

THE AMERICAN ARCHITECT

VOLUME CVI

WEDNESDAY, OCTOBER 14, 1914

NUMBER 2025



PULITZER MEMORIAL, WOODLAWN CEMETERY, N. Y.

MR. DUNCAN CHANDLER, ARCHITECT

MR. WILLIAM ORDWAY PARTRIDGE, SCULPTOR

MORTUARY ARCHITECTURE

IF there is one phase of the architect's work that more than any other has seemed relegated to the realm of dead and lost hopes, it is mortuary architecture. This has been so often the case that those comparatively few cemeteries that have restricted the form of grave monuments to the simplest and least obtrusive headstone, relying upon the charm of a well-preserved landscape for general effect, seem to have chosen more wisely than some others in

which every form of sculptural vulgarity is tolerated. The memorials in smaller country churchyards, however unstudied their form, are at least usually small and inoffensive; it is especially in the large, commercially operated cemeteries which invite wealthy patronage that unaffected reverence has too often been smothered by more or less vulgar ostentation.

One cause for the unfortunate appearance of many cemeteries containing mausoleums



ALTAR IN APSE
BELMONT MEMORIAL, WOODLAWN CEMETERY, N. Y.
MESSRS. HUNT & HUNT, ARCHITECTS

or other monuments appears to be a lack of proper supervision by the cemetery authorities. How often is an otherwise beautiful landscape marred by an ineffective grouping or placing of monuments! An obelisk, graceful and imposing when isolated, loses all significance when surrounded by several others, each vying for the supremacy in height. Individual preferences must, of course, be respected in a matter so close to one's sensibilities, but an intelligent censorship of designs as practiced in some few instances would probably be appreciated as insuring each one's own monument from undesirable neighbors and thus tend to foster the beauty of the entire grounds.

Perhaps the chief reason for the extreme commonplaceness, or worse, of many cemetery memorials is that their design has been entrusted to persons of little artistic taste. Not every drug clerk is a physician, nor every stone cutter an artist, yet many persons who demand the best professional service for their perishing bodies seem quite content to employ or have employed for them, after they are gone, mediocre talent in designing a memorial that is erected for perpetuity! Probably this has been due in a large measure to ignorance, but fortunately the value and scope of the architect's function is becoming more generally understood, and some recent examples of mortuary architecture give hope that in future the competent architect will build the "cities of the dead," as well as he is now building those of the living.

As a permanent resting-place and memorial for the deceased, the mausoleum is much favored by the well-to-do, and offers an excellent opportunity for the display of the architect's skill in small monumental design. The term "mausoleum," although sometimes applied to any large, splendid tomb, more properly denotes only those monuments which have an interior chamber entered by a door and provided for the reception of one or, usually, of several bodies in the walls or under the floor. As a recognized type of mortuary memorial the mausoleum had its inception at Halicarnassus, in Asia Minor, in the great tomb erected by Queen Artemesia to the memory of her husband Mausolus who died in 351 B. C. The execution of this monument was entrusted to four sculptors of great repute—Scopas, Bryaxis, Timotheus and Leschares—and so imposing was the result of their efforts that it was regarded by the Greeks as one of the seven wonders of the world.

Until Sir Charles Newton visited Halicarnassus in 1856, even the site of this famous

THE AMERICAN ARCHITECT

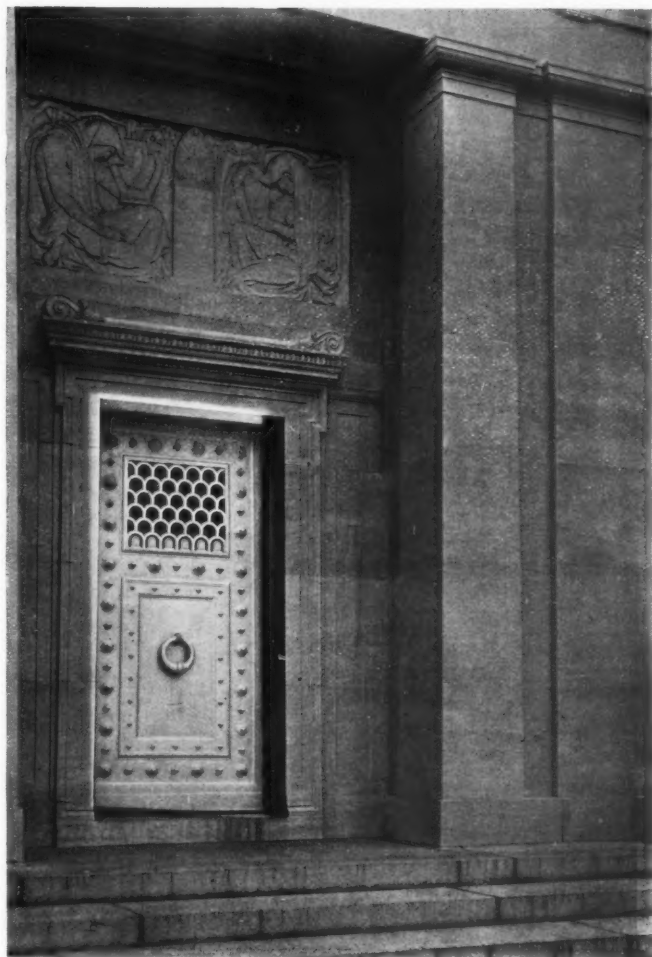
monument was a matter of dispute, but since that time archaeologists have gathered sufficient information from fragments to enable them, with Pliny's description, to make more or less accurate restorations. According to Fergusson "the building consisted internally of two chambers superimposed the one on the other, each 52 feet 6 inches by 42 feet—the lower one being the vestibule to the tomb beyond—the upper was surrounded by a peristyle of thirty-six columns. Externally the height was divided into three equal portions of 37 feet 6 inches each (25 cubits), one of which was allotted to the base—one to the pyramid with its meta [sculptured by Pythio] and one to the order between them."

Although the restorations by Fergusson and by Pullan differ much in external appearance, the unusual nature of the design and of the purpose to which it was applied, and particularly the known beauty and richness of its sculptured decoration, are justification for its fame. The fragments of this monument, which immortalized the name of Mausolus, are guarded by the British Museum as among its most valuable treasures.

In Rome few tombs previous to the first century B. C. are existent, many probably having been destroyed in the extension of the city beyond the Servian limits. The most important tomb that has been preserved from the early Roman period is that of Cornelia Scipiones, excavated in the tufa rock beside the Via Appia, outside the Porta Capua. Interments of the family were made here during four centuries, new chambers and passages being cut as the *loculi*, or recesses in the rock, were filled with the bodies of the deceased. The usual Roman custom at this period was to cremate the bodies and to place the cinerary urns in small holes cut into the face of the rock which, from its resemblance to a huge dove-cote, was called a *columbarium*. The practice of the gens Cornelia was

therefore unlike that of other Roman families of the period in keeping up the ancient custom of interment. The early Christians universally practiced interment rather than cremation on account of their belief in a resurrection of the body, a custom that has continued almost unbroken to the present day and dominates the character of our mortuary architecture.

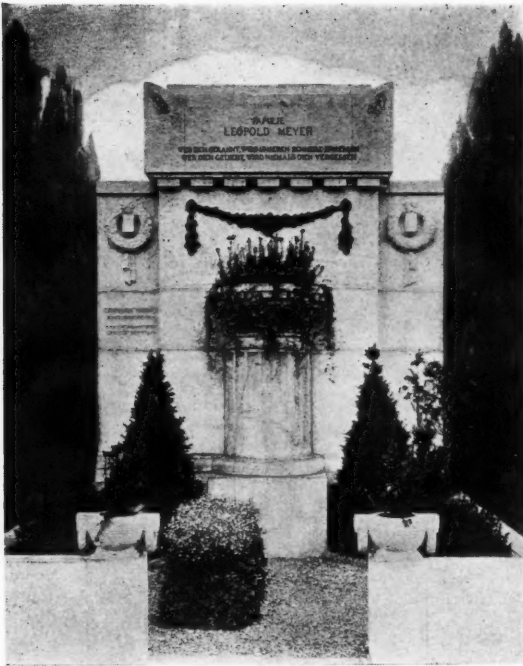
Resistance to the hand of Time and of the deliberate vandal has always been the first requirement of memorial monuments. In this respect the great pyramids of Gizeh, which have defied the elements for now nearly sixty centuries, evince a good degree of success on the part of Egyptian builders.



ENTRANCE—LEEDS MEMORIAL, WOODLAWN, N. Y.

MR. JOHN RUSSELL POPE, ARCHITECT

THE AMERICAN ARCHITECT



GRAVE MONUMENT
DESIGNED BY HERR HANS DAMMANN

The mausoleum of Hadrian in Rome, though dedicated at a date as comparatively recent as 138 A. D., deserves a reputation almost equal to that of the pyramids for stability and far more for the magnificence of its design. During the mediæval period it was used as a papal fortress and although the exterior has been so mutilated and "restored" that the original masonry is hardly visible, the interior is well preserved. The core of the wall is tufa, which originally was faced with Parian marble.

Perhaps it is the desire to preserve our monuments for as long a period as those known to antiquity that accounts for the character of stone generally used in American cemeteries. In the great majority of cases granite as cold, gray and cheerless as death itself marks the graves—the stonecutters presumably supposing that any other material would quickly disintegrate. Fortunately a few architects, when given the opportunity, have not hesitated to use colored granites and marbles, thus introducing



McMILLIN MAUSOLEUM, WOODLAWN CEMETERY, N. Y.

MESSRS. D'OENCH & YOST, ARCHITECTS

THE AMERICAN ARCHITECT

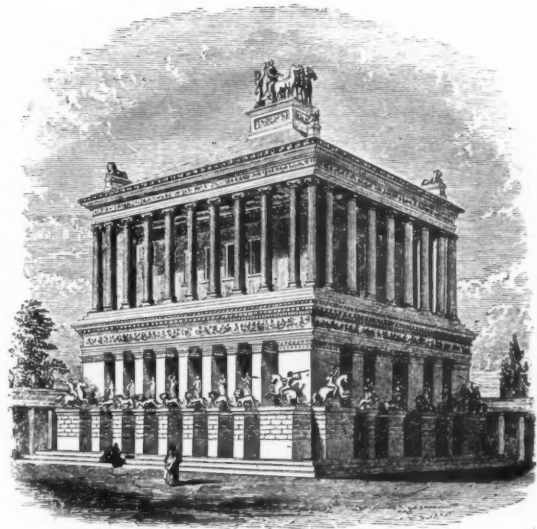
a pleasant warmth without any appreciable sacrifice of durability.

The Milbank memorial, of which Messrs. York & Sawyer are the architects, is an instance in which judiciously selected material, pink marble, is wrought into a dignified and altogether pleasing design. The bas-reliefs which contribute so much to the character of the façades were executed by Mr. Spicer Simpson. The doors are of bronze.

The exedra is a somewhat unusual form of mortuary monument and offers opportunity for most varied treatment. Urns as important features of the composition may often be used to good advantage, especially for the growing of flowers or foliage as in one of the examples illustrated. Thus a much-needed note of color is introduced. In this instance the individual graves are to be marked only by flower beds; the usual inscriptions will be carved on the monument.

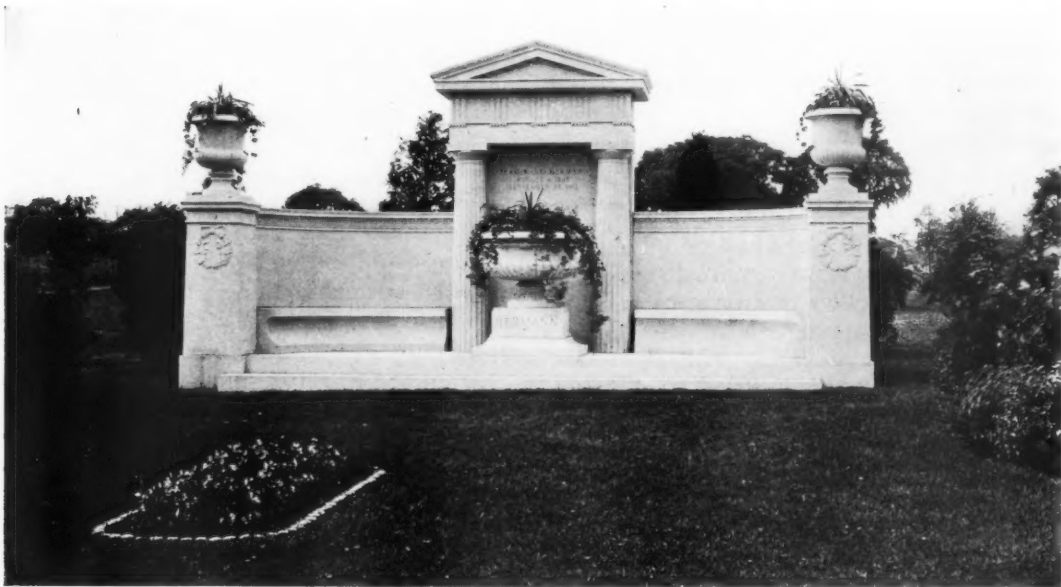
The acme of Greek simplicity and much of its subtle charm is embodied in the Pulitzer memorial designed by Mr. Duncan Chandler. The bronze figure, modeled by Mr. W. Ordway Partridge, contrasts effectively with its white marble setting and the bright flowers in the foreground give promise of recurring warmth and cheerfulness.

Judging from recent performances in this city and elsewhere, the mortuary monument when anything more than a mere headstone



MAUSOLEUM AT HALICARNASSUS
AS RESTORED BY FERGUSON

can be dignified by a meritorious design and there is reason to believe that a renaissance in this phase of architecture may be effected



AN EXEDRAL FORM OF MORTUARY MEMORIAL, WOODLAWN CEMETERY, N. Y.



MILBANK MEMORIAL, WOODLAWN CEMETERY, N. Y.
MESSRS. YORK & SAWYER, ARCHITECTS, MR. SPICER SIMPSON, SCULPTOR

by skillful designers, as opportunity permits, even though they realize:

"Praises on tombs are trifles vainly spent;
A man's good name is his best monument."

Mediæval Stained Glass

Commenting on the destruction of considerable of the mediæval stained glass in French cathedral cities that have been bombarded during the progress of the war, a writer in the *Boston Transcript* describes the essentials that make this glass so valuable and give it that artistic quality that is its chief claim. He writes:

The beauty and charm of mediæval glass lies to a great extent in the character of the material itself, and especially in the inequality of it. Chemically impure and mechanically imperfect, it was seldom crude in tint or texture. It shaded off from light to dark,

according to its thickness; it was speckled with air bubbles; it was streaked and clouded, and all these imperfections of manufacture went to perfection of color. And age has improved it. The lack of uniformity in the material has led to disintegration of its surface. Soft particles in it have been dissolved by the action of the gases in the atmosphere, and the surface, pitted like an oyster shell, refracts the light in a way which adds greatly to the effect. So that an appreciable part of the beauty of old glass is the fortuitous result of its age. This is one reason why no modern glass can be compared with it. It does not require a very expert eye to distinguish at a glance between the modern glass in a cathedral and the ancient, and the superiority of the older work stands out in almost every case with unmistakable emphasis.

To what extent it is possible to reconstruct or restore broken stained glass windows evidently depends upon a number of circumstances. In several of the English cathedrals there are windows which have been reconstructed after a fashion,

without regard to the original patterns; this is true of the so-called Golden Window in the east end of the Lady Chapel of Wells, which is gloriously fine in color, but is simply a kaleidoscopic patchwork of bits of the fourteenth century glass put together without any definite design. It is therefore under certain conditions possible to preserve, in a quite remarkable manner, the color effect of the ancient glass, even when it has suffered apparently irremediable damage.

We may therefore indulge the hope that when at the close of the present war, a careful survey has been made of the mediæval glass of the Cathedral of Rheims, its restoration may be attempted with a certain measure of success. Unfortunately, the skill of the modern craftsman cannot successfully imitate the rare quality of the glass destroyed, a quality that only comes with age.

The Economics of Building Construction

By RICHARD T. DANA, *Consulting Engineer*

FIRST PAPER

THE greater part of an architect's work is made up of a complex function which involves a highly technical art in combination with economic science. Only a very small portion of the money spent under his direction is devoted purely to an artistic picture in building materials, yet he is expected to produce not only an artistically correct structure but a commercially economic one. From the point of view of the architect's employer, who is to own or lease the structure that he is commissioned to build, its one absolutely essential use is generally industrial, and back in the owner's mind is generally the thought that he could, if necessary, somehow dispense with the beauty, if he had to, but cannot dispense with the economy, without which his business venture would not succeed. He generally realizes well enough that there is a value to beauty alone. Of two buildings with equal accommodations, conveniences and (were such a thing possible) equally desirable locations, one of them devoid of all architectural adornment or even without symmetry of design, and the other correct in design and decorations, it is indisputable that the artistic one would earn more than the one which was lacking in ornament. The ornamental one would probably be rented when the merely useful one was largely vacant; and, in general, other conditions being equal the architecturally correct building will bring a larger return upon the investment, even though the initial cost is somewhat higher than the one which is merely useful.

It is worthy of note that the average architect of today has in his possession a very much larger store of classified and correlated facts pertaining to the artistic part of his problem than he has relating to the economic one. Until comparatively recent times, and in this country particularly, a building was constructed either for beauty or for profit, the combination of the two being limited to a comparatively few examples; but of late years and with increasing frequency the combination is coming to

the front, and there is a growing demand for facts and figures and methods that will enable the architect to make the combination with more accuracy and at less expenditure of his own labor for study and comparison.

While readily demonstrable, as indicated above, that the artistic treatment is a commercial asset, it is not so obvious where to draw the line of expenditure for appearances alone. Naturally, the more money that the architect is allowed to spend the more beautiful the structure may be made, but there is some point at which further expenditure for ornament will not bring a correspondingly increased revenue. Up to that point, the more artistic the structure the larger the return upon the investment. Beyond that point the relative return upon the investment falls off.

It is obvious, therefore, that in order to make the very best use of a client's money it is necessary to establish where this point or line of demarcation is, as nearly as possible, and with a view to bringing together the essential facts that are necessary for this purpose the preparation of these papers has been undertaken.

The laws of economics are as rigid and the rules for securing economic results are not less definite than are those for producing artistic structures; but they have not received so much attention in the technical press while they would seem to be of no less vital importance. They are susceptible of logical investigation; they are not particularly complicated; and they can be readily understood by anyone who has had the standard training necessary to fit him for the practice of architecture as a profession. Some of the demonstrations can most easily be made by the use of mathematics, and there is many a competent architect or engineer who has not so constantly kept up his mathematics as to readily make the original investigations that are necessary for this purpose; but who when once the basic principles have been established and mathematically expressed, can, with a little patience, check them; and it is very easy to apply them

THE AMERICAN ARCHITECT

to practically any kind of a problem which may present itself.

It is a duty of an architect to protect the interests of his client by the fullest possible investigation into the economics as well as the beauty of his design, and it is vastly to his interest, as well as to that of his client, to do so in all cases. To make this possible with far less labor upon the part of the designer and to present the principles in such a manner that the correct application can be made with accuracy and convenience seems to be an undertaking worth while. Since, as has been stated, architectural literature appears to be somewhat lacking in data of this kind, it is hoped that these papers will so stimulate a discussion among architects and engineers that a step forward may be taken in the direction of producing a little more result for the same investment of wealth—"to make two blades of grass grow where one grew before."

The three principle elements that are essential to an economic investigation of a building problem are:

(1) The total cost of the structure, including the cost of the land that is necessary for it, or gross investment.

(2) The amount that can be borrowed on reasonable terms upon the completed structure, or the lien.

(3) The net periodic receipts that can reasonably be counted on. In any discussion of this kind, abnormal and accidental considerations must be eliminated from the problem. The owner is supposed to protect himself from loss by fire through fire insurance, and he must assume the risk from such accidents as he cannot protect himself against, such as earthquake, riots, wars, etc. The return that he receives upon his investment should be greater than the return that he can receive by investing his money in other ways free from those risks by an amount sufficiently greater to compensate him for the risk which he runs. If he can invest his money at 5 per cent. without risk it would be unwise for him to invest it at 5 per cent. in a building subject to uncompensated dangers. The so-called unearned increment upon his land, its conservative prospective increase in value from year to year, or from decade to decade, may be considered as offsetting to some degree various risks of loss. The depreciation in the value

of the structure by age is something which can be computed and should be provided for in the computations by an estimated addition to the operating expense, this addition to be set aside in the form of an annuity toward a depreciation reserve.

