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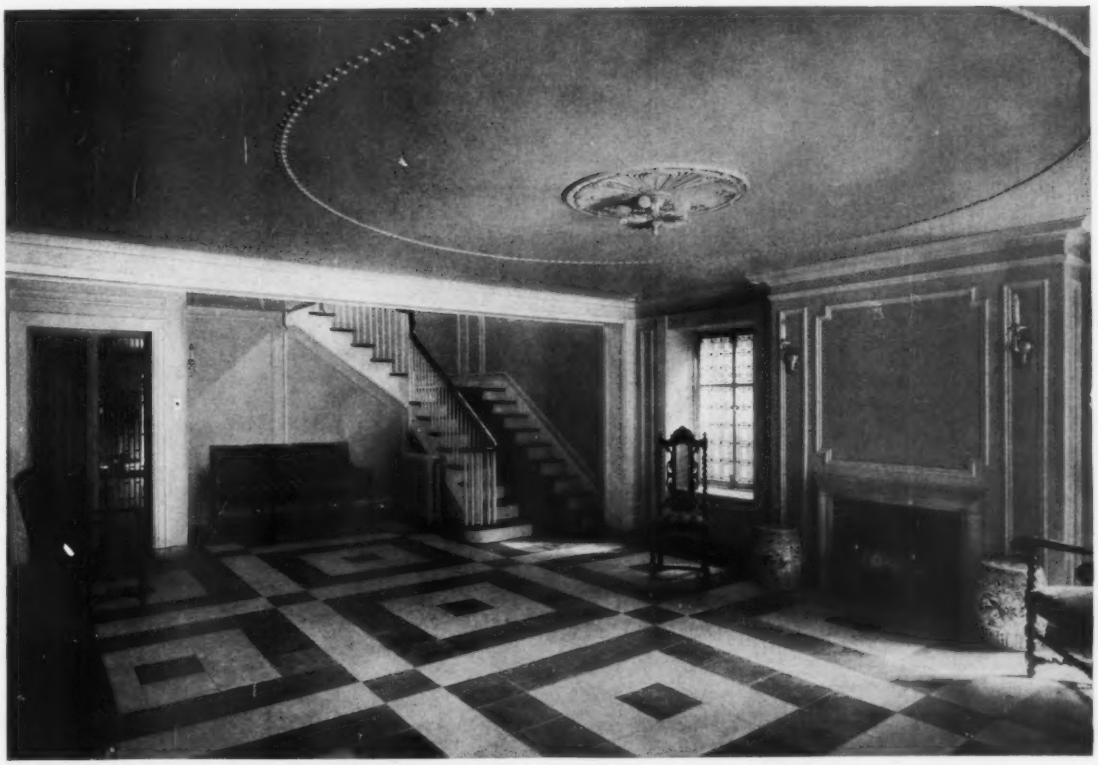

ENTRANCE LOBBY, BARRETT APARTMENTS, CHICAGO, ILLINOIS

MESSRS. RICHARD E. SCHMIDT, GARDEN & MARTIN, *ARCHITECTS*

EFFICIENCY IN APARTMENT HOUSE DESIGN

By C. L. HORN, *President of The Wheeldon Annex, Portland, Ore.**

IN ninety-nine cases out of a hundred an apartment building is built by the owner for one of two ultimate purposes, either as an investment or as a monument—and too often the building which was intended as an investment is unwittingly turned into a monument (of folly) by the unwise selection of site, design or size. Volumes of valuable information can be written upon this interesting subject, but it will be possible in this short article to discuss only very briefly a few of the salient features of the apartment building.

The size, design, equipment and finish of the building which may be built to produce a commensurate return on the investment are

* The author is particularly well equipped to discuss this question intelligently. Having practiced architecture, but more recently engaged in apartment house operation, he is recognized as a leader in this business on the Pacific Coast, being at present manager of what may be considered the largest and best house of its type in the Northwest. He is also President of The Apartment and Hotel Association, of Portland, Ore., as well as President of The Pacific Coast Apartment Association.

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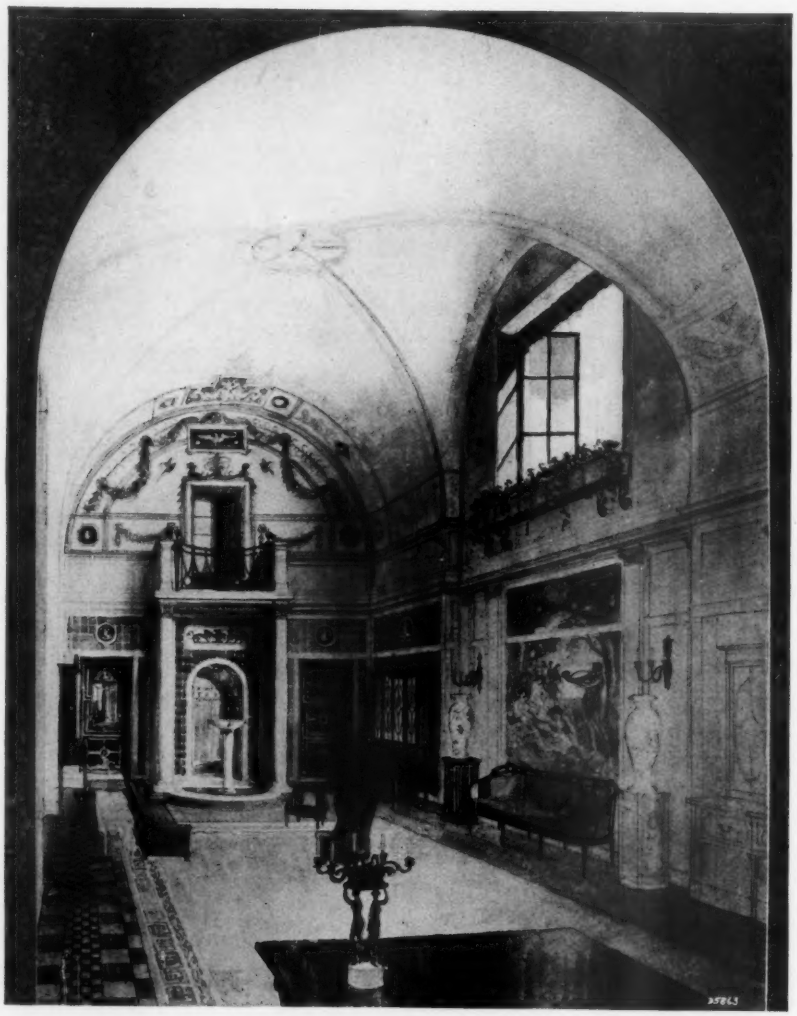
features decided largely by the site, its value, location and frontage, the class of patrons to which it is planned to cater and the possible future trend of realty values and shifting of population; therefore no general rule may be laid down which will apply in all cases, and the factors entering into each individual case must be carefully analyzed to determine these features.

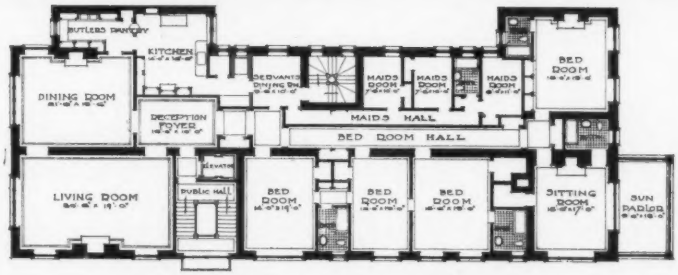
Regardless of these considerations there are, however, certain general principles which apply to all types and classes of apartment buildings alike. Not one of the least of these is ample provision for the admission of light and fresh air to all parts of the building. Because of a lack of due consideration on the part of owners, architects and builders in the early period of apartment house development, this is a matter which has been and still is being given much attention of social reformers and housing code committees throughout the country. Aside from being a matter of public health and morals, it is a common sense arrangement and economic proposition to make ample allowance for both plenty of light and fresh air; a building constructed with due regard for both will cost less and actually produce a higher percentage of revenue on the investment than one which is not so constructed, even though it may contain fewer rooms.

If the maximum efficiency of investment is to be secured, fully as much attention should be paid to arrangement to produce the highest average revenue per unit area and to economy of operation after building is completed as to economy in construction and equipment of building.

The "first impression" is the one that lingers longest, and many times will compensate for shortcomings or failure in other directions, therefore the exterior of the building should be pleasing to the eye—not necessarily ornate, however. Arrangement of the interior, perhaps, plays a larger part than any other one factor upon the value of the building to the tenant as a home, and consequently as a revenue producer for the owner. Economy of space should be the watchword—is not that the real demand which has produced the apartment building?



STUDIO ON TOP FLOOR, BARRETT APARTMENTS, CHICAGO, ILL.



LIVING ROOM AND TYPICAL FLOOR PLANS, BARRETT APARTMENTS, CHICAGO, ILL.

