

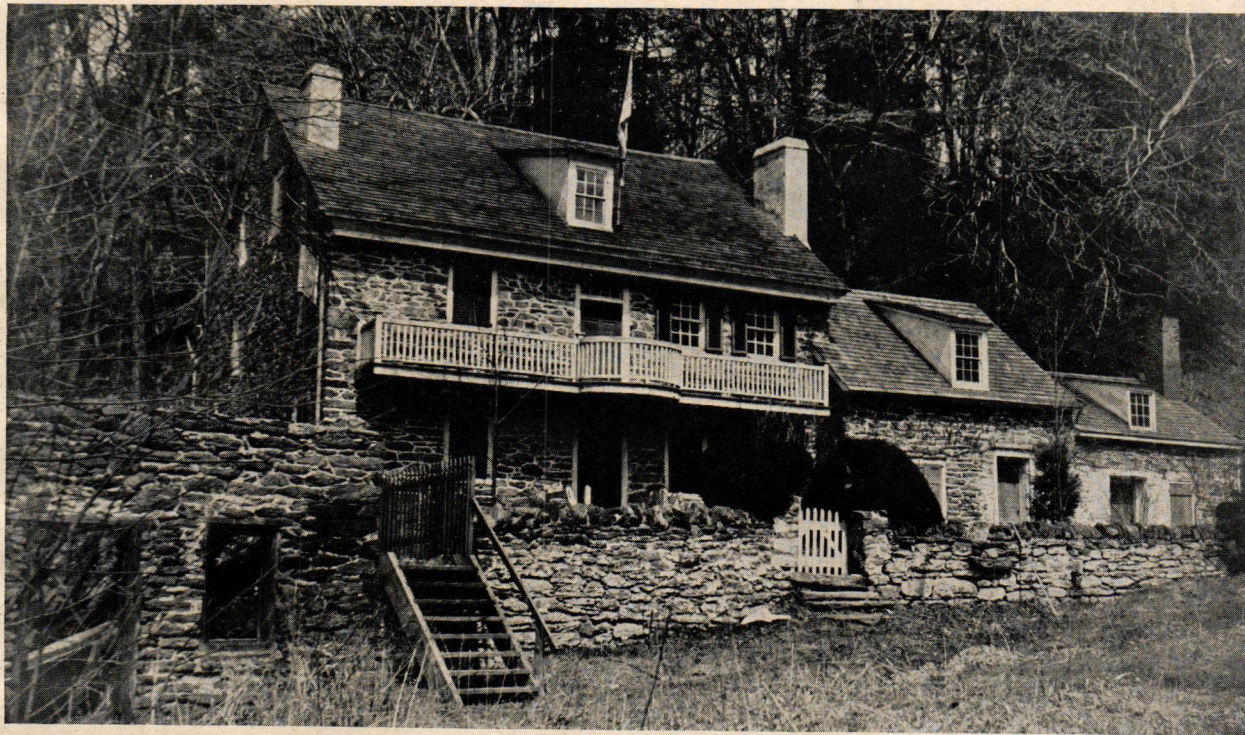
THE AMERICAN ARCHITECT

The ARCHITECTURAL REVIEW

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"GLEN FERN," ON WISSAHICKON CREEK, GERMANTOWN, PHILADELPHIA, PA. CIRCA 1710

This building illustrates an early form of cornice of simple type

EARLY AMERICAN CORNICES *of* PHILADELPHIA

BY CARL A. ZIEGLER, *Architect*

IN making research into any epoch of human endeavor one is at once confronted with certain facts and personages that have been so glorified by history as to cast into shadow the achievements of those who in a calm, quiet, mundane fashion have perhaps done more toward the achievement of a national aspiration than those who stand as beacon lights upon the pages of history.

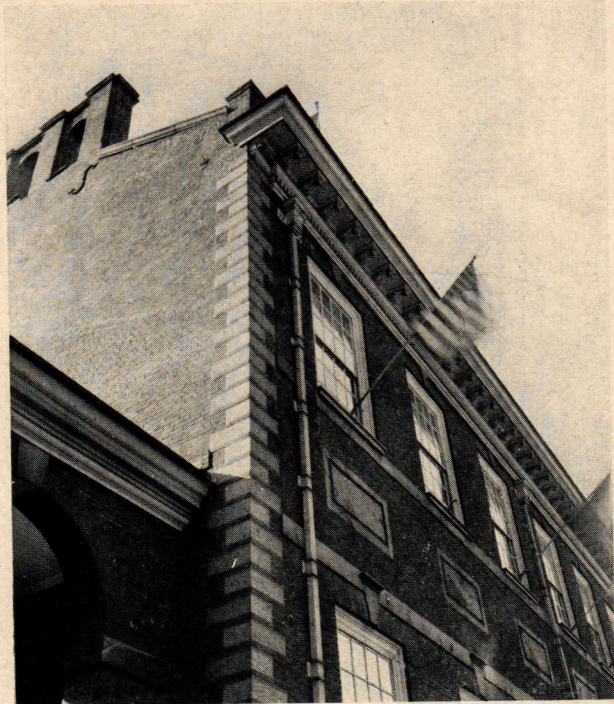
One must be a pessimist to subscribe to the saying that "History is a lie agreed upon" but in the light of modern research it is obvious that many facts have become distorted in connection with the history of our Colonial days. One naturally hesitates to undermine such legends as the making of the first American flag by Betsy Ross, but a careful weighing of the facts makes this and other long told tales appear most mythical.

Although much has been published about the Colonial buildings of America, a comprehensive history of early American architecture yet remains to be written.

There has always been a certain mystery as to the designers of our Colonial buildings and many stories akin to the Betsy Ross legend have sprung up in reference to these personages.

In Philadelphia the designing of many of our most important edifices has been ascribed to certain laymen, prominent in the early history of the city and beyond a doubt architectural design was then a matter of import to all men of affairs and knowledge thereof was considered an essential part of the educational equipment of a gentleman of the period.

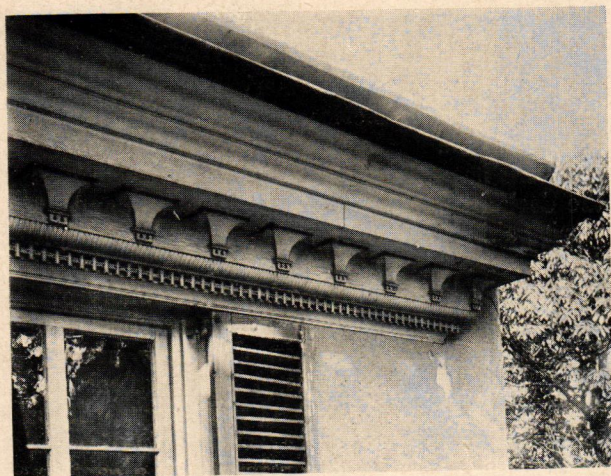
The designing of Independence Hall has long been credited to Andrew Hamilton, a prominent



INDEPENDENCE HALL, PHILADELPHIA, PA.

View looking up at cornice

lawyer of Philadelphia, but in the restoration of that building, a task requiring many years of careful investigation, the Philadelphia Chapter, A. I. A., has brought to light indisputable evidence in the form of bills presented by one Edmund Woolley, a master builder, for the making of plans for this building, which tend to prove that although Andrew Hamilton may have made the rough draft for the building now in the possession of the Historical Society of Philadelphia, which design by the way, was obviously copied from Gibbs' "Book of Architecture" published in



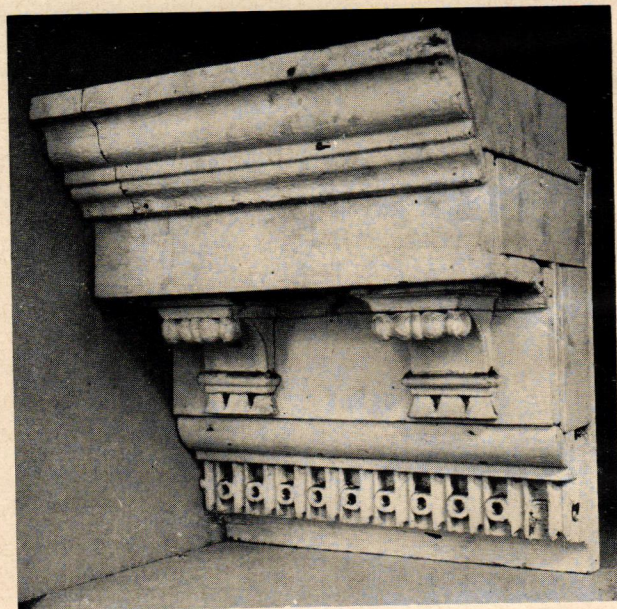
HOUSE AT ROXBOROUGH, PHILADELPHIA, PA.

The brackets and dentil mould on this cornice are effective and yet simply executed

1728, the plans from which the structure was erected were no doubt drawn by Edmund Woolley the builder who had the construction in charge.

Too little has been said of the achievements of the carpenters of our Colonial period (so vastly different from the carpenters of today), and when the real facts are published these craftsmen who went about their work, without pretensions or bombast, will occupy a more exalted position in the history of Colonial architecture.

Perhaps on no other feature of the early buildings was the carpenters' skill more lavishly expended than upon the wooden cornices which they first designed and then executed with their simple hand tools.



DETAIL OF CORNICE OF AN OLD HOUSE ON WALNUT STREET, PHILADELPHIA, PA.

A large portion of this cornice was saved when building was demolished and now hangs in atelier of the "T" Square Club in Philadelphia. It is interesting to note the small amount of lumber used in construction

As in other sections of the country, it was the custom to concentrate all ornamentation on the entrance doorway and upon the main cornice of the building. Of course, there are exceptions, like the Pennsylvania Hospital Building, where pilasters, etc., were used to ornament wall surfaces, but generally it was upon the entrance doorway and the main cornice that the carpenter exercised his greatest skill. Of course this was a matter of systematic progress and it is interesting to study the development of the wooden cornices from the simple early examples, purely utilitarian in character, to the elaborate cornices of later days when the Colonists had grown rich in worldly possessions and their architecture became reminiscent of the English Georgian.



CHRIST CHURCH (1727), PHILADELPHIA, PA.

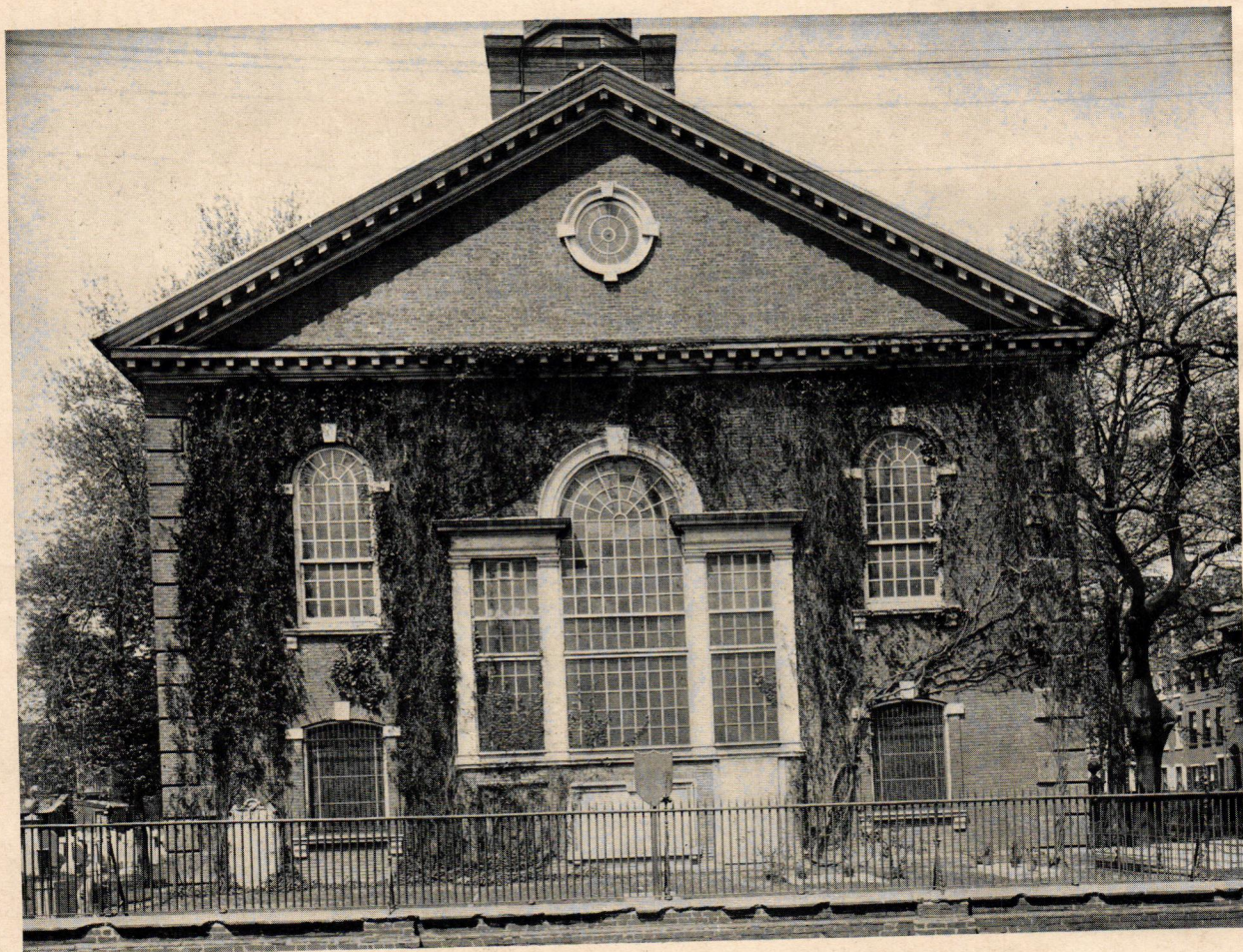
This building presents a wealth of cornice material, in brick, stone and wood, all on the one building

The earliest example illustrated herewith is an outbuilding of "Glen Fern" built by Thomas Shoemaker, about 1710, upon the Wissahickon Creek, near Germantown, Pa. Here the only object of the builder was to use the cornice to shed the water clear of the wall, the primary function of all cornices. To accomplish this, the ceiling beams were carried beyond the outer surface of the wall about twelve inches and on top of this a 3" x 8" plate was placed running the full length of the building. On this plate the rafters were

main building at "Glen Fern," or a pent eave to protect the lower story, as illustrated by the "Johnson House" at Germantown, the second floor joists were carried out to form the supports thereof and a simple cornice was placed at the ends of the beams.

From this simple construction the box cornice developed and culminated in the very pretentious classical cornices of which there are so many excellent examples in Philadelphia.

It is interesting to note the ingenuity with



ST. PETER'S CHURCH (1758), PHILADELPHIA, PA.

This and Christ Church are said to have been designed by Dr. John Kearsley, but in all probability the details were worked out by a master carpenter of the period

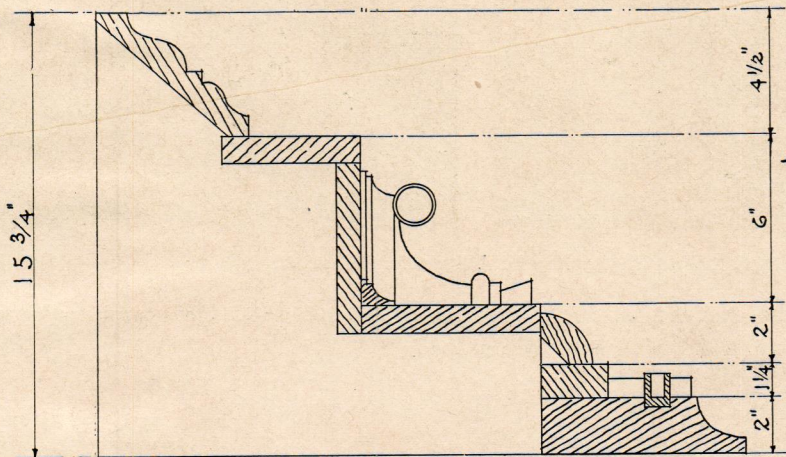
heeled with a barge board set flush with the gable ends.

This illustration is an excellent example of the logical working of the mind of a craftsman skilled in the framing of lumber and recalls the much discussed theory of the derivation of the Greek Doric order from a wooden prototype, according to which theory the triglyphs are supposed to be the ends of the beams and the mutules the rafter ends.

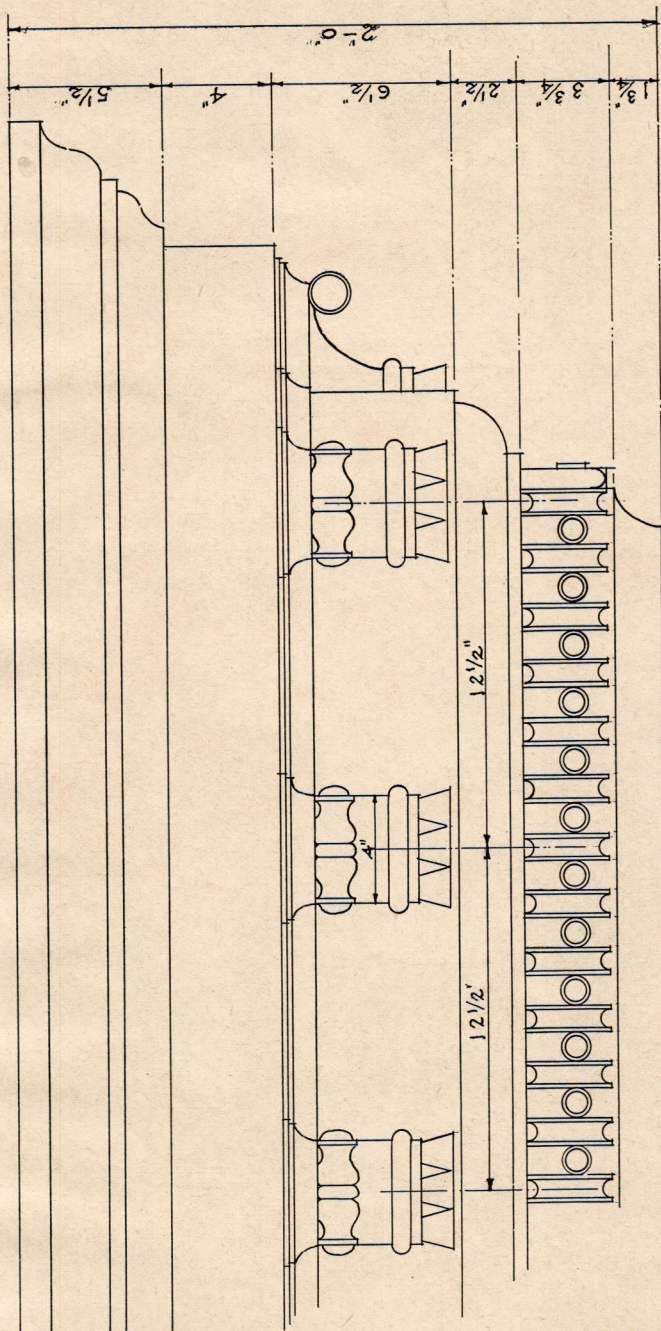
Where a balcony was desired, as shown on the

which the carpenters of the period worked out the ornamental features of these cornices. The working of the moulds with hand moulding planes was perhaps simple enough, but the great variety of dentil moulds, ornamental brackets, etc., used upon these cornices expresses a craftsmanship that compels the admiration of any architectural student who will study closely their construction.

The cornice of the Blackwell House built about 1765 is one of the most ornate of these cornices. The photographs were taken when the front of the



SECTION

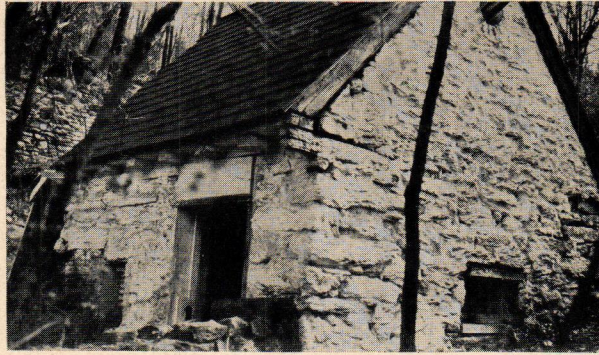


ELEVATION

MEASURED DRAWING OF CORNICE.
 FROM COLONIAL HOUSE ON WALNUT ST.
 PHILA. PENNA.

MEASURED AND DRAWN BY CARL A. ZIEGLER, ARCHITECT

building was being demolished for business purposes and offers an unusual opportunity to study the construction closely. The classical influence is dominant in this design and there is a woodiness about the ornamentation that bespeaks the carpenter rather than the sculptor. The modillion with its drops gives evidence that the craftsman was not unfamiliar with the Greek Doric order.



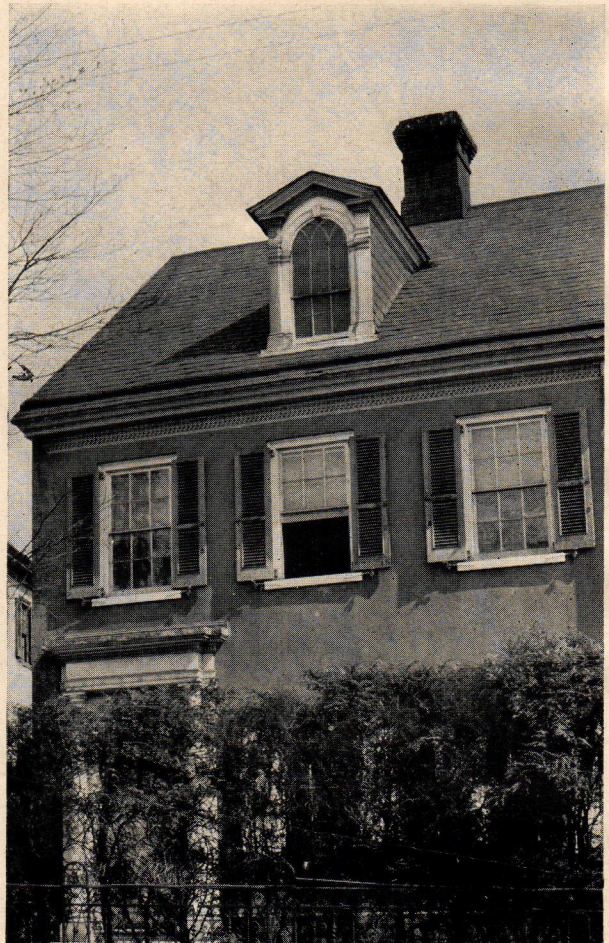
An outbuilding at "Glen Fern," on Wissahickon Creek, showing early form of primitive cornice. The projection of ceiling beams to support the plate is particularly interesting

the use of materials. (See measured drawing of this cornice.) The brackets, although very effective in appearance, are of the simplest possible construction. The dentils are simply sections of a long strip that has been gouged out on the face and drilled at regular intervals; it was then sawed into sections through the center of the drill hole and nailed in place with short sections of

The detail of the cornice of the house on Walnut Street, Philadelphia, was also photographed after the demolition of the building and shows how economical were those early carpenters in

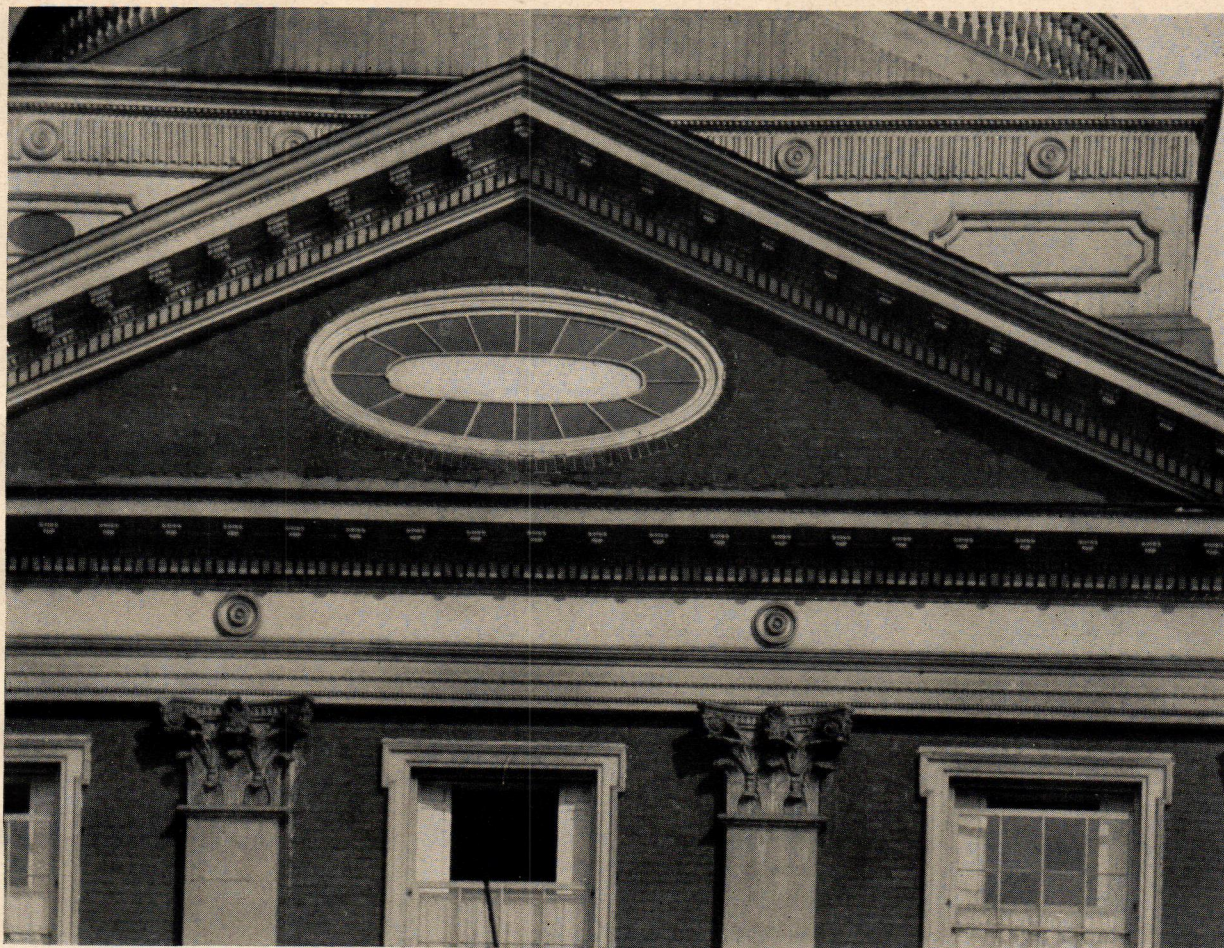
a drilled cylinder, forming rings between each dentil.

The House at Roxborough, Philadelphia, has a similar dentil cornice, but the rings are replaced



HOUSE 6105 GERMANTOWN AVENUE, PHILADELPHIA, PA.

This is but one of hundreds of similar houses lining this street, most of which have cornices that are worthy of careful study



DETAIL OF CORNICE ON MAIN BUILDING, PENNSYLVANIA HOSPITAL, PHILADELPHIA, PA.

This illustrates the more elaborate type of cornice usually employed on public buildings

by short sections of the dentil mould laid horizontally.

The gouging tool and the drill played a large part in the execution of the ornamental parts of the work of this period, most of which was designed to be shaped by these tools.

The cornices of Independence Hall and the Pennsylvania Hospital are more elaborate and here we find the acanthus leaf introduced upon the brackets, which motif of course required the services of more expert carvers. Records have been found giving the names of some of the carvers who executed the work upon Independence Hall together with the amount which they received for this work.

Christ Church possesses a wealth of cornice material. Here we have excellent examples of cornices executed in brick, stone and wood, all upon the same building.

The building at No. 6105 Germantown Avenue is only one example of the great number of similar buildings which line this historic highway and from the old log cabin at Mermaid Lane to the elaborate Cliveden Mansion they record a very

important epoch in the history of American architecture. When, in 1683, Francis Daniel Pastorius with the first German Colonists to settle in America took possession of the land assigned to them in what is now Germantown, they erected log cabins on what was said to be an old Indian trail, about seven miles from Philadelphia. These log cabins were later superseded by more pretentious brick and stone houses. The thoroughfare upon which these houses abutted was called Germantown Road and later became known as Main Street, not however to be classed in the same category with Sinclair Lewis' "Main Street," for the spirit of the early builders as expressed in the many buildings on this highway precludes any such classification, despite the efforts of modern vandals to "improve" this street.

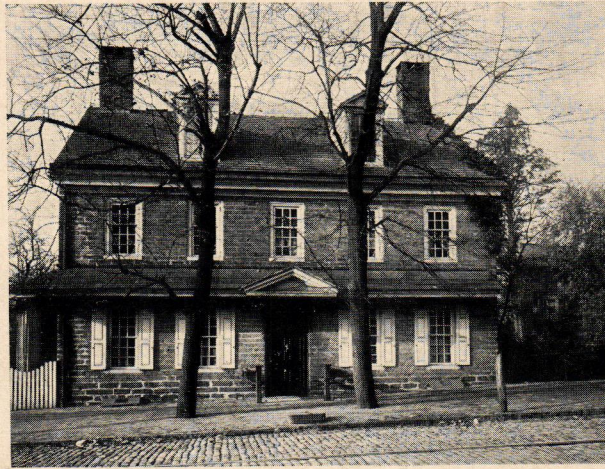
With the advent of the Neo Greek period, *circa* 1810, came the ambition to imitate the classical stone cornices, in wood, and after this false step came the horrible jig sawed ornamentation that culminated in the Centennial Exposition of 1876.

In spite of the fact that many of the fine old

wooden cornices of the early days survived the decadent period that held Philadelphia enthralled for so long, it was many years before the modern architects of Philadelphia recognized the sterling merit of the old work with which they were surrounded and turned again to imbibe at the source the inspiration which has given us the well known and respected Philadelphia type of house.

One of the earliest builders of Pennsylvania, of whom there is any record, was James Porteus. He

was a native of Dumfries, Scotland, and did work in London before coming to Philadelphia. To him is attributed the "Slate Roof House" built for Samuel Carpenter in Philadelphia before 1690, and he appears from the records to have been a leader in the building business during the early part of the XVIII Century and was associated with the Carpenters' Company which was organized in 1724. This company was formed for the purpose of regulating building in Philadelphia and for aiding its members in the study of architecture, in which purpose it was eminently successful, and Philadelphia owes a great debt of gratitude to that organization for its architec-



THE JOHNSON HOUSE, GERMANTOWN AVENUE, PHILADELPHIA, PA.

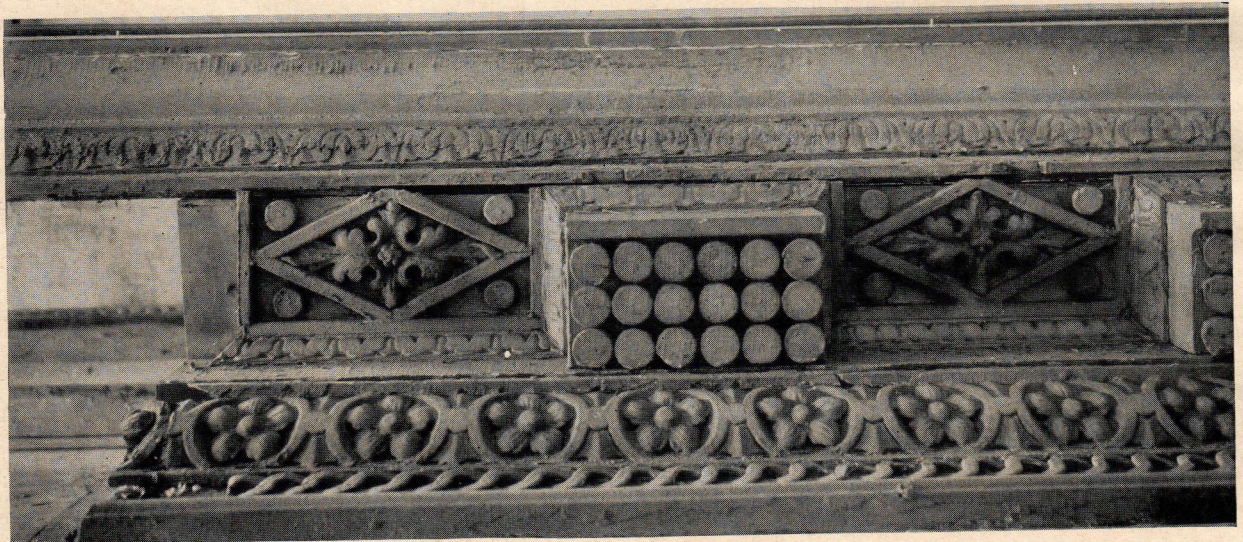
This illustrates the simplest form of main cornice, without ornamentation and also shows a fine example of the pent eave typical of Germantown houses

tural prestige in the Colonial period. The company still remains in existence and Carpenters' Hall, its headquarters, is one of the best designed buildings in Philadelphia.

So efficiently was the building business regulated by the Carpenters' Company that competitive bidding was practically unknown. Uniform prices were fixed for every portion of the work and builders were selected for their reputation as craftsmen and not because of low bids. All work was measured and ex-

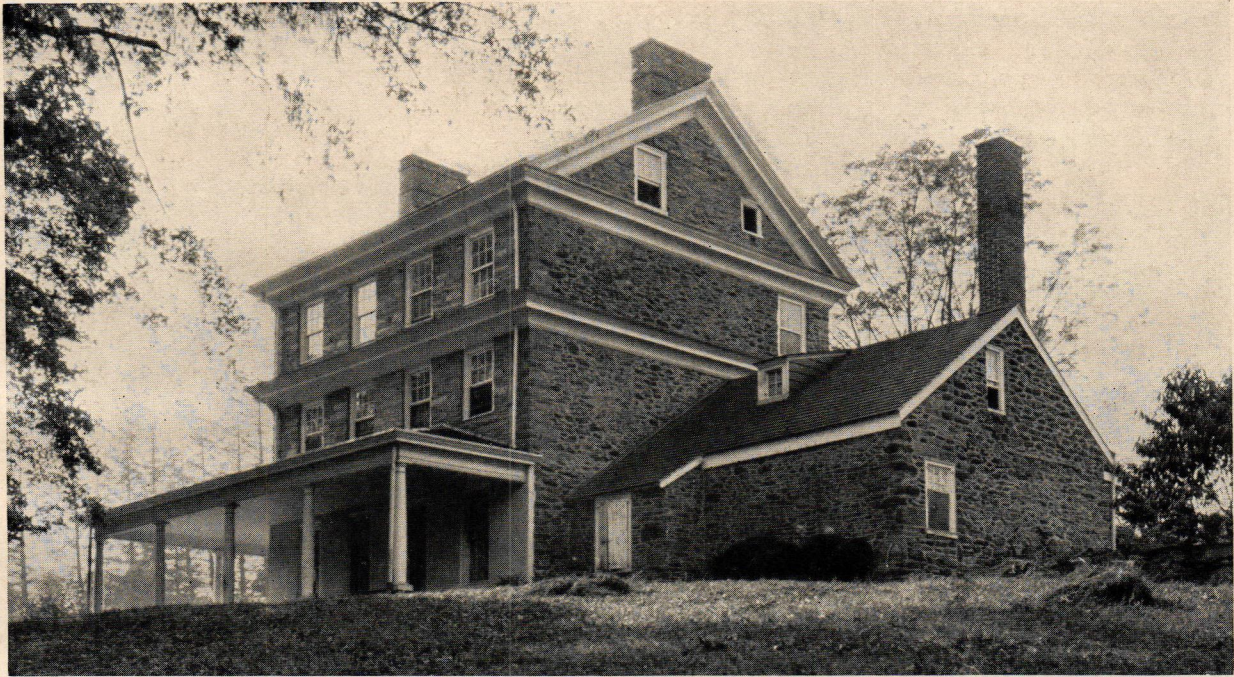
amined by certified measurers of the Carpenters' Company and the accounts rendered by them were accepted by both the owner and the builder as conclusive. Many of these original bills are in the archives of the Pennsylvania Historical Society and it is very interesting to compare the charges with present day prices.

A legitimate expense chargeable to the owner was for food and drink provided to the workers when the roof rafters were set in place. The modern custom of nailing an American flag to the ridge pole is a survival of this old custom, but only occasionally is the feast forthcoming in these



DETAIL OF CORNICE TAKEN FROM BLACKWELL HOUSE (1765), PHILADELPHIA, PA.

The photograph was taken after demolition of building, and affords an unusual opportunity to study the construction at close range



THE MONASTERY, AT THE FOOT OF KITCHENS LANE, GERMANTOWN, PHILADELPHIA, PA.

Here Kelpius and his band of Mystics lived in Colonial days. This is a curious example of a double cornice. In all probability the upper story was added



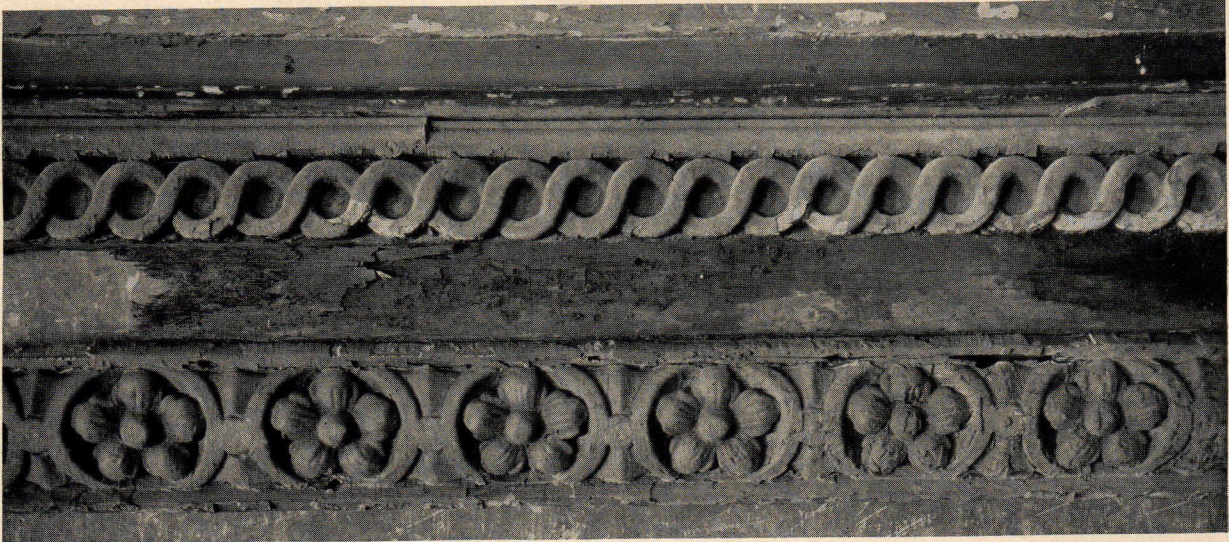
HOUSE AT ANDALUSIA, ON THE DELAWARE RIVER ABOVE PHILADELPHIA. DESIGNED BY HAVILAND

This is a good example of an attempt to imitate classical stone construction in wood, which followed the Colonial period

days when building is a strictly business proposition devoid of all sentiment.