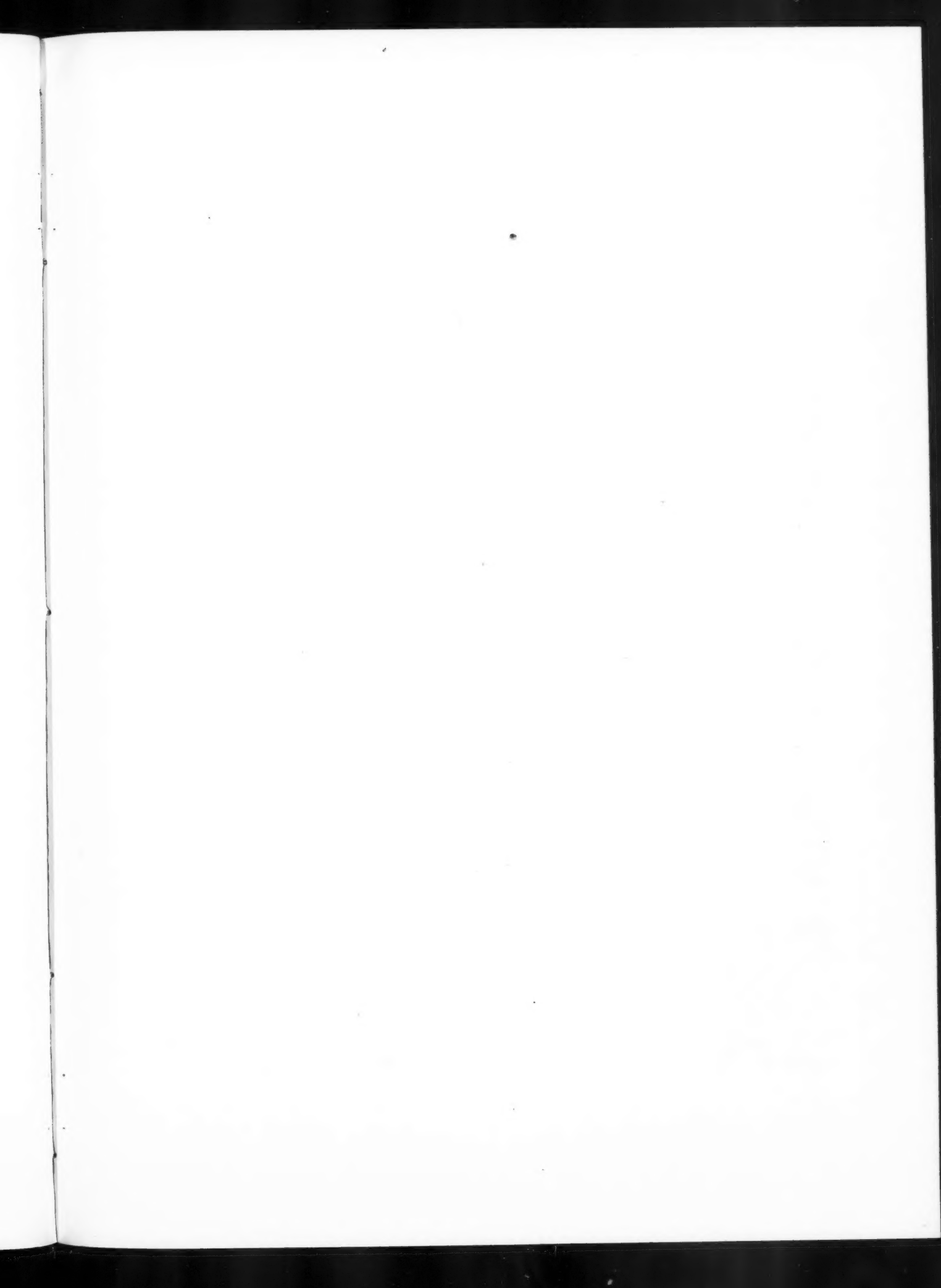
The above mentioned three economic elements may each be subdivided into various factors, each of which is susceptible of individual investigation, and the combination for any particular case may be expressed for precision and convenience in an algebraic formula or by a combination of diagrams in such a manner that the bearing and influence of each factor or variations in any factor or combination of factors may be observed almost at a glance, to the end that we can solve a multitude of problems that are ordinarily complicated and complex, with surprising rapidity and without many of the uncertainties that invariably attend the study of such a problem when it is not divided into its principal factors.

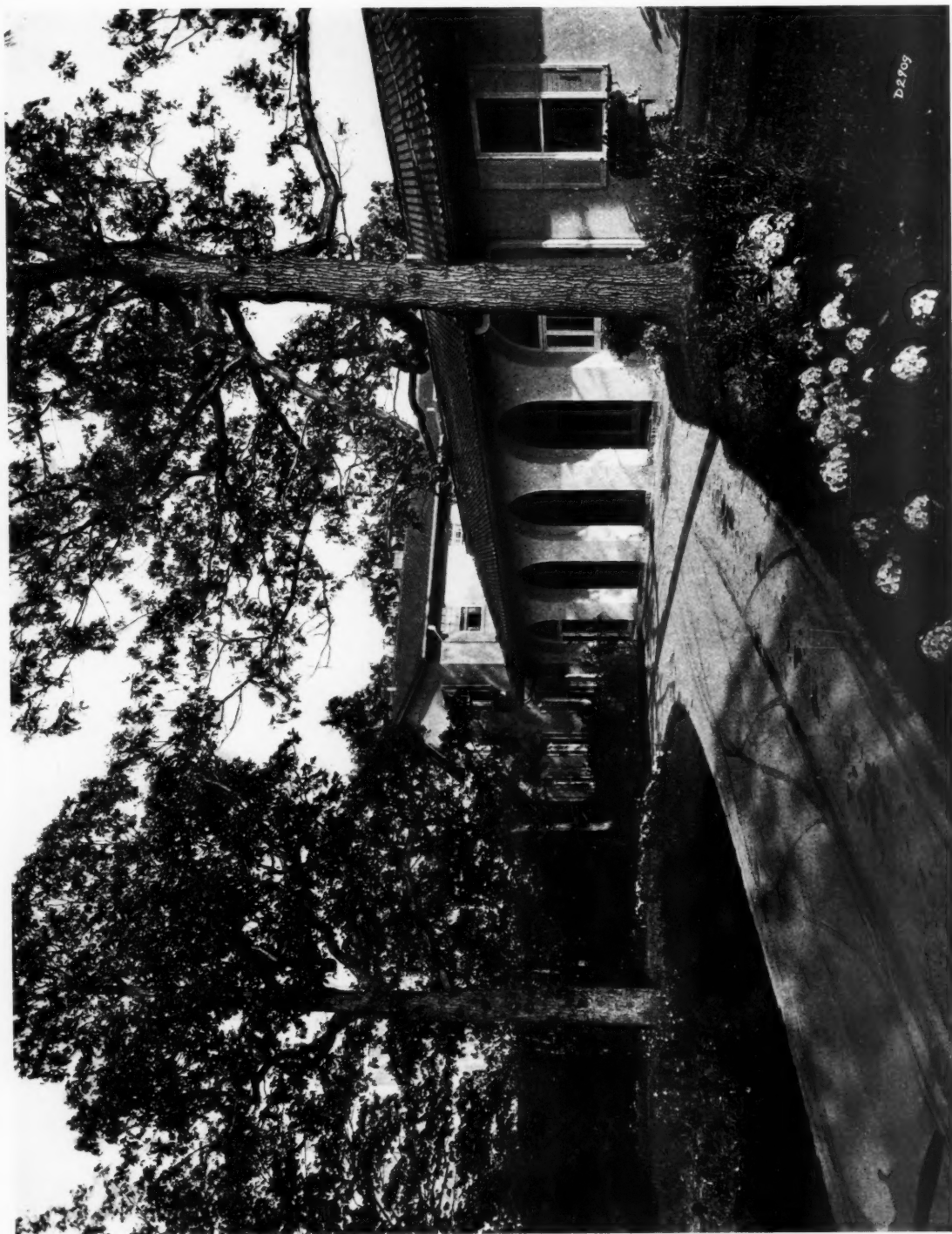
At the outset it should be said that no amount of mathematics, rules, regulations or computations can act as a substitute for common sense and judgment. The most that is here attempted is to offer in convenient form certain facts with which the solution of the technical problem may be conducted with greater facility than has ordinarily been the case heretofore, and to enable an architect or engineer so to group the facts of his own experience as to make them more convenient for his future reference and for that of other members of his profession.

We shall confine ourselves in the initial discussions to those buildings which are erected for industrial purposes in large cities and which are of considerable height, such as store and loft buildings, apartments and hotels. In each of these cases there are about a dozen main factors coming under the three principal elements, some of the factors being common to all of the elements, a few of them being involved in only one. The factors themselves in turn are affected by the kind of building, the locality, and the architectural treatment and efficiency of design.

In grouping the various elements of a problem of this kind so as to make them most amenable to study there are two principal methods, the first being to collect the several

(Continued on page 235)





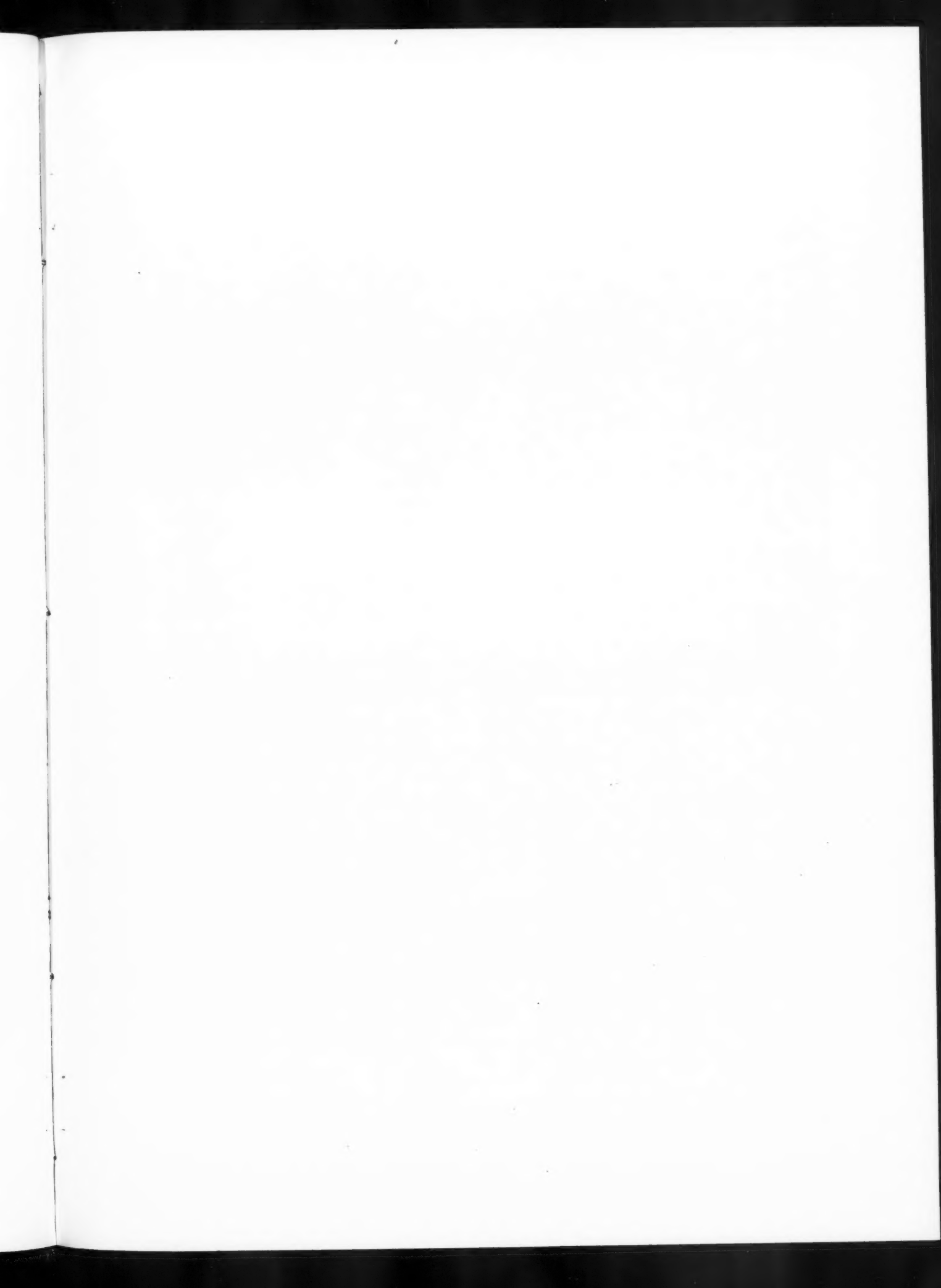
OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