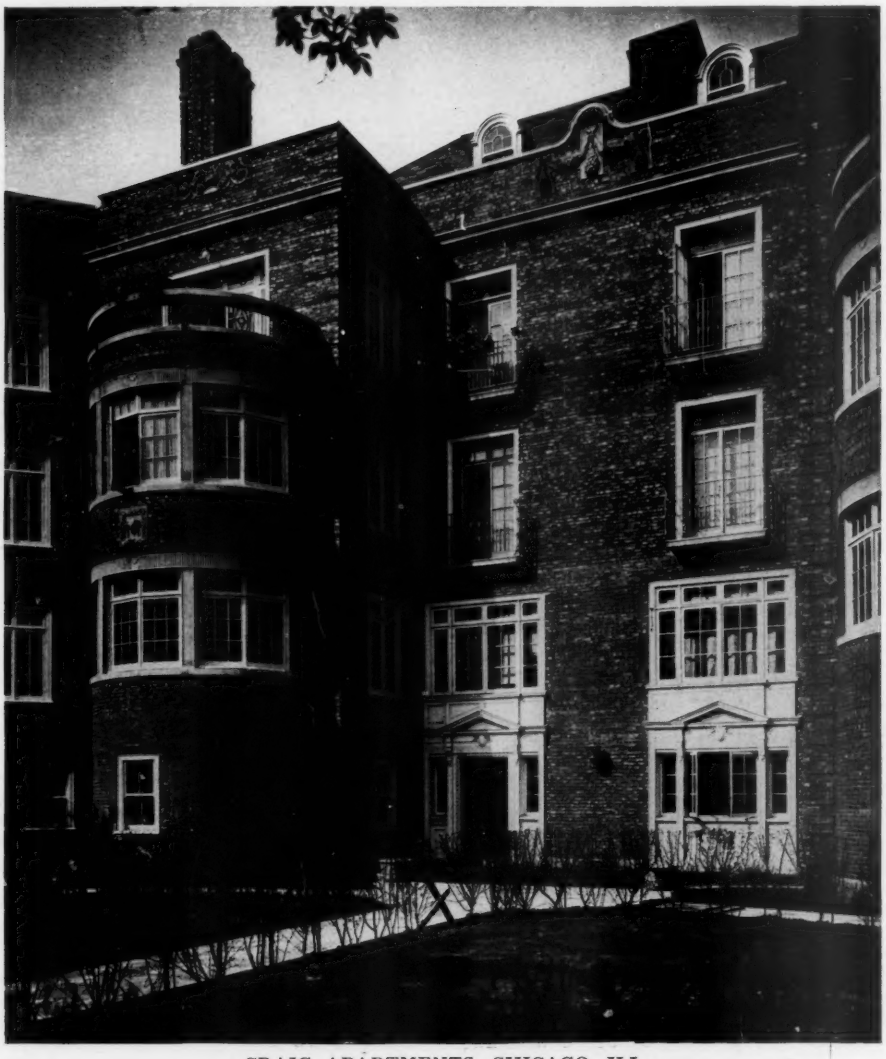
Economy of space should not be understood to mean crowding; it means the utilization of all available area without waste—and by all means any appearance of crowding should be avoided. Vestibules and corridors should not be cramped, dark or crooked, but should be symmetrical, simply arranged, roomy, light and airy—for your corridor is your "first impression" inside the building, and in case of fire provides the means of exit. The arrangement of apartments in all cases as far as possible should be such that persons may reach any one room or bath from any other room; this is a desirable feature which is too often neglected, with the result that many apartments which would otherwise be especially desirable cannot be used by many prospective tenants. Apartments should be so arranged that kitchens, baths, closets, corridors or solid sound-proof masonry walls intervene between the living rooms of separate apartments, so as to preclude the traveling of sound from one apartment to another.

It is within the apartment itself that the greatest amount of economy of space may be practiced. It is easier to design (and cheaper to construct) a symmetrical room than one of awkward shape, and the rental value is much higher. Much space often devoted to useless hallways and awkward closets may be turned into usable dressing or storage closets; tops and bottoms of closets which are usually so much waste space or "dirt-catchers" may easily be devoted to drawers or shelving for the storage of shoes or clothing. Ample closet or storage space is one of the very essential requirements

within the individual apartment; many times this one feature decides the renting or refusing of an apartment.

The kitchen is a room where, contrary to a common practice, most careful attention should be devoted to utilizing every inch of available space; cupboards, drawers, bins and cabinet work of all kinds would be built in to provide a place to properly store and protect from dust everything connected with the culinary department of the home.

There is one axiom which should be thoroughly memorized by every owner, architect, contractor and workman engaged in the construction of an apartment building: "Everything movable must be absolutely fool-proof and non-breakable." Everything movable about the building should be as durable as though it were a factory building—be it remembered, however, "durable" and "clumsy" are not necessarily synonomous. It is poor economy to put in cheap hardware or lightly constructed mechanical equipment, for it will be but a short time at best before it will become a constant source of expense and annoyance. All working parts, hard-



CRAIG APARTMENTS, CHICAGO, ILL.

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CRAIG APARTMENTS, KENWOOD AVENUE, CHICAGO, ILL.

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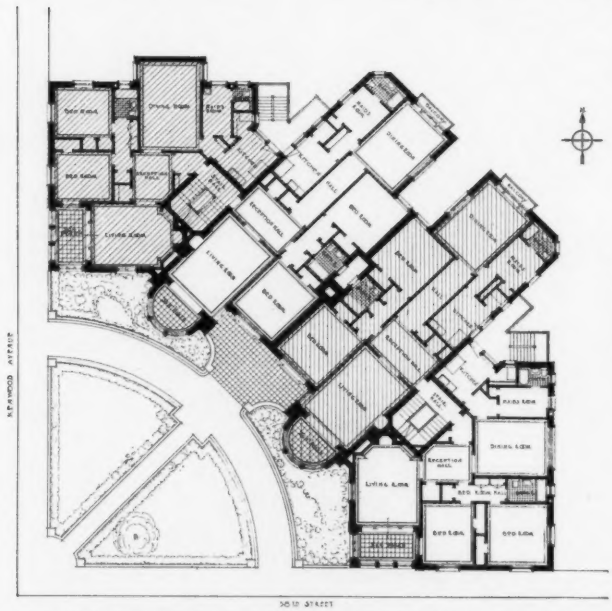
ware, finish, etc., should be standardized and interchangeable throughout the building so that in emergency cases there will be available substitute "parts" with which either temporary or permanent repairs may be made.

Because of the nature and amount of waste from apartments, the "roughing in" of plumbing requires the utmost care so that the minimum possibility of stoppages exists; long horizontal runs or short turns should not be tolerated, and plenty of cleanouts should be provided so the most obstinate stoppage may be removed without removing any portions of walls, floors, etc. The use of cheap fixtures, particularly toilet tanks, faucets, etc., is an expensive short-sighted policy which usually causes quite as much annoyance as the lack of proper "roughing in," and as a matter of fact is ultimately more expensive than would have been the original cost of the best equipment.

The simpler all mechanical equipment, the more satisfactory will it prove. Particularly is this true of the heating plant; space will not permit a discussion of this important equipment, but it should be remarked in passing that the piping should be as simple and the plant require as little attention or care as can be devised.

The arrangement of the service portions and equipment of the building is not usually subjected to all the consideration which their importance merit. If 100 per cent efficiency of service is desired, much study and care must be expended on the building plan. The janitor's office should adjoin the tradesmen's entrance and receiving room, which should be large enough to permit efficient handling and temporary storage of articles awaiting delivery to or from the tenants. Automatic electric dumb-waiters should connect from basement corridors with the kitchen of every apartment so deliveries may be made quickly and direct, eliminating tradesmen, etc., from the corridors and the attendant litter and wear. Delivery lockers in receiving room should be as close to dumb-waiters as possible. The freight elevator and storage room should be as close to the tradesmen's entrance as possible, thus eliminating unnecessary trucking. Gas and electric meters should be arranged in rows (and labeled) in a separate room which should be easily accessible. A repair shop with full equipment adjoining the boiler room will be found one of the best investments within the building; a stock room for the storage of supplies and "repair parts" of all descriptions, and ample store room space for cleaning equipment, brooms, polishes, scrubbing outfits and similar equipment are essentials too frequently overlooked. Entrances to storage, locker and boiler rooms, repair shop and janitor's office should all be as close together as possible, and each room provided with extension 'phone service, as this arrangement will add much to his efficiency by saving much of the janitor's time. The inclusion of grills, parlors, ball rooms, billiard rooms, roof gardens and similar semi-public features is largely a problem settled by geographical location and the type of house and class of its tenants. The roof garden, however, is an especially desirable feature on any apartment house with ample fire protection because of the opportunity it affords the tenants to bathe in the sun and breathe "outside air" without going on the street.