Of course, a monopoly soon grew out of this system and before very long rival Carpenters' Companies were formed and competition began.

On September next the 150th Anniversary of the founding of the Carpenters' Company will be celebrated at Carpenters' Hall, Philadelphia, when President Coolidge will be the guest of honor.



DETAIL OF BED MOULDING FROM THE CORNICE OF THE BLACKWELL HOUSE (1765), PHILADELPHIA, PA.

ONLY ONE-SIXTH OF VIRGIN TIMBER LAND LEFT
IN UNITED STATES

FORESTRY involves one-third of all the land and every individual in the United States. It affects the cost of homes, offices, school buildings and churches; the cost of travel, clothing and food; public health, education and recreation; industry and the offensive and defensive military power of the nation, states the New York State College of Forestry, Syracuse University. There is left one-sixth of the virgin timber that nature supplied, and as a nation we are not yet as old as the trees that are being cut. Where are the trees for the future? In place of some of our original forests we have a vast area of barren waste in need of reforestation that is more extensive than the combined forests of Germany, Denmark, Holland, Belgium, France, Switzerland, Spain and Portugal. This waste land is three-quarters the acreage of our remaining virgin timber.

The East pays freight on lumber from the Pacific Coast in many cases equal to the cost of the lumber itself at the mill. Some of the Eastern states use twenty times as much lumber as they grow. New England has left of her original forest, 1/19; the Middle Atlantic States 1/34; the lake States, 1/10; the Central States, 1/24. These sections should be producing enough timber to meet their needs.

Farmers are the largest users of wood, and the steady depletion of the forests affects every farm

product. Railroads need millions of ties annually and no satisfactory substitute has been found for wooden ties. Newspaper and book publishers obtain their paper from wood principally and a curtailment of supply means the restriction of the printed word, a matter of great moment to national progress. This subject surely "has an importance far above the attention it receives," says the college.

BOOTH TRAVELING FELLOWSHIP, UNIVERSITY
OF MICHIGAN

THE first award of the George G. Booth Traveling Fellowship in Architecture has just been made by the College of Architecture of the University of Michigan. Of the nine competitors who finished, the designs of two were of such equal merit that the jury decided to divide the \$1200.00 income of the Fellowship between Marion F. Blood, a member of the Class of 1924, and Ralph R. Calder, who graduated in 1923. Both have had office experience in addition to academic training and both are students of high scholarship.

The annual income of the scholarship being \$1200.00 each received \$600.00, to which Mr. Booth has generously added \$500.00 for each of the successful competitors. Through Mr. Booth's gift, it thus becomes possible for the school to send two students abroad for a stay of approximately one year.

COST ACCOUNTING FOR ARCHITECTS

BY H. P. VAN ARSDALL, of SAMUEL HANNAFORD & SONS, Architects, Cincinnati, Ohio

Part II

THE following explanation is made of the items composing Undistributed Expense so as clearly to show the nature of each account:—

- 1541. NON-CHARGEABLE TIME OF PRINCIPAL
All time of firm members, not actually chargeable to jobs is debited to this account.
- 1542. NON-CHARGEABLE TIME OF DRAFTSMEN
- 1543. NON-CHARGEABLE TIME OF ENGINEERS
- 1544. NON-CHARGEABLE TIME OF SUPERINTENDENTS

When the actual money is paid out for the lost time, cash is credited, and the Allowance Account debited.

1547. OFFICE SALARIES

Firm members are paid salaries the same as others in the office. The executive's salary is charged to overhead expense and the other members are classed as draftsmen or superintendents, as the case may be. This account is charged with the salaries of the principal, the office business manager, stenographer, and office boy.

SHEET No. <u>1</u>		NAME <u>The Frank Hersch Co.</u>		ACCOUNT No. <u>4-141.</u>				
JOB COST SHEET		ADDRESS <u>4th Street Stone City,</u>						
DATE	ITEM	HOURS	DRAFTING	ENGINEERING	SUPERINTENDING	OVERHEAD	TOTAL DEBIT	TOTAL CREDIT
1923								
Oct 31	From list sheet #10	12	2.00			1.59	36.5	
Nov 30	Do #11	7	4.25			2.20	6.45	
Dec 31	Do #12	783	167.70			86.35	254.25	
1924								
Jan 31	Do #1	82	17.29			90.14	264.35	
Feb 28	Do #2	255	27.03			89	280.50	
Mar 31	Do #3	787	750.20			705.60	1655.80	
		1908	2457.19			1726	71750	168325
	To a/c #41					1725	179374	4726388
								4726388

FORM NO. 5—JOB COST SHEET

- The above three accounts are treated the same as Account 1541.
- 1545. OVERTIME ALLOWANCE
To this is charged any increased rate of pay that is paid to draftsmen on account of overtime work. It is not just that any particular job should be burdened with this expense on account of it having been the particular job to rush through the office.
 - 1546. LOST TIME, VACATIONS, ETC.
(Draftsmen, Engineers and Superintendents) This account is debited monthly with 1/12 of the annual amount set up in Allowance Account 229. An Allowance Account for Lost Time, Vacations, etc., will be set up, and the accrued expense shown as a credit each month and the same amount should be debited to this account.

- 1548. RENT
This is paid monthly and is charged as a regular monthly expense. Credit cash and debit rent when it is paid.
- 1549. PRINTING AND STATIONERY
Charge this account each month with the amount of materials used and credit Account 1261.
- 1550. DRAWING MATERIALS
Treat same as Account 1549.
- 1551. TELEPHONE AND TELEGRAPH
Treat same as Account 1548.
- 1552. MEMBERSHIP AND DUES
This account is charged with all dues, membership fees, etc. If any one month should be overly burdened, then a prepaid account should be set up and the expense distributed over the twelve months.

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1553. DONATIONS
Treat same as Account 1548.

1554. LIGHT
Treat same as Account 1548.

1555. INSURANCE
This account is charged monthly with 1/12 of the total annual prepaid insurance and credit is made to Prepaid Insurance Account (131).

1556. TRAVELING
Debit this account with all Traveling Expenses, when it is not directly chargeable to a job.

1557. PERIODICALS
Debit with all magazines, papers, etc.

1564. AUTOMOBILE EXPENSE
Debit this account, monthly, with 1/12 depreciation (annual) charge and credit Allowance for Depreciation Account, also debit with all operating expense.

OPERATION OF SYSTEM

The following forms are required for the proper operation of the system:—

- Time Card
- Monthly Time Summary
- Time and Overhead Distribution Sheet
- Journal
- Ledger Page and Job Cost Sheet

These forms are all bound in books except the Daily Time Cards and Distribution Sheet. Time Cards are filed in envelopes and placed in the ordinary standard alphabetical wood file case. Dis-

SHEET NO. 1		NAME <i>The Frank Hersch Co.</i>		H-123	
CREDIT LIMIT		ADDRESS <i>East 4th St. City.</i>			
RATING		BUSINESS			
1923		ITEMS		FOLIO	
1924				DEBITS	
				CREDITS	
				BALANCE	
Sep 10	Contract:— 60% on cost for plans, specifications, and superintending of new store building.				
Mar 31	Due to Date on P.S.	117	8643.19		8643.19

FORM NO. 6—LEDGER PAGE

1558. LEGAL AND ACCOUNTING
Charge with all attorney and accountant fees.

1559. TAXES
An architect's taxes are usually small and it is not necessary to distribute the sum over the entire year. When taxes are paid, debit this account and credit cash.

1560. DEPRECIATION OF EQUIPMENT
Debit this account, monthly, with 1/12 of depreciation charges and credit the Allowance Account.

1561. BAD DEBTS
Handle same as Account 1560.

1562. MISCELLANEOUS, OFFICE
Expenses of all other kinds are charged to this account (small).

1563. VARIATIONS IN UNDISTRIBUTED EXPENSE
Where there is a balance in Account 225, it is charged out the next month and debited to this account.

tribution Sheets are filed in the vertical letter file cabinet.

The Daily Time Card is arranged in half-hour divisions, and it is a simple matter for a draftsman to indicate on a card just what particular work is performed during the day. A white card is used for productive work and a blue card for non-productive work. Separate cards are used for each job worked on during the day. This permits the filing of all cards together that show time for one job. Cards are gathered up daily and entered in the monthly individual time summaries.

The Monthly Time Summary sheet contains a column for the listing of all jobs that the individual has worked on during the month. Opposite this column are columns for each day in the month, wherein the number of hours for each day is placed opposite its particular job. All non-chargeable time is also listed. This sheet also contains a total hours column and adjoining this there is a column containing the cost in dollars for each job worked on. For each man a Monthly Time Summary is required. On completion of the

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MODEL BALANCE SHEET of DECEMBER 31, 1923

ASSETS		LIABILITIES	
FIXED ASSETS		CURRENT LIABILITIES	
Office Equipment	\$2,100.00	Accounts Payable	\$ 78.20
Books	600.00	Salaries Payable	253.52
Automobiles	1,000.00	SUNDRY CREDITORS	
CURRENT ASSETS		Tom Jones	275.01
Imprest Fund	25.00	John Smith	2,782.78
Cash in Bank	3,243.59	RESERVES	
Accounts Receivable	8,753.41	Allowance for Depreciation	67.53
SUNDRY DEBTORS		Allowance for Bad Debts	30.00
Firm Member No. 1	522.94	Allowance for Lost Time, Etc.....	166.96
Firm Member No. 2	720.00	Allowance for Auto Depreciation...	0.00
INVESTMENTS		CAPITAL	
Bonds	250.00	Firm Member No. 1	5,000.00
DEFERRED ASSETS		Firm Member No. 2	5,000.00
Prepaid Insurance	64.60	SURPLUS	
WORKING		Undivided Profits	13,794.81
Work in Process	10,169.27	<hr/>	
Balancing Total	\$27,448.81	Balancing Total	\$27,448.81

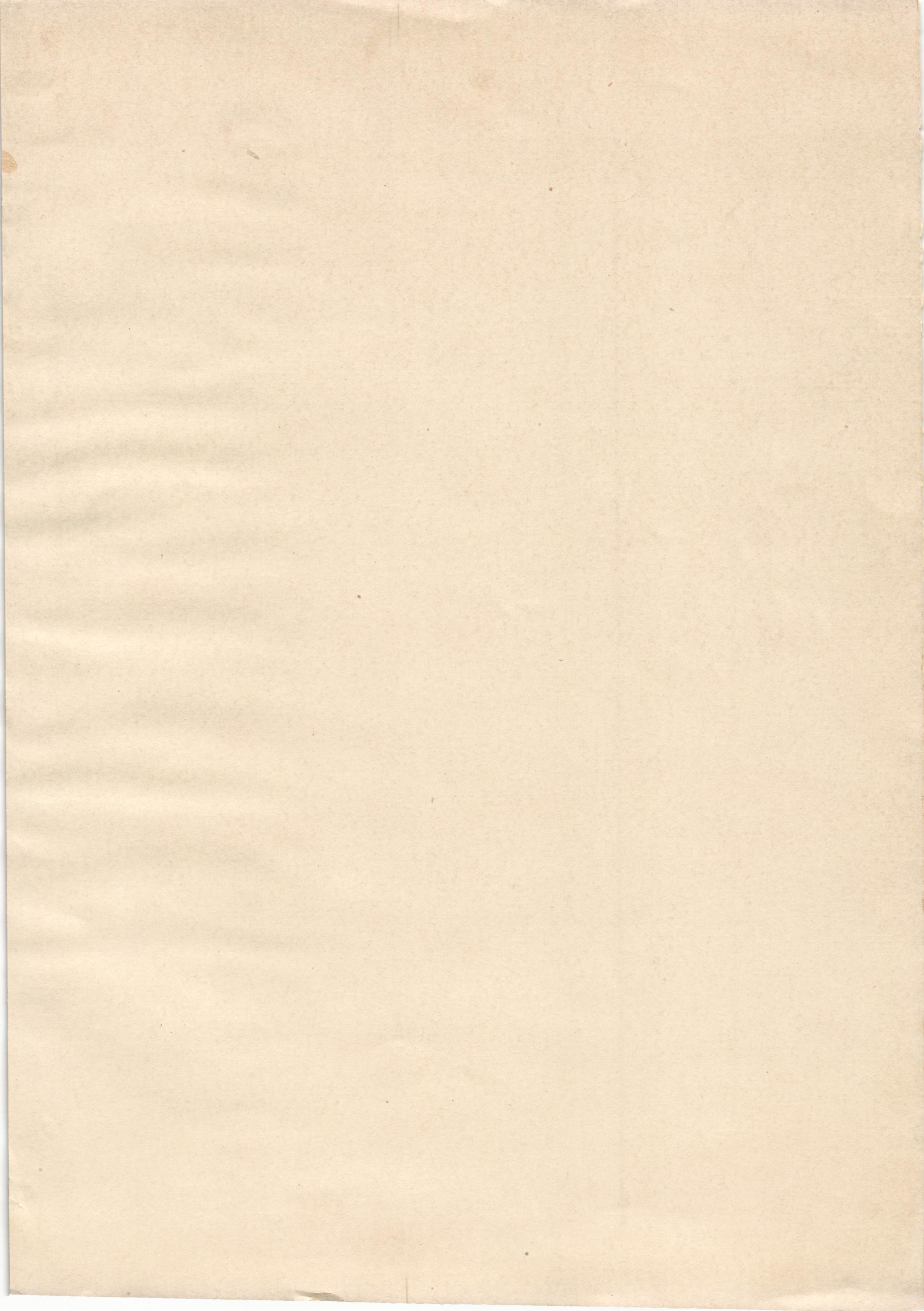
month the information contained on this Summary is taken and distributed on the Time Distribution Sheet to the proper jobs (see illustration). You will note there is a space for each employee's account number (account number is used instead of writing out the name), and just below it in the corresponding column is the total time, in dollars, for the month, opposite its particular job. The horizontal extension of this time is placed in drafting, engineering, superintending, or non-chargeable time space, as provided. These totals are then debited to Work in Process and Undistributed Expense, respectively.

At the bottom of the Time Distribution Sheet the totals of the individual columns under employees' names are credited to the individual salary accounts. This is done on account of charging the regular payroll to salary accounts in the Ledger. It is therefore necessary to credit the salary accounts and place their totals in Work in Process. The purpose of this is to have a record showing all salaries paid.

You then enter from this sheet on to the Journal the charges to Work in Process and charges to non-chargeable time, and credit individual salary accounts.

MODEL STATEMENT OF PROFIT AND LOSS JAN. 1 to DEC. 31, 1923

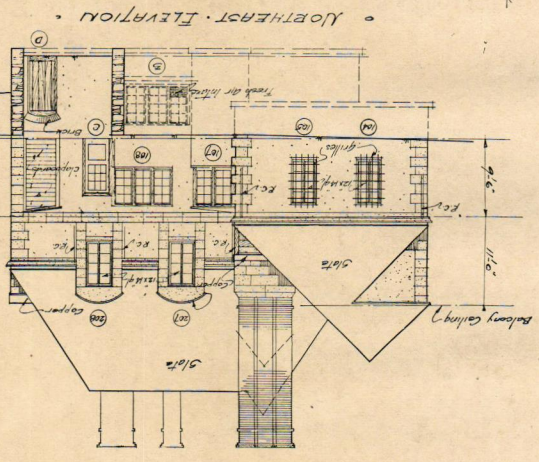
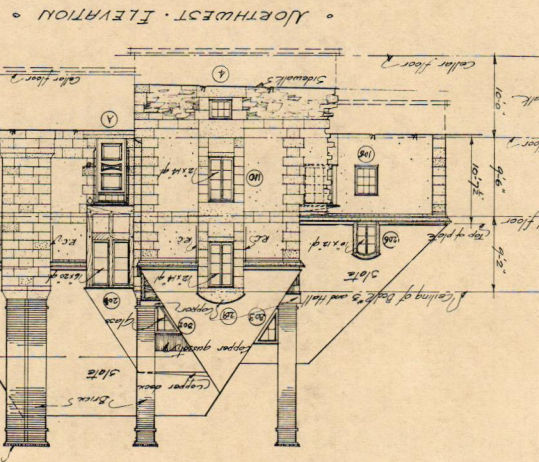
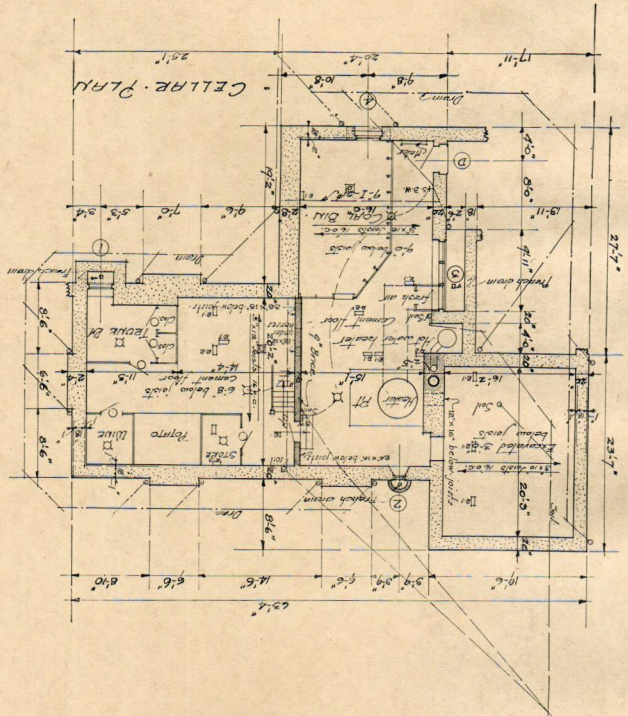
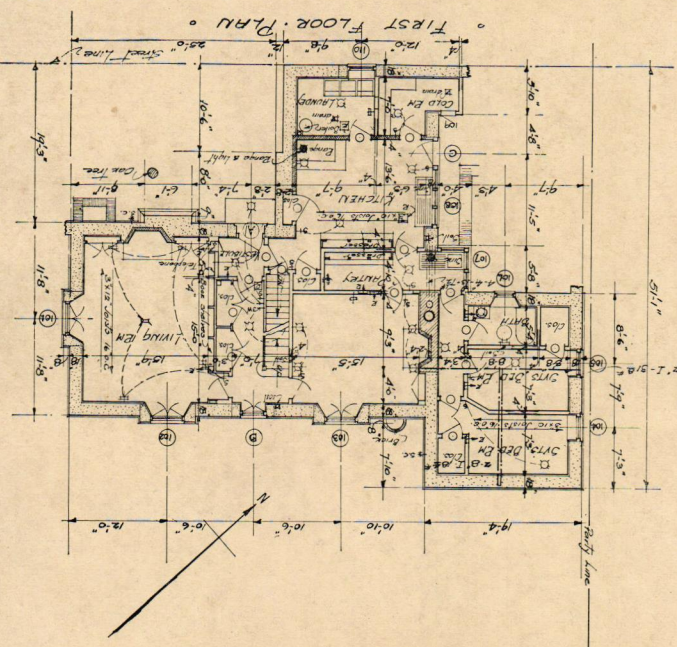
OPERATION PROFIT AND LOSS	
Fees Earned During Year	\$48,771.91
Work in Process January 1, 1923.....	\$8,468.20
Work Put in Process During Year:—	
Drafting	\$13,660.56
Superintending	4,553.52
Overhead	18,214.09
	<hr/>
	36,428.17
	<hr/>
	44,896.37
Less Work in Process December 31, 1923.....	10,169.27
	<hr/>
Cost of Completed Work	34,727.10
	<hr/>
OPERATION PROFIT	14,044.81
INCIDENTAL PROFIT AND LOSS	
Incidental Income	\$ 50.00
Less Incidental Expense	300.00
	<hr/>
Less Incidental Loss	250.00
	<hr/>
NET PROFIT FOR YEAR	\$13,794.81



HOUSE OF HOWE FRALEY, CHEST
MELLOR, MEIGS & HO

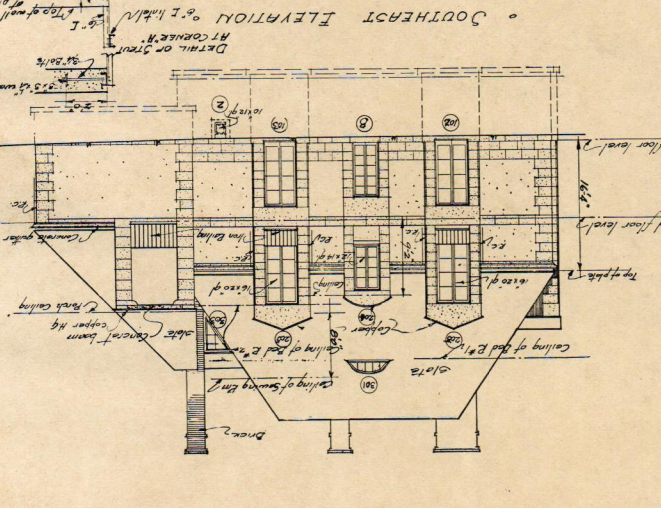
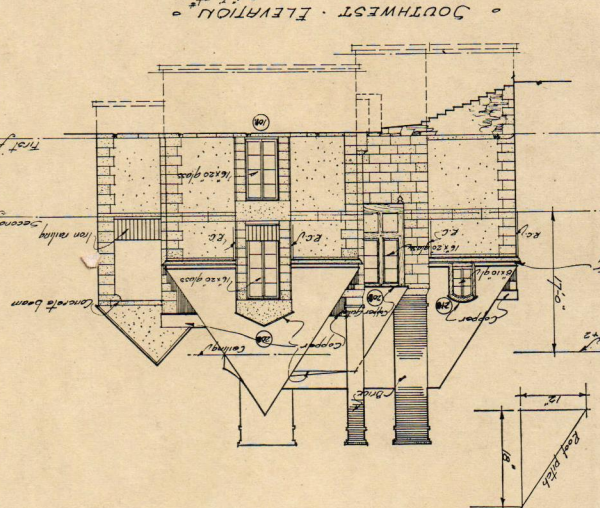
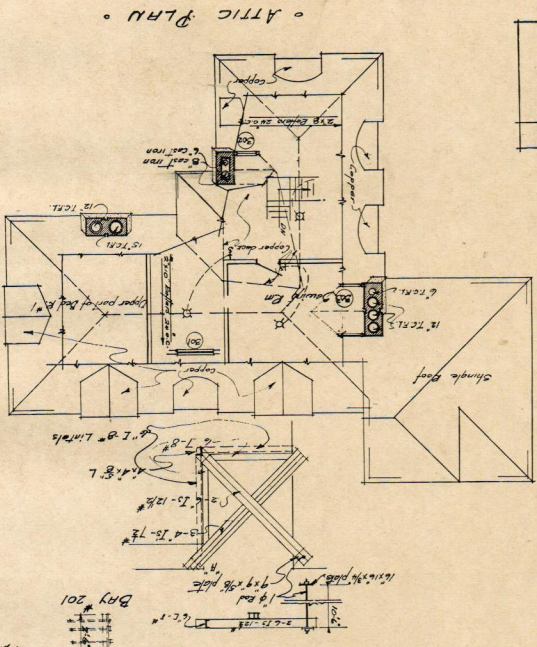
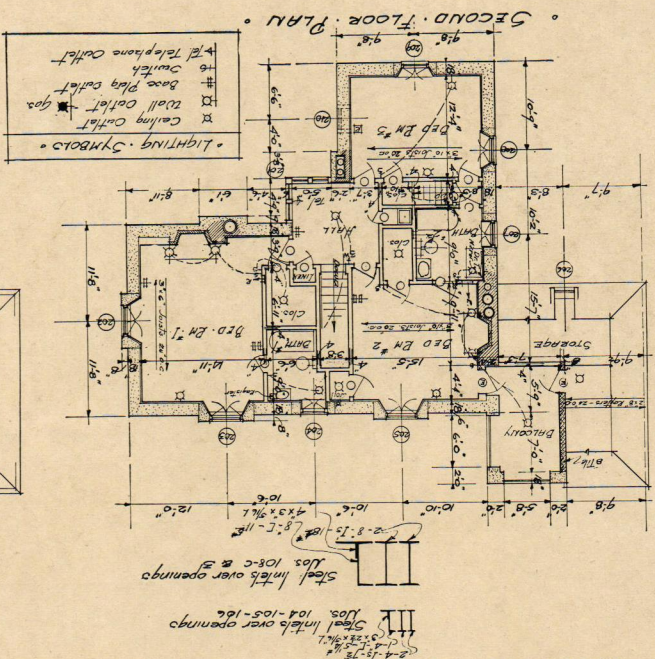
• MATERIAL. IN

Wood + plaster	Diagonal hatching
Brick	Horizontal hatching
Concrete	Vertical hatching
Stone work	Stippled pattern

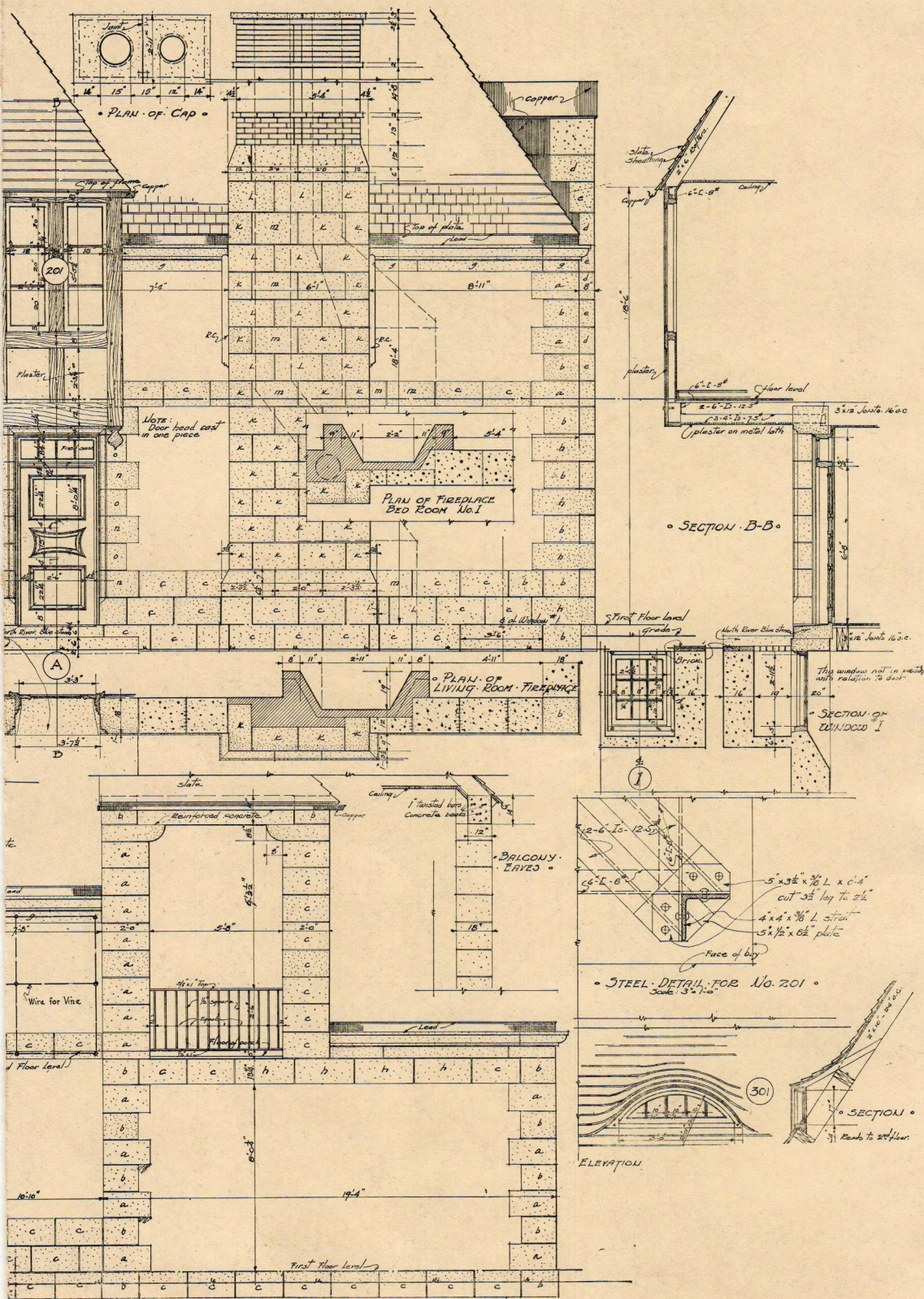


NUT HILL, PHILADELPHIA, PA.
 WE, ARCHITECTS

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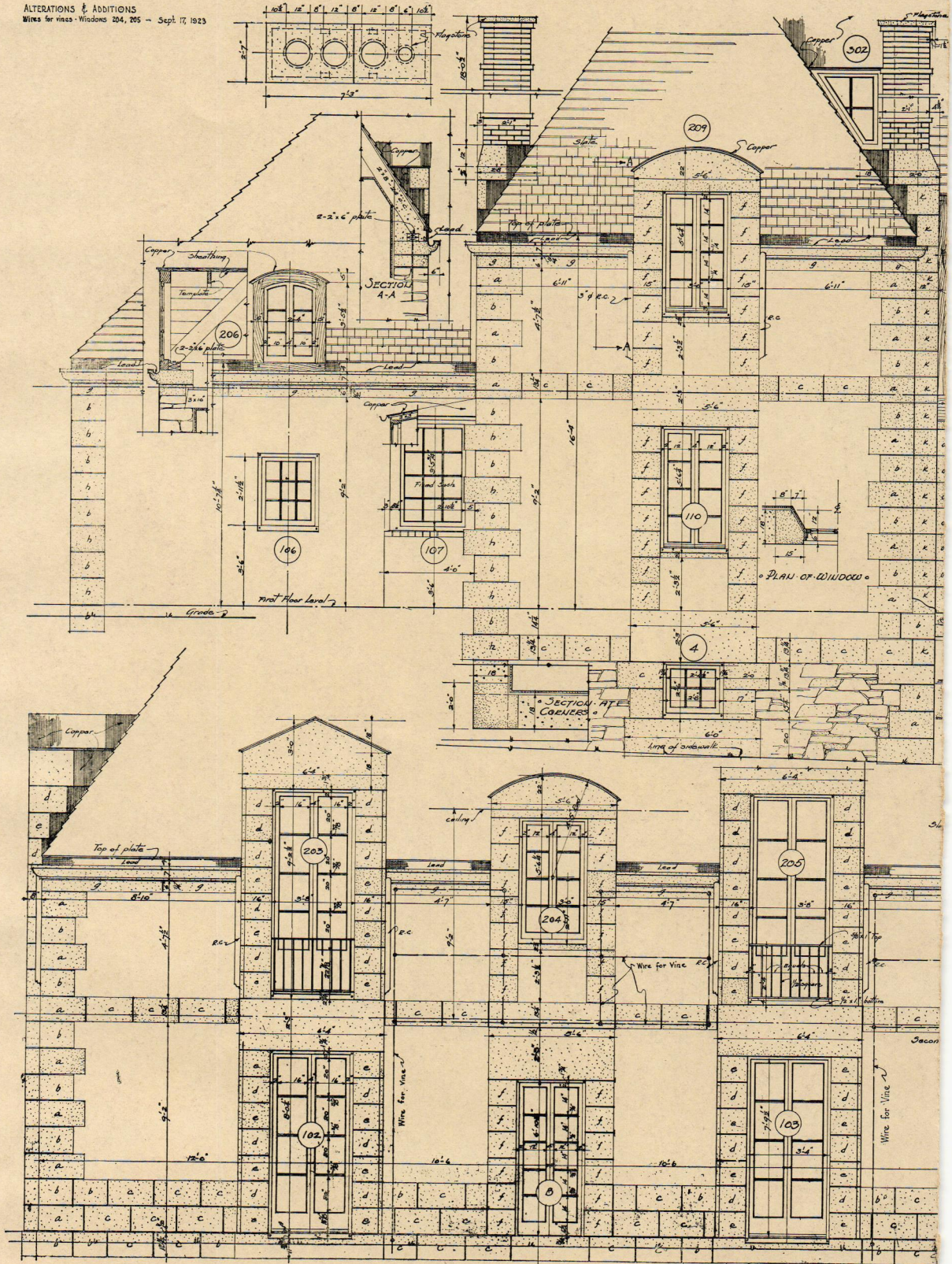
E ARCHITECTURAL REVIEW



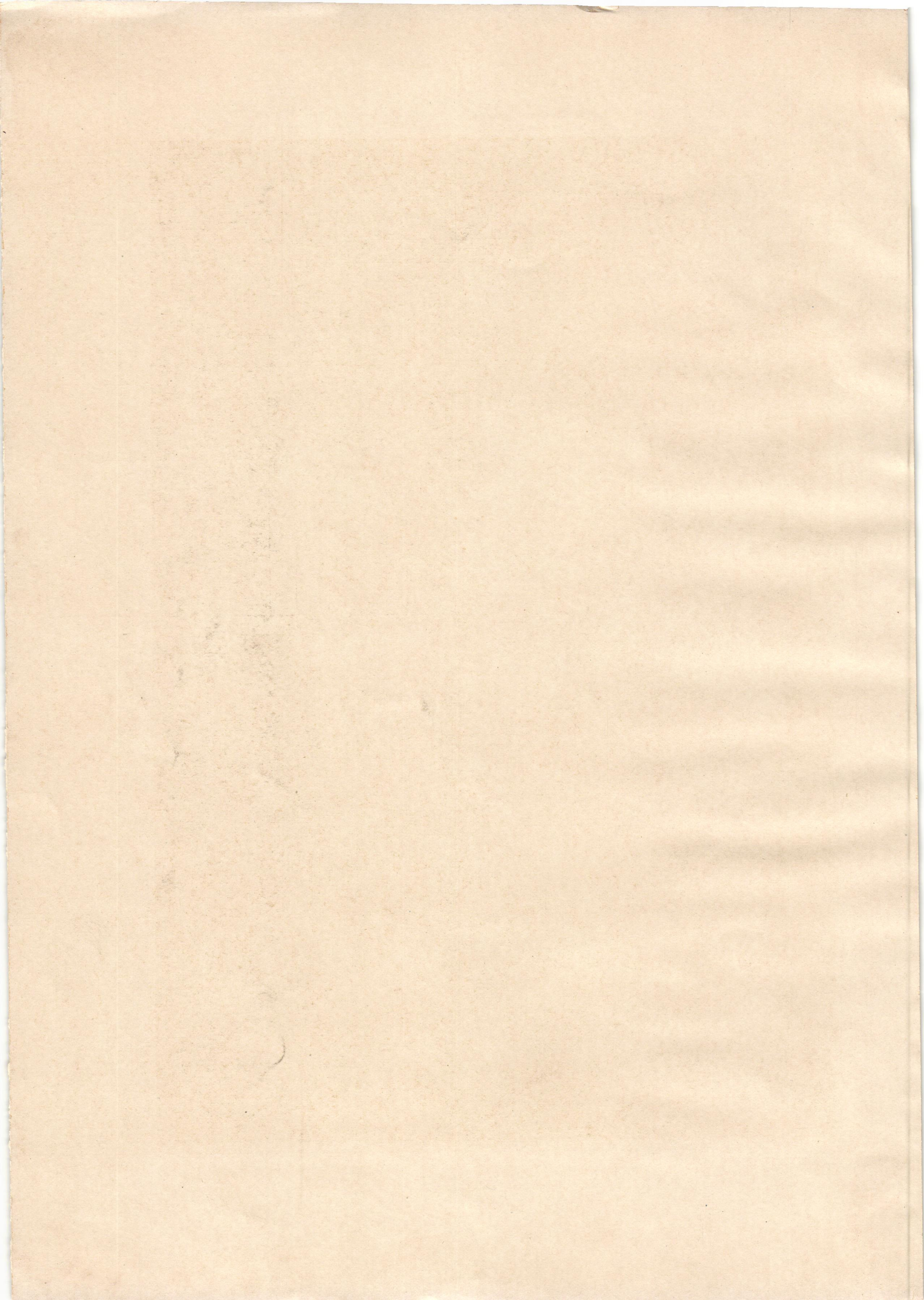
NUT HILL, PHILADELPHIA, PA.

