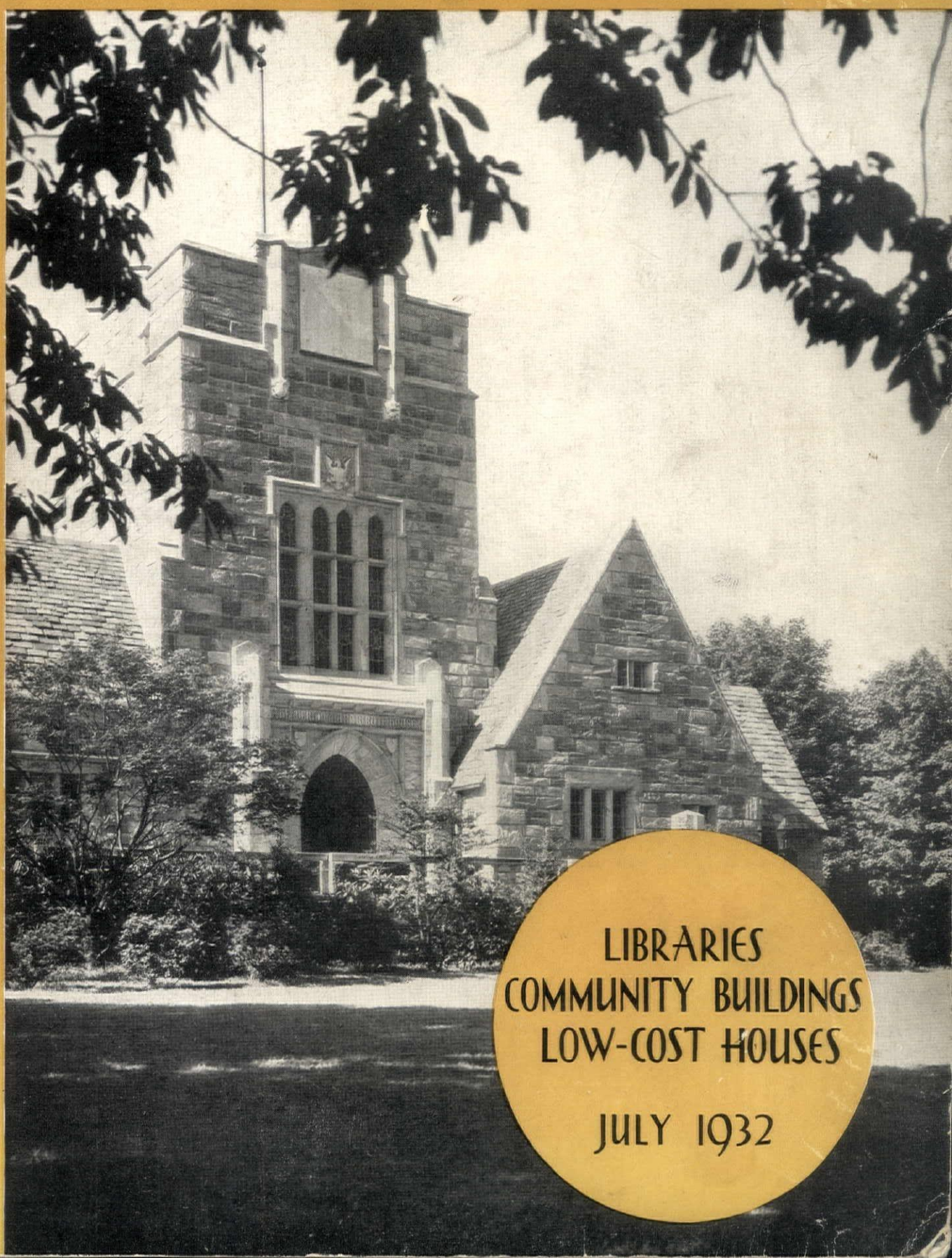
THE ARCHITECTURAL RECORD



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THE ARCHITECTURAL RECORD

F.W. DODGE CORPORATION

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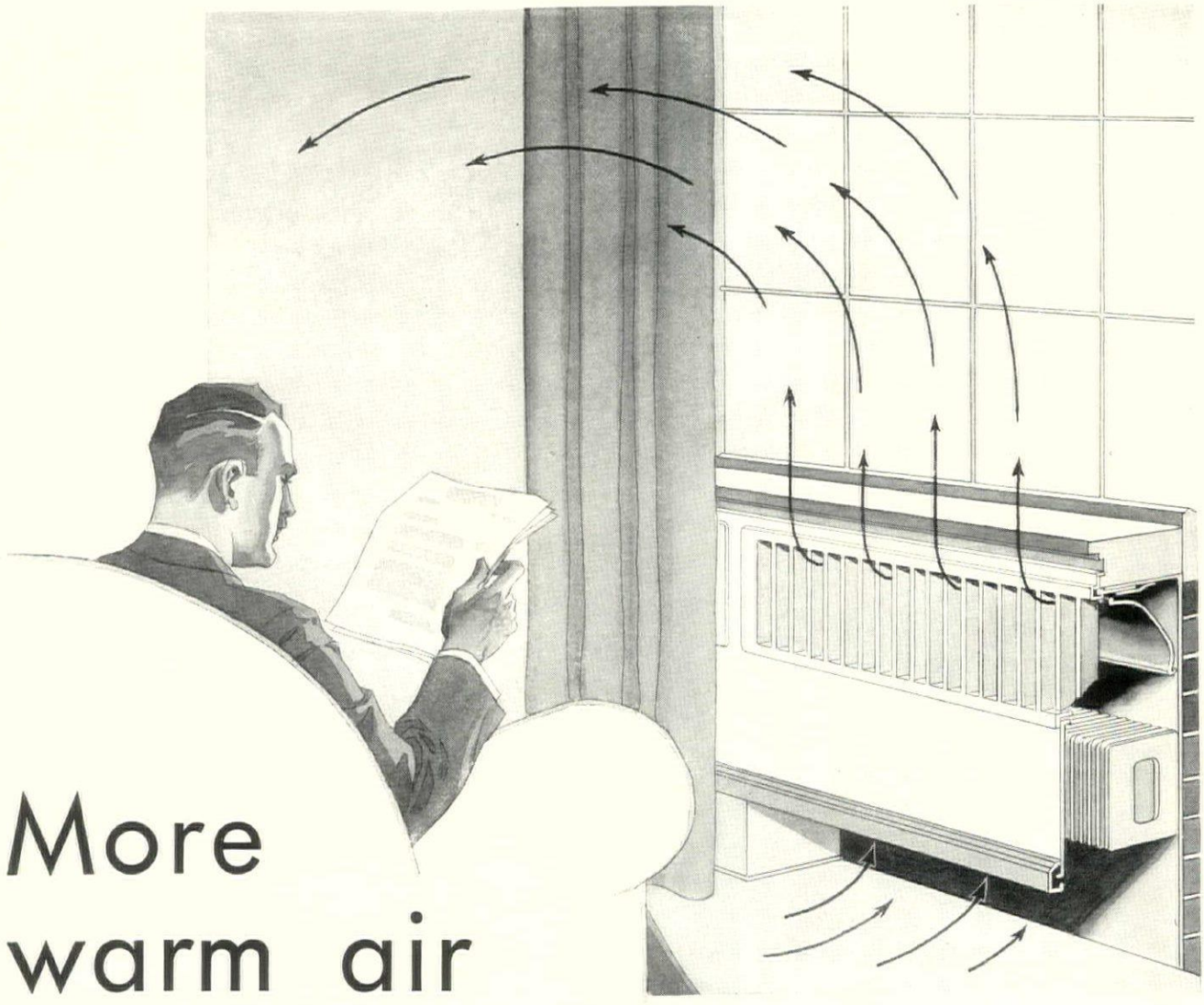

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The treatment above organized the windows in groups of four (2 on each story), each group being trimmed with black Vitrolite and aluminum, the spandrels and spacing between the window trim being in two tones of sandblast and black. The rest of the surface is walnut-agate Vitrolite graded from dark at the bottom to light at the top, which terminates in a simple aluminum coping. The architect: Austin & Shambleu—General Contractor: Ralph Sollitt & Sons. Vitrolite installed by South Bend Glass Works.

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Direct glare: *Resulting eye-strain retards production.*

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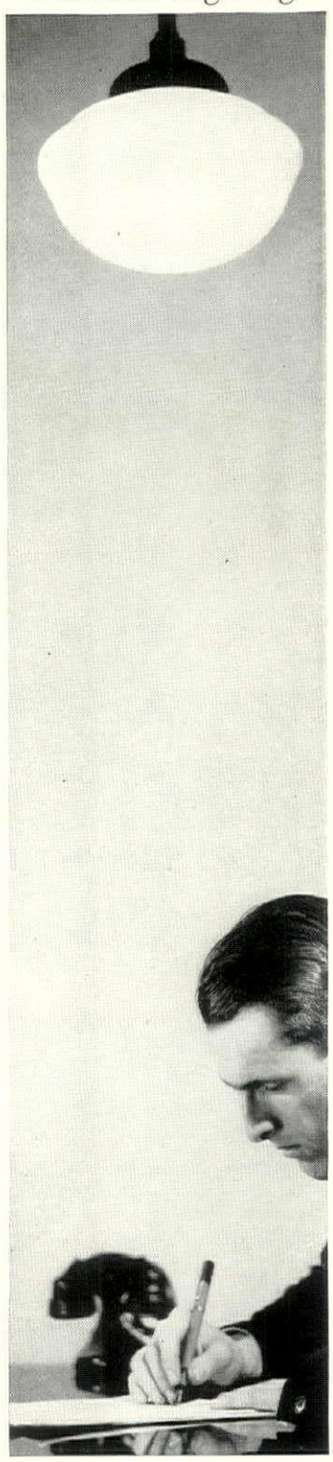
Balanced Lighting



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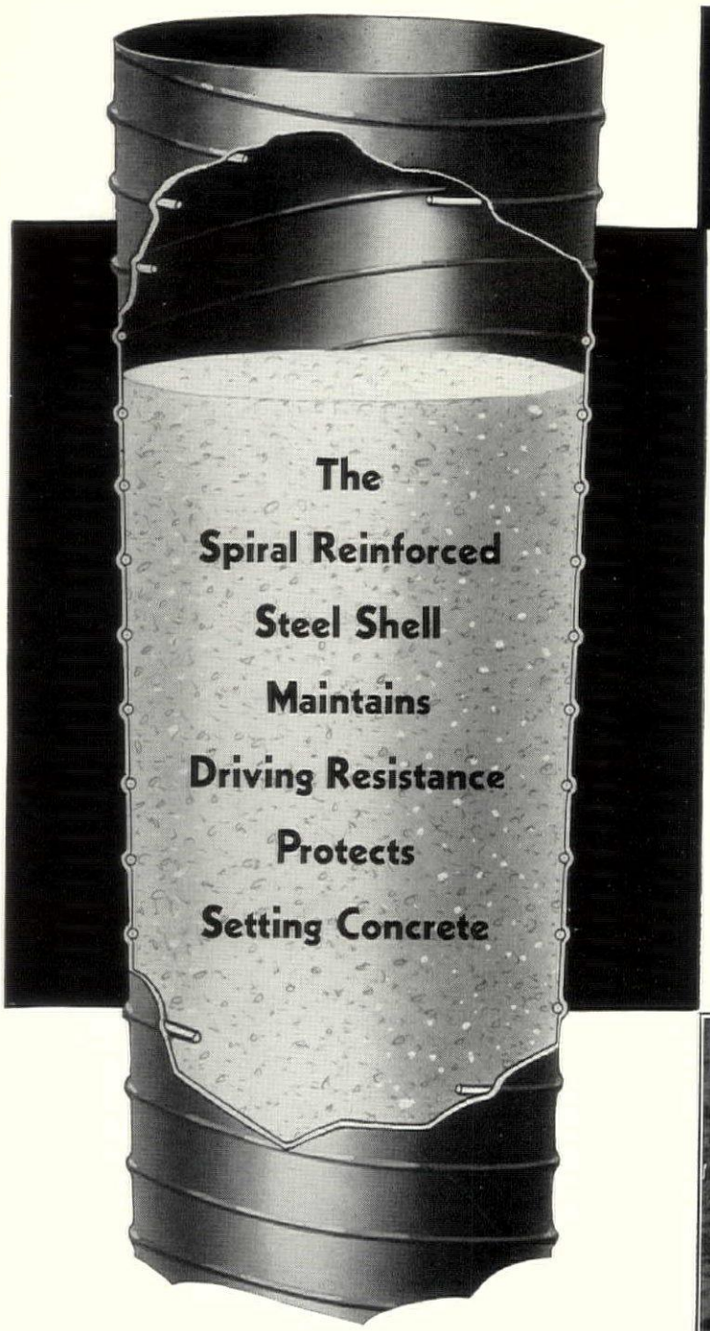

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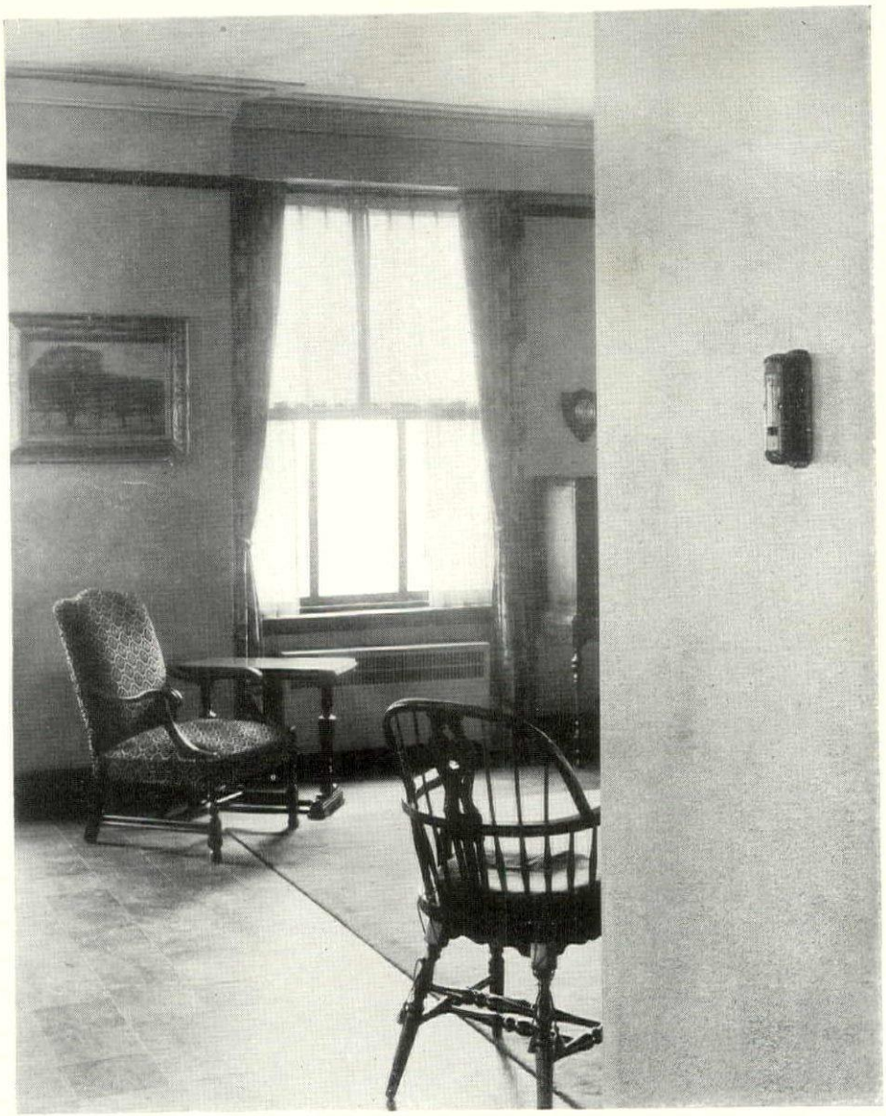