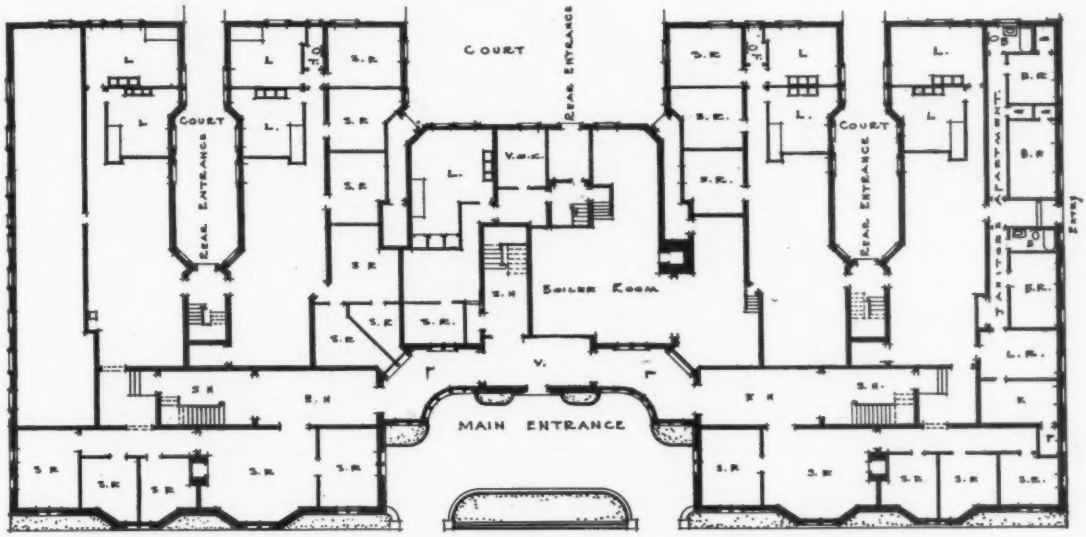


PLAN OF TYPICAL FLOOR, CRAIG APARTMENTS, CHICAGO, ILL.

The Pacific Coast has developed a new type of apartment which is in reality a combination of the apartment and hotel; and since the advent of this

type it has practically entirely supplanted its predecessor. Its principal feature is the use of various types of disappearing furniture which permits each room to be used for several different purposes; for instance, in the "two-room" apartment which consists of a living-room, kitchen and bath, the living room is used as such during the day, as a dining-room at meal time and as a bedroom at night. A breakfast or disappearing table of some type is produced from some recess or closet at the proper time, the room becomes temporarily a dining-room, and after the meal the table is removed and there remains no vestige of the dining-room; at night a bed (not the old-fashioned folding kind, but a bona-fide, full size, comfortable and sanitary bed) is produced from what appeared to be a desk, book-case, couch or other piece of furniture, or from behind a closet door, and the room really becomes the bedroom. Of these beds there are three or four in quite general use at present, each of course claiming its own particular merits. Many other labor and space-saving devices and conveniences have been developed recently by some of the more progressive apartment house operators, and are finding good use, at the same time proving especially popular.

The claim for this type of apartment is that 100 per cent efficiency of use of space is secured in making it possible to use a room every hour of the 24 instead of from 2 to 12 hours each day; thereby securing lower rent and less work for the tenant, and a higher revenue for the owner. Its popularity on the Pacific Coast, where it originated, and with the eastern travelers on that coast, is sufficient assurance of its continued development there and its future full adoption elsewhere. Unquestionably this type is the logical and most successful one, save where economy of cost, area and labor are no object to the tenant.



HARDY APARTMENTS, CHICAGO, ILL.

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Many of this type of apartment buildings, particularly in Portland, San Francisco and Los Angeles, are equipped with all the features of the hotel, are designated "Apartment-Hotels," and cater, as well as to permanent residents, to transient and semi-transient patronage; tourists and commercial travelers take apartments instead of the "room" or "suite" in the commercial hotel, and live a normal home life while in the city even for a short time. In view of the development of this type of apartment, it may be predicted that the day is not far distant when our best hotels will also supply such apartments for guests preferring them.

HARDY APARTMENTS, CHICAGO, ILL.

MESSRS. RICHARD E. SCHMIDT, GARDEN & MARTIN, *ARCHITECTS*

XUM

DOOR KNOCKERS, GENOA

PHOTOGRAPHS AND DRAWINGS
BY W. G. THOMAS AND J. T. FALLON

ARCHITECTURAL DETAILS
OF NORTHERN ITALY—PLATE 111

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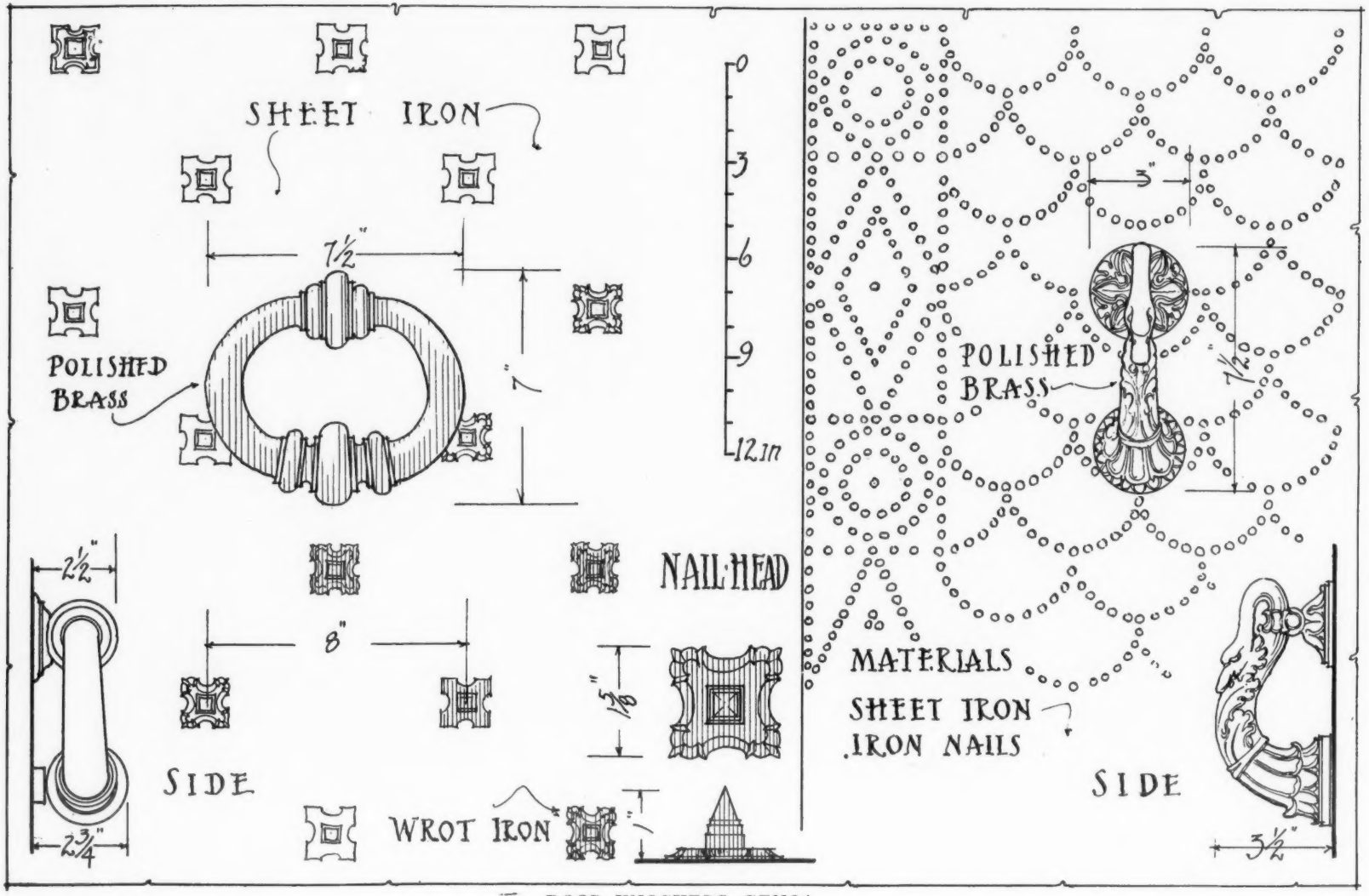

DOOR KNOCKERS, GENOA

PHOTOGRAPHS AND DRAWINGS BY W. G. THOMAS AND J. F. FALLON

ARCHITECTURAL DETAILS OF NORTHERN ITALY—PLATE 112

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LOCHBY COURT APARTMENTS, CHICAGO, ILL.