WE, ARCHITECTS

ALTERATIONS & ADDITIONS
Wires for vines - Windows 204, 205 - Sept. 17, 1923



HOUSE OF HOWE FRALEY, CHESTER
MELLOR, MEIGS & HO

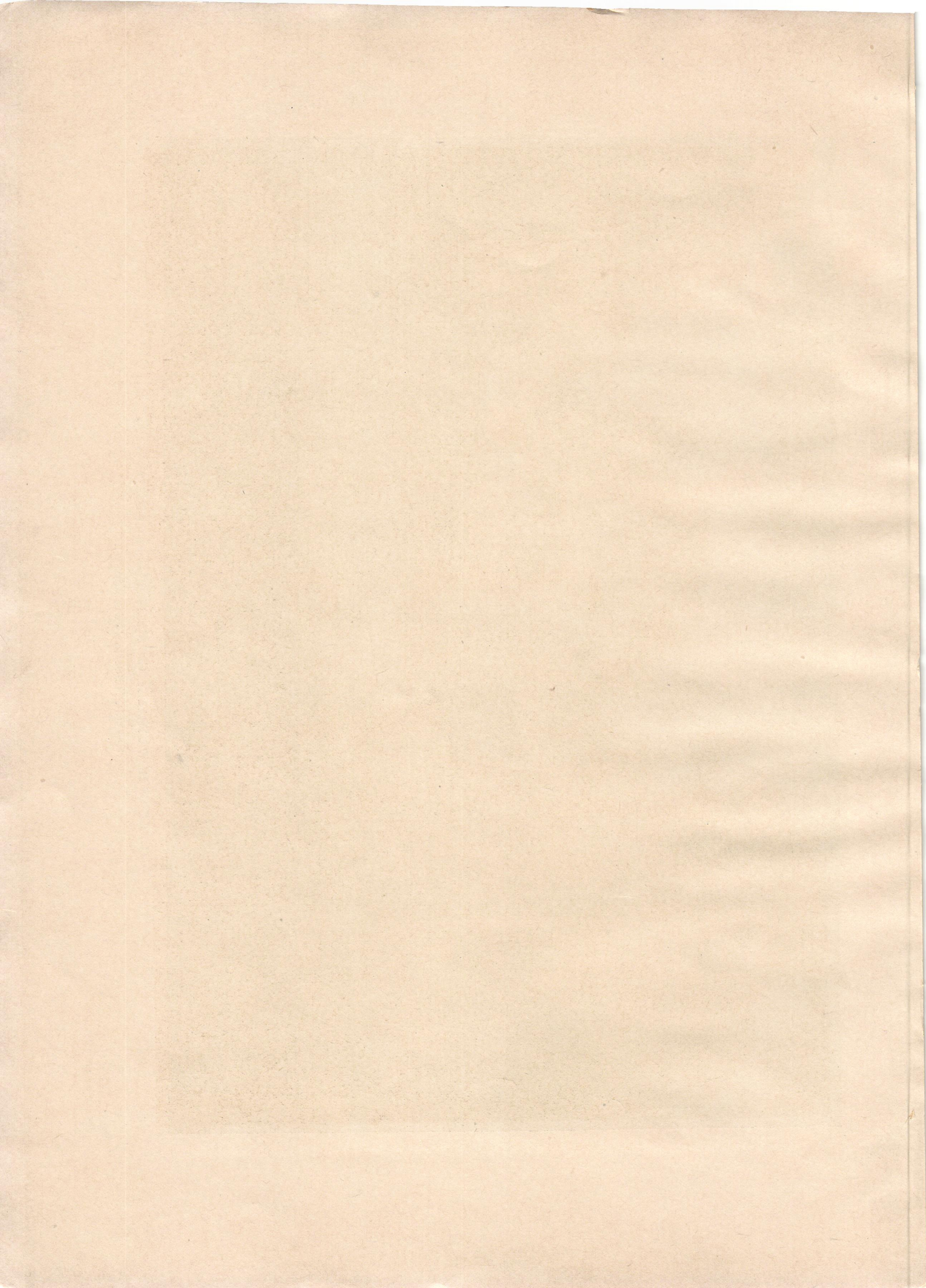


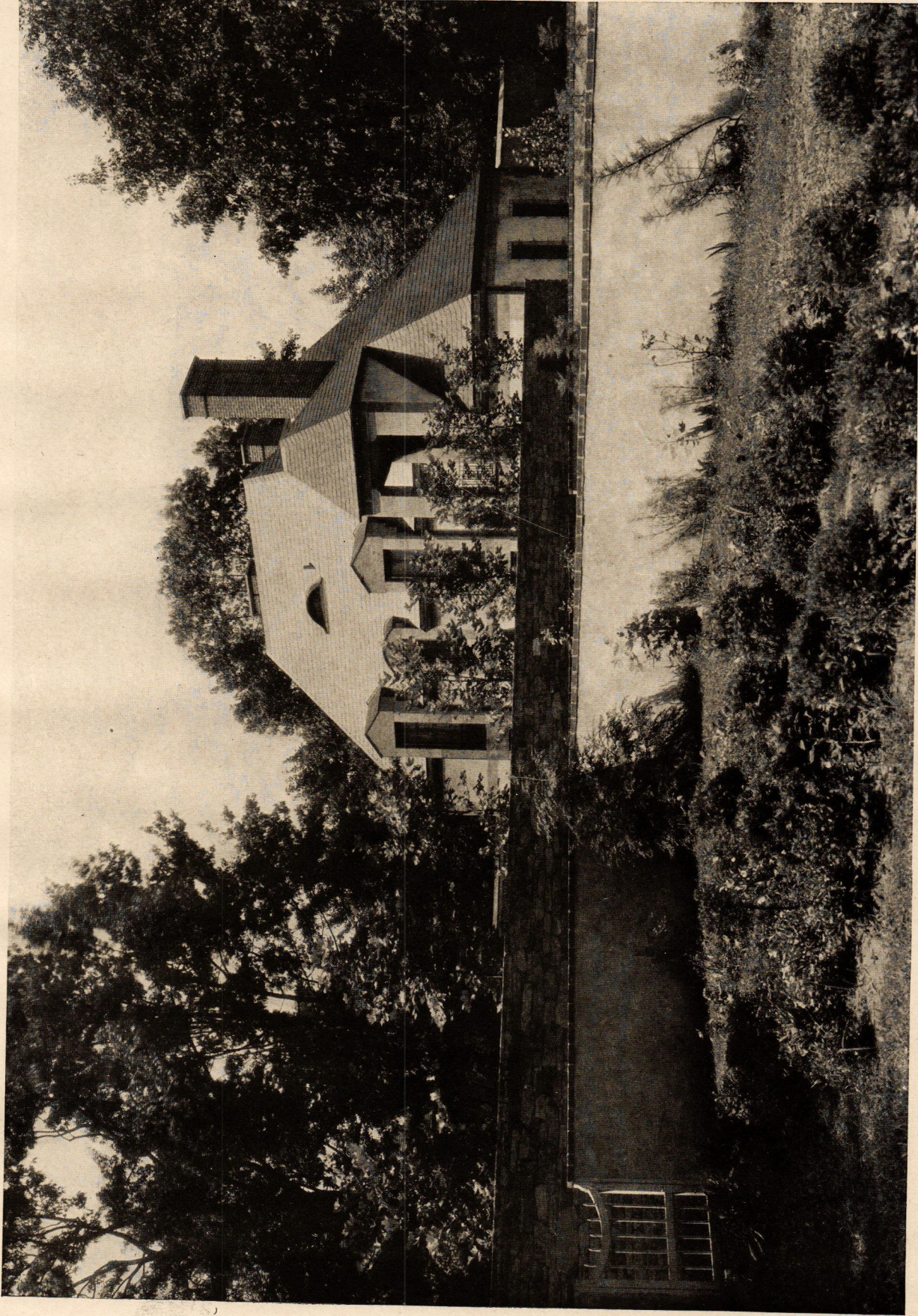


HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

THE AMERICAN ARCHITECT
July 2, 1924, Plate I

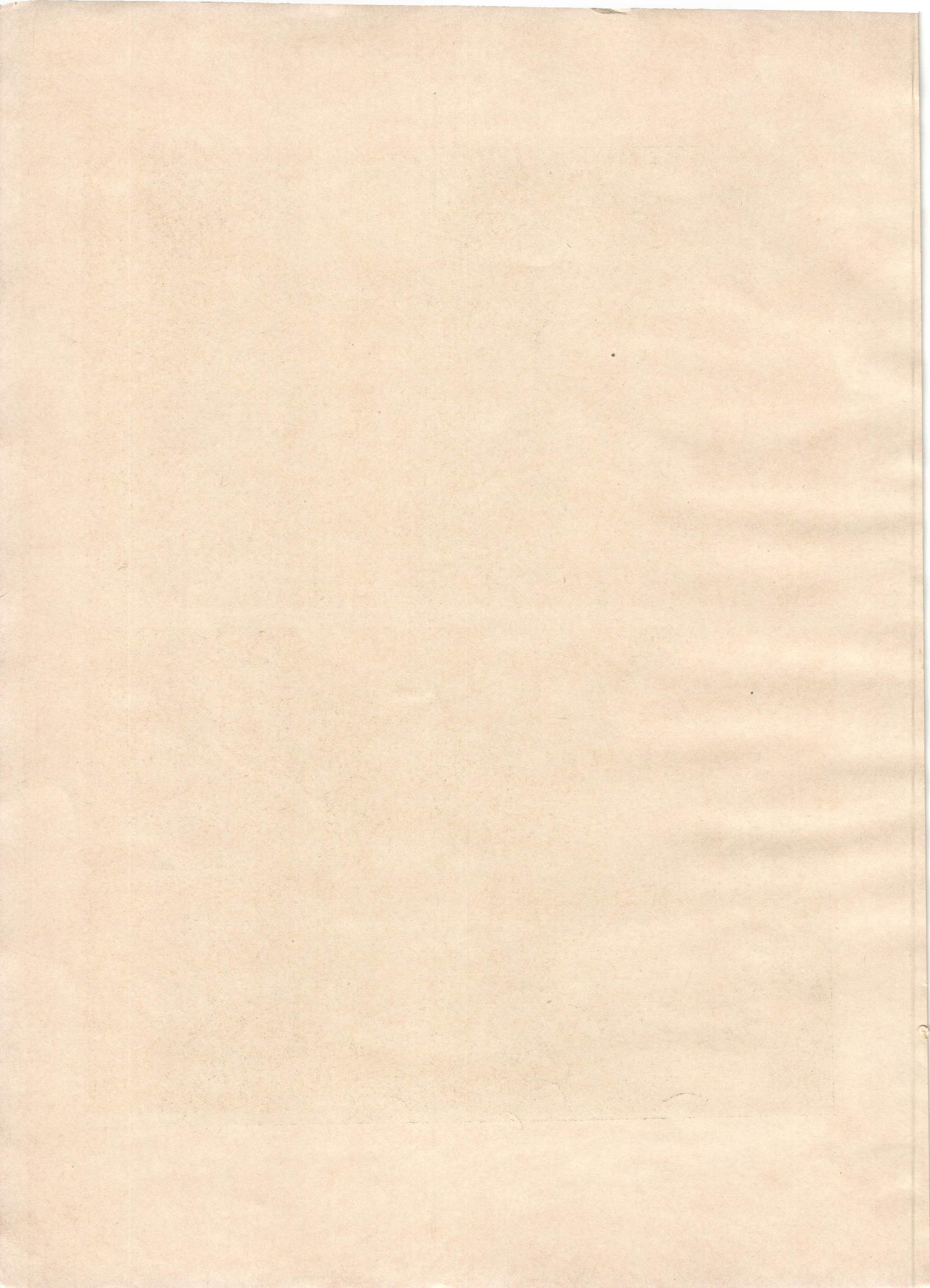


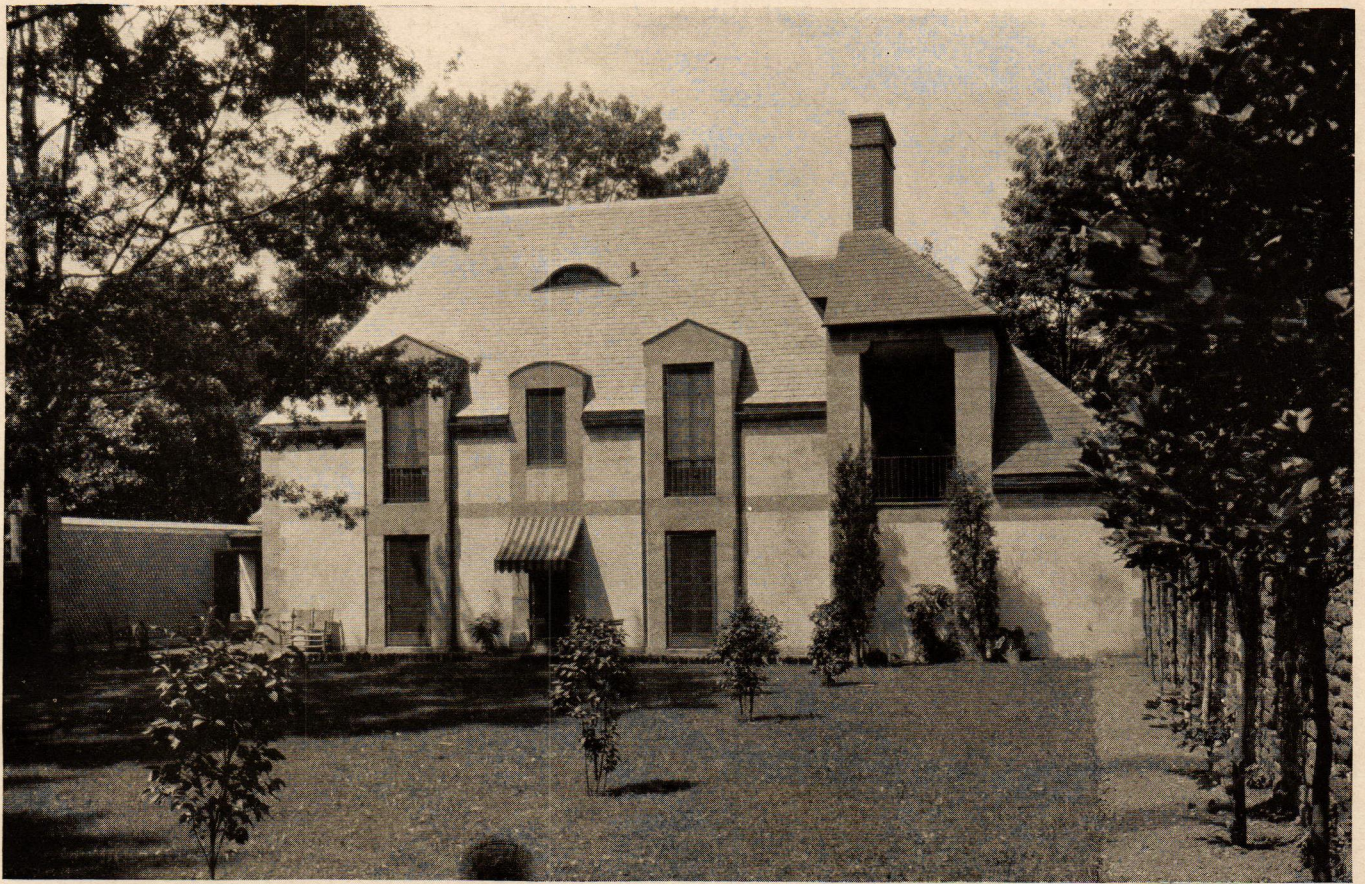


HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

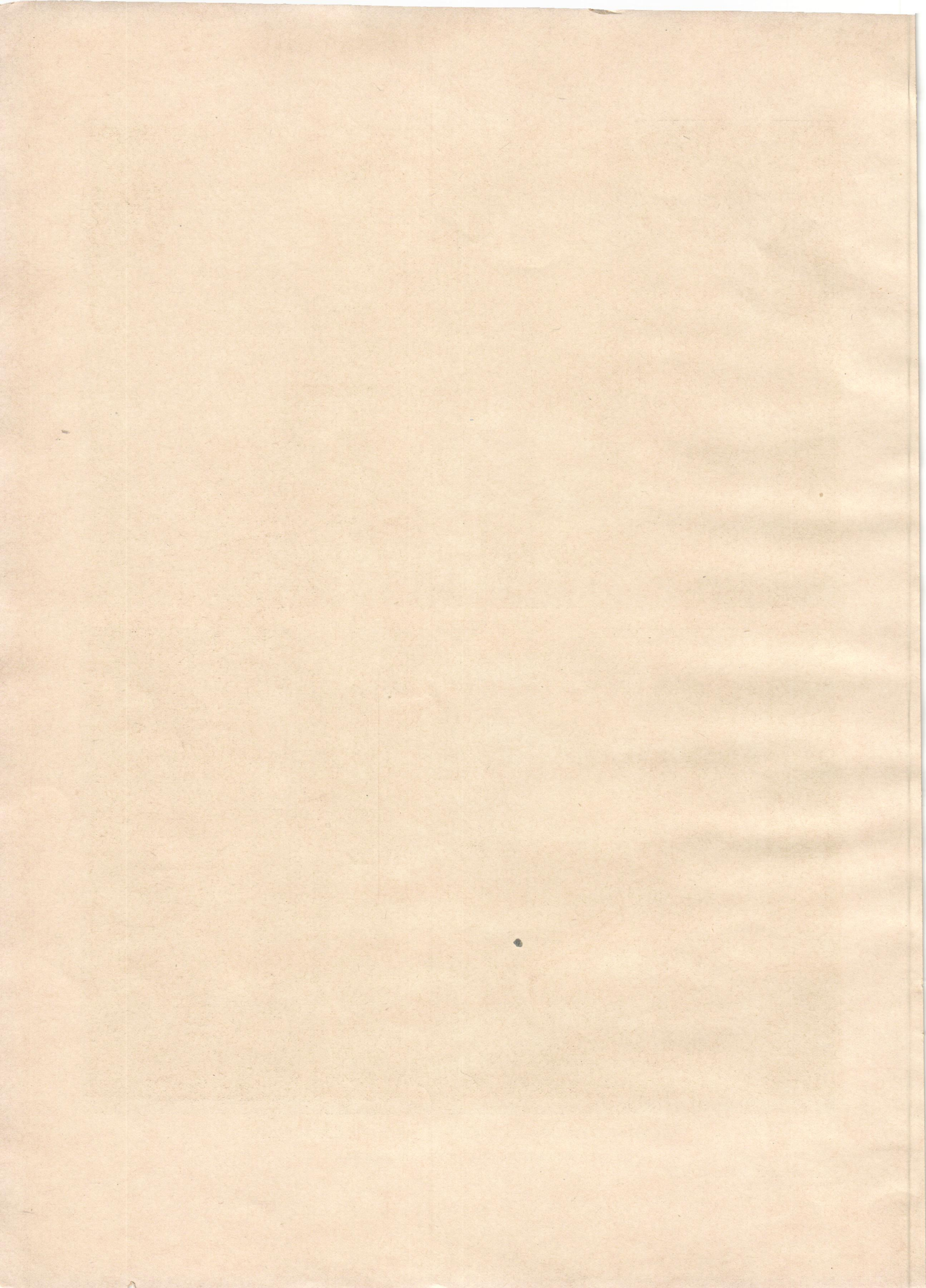
THE AMERICAN ARCHITECT
July 2, 1924, Plate 2

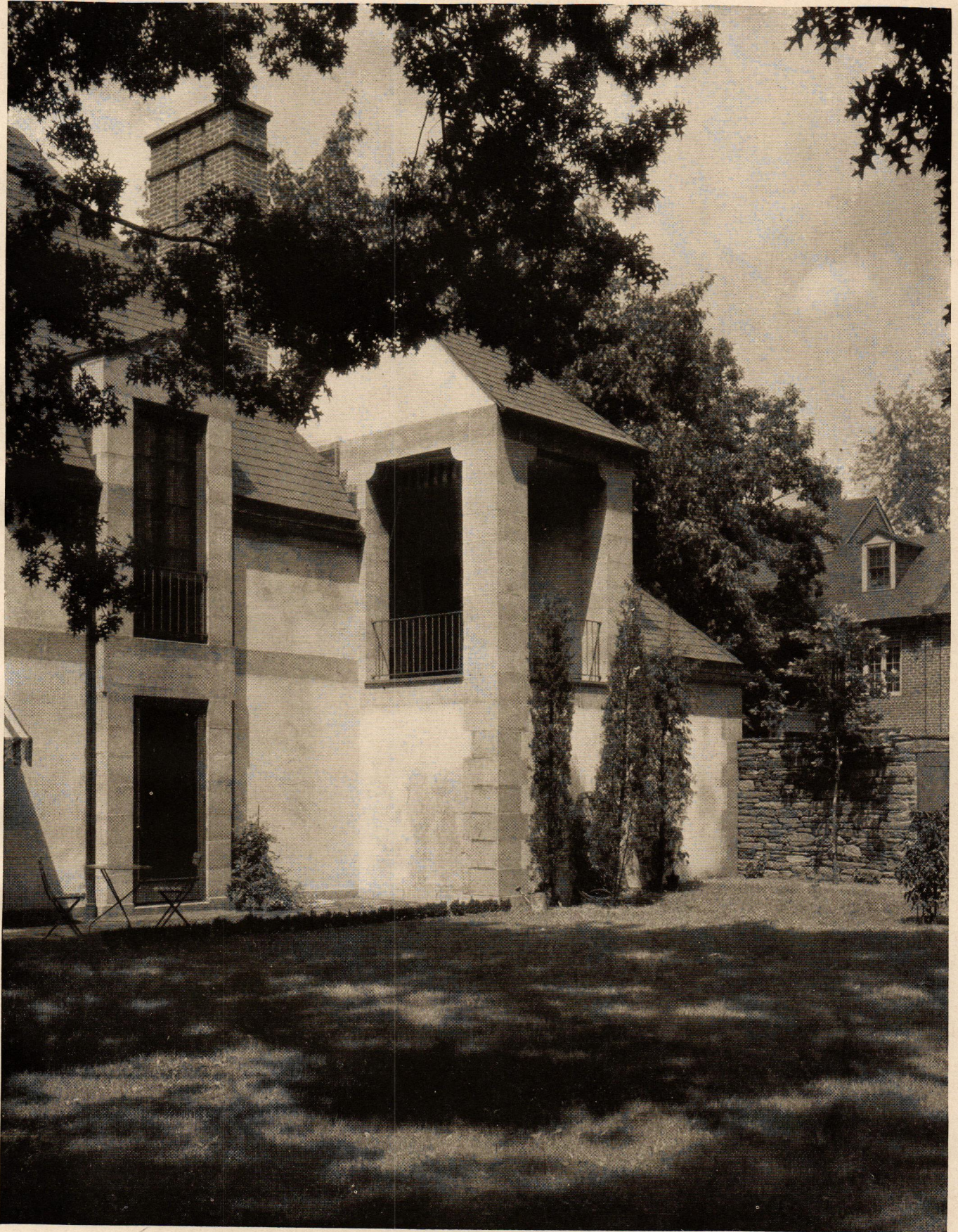




HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

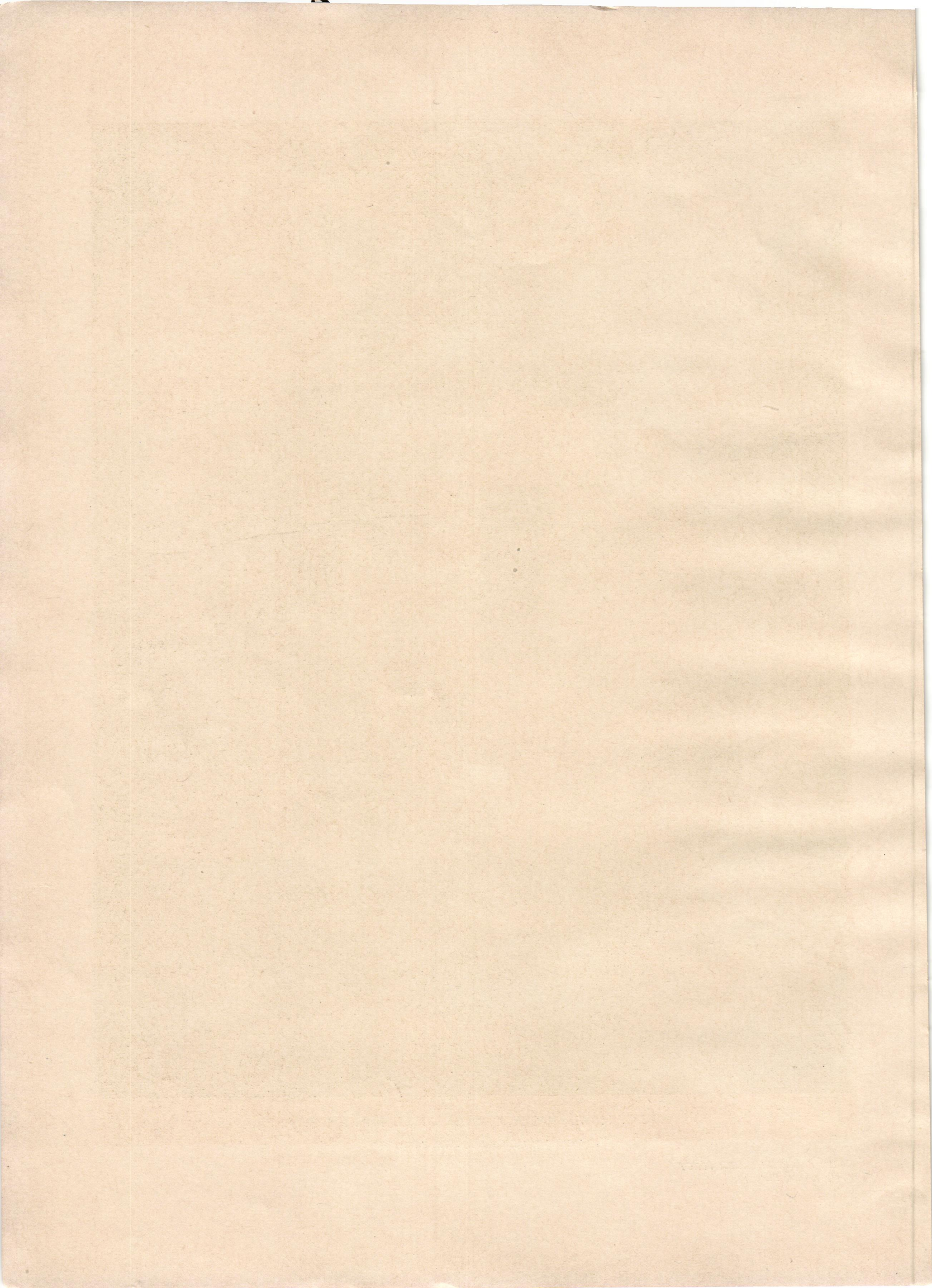




HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

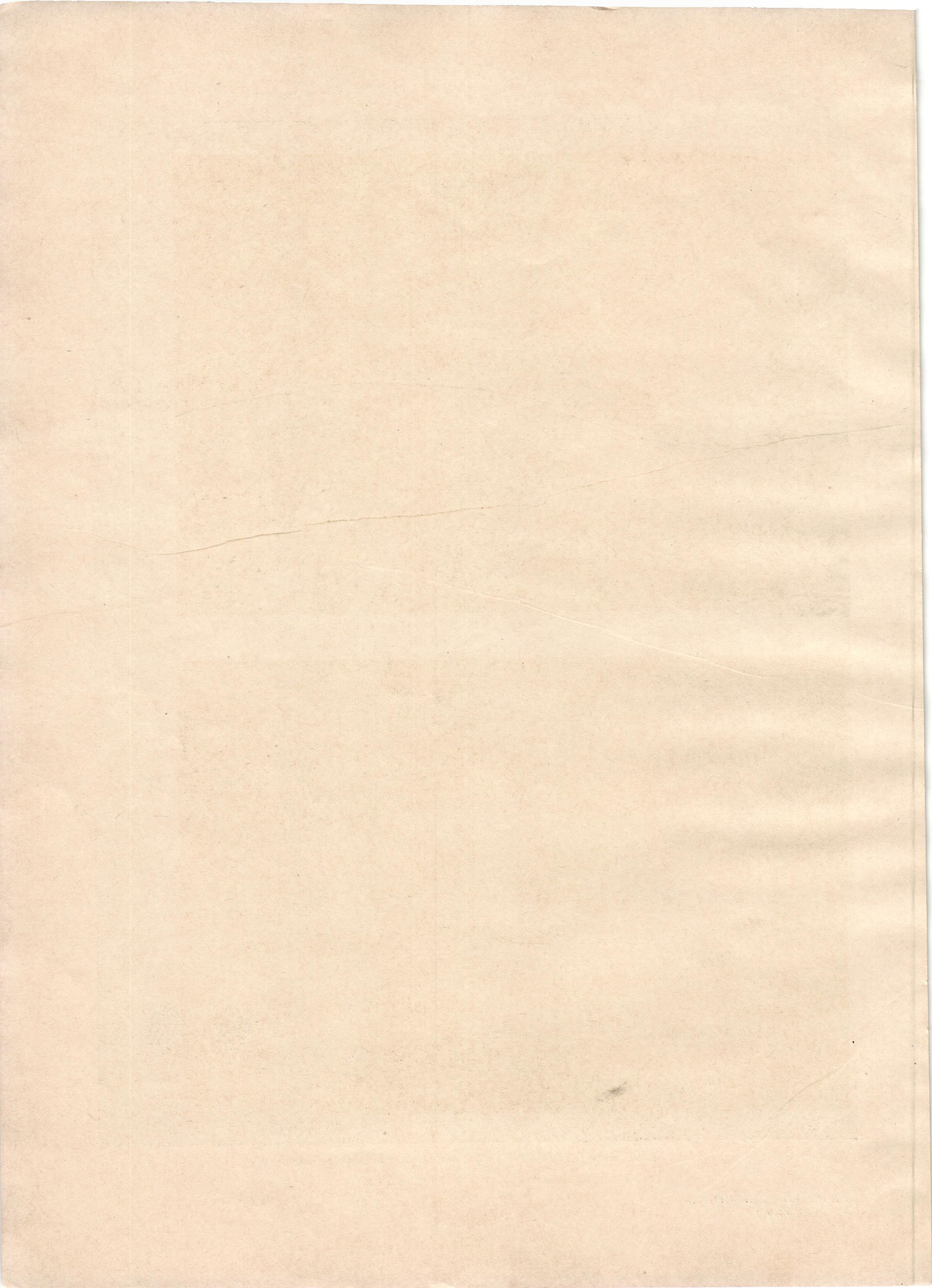
THE AMERICAN ARCHITECT
July 2, 1924, Plate 4

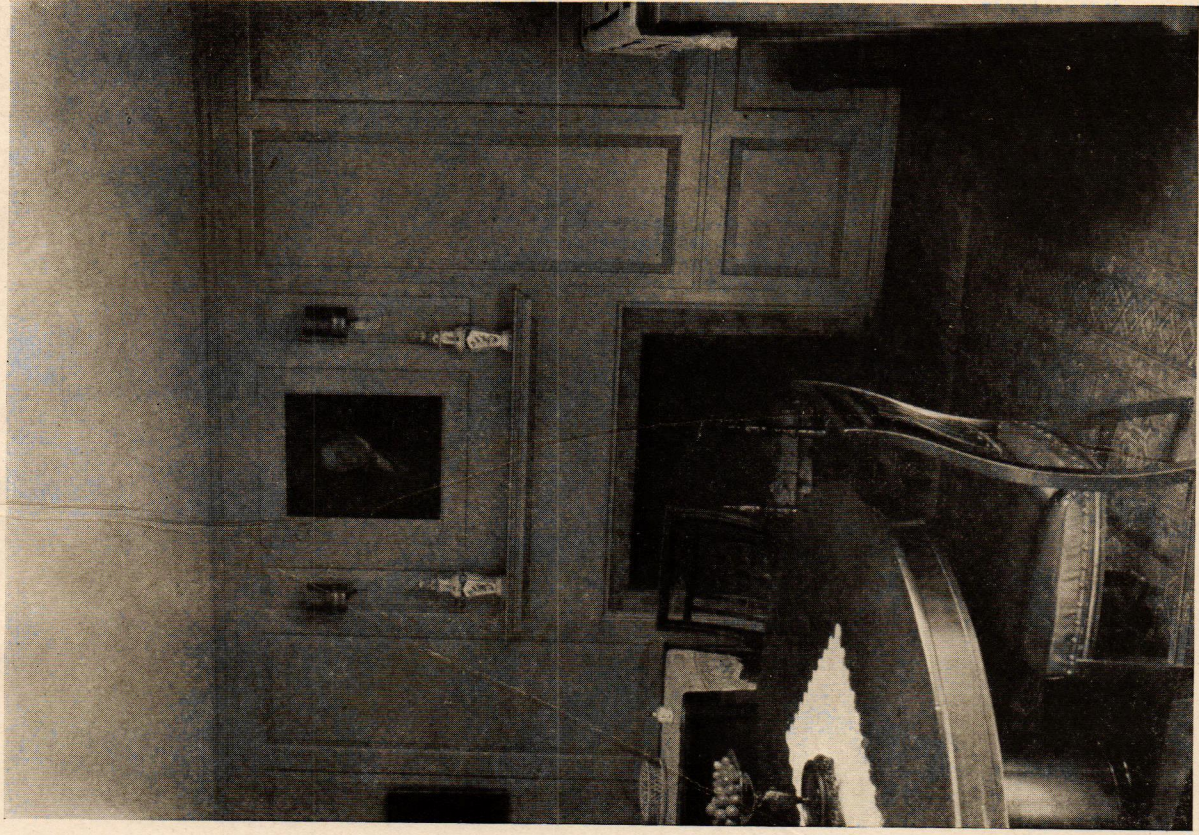




HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

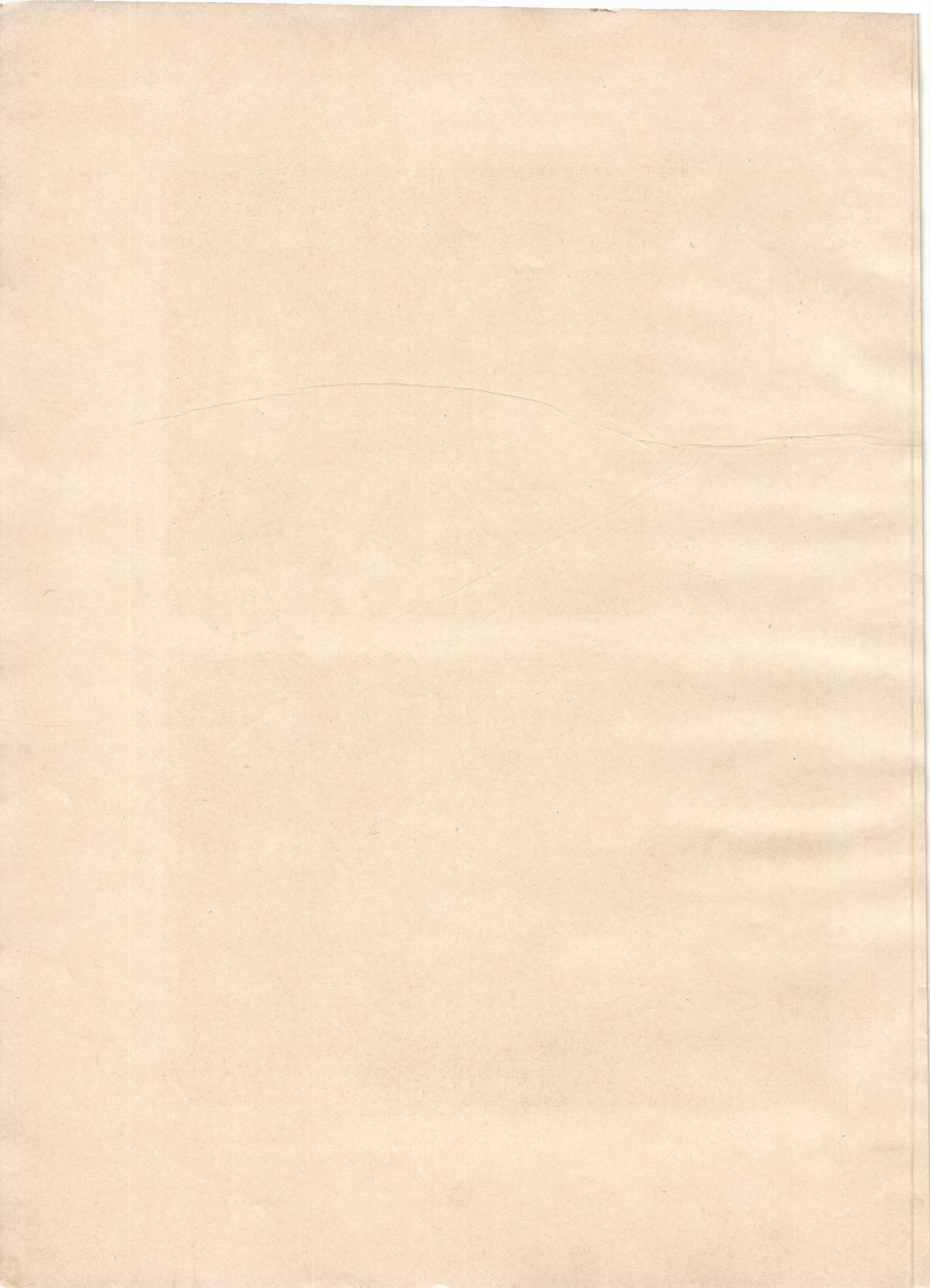


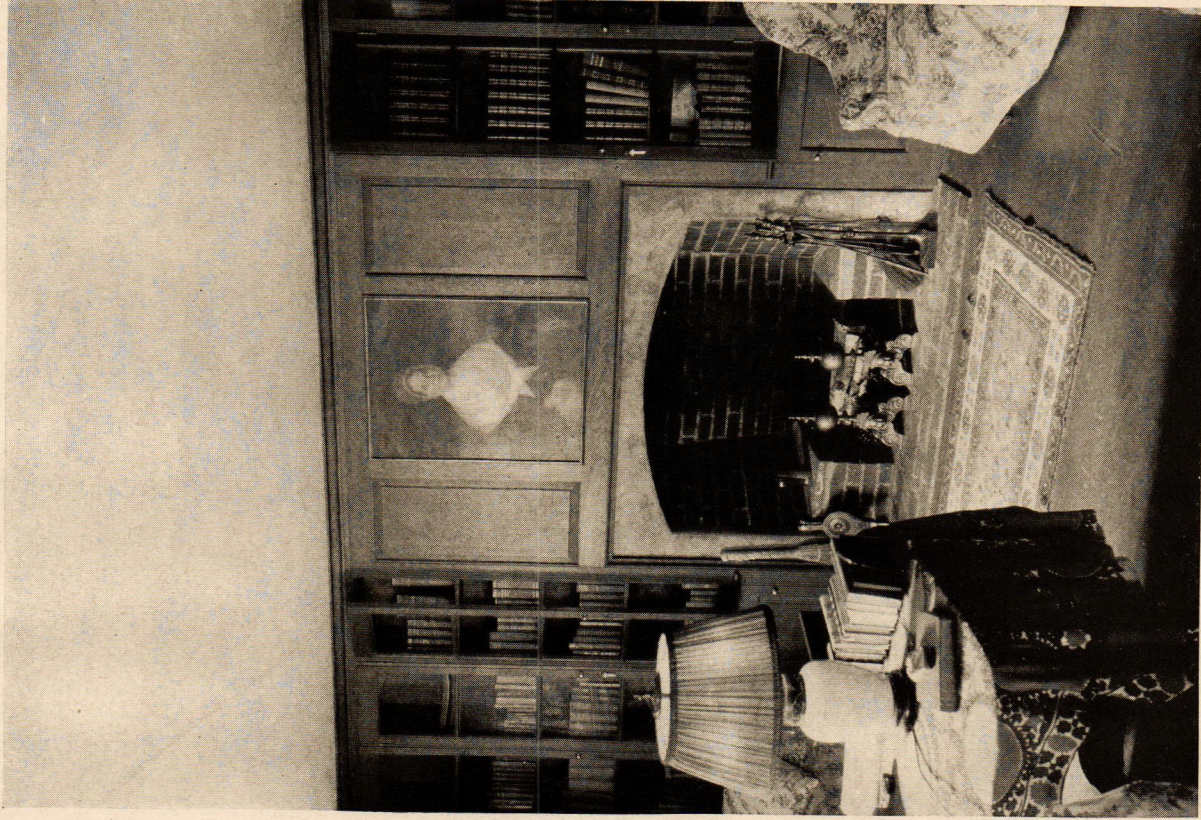
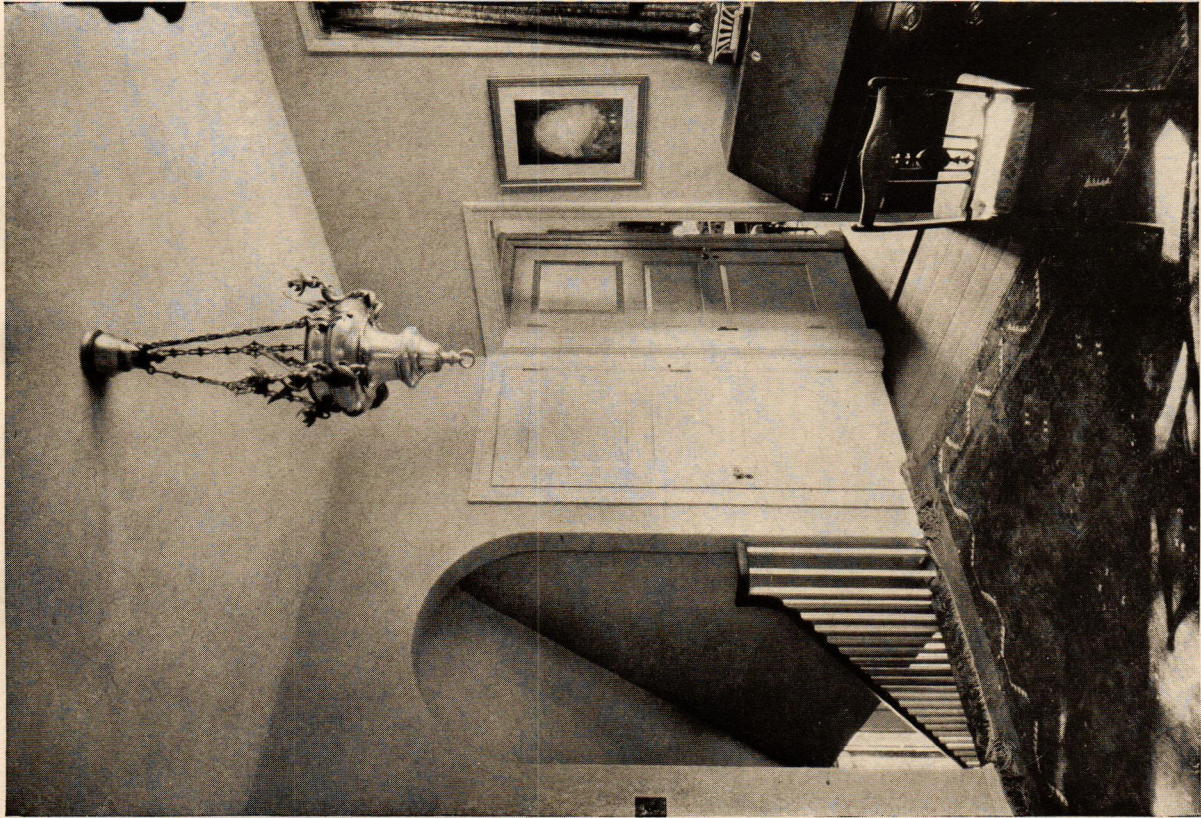


HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

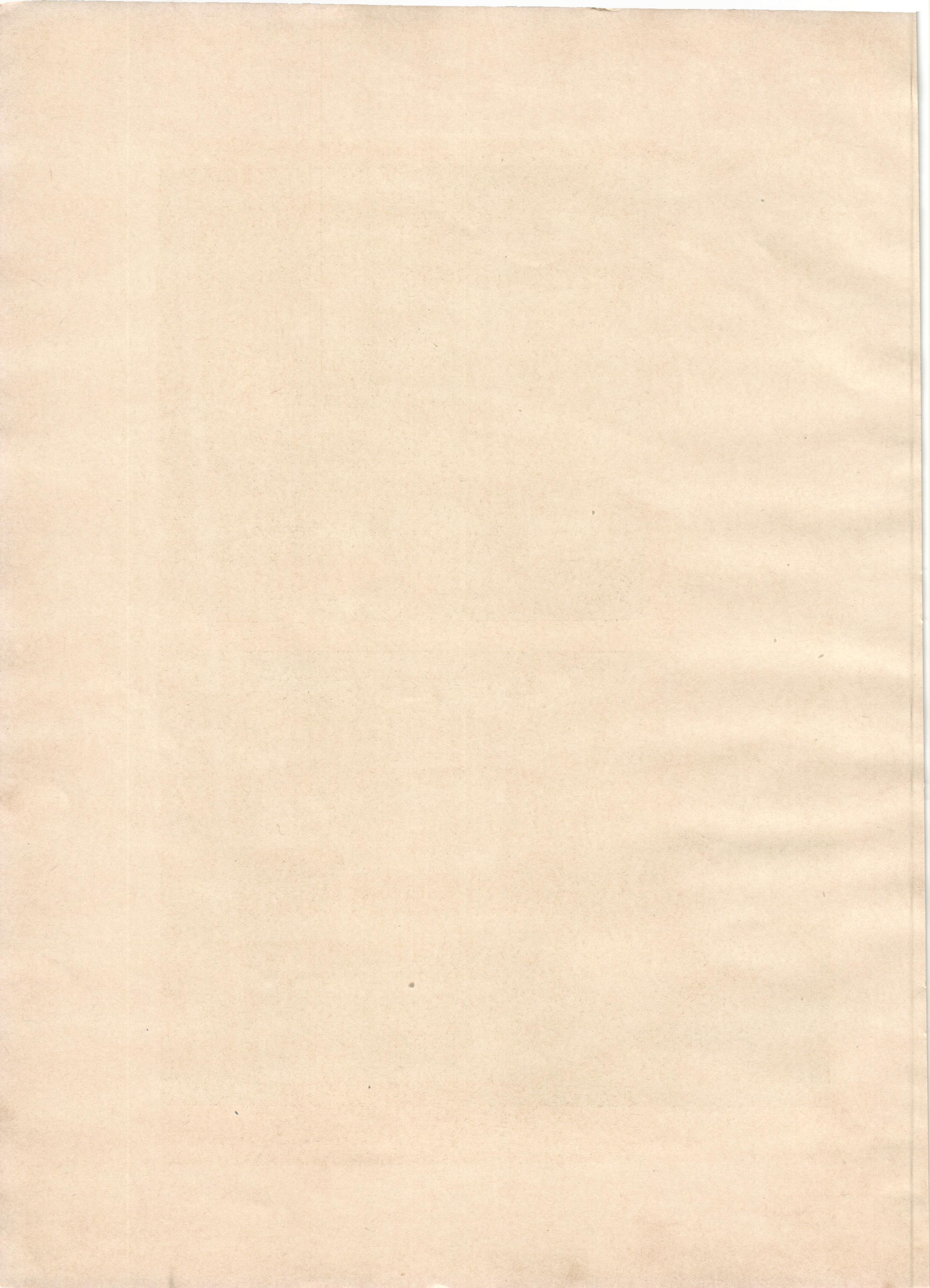
THE AMERICAN ARCHITECT
July 2, 1924, Plate 6





HOUSE OF HOWE FRALEY, CHESTNUT HILL, PHILADELPHIA, PA.