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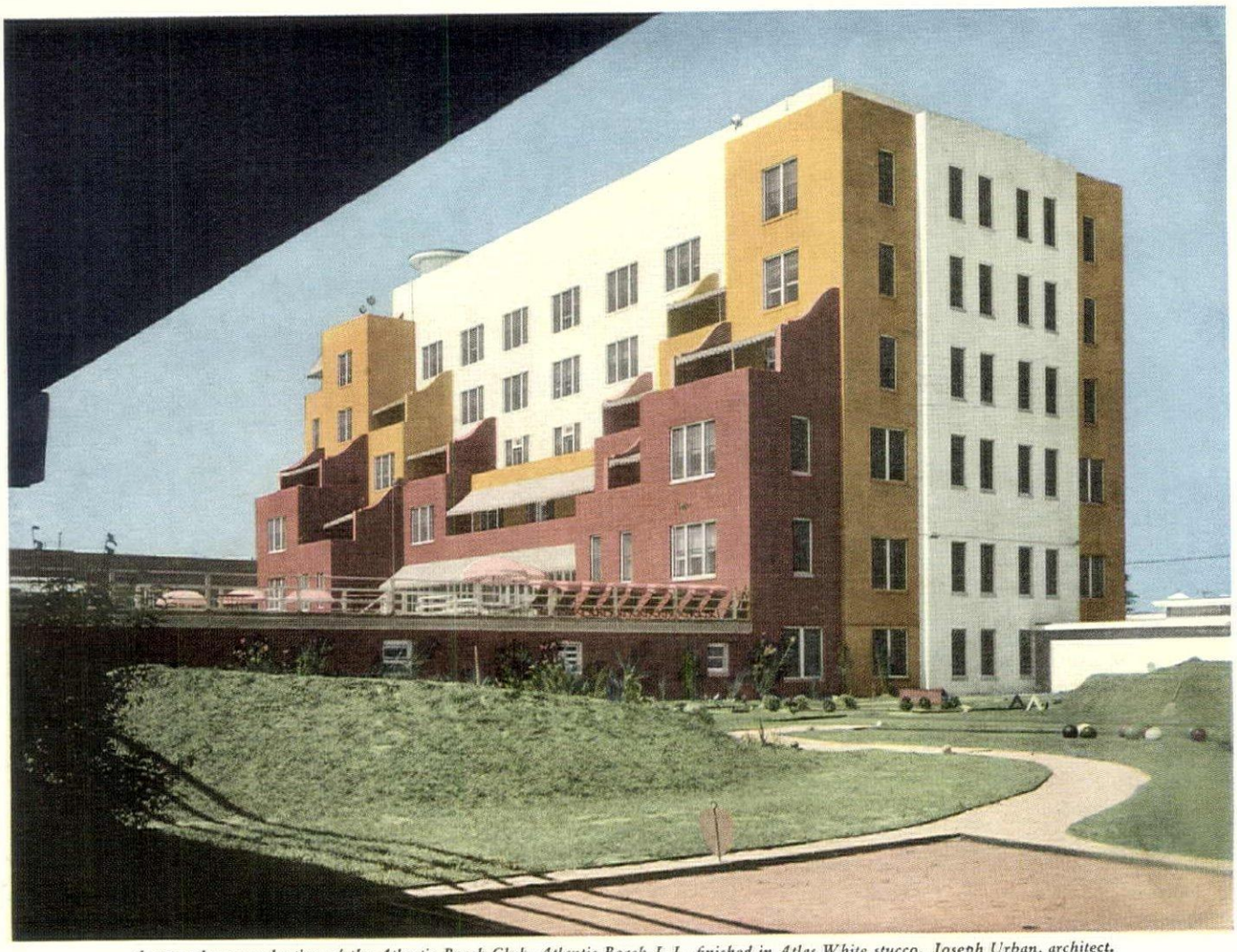

A true-color reproduction of the Atlantic Beach Club, Atlantic Beach, L.I., finished in Atlas White stucco. Joseph Urban, architect. Artstone Stucco furnished by Artstone Products, Inc., New York City

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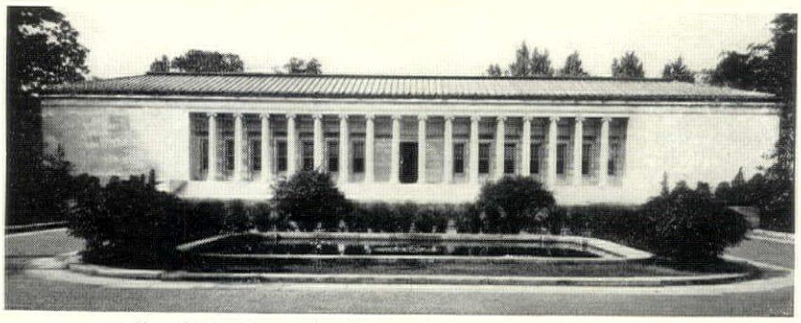

(Above) The Museum in 1909... (Below) As it appears today.

Original unit, Architect: Green & Wicks, Buffalo. Sheet Metal Contractor: Warnke Bros. Co., Toledo. Both additions, Architect: Edward B. Green, Sr., Buffalo. Sheet Metal Contractor: Fred Christen & Sons, Toledo.

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FICTITIOUS PRICES

By H. H. SHERMAN, Executive Secretary
The Producers Council, Inc.

The primary object of business men is to continue in business. One recognizes in Mr. Daniel Higgins' article "Firm Specifications" in June ARCHITECTURAL RECORD that this reasonable aim of the business man is understood and accepted by leaders in the architectural profession.

Anyone old enough to have an opinion realizes that when prices fall below a certain point, the quality of a product is perfectly sure to suffer. That point, however, cannot be found by arithmetic; let us admit therefore that there can be both justifiable and fictitious reductions in material prices. By justifiable reductions I mean reductions in line with the decrease of commodity prices generally. Fictitious reductions, let us say, are those that can be forced upon a manufacturer or a contractor solely as a result of demoralization in an industry; prices from which none can expect to get back his costs, let alone any semblance of profit.

No one can reasonably complain about justifiable, normal, price variations, although we do complain about them, just as we grumble about the weather or about anything else of natural origin and entirely beyond our control. These things are healthy. Industry meets them by better methods, closer economies, less waste, better organization. All industrial progress is an affair of making better and better materials at lower and lower costs, usually because it has to be done.

But that is not what is the matter with the building business today. The purchasing group on a big job takes bids from the subcontractors who are producers as well in a basic industry. $225,000, let us say, is a fair price; $200,000 is a good buy. One good organization is overstocked and in a position to quote $180,000. Is this figure taken, and considered a bargain? It certainly is not. The subcontractors are called in and a $140,000 is price demanded. A new, ill-equipped and inexperienced organization takes the job at $150,000. Let us concede that this is a fictitious price.

Right now, the owner should be asking himself, If he gets that job, what is he going to do with it? Fortunately, that is what a great many of the far-thinking architects are beginning to ask. Mr. Paul Cret, of Philadelphia, recently wrote a clause into an important general contract stipulating that the contractor shall name all subcontractors whose bids comprise his quotation; shall state the amount of these bids; and thereafter shall refund to the owner any "savings" in the final subcontract payments.

Appreciation of his own position compels the architect to protect his client against fictitious prices. The sharp buyer simply hopes that some one besides himself is going to be hurt; but this would be a strange attitude for a professional man who, presumably, is not expected to gamble with his client's funds. For no one, however wise, can write a contract that controls building operations irrespective of price. As long as business is done by human beings, the intent of the specifications will depend primarily upon the prices that the owner wishes to pay for what he gets.

Bachrach

H. H. SHERMAN

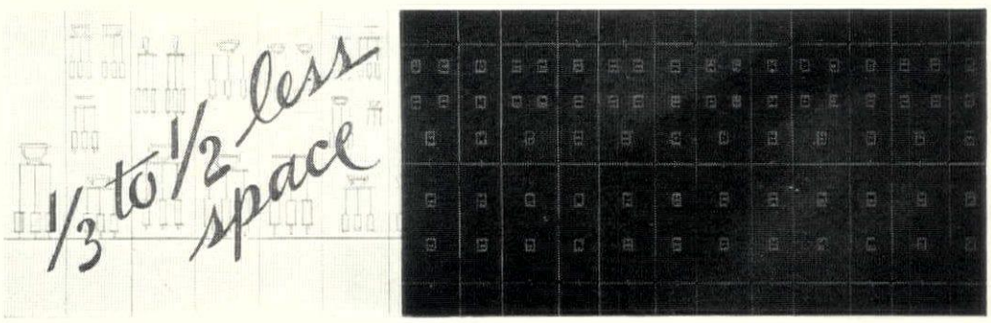
The quarrying art, for example, goes back beyond the dawn of history, yet there is no final control of values except honest interpretation of intent. "All exposed surfaces shall be out-of-wind, free from waves, projections or depressions. . . ." How free? All surfaces wind, and have projections and waves. "Arrises shall be cut sharp. . . ." How sharp? "Beds shall be reasonably free from large depressions; backs shall be . . . split to approximately vertical surfaces." What is reasonably free? What is approximately vertical?

If a man wants something cheap, he can always buy it. If a client wants something inexpensive, the architect can design it honestly and well. But what we are concerned with are the cases where the owner gets something cheap that he does not want. It is the architect's job to keep him from getting it.

Meanwhile, the construction industry faces increasing competition for the consumer's dollar. Where a normal, natural price decline stimulates better methods, price demoralization makes them impossible. Restriction of research and restriction of intelligent sales effort that can cut costs legitimately leaves an industry in a poor position to meet this new competition between industries. Is this what the architect really wants? For one assumes that, like the business man, he wishes to stay in business.

SAVE BUILDING SPACE

▲▲▲ *Put a florist shop in the space* NOFUZE *Switchboards save*



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AMERICAN PUBLIC BUILDINGS OF TODAY. Edited by R. W. Sexton. Published by The Architectural Book Publishing Co., Inc., New York. 208 pages. 320 illustrations. Price $12.50.

This latest volume in a series is a collection of exteriors, interiors, details and plans of present-day American municipal buildings, libraries, museums, memorial buildings, buildings in public parks, fire stations, and court houses. Each type is presented as a group of buildings completely illustrated. The work concludes with four chapters by practicing experts in lighting, museum, library and park building design.

PLANS FOR CITY POLICE JAILS AND VILLAGE LOCKUPS. By Hastings H. Hart. Published by The Russell Sage Foundation, New York. 27 pages—plans and 3 halftones of renderings. Price $1.50.

In 1931 there were approximately 11,000 police jails and village lockups in the United States, outnumbering other prisons three to one, and handling more than two million prisoners a year. The recommendations of this book are a result of a careful survey of these jails during which much evidence of prevalent bad conditions was accumulated. Four model plans evolved by the author and consulting architects show solutions of the following problems:

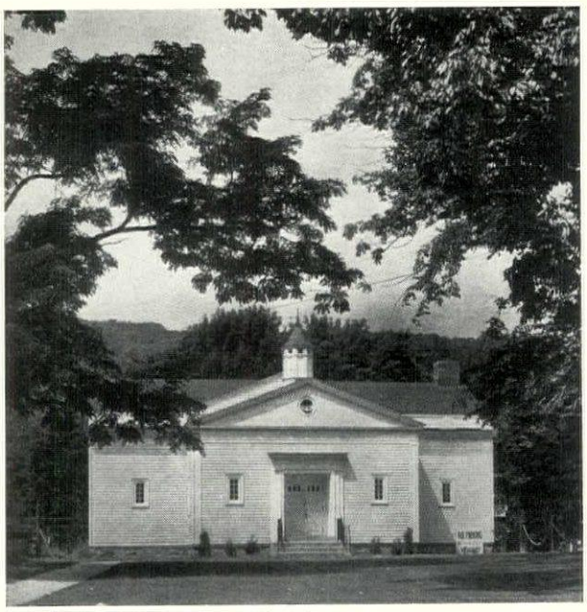
(1) the police station for a metropolitan city;
(2) for a medium-sized city;
(3) for a small city; and
(4) a fireproof lockup for a small village.

The specifications for Minnesota village lockups for 1894 and 1931 are printed side by side to show the very slight differences.

PLANNING FOR GOOD ACOUSTICS. By Hope Bagenal, A.R.I.B.A., and Alex. Wood, D.Sc., M.A. Published by E. P. Dutton & Co., Inc., New York. 415 pages. 236 halftone illustrations, diagrams and plans. Price $6.75.

This book is a complete technical and historical study of the subject of acoustics. It begins with an explanation of the properties of sound and the general fundamentals of acoustic science. Proper amplification and absorption of sound are discussed in general, through specific formulas, and in practical examples of all kinds, illustrated by many analytical diagrams of buildings here and abroad.

The range of types analyzed includes those for music and the spoken word—churches, buildings for debate, concert halls, theaters, class and auction rooms, etc.—as well as those in which silence or soundproofing is necessary. Hospitals, residences, offices, and churches to some degree, are examples of this latter class. A chapter on the design of plans and sections for best acoustic results is of particular value to the architect. Summaries of practical points for inclusion in programs of competitions make the book a valuable one for the reference use of building committees.



American Public Buildings of Today
MUNICIPAL BUILDING AT KENT, CONNECTICUT
CHARLES W. WALKER, ARCHITECT

The authors also explain the treatment of existing halls to remedy defective acoustics. The essentially modern problems of the sound picture and broadcasting studios are discussed. Four appendices complete the study with tables, formulas, and even translations into French, German and Italian of the summaries of important points.

AN INTRODUCTION TO THE STUDY OF LANDSCAPE DESIGN. By Vincent Hubbard and Theodora Kimball. Macmillan Company. 419 pages. 36 plates, 39 drawings. Price $6.

The subject of landscape design has no proper and adequate vocabulary. The terminology of most arts is inadequate, but in landscape design the more definite ideas you have the more apparent is the difficulty of expressing them in other terms than borrowed analogies and roundabout descriptions. The authors of this volume have not wholly conquered the difficulty, but they have recognized it and made progress. It is something, for instance, to acquire the idea that "character" in natural landscape is something like "style" in art.

A competent landscape architect is a man of extremely varied knowledge, and his profession, as an independent profession, is of recent growth. The bulk of its printed information comes from the older fields of architecture, engineering, horticulture, and there has been hitherto no book on the general subject adequate to its modern developments. The illustrations are all, by references from the text, brought to bear on specific points. There is a bibliography, a full index, and a list of plants to go with the planting plan of a suburban estate.