MESSRS. RICHARD E. SCHMIDT, GARDEN & MARTIN, *ARCHITECTS*

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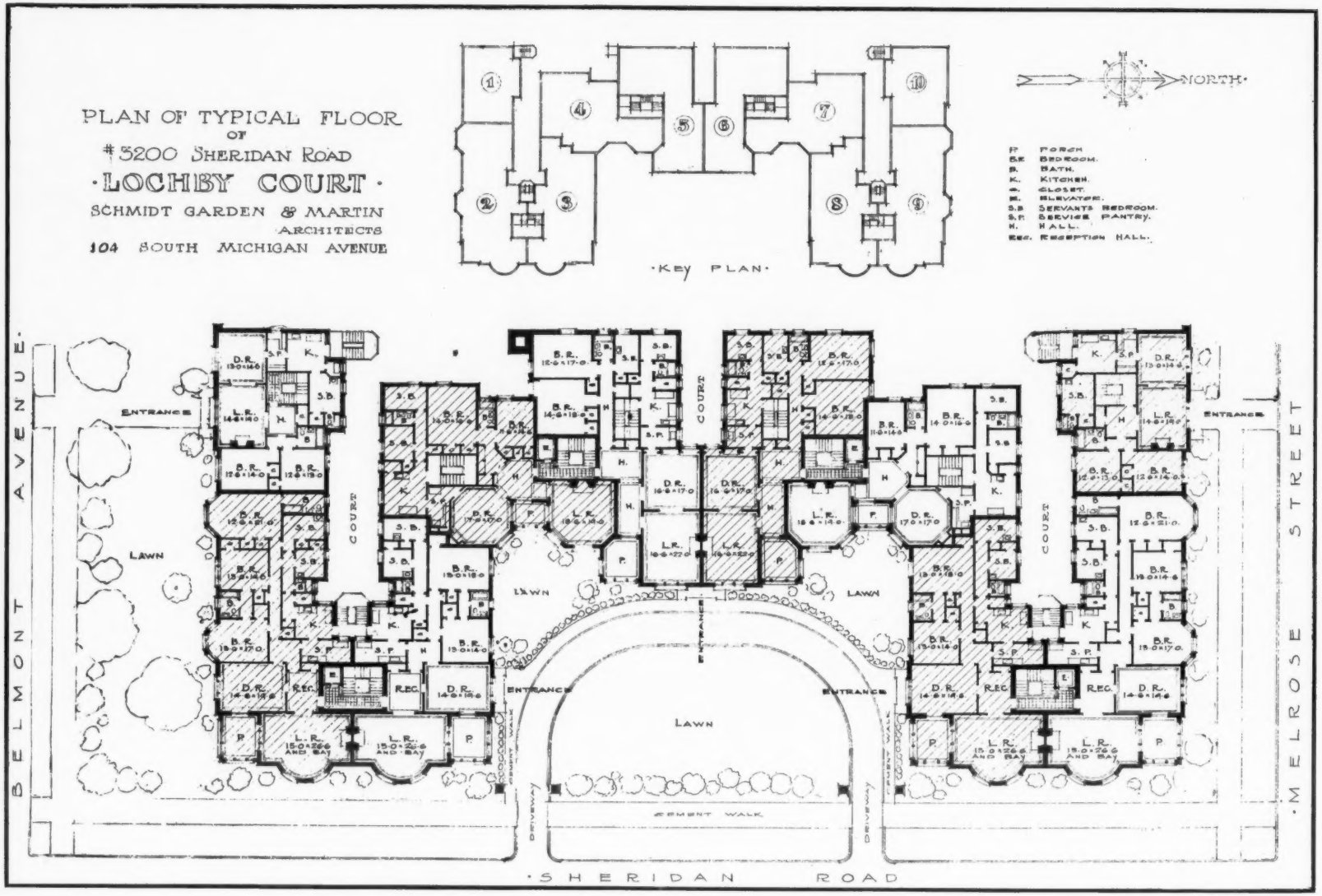

LOCHBY COURT APARTMENTS, CHICAGO, ILL.

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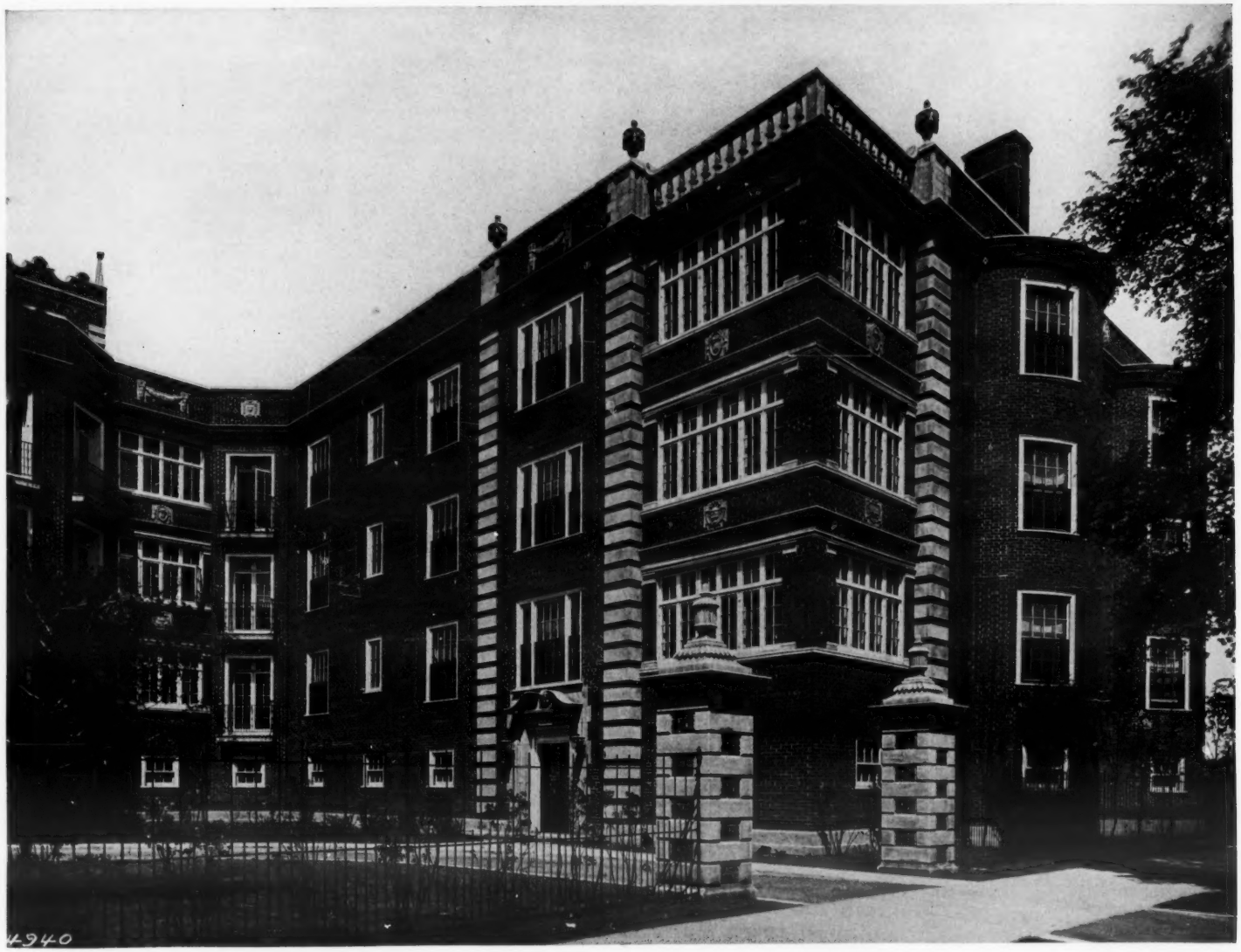

LOCHBY COURT APARTMENTS, NORTH WING, CHICAGO, ILL.

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XUM

MAIN ENTRANCE DETAIL

LOCHBY COURT APARTMENTS, CHICAGO, ILL.

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XUM

BARRETT APARTMENTS, CHICAGO, ILL.

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XUM

MAIN ENTRANCE DETAIL

BARRETT APARTMENTS, CHICAGO, ILL.

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CHANDLER APARTMENTS, BELLEVUE PLACE, CHICAGO, ILL.

