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VAUX-LE-VICOMTE

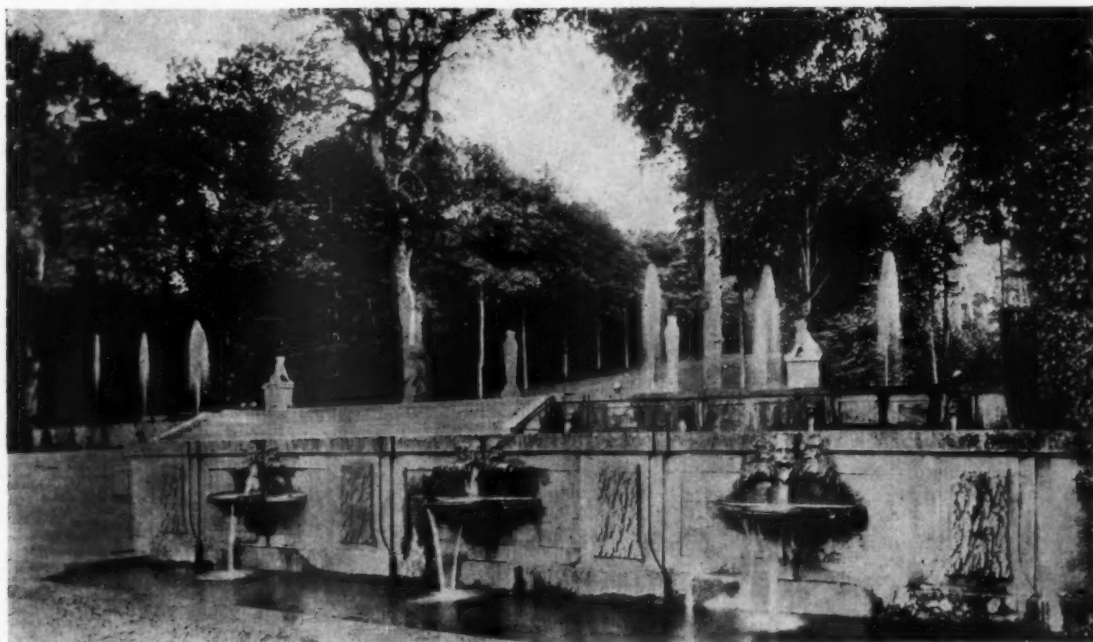
BY P. H. ELWOOD, JR., *Professor of Landscape Architecture, Iowa State University*

OF all the beautiful estates in France, Vaux-le-Vicomte near Melun is surely one of the finest and one of the best preserved owing to the care lavished on it by the owner, Monsieur Alfred Sommier. The following short history will show how the estate came into the hands of the Sommier family.

Fouquet, superintendent of finance under Louis XIV bought the lands of Vaux in 1641. He wished to establish a "maison des champs," or country house, and had designed and built the chateaux and gardens which still exist today. He chose to guide him in his work a group of remarkable artists, justly considered great masters of French art, and whom later Louis XIV engaged for the construction and beautifying of Versailles. Louis Le Vau drew the plans for the chateau and Andre Le Notre is the author of the gardens and the environs. The chateau which was begun in 1656, was finished together with the grounds in 1661. Lavish entertainments were given there,

but one especially should be mentioned which was given in honor of Louis XIV and of the Lords and Princes of the Court on the 17th of August 1661. It lasted, as we know, the whole of the late afternoon and all night and finished with fireworks and the illumination of the chateau and grounds. During this festival Moliere and his comedians gave for the first time "Les Facheux." Less than a month later, Fouquet was arrested at Nantes because of alleged treachery and too great extravagance in his office as Minister of Finance, and was condemned to exile. But Louis XIV, finding the punishment too easy, had him imprisoned in the fortress of Pignerol in Piedmont, where he died in 1680.

After the downfall of Fouquet, the estate still remained in the family, but during this time, statues and fountains were taken away to adorn the gardens at Versailles and even trees were dug up and transplanted to the Tuilleries. In 1705, the Marshall of Villars bought Vaux-le-Vicomte,



FOUNTAIN TERMINATING CROSS AXIS

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where he later received Louis XV and the Queen Marie Leeczinska. He sold it in 1764 to the Duke of Choiseul Praslin and finally, in 1875, the estate was bought at public auction by Monsieur Alfred Sommer, the father of the present owner.

The first act of Monsieur Sommer was to reconstruct the grounds as they were originally designed by Le Notre. By the help of pictures and engravings by Israel Sylvestre and Perelle and through the enlightened co-operation of the landscape architects, Laine and A. Duchene, this reconstruction was executed and in 1904 Monsieur Alfred Sommer had the pleasure of seeing the work in the gardens complete. In the chateau itself are many excellent paintings by Le Brun and wonderful tapestries designed by that master for Fouquet. The furniture in fine design is by Boulle and the sculptures are by Houdon.



THE CHATEAU FROM SOUTHWEST

Le Notre was already known and highly esteemed when Fouquet entrusted to him the design of the grounds of Vaux, but he was not yet famous. He found at Vaux-le-Vicomte the opportunity to create his first great work of art. For the first time he used, with a perfection which is typical of his work, the essentials of the French garden; flowered parterres, em-

broideries, tapis verts, extensive water effects, grottos and statues. He knew how to divide these different elements with a sense of proportion, harmony and sureness of taste which are characteristic of his genius, and denote the master artist.

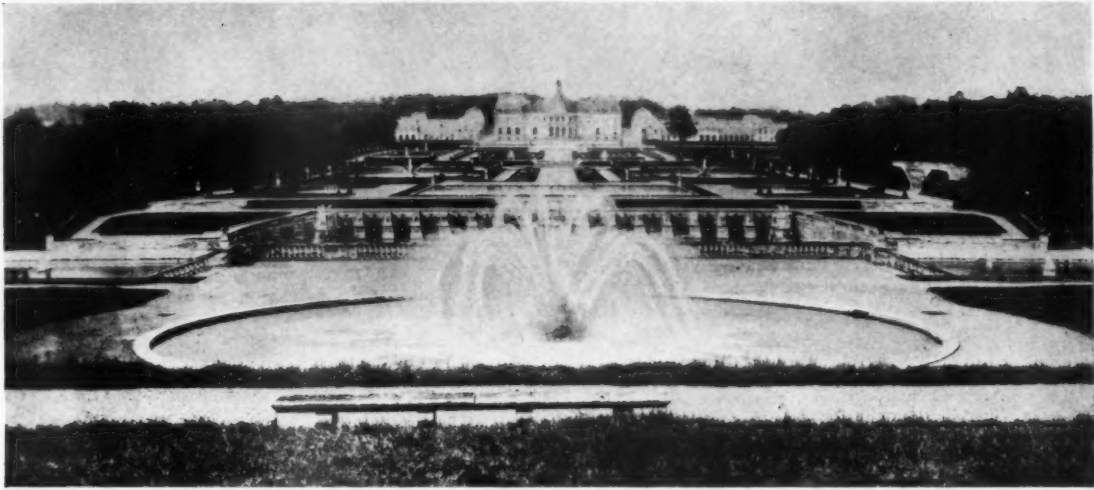
The arrangement of the fountains remind one of the Villas Albani and Borghese in Rome and the perfect manner in which Le Notre developed shaded alleys and bosques shows marked Italian influence.

Here we find a splendid adaptation of the art



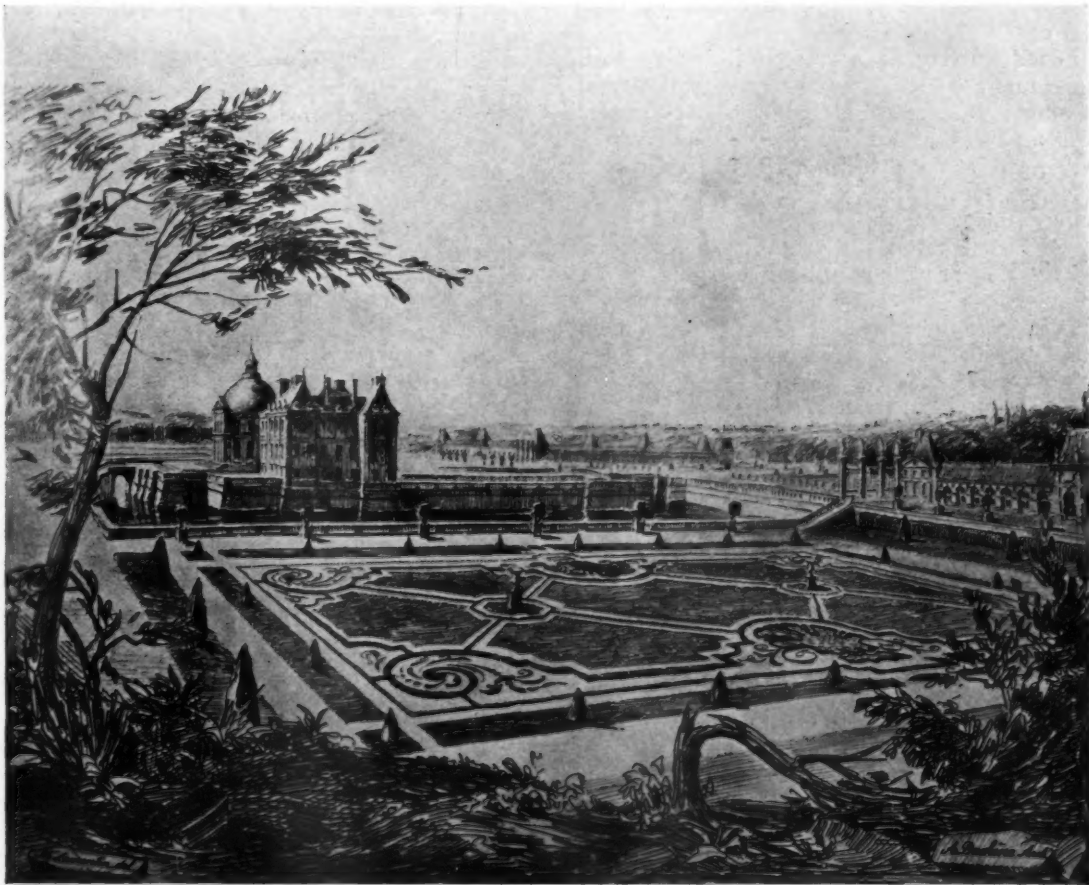
GARDEN AT LOWER LEVEL, EAST OF MAIN AXIS

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THE ENSEMBLE

It was here that Moliere entertained Louis XIV and his Court



UPPER PARTERRE FROM THE EAST, SHOWING STABLES AND FORECOURT IN DISTANCE

A masterpiece of harmony and soul inspiring beauty created by the collaboration of Le Vau, Le Brun and Le Notre

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VIEW LOOKING SOUTHWEST



UPPER PARTERRE, EAST OF CHATEAU

of Italy to the life and physical conditions of France.

It is possible to encircle the entire gardens without emerging into the summer sunshine, at times through formal clipped yew alleys, then again following the sweeping curve of an informal woodland pathway. The main paths are so broad that carriages can traverse the main gardens and completely explore the fine wooded slopes at the far end of the main axis.

Le Notre very cleverly adapted his plans to the topography which slopes from the north and the south toward the gentle valley of the Anqueuil which forms the most important of the three transverse axes of the gardens and is now occupied by the long canal of the "Poele" one kilometre ($\frac{5}{8}$ mile) long.

Of the other transverse axes the one at the base of the chateau terrace extends between the high parterres and the vast embroidered parterres below and is terminated at each end by a large marble group the "Rape of Dejanire" and the "Rape of Europe."

The central transverse axis is intersected by the round pool in the center of the main (north and south) axis and is terminated on the west by the vegetable garden where the chief gardener Mr.

Charvet with twenty-two helpers cultivates splendid orchids, carnations, cyclamens, begonias, besides espalier fruits. The grounds are kept immaculate by the same force who are very much concerned with the perfection of every detail.

On the eastern terminus of this axis, opposite the kitchen garden entrance is the water gate, where amid fountains and statues Moliere on the 17th of August 1661, entertained Louis XIV and his court.

On the south side of the intersection of the main axis and the long canal in the valley there is a very clever treatment of broad stairways on either side of a grotto with statues of the rivers "Tiber" and "Anqueuil."

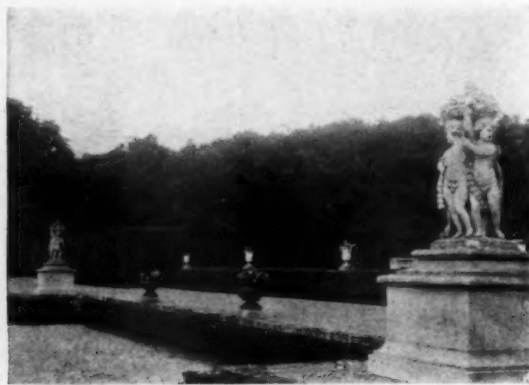
Facing these on the north side of the canal are two groups of sea horses by Lanson. Further on toward the south is a wide slope at the summit of which is a heroic gilded lead Farnese Hercules.

The chateau with its dome dominates the central architectural group which is elongated on either side like wings by the farm and service buildings. The parterres and gardens descend to the "Poele."

Here is a masterpiece of harmony and soul inspiring beauty created by the collaboration of three great artists Le Vau, Le Brun and Le Notre.

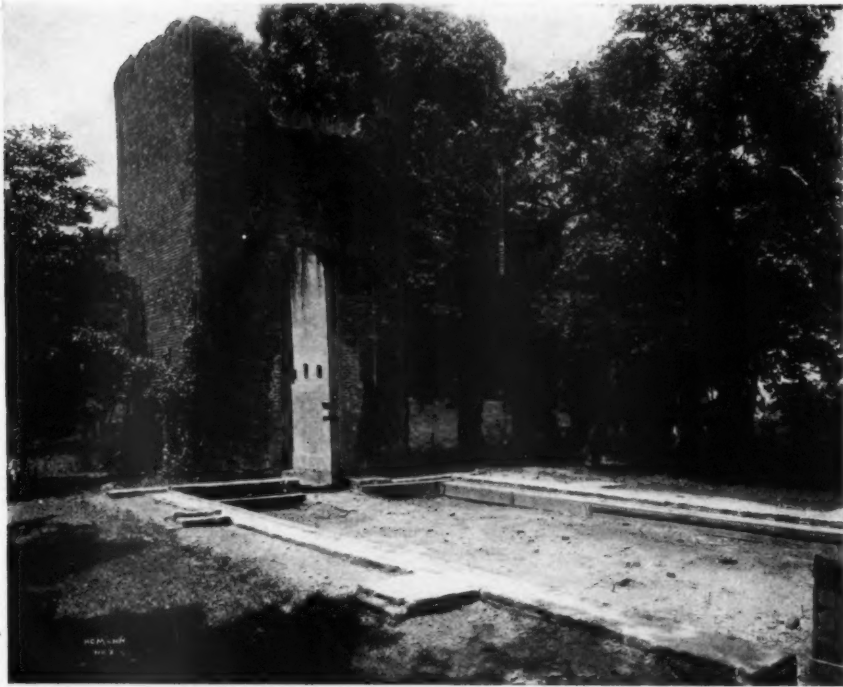


VIEW FROM KITCHEN GARDEN ALONG MIDDLE AXIS



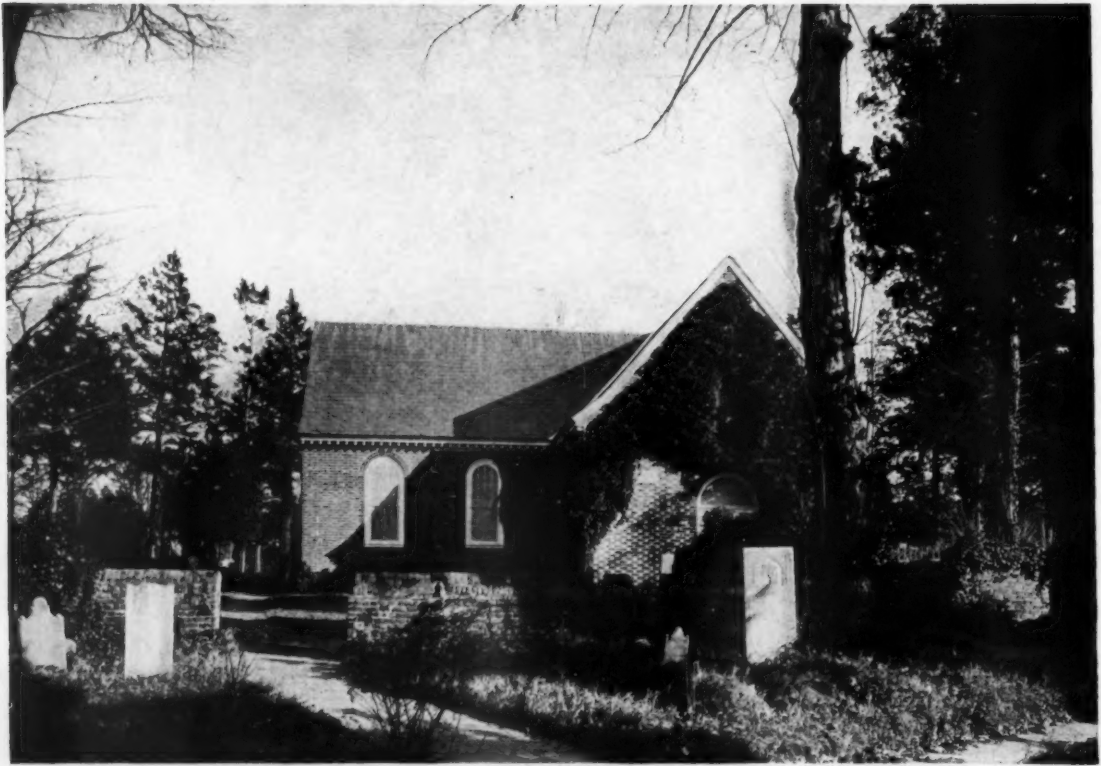
GARDEN DETAIL SHOWING HANDLING OF SLOPES

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THE RUINED TOWER AND THE RESTORED CHURCH AT JAMESTOWN, VA.

(From a series of historical photographs issued by the Virginia State Chamber of Commerce)



BLANDFORD CHURCH, PETERSBURG, VA.

(From a series of historical photographs issued by the Virginia State Chamber of Commerce)

DONN BARBER, F. A. I. A.

1871-1925

DONN BARBER was American in every sense. Descendant from Thomas Barber, one of the first of the men to settle in New England, he could with accuracy trace an unbroken descent from 1634. His early training and his subsequent useful and fruitful life, accented in the highest degree those sturdy qualities that are the very essence of the characteristics of the founders of this country.

As in stature, in physical aspect, so in his mental personality, he was strong and sturdy, wholesome and gentle, well bred and a man to tie to. His passing is a very serious loss to a large circle, not only in his own profession, but in the social life of this city. Barber was a forceful man, and competent.

Donn Barber's death at the comparatively early age of 54 is a calamity, and a pathetic thing to contemplate. His last appearance in public was probably at the luncheon on the last day of the recent convention of The American Institute of Architects. Severely suffering at that time from the malady that later caused his death, he made a most stirring address and the response clearly showed the great respect and affection in which he was held. But a few days before his death

he was unanimously chosen as president of The Architectural League of New York, and almost on the day of his death the fund of \$2,000,000 was completed, with which to erect the Broadway Temple, New York, that Barber had designed and which in its every aspect reflected the finest expression of his art as an architect.

It is pathetic that he died when he was at the very zenith of his power. It is not possible exactly to state the real loss of such a fine personality to the profession of architecture. It is quite certain that as time passes and the calm judgment of his peers is given, that Barber's name will be written high on the list of the men who have

made these United States justly famous as the embodiment of the finest architectural development.

Born in Washington, D. C., in 1871, Donn Barber prepared for college at Holbrook Military Academy at Briarcliff, N. Y. He was graduated from Yale in 1893 with the degree of Ph.B., and after a special course in architecture at Columbia, went to Paris where he entered the Ecole des Beaux-Arts. Three years later he received his diploma. He was the ninth American student to secure that distinction. After an extensive tour of Europe he returned to the United States and entered upon

the work of his profession. The history of his professional employment begins with his entry into the office of Carrere & Hastings, and later in the offices of Cass Gilbert and Lord & Hewlett. He commenced practice on his own account in 1900, and up to the time of his death his professional career was marked by continued and brilliant successes.

Donn Barber was one of the earliest promoters, if not the originator, of the atelier system of architectural education in this country. In spite of the exactions of a large practice and the great demands on his time by reason of his



DONN BARBER, F. A. I. A.

many activities, he was always earnestly supporting every project to improve the standards of architectural education in the United States.

His participation in the council of organized architecture in this country constitutes an important part of its history. In every position in which he was placed by his fellow members of The American Institute of Architects who were proud to honor him, he gave the best he had.

It is significant of Donn Barber's wide popularity and the high esteem in which he was held, that many editorial expressions of appreciation of his art have been published in the daily press. The Hartford Times describes the important work

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by Mr. Barber in that city and concludes a fine eulogy as follows:

"His chief personal characteristic was his sunny disposition. He had acquired the habit recommended by Chauncey M. Depew of seeing something pleasurable or humorous in the incidents of each day's work and recounting it with a relish to his friends. He was not only of an agreeable disposition but was most considerate of those with whom he came in contact. His was a friendship to be valued."

The *New York Times* regards his work as "majestic achievement" and states:

PARIS WIDENS BOUNDARIES

THE first step in the creation of a greater Paris was realized recently by a ministerial decree, incorporating the famous Bois de Boulogne, with its two racetracks, Auteuil and Longchamps, in the City of Paris.

Paris has owned the Bois many years but it has always remained politically attached to the Commune of Boulogne. Under the new status the finest park in France is incorporated in the Auteuil Quartier which thus becomes the largest in the city.

The number of inhabitants of Paris is not increased by this territorial enlargement, but it is hoped later to extend the city in other directions.

ROMAN AMPHITHEATRE FOUND NEAR COLLAPSE

THE ruins of the famous Roman amphitheatre at El-Diem, which rivals the Coliseum in size, were preserved for the world from the further ravages of time when filmed recently from every viewpoint by the Franco-American Expedition's movie operator. The amphitheatre, which is 490 feet long, 400 feet wide and 120 feet high, rises in a melancholy solitude on the plain from which all other traces of the once populous Roman city which filled its 60,000 seats have disappeared completely. The squalid Arab village—built around it largely from its stones—makes it now seem more gigantic than ever. The amphitheatre is in a better state of preservation than the Coliseum, especially the arena which is almost perfect; but the members of the expedition who climbed its sometimes straight stone walls to the very top, closely inspecting the whole structure, found it was rapidly deteriorating. The keystones in many of its thousands of arches are slipping and new fissures are appearing in the vaulting, many parts being dangerously near falling.

To reach the top of the wall they had to cross a thin vault of rubble construction, not three inches thick, bridging an abyss ninety feet deep—

"It was a unique quality of his achievements that they were undertaken with the far-reaching idea of aiding humanity to the greater joy of living."