The Nation's

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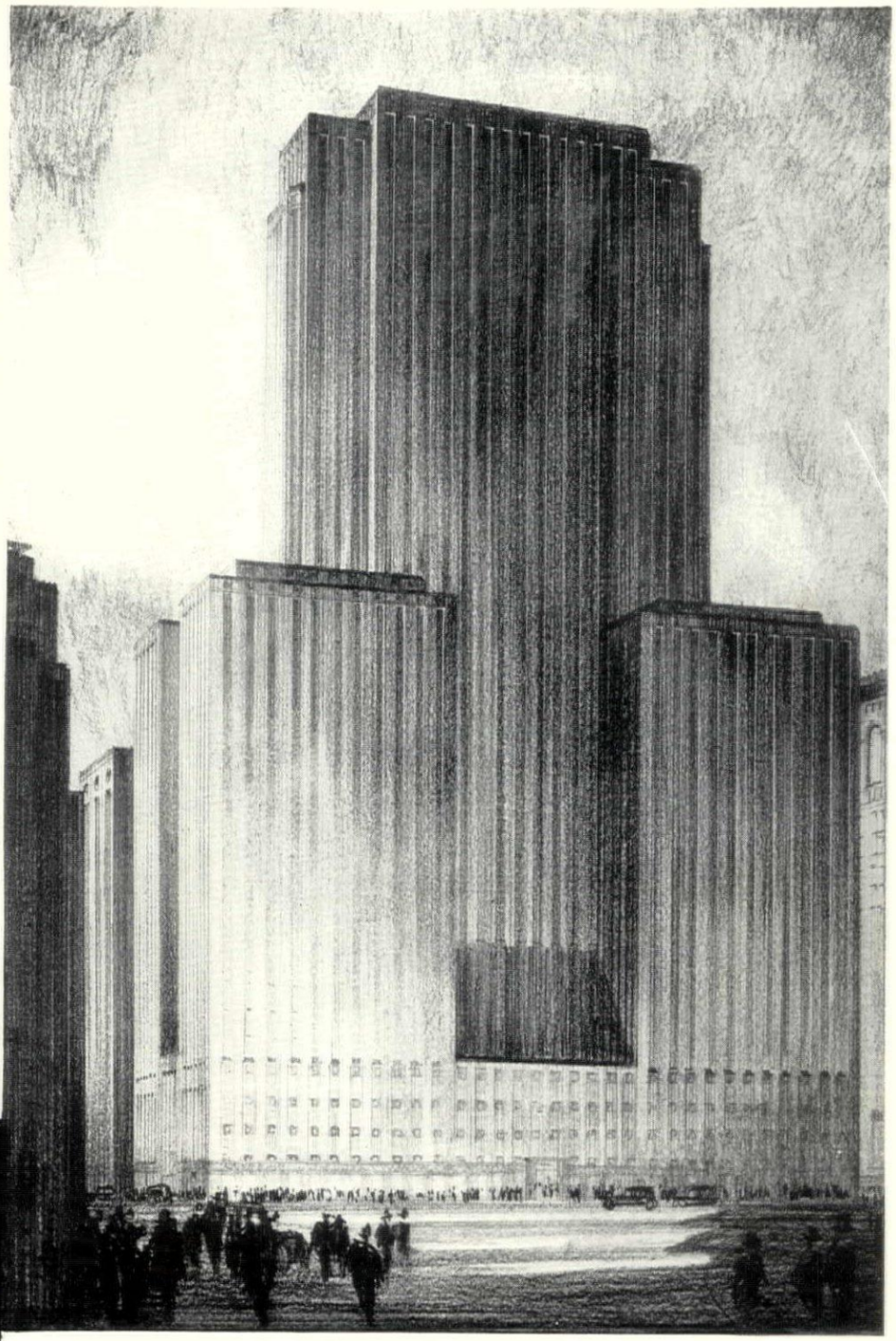
will be

"GALAX" Lighted



The new Field Building, in Chicago, Illinois. GRAHAM, ANDERSON, PROBST & WHITE, *Architects. Macbeth "Galax" Globes in the specially designed* WESTINGHOUSE *"Lunalux" unit illustrated were selected for illumination.*

An impressive addition to Chicago's skyline and also to the world's most massive structures will be the new Field Building planned for completion during the next two years. Designed by Graham, Anderson, Probst and White, and equipped with the most modern products of American skill and handicraft, this gigantic building will achieve a new high point in architectural grandeur and business efficiency. Among the very newest features incorporated in the Field Building will be the system of controlled lighting made possible by the selection of Macbeth "Galax" Globes for illumination. "Galax" also represents a high point in lighting achievement because it provides a maximum of semi-indirect illumination without glare or shadow. "Galax" is the newest product of the technical laboratories of MACBETH-EVANS GLASS COMPANY, Charleroi, Pa.

EXHIBITIONS AND EVENTS

July 30-August 14	Exhibition of art at the Los Angeles County Museum in conjunction with the American Olympiad competition of sports buildings by architects of the nations invited to the Olympic games. Address Secretary, American Olympic Committee, 233 Broadway, New York City.
Until October 1	"The Designer and Industry"—exhibition of The National Alliance of Art and Industry at the Art Center Building, New York City.
October	International Congress for Modern Architecture at Moscow, U. S. S. R. Program: "The Functional City."
December 5-10	Tenth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City.

COMPETITIONS

August 1	Closing date for inquiries concerning town planning competition for Stockholm, Sweden. Address: Registrar, Town-Planning Office, Stadshuset. Three prizes of 20,000, 15,000 and 10,000 kr. are offered. Final closing date for competition proposals is March 1, 1933.

TECHNICAL EMPLOYMENT SERVICE WITHOUT FEE

The Engineers' Club of Philadelphia, supported by 12 affiliated Engineering Societies, has organized the Philadelphia Technical Service Committee for the purpose of assisting the employer of technical talent to secure the proper man for each opening, and the unemployed engineer to find employment. In addition to the placement service, a "job consultation service" is offered. Those manufacturers who may be in need of technically trained assistance may communicate with the Committee at the Engineers' Club, 1317 Spruce Street, Philadelphia.

EXHIBITS REQUESTED

The City of Asbury Park plans to dedicate a section of its new Hall of Nations (Convention Hall) as a museum and art gallery to promote the spirit of international friendship and good will. Architects are requested to contribute specimens of their drawings (monumental, etc.) to be placed in the permanent exhibition of architectural drawing. Address: W. Earl Hopper, director, Hall of Nations, Asbury Park, New Jersey.

LIGHTING DESIGN AWARDS

E. A. Young, Chicago, has been awarded first prize of $750 for the design of "a Great Hall at the Electrical Building, Chicago World's Fair." The prizes were awarded to A. E. Alexander, H. L. Kamphoefner, F. O. Dester and H. Tonsager. The contest was conducted by the Beaux Arts Institute, the American Institute of Architects and the Illuminating Engineering Society.

ANNOUNCEMENTS

Frank W. Cole, architect, has moved from 2 West 46th Street, New York City, and 124 Boulevard, Summit, New Jersey, to 1010 Grand Avenue, Asbury Park, New Jersey.

Malcolm R. Stirton, architect, announces that he has moved from 520 Cheever Court, Ann Arbor, Michigan, to 599 Harmon Avenue, Detroit, Michigan.

W. M. Bradley, architect, has moved to 635 South 49th Street, Philadelphia, Pennsylvania.

Wyman Walker, architect, announces that he has opened an office at 1812 Thirty-fifth Street, N. W., Washington, D. C.

Maurice May, architect, 711 Colorado Building, Washington, D. C., has opened an office for the practice of architecture.

Walter John Skinner, architect, formerly with Muirhead Shops, interior decorators, has opened an office at 952 Main Street, Bridgeport, Connecticut.

Levy and Klein, architects, have removed their offices from 228 N. La Salle Street, Chicago, Illinois, to 417 Fourth Street, Wilmette, Illinois.

Edwin H. Gaggin, 846 Ostrom Avenue, Syracuse, New York, is continuing the practice of architecture under his own name, the firm of Gaggin and Gaggin, architects, having been dissolved.

William H. Hoffman, 65 Duer Lane, Tompkinsville, Staten Island, has discontinued his office and practice, owing to illness.

Richard J. Neutra, architect, will conduct a course in graduate architectural design at the University of Southern California College of Architecture. Building projects will be related to methods and purposes of production and consumption in present building activity and to current thought in city planning.

The annual meeting of the Brooklyn Chapter, American Institute of Architects, was held May 23 at the Hotel St. George. The officers elected and installed were William A. Sanders as president, Herbert C. Bowman, vice president; Daniel D. Streeter, treasurer, and Alexander Mackintosh, surveyor. George F. Keese was re-elected secretary.

Charles H. Higgins has been elected president of the New York Chapter of the American Institute of Architects for the coming year. Mr. Higgins, a former member of the City Planning Commission of Jersey City, succeeds Stephen F. Voorhees. Dwight James Baum was elected vice-president to succeed Julian Clarence Levi. Other officers named were Eric Kebbon, secretary; Frederick Mathesius, Jr., treasurer; and Christopher La Farge, recorder.

Von Duprin

REG. U. S. PAT. OFF.

Self-Releasing Fire and Panic Exit Latches

A Schedule of Fires

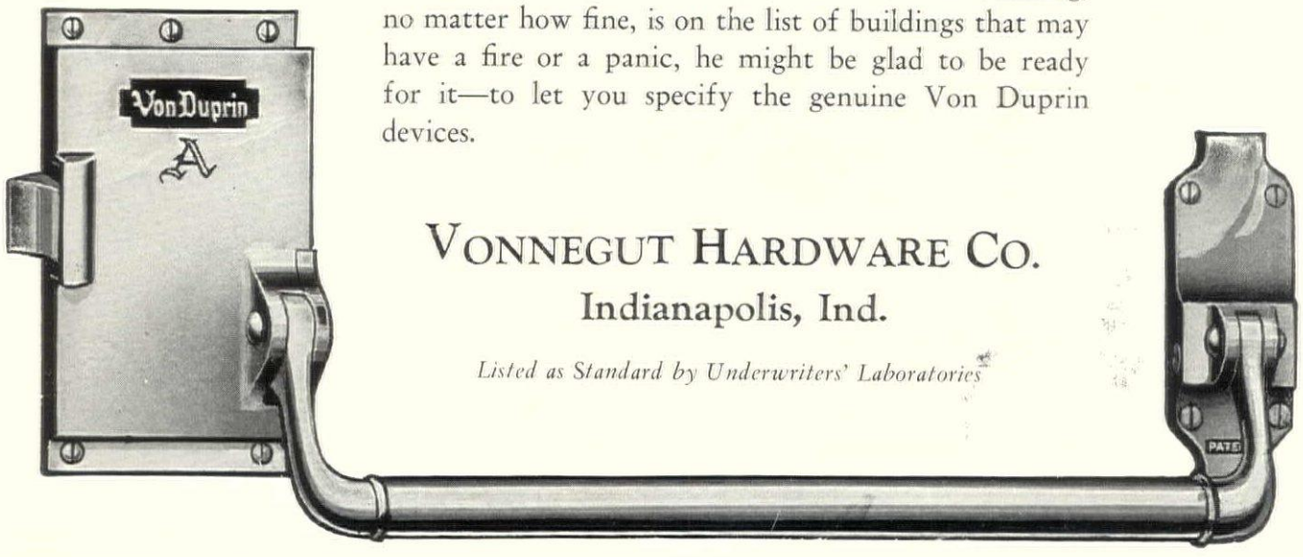
Your task and ours would be so much simpler if conflagrations in buildings took place on a definite schedule.

If, next month, this new building at number so-and-so Main street was scheduled to have a fire and the occupants were to become panic stricken—and that fire could not be prevented—how eagerly your client would insist on Von Duprin devices at all exits, the best fire escapes, and the finest fire-resisting construction.

Catalog 28V shows a Von Duprin device for every purse and every purpose. Or See Sweet's Pages C3217-C3219.

Of course that is just a dream. And yet, the Chief of your fire department knows approximately how many fires and fire panics your city will have in the next twelve months. He cannot tell your client *where* these fires will hit, but he can tell him that they *will* hit.

If your client could be shown that his building, no matter how fine, is on the list of buildings that may have a fire or a panic, he might be glad to be ready for it—to let you specify the genuine Von Duprin devices.



VONNEGUT HARDWARE CO.

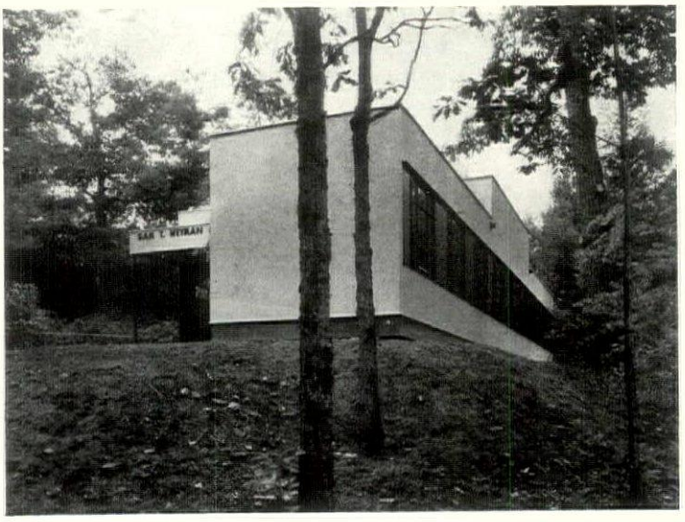
Indianapolis, Ind.

Listed as Standard by Underwriters' Laboratories

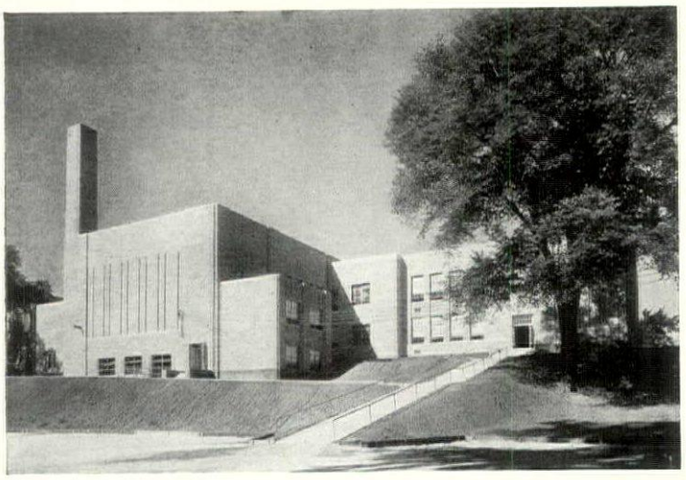
FEATURES IN THE AUGUST ISSUE

After Remodeling — Before Remodeling

EAST END BRANCH, NATIONAL CITY BANK OF NEW YORK — AARON ALEXANDER, ARCHITECT



BIOLOGICAL LABORATORY OF HIGHLANDS, N. C., MUSEUM
TUCKER AND HOWELL, ARCHITECTS
OSCAR STONOROV, CONSULTANT



Venard

COLUMBIA SCHOOL AT PEORIA, ILLINOIS
HEWITT, EMERSON AND GREGG, ARCHITECTS

ALTERATION AND MODERNIZATION. This study was undertaken to provide specific data that can be put to practical use in developing and executing remodeling jobs. Several architects offer their formulas for work of this sort. For example, many branch banks have been created by the National City Realty Corporation with small expenditure. Thomas Williams, architect, describes the remodeling of a dwelling to serve as a branch of the Boston Public Library. H. C. Roberts, Secretary of the Board of Education, Sioux City, Iowa, discusses the remodeling of school buildings and Alexander B. Randall, Research Engineer for The Philadelphia Federation of the Construction Industry, considers the advisability of altering office buildings.

SCHOOLS—EFFICIENT PLANNING AND ECONOMICAL CONSTRUCTION. This Technical News and Research article, by Ellwood B. Cassel of the School Buildings Division of the Pennsylvania Department of Education, is intended as an aid in finding methods for providing needed buildings at lower costs and for making the school building plan more effective in meeting present-day requirements.