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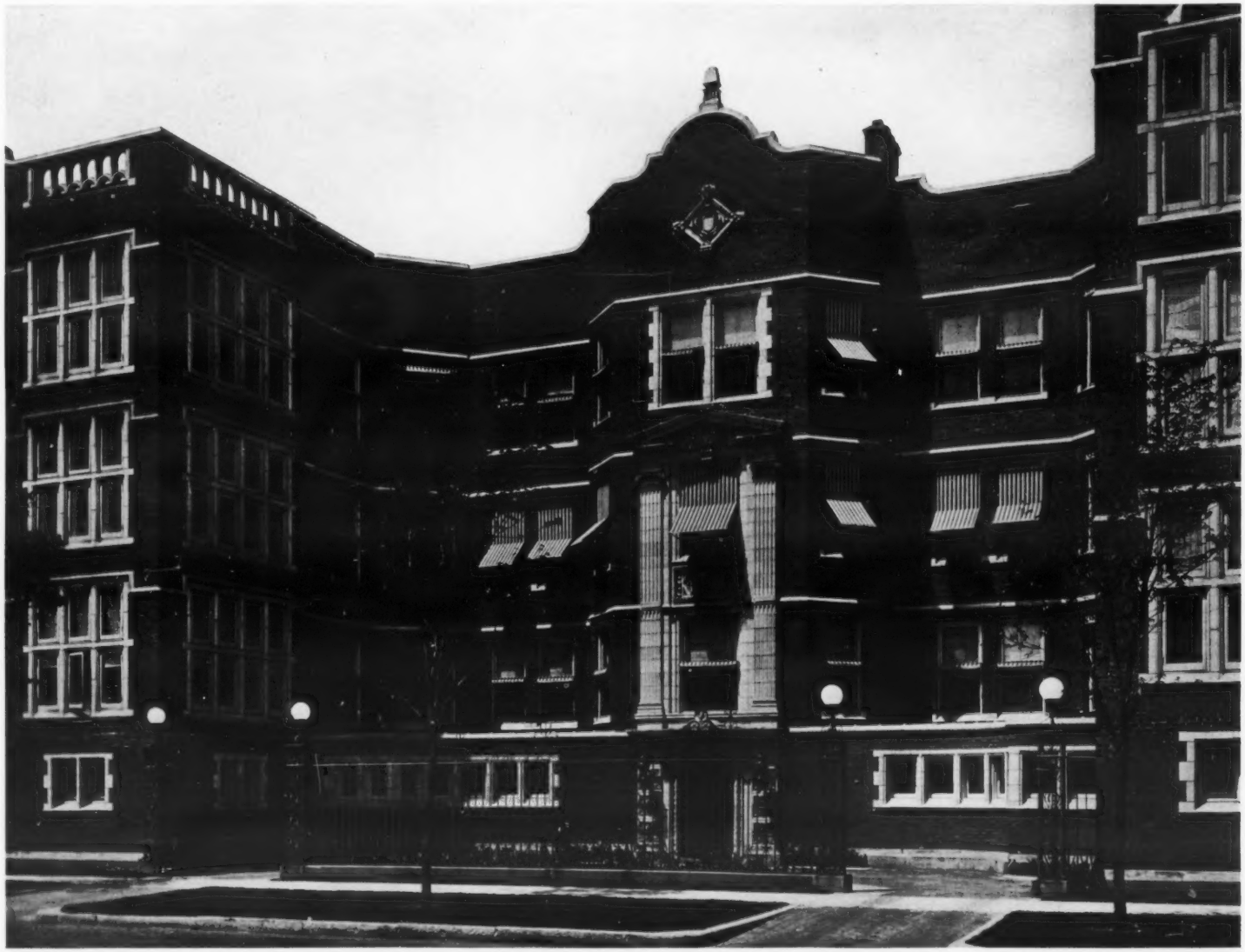

CHESTNUT STREET APARTMENTS, CHICAGO, ILL.

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MAIN ENTRANCE DETAIL

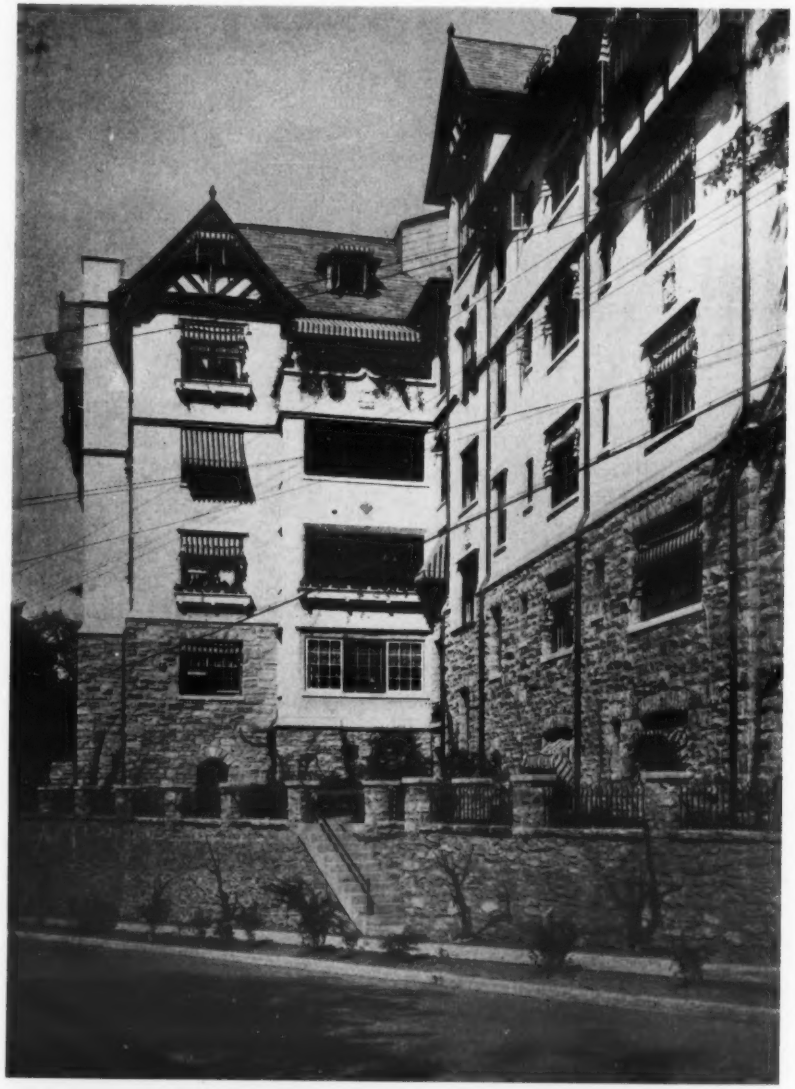
CHESTNUT STREET APARTMENTS, CHICAGO, ILL.

MESSRS. RICHARD E. SCHMIDT, GARDEN & MARTIN, *ARCHITECTS*

MAIN ELEVATION, HOUSE NO. 1. HOUSE NO. 3 AT RIGHT

ALGER COURT, LAWRENCE PARK, BRONXVILLE, NEW YORK

MESSRS. BATES & HOW, *ARCHITECTS*



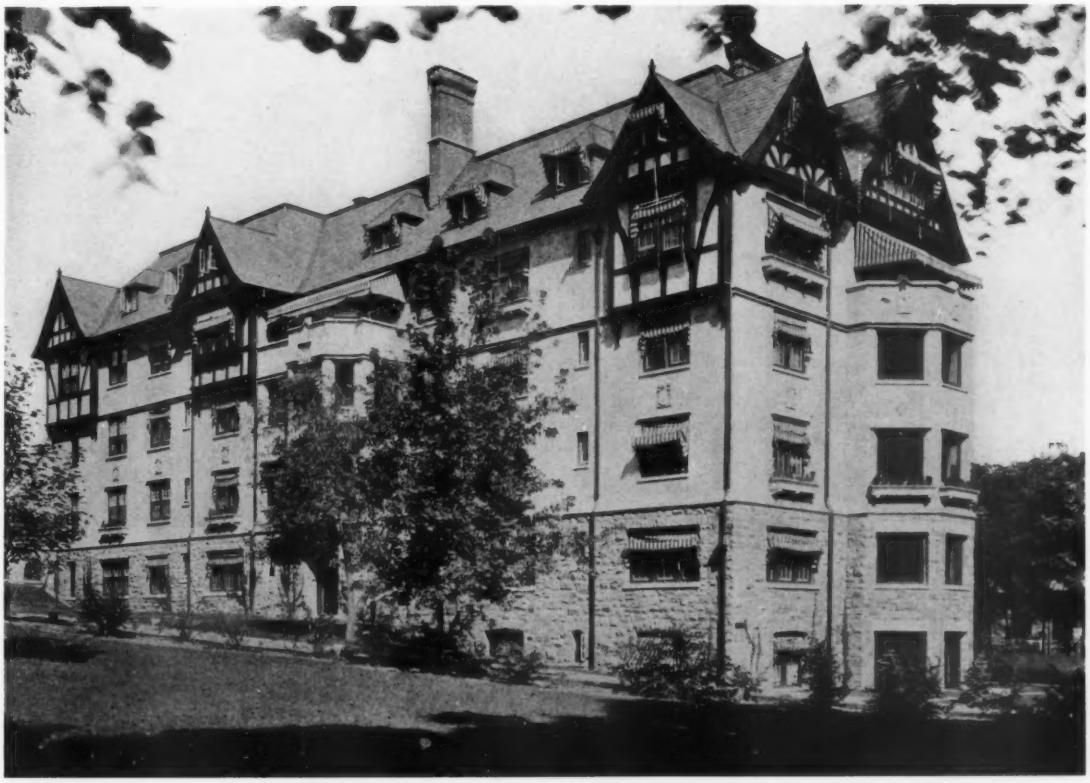
ELEVATION ON PONDFIELD ROAD, HOUSE NO. 2