MELLOR, MEIGS & HOWE, ARCHITECTS

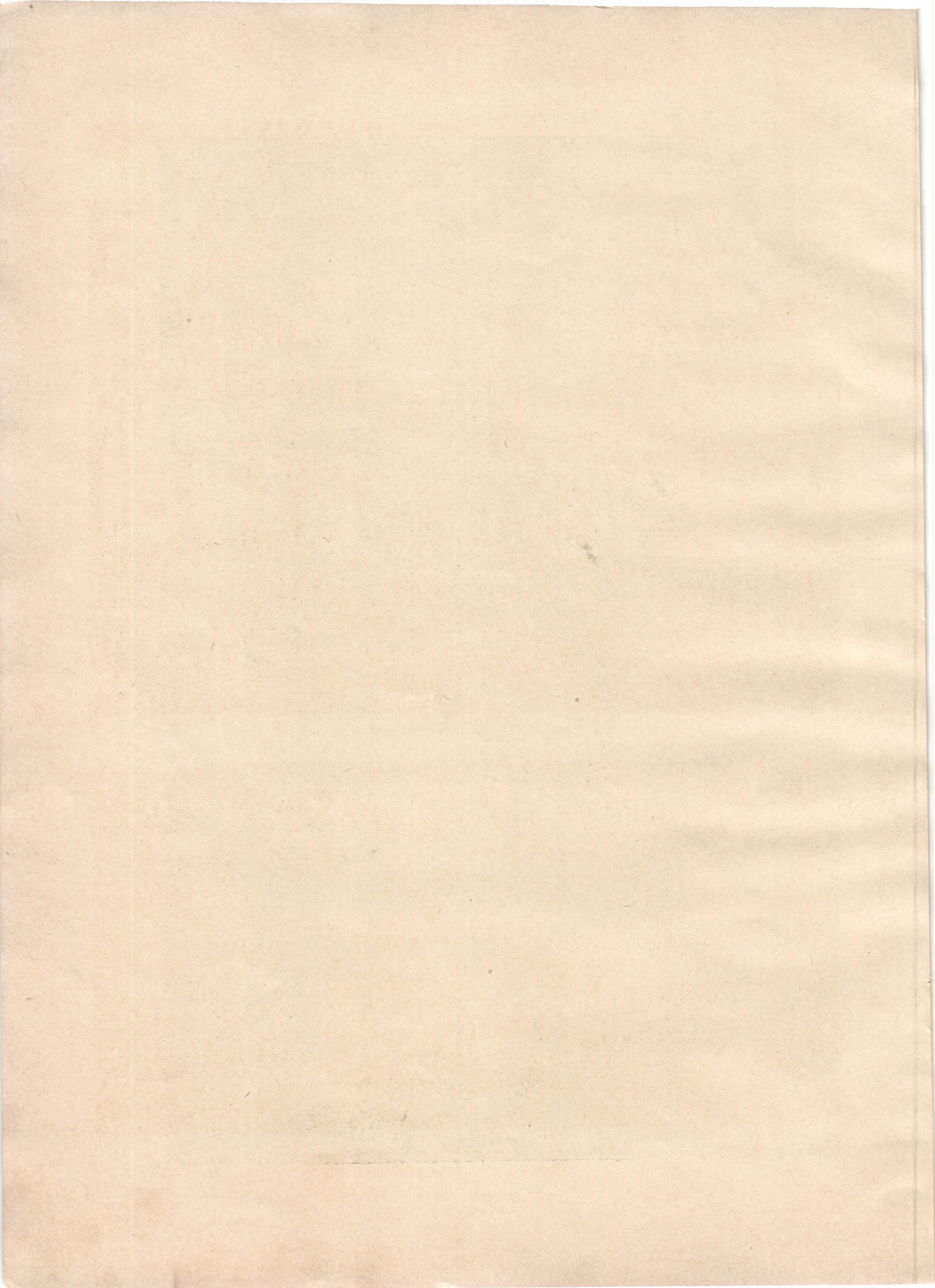


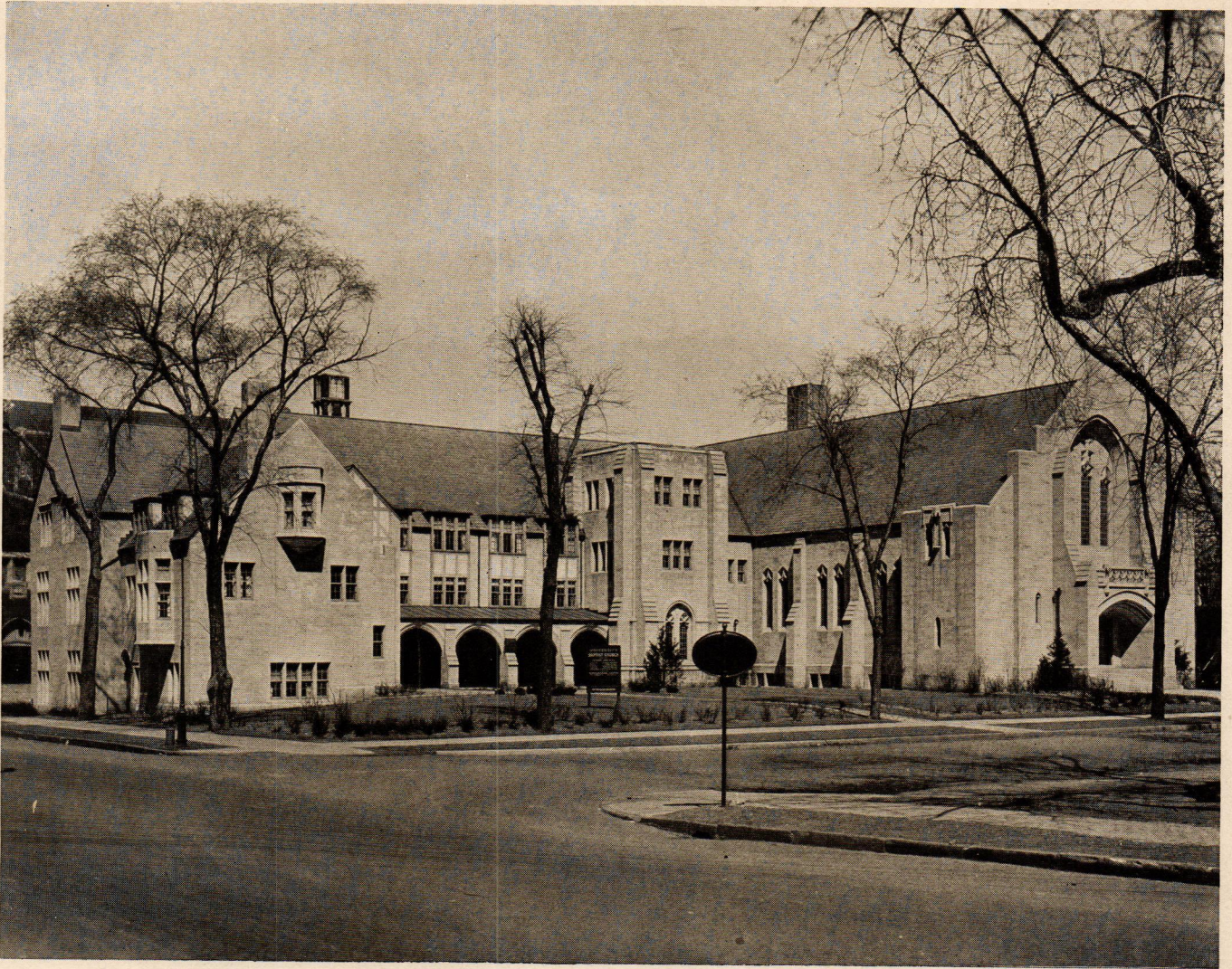


UNIVERSITY BAPTIST CHURCH, MINNEAPOLIS, MINN.

HEWITT & BROWN, ARCHITECTS

THE AMERICAN ARCHITECT
July 2, 1924, Plate 8





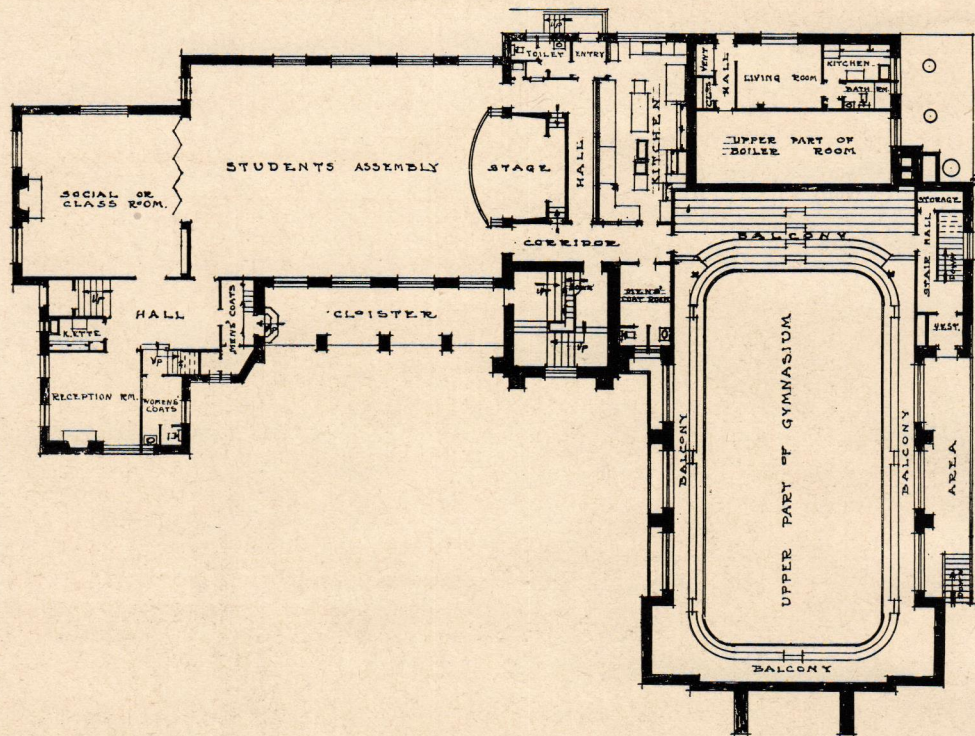
VIEW OF BUILDING AS AT PRESENT WITH TOWER INCOMPLETE



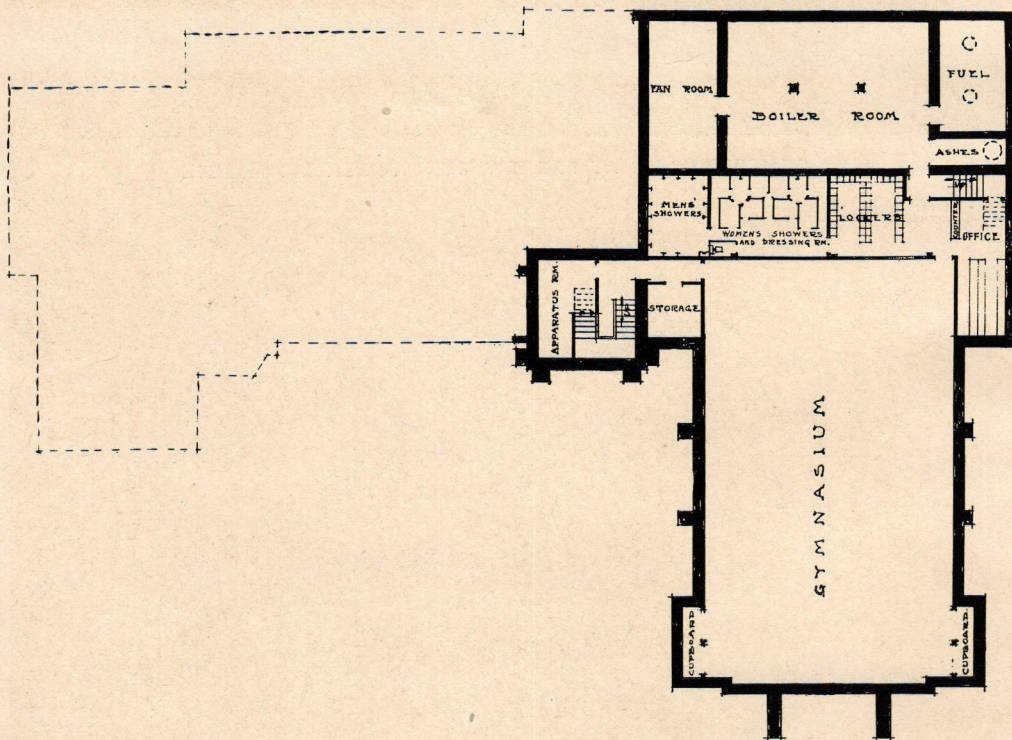
UNIVERSITY BAPTIST CHURCH, MINNEAPOLIS, MINN.

HEWITT & BROWN, ARCHITECTS

(See plans on back)

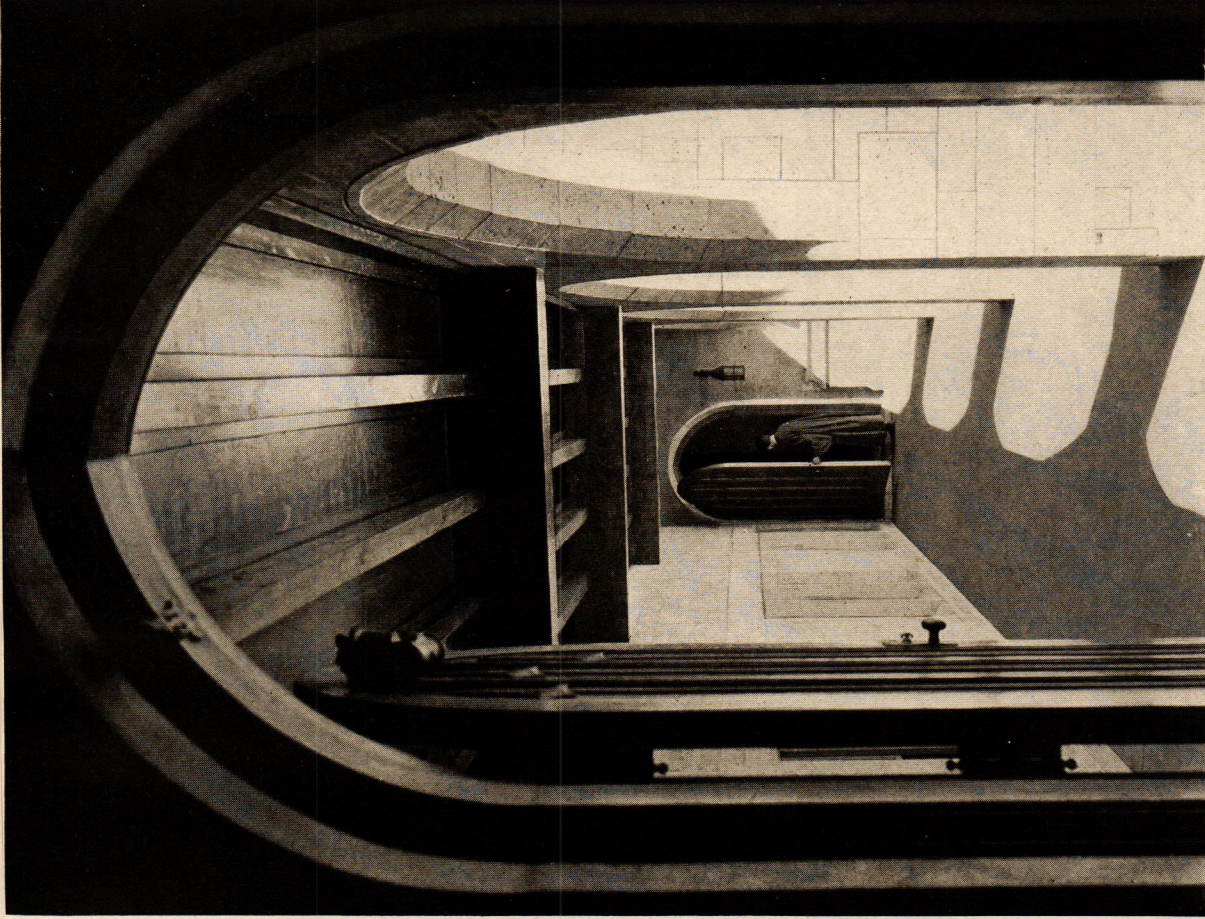
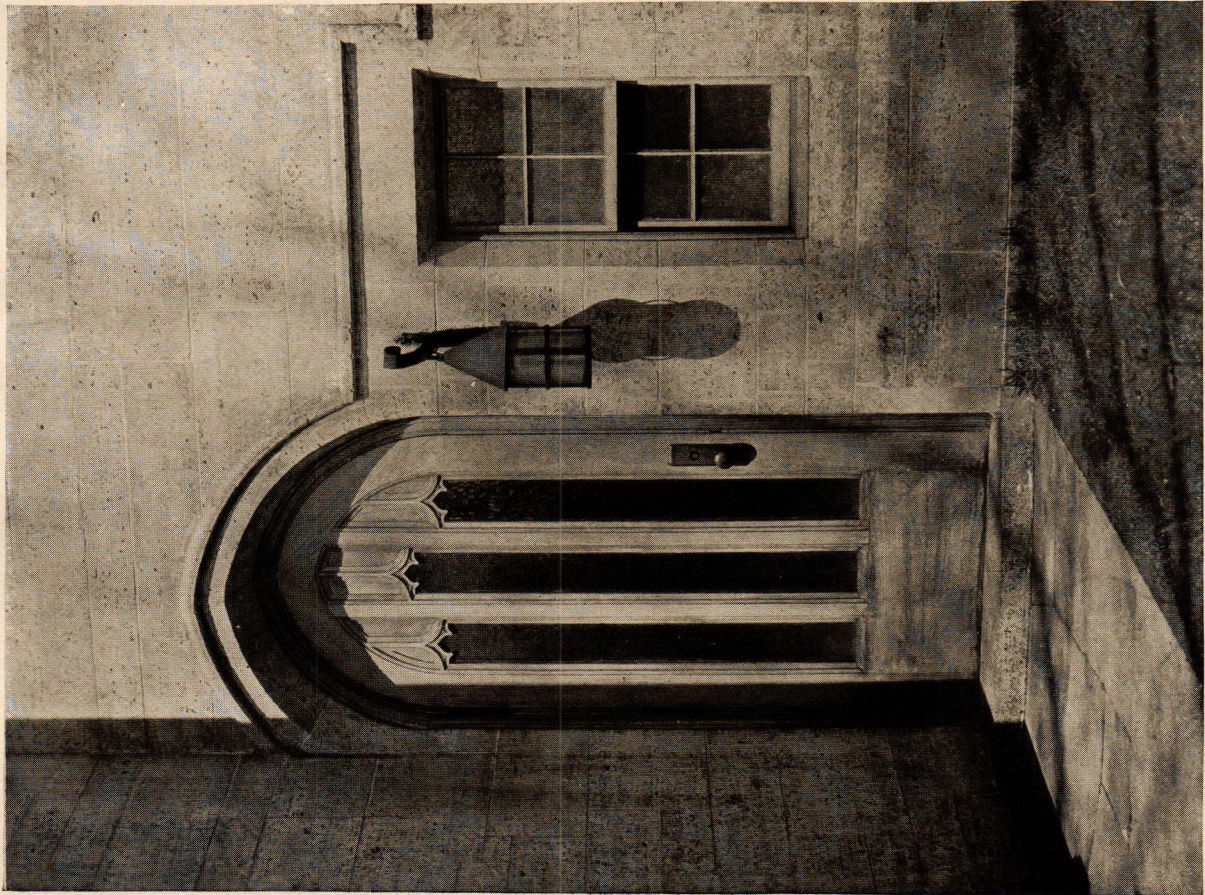


GROUND FLOOR PLAN
Scale 1/16" = 1'-0"



BASEMENT PLAN
Scale 1/16" = 1'-0"

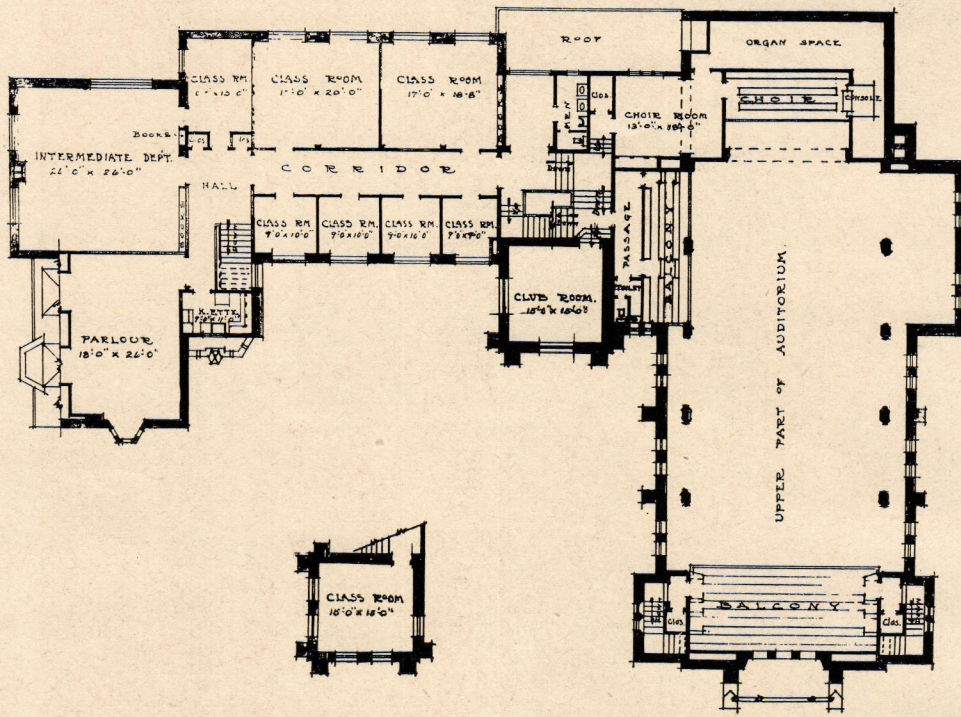
UNIVERSITY BAPTIST CHURCH, MINNEAPOLIS, MINN.
HEWITT & BROWN, ARCHITECTS



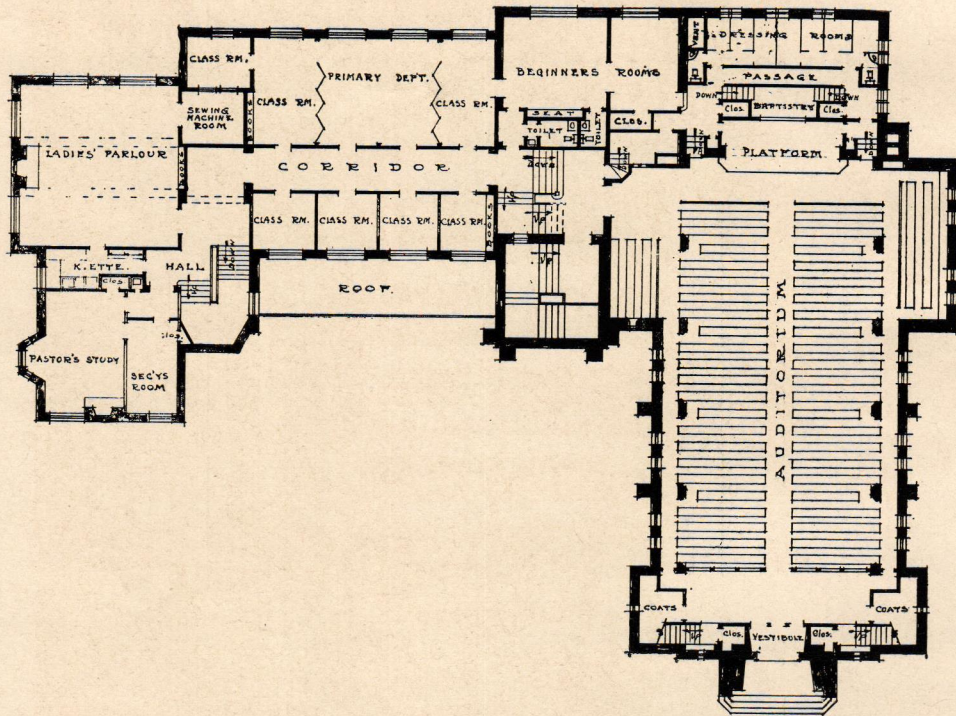
UNIVERSITY BAPTIST CHURCH, MINNEAPOLIS, MINN.

HEWITT & BROWN, ARCHITECTS

(See plans on back)



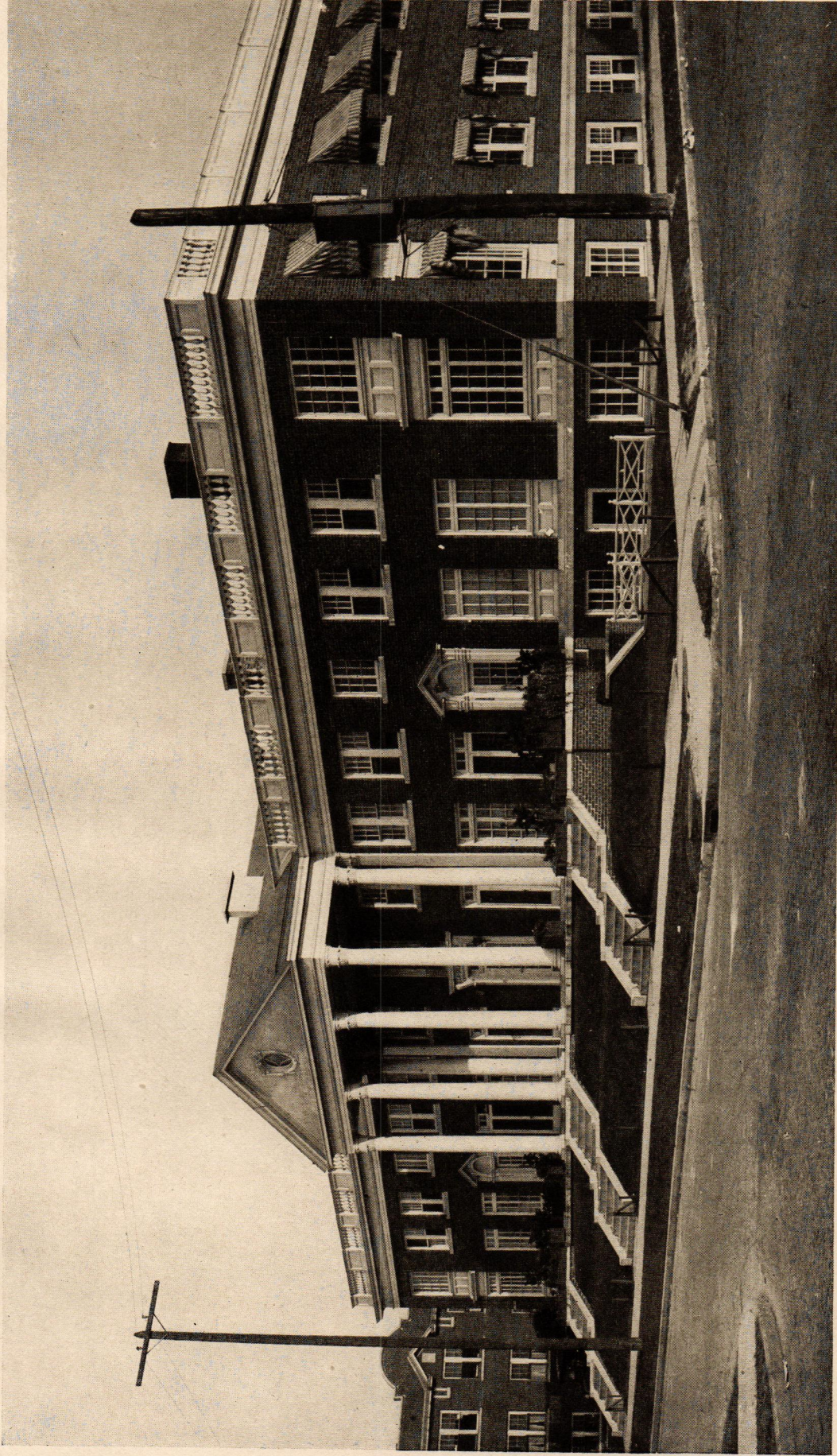
SECOND FLOOR PLAN
Scale 1/8" = 1'



MAIN FLOOR PLAN
Scale 1/16" = 1'

UNIVERSITY BAPTIST CHURCH, MINNEAPOLIS, M'NN.

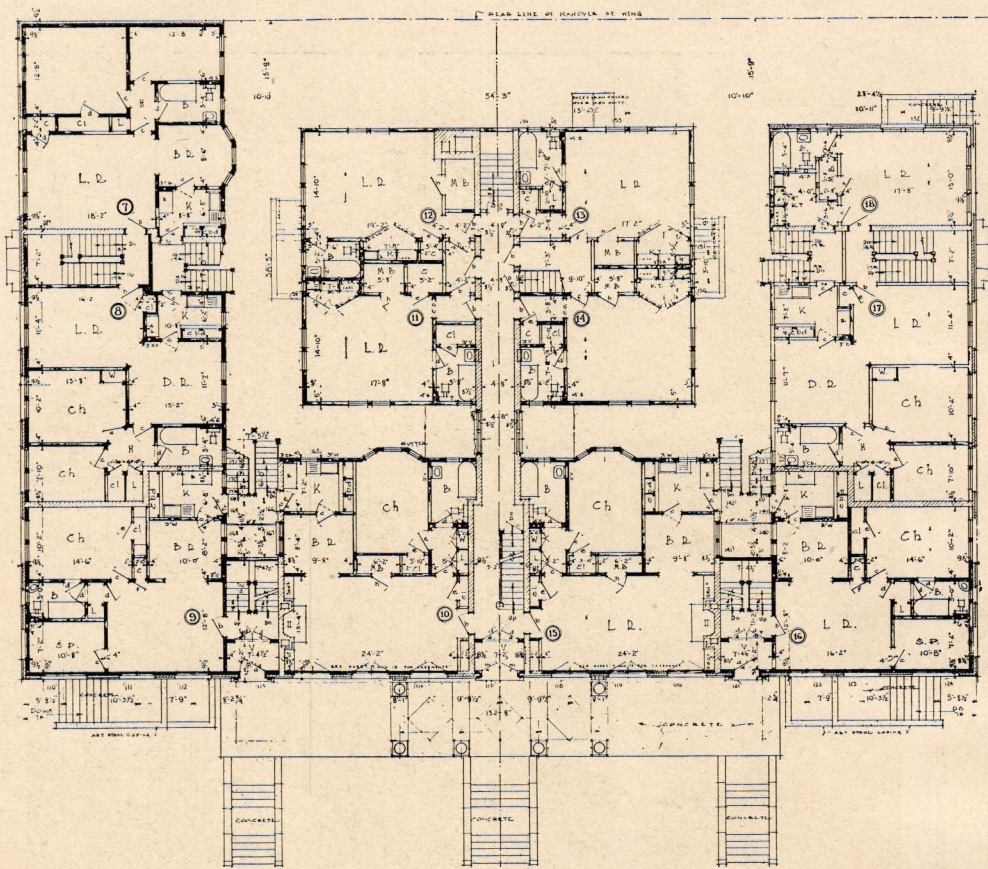
HEWITT & BROWN, ARCHITECTS



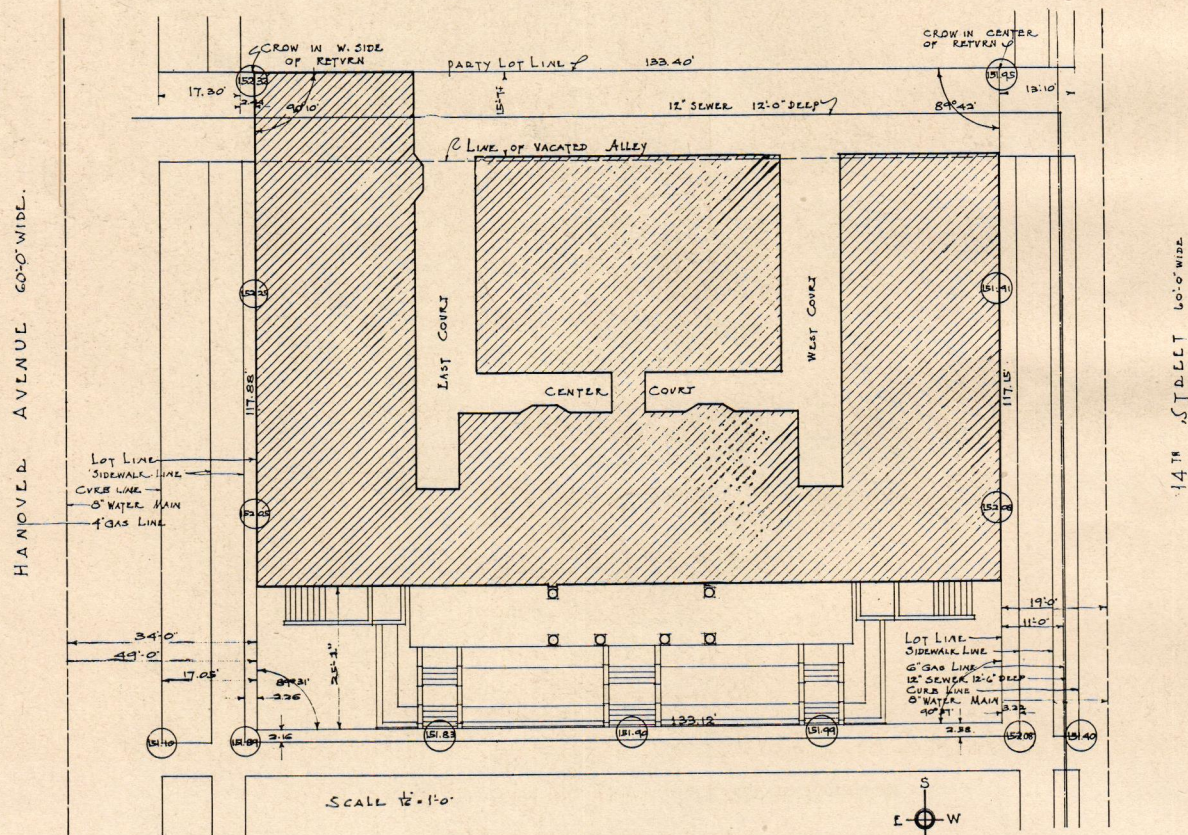
LA SALLE GARDENS APARTMENTS, DETROIT, MICH.

J. PHILIP McDONNELL, ARCHITECT

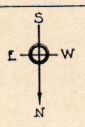
(See plans on back)



FIRST FLOOR PLAN



SCALE 1/2" = 1'-0"



LA SALLE GARDENS SOUTH

PLOT PLAN

LA SALLE GARDENS APARTMENTS, DETROIT, MICH.

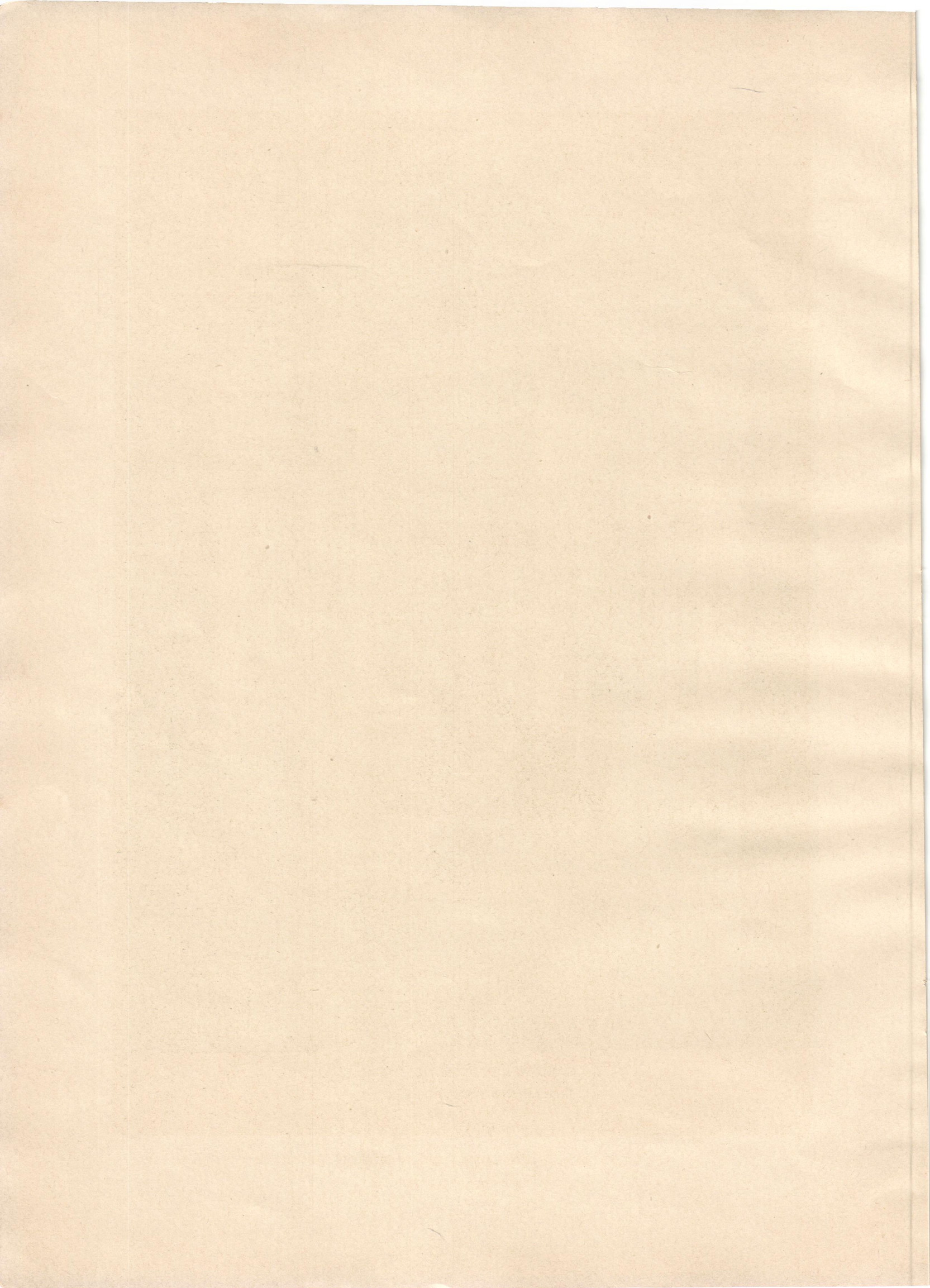
J. PHILIP McDONNELL, ARCHITECT

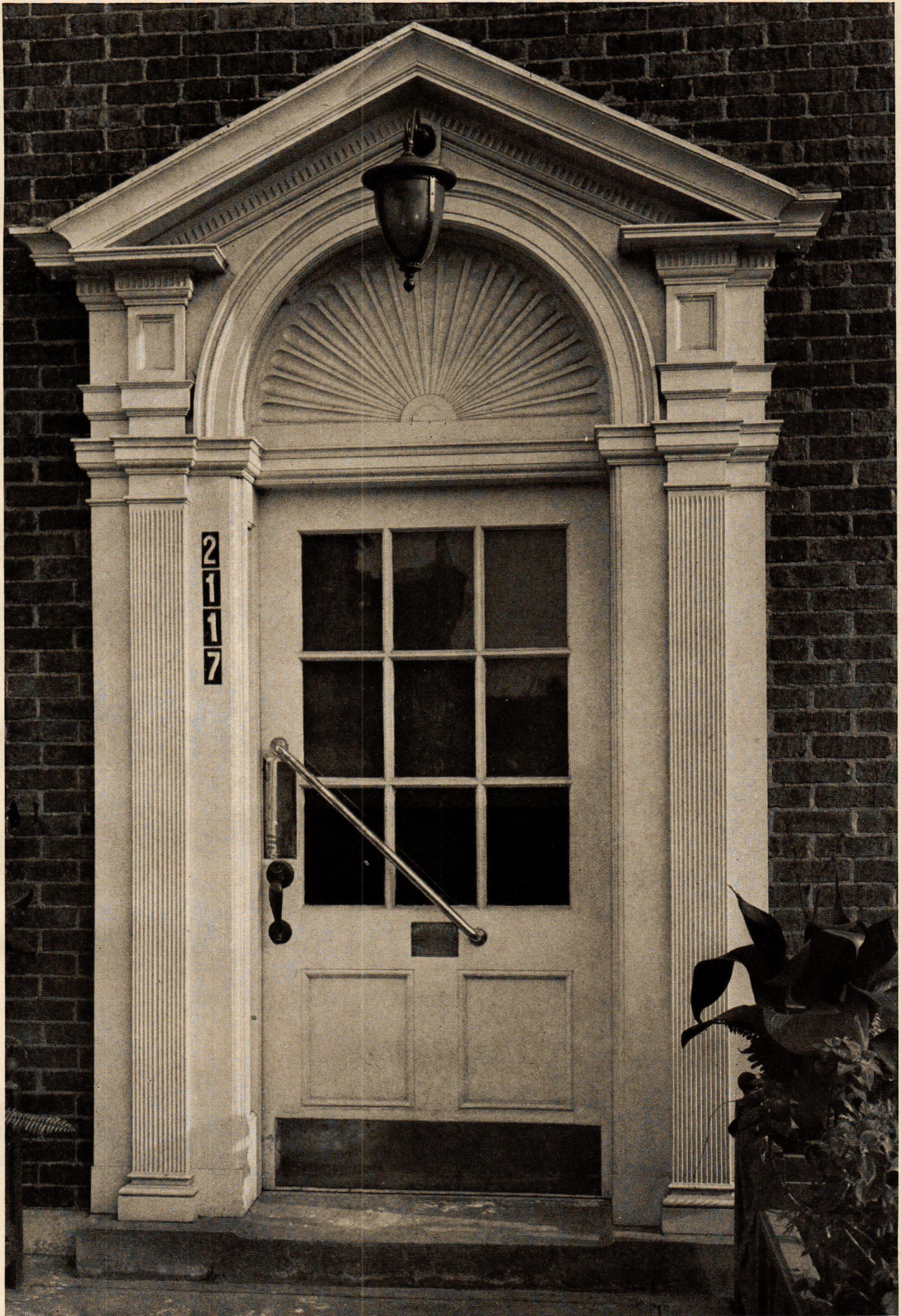


LA SALLE GARDENS APARTMENTS, DETROIT, MICH.

J. PHILIP McDONNELL, ARCHITECT

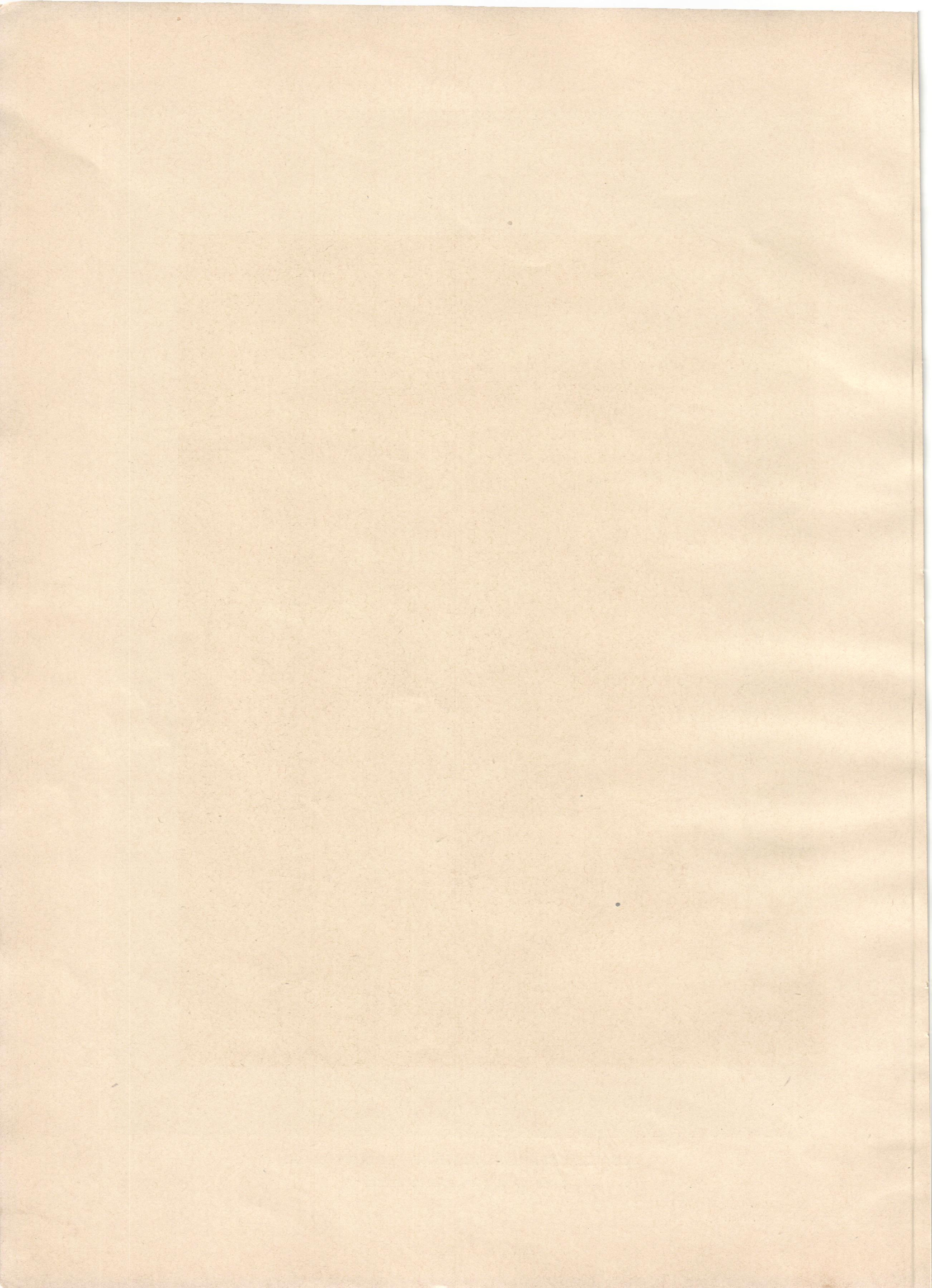
THE AMERICAN ARCHITECT
July 2, 1924, Plate 12





LA SALLE GARDENS APARTMENTS, DETROIT, MICH.

J. PHILIP McDONNELL, ARCHITECT

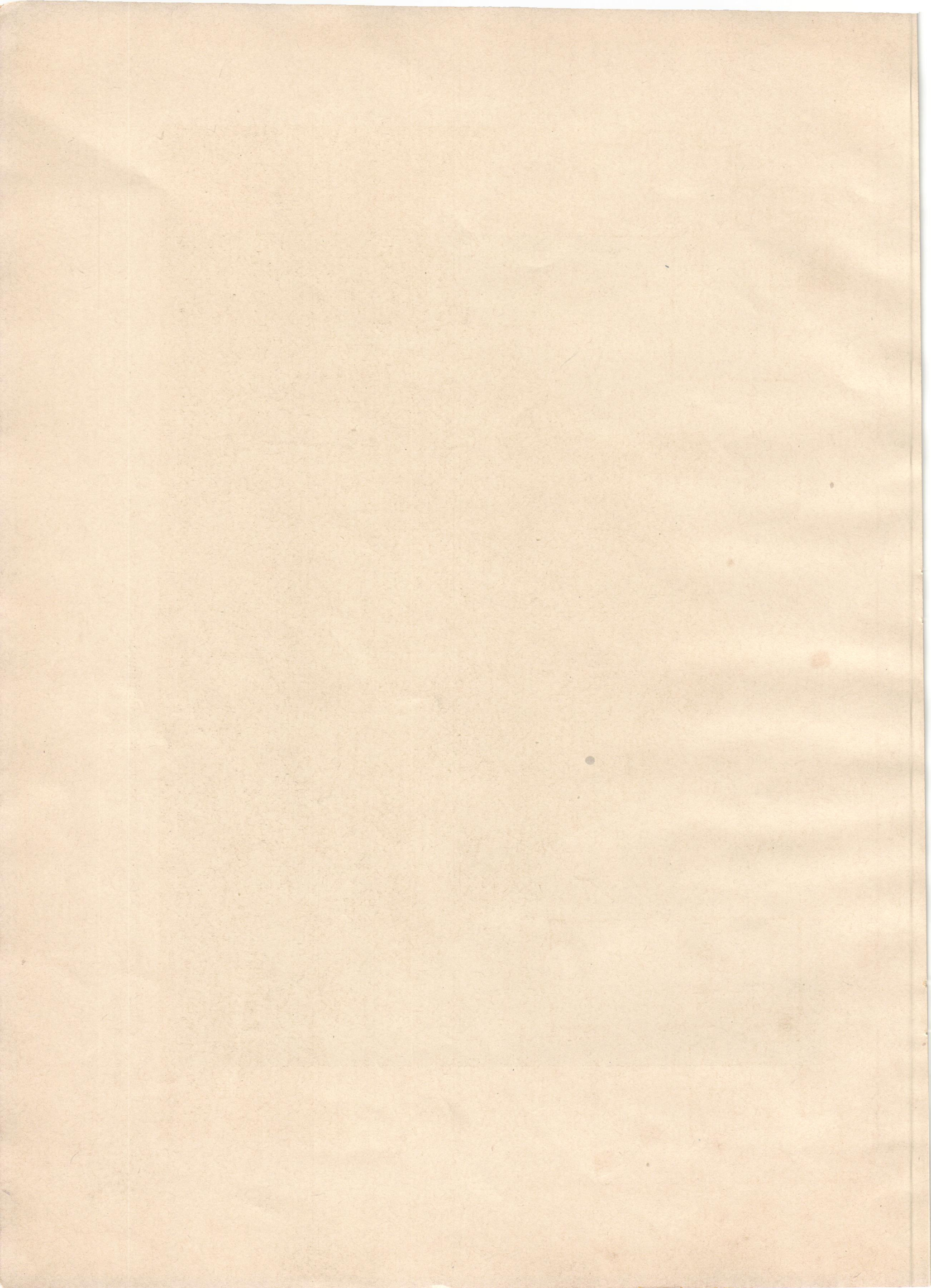


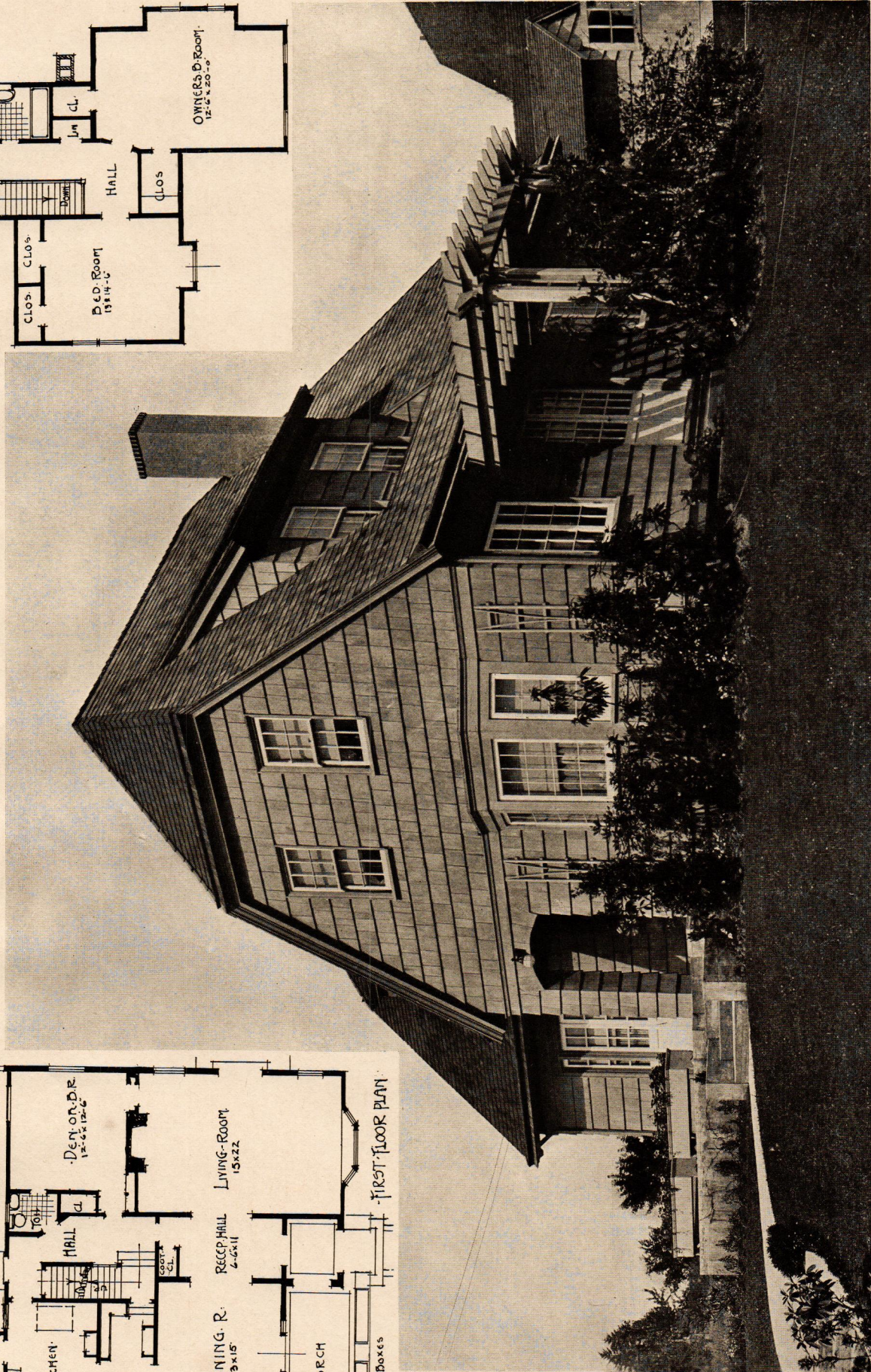
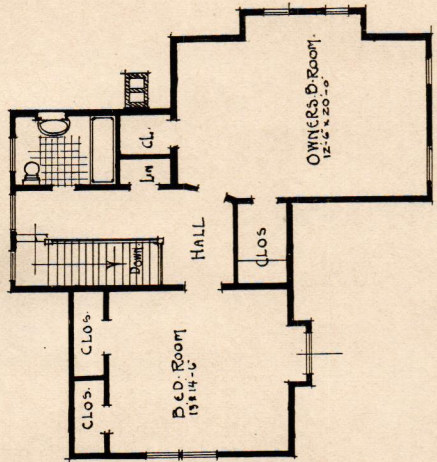
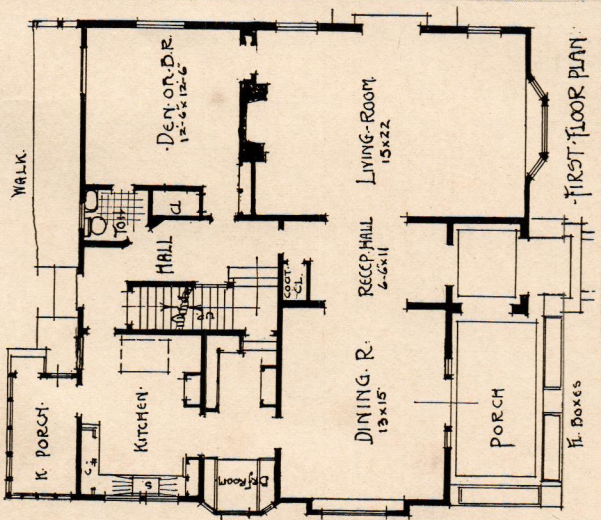


APPROACH TO A COUNTRY HOUSE AT BROOKLINE, MASS.

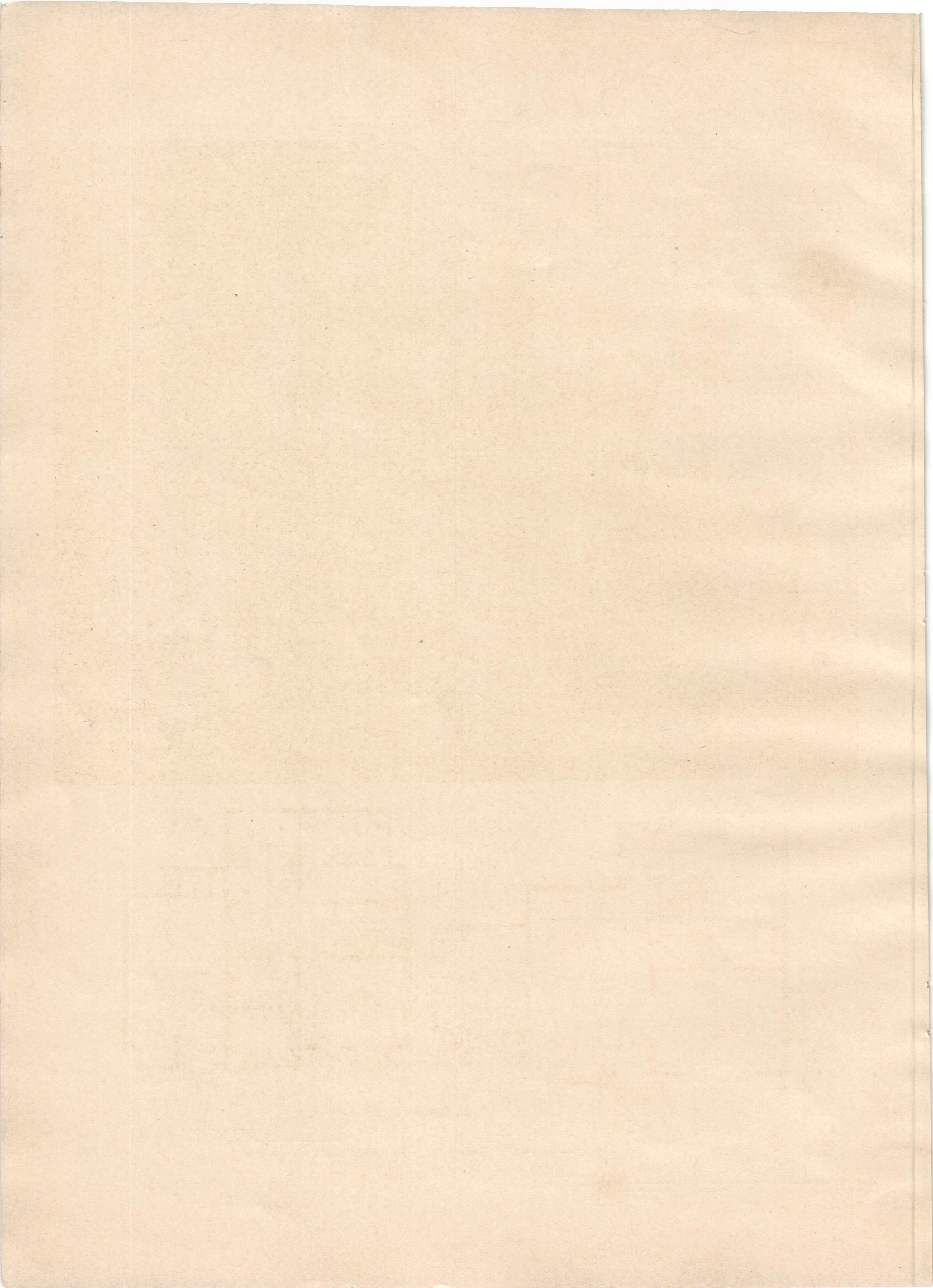
WALTER B. KIRBY, ARCHITECT—VITALE, BRINCKERHOFF & GEIFFERT, LANDSCAPE ARCHITECTS

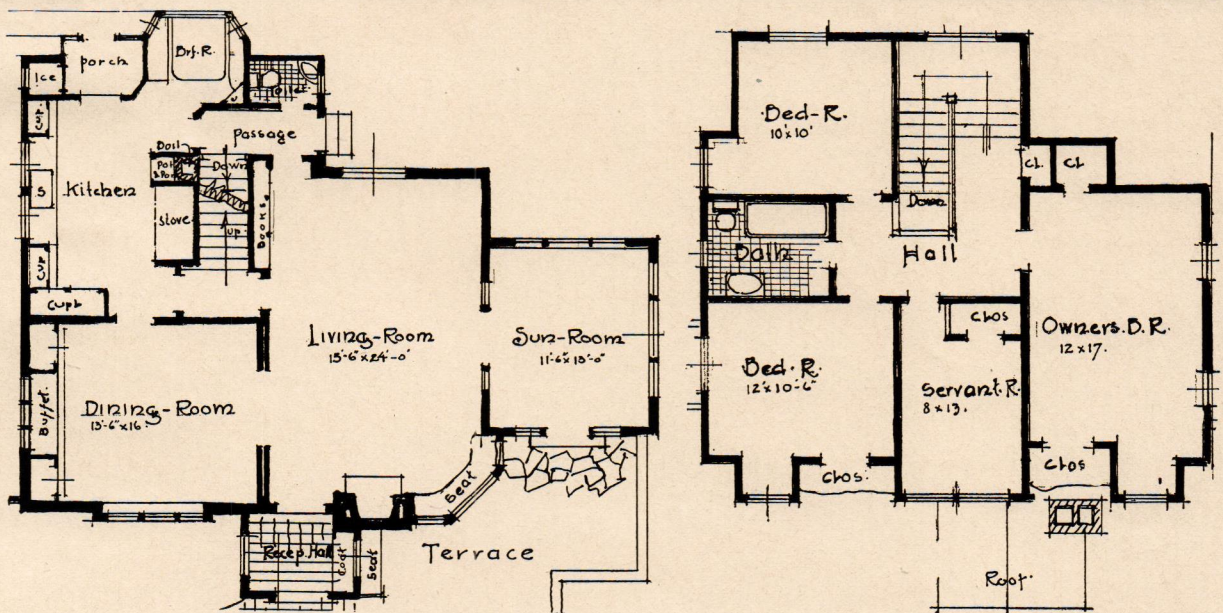
THE AMERICAN ARCHITECT
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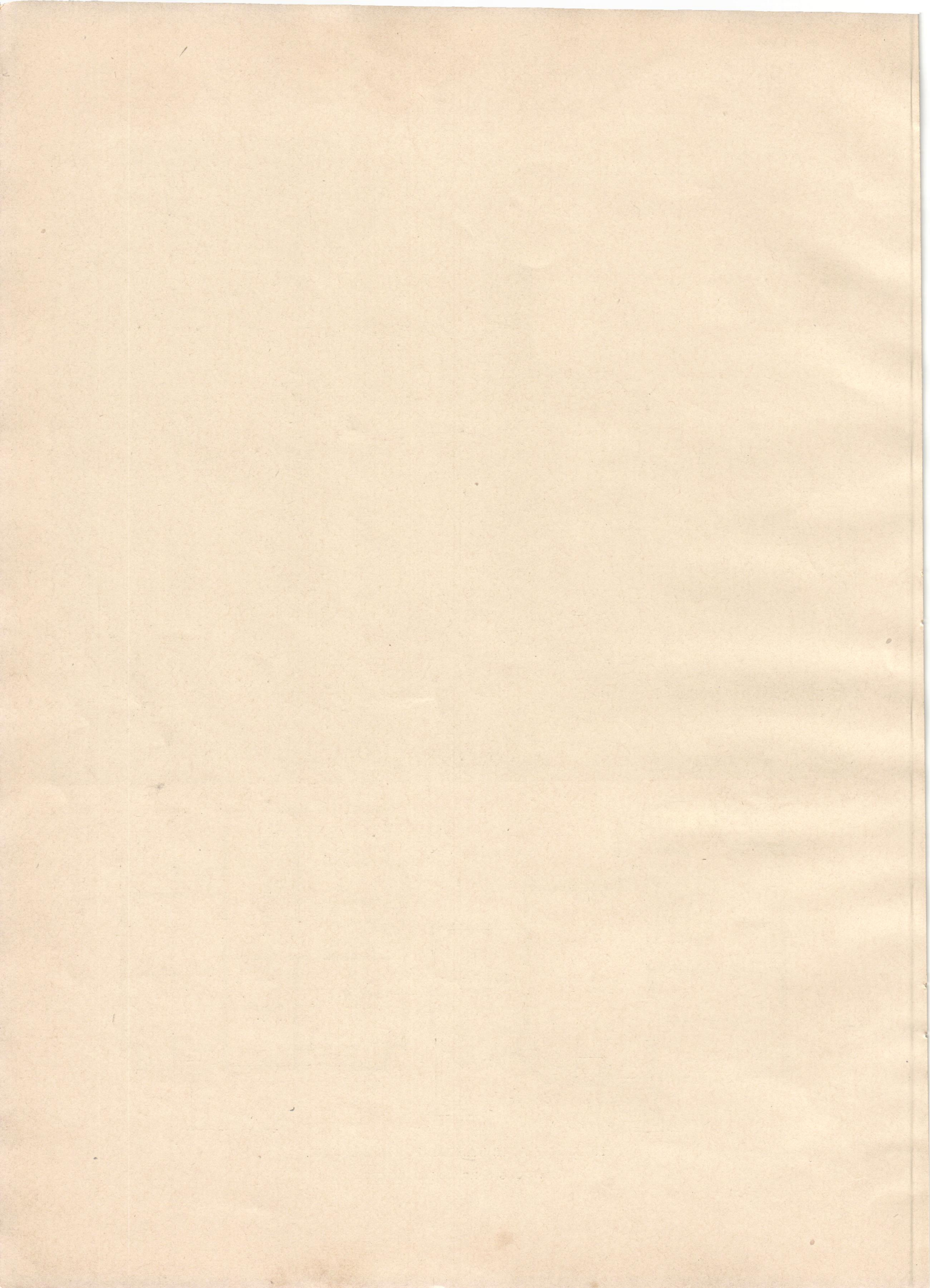


HOUSE OF R. C. DIEBENKORN, PORTLAND, ORE.
 DEYOUNG & ROALD, ARCHITECTS





HOUSE OF A. H. TASKER, PORTLAND, ORE.
 DEYOUNG & ROALD, ARCHITECTS



You are now ready to distribute the overhead expense. Since the man-hour basis for distribution is being used, we enter productive time opposite the various jobs in the columns for the various employees and carry the total horizontally to its proper space on the right hand side of the sheet. Since we know the total productive man-hours for the month and the total overhead for the month, the rate can be found by dividing the total man-hours into the total overhead. When the rate has been determined this figure is used for arriving at the overhead for each particular job benefited during the month.

Entries are then made to the Journal to the various jobs charged. The total of the overhead column is then credited to Undistributed Expense which places all of the time and overhead during the month in the proper Work in Process Accounts.

The Journal is so designed that all accounts that are frequently used are allotted special columns. Those infrequently used are handled in

the Other Accounts column and can be designated by their proper numbers. Four columns have been provided for Work in Process, and a single column for Cost of Completed Work.

This completes the architect's accounting problem.

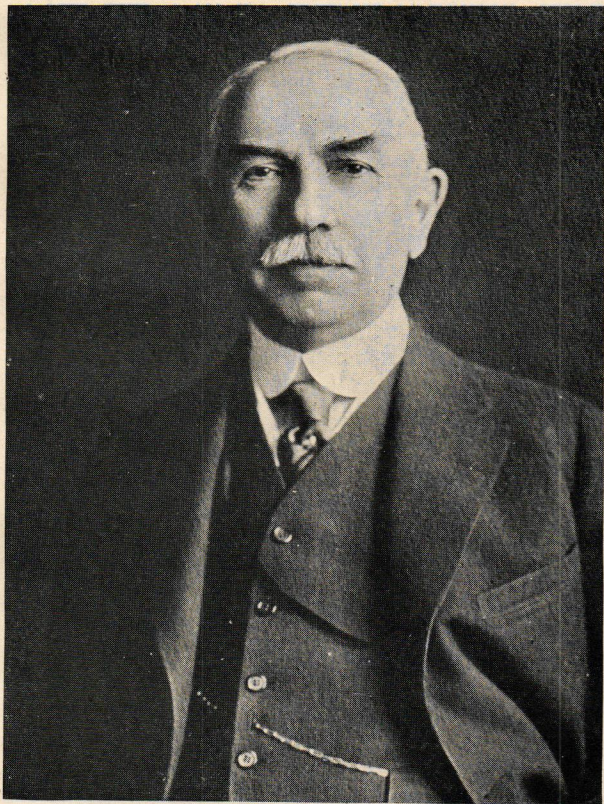
The architect's cost problem is, of course, not as serious as that faced by a manufacturer, but his need of a cost system is just as pronounced regardless of the average architect's indifference to the commercial side of his profession.

In designing the system of cost finding described, the writer searched much architectural and accounting writings on the subject, but only matter of comparative unimportance was found. The data here collected affords ample room for further investigation of this interesting subject.

That the information contained herein may serve some useful purpose for the architectural and accounting professions is the hope of the writer.

HORACE M. SWETLAND

HORACE M. SWETLAND, president of the United Publishers Corporation, one of the largest publishers of industrial and business magazines in the United States, died June 15 at his home in Montclair, N. J. Born in Chautauqua



HORACE M. SWETLAND

County, New York, in 1853, his history in the publishing field dates from 1881, when, as a young man, and following an experience of ten years as a teacher in the public schools of New York State, he went to Boston to take up newspaper work on the Journal of Commerce of that city. Three years later, in 1884, he came to New York City to embark in business and became a pioneer and leader in the publishing field. While more prominently identified with the publication of trade journals, he at all times recognized the necessity for educational work in the arts and crafts in this country, and, in pursuance of this broad policy, was, through his company, at one time the owner of THE AMERICAN ARCHITECT. That publication he placed at the head of an architectural and building group of magazines, which later passed to its present ownership.

Mr. Swetland rendered notable service in every field of the publishing industry in which he became engaged. Of broad vision, with unusual ability as an organizer of large operations, he built up many publications in many fields, each one a power for good and of the broadest educational value.

At the time of his death, and in addition to his numerous activities, he was president of the National Publishers Association, an organization of all the large magazines published in this country.

The foundation of Mr. Swetland's success in the publishing field may be attributed to his clear vision of industry, how best to serve it combined with a strongly marked sense of integrity and justice toward every one with whom he became associated.

EDITORIAL COMMENT

IN ITS REPORT to the recent convention of The American Institute of Architects, the Committee on Public Works directs attention to a condition that seems to demand prompt action. "There are," states this report, "only two regular offices under the Federal Government which bear the title of architect,—one the Supervising Architect of the Treasury Department, and the other, the Architect of the Capitol." At the present time, neither of these offices is occupied by architects.

This anomalous condition is the result of a series of happenings that first date back more than ten years ago. At a hearing before a committee of Congress on Public Buildings, the testimony of the then Supervising Architect was broadcasted and his remarks distorted to create an inference that the Institute was an "architectural trust." This was eagerly taken up by members of Congress, widely and ignorantly discussed and an impression set afoot that the attitude of the profession of architecture toward Government work, to quote a member of Congress, was "a combination in restraint of Government interest." No forceful measures were taken at that time by the Institute to combat this propaganda. Later the Tarsney Act, authorizing the employment of architects in private practice for Government work, was repealed. Following this, the Great War. It will not be necessary to enter into details as to the attitude of the Government toward the profession of architecture at that time. Today, architects are only available for Government work through special acts of Congress in connection with individual appropriations or where special technical assistance is authorized in any general appropriation.

Among the many solutions that have been put forward as corrective of these conditions is the plan to reorganize the Supervising Architect's office. Undoubtedly the best results obtained in our Government buildings were those when that office was efficiently functioning. A Supervising Architect of proven ability in his profession, appointed on recommendation of the Institute, the redrafting of a bill along the lines of the Tarsney Act, and a policy of non-interference on the part of Congress, would restore a condition that has been proven to be efficient and economical, and insure the proper architectural integrity of public buildings.

* * *

IT IS DECIDEDLY encouraging to note that from the early chaotic state of antagonism which so long existed between architect and decorator, there has gradually been developed a method of collaboration between them which seems

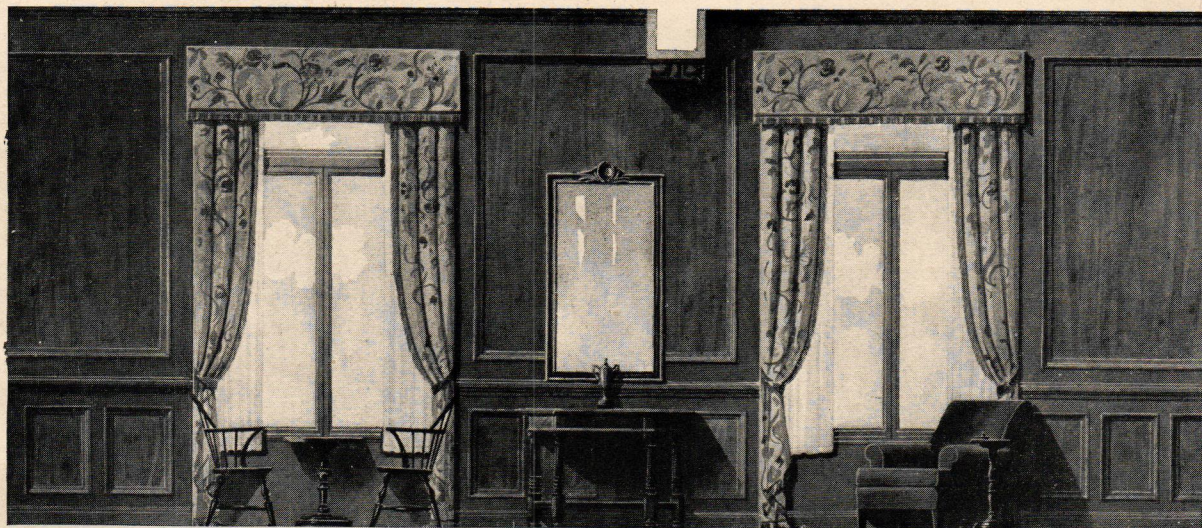
admirably to solve their problems and differences. One of the important elements contributing to this changed attitude has been the development of trained interior decorators who have a real knowledge and appreciation of architecture. In an article entitled "Co-operation between Architect and Decorator" in the Department of Interior Architecture in this issue, the advantages to be obtained by this plan are set forth. Presumably there will be a rapid extension of this method as both architects and decorators see the mutual benefit to be derived.

This plan will also lead to a solution of the difficulties which have arisen in the distributive channels of products used in interior schemes. Until the appearance of the trained and legitimate decorator, the architect found it essential for the protection of both his client and himself to purchase direct, furniture, fabrics, etc., necessary for his interior schemes. To the cost he added his commission, whatever it might be.

Selling at one price to the architect and the decorator brought trouble upon the manufacturer, for the decorator, carrying stock, legitimately found it necessary to charge more than what the architect added as his commission, and the client, when making later purchases direct, felt that he was being overcharged. The complaints received led manufacturers to adopt sales policies which are not satisfactory to them or to their customers, such as differing prices to architects and decorators or the establishment of a retail sales plan.

The producer on his part has had some cause for complaint, and justly so, in the piracy of his designs. Prints of his products accompanying estimates have been used as the basis of bargaining with inferior producers to secure a lower price. This is not so much the fault of the architect or legitimate decorator as of a certain type of interior decorator, but such practice wherever carried on should be stopped. A producer's design should be his own property, although honesty is his sole protection.

Why should not architects take the lead in this matter, as they have in many other instances, in smoothing out these differences to create a better feeling among architects, decorators and producers? It would seem that a common ground could be reached on which their business may be conducted. Perhaps a free discussion by all interested during the 1925 convention of The American Institute of Architects which will be combined with the Architectural League exhibition, would lead to a better understanding and agreement. Many of the interested producers will have exhibits and if the members of the architectural profession would invite a conference, it would surely be well attended and possibly result in much good to all concerned.



Sketch in color made by Francis H. Bacon Company, showing wood finish, several pieces of furniture and the window draperies. The wall panelling is indicated according to the elevations submitted by the architect, Louis E. Jallade. It will be seen that the arrangement of the woodwork was slightly altered after this sketch was made; also, that the draperies were changed to plain red velvet. Such alterations as these can be more readily determined after a sketch like this has been made

INTERIOR ARCHITECTURE

Co-operation between Architect and Decorator



HERE unity of purpose is so pronounced as in the case of the architect and decorator, there must be the heartiest co operation between the two to insure the best results. The purpose of the architect—to develop refinement in the design of public and private buildings—actually includes the purpose of the decorator, whose interest in refinement is limited to the interior of buildings. The overlapping of their fields of operation only emphasizes the need for collaboration. The architect and engineer have been drawn closely together by a similar relation of their affairs, which has developed to a point of the heartiest co-operation that has long since proved its worth. The growing tendency, therefore, of the architect and decorator to pull together is encouraging, for it gives promise of a finer fulfillment of their purposes. A feeling of antagonism which was more marked, perhaps, in certain sections of the country than in others, is slowly but surely breaking down.

The architect's position is clear; he comes in contact with the client first, before the decorator and landscape architect are even thought of, and, therefore, the architect has the client's confidence first, or he would not receive the commission.

He creates and builds the house, and he naturally desires to see it carried out in harmony with his general ideas. The decorator's duty to the client, architect and himself is to attune his work to the architectural treatment to obtain this harmonious result between architectural and decorative work. The one helps the other; whereas if they were antagonistic, both architectural and decorative treatment would suffer.

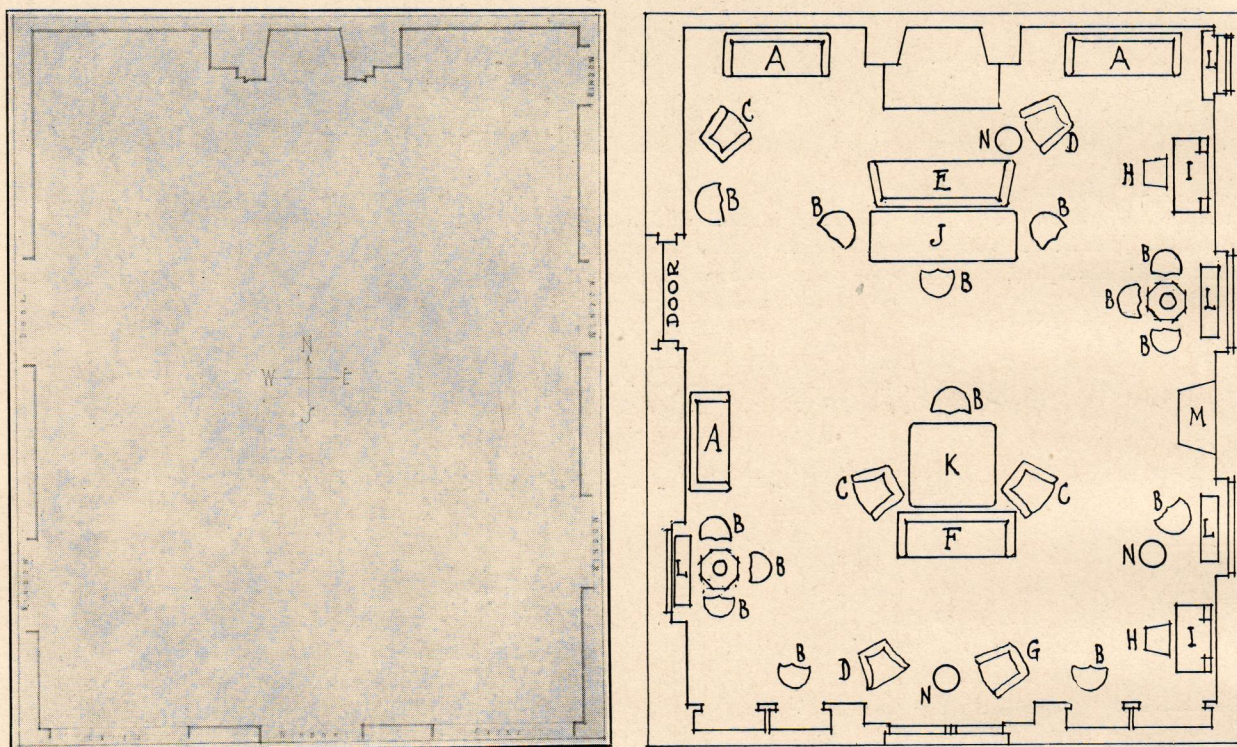
From the client's point of view, it is not only important that this co operation exist, but, furthermore, that it make itself felt before it is too late. The right time to make revision of plans is before actual building starts, for alterations thereafter require extra labor for which the owner must pay. To be sure, he is often himself to blame for procrastination in this regard. He desires to see his building completely constructed before giving any thought to such details, as he calls them, as interior decorations. He claims that he cannot visualize so far ahead. In many cases of this kind, the owner even relinquishes his architect entirely, and turns over the decorations of the interior, from the half finished point where the architect, at the owner's request, left off, to some untrained adviser, who may be very capable at selecting curtains and lamp shades, but wholly unequal to the task of applying them to

a decorative scheme or of solving other interior architectural problems.

The architect, as a rule, is eager to co-operate to the utmost with the architectural decorator, for he appreciates a trained decorator's knowledge of interior scale and understands how the room will profit by it. He realizes, however, the relation of form to structure and wants to see the one correctly evolved to conform to the other, which he originated and designed. Happily, there are many decorators throughout the land who see in their co-operation with architects not only a complete fulfillment of their purpose,

be blamed for desiring to retain a certain control over the decorations in order to make sure of good results. In that case, such a desire and interest should receive the hearty endorsement of decorator and owner alike.

A letter recently received by the editor of this department from an architect in Cincinnati, Ohio, which is typical of many similar expressions, says: "We have opened an interior decorating department in our office recently, as we found that a great many of our high class residences were being ruined by the wrong kind of draperies and furniture." Many architects do not go as

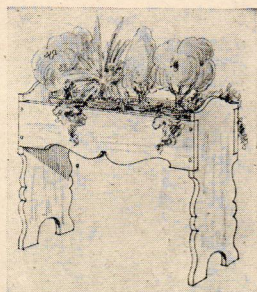


FLOOR PLAN OF THE MEN'S SOCIAL ROOM, INTERNATIONAL HOUSE, NEW YORK CITY

On the left is the original floor plan as submitted by the architect, Louis E. Jallade, to the decorator for laying out his scheme of decorating and furnishing. This plan was accompanied by the elevations showing the panelled walls, as incorporated in the decorator's colored sketch, reproduced on the preceding page. On the right is shown the furniture layout for the room as prepared by Francis H. Bacon Company, Decorators

through entirely unselfish motives, but also, taking a more mercenary view, a decided increase in their business. Architects as a group have no one method of handling the interior decorating problem. The architect includes in his design of the interior the walls and trim, the floors, mantels, lighting fixtures, and painting. It is from this point that the collaboration of the decorator begins. If the architect has confidence in the decorator, as he should have, he need have no fear but that the decorative scheme will attune in every way to the architectural setting. Should he not have this confidence in the decorator, he cannot

far as that. Some prefer to contract for the decorating work in its entirety. Others act only in an advisory capacity to their client. Some complete actual construction work and stop there, and others do actual buying themselves. All, however, have a natural desire to see the work carried out to the entire satisfaction of their client. This difference in methods has created a rupture in the manufacturers' market which may be difficult to heal. It comes first from the architect buying at wholesale and selling to his client plus his small commission. The decorator, on the other hand, sells at a marked retail price which

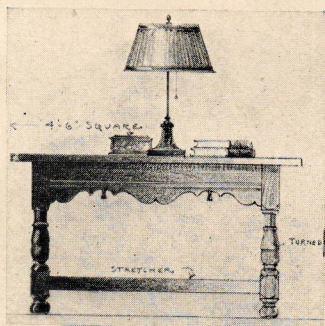


SKETCH FOR FLOWER BOX, MARKED "L" ON PLAN

includes a much greater profit. The architect's method gives the client a glimpse behind the scenes which, quite naturally, does not please the decorator. The decorator claims that he has a greater overhead than the architect in that he carries stock. If he does (and it seems that it should be insisted on to insure his good will), the statement of his overhead

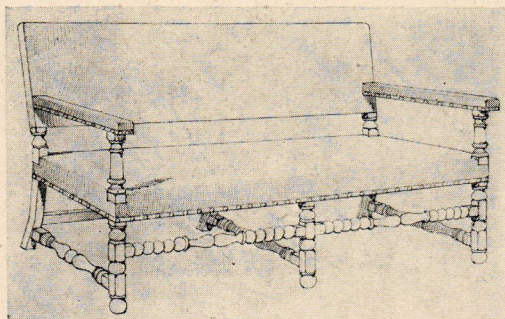
expense is perfectly true, and he is justified in calling for a greater profit than the architect's small fee. The problem, therefore, which confronts the manufacturer, is how to sell the architect and not embarrass the decorator.

The amicable solution seems to necessitate a slight giving in of both architect and decorator. The architect should not do any buying, actually, of materials which enter into the decorating and furnishing of the interior; or, if he does, he should give proof of his good will by carrying a decorating department, and doing business in that department as a decorator does. He does not buy brick, cement, lumber, steel, heating, plumbing or even lighting fixtures, although they are usually specified by him. He should, however, either select the decorator himself or approve the client's choice, in order that he may be assured of complete harmony of architectural and decorative schemes. So much for the architect. The decorator must design his decorations to conform in every way to



SKETCH FOR TABLE, MARKED "K" ON PLAN

(See also full size detail drawing on page 22)



SKETCH FOR DAVENPORT, MARKED "A" ON PLAN, COVERED IN RED VELVET

(See illustration on page 22)

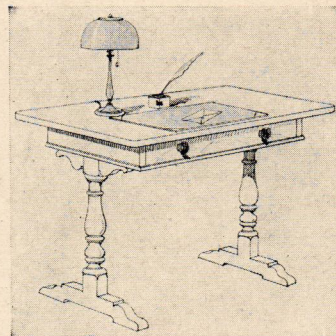
the architectural treatment of the room as designed by the architect. If he has suggestions to make which he thinks will benefit the final result and would necessitate alterations to the architectural scheme, he should make such suggestions in a spirit of co-operation. Some

of the drawings for the interior architectural designs would be done by the architect, and others by the decorator. But whether worked out in the architect's drafting room or in the decorator's studio, the procedure for the development of a complete interior is the same and must always take the same course.

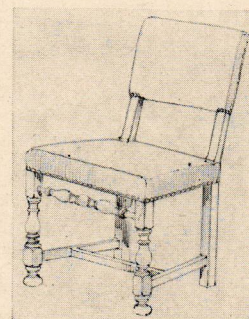
To demonstrate the value of co-operation between the two professions, the illustrations accompanying this article are reproductions of actual sketches and working drawings prepared and submitted by the architects and decorators for a specific job. After the floor plan and wall treatment had been tentatively agreed on in the architect's office, the decorator was consulted with regard to the location of doors, windows and electric outlets as affecting the furniture layout. The important pieces were located and any alterations desired were suggested. The plan was then completed and turned over to the decorator, who at once laid out the furniture

thereon. The elevations of the walls were then drawn up, indicating the pieces of furniture which might affect their design. The sizes of these pieces have a decided influence on the scale of the wall design, just as the height of the ceiling affects both walls and furniture, to a certain extent. The continuity in the development of the scheme is evident from the very start, for unity of scale demands unity in ideas, which calls for co-operation. The minor pieces of furniture were placed so as to complete the various groups, and tie-up the entire arrangement.

Up to this point, proportion had played the biggest part in making decisions. Line had en-



SKETCH FOR WRITING DESKS, MARKED "I" ON PLAN



SKETCH FOR SIDE CHAIR, MARKED "H" ON PLAN, COVERED IN RED VELVET

(See illustration on page 22)

tered only slightly into the arrangement, and color and ornament had not yet been considered. They govern from now on. The feature of the decorative scheme, the dominating upholstery or drapery fabric, or the one most prominently used, is now selected. In conjunction with it, the secondary upholstery materials are chosen, always bearing in mind the principles of harmony and contrast and their relation in line, dark and light, and color. These are suggested for the various

as its accuracy is concerned, or must make no pretensions at being anything but a sketch. Many of them fall in the rut which separates the two groups. Elevations in accurate color are much more truthful in that reproduction of a material to a scale does not need the atmospheric quality which a perspective must fake. The entire scheme as suggested by the decorator is then submitted to the owner. After his revisions are made, you may be sure that its acceptance by these three



Materials to be used in the decorative scheme of the Men's Social Room, International House, New York City, submitted by Francis H. Bacon Company with furniture plan and sketches shown on the preceding pages. At the left, red velvet, used for window draperies, covering sofas "A" and side chairs "H." Top left, blue leather, for covering easy armchairs "C," and davenport "E." Top right, red leather for covering sofa "F." Right, tapestry of reds, blues and black, used for covering wing chairs "D" and "G." Bottom center, natural finished pine, used for wall panelling

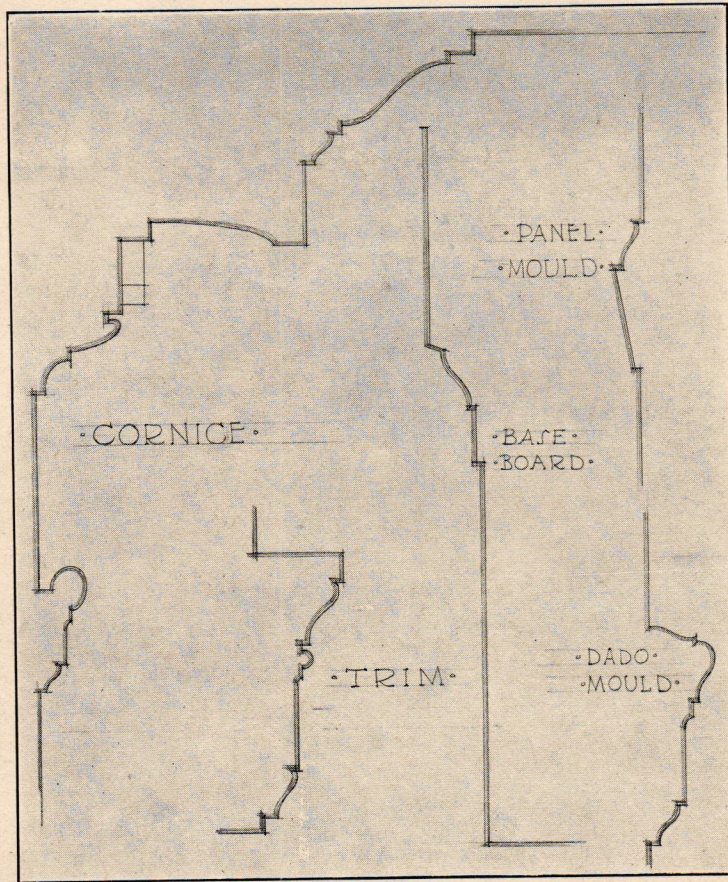
pieces of furniture which need covering and for the window and door draperies, and the proportion of each is thus determined.

Along with the sketches which the decorator submits, showing an elevation of at least one wall of the room with furniture and draperies indicated, are samples of the various fabrics which he has selected, a panel showing the wall finish, and a sample of the woodwork color. Some decorators submit perspective drawings in full color, but unless these are very accurately drawn and the color cleverly handled, a colored perspective is apt to be misleading. A perspective drawing should appear as a colored photograph, in so far

experts in their several fields assures success.

In turning over the plans to the decorator for study, the architect often specifies some piece of furniture or a fabric to which he has scaled his architectural setting and which will serve as a keynote to tie the two schemes together. The owner himself may have insisted that some piece be featured in the scheme. This makes the decorator's work easier in that it puts the scheme somewhat up to the architect, or to the owner, and it is more apt to be readily approved. The decorator's job, though, is not straight sailing even under these conditions, for he is responsible for the harmonious setting

and the contrasting elements with which this feature is surrounded. Anyone who fully realizes the extent of the decorator's job,—placing of and selecting furniture, choosing their coverings, selecting the drapery materials, designing the manner of the hanging, deciding the wall decorations, and selecting the floor covering, so that each one separately and all together as a unit will be approved by two very critical, yet distinctly different minds, cannot only see his importance, but appreciate the wisdom of calling on an expert and spe-

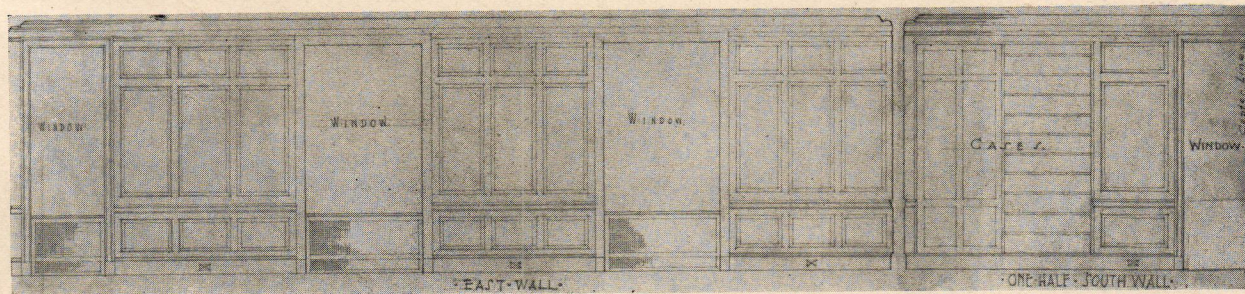
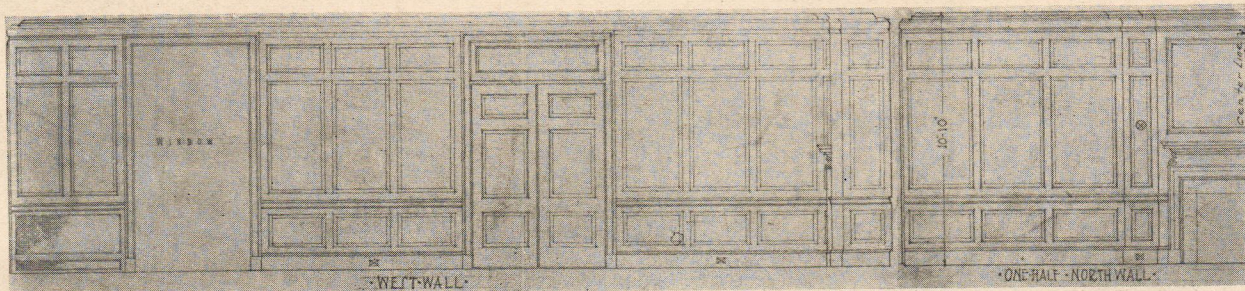


FULL SIZE DETAILS OF THE WALL PANELLING FOR THE MEN'S SOCIAL ROOM, INTERNATIONAL HOUSE, NEW YORK CITY

LOUIS E. JALLADE, ARCHITECT

cialist to solve the problem.

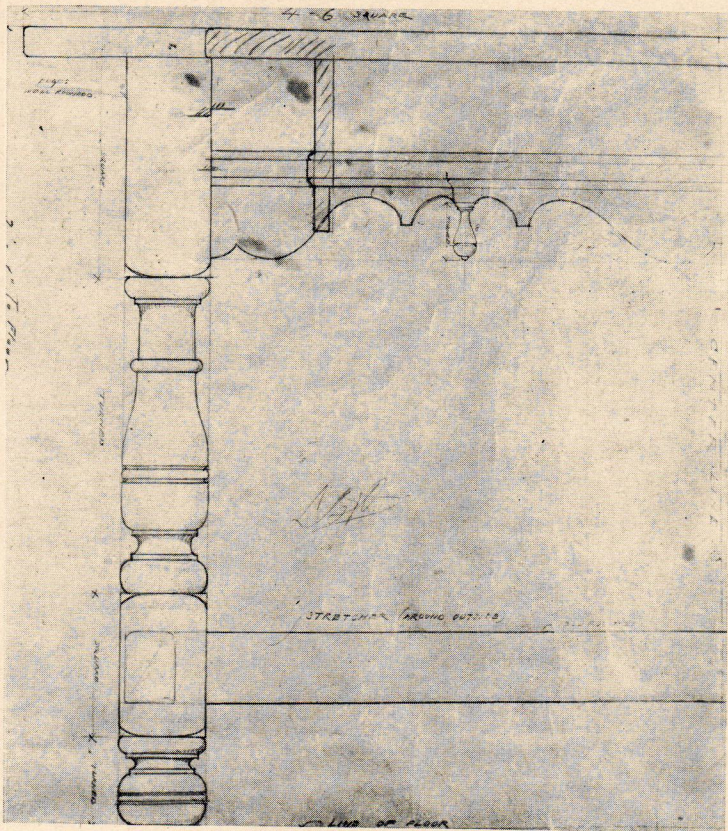
Very often it is necessary for the decorator to include specially designed furniture in the scheme he submits, and here again the architect appreciates the decorator's ability. Furniture details are so very different from any drawings that the architect is called upon to make that he is generally glad to put their responsibility on more experienced shoulders. Even in making details of door trims and dado mouldings for interior work, the designer works in an entirely different scale from the designer of exterior



ELEVATIONS OF THE FOUR WALLS OF THE MEN'S SOCIAL ROOM, INTERNATIONAL HOUSE, NEW YORK CITY

LOUIS E. JALLADE, ARCHITECT

Revised working elevations, as called for by the full size details, made by the architect. In studying the details, it was found necessary and desirable to make certain alterations to the original design, which, however, did not affect the decorative scheme



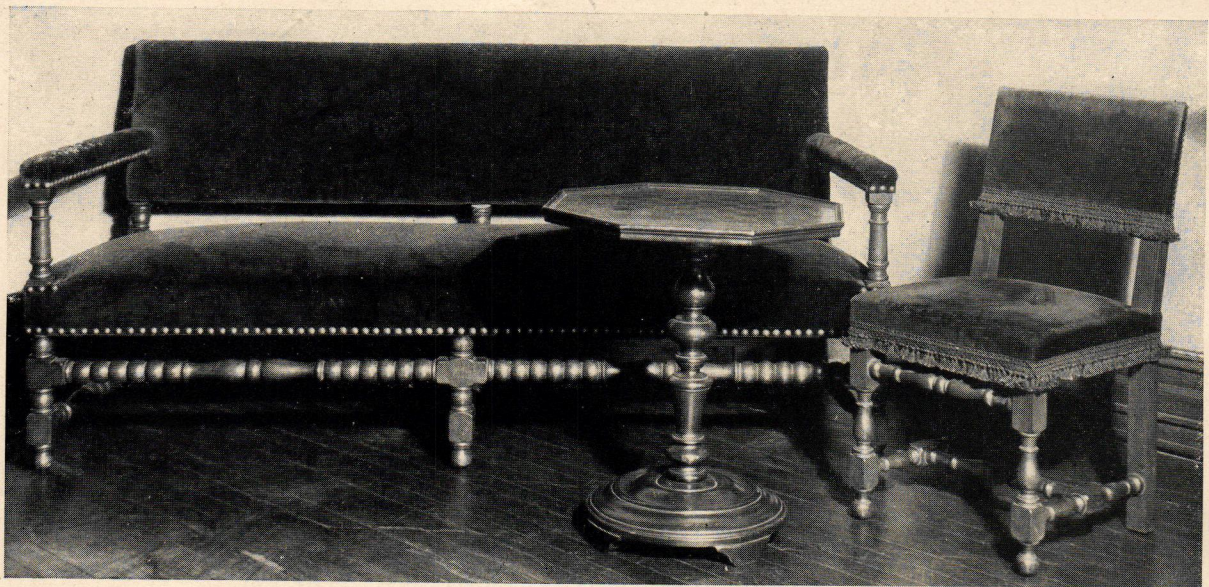
FULL SIZE DETAIL OF TABLE SHOWN ON THE FURNITURE PLAN AS "K"
FRANCIS H. BACON COMPANY, DECORATORS

ing floor plans and exterior elevations, to say nothing of full size details and renderings, structural drawings, plumbing, heating and electrical work, that they look with relief to the trained and experienced architectural decorator on whom they can rely for co-operation in ideas and high quality of craftsmanship.

There is no room for argument in such a discussion. The architectural treatment should be so tied up to the decorative scheme, and *vice versa*, that co-operation only can save them both. The wall trim, designed by the architect, when including a panelled wainscot, for instance, is vitally affected by the furniture; the mantel, a feature of any room, must be prominently woven into the decorative scheme; the type and design of the floor materially affect the selection and the placing of carpets and rugs; the lighting fixtures are, in reality, a part of the decorations, and the painting is actually governed by the color scheme of the entire furnishings. The architect gains by being assured of the satisfactory completion of his commission; the decorator gains by the definiteness of his scheme; the client gains in overcoming extra expenses, as well as in the final results.

details, and in many architectural offices different draftsmen are assigned to the two jobs. As a whole, architects are pretty well occupied by mak-

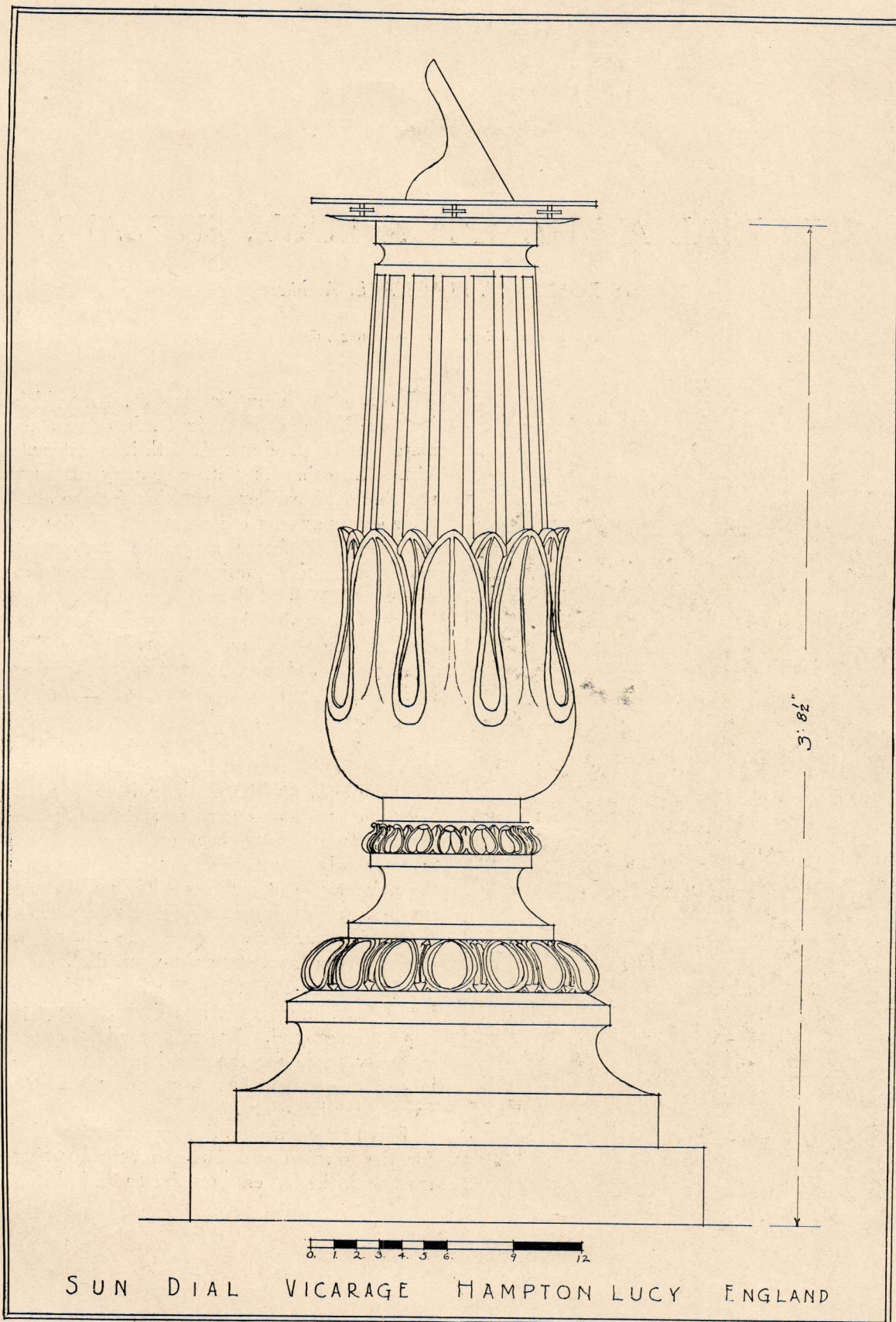
Nothing else counts. Client, architect and decorator, therefore, all must endorse the stand of heartiest co-operation throughout.



A GROUP OF FINISHED PIECES TO BE USED IN THE MEN'S SOCIAL ROOM, INTERNATIONAL HOUSE,
NEW YORK CITY

FRANCIS H. BACON COMPANY, DECORATORS

The sofa is that shown on the plan as "A," the side chair, "H," and the game table "O." Sofa and chair are covered in red velvet



MEASURED AND DRAWN BY ROBERT M. BLACKALL, ARCHITECT

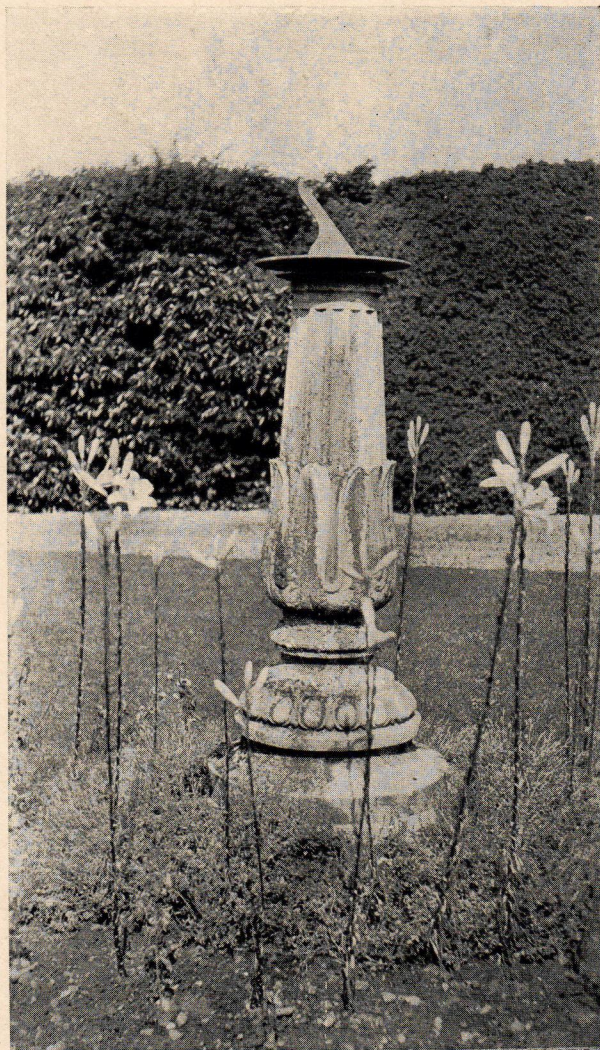
(See following page for photograph and description)

NUMBER IV, SERIES III
FOREIGN DETAILS

SUN DIAL AT HAMPTON LUCY, ENGLAND

BY ROBERT M. BLACKALL, *Architect*

(For measured drawing see preceding page)



ONE of the main features of all the old houses in England is their gardens. In the climate that England affords with its greater amount of moisture than any other country in the world, the English have developed this feature and built their homes around their gardens. While the gardens are not as formal as those of Italy, they have more domestic qualities and more intimate arrangements than those of any other nation.

In each garden is some predominant motive, such as a pool, a bank of shrubbery and a particular tree, which on account of its shape, or size, or history, forms the dominant note. Quite often the garden is dominated by a sun dial.

In the case of the Vicarage at Hampton Lucy, which is of the Queen Anne period and stands in the middle of the lawn, there is to one side the vegetable and flower garden, and on the other an old yew tree. To the back of the house, the lawn slopes slowly to the river Avon. The entrance to the driveway leads in front of the church and through an opening in a high hedge which is in front of a small lawn before the house. In the center of the lawn stands the sun dial.

The illustration shows the hedge dividing the house from the garden and forms a very picturesque background. These sun dials are either specially made for the location, or made of odd bits of masonry taken from other countries, or from older buildings.

This particular sun dial was made and designed for the location and forms a very pleasing contrast with the Queen Anne house behind it.

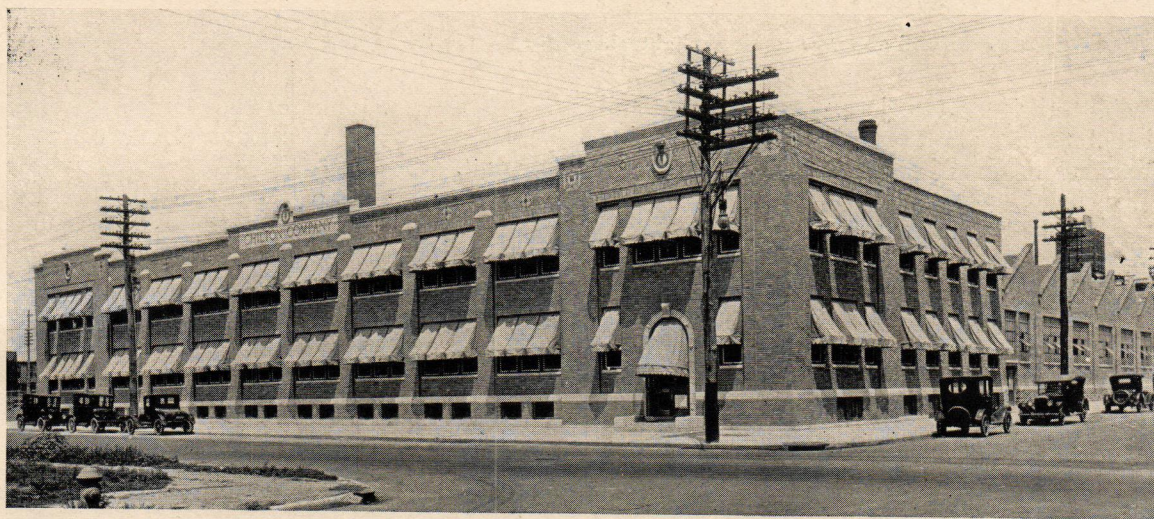
ARCHITECTURAL ENGINEERING

A MODERN TYPE *of* SAW-TOOTH ROOF CONSTRUCTION

Illustrated by Examples Designed by The Ballinger Company*

FOR a long period of time, the development of industrial buildings did not keep pace with the improvements made in machinery and processes of manufacturing. The increased cost of labor was probably the main factor in causing employers to appreciate the influence of the building on its occupants. With the realization of this condition, there came into existence

The essential feature of this construction consists of utilizing the well known principle of the truss. Two sets of trusses are used; one, the transverse set, is placed at right angles to the direction of the saw-teeth with its top chord on the same level as the peak of the roof; while the other, the longitudinal set of lighter trusses, is placed back of the glass of the skylight and ex-



BUILDING FOR THE CHILTON COMPANY, PHILADELPHIA, PA.

A printing house for magazines, trade journals and directories. Office and administration building facing south with print shop in the rear

various codes and regulations requiring certain standards of illumination, ventilation and sanitary arrangements. The scientific routing of the material through the plant naturally caused a change in the ordinary planning of industrial buildings to conform with the special requirements of the occupancy. The improved plan entailed two important requirements—unobstructed floor space and uniform intensity of light. Uniform intensity of light has been secured by the development of the saw-tooth roof construction which has been brought to a high state of perfection. To combine this type of roof with unobstructed floor areas, The Ballinger Company has devised a unique system of construction.

*Architects and Engineers, Philadelphia, Pa

tends in the same direction as the saw-teeth. These longitudinal trusses serve the purpose of a purlin and on their top and bottom chords are supported the ends of the roof rafters. By means of an effective but simple detail, provision for expansion and contraction is made at the point of connection of the exposed top members of the trusses with the skylight, making it entirely waterproof. The use of this system of construction is illustrated by several examples.

The printing plant of the Chilton Company consists of two types of buildings—the office building is of fire resisting wood construction, and the printing plant which has steel columns and trusses with wood roof and cement floor. Both buildings have walls of gray tapestry brick laid



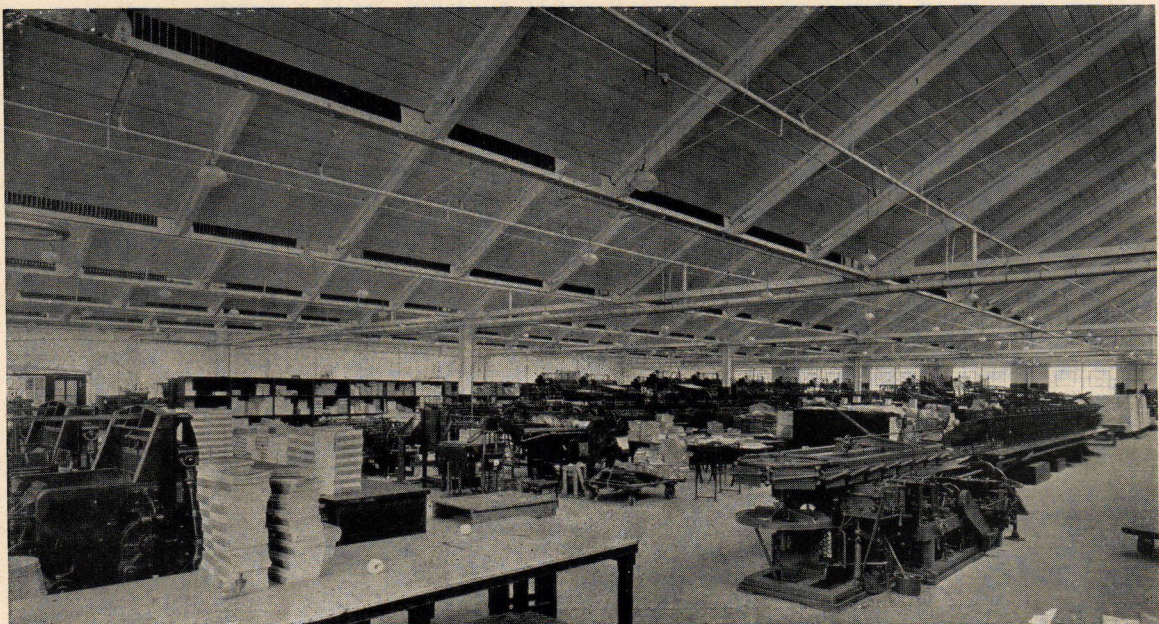
PORTION OF THE COMPOSING ROOM IN THE CHILTON COMPANY PLANT

View looking toward the saw-tooth skylight showing the framing of the longitudinal roof trusses

with wide raked mortar joints, stone base and stone and terra cotta trimmings. The printing building has an area of over 27,000 sq. ft. with only five columns, or one column to each 5400 sq. ft. of floor area. The building formerly occupied by this company was built of the usual type of saw-tooth construction. Rows of columns were placed under each line of skylights at 16'-0" on centers, or one column to each 250 sq. ft. of floor area, necessitating about 100 columns for the same

area as the new plant. The advantages obtained by the new type of construction are strikingly apparent.

The skylights are glazed with ribbed glass and provided with ventilators conveniently operated by means of chains extending to the floor. The windows in the side walls have steel frames glazed with ribbed glass and provided with ventilators. A dado of dark color is painted on the walls of the printing plant to a height of 5'-0", above



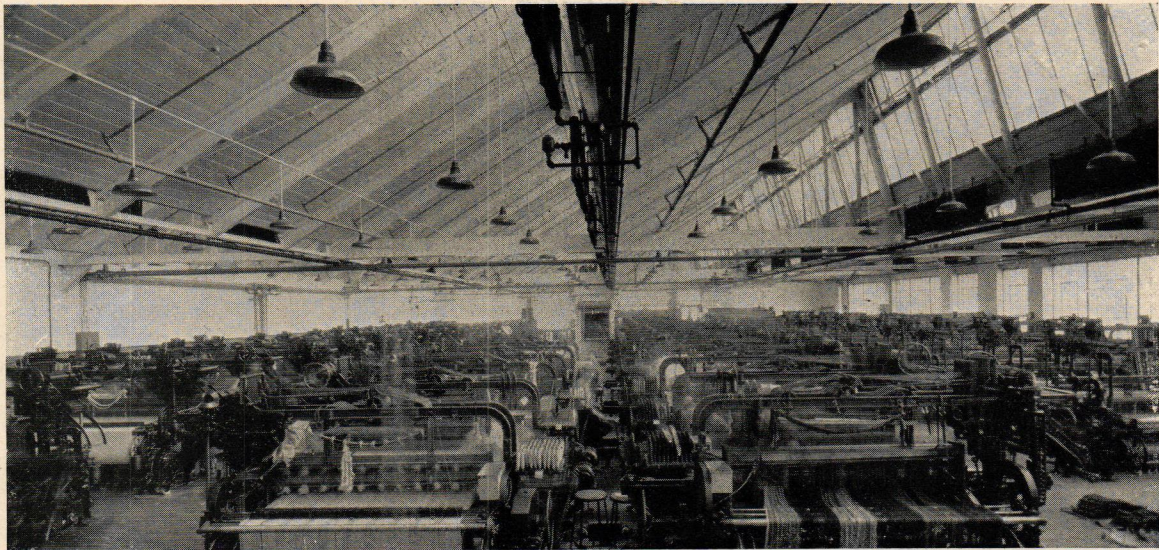
PORTION OF THE PRESS AND BINDING ROOM IN THE CHILTON COMPANY PLANT

View looking from the saw-tooth skylights

which the walls and also the trusses and under-side of the roof are painted with a durable, light-reflecting mill white paint. The electric light installation insures a uniform illumination of sufficient intensity for the use of the building.

The Ardross Worsted Company plant has a weave shed with a clear width of 88'-0" and a

space permits of the installation of six rows of looms instead of five, which would have been installed under ordinary conditions. The roof is constructed of yellow pine plank sheathing resting directly on the steel rafters and is covered with tarred felt and slag roofing. The floor of the weave shed is supported by a 6" reinforced con-

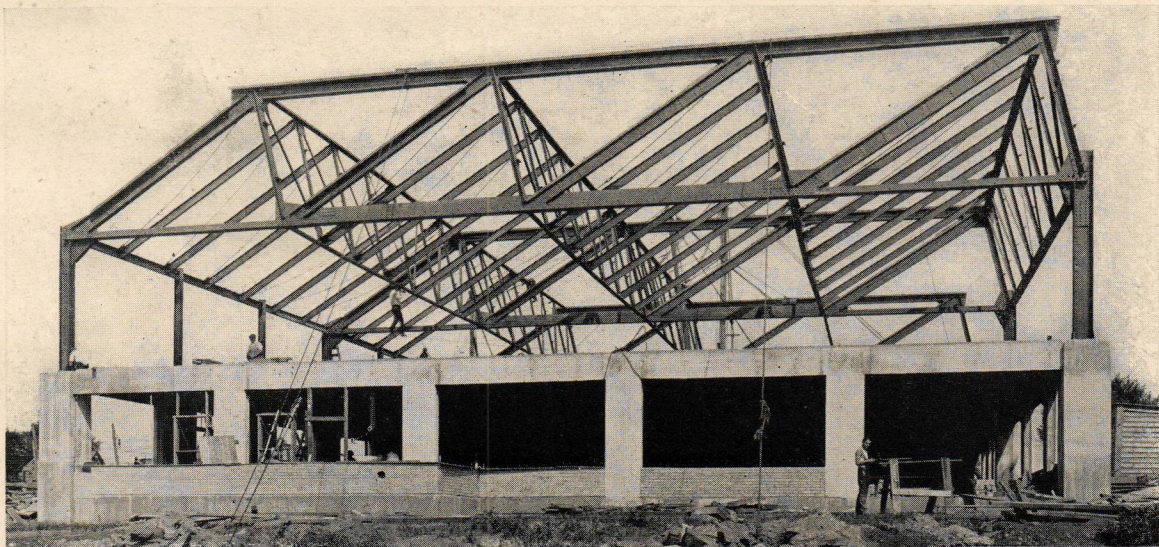


WEAVE SHED OF THE ARDROSS WORSTED COMPANY, 88'-0" x 168'-9". UNOBSTRUCTED BY COLUMNS, PERMITTING SIX ROWS OF LOOMS INSTEAD OF ONLY FIVE ROWS POSSIBLE WITH ORDINARY CONSTRUCTION

length of 168'-9". The floor area of this weave shed is not obstructed by any columns. With the usual type of saw-tooth construction, a weave shed of the same size would have two or three rows of columns with a corresponding interference with the arrangement of the machinery and passage ways. In this building the unobstructed floor

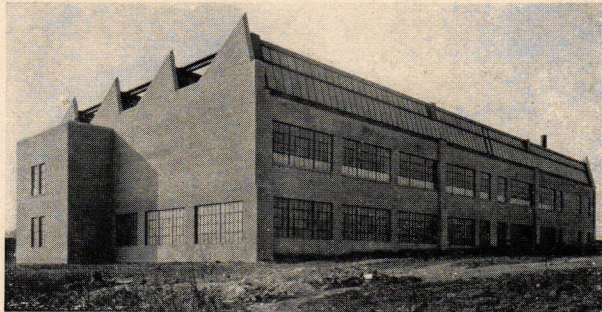
crete slab upon which are placed 2" x 4" sleepers with cinder concrete fill. A 2" yellow pine plank sub-floor is finished with 1" maple wearing floor. The ground floor is used for the storage of raw material and finished stock.

The new plant of the Atwater Kent Manufacturing Company has a floor area of approximately



STEEL FRAMEWORK OF THE ARDROSS WORSTED COMPANY WEAVE SHED, SHOWING THE COMBINATION OF TRANSVERSE AND LONGITUDINAL TRUSSES FOR SAW-TOOTH ROOFS AS DEVISED BY THE BALLINGER CO.

eleven acres. The building was erected in three sections. Owing to the location of the building site, it was necessary that the saw-teeth be placed at an angle of approximately 45 degrees with the sides of the building in order that they face



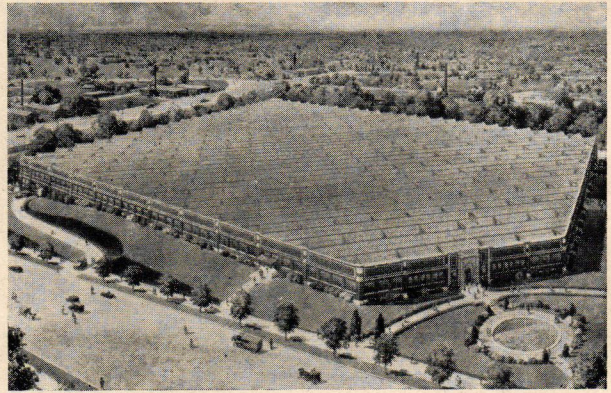
TEXTILE BUILDING FOR THE ARDROSS WORSTED CO., PHILADELPHIA, PA.

The upper floor is used as a weave shed and the lower floor is used for storage of raw materials and finished products

directly north. The saw-teeth have an area of approximately one-third of the floor space and have been sloped at such an angle as to prevent the direct rays of the sun from striking them, but at the same time, obtain the maximum of reflected light from the sky and the sloping roofs of the adjacent saw-teeth. The roof consists of a gypsum reinforced slab cast in position and supported by the steel purlins. The use of this type of roof was selected with a view to reducing the heat loss in the winter and to afford protection from the rays of the sun in summer. The roof is covered with tarred felt and pebbled roofing. The pebbles

of light color were especially selected to provide maximum reflection of light into the fronts of the saw-teeth, thus increasing the daylight illumination in the building.

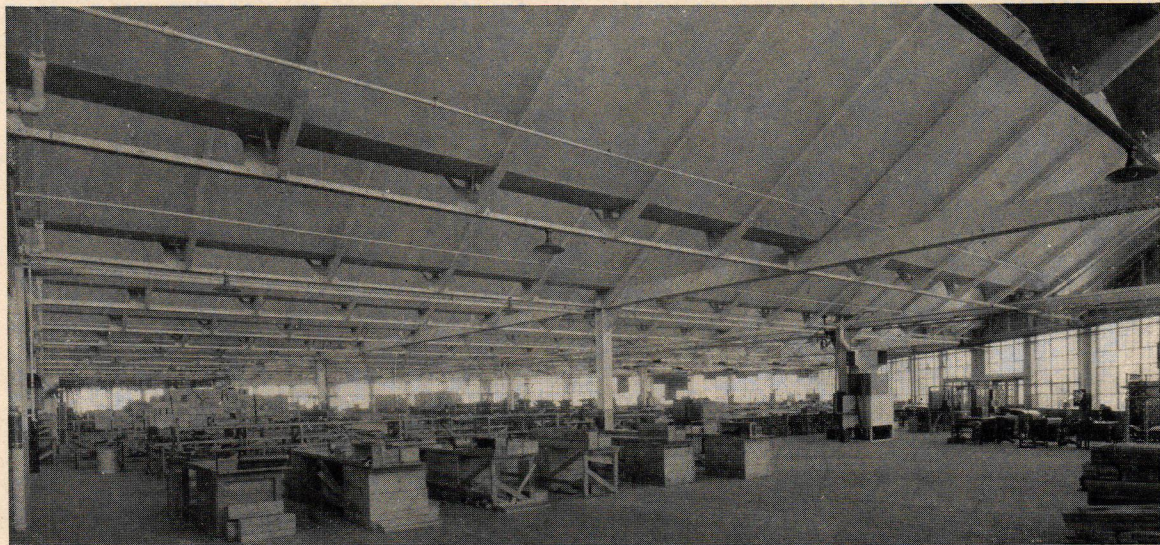
Another type of modern industrial building is that erected for James Lees & Sons Company. In this plant it was desirable to obtain the maximum amount of glass surface in the exterior walls. To



INDUSTRIAL BUILDING FOR THE ATWATER KENT MANUFACTURING CO., PHILADELPHIA, PA.

Eleven acres of floor area. In order that the saw-teeth face due north, they are at an angle with the side walls

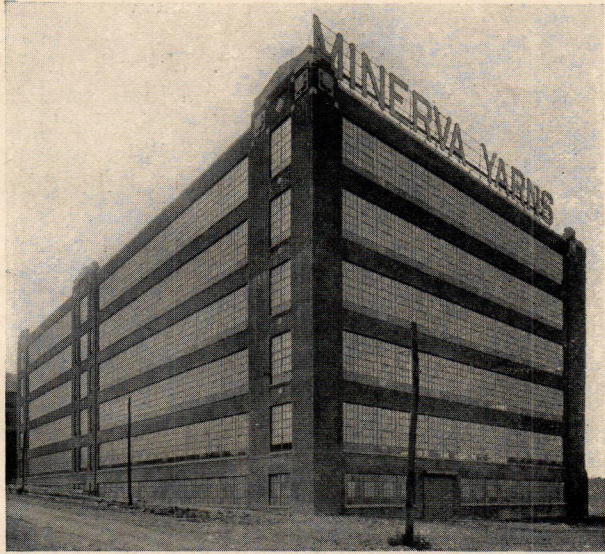
accomplish this purpose the exterior columns were set back 5'-0" from the lot line and the flat slab reinforced concrete floors and roof were cantilevered between the exterior columns and the building line. The concrete spandrel girders were incorporated in the floor and roof slabs. It can be seen that this type of construction would permit an uninterrupted glass area entirely surrounding



PORTION OF THE ELEVEN ACRE FLOOR AREA OF THE ATWATER KENT MANUFACTURING COMPANY PLANT
Note the unobstructed floor areas due to wide spacing of columns, the uniform intensity of light and the isolated heating unit

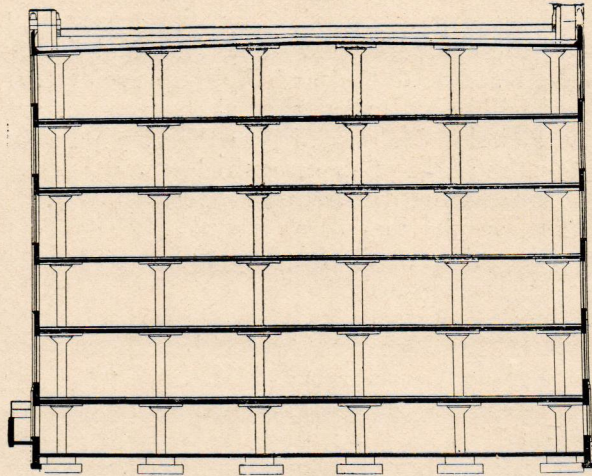
the building, except by stairways or other features. In this building, center and corner pylons were introduced to secure an architectural effect. Pilasters were omitted, permitting the steel win-

tion of this type of saw-tooth roof. It has been found that the increase in cost is about 10 per cent over that of ordinary construction. This has been accomplished in some measure by standardizing the details of construction. This additional cost is often more than compensated for by the added facilities obtained from an unobstructed floor space and perfect daylight illumination. In



SPINNING MILL FOR JAMES LEES & SONS COMPANY, BRIDGEPORT, PA.

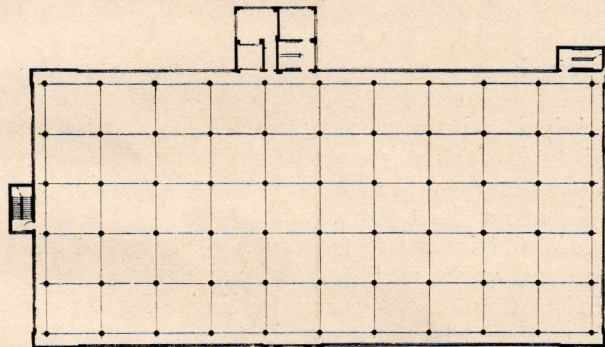
A maximum amount of glass surface, interrupted only by the center and end pylons introduced for architectural effect



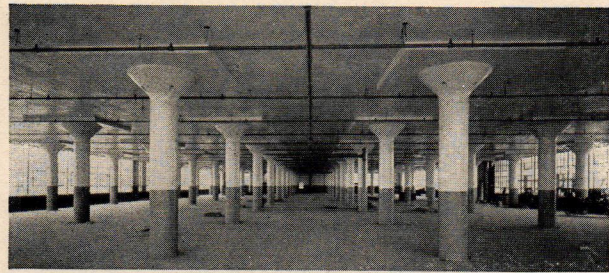
TRANSVERSE SECTION OF THE JAMES LEES & SONS COMPANY PLANT SHOWING THE CANTILEVER FLOOR AND ROOF SLABS EXTENDING FROM THE EXTERIOR COLUMNS TO THE BUILDING LINE

dows to be made continuous. Another advantage resulting from the omission of the usual wall columns with their projections on the inside of the

the Ardross Worsted Company plant the artificial illumination was secured by means of 200 watt lighting units, with enamelled steel reflectors, placed 12'-0" above the floor. It was found that they give a uniform illumination on the working



FLOOR PLAN OF THE JAMES LEES & SONS COMPANY PLANT SHOWING THE UNINTERRUPTED EXTERIOR WALL SECURED BY SETTING BACK THE EXTERIOR COLUMNS



A FLOOR OF THE JAMES LEES & SONS COMPANY BUILDING SHOWING THE SPACE BETWEEN THE EXTERIOR COLUMNS AND WALLS AND THE DISTRIBUTION OF DAYLIGHT

building, is that the installation of work benches and other equipment, as well as heating coils, is greatly facilitated.

The illustrations clearly indicate the construc-

plane without shadows. All of the buildings as shown are equipped with automatic sprinkler systems and the building construction conforms to the highest requirements of the insurance companies.

SPECIFICATIONS FOR ROOFING MATERIALS

REQUIREMENTS for roofing materials for use on relatively flat roof surfaces are specified in a series of circulars issued by the Bureau of Standards, Department of Commerce. These specifications were prepared by the technical committee on bituminous roofing and waterproofing materials of the Federal Specifications Board and are intended to serve as master specifications for the purchase of such materials by the government. They cover materials for three, four, and five-ply asphalt and coal tar pitch built-up roofing surfaced with gravel, slag, crushed stone, promenade tile, and slate slabs; and give the physical characteristics of the product required as well as methods of sampling and testing deliveries.

The specifications were prepared after considering suggestions received from producers and manufacturers of roofing materials, roofing contractors, architects, engineers, and large users of built-up roofing. They are considered fair to both manufacturer and consumer, and are expected to result in securing products suitable for the particular conditions of use outlined. At the same time they allow a wide latitude in selection of raw materials and methods of production. They are based on tentative specifications originally prepared by the Bureau of Standards in January, 1921.

The following U. S. Government Master Specifications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents each:

- 156 Coal tar saturated rag felt for roofing and waterproofing
- 157 Coal tar pitch for roofing
- 158 Surfacing materials for bituminous built-up roofing
- 159 Asphalt for mineral surfaced roofing
- 160 Asphalt for waterproofing and dampproofing
- 161 Asphalt saturated rag felt for roofing and waterproofing
- 162 Asphalt primer for roofing and waterproofing

 INVESTIGATION OF WARM-AIR FURNACES AND HEATING SYSTEMS

PART II of a report of an investigation of warm-air furnaces and heating systems has been carried on by the Engineering Experiment Station in co-operation with the National Warm-Air Heating and Ventilating Association since October, 1918. The principal objects of the in-

vestigation are, briefly, to determine methods of increasing the efficiency and capacity of warm-air furnace heating systems, and to establish satisfactory and simple codes for testing and rating furnaces, so that the heating equipment may be properly proportioned for the work it has to do.

Bulletin No. 141, by A. C. Willard, A. P. Kratz, and V. S. Day, is the fourth to be published in connection with this investigation, and gives valuable information concerning the work accomplished since the publication of the third report, Bulletin No. 120, in March, 1921.

Copies of Bulletin No. 141 may be had without charge by addressing the Engineering Experiment Station, Urbana, Illinois.

 AN INVESTIGATION OF THE FATIGUE OF METALS

BULLETIN No. 142, Series of 1923, by H. F. Moore and T. M. Jasper, of the Engineering Experiment Station of the University of Illinois is the third report of the progress of an investigation of the fatigue of metals carried on at the University of Illinois in co-operation with the National Research Council, Engineering Foundation, and several manufacturing firms.

This report covers tests with two nickel steels, ingot iron, steels containing 0.045 to 1.20 per cent carbon, copper, brass, bronze, and monel metal. Steel that had already been subjected to ten million or more cycles of stress at or near the endurance limit was retested to determine the effect of the original stressing. Tests were also made to determine the effect on the static strength and ductility of steel of ten million cycles of reversed axial stress at or near the original endurance limit; on the length of "life" of steel of stressing above the endurance limit; and on the endurance limit of overstressing and subsequent heat treating. Chemical analysis, static and impact tests were also made and hardness was measured. Additional evidence of the existence of an endurance limit for wrought ferrous metals was secured. As the result of experimental study made at the laboratory of this investigation as well as at other laboratories, an extension and modification of the well known theory that fatigue failures in metal start from slip planes within the crystalline grains is presented in this bulletin.

Copies of Bulletin No. 142 may be obtained without charge by addressing the Engineering Experiment Station, Urbana, Illinois.

THE SELECTION OF ELEVATOR EQUIPMENT*

BY FRANK A. PATTISON, Consulting Engineer†

THE elevator is an evolution from what was known as the "flying chair," first used in Paris in the XVII Century, and which consisted of a rope passing over a pulley, to one end of which was attached a chair and to the other a counterweight. Only since 1850 has real progress been made in elevator construction. The steel frame building made possible the greater height of buildings and then elevators became a necessity.

The first elevator in this city consisted of cables passing over an overhead sheave, to the ends of which were suspended a car and a bucket. It was operated by letting water into the bucket to raise the car, and by drawing water out of the bucket to lower it. Later, various combinations of drums and pistons were used for lifting; steam engines, electric motors and water under pressure for power, and the most complicated combinations of mechanisms and controlling devices. Now we have returned once more to the simple, and the elevator of today consists of cables passing over an overhead sheave, to the ends of which are attached the car and a counterweight, there being a motor to operate the sheave and, therefore, the car.

The hydraulic elevator has yielded to the march of progress and has given way to the electric elevator. The electric elevator has in its turn passed through various cycles. It was first an attempt to copy or adapt the several forms of hydraulic elevators, then followed the winding drum type and now we have returned again to the simple, and are given the limited choice of geared or gearless traction.

There are no rules of thumb whereby can be solved the elevator problems that may arise. The elevator equipment of every building is a separate and individual problem. To the layman the elevators of any two buildings seem very much alike but to the engineer, called upon to design the equipment of any building, the conditions and the relative importance of the points to be considered, differ very radically. The fact that an elevator runs is no proof that it is good equipment or that it is installed properly. Consideration of the points hereafter noted will show the folly of the haphazard selection of elevator equipment for a given building.

The first data to be assembled and considered are as follows:

The population of the building based on 100 sq. ft. of floor area, or less, per person, according to the location and use of the building.

Is the population made up of large or small office units?

What portion of the population is it possible to control at times of peak loads?

Will there be a large number of visitors to the building?

Will there be a small or large interfloor traffic?

The height of the building.

Number of floors in the building.

How many floors below the street entrance?

Are there any structural interferences with the location of the elevators?

The location of the elevators in relation to the main entrance of the building.

Are express elevators necessary?

What is the budget allowance for elevators?

These points are only a preliminary to the consideration of the elevators themselves.

How many persons familiar with rapid transit conditions in this city and the vast crowds using the subways, elevated and surface lines, and busses, realize that the elevators in this city carry vertically, in a year, three times as many passengers as all of these means of conveyance? This, perhaps, leads to an appreciation of the fact that the elevator service determines to a great extent the success or failure of a building. If the elevator service is not adequate, the building will not yield sufficient returns to make it a success, regardless of its beauty of design or correct plan. It is not advisable, then, to accept, unchecked by someone familiar with the problem and able to protect the interests of the owner, the solution of the problem made by parties who wish to sell the equipment. These parties are not objectionable in any way, but unfortunately, in a transaction in which one party speaks a language not understandable to the other, it often results in a poor bargain and generally is to the disadvantage of the buyer.

The elevator problem reduced to its simplest elements, is to carry a certain number of passengers in a given time and distribute them throughout the several floors of the building with the least cost and greatest convenience and safety of the passengers. It is impossible to consider all buildings alike and, as an example, assume an office building which presents the most difficult elevator problem. It is necessary to take into consideration the following data:—

The population of an office building cannot be

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known in advance and, therefore, it has to be estimated. In this estimate is used the rentable area, and experience shows the population averages, in New York City to be 75 to 100 sq. ft. per person; in other large cities 100 to 130 sq. ft. per person, and in small cities 125 to 150 sq. ft. per person. The normal capacity of a car can be determined by allowing 2 sq. ft. per person including the operator. The morning arrival traffic peak, during 15 minutes, is about 33-1/3 per cent of the population. The time required to empty a building in the evening varies from forty to sixty minutes. The interval of departure of elevator cars from the first floor should not be more than twenty-seven seconds. The time consumed in accelerating and retarding, loading and unloading, at each stop above the first floor, is seven or eight seconds and eight or nine seconds with positive locks. The time for loading and unloading a car averages 1.25 seconds per passenger. The equipment should be capable of lifting seventy-five pounds per sq. ft. of car floor. A little more than 50 per cent of the round time trip is consumed by stops.

There are certain points regarding elevators which should receive more serious attention by architects than is given to them at the present time. These are as follows: Elevators should be located as near the building entrance as possible; should occupy space of the least rentable value, and the elevator shaft should extend throughout the entire height of the building with the elevator machines placed at the top. Express elevators, 600 F.P.M. or over, should be the exception and not the rule, and should not be used if many stops are to be made. More space should be provided in the deckhouses; a secondary level should be provided if secondary sheaves are used; and the depth of pits should be studied as it is not possible to get a 3'-0" runby in less than a 4'-0" pit, or a runby of 5'-0" in less than 7'-0". Steel should be provided for the intermediate support of guides when stories are more than 12'-6" floor to floor.

Small cars handle traffic more efficiently and satisfactorily than large cars, and the best size for a car is approximately 6'-0" x 5' x 0".

The efficiency of the elevator is decreased by the use of heavy doors which, with the hangers, are more costly to maintain. Hatchway doors which are constantly used should not be hinged. All cars should be so planned that the car switch can be operated by the same hand. The elevator shafts should be entirely finished as early as possible. To facilitate loading and unloading, openings at each floor should be as large as possible. The number of elevators in each battery should be such that if one elevator is taken out of commission, the service will not be crippled.

The cost of operating elevators includes the following items: Interest on cost of installation, cost of power, repairs and renewals, insurance, taxes, depreciation, operators and starters, cleaning and lubrication, and maintenance labor and supervision. The selection of any given equipment cannot be intelligently made without due consideration of each of these items.

Power cost is based on KW hrs. per car mile. This is affected by the type of machine, operator, maintenance, load, number of stops, counterweight, inertia of car, lifting cables, balancing cables, and the moving parts of the machine. Some figures taken from records are presented in order to give an idea of what constitutes power consumption. A geared drum elevator of 2500 pounds capacity with speed of 400 F.P.M., during a day's run of 11 miles, consumed 4.35 KW hrs. per car mile.

A gearless, full-wrap traction elevator, 2500 pounds capacity, 500 F.P.M. with 800 pounds over-counterweight, making 200 stops per car mile with balanced load, consumed 5.12 KW hrs. per car mile and with full load, consumed 7.1 KW hrs. per car mile. The difference in power consumption caused by the number of stops per car mile is 0 stops, 1.82 KW hrs.; 50 stops, 2.22 KW hrs.; 100 stops, 3:50 KW hrs. and 200 stops, 5:12 KW hrs.

A geared, half-wrap traction elevator, 2500 pounds capacity, 600 F.P.M., making 16 stops per car mile, consumes 2.4 KW hrs. per car mile and 80 stops, 4.8 KW hrs.

For a gearless traction elevator of 2500 pounds capacity, 500 F.P.M., over-counterweight 1060 pounds, 104 stops per car mile, the consumption of power caused by different loads was, with operator, 3.09 KW hrs., per car mile; with 666 pounds, 2.86 KW hrs.; 1060 pounds, 2.52 KW hrs.; 2010 pounds, 2.92 KW hrs. and 2660 pounds, 3.86 KW hrs. These figures will give some idea of power requirements and the various factors that influence power costs.

The awarding of a contract for elevators should not be based upon price alone. In order to make an intelligent choice of several propositions for an elevator equipment the following items should be considered: Reliability of the bidder, weight of the machine, weight of platform and car, horse power of motor, efficiency of motor at half load, efficiency of motor at full load, KW hrs. per car mile with a given number of stops, starting current, current with machine at rest, weight per foot of car guides, weight per foot of counterweight guides and make of controller and type.

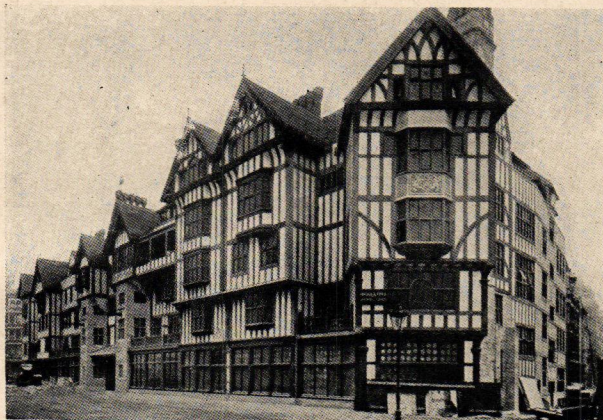
The interests of the clients are not properly safeguarded by simply installing an equipment that will keep running, if by installing another equipment the same service can be rendered at less cost.

REVIEW of RECENT ARCHITECTURAL MAGAZINES

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

IN the last article that appeared in these columns there was a slight allusion to the gentle art of throwing bricks, in which we undertook to show first how distasteful it was to the average man to throw bricks, either from the high humanitarian feeling of unwillingness to injure others, or from lack of time or opportunity or possibly from the fear of having bricks thrown at him in return; and we then proceeded by easy stages to show the necessity of throwing bricks, with brief discussions as to the target, the method and so forth, giving a few examples, or samples, of the quality of brick most used in the English magazines. The target for all these bricks, we

From "The Architectural Review," London



TUDOR HOUSE, LONDON

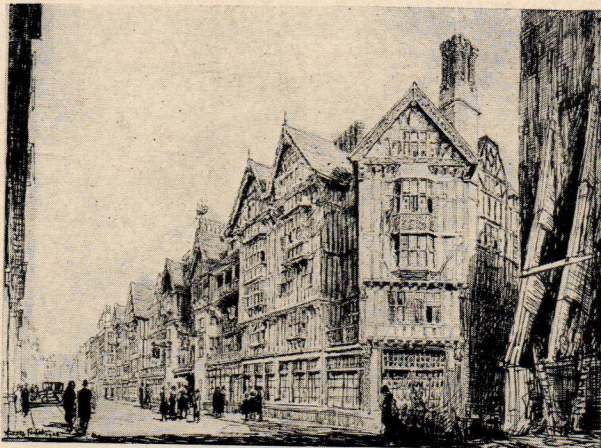
might venture to repeat, was that curious state of mind that holds all new forms good and all old forms bad, that restless state of mind which finds expression in the vagaries of cubism and futurism, in the riot of the new architecture of the continent, and politically, in the chaos and desolation of Bolshevism. And if it seems odd to throw such substantial missiles at such a nebulous thing as a state of mind, please remember, gentle or untrammelled reader, that these are figurative and not real bricks. And so this month in reading over the English magazines it is quite encouraging to find that new recruits are taking up the game with great zeal and gusto; for example, W. G. N. in *The Architectural Review*, London, May, in an article on the Bases of Criticism, says:

The theorists may write *in vacuo*, but we have to build on the soil of our own countryside: a land, be it noted, so saturated with building that it is almost always a part of our problems to preserve some harmony with neighbors. Without aiming at a servile unison, we must at least keep

in tune. If we are to deprive ourselves altogether of the shapes and dress of the past we shall find this impossible. Moreover we cannot, in spite of Roger Fry, afford to do without all these associative ideas which are by heritage the very fibre of our minds and for those for whom we build—the pageant and mystery which have grown up round our ideas of mediæval building forms, the delicate politeness of Early Georgian brickwork. Whether these notions are historically sound is beside the point. They are part of our mind.

No builders in the past have in fact so dissociated themselves. It was not only the men of the Renaissance who were in love with the past. The Norman all the time was building in what he conceived to be the Roman manner (the *more Romano* of the venerable Bede): even the astonishing masons of the thirteenth century were not all absorbed in vaulting problems, but were fain to dress their work in cusps and curious cut shapes borrowed from the Orient: the Greeks were all the time refining on what their

From "The Builder," London



NEW BUILDING, ARGYLE PLACE, REGENT STREET, W., LONDON

ancestors in other lands had made, and did not sit down and create the Doric temple by pure thought. No man, it is certain, can hope to produce new things serenely and sincerely if he begins with a lie, shutting his eyes that he may not see, and emptying his mind of what is inevitably there. Our own times, with their particular wants and economies and fresh materials, will insensibly modify whatever we do. We need not be afraid of deceiving posterity—even if it mattered—so long as we are not, like the nineteenth-century restorers, aiming at deception.

It is all to the good that we should begin to think of buildings from the inside outwards rather than from the outside in. The archaeological criterion is as dead as Vitruvius. But we shall be once again on the wrong road if we let our enthusiasm for a new standpoint blind us to our precious and, indeed, inescapable heritage of old ways and old shapes and old associations. Starting with a falsehood we shall not attain truth.

So also A. Trystan Edwards in *Architecture*, London, the May issue, writing on Public Criticism of Architecture, says:

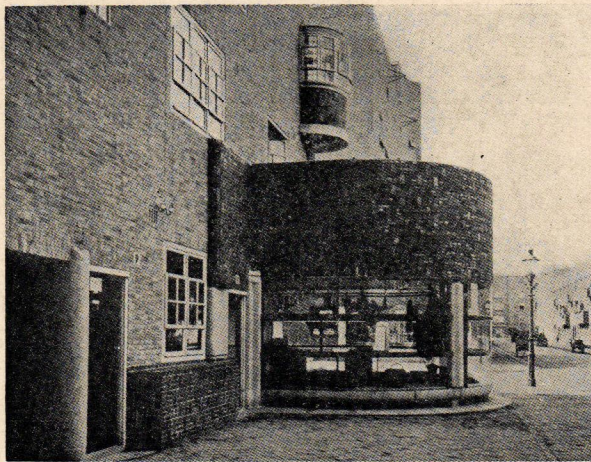
The real trouble is that the anarchical element is now becoming triumphant in all the arts. We are told that art

is the expression of emotions. A most execrable building or picture is excused on the ground that it represents what the artist sincerely felt. To which one can only say, "If you feel things like that, keep them to yourselves as a ghastly secret, tell them not in Gath, publish them not in the streets of Ascalon." Obviously it would be preferable that such ingenuous artists should deign to be hypocritical, for there are occasions when sincerity becomes a vice. Granted that there is room in the city for the expression of many styles, and even idiosyncrasies, of design, civic architecture cannot arise therefrom unless the resultant group of structures can truly be said to form a society. Architecture is judged not by the personality of the architect but by the personality of the building which he has created.

And also a letter to the Editor of *The Architect*, London, May 23, in which a perplexed father asks advice:

I am inclined to wonder at times whether it is advisable to send my son to an art school. If I visit some of the picture shows of the present day, I am invited to look at drawings and paintings which my boy produces now. Houses and trees, for I suppose the curious fibre-looking things are intended for trees, my boy tells me that he meant them for trees and that is how trees appear to him. I note that many of the pictures in these exhibitions are to be sold, and

From "The Journal of the R. I. B. A.," London



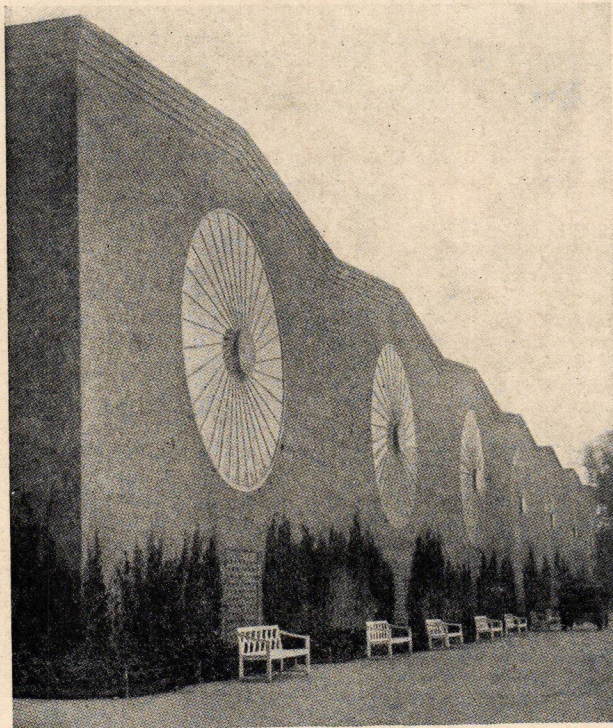
SHOP FRONT, AMSTERDAM

on inquiry I learned that the prices are frequently over three figures. Why need I send my boy to learn. He already produces paintings which resemble those which command good prices. He has a natural talent, and he is not shy and retiring. He tells me that I do not understand and that all the old-fashioned ideas that were in force twenty years ago are all wrong. He does not take very kindly to the idea of attending an art school. When I suggested that the head of a figure he painted in his last picture was about three times too large he looked at me with astonishment written all over his face. "But, dad, that is a detail. It's the impression that counts today. The impression that

man gave me was that he had a large head and I have just painted that impression. Possibly if I saw him again he would not strike me as having a big head." When I ventured to suggest that what I supposed my boy intended to be arms and legs looked rather like flat pieces of boards stuck out at angles, without much shape, he said that he was quite satisfied if I thought they were arms and legs. Very few people possessed decently-shaped limbs. Why introduce the ideal on every occasion when it so rarely existed? Most people's arms and legs appeared to him that way. He had no wish to paint automatically correct arms and legs; to do so would be to mar the spirit of the whole composition.

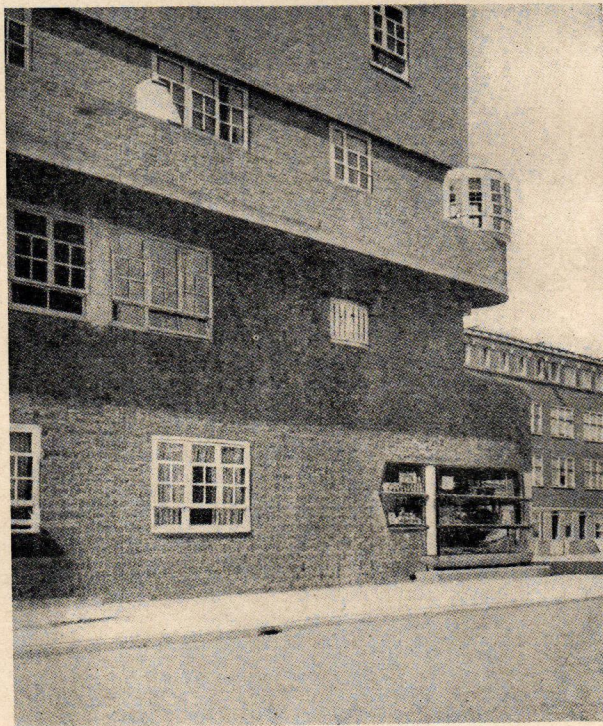
And there are many more. This activity may be accounted for by an awakened sense of responsibility, or it may be due to the recent exhibition

From "The Builder," London



THE INDUSTRIAL HALL, GOTHENBURG EXHIBITION, 1923
DESIGNED BY A PANEL OF SWEDISH ARCHITECTS

From "The Journal of the R. I. B. A.," London



DWELLING HOUSE, AMSTERDAM
DESIGNED BY THE LATE M. DE KLERK

in London of Modern Swedish Architecture, or to a paper on Modern Dutch Architecture read before the Royal Institute of British Architects not long ago by Dr. D. T. Slothouwer, from whose illustrations we cull one or two choice bits. We really wish we could like these things; we are naturally predisposed to like anything that comes from Holland, but from what has been published of the work done there lately we are devoutly thankful that our revered ancestors left there nearly three hundred years ago. In the course of his paper, Dr. Slothouwer anticipating a possible structural criticism says:

In order to appreciate the brick technique of this building it must be understood that the architects wanted to show that the brick surface is only a decorative curtain, hung over a construction of concrete. The consequence of this theory is that the most illogical brick construction is the most honest, because it shows clearly that it cannot exist by itself, and there must be some construction behind. The severe and critical mind of the English architect will certainly at once feel the danger of such a theory. But in this case the theory was not very important, it was made because it was asked for. What need has fantasy of theories?

What need indeed! And following the same line of thought, what need of a theory to account for the design of the Industrial Hall in the Gothenburg Exhibition, and yet, if a theory were demanded, what is more natural than the need of ventilation in a hall occupied by large numbers of industrious Swedes, and what could be more rational than the expression of that ventilation on the exterior? To be sure the ventilating fans are excessively large, particularly for a cold climate, but it's better to be on the safe side. And speaking of exhibitions, we learn that for their services in the building and designing of the Wembley Exhibition Buildings the architect and the engineer have been knighted by King George. We have not yet heard what happened to the Swedish architect, or rather architects, for it appears this building "was designed by a panel of Swedish architects," but the unusual term employed suggests a trial by jury resulting perhaps in some form of penal

servitude. It is an easy step from exhibitions to town planning and we reprint from *The Architect*, London, a short account of how to do it, which we commend to the attention of all interested in that popular art:

A certain Rajah in India desired to rebuild the town of —, and being without funds, he raised the money in a very smart way. He discovered that in the original leases there was a clause which gave him as Freeholder the power to acquire his tenants' leasehold interests by paying compensation. He therefore, required all occupiers of property to put a value on their holdings. When lessees get such a request it is usually on account of a reassessment for the purpose of raising a tax. They assumed that this was now the case, and being at liberty to put any figure they chose on the value of their interests, consequently stated a purely nominal value; whereupon the wily Rajah bought up the whole place on their own nominal valuations. He then set out his new town on up-to-date town planning lines, and building leases were sold to the old occupiers at hugely increased figures. He thus gets a new town, vastly increases the rateable value, and makes a lot of money. Not at all bad!

We are glad to learn also from *The Builder*, London, May 9, 1924, that: "The French Minister of Education, M. de Jouvenel, is endeavoring to amplify the rights which artists in France possess under the law of 1920.

This law enables the artist if a work of art is put up for sale, to claim a percentage of the excess over the original price paid for it. It is established under the new decree that, if several artists contributed to the work sold, they shall share proportionate rights in the increase."

This is as it should be. It often has happened that a few years after a great artist has literally starved to death, oily oriental dealers have made comfortable fortunes. It seems to us that the provisions of this act might be extended to architects. If an architect, Mr. Lindeberg for example, has designed such a charming house that the happy owner feels he cannot afford to refuse an offer of double what he paid for it, it seems only just that a portion at least of this unearned increment should go to the man responsible for the increase, and some way might be found to secure

From "The Architects' Journal," London



SHEPHERD'S BUSH PAVILION, LONDON
FRANK T. VERITY, F.R.I.B.A., ARCHITECT
R.I.B.A. medal for best street frontage in 1923
in London

for the architect some proprietary rights to his design. It might be made obligatory that any changes or alterations in the house could only be made by the original architect. Contraversely, if the house is a failure some percentage of the fee might become refundable. It's a poor rule that won't work both ways.

We find *Architecture*, London, for May as interesting as usual. Besides the article of A. Trystan Edwards from which we have quoted, there is a good description of the Bank of England by Alwyn A. Dent, well illustrated, and Hilaire Belloc writes On Quiet, with a word or two on its little sister Darkness in which he deplores the lack of either in the modern house or hotel. We

From "The Architects' Journal," London



ENTRANCE TO THE PALACE OF ENGINEERING
SIMPSON AND AYRTON, ARCHITECTS

wish we could quote this article entire but a few lines will show Mr. Belloc's feeling about it, a feeling which must be shared by everyone who has lived in a modern hotel:

Our immediate forefathers were at great pains—much too great pains—to get rid of one irritant which had the twofold aspect of some slight physical discomfort and danger to bodily health. They concentrated a great deal too much on what they called "hygiene." They tried to abolish, and did in great part abolish, the dirt and the smells of their time, and they left us a result of repulsive wall surfaces and beds, baths which have no wood around them, and therefore get freezing cold, steam heating which is the death of joy, and all the rest of it. We who are suffering from the legacy of all that effort are perhaps unjust to them. Perhaps if we had suffered the inconvenience and the dangers which they suffered, we should have welcomed the change.

Of our American magazines, *The Architectural Record* for June features the work of Aymar Em-

bury, II, in the Sand Hills of North Carolina, a great deal of work; very diverse in character and all very interesting and appropriate. *The Architect* for June has the Greenwich Savings Bank by York & Sawyer, a scholarly treatment of a big order with a fine attic; and a quaint coffee shop interior, which is almost theatrical, by Howard Greenley whose work always has charm and is too infrequently published. *The Architectural Forum* for June has all sorts and conditions of shop fronts, many of them good and all a great improvement on the work done in the past, that is in the immediate past. But none of them has the intimate charm of the old shop front in England or on the Continent, and as that charm seems to be due to the small scale not only of the shop, but of the surroundings, it is probably not possible to obtain it now. Of all the shops published perhaps the best is the relatively old one of Dreicer & Company by Warren & Wetmore. *Architecture* for the last few months, we regret to say, has not been sent us. In the June number of *The Journal of the American Institute of Architects*, there are reprinted the five papers on Precedent read at the last convention of the Institute. These papers were so generally enjoyed by those who heard them, and will be so generally read by those who will form their own opinions, that comment here is perhaps unnecessary, but we cannot agree that use of precedent is always plagiarism, or that no old forms must ever be used, or that a new virile American style is immediately possible. As a matter of fact, there is nothing very novel in it all; more or less the same things have been said for years back and have been said again lately in the English magazines. With many of the ideas everyone must agree: the copying of any design, ancient or modern, is as bad in architecture as the copying of a picture or a tune or a poem. It is the height of banality to copy a classic temple and call it a design for the proposed new Fourth National Bank, but it is perfectly good architecture to use a classic order straight for the same bank building just as it is better to use standard steel sections than to insist that new and strange forms be rolled. If the architect for the new Fourth National Bank wishes to use an order, he is at perfect liberty to design a brand new one if he can, but, as he probably can't, it would be the part of wisdom, as we say in our letters to committees, to stick pretty closely to classic conventions that are known to be good. And as far as the new modern style that is to come, that must come—well let it come! We, for one, would welcome it, that is, we would if it had something besides novelty to recommend it. The trouble is as we see it, and as we have said repeatedly, that architecture is ceasing to be a personal profession and is becoming a business, and that originality in the development of design is fatally handicapped by the damnable facility of modern construction.

The LAW as to ARCHITECTURE

BY CLINTON H. BLAKE, Jr., of the New York Bar

I HAVE hitherto discussed some of the phases of the questions which arise where the work is suspended or abandoned. We have considered especially in this connection the rights of the architect to compensation under these conditions and the effect upon his rights of the suspension or abandonment of the work. I have pointed out the importance to the architect of covering this situation by a proper contract provision, so worded as to entitle him to proper compensation, if the work is abandoned. To some extent, also, I have referred to the equal necessity of the protection of the architect in connection with the recommencing of the work, after its suspension.

This phase of the matter divides itself, naturally, into two questions. On the one hand, the architect must protect himself, if possible, against the possibility of the work being proceeded with under the direction of another architect. As a matter of professional ethics, a firm of good standing will not, of course, take over and conclude work which has been theretofore commenced by another architect, and make use, in so doing, of the plans prepared by the architect originally chosen. If the contract provides, however, that in the event that the work is carried to completion, after suspension, the original architect shall have the right to continue as architect of the work, this feature of the matter will be covered. If he does not agree to continue, then, of course, the owner should be free to employ another architect. In the second place, the architect should be protected, in general terms, on his commission when the work is recommenced, so that he may ultimately receive, under such conditions, the full fee to which he would have been entitled, if the work had been originally carried to completion, without delay, and in addition such proper amount as may be equitable to compensate him for his loss incident to the delay.

It is evident that, when the architect's organization has been geared up to the completion of a job and a delay of a substantial time occurs, the architect will complete the work later at a cost in excess of that which he would have had to meet, if he could have proceeded with the work without interruption.

In connection with these phases of the matter, it is important to consider another element which

we have not hitherto discussed, namely, the question of what constitutes an abandonment of the work. In a sense, abandonment is a question of intention. As a legal proposition, however, as applied to the determination of the architect's rights, it becomes a question of fact. The mere fact that the owner has not determined in his own mind that the work has been abandoned is not controlling. The court will decide on the facts given whether there has been or has not been an abandonment. If an owner fails to proceed with the work within the time contemplated by the contract, there may legally be said to be an abandonment of the project. The line of demarcation between a suspension of the work and an abandonment thereof may, of course, be a close one and some cases will be grouped along the border line separating suspension from abandonment. The point to remember in this connection is that each case must stand and be determined upon the facts which it involves.

Ordinarily the contract between the architect and his client will not state, probably, the time within which it is proposed that the work will be undertaken or completed. If this date is stated, it is not a difficult matter to determine that, if the work is not proceeded with within a reasonable time thereafter, it has been abandoned. If the time for completion is not given, then it is a question of fact what would have been a reasonable time for its completion and whether it has been carried to completion within this time. If the owner has not initiated the work or, having suspended operations, has not recommenced them within the time which the jury, under the rules laid down by the court, determines to be a reasonable time, an abandonment will result.

An interesting case has recently been decided by the Supreme Court of Georgia on this very point. The case was interesting also, in that the owner and architect, contrary to the usual custom, agreed that preliminary plans should be prepared, but that the owner should not be called upon to pay for them, if he decided to erect the building and gave the architects the job, but that he should pay for them, if the erection of the building were abandoned. The contract set no time for the erection of the building. Two years went by, after the plans were prepared, and the owner took no steps toward erecting the building. He testi-

fied, however, on the trial, that he had not abandoned the idea and still intended to proceed with the work.

The court held that abandonment may be proved by evidence that the owner failed to consummate the design within the time contemplated by the contract, and the court gave a verdict in favor of the architect for the compensation due him for the plans, holding that the erection of the building had been abandoned.

The question involved in the foregoing case would have been obviated, had the agreement provided that the architect should be paid for the preliminary plans, in any event, or if it had been provided that he should be paid for the preliminary plans, if the building were not proceeded with by a certain date and that, if it were proceeded with in that event, he would make no charge for the preliminary plans. The question of whether there had been an abandonment also would have been entirely removed from the case, if the contract had contained a few words to the effect that, unless the work were proceeded with by a certain date, it should be deemed to be abandoned and the architect's rights to payment should accrue, accordingly.

LEGAL DECISIONS

THE plaintiff contractor undertook to supply the material for and to construct a steel bridge for the defendant Railway Company. The proposed bridge was to be 193 feet or 243 feet long in the alternative. As a preliminary to bidding on the work, the Railway Company asked the contractor for an estimate on the bridge, which should include both material and work. In this connection, the Company submitted a drawing for a bridge 193 feet long, but without specification of material. The plaintiff submitted an offer to do the work at a price of 4-95/100c per 100 pounds, referring by identification number to the plans submitted. Later, the Railway Company had prepared, and furnished the plaintiff with, detail sheets specifying the material, without a drawing, however, and disclosing the fact that the bridge was to be 243 feet long and that a corresponding quantity of steel would be required. The offer which the contractor had made of 4-95/100c per 100 pounds of steel was then accepted and the contract closed on that basis. The contractor proceeded with the work and built the bridge, and the Railway Company paid the contractor in full the contract price on the above basis. After the bridge had been so built and paid for, plaintiff discovered, as it claims, that the bridge built was not the bridge which it con-

tracted to build. It claimed that, in view of this fact, the bridge had not been built under the provisions of the contract entered into, and that the contract could not apply to it, and therefore sought to recover on a theory of *quantum meruit* for the reasonable value of the work done, at a market rate of \$9 per 100 pounds of steel.

The court found: that the plaintiff had before it data for bridges of both dimensions, and that both parties had dealings with reference to a bridge of 243 feet; that both parties were charged with knowledge of the amount of material it would take to build a bridge of that dimension; that plaintiff fabricated and delivered all necessary material for a bridge of that dimension, and received payment of the contract price; that no intimation was given at that time that the bridge so built and paid for and accepted was not the bridge covered by the contract; that plaintiff's conduct in proceeding as above must be taken as showing its interpretation of the contract provisions; that the plaintiff, under these conditions, could not claim thereafter that the bridge was not erected under the terms of the contract; that the amount of this recovery could not be covered by *quantum meruit*, but must be determined in accordance with the contract provisions and that, having been paid in accordance with the latter, no recovery by plaintiff could be had; that where a contractor agrees to furnish material and perform work in accordance with certain plans and specifications, payment to be made on the basis of quantity of material used and, on a subsequent change of plans requiring a larger structure and more material, but of the same kind, the contractor, without objection, proceeds and does the work, the price mentioned in the contract shall determine the amount due.

Keystone Structural Company v. Lake-Belt Company, 270 Federal 705, 265 Federal 320.

WHERE a contract provides that the architect shall prepare preliminary plans and that the owner shall pay for them, if the building project is abandoned and no time is set for the erection of the building and two years elapse after the making of the plans, without any steps being taken by the owner to erect the building, a decision by the Trial Court that the owner has abandoned the idea is proper, notwithstanding evidence by the owner that he had no intention of abandoning the erection of the building. Evidence that the owner has failed to proceed with the work within the time contemplated by the contract may be received in support of the contention that the work has been abandoned.

Long v. Burge, etc. (Georgia Supreme Court), cited April, 1924—but not yet officially reported.

BEAUX-ARTS INSTITUTE of DESIGN

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF APRIL 8, 1924

CLASS "A" AND "B" ARCHAEOLOGY—IV PROJET "A GOTHIC VENETIAN PALACE FACADE"

Originating in Western Europe, the Gothic style invaded Italy at a time when each town was still a rival municipality ruled by virtue of force, and the Country torn by continual revolutions, wars and conquests. Venice alone, because of her geographic isolation by land and the greatness of her fleet on the seas, had enjoyed some ten centuries of independence and ever increasing prosperity. For centuries her merchant fleets had brought back the magnificence of the Orient, the pagan splendor of Greece, as well as the simpler Christianity of the Occident to be assimilated by this cosmopolitan metropolis; and from this evolved the individual and unique art that found expression in the dazzling splendor of the Gothic Palaces of the Venetian merchant aristocracy.

The subject of this problem is the façade of such a palace. It shall interpret an entrance from the landing platform to the ground floor and three floors above. The entrance floor may be treated with a mezzanine. The reception suite is to be located on the floor above. The façade shall be 100'-0" in width and shall face directly on a wide canal.

JURY OF AWARDS:—H. O. Milliken, H. M. Woolsey, W. VanAlen, H. Hornbostel, H. W. Corbett, G. M. Simon, H. Sternfeld, O. Faeltton, and C. Grapin.

NUMBER OF DRAWINGS SUBMITTED:—36.

AWARDS:

SECOND MEDAL:—A. M. Dick, Columbia Univ., N. Y. C.; G. S. Brock, Jr. and T. Locraft, Catholic Univ., Wash., D. C.; A. R. Martin, Chicago Atelier, Chicago; J. J. Whitfield, Jr. and L. C. McClure, Georgia School of Tech., Atlanta; M. Peele, George Washington Univ., Wash., D. C.; C. E. Maule, Pennsylvania State College, Dept. of Archt., State College; R. Ruhnka, and S. C. Jelinek, Univ. of Pennsylvania, Phila.

MENTION:—C. M. Cowan, L. Moore, A. E. Poor, H. G. Schoenthal and R. J. Young, Columbia Univ., N. Y. C.; J. E. Miller, J. L. Reynolds, C. J. Keller, and G. T. Bassett, Catholic Univ., Wash., D. C.; E. J. Ryan, Chicago Atelier, Chicago; G. V. D. Cortelyou, French Curve Atelier, Trenton; D. C. Kline, C. A. Hough and T. S. McClelland, George Washington Univ., Wash., D. C.; G. G. Santiago, B. Dunbar, R. J. Snelling, W. M. McIntosh, and R. W. Didschuneit, Georgia School of Tech., Atlanta; D. S. Nelson, Atelier Parsons—Chicago Archtl. Club., Chicago.

THE MUNICIPAL ART SOCIETY PRIZE

Through the generosity of the Municipal Art Society of New York City this Prize will be awarded annually on the fourth Class "A" Projet of the season.

FIRST PRIZE—\$50.00 SECOND PRIZE—\$25.00

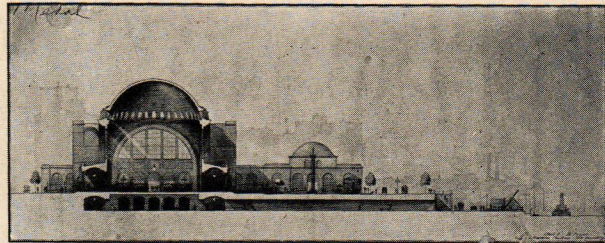
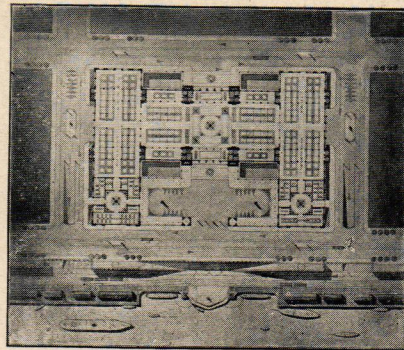
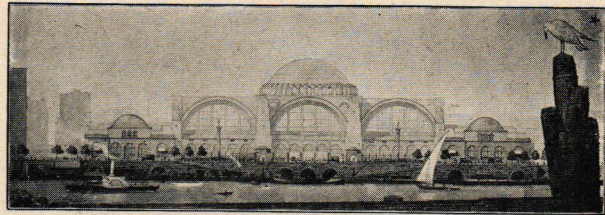
CLASS "A"—IV PROJET

"A MUNICIPAL MARKET"

A municipality proposes to erect a public market on a rectangular plot 450'-0" x 300'-0". One long side of the plot faces a river. The river level is 20'-0" below the level of the streets which surround the plot. Five feet (5'-0") above the river will be provided a basement under as much of the plot as is necessary, for storage purposes, it being assumed that most of the supplies arrive in boats.

The market may be one great hall or there may be separate divisions for meat, fish, farm produce, flowers, etc. Exceptionally good light and ventilation are essential. The construction need not cover the entire plot as some selling (as of flowers) may be done out-of-doors during most of the year. There should be a few small offices, public telephones and toilets, and ample communication to the basement.

In addition to the market there will be, either as a part of the market building or in close connection with it, a restaurant using its produce. This will be patronized by the market people and by the people of the city. It should provide in not more than two stories for the two classes of customers, and should be placed on the river side of the plot.



W. FAULKNER SECOND MEDAL YALE UNIV.
CLASS "A"—IV PROJET—A MUNICIPAL MARKET
MUNICIPAL ART SOCIETY PRIZE COMPETITION

SPIERING PRIZE COMPETITION

A Prize founded in memory of Louis C. Spiering, from funds bequeathed by him to the Society of Beaux-Arts Architects and given for the best solution of the fourth Class "B" Esquisse-Esquisse of the season.

PRIZE—\$50.00

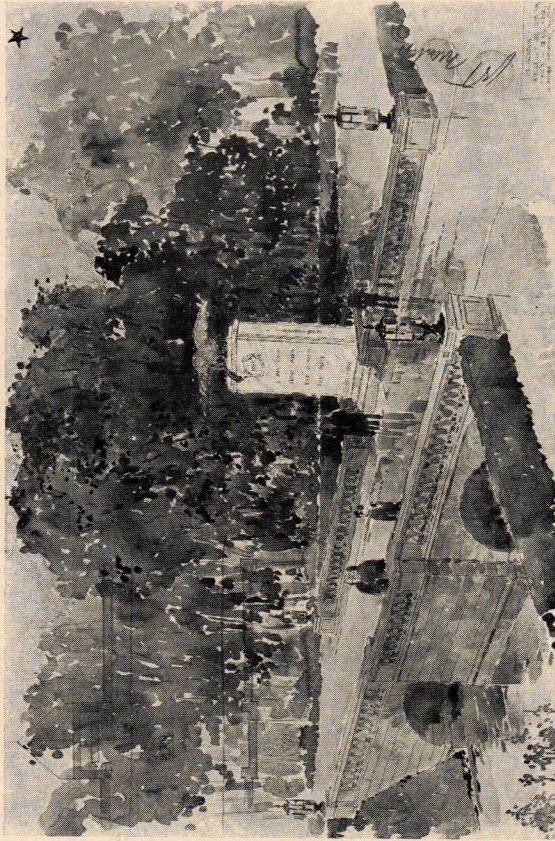
CLASS "B"—IV ESQUISSE-ESQUISSE

"A SMALL BRIDGE BETWEEN TWO STATES"

A main highroad crosses a narrow river which forms the boundary between two states. The width of the roadway is 40'-0" and the average width of the river 50'-0". The banks rise from the river at an angle of approximately 45° to a height of about 20'-0".

At this point, the two states have joined together to build a substantial bridge of masonry, of dignified character. The fact that it serves as a connection between the two states should be clearly indicated in the design.

NOTE: Class "B"—IV Esquisse-Esquisse, announced in issue of June 18, was incorrectly titled as "A Waiting Pavilion for a Trolley Line." It should have been "A Small Bridge Between Two States," the program for which is printed above.



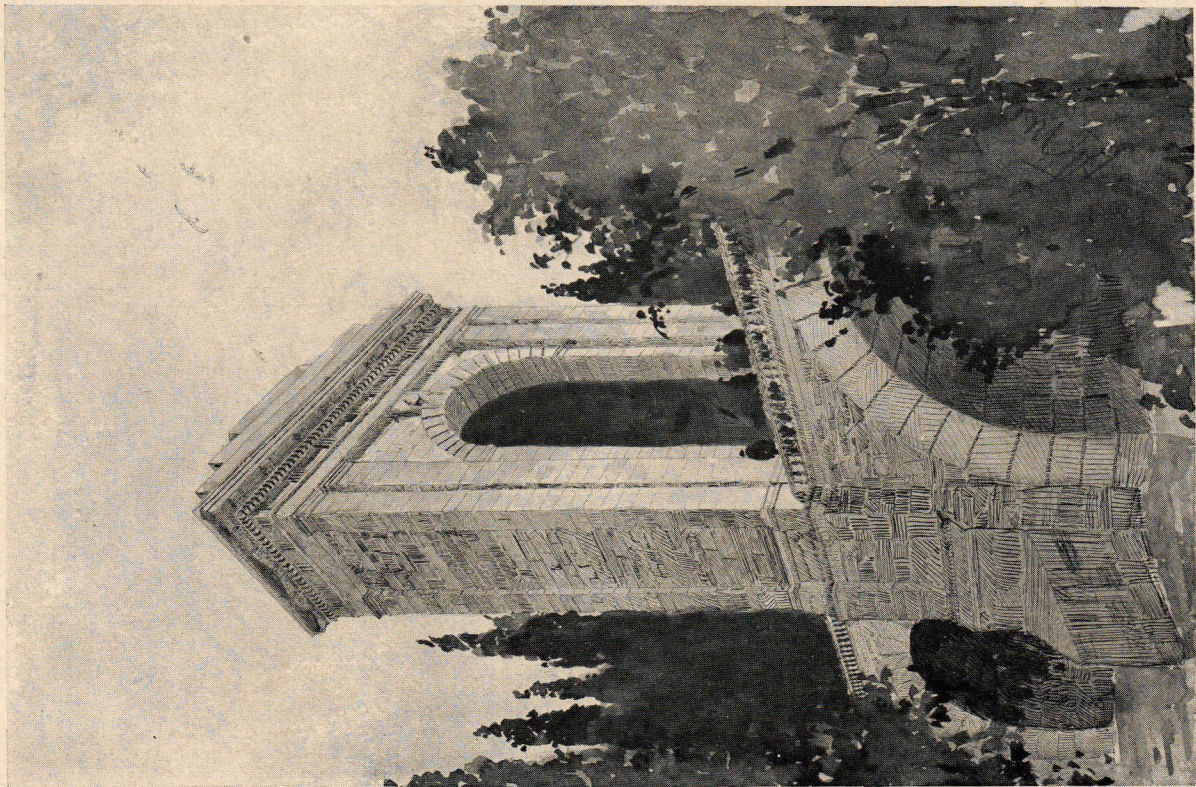
"T" SQUARE CLUB

FIRST MENTION

J. E. JACKSON

CLASS "B"—IV ESQUISSE-ESQUISSE—SPIERING PRIZE COMPETITION

A SMALL BRIDGE BETWEEN TWO STATES



V. GALIER

PRIZE AND FIRST MENTION

"T" SQUARE CLUB

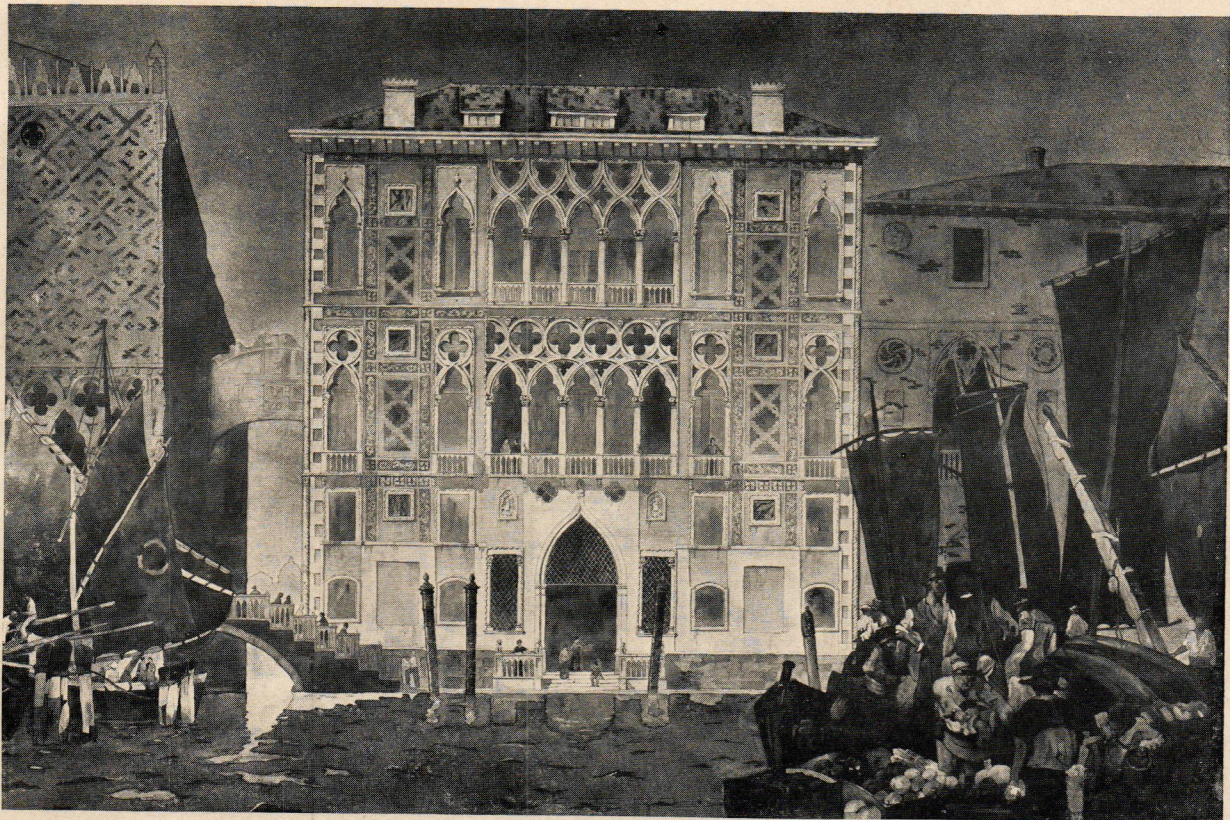
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



R. RUHNKA

SECOND MEDAL

UNIV. OF PA.



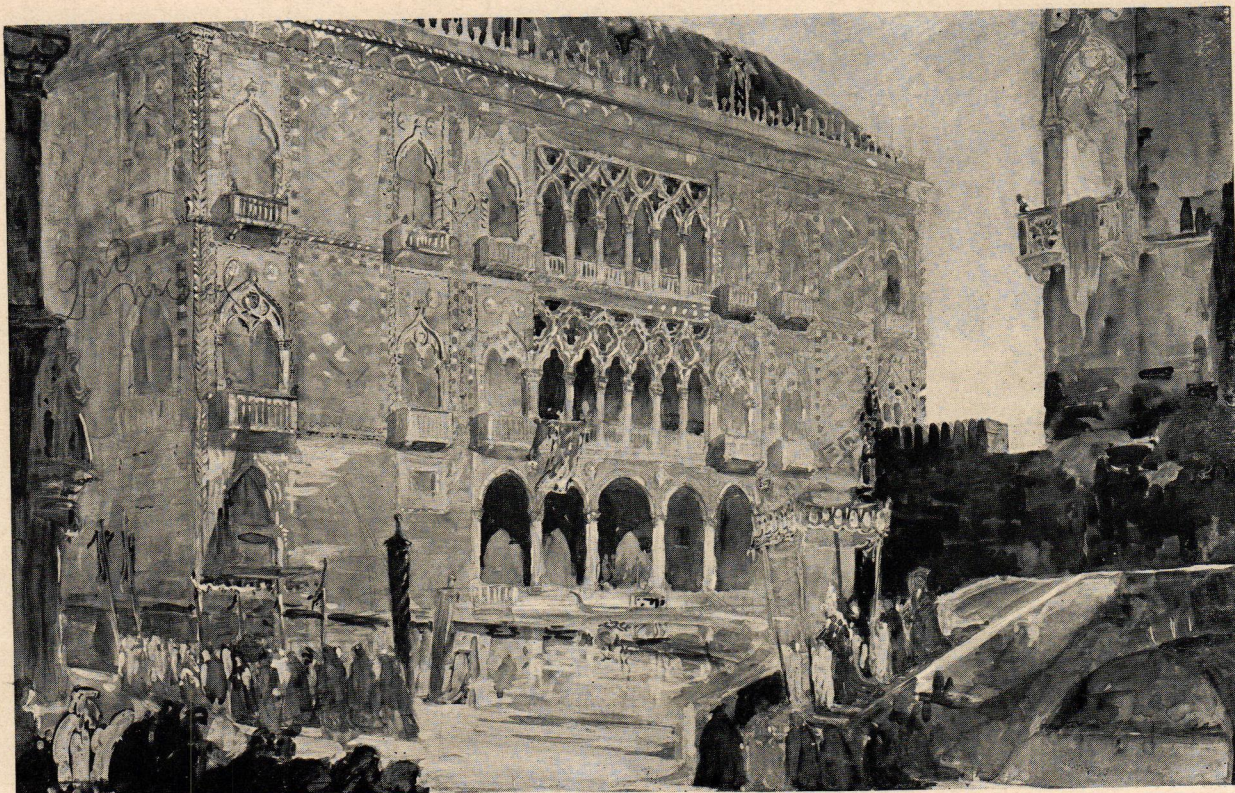
J. J. WHITFIELD, JR.

SECOND MEDAL

GEORGIA SCHOOL OF TECHNOLOGY

CLASS "A" AND "B" ARCHÆOLOGY-IV PROJCT—A GOTHIC VENETIAN PALACE FACADE

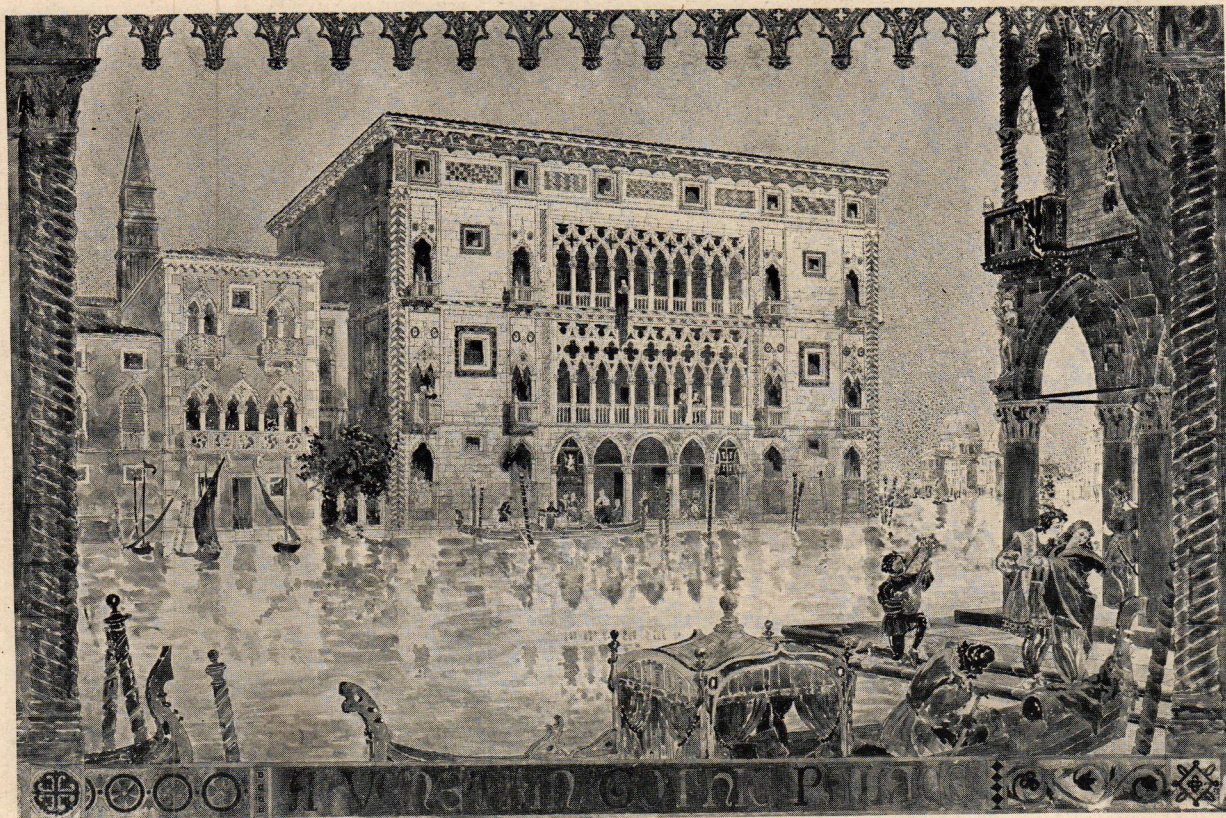
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN



A. R. MARTIN

SECOND MEDAL

CHICAGO ATELIER



T. LOCRAFT

SECOND MEDAL

CATHOLIC UNIV., WASHINGTON, D. C.

CLASS "A" AND "B" ARCHÆOLOGY-IV PROJÉT—A GOTHIC VENETIAN PALACE FACADE
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN