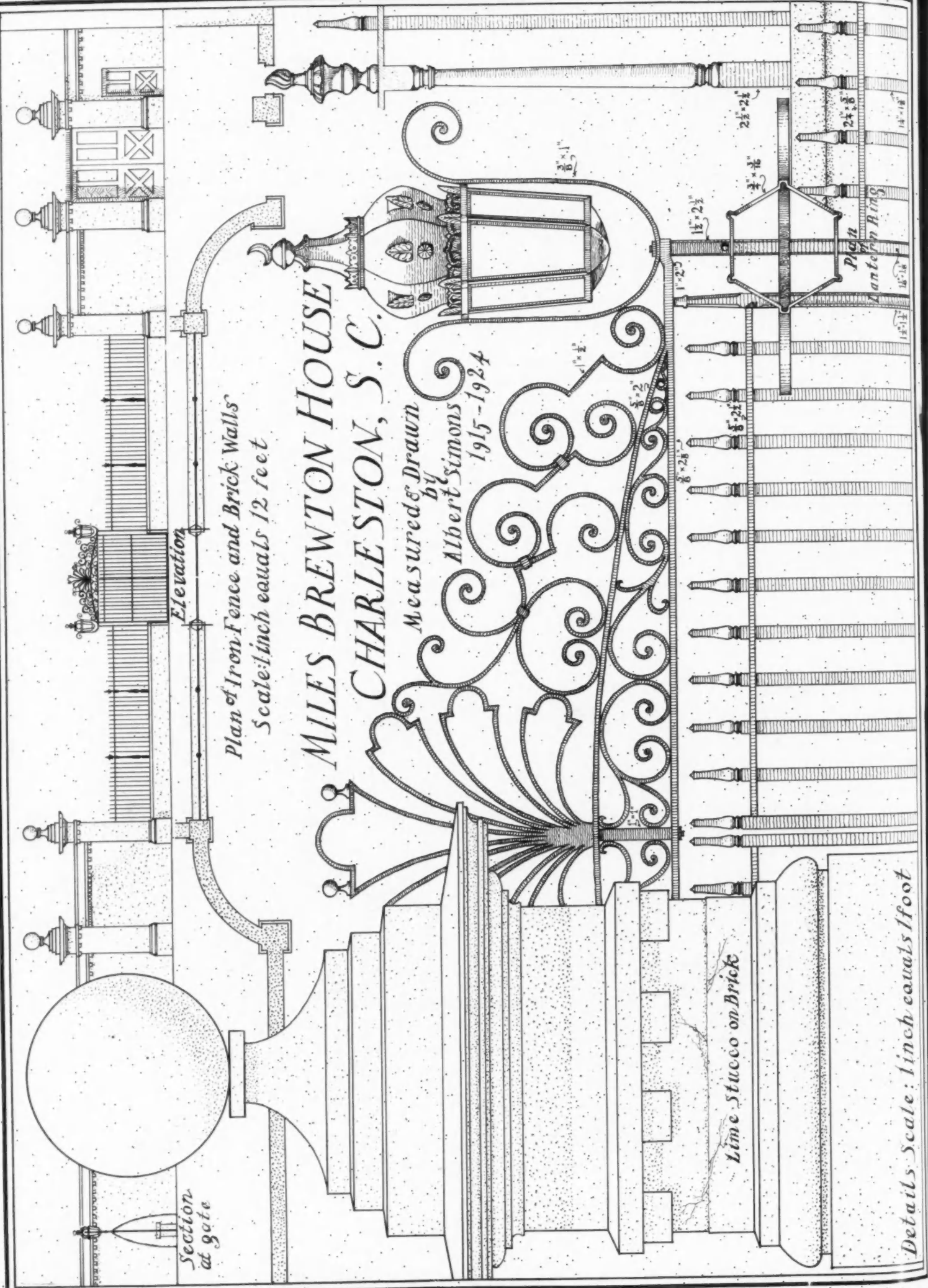
These secondary fields are wide enough for many to work in, and they should be worked before time takes its toll of what slight records and traditions still remain. It is with this excuse for their scantiness that the present notes are presented, because of the interest of many architects in our local ironwork, of which more remains than might be supposed.

Of the various accessories of architecture, ornamental ironwork appeals to many,—it catches the eye of the layman and tourist more than anything else, possibly because it is on the outsides of buildings and can be seen and felt; it appeals to the designer, the artist and the architect because in it are found instinctive beauty of line, craftsmanship and design together with a little known history of its own. Sparsely used in New England, increasing in richness as we go southward through the middle colonies and Virginia, reaching its full perfection of design in the southeast and becoming most profuse, florid, and almost overdone in Louisiana, we have, in ornamental ironwork as an architectural accessory, a form of art with a life of its own, no matter how secondary it may be in importance to the all-inclusive art of architecture, the mistress, indeed, of them all.

Although there is a great wealth of ornamental ironwork in Charleston, Savannah and other southern cities, there is practically no documentary



Wrought Iron Gates and Fence, Miles Brewton House, Charleston



Elevation

*Plan of Iron Fence and Brick Walls
Scale: 1 inch equals 12 feet*

**MILES BREWTON HOUSE
CHARLESTON, S. C.**

*Measured & Drawn
by
Albert Simons
1915-1924*

*Section
at gate*

Lime Stucco on Brick

Details Scale: 1 inch equals 1 foot

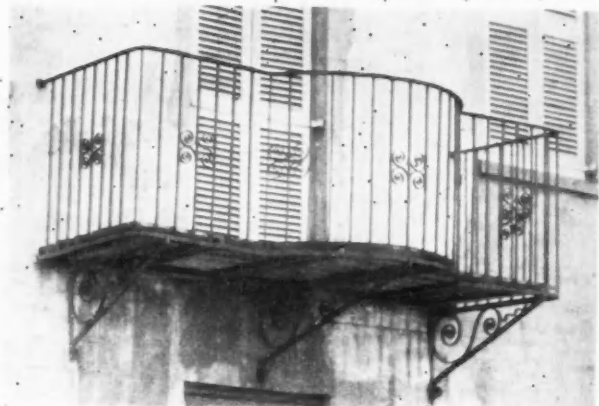


WROUGHT IRON STAIR RAILING, ABOUT 1830

Details Scale: 1 inch equals 1 foot



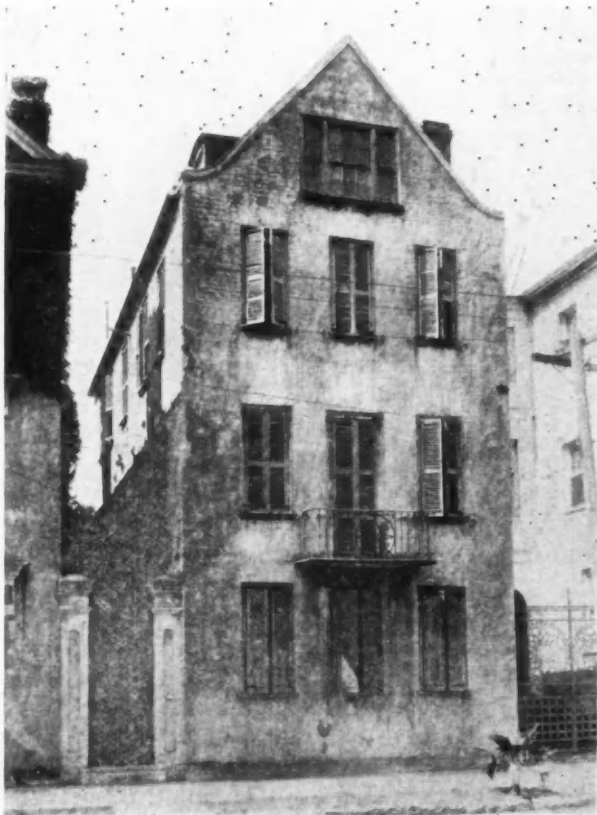
Iron Balcony; House Built Prior to 1800



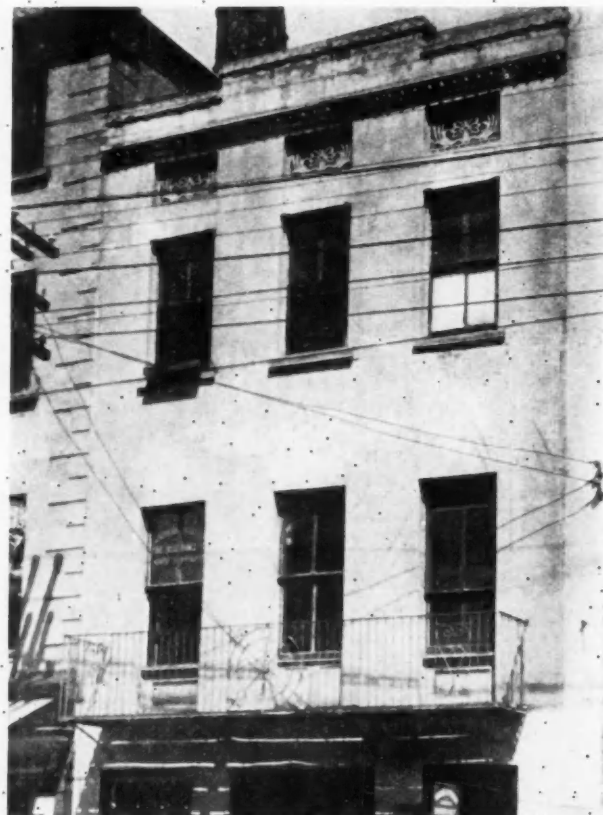
Wrought Iron Balcony with Semi-Circular Bay

evidence on hand today preserving the names of the artificers of these graceful fabrics. There are two causes for this documentary silence: first, that personal letters and accounts bearing on the subject were lost or destroyed in the wrack of war and invasion during the '60s; second, that the humble iron craftsman created forms of beauty in the sweat of his brow, and in a society which had become by the middle of the century essentially aristocratic, such persons were not regarded as subjects for elegant and polite dissertation, unlike those literary gentlemen who contributed sonnets and elegies to the quarterlies, whose tender memories have been preserved in lavender and roses by succeeding *literati!*

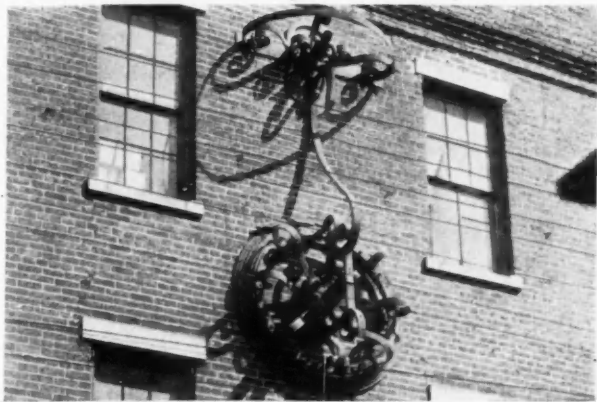
Doubtless there was much good ironwork executed in colonial times for gates and balustrades of exterior stairs, but today there are comparatively few examples that can justly be considered as belonging to that period. Many a Colonial house has beautiful ironwork, to be sure, but investigation reveals that it was erected a half-century or more later than the date of the house. The genuine surviving colonial examples, although simpler, bear a general resemblance in character to that manner of design introduced into England in the days of Sir Christopher Wren by Jean Tijou. The present dearth of colonial ironwork may be partly explained by an observation by John Bennett, the novelist and historian:



Drop in Handrail on the Return Ends of This Balcony Permits Swing of Window Blinds



Wrought Iron Balcony and Cast Iron Ventilators on Early Nineteenth Century Building



Wrought Iron Sign on Shop of Early Metal Worker



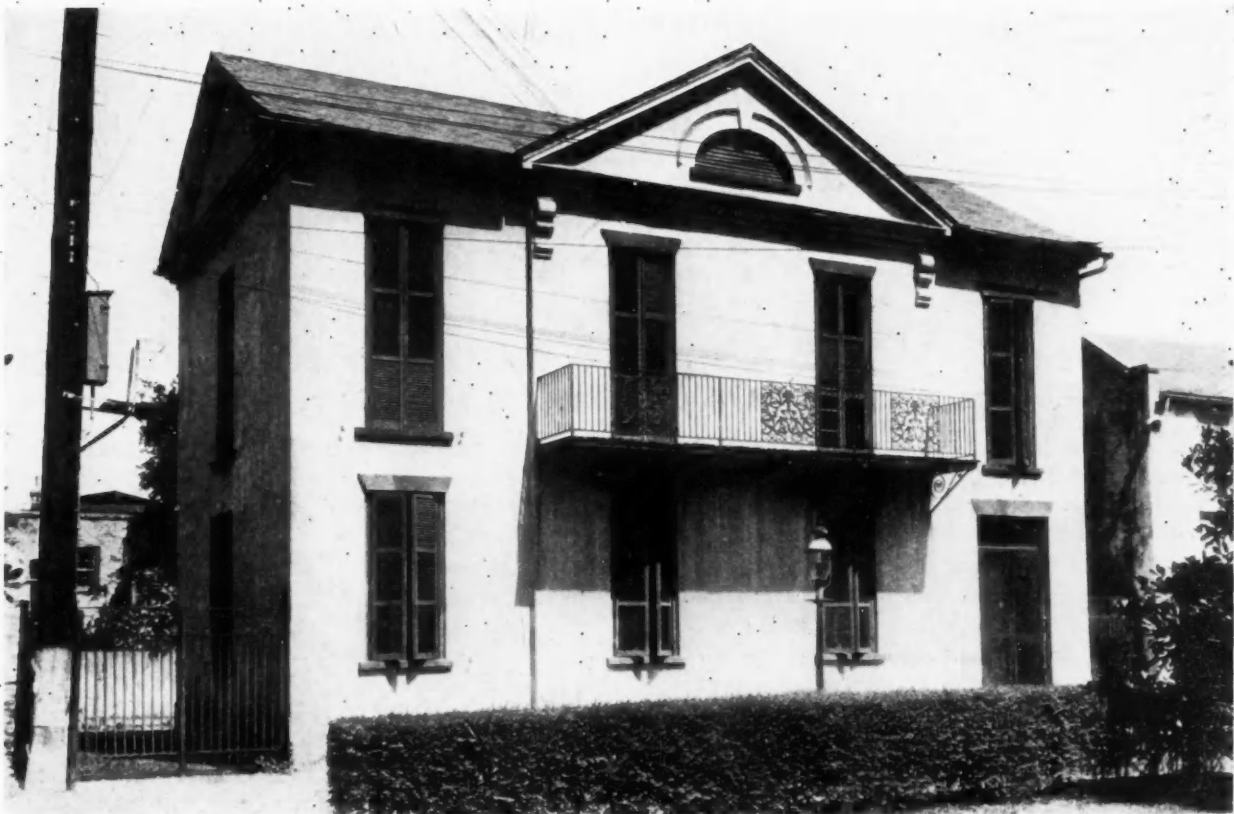
Balcony Rails Full of Delicacy and Refinement

"I find it stated that in the Revolution, many wrought iron railings, of extra good and good quality, were taken by the American forces to make horseshoes for the light horse troops and draught horses of the army. A certain proportion of colonial ironwork would, therefore, have disappeared from this cause."

Doubtless the premises of the cultured and wealthy Tories suffered most in these requisitions!

Oral tradition among the ironworkers of Charleston has preserved the names of a succession of master craftsmen going back to the times of the American Revolution. Of the earliest of these, Tunis Tebout, little is known except for a very brief ref-

erence which occurs in the "Traditions and Reminiscences, Chiefly of the American Revolution in the South," by Joseph Johnson, M. D., published in 1851. Here it is related how in the fall of 1766, Gen. Christopher Gadsden, on the advice of John Laurens, frequently met and conferred with a group of 25 master mechanics and tradesmen of the city and advocated resistance to British oppression. These meetings took place under a large live oak, since known as the "Liberty Tree," near Gen. Gadsden's home. The names of these patriots are recorded by Dr. Johnson, who comments: "All that are known were the fathers of families, reputedly engaged in their maintenance, all in easy circumstances, none



Wrought Iron Gates and Balcony with Cast Iron Panels; Law Office of James Louis Petigru, Built 1848



Old Wrought Iron Gate, Reset on Estate of Mrs. W. J. Pettus, South Bay, Charleston

rich. At least half of them were master mechanics, the very bone and muscle of a thriving community." The list of the "Liberty Tree" patriots includes the names of both Tunis Tebout and his partner, William Johnson, who were "blacksmiths, carrying on an extensive business on Beal's Wharf." Oral tradition does not associate Johnson's name with any architectural ironwork, but Tebout is credited with the fences and gates of a number of churches erected in the early years of the nineteenth century. His work is rather simple, and is generally composed of straight bars of large section. It is perhaps worthy of note that the terms "blacksmith" and "house carpenter" as used in the eighteenth and early nineteenth centuries were applied to the occupations of

men of considerable general education and proficiency in architecture and engineering as understood in those days. William Johnson, the patriotic blacksmith, was the father of Dr. Joseph Johnson, the scholarly historian. With such high types of men engaged in the mechanic trades, it is small wonder that masterpieces of craftsmanship were produced. In the simple society of colonial times, before vast fortunes were amassed, men of great worth and high intelligence were content to earn their livelihood following the trades of carpenter and blacksmith.

In 1820, Justi came to Charleston from Germany, and as several of his works bear his name plate, his style characteristic may be studied, and other unsigned works may be reasonably attributed to him.



Wrought Iron Gates, Simonton Residence, Charleston. Attributed to Werner and Dothage

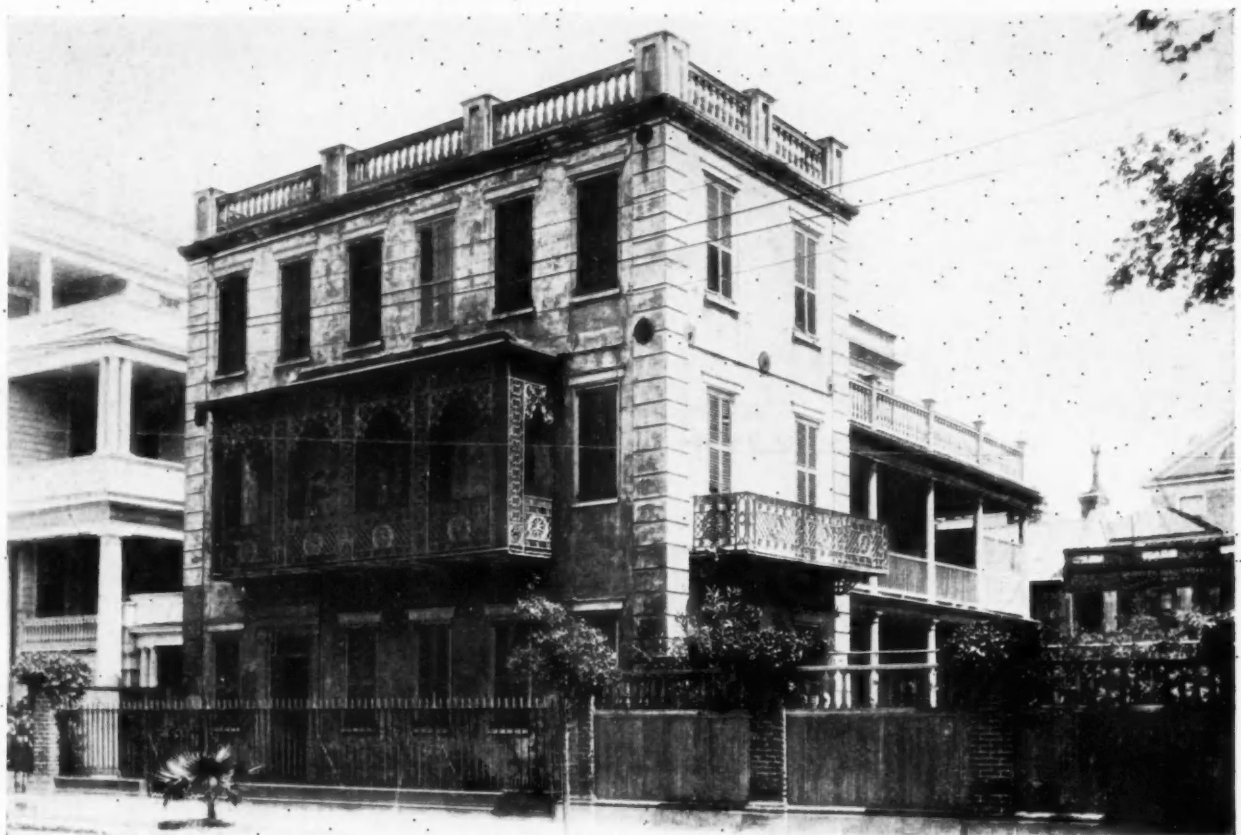
He used rather narrow ribbons of iron, of thin section, coiling them up in delicate spirals of unimaginable lightness. The classic urn, outlined in most graceful contours, is one of his favorite motifs and betrays the prevailing taste of the period. The gates (built 1840) of St. Michael's Church (1752), Charleston, which are illustrated in "The Georgian Period," bear his name and are doubtless his masterpieces. Their excellence is well known.

Only a few years after the arrival of Justi, in 1828, Werner came from Germany, and, although the date of his death is not known, he was still executing work in 1870. He lived through the period of the greatest prosperity of the city, and probably executed more of the ironwork found in Charleston

today than anyone else, owing to the very favorable economic conditions of his time. He seems to have operated a rather extensive forge and employed three white workmen and five colored men. Of the white men, Dothage, who worked with him from 1849 to 1860, appears to have equaled his master's skill. Of the colored men, tradition preserves the name of "Uncle Toby" Richardson, who was entirely illiterate and could not even read a foot-rule, but who was extremely skillful in executing work laid out for him by his masters. The type and style of Werner's work can be judged by reference to the illustrations of the Hibernian Hall and the Synagogue appearing in the articles on "The Development of Charleston Architecture" in the December,



RESET WROUGHT IRON BALCONY; KING STREET, CHARLESTON



CAST IRON COVERED VERANDA AND OPEN BALCONY OF SAME DESIGN; MEETING STREET, CHARLESTON.



A SECOND STORY VERANDA; WROUGHT IRON, ROCOCO DESIGN

1923 and January, 1924 issues of THE ARCHITECTURAL FORUM and to the Simonton gateway illustrated in this number.

One of the most curious and unique works executed by Werner was a colossal wrought iron bracket, 12 feet high, composed of an infinite number of scrolls, secured to the third-story front of a great four-story brick building. It is said that a giant anvil of solid iron once hung

from the prow of this scroll and was the street sign of "McLeish's Smithy," which was kept open night and day, and that journeymen were permitted to come there after their regular working hours and execute such extra work for themselves as their individual industry and opportunities might permit. No doubt this "Atelier McLeish" was a most valuable training school in which local mechanics might acquire that technical proficiency necessary for the execution of the great quantity of work that was constantly being produced at that time.

Besides wrought iron work, Werner executed a great deal of cast iron. This material was especially adapted to the construction of the long verandas or roofed balconies, which were placed across the street facades and entered from second-story windows which opened all the way to the floors. These iron verandas seem to have originated at the eighteenth century seaside resorts of England, such as Bath and Brighton. On such verandas an invalid might sit and "take the air and enjoy the prospect," while being at the same time shaded from the sun. The design of this cast iron work is much too sophisticated to be the inventions of local artisans; and, in fact, as the same patterns occur frequently repeated, not only in Charleston and Savannah, but also in Philadelphia and probably other northern cities, it would seem that they were more or less standardized and accessible to the iron trade all over the country at that time. These cast iron balcony grilles reflect all the various schools of taste of the mid-century; some are Greek Revival with motifs of spiny acanthus and honeysuckle; some Gothic Revival with trefoils and crockets; others in that strange revival of the Rococo that seems to have come into vogue after the restoration of the Bourbons to the throne of France; still others are made up of rather naturalistic *rincaux* of ivy or grape vines that would have doubtless thrilled the pre-Raphaelite souls of John Ruskin and William Morris!

Another use for cast iron work was for the ventilator grilles in the facades of numerous buildings built in Charleston between 1830 and 1870. These generally occur in commercial buildings with party



Wrought Iron Lunette Grille, Arched Passage, "Cabbage Row," Charleston

walls and having, on the street facades, parapets which concealed sloping roofs. This construction required ventilation for the dead air spaces between the top-story ceilings and the slanting roofs, and the grilles were inserted in the parapets above the upper story windows and centering upon them. They average in size about 2 by 3 feet, and can be grouped in several special designs. Those that

most frequently occur are the floral motifs of the honeysuckle and the thistle, and the patriotic motifs of the eagle on the globe and the palmetto tree, the last being the symbol of the state of South Carolina.

Almost the last of the iron craftsmen was Frederic Julius Ortmann, who came to Charleston in 1847 from Baden-Baden. He was probably a political refugee, whose republican ideas were not approved of by the monarchical authorities. Besides making ornamental ironwork, he is said to have made surgical instruments. During the '60s he served in the Confederate Army, and after the war continued his craft, which is being carried on very successfully by his sons today. One of his sons, the late Julius Ortmann, has been the source from which most of the traditions of the craft as given here have been derived. Other valuable notes have been secured through the courtesy of Mrs. S. G. Stoney, Joseph I. Waring, and C. S. Dawson.

As to the materials used for this work, most of the iron was imported from Sweden in half-cargoes. The Swedish iron seems to have been generally preferred, as it has a coarse-grained, shred-like texture, is very malleable and resists the corrosive action of salt sea air. An interesting sidelight on the durability of this iron is shown in the gates and fence of St. John's Lutheran Church, Charleston, illustrated in the January, 1924 issue of THE FORUM. These were erected in 1823 and, although completely exposed to the weather, wherever they were erected on brick or on stone pavements are still as good today as ever. One side gate, however, resting on damp ground and at the sidewalk level, is disintegrating in its bottom scrolls after a century's time, although all the rest of the gate has resisted corrosion. Nuremberg iron was highly prized for making very slender members, such as the sticks in balconies. From about 1820 up to the time of the Civil War some iron ore from the Piedmont section of South Carolina was sent to Sweden to be purified.