EAST ELEVATION, HOUSE NO. 2

ALGER COURT, LAWRENCE PARK, BRONXVILLE, NEW YORK

MESSRS. BATES & HOW, *ARCHITECTS*

ELEVATION ON FRONT AVENUE, HOUSE NO. 2



WEST, OR ENTRANCE FRONT, HOUSE NO. 2

ALGER COURT, LAWRENCE PARK, BRONXVILLE, NEW YORK

MESSRS. BATES & HOW, *ARCHITECTS*

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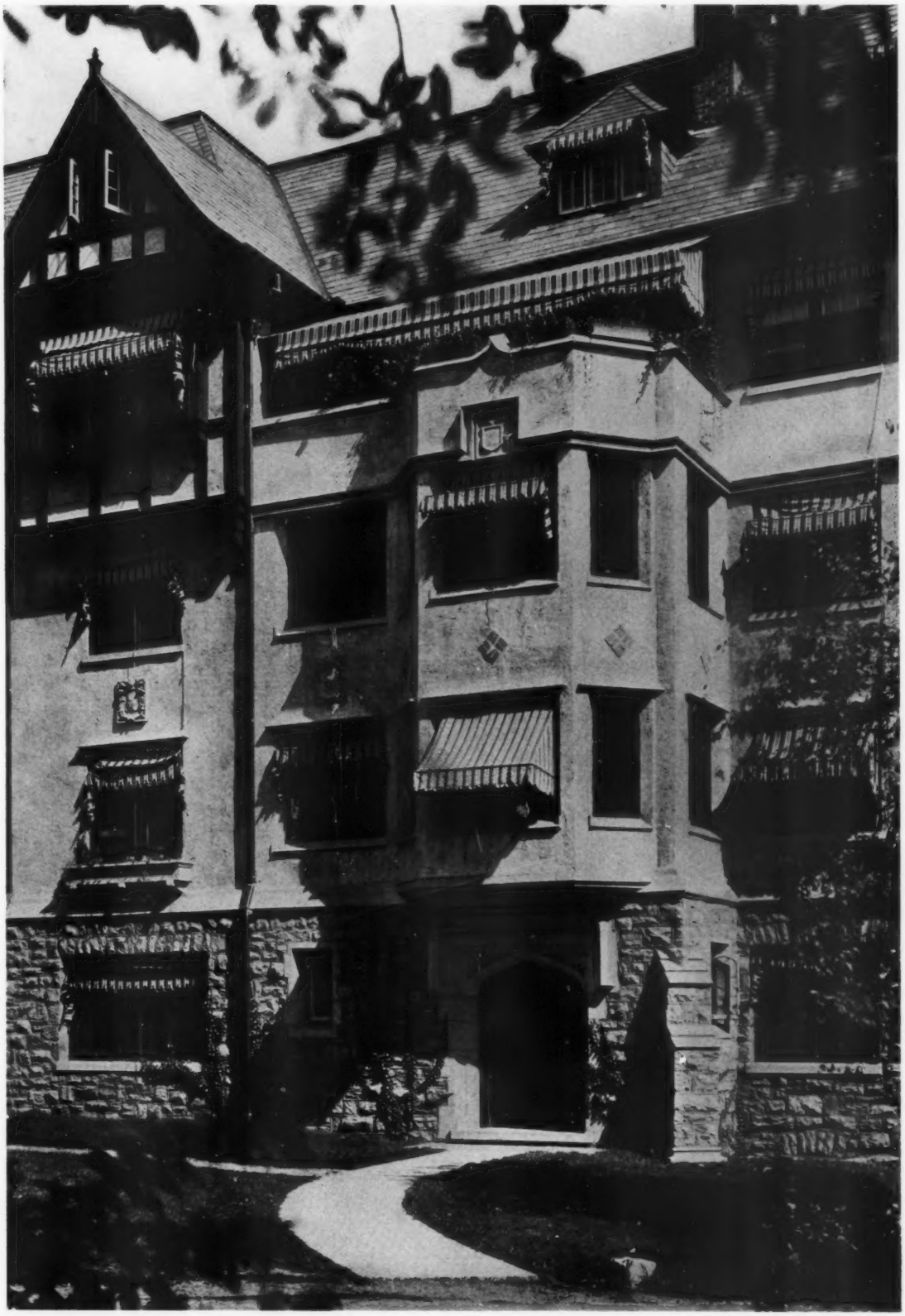
ALGER COURT, LAWRENCE PARK, BRONXVILLE, NEW YORK

MESSRS. BATES & HOW, *ARCHITECTS*

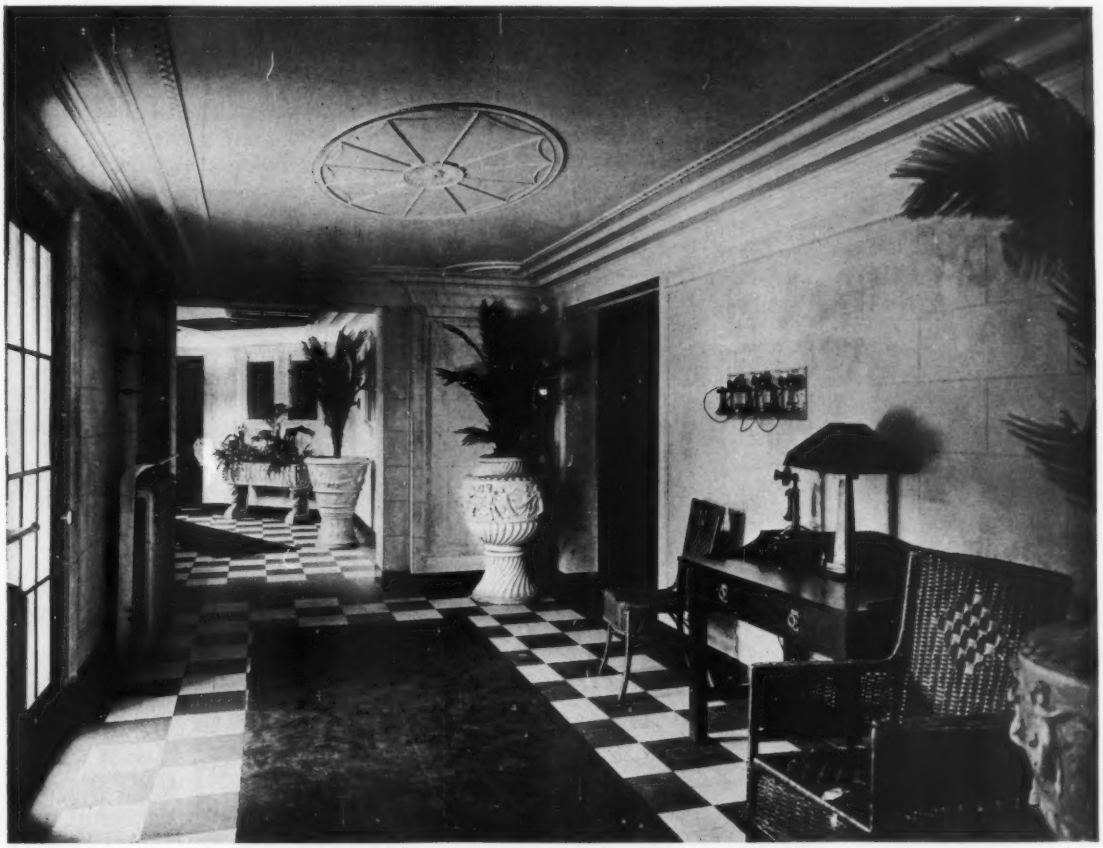


ENTRANCE DETAIL, HOUSE NO. 3

ALGER COURT, LAWRENCE PARK, BRONXVILLE, NEW YORK

MESSRS. BATES & HOW, *ARCHITECTS*

Efficiency is the constant, unanimous demand of the present day; maximum efficiency in an apartment building investment is not a "hit or miss" or "guesswork" proposition—it has been reduced to a science, and there are two specialists whom any owner contemplating such an investment should employ. Unquestionably he should employ a good architect, who has made a special study of apartment design; then the architect and owner would do well to consult constantly, from the selection of the site to the last stroke of the decorators' brush, a successful apartment house operator or manager, for if he be the right kind he will be the means of effecting savings of thousands of dollars in initial cost and operating costs, and of securing also much "revenue producing efficiency." The latter is in constant touch with the demands of the renting public, the new or possible improvements which are or could be made in arrangement, equipment or finish, and the daily problems of management; and being confronted with the necessity of holding down operating costs, he is or should be thoroughly conversant with the relative merits of various types of equipment as they actually work out in practice. As economic demand and intricacy of detail, together with the advance of science, has produced the "consulting engineer," so will these same conditions in their relation to the apartment building eventually produce the "apartment building specialist," who will figure in the design and construction of all such buildings of any consequence.