Donn Barber's success in his profession was based on something more than technical and professional proficiency. Everything he designed seemed to have a real purpose, and that purpose the betterment of his fellowmen. His was a far-seeing vision. The great regret is that he did not live to see the culmination of the great projects he had but begun and on which he had bestowed years of study with a mind trained to the best and highest architectural experience.

the only thing still connecting the walls of the amphitheatre and the upper balconies. Unless some repairs are executed it is feared that each year will leave less standing. For this reason the expedition took pains to preserve the present aspect in moving pictures.

ARCHITECTURE AND LITERATURE

IN an ingeniously reasoned article in "T. P.'s and Cassell's Weekly," Hesketh Pearson makes out that architecture has a dominating influence over literature; that writers are more or less at the mercy of the buildings in and amid which they work, states *The Architects' Journal*, of London. "Consider," he says, "the dignity, refinement, and air of breeding about all the architecture of the time of Queen Anne. Can one question that it produced Addison, Steele, and Pope? Then think of Dean Swift, who was a contemporary of Pope's. Where did he cultivate that violent outlook? Obviously in Dublin, where the streets even today shock the eye. The ponderous style of Johnson faithfully reflects the ponderous style of Georgian mansions. Dickens and Thackeray were literally inoculated by, respectively, the City and Mayfair." It is an ingenious theory, which holds only a certain amount of water; for example, all the literary men of the eighteenth century are not such heavy stylists as Johnson. And how often did Johnson resort to the "ponderous mansions?" Was he not much more frequently to be found in the joyous taverns of Fleet Street? Yet these same taverns completely failed to impart anything of their gaiety to his literary style. Environment may have a great influence over the development of character, but it is not necessarily a dominating influence. Men may and do rise above it. Also what is depressing to one may be inspiring to another. However, this is no argument for the perpetuation of poor architecture. Let architecture flourish, and with it let Mr. Pearson's vision of a fine urban literature be realized.

ROSEMARY HALL—A SCHOOL for GIRLS, at GREENWICH, CONN.

THEODORE E. BLAKE, Architect

AT the very outset, the architect of this interesting group of school buildings was urged to bear in mind that he must more or less disregard the traditions that up to that time had controlled similar institutions. Those promoting Rosemary School were people who had visions of the future. The broadening field of women in the life of the nation was at that time fully sensed, and it was stoutly maintained that the girl student of that period would, as the woman of the future, need to have in addition to a thorough mental equipment, also as fine a physical condition as it was possible to secure.

The dreams of two and perhaps three decades ago, have become actualities. The type of young girl, just rounding into womanhood that we were familiar with through such writers as Charlotte Bronte, too insipid, too unsophisticated and too physically unfit to take her station in the world has disappeared, in a world, as far as woman's status is concerned, very greatly removed from the mid-Victorian era. When we quoted *mens sana in corpore sano*, we associated it with the male sex, but the farsighted people who were mapping

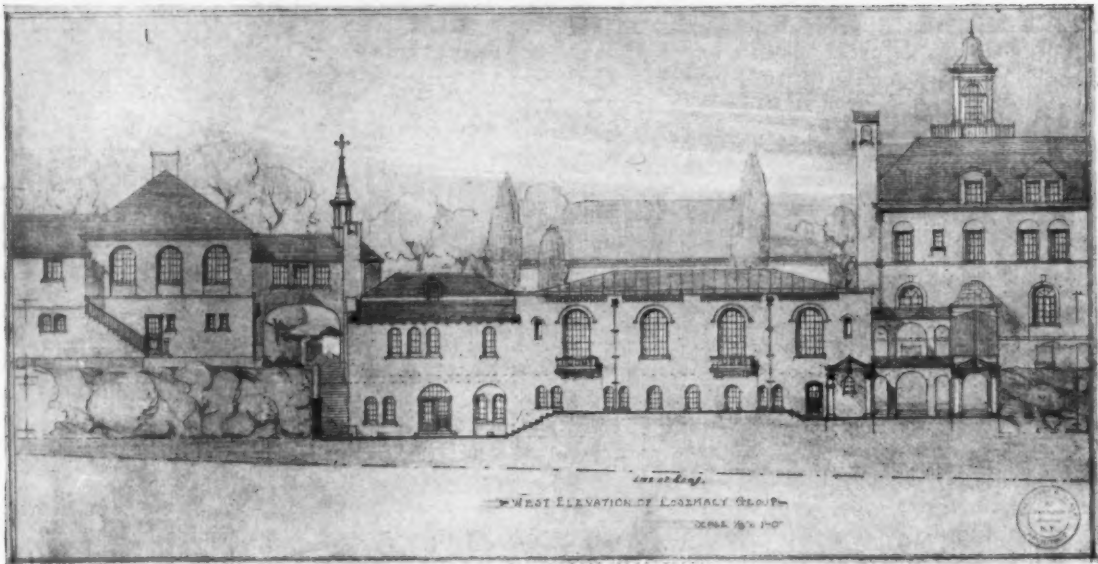
the destinies of Rosemary School felt that in the case of their students, a sound body was as essential as a sound mind. It took a clear-headed point of view for a group of educators to foretell that women within a quarter century would be as strenuously in the field of every endeavor as men, and it also took courage to expend the time and money in preparing a group of buildings of a type and character that, instead of becoming obsolete and void of proper equipment and arrangement, would be found to be as thoroughly up-to-date as if but recently planned.

Architects have various problems to solve, mostly of the sordid, commonplace type, where the insistencies of clients, thoroughly commercial in point of view, stand squarely against any innovation that does not yield an adequate income for every square foot of area. In a scheme of this sort, the architect finds not a task, a "job," but a problem that he can regard as a mental stimulus and one that daily presents the most attractive possibilities.

If space permitted, it would be interesting to note the development and steady growth of this



THE COMMONS



institution. It is, as now presented, the result of years of careful study to perfect an architectural whole in providing for the loss of certain buildings by fire, and for the lack of accommodation due to the steady growth of an unusual educational undertaking. The first noteworthy addition was the chapel, built by subscription from the old girls of the day in 1908, with Theodore Blake as architect. Successive generations of pupils have enriched this center of interest with many gifts, chief among them the memorial window, the work of the late Christopher Wahl of London, best

known for his windows in the Lady Chapel of Gloucester Cathedral, and in America only by two small windows in a church at Boston.

The following description of the plan and layout, furnished by the architect, will afford a general idea of the group as it stands today.

The plan, with its legend, gives the scheme of the buildings.

The Rosemary Dormitory was burned in the early winter of 1923. This building had been erected some twenty years ago, and while the fire came at a most unfortunate moment, still this loss

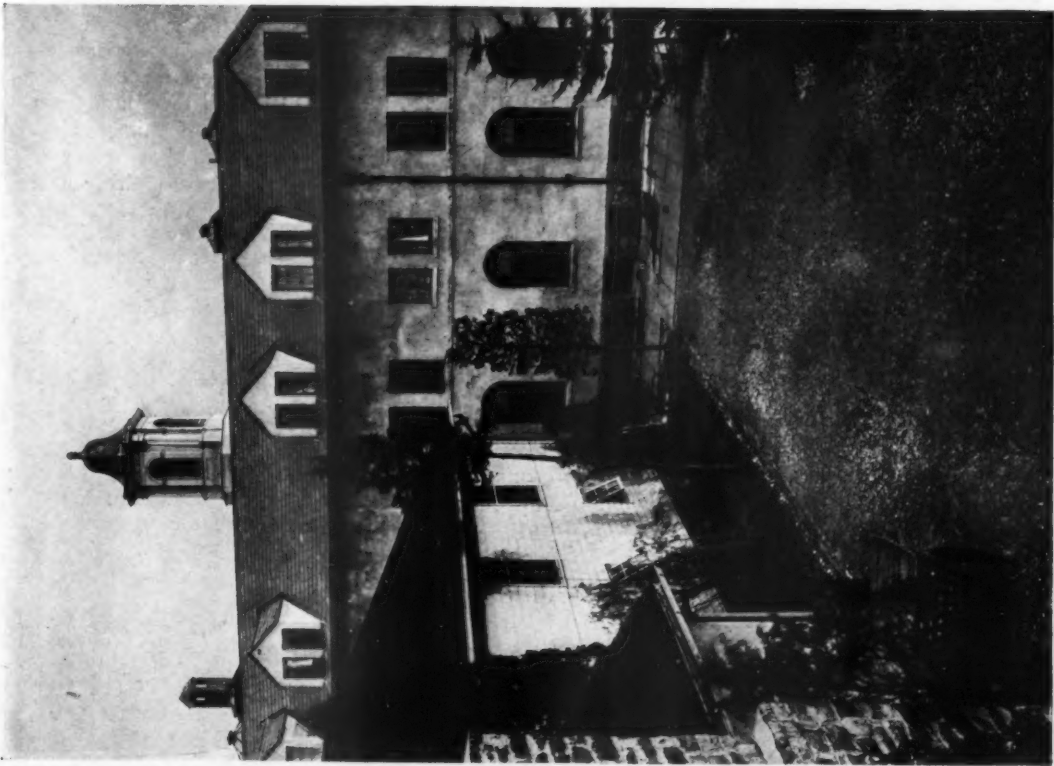




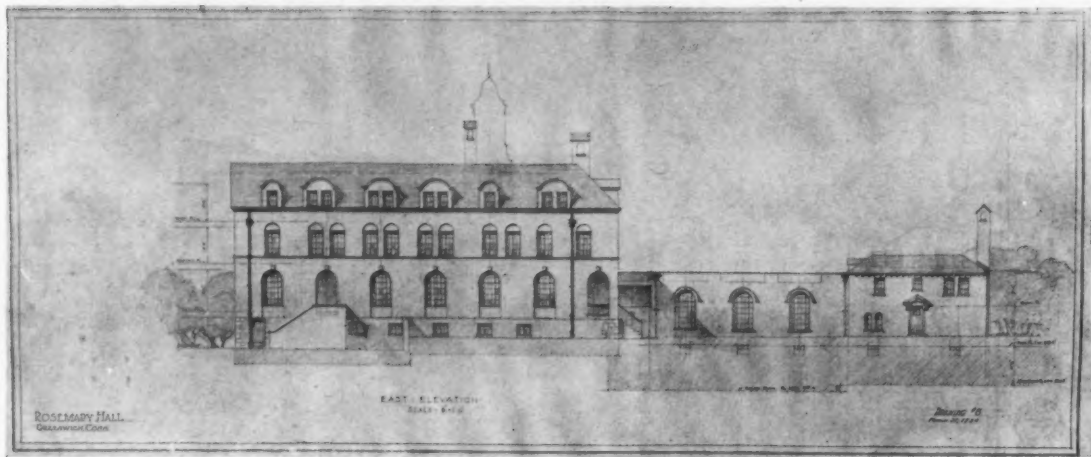
DAY SCHOLAR STUDY HALL

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

THEODORE E. BLAKE, ARCHITECT



NORTH SIDE OF DORMITORY BUILDING



EAST ELEVATION

afforded an opportunity to carry out a new group of buildings which had been planned for a number of years. With the growth of the school and modern needs an extensive study was made of the problem of housing the students and carrying on the activities of the school.

The construction of the new group includes a dormitory, dining hall, central heating plant, and the grouping together of the buildings with covered arcades.

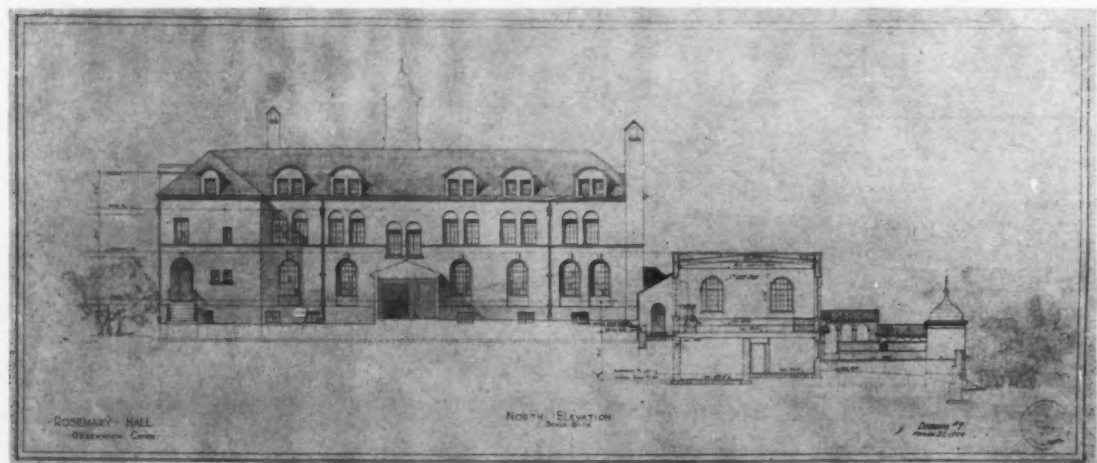
The dining hall building contains a large hall, 35 x 65, with a raised dais at the southerly end. At the northerly end are the serving rooms, scullery, kitchen, and bake shop. These rooms are on the main floor. At the northerly end of the second floor is a suite of bedrooms and baths.

On the ground floor are the sleeping quarters for the kitchen staff and engineers, music rooms, offices and central heating plant.

The entrance to the service portion is through a walled yard on the northwesterly side of the building. On the southwest are the entrances for information bureau, post office, etc., and another entrance to cloak room, dining hall and music rooms.

The dormitory is placed to the south and east of the dining hall and occupies the site of the old dormitory. It has a furnished basement, main floor and two bedroom floors.

The building is constructed with a court facing south. On the inner side of the wings are two flanking towers, which contain stairs for fire escapes. From the third to second floor is by means of ladder stairs, and from second to ground floor a flight of stairs. The solution of this problem was to have a covered fire escape and to serve two floors. In this problem a difficult architectural treatment has been solved successfully.



NORTH ELEVATION

THE AMERICAN ARCHITECT



SOUTH VIEW OF PREPARATORY SCHOOL

The basement contains locker rooms, wash rooms, retiring room, file rooms, and a large assembly room for moving pictures.

On the first floor are a large common room, library, teachers' rooms, class rooms and study room.

On the second and third floors are the bedrooms, linen rooms, baths and toilets for the students. On this floor also the matron has her

suite, and on the third floor is the housekeeper's suite.

The building has four staircases, including the fire escapes. The construction is fireproof. The roof is treated with a terrace, and in the center of it rises a cupola. This terracing of the roofs is a feature of the new group, so that there will be out-of-door spaces that may be used by the students. The general treatment of the buildings



DAY SCHOLAR STUDY HALL

THE AMERICAN ARCHITECT

is Italian. The walls are finished with stucco, slightly tinted.

Of the problems connected with the new main building, one of the chief was that of providing—the fireproof character of the structure notwithstanding—adequate and yet artistic fire escapes. The problem was most successfully met and solved by the fire escape turrets with staircases walled off from the sleeping rooms but accessible from each corridor. Far from being an unsightly adjunct these turrets form one of the most distinctive architectural features.

Very successful in effect also is the balcony, planned at the somewhat unusual elevation with safety in view for the occupants of the upper

story. The ironwork, both in the balconies, doors, and over windows, some of it old and some new, but all hand wrought and of good design, adds to the effect of beauty achieved.

The change from the school as it was first established in Greenwich a quarter of a century ago, to that now presented is the outward mark of a change inevitable in character. Rosemary School can no longer be, as originally planned, a school in the heart of the country with all the advantages of solitude and rusticity. It has, while preserving its essential principles and cherishing much of country life, taken to itself also the graces of the more sophisticated environment time has bestowed upon it.



THE LIBRARY



VIEW FROM WEST

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

THEODORE E. BLAKE, ARCHITECT

(See plot plan on back)

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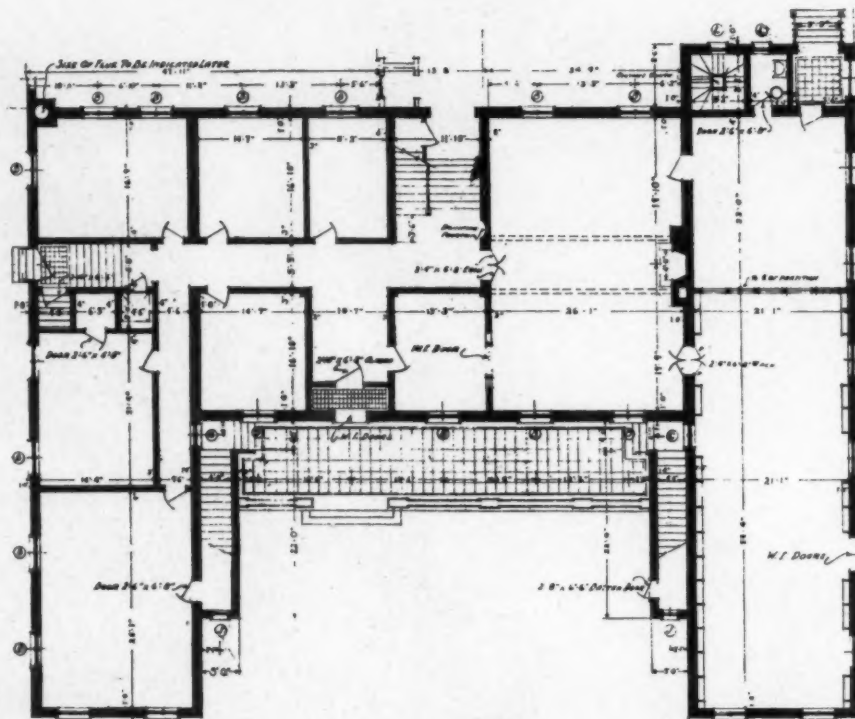
WEST ENTRANCE

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

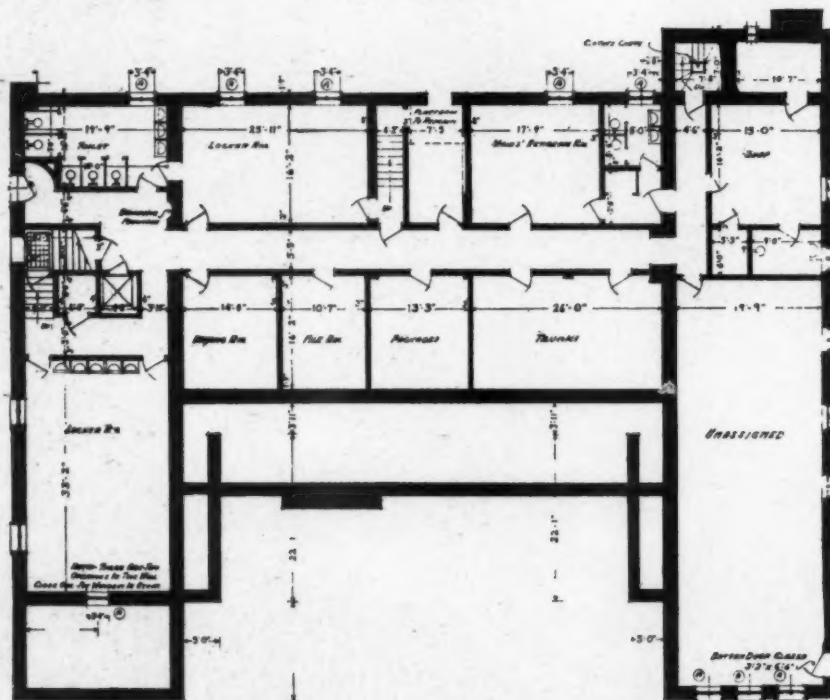
THEODORE E. BLAKE, ARCHITECT

(See plans on back)

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PLAN OF FIRST FLOOR



PLAN OF BASEMENT

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

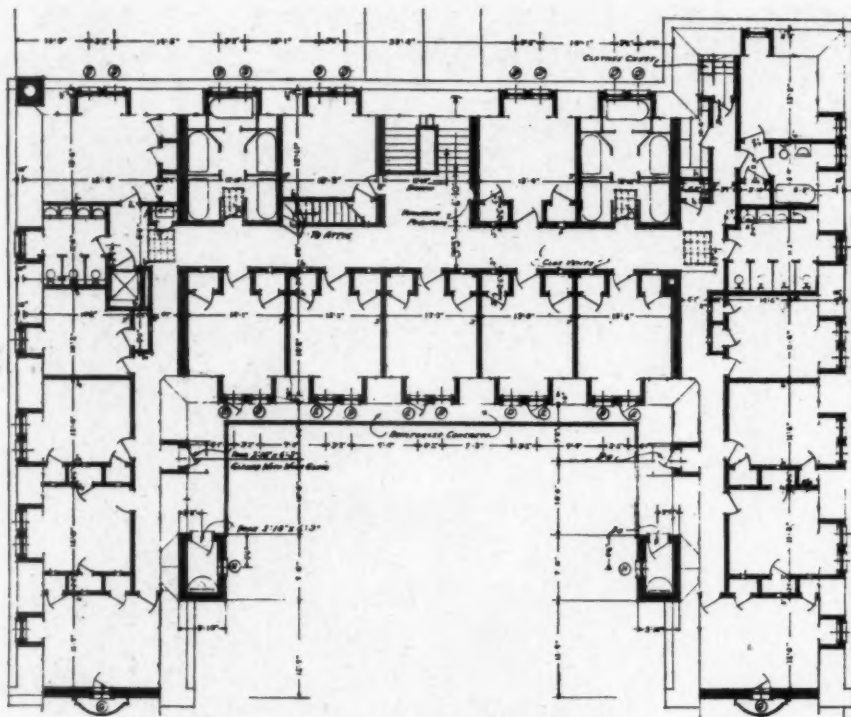
THEODORE E. BLAKE, ARCHITECT



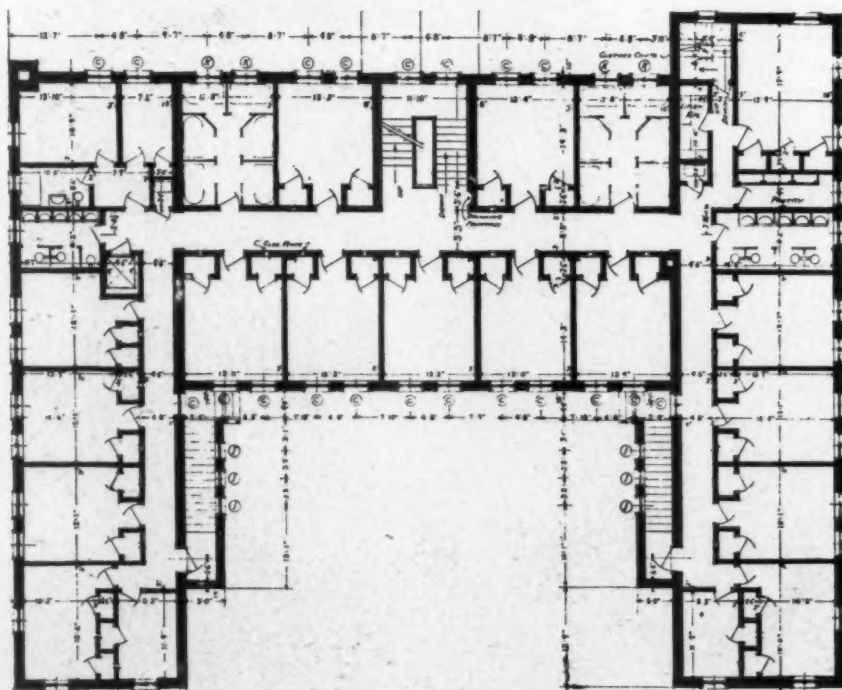
VIEW LOOKING ALONG WEST FRONT OF DINING HALL
ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS
THEODORE E. BLAKE, ARCHITECT