FEDERAL CONSTRUCTION PROGRAM. A summary of the building program which it is anticipated will be sponsored by the Government, with discussion by members of the profession on how the architect may participate.

OTHER FEATURES include a Portfolio of Schools, a checking list of requirements for Professional Buildings, together with articles on recent buildings, book reviews, building trends, wage scales and material prices.

THE CARNEGIE MEDICAL BUILDING, CLEVELAND, OHIO. *Architects, The Austin Co., Cleveland; Electrical Contractor, The Grant Electric Co., Cleveland. Steeltubes furnished by Westinghouse Electric Supply Company.*

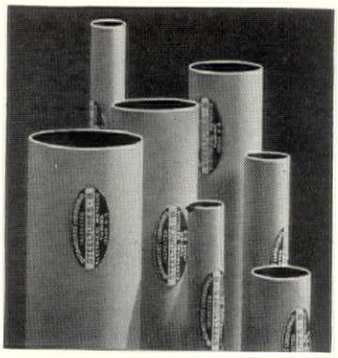
Another STEELTUBES JOB

● Designed and built especially to fit the needs of the medical profession, the Carnegie Medical Building provides for its tenants the utmost in electrical convenience. Among the features of this up-to-date building is its use of Steeltubes Electrical Metallic Tubing. In its construction more than 30,000 feet of Steeltubes was used.

Steeltubes was developed especially for electrical use. It is lighter than old-style conduit . . . easy to bend . . . easy to cut . . . and requires no threading. It provides ample protection to circuits, and makes possible a worthwhile saving both in the cost of the conduit and installation.

Get the facts about Steeltubes. Look it up in Sweet's Catalogs. Write for samples and prices. Give this modern electrical conduit an opportunity to prove for itself that it can save from 10% to 25% on the cost of conduit installations.

Electrical Division, **STEEL AND TUBES, INC.,** *Cleveland, Ohio*
(A UNIT OF REPUBLIC STEEL CORP.)

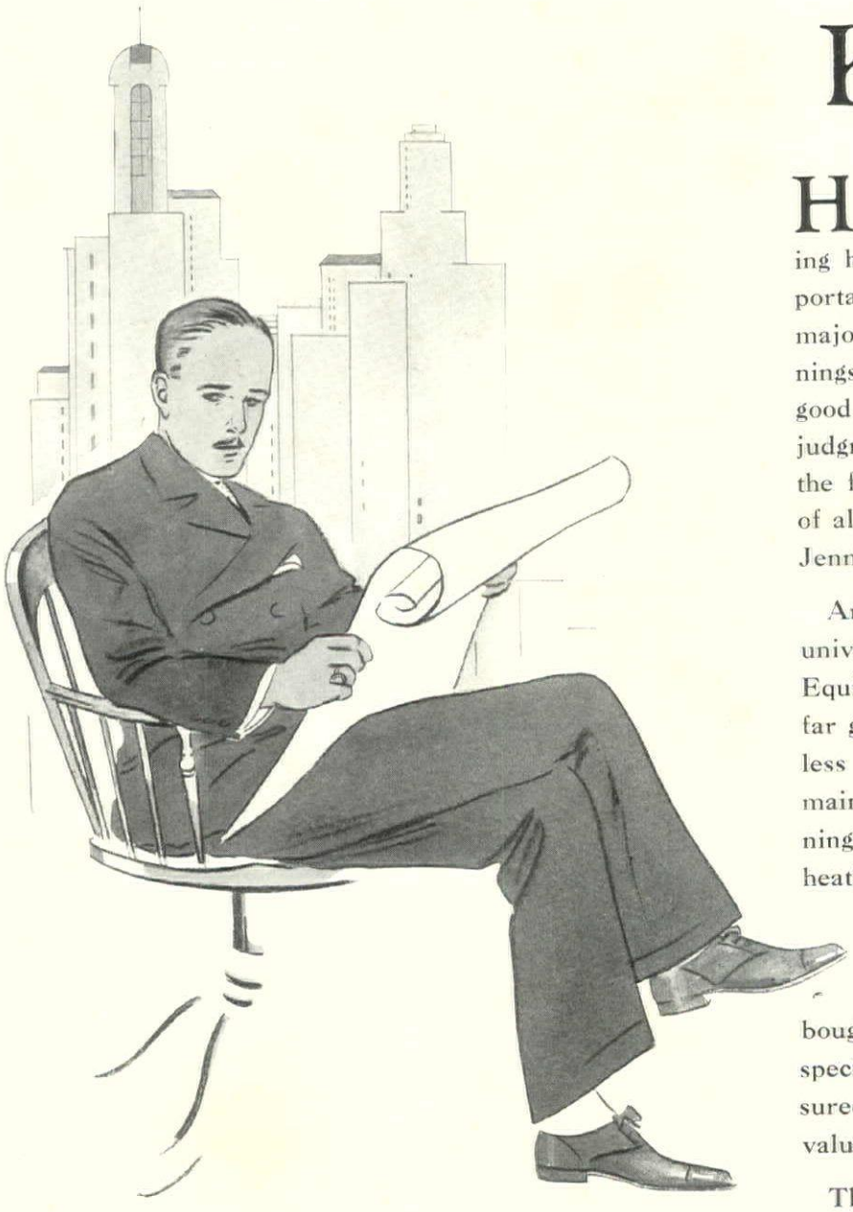


Steeltubes is made in seven sizes from 3/8" to 2"; all approved for open and concealed wiring.

● **STEELTUBES**

THREADLESS THIN-WALL CONDUIT

The Architect Knows!

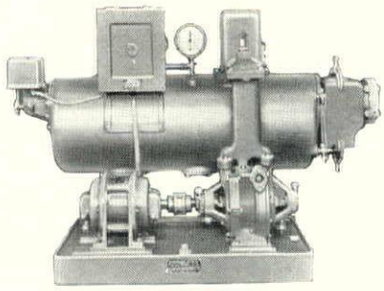


HE is vitally concerned with the mechanical details of the building he designs. He knows how important correct heating is. And the majority of architects feel that Jennings Pumps in any specification are good heating insurance. That this judgment is sound is demonstrated by the fact that such a large proportion of all the heating pumps installed are Jennings.

And there is ample reason for this universal preference for Jennings Equipment. Jennings Pumps have far greater capacity and operate with less horse power. Operating and maintenance costs are less for Jennings Pumps. And if you specify a heating pump on the basis of a minimum power consumption, and a definite air and water capacity, a Jennings Pump can always be bought at a lower first cost. Only by specifying a Jennings can you be assured of the utmost in heating pump value.

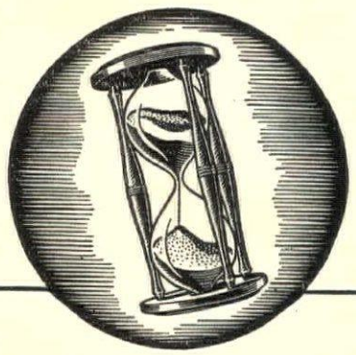
These are facts that we will gladly demonstrate and prove to any architect or engineer.

Vacuum Heating Pumps
Condensation Pumps
Suction Sump Pumps
Suction Sewage Pumps
Sewage Ejectors
House Service Pumps
Centrifugal Pumps



THE NASH ENGINEERING COMPANY
13 Wilson Road South Norwalk, Connecticut

Jennings Pumps



BECAUSE of tireless research and laboratory testing, because of the use of the finest and most appropriate materials, because of the care of engineers in fulfilling an order to exacting standards, because of extremely accurate designing at the hands of skilled artisans, because of all these things, an extra value not specified in contracts and blue-prints is built into every Otis elevator. That is why economy of operation, long life and satisfactory service become more and more apparent as days and months of constant use go by. That is why a product of Otis Elevator Company not only bears that unmistakable look of quality, but is really better than it looks.

• GRANITE • FLETCHER

BRIDGE OVER THE GENESEE RIVER AT ROCHESTER, N.Y.—1000 FEET LONG—175 FEET HIGH. GEHRON & ROSS, ARCHITECTS. FLETCHER GRANITE SLABS VENEER THIS CONCRETE STRUCTURE, PROTECTING IT WITH LASTING BEAUTY AGAINST THE DISINTEGRATING EFFECTS OF TEMPERATURE CHANGES.

H. E. FLETCHER CO., WEST CHELMSFORD, MASS.

DETAIL OF PENCIL RENDERING

PERRY, SHAW AND HEPBURN, ARCHITECTS

THE ARCHITECTURAL RECORD JULY, 1932 VOL. 72—NO. 1

The SUBURBAN BRANCH DEPARTMENT STORE

By MILTON LOWENTHAL

The large city department store is branching out into suburban areas in order to provide, for patrons, the conveniences which concentration in the city has made difficult to attain. Although many women enjoy shopping in town, there are those who neither have the time to do so, nor care to travel through congested city traffic with attendant parking difficulties. It is also more convenient for mothers to outfit their children in a neighborhood store.

Special teletype and telephone systems are used to facilitate shipping and to allow orders to be taken at the branch store and, when necessary, to be filled immediately at either the main store or the warehouse.

The Facilities

The suburban or divisional store carries a complete stock of women's and misses' apparel and accessories (hats to shoes, underthings to coats), complete wardrobes for small children, and older boys and girls. There is usually a tearoom, a beauty parlor, often a garden shop, and an interior decoration department. In some cases carpets, furniture and other household accessories are available for selection.

The Location

Proper location of the store is of great importance. In addition to being determined by actual type and number of prospective patrons in a given vicinity, the location should be central in relation to traditional and geographical divisions. The store attracts customers by automobile from a twenty to thirty-mile radius, and must therefore be on a main highway. It must provide parking space for its patrons. It should be in a small town of good reputation, and away from the main street so that it will not be actively in competition with local or neighborhood stores.

Davis

Neighborhood shoppers find here the specialties of the large city department store. They are not inconvenienced by city traffic congestion.

SUBURBAN STORE OF BEST & CO.
MAMARONECK, NEW YORK
EDWARD NECARSULMER, ARCHITECT

The Site

Parking facilities and service delivery problems must be planned so as not to interfere with each other. Landscaping of the site is desirable: floodlighting provides good advertising for the store.

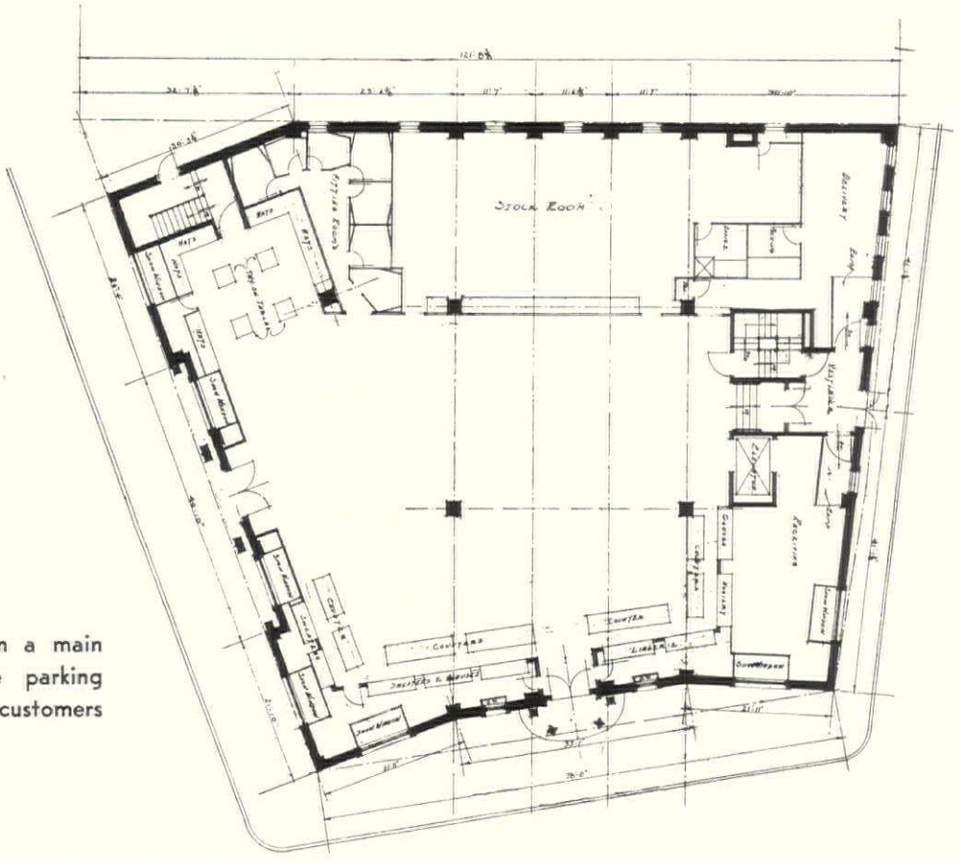
The Layout

As to the building itself, the plan may be either fixed, in the areas allotted for various departments, or it may be an open, flexible layout. The latter is adaptable to changes in the layouts of the various departments. In addition to the actual requirements for selling space, stockrooms, employees' quarters, shipping, etc., which are determined by the store owners, it is necessary to provide lounge space, lavatories and telephone facilities for the patrons. As much display space as possible is desirable. The interior should be open in character with low center counters and simple wall display cases. Lighting should be by daylight wherever possible; fixtures should provide indirect light. An informal atmosphere is attained with carpeted floors and comfortable furniture.

Davis

SUBURBAN STORE OF BEST & CO.
MAMARONECK, NEW YORK
EDWARD NECARSULMER, ARCHITECT

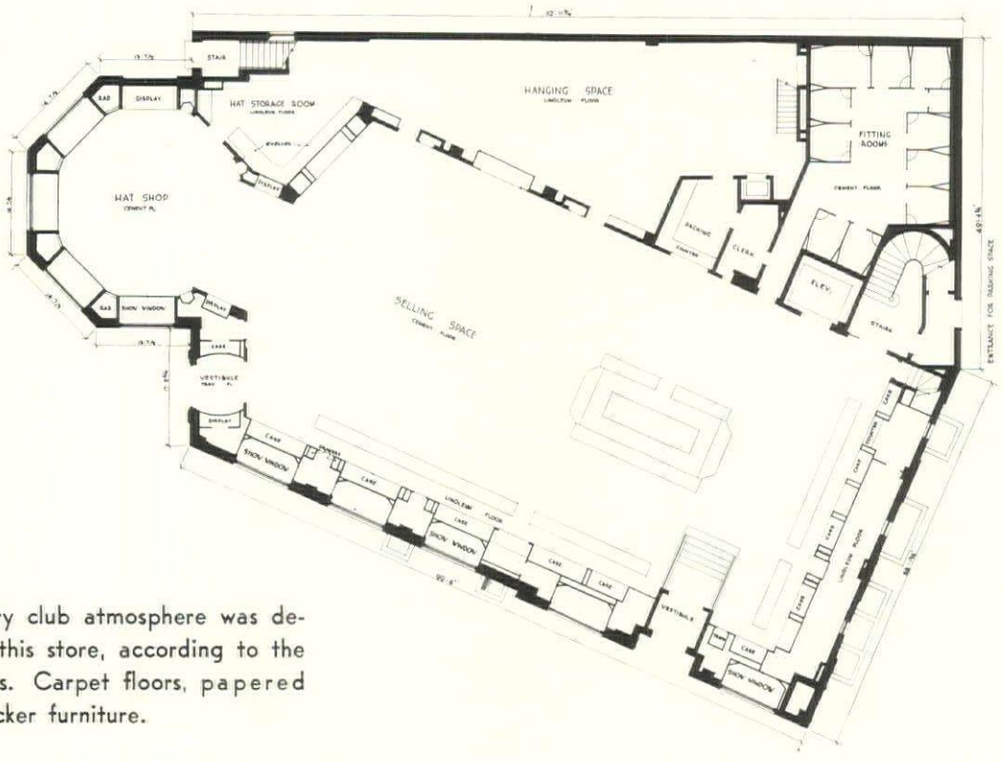
Davis



This store is located on a main thoroughfare. Ample parking facilities attract many customers by automobile.