ENTRANCE HALL, HARDY APARTMENTS

NORTHERN ITALIAN DETAILS

NO. 53—KNOCKERS, GENOA

THE main entrances of the Italian palaces were designed for protection as well as from the point of view of artistic appearance. The lack of an organized system of public protection such as we know it in modern cities made security from the attacks of chance marauding bands engaged in street fights both desirable and necessary. Consequently these doors are always heavily and stoutly built, sometimes covered with sheet metal and usually studded with projecting bosses or nail heads that formed an additional protection. Knockers are not only usual but inevitable—their design forms an interesting corollary to the history of decorative metal work. From the simpler forms to the more ornate and pretentious examples of the later Renaissance they are full of infinite variety and imagination. The material used is usually bronze, although the plainer ones are of wrought and an occasional example is of polished brass.

The examples illustrated this week show beside the knockers themselves, an indication of the pattern of nail heads used, which in these cases are all the decoration that is employed. The patterns worked out in this way are frequently fascinating and give an original play of light and shade to the surface of the doors. They illustrate the thorough permeation of decorative art in Italy to every feature of the house.

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VOL. CIX JANUARY 5, 1916 No. 2089

THE AMERICAN INSTITUTE SCHEDULE OF CHARGES

AMONG the reports of committees presented to the recent convention of the American Institute of Architects one containing elements of more than usual interest was that of the Committee on Schedule of Charges. The feature of this report which will attract greatest attention, and except which it follows closely previous reports, is that treating of a method of compensation in vogue in some sections of the country, based on a fixed architectural fee representing the value of the services rendered professionally by the architect himself, plus a sum which bears a fixed proportion to the actual cost of producing the drawings, together with office and other incidental expenses, and including cost of superintendence of the work.

The adoption of such a method of charge is of course the outcome of a feeling that the percentage system is illogical and liable to be unfair either to the architect or to the client, depending upon the nature of the services rendered, the materials of construction employed and the locality in which the given commission is executed. The defects of this system must be conceded, and yet we can see grave objections to an abandonment of it by the profession generally for the plan proposed. To our minds one of the greatest advantages now possessed by the individual architect over the members of other professions has been the fact that within recent years he has almost invariably been selected for his professional attainments, and the question of compensation has not entered into considerations affecting such selection. This is due to the fact that it has become generally understood that the fees of architects of standing are uniform, and whatever competition has existed among members of the profession has been a competition in services and not in price. The new method proposed inevitably introduces a variation in charges. Not only will the fee for personal service vary, but so will the cost of producing drawings and writing specifications. Even the items of incidental expenses and cost of superintendence will lack uniformity. This is clearly demonstrated by the fact that the actual cost of executing a commission as shown by the records kept in one architect's office will approximate three-fourths of the total fee, as now fixed by percentage, while other offices show a much larger proportion of profit; or on the contrary in some instances a smaller one.

A GENERAL adoption of the new method would result not only in a loss of the practical and ethical advantage attaching to a uniformity of charge, but it would seem to be of disadvantage to the building public. Under present conditions an owner can with accuracy estimate the cost of architectural services when tabulating the items which go to make up the cost of a building operation; and to the great majority of clients this is of importance. They are desirous of reducing the elements of uncertainty to their lowest possible terms before embarking upon enterprises involving the expenditure of considerable sums. This tendency is clearly shown in the attitude of clients toward the percentage, or cost-plus-a-fixed-sum form of contract. Theoretically such a contract is probably the fairest form that is in use, but comparatively few owners are willing to accept it. The average owner seems to prefer knowing in advance what his building will

cost, even with the possibility of paying more or less than a fair price for the work.

Again the present method of charge has received the recognition of the courts, and any change is almost bound to lead to greater difficulties in the case of disputed bills that must eventually be collected by means of litigation.

Considered from every point of view it would seem that the Institute, as representing the best thought on this subject, should proceed with extreme deliberation. The faults of the present system are many and undeniable, but before abandoning it we believe that some form of charge should be devised that would not present so many difficulties in operation as appear to be inherent in the plan proposed. Changes in established customs are always to be avoided when possible, and for that reason, before making any in this case, there should be reason to believe that not only will the defects of the present plan be remedied, but that none of the essential advantages possessed by it will be lost. The new method, in effect, abolishes the basic element of uniformity; for there is no particular virtue in prescribing uniform methods of charge, so long as their application leads inevitably to different results when applied by different practitioners. The other objections enumerated while perhaps less serious are nevertheless real.

ART CRITICISM

GOOD architecture and what constitutes it will probably continue to be the subject of discussion for sometime to come. No doubt we will always have with us the ultra-academic critic who refuses to regard anything as good unless founded on firmly established precedent. It is the fear of this critic that puts a check on originality and tends to repress spontaneity.

Opposed to the academic is the other extreme, a faction akin to the cubist in painting and sculpture, the members of which hold in reverence anything different from work that has been done before. They consider as of highest importance a germ of originality, and frequently seek to clothe it with a meaning never intended by the author. The feelings inspired by these worshippers of what often appears uncouth and vulgar (if only it is original) prevents no doubt, in some measure, our detecting possible good that sometimes lurks in this ultra-original type of art.

THE critical analysis of a modern work of architecture is so difficult a task that but few if any of our modern critics have attained a position that inspires universal confidence in their dictums. This state of affairs was commented upon with greater force and clarity of expression than we can command by Professor Hamlin, in the introduction to a recently published series of articles by him on Roman Architecture. Glittering generalities and the skillful use of words do not constitute criticism. The men who could best qualify as critics of architecture are, as a rule, not the best writers, and as a result are frequently unable to express clearly their thoughts in writing.

Probably every man who has designed a building, painted a picture or modelled a work of sculpture recalls the divergent opinions of those invited by him to pass critical judgment on his work. In fact he has doubtless obtained from men who have knowledge of the subject, and who are believed to be fairly equal in technical attainments, criticisms so opposite in their effect as to leave him in doubt concerning the merits or demerits of his production.

Of course, there are underlying principles generally accepted by students of the arts in accordance with which a work can be analyzed, and up to a certain point the analyses of all recognized critics will practically agree, and probably it is to that point only that the publisher is justified in presenting description or criticism of any art production, especially for lay consumption. The final or complete consideration may perhaps be given when circumstances warrant, but, in such a case, it would seem the reader should be acquainted with the fact that the sentiments expressed represent merely an individual opinion, and are valuable or not, depending upon many things, among them the most important probably being the actual accomplishments of the critic along lines of work similar to those discussed by him.

AN EXAMPLE OF LIBRARY LIGHTING

By S. G. Hibben, E.E.

Illustrations are of interior views of the Carnegie Library, Pittsburgh, Pa.

HOWEVER troublesome are the problems in illumination that may be found by the architect in the planning of the lighting of public buildings in general, such problems will be found doubly difficult in the average library. The limits imposed upon the illuminating engineer in the lighting of the pictures in art galleries, or of the drafting tables in offices, are not ordinarily as narrow as those encountered in illuminating library book racks or reading tables. Moreover, the conservation of vision is especially important in the public libraries. And, withal, the lighting installation must be attractive—this is the keynote of library service.

Whenever one finds, as in the case under consideration, a lighting installation which is decorative to the point of being a pleasing attraction, and which furthermore really illuminates, then the case merits comment and description, for, like the Chambered Nautilus of the sea, which each season adds a more commodious and more iridescent chamber to the outgrown skeleton of its shell, we at each attempt should sieze upon the good features of each lighting system, and upon the general ideas of the existing systems, to build our newer and better plans.

The illustrations here given are of the lighting equipment in the Carnegie Library of Pittsburgh, Pa. When this building was redecorated, and when some additions were recently built, the author had the pleasure of suggesting such lighting improvements as are herein pictured.

The old lighting fixtures consisted of a large number of elaborate black iron wall brackets, with light, straw-colored opalescent glass shades pointing out at about forty-five degree angles, such as may be seen in Figure 1. Carbon filament lamps were in use in the majority of these shades, which, as may be imagined, did not furnish anywhere near adequate illumination, and particularly so since the interior colorings of ceilings and walls were in light-absorbing tints of dark brown, red and dark green.

FIG. 1. OLD AND NEW LIGHTING FIXTURES

These bracket fixtures were placed on columns or wherever their locations would be symmetrical with respect to the decorative arrangements. On account of the height of the ceilings, as may be judged from Figures 2 and 3, no other lighting fixtures had been used. Wherever the rooms were large their center portions were dark. Consequently table lamps had been placed on each reading table, and these were a constant source of annoyance on account of the glare of lights in close proximity to the reader's eyes, on account of breakage and because such lamps occupied valuable table space.