(See plans on back)

THE AMERICAN ARCHITECT
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PLAN OF THIRD FLOOR



PLAN OF SECOND FLOOR

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

THEODORE E. BLAKE, ARCHITECT



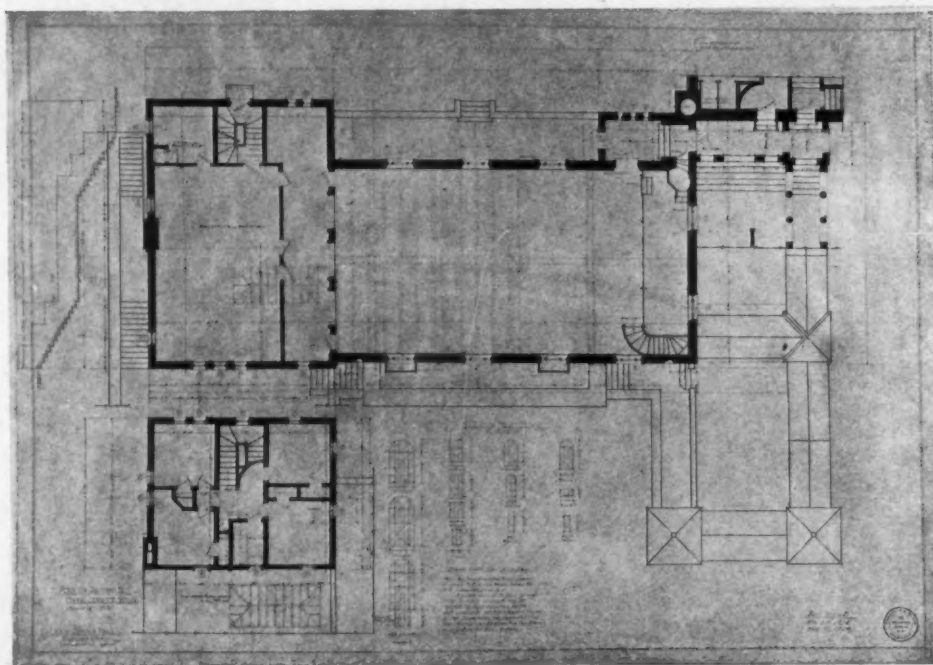
THE SOUTH COURT

Note treatment of fire towers to serve two upper floors
 ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

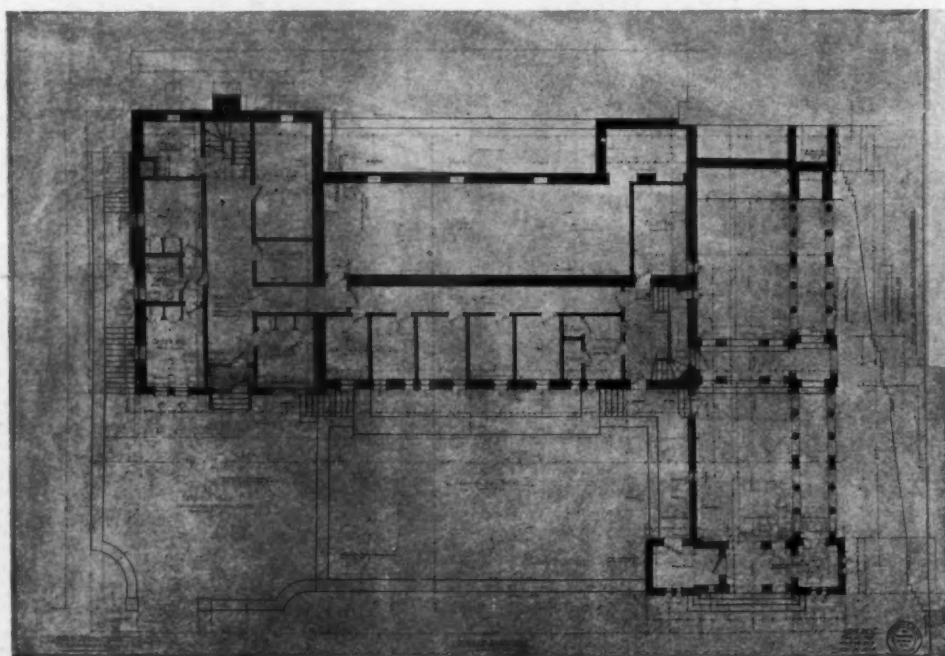
THEODORE E. BLAKE, ARCHITECT

(See plans on back)

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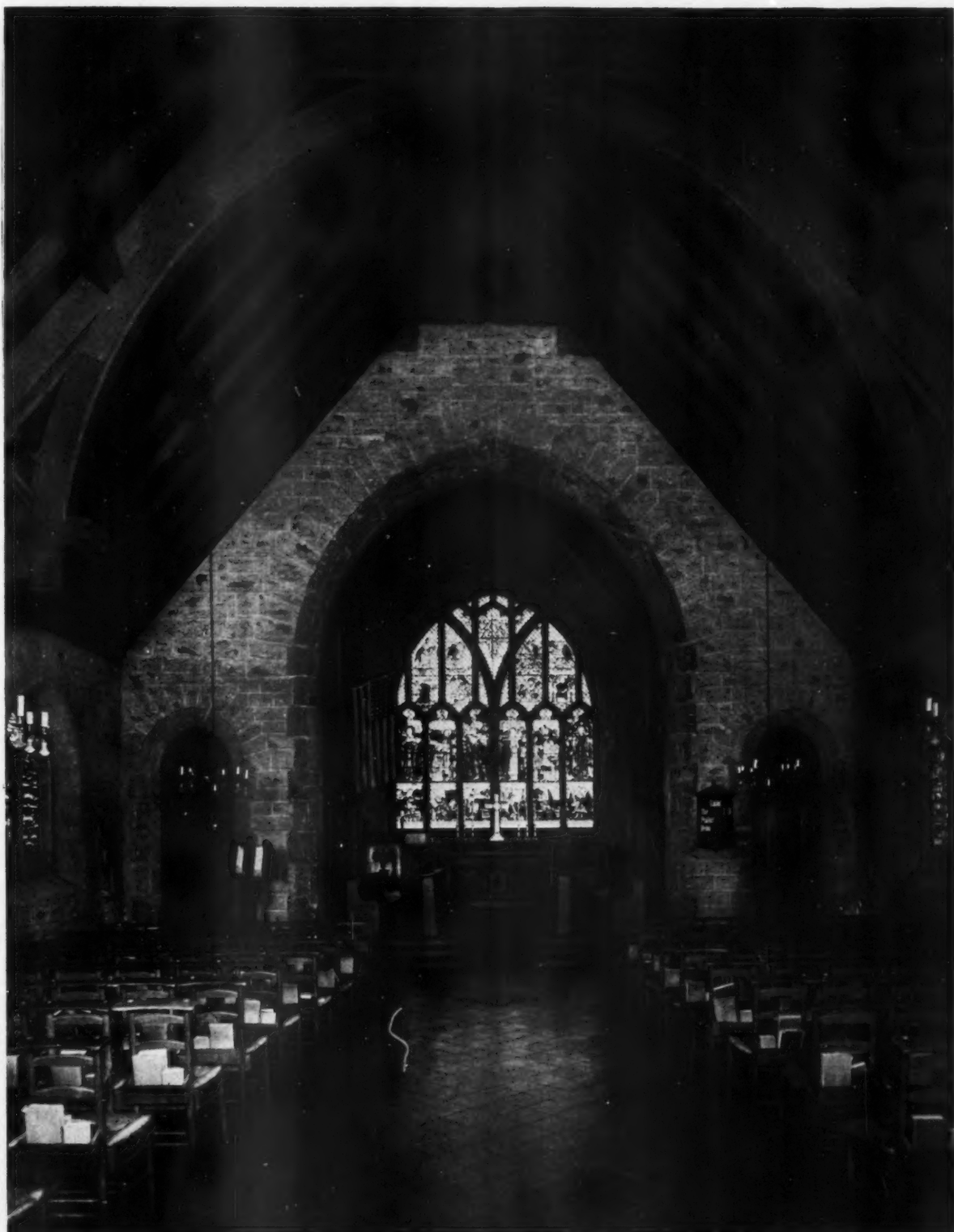
SECOND FLOOR PLAN OVER SERVICE WING, NEW DINING HALL



BASEMENT PLAN, NEW DINING HALL

ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

THEODORE E. BLAKE, ARCHITECT



CHAPEL LOOKING TOWARD ALTAR

The stained glass is by Christopher Wahl, of London, who also did Gloucester Cathedral
ROSEMARY HALL, GREENWICH, CONN., A SCHOOL FOR GIRLS

THEODORE E. BLAKE, ARCHITECT

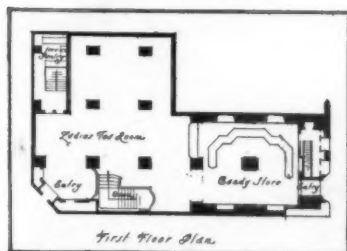
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INTERIOR ARCHITECTURE

Maillard's Restaurant, Chicago, Ill.

BUCHMAN & KAHN, Architects

FURTHER evidence of the tendency to create appropriate original designs instead of depending on so-called "period influence," so conspicuous in architectural and decorative designs in this country during the last decade especially, may be seen in the designs of the several rooms comprising the new Maillard restaurant, of which Buchman & Kahn were the architects, in the Straus Building, Chicago. The main entrance



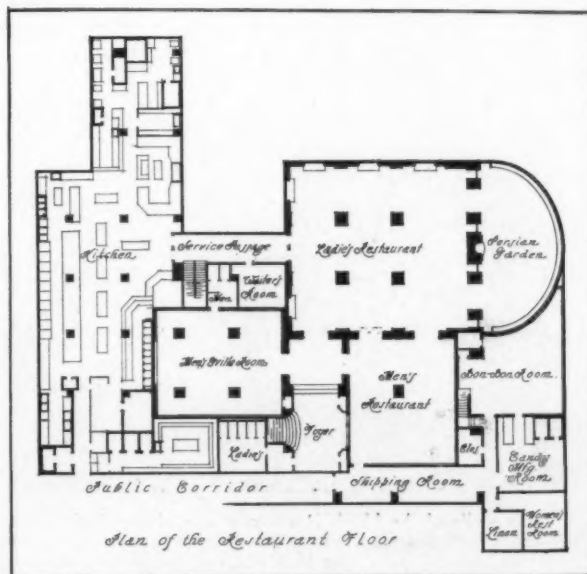
THE MAIN STREET ENTRANCE IS SHOWN ON THE RIGHT, FROM MICHIGAN AVENUE, AND ANOTHER ENTRANCE IS THROUGH THE CORRIDOR OF THE STRAUS BUILDING

leading to the candy store is from Michigan Avenue, and another entrance leading directly into the ladies' tea room, also on the street floor, is through the corridor of the Straus building. Stairs from there lead to the

floor below where are located the men's and women's restaurants, the men's Grill Room and the Persian Garden, as well as the kitchen and other service quarters necessary to the operating of the concern.

It is significant that the entire structural and decorative work, including the engineering, architectural, decorative and furnishing designing, was done under direct supervision of the architects, and the unity and harmony of ideas generally, which is so characteristic throughout, is proof of the success which accompanies such harmonious collaboration. The architectural treatment of the various rooms in every instance sounds the keynote to the decorative and furnishing scheme, and, in many respects, the products which enter into the architectural design were selected especially for their decorative value, without, of course, hindering their structural services in any way. Marbles, in various colors and combinations of colors have been introduced as floors, overdoor panels, pilasters, and baseboards, to add interest from a decorative point of view; ornamental metal grilles have been included, not

alone as practical ventilators, but also as strictly decorative features, thereby making their use as ventilators a secondary proposition, subordinate to their decorative interest; and lighting fixtures have been designed further to enhance the interest in the decorative scheme, while serving as units of artificial illumination at the same time. The more mechanical structural treatment has had a certain influence on the architectural design, too, as it should have, thereby making for honesty and sincerity, which is too often missing in these days of camouflage and imitation. For example, the shape of the opening leading from the women's restaurant into the Persian Garden was suggested primarily by the structural details, which eliminated a square opening to the full height of the doorway, and the result was in harmony with the semi-circular shape of the room to which it leads. On account of their original character, the details throughout are very attractive. One does not feel it is a duty at once to ask "What style or period is this room?" There is individuality in these designs, and, once more, an individuality appropriate to their purpose. There is nothing else to be desired. Decorative art in the United States, making itself evident in architectural designs as it does here, will soon represent a style, and not a method of copying or adapting, as it has done in the past.



THE AMERICAN ARCHITECT



The feature of the decorative scheme of the Ladies' Tea Room on the street floor is a series of painted velvets hung on the walls, in rich colors on a gold ground. The piers are of Nile jaune marble, and a figured carpet is used on the floor



The walls of the Men's Restaurant are of panelled walnut, with carved enrichments; the ceiling is tinted in cream tones, and a carpet of rich colorings in which blue and mauve predominate covers the floor. The lighting fixtures are of pewter and brass in an interesting design

MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHANAN & KAHN, ARCHITECTS

THE AMERICAN ARCHITECT



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

In the candy store on the street floor, the walnut woodwork is relieved by metal grille panels, and corner pilaster treatments in marble. There is also a marble floor laid in alternating square blocks of Sienna and Botticino marble. The covering of the furniture is in a Persian design of soft reds, and the lighting fixtures are of brass with crystal trimmings

THE AMERICAN ARCHITECT



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

Looking from the Men's Restaurant, through the grille, into the Foyer with the stairs which lead from the street floor, beyond. This grille is of walnut and the design is unusual and appropriate to the type of room in which it is located

THE AMERICAN ARCHITECT



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

Looking from the Men's Grill Room into the Foyer, with the Ladies' Restaurant showing in the distance. The detail of the ornamental design is especially worth calling attention to, as it has a decidedly original aspect, as have also the designs of all these rooms



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

In the Ladies' Restaurant, walnut woodwork is relieved by hammered metal grilles, some of which serve as ventilators, and mirrors on which metal ornamentation is applied. The piers and pilasters are constructed of various colored marbles, and the lighting fixtures of brass and crystal are featured in the scheme. Rose colored candle shades cast a rose tint on the ceiling, and the ornamental members are delicately touched in a similar color.

THE AMERICAN ARCHITECT



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

The semi-circular room off of the Ladies' Restaurant is called the Persian Garden. The walls are designed in a series of panels richly ornamented in low relief in motives characteristic of the Persian, entirely treated in gold leaf, and glazed down. A built-in seat follows around the circular side of the room, upholstered in an appropriate fabric of Persian design and colorings. The shape of the opening in the foreground was suggested by the structural treatment and proved to be most harmonious



MAILLARD'S RESTAURANT, CHICAGO, ILL.

BUCHMAN & KAHN, ARCHITECTS

In the Men's Grill Room, directly opposite the entrance from the foyer, is a large mural, painted by D. Putnam Brinley. The woodwork is of chestnut, also the furniture, and a figured carpet covers the floor. The cove ceiling is in a neutral tint

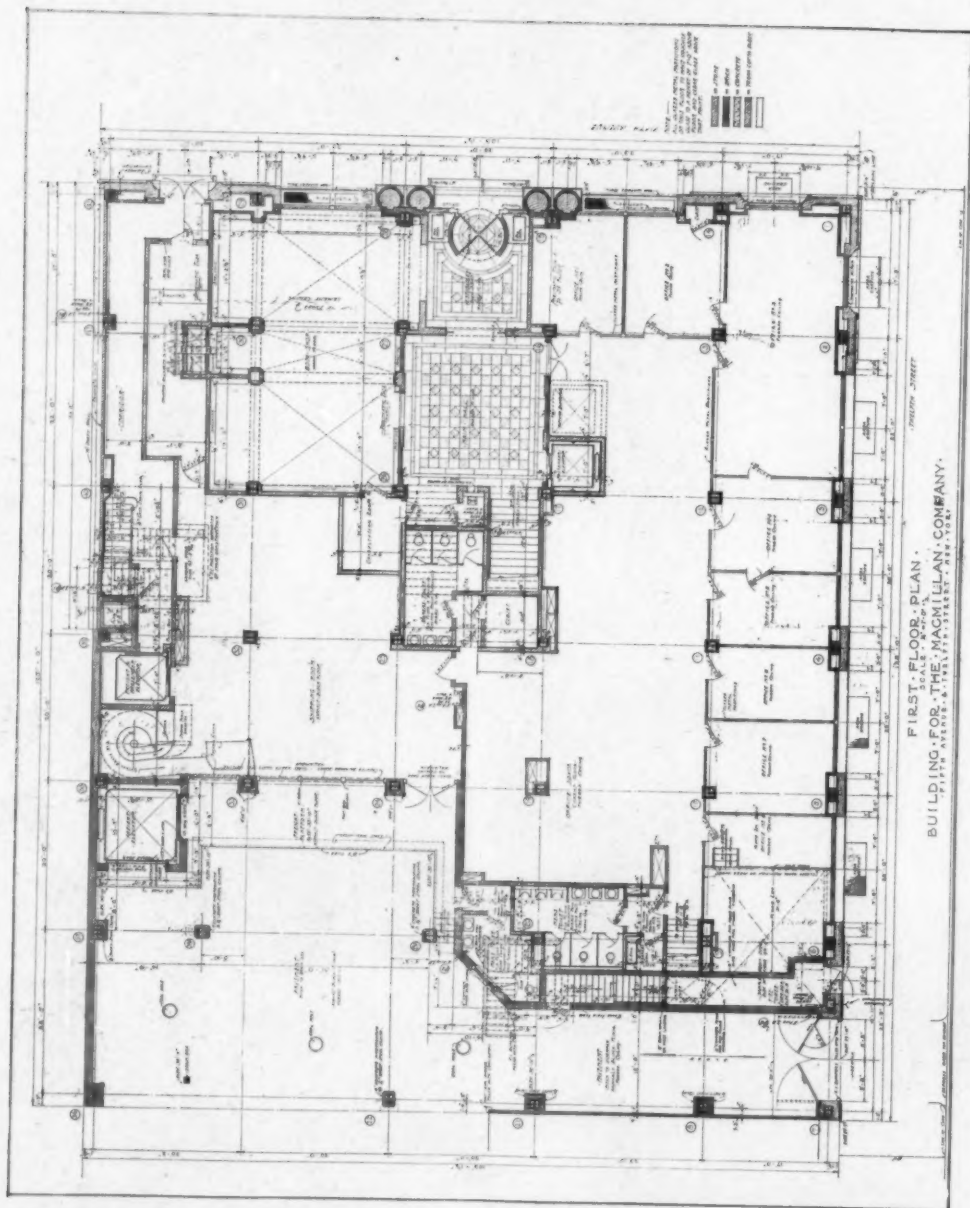


NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK

CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

(See plan on back)

THE AMERICAN ARCHITECT
June 17, 1925. Plate 157



NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK
 CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

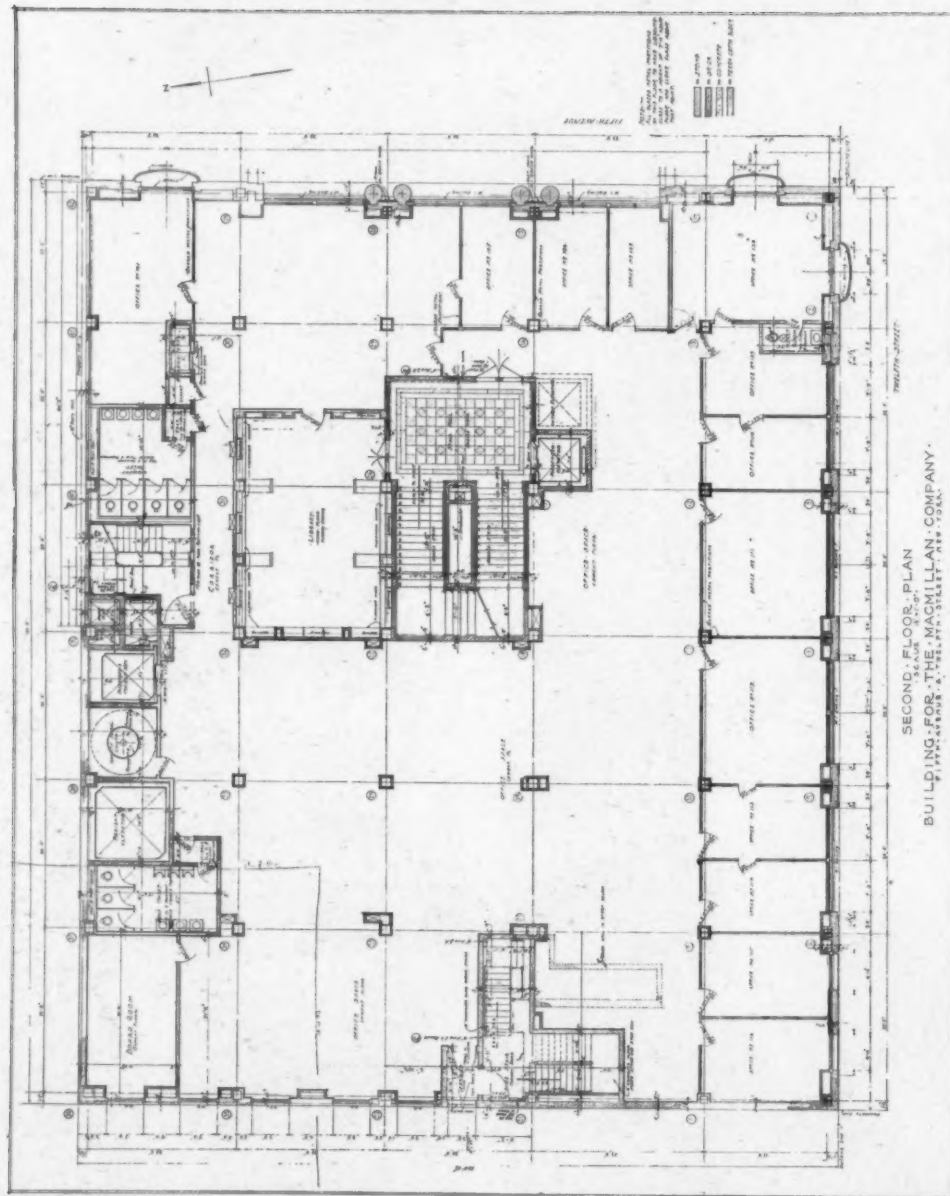


NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK

CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

(See plan on back)

THE AMERICAN ARCHITECT
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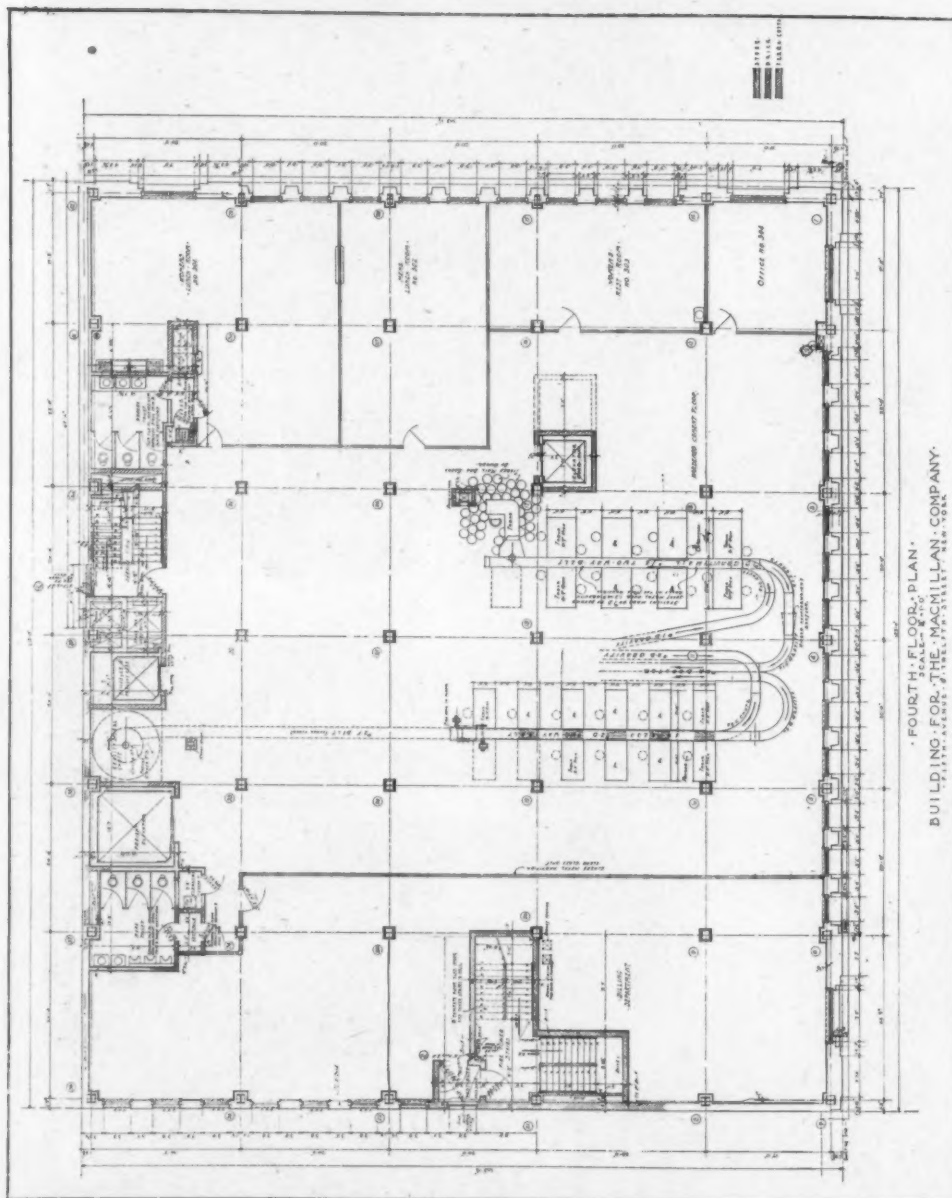
NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK
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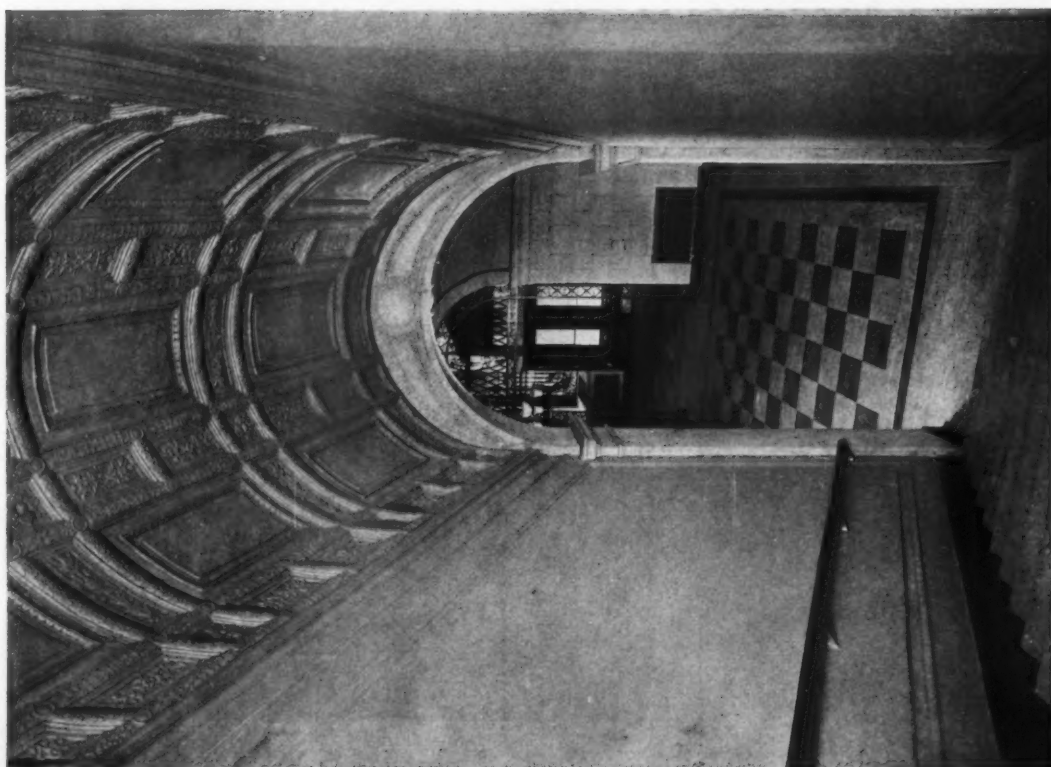
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THE AMERICAN ARCHITECT
June 17, 1925. Plate 159



FOURTH FLOOR PLAN
 SCALE 1/8" = 1'-0"
 BUILDING FOR THE MACMILLAN COMPANY
 CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK
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NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK

CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

THE AMERICAN ARCHITECT
June 17, 1935. Plate 160



NEW BUILDING FOR THE MACMILLAN COMPANY, FIFTH AVENUE, NEW YORK

CARRERE & HASTINGS AND SHREVE & LAMB, ARCHITECTS

THE AMERICAN ARCHITECT
June 17, 1925. Plate 161

ENGINEERING and CONSTRUCTION

PROPER PAINTING SUPERINTENDENCE and ITS RELATION to RESULTS

BY W. C. WOODYARD

IN a previous article the importance of definite and comprehensive painting specifications was emphasized. However painstakingly drawn, specifications of the number of coats and specific materials are not a guarantee of results. Unfortunately no branch of the building trade offers greater opportunity for substitution or elimination. To meet this condition there must also be close and efficient superintendence, which is often noticeably lacking.

This is not usually the result of a lack of interest, but is due to a lack of systematic procedure in securing the results contracted for. It should not be a matter of speculation as to the kind of superintendence to be expected on the job, which could be discounted by the painter, encouraging him to submit a lower figure and thus allowing him to secure an unfair advantage. This is most discouraging to the honest contractor who has based his bid on the specifications alone, and not on specifications and human nature. Where this condition exists, the honest and conscientious contractor finds it difficult to survive unless he adopts the same tactics. He will, therefore, welcome such thoroughness and safeguards on the part of the architect as will permit him to do the kind of work and to use the better grade of materials such as he would prefer; that he may labor in the spirit of Ruskin and enjoy the pride of his handiwork as well as a fair financial reward. There is no greater satisfaction in life than that which comes from honest achievement.

We may logically consider the simple but essen-

tial rules laid down on this page. Occasionally an architect throws up his hands in despair at the utter futility of attempting to check up on painting work. It is true that the desired results cannot be secured when frantic efforts are being made as the work is nearing completion. The efforts which are made at this time can only be futile and result

in distasteful and conflicting claims, which are difficult of proof. As a matter of fact, if systematic and firm supervision is exercised it is not difficult effectively to secure the results specified, and with a great saving of time.

(1) Definitely familiarize yourself with the scope and the intimate details of the specification.

How frequently have specification writers carefully produced a specification in keeping with the character of the building, but which resulted in a mediocre or unsatisfactory job because the superintendent failed to familiarize himself with its content. The super-

intendent's knowledge of what is required should be as comprehensive as that of the specification writer's. Otherwise, he would not know what he was superintending, a condition which the unscrupulous contractor might quickly perceive and of which he might take advantage.

The superintendent cannot carry in his mind every provision of the specification and often it is inexpedient for him to go to the job office to secure this information. Some superintendents make a digest of the specifications in their notebooks, covering the number and kinds of coats together with the brand of material to be used. This can

RULES FOR SUPERINTENDENT

- (1) Definitely familiarize yourself with the scope and the intimate details of the specification.
- (2) Check up any uncertain details with the office.
- (3) Do not permit painting work to start without knowing exactly what products are to be used. If the specifications are open and do not definitely provide, find out from the office what products have been decided upon and written into the painter's contract.
- (4) Go over the specifications and details of the work with the painter when he first comes on the job. It is necessary that both have a complete understanding of what is to be done. Don't let matters drift.
- (5) Provide the painter with a room for storage of painting materials. The painter's and the architect's superintendent should be provided with keys for the lock on the door.
- (6) Make regular inspections of storage room and all painting work.
- (7) Check the stains and undercoats first and the other materials as they are required for the work, taking care to identify all unlabeled cans and those not bearing original seals. Reject and have immediately taken from the job all materials not in accordance with the specifications or contract.
- (8) Retain and keep separate on the job all emptied cans until completion of the work.

be reduced to a surprisingly few entries, regardless of whether it be a \$50,000 or a \$5,000,000 job.

The superintendent is justly entitled to proper working tools in the form of a specification that is adequate in scope and definite in its provisions. This was emphasized in a previous article appearing in *THE AMERICAN ARCHITECT* of May 20, 1925. This specification should contain paragraphs covering the following points:

Materials to be brought to the building in original containers with seals unbroken.

Thinning of materials.

Matching and tinting of color and mixing to be done on the job under the supervision of the architect's superintendent.

Reporting to the architect in advance on surfaces which are unsatisfactory for finish.

Puttying the nail holes and cracks, after first coating, with color to match the finish.

Protection of adjacent work and cleaning up.

In addition to these paragraphs, it is advisable to provide that successive coats of paint or enamel be tinted to slightly varying shades, previously decided upon, to facilitate checking up. Otherwise it is very difficult to determine accurately the number of coats that have been applied.

(2) Check up any uncertain details with the office.

There must be a liaison between the architect and his superintendent. Often agreements are made between the architect and the painting contractor which modify the work as specified. These changes are frequently agreed upon and incorporated in the contract before it is signed, and the superintendent is left with the specification in its original form and is not advised as to these changes. Under this condition the superintendent soon becomes discredited in his attempt to enforce a specification which has been superseded by these agreements. It is his duty not only to enforce these specifications but to advise the architect of any attempts on the part of the contractor to evade the specification, thus enabling the architect to effect an understanding with the contractor. It is customary in well organized offices for the architect and the superintendent to be furnished with copies of all correspondence having a bearing on the construction of the building. Co-ordination, therefore, is of primary importance.

(3) Do not permit painting work to start without knowing exactly what products are to be used. If the specifications are open and do not definitely provide, find out from the office what products have been decided upon and written into the painter's contract.

There are a large number of paint and varnish manufacturers. Each of these has numerous trade names or brands for the various kinds of material

to be used for a certain purpose. They also produce several grades of paint for this given purpose, priced according to grade; each grade, however, bearing the name of the company prominently displayed. It is then difficult for the superintendent to determine the scope of an "or equal" when he is not familiar with the various brands and trade names. It should not be necessary for him to be called upon to make these decisions. In every instance the brand of material to be used should be decided upon and incorporated in the contract when it is signed and the superintendent so advised. Generally speaking, this will eliminate a majority of the disputes and disagreements which naturally arise, and relieve the superintendent of the responsibility of selecting the material.

(4) Go over the specifications and details of the work with the painter when he first comes on the job. It is necessary that both have a complete understanding of what is to be done. Don't let matters drift.

The desirability of this mutual understanding is readily apparent. This condition alone will frequently prevent future difficulties. Painting grief usually arises when the superintendent lets matters drift.

(5) Provide the painter with a room for storage of painting materials. The painter's and the architect's superintendent should be provided with keys for the lock on the door.

(6) Make regular inspections of storage room and all painting work.

(7) Check the stains and undercoats first and the other materials as they are required for the work, taking care to identify all unlabeled cans and those not bearing original seals. Reject and have immediately taken from the job all materials not in accordance with the specifications or contract.

(8) Retain and keep separate on the job all emptied cans until completion of the work.

Items (5) to (8), inclusive, deal with the procedure of checking the work. It is acknowledged that this is a distasteful proceeding as it is an implication that the contractor might be dishonest and that this checking is necessary for that reason. If every contractor was honest as we like to consider them, there would be no necessity for checking up the work until something had gone wrong. The logical conclusion of such a procedure would eliminate the necessity for a superintendent on the job. In order to do this checking properly, the superintendent must know where the materials are kept and have access to them at any and all times at a central source of supply, and this cannot be done if the materials are permitted to be scattered over the job. Frequently one complete

inspection of the stock room is made at the beginning of the work, with only a perfunctory inspection, if any, thereafter. He may see several packages of specified materials which are often intact at the completion of the work. Cheaper materials may be brought to the job every few days, and this makes it advisable and necessary for regular inspections of material. This necessity also applies to the work and an accurate check of coats can only be made as they are applied. It is useless to attempt to determine definitely the number of coats applied after the work is completed.

The stains used must be those selected as it is a difficult matter to alter the color after a stain is applied. Even when the specified enamel is used the appearance of the work will frequently be damaged by the use of spongy and ropy flat paints. If these things are properly done, there is no occasion for concern about the varnish or enamel until the work has progressed to that stage. The color for each successive coat of paint for exterior work should be decided upon at the beginning of the application of each coat and only when the preceding coat is finished.

A paint room is usually filled with nondescript cans. Some may contain cheap varnish, others may contain gasoline, coal oil or benzine for thinning, none of which has any place on the job. These thinners are not even satisfactory for washing out brushes, as they will produce a "lousy" brush. For this reason it is necessary to identify the contents of every can. No barrels containing varnish, enamel or undercoating should be permitted on the job regardless of the label. Five gallon containers are the largest in which high grade varnish products are marketed.

If there is a substitution of the material contracted for, it should be immediately rejected and removed from the premises.

It is sometimes desirable for the architect to know if sufficient material has been used. This could be done by requiring the bidders to furnish a list of the quantities needed for the work, which list could be used to check the materials as they are delivered and the cans should be checked off the list as they are emptied. The practice of the Government is to provide a separate room in which empty cans are stored until the completion of the job. This provides the best check on the quantities used and prevents refilling of the cans with cheaper goods,—a practice common with dishonest contractors.

The manufacturer's representative should cooperate with the architect to the end that the result is satisfactory and by this means seek to build up a continued business relation.

In conclusion, consideration is due the painter who also may contribute to raising the standard

of painting work. The speeding up of painting work is one of the difficulties which are usually encountered. In the early stages of construction the general work may lag, but the completion must be made at the stipulated time; therefore, the painter being the last man on the job, must do speedy and, necessarily, unsatisfactory work. No formula for speedy production in painting has been devised which produces good construction. The better varnish and paint products are usually slow-drying and successive coats must not be applied until the preceding coats are thoroughly dried.

The speeding-up process results in several trades working at the same time in the rooms as they are being finished. The surfaces to be finished may be in an excellent condition; the painter may have sanded carefully between coats; he may have taken every precaution to keep his brushes and material clean; he may be doing his work in a "workmanlike" manner, and still have it damaged regardless of his efforts.

A great many disputes over unsatisfactory work may be traced to the fact that the painting contractor was compelled to conform to the common practice of cutting his bid. Painters may be found who will allow a liberal deduction, but always with the secret expectation of taking it out of the job. This practice is not only unfair to competition, but forces the contractor to ignore the specifications upon which he has made his bid. If there are loopholes in the specifications which are equivocal, inadequate and indefinite, and if there are indifference and lack of system in the supervision, one may look for a corresponding result. On the other hand, there are many offices who have this department of their work so well organized that they do not recognize the painting problem as such. The painting contractor, knowing the reputation of such an office, makes no effort to discount the specifications and superintendence. Herein lies the solution of the painting problem.

FOREST PLANTING

EARNEST effort is being made in many parts of the country to plant forests to provide lumber for the future. More than 35,000 acres are replanted every year, and about 1,500,000 acres of land have been thus restored.

Fully three-fourths of this total area have been planted by farmers and other land owners. The Federal Government has replanted 12 per cent and the State Governments somewhat less. Many municipalities are also engaged in the work.

Among the other agents engaged in forest planting are timberland owners, operators of wood-pulp industries, railroads, pulp companies and mining companies.

"QUARTER-SAWED"

THE accompanying drawing shows a quarter-sawed board and a plain-sawed board cut from an oak log.

The type of lumber called quarter-sawed is cut, so far as practicable, in the manner in which the upper board of the diagram is cut with one edge at the growth center of the tree and the other at the bark. As a result the medullary rays—seen as fine white lines on the end of an actual log but represented on the log end in the diagram by radiating black lines—run practically parallel with the faces of the board. The medullary rays are horizontal strips of food-storing cells which extend radially through the wood toward the bark. Some of the rays are very minute and others are two inches or more in width from edge to edge up and down in the tree. They waver slightly from a true radial course. Hence the effect of cutting a truly

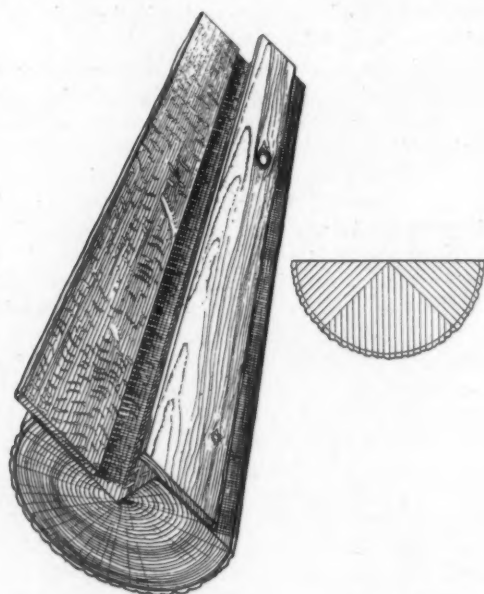


DIAGRAM SHOWING METHOD OF SAWING LOGS FOR GRAIN

(Diagram by Forest Products Laboratory, U. S. Forest Service)

quarter-sawed surface on an oak board is to cause these rays to dip in and out of the plane of the saw and appear as they do here in broad, light-colored flakes and patches. This is the prized "figure" of the quarter-sawed oak used for furniture and interior finish.

Actually it would be very wasteful to turn a log after sawing each board and thus make all boards truly quarter-sawed, as a thin wedge of wood would be wasted for each board cut. The smaller diagram shows how, in the common method of quarter-sawing, logs are halved length-

wise and successive eights made into material more or less quarter-sawed by turning the log after sawing each eighth. Out of the whole log eight of the boards so produced have one face truly quarter-sawed.

The lower board of the diagram is plain-sawed. In cutting plain-sawed lumber—also known as slash-sawed and flat-grain lumber—all boards are cut with their faces tangent to the annual rings. As a result the medullary rays pass through most of the boards almost perpendicular to the faces and are seen only as very fine, narrow, streaks which form an insignificant part of the "grain."

The hardwoods which are quarter-sawed for "figure" must show "figure" on 90 per cent of the surface of each board to qualify commercially as "quarter-sawed." The quarter-sawed softwood of commerce, more commonly known as edge-grain or vertical-grain lumber, is that in which the medullary rays do not make an angle greater than, or the annual rings an angle less than, 45 degrees with the face of the board.

Oak and mahogany are the species most commonly quarter-sawed for the sake of beauty of grain. There are other reasons, however, for quarter-sawing these and other woods. Quarter-sawed lumber, because of the more uniformly distributed division of its surface between summerwood and the softer springwood, wears more evenly than plain-sawed lumber, it does not surface check so readily, it is less permeable to liquids, and it shows less shrinking and swelling in width and less warping.

BUILDERS' HARDWARE

THE leading manufacturers of builders' hardware have accepted a new classification which has resulted in the elimination of many forms which were but slightly different from others. This will result in simplifying what has been a mysterious subject to many architects and specification writers and it will also prevent what has been a serious waste which could only result in advanced costs.

The Department of Commerce has issued the Simplified Practice Recommendation*, No. 18, which contains these recommendations in detail, and the arrangement for specifications is very simple. Type Numbers are given to some 2338 items. These numbers describe an article in such a manner that any competing producer can submit proposals. It will result in balanced bidding and a uniformity of quality, which is a very essential thing. Architects should find the use of these recommendations very satisfactory from every practical viewpoint.

*Superintendent of Documents, Government Printing Office, Washington, D. C., Price 10 cents.

SIZES OF WATER SUPPLY PIPING

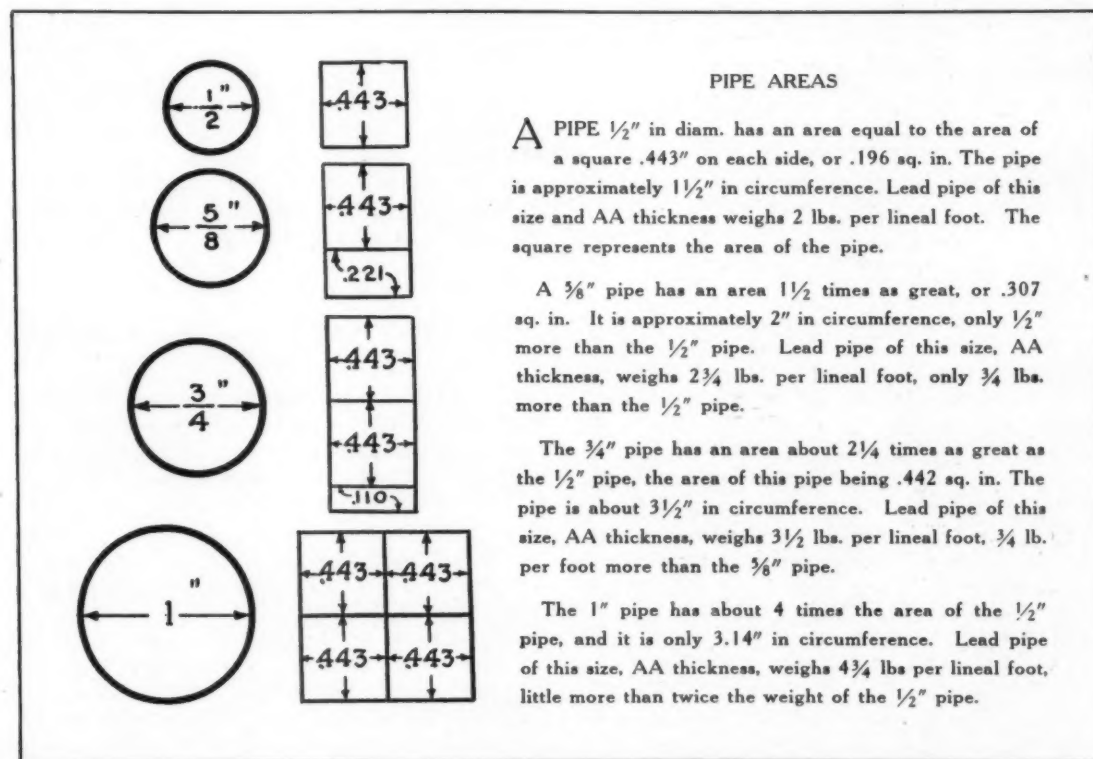
THE demands for water have increased very materially in modern dwellings because of the increase in the number of water-using sanitary plumbing fixtures and utilities. These demands have generally been met in a manner similar to the custom of tapping an existing electric wire for the attaching of a new fixture, regardless of the capacity of the source of supply.

That architects should give more attention to the water supply in modern houses is discussed in

than to entail the expense of installing a larger one. This condition should not exist.

When two or more fixtures are operated at the same time, a not unusual happening, it results in an increasingly restricted flow of water at the fixtures located beyond the one nearest the street main, a condition that is not in any way desirable.

It costs no more in labor to install a 1" supply pipe than a 1/2" pipe and the difference in the cost of the pipe is comparatively small. The 1"



a recent issue of *Sanitary and Heating Engineering*. It states that 1/2" and 5/8" supply lines are still being installed to provide water for houses which require more water than such pipes can possibly deliver. Many sanitary engineers realize that this condition exists but to correct it they need the co-operation of architects, who should take the initiative.

The occupant of a house which has such an inadequate water supply realizes that something is wrong but does not ordinarily know what is the source of the trouble. The cost of replacing such a supply is usually quite expensive and in most cases the owner prefers to suffer the inconvenience of an inadequate water supply rather

pipe will supply about four times as much water as the 1/2" pipe and its use results in a compensation of greater comfort, convenience and satisfaction. The illustration shows the comparative areas of the usual pipe sizes and it will be noted that the 1" pipe has an area of about four times that of the 1/2" pipe and weighs but a little more than twice as much. This greater weight is the only increase in cost as the labor of digging the trench and laying the pipe remains the same for both sizes.

Another item that should be considered is the cost of pumping water. It requires a pressure of 45.7 pounds per sq. in. to pass 10 gallons of water per minute through a 1/2" pipe 100'-0" long.

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It requires only 3.65 pounds pressure per sq. in. to pass the same amount of water per minute through a 1" pipe of the same length of new, clean, straight pipe. A reduction in the cost of operating a municipal water plant would accrue from a reduction in the pressure carried. This would follow a uniform use of larger service pipes.

Pressure and velocity of liquids, and in many cases of gases, result in friction which in turn causes noise. It is reasonable to suppose that a high water pressure causing a high velocity in small pipes is responsible for many noisy, singing water service systems in houses. This is a cause of serious annoyance and it is well worth the cost of larger service pipes to eliminate it. The larger the pipe, the lower the velocity and the more dependable and satisfactory the service.

MARKED SOUTHERN PINE

THE purchaser of lumber has always been at the mercy of the dealer as to the grade of lumber. Architects and engineers understand, in a general way, the effect of defects on the strength and durability of timber but the technique of grading is not acquired by them. In line with the general trend toward better merchandizing of products, the Southern Pine Association at its annual meeting, March 25, 1925, voted unanimously to grade-mark their product. Their mills are now equipped to produce a certified product. Each mill has a number which is registered with the Association and this number is incorporated in the brand. This enables the purchaser to identify the source of the material and to have a means of correcting any error in grading. Such errors, however, are unlikely at the mill as misgrading usually occurs in the yards of the dealers.

Architects and engineers who have occasion to specify southern yellow pine should require the material to be grade-marked as a protection to themselves and their clients. It is reasonable to expect that this forward step in the merchandizing of lumber, which has been made by the Southern Pine Association, will result in a similar action by the producers of other structural timbers and that eventually the mystery of lumber will be eliminated.

QUANTITIES OF MATERIALS FOR CONCRETE

A SECOND edition of Bulletin 9 of the Structural Materials Research Laboratory, Lewis Institute, Chicago, "Quantities of Materials for Concrete," by Professor Duff A. Abrams and Stanton Walker, has been issued.

The principal subject matter of the bulletin is a series of tables of proportions and quantities for Portland cement concrete for compressive strengths

of 2000, 2500, 3000, 3500, and 4000 lb. per sq. in. at 28 days, using fine and coarse aggregates of different sizes, and concrete of a wide range of workability as measured by the slump test.

The tables are based on the water-ratio method of proportioning concrete developed in this Laboratory as a result of many thousands of tests. They differ principally from tables by other authors in that the proportions have been selected with definite strengths in view, and take into account the quantity of mixing water as well as the size and grading of the fine and coarse aggregates.

This bulletin was first published in 1921, but had been out of print for several months. In the second edition, the text has been rewritten to constitute a more complete discussion of the subject. A method of taking into account the differences in volumes of materials when measured in the Laboratory and when measured under field conditions is described. The descriptions of field and laboratory test methods have been enlarged and include recent changes in the standards of the American Society for Testing Materials.

THE USE OF LIMESTONE PLANER DUST IN STONE-SETTING MORTARS

AS a part of the Bureau of Standard's research work in limestone, various stone-setting mortars are now being investigated, and one of the interesting developments relates to mortar made up with limestone planer dust in place of building sand. The so-called "planer dust" is the waste product resulting from the machine preparation of limestone when planers, shapers, and milling machines are used. While much of the material is already relatively small sized, the coarser particles are screened out when its use in mortar is intended, and the final substance becomes considerably finer than building sand. Mixed with white Portland cement in 1:3 proportions by volume, the planer dust mortar has been in satisfactory use for many years in some localities although but little has been known of its properties.

Tests made in this investigation indicate that about 80 per cent of the 28-day strength of a 1:3 white cement planer dust mortar is developed in 24 hours. Compared with building sand mortars, the planer dust combinations have shown from 125 to 200 per cent greater compressive strengths at 23 days according to the conditions of storage. The bonding power appears to be about equal to that of the usual mortar, while the workability is possibly a trifle better. Considering these points it would seem that the use of limestone planer dust in mortar would be quite advantageous in setting limestone, particularly for local contractors engaged in both cutting and setting the stone.

FIRE RESISTANCE of CONCRETE COLUMNS

WHEN reinforced concrete construction is designed for conditions that will require resistance to high temperatures, it is necessary to give consideration to this element of design. Too little attention has been given to this requirement of design, largely because of a lack of definite information. Assumptions have been made and the results have often been disastrous. A noteworthy addition to knowledge of this subject is found in a report of tests entitled *Fire Resistance of Concrete Columns** by W. A. Hull and S. H. Ingberg.

The tests were made at the former Pittsburgh laboratories to supplement the investigation which was conducted jointly at the Underwriters' Laboratories, Chicago, by the Associated Factory Mutual Fire Insurance Companies, The National Board of Fire Underwriters, and the Bureau of Standards. The Chicago column tests† included only a few concrete columns, and it was considered necessary to carry out a more comprehensive investigation which would establish, if possible, the fire resistance of the important types of columns built of concrete made from the principal types of aggregates. Fire tests were made of 62 columns under working load, and 16 comparable columns were tested to failure without fire test. A study of this paper is worth while and it should influence design for conditions requiring resistance to high temperatures. The summary of the tests follows:

1. COMPARATIVE PERFORMANCE WITH DIFFERENT AGGREGATES

The results of this investigation give strong confirmation to the conclusion that the tendency of concrete made from certain types of aggregate to spall in fire tests and in fires in buildings is due to the expansion properties of certain mineral constituents which predominate in those aggregates. The expansion behavior of quartz and of granites when heated to temperatures as high as the inversion point of quartz, 573.3° C. (1,064° F.) are such as to render concrete containing large proportions of either or both of these classes of minerals especially susceptible to damage by fire.

2. EFFECTS FROM SHAPE, DESIGN, AND SIZE OF COLUMNS

It has been shown by this work that round columns are not necessarily superior to square ones in point of fire resistance. In columns made from nonspalling aggregates, such as limestone, blast-furnace slag, and trap rock, the results do not indicate any advantage of one form over the other. The least favorable results were those from fire tests of round columns with both longitudinal and spiral reinforcements and made from spalling aggregates, including Pittsburgh gravel and two other types of gravel, one very high in quartz content and the other containing large proportions of quartz and granite. The round-hooped column proved to be particularly susceptible to fire damage, except when made with concrete in which the aggregate was of the nonspalling type. On the other hand, round columns without hooping but with spalling aggregates gave somewhat better results than square columns of the same type.

If columns are made from concrete with a nonspalling aggregate there is no advantage, in point of fire resistance, in the round over the square column. In the case of spalling aggregates, the fire resistance problem cannot be solved by the use of round instead of square columns, and this applies particularly to hooped columns.

The tests with plain concrete columns indicate that from the standpoint of safety during the fire they are as safe under their working load as the reinforced columns are under the higher working load allowed for the different types, although where made with aggregates of the spalling type light metal reinforcement and ties in the outer protection are highly desirable.

In the matter of size of column the results indicate decrease in resistance with decrease in size, although with the same thickness of protection the higher ratio of concrete considered as protection to that considered as load bearing helps to reduce the actual unit stress imposed in the case of the smaller columns, except for hooped columns made with siliceous aggregates, where the disruption and spalling of the protective concrete left the load supported on the unprotected column core.

3. PROTECTION TO PREVENT MATERIAL FIRE DAMAGE

It has been demonstrated that concrete columns require the protection of heat-insulating material of some kind, just as steel columns do, although failure of unprotected concrete columns on exposure to fire is not as imminent because of the lower conductivity of the material. In case where spalling aggregates are used, plain concrete covering the steel is not an efficient protective material. Either the protective concrete should be provided with light metallic reinforcement to prevent its dislodgment or some other material should be substituted for it. On the other hand, plain concrete covering the steel has been shown to be efficient and satisfactory as protective material if made from an aggregate in the nonspalling class.

The evidence of the fire-test results indicates that in columns made from spalling aggregates the expansion stresses in the load-bearing portion of the column contribute to the loss in strength more than in columns made from nonspalling aggregates if temperatures as high as 575° C. or over are attained in the load-bearing concrete. In other words, the expansion behavior, which has a tendency to produce spalling, may weaken the column even though no spalling actually occurs. However, it seems necessary if appreciable fire damage is to be prevented to insulate columns and other structural members well enough to prevent the steel and load-bearing concrete from reaching these temperatures whether the aggregate used be of a spalling or nonspalling type. Judging from the results of this investigation, concrete made from a spalling aggregate may be as nearly immune to fire damage as that made from a nonspalling aggregate provided it is so protected that the temperatures in the steel and load-bearing concrete will be kept reasonably low—say, below 500° C. (932° F.)—which appears feasible where necessary or desired. The problem of providing the necessary insulation is, of course, simpler when a nonspalling aggregate is used.

4. PROTECTION TO PREVENT FAILURE UNDER WORKING LOAD

The most important function of columns in buildings subjected to fire is to support load, and thereby prevent local or general collapse that would endanger life of occupants and firemen and aid the spread of fire within the building and to adjacent buildings. Reinforced concrete buildings as a type present desirable general fire-resistive characteristics in being incombustible and not subject to immediate collapse on exposure to fire. It is shown in these tests that while there is a wide range in the fire resistance of concrete columns, depending mainly on the mineral constituents of the aggregates employed or the method of protecting the load-bearing portion, even the less favorable results obtained indicate an inherent fire resistance that

**Fire Resistance of Concrete Columns, Technologic Papers of the Bureau of Standards, No. 272, Superintendent of Documents, Government Printing Office, Washington, D. C. Price 25 cents.*

†*Fire Test of Building Columns. B. S. Tech. Paper, No. 184.*

must be recognized when the main concern is the ability to function satisfactorily as load-bearing members in fires of the intensity and duration to which buildings of a given type and housing given occupancies may be subjected. This aspect of performance is the main concern of State and municipal regulation, whose police power is limited by considerations of public welfare and safety. Owners and others more directly interested may be concerned also with the damage, short of failure of function, that the fire inflicts and with the cost of restoration. Portions of the investigation were devoted to the development of means for reducing such fire effects to a minimum and show that this can be done, should be done in all cases when the exposure is severe, and is possibly a profitable thing to do under almost all conditions. The ability to come through fires without failure under working load does not imply freedom from damage to the load-bearing portion as well as to the protecting material. Such damage under exceptional conditions may be such as to render complete replacement or major repair necessary.

THE ADHESION OF GYPSUM PLASTER TO BACKINGS

THE Bureau of Standards has completed an investigation relating to the adhesion of gypsum plaster to all of the various backings commonly employed in practice. Although the art of plastering has been known for many centuries, a search through the literature discloses a complete lack of information on the subject of adhesion of wall plasters. Therefore, when a new material appears on the market to be used as a backing for plaster there is no information available as to the adhesion required of it. In order to supply this information, tests were made on the adhesion of gypsum plaster, a representative wall plaster, to all of the backings commonly used in practice. It is now possible to compare these data with the results obtained with any new material, and in this way the value of the new material as a backing can be ascertained insofar as adhesion is concerned. The gypsum plaster was applied to specimens of the various backings, and after the plaster had been allowed to age for seven days it was pulled free of the backing. The force required to rupture the bond was determined and recorded.

The kinds of backings employed may be divided into two general types (1) masonry, and (2) laths. Each of these types included many varieties. Backings tested were plastered with the recommended sanded-mixes of gypsum plaster of about three-fourths inch grounds. The plaster was retarded so as to set in about four hours.

The size of the specimens of the various backings was about 12 by 14 inches, and the area of the plaster was about 9 by 9 inches. Embedded in the plaster was a mechanical device through which a force could be applied to pull the plaster from the backings. At the completion of the aging period, the specimens were put in a testing machine and a continually increasing force was applied to the device until the bond between the plaster and backings ruptured.

The results obtained in these tests show that there is a great difference in the values for the adhesion of gypsum plaster to different kinds of backings, there being also a wide range of values within each type. The results show very strikingly that the tenacity of adhesion depends to a large extent upon the character of the surface to be plastered. In the case of brick and tile it was found that the roughest side of the brick wall or tile offered the better mechanical key and gave the greater adhesion. On the other hand, the porosity or total absorption of the brick or tile does not seem to govern the adhesion.

Assuming the weight of a ¾-inch plaster coat at 6 lbs./ft.² it was found that the factor of safety of any of the backings tested was relatively high. A detailed report of the work is being prepared for publication.

BUILDING THE PYRAMIDS

THE great pyramid was built, according to Herodotus, by the toil of 100,000 men for 20 years, states the *Straus Investors Magazine*. This is something of a contrast to building methods of today, when great skyscraping buildings rear themselves to completion and occupancy oftentimes within the space of one year, and by the labor of a hundredth part as many men as built the great pyramid.

ELIMINATION OF WASTE

STANDARDIZATION of architectural design would be deplorable but standardization of certain building products is highly desirable and it has no effect on design. The building industry is fortunate in having the benefit of the services of the U. S. Department of Commerce to take the lead in the matter of standardization of building products. Two of the latest standards adopted are Simplified Practice Recommendation No. 13, entitled Structural Slate (for plumbing and sanitary purposes) and No. 15, entitled Blackboard Slate.*

Structural slate laundry tubs, combination sink and tub, sinks with and without drain boards, shower stalls, toilet enclosures and urinals are detailed for the standard sizes adopted. Slate blackboards for all purposes are specified for size, thickness and finish. Of the ten principal divisions of structural slate the reduction in the number of items as manufactured ranges from 69.6 to 97.2 per cent. The standards set up have been accepted by a large majority of the producers and designing should be done in accordance with the recommendations.

*Sold only by the Superintendent of Documents, Government Printing Office, Washington, D. C. Price 5 cents each.

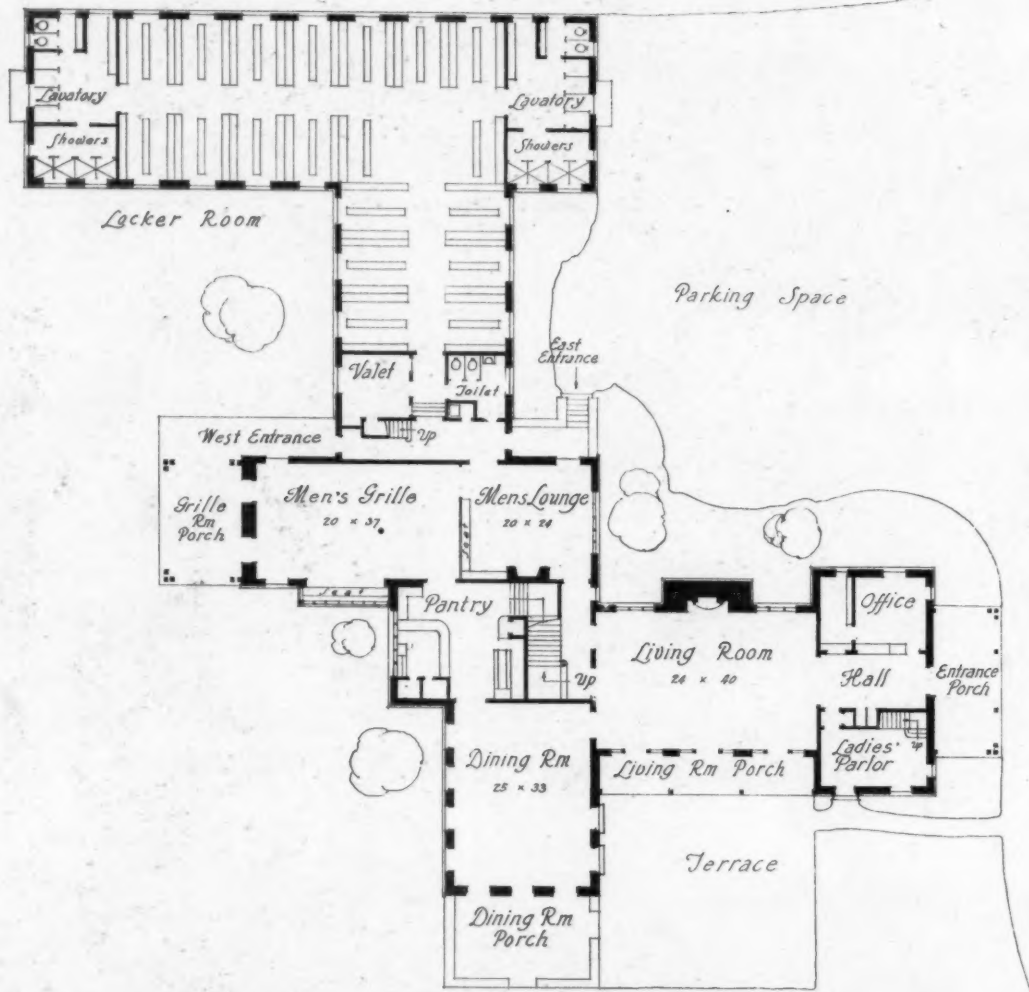


QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

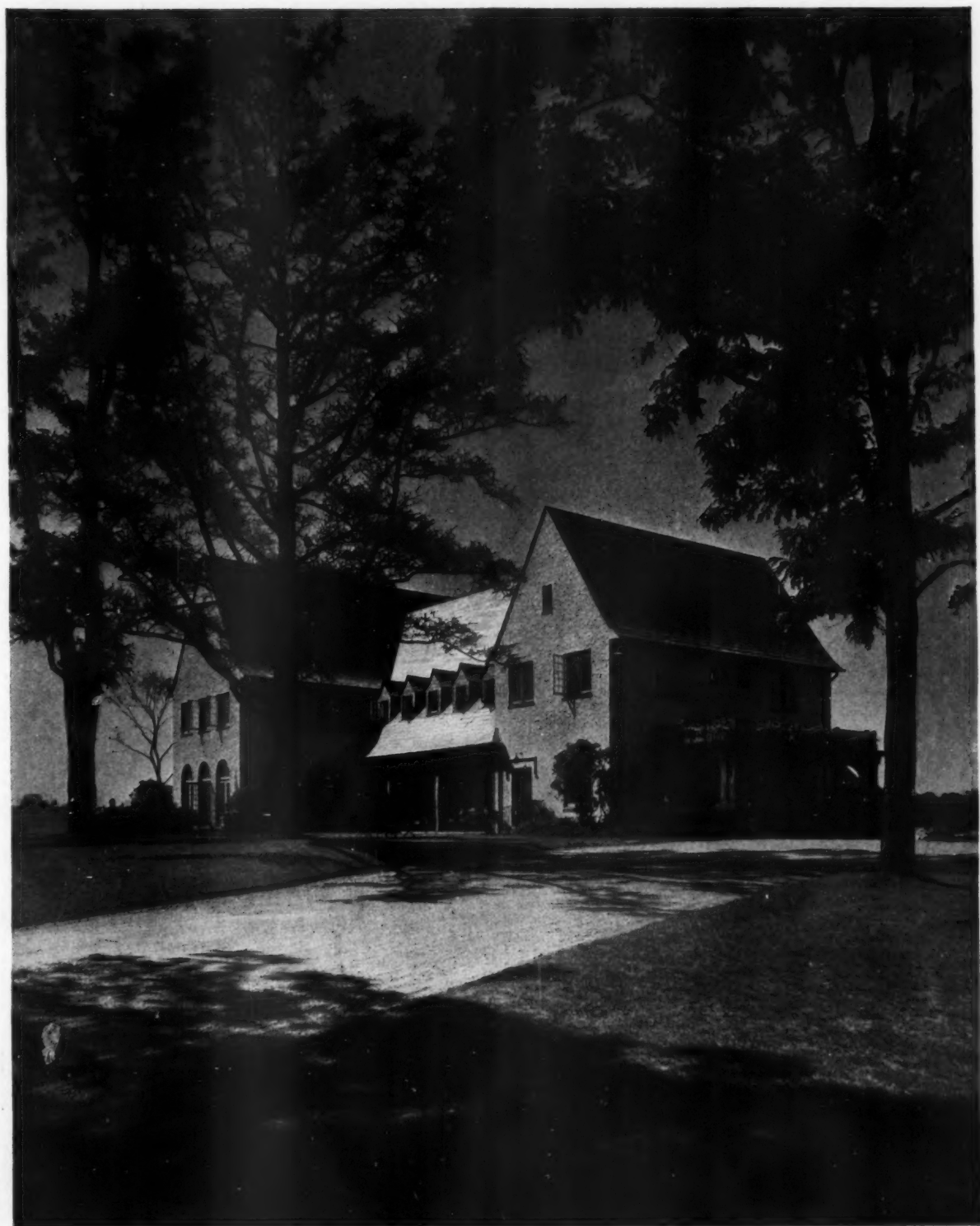
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QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

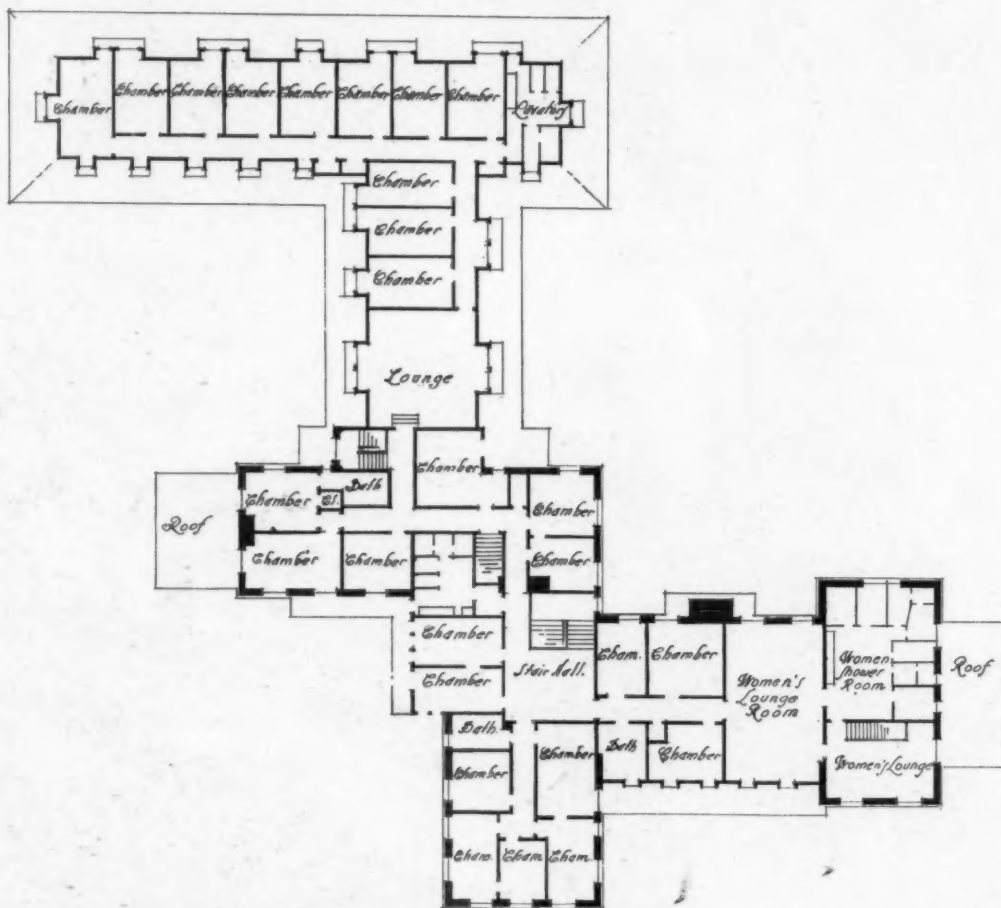


QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

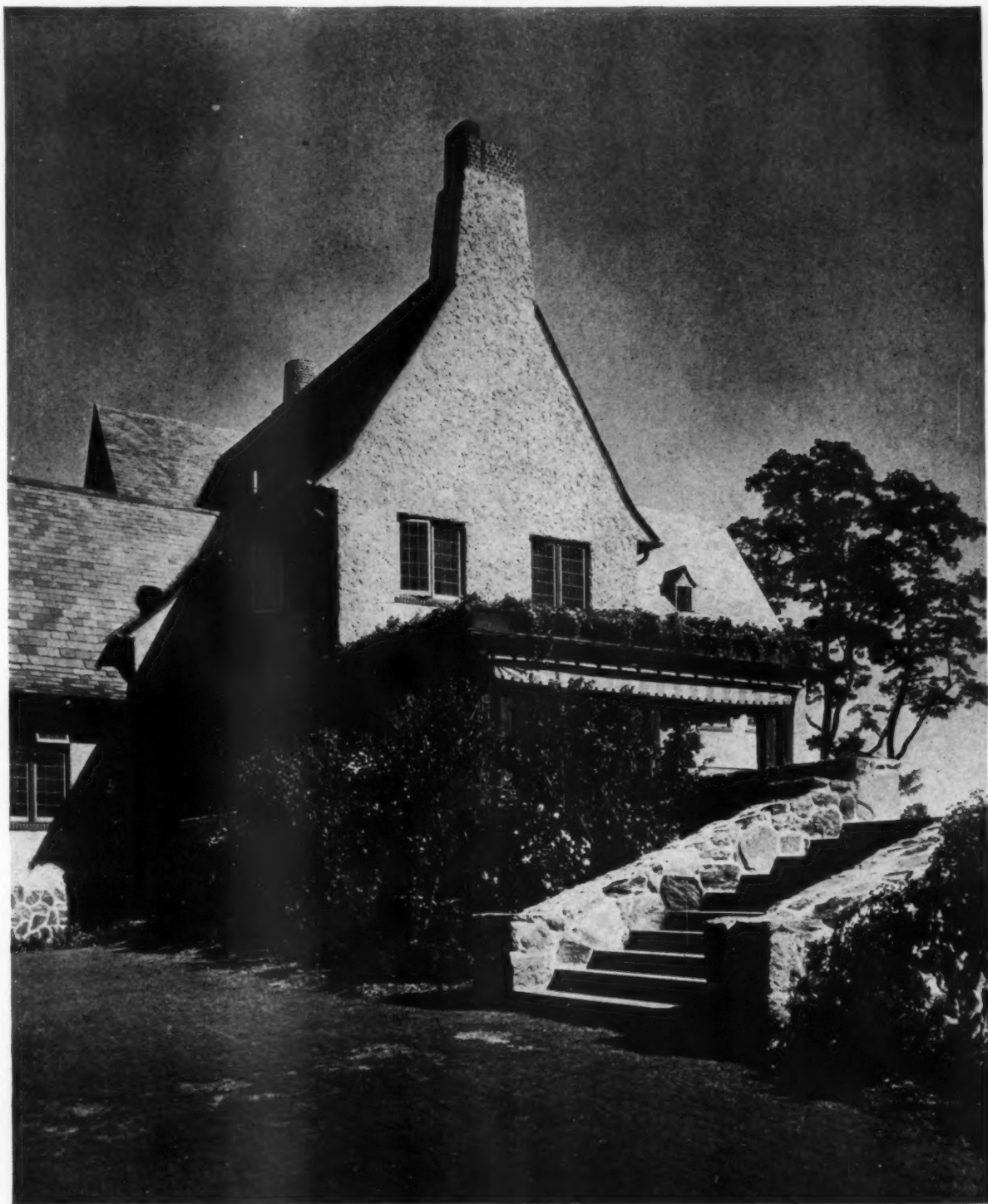
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QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS



QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

(See airplane view on back)

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AIRPLANE VIEW OF GOLF COURSE

The location of the house is shown in the circle
QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.
BUCHMAN & KAHN, ARCHITECTS



QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

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BUCHMAN & KAHN, ARCHITECTS



QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.

BUCHMAN & KAHN, ARCHITECTS

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QUAKER RIDGE GOLF CLUB, MAMARONECK, N. Y.
BUCHMAN & KAHN, ARCHITECTS

THE AMERICAN ARCHITECT
June 17, 1925. Plate 167

REVIEW of RECENT ARCHITECTURAL MAGAZINES

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

PROPAGANDA, we constantly hear, is the need of the moment. Without it we shall continue to have an uninterested, uninstructed public which, if it does not actively prefer indifferent work, is unconcerned about good work. We shall continue to find other artists and craftsmen either afraid of architecture or, through ignorance, unable to co-operate with it. The coming of a general impulse and co-operation would be of greater moment to our architectural prosperity than the multiplication of good architects unable to practice their art. All this appears obvious, but despite the efforts of a few energetic individuals, the mission to the Gentiles has not generally caught on, and it must of necessity be a slow process extending over many years.

Individual enthusiasm is invaluable, but the time is surely ready for a definite step on the part of architects as a body, and the most obvious of these steps is the establishment of architecture as a subject in general education . . .

The architectural schools exist to train architects, and the staffs' business is limited to that alone, since the education of laymen, however desirable in itself, cannot, and should not, devolve upon them. But if we carry this assumption to extremes we may well find that we are transforming a difference of degree into one of kind, and in so doing that we are specializing not only the teacher, but the subject, leaving it unrepresented as a medium for common and general instruction. The hard-and-fast distinction between practice and appreciation is not followed in the other arts; a teacher of musical, dramatic, or pictorial art does not only teach those who intend to work professionally. . . .

THUS Manning Robertson in the opening paragraphs of a leading article on Teachers and Architectural Education in the May 13 issue of *The Architects' Journal*, London.

The inclusion of the teaching of architecture, or rather, perhaps, an appreciation of it, in general education, is not original with Mr. Robertson, nor, as far as we know, is his suggestion of a closer connection between the teachers of architecture and the teachers of other subjects, but the article is so good and so well expressed that we

regret we cannot quote it entire. Mr. Robertson, of course, was referring to English schools and English colleges and to the conditions in England. In this country the same need has been felt and various methods, with which we are not entirely familiar, have been tried to meet this need. That they are the right methods or that they have been successful or not, we cannot presume to say. It is a big subject, and the success or failure of the

efforts cannot be told in a year or in a generation. The Institute, through its Committee on Education, has done much, and there has been considerable co-operation throughout the country, but there is much more to be done and few to do it; those who could, will not, and those who are willing, are often unqualified. And it seems particularly difficult just now because of the modernistic tendency of the times. In the minds of many there is an apparent belief that things are mightily different now from what they were ten years ago. Monarchies have fallen and boundary lines have shifted; peoples have been liberated; freedom is in the air; away with old laws and old dogmas; let us live our lives, in our own way; the apotheosis of license. Happily this

feeling is not universal, but it does exist, and its existence makes difficult the proper teaching of architecture or art in general, for the teachers have to be taught before they can teach others. Much better no instruction than wrong instruction. But unfortunately every school teaches what it calls art, just as it teaches cooking or manual training, and while it is generally at considerable pains to select a good and experienced coach

From "The Architectural Review," London



BRITANNIC HOUSE, LONDON, FROM FINSBURY CIRCUS

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for the basket ball team, it has small regard for the qualifications of the instructor in art. Little boys and girls are not taught to draw simple objects as they actually are, but are provided with small pans of vivid and unpleasantly moist color and left to their own devices; their originality and imagination must be encouraged and be absolutely unfettered, and the blue cows in a red field with a yellow sky and the impossible flowers and childish patterns are gravely exhibited in all their hideousness in an annual exhibition and prizes are distributed by smug boards and great praise given the smirking instructor. And in the higher grades lectures on art are given by people who criticise pictures and statues and buildings they have never seen, basing their criticism not on standard books but on some flashy article they have read in a cheap modern periodical or in a Sunday Supplement. A year or so ago we heard of a course in which children of fifteen were taught to design by the method of root 2 and the whirling square. Who shall teach the teachers and how? It's a big subject and we give it up. We feel they should teach not theories, but facts. We feel that the classic examples of antiquity should be shown pictorially from photographs and well selected restorations, and the best examples of medieval and renaissance work, and the few modern examples that have stood the acid test of general approval; and that with the pictures should be a brief description of the purpose of the building, its location and a slight sketch of the history of the period, and that all criticism and all theorizing be omitted, merely the brief statement made that these are generally considered the best buildings of that particular time. Some of the scholars might be interested, many would not, but all would remember something, and even if later they never got beyond the limits of their own state, they would have an unconscious impression of what was good and what was not. These things, we feel, should be taught, but who is to teach the teachers? The press could help, if it would. Propaganda, to quote Mr. Robertson again. The trouble is that much of the propaganda in the press now is modernistic, not perhaps because the press believes it is, but because it is sent them. Your keen modernist is an earnest soul and active. And in this connection we quote the following from an article on The Lesser Known and Unknown in *The Architect*, London, April 24:

The old standards of merit have been set aside for the time, owing to the journalistic support given to freaks and freak painters. In the hunt for diversion and sensation after the war certain journalists grasped at freakish art like a drowning man grasps at a straw. This journalistic support has been sufficiently strong to force gallery owners to assume an appreciation and inner knowledge of the rubbish painted, with the result that many otherwise sane men and men of great judgment may be heard expressing the most astonishing nonsense.

Many who visit the above exhibition will possibly re-

ceive some amusement. Many will doubtless be unable to see any difference between the merits of the pictures painted by the unknown, and those who have received press and journalistic support and in consequence have been pronounced great.

Not a few of the pictures shown in this collection will undoubtedly be pronounced to be the works of budding geniuses. The painter of thirty years ago who produced pictures like a great many of those exhibited in this show would have been told by masters and dealers to give up painting and try something else. Not even "Uncle" would have advanced a few shillings on such productions. Yet today the like of such paintings is described with a flow of words it is quite impossible to render unless you are gifted with impudence and cheek profound. If these paintings are the true interpretation of art it would be better for the State to close every art school in the country and devote the money spent in this form of education to some better use. If smears and daubs realize £10 to £100 and more, just according to the journalistic strength that is behind the producer, why teach men and women to draw and so produce pictures which thirty years ago were appreciated, but which today are styled old-fashioned, Victorian, too realistic, lacking spiritual meaning, etc., etc.? Why burden the individual with old-fashioned rules which have to be thrown overboard if they desire to produce the paintings which today receive praise and are purchased by the patrons of art? If original talent needs no training but is finer and better without, let us save the money spent in thousands of pounds, and use it for a better purpose.

On looking through other English magazines our eye lights on a title which gives promise of an article a little less ponderous and tiresome than the educational situation, palpably referring to a pleasanter problem than we have had to deal with over here since a certain amendment went into effect. It is called Payment for "Wet Time": a Workable Scheme, but, alas, we find, on reading a few lines, that it refers to part time payment to bricklayers during rainy weather. It is a distinct disappointment, but we can see that in England it must be some problem. We have never thought

From "The Architects' Journal," London



A STEEL HOUSE OF THE BRAITHWAITE TYPE

about it before, but how ever do they get their work done over there? They might wear raincoats, or perhaps the helper holds an umbrella over the mason. He has to work some time. And right below this article is one entitled How to Get Brick

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Houses, which goes on to say that the way to get them cheap is to build steel houses, and we reproduce a neat and attractive little steel house, a number of which are being built somewhere by some steel company or other. Getting ahead of Henry Ford, it seems. Queer he never thought of such a thing. We could expand the idea to a considerable length, it has possibilities, but we won't. It might be construed as an advertisement for Henry. We will only say that from the photograph the house appears unduly large and lacks the charm and elegance of line so characteristic of Henry's work, but the windows seem to serve admirably for a game of dominoes or tit-tat-to, with the added advantage that as the houses are so close together, one can finish his game on his neighbor's windows. There is also a sign which may refer either to the house or to the unhappy purchaser.

We find in other magazines numerous references to the gold medal very properly awarded by The American Institute of Architects to Sir Edwin L. Lutyens, R.A., and some rather incomplete notices of the exhibition recently held here, with some illustrations of exhibits handpicked, but generally unrepresentative; and a great deal of space is given to the reconstructed Bank of England by Herbert Baker, A.R.A. Probably most of our young readers are familiar with the exterior of this interesting old building, but probably also few of them are familiar with the plan of it; a curious conglomeration of rooms of different sizes and heights, mostly lit from the top and built by different architects, and the whole thing surrounded by a screen wall, which in its design had no reference at all to the rooms behind it. Some time ago the Bank quite outgrew its quarters and the Directors have been long considering what was the best thing to do. A change of location seemed impossible. The Old Lady of Threadneedle Street was too much of a national institution to be moved. She was the center of the city, and, until recently, the center of the financial world. It has now been decided to retain Soane's Screen Wall and some of the interiors and to rebuild the center portion entirely, so that a seven story building, more or less irregular in shape, sticks up behind the screen wall. Mr. Baker's plan is excellent and the general scheme in section is good, but the exterior is not an unqualified success. Mr. Baker has done some excellent work in South Africa and in England, and in the case of the Bank he was faced with an extremely difficult proposition, and criticism, particularly destructive criticism, is perhaps out of place, but anyone attempting an alteration of such a well known classic example must expect criticism of all sorts. Personally we very much regret that any change was made at all. The interiors, the rooms and the courts, were extremely interesting examples of the work of the period,

and we had hoped that some way would be found to preserve them. We don't know for what; some part of the banking system perhaps; perhaps a museum, or some city office; anything to keep them, and to keep them as the Bank of England, in part at least. But if this could not be done, and evidently it could not, then by all means use Mr. Baker's scheme, but simplify the exterior of the new central portion. The photographs that are exhibited, and one of which is herein reproduced, seem to be a clever combination of photographs of the actual work in the surrounding buildings and photographs of a model which have been rather carelessly retouched. The result is a very close approximation of the way the Bank will look when completed, and therefore it is a bit easier to criticise than if this design was shown only through the medium of a drawing. Mr. McKim was faced with a somewhat similar problem when he made over the old Treasury Building for the use of the National City Bank in New York. The old building was of the stiff classic temple type and consisted chiefly of a tall Corinthian colonnade on a low basement. Mr. McKim's problem was to build four or five stories more on top of this colonnade and he did it by the simple expedient of duplicating the colonnade, one above the other, and the effect was excellent, the altered building was finer than the original. Now it seems to us that something of this sort could have been done in the case of the Bank of England; the screen wall left as it was and a great simple central colonnade structure with a strong attic erected in the center, omitting all of the projections, domes and porticoes. It seems to us to have been worth trying—perhaps it was tried—but anyway we can't help feeling it would have been finer and more in character with the screen wall than the present scheme; this with all due apologies to Mr. Baker for our presumption.

We have also read with interest a paper on the Architecture of Concrete by Professor Beresford Pite which was published in the *Journal of the Royal Institute of British Architects* for April, but we were more interested in a statement by Sir E. Owen Williams, K.B.E. following the paper in which he said:

Throughout Professor Pite's paper I find that he has discarded arches; he feels that arches are no more. I have a very definite opinion that the only permanent structural element is the arch. It is the only member in which tension can be eliminated, leaving only compression; that is to say, that the structure then depends entirely on the force of gravity. The introduction of tensile stresses into a structure introduces disruptive forces. The introduction of steel into concrete presupposes tensile stresses, the introduction of steel also means corrosion. Professor Pite imagines the ancients using reinforced concrete for monumental buildings; I feel they would never have used reinforced concrete for monumental buildings. The function of reinforced concrete is as a commercial expedient for the production of cheap buildings, to last a period not exceeding 100 years. But that is only in common with all the modern expedients such

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as steelwork, or any structure containing steel. But I think that, had the ancients known the secrets of concrete as we know them, they would have built in concrete without reinforcement, and that they would still have built in arches, and that their structures would have appeared no less robust than they do now.

This expresses the situation well. Concrete is not and never can be a monumental material; it will not last long and it is not a handsome material in itself; and a great deal of printer's ink and good paper have been wasted unnecessarily in the endeavor to show that concrete is the building material of the future and all our architecture, in the future, must be shaped to that end. In saying this we do not refer at all to Professor Pite's paper, which was interesting and instructive.

We are glad to be able to reproduce an excellent photograph of Britannic House on Finsbury Circus in London by Sir Edwin Lutyens, a piece of work of real charm which is radically different from, and generally more suited to London than the new Adelaide House recently shown in these columns. These two buildings and the Bush Building have been compared quite frequently in the English papers, in some cases in a serious vein and sometimes in a rather flippant conversational form, one house telling of its own good features and the bad points of all the others in a very personal way. Waterloo Bridge, too, has a word to say for itself, and the shade of Rennie talks to a watchman, all in a way that is quite like Peter Rabbit or a bedtime story.

From "The Builder," London



BANK OF ENGLAND, VIEW FROM MANSION HOUSE STEPS

We regret exceedingly the passing of *Architecture*, London. *Architecture* was the journal of the Society of Architects and now that unification has become an established fact, the journal has perforce gone out of existence. It's a pity, for in our humble opinion, it was the best of the English papers, its illustrations were few but good, and

the written matter was easily the best of all architectural magazines abroad or here. The Editor, Mr. Christian Barman, not only wrote well himself, but he knew how to edit a paper. We congratulate him for what he did and we hope he will edit another.

The French papers, that is the ones we have seen, have little of interest, and the German ones are as wild and woolly as usual, except that now and then there is a building that is very simple and powerful in spite of the curious and coarse detail.

From "Moderne Bauformen"

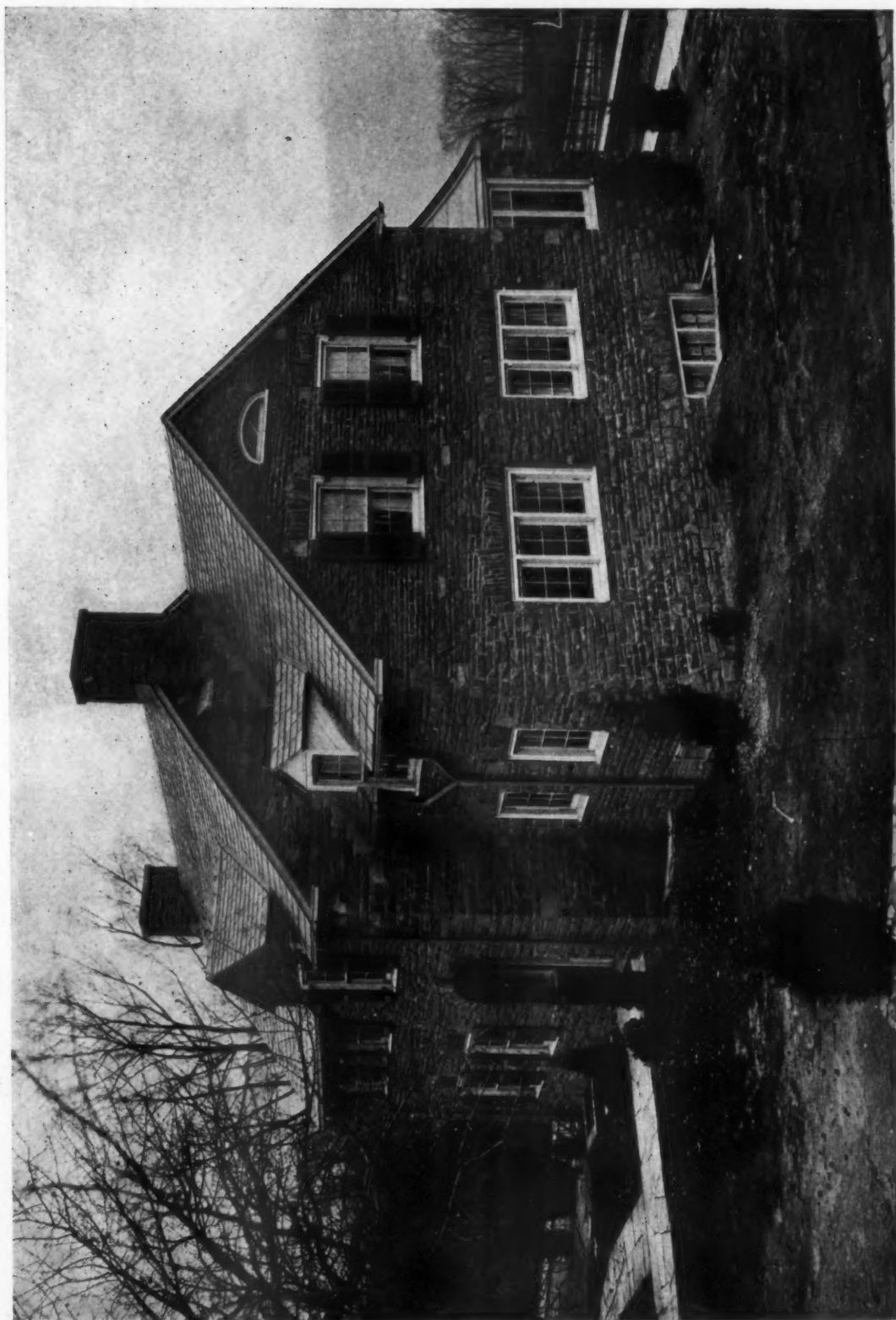


BUILDING OF DORTMUND UNION

In our own magazines we note with pain a bank in Chicago which seems to be quite an accurate, or inaccurate, copy of Independence Hall. *The Architectural Forum* has some more of its excellent photographs of European Precedents and in the April number some articles on the Designing of Small Libraries which as articles are rather better than the illustrations. In another paper, *The Architectural Record*, there are some Plates with Directions for Use by Japanese Student, Author of Arch's Handy Designer, somewhat in the style of Hashimura Togo, which is very pleasant fooling, and Mr. Paluel J. Flagg, M. D., writes authoritatively on Color in the Operating Room, that is we assumed it was authoritative until we read the following:

It has been pointed out quite recently that the symmetry of living things was more generally understood by the Egyptian girl dancer of Ptolemy's court where angular postures paid tribute to the root 5 rectangle, than it is today. We find the law of dynamic symmetry overshadowing the labors of the past. We find beauty, that which we instinctively grasp as true beauty, crowned and sanctified by law, and some there are who find it difficult to think of a law without a lawgiver. The Sphinx, the Pantheon. are beautiful but dead.

Root 5 again! Oh Paluel!



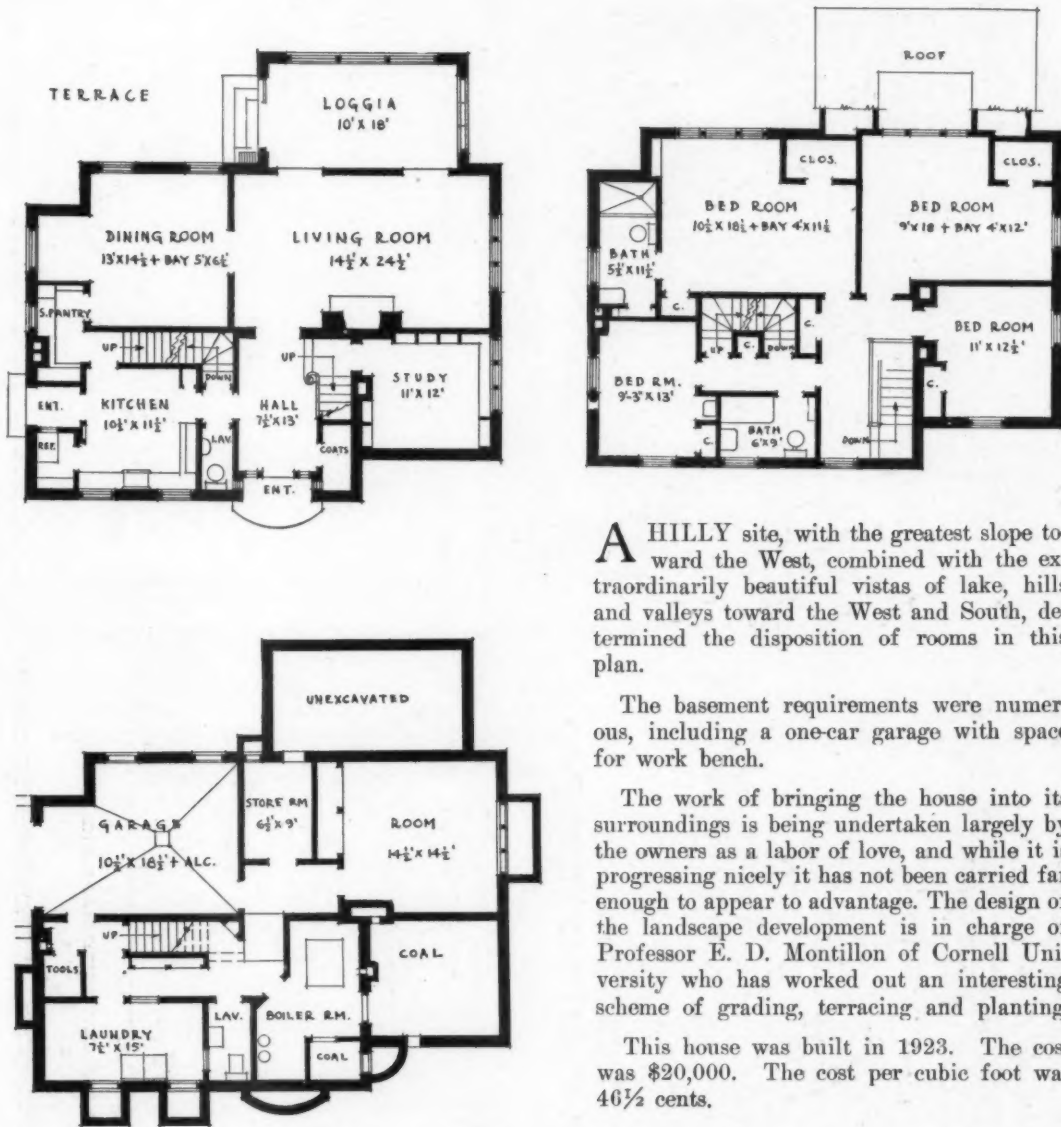
HOUSE OF PROFESSOR H. P. WELD, ITHACA, N. Y.

CARL C. TALLMAN, ARCHITECT

The exterior walls are of native stone, backed with hollow tile. The roof is of graduated variegated slate



HOUSE OF PROFESSOR H. P. WELD, ITHACA, N. Y.
CARL C. TALLMAN, ARCHITECT



A HILLY site, with the greatest slope toward the West, combined with the extraordinarily beautiful vistas of lake, hills and valleys toward the West and South, determined the disposition of rooms in this plan.

The basement requirements were numerous, including a one-car garage with space for work bench.

The work of bringing the house into its surroundings is being undertaken largely by the owners as a labor of love, and while it is progressing nicely it has not been carried far enough to appear to advantage. The design of the landscape development is in charge of Professor E. D. Montillon of Cornell University who has worked out an interesting scheme of grading, terracing and planting.

This house was built in 1923. The cost was \$20,000. The cost per cubic foot was 46½ cents.

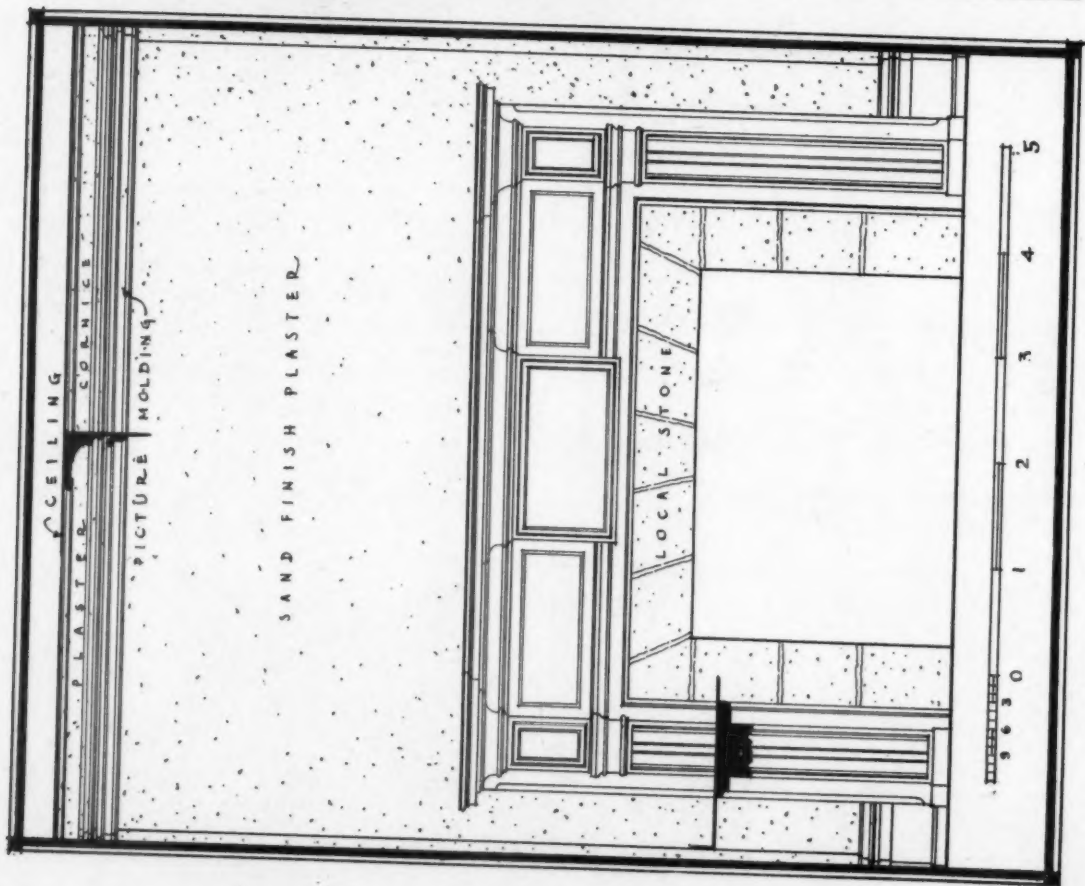
HOUSE OF PROFESSOR H. P. WELD, ITHACA, N. Y.

CARL C. TALLMAN, ARCHITECT



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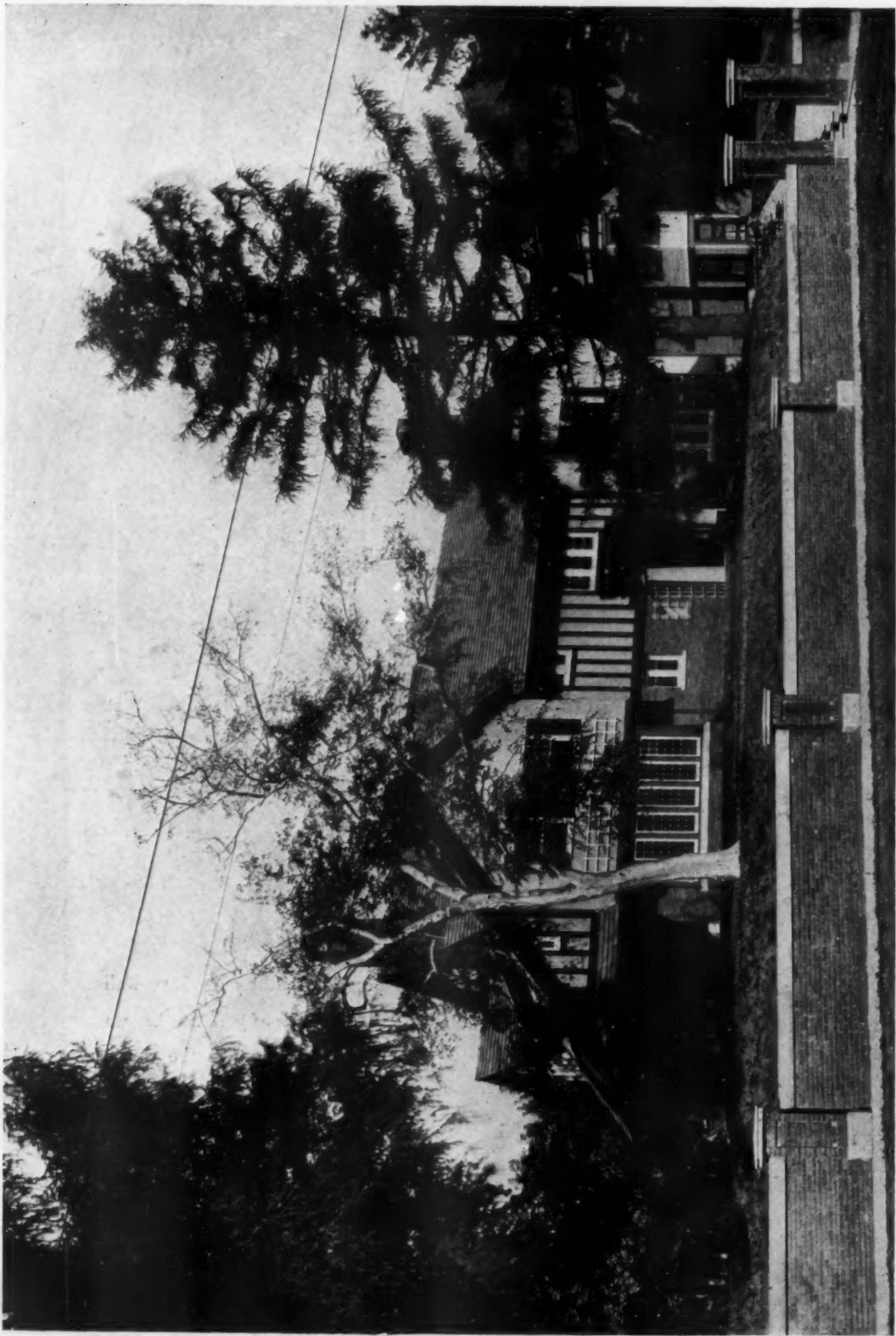
HOUSE OF PROFESSOR H. P. WELD, ITHACA, N. Y.

CARL C. TALLMAN, ARCHITECT

THE entire first and second stories, excepting the service part and bathrooms, have walls and ceilings plastered with a sand float finish in which a small amount of yellow ochre was mixed. This treatment produces a warm gray background harmonizing with the various schemes of decorations in the individual rooms. Plaster cornices are used in the living room and dining room. No window casings are used, the plaster returning around the jambs.

The woodwork is painted a rather light neutral gray to tone with the walls.

The house is heated with a vapor system.

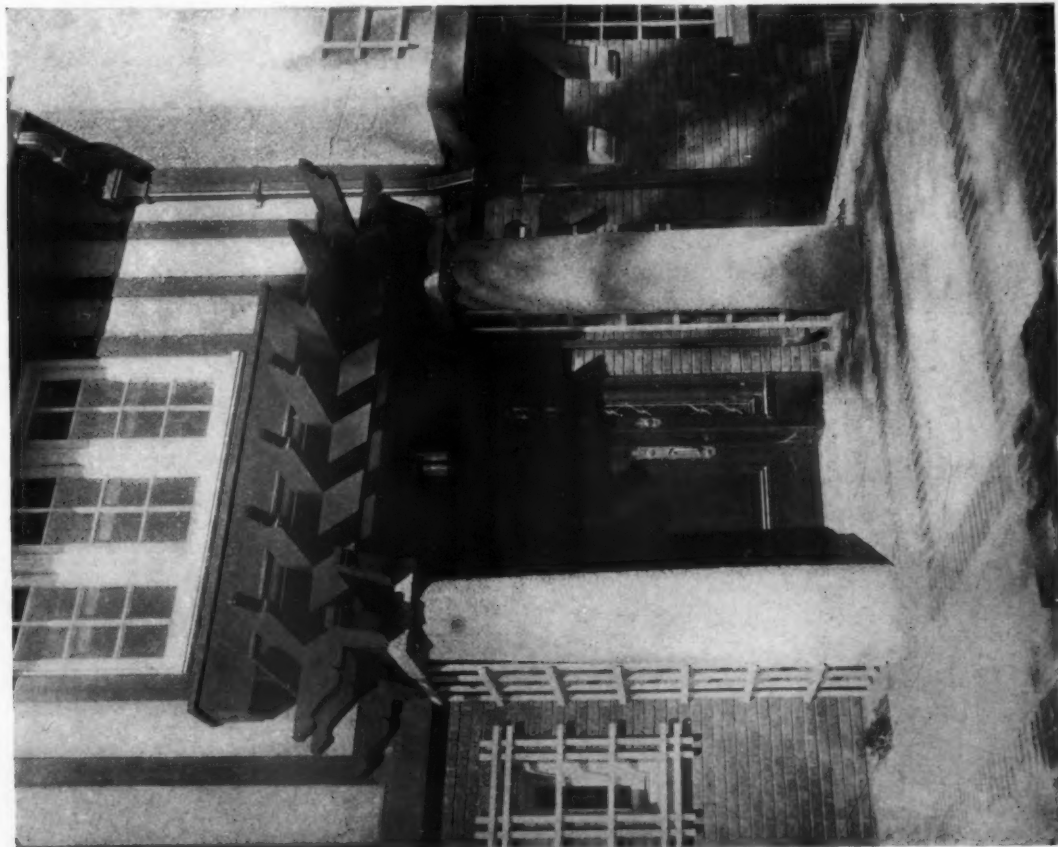
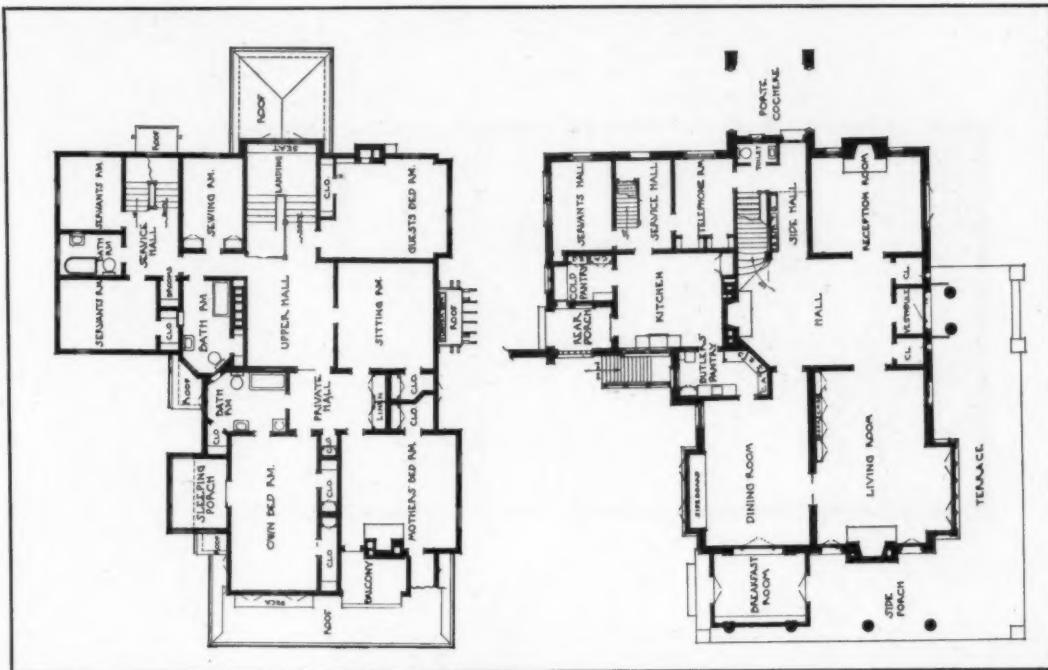


HOUSE OF J. B. BROWN, MONMOUTH, ILL.

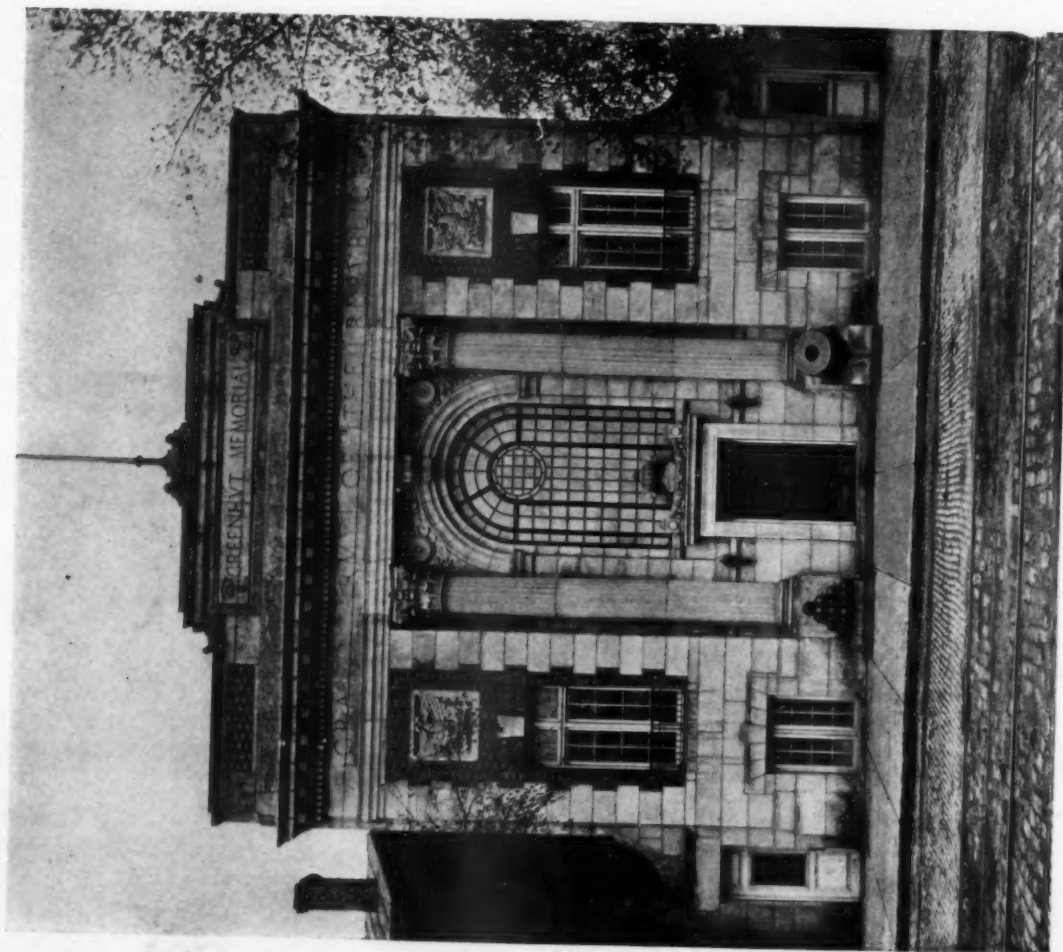
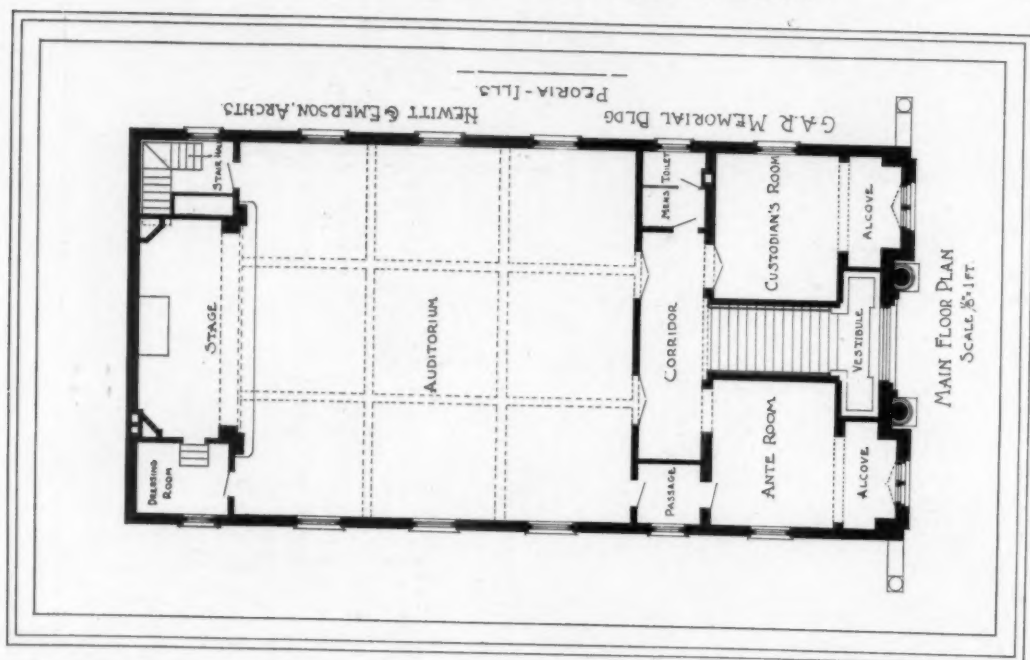
HEWITT & EMERSON, ARCHITECTS

This house is of wood frame construction, with exterior walls of brick and stucco. Floors oak and tile; partitions, wood frame; roof is slate covered. Oak and birch trim. Hot water heating. Cost not available

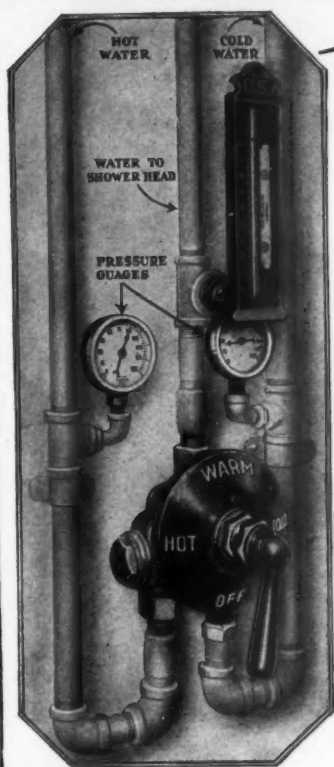
THE AMERICAN ARCHITECT



HOUSE OF J. B. BROWN, MONMOUTH, ILL.
HEWITT & EMERSON, ARCHITECTS



G. A. R. MEMORIAL BUILDING, PEORIA, ILL.
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Method of Test Made by Mr. Metcalf

Proved Efficiency

Not once, but many times, in many places, the Powers Safety Shower Mixer has proved its worth by laboratory tests and in the test of long use.

Two remarkable features distinguish this Mixer from all others.

1. A PRESSURE EQUALIZING VALVE, which eliminates scalding and unexpected temperature changes in the shower, so often caused by the use of nearby showers, faucets, and flush valves.

2. A SAFETY SCREW, which can be set to limit the delivery temperature of the shower, thus protecting the bather from scalding caused by a "dead end" in the HOT water supply line; saving fuel; and reducing decorating expense by preventing "steamed-up" bathrooms.

Read Our Booklet

We have prepared a very complete exposition of the principles and merits of this Mixer. It is entitled *How to Prevent Scalding and Repair Troubles in Shower Baths*. We shall be glad to send a copy, free, to anyone interested.

THE POWERS REGULATOR CO.

34 years of specialization in temperature control

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Atlanta	Charlotte, N. C.	Detroit	Los Angeles	New York	San Francisco	Seattle
Baltimore	Cincinnati	El Paso	Milwaukee	Philadelphia	CANADIAN OFFICES	
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University Club of Chicago

February 5, 1924.

Powers Regulator Co.,
2720 Greenview Ave.,
Chicago, Ill.

Attention of Mr. McFarland

Gentlemen:

Having had a great deal of trouble and frequent complaints from members of this club about water in shower baths suddenly getting cold and then hot, we decided to test a Powers shower mixer.

We found that with your mixer it made no difference whether one or all showers were in use at the same time; and no matter how violently the pressure on hot or cold water lines changed, the thermometer in discharge to shower head showed that the temperature of the water was constant at all times.

Upon the results of this test we decided to replace the mixers we were using with Powers mixers. They are built strong and do not require frequent repairs. They save water, prevent steaming up of shower room, and make it impossible for bather to get scalded. I do not hesitate to recommend them as the best mixers I have ever used.

Respectfully,

W. C. Metcalf
W. C. Metcalf, Chief Engineer

UNIVERSITY CLUB OF CHICAGO

Architects: Holabird & Roche

Plumbing installed by
Carl John Stein Co.

Mr. Metcalf is one of Chicago's prominent stationary engineers. He was formerly engineer for the large Chicago Y.M.C.A. Hotel and the Blackstone Hotel of Chicago, where he had a great deal of experience with shower baths.

(3137c)



SPECIFICATION STOCK TAKING

BY H. R. DOWSWELL

DO architects ever take stock? By this is meant a serious analysis and appraisal of all the elements which go to make up an architect's offering to the public under the title of "Professional Service."

The International Exposition of Architecture and Allied Arts, recently held in New York City, must certainly have impressed the lay public with the present day architect's ability to express himself in a variety of forms.

What has been its reaction on members of the profession?

To the writer, the most outstanding impression was that of the immense and ever growing responsibility placed upon the architect, a responsibility affecting all phases and activities of human life.

What is the architect's attitude toward this responsibility?

Judging from results only, as illustrated by the Exposition, his attitude, whatever it may be, produces, in many cases very satisfactory effects. But has the architect concerned himself too largely with effects and neglected the means whereby these were attained? Have his clients paid too high a price? Can equally good, or better results be obtained at reduced cost? If so, how can costs be reduced?

These are the questions which were not answered by anything displayed at the Exposition and which led to the opening query.

Assuming, on any problem, that a satisfactory solution, in both plan and elevation, has been obtained and that materials of construction have been carefully considered and selected, the conditions affecting the cost have, within somewhat broad limits, been fixed. The range of prices, within those limits, depends almost entirely upon the completeness, accuracy and definiteness with which the requirements are conveyed to the contractor.

An architect's instruments for conveying requirements are "Drawings and Specifications."

It has been frequently stated and is generally admitted that specification writing has not kept pace with the advance in "Working Drawings."

The comments herein offered are therefore in the nature of a Specification Stock Taking and, in an effort to help in this branch of the service, suggestions are offered for consideration and criticism. Certain methods of approach, followed by the writer for some years, are also outlined together with a procedure which has been successfully worked out in practice.

These suggestions would be offered with a great deal of hesitation were it not that the New York

Building Congress, in the March 28 issue of the *Building Congress News*, suggests a form and procedure very similar. The writer knows that such a procedure will result in more accurate estimating, a reduction in contractors' estimating costs, and develop a more cordial relation and better understanding between architect and contractor.

Briefly, the suggestions offered are these:

1. Write your specifications so that they will be instruments of *Service*.
2. Keep this fact in mind. Although an architect is frequently forced to produce drawings and specifications in a restricted time, he has, in proportion to the financial responsibility assumed, a much longer time, relatively, than the contractor, for estimating.
3. Remember that the contractor, in submitting a proposal, is entering into one of the biggest gambles in the world of business. The architect, by furnishing complete information regarding the extent of work and qualities of materials and workmanship, can practically eliminate the "gamble" from these items. He cannot remove the gamble due to errors in taking off quantities or in pricing materials and labor.
4. The estimator is the most overworked individual in a contractor's organization. Give him some consideration. Write your specification for the estimator and everyone will profit.
5. The subdivision of the specification into trades should be determined by the trade practices in each locality. Subdivide as nearly as possible to conform with the general contractor's practice in sub-letting.
6. Adopt a form of trade specification which parallels the process of estimating. The estimator, at first, is only interested in the location and extent of the work. Pricing is an independent operation after quantities have been taken off. It is then that the estimator is interested in quality of material and workmanship.

Some years ago, the writer, aided by criticisms and suggestions from several large contracting companies, developed a "Work Included" clause which, starting with a broad general outline of the subdivision continued with an itemized list giving the location and general extent of the work. To illustrate, the following is the opening outline clause:



A product of The Pyle-National Company, for twenty-eight years the world's largest manufacturer of locomotive head-light equipment.



Pyle-National floodlights make the famous Wrigley Building dominate the Chicago skyline

LIGHT DOMINATES!

From night to morning the
floodlighted building is the
only building

Flood lighting should be anticipated in the building plans. Let us advise.

Floodlight Headquarters

The Pyle-National Co.

General Offices and Works:

1334-1358 North Kostner Ave., Chicago, Ill., U. S. A.

CANADIAN AGENTS:

The Holden Company, Ltd.,
Montreal, Winnipeg, Van-
couver, Toronto.

EXPORT DEPARTMENT:

International Railway Supply
Co., 30 Church Street, New
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WORK INCLUDED

This subdivision shall include the furnishing of all material and labor (here insert name of subdivision) as specified herein or indicated on the drawings.

The location and general extent is as follows:

Here follow the items. For example, in a Miscellaneous Iron subdivision, Stair Work is listed thus:

(b) Stairs as follows: (Metal work only)

Location	Strings	Risers	Treads	Newels	Balustrades	Hand Rail	Wall Rail	Soffits
Stair No. 1 Basement to Pent House	Steel	Cast Iron	Steel Under Tread Marble Finish	Cast Iron	W. I. Bars $\frac{3}{4}$ "—4" O. C.	Wood	None	Not Plastered

Plastering items are listed thus:

(f) PLAIN PLASTER—HARD WHITE FINISH

BASEMENT:

(1) Walls and Ceilings of Corridor No. 5, Passage No. 9, Room No. 10, Toilets No. 11 and No. 12.

FIRST FLOOR:

(2) Walls and Ceilings of Rooms No. 100, No. 107, No. 108, and so on throughout every floor.

(g) ORNAMENTAL PLASTER—HARD WHITE FINISH

FIRST FLOOR:

(1) Ceiling, Cornice and Walls, above Marble, in Vestibule No. 101, Hall No. 102, Stair Hall No. 103, and Elevator Hall No. 104.

Work in the Marble Subdivision was listed in this way:

(e) Marble base as follows:

Floor	Location	Kind of Marble	Height	Thickness	Finish
Basement	Vestibule No. 12	Napoleon Gray	8"	$\frac{7}{8}$ "	High Polish
First Floor	Corridor No. 105	Tavernelle	12"	$\frac{7}{8}$ "	High Polish

The method followed for the various subdivisions is selected to fit the particular need. The effort is to give the estimator the location and extent of the work without forcing him to read pages of descriptive matter and pick out here and there the items that are first required in the preparation of his estimate.

These "Work Included" clauses must be complete, because they form the basis of the contractor's quantities, but, after following this method for over ten years, the writer has found that the number of errors and extras has been much less than under the older and more common method of mixing "Work Included" and descriptive clauses. In addition, it has been found that "digging" out the "Work Included" items is an excellent check on the completeness and accuracy of the drawings.

After the "Work Included" items have been listed and checked, it is a simple matter to write the clauses descriptive of materials and workmanship. If a compilation of such clauses is kept and properly indexed, it will be found, after a few years, that this part of Specification writing becomes largely a matter of selection from a number of carefully written clauses. The real work, and there will be more time for it, is in the careful listing and checking of the items of work.

This ultimately will lead to the goal suggested by the "Committee on Standards" of the New York Building Congress, in which each architect writes Part "A" or "Work Included" clauses, referring by letter or number to accepted requirements embodied in a series of descriptive clauses

outlining standardized methods of workmanship and qualities of materials for any class or grade of work.

The adoption of such a form would not only "secure a uniformity that will facilitate the work of estimating and lessen the cost of execution," but will also afford an excellent check, as between drawings and specifications, reduce materially an architect's production costs, and increase the value of specifications as instruments of service.

STUDIES IN POLYCHROMY

ISSUE No. 10 of *Atlantic Terra Cotta*, the monthly publication gotten out by the Atlantic Terra Cotta Company of New York City, treats of studies in polychromy, particularly with reference to the Renaissance period.

These brochures are always interesting and are worth keeping in an architect's file as they contain an immense amount of value and suggestive material. The current issue is of even greater value than usual and as it can be had by architects on request, we suggest that they avail of the opportunity to secure not only this issue, but others that will follow it and which will undoubtedly be of equally good and suggestive value.

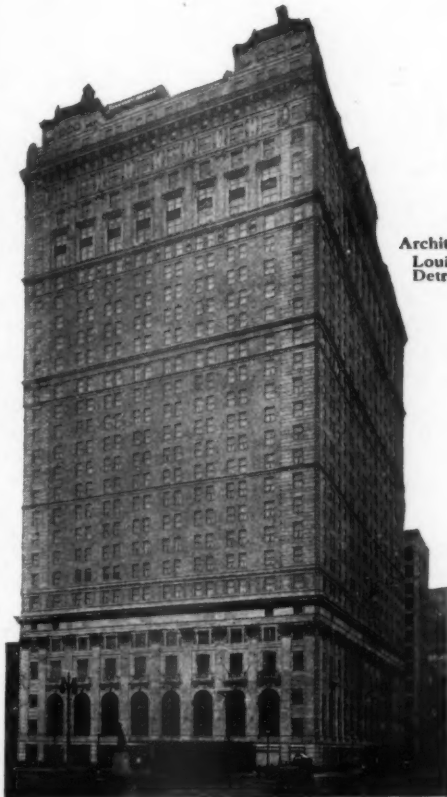
Newest of the World's Luxurious Hotels

The BOOK-CADILLAC in Detroit—29 floors—is a notable addition to the impressive number of magnificent structures in America equipped throughout with Stanley Ball Bearing Butts.

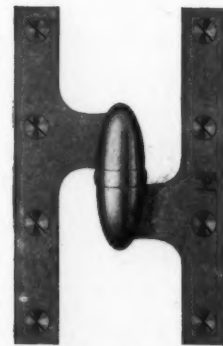
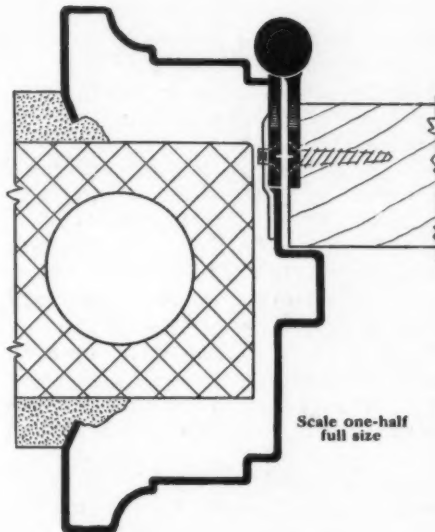
THE STANLEY WORKS

New Britain, Conn.

New York Chicago San Francisco
Los Angeles Seattle



Architect:
Louis Kamper,
Detroit.



Stanley No. BB 200 5"

Wrought Steel Ball Bearing
Paumelles as used, together
with many other styles of
Stanley Butts, in this hotel.

STANLEY

BALL BEARING BUTTS



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COLLEGE OF ARCHITECTURE, UNIVERSITY OF MICHIGAN

THE George G. Booth Traveling Fellowship in Architecture has been awarded to Kenneth C. Black of Lansing, Michigan. Honorable mention was awarded to LeRoy E. Keifer of Detroit, there being four other competitors. This is the second year that the Fellowship has been awarded, which carries with it a stipend of \$1200. Mr. Kiefer, the runner-up, is to receive \$150 given by the Detroit Chapter of The American Institute of Architects.

The jury consisted of the following architects:—H. J. Maxwell Grylls, President Detroit Chapter, A. I. A.; William B. Stratton, Past-President of the same Chapter; John B. Jewell, President of the Detroit Architectural Club; and Wirt Rowland of Smith, Hinchman & Grylls, Detroit; and five members of the architectural faculty.

In the opinion of the faculty, there is an improvement in the designs submitted by the competitors this year over those of last year, and this improvement, it is hoped, will go on from year to year.

The purpose of the scholarship is to further a higher standard of preparation for architectural practice, the stipend being based on the endowment of \$20,000 given last year by George G. Booth of Detroit. Mr. Booth has taken a fine constructive interest in the architectural school, and along with the architects of the state has done much to co-operate with the faculty in advancing the school's standards and interest.

ETRUSCAN RELICS FOUND

ACCORDING to a message from Cerveteri, Italy, ten tombs have recently been opened in necropolis Caere, which is the oldest Etruscan cemetery in Central Italy. A quantity of bronze furniture and artistic vases and terra cottas came to light.

One tomb yielded a number of Etruscan dolls and toys, which are considered a most interesting find.

Professor Mengarelli, director of the excavation, stated that the necropolis covers an area of 600 acres, of which only three have been tapped, and was the burying ground of much wealth. The opening of tombs will continue.

MEDICAL CENTER PLAN STARTS ITS BUILDING OPERATIONS

PLANs for erection of the first three buildings, at a cost of \$10,000,000, of the Columbia-Presbyterian Medical Center, New York, to be the largest institution of its kind in the world, were filed recently.

Designs submitted call for construction of a fourteen story building to house the College of Physicians and Surgeons of Columbia University. On either side will be ten and thirteen story buildings, to be occupied by Presbyterian Hospital, the Presbyterian School of Nursing and wards for private patients.

YALE PLANS ART CENTER

THE acquisition by Yale University, New Haven, of the services of Professor George Pierce Baker to head a new school of the drama, and the designation of an entire city block on the college campus on which an art museum and other associated buildings will be erected at a cost of over \$1,000,000, are steps in the development at Yale of a fine arts center to be the greatest of its kind in the country, it was officially announced a short time ago.

Graduates have been asked to subscribe to the "Associates of Fine Arts at Yale University," which has been formed to work with the Yale corporation toward fulfilling the object. It was said today that the organization would be modeled along the lines of "Les Amis du Louvre" at Paris, but with the purpose of taking a live interest in the subject of fine arts at Yale.

CORNELL BUILDING HOMES FOR TEACHERS

CORNELL UNIVERSITY, Ithaca, N. Y., has begun the construction of an apartment house near the university campus to relieve the housing shortage that has existed here for several years and to provide homes at reasonable prices for members of the university staff. The apartments are to be used primarily by younger teachers in the lower grades whose salaries are small.

Two units of nine apartments each are to be built now and the plans call for sixty apartments in all. Each apartment consists of four rooms and a bath. On the ground floor will be store rooms, one for each of the apartments, and there will also be on this floor a number of studies or work rooms.

D'ANNUNZIO'S VILLA A NATIONAL MONUMENT

IT was recently decided by the Cabinet Council in Rome to proclaim D'Annunzio's villa at Gardone, known as "Il Vittoriale," a national monument. The decision was taken at Premier Mussolini's suggestion, who referred to it as "a temple sacred to memories of the Great War."

Colonel D'Annunzio has been busy amplifying and beautifying the villa, collecting a rich store of interesting mementos of the war. The villa now is one of the most artistic, beautiful and historically interesting residences in Italy. He has presented it to the nation, obtaining permission, however, to continue to reside there until the end of his days.

NO. 10 DOWNING STREET MAY GO

THE home of the British Prime Ministers, No. 10 Downing Street, is doomed. The office of Public Works says the structure is dangerous to occupy and is falling to pieces. The floors are sagging and the walls crumbling away.

The Government may tear down the building and build an entirely new one.



Detail of Terra Cotta, Palazzo Stanga, Cremona, Italy

*(from "Terra Cotta of the Italian Renaissance,"
published by the National Terra Cotta Society)*

"TERRA COTTA of the ITALIAN RENAISSANCE"

The first permanently bound work presenting a comprehensive survey of the Terra Cotta Architecture of early Italy.

This volume contains 200 full page plates devoted entirely to illustration of old Italian precedent.

It is offered at the nominal price of \$3.00. Copies will be sent on approval to architects, draftsmen and students of architecture. Address

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GERMAN COMMISSION TO STUDY OUR FARMS

AN official German Agricultural Commission, the first to travel abroad since the World War, recently arrived in this country for a six months' study of the progress made in American agriculture during the last ten years. The members were appointed by the Federal Ministry of Food and Agriculture and by farmers' organizations.

The delegation will be received by the United States Department of Agriculture at Washington. Dr. Fred Hagedorn, Under Secretary of Agriculture, will accompany the commission, and will himself make a study of American agricultural economics and finance.

"The fundamental idea was recognition of the fact that for the past ten years our scientific agriculturists have not been able to go abroad," a spokesman for the German Ministry of Agriculture said.

"We know that during this period America has made tremendous strides, and therefore we have designated four of the best known German authorities in their special fields to carry out the investigations."

THE HOUSE-WRECKERS

THERE is a fascination about watching building construction work that seems to affect people in all walks of life, states a correspondent in a recent issue of the *New York Times*. At any one of a hundred spots in New York where work is going on one will find a group of spectators.

Not the least interesting of the building operations to watch is the work of the house-wreckers. Tanned and sturdy sons of toil they are, in constant danger every minute of the working day.

A few weeks ago the walls reared themselves several stories up. In a day the wrecking gang had ripped off the roof and started to demolish the building. Far above the street the wreckers, crouched on narrow brick walls, with no added support or protection, tore away the bricks beneath their own feet. Straight down on either side a sheer drop of a hundred feet or more; below, irregular heaps of bricks, waiting to crush a falling body.

Such labor calls for the steady play of muscles and an acute sense of balance. There is treacherous footing high up on a narrow wall, with crumbling mortar beneath and stray, loosened bricks to trip, yet never the slightest suggestion of a misstep.

Perfect co-ordination of effort, skilled workmanship, high efficiency, and nothing wasted. The entire building razed and carted away, to spring up again, serving man in some new form.

Daring, drab and destructive. Tearing down what other men built up that still other men may build more for others to tear down. The daring of the steelworker and other laborers at dizzy heights has often been told, but fiction and fame have yet to find the house-wrecker.

PERSONALS

Eugene Schoen, architect, is now located at 43 West 39th Street, New York City, having moved from 282 West Fourth Street.

Charles H. McCauley, architect, has opened an office for the practice of architecture at 709 Jackson Building, Birmingham, Ala.

Alfred Fellheimer and Steward Wagner, architects and engineers, have moved their office to 155 East Forty-second Street, New York City.

Starrett & Van Vleck, architects, have moved their offices from 8 West Fortieth Street to the Equitable Life Building, 393 Seventh Avenue, New York City.

Carl M. Lindner, architect, has moved his offices from the American National Bank Building to Suite 915-916 State and City Bank Building, Richmond, Va.

Gerald Lynton Kaufman, architect, announces the removal of his office from No. 1 Pershing Square, and the opening of a new office at 415 Lexington Avenue, New York City.

H. E. Magnuson & E. W. Kleinert, architects and engineers, and F. H. Klie, associate architect, have moved their offices from 52 Vanderbilt Avenue to Room 1410 Postum Building, 250 Park Avenue, New York City.

Goddard, Marsh and Shaw, architects, have opened an office for the general practice of architecture at 507 Fifth Avenue, New York City, where they would be pleased to receive manufacturer's catalogs and samples.

William Gehron, Sidney Ross, William F. Pennell and Merle W. Alley, long associated with the late Arnold W. Brunner, architect, wish to announce that the office will be continued under the name of Arnold W. Brunner Associates, Inc., 101 Park Avenue, New York City.

Ralph Bryan, A. I. A., and Walter C. Sharp, A. I. A., formerly associates in the firm of Herbert M. Greene Company, Dallas, announce the formation of the partnership of Bryan and Sharp for the general practice of architecture, with offices in the Dallas Athletic Club Building, Dallas, Texas.

C. Howard Walker, formerly of C. Howard Walker & Son, announces that he has formed the partnership of Walker, Walker & Kingsbury, with Harold D. Walker and Frederick S. Kingsbury, for the practice of architecture, landscape architecture and town planning, with office at 120 Boylston Street, Boston, Mass.

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