It is hoped that these rather scattered notes may solicit further investigation by others in this most interesting department of early American crafts, and will at least record facts that otherwise might be lost.

The Bridge as Architecture—Part II

By REXFORD NEWCOMB

Professor of Architecture, University of Illinois

IN THE FORUM for February it was our pleasant task to review the architectural qualities of some of the famous old bridges of England and France. There something was said of that sturdy, beautiful and structurally logical old Roman work, the *Pont du Gard*. Bridge building with the Romans reached a high peak of perfection, structurally and artistically, and upon Roman bridge building prowess the bridge builders of subsequent times have relied for inspiration and example. Italy has long been a land of interesting bridges, and in Italy, as in France, it is difficult to choose between the great number of bridges which, because of one virtue or another, demand attention. There is Rome with her many bridges, some of them coming down, in part at least, from ancient Roman days; Florence with her *Ponte Vecchio* and *Trinita*; Pavia with her curious old covered bridge over the Ticino; Verona with her *Ponte Romano* and *Ponte Scaligero*; Pisa with the *Ponte de Mezzo* and others; and lastly Venice with her matchless Rialto (Fig. 14) and Bridge of Sighs, to say nothing of the charming little bridges one finds scattered all through rural Italy. All of these would seem to demand space in even the most fragmentary discussion of Italian bridges. The writer found the Roman, Venetian and Florentine bridges by all odds the most engrossing from several points of view.

Rome has no fewer than 15 bridges spanning the

muddy Tiber, and of these some five are relics of ancient days. The earliest bridge of the Romans was the wooden bridge, *Pons Sublicius*, erected about 600 B.C., and, due to a certain sacred significance, always restored in wood, even during the Imperial period. It has, of course, now completely disappeared. One of the interesting existing fragments at Rome is the *Ponte Rotto* ("Broken Bridge") called in Roman days *Pons Æmilius*. This structure dates from 178 B.C., and has considerable claim to our attention as a distinguished piece of architectural composition as well as an efficient bit of engineering. Only one complete arch with parts of two others stands today, but one can easily reconstruct a picture of how this noble structure must have looked in the days of the Cæsars. It is just below the island in the Tiber, and at a point that today makes it exposed to heavy currents; hence it has suffered much in flood times, and has been partially swept away on at least four different occasions. Just above the *Ponte Rotto*, and connecting the island with the mainland on the north, is the *Ponte Quattro Capì* (Fig. 16), so called because at either side of the roadway at the north end of the bridge stand pedestals bearing four sculptured heads. The structure dates from 62 B.C., and consists of two great arches of 80-foot span carried by a central arched pier in the middle of the river. The structure is 250 feet



Fig. 14. Ponte di Rialto, Venice



Fig. 15. Ponte San Angelo, Rome



Fig. 16. Ponte Quattro Capi, Rome

long, and the arch rings are 6 feet deep. This bridge is said to have been longer at one time, and legends are current of other arches buried in the embankment near by. This bridge (called by the Romans *Pons Fabricius*) is the only one of entirely ancient Roman construction remaining in use at present. The writer noted this inscription carved in the stone on the western face over the south arch: "*L. Fabricius C. F. Curiam Faciundum Cæravit*"

On the opposite side of the island, a continuation of the street that passes over the *Ponte Quattro Capi* also passes over the *Ponte San Bartolommeo* (anciently the *Pons Cestius*), which originated in 46 B.C., but has been rebuilt many times, the last

time as recently as 1886-89. *San Bartolommeo* is a single-arched bridge with a span of 76 feet. According to Piranesi, the great Renaissance engraver, both this bridge and the *Pons Fabricius* were supported on inverted arches built under the water. Whether this is true, or whether it is merely a legend, has not been definitely established.

Another Roman bridge of ancient foundation is that of *San Angelo*. (Fig. 15) which, in an altered state, still serves as one of the Eternal City's principal bridges. It was built by Hadrian in A.D. 138, to give access from the *Campus Martius* to the great mausoleum that he was constructing for himself on the opposite bank of the Tiber. This bridge was the ancient *Pons Ælius*, and is said to have been a covered bridge, being sheltered by a canopy of bronze plates carried upon 40 bronze columns. Various popes made changes and repairs, and when the mausoleum of Hadrian was turned into a fortification of the Papal States, the bridge was decorated with marble statues of angels. Pope Clement VII, in 1530, erected the bronze statues of Sts. Peter and Paul at the ends. Aside from the parapets and statues, the masonry portion of the bridge, although completely restored (1892-4), is of practically the same form in which it appeared in old Roman days. Of the seven arches only the central three, however, are of ancient construction.

Going northward by way of the *Via Flaminia* from the *Piazza del Popolo*, one arrives in the course of a mile and a half at the old *Pons Milvius*, often called the *Ponte Molle*. This ancient bridge was constructed to carry the Flaminian Way over the Tiber, and is said to date from about the year 109 B.C., although, since the road was built about 220 B.C., it is possible that this bridge was antedated by earlier structures upon the site. The present bridge, some 413 feet long and nearly 29 feet wide, is one of the longest bridges of Rome. The four central arches of the total of seven are known to have reached our time unchanged. The triumphal arch entrance to the bridge at the north dates from only 1805. It was over this bridge that the Catilinarian conspirators fled after the murder of Julius Cæsar. Rome has a number of modern bridges, the most interesting of which are the *Ponte Margherita* and the



Fig. 17. Bridge of Sighs, Venice



Fig. 18. Ponte Vecchio, from Ponte Santa Trinita



Fig. 19. Ponte Vecchio, Florence

Ponte Victor Emmanuel. The pylons of the latter are indeed decorative, and notable in certain ways.

One of the most famous bridges in the world is the pretty though diminutive Rialto Bridge of Venice (Fig. 14), a structure well known to all English-speaking people through the works of Shakespeare, who made it the scene of episodes in his "Merchant of Venice," written at about the time the present Rialto Bridge was being erected. With the exception of two insignificant modern bridges, the Rialto is the only bridge over the Grand Canal. The Rialto, like "Old London" Bridge and the *Ponte Vecchio* of Florence, is a bridge of shops. In mediæval days, when bridges were few, a shop upon a bridge was a desirable possession because of the constant stream of traffic that passed its doors. A shop on London Bridge or the Rialto was as good as a fortune. In Venice the earliest bridges were of wood, and the first Rialto Bridge was erected on boats. Eventually, even in so marshy a situation as Venice, stone for bridge building came into use. The early pontoon bridge of Rialto was built in 1178 by Nicolo Barattieri, and this was replaced in the middle of the next century by a wooden bridge carried upon piles with provision for raising the central portion for the passage of boats. The present bridge, of white Istrian stone, was designed by Antonio Contino, nicknamed "Antonio da Ponte," who came off the better in a competition with the architect Palladio for the design of the structure. It is of the single-arched, stepped type, with a 91-foot span and a width of 72 feet. The total length of the bridge is 158 feet, and its height of 14 feet, 6 inches above the water barely admits of the passage of the modern omnibus ferries that serve as common carriers along the Grand Canal. The bridge is particularly architectural in character, and carries two rows of shops and three roadways, one on either side of the shops, next to the balustrades, and one between the shops. Even at very early hours of the morning the writer has found the bridge thronged with pedestrian traffic, and it is crowded during the entire day.

Venice has some 378 stepped, stone bridges that connect the innumerable islands that go to make up this marvelous city, but since there is no heavy traffic, no horses being allowed, there is little demand for

the large and massive bridges that are usually seen elsewhere. However, all Venetian bridges must be high-arched to permit the passage of boats and gondolas, and hence most of them have to be crossed by means of flights of steps or else be high enough above the water to give clearance. The Rialto is of the first class, the famous "Bridge of Sighs" (Fig. 17), designed and built by the same architect as the Rialto, is of the second order. This well known bridge, which connects the Ducal Palace with the prison, was completed in 1597. It crosses the *Rio Della Paglia*, which is one of the handsomer small canals of the city, at a height of 32 feet. This structure, like the Rialto, is of white, marble-like Istrian

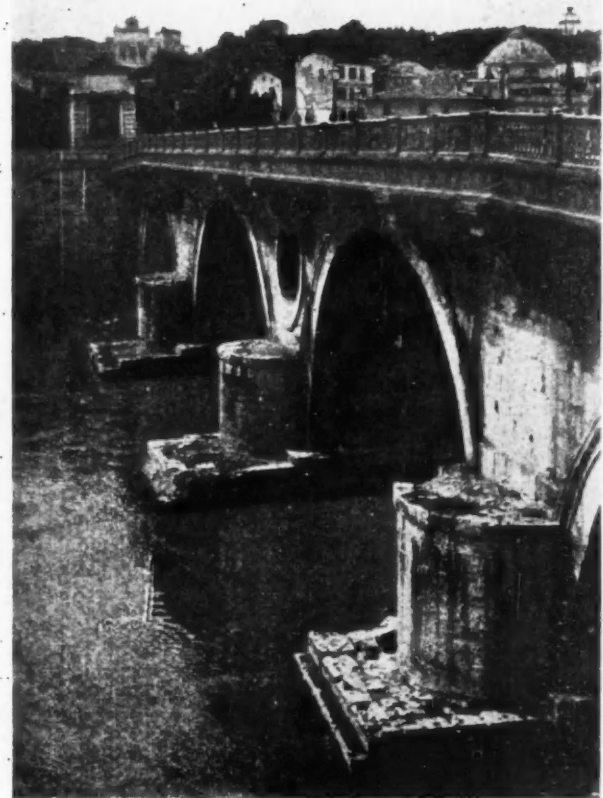


Fig. 20. Ponte Sisto, Rome.

stone, and thus it harmonizes with the adjacent buildings. A central partition divides it into two passages, each of which, although lighted and ventilated by the handsome marble grilles that look down upon the canal, is rather dark. One passage was for criminals, the other for political prisoners, and if the stories that connect themselves with this bridge are true, the way of the political prisoner was far harder than that of the house-breaker or murderer.

Florence has a number of interesting bridges, but none compares with *Ponte Santa Trinita* for grace and beauty, or with *Ponte Vecchio* for historic interest and human associations. Nor does *Ponte Vecchio* suffer in comparison with its more pretentious and more modern neighbor. A comparison of the arch curves of the two can be gained from Figures 18 and 19. *Ponte Vecchio's* three graceful arches, its beaked piers and its central arcade, all combine to make a most delightful composition. Its roof line is, to be sure, a bit uninteresting,—far less interesting, for instance, than that of the Rialto,—but this is its only defect. *Ponte Vecchio* carries shops on either side of its roadway, and these shops have from early times been devoted to the sale of jewelry and silver; the Florentine jewelry industry, in fact, centers at the *Ponte Vecchio*. Just under the roof is an upper passage which connects galleries on either side of the river, leading on one hand to the Uffizi Palace, on the other to the Pitti Palace. There was a bridge at this site as early as A. D. 117, and it is said by some that there was an earlier

Roman bridge. The present structure dates from 1345, and is generally attributed to the architect, Taddeo Gaddi. *Ponte Santa Trinita*, a gem of graceful masonry construction, dates from 1567-70, and was designed by Ammanati. It is famous among bridges.

Of the interesting bridges of Spain there is indeed much to be said. Spanish bridges find their chronology falling under three regimes,—Roman, Moorish and Spanish,—the latter classification dividing itself into Romanesque, Gothic, Renaissance, and modern periods. Spain became in time one of the most Roman of all the Roman provinces, and many fine examples of Roman structural prowess still survive the events of centuries in this interesting land. The great bridge over the Guadiana River at Merida, with its 64 arches and its length of nearly 4000 feet, is said to have had its beginning in the time of Trajan. There are other well preserved structures at Martorell, Orense, Almazar, Alcantara, and Salamanea, to say nothing of such masterful structures as the aqueducts of Segovia and Tarragona, famous among achievements of engineering.

Interesting as are these Roman structures from either the technical or the artistic point of view, the writer will have to omit discussion of them here. He wants, however, to call attention to two very interesting bridges in the ancient city of Toledo. Toledo came to the zenith of its prosperity under the Moors, and after the breaking down of the Moorish power became the seat of the proud Kings of Castile, growing to a population of some 200,000 souls. The

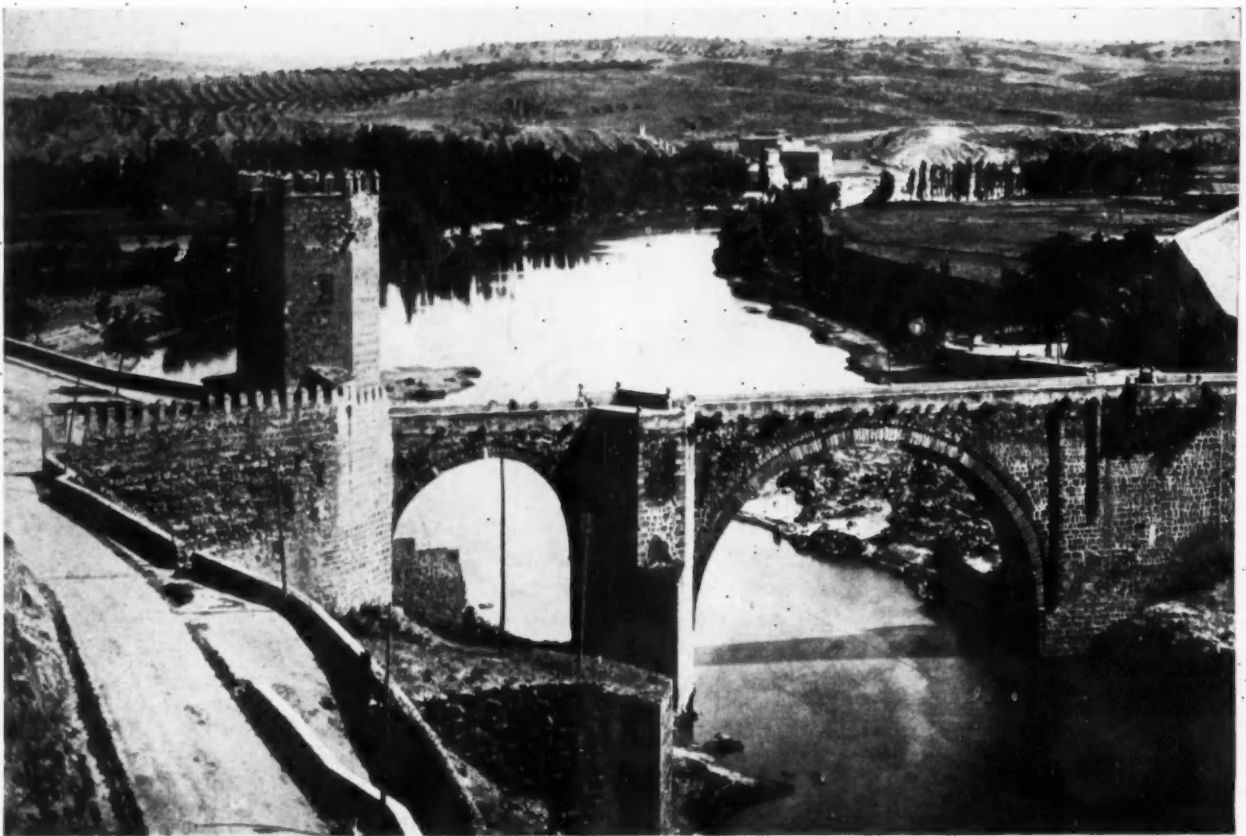


Fig. 21. Puente Alcantara, Toledo

situation of the city is most wild and picturesque. Perched upon a rocky promontory, the city is bounded on three sides by the Tagus River in much the same fashion that the River Wear bounds the castle area of Durham. Toledo's promontory is of course far larger than that of Durham, the banks far more rocky and precipitous, and the hillsides almost treeless. The writer thinks the site of Toledo the most striking and unique that he has ever seen. The city is approached by only two bridges, the *Puente Alcantara* and the *Puente de San Martín*. Both are Moorish structures,—but are said to have been built upon Roman foundations, and each is unique and typical of Moorish bridge building in general.

El Puente Alcantara (derived from the Moorish "Al Kantara,"—bridge) stands at the northeast corner of the city, and it is across this bridge that one entering the city by rail must pass. The railway station is on the side of the Tagus opposite the town, and the usual conveyance from the station to the hotel is a car drawn by four mules, sharp-shod, which climb the steep and narrow streets of the city with almost the agility of mountain goats. The streets are so narrow, hilly and crooked that nothing in the way of electric trams could possibly operate. The structure of the Alcantara is of Moorish origin and design and, although the present structure seems to have been rebuilt in the times of Alfonso the Learned (1258), with later repairs by Archbishop Pedro Tenorio (1389), it preserves fairly truthfully the lines of the original Moorish fabric. It consists

(Fig. 21) of one large semi-circular arch and a smaller arch of the same character. A well designed pier on the town side provides lookouts, and on the same end is a great Moresque tower giving the bridge much of the military aspect that certainly characterized it in mediæval days. Viewed from almost any position, this bridge makes a picture, and it is not at all strange that painters as well as those interested in bridges have praised it highly.

To the writer, however, the other bridge, *El Puente de San Martín*, is more beautiful and interesting. *San Martín* is far more robust in its proportions, and, if one were assigning genders one would certainly call *Alcantara* feminine and *San Martín* masculine. *San Martín* has five pointed arches, one large flanked by two smaller arches. One heavy pier on the town side carries lookouts, while other lookouts, over the corresponding pier, are carried upon corbels. The bridge is protected at either end by embattled towers (Fig. 22), guarded to this day by officials who make it their business to inspect all comers and goers. The writer was allowed to photograph and measure freely, and came away enriched by his observations. The bridge dates from 1212, but in 1386 the great arch was destroyed. It was rebuilt at once, but the architect, according to a story told by George Edmund Street, was a careless man and, perceiving that his work was unsound and would fall when the centering was removed, confided to his wife, who forthwith set fire to the centering, the flames from which did their part in destroy-



Fig. 22. Puente de San Martín, Toledo

ing the faulty work, with the result that her husband had a chance to do the work over again. This time, profiting by his experience, he built so well that the structure comes down to our day unimpaired. The archbishop, it is said, did not put in a claim for fraud against the architect, but on the contrary, knowing human nature, congratulated the architect on possessing so brilliant a wife!

The bridges over the Tagus at Toledo should be thought of as military works,—fortified bridges. They are rather refined to carry full conviction as to their military strength, but their strategic positions permit a rather more daring type of construction than would such a site as that occupied by the bridge over the Guadalquivir at Cordova. In this long, low-lying structure with its heavy merlonned towers we have a bridge of military character. What a contrast between the bridge at Cordova (Fig. 23) and the Tower Bridge at London! The bridge is 730 feet long and has 16 semi-circular arches carried upon heavy piers. The bridge undoubtedly stands upon Roman foundations, but it is itself more Moorish than Roman. It was thoroughly renovated and repaired a few years ago, hence it presents a rather new appearance. The road to Seville begins at the tower end of the bridge, and the bridge-way is constantly in use by burro pack-trains and drivers bringing sheep, goats and cattle into the city. The writer spent the larger part of a summer morning dodging donkeys and goats while he prosecuted his studies amid the sounds of hoofs and tinkling bells and the

cloud of dust that the throngs of the beasts kicked up. These fragmentary paragraphs, then, indicate merely some of the impressions, inspiration and data gained by an architect upon a summer's holiday. There is freedom out on the highway, and one senses the joy of the explorer in following the open road. If that road should lead eventually to an interesting old bridge, what a repayment for one's exertion! The search for historic and beautiful bridges is as pleasant a pastime as star-gazing or fishing and, from the writer's point of view, a great deal more profitable. The Roman arch and the bridge hold a significance and symbolism that should supply one of a philosophic turn of mind all he needs in the way of material for speculation, and to the writer, part of the joy in the contemplation of a successful bridge lies in the way it triumphs over nature. As with beautiful buildings, the more one studies beautiful bridges the more one loves them. There is a pot o' gold at the base of the Roman arch!

The architect interested in European bridges owes a debt to the builders of ancient Roman days. The Romans, with their keen appreciation of whatever aids organization, well know the value of excellent roads to unite the Eternal City to her widely scattered provinces, and all over Europe bridges were necessary to carry roads over rivers and gorges. Thus the engineers followed in the wake of the Roman legions, and wrought those marvels of engineering which endure centuries after the legions have vanished and Rome's domination has come to an end.

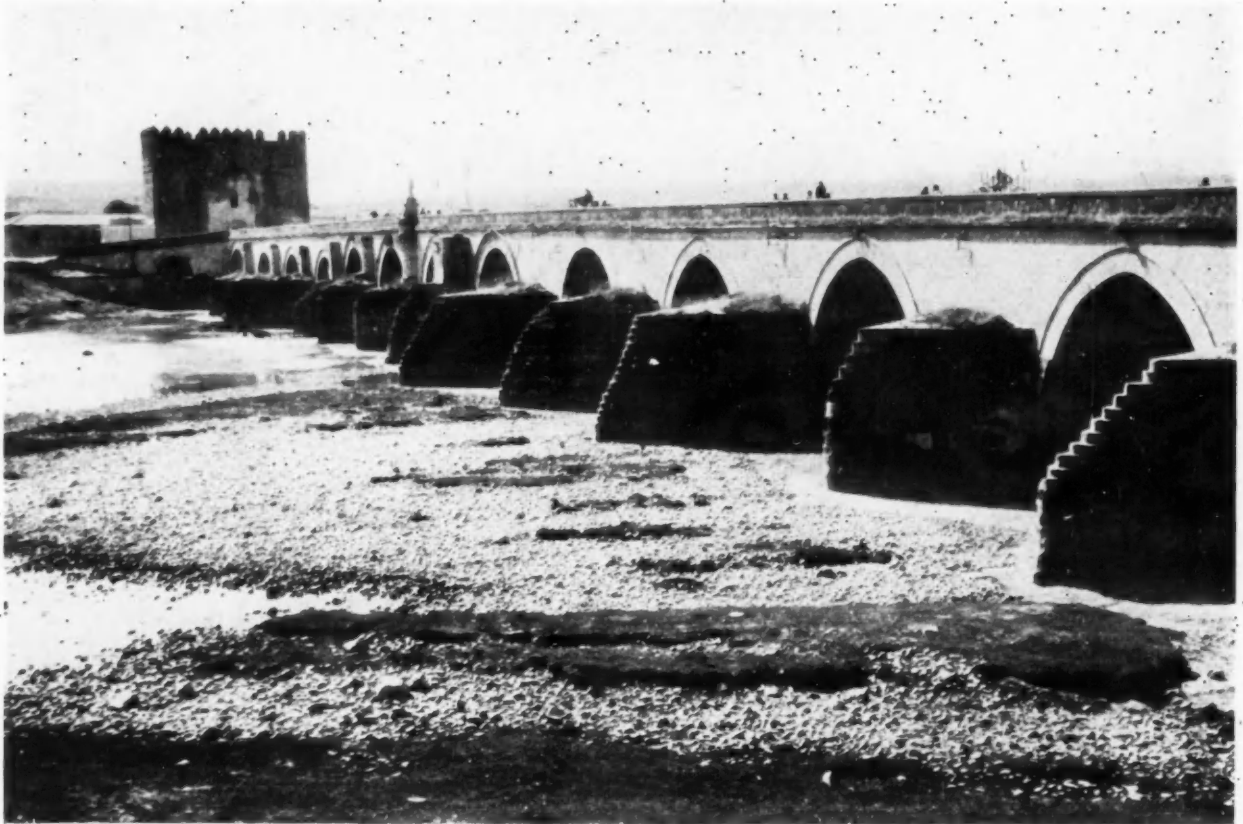
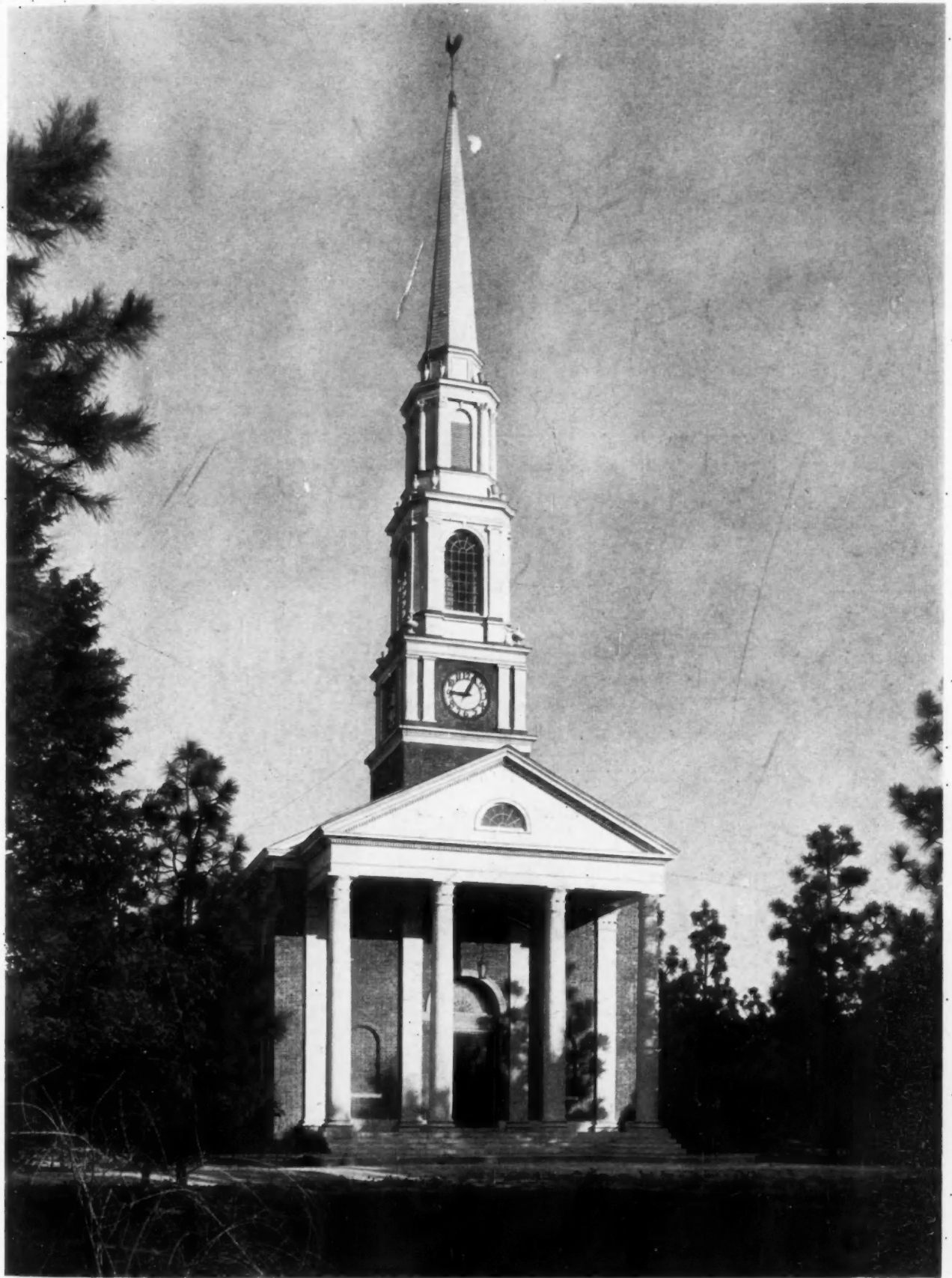


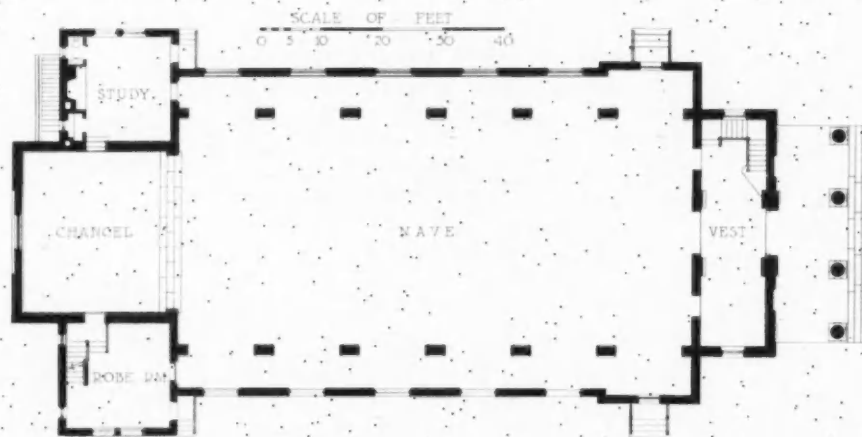
Fig. 23. Bridge Over the Guadalquivir River, Cordova



Photos. John Wallace Gillies

THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT

Plan on Back



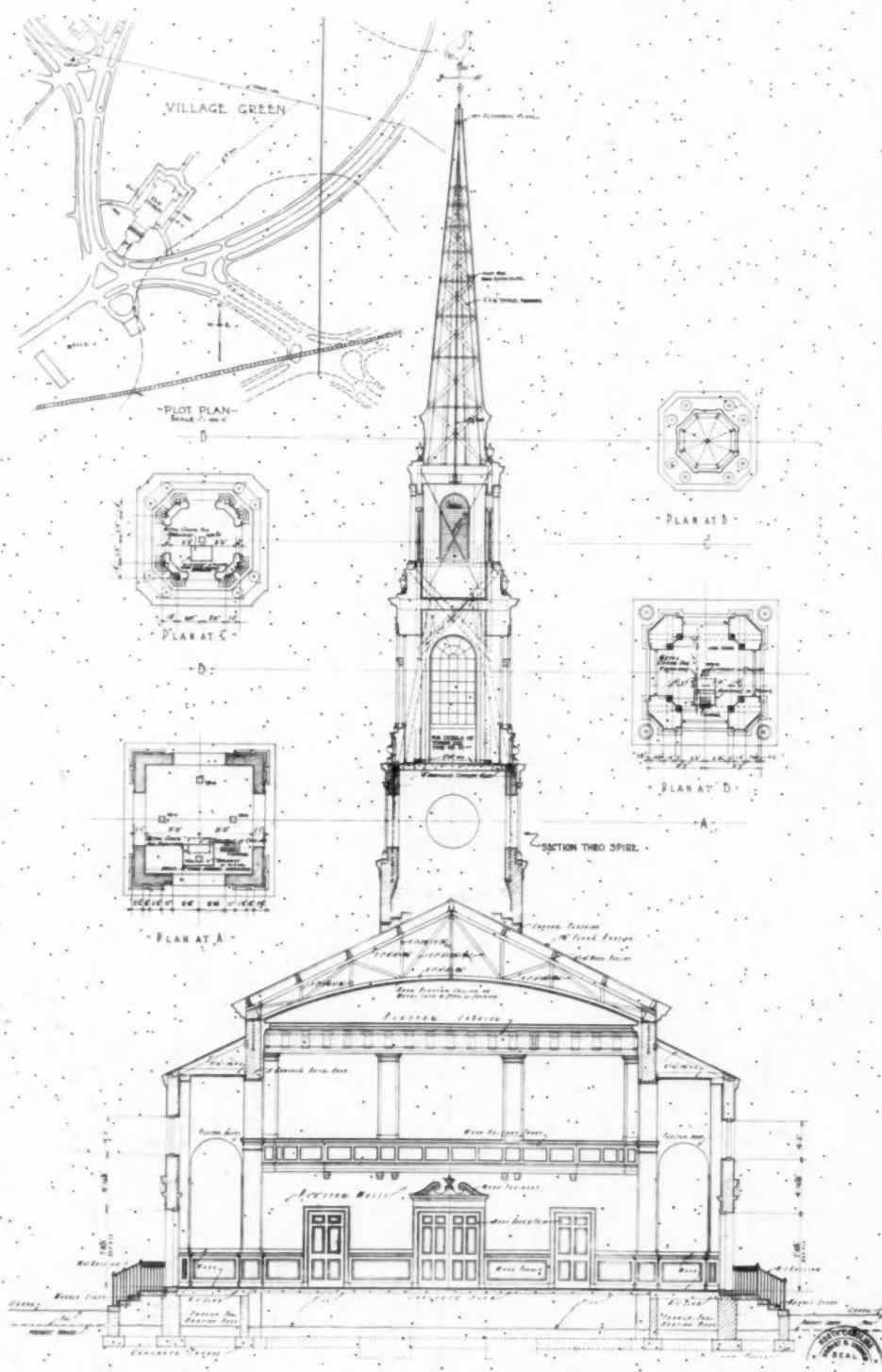
PLAN, THE VILLAGE CHAPEL, PINEHURST, N. C.

HOBART B. UPJOHN, ARCHITECT



ENTRANCE PORTICO, THE VILLAGE CHAPEL, PINÉHURST, N. C.
HOBART B. UPJOHN, ARCHITECT

Plot Plan and Sections on Back



PLOT PLAN AND SECTIONS, THE VILLAGE CHAPEL, PINEHURST, N. C.
 HOBART B. UPJOHN, ARCHITECT.



Elevation on Back

SIDE ENTRANCE, THE VILLAGE CHAPEL, PINEHURST, N. C.

HOBART B. UPJOHN, ARCHITECT



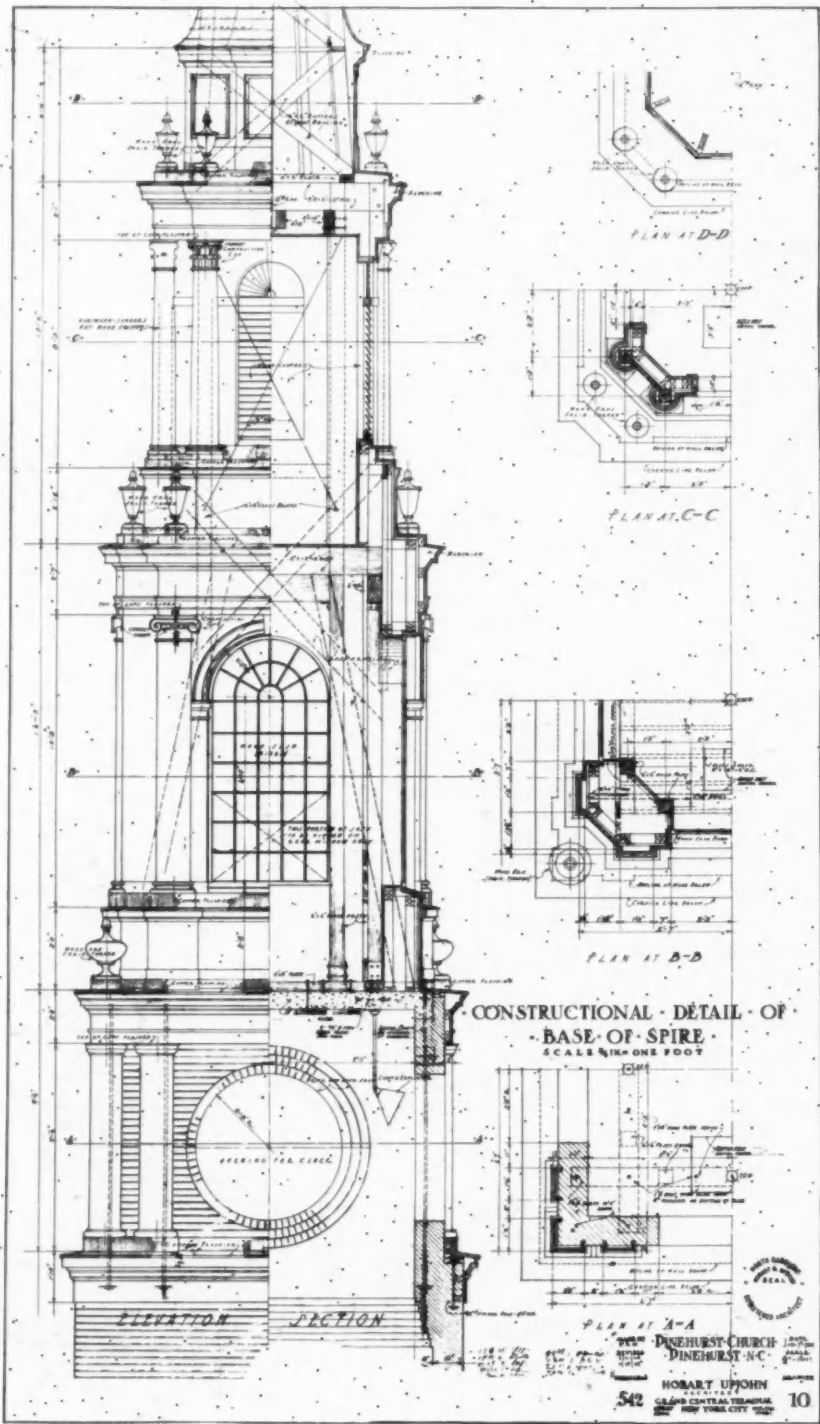
ELEVATION, THE VILLAGE CHAPEL, PINEHURST, N. C.

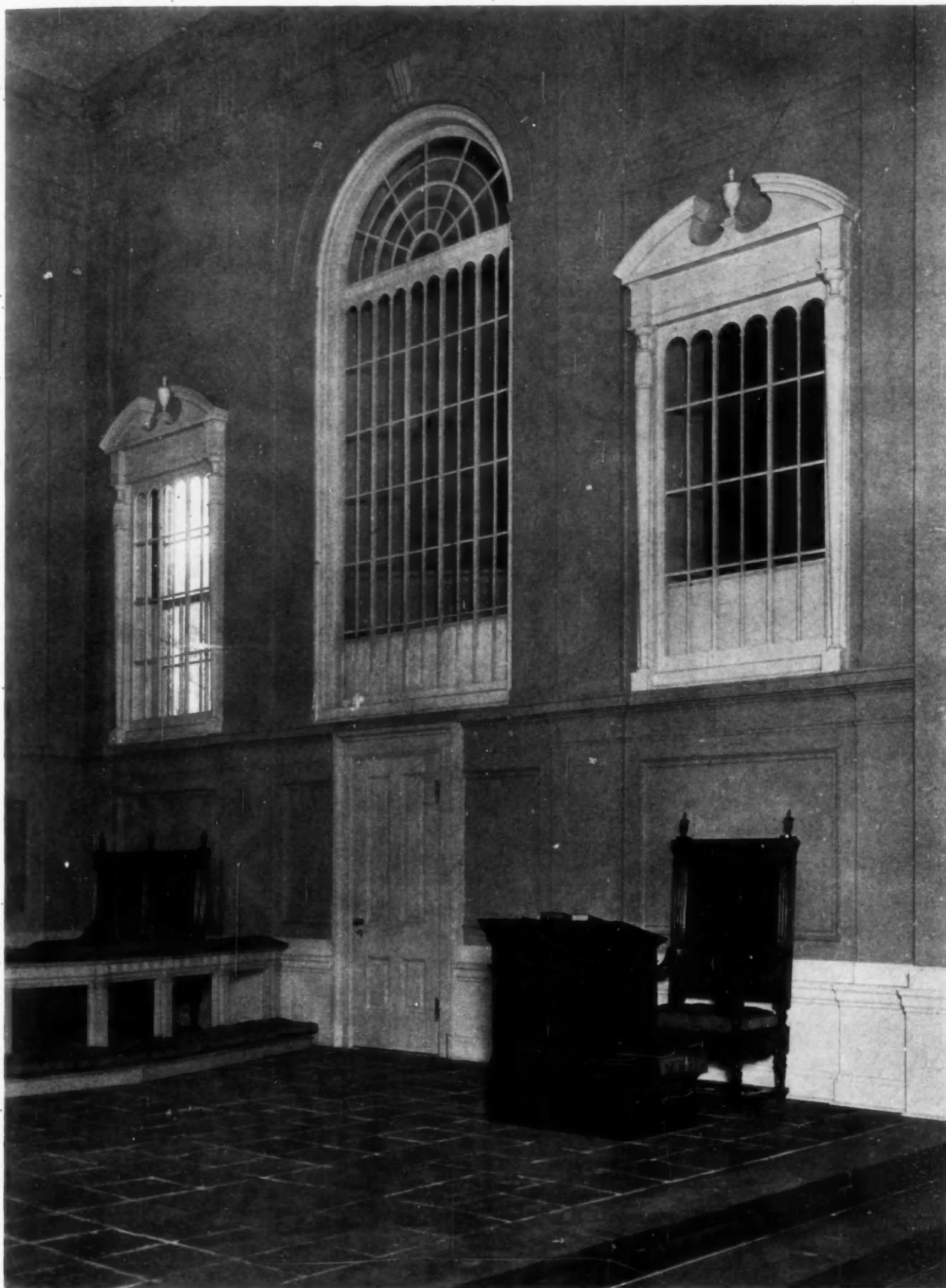
HOBART B. UPJOHN, ARCHITECT



CHANCEL, THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT

Details on Back





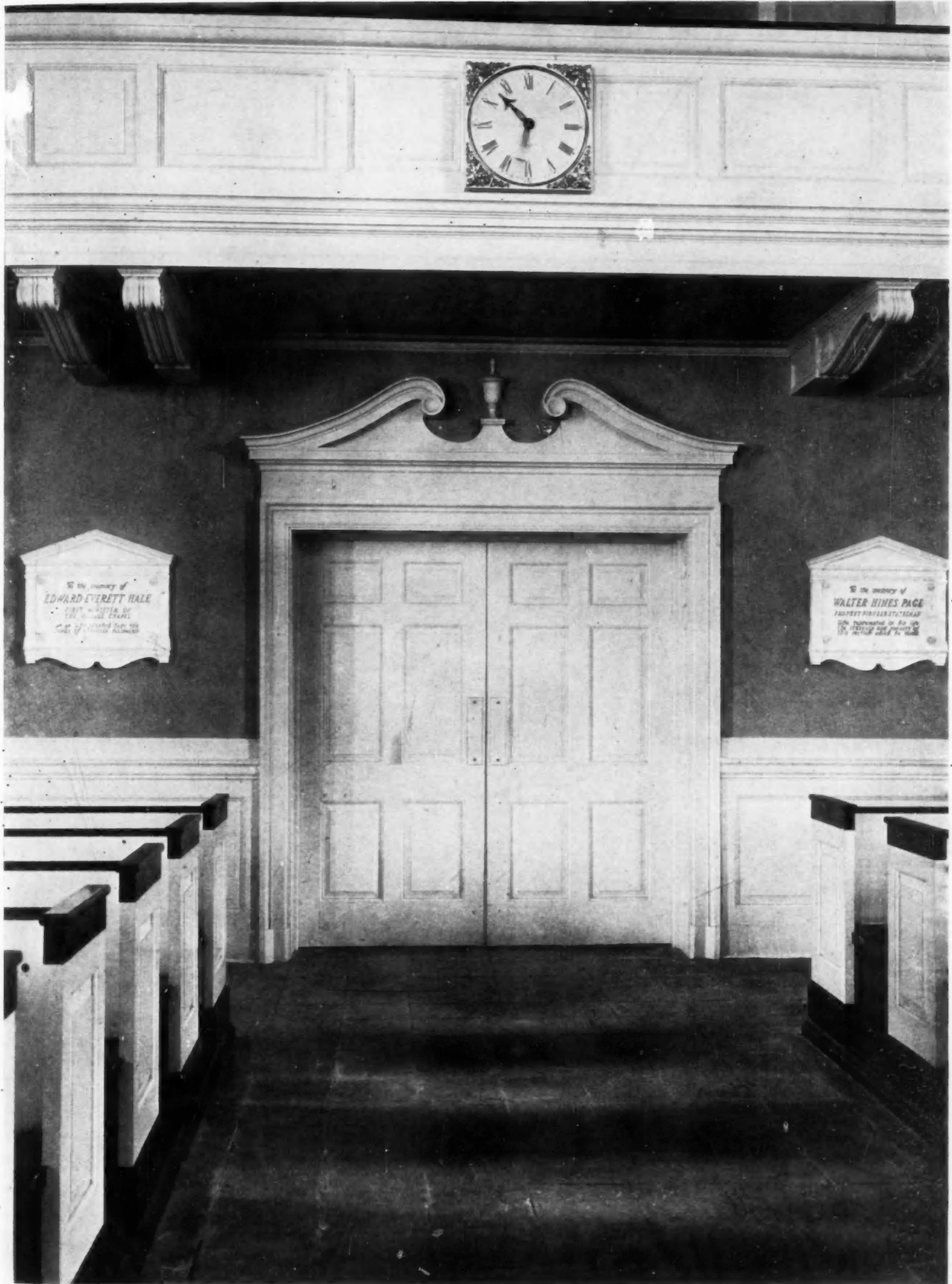
DETAIL OF CHANCEL; THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT





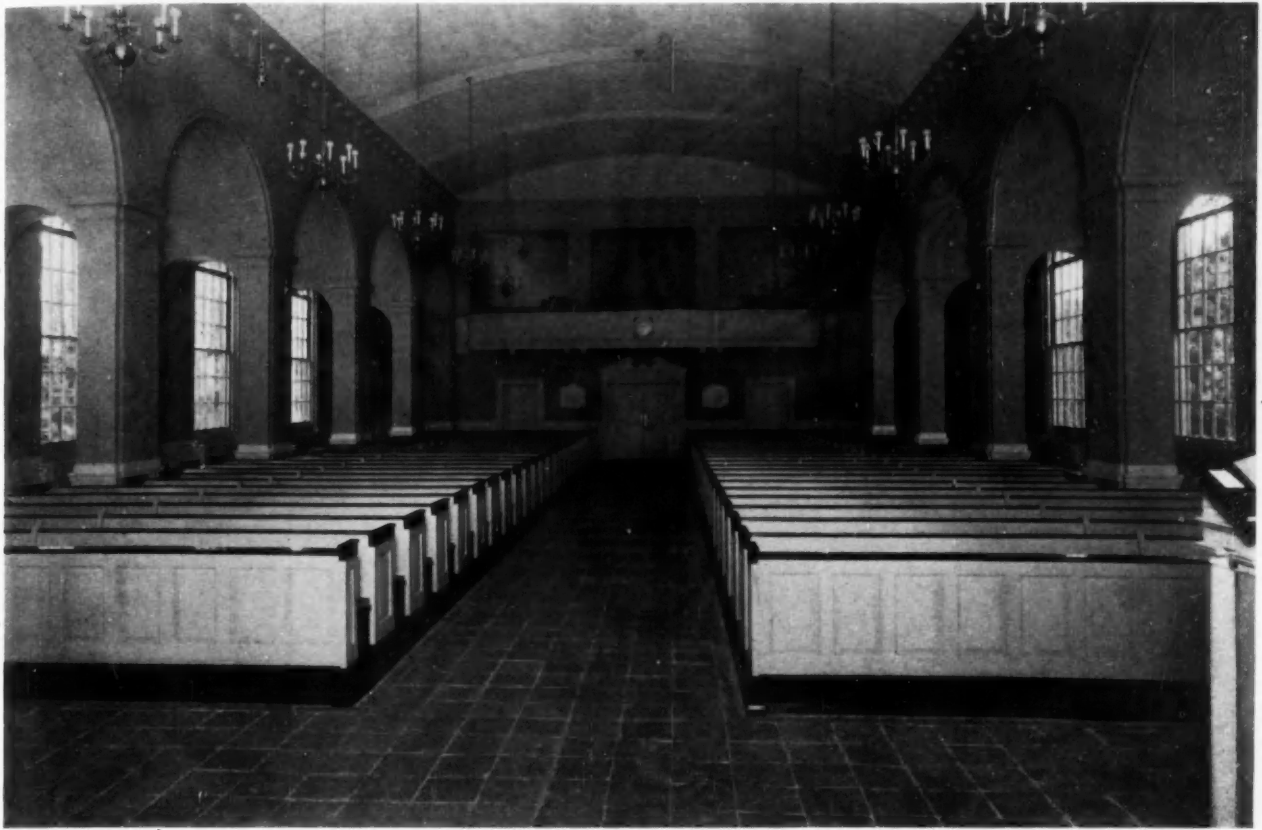
SIDE AISLE; THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT





MAIN VESTIBULE DOORWAY; THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT





THE NAVE, LOOKING WEST



PASTOR'S STUDY; THE VILLAGE CHAPEL, PINEHURST, N. C.
HOBART B. UPJOHN, ARCHITECT



THE BUILDING SITUATION

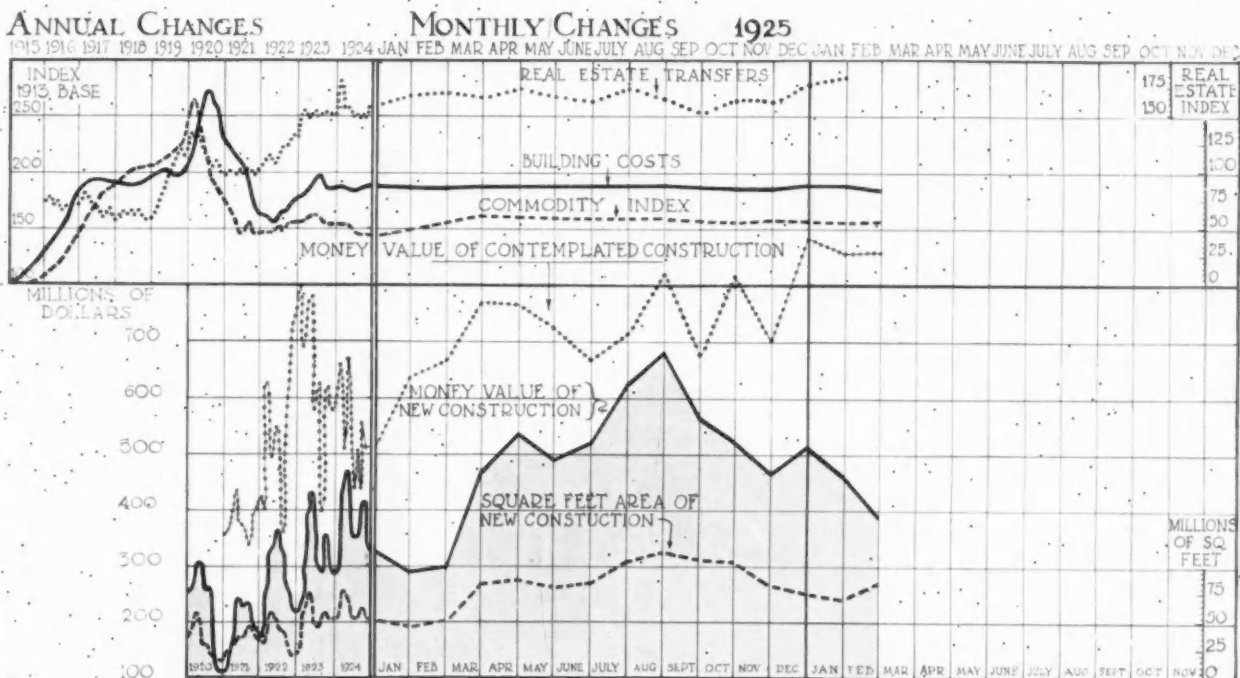
A MONTHLY REVIEW OF COSTS AND CONDITIONS

THE final construction figures for the United States during the year 1925 as conservatively estimated by the F. W. Dodge Corporation total approximately \$6,600,000,000 and amply justify the prediction of THE ARCHITECTURAL FORUM made in January, 1925 for a \$6,000,000,000 building year. The prediction of THE FORUM made at the first of this year that 1926 would be another six billion dollar year is definitely justified by the reports for January and February. The month of January showed a total of over \$450,000,000 which is the highest total ever recorded in the first month of any year, and represents an increase of more than 50 per cent over the amount of the contracts let in January, 1925. During the month of February the record volume of building construction continued, that month showing nearly \$400,000,000, which was an increase of 25 per cent over February of last year, and the highest February total on record.

During this two-month period the planning of new construction work has continued at an amazing rate, both January and February showing plans filed

amounting to nearly \$900,000,000 and being in each instance approximately 25 per cent greater than the value of plans filed in January and February of 1925. In other words, during the first two months of 1926 construction activity has been continuing at a rate which is at least 25 per cent greater in both actual contracts let and plans filed than during the similar period of last year. It is anticipated that this momentum will continue, and the question at this time is what will be the measure of the second wave of activity which develops in the fall.

The general trend of building costs is somewhat problematical, because it is varying considerably in different localities. The average wage in the skilled building trades has been climbing slowly upward during 1925; the cost of materials has been generally decreasing; the average cost of building construction for the first two months of 1926 is slightly lower than at the beginning of 1925; and the trend of the cost index as shown in the accompanying chart is very gradually going downward, and will probably continue to do so for some years to come.



THESE various important factors of change in the building situation are recorded in the chart given here: (1) *Building Costs*. This includes the cost of labor and materials; the index point is a composite of all available reports in basic materials and labor costs under national averages. (2) *Commodity Index*. Index figure determined by the United States Department of Labor. (3) *Money Value of Contemplated Construction*. Value of building for which plans have been filed based on reports of the United States Chamber of Commerce, F. W. Dodge Corp., and *Engineering News-Record*. (4) *Money Value of New Construction*. Total valuation of all contracts actually let. The dollar scale is at the left of the chart in millions. (5) *Square Foot Area of New Construction*. The measured volume of new buildings. The square foot measure is at the right of the chart. The variation of distances between the value and volume lines represents a square foot cost which is determined, first by the trend of building costs, and second, by the quality of construction.

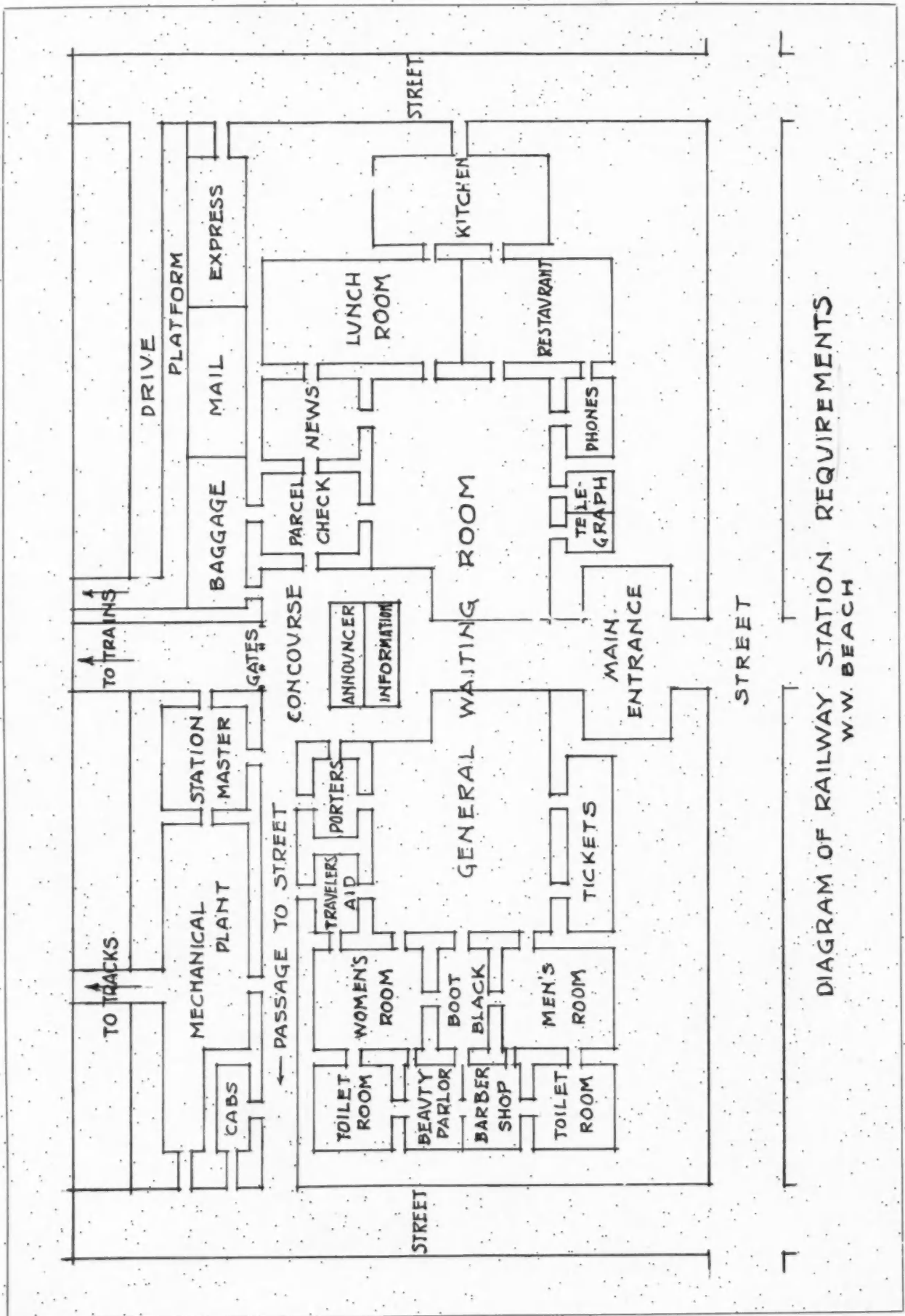


DIAGRAM OF RAILWAY STATION REQUIREMENTS
W.W. BEACH

SMALL BUILDINGS

Railway Stations of Moderate Size

By W. W. BEACH

THERE comes a time when the disreputable old "depo" is to be replaced by a modern passenger station. Regardless of whether the new structure is to be large, small or simply "medium" in size, it is probably no exaggeration to say that the proposition presented to the architect involves the solution of as great a number of special problems as could possibly be related in any given project of equal cost. And the addition of a few hundred dollars to the appropriation is quite as likely to mean added facilities as it is to imply simply increased size. The possibilities of the station are infinite.

In the design of almost any other class of building, the architect finds his requisite data easily available, either from his own past performances or from the client himself. But, in planning the layout of a railway station, his sources of information are so many and his data from them so meager and vague that he must needs get in and dig with his own implements, if he is to even approximate the ideal solution at which he aims. He first receives the engineer's survey of the station grounds, together with a statement of the amount appropriated for the building. Both of these are supposedly absolutely inelastic. But the architect can no more be sure of this than he can of any other feature of the project until the building is finished, if ever. Nothing is more elusive.

Inasmuch as the chief engineers' forces in all the larger railroad organizations include architectural squads, it will be more than likely that its own architect has studied over the situation to some extent,—and it is quite probable that he has been afforded no facilities for a real study of it. He has been compelled to do with such information as the engineers deemed sufficient and as he could derive by a visit to the site, without being permitted to carry on anything like a thorough survey or analysis. The result of his endeavors may or may not be made accessible to the outsider to whom the commission is finally awarded—and it may or may not be of value, if available. In either event, the architect must himself make a most thorough canvass, must carefully check what is given him, or must originate for himself an exhaustive analysis of all collectible data.

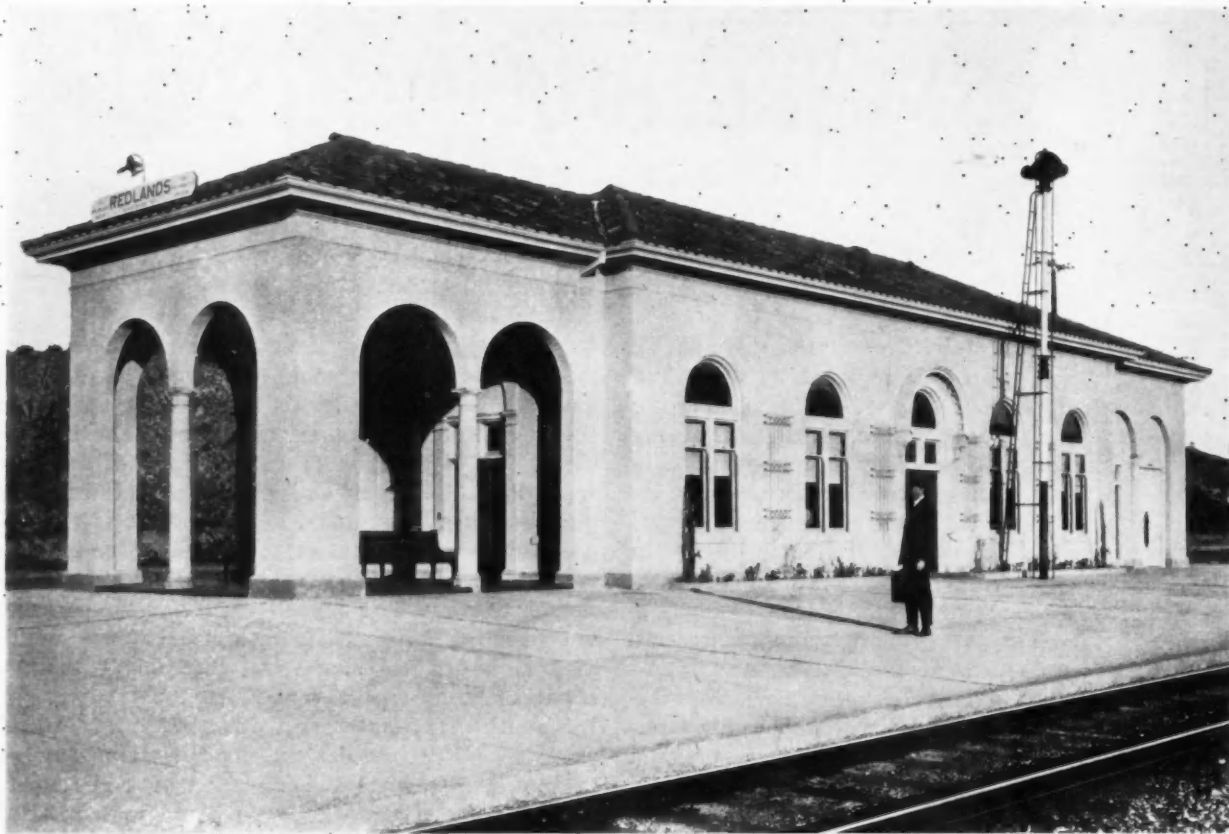
Although we are eliminating from our consideration all thought of terminal, union or other large stations, we are by no means reducing the extent of the problem. To begin with, a modern railway station comes within the category of semi-public buildings, and one must ascertain what is being done

or what is proposed in the particular community in the way of "city planning,"—what will be expected of the railroad or railroads to meet the desires of such planners; to what degree it is advisable or possible to tie in with them; whether it is to be a love feast or a fight. Obviously, the architect essaying the solution of a problem of this nature is presupposed to be one of sufficient experience and vision to be deferred to in matters pertaining to city planning and zoning. To this is added an engineering sense which impels him to due regard for his client's limitations, together with the tact that enables him to ably present his views to others. He must not go wild, but must often overcome considerable opposition.

Nearly all present-day passenger station planning has to do directly with elimination of grade crossings. In fact, a great many small and medium sized stations throughout the land are existing in disgraceful obsolescence, awaiting the inevitable day when the adjoining grades must be changed to meet the popular demand for "safety, first, last and all the time." Were a new station built ahead of time in such a location, it would probably be scrapped in a short while; hence the public must put up with a lot, and some of it can't be helped. So, in addition to local building ordinances, one has first to consider the status of the new building in the scheme of the "city beautiful," as well as its practical relation to the near-by streets and tracks and their new levels. It is customary for the company to have its own forces look after all details of temporary facilities during the construction period, whether the new building directly displaces the old or is to occupy a different site; many a new station replaces an old.

In connection with the track layout, one must give due consideration to:—1. How many railroads will use the station. 2. How many tracks are to be served. 3. Whether or not the station is to be (or may be) a division point. 4. Whether the station will be the terminus for any branch line or lines. 5. Whether any passenger equipment, sleepers, diners, coaches, baggage, express or mail cars, will be switched on or off at this point. 6. Whether there is express business in car lots to be taken care of to any considerable extent, etc.;—all important matters.

Items 3, 4 and 5 indicate a demand for coach yard heating, and bear a direct relation to the location of the mechanical plant and its size. It is to be determined if this should be in a separate building, and if it be desirable to include any or all of the baggage;



STATION, SOUTHERN PACIFIC RAILROAD, REDLANDS, CALIF.



WAITING ROOM, REDLANDS STATION.



STATION, SOUTHERN PACIFIC RAILROAD, REDDING, CALIF.



WAITING ROOM, REDDING STATION

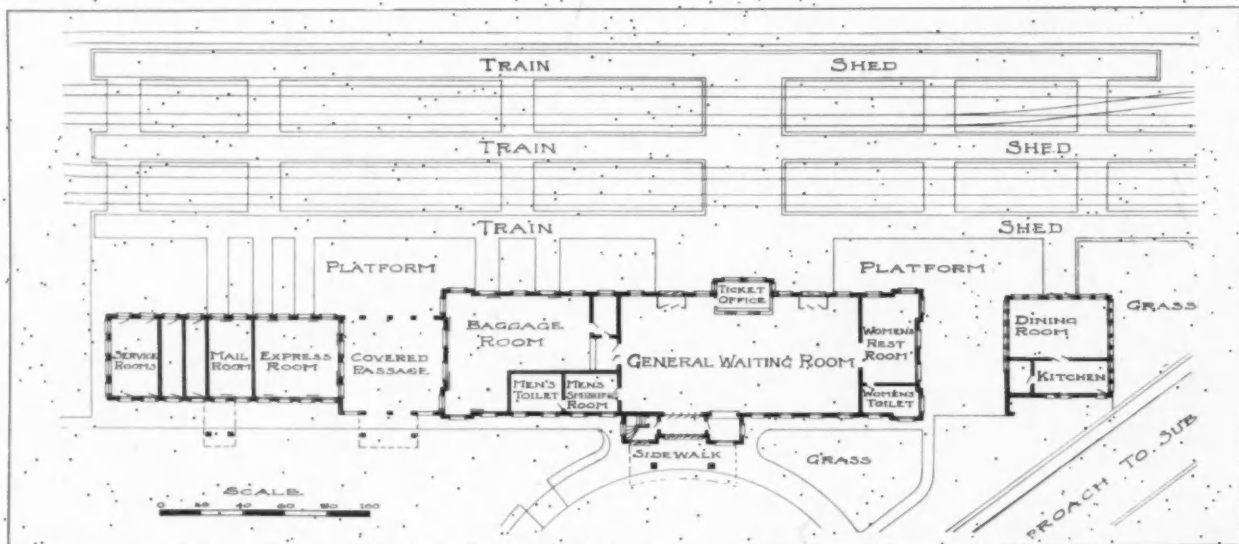
mail and express facilities therewith. Coach yard heating requires high pressure steam, whereas, without such heating, a small low pressure plant will ordinarily suffice for station heating alone.

Having determined the number of buildings needed; number, location and lengths of platforms; amount of canopy (if any) to be provided, and several other exterior engineering features, one must give the most careful consideration to the direct relation between the main floor of the station and the track level. In general, the main floor will be at street level, either above or below the tracks, as the case may be, and access to platforms will be by bridges or tunnels, to suit conditions. Whether or not it be set down as a requirement, the passageway leading out of the station to its various track branches should invariably be so narrowed at some convenient point as to form an easily controlled throat, both for the purpose of inspecting passengers' tickets and for ease in reviewing those leaving the trains. These are items which may not be deemed important at the time the station is built, but which may readily be found so later on, and in a short time.

Of considerable importance also is the relation of exits to the cab stand and the parking spaces. These must be designed to offer the least possible chance of friction between the loading and unloading demands of public cabs, buses and private vehicles. If feasible, public and private conveyances should be made to use widely separated curbs. If the station happens to be in a business center where parking limitations prevail, one must see that private parking areas are provided, with due segregation of cabs, private cars and trucks. All driveways must be ample, and especially the truckways for serving the station's facilities. Attention should be paid to lunch room and kitchen deliveries and ash and garbage disposal. Delivery men should not be compelled to thread their way through waiting or moving mail and express trucks in order to leave the highly im-

portant makings of "ham and" at the kitchen door! X Having given due regard to all phases external to the building, and having acquired something of an idea of what a plan synthesis will produce, one is quite likely to discover that the client's plot is entirely inadequate for the intended purpose. This is, of course, most likely in a congested district, where additional realty is expensive and hard to obtain. If, in such an event, the architect makes a stand for his plan's necessities, he may cause the project to be hung up for months or even years, with the attendant possibility of a change of site (or architect!) and the development of a bitter local controversy. Verily must one proceed with the utmost caution, and with due regard for every phase of the situation!

To a certain extent, one can increase the usable area by adding to the number of stories, but a railway station is peculiarly a thing of one or two levels, unless these happen to be sufficiently far apart for the introduction of an intermediate story, in which case there comes in the need of additional expense to provide ample elevators to afford easy access to all floors. The traveling public will traverse the full length of a 14-car train or the magnificent distances in some of our great new stations without over-much grumbling, providing that the going is all in a horizontal plane—or nearly so. Hence the success of the ramp in stations, first used, to any considerable extent, in the Grand Central Terminal in New York. But the traveling public, more than any other "public," includes a great number of people with defective underpinning, who, by reason of temporal exigencies, are driven to journeying. These must be cared for with the least personal discomfort. They have been conceded the right of choice between stairs, ramps and elevators, and the architect must bow before that concession. The public must be catered to. We now come face to face with the real problem,—the design of the station building proper. A complete survey of all requirements, both for today and



Plans, Station Buildings, Chicago, Burlington & Quincy Railroad, Galesburg, Ill.

Henry Raeder, Architect

with proper regard for those of several years in the future (such a station should be counted upon to serve for at least 40 years), affords the needed data as to space requirements of the major features, as shown graphically in the accompanying diagram. Some of these items, essential in most stations, are omitted entirely in the smaller buildings.

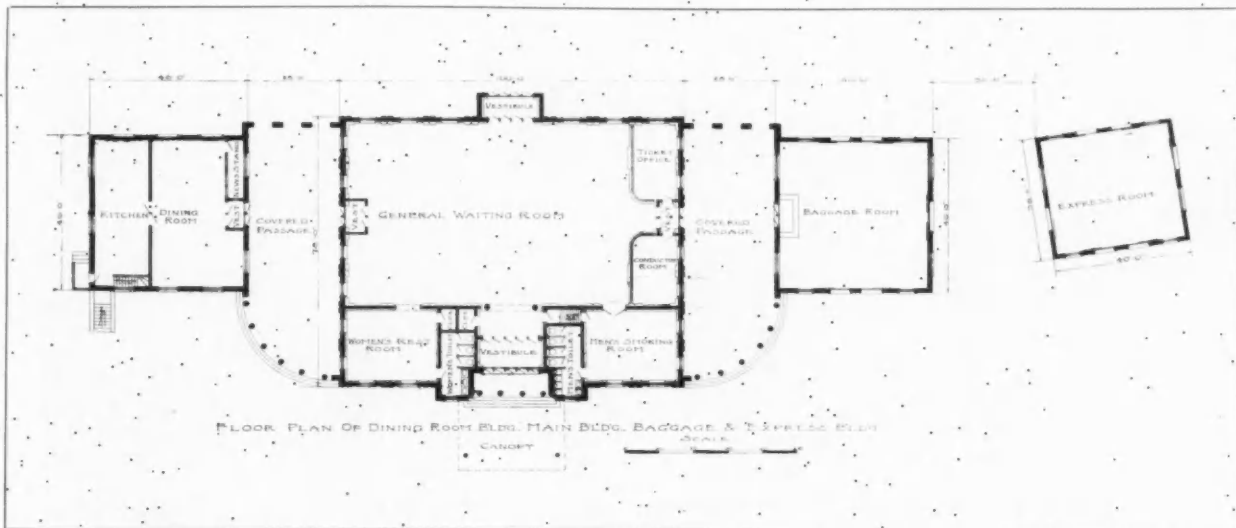
Such a diagram provides a helpful means of correlating one's necessities and condensing them into the space available. No provision is made in the diagram for certain things that are sometimes introduced into the program, such as office rooms, hotel rooms, shops or stores, etc., which would only further complicate the study. Still further difficulty is likely to be encountered by the irregularity of site, so common to railroad property, and difficult to handle.

Again, if one be working south of Mason and Dixon's time-worn Line, one is committed to a complete segregation of white and colored passengers and of all the personal facilities pertaining to them. This forces duplication of waiting rooms, lunch rooms, etc., which, under these conditions, are generally ranged on two sides of the ticket offices, baggage checking, news and like concessions. If possible, a common kitchen will be found sufficient for all needs, which of course contributes to convenience.

But, to return to our diagram. The hub of the building is the general waiting room, around which are grouped, to such an extent as space permits, all those features to which the traveler demands easy access. The distance from the street to the train gate should be the shortest possible; to accommodate to the maximum that belated individual who has allowed himself insufficient time. This applies also to the distance from the ticket window to the gate; and the parcel check room should be en route to the same point. The use of other facilities by patrons implies their possession of time necessary to the purpose; hence the more important of these, the retiring rooms and eating rooms, can be at ends of the longer axis.

That the information desk should be centrally located has come to be an accepted fact, as witness the change to such position now being wrought at the Pennsylvania Station in New York. Even in medium sized stations, the information section should be well equipped, though in the smallest this function must be taken care of by the agent himself, or by the purveyor of news and cigars, who frequently cares also for parcel checking as well. The "travelers' aid" may be the matron who has general oversight of the entire women's section and keeps an eye out for unattended females and children. She and the porters have one or more wheel chairs available as needed. If it be a division point, the program may call for a "first aid" room. But, in any event, first aid equipment should be handily placed, both for the travelers' aid and the station master. The latter, who may also be the head baggage man, has general charge of the building and mechanical plant and special charge of porters and train announcing. Thus, to the greatest possible degree, the diagram, as varied to meet the needs of the particular problem in hand, will give most careful consideration to the combining of functions while the station is young, since one phase of the flexibility of the plant is that of freely increasing the size of its staff to meet growth in business demands without more than minimum physical changes.

Perhaps one feature of station planning that has heretofore been given undue prominence is the matter of accommodations for male patrons. Although hotels have long since driven these off the main floor, they still occupy most valuable space in many railway stations. That it is desirable to get them off the main floor is being proved by changes now in progress in the aforementioned Grand Central Station where, at a very considerable expense, the men's toilet rooms are being moved from the main floor to the basement. This is especially worthy of note because of the fact that the building in question is probably the best planned of all modern stations of monu-



Plans, Station Buildings, Chicago & Eastern Illinois Railroad, Danville, Ill.
Henry Raeder, Architect

mental size. So, if one be cramped for area, the relegation of the men's rooms to positions under or over those assigned to women is worthy of consideration. It may prove an economical move as well, particularly as to the plumbing. The same is true of the catering departments; especially if the main floor is above the street level. Then restaurant, lunch room, barber shop, news and cigar stand can well be at street level, though the latter concession would need duplication on the waiting room floor. Toilet facilities, being always expensive, must be given the most careful thought. To install an excessive number of fixtures, intended to provide for future needs, is unwise. Either an approximate average should, if possible, be hit upon; or one should simply meet present requirements and provide "roughing in" for later expansion. The matter of pay toilets and their number is to be decided. If there are to be enough to warrant the initial expense, it will be better to use a coin-operating turnstile than the cumbersome nickel-catchers on the doors, too much of the proceeds from which go to the lessees instead of to the company providing the facilities!

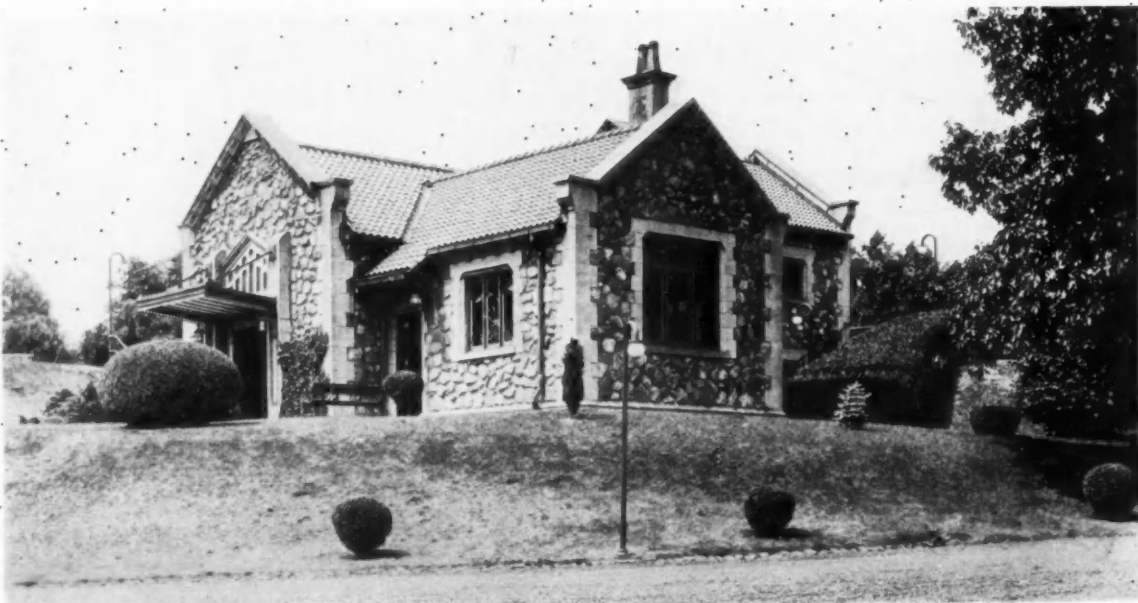
But these are only a few of the hundred and one details to be painstakingly worked out. Among others, to be decided either by the architect or for him, are the type of train announcing to be provided; the kind of track signs to be adopted; the sort of parcel checking to be used; the method of refrigeration to be installed for kitchen and lunch room equipment; amount and kind of mechanical ventilation to be supplied; arrangement of elevators on platforms for handling baggage, mail and express trucks; character of platform stairs and the cross-over bridge or tunnel, as the case may be. Railroads are generally on low ground, often close to water levels, and tunnel construction may be fraught with special difficulties, including that of

obtaining thorough waterproofing, capable of withstanding track vibrations under difficult conditions.

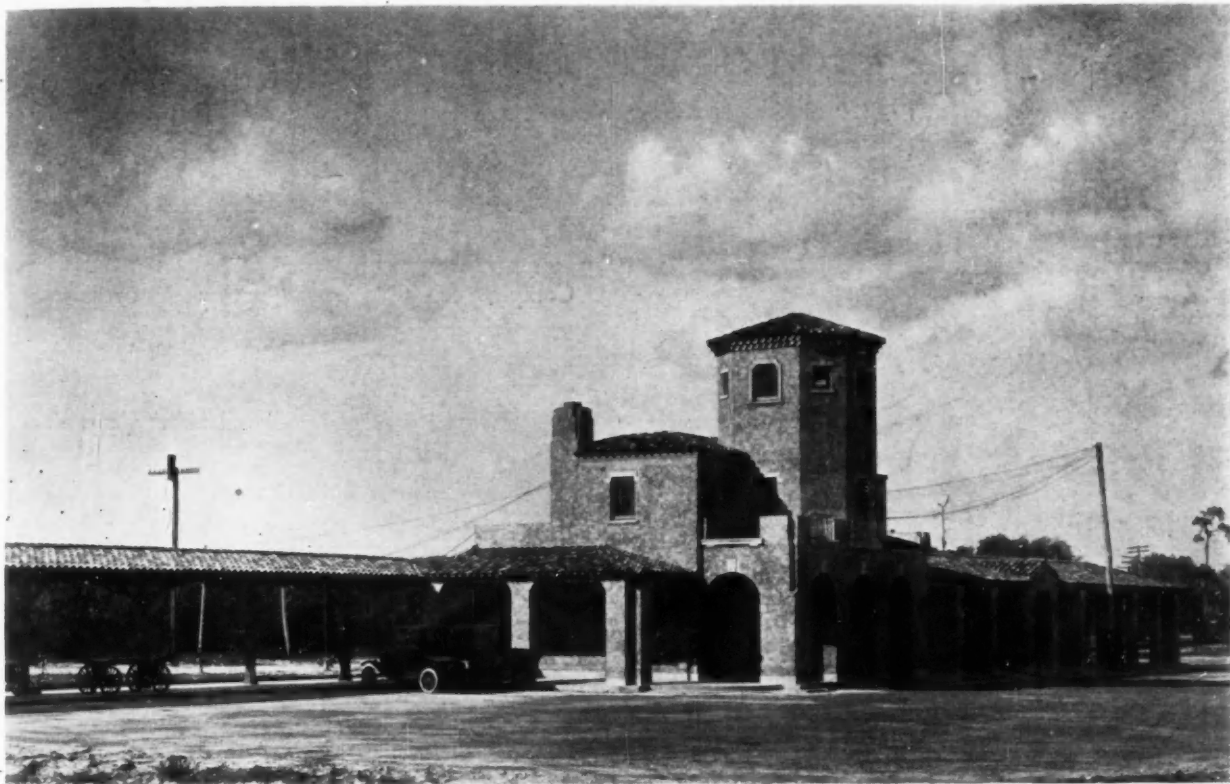
We have apparently devoted this article exclusively to a two-level project, whereas our diagram shows everything on one level. Being diagrammatic, however, one is presumed to consider it more particularly as to matters of juxtaposition, access and communication, and quite regardless of level.

Doubtless, railroad companies will continue to erect occasional permanent buildings at grade crossings,—fewer in each succeeding year. These may be served by a single track and present a minimum number of planning problems. If on double tracks, it is up to the company to decide whether the cross-over shall be at grade or above or below it. If, however, the station be at a junction point, with the railroads crossing at two levels, there is still more to think about. The streets may be at a third level, though this is unusual. Sometimes, if the station be planned at the same time as the grade crossing elimination, the architect may have an opportunity of influencing the engineering design to the betterment of the station layout; but he is more likely to be given the latter all "cut and dried" and must, perforce, make the best of it and do his utmost.

In any event, the railway station architect has, in addition to careful study of all the foregoing details, to give due consideration to the ordinary questions of design, construction, materials, and items of mechanical equipment that enter into the makeup of any other building, but aggravated to the nth degree in multitudinous circumscribing limitations. In presenting, therefore, the accompanying plans and illustrations of successful railway stations, outside of the monumental class, one feels that those immediately responsible for such successes are deserving of most hearty felicitations. They have done wonders under conditions of the utmost difficulty.



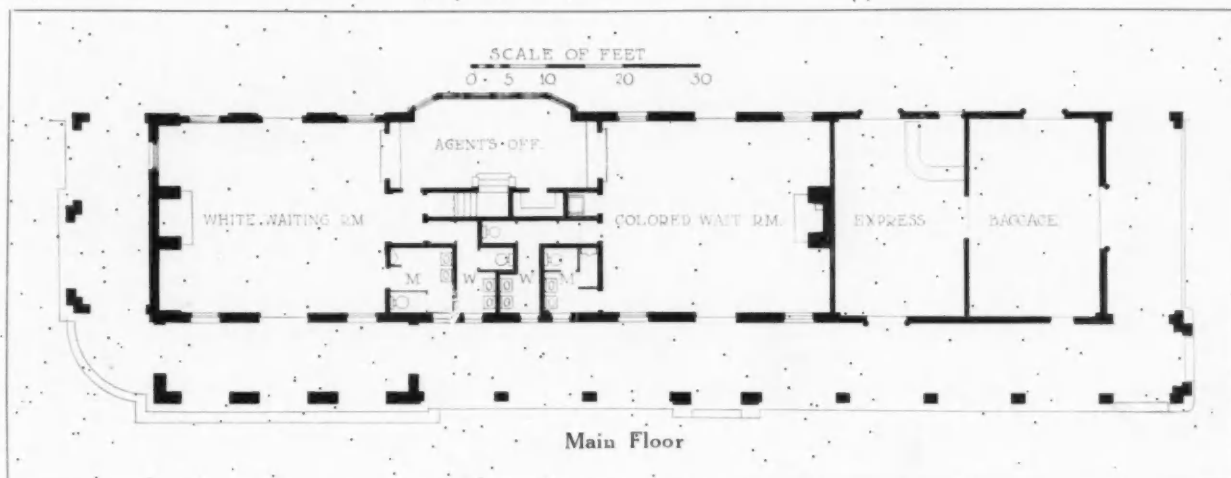
Station, Delaware, Lackawanna & Western Railroad, Mountain Lakes, N. J.



STATION, SEABOARD AIR LINE RAILWAY, WINTER HAVEN, FLA.
HARVEY & CLARKE, ARCHITECTS

IN the construction of the station completed last year at Winter Haven, Fla., stucco on hollow tile was effectively used. In general the design and character of this building successfully suggest the influence of Spanish architecture. There is a certain bold picturesqueness about the outline of the building, with its colored cement striking a pleasant note of contrast to the brilliant blue skies of the sunny South. This color note is further emphasized and the Spanish style still more definitely suggested by the use of a tile roof in varying shades of red. Although the station building covers considerable ground, the fact that most of it is only one story in height gives the general impression of

unpretentious simplicity. Only one quarter of the entire building is carried up into the second and third stories. This is done in a very successful manner by the use of an octagonal tower as a portion of the upper part of the structure. The arcade, which serves as the main entrance to the waiting room for white passengers, casts cool shadows within its arches. Iron balustrades and window grilles assist in producing the desired effect of Mediterranean derivation. The long concrete platforms are protected from both sun and rain by tile-covered roofs supported on piers. On the track side of the station proper the roof protecting the platform rests on heavy cement wall brackets, and is held



FORUM SPECIFICATION AND DATA SHEET—96

Station of the Seaboard Air Line Railway, Winter Haven, Fla., Harvey & Clarke, Architects

OUTLINE SPECIFICATIONS

GENERAL TYPE OF ARCHITECTURE:
Spanish.EXTERIOR MATERIALS:
Stucco on tile.ROOF:
Red tile, old Spanish or Cuban type.WINDOWS:
Wood sash.FLOORS:
Cement and tile; terrazzo in toilets.HEATING:
Open fireplaces in waiting rooms; gas connections elsewhere.PLUMBING:
Complete toilet facilities with best type of fixtures.ELECTRICAL EQUIPMENT:
Complete conduit systems; antique fixtures.INTERIOR MILL WORK:
Finished in enamel.INTERIOR WALL FINISH:
Plaster, sand finish; modulated plaster in waiting rooms and arcade.DECORATIVE TREATMENT:
Old Spanish.YEAR OF COMPLETION:
1925.

by chains fastened to iron bolts in the upper part of the parapet wall of the main station. A greater consistency in the design might have been secured had this portion of the platform protecting roof been covered with tile and constructed in a similar manner to the platform covering at either end of the station. This might have been successfully accomplished by the use of heavy supporting piers or columns, or even an open arcade on the outer edge of the passenger platform next to the tracks. The plan shows the usual balance found in rail-

way stations used by both white and colored people. The agent's or ticket office is located at the center of the building between the two waiting rooms, as are also the toilet accommodations for men and women, both white and colored. Beyond the station proper are the express and baggage rooms, well shaded by 10-foot arcades. In fact the entire building is surrounded by covered walks or platforms, which help to shade and keep cool the interior waiting rooms as well as to protect waiting passengers from both sun and rain, particularly desirable in a warm climate.



Arcade, Winter Haven Station



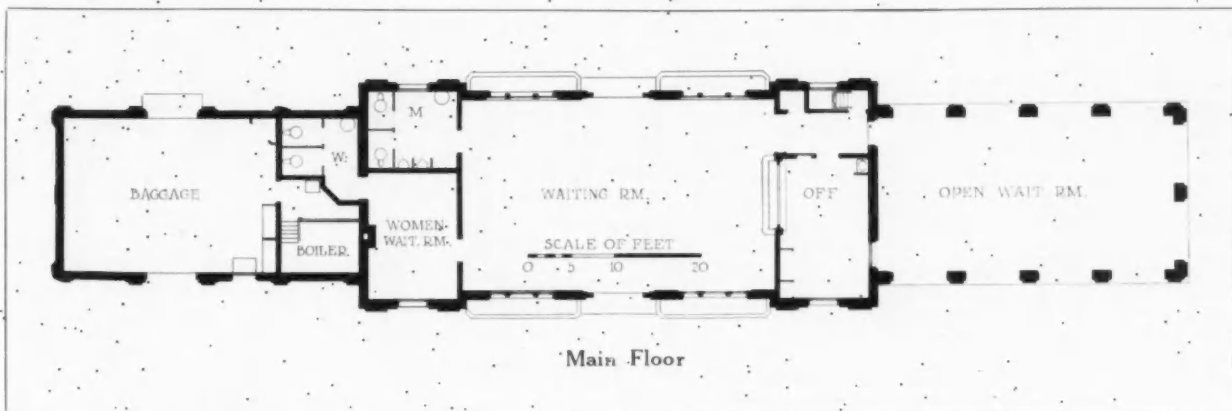
Platform Facade, Winter Haven



STATION, SOUTHERN PACIFIC RAILROAD, SELMA, CALIF.

STUCCO on hollow tile makes an excellent exterior wall material for small railway stations. It adapts itself well to almost any style of architecture which may be appropriately used for this particular type of architectural design. The station at Selma, Calif., although completed eight years ago, illustrates the adaptability of concrete, cement mouldings, and stucco on hollow tile for exterior walls of such buildings. In the design of this particular station, the formal, balanced elevation shows the use of a simple adaptation of Classic architecture. Consistent with the character of the climate in this part of California, the indoor waiting room is only slightly larger than the open-air waiting room, which occupies one end of the build-

ing, balancing the large baggage room, boiler room and women's toilet at the other end. Three large arches, Roman in character, properly suggest on the exterior the location of the general waiting room within. The bays flanking the center arch motif, which have rectangular windows ornamented with heavy entablatures, indicate the location of some of the small rooms within the building, such as the women's waiting room and the ticket office. A short passage connects the general interior waiting room with the open-air waiting room. Off this passage is a public telephone booth and a small staircase leading up to a record room on the second floor. The elevation of the station on the track side practically duplicates the entrance elevation. The only



FORUM SPECIFICATION AND DATA SHEET—97
Passenger Station, Selma, Calif., Southern Pacific Railroad Co.

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Concrete foundation, wood frame and brick veneer. Columns in open waiting room, brick.

EXTERIOR MATERIALS:

Cement base; stucco walls and cornice.

ROOF:

Pitch and gravel.

WINDOWS:

Double-hung; hinged and stationary sash of wood.

FLOORS:

Office, wood; toilets, tile; other rooms, cement.

HEATING:

Steam.

PLUMBING:

Vitreous fixtures.

ELECTRICAL EQUIPMENT:

Light fixtures in all rooms; bracket lights and electric sign on exterior of building. Electroliers on platform.

INTERIOR MILL WORK:

Douglas fir.

DECORATIVE TREATMENT:

Plastered wall and ceiling painted. Waiting room, ornamental cornice and mouldings.

APPROXIMATE CUBIC FOOTAGE:

61,330.

COST PER CUBIC FOOT:

25 cents.

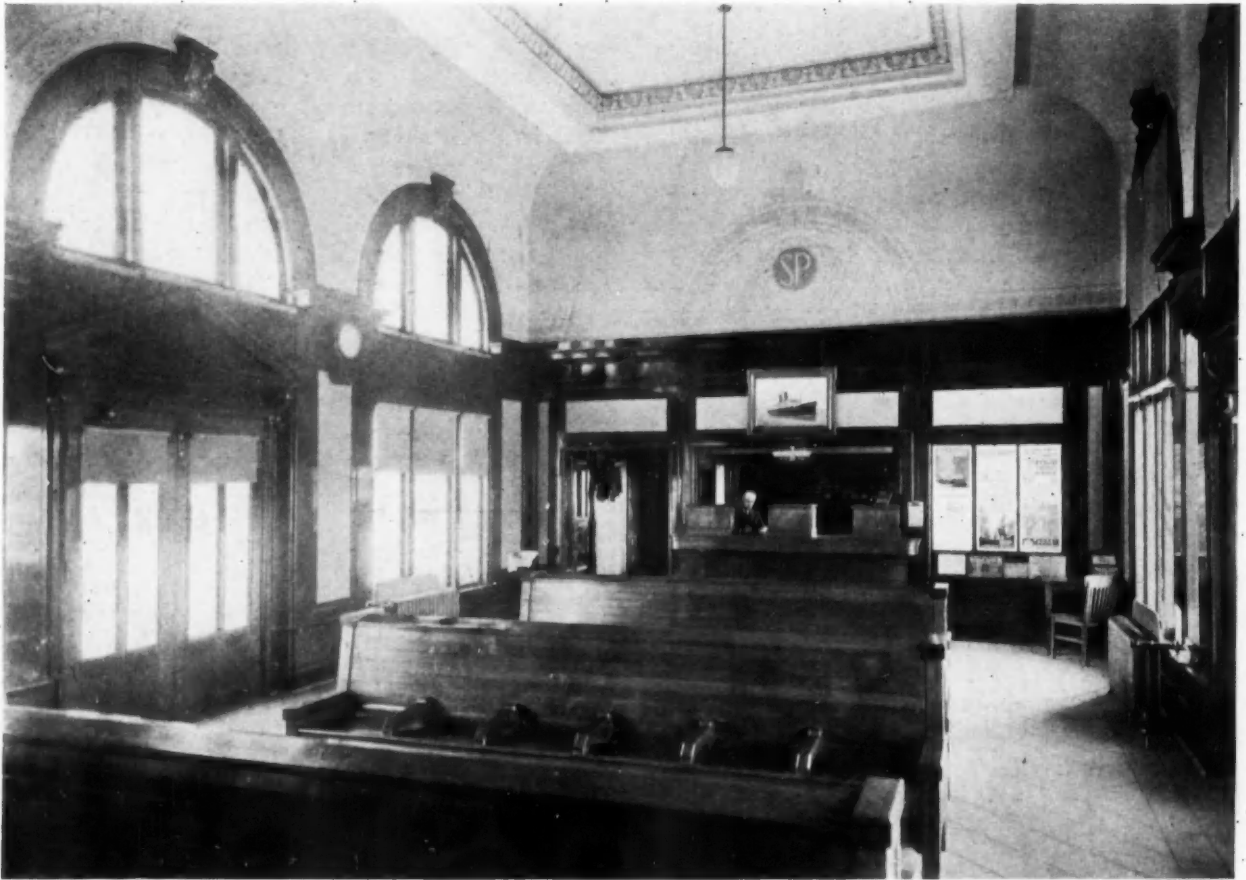
DATE OF COMPLETION:

January, 1918.

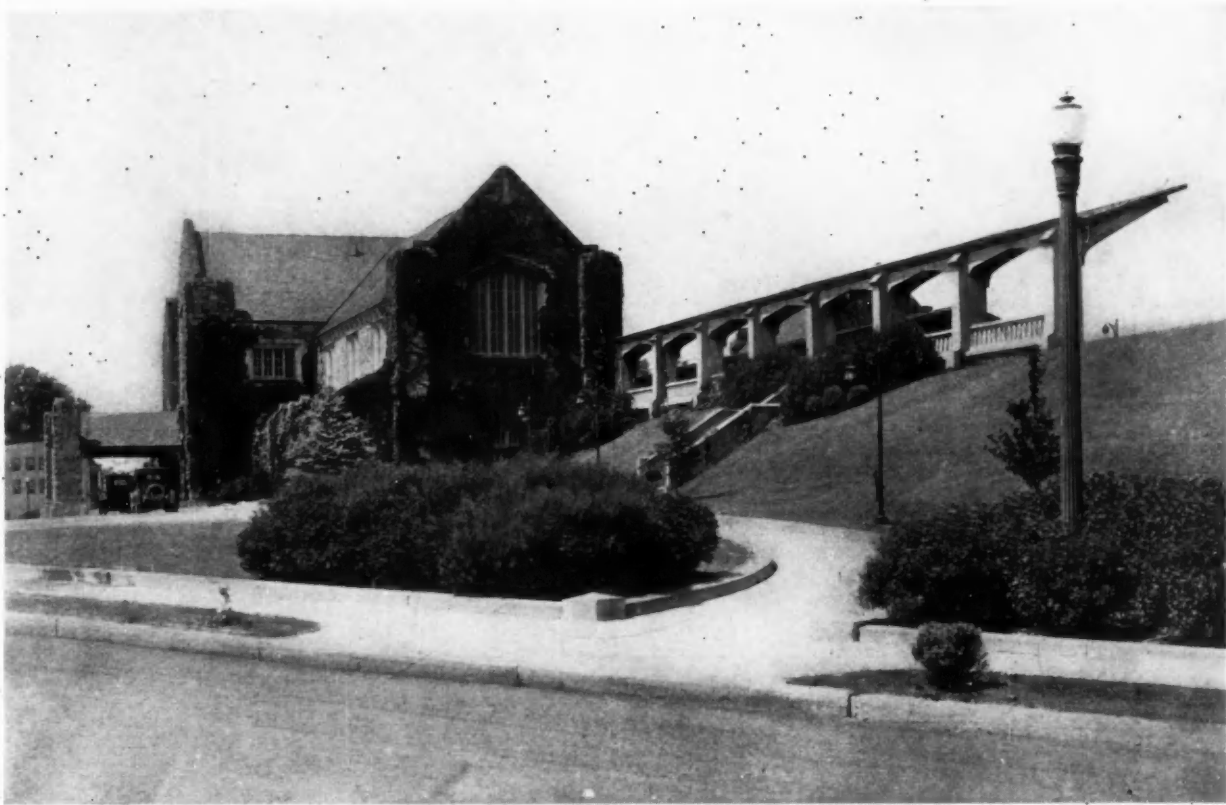
variation found is in the introduction of a parcel checking window at one side of the large door opening from the track platform into the baggage room. This station is another good proof of the architectural ability of many members of the engineering staffs maintained by the railways in this country.

As snow seldom comes to this section of California, it is practical to use flat roofs for the main

station building and its wings. Pitch and gravel are used for these roofs. The interior of the station shows a simple treatment of stained wood trim, painted plaster walls and ceiling, relieved by an ornamental cornice and mouldings. The floor is of colored cement marked off to resemble tile. Seven long double benches provide seating capacity for 41 people within the station waiting room.



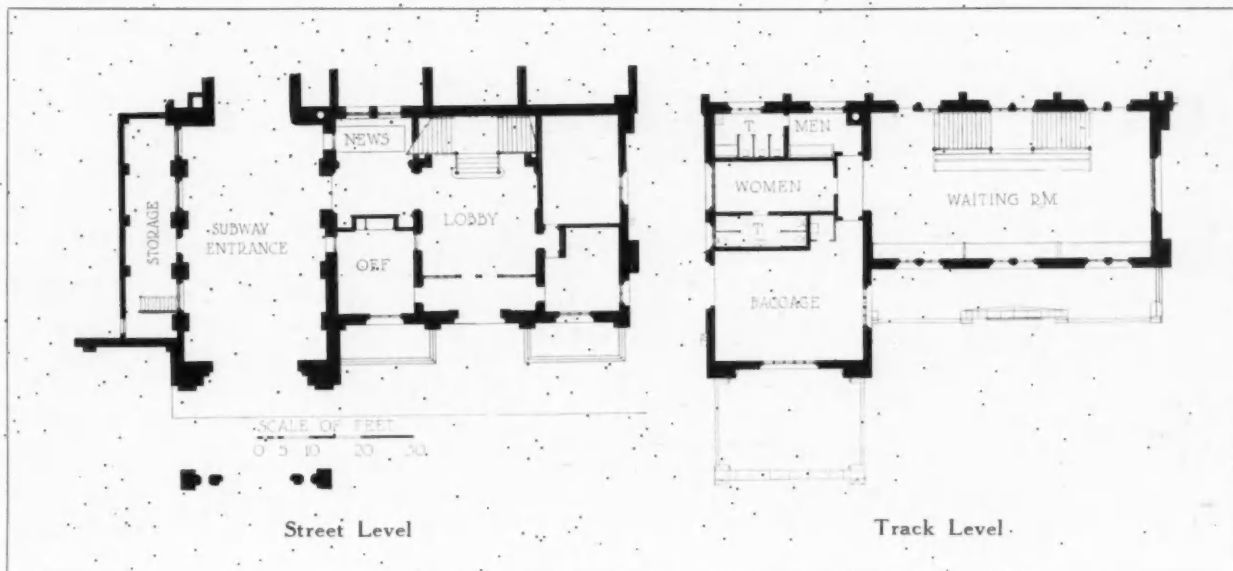
Waiting Room, Selma Station



STATION, DELAWARE, LACKWANNA & WESTERN RAILROAD, MADISON, N. J.
F. J. NIES, ARCHITECT

ELEVEN years since it was built might seem to make a building out of date and unworthy of being included in these groups of varying types and styles of small buildings which THE ARCHITECTURAL FORUM publishes each month; but this stone railway station has unusual architectural distinction and character, which make it worthy of belated recognition. On account of the elevation of the tracks of this railroad through the important Jersey suburbs, this station is built on two levels. From the high-

road one enters through a spacious *porte-cochere* into a wide foyer hall which forms the entrance to the subway leading from the inward-bound to the outward-bound station. On this street floor are located a ticket office, a news stand and two large store rooms, and lobby and stairs leading to the waiting room above. Ascending the wide dividing staircase, the waiting room is reached. This is a spacious room, 54 feet long by 28 feet wide, the location of which is clearly and properly indicated



FORUM SPECIFICATION AND DATA SHEET—98

Station, Delaware, Lackawanna & Western R. R., Madison, N. J.

F. J. Nies, Architect

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Slow-burning.

EXTERIOR MATERIALS:

Field stone, laid in random ashlar; terra cotta trim.

ROOF:

Graduated slate.

WINDOWS:

Casements; wood sash and frames.

FLOORS:

Red tile on concrete subfloors.

HEATING:

Vacuum system, steam.

PLUMBING:

Vitreous fixtures throughout.

ELECTRICAL EQUIPMENT:

Lighting.

INTERIOR MILL WORK:

Oak.

DECORATIVE TREATMENT:

Brick and terra cotta interior; electroplated bronze stair rails, guards, etc.

APPROXIMATE CUBIC FOOTAGE:

190,689.

COST PER CUBIC FOOT:

35 cents.

YEAR OF COMPLETION:

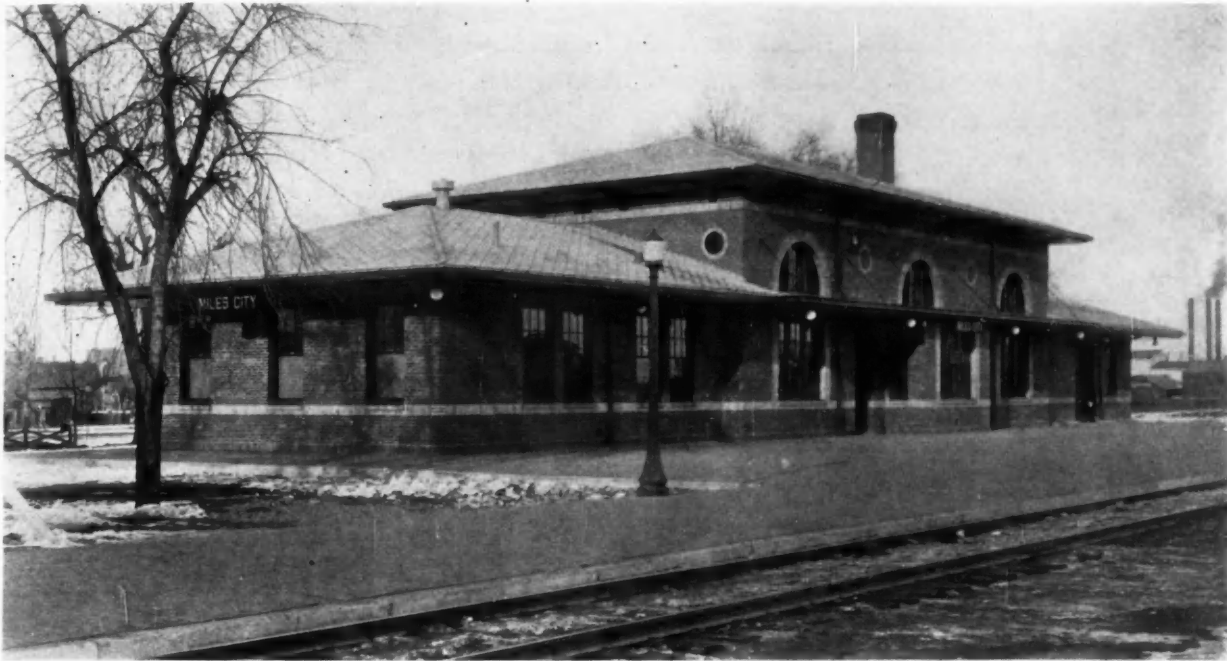
1915.

in the exterior design of the station. From this waiting room access is had to the baggage, smoking and retiring rooms, which are located at one end of the building. In exterior design a suggestion of

English collegiate architecture is found. The steep pitched roofs are terminated against high stone gable ends, the corners of which are reinforced with stone buttresses and are penetrated by arched windows.



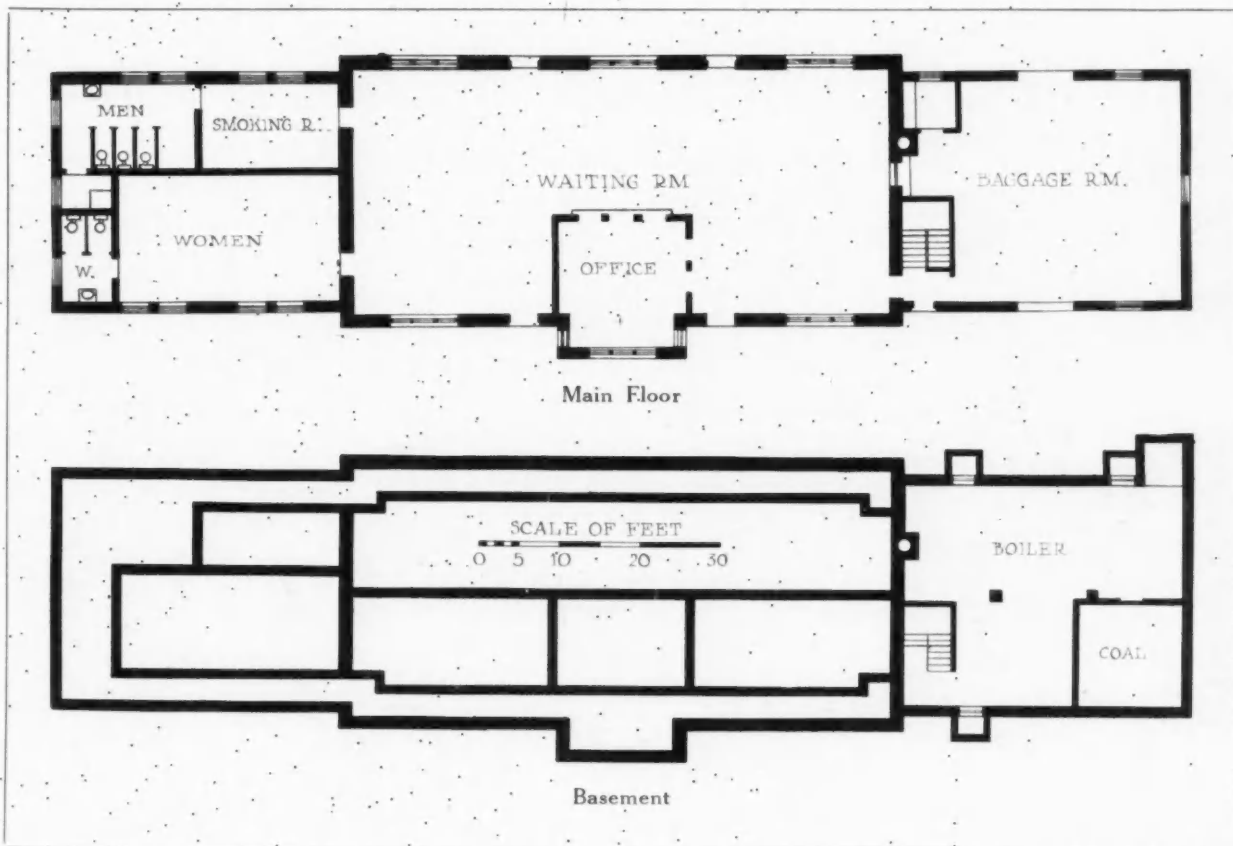
Lobby, Madison Station



STATION, NORTHERN PACIFIC RAILWAY, MILES CITY, MONT.

COMPLETED two and a half years ago, this small station at Miles City is a simple, straightforward design excellently suited for use in a northern city, where light and sunshine are particularly necessary for the interior of the building. Built of face brick in two shades, the lighter of which is used

for the trim, this station possesses a certain quiet repose or refinement which is a tribute to the railroad engineers who designed it. As the winters in Miles City are quite cold, covered platforms are omitted except for the overhang of the low sloping roofs which protect only a small portion of the plat-



FORUM SPECIFICATION AND DATA SHEET—99

Station, Northern Pacific Railway, Miles City, Mont.

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Concrete foundations, brick walls, hollow tile backing.

EXTERIOR MATERIALS:

Face brick in two shades; light shade for trim.

ROOF:

Frame construction with asbestos shingles.

WINDOWS:

Wood.

FLOORS:

Red tile over concrete subfloor.

HEATING:

Low pressure steam.

PLUMBING:

Open sanitary fixtures.

ELECTRICAL EQUIPMENT:

Lighting.

INTERIOR MILL WORK:

White oak, stained and varnished.

INTERIOR WALL FINISH:

Painted plaster; tile wainscoting.

DECORATIVE TREATMENT:

Plastered beams in ceiling; brackets on walls with pendants containing "N.P." in red and black.

APPROXIMATE CUBIC FOOTAGE:

131,500, figuring height from bottom of footings to middle of roof.

COST PER CUBIC FOOT:

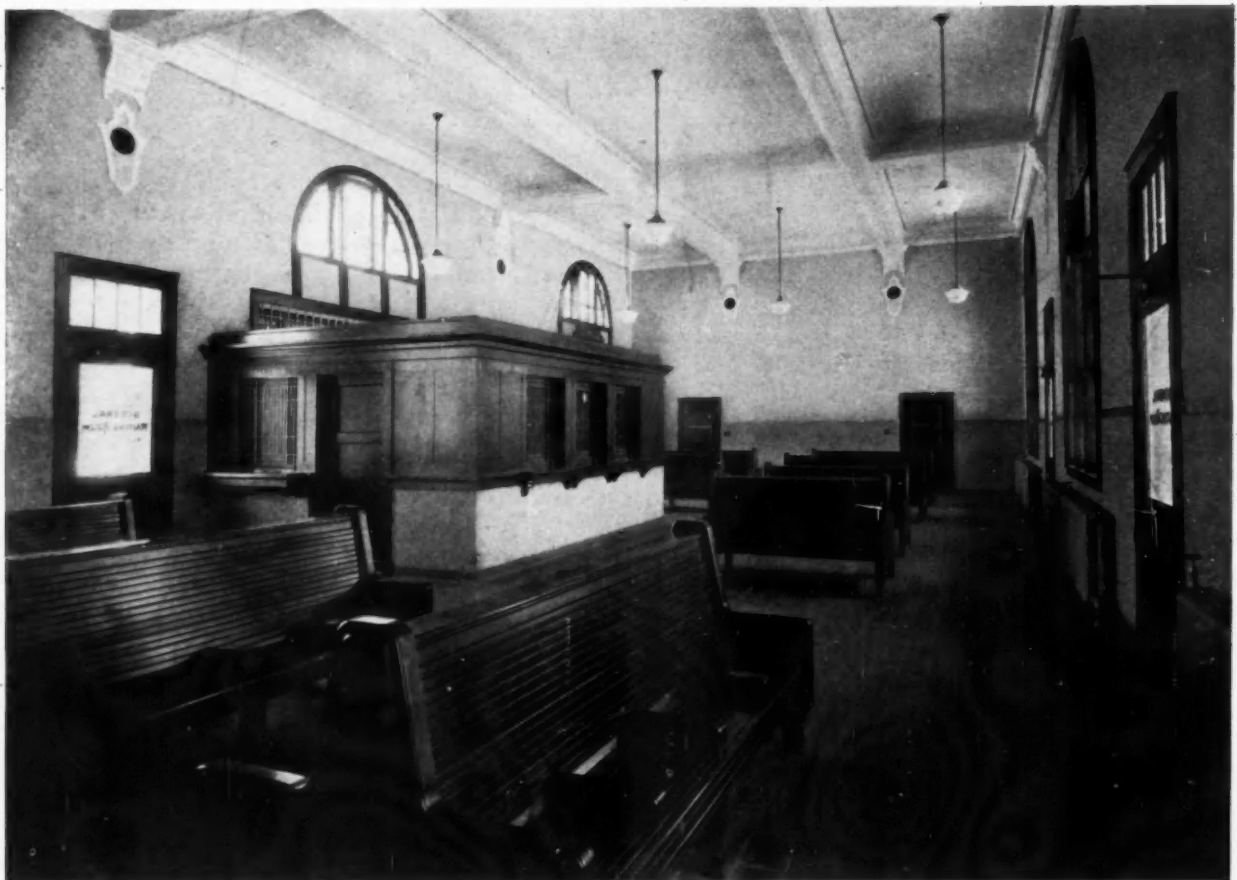
43 cents, including furniture and equipment.

DATE OF COMPLETION:

November, 1923.

forms without loss of light to the interior of the building. The waiting room, which is 70 feet long by 44 feet wide, is well equipped with many comfortable benches. Two small doors on either side of the main waiting room give access to the station platform as well as to the open square on which one side of the station faces. The plan is simple and direct. At the center of one side of the waiting

room is a large ticket office, 17 feet by 17 feet in size. This room has a bay which projects beyond the line of the building on the track side for use by the train dispatchers and telegraph operators. Here is located the telegraphing apparatus of the building. At one side of the main waiting room is a large baggage room, part of which is divided off for use as an express office and a parcel room.



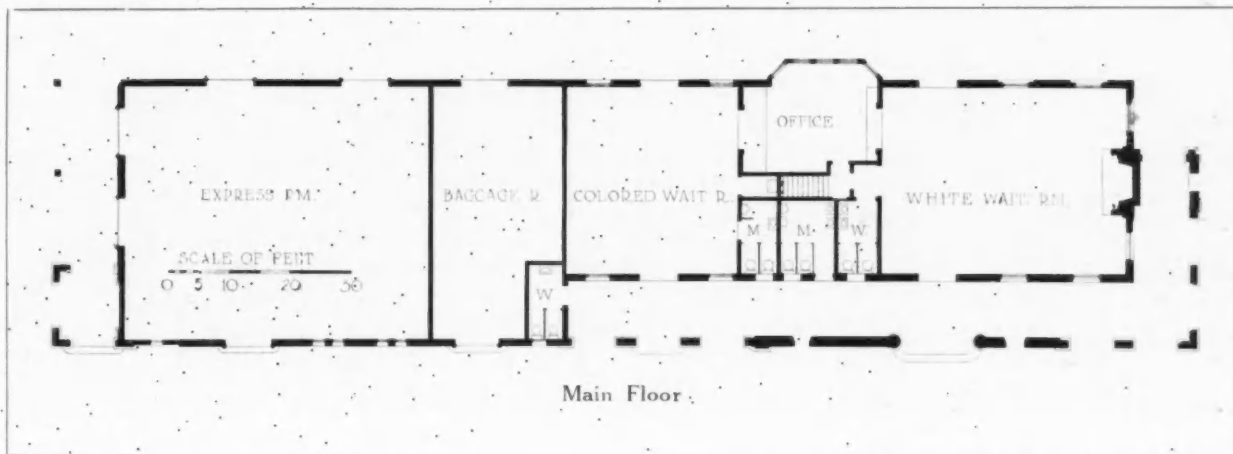
Waiting Room, Miles City Station



STATION, SEABOARD AIR LINE RAILWAY, WEST PALM BEACH, FLA.
HARVEY & CLARKE, ARCHITECTS

IN keeping with the "Mediterranean" style of architecture which has so largely been followed in all of the recent architectural work at Palm Beach, Miami and Coral Gables, this new railway station at West Palm Beach shows the direct influence of Spanish Renaissance architecture in its design. The exterior walls are rough stucco on hollow tile. All of the ornamental architectural details are executed in terra cotta. These details closely follow Spanish

precedent. From careful study of the illustration of the exterior one has the feeling that the care, refinement and beauty of the architectural detail would be more emphasized and set off had the stucco of the walls been less rough and mottled in texture. The Spanish detail of the waiting room for white people is consistent with the detail of the exterior of the building. A vaulted arcade, which extends half the length of the entrance front of the build-



FORUM SPECIFICATION AND DATA SHEET—100

Seaboard Air Line Railway Station, West Palm Beach, Fla., Harvey & Clarke, Architects

OUTLINE SPECIFICATIONS

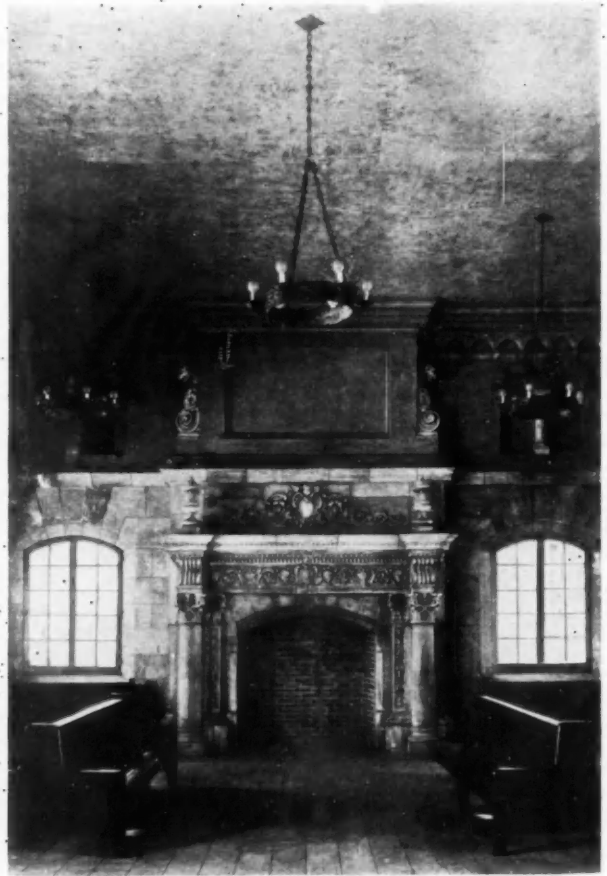
GENERAL TYPE OF ARCHITECTURE:
Spanish.EXTERIOR MATERIALS:
Stucco on tile.ROOF:
Red Tile, Old Spanish type.WINDOWS:
Wood sash.FLOORS:
Cement and tile terrazzo in toilets.HEATING:
Open fireplace in waiting room; gas connections elsewhere.PLUMBING:
Complete toilet facilities with best type of fixtures.ELECTRICAL EQUIPMENT:
Complete conduit system; antique type of fixtures.INTERIOR MILL WORK:
Finished in enamel.INTERIOR WALL FINISH:
Plaster, sand finish. Modulated plaster in waiting rooms and arcade.DECORATIVE TREATMENT:
Old Spanish.YEAR OF COMPLETION:
1925.

ing, makes a pleasant place to seek shelter from the hot tropical sun. Between the waiting rooms for whites and colored are located the ticket agent's office and toilet rooms for men and women, both colored and white. Beyond the waiting room for colored people is a baggage room and large express room, making a simple and well arranged plan. An

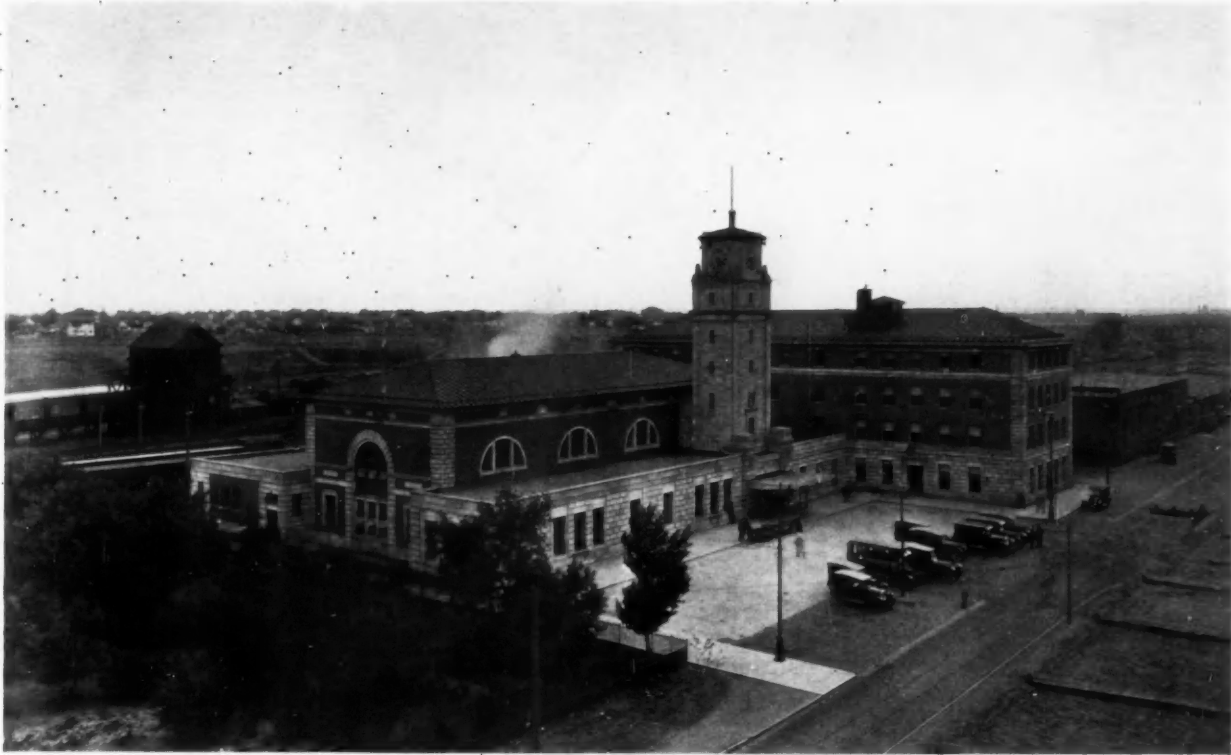
imposing entrance arch leads through the vaulted arcade into the high waiting room for white people. This room is wainscoted with imitation stone to a height of 9 feet. Why the Richardsonian custom of including an ornate chimneypiece and useless fireplace was followed in this railroad station in the tropics is hard to understand, unless as an ornament.



Entrance, West Palm Beach Station



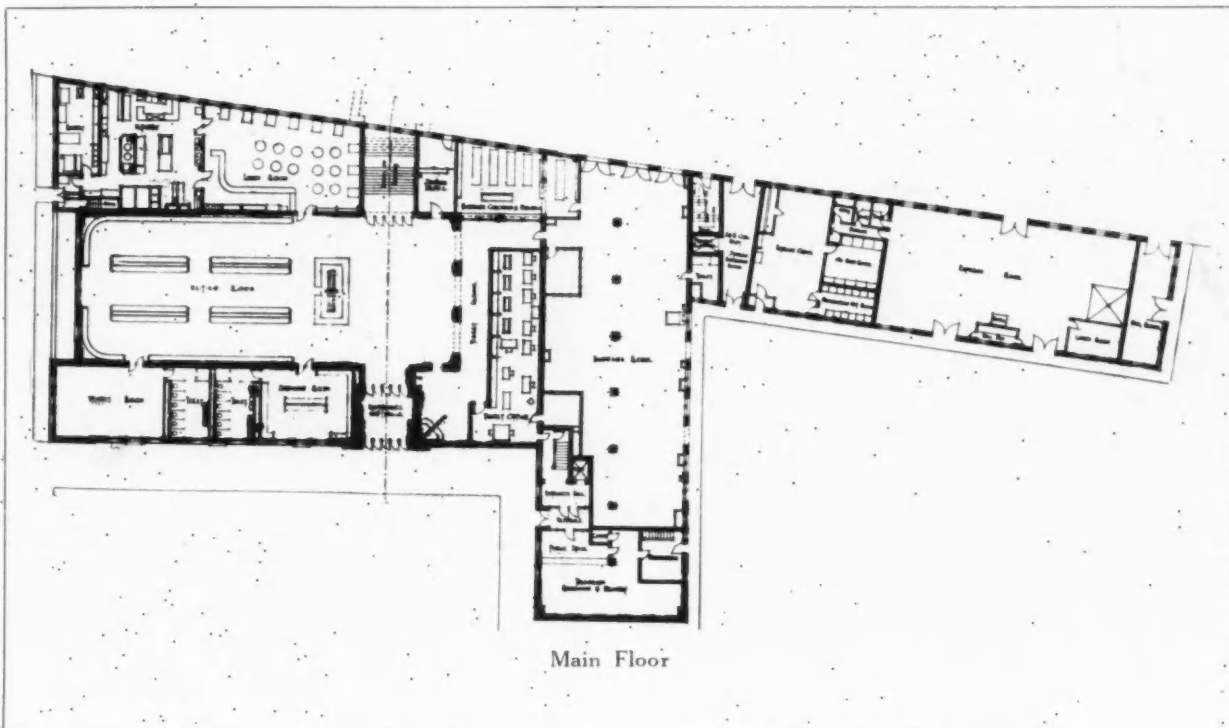
Waiting Room, West Palm Beach Station



STATION AND OFFICE BUILDING, CANADIAN PACIFIC RAILROAD, MOOSE JAW, SASK.
 HUGH G. JONES, ARCHITECT

THIS station with its adjoining office building can hardly be termed a small station, yet it is so interesting and well designed that its omission from this group of stations would be a matter of regret. The exterior elevation, which logically and successfully indicates the interior plan, is designed

in a rather free type of Italian Renaissance architecture and is constructed of limestone and red brick laid up with gray joints. Two years were required for its completion, because of the necessity of using existing buildings which occupied the site during the construction of the new station. The size of the



FORUM SPECIFICATION AND DATA SHEET—101

Station on the Canadian Pacific R. R. at Moose Jaw, Sask., Hugh G. Jones, Architect

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Reinforced beam and slab concrete.

EXTERIOR MATERIALS:

Limestone and red brick.

ROOF:

Copper.

FLOORS:

Red tile in vestibule, waiting room, ticket alcove, rest room and subway.

HEATING:

Steam.

PLUMBING:

Enameled fixtures.

ELECTRICAL EQUIPMENT:

Lighting.

INTERIOR MILL WORK:

Birch, stained.

INTERIOR WALL FINISH:

Tile, brick and enamel.

DECORATIVE TREATMENT:

Waiting room, vestibule, and ticket alcove, gray, tile wainscoting; gray brick walls, moulded and ornamental members in terra cotta. Lunch room, blue-green tile walls and tinted enamel.

ENTIRE COST:

\$625,000.

YEAR OF COMPLETION:

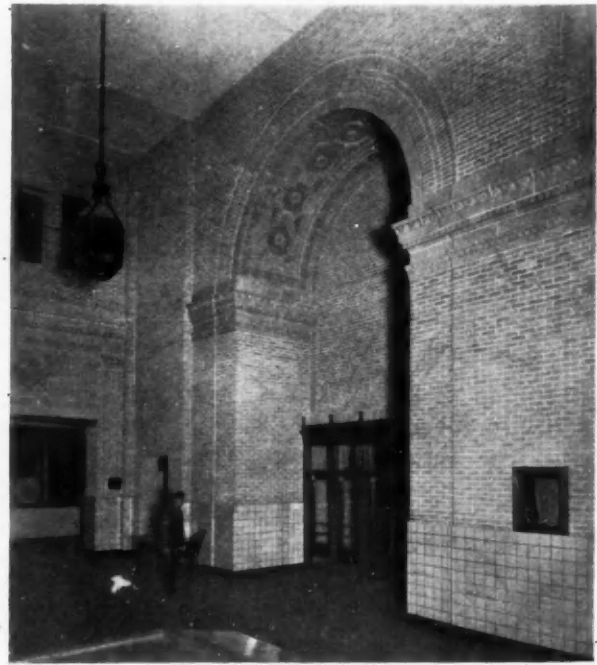
1922.

structure was fixed by the volume of transfer business rather than by the population of Moose Jaw, which is only 19,000. The train service includes three express east-bound trains and three expresses west-bound, and nine locals in and nine locals out each day. There are six passenger tracks and three combination passenger and baggage platforms. The platform adjoining the building is a trucking platform which connects with cross-over platforms at each end of the platform layout. The width of the platform is 18 feet. Passenger kiosks are placed at one side so as to allow trucks transferring baggage to run through. Tracks through and local, are arranged on centers. The platforms themselves are of wood. Umbrella shelters are intended to be con-

structed eventually. The entrance to the station is on the axis of the main street of the town, through the base of the clock tower which is approximately 90 feet high. On the right after entering the station, are located public telephones, ticket offices, baggage and parcel rooms and transfer office. Perhaps the chief characteristic of the plan of the station is the location of the information, ticket office, baggage and parcel room at one side and directly accessible from the main thoroughfare through the station from the entrance to the stairs leading down to the subway under the tracks. This excellent plan leaves the main portion of the large waiting room entirely out of the line of traffic and away from drafts coming from the entrance doors.



Interior, Moose Jaw Station



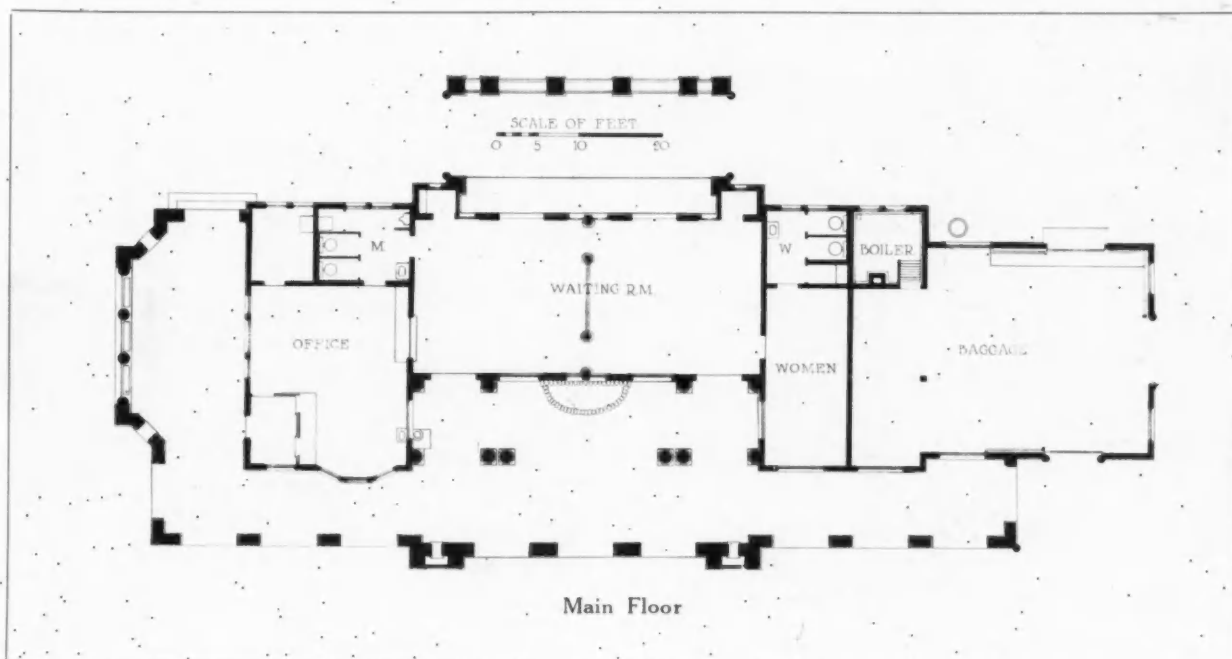
Waiting Room, Moose Jaw Station



STATION, SOUTHERN PACIFIC RAILROAD, PORTERVILLE, CALIF.

SUGGESTIVE of Spanish architecture, this station at Porterville has much to recommend it, in both design and in plan, for use in a semi-tropical climate. The exterior shows a long main building with two low towers, now concealed by vines, and roofs covered with Spanish tile. The building proper is surrounded on three sides by an arcade, which at one end becomes a covered open waiting room or porch to be used in warm weather, bal-

anced at the other end of the building by a baggage room. Between the arcade and the waiting room is an open court which partially lights the waiting room. This room, although small in comparison with the size of the building, is quite large enough to accommodate the comparatively small number of passengers who wish to wait indoors for trains. The plan is well balanced, showing as it does a good sized ticket office, record room and men's toilet at



FORUM SPECIFICATION AND DATA SHEET—102

Station, Southern Pacific Railroad, Porterville, Calif.

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Concrete foundation and wood frame.

EXTERIOR MATERIALS:

Stucco walls and wood gutter.

ROOF:

Terra cotta tile, pitch and gravel.

WINDOWS:

Double-hung and stationary; sash of wood.

FLOORS:

Office, wood; toilets, terrazzo; all other rooms, cement colored.

HEATING:

Steam.

PLUMBING:

Vitreous fixtures.

ELECTRICAL EQUIPMENT:

Light fixtures in all rooms; exterior bracket lights; fans in office and women's retiring room; electric signs and electroliers on platform.

INTERIOR MILL WORK:

Douglas fir.

DECORATIVE TREATMENT:

Plastered wall and painted ceiling. Waiting room, beam ceiling.

APPROXIMATE CUBIC FOOTAGE:

74,800.

COST PER CUBIC FOOT:

17 cents.

DATE OF COMPLETION:

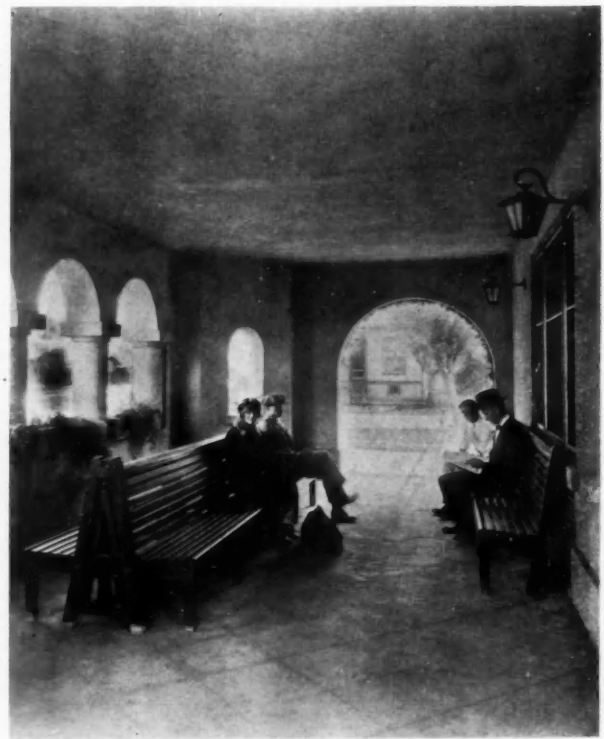
July, 1914.

one end of the building, and a women's retiring room, toilet, small boiler room and good sized baggage room at the other end. The entrance side of the station shows a long *porte-cochère*, which is a welcome protection during the rainy season of the year. The provision of benches in the outside waiting room and arcade might well be adopted in our northern stations where the covered platforms seldom have any seats at all for the accommodation of travelers who prefer fresh air to the overheated, vitiated atmosphere of the average railway waiting

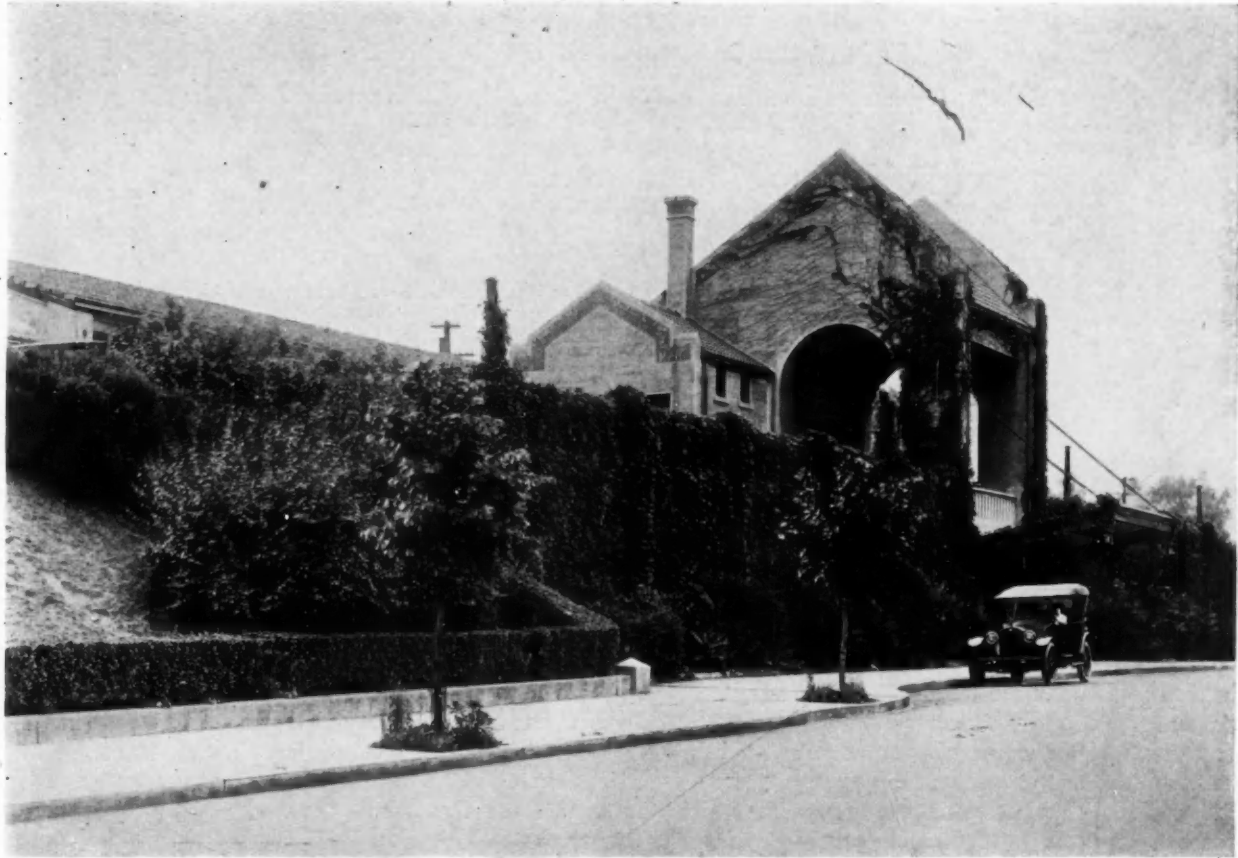
room. To keep down the cost of this building, the construction is of the simplest and most inexpensive type. Not only the exterior arcades but also the main building itself is constructed of wood covered with stucco on wire. The complete concealment of architectural details by vines is certainly open to criticism from the architectural as well as the artistic point of view. Vines trimmed back within reasonable limits soften and beautify architecture, but where they are allowed to completely cover the architectural details, their use is open to criticism.



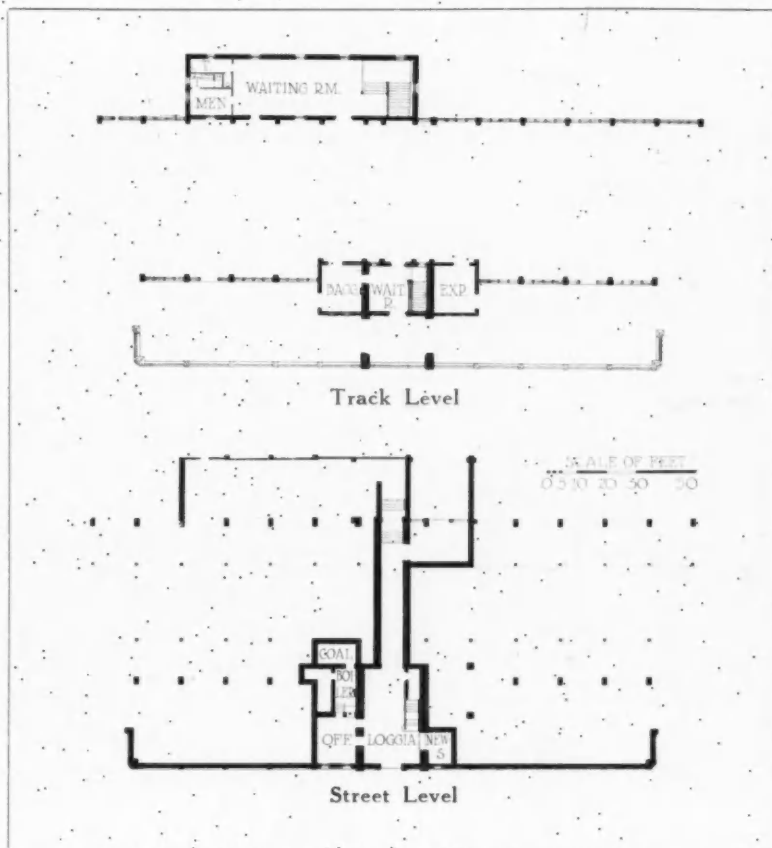
Waiting Room, Porterville Station



The Arcade, Porterville



STATION, DELAWARE, LACKAWANNA & WESTERN RAILROAD, BLOOMFIELD, N. J.
F. J. NIES, ARCHITECT



ALTHOUGH completed many years ago and very familiar to all commuters to this part of New Jersey, the little station at Bloomfield is still recognized as one of the most unique and interesting small stations in the suburbs of New York. On account of the elevation of the tracks at this point it is necessary to enter the building from an entrance on a level with the station, which is some 14 feet below the station platform. In reality the station consists of two buildings, one on each side of the track bed. Each building contains a waiting room. The building on the outward-bound side of the track bed has a large *porte-cochère* on the level with the waiting room, express office and baggage room. This *porte-cochère* accommodates the vehicles which reach this level by the ascending and descending drives at either end of the station. The macadamized terrace on this level is used as a carriage stand. It is also possible to enter this outward-bound half of the station by means of a stairway leading up from the lower or street level.

FORUM SPECIFICATION AND DATA SHEET—103

Station, Delaware, Lackawanna & Western R. R., Bloomfield, N. J.

F. J. Nies, Architect

OUTLINE SPECIFICATIONS

GENERAL CONSTRUCTION:

Reinforced concrete, semi-fireproof.

EXTERIOR MATERIALS:

Concrete.

ROOF:

Green-tile.

WINDOWS:

Casement, wood sash and frame.

FLOORS:

Terrazzo and tile.

HEATING:

Steam.

PLUMBING:

Enamel fixtures.

ELECTRICAL EQUIPMENT:

Lighting and elevator.

INTERIOR MILL WORK:

Oak.

DECORATIVE TREATMENT:

Rough plaster.

APPROXIMATE CUBIC FOOTAGE:

212,958.

COST PER CUBIC FOOT:

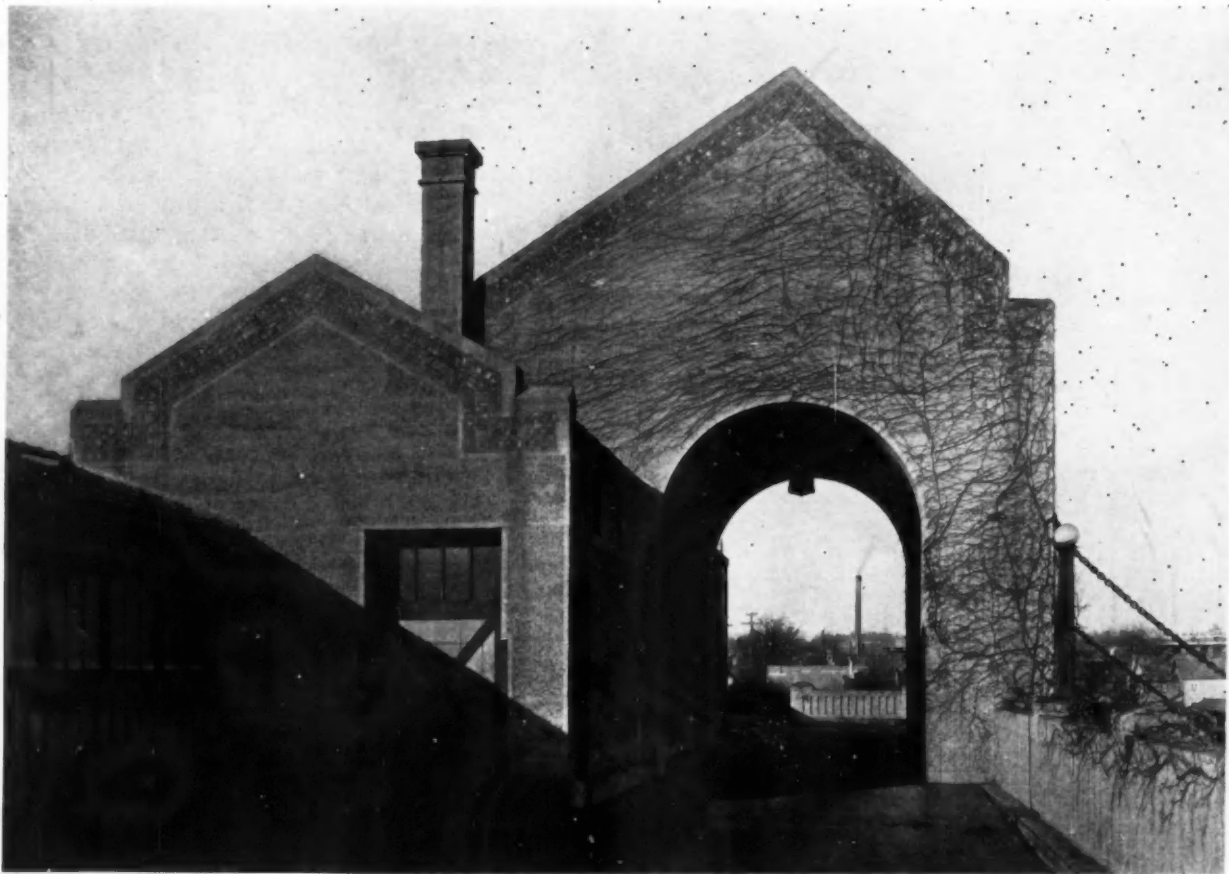
28 cents.

YEAR OF COMPLETION:

1910.

In this lower part or basement of the outward-bound station are ticket office, newspaper room, boiler room and space for the storage of coal. From the entrance loggia on this floor a passageway 12 feet wide leads under the tracks to the inward-bound half of the station on the opposite side of the tracks. The inward-bound station may also be reached from the street level by means of an en-

trance which opens directly into the passageway under the tracks, from which stairs lead into the inward-bound waiting room. The plan is made practical and convenient by the introduction of a passageway under the tracks connecting both halves of the station. No particular style of architecture can be named for the building, although its rough stucco walls and tile roofs slightly suggest Spanish influence.



Portico at Track Level Entrance, Bloomfield Station

DECORATION & FURNITURE

The Dauphin's Bedroom, Compiègne

By C. HAMILTON PRESTON

THE Palace, of Compiègne, ever a favorite residence of the monarchs of France, has already been illustrated in these pages, and the bedroom of Napoleon, a room selected by him from the Louis XVI suite for his very own, has already been published, together with measured drawings.

The Palace, a creation of the great architect Gabriel, is justly celebrated as being one of his best works. In plan it is triangular and unique. On the entrance side toward the town it is three stories in height, whereas on the garden side there are but two, a huge terrace wall effecting the transition so that it is hardly apparent. A stylobate was designed for the garden side to give the proper height to that facade, the approach being arranged with a long flight of steps. Napoleon, however, disliking the steps, had them removed and replaced by a ramp, a change which has affected very disastrously the original proportions of Gabriel, designed with consummate skill.

One enters through the famous colonnade which forms a screen across the forecourt, crosses the spacious rectangular court, and comes to the main entrance which opens directly on a long, narrow, vaulted hall carrying across the entire front. Leading from this is the grand staircase, of beautiful Louis XVI design, which leads to the large Hall of Trophies above, a room superb in proportions but nondescript as regards architecture. At either end of this room are doors leading to the two wings of the Palace, the door on the left leading to a room most ingeniously planned in that it forms the transition between the two facades; that on the town side and that on the garden side, which are at a curious angle with each other. This is so cleverly done that one doesn't realize at all that the plan is triangular; also that we now are on the *premier étage* of the town side but the *rez de chaussée* of the garden side. Next comes the superb dining room, of which we shall have drawings later on,—a room exactly on axis with the superb vista of the garden, which seems to stretch away for miles; a vista which is very like that of Versailles, except that instead of being open at the end, it is closed by low hills. We now enter the suite of rooms of which the subject of our sketch is one, all opening on the garden, and each commanding a charming view which adds much to its interest.

This suite of rooms, created by Louis XVI for Marie Antoinette, consisted of several very large and stately rooms occupied by the queen herself. All these rooms are huge in size and most sumptuous in

decoration. Opening from these apartments came a series of small and intimate rooms, occupied by the friends and various attendants of the queen. The first of these smaller rooms, opening directly from the boudoir of the queen, was this charming little bedroom of the dauphin, who came to such a tragic and untimely end during the Revolution.

This room is most unusual in its proportions, being very long and narrow. These proportions, however, are not apparent to the eye, since the canopied bed of the little dauphin was placed at the far end of the room, thus reducing the extreme length of it. The mouldings of the room are much the same in nature as those of the rooms already published, and are bold and vigorous. Wherever ornament occurs in the members, it is kept flat and has that almost incised quality which is so characteristic of all the Louis XVI detail at Compiègne. This applies to the cornice as well, which is also vigorous in scale and elaborately ornamented, yet at the same time simple.

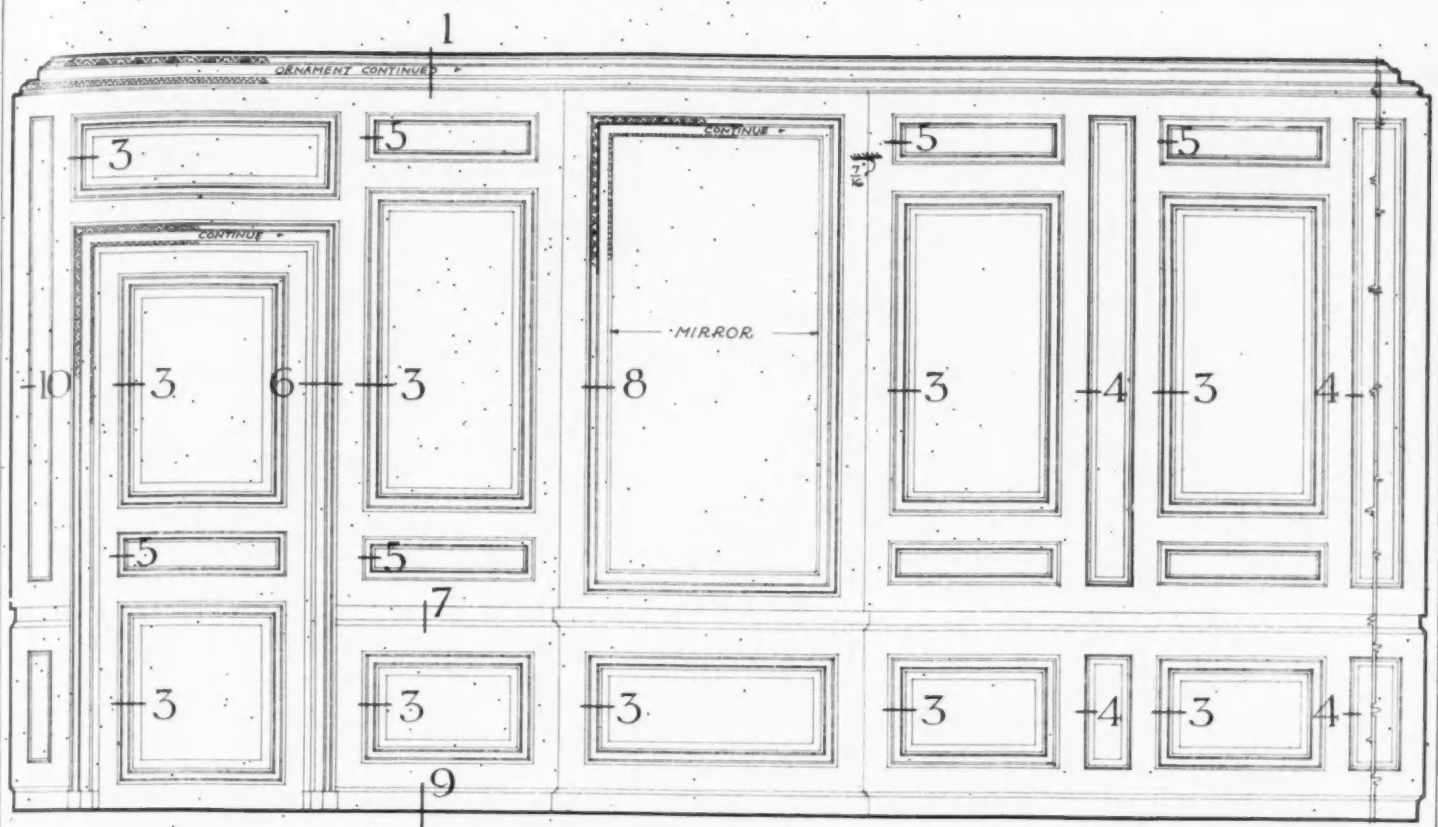
The paneling is symmetrical, and the balance of larger and smaller panels is strictly maintained throughout the room; the smaller panels having a correspondingly smaller moulding. The architrave of the window is notable, the wider portion (beautiful in detail) carrying to the cornice, and only the inner member (the egg and dart moulding) mitering around and carrying across the top of the window under the cornice. This same architrave is used in the many small rooms of this suite; only the detail of the central band is varied. It is in every instance exquisite in design and modeling. The mantel is a typical Louis XVI design, but unusually good in scale. Of dark rose, gray and white marble, it gives an especially beautiful color note in the room.

The paneling, with its absolute symmetry and balance and its soft gray color treatment, forms an especially attractive background for the color scheme of the room. The curtains, canopy and covering of the bed and chairs are of a very delicate blue; the simple decorations of the mantel and one or two well placed pictures against the gray of the walls combine to give an effect of delicacy and lightness which once seen is never to be forgotten. The little bedroom of the dauphin never fails to impress the beholder as one of the most satisfying of rooms as to architecture and decoration. Like several other rooms included in this series of measured drawings, this possesses characteristics, such as dignity, reserve and great refinement, which render it appropriate for modern use.

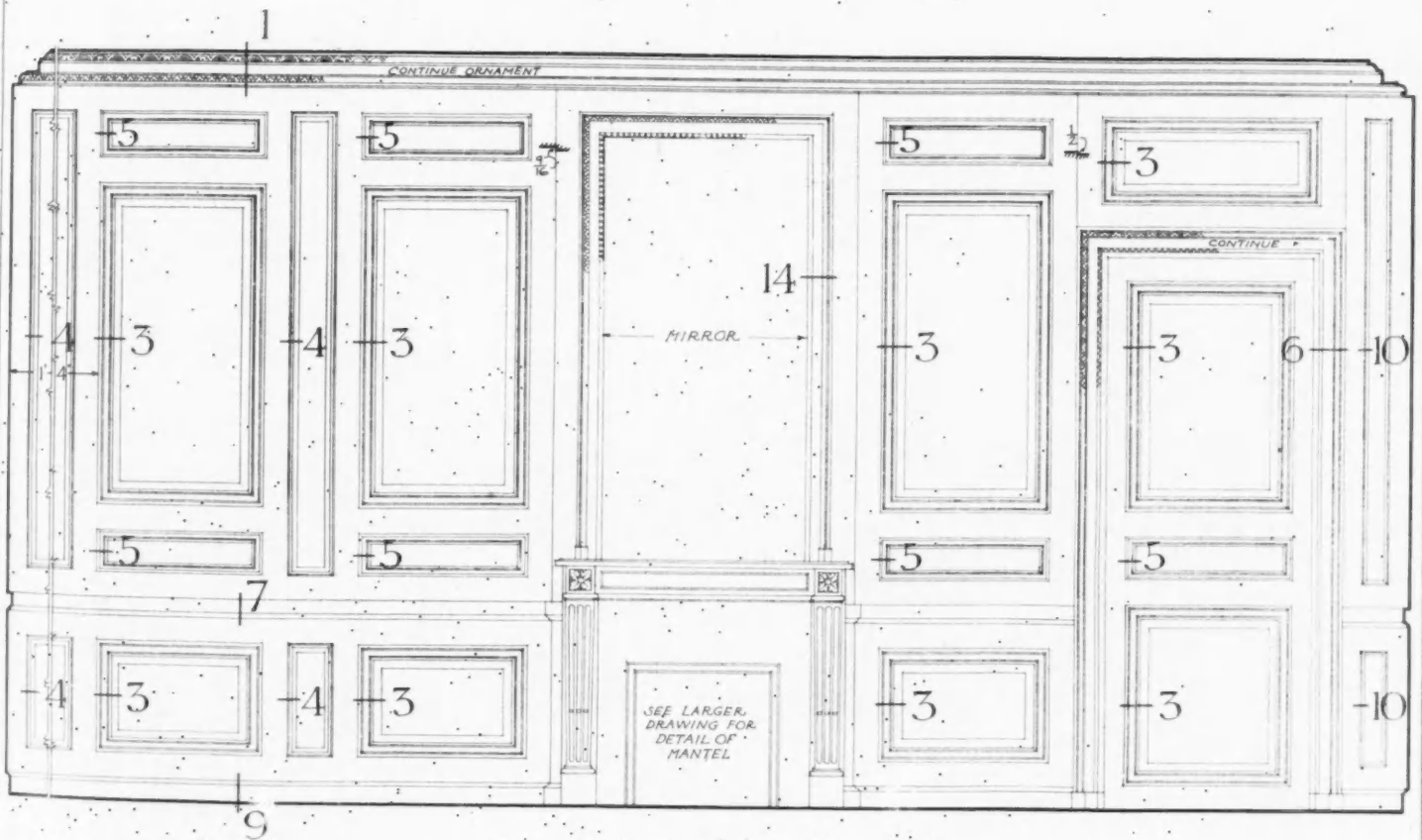


Photos. Paul J. Weber

DETAIL, THE DAUPHIN'S BEDROOM, COMPIEGNE
THE FORUM STUDIES OF EUROPEAN PRECEDENTS



ELEVATION "B~B"



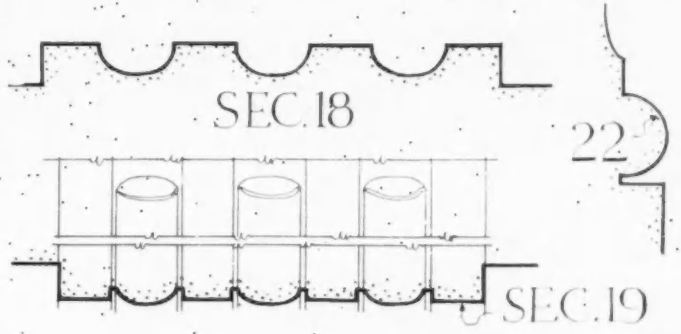
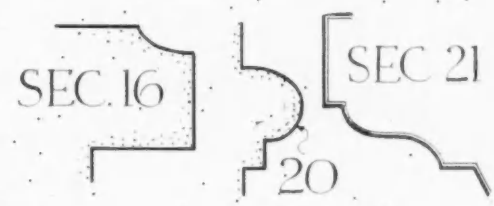
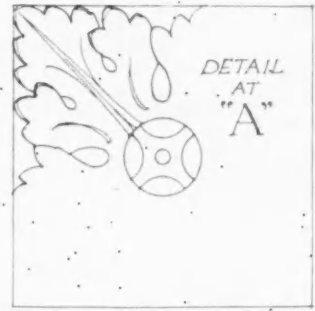
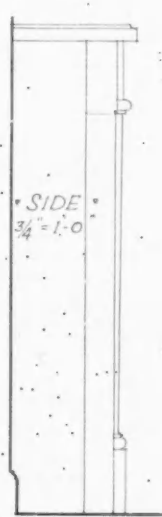
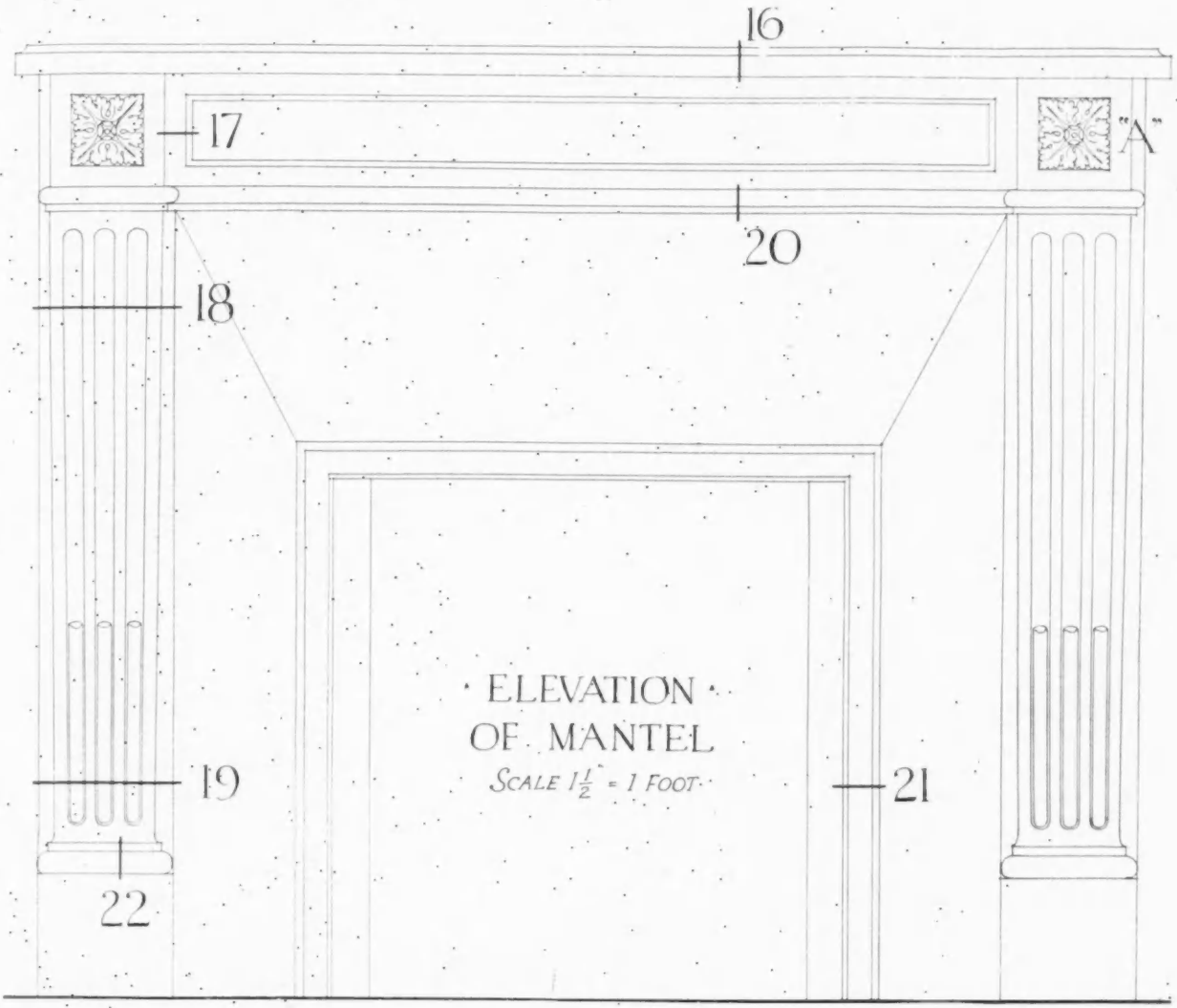
ELEVATION "A~A"

Scale $\frac{3}{8} = 1$ Foot

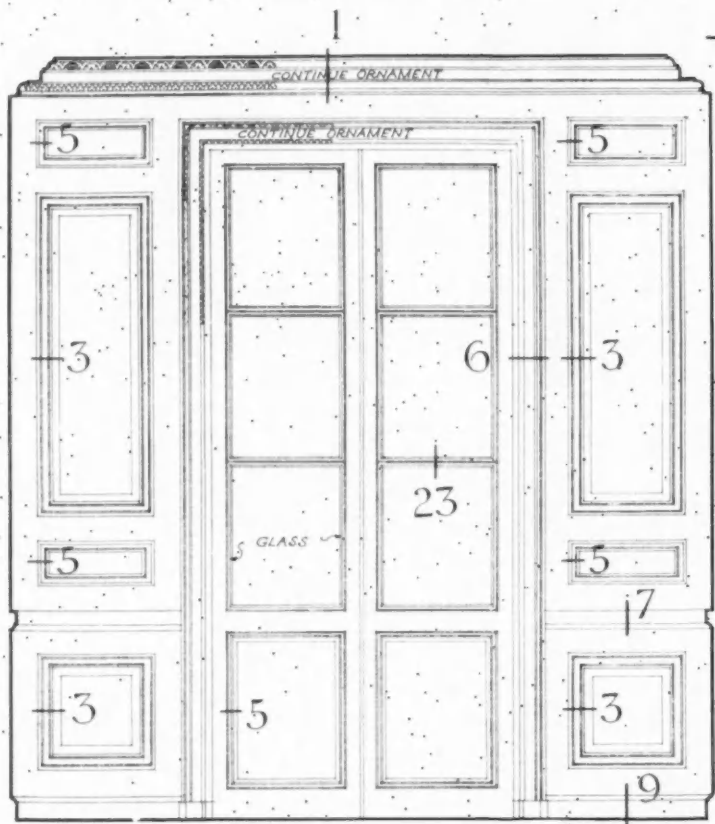
DAUPHIN'S BEDROOM
COMPIEGNE



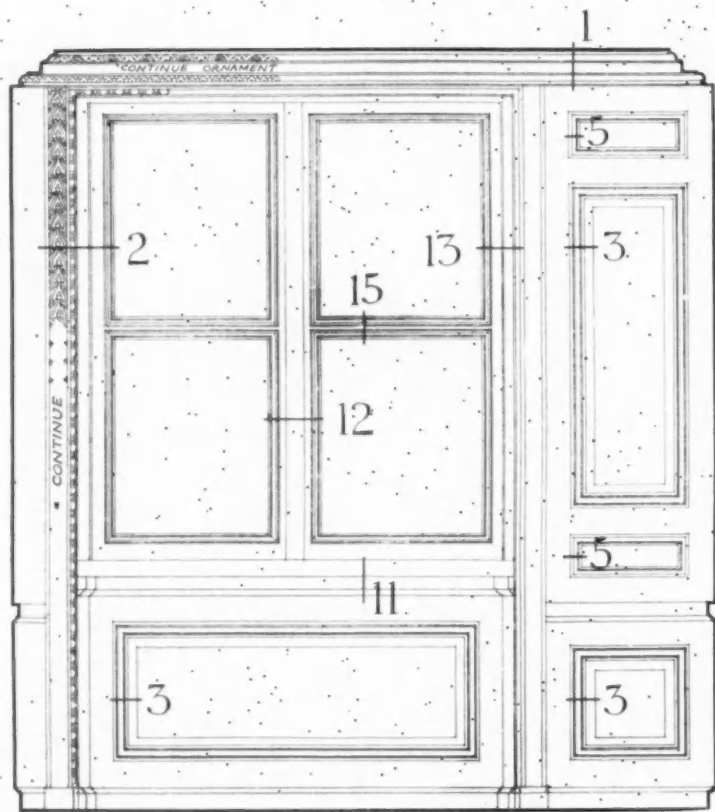
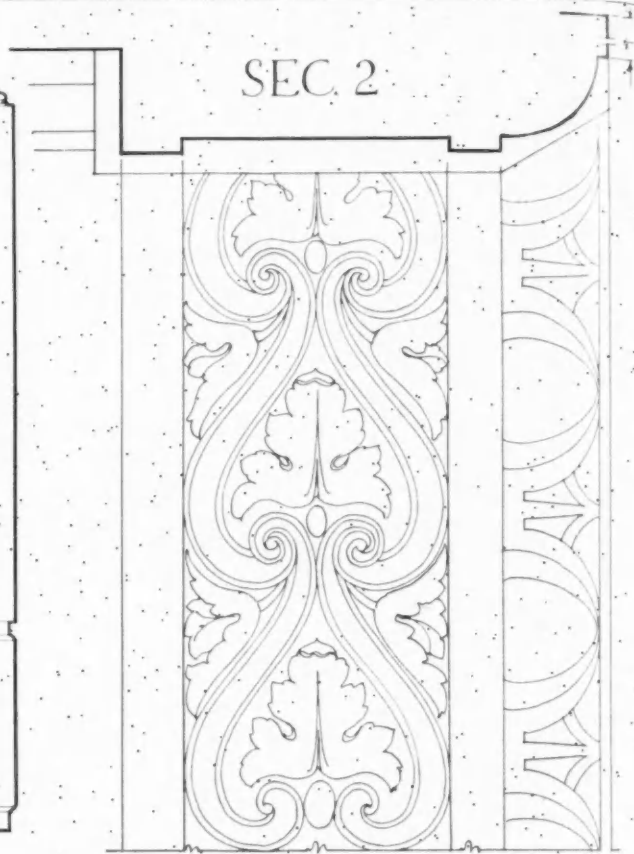
MANTEL, THE DAUPHIN'S BEDROOM, COMPIEGNE
THE FORUM STUDIES OF EUROPEAN PRECEDENTS



DAUPHIN'S BEDROOM
COMPIEGNE



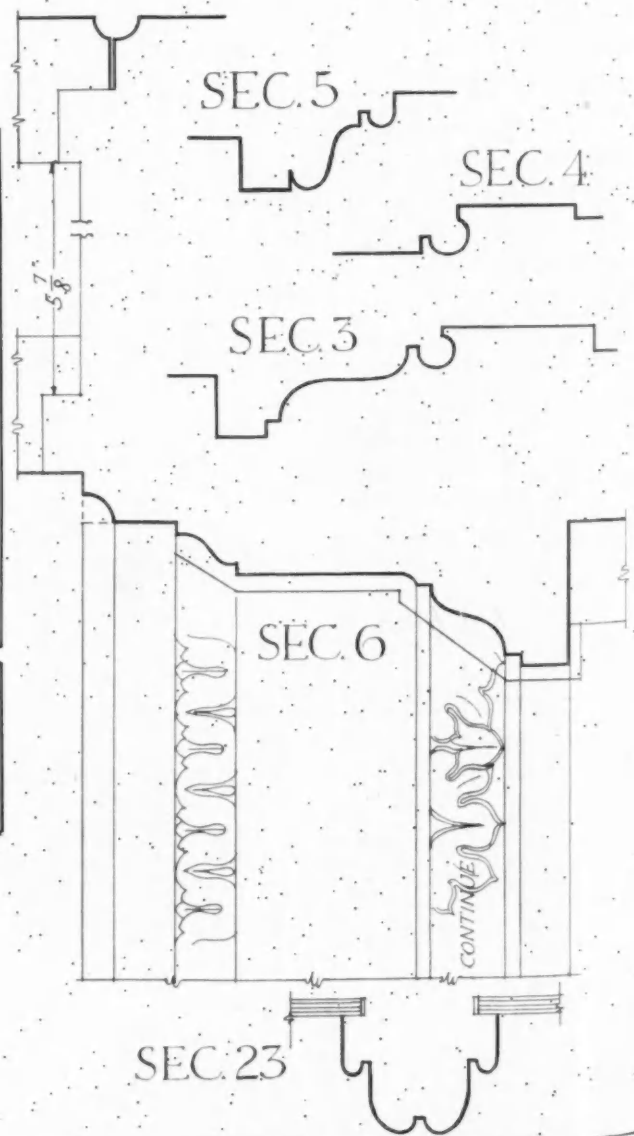
ELEVATION "D~D"

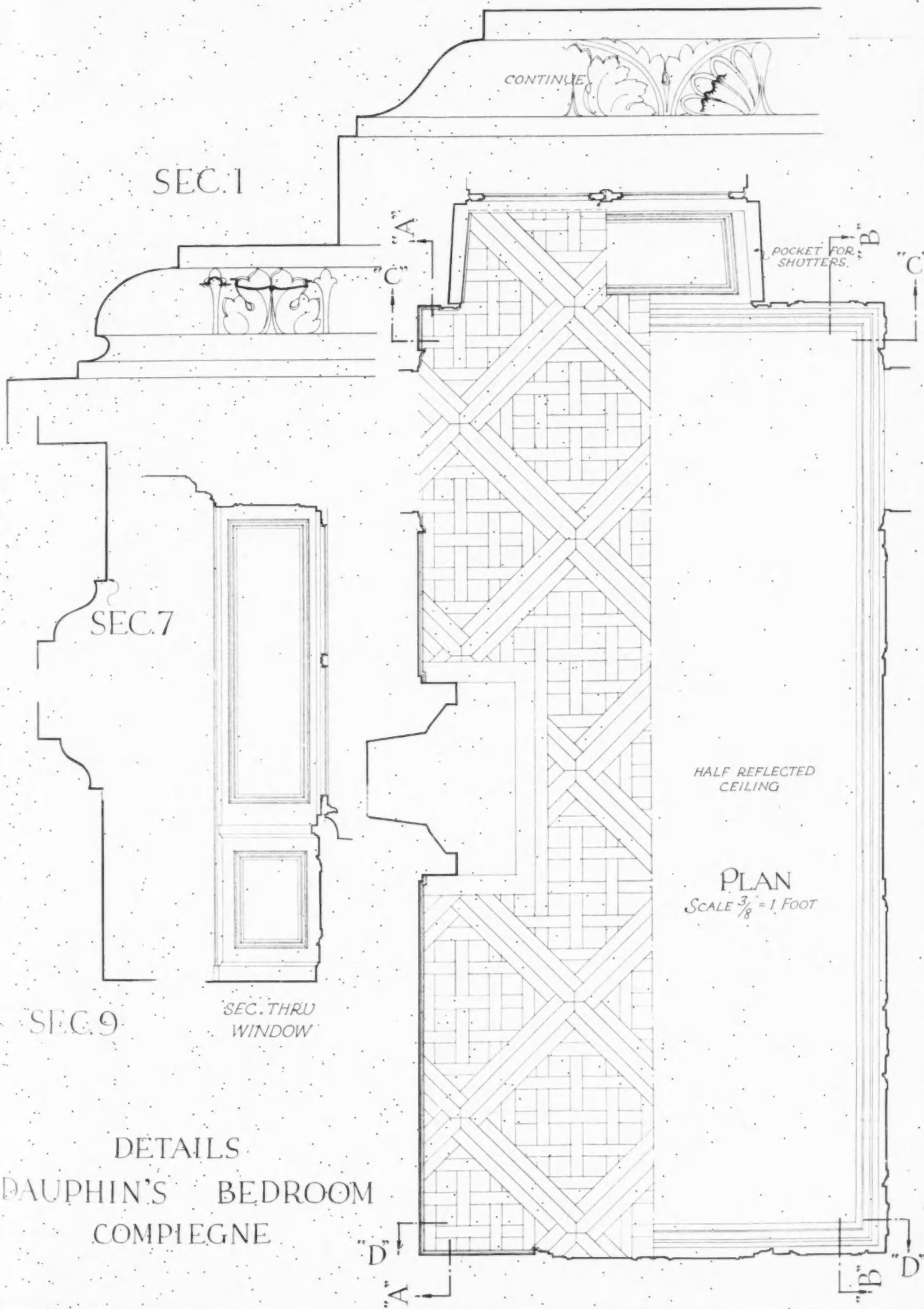


ELEVATION "C~C"

Scale $\frac{3}{8}$ " = 1 Foot

DAUPHIN'S BEDROOM
COMPIEGNE





SEC. 1

CONTINUE

POCKET FOR SHUTTERS.

SEC. 7

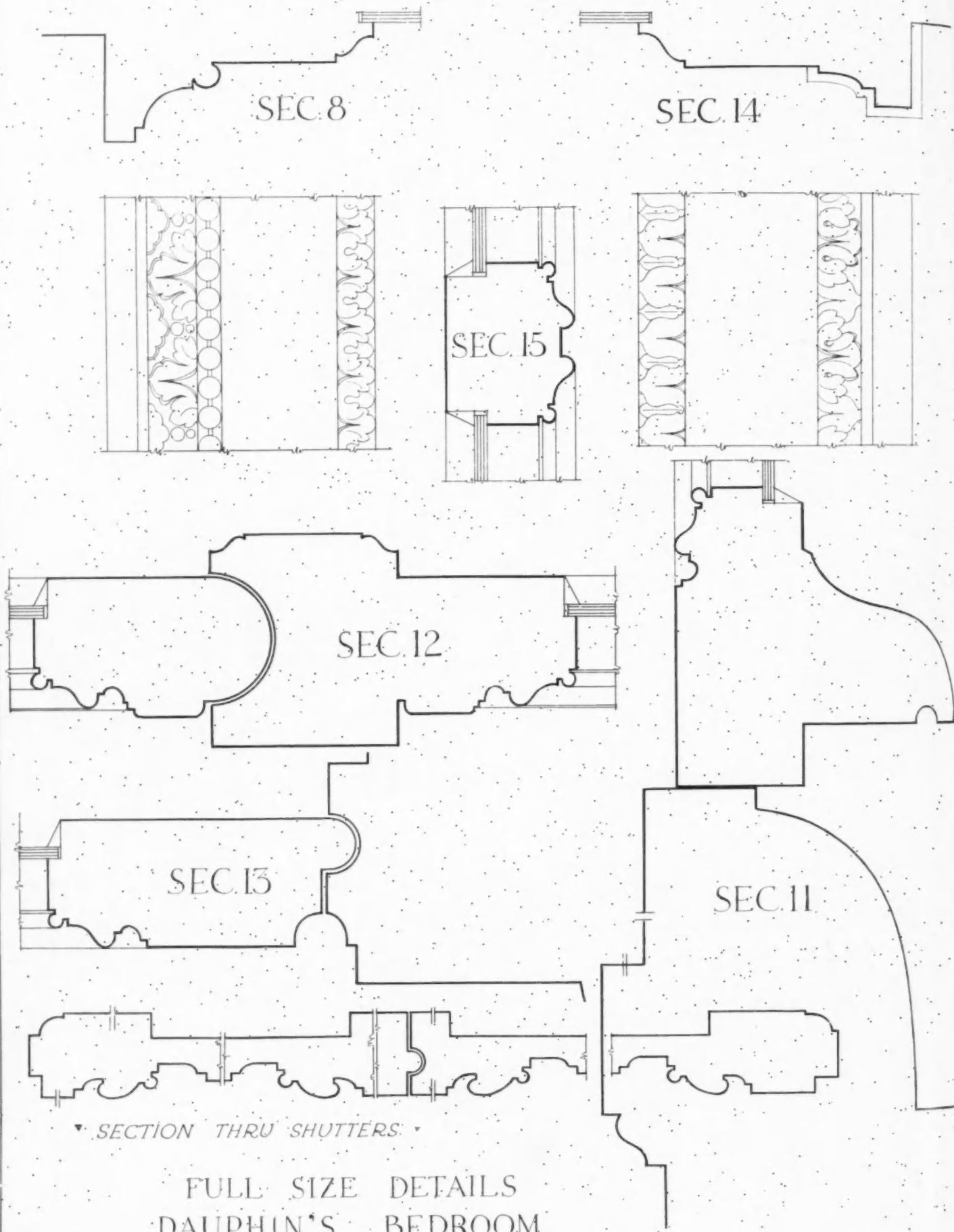
HALF REFLECTED CEILING

PLAN
SCALE $\frac{3}{8}'' = 1 \text{ FOOT}$

SEC. 9

SEC. THRU WINDOW

DETAILS
DAUPHIN'S BEDROOM
COMPIEGNE



SECTION THRU SHUTTERS

FULL SIZE DETAILS
DAUPHIN'S BEDROOM
COMPIEGNE