It was decided in this library to replace both the wall brackets

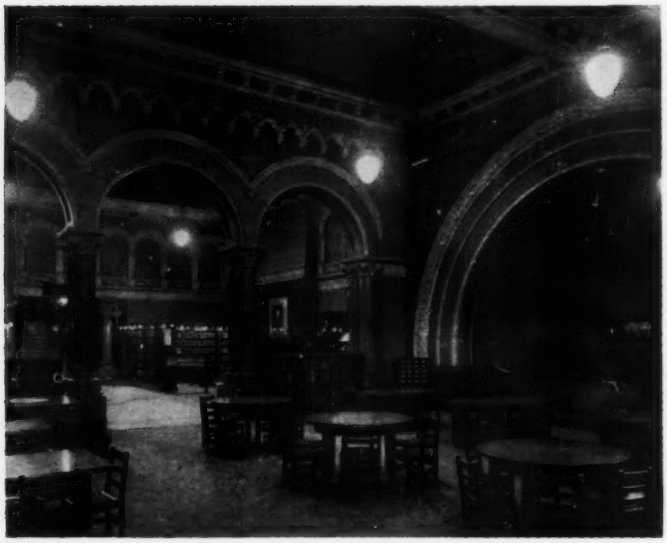

FIG. 2. A SECTION OF MAIN READING ROOM

and the table lamps with ceiling fixtures, equipped with the nitrogen or gas-filled tungsten lamps. The choice lay between a system using semi-indirect glass bowls, or one using pendant enclosing globes. Either would give diffused light. The bowls at their height of some twenty-five feet would be hard to clean, and in case of neglect would depreciate in efficiency and appearance much more rapidly than the globes. And those persons who know Pittsburgh know of the difficulties of maintaining a light-colored ceiling, essential to the efficient operation of semi-indirect units.

Globes, then, were chosen for the majority of the rooms and installed as shown in the illustrations. Their shapes were selected to furnish maximum light sidewise and downward, rather than upward, and such being the case, there was no necessity of applying ceiling colors lighter than a medium yellow.

It may be noted from the photographs that the upper walls were elaborated with considerable detail, which the new fixtures illuminate excellently.

On the reading tables, seen in Figures 2 and 3, the illumination is amply sufficient (four to seven-foot candles) for easy reading.

But the most novel portion of this lighting installation may be seen in Figure 4. One end of the public reference and reading room is shown, where it is apparent what means were used in securing the proper illumination on the reading tables. In this wing of the building the ceilings were comparatively low, and semi-indirect lighting bowls could be used to good advantage. They were placed at just such a height that persons standing on the balcony could not view the bare lamps within the bowls. Then along the columns, at a height of about seven feet, were hung the white glass urns to afford local table illumination.

The success of this method of local lighting depends to a great extent upon minimizing all glare through the use of wall fixtures of low brilliancy. In this case the glass urns were excellent diffusers of the rays, and lamps not too large (nothing over 100 watts) were used in each. Ordinarily the tables are placed closer to the columns and more nearly beneath these urns than shown in Figure 4.

FIG. 3. PENDANT FIXTURES ILLUMINATING THE REFERENCE ROOM

FIG. 4. A UNIQUE AND PLEASING ARRANGEMENT OF WALL BRACKETS THAT DOES AWAY WITH TABLE LAMPS

All book stacks and file cabinets that face towards the centers of the rooms are sufficiently illuminated by the new ceiling fixtures. The cabinets, however, that are placed perpendicular to the walls are equipped with projecting brackets shown in Figure 5, if such cabinets stand singly; or with reflectors placed between each case, if they stand in groups. A better idea of these arrangements may be obtained from the sketches of Figure 6. The problem, of course, was to obtain sufficient illumination upon the titles of the books on the lower shelves, and to do this it was necessary to select such reflectors as gave the required and rather unusual distribution of light. The special reflector shown in Figure 5 was of white diffusing glass, shaped quite like a shell, and decorated with a light blue etched pattern. Each was equipped with a sixty-watt tungsten lamp.

A very interesting problem arose in connection with the illumination of the smaller rooms of this library, which will no doubt arise in a very great number of similar instances, and the proper solution of which may mean a great deal in securing semi-indirect installations of the best appearance.

The rooms in question were approximately twenty-five feet square, twenty feet high, with the ceiling in the shape of a four-sided Gothic dome, the arches springing from the moulding at a height of ten feet. It was desired to illuminate each room with a semi-indirect glass bowl of Gothic pattern, and on account of symmetry in the proportions of the lighting fixture, each bowl was hung at a height of ten feet, or a fixture length of ten feet.

When using a single large lamp within the bowl it was impossible to prevent an unsightly illumination of walls and arched ceiling, for the extreme upper part of the ceiling was very bright, separated by a sharp line of demarcation from the lower part of the ceiling where the rim of the semi-indirect bowl cast a broad band of shadow. Shadows of the supporting chains were also visible on the ceiling. It was possible to overcome these defects only by placing over the top of the bowl a flat dome shade, resting within the band that supported the bowl, and having a center hole through which the base of the lamp extended. Such a shade was invisible from below. Any such glass cover should be of very light density glass, with diffusing properties. By this means ceiling shadows may be entirely eliminated

FIG. 5. SHOWING ARRANGEMENT FOR LIGHTING BOOK STACKS

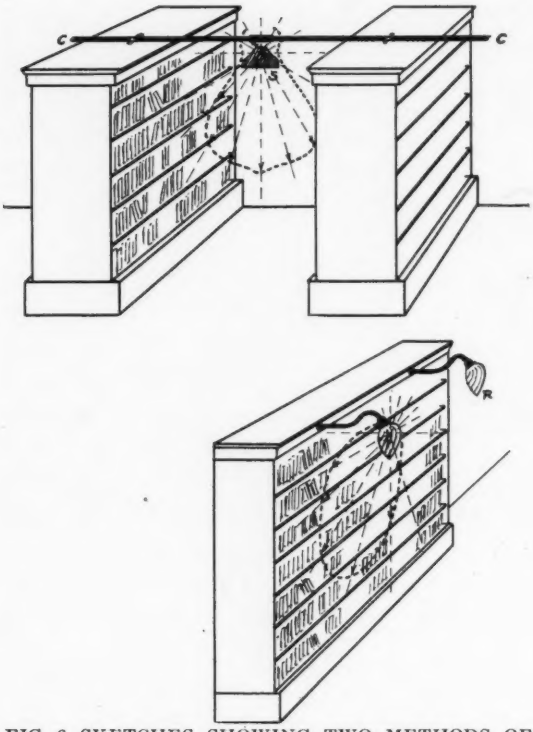

FIG. 6. SKETCHES SHOWING TWO METHODS OF LIGHTING BOOK STACKS

and the illumination of the ceiling and walls will blend very pleasantly.

In a large number of cases any semi-indirect installation may be made much more pleasing by such a simple addition as the covering shade. If such a shade is of very light density glass, it will not materially change the general semi-indirect characteristics of the unit. It is possible also to eliminate ceiling shadows of supporting chains by placing a small diffusing reflector over the upper part of the lamp, attached to the socket when a single lamp is hung within a semi-indirect bowl, taking care that the shadow of the lower edge of the reflector does not fall on the glass bowl, but rather at or just above its rim.

Photographs can scarcely do justice to the illumination of this library. There is no glare from exposed lamps, no sharp shadows, and no lack of sufficient light everywhere. Appearance has not been sacrificed for efficiency, for in a number of rooms the large glass globes are etched and handsomely decorated in light colors, harmonizing with the other interior elaborations.

RECENT LEGAL DECISIONS

LIEN FOR MATERIAL FURNISHED.

(*Kansas.*)—To entitle a person to a lien for material furnished in the erection of a building, it devolves on the claimant to show that the material was purchased for and applied to that use, but if it be shown that the material was purchased to be used in the building and delivered to the builder, or taken by him to his premises to be so used, and some evidence is offered that material of that character was actually used in the building, in the absence of any discrediting circumstances, it will ordinarily be sufficient to show that the material was used in the building. It is held that an architect has a similar lien to a material man for services rendered in the preparation of plan and specifications. (David v. Doughty, 152 Pac. 660.)

PREPARATION OF PLANS AND SPECIFICATIONS.

(*Texas.*)—An architect held to furnish labor for the erection of a building by preparing the plans and specifications and superintending its erection, and hence to be entitled to a mechanic's lien. (Sanguinett & Staats v. Colorado Salt Co., 150 S. W. 490.)

CONTRACTOR NOT RESPONSIBLE FOR SURPLUS MARBLE.

(*California.*)—Where in an action for the balance due on a contract for building marble, the contract showed that the buyer did not become the owner of the marble until it was incorporated in a building, and he was at most a custodian of surplus marble, holding it subject to the order of the seller, and he was not liable for it unless he appropriated it to his own use, or failed to comply with the direction of the seller as to its disposition, an instruction of the trial court to the jury that the title to the marble shipped passed to the buyer when placed aboard cars f. o. b., and that the marble so shipped became the property of the buyer, subject to his rights to return to the seller any surplus over that required for the building, was misleading, as inducing the jury to hold the buyer liable for all the marble that was shipped. (Fleming v. Law, 151 Pac. 384.)

3 FACADE OF CATHEDRAL, ACQUAVIVA DELLE FONTI, ITALY, 16TH CENTURY