SUBURBAN STORE OF BEST & CO.
MAMARONECK, NEW YORK
EDWARD NECARSULMER, ARCHITECT

Shannon



A country club atmosphere was desired in this store, according to the architects. Carpet floors, papered walls, wicker furniture.

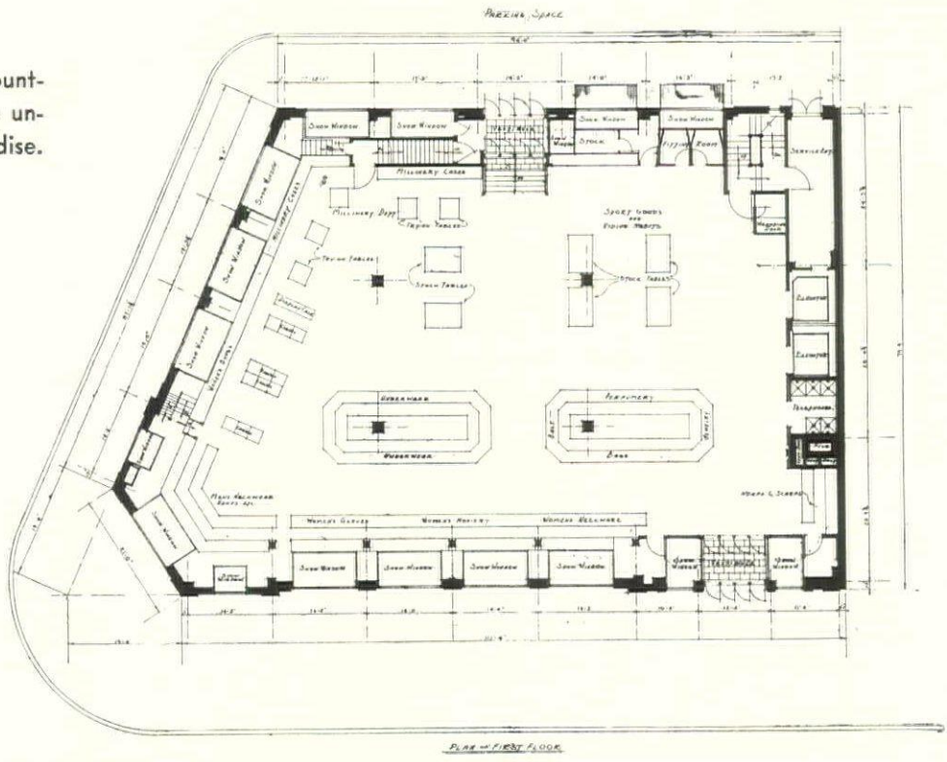
SUBURBAN STORE OF BEST & CO.
EAST ORANGE, NEW JERSEY
YORK AND SAWYER, ARCHITECTS

Shannon

SUBURBAN STORE OF BEST & CO.
EAST ORANGE, NEW JERSEY
YORK AND SAWYER, ARCHITECTS

Guild

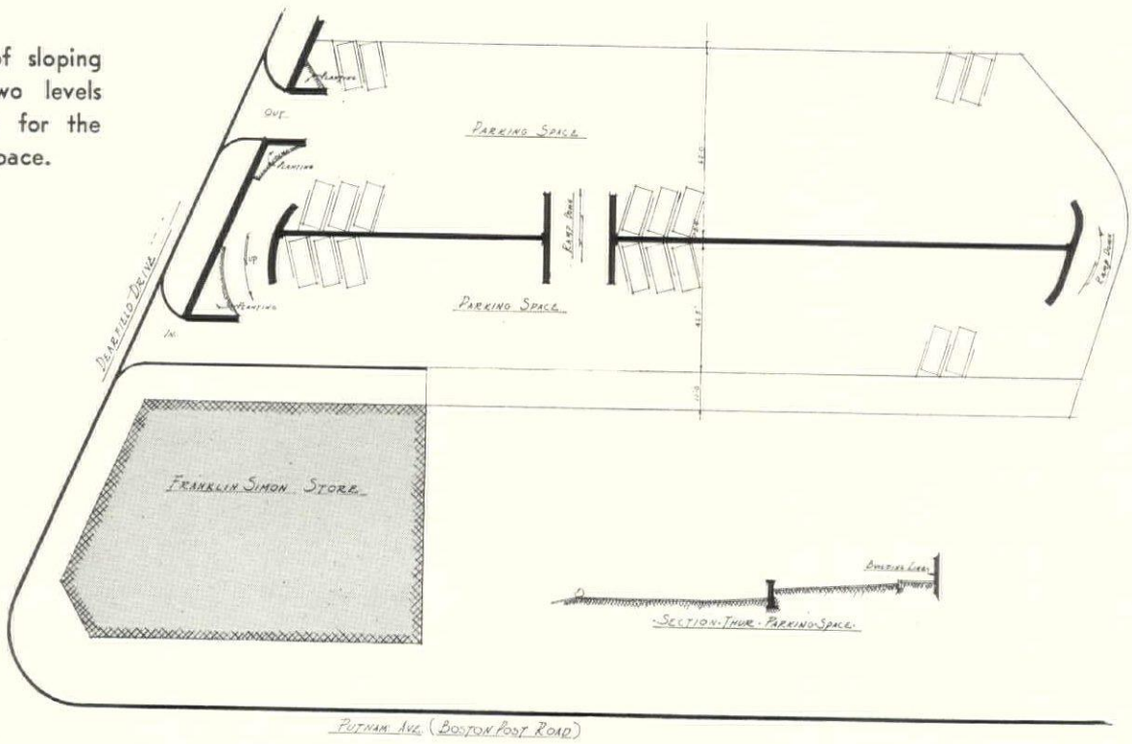
First-floor interior. Low counters and display cases give unobstructed view of merchandise. Salubra walls.



SUBURBAN STORE OF FRANKLIN SIMON & CO.
GREENWICH, CONNECTICUT
EDWARD NECARSULMER, ARCHITECT

Guild

Because of sloping ground two levels are used for the parking space.



SUBURBAN STORE OF FRANKLIN SIMON & CO.
GREENWICH, CONNECTICUT
EDWARD NECARSULMER, ARCHITECT

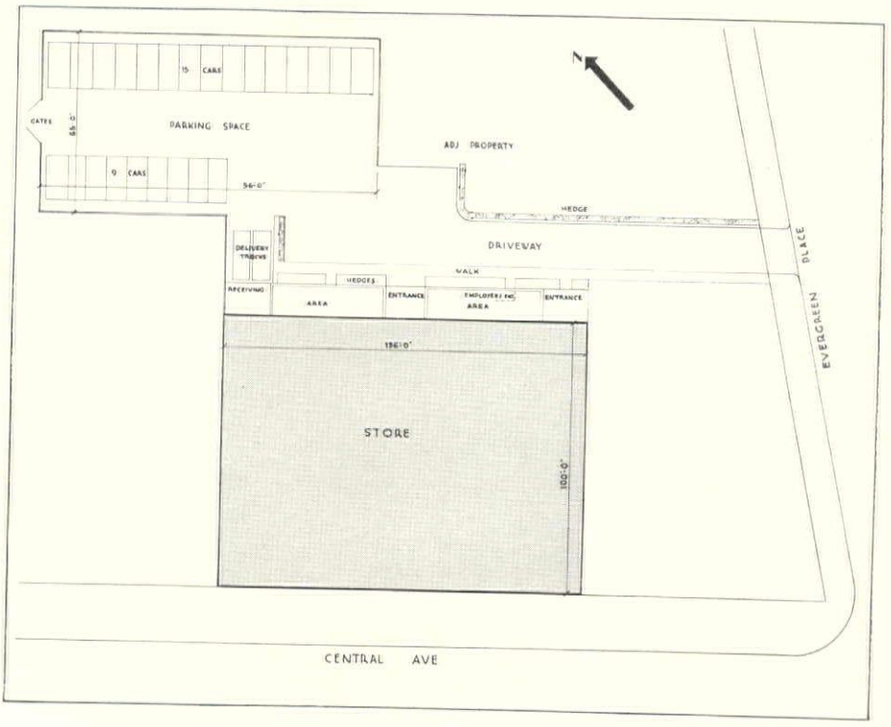
Guild

SUBURBAN STORE OF FRANKLIN SIMON & CO.
GREENWICH, CONNECTICUT
EDWARD NECARSULMER, ARCHITECT

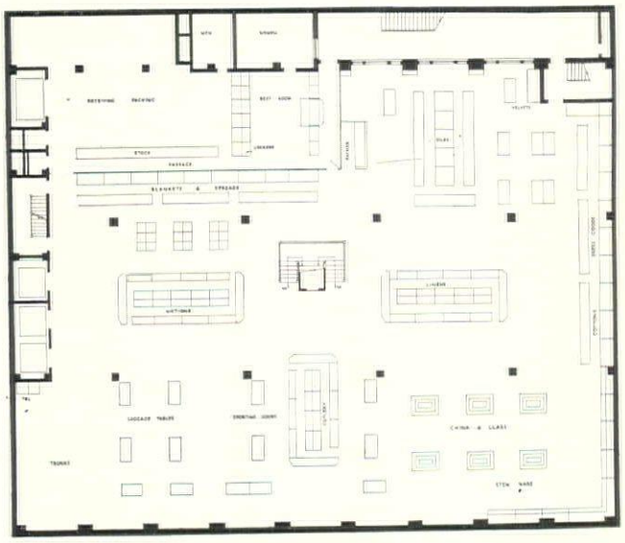
Wurts Bros.

Plot Plan.
(Floor plans on page 12)

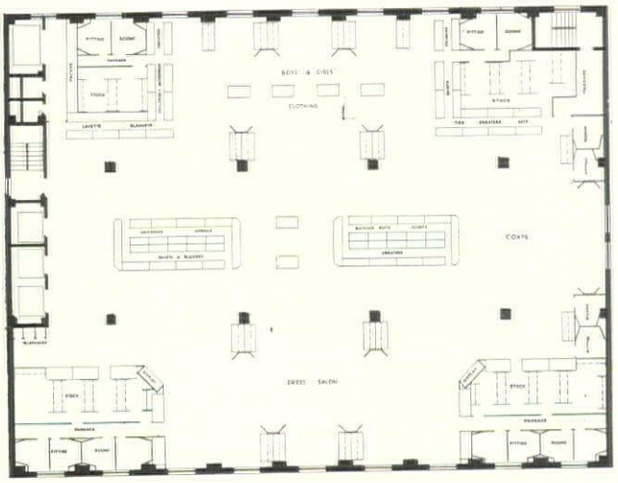
Parking space is entered from side street, thus avoiding congestion on main thoroughfare. Complete stock of department store merchandise is available for selection. Steel structure and footings will carry an additional three stories when expansion becomes necessary.



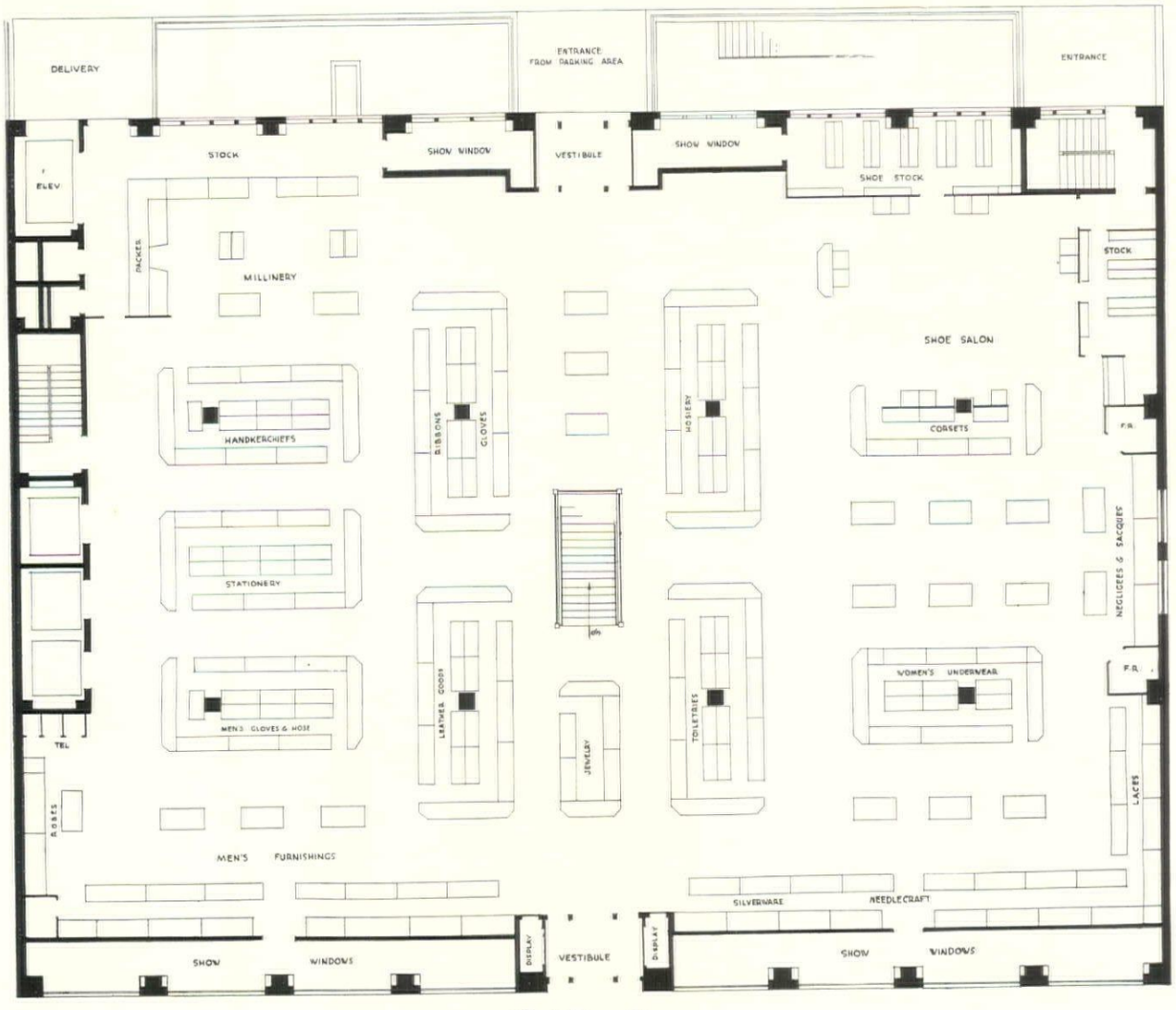
SUBURBAN STORE OF B. ALTMAN & CO.
EAST ORANGE, NEW JERSEY
FREDERICK G. FROST, ARCHITECT



Lower Main Floor Plan.



Second Floor Plan.



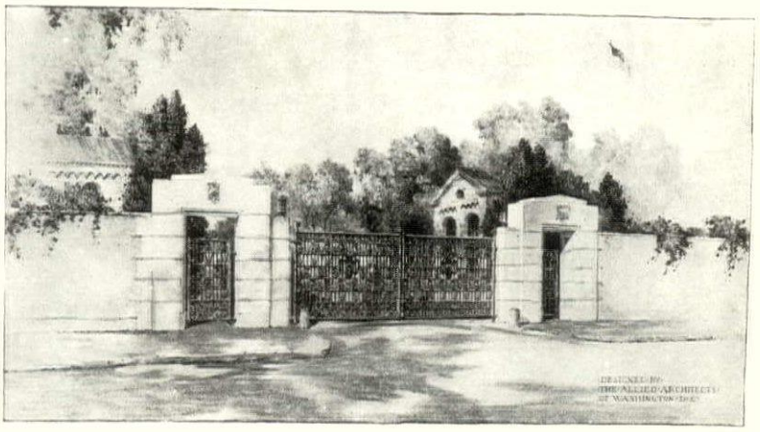
First Floor Plan.

Wide spacing of columns gives an open, flexible shopping space.

STORE OF B. ALTMAN & CO. AT EAST ORANGE, N. J.

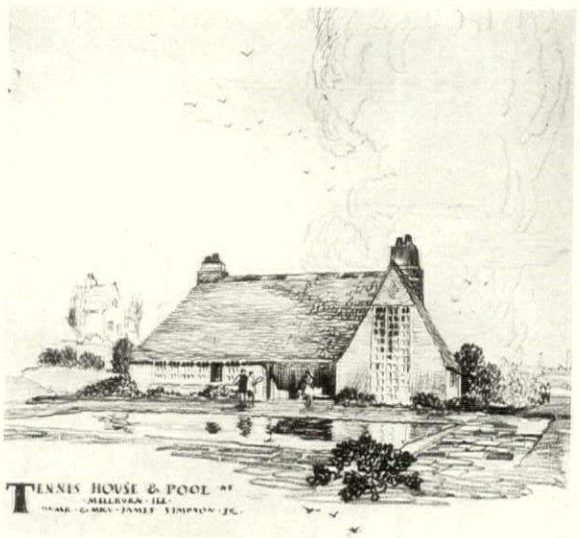
FREDERICK G. FROST, ARCHITECT

ILLUSTRATED NEWS



CLASS OF 1907 MEMORIAL GATES
NAVAL ACADEMY, ANNAPOLIS, MD.

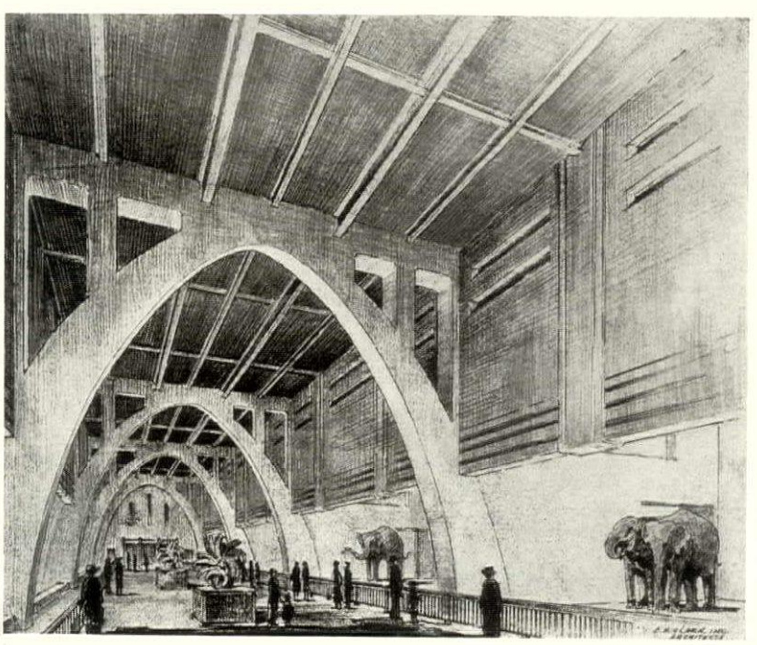
DESIGNED BY ALLIED ARCHITECTS
OF WASHINGTON - DEDICATED, MAY 28



Chicago Architectural Photographing Co.

TENNIS HOUSE AT MILLBURN, ILLINOIS
GRAHAM, ANDERSON, PROBST AND WHITE,
ARCHITECTS

DEPARTMENT STORE FOR SEARS, ROEBUCK & CO.
HACKENSACK, NEW JERSEY
ALFRED S. ALSCHULER, ARCHITECT



INTERIOR OF PACHYDERM HOUSE
CHICAGO, ILLINOIS
E. H. CLARK, INC., ARCHITECTS

ROCKEFELLER CENTER IN THE MAKING

NEW YORK CITY

PHOTOGRAPHS BY WALTER H. KILHAM, JR.

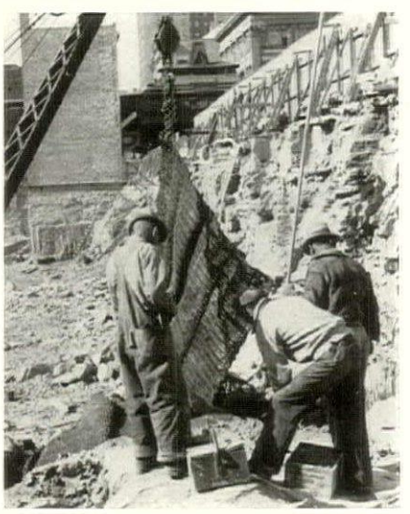
DRAFTING THE PLANS

REMOVAL SALES

THE WRECKERS JUNE, 1931

DEMOLITION

ROCK DRILLING



DYNAMITERS SEPTEMBER, 1931

FOUNDATIONS

GRILLAGE, BUILDING NO. 10

A RIGGER DECEMBER, 1931

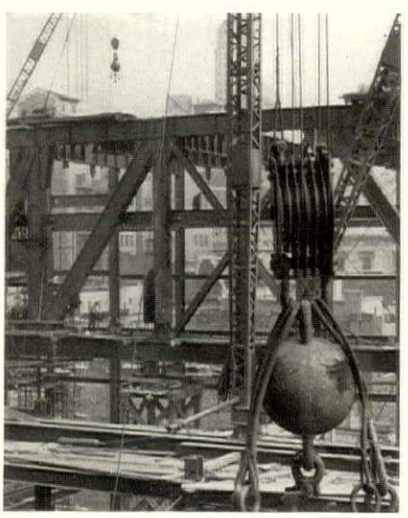
REINHARD AND HOFMEISTER; CORBETT, HARRISON AND MAC MURRAY; HOOD AND FOUILHOUX, ARCHITECTS

STEEL, BUILDING NO. 10

STEEL ERECTION

BUILDING NO. 10 FEBRUARY, 1932

STEEL WORKERS



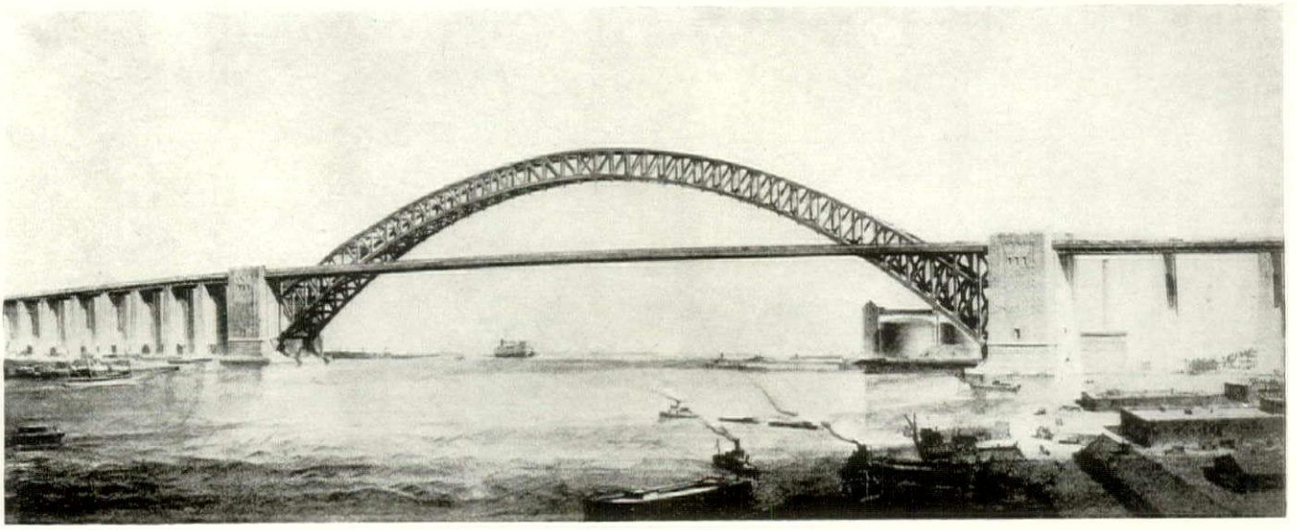
TRUSSES, THEATER NO. 10

BUILDING NO. 10 MARCH, 1932

TOPPING OUT, BUILDING NO. 10

DETAIL OF TOP

GENERAL VIEW MAY, 1932



BAYONNE BRIDGE OVER KILL VAN KULL BETWEEN BAYONNE, N. J., AND STATEN ISLAND, N. Y.

PRIZE-WINNING BRIDGES

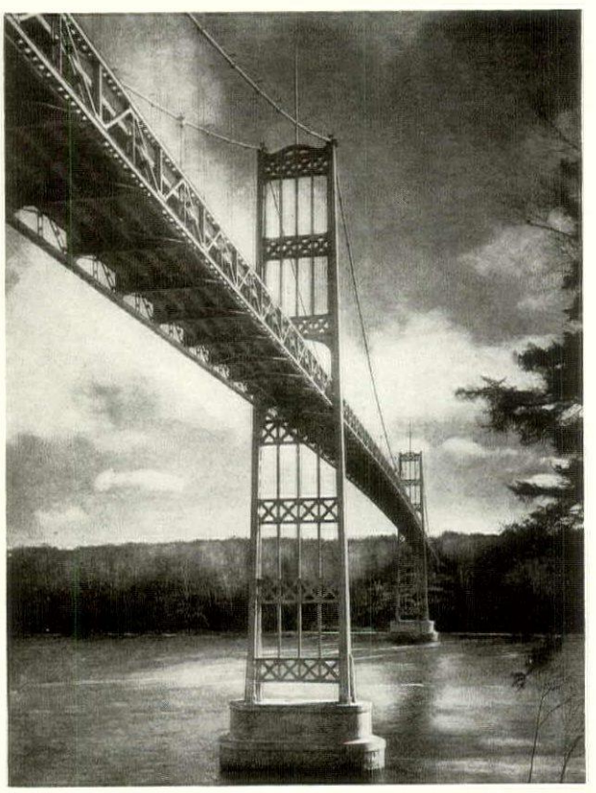
These three steel bridges, classified according to cost, have been selected by the American Institute of Steel Construction as the most beautiful opened to traffic during 1931:

(1) *In excess of one million dollars*—The Bayonne Bridge over the Kill van Kull between Bayonne, N. J., and Staten Island, N. Y., erected by the American Bridge Company for the Port of New York Authority; designed by O. H. Ammann, Chief Engineer for the Port Authority; main span 1,675 feet.

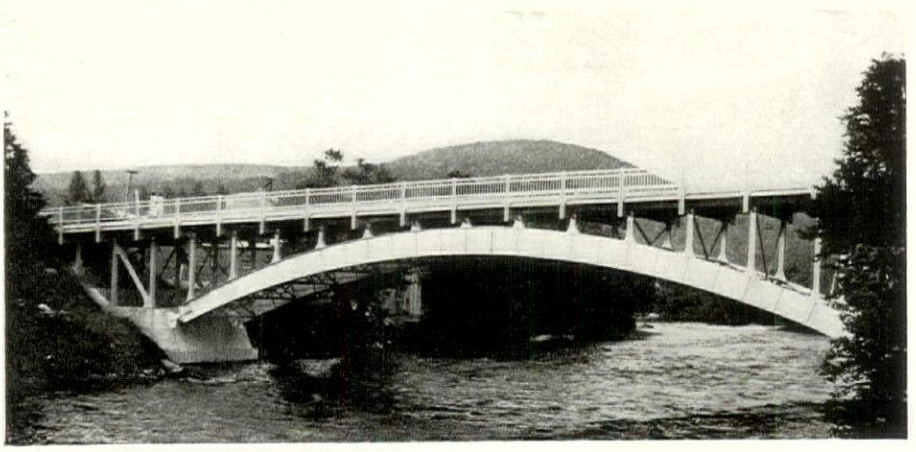
(2) *In excess of* $250,000 *and under one million*—The Waldo-Hancock Suspension Bridge, with a main span of 800 feet, over the Penobscot River, Bucksport, Maine, erected by the American Bridge Company for the State of Maine from designs by Robinson & Steinman.

(3) *Under* $250,000—The West Stewartstown Bridge over the Connecticut River at West Stewartstown, N. H., erected by the American Bridge Company from plans by the New Hampshire State Highway Department; deck arch structure with a main span of 136 feet.

The jury: Raymond M. Hood, Architect; F. O. Dufour, Consulting Engineer; Professor L. C. Dillenback, Columbia University; Professor C. T. Bishop, Yale University, and A. L. Kocher, The Architectural Record.



WALDO-HANCOCK BRIDGE
OVER PENOBSCOT RIVER
BUCKSPORT, MAINE



International Commercial Photo Co.

WEST STEWARTSTOWN BRIDGE
OVER CONNECTICUT RIVER
NEW HAMPSHIRE

PORTFOLIO OF CURRENT ARCHITECTURE

J U L Y
1 9 3 2

Gottscho

COTTAGE OF FREDERICK K. RUPPRECHT AT GREENWICH, CONNECTICUT
WILLIAM F. DOMINICK, ARCHITECT

OTHER BUILDINGS ILLUSTRATED IN THIS PORTFOLIO:

HOUSE OF MRS. GRACE W. BAXTER, WHITE PLAINS, NEW YORK—Arthur H. Gilkison, Architect.

HOUSE OF DR. B. W. SEAMAN, HEMPSTEAD, NEW YORK—George R. Thompson, Architect.

HOUSE OF MARSH BULL, SYRACUSE, NEW YORK—Charles H. Ambrecht, Architect.

GUEST HOUSE FOR CONSTANTINE HUTCHINS, NEEDHAM, MASSACHUSETTS—Charles S. Keefe, Architect.

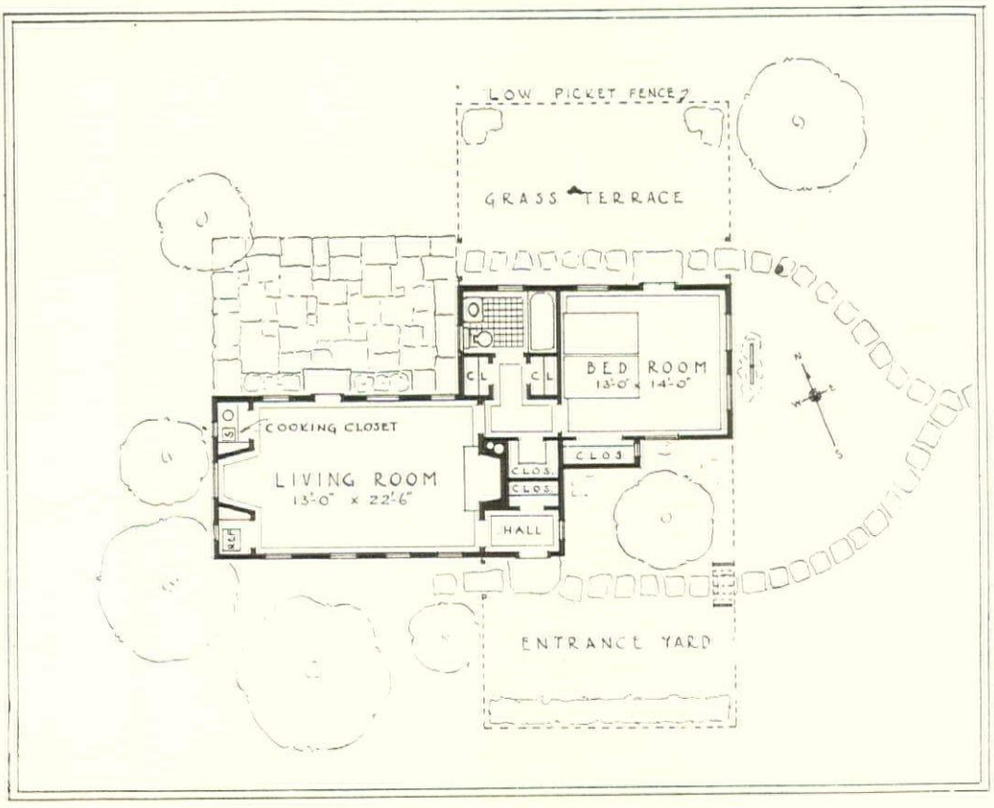
SWIMMING PAVILION ON ESTATE OF ELIAS MAYER IN DEERFIELD, ILLINOIS—Philip B. Maher, Architect.

ROWING CLUB, "CANOTTIERI LARIO," LAKE COMO, ITALY—Gianni Mantero, Architect.

EL ENCANTO APARTMENTS, PALM SPRINGS, CALIFORNIA—Marshall P. Wilkinson, Designer.

SKATING RINK AT URBANA, UNIVERSITY OF ILLINOIS—Holabird and Root, Architects.

Gottscho



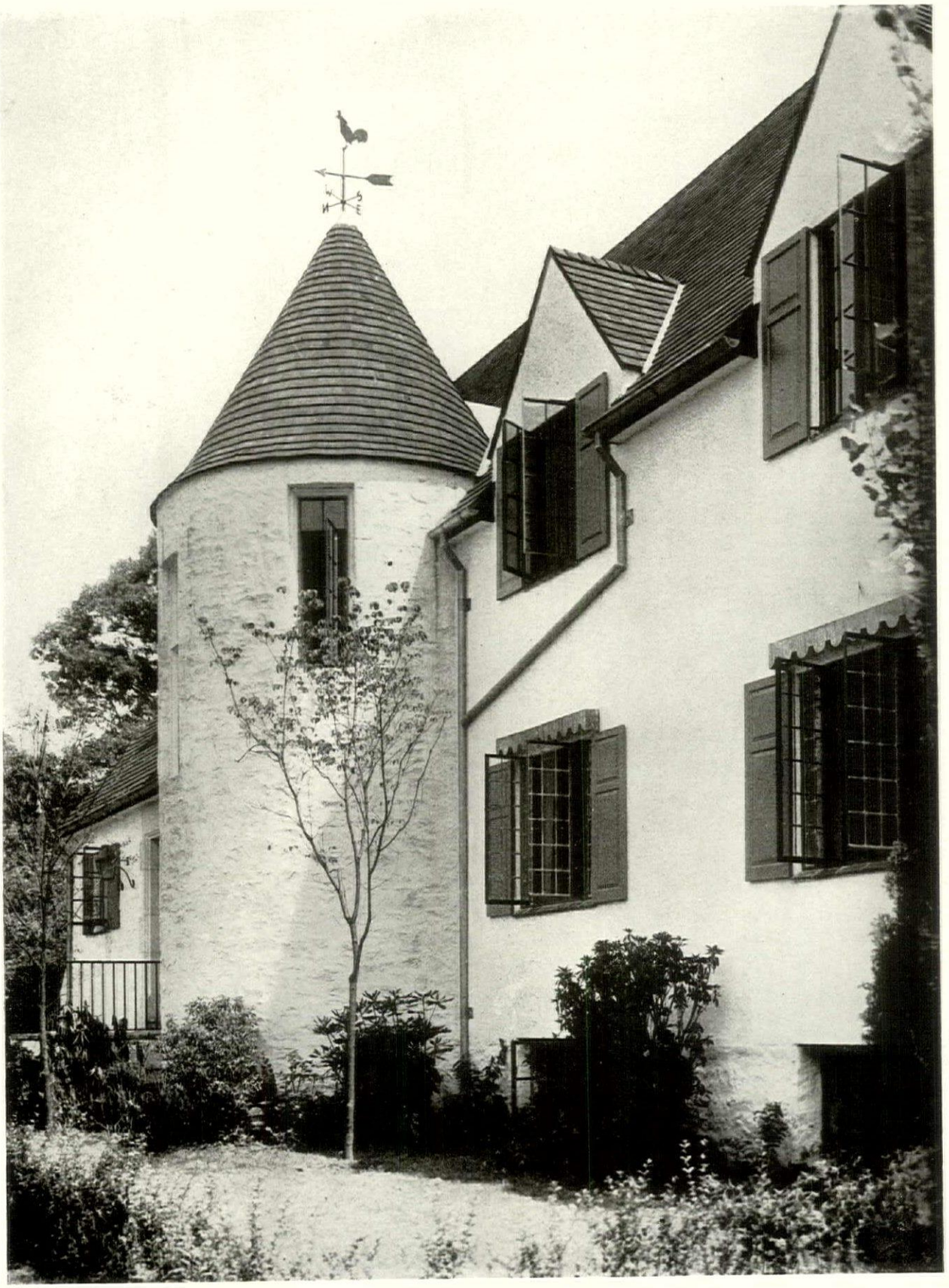
COTTAGE OF FREDERICK K. RUPPRECHT
GREENWICH, CONNECTICUT
WILLIAM F. DOMINICK, ARCHITECT

Frame cottage, white clapboards, green blinds, black shingle roof. Without cellar and furnace, the house could be built for $4,000 at present prices.

Gottscho

Old English oak paneling in living room. One closet is equipped with electric cooking facilities and sink, the other with electric refrigerator and storage shelves.

COTTAGE OF FREDERICK K. RUPPRECHT
GREENWICH, CONNECTICUT
WILLIAM F. DOMINICK, ARCHITECT

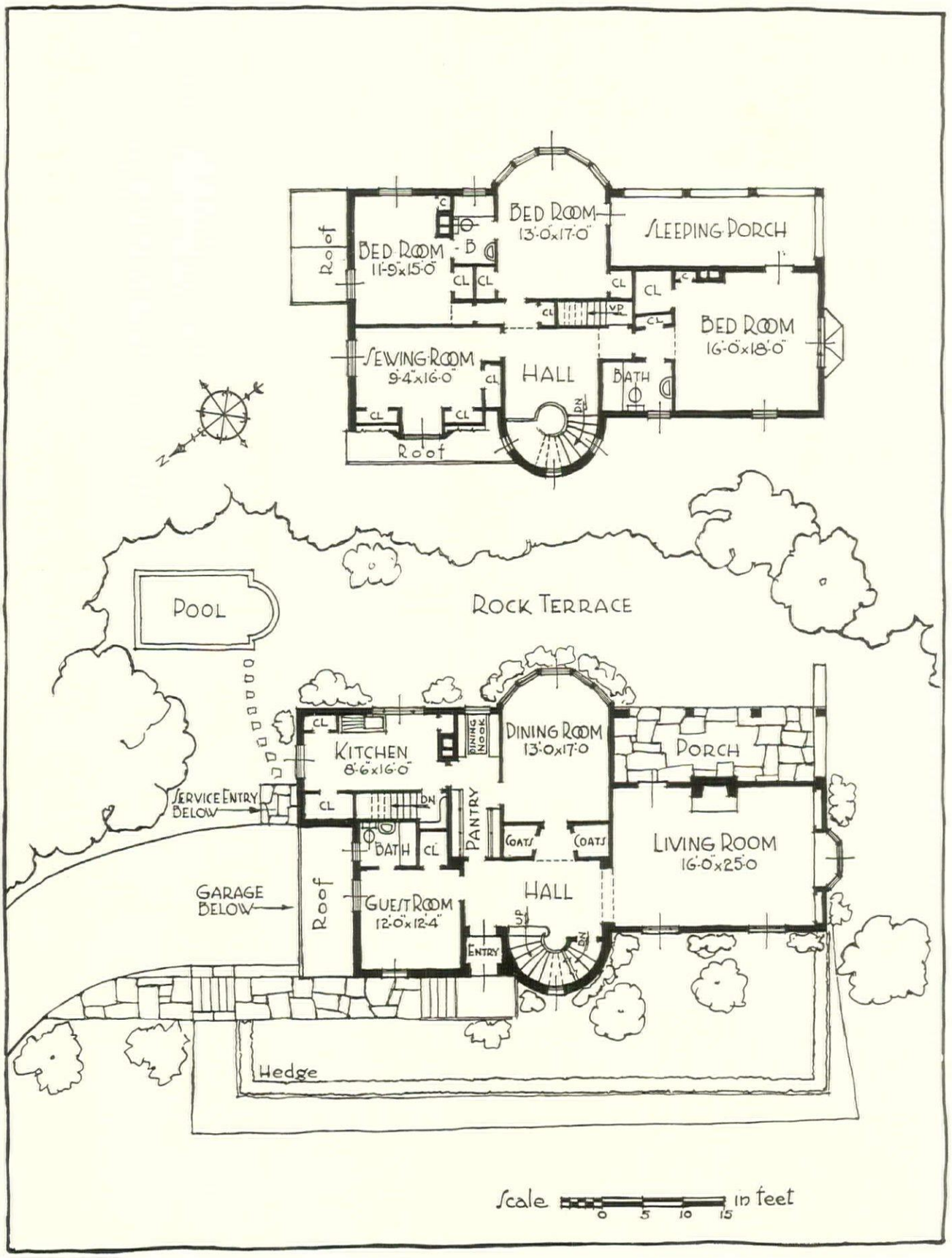


HOUSE OF MRS. GRACE W. BAXTER
WHITE PLAINS, NEW YORK
ARTHUR H. GILKISON, ARCHITECT

Stone and stucco, whitewashed. Stone obtained from old fences on property. Roof of wood shingles, stained black. Window sills of tile.

A natural rock ridge was utilized as a terrace. The first floor level as a result is 8 feet above normal grade.

HOUSE OF MRS. GRACE W. BAXTER
WHITE PLAINS, NEW YORK
ARTHUR H. GILKISON, ARCHITECT



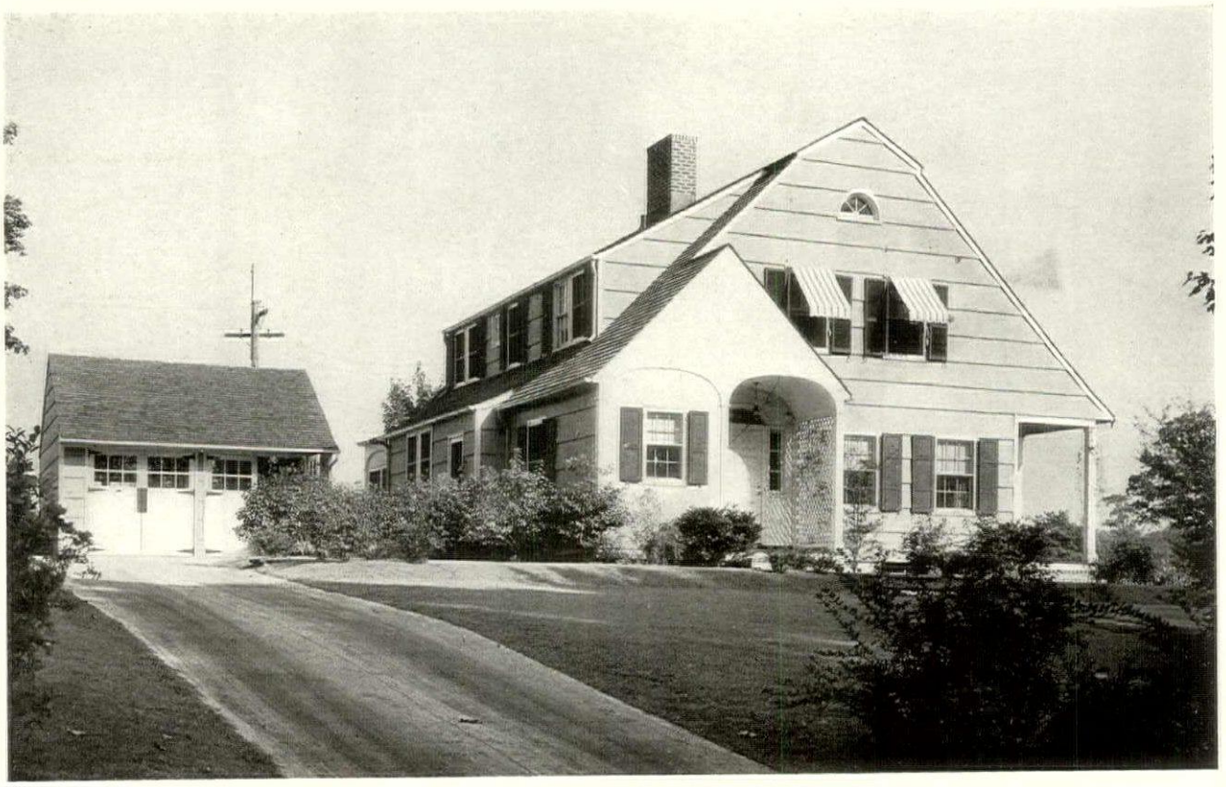
HOUSE OF MRS. GRACE W. BAXTER
WHITE PLAINS, NEW YORK
ARTHUR H. GILKISON, ARCHITECT

A terrace was formed in front to reduce grade. Garage and game room placed in well-lighted basement. Service entrance at basement level with interior stairs to kitchen.

Detail of entrance.

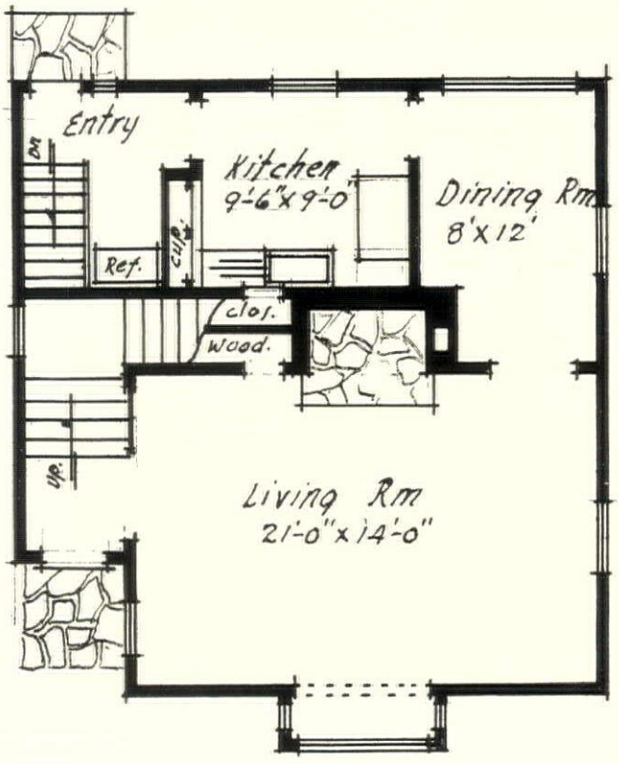
HOUSE OF MRS. GRACE W. BAXTER
WHITE PLAINS, NEW YORK
ARTHUR H. GILKISON, ARCHITECT

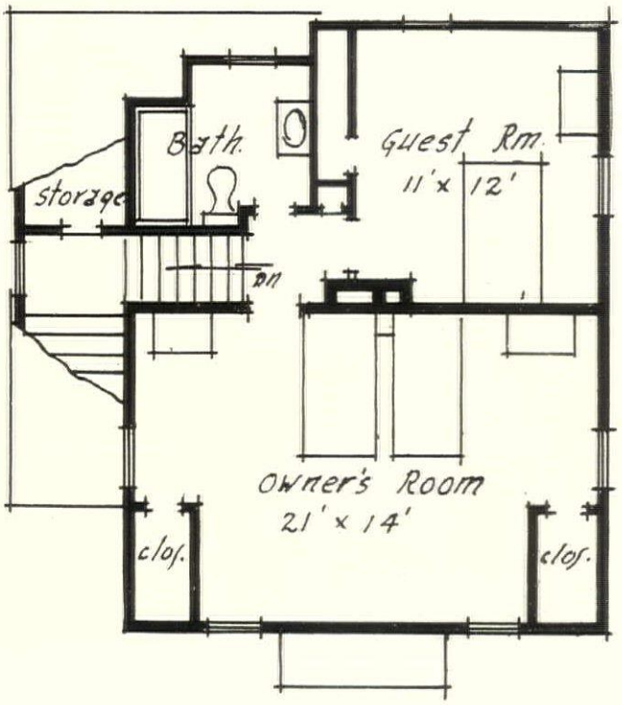
Gillies



Gillies

HOUSE OF DR. B. W. SEAMAN
HEMPSTEAD, NEW YORK
GEORGE R. THOMPSON, ARCHITECT





Cost, $6,000, or approximately 40¢ a cubic foot.

HOUSE OF MARSH BULL
SYRACUSE, NEW YORK
CHARLES H. UMBRECHT, ARCHITECT

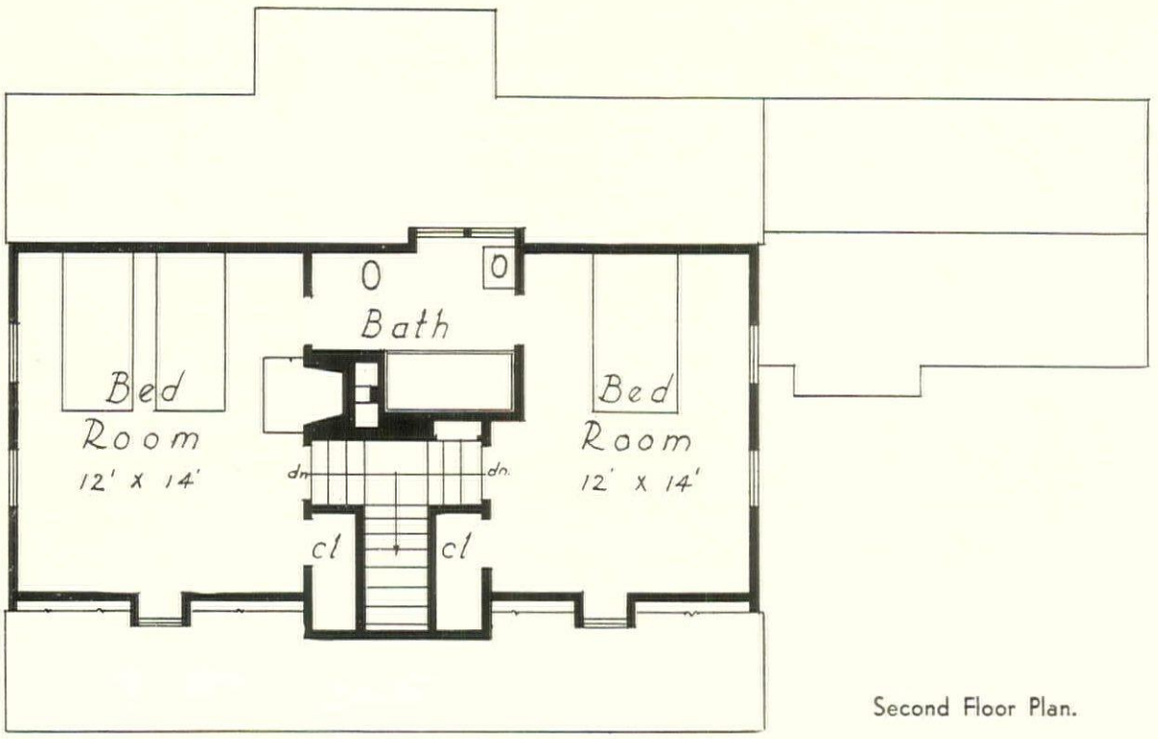
HOUSE OF MARSH BULL
SYRACUSE, NEW YORK
CHARLES H. UMBRECHT, ARCHITECT

Clapboards are laid 10 inches to the weather. A granite slab forms the step to the threshold.

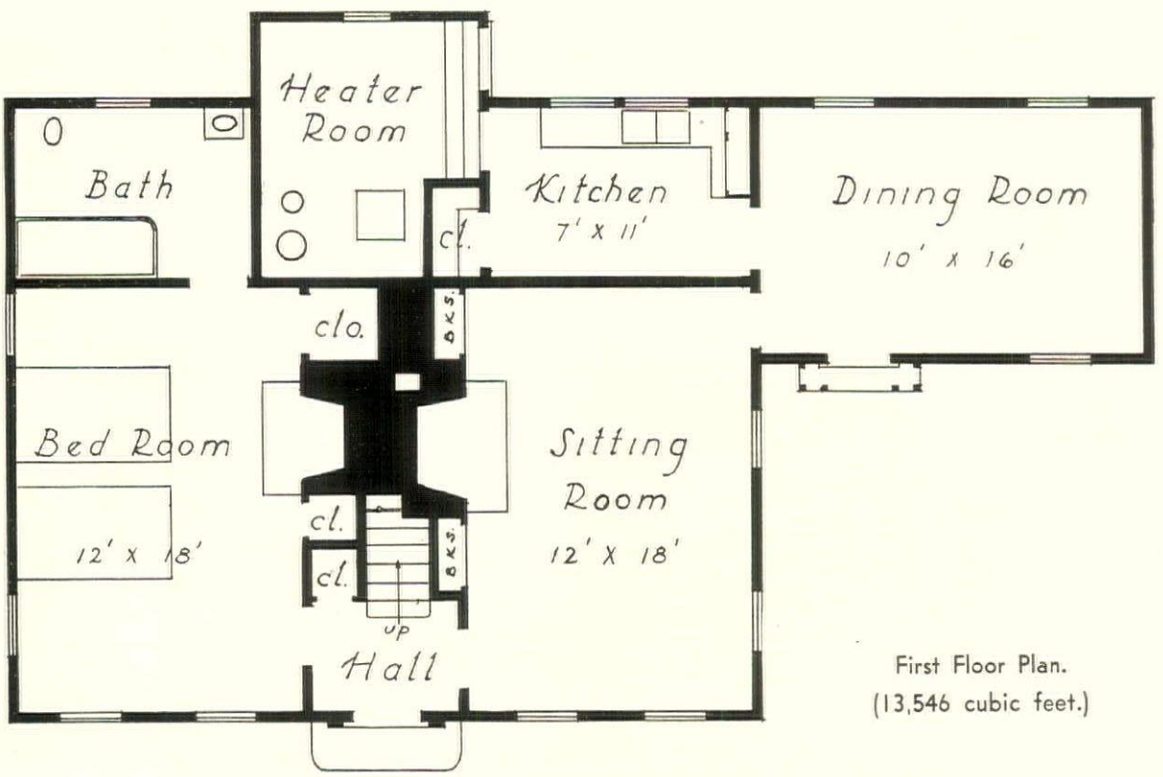
Weber

Hallam L. Movius, landscape architect.

GUEST HOUSE FOR CONSTANTINE HUTCHINS
NEEDHAM, MASSACHUSETTS
CHARLES S. KEEFE, ARCHITECT



Second Floor Plan.

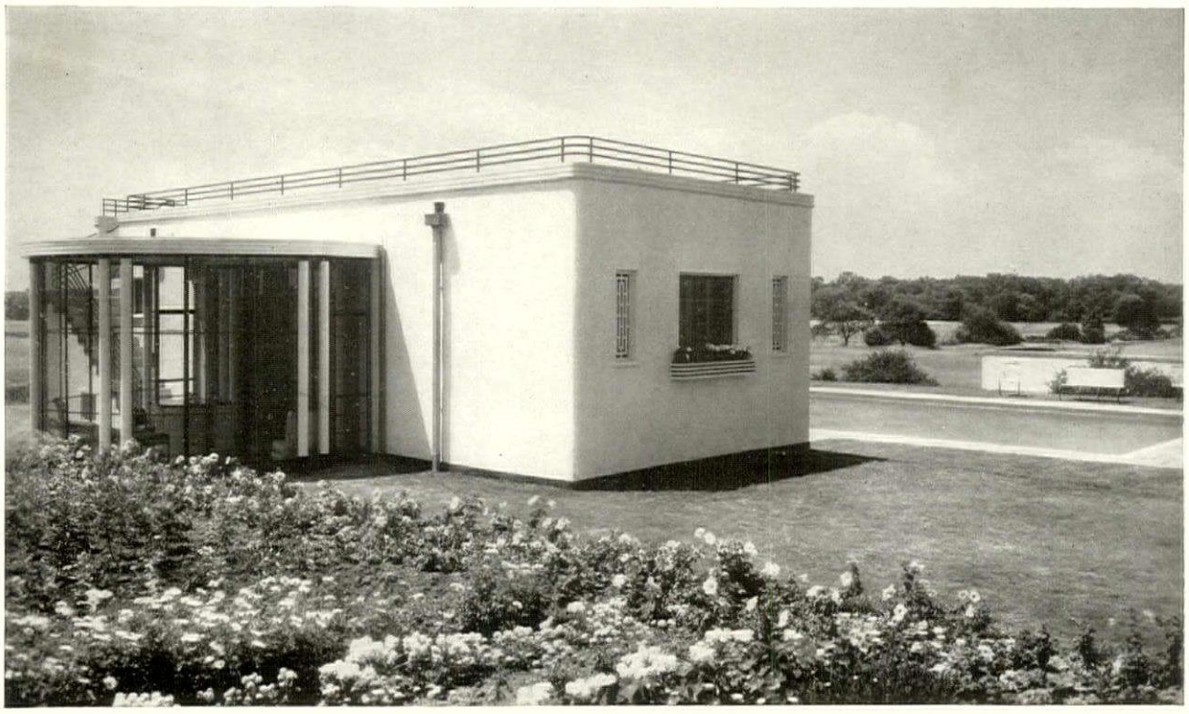


First Floor Plan.
(13,546 cubic feet.)

GUEST HOUSE FOR CONSTANTINE HUTCHINS
NEEDHAM, MASSACHUSETTS
CHARLES S. KEEFE, ARCHITECT

Weber

GUEST HOUSE FOR CONSTANTINE HUTCHINS
NEEDHAM, MASSACHUSETTS
CHARLES S. KEEFE, ARCHITECT



Hedrich-Blessing

SWIMMING PAVILION ON ESTATE OF ELIAS MAYER
DEERFIELD, ILLINOIS
PHILIP B. MAHER, ARCHITECT

Hedrich-Blessing

SWIMMING PAVILION ON ESTATE OF ELIAS MAYER
DEERFIELD, ILLINOIS
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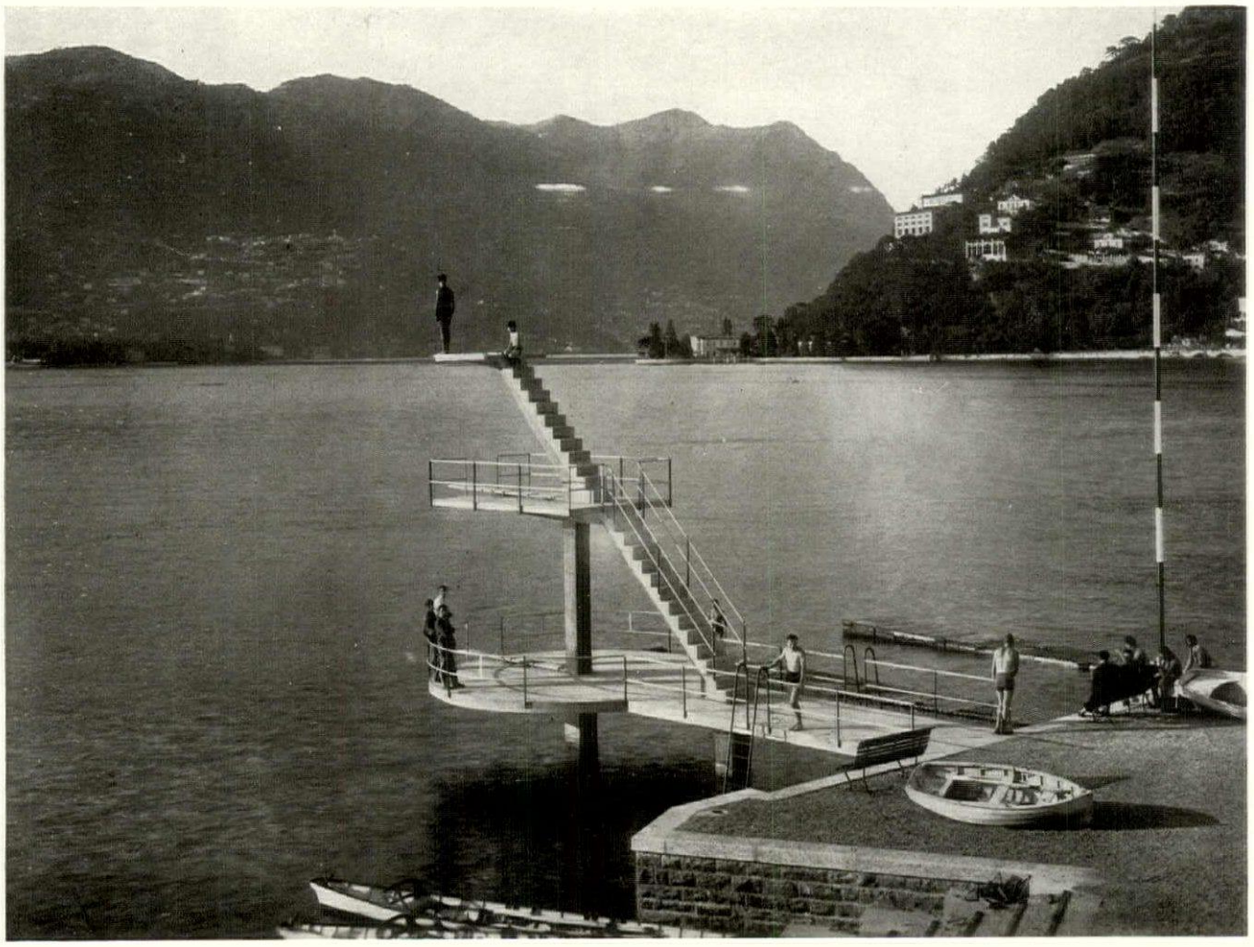