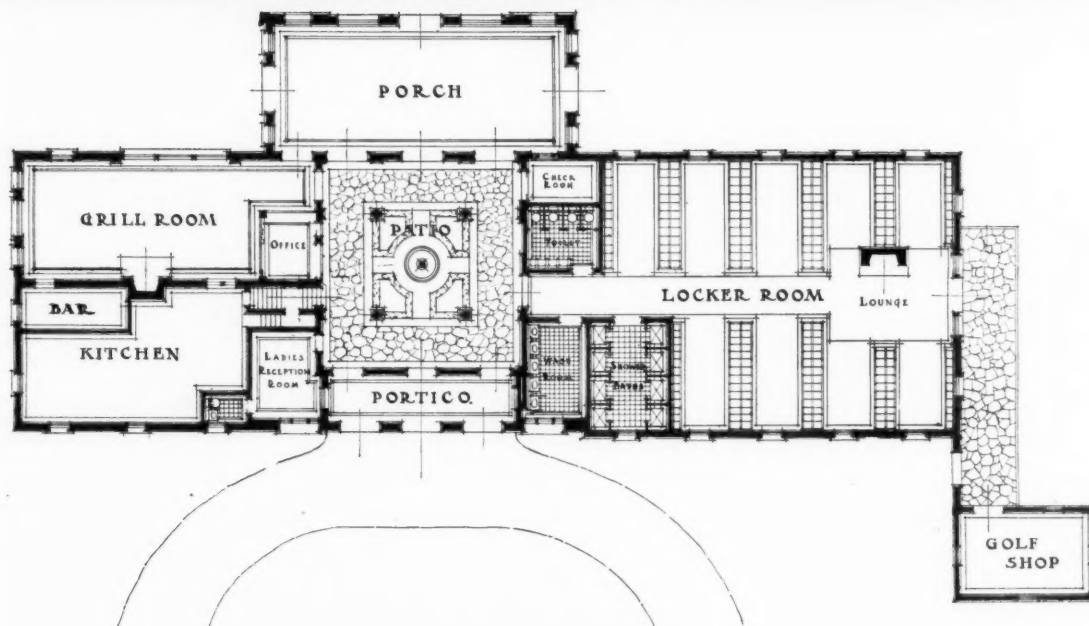
MESSRS. MARSHALL & FOX, ARCHITECTS



OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

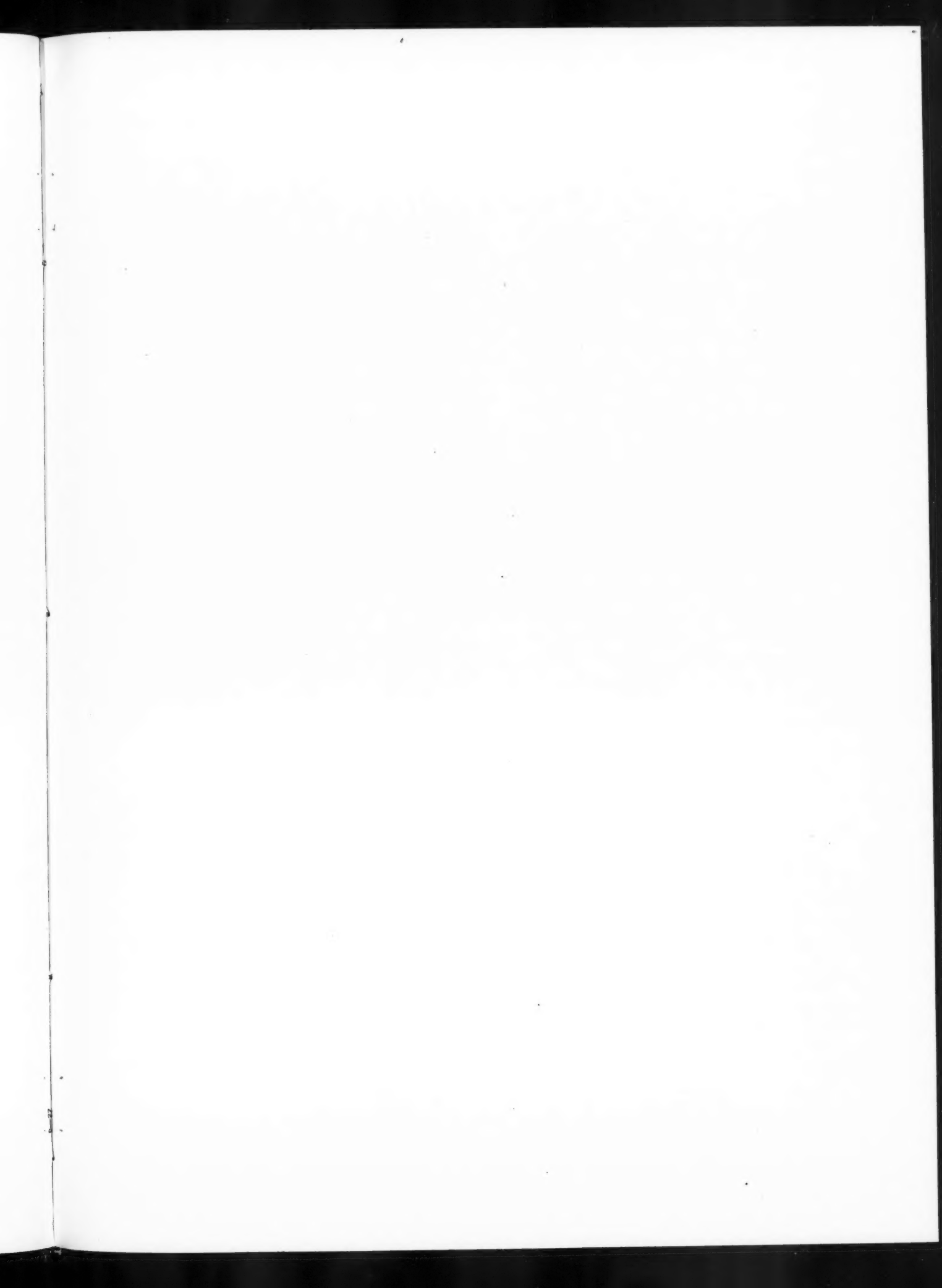
MESSRS. MARSHALL & FOX, ARCHITECTS





OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

MESSRS. MARSHALL & FOX, ARCHITECTS





THE PORCH

OLD ELM CLUB—FORT SHERIDAN, ILLINOIS
MESSRS. MARSHALL & FOX, ARCHITECTS



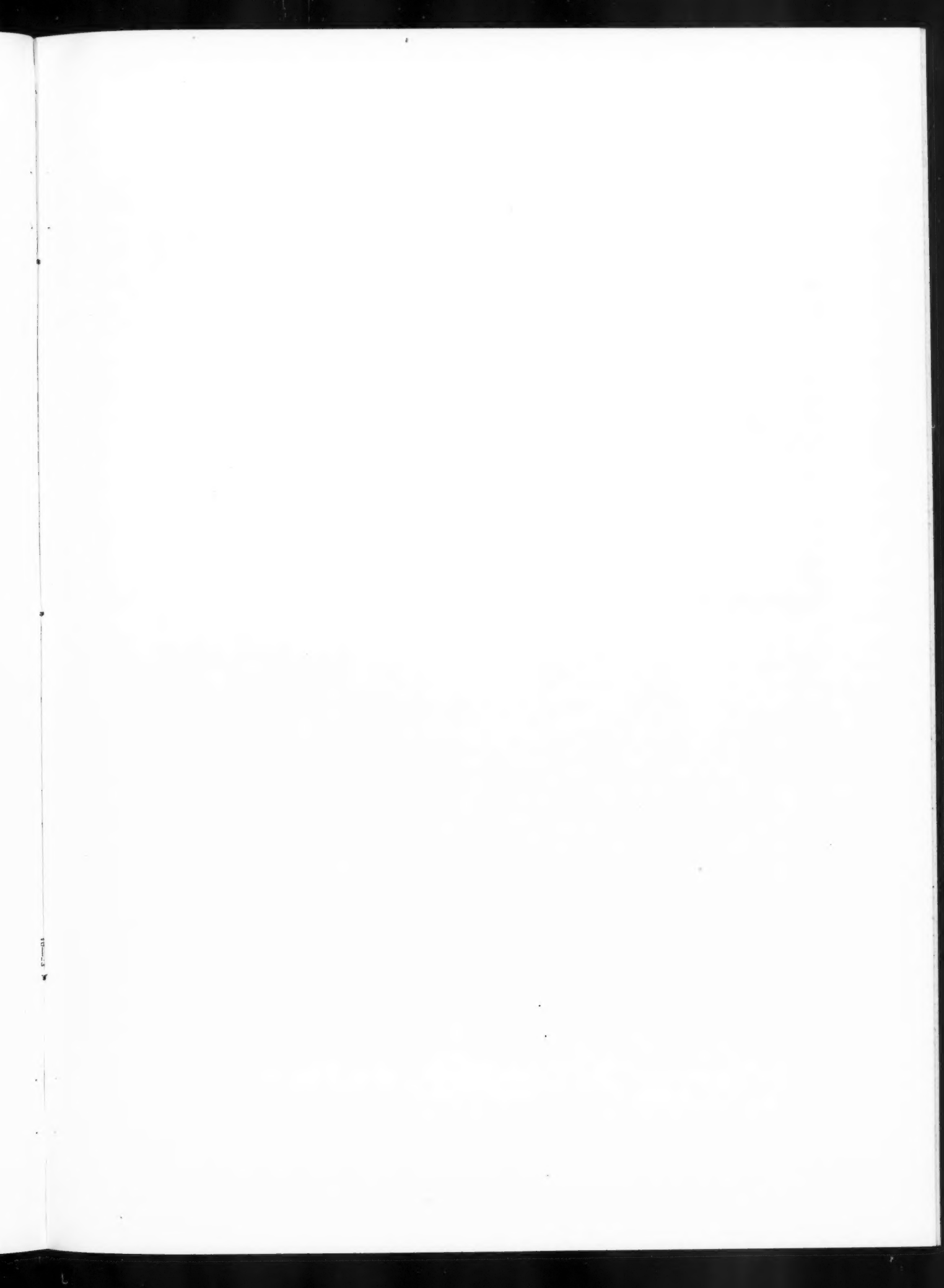
LADIES' RECEPTION ROOM



PORCH

OLD ELM CLUB
FORT SHERIDAN, ILLINOIS

MESSRS. MARSHALL & FOX,
ARCHITECTS





PATIO

OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

MESSRS. MARSHALL & FOX, ARCHITECTS



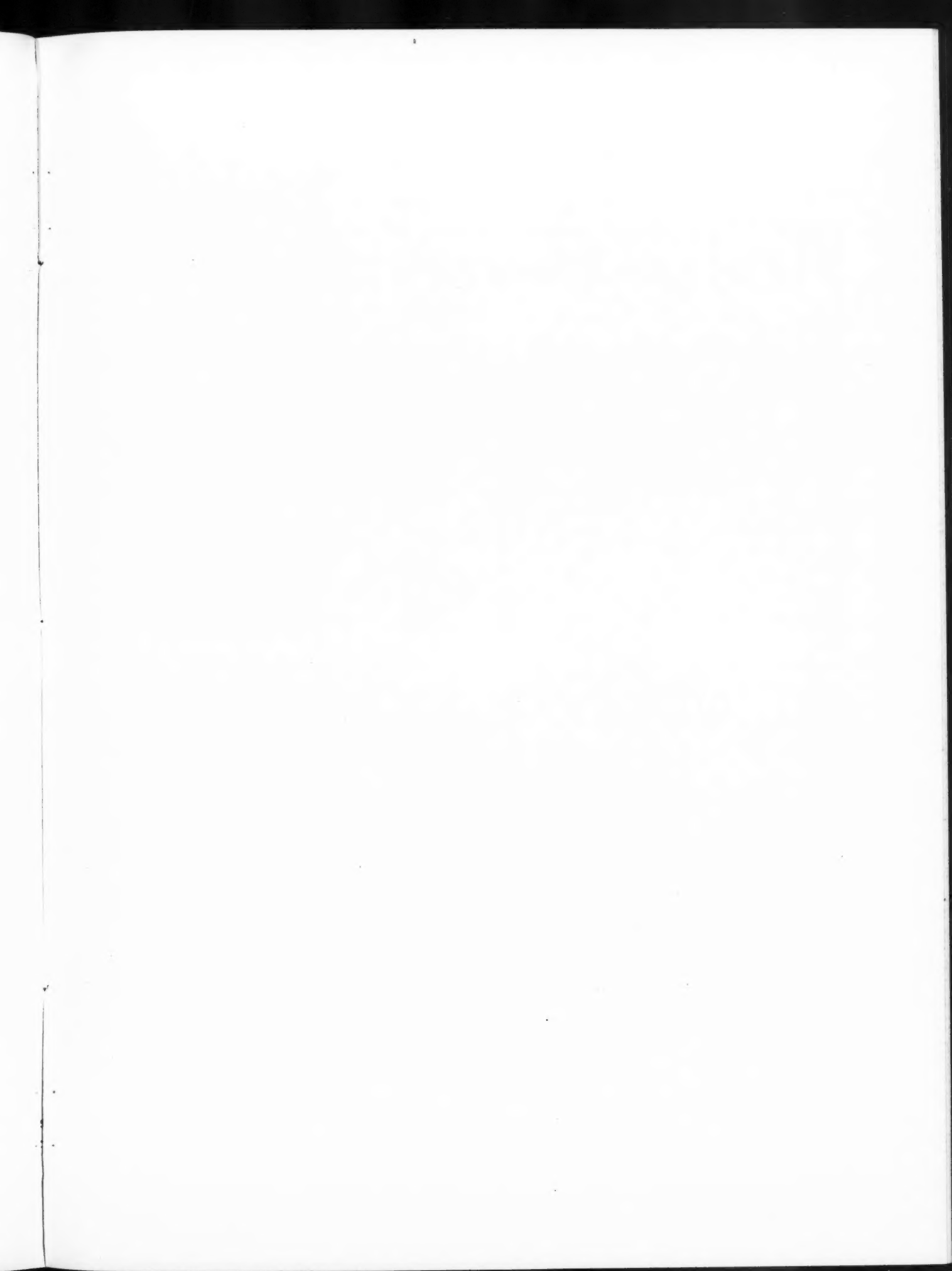
LOUNGE



GRILL ROOM

OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

MESSRS. MARSHALL & FOX, ARCHITECTS





PATIO, LOOKING TOWARDS THE PORCH

OLD ELM CLUB—FORT SHERIDAN, ILLINOIS
MESSRS. MARSHALL & FOX, ARCHITECTS

52804



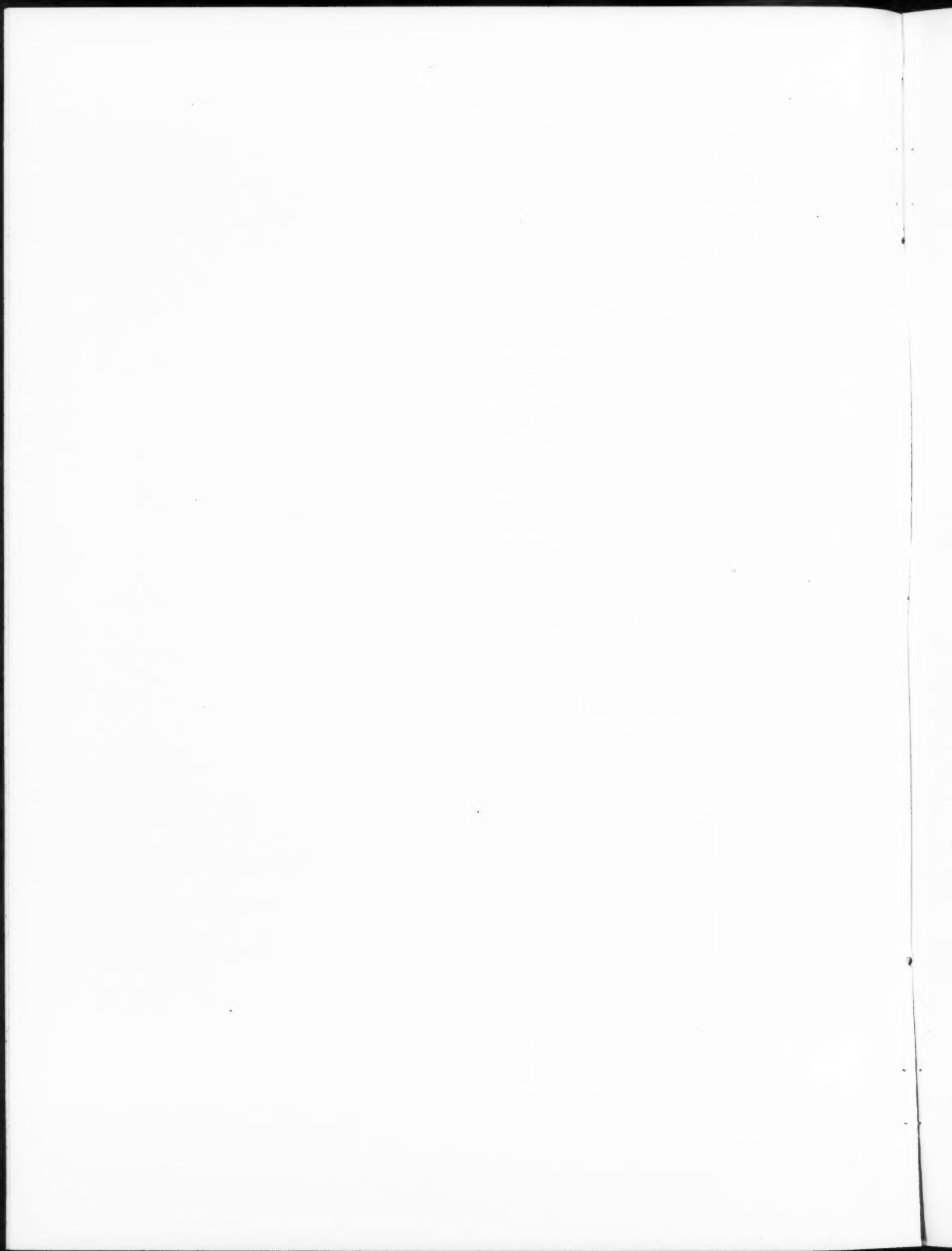
WASHROOM



DETAIL OF LOCKER ROOM

OLD ELM CLUB—FORT SHERIDAN, ILLINOIS

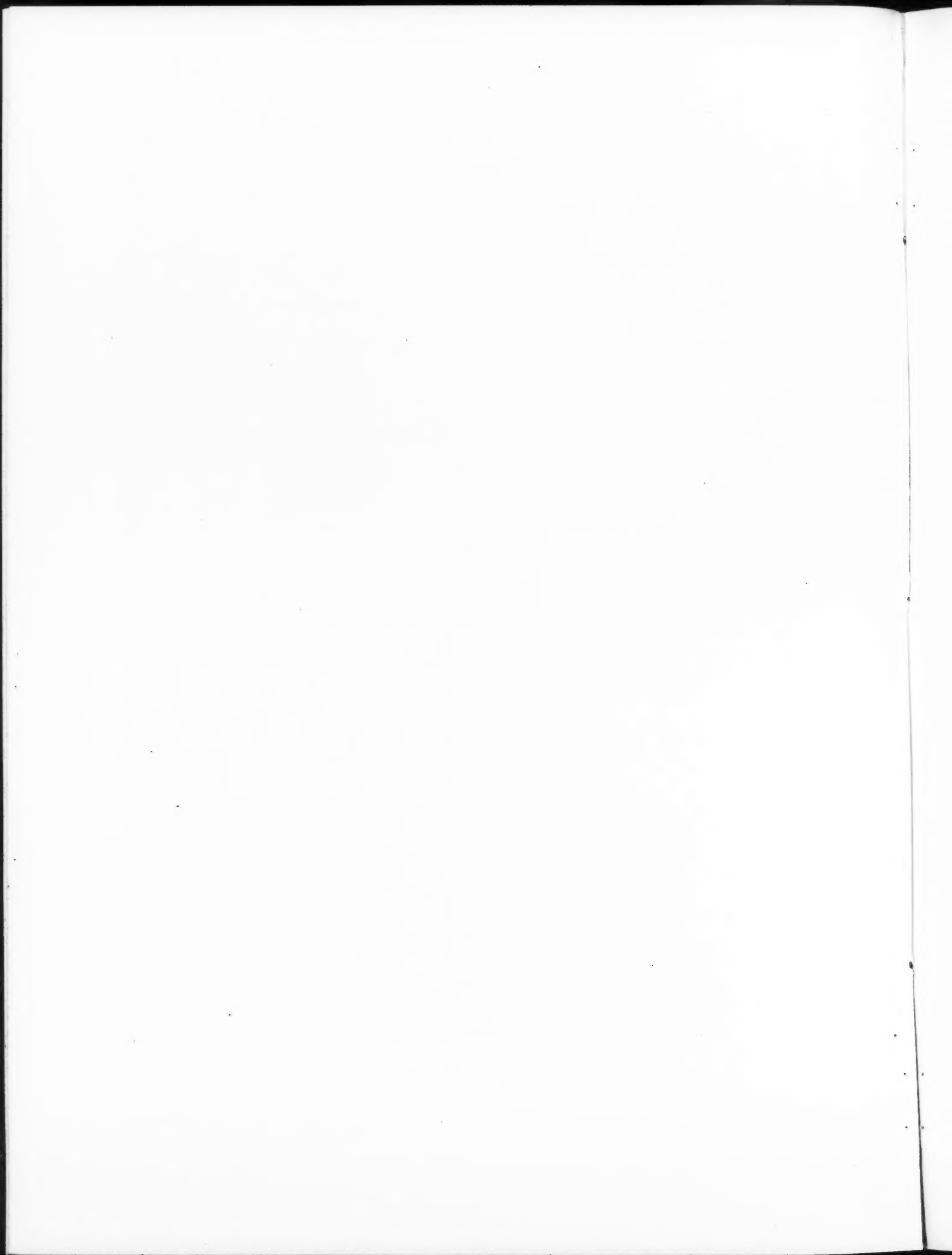
MESSRS. MARSHALL & FOX, ARCHITECTS

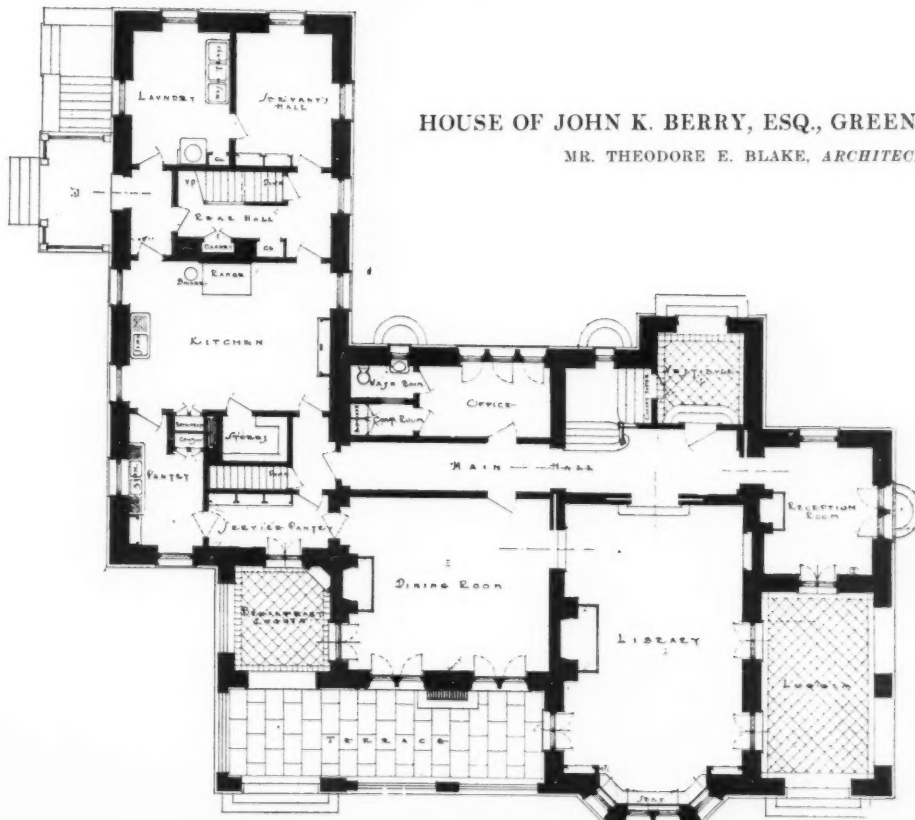




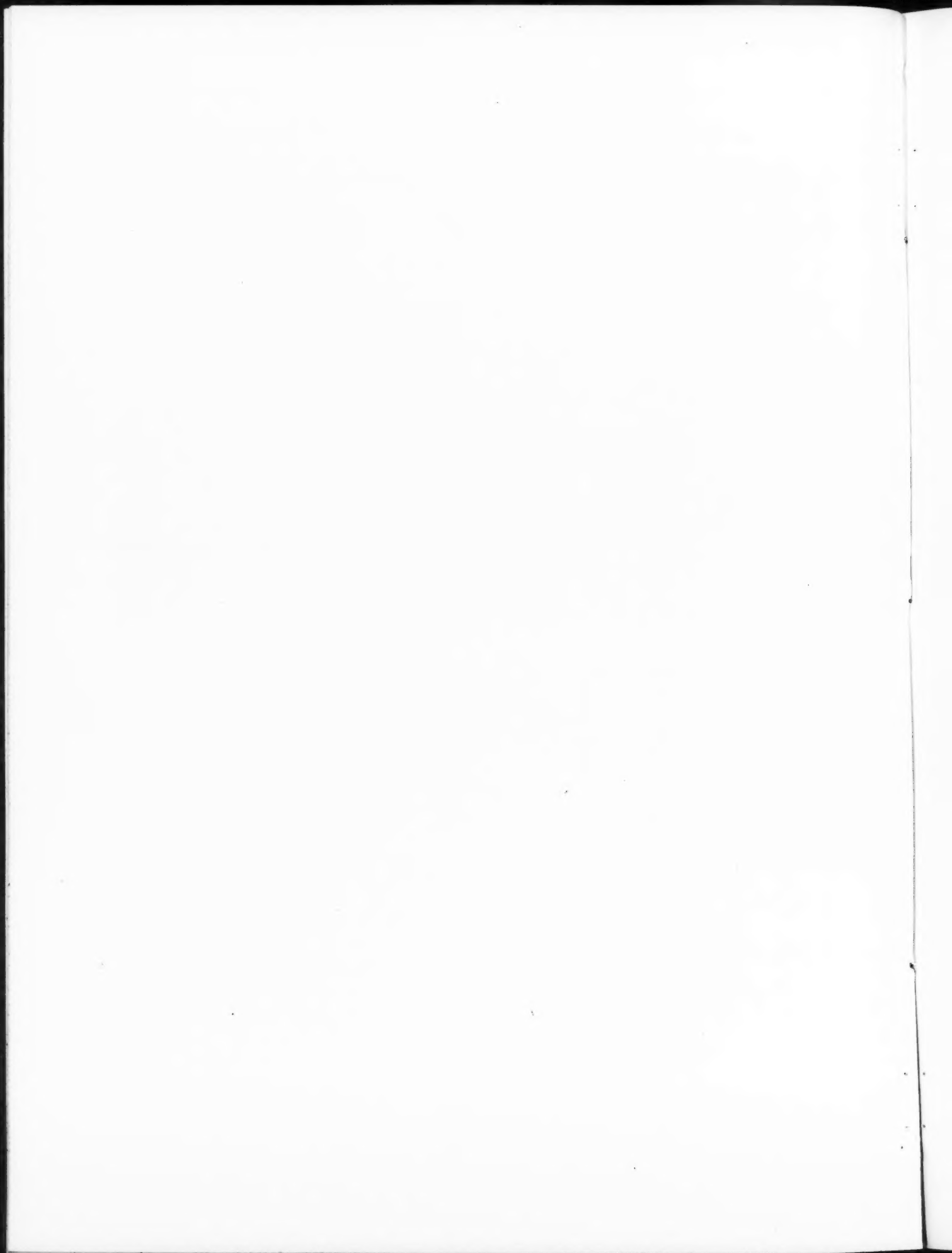
HOUSE OF JOHN K. BERRY, ESQ., GREENWICH, CONN.

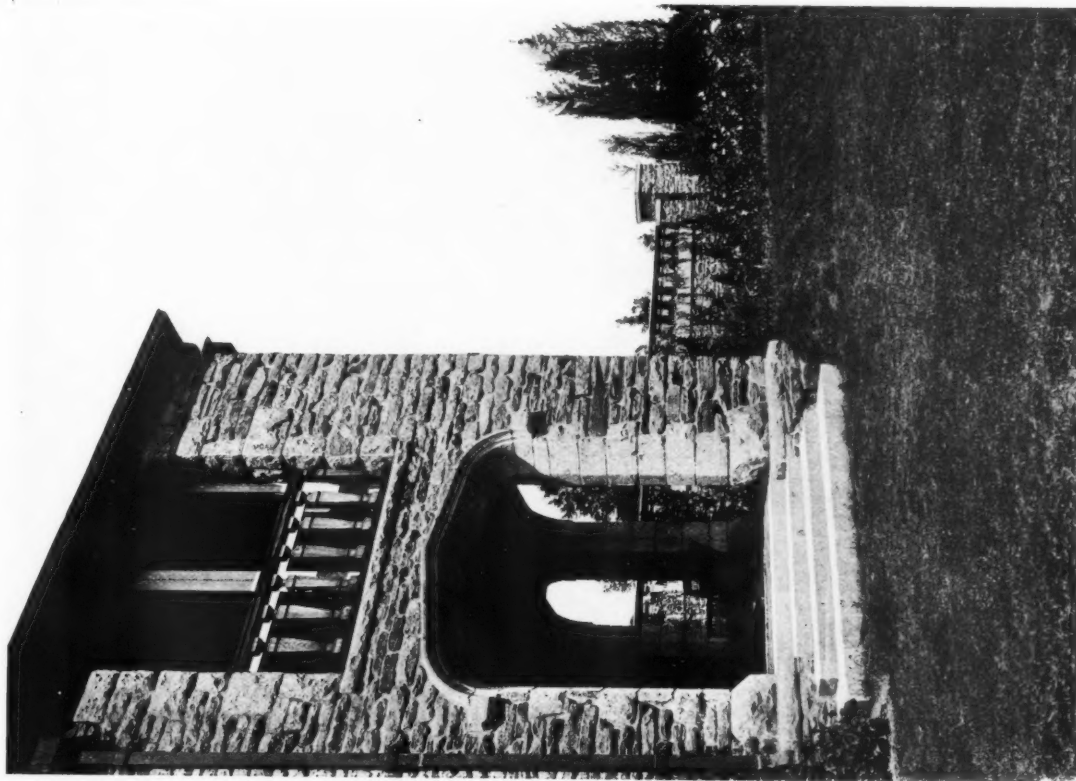
MR. THEODORE E. BLAKE, ARCHITECT





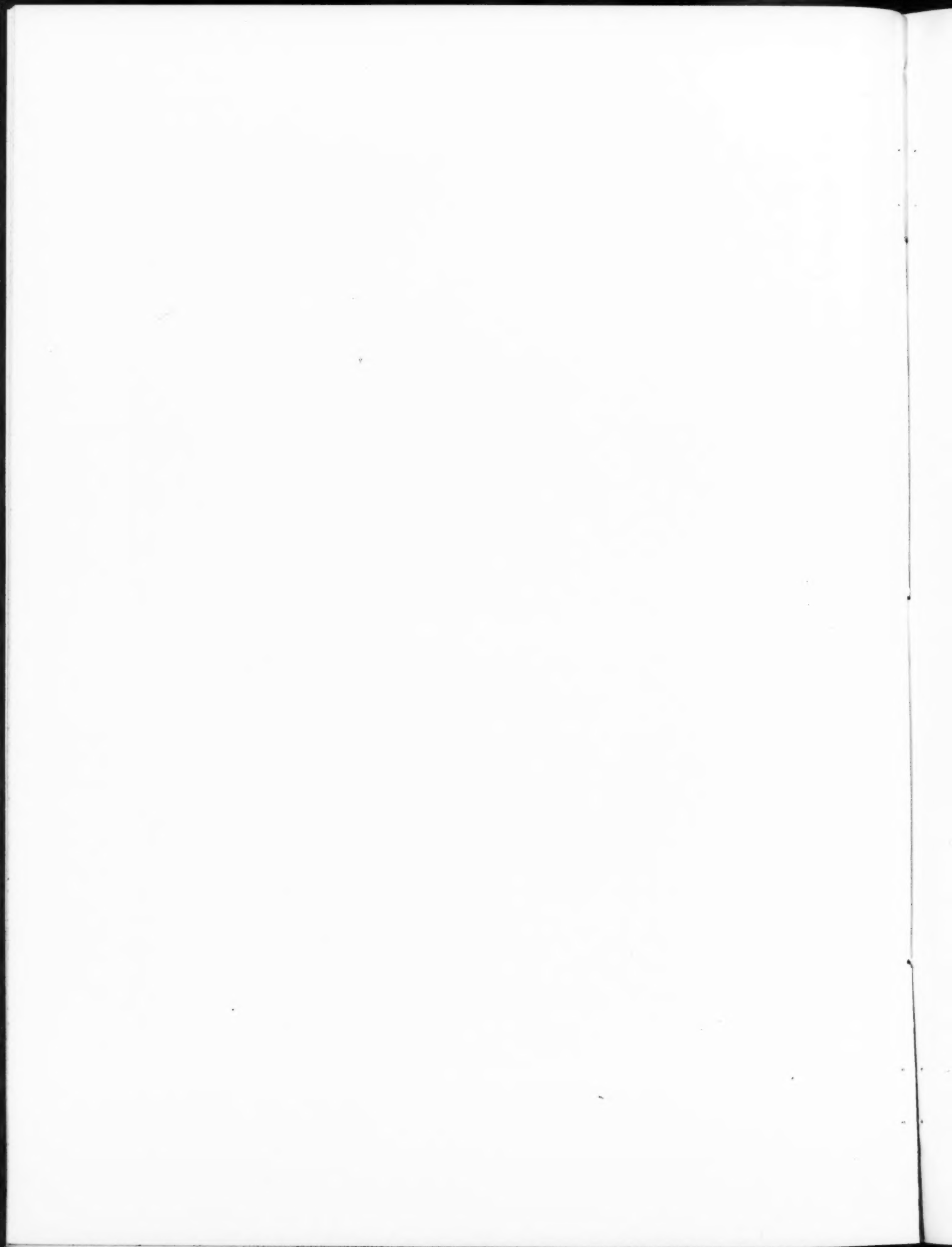
HOUSE OF JOHN K. BERRY, ESQ., GREENWICH, CONN.
MR. THEODORE E. BLAKE, ARCHITECT





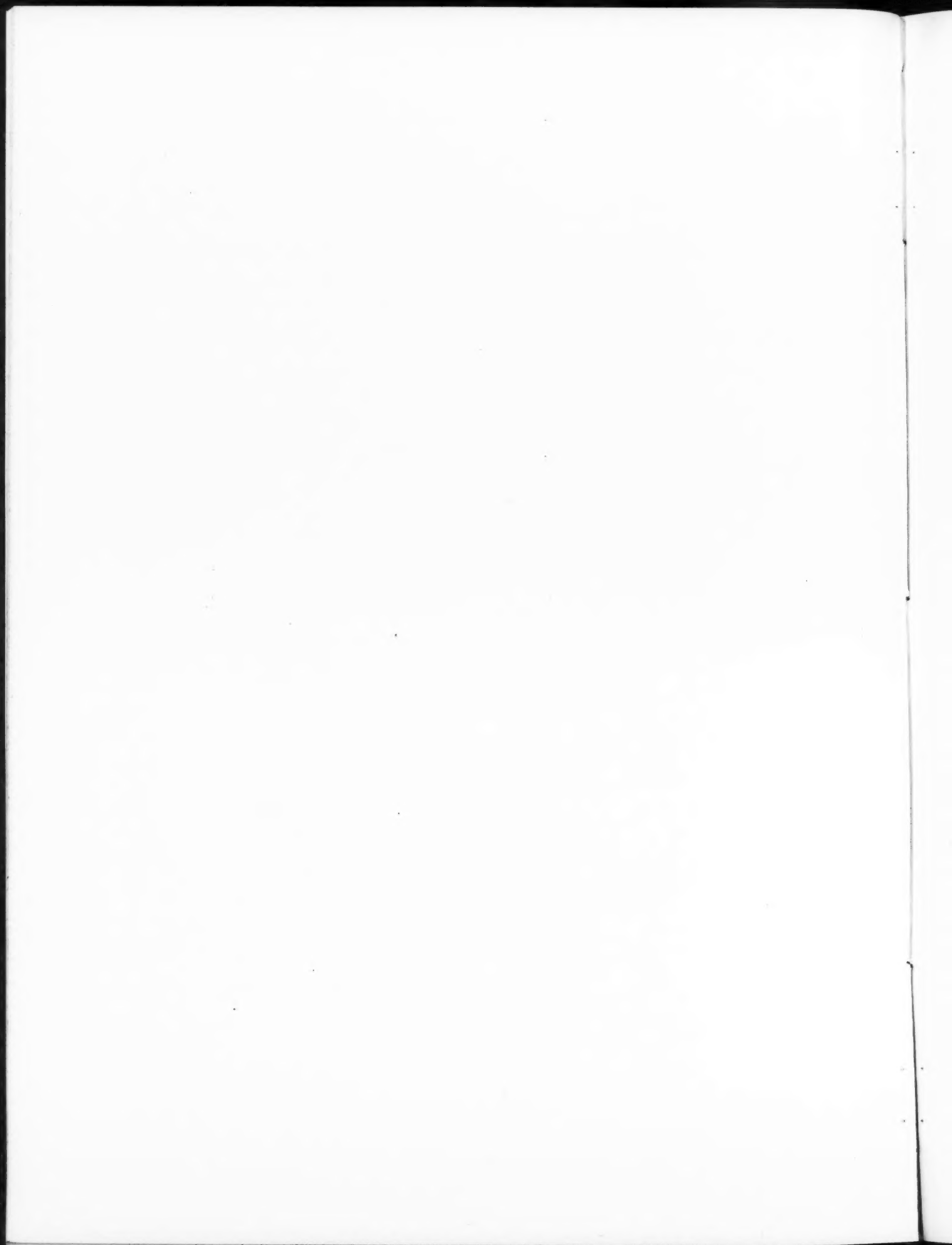
HOUSE OF JOHN K. BERRY, ESQ., GREENWICH, CONN.

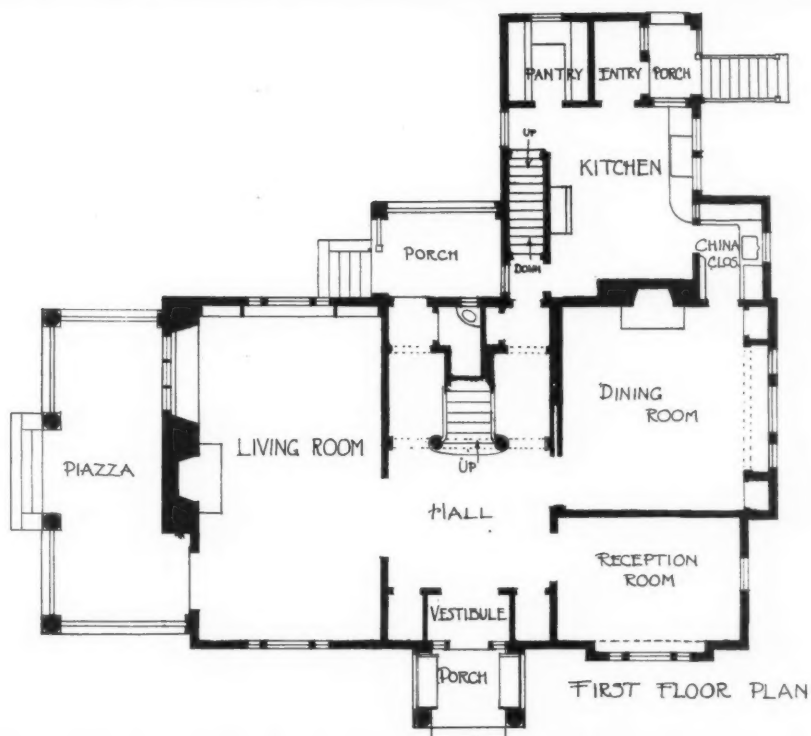
MR. THEODORE E. BLAKE, ARCHITECT





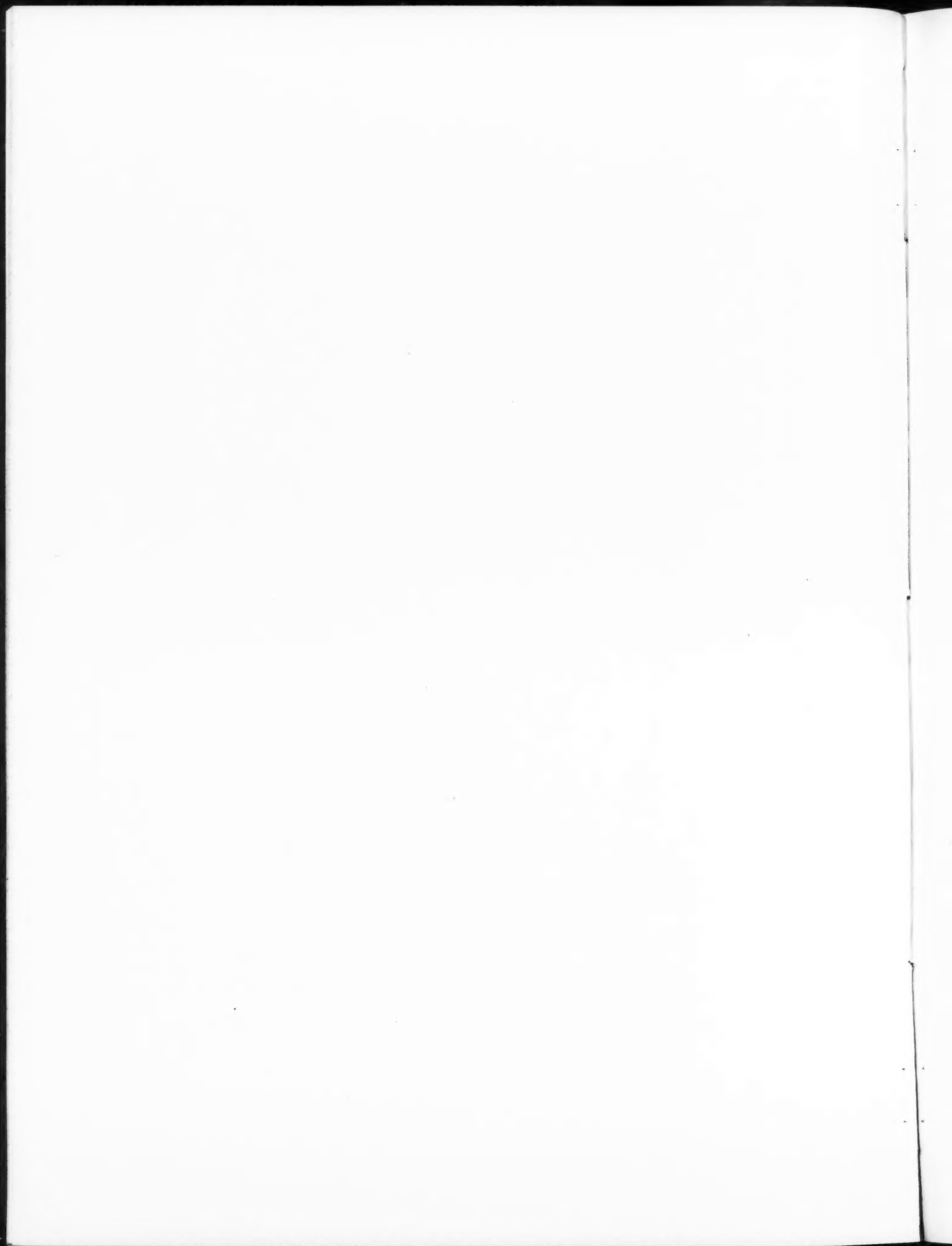
HOUSE OF F. L. GIBSON, ESQ., BROOKLINE, MASS.
MR. BENJAMIN PROCTOR, JR., ARCHITECT





HOUSE OF F. L. GIBSON, ESQ., BROOKLINE, MASS.

MR. BENJAMIN PROCTOR, JR., ARCHITECT

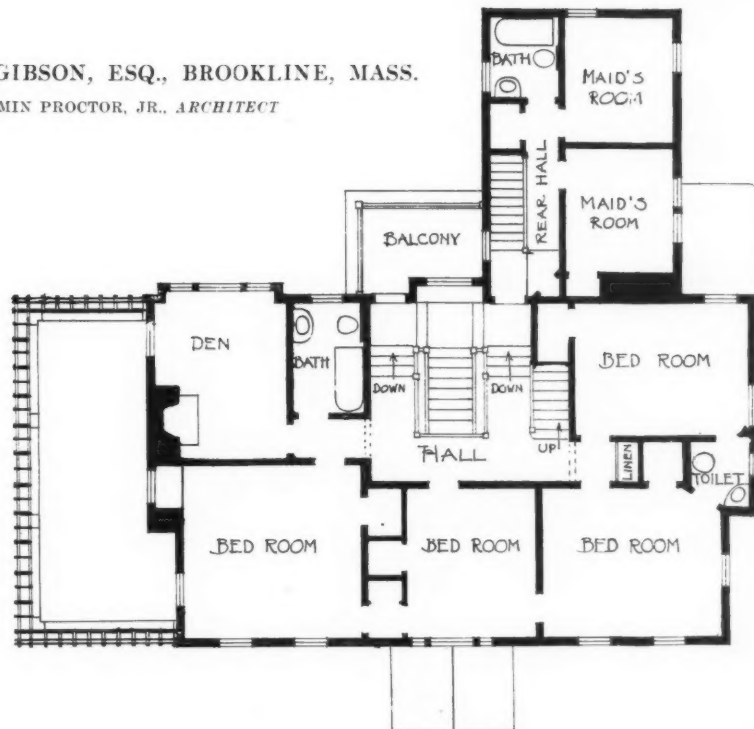


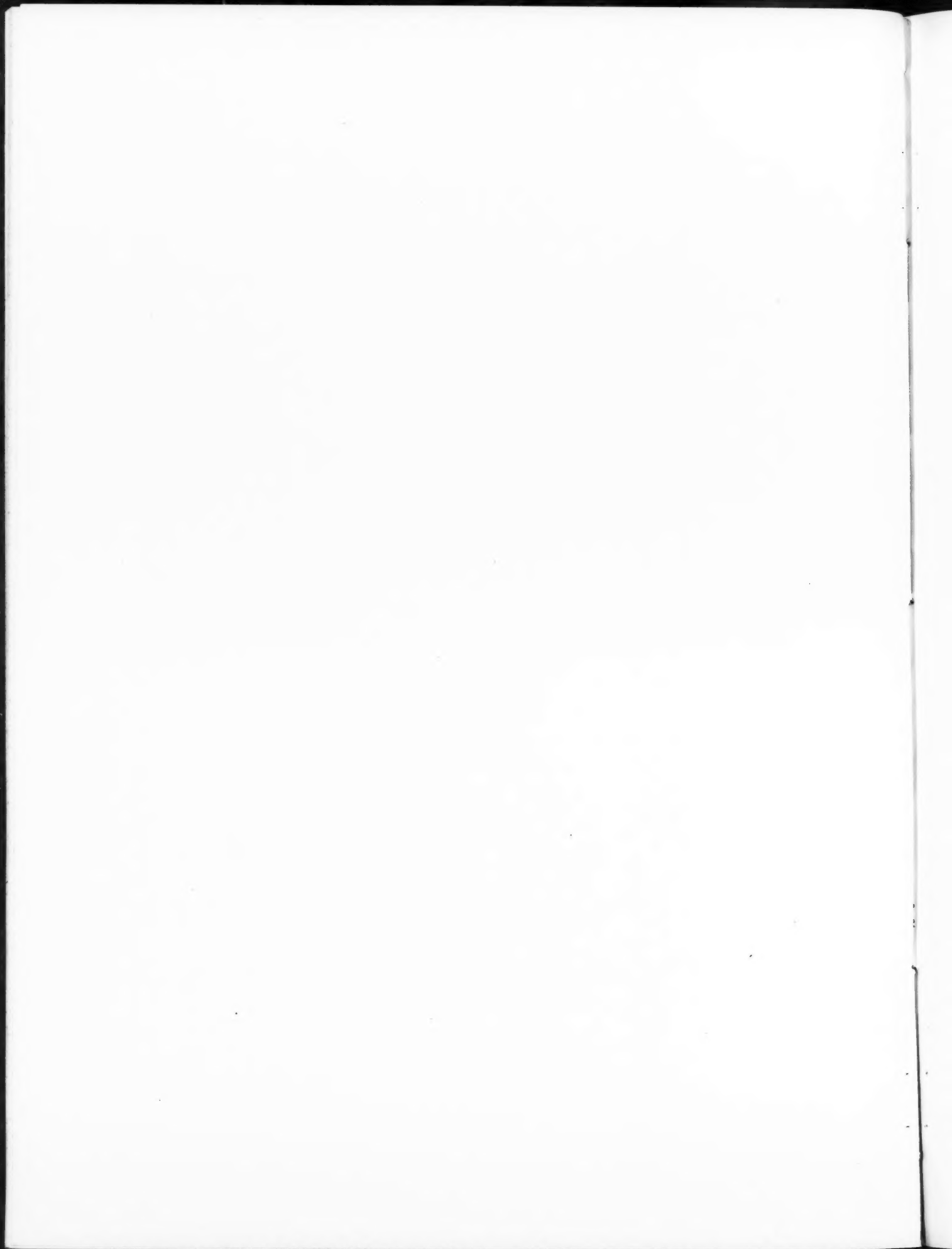


HOUSE OF F. L. GIBSON, ESQ., BROOKLINE, MASS.

MR. BENJAMIN PROCTOR, JR., ARCHITECT

SECOND FLOOR PLAN

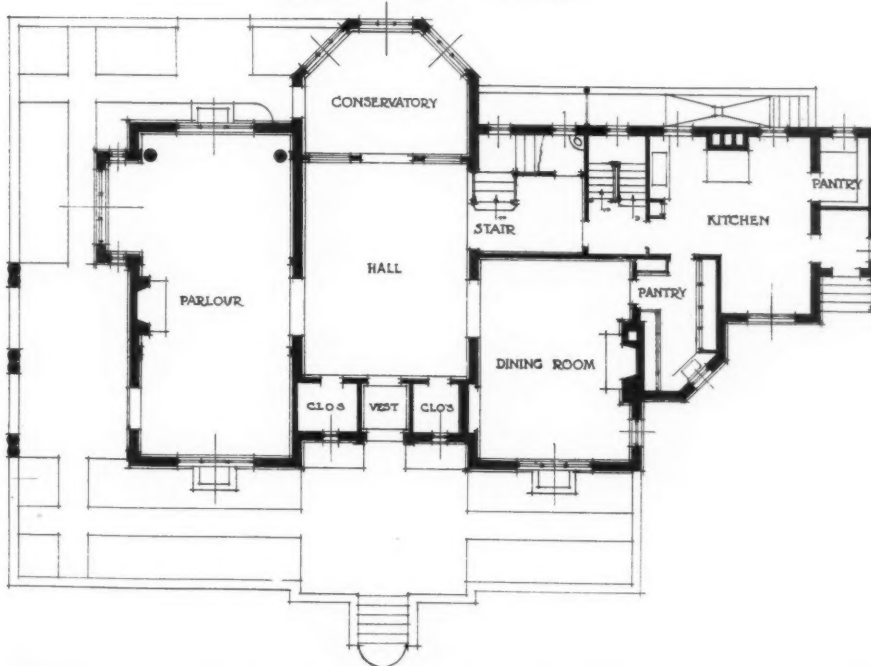






HOUSE FOR · MR · WALTER · G · HORTON · AT · BROOKLINE ·

CHARLES K. CUMMINGS ARCHITECT



THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

Founded 1876

PUBLISHED EVERY WEDNESDAY BY

THE AMERICAN ARCHITECT (INC.)

No. 50 Union Square, New York
(Fourth Avenue and 17th Street)

G. E. SLY, PRESIDENT

E. J. ROSENCRANS, SECRETARY AND TREASURER

Address all communications to "THE AMERICAN ARCHITECT"

SUBSCRIBERS' RATES

In the United States and Possessions (Porto Rico, Hawaii,
Philippine Islands and Canal Zone),
Mexico and Cuba

TEN DOLLARS PER YEAR, POSTAGE PAID
ALL OTHER COUNTRIES . . \$12.00 PER YEAR
SINGLE COPIES (Regular Issues), 25 CENTS

CHICAGO OFFICE, Hearst Building
Page A. Robinson, Western Manager

Entered at the Post-office, New York, as Second-class Matter

VOL. CVI OCTOBER 14, 1914 No. 2025

THE VALUE OF AN ARCHITECT'S SERVICES

Commenting on the practice (unfortunately still prevalent to a limited degree in certain quarters) of planning buildings of more or less importance without the assistance of an architect, who is, however, called in, after the planning and general design of the building has been determined, simply to "dress it up a bit," Mr. Electus D. Litchfield writes the *Evening Post*, New York, as follows:

"In the old days there were so many untrained and incompetent architects that it can be understood how such a course might have been adopted. But, today, with the multitude of well-trained practitioners, such a proceeding can only be explained by complete ignorance of the architect's methods and capabilities. For the benefit of those who are unaware of it, let me say there is no building operation or feature of a building operation upon which the architect—and, of course, I mean a capable and well-trained one, just as when one is advised to consult a lawyer, an immature law student without balance or experience is not meant—can be consulted without advantage to the owner. To thoroughly appreciate this, one must understand the theory of modern architectural practice, the basic theory, which has been the great contribution of the Ecole des Beaux-Arts in Paris to the architecture of this country—and I may perhaps fairly say, to the architecture of the world—and that is that the plan

is the fundamental thing that predetermines the success or non-success of any building or group of buildings. There may be buildings, commonplace or even unpleasing in appearance, with successful plans, but a really successful building in any particular is hardly possible with an unsuccessful plan. For that reason the study of plan has become the great study of the modern architect. * * *

"It is high time that those interested in buildings, for rental or for sale, be they apartments, lofts or office buildings, recognize two facts: first, that the practical planning of a building, together with an appropriate and pleasing facade, determine in a great measure its real value; and second, that it pays much better to decorate a building inside and out with brains, rather than gold leaf.

For too long have the operators been carried away with the idea that a lavish display of solid bronze and expensive marbles produce the most effective corridors; that a wealth in ornament, be it in white marble or terra cotta, will enable them to obtain a pleasing and imposing facade. It is time that they realized that good planning, well studied proportions and a modicum of appropriate and carefully designed ornament are the elements which produce successful buildings. It is also time that they appreciated the fact that these can be obtained only at the hands of an experienced and well-trained architect, and that an architect can, with the use of the most modest priced materials, obtain a building more appropriate and with more enduring charm than the untrained man with the highest priced products of the quarries and the mines."

The truth of Mr. Litchfield's statements has, of course, always been realized by members of the profession, and indications are not lacking that a rapidly increasing number of operators and investors are accepting it each year. The field of the architect's activities is rapidly widening, until it now embraces—to a limited degree perhaps in some instances—practically every class of building or structure erected. All that is necessary to make the employment of an architect the first step in any building operation, is the education of the layman to a full appreciation of the architect's methods and functions. To this work of education, Mr. Litchfield's article forms a worthy contribution, and it is hope that every architect will, as opportunity offers, render a similar service.

PARTICIPATION IN IMPROPERLY CONDUCTED ARCHITECTURAL COMPETITIONS A FRUITFUL SOURCE OF LOSS TO BOTH THE PARTICIPANT AND THE PROFESSION

The apparent eagerness of many architects to enter competitions, the terms of which afford inadequate protection, appears

THE AMERICAN ARCHITECT

to account in large measure for both financial loss, so frequently deplored by the very architects in question, and low public esteem which their conduct inspires in certain localities, for the profession in general.

It is obvious, or should be, that a competition program which promises no positive remuneration to any contestant, and which reserves to a jury—composed almost entirely of laymen—the right to reject all plans; which requires a practical guarantee of the cost of the building by the architect whose plan may be selected, contains small promise for the competitors, and might be expected to possess little attraction for the best talent in the profession. Yet, under a program, which included the majority if not all of the foregoing conditions, eleven architects of a neighboring state are reported to have recently submitted designs, to the Board of Education, for a new school building. It is said that fifteen architects were invited to participate in this competition,

but four declined to enter on account of an adverse recommendation by the local chapter of the American Institute through its Committee on Competitions. That those who so declined were well advised can hardly be questioned, and it is only to be regretted that the others were unwilling to follow their example.

When architects everywhere, and without exception, will decline to donate their services in the preparation of expensive plans, and will, when a competition seems necessary or desirable, insist upon a program guaranteeing a careful canvass of the designs submitted, by persons competent to judge their merit, and who have authority to make awards—in other words, when the same conditions are demanded by architects as would be by any other class of men who had something of value to dispose of—they may expect as a body to receive the same measure of professional respect and esteem accorded members of other professions.

A RECENT LEGAL DECISION

Misrepresentations of Architect

An owner employed an architect as architect and supervisor of the construction of a building on the representations of the latter, which the court held to be fraudulent, that he had great knowledge and skill in such matters, and that the maximum cost of a building such as the owner desired to erect would not exceed the sum of \$400,000. The owner did not discover the falsity of any of the various representations made by the defendant until after the latter had made an oral statement that the total cost would be \$510,000. At that time the owner had already expended \$460,000 in the construction of the building, and to complete it would be compelled to expend \$230,000 additional. When completed the total value of the land and building would not exceed \$700,000, while the total cost of the improvements alone would equal, if it did not exceed, that figure. Of the \$460,000 so paid out by the owner \$70,000 was received by the architect as commissions. The services of the architect, for which that sum was paid, were held to be of no value to the owner whatever, as it could not obtain a rental which

would yield a reasonable interest upon the value of the land and reasonable interest upon the cost of the improvements. The owner sought to recover damages from the architect for fraud and deceit. A defense was that the owner was guilty of laches in not employing means available to it of ascertaining before any damage was sustained that the representations complained of were untrue. It was held that the owner had a right to rely upon the architect's representations, often repeated after the contract was made, and therefore was not guilty of such carelessness as to bar its right to recover for the deceit, because it did not use such means of ascertaining the falsity of the representations and insist on the architect presenting complete plans, specifications and detailed estimates, as he had represented he would. Finding itself with an uncompleted building on its hands, the owner might either abandon it, or complete it at reasonable cost. It took the latter course as the more prudent, and was held entitled to recover from the architect the commissions paid and the excess of cost.

Edward Barron Estate Co. v. Woodruff Co., California Supreme Court, 126 Pac. 351.

Economics of Building Construction

(Continued from page 232)

factors in groups of algebraic equations and the other by expressing them in diagrams. While it is often very helpful to say that one factor in a design is more important than another, the most desirable solution of such a problem requires one to be able to say how much more important it is. The solution, if possible, must be quantitative instead of qualitative; and this is the excuse, if one be needed, for introducing a considerable amount of algebra into the present subject. We have first to make a general solution containing what appear to be nearly all the principal factors involved and then by substituting in the equations the factors that belong to a large class of structures in a city such as New York to secure certain sub-general formulas in convenient form for use. Where an architect has a problem which meets the conditions and in which the factors have the values which have been assumed for these sub-general equations, he can use them directly; otherwise, he can substitute the factors that he finds common to his practice, and prepare sub-general equations and diagrams for himself.

- * * Let L = The area of the lot occupied by the building in square feet.
- * * S = " area of the building, in square feet.
- * * l = " ratio of building area to lot area.
- * * b = " " rentable building area to total building area.
- * * R = " tax rate on full value.
- * * m = " ratio of the amount borrowed on mortgage to the total value.
- * * M = " rate of interest on the mortgage.
- * * v = " ratio of rented space to total rentable space.
- * * g = " ratio of overhead charges, commissions, etc., to gross receipts.
- * * f = " ratio of annual charges, superintendence, repairs, painting, general labor, insurance, fuel, lights, depreciation, etc., to total cost of the building.
- * * X = " ratio of net receipts to equity.
- * * C = " cost of the land per square foot in dollars.
- * * B = " cost of the building per square foot of floor area, in dollars.
- * * A = " annual gross rental per square foot of rented floor area, average in dollars.
- * * Y = " annual net receipts, in dollars.
- * * n = " number of rentable stories in the building.
- * * F = " cost of the building per cubic foot.
- * * h = " average height of one story.
- * * $S = Ll$
- * * $B = Fh$

Units marked * * are areas.
 " " * are ratios.
 " " ° are in dollars.

Now, the capital investment will be CL for land, and S_nB for the building

The total investment in dollars = $CL + SnB$
 " amount placed on mortgage = $(CL + SnB) m$
 " "Equity" or cost less the amount of the mortgage
 = $(CL + SnB) (1 - m)$

PER YEAR IN
DOLLARS

The gross receipts will be.....	<i>AnSbv</i>
The operating expenses will be.....	<i>AnSbv</i>

The interest on the mortgage will be..... $Mm (CL + SnB)$
The taxes will be..... $(CL + SnB)R$

Therefore, assuming that the total number of rentable stories equals the total number of stories,

$$(1) \quad Y = S_n [Abv (1 - q) - Bf] - (CL + S_n B) (R + Mm)$$

$$(2) \quad \text{and } X = \frac{Y}{(CL + SnB)(1 - m)}$$

Now, $Ll = S$, and $L = \frac{S}{l}$

$$\therefore X = \frac{Y}{(C \frac{S}{I} + SnB) (1 - m)} = \frac{1}{S(C \frac{S}{I} + nB) (1 - m)} \frac{Y}{1}$$

Y may be written =

$$\begin{aligned} \therefore X &= \frac{n [Abv (1-g) - Bf] - (\frac{C}{l} + nB) (R + Mm)}{(\frac{C}{l} + nB) (1-m)} \\ &= \frac{n [Abv (1-g) - Bf]}{(\frac{C}{l} + nB) (1-m)} - \frac{(Mm + R)}{(1-m)} \end{aligned}$$

Finally,

$$(8) \quad X = \frac{Abv(1-g) - Bf}{\left(\frac{C}{r_l} + B\right)(1-m)} - \frac{(Mm + R)}{(1-m)}$$

All but four of the factors in this last equation represent ratios, and these four represent:

A—The rental per square foot of rented space, which depends upon the kind of building and the locality where it is erected.

B—The cost of the building per square foot of floor area, which depends upon the kind of building.

C—The cost of the land per square foot, which depends upon the locality.

n —The number of stories in the building.

The first three are functions of the locality and kind of building.

Y is a function of the times, being 100% in periods of great prosperity and averaging in normal times 90%, more or less, depending upon the skill of the renting agent, the general desirability of the building, etc.

n , b and l are functions of the architect's design, together with B .

M and m are practically fixed functions, and g and f depend upon the kind of building and the purposes for which it is used.

THE AMERICAN ARCHITECT

CLASSIFICATION OF FACTORS.

We may then say that the kind of building controls factors *A, B, g, f*.

The architect's design controls factors *n, b, l*, together with *B*.

The locality controls factor *C*.

And there are independent factors: *v, m, M, R*.

R in New York City is supposed to be about 1.8%. The city authorities try to assess property a little under its true value, but of late years the assessments in many sections have been over, rather than under, the true amount. On a rising real estate market the assessments are generally too low, while on a falling one, as at present for the average of Manhattan Island, the assessments are generally too high. For average conditions a fair value for *R* would be 1.75%.

m—The percentage of the true value that can be borrowed on mortgage at 5% is generally nearly 66 2-3%, so that *m* may be taken for average conditions at two-thirds, when *M* equals 5%.

l—The percentage of the total land area occupied by the building varies with the size of the building, the general plan of the architect's design, and the local conditions as to neighboring buildings, etc. The ruling conditions are light, air and architectural symmetry, and buildings on street corners are at a considerable advantage in this regard. Tall structures, with low adjoining buildings of a permanent nature are likewise at an advantage if it is reasonably certain that the adjoining property will not be built up. A twenty-story building alongside of a ten-story one which is substantially built but with footings and columns designed for only ten stories is likely to enjoy an outlook over the roof of the ten-story one so long as the latter pays a fair return on its cost. At the best, however, there is a decided risk in counting upon such conditions for as many years as will represent the life of the modern steel or concrete building. The values of this percentage for a number of actual cases are given in Schedule A.

v—The percentage of efficiency in renting will very naturally vary with the times and conditions. It will never remain 100% for any great length of time, because when a section is fully rented at fair rates new con-

struction and consequent competition is stimulated. Most real estate men consider that 10% for vacancies is a fair value for a term of years. Therefore, we may take *v* as equal to 90%, or 0.9.

b—The percentage of the whole building space that brings a gross return, depends upon the space necessary for halls, stairways and elevators. For a number of typical buildings the values are given in Schedule B, which gives the per cent. of the total building area devoted to walls and partitions, halls, stairs and elevators.

A—The rate per square foot for ground floor rentals and that for upper floors varies in different sections of the city and also with the purposes for which the floors are used. Avenues generally rent higher than side streets, and retail buildings at higher rates than wholesale ones. In New York, and probably the same is true for most other large cities, the unit rentals on space for the most expensive luxuries are the highest, as, for example, jewelry and art showrooms, bric-a-brac shops of the most "exclusive" kind, millinery stores and haberdasheries. Space for banking and trust company buildings also comes high, and the rates for this purpose are very stable in comparison with those for mercantile purposes. Schedule C gives average rates on Manhattan Island, with the local conditions in general terms.

g—The percentage of gross rentals charged by agents for handling the property, negotiating leases, etc., ranges from 3% to 5%, with a general average of 4%.

h—The height of the average story in the commercial buildings that are built today varies a little, but will average from ten to twelve feet.

F—The cost of the building per cubic foot will vary a good deal, depending upon the quality of the workmanship, the kind of construction, whether fireproof or not, the skill of the architect, the nature of the terms on which the building is erected and the credit of the builder. It depends also very largely on the skill of the engineer who supervises the layout of columns, etc., and upon the character of the ground underlying the foundations. A building in which the columns are uniformly spaced in one or both directions is very considerably less expensive than with irregular column spacing, owing

THE AMERICAN ARCHITECT

to the lower cost of fabricating steel on a standardized design than on one of dissimilar sections. Moreover, with uniformity in the design the actual amount of steel in the frame is likely to be decidedly less than when irregular panels are employed. The same is largely true of reinforced concrete and composite structures. The building's height likewise affects the unit cost, because the taller it is the greater the column and footing loads, so that the cost of columns and footings is about proportional to the square of the number of stories to be carried, other conditions being equal. Since, however, the cost for beams, girders, floors, walls, ceilings, windows and door openings, etc., will be proportional to the cubic contents of the building, and these items in the aggregate are far in excess of the columns, footings and cellar excavation, it may be assumed for preliminary calculations that the cost of the building is nearly proportional to its volume. The location of the building must be carefully considered in the preliminary calculations, however. The "political" conditions, municipal regulations and street traffic all have much to do with the cost of erection. Schedule D gives the average unit cost of a number of typical cases.

f—The percentage of the original cost of the building consumed in annual charges will depend on the character of the service rendered to tenants. This is high in office buildings and low in commercial ones and warehouses. The element of annual depreciation is one that depends on the life of the building and the rate at which a sinking fund can conveniently be invested. The theory of this depreciation is as follows:

- n* = The number of years of the building's life.
- r* = The rate of interest that the fund will bear, and
- d* = The sum which, if deposited each year and drawn interest at the annual rate *r*, will amount at the end of *n* years to 1 dollar; then, by the formula (see Handbook of Cost Data, page 14, by H. P. Gillette),

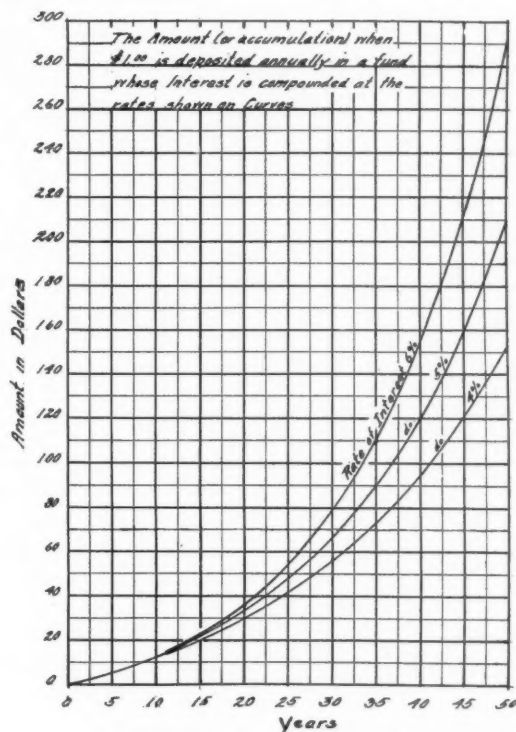
$$d = \frac{r}{(1+r)^n - 1}$$

d = the annual deposit in a sinking fund necessary to redeem \$1 in *n* years. 100 *d* will be the percentage of the total cost of the building necessary to be deposited in the sinking fund in order to amortize the cost during the life of the building. Conversely, the amount at the end of *n* years invested annually at *r*% =

$$S = \frac{-1}{r}$$

This is shown graphically for convenience in the Sinking Fund diagram that accompanies this paper. Thus, if the life of the building is taken at 50 years, with *r* at 5%,

the amount of \$1 at the "end of life" would be \$210 and the annual deposit in the sinking fund to accumulate \$1 in 50 years would be \$.00477. For these conditions, then, the rate of annual depreciation on the building's cost would be 0.477%, or nearly one-half of 1%.



SINKING FUND DIAGRAM

Referring now to the classification of factors, the independent ones may be taken at their standard values and substituted directly in equation (3). The percentage of gross rentals allowed to agents for handling the property is subject to negotiation by the owner and is out of the architect's province, so that for the great majority of problems it can be taken at the fair average value of 0.04. Departures from this in practice will not materially affect the results from our equations in so far as they apply to the problems of the engineer and architect.

Equation (3) we may then write.

$$\begin{aligned} \text{If } M &= .05 \\ m &= 2/3 \\ R &= .018 \\ v &= 0.9 \\ X &= \frac{.9 Ab (1 - g) - Bf}{\frac{C}{ni} + B} - .05188 \times 8 \end{aligned}$$

THE AMERICAN ARCHITECT

$$(5) \quad X = 3 \frac{0.864 Ab - Bf}{\frac{C}{nl} + B} - .05133 \times 3$$

$$(6) \quad \text{and } X = \frac{2.592 Ab - 3Bf}{\frac{C}{nl} + B} - .15400$$

Our variables are now reduced to seven, one of which, *C*, is not strictly a variable, since no building problem can be rationally discussed, no plans made and no conditions predicated until the controlling factor of location has been settled. Where several sites are to be considered one must be assumed before the problem can be analytically studied, and it is necessary to make an independent study for each value of *C*, for which the architect must look to the owner. *C*, therefore, in the architect's problems, may be treated as a constant for equation (6), in which now the variables number but six, and fall into two groups, *A*, *B*, *f*, and *n*, *b*, *l*. Increases in the values of *A*, *b*, *n* and *l* will increase the value of *X*, while increases in the values of *B* and *f* will diminish it. The effect of changes in the first four upon the value of *X* is direct, that of the last two is inverse. *A*, *B* and *f*, as we observed above, are functions of the kind of building, or of type or specification, the others of detail or design. We then have an opportunity for double classification, such as follows:

Nature of Effect on <i>X</i>	FUNCTIONS OF	
	Specification or Type	Design or Detail
Direct	<i>n</i> , <i>b</i> , <i>l</i>	<i>A</i>
Inverse		<i>B</i> , <i>f</i>

In all problems of this kind where very many construction problems enter into a design, the consideration of type is antecedent to that of detail, and therefore the factors *n*, *b*, *l*, are the first three to be investigated.

For a typical example, let us take from an actual case the following values of the factors in order to substitute in Equation 6:

The building is 100 feet x 40 feet, ten stories high, with an airshaft occupying 10% of the ground area. The ground cost \$5,000 per front foot.

Cost of ground.....	\$200,000.00
Cost of building.....	222,000.00
Total investment was.....	422,000.00

Of which 2/3, or.....	\$281,300.00
was borrowed on mortgage, leaving an equity of.....	140,700.00
The income was at the average rental of	1.75
Per square foot of rentable space (90 per cent. being rented) which was .65 of the actual building area, or.....	36,850.00
The expenses were 4% of \$36,850 plus 3% of \$222,000, or.....	8,134.00
The interest on the mortgage was 5%, or	14,065.00
The taxes were.....	7,596.00
The total disbursements, then, were....	29,795.00
Which, subtracted from the gross income, leaves.....	7,055.00
Net returns, which is 5% of the net investment	140,700.00

By equation 6, substituting in the formula the following values:

<i>L</i> = 100 feet x 40 feet
<i>l</i> = 90%
<i>b</i> = 65%
<i>n</i> = 10
<i>C</i> = \$50.00
<i>B</i> = \$6.17
<i>A</i> = \$1.75
<i>f</i> = 3%

By equation 6, *X* =

$$\frac{2.592 \times 1.75 \times .65 - 3 \times 6.17 \times .03}{\frac{50}{10 \times .9} + 6.17} - .154 = .05$$

KEY TO SCHEDULE A

	NO. OF STORIES	TYPE OF BUILDING
1.	16	Store, Loft and Office
2.	17	" " " "
3.	16	" " " "
4.	18	Office
5.	12	Store and Loft
6.	8	Loft
7.	9	Loft
8.	12	Loft
9.	9	Apartment House
10.	10	{ Apartment House, Stores
11.	12	on Main Floor
12.	12	Apartment House
		Apartment House

The percentage of the total land area occupied by a building is generally regulated by the building codes of the various cities. In New York City the majority of buildings occupy the maximum allowable space. By this code buildings may occupy the following percentages of the lot upon which they stand:

Hotels—Five stories high, corner lot, area above first story, 95 per cent. Five stories high, inside lot, area above first story, 90 per cent. For each story above five a further deduction of 2½ per cent. of the area of the lot. Note—First story may occupy entire lot.

Lodging Houses—65 per cent. Charter

THE AMERICAN ARCHITECT

provision, Section 1315, under authority of Board of Health.

Office Buildings—Inside lot at second story, 90 per cent. Corner lot, no restriction.

Private Dwellings—90 per cent.

Tenement Houses—Corner lot, 90 per cent. Inside lot, 70 per cent. (Tenement House Act.)

Table I gives actual building area ratios of a number of typical buildings in New York City; also the ratio of rentable area to total building area which is shown as Schedule B.

same class of building obtaining in the immediate neighborhood of the proposed structure.

In New York City the following are average rentals for the neighborhoods enumerated:

In loft and office buildings above 34th street and near Fifth avenue, where the ground floor can be used as store or show-room, the rate of rental is \$2.50 to \$3.00 per sq. ft. For the upper floors, for lofts or offices, the rate is from 75 cents to \$1.00 per sq. ft. for the gross area.

For similar type of building on the west

TABLE I.—SCHEDULES A AND B
BUILDING AREA RATIOS OF TYPICAL BUILDINGS

NO.	TYPE OF BUILDING (Partition Arrangement)	LOT AREA IN SQ. FT. (1)	SCHEDULE A		SCHEDULE B		
			BLDG. AREA IN SQ. FT. (2)	RATIO (2) TO (1) IN %	AREA OF NO- RETURN* (3)	NET RENTABLE AREA IN SQ. FT. (4)	RATIO (4) TO (2) IN %
1.	Office Building.....	10,000	8,845	88.5	2,550	6,295	71.2
2.	" ".....	4,015	3,415	85.2	1,195	2,220	62.1
3.	" ".....	13,990	12,475	89.4	2,725	9,750	78.1
4.	" ".....	4,640	4,075	88.0	1,195	2,880	70.7
Average.....				87.77%			70.52%
1.	Loft Building.....	10,000	8,845	88.5	1,540	7,805	82.6
2.	" ".....	4,015	3,720	92.7 (11)	865	2,855	76.7
3.	" ".....	13,990	12,475	89.4	995	11,480	92.0
5.	" ".....	6,415	5,785	90.0	335	5,450	94.2
6.	" ".....	6,600	5,935	90.0	800	5,135	86.5
7.	" " (c).....	18,165	17,885	98.5 (c)	2,430	15,455	86.5
8.	" " (c).....	7,040	6,590	93.6 (c)	1,100	5,490	83.4
Average.....				89.5%†			85.98%
2.	Store or Show Room...	4,015	3,875	96.5	1,190	2,685	69.3
3.	" " " "...	13,990	13,680	97.7	4,490	9,190	67.2
10.	" " " "...	12,500	10,350	83.0	3,475	6,875	66.4
Average.....				97.1%‡			67.68%
9.	Apartment House.....	9,395	6,565	70.0	2,530	4,035	61.4
10.	" ".....	12,500	9,365	74.9	4,005	5,860	57.3
11.	" ".....	9,640	6,900	71.6	2,260	4,640	67.3
12.	" ".....	7,650	5,830	76.2	2,185	3,645	62.5
Average.....				73.17%			62.12%

* Area of No-return is the area of outside and inside walls or partitions, area of toilet, halls, elevator shafts and stair wells, etc.

† Average includes only regular items.

‡ Average includes only Nos. 2 and 3.

(11) Second story. (c) Corner or outside building.

SCHEDULE C. RENTAL RATES.

The probable rental of a proposed building can best be determined by basing the estimate of rental return on the rates for the

side, the rate for lofts is only from 40 to 50 cents per sq. ft., the ground floors in this section running very little above that of the upper floors.

THE AMERICAN ARCHITECT

Downtown office building rental rates are from \$1.00 to \$3.00 per sq. ft. of net office area.

SCHEDULE D. UNIT COSTS OF BUILDINGS.

From the list of building costs compiled by F. E. Kidder and published in his Pocket Book, I have prepared the following table of averages:

Type of Bldg. and Construction.	No. Incl.	No. of Stories			Cost per cu. ft.		
		Max.	Min.	Avg.	Max.	Min.	Avg.
Office Buildings:							
Fireproof.....	21	20	2	9.35	63c	25c	41.5c
Non-fireproof..	3	12	3	7.66	36.4	19	27.13
Warehouses:							
Fireproof.....	2	7	5	6	25.17	17.12	21.14
Non-fireproof..	1	7	7	7	9.08	9.08	9.08
Stores:							
Fireproof.....	2	6	4	5	31	29	30
Non-fireproof..	1	8	8	8	19.75	19.75	19.75
Hotels and Apartment Houses:							
Fireproof.....	4	14	7	9.5	44	30	38.8
Non-fireproof..	1	5	5	5	18.5	18.5	18.5

Mr. F. J. T. Stewart is quoted by H. P. Gillette in "Cost Data" as saying in 1906 that the average cost of three fireproof office buildings in Chicago was 33 cents per cu. ft., while that of four fireproof office buildings in Boston was 40 cents per cu. ft.

Refinement in Design

Spontaneity in design has always been considered preferable to fixed methods when approaching an architectural problem. That the latter method, however, is largely responsible for much of our recent work in this country is undoubtedly true. An article printed in the *Building Review* discusses this question as follows:

A comparative study of the work of the majority of our leading designers will show that as they have grown in knowledge and experience they have also grown in the virtues of restraint and artistic control. A fault common to most architects in the early years of their practice is the thoughtless display of their architectural acquirements by overloading their buildings with too much decoration with little regard for the niceties of balance and proportion. They have somewhat the same sort of enthusiasm as the average student who strives to employ all the elements of architecture on a single façade

—the difference being in kind and not in degree.

The conviction, however, soon comes to the thoughtful practitioner that distinction and individuality are not to be gained in this way, but rather by the elimination of the unnecessary, both in plan and elevation, by striving for simplicity and by careful proportioning and the most painstaking refinement of all ornamental features. To do this successfully implies sound training, thorough knowledge and the highest type of artistic judgment. The last named is probably the least common of the designer's essential qualifications. Information and suggestion can be obtained from books and by travel and observation, but if the designer is lacking in the judgment of what is essential and appropriate, his creations will fail of the highest success.

The busy architect has to fight the constant temptation of falling into careless and slovenly habits of design, but at the same time there is much justification in his excuse that he is compelled to work under high pressure and is hardly ever allowed sufficient time to make careful and painstaking studies. In which case, if his work is successful, this adventitious result is apt to be due to inspiration or luck in selecting the most logical scheme at the outset, rather than to a process of trial and elimination in making sketches. Many architects seem to become wedded to some particular detail or trick of architectural expression, and this preference will show itself with the most monotonous regularity. Repetition of this sort is an evidence of carelessness or lack of imagination.

On the other hand, the extreme of too great nicety and refinement should be avoided. This makes for hard, dry, wiry detail and petty scale, and of the two evils of false scale, bigness is the least reprehensible.

All of which goes to show that art abhors cut and dried rules, and that a cultivated taste is the surest and, in fact, the only true guide to artistic design.

CURRENT NEWS AND COMMENT

New Rules for Tank Equipped Buildings in New York, Issued by Fire Department

As much criticism has been made of the ruling of the Board of Standards of the Fire Department in this city regarding the water tank equipment of apartment house buildings, the Board, after consideration of this subject, has adopted the following resolutions:

Resolved, That in all buildings equipped with an approved automatic sprinkler system, standpipes need not be connected to a separate tank, but may be connected to the house supply tank without any separate reservation for the standpipe supply, and further

Resolved, That in fireproof apartment houses, not exceeding 150 feet in height the standpipes may be connected to the house supply tank, provided a separate reservation of two-thirds of such supply (not less than 1,800 gallons, however), be made for the standpipe in such manner as shall be approved by the Fire Department, the house connection being made on the outside of the tank. Where the house supply in such apartment houses is furnished by a satisfactory pump equipment, capable of delivering 350 gallons per minute at a pressure of 50 pounds at the topmost outlet, the connection of a standpipe to the pump supply, provided there is no house supply tank with which the standpipe may be connected, shall be sufficient.

Former regulations required that not less than 3,500 gallons be always on the fire lines.

Architectural Department of the Agricultural and Mechanical College of Texas

Professor S. J. Fountain, formerly head of the department of architecture and architectural engineering of the Agricultural and Mechanical College of Texas, died on August 15th. He has been succeeded by Professor Rolland Adelsperger, formerly professor of architecture at Notre Dame.

New York's City Planning Commission

President McAneny Describes the Work Outlined

The problems connected with the growth of New York City, and more particularly as affecting Manhattan Island, were discussed at some length in a recent interview with President McAneny, as follows:

"For years," said Mr. McAneny, "we have talked of the faults of the city, its unsanitary tenements, its unscientific street lay-out, its lack of small parks and playgrounds, the multiplication of skyscrapers in one small district. Is it not the part of common prudence to prevent the repetition of these mistakes?"

"Improvements now under way, such as the dual subway system and the dock and terminal improvements, will fix the lines of development for twenty-five years. The subways are an example of what intelligent city planning may accomplish. We narrowly escaped committing ourselves to a plan of transit development which would have directed the growth of the city on unhealthy lines. As it is, we have chosen a system which will encourage the diffusion of the people over thinly settled districts, and make it possible to reach the center of the city from these localities by a single 5-cent fare.

"The public has already had an intimation of what is intended in the report of the Heights of Buildings Commission. That there will be a general limitation on heights is practically certain. The Aldermen probably will impose that in the new Building Code. But New York needs a system of districting along the lines of both height and occupation.

"For example, there is Twenty-third street, once lined with big retail stores, but now with most of its buildings decorated with 'To Let' signs. This was brought about largely through the encroachment of factories, which made the locality unsuitable for high-class retail trade. There is little doubt that a proper system of supervision,

THE AMERICAN ARCHITECT

instituted a few years ago, would have prevented the sudden collapse from which many owners and lessees have suffered. A change may have been inevitable, but with proper regulation it would have come with less abruptness."

Announcement of School of Architecture

The announcement of the Department of Architecture of the University of Michigan, Ann Arbor, Mich., has just been received, and seems to present material not usually found in literature of this description. In addition to a presentation of work by students of the Department, and a synopsis of the requirements of the Department, both for admission and for graduation, there is published a general statement designed to give information to prospective students and their parents regarding the profession of architecture, the services performed by the architect, his training and the general outlook for the profession. This statement has apparently been prepared with great care, and furnishes information of an authoritative kind which might, with profit, be read, not only by prospective students and their parents or guardians, but by members of the profession in general. It indicates, in addition to enumerating the functions of an architect, the methods and training properly employed to prepare him to discharge those functions. It also points out, to some extent parenthetically, many of his duties and obligations, which, it is feared, have too often been overlooked in the general hustle and confusion incident to a professional career.

As to the outlook for the architect, it is stated that in no time of the history of the United States has there been so much interest as is now manifested in good architecture. Classes of buildings, which formerly were hardly considered from an artistic point of view—such as factories, warehouses and the like—are now being designed by architects. Many large corporations have come to a realization of the value of buildings which are at once adequate, attractive and interesting. The art development, of which architecture forms but a part, has barely begun in this country. So long as this country continues its marvelous growth, highly trained

men will be needed to give form to building projects of the most varied character.

Copy of the announcement may be had upon application.

For New Key Memorial

Preliminary plans for the erection of a memorial, to cost \$75,000, to Francis Scott Key, the author of "The Star Spangled Banner," have been formulated. This monument is to be erected on a site yet to be chosen on the Fort McHenry Reservation.

Iowa Chapter, A. I. A.

The twelfth annual convention of the Iowa Chapter of the American Institute of Architects will be held at Sioux City, Ia., October 15th to 17th, inclusive. An entertaining and profitable program has been prepared. The city planning exhibition of the American City Bureau will be held in connection with this convention.

Personal

Professor Paul P. Cret, of the School of Architecture, University of Pennsylvania, is reported to be serving on the hospital corps of the French army. When last heard from he was on duty near the Swiss frontier.

Mr. Leon Arnal, his former colleague at the University, is serving as a lieutenant under the same flag.

In the absence of Messrs. Cret and Arnal criticism in design at the University of Pennsylvania will be given by Messrs. Edgar Seeler, C. C. Zantzing, Paul A. Davis and John V. Van Pelt.

Mr. H. S. Olin, architect, Curtis Hall, St. Lawrence State Hospital, Ogdensburg, N. Y., desires to receive manufacturers' samples and catalogues.

Mr. Albert L. Lapachet, architect, San Francisco, Cal., announces that he has opened offices at 110 Sutter street, and that he desires to receive manufacturers' catalogues and samples.

Mr. E. T. Huddleston, Architect, Durham, N. H., announces that he has opened an office in that city, where he will practice his profession. He desires to receive manufacturers' samples and catalogues.

INDUSTRIAL INFORMATION

Molby Heaters

Mr. E. C. Molby, 39 Cortlandt street, New York City, has issued a pamphlet devoted to the illustration and description of the Molby down-draft heater, manufactured under Surrell Patents. In this pamphlet, it is claimed that the heater shown fulfills every scientific requirement, forces the greatest economy and affords greatest degree of comfort for the amount of labor and fuel expended.

The Molby down-draft heater is built entirely of vertical cast-iron water sections connected by means of slip nipples of material that is said to be non-rusting, non-corroding and durable. These water sections, presenting a large heating surface, descend until they rest on the centre of the base, forming between them a combustion chamber, and by having interstices or slots made in them, a water grate also, through which the gases escape. A water front or leg section on each side, which, together with the end sections of the boiler and the water grate, enclose the fire pot, completes the construction, while a magazine, to hold a twelve-hour supply of fuel, is built above the fire pot. Small heaters are equipped with one magazine, while for the larger heating installations a magazine is provided on each side of the boiler, affording a double fire. This has, it is claimed, a special advantage, for in mild weather only one side of the boiler need be fired, using both sides or both magazines in extremely cold weather. The magazines feed the coal gradually to the fire, and, it is said, will carry a temperature for at least twelve hours. There are many claims besides those of economy and convenience made for this boiler. One of importance is that all smoke is eliminated. It is claimed that with soft coal the heavy smoke so usual is consumed in the combustion chamber, so that neither smoke nor soot is emitted by the chimney.

Pamphlet referred to, which contains much tabulated data concerning the various styles and sizes of heaters, can be obtained upon request.

Water Temperature Control

The Leonard-Rooke Company, 17 Warren street, Providence, R. I., has recently issued an attractively printed pamphlet entitled, "Story of the Leonard Thermostat Mixing-Valve." This story is, in effect, a detailed description of the Leonard valve and a presentation of the claims made for it.

The Leonard valve is described as a unit, free-working and rugged, made of solid brass and bronze, interchangeable parts, machine fitted. Thermostatic coils are made of solid metals, and are silver-soldered. The controlling ports are also of solid metal, there being no packing to swell or dry up.

It is claimed that the Leonard valve is the only instrument, or mixing valve (equipped with temperature scale, corresponding in exactness and close range of variations, with the best Fahrenheit mercury thermometer) that positively enables the user, by the simple movement of a regulating lever over the face of its temperature scale to designate and instantly secure the delivery and maintenance of a water flow at any predetermined degree of temperature. This desired temperature, it is stated, is maintained by thermostat, regardless of any sudden changes in supply pressures or temperatures. For example, if it is desired to secure a flow of water through this valve at a temperature of ninety degrees, the operator simply swings the regulating lever to numeral on temperature scale indicating that temperature, and then turns open the hand valve wheel, which at once releases the flow of both hot and cold water into the mixer. The result is that water at a temperature of ninety degrees is instantly delivered; that temperature is maintained regardless of variations in the pressure or changes in temperatures of either hot or cold water supply. If such variations do not permit of mixing and delivering water at the temperature that has been indicated, the water flow is automatically shut off instantly.

It is claimed that these valves have been in operation in various institutions, such as

THE AMERICAN ARCHITECT

hospitals, public baths and Y. M. C. A. buildings, for a period of more than three years, and that they have, therefore, passed the experimental stage. That there is a wide field for a device possessing the qualities claimed for the Leonard valve is unquestionable. The manufacturers express willingness to prove their claims for this valve by any reasonable test that can be devised.

Pamphlet will be sent upon application.

Electric Lighting Fixtures

The very great improvement in mechanical excellence and design that has been reached in modern electric lighting fixtures is well illustrated in Catalogue No. 16, issued by Shapiro & Anderson, 20 Warren Street, New York City. These fixtures are designed to comply with the best practice in modern illuminating methods, and are adaptable to the earlier forms, or to the newer methods, including semi-direct or indirect illumination.

The supplementary catalogue illustrates more elaborate forms of fixtures, which the makers state, while fulfilling every mechanical requirement, combine excellence in design and moderate price. These catalogues will be sent upon application.

"Navajo Brick"

The Kansas Buff Brick and Manufacturing Company, Buffville, Kansas, have issued a series of leaflets that reproduce in color and texture the line of brick manufactured by them. So well has the reproduction been made that it is possible to secure from them almost as accurate an idea of the aspect of the brick in the wall as it would be by actually viewing the building itself.

These leaflets will be forwarded to architects upon request.

Grueby Impervious Flint Tiles and Mosaics

In connection with a pamphlet carrying the above title, issued by Grueby Faience and Tile Company, K and First streets, Bos-

ton, Mass., attention is called to what is designated "the exquisite combination of colors possible with Grueby Kiln-toned tile for floors and walls."

Note is also made of the fact that the European war has, at least for the time being, practically put an end to the importation of foreign marbles, and it is suggested that Grueby tile—which, it is generally admitted, surpasses marble in durability—provides a substitute for these foreign marbles that will enable architects to achieve permanent color combinations that are impossible with any treated stone. A list of colors obtainable, comprising some thirty odd shades, is appended.

In the pamphlet referred to, which will be sent to architects upon request, a number of buildings in which Grueby tile has been used are illustrated, and special details of tile work for special purposes are shown.

The subject is one of undoubted interest, and would seem to merit thoughtful consideration at this time.

Garage Door Equipment

As an aid to architects to select and provide properly constructed garage doors and hangings for same, the Richards-Wilcox Manufacturing Co., Aurora, Ill., have recently prepared a pamphlet for free distribution.

This pamphlet, in addition to illustrating numerous forms of doors, designed to meet different conditions of service and convenience, together with their hangers, prints a long discussion, illustrated by diagrams of various types of doors, and the specifications for their construction and hanging.

Atlantic Terra Cotta

The house organ of the Atlantic Terra Cotta Co., No. 1170 Broadway, New York, illustrates a number of bank façades constructed of terra cotta. The high character of this publication is being successfully maintained. It will be sent to architects on application.

EASTWOOD FACTORIES,
PATERSON, N. J.



William Wallace Christie,
Architect and Engineer,
Paterson.

Reinforced concrete roof insulated with

Cabot's Quilt

The concrete surface was given one coat of hot pitch. Cabot's double-ply Quilt was laid in the hot pitch, with lapped edges. Another coat of hot pitch was mopped on, and a rubber roofing laid and stuck to the surface thus formed.

The Results: The upper story is cool in summer and warm in winter, making operatives more efficient and saving fuel. Condensation is prevented on the ceiling under the roof, preventing dampness and damage from dripping.

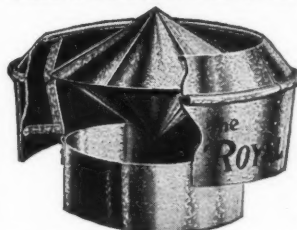
One layer of Cabot's double-ply Quilt has more insulating power than **Forty** layers of common paper; triple-ply more than **Fifty**. **Samples and prices on request.**

Cabot's Creosote Stains, Waterproof Cement and Brick Stains, Conservo Wood Preservative, Damp-proofing, Protective Paints, Waterproofings, etc.

Samuel Cabot, Inc., Mfg. Chemists, Boston, Mass.
1133 Broadway, New York 24 West Kinzie Street, Chicago
Agents in all leading cities.

8-1

The Problem of Perfect Ventilation



will be solved if you
specify

"ROYAL" Ventilators

The "ROYAL" is sci-
entifically constructed.

The Double Cones and Tapered Deflectors insure a constant upward draft. They give the greatest possible circulation of air in buildings of all characters. Metal or Glass Top.

Write for complete catalog.

ROYAL VENTILATOR COMPANY
414 Locust Street PHILADELPHIA, PA.

READ THE ARTICLE

ON PAGE 207 IN THE
AMERICAN ARCHITECT
FOR SEPTEMBER 30th.

FILTROS AIR MOISTENER

Let us send you Booklet
"Humidity—Its Necessity in the Home."

GENERAL FILTRATION CO., Inc.

Main Office, 42 East Ave., Rochester, N. Y.
Sales Office, Farmers Bank Bldg., Pittsburgh, Pa.

"A TRICK ANY PAINTER CAN DO"



Before Concreto Is Used

After Concreto Is Used

ARCHITECTS SHOULD WRITE FOR SAMPLES

BUILDING NEWS

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

ALABAMA.

BIRMINGHAM, ALA.—The North State Engineering & Construction Company will build an ice plant, to cost \$75,000, on Avenue A, between 22nd and 23rd streets.

ARKANSAS.

HELENA, ARK.—Temple Beth-El will erect a new synagogue building in this city at a cost of \$25,000, according to plans prepared by Architects Mann & Stern, Gazette Bldg., Little Rock.

ARIZONA.

CHANDLER, ARIZ.—It has been voted by the school district of this place to erect a new school building in the near future.

CALIFORNIA.

LANSDALE, CAL.—A new public school building, to cost \$15,000, will be erected in this city, according to plans prepared by Architects Dolliver & Swain, Royal Insurance Building, San Francisco.

SAN FRANCISCO, CAL.—The trustees of Stanford University have appropriated \$200,000 for the immediate erection of two new gymnasiums on the campus for the men and women students. Architects Bakewell & Brown, 251 Kearney St., of this city, prepared the plans.

SAN FRANCISCO, CAL.—Plans for the erection of a factory building for manufacturing automobile tires and accessories have come to the Chamber of Commerce. This plant will become one of the local additions to the water front factory district.

SAN FRANCISCO, CAL.—Architect Houghton Sawyer, Shreve Bldg., this city, has prepared plans for a \$250,000 seven-story apartment building, to be erected at Mason and California streets.

SANTA BARBARA, CAL.—A gift of \$50,000 has been made by Andrew Carnegie for the erection of a new public library building for this city. The old library building will be used as a home for the Santa Barbara Chamber of Commerce, C. D. Hubbard, president.

WATSONVILLE, CAL.—Architects Dolliver & Swain, Royal Insurance Building, San Francisco, are preparing plans for Saint Francis Orphanage, consisting of sixteen buildings on cottage housing plan, to cost \$225,000.

CANADA.

MONTREAL, QUEBEC, CAN.—Architect Harry Edward Prindel, 915 New Birks Bldg., is preparing plans for the new union station at Quebec, P. Q., for the Canadian Pacific Railway.

CONNECTICUT.

BRIDGEPORT, CONN.—A new church edifice is to be erected at the corner of Sixth street and Connecticut avenue for St. Mary's R. C. parish, Rev. John F. Murphy, 540 Pembroke street, pastor.

BRISTOL, CONN.—The voters of District No. 10 have voted to purchase land and erect a new school building in this city. A. W. Manchester is a member of the committee appointed to secure the site and have plans prepared.

NEW BRITAIN, CONN.—Architect Walter P. Crabtree, 272 Main street, has completed plans for a new high school building to be erected on Bassett street.

STAMFORD, CONN.—Architect Francis Sickles will erect a seven-story fireproof warehouse and apartment building on his property on State street.

STAMFORD, CONN.—Postmaster Bohl of this city has received from Washington specifications and drawings of the new post office building to be erected at Atlantic and Federal streets. Bids are to be received November 3rd.

DELAWARE.

WILMINGTON, DEL.—Bids will be received by the New Castle County Building Commission and the Wilmington Building Commission at the office of the Commissions in the Church Bldg., Market and Tenth Sts., this city, until 11 a. m., October 20th, for the construction of the new County Building for New Castle County, and of the new Municipal Building for this city.

WILMINGTON, DEL.—Architect Leon Wilde Crawford, 919 Market street, has prepared plans for a residence and garage to be erected at 20th street and the Boulevard for Joseph F. Hoey.

Preliminary plans have been made by Architect Leon Wilde Crawford, 919 Market street, for additions and improvements to 712 Market street, occupied by W. E. Hawkins, real estate broker.

DISTRICT OF COLUMBIA.

WASHINGTON, D. C.—Plans have been prepared in the office of the supervising architect for the enlargement of the Treasury Building, which is one of the oldest public structures in Washington.

WASHINGTON, D. C.—Mrs. Archibald D. Russell, of Princeton, N. J., has made a gift of \$500,000 to the building fund of the Episcopal Cathedral of St. Peter and Paul, at Mount St. Alban. Announcement of the receipt of this gift was made by Bishop Harding.

IDAHO.

CLAWSON, IDA.—Architects Pope & Burton, Newhouse Bldg., Salt Lake City, Utah, are preparing plans and specifications for a new L. D. S. meeting house to be erected in this city.

ILLINOIS.

ABINGDON, ILL.—Architects Aldrich & Aldrich, 86 South Cherry street, have completed plans for the new library building to be erected in this city.

ALTON, ILL.—Plans are being prepared for the proposed \$65,000 city hall building for this city.

CANTON, ILL.—Postmaster Frederick A. Perkins has received the plans for the new Federal building to be erected at the southeast corner of Elm street and Avenue A, this city. Contract for this building will be awarded November 10th.

CANTON, ILL.—Bids for the new postoffice building to be erected in this city are to be advertised for shortly.

CHICAGO, ILL.—John T. Fitzgerald and Joseph D. Daly have purchased the property at the southeast corner of Western and Kenilworth avenues, and the buyers plan to improve the property with store buildings. McGuire & Orr were the brokers in this transaction.

CHICAGO, ILL.—Architects Marshall & Fox, First National Bank building, have prepared plans for the proposed new \$375,000 building for the South Shore Country Club, to be erected on the site of present building, Seventieth street and Lake Michigan. Frederick Bode is president of the club.

CHICAGO, ILL.—A new post office building, to cost \$1,750,000, will be erected on the West Side some time in the near future.

FREEPORT, ILL.—Architect Henry Sierks, 608 N. Dearborn street, Chicago, has conferred with Dr. M. M. Baumgartner and others, owners of the Wilcoxson block, with a view to preparing plans for a new hotel building to be erected on the site of the present structure.

KNOX, ILL.—Plans are being prepared by Architects Aldrich & Aldrich, 86 South Cherry street, for the new chapter house of the Phi Gamma Delta fraternity, to be erected on the corner of South Cedar and Tompkins streets. Structure will cost \$15,000.

INDIANA.

EVANSVILLE, IND.—The directors of the Citizens National Bank, which recently merged with the Bankers' National Bank, will have plans prepared for a ten-story bank building to be erected at the corner of Main and Fourth streets.

IOWA.

CEDAR FALLS, IA.—This city has tendered a free site for the County Soldiers Memorial Hall to the G. A. R. Committee. Site is located at the head of Cley St., north of First.

CEDAR RAPIDS, IA.—Plans have been prepared by Architect I. F. McMends, Rooms 702-3, Security Bldg., for a two-story and basement residence, costing \$9000, to be erected in this city.

Do you know this varnish?

It has lifted the fog of tradition

Slowly, but surely, the heavy fog of "don'ts" and "must nots" is being dispelled in the varnish business.

No longer is it necessary to take infinite pains for the protection of a varnished surface. The day of delicate, easily harmed varnishes is on the wane—

For here is a varnish that is washable—that is hot-water-and-soap-proof — that won't scratch white—

—a varnish that is clear, hard, elastic and durable, and will dry hard overnight.



And lastly—Valspar is today the *only varnish in the world* that continued exposure to water will not turn white.

For floors, doors and other woodwork Valspar is the most satisfactory varnish to specify. In offices and stores it will not scratch white nor lose its brilliance. For porches, halls, etc., it is highly desirable, because weather cannot dim its lustre. It also takes a beautiful dull finish which *stays* dull.

Valspar is to other varnishes as heat-treated steel is to ordinary carbon steel.

Tell your stenographer to drop us a note for our literature. You will find it both interesting and profitable.

VALENTINE & COMPANY

455 FOURTH AVENUE

NEW YORK

Largest Manufacturers of High-grade Varnishes in the World

NEW YORK
TORONTO

CHICAGO
PARIS

ESTABLISHED 1832

BOSTON
AMSTERDAM

TRADE **VALENTINE'S** VARNISHES MARK



KANSAS.

COFFEYVILLE, KAN.—Architect Henderson, of this city, has completed plans for a new building for the Neodesha First National Bank, to be erected at a cost of \$15,000.

LAWRENCE, KAN.—Plans are being prepared for a new medical building to be erected at the University of Kansas.

KENTUCKY.

BARBOURVILLE, KY.—A new high school building is to be erected in this city at a cost of \$18,000.

GEORGETOWN, KY.—This city proposes to issue \$50,000 worth of school bonds in the early future.

LEXINGTON, KY.—Plans are being considered for the erection in the near future of a dormitory for young women at Transylvania University, to cost about \$50,000.

LOUISVILLE, KY.—The building committee of the First Church of Christ Scientist will have plans prepared for a new church building to be erected at Third street and Ormsby avenue.

MARYLAND.

BALTIMORE, Md.—Plans have been completed by Supervising Architect Oscar Wenderoth, Washington, for general alterations to the Stamp Department of the post-office here. Bids are due October 21st.

The Garage Building Company has purchased the Clayton lot on the east side of Charles street, south of Lafayette avenue, and have filed plans for a two-story garage and automobile display building to be erected thereon, at a cost of \$40,000.

BALTIMORE, Md.—The Dix Manufacturing Company has filed plans with the Inspector of Buildings for the construction of a two-story brick factory building at the northwest corner of Eager and Warden streets. C. M. Anderson, 324 North Charles street, is the architect.

MASSACHUSETTS.

BOSTON, MASS.—It has been announced by Dean Sutherland of the Boston University School of Medicine that a gift of \$100,000 has been received for the establishment of a maternity hospital. Building will be situated at the corner of Harrison avenue and Stoughton street, between East Concord and East Newton streets.

DORCHESTER, MASS.—The offer of the trustees of the estate of the late Charles H. Greenwood of a site and \$35,000 for a new school house at Glenway and Harvard streets, has been accepted by the city council.

FALL RIVER, MASS.—The Police Board and Building Department have accepted the plans of Architect E. M. Corbett for the new Central Police Station and Headquarters Building to be constructed on Bedford street.

FRANKLIN, MASS.—The Massachusetts Waste Company has purchased some land in this city and will erect a \$75,000 factory for the installation of a new process of cleaning cotton mill sweepings and waste.

NEW BEDFORD, MASS.—The Z. D. Davis Corporation will build a three-story brick building at the southeast corner of Acushnet avenue and Pope street.

MICHIGAN.

BAY CITY, MICH.—A new building for the First National Bank will be erected on the southeast corner of Center and Washington avenues, according to plans which will be prepared by Architect Albert Kahn, 58 Lafayette boulevard, Detroit.

CHATHAM, MICH.—Plans are being prepared by Architect C. Howard Crane, Ford Bldg., Detroit, for a new \$40,000 theatre building to be erected here for George Cowan.

DETROIT, MICH.—Architect Alvin E. Harley, 504 Bowles Bldg., this city, has been engaged to prepare plans for a memorial M. E. church building to be erected corner Woodward and Church Sts., this city.

DETROIT, MICH.—The plans prepared by Architect William B. Stratton, this city, for the enlargement of the Bell Isle Bath House have been approved by the council committee on parks and boulevards.

DETROIT, MICH.—Architect E. R. Dunlap, this city, is preparing plans for a nine-story concrete apartment house to be constructed at St. Aubin and Jefferson avenues, for Thatcher & Mellen, this city.

OWOSSO, MICH.—The state military board has approved the plans for the new armory building to be erected here, at a cost of \$30,000, and bids will be requested at once.

MINNESOTA.

ALBERT LEA, MINN.—The plant of the Albert Lea Packing Company has been taken over by Chicago and New York capitalists, who are having plans and specifications prepared for the enlargement of the main building, and also for additional buildings. About \$60,000 will be expended in this improvement.

BEMIDJI, MINN.—Plans have been completed and approved for the new Elks' Home, to be erected here.

ST. PAUL, MINN.—The plans of City Architect C. A. Hausler for the addition to the water board's building have been approved by Superintendent Garrett O. House and Commissioner Oscar E. Keller, president of the water board.

MISSOURI.

MONTGOMERY, MISS.—Webb Hall, the new dormitory at the Livingston Normal school, destroyed by fire recently, will be rebuilt at once, according to announcement made by Superintendent of Education William F. Feagin.

MOREHOUSE, Mo.—Plans have been prepared by Lindsay Architectural Co., Sikeston, for the erection of the proposed new city hall and jail building here. An election will be held October 6th for the issuing of \$10,000 worth of bonds for this purpose.

POPLAR BLUFF, Mo.—Architects Mann & Stern, Gazette Bldg., Little Rock, Ark., are preparing plans for a new fireproof hotel building, costing \$100,000, to be erected here for C. M. Ducker.

SIKESTON, Mo.—The Lindsay Architectural Company of this city, is preparing plans for a \$30,000 fireproof office building for the Scott Co. Milling Company, to be erected on Centre St.

SIKESTON, Mo.—The Lindsay Architectural Company, Sikeston, Mo., has completed plans for the new city hall and jail building to be erected in this city, and bids will be advertised for at once.

MONTANA.

BILLINGS, MONT.—L. C. Babcock, vice-president of the Yellowstone National Bank, and W. A. Selvidge, president of the Billings Hardware Co., have secured a lease on some property of the Northern Pacific right-of-way, at present occupied by the Chamber of Commerce, as the site of a large office building.

NEBRASKA.

OMAHA, NEB.—Plans are being prepared by Architect John McDonald for a new \$50,000 building of brick and steel to be erected next spring at the northwest corner of 21st and Davenport Sts., for the Working Girls' Home.

NEVADA.

ELKO, NEV.—Architects Ware & Treganza, Utah Savings & Trust Bldg., Salt Lake City, Utah, are preparing plans for an addition to the Mayer Hotel in this city, to cost \$12,000.

NEW JERSEY.

BERNARDSVILLE, N. J.—Plans and specifications have been completed by Architect James Diehl, P. O. Box 135, for the erection of a \$10,000 dwelling for John K. Nevins, of this city.

BRADLEY BEACH, N. J.—The Episcopalians of this city met recently at the home of S. C. Brearley, 402 Central avenue, to discuss plans for a temporary church for this borough.

LINDEN, N. J.—The voters of the Linden school district have voted to erect a new school building in this city, at a cost of \$50,000.

NEWARK, N. J.—Plans have been completed by Architect Herman Metzger, 240 Market street, for a four-story brick store and apartment building to be erected at Adams and Chestnut streets for Emmett J. Quinn. Cost \$18,000.

Mrs. Margaret Young will erect an eight-room residence at 65 and 67 Lehigh avenue, according to plans prepared by Architect Charles H. Baldwin.

NEWARK, N. J.—The Dry Color Plant of Morris Hermann & Co., 878 Mt. Prospect avenue, recently damaged by fire, will be rebuilt in the early future. Henry Solomon is superintendent of the works.

PERTH AMBOY, N. J.—The board of aldermen has passed a resolution to erect a \$30,000 addition to the public library building in Jefferson street.

PLAINFIELD, N. J.—Plans have been completed and bids will soon be requested for the new post office building to be erected on Watchung avenue. Alvin E. Hoagland is postmaster in this city.

Smoke Is Unburned Fuel!!

The real reason for installing a Kewanee Smokeless Boiler is not merely because it is smokeless—but because it will cut coal costs.

Smoke is nothing but unconsumed fuel. Therefore, a smokeless boiler is an economical boiler because all of the heat giving elements in the fuel are used to make heat and none of them get up the stack unburned, as smoke.

It has been conclusively proven, many times, that a Kewanee Smokeless Boiler gets an average of 75% of the heat from the poorest of soft coal. Ordinary boilers seldom get more than 60%. That means a



Apartment Building, 246 West End Ave., New York City. Two Kewanee Smokeless Boilers in this building used \$1424.00 less coal, in one heating season, than was used in another building of the same size owned by the same concern.

KEWANEE Smokeless Firebox Boiler

will get as much heat out of 80 tons of coal as the ordinary boiler can get from 100 tons.

Furthermore, in cities where the smoke ordinance prohibits smoke, a Kewanee Smokeless permits you to use cheap bituminous instead of expensive anthracite.

You therefore cut coal costs in two ways when you install a Kewanee Smokeless. You save coal because none of it goes up the stack unburned, as smoke. And you are able to burn cheap soft coal instead of expensive anthracite.

We will gladly supply you with literature describing these boilers.



KEWANEE BOILER COMPANY
Kewanee, Illinois



Steel Power and Heating Boilers, Radiators, Tanks and Garbage Burners

Chicago

New York

Saint Louis

Kansas City

ROSELLE, N. J.—The members of the Second Baptist Church are planning the erection of a new edifice. W. P. Monroe is a member of the building committee.

NEW YORK.

BINGHAMTON, N. Y.—The board of estimate and apportionment has decided to advertise the sale of \$35,000 worth of school improvement bonds for the purpose of improving the schools.

BROOKLYN, N. Y.—The erection of a new addition to the Greenpoint Y. M. C. A. branch at Meserole Ave. and Lorimer St., to cost \$20,000, is contemplated. Herbert L. Pratt is chairman of the committee on management.

A three-story brick store and dwelling will be erected on Avenue U, corner 14th street, for the Homecrest Building Company, 53 Nassau street, according to plans prepared by Architect E. M. Adelson, 1776 Pitkin avenue. Cost, \$10,000.

At a cost of \$15,000, a one-story brick theatre building will be erected on 13th avenue, corner 76th street, for the Dyker Heights Amusement Co., 5111 14th avenue, according to plans by Architect J. C. Wandell, 4 Court Square.

DEWITT, N. Y.—School bonds in the amount of \$10,000 have been sold to the Trust & Deposit Company of Onondago, proceeds to be used in erecting an addition to the school building at James and Nicholas streets, Eastwood.

DUNKIRK, N. Y.—A new school building is to be erected in the Fourth Ward, at a cost of about \$50,000.

HARRIMAN, N. Y.—Plans are being prepared by Architect W. I. Daly, for a two-story brick high school building here, to cost \$45,000.

HUDSON, N. Y.—Bids for the construction of hospital building at the New York State Training School for Girls, this city, will be received by Miss Mary Hinkley, president of the board of managers, until 2 p. m., October 23, according to plans prepared by State Architect Lewis F. Pilcher, Capitol, Albany, N. Y., which may be seen at the architect's office, at the training school, or at the New York office of the Department of Architecture, Room 1224 Woolworth Building.

LESTERSHIRE, N. Y.—W. H. Harris, of Scranton, Pa., secretary and treasurer of the Interstate Apartment Corporation, expects to return to this city and make arrangements for the erection of a new apartment building to be erected on the Jennison tract.

NEW YORK CITY.—Plans have been filed in the Manhattan Building Bureau for a 12-story commercial structure to be erected on the west side of Broadway, between 35th and 36th streets, for the Thirteen-Thirty-seven Broadway Corporation, of which William Everdell, Jr., is president. Building, when completed, according to Architects Clinton & Russell, 32 Nassau street, will cost \$750,000.

Plans are being prepared by Architects Gronenberg & Leuchtag, 7 West 22nd street, for a six-story elevator apartment house, to be erected on the north side of West 11th street, east of 7th avenue, by the Seventh Avenue Construction Company. Cost, \$150,000.

Architect Robert T. Lyons, 119 West 40th street, has completed plans for a 12-story apartment building, costing \$450,000, to be erected at Park avenue and 86th street.

NEW YORK CITY.—Architects Allen & Collens, 40 Central street, Boston, Mass., have prepared plans which have been filed for a six-story and basement hospital building for the Women's Hospital in the State of New York, to be erected on 109th street near Amsterdam avenue, at a cost of \$100,000.

Plans have been filed by Architects Clinton & Russell, 32 Nassau street, for a 12-story loft and store building, costing \$750,000, to be erected on Broadway between 35th and 36th streets, for the Thirteen Thirty-seven Broadway Corporation, Longacre Bldg.

NEW YORK CITY.—Plans prepared by Architects York & Sawyer, 50 East 41st St., for a new home to be constructed for the New York Orthopaedic Dispensary and Hospital on the north side of Fifty-eighth St., west of Avenue A, have been filed with Building Superintendent Ludwig. Structure will cost about \$600,000.

SCHENECTADY, N. Y.—Union College is planning to raise funds with which to erect a permanent memorial to John Bigelow, the noted statesman, who was graduated from this college in 1834.

SYRACUSE, N. Y.—The Syracuse Motor Car Company has purchased the vacant property west of the Hier apartments in West Willow street, upon which it plans to erect a large three-story building.

SYRACUSE, N. Y.—A new club house is to be erected on Fayette Park for the University Club. Dr. John Van Duyn is president of this club. Building will probably cost in the neighborhood of \$55,000.

YONKERS, N. Y.—Architect George H. Chamberlain, 18 South Broadway, has completed revised plans for the Y. M. C. A. building, to be erected at Riverdale avenue and Hudson street. Cost, \$100,000.

OAKLAND, PA.—Plans have been completed for the Masonic Temple to be erected in the Schenley Farms by the Syria Improvement Association, and bids on the construction of the building will be requested shortly. Architects who planned this temple are Huehl, Schmid & Holmes, 154 West Randolph street, Chicago, and Charles J. Rieger, associate, Germania Bank Bldg., Pittsburgh.

PHILADELPHIA, PA.—Architect E. Allen Wilson, Land Title Bldg., is preparing plans for a two-story fireproof garage for Francis H. Phole, at 58th St. and Hoffman Ave.

Plans are being prepared by Architect J. Elvin Jackson, 719 Walnut St., for a four-story addition to the factory of Luigi Verna, at 840-842 Kilball St.

Architect J. Horace Cook, 742 City Hall, is preparing plans for the new Kensington High School for Girls, to be erected at the northwest corner of Amber and Cumberland Sts., at a cost of \$500,000.

Plans have been prepared by Architect E. Allen Wilson, Land Title Bldg., for alterations and additions at 52nd St. and Haverford Ave., for Joseph K. Marshall.

Three sites on 65th Ave., between Woodstock and Lambert Sts., Lambert and 21st and at the southwest corner of 65th Ave. and 21st St., have been acquired by J. Willison Smith. They will be the site of a large dwelling operation.

PHILADELPHIA, PA.—The West Philadelphia General Homeopathic Hospital has purchased from Sarah S. Wynn a site on the west side of 52nd street, south of City avenue, to form the site for a new hospital building.

Architects Savery, Sheetz & Savery, Stephen Girard Bldg., have completed plans for a two-and-a-half story stone house to be erected at Wissahickon avenue and Johnson street.

Plans have been completed by Architects Durang & Son, 1200 Chestnut street, and estimates invited for a three-story convent to be erected at 12th and Spring Garden streets for the Catholic Church of the Assumption.

PHILADELPHIA, PA.—The City Improvement & Realty Company is to build sixteen two-story dwellings at 6201 to 6231 Christian street, according to plans prepared by Architect E. Allen Wilson, Land Title Bldg. Cost of improvement will be about \$70,400.

Plans have been filed with the Building Inspection by Cramp & Co., for the proposed Southern High School for Girls, to be erected on the east side of Broad street, between Snyder avenue and Jackson street, at a cost of \$650,000.

Architect Carl P. Berger, 1418 South Plum street, is preparing plans for a stone church building, costing \$35,000, to be erected at the southwest corner of 60th street and Westminster avenue, for Lethsemane Lutheran Church.

PITTSBURGH, PA.—Scott & McCune have sold to John G. Burns for Mrs. Martha C. Pease some property on Baum Boulevard near the Pennsylvania railroad, as the site of a large commercial garage.

TITUSVILLE, PA.—The Titusville Iron Company has purchased from Mrs. Ellen Geart five sites west of the entrance to the Pennsylvania station from Mechanic street, and it is planned to erect an office building on the property at a cost of about \$40,000.

NORTH DAKOTA.

NEW ENGLAND, N. D.—A new school building will be erected here at a cost of \$37,000.

OHIO.

SPRINGFIELD, O.—Architects Richards, McCarty & Bueford, Hartman Bldg., Columbus, are preparing plans for a new boys' dormitory to be erected at the Masonic Home here. Building will cost \$35,000.

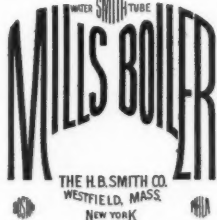


OUR reputation is worth more than our plant —and our plant is the best that money and experience can buy.

To obtain and hold the reputation now enjoyed by The H. B. Smith Co. has been possible only by superior quality of product, prompt and efficient conduct of business, financial strength, insistence on the fulfilment of all guarantees, and a full recognition of the rights of others in building their business.

That our reputation is worth more than our plant is a tradition throughout our organization.

Specify H. B. Smith boilers and radiators—they have the reputation.



56-16

*Mills Water Tube,
Menlo,
Mercer,
H-B and
Gold Boilers*

*Princess,
Imperial,
Sovereign,
Aerial,
Gold Pin,
School Pin and
Drum Pin Radiators*

The H. B. Smith Company

Westfield, Mass.

*Boston
138 Washington Street, North*

*New York
39 East Houston Street*

*Philadelphia
1225 Arch Street*

WALDO, O.—Architects Howard & Merriam, 7 East Broad St., Columbus, have been selected to prepare plans for the proposed new centralized grade and high school building to be erected in this city.

OREGON.

PORTLAND, ORE.—Architects Pope & Burton, Newhouse Bldg., Salt Lake City, Utah, have filed plans with the building inspecting bureau for a new temple to be erected on the southeast corner of East 25th and East Madison streets for the Latter Day Saints. It is estimated that the edifice will cost \$20,000.

PENNSYLVANIA.

ALLENTOWN, PA.—The state armory board has made an appropriation of \$40,000 for the proposed armory for Co. B. and Co. D., Fourth Inf. N. G. P. Bids for this work will be opened at Harrisburg on October 21st.

Senator Miller of this city has sold the Hotel German property at New Tripoli, to his brother, William A. Miller, who will rebuild the hotel building, which was recently destroyed by fire.

ALLENTOWN, PA.—Bids will be received at the office of the Adjutant-General of Pennsylvania, Harrisburg, until 9 a. m., October 20th, for the erection and completion of an armory building at the northwest corner of Fourth and Union streets, this city, for the use of Companies B and D, Fourth Infantry, N. G. P., as per plans prepared by Architects McCormick & French, Second National Bank Bldg., Wilkes-Barre.

Architects Peuckert & Wunder, 310 Chestnut street, Philadelphia, have prepared plans for a warehouse to be erected here for the Stevenson Cold Storage Door Company.

D. W. O'Dea is taking sub-bids on plans for a new rectory building for the Catholic Church of the Assumption, to be erected at 12th and Spring Garden streets.

FRANKFORD, PA.—At a recent meeting of the Frankford Playgrounds Association, plans for the construction of a building on the Whitehall Commons were announced. Joseph Candy is president of this association.

LANCASTER, PA.—At a recent meeting of the congregation of St. John's Episcopal Church, corner Mulberry and West Chestnut street, it was decided to raise \$25,000 with which to erect the proposed new parish house. Rev. George I. Browne is rector of this church.

LILLY, PA.—The school board of this borough has decided to submit to the voters the question of increasing the borough debt to \$30,000, for the purpose of building a new school house on the site of the old one.

WARRIOR RUN, PA.—Bids will be received by the school district of this borough, until 12.30 p. m., October 22nd, for the erection of a new school building, according to plans prepared by Architect James A. Boyle, 401-407 Bennett Bldg., Wilkes-Barre, Pa.

WILKES-BARRE, PA.—The members of the First German-English Lutheran Church, Rev. Charles P. Reichardt, pastor, will enlarge their edifice at a cost of \$8000.

YORK, PA.—The Guardian Trust Company will erect a new bank building on the site of its present property, southeast corner of Duke and Market streets, according to plans prepared by Architect Robert A. Stair, Guardian Trust Co. Bldg.

RHODE ISLAND.

PROVIDENCE, R. I.—The board of park commissioners have been authorized by the common council to spend not more than \$13,000 for the erection of a new auditorium building at Roger Williams Park.

PROVIDENCE, R. I.—Bids will be requested by Dr. Edward R. Marshall for the construction of the housing of the quarantine ship "Newark," according to plans which have been completed by Architect Marsh of the Treasury Department.

Bids for several improvements to buildings at the Rhode Island School for the Feeble Minded will be received at the office of the Board of Control and Supply, Room 18, State House, until October 29th at 10 a. m., according to plans prepared by Architect William A. Walker & Son, 17 Custom House street, this city.

SOUTH CAROLINA.

SPARTANBURG, S. C.—Architect L. S. Proffit, Glenn Bldg., has prepared plans and will advertise for bids for the building of the Steedley Hospital, to be erected on East Main street, at a cost of \$30,000.

TEXAS.

CORPUS CHRISTI, TEX.—The Born Investment Company has announced that plans have been completed for the erection of a modern business block at the corner of Water and Lawrence street, to cost \$15,000.

DALLAS, TEX.—It has been announced by Robert W. London that a modern fifty-ton ice plant, to cost \$50,000, will be built at once on Winnetka addition to Oak Cliff.

New stations will be constructed on the Southern Traction Company lines to Corsicana and Waco, according to announcement made by R. B. Stichter, general passenger agent of the company. This improvement will cost about \$60,000.

DALLAS, TEX.—Brinn Brothers have purchased a site at the northeast corner of Forest avenue and Meadow street, and will erect five brick store buildings on the property, and a new theatre building.

GALVESTON, TEX.—Announcement has been made by H. F. Davis, manager of the Galveston office of C. D. Hill & Company, Architects, that a new apartment house is to be erected on the old Kauffman property, by G. H. Wilder and J. E. Pearce.

KEYSTONE, TEX.—Bids for the erection of a Masonic hospital in this city for aged Masons, to cost \$30,000, will probably be opened at once.

TERRELL, TEX.—The Evening Star School District, north of this city, has voted improvement bonds, the proceeds of which will be used in the erection of a new school building.

WACO, TEX.—Abe Cross of this city who is representing the Panama-Pacific Exposition management in this state, has announced that the Texas Building to be erected on the Exposition grounds will cost \$50,000.

WICHITA FALLS, TEX.—The Episcopal Church of the Good Shepherd have sold their church property, and have purchased a site in the residence section upon which to erect a new edifice. About \$20,000 will be expended in the erection of this building.

UTAH.

FRUITLAND, UTAH.—Plans for a new two-room schoolhouse to be erected here are being prepared by Architects Cannon & Fetzer, Sharon Bldg., Salt Lake City.

OGDEN, UTAH.—A new country club is being formed here and a committee for the selection of a site has been appointed. A. P. Bigelow has been appointed temporary chairman, and C. R. Hollingsworth, temporary secretary.

OGDEN, UTAH.—The Ogden Railway & Depot Company is to erect a new parcel post terminal building at the local depot at the north end of the north annex.

SALT LAKE CITY, UTAH.—Architect F. D. Rutherford has been engaged to prepare plans for a new grade school building on East Bench, this city, at a cost of \$100,000.

SALT LAKE CITY, UTAH.—Architects Pope & Burton, Newhouse Bldg., are preparing plans and specifications for a new and modern residence to be erected for J. M. Muser on 11th East, between 9th and 10th streets, South.

SALT LAKE CITY, UTAH.—Architect F. D. Rutherford is preparing plans for the Fisher building, to be erected on Main street, at a cost of \$15,000.

VIRGINIA.

LYNCHBURG, VA.—Plans are being prepared by Architects McLaughlin & Johnson, Lynch Bldg., for two modern storehouses to be erected on a site on Main street, between Tenth and Eleventh streets, for J. R. Gilliam, owner of the property.

WASHINGTON.

SEATTLE, WASH.—The Washington State Art Association proposes to erect a \$100,000 building at the northeast corner of 5th avenue and Seneca street, according to plans prepared by Architects Howell & Stokes, Henry building.

Architects Charles H. Bebb and Carl F. Gould, Denny building, are preparing plans for an eight-story fire-proof building to be erected on Stewart street, Olive street, Westlake and 4th avenues, for the Times Investment Company of this city, to be occupied by the Seattle Daily Times. Cost of structure will be about \$250,000.

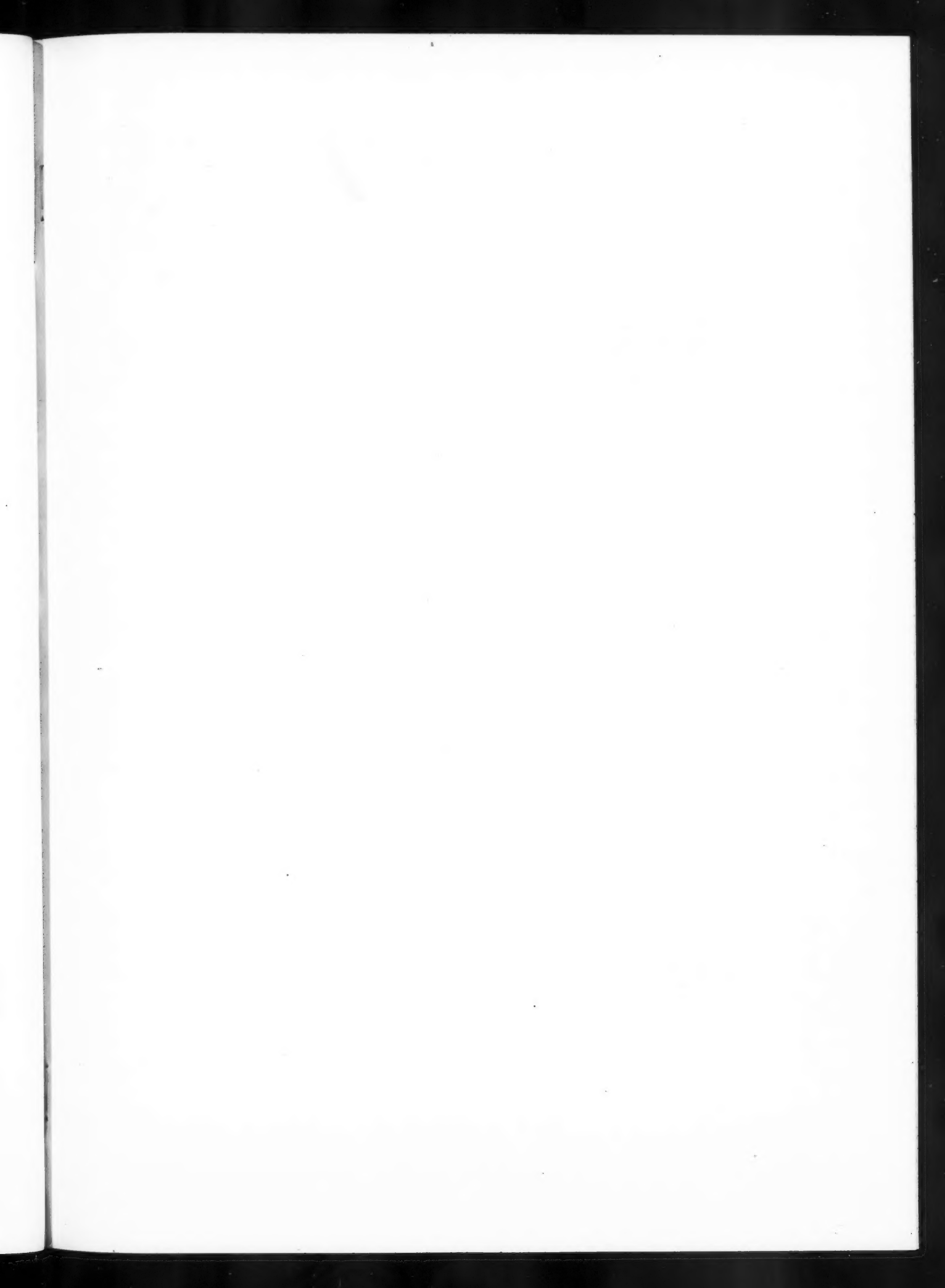
SOUTH BELLINGHAM, WASH.—Plans for a new residence for C. X. Larrabee, to cost about \$45,000, have been prepared by Architects Charles H. Bebb and Carl F. Gould, Denny building, Seattle.

WEST VIRGINIA.

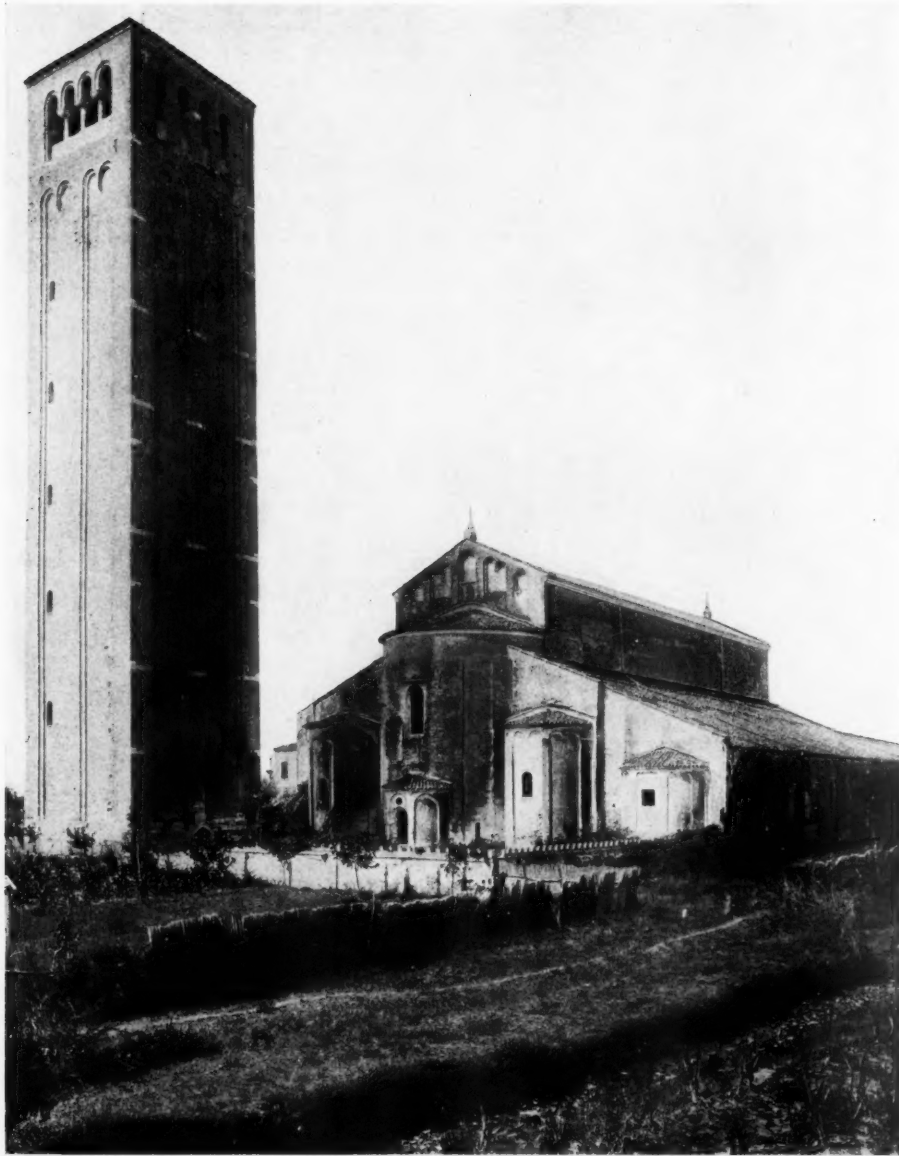
BERKELEY SPRINGS, WEST VA.—Plans have been prepared by Architects Boal & Brown, 1725 H street, N. W., Washington, D. C., for a four-story hotel building for the Berkeley Corporation. Cost, \$100,000.

WISCONSIN.

RACINE, WIS.—Preliminary plans have been prepared by Architect C. D. McLane, 3025 10th avenue, Rock Island, Ill., for the new \$175,000 Y. M. C. A. building to be erected at Fourth and Wisconsin streets.



THE AMERICAN ARCHITECT



CATHEDRAL AT TORCELLO, NEAR VENICE

This is a five-aisled church, two aisles on each side of the nave. Built 641, restored 864 and again in 1008. It is noted for its presbytery, the seats of the clergy rising in a semi-circle of six tiers, at the center of which is the lofty episcopal throne, reached by a flight of eleven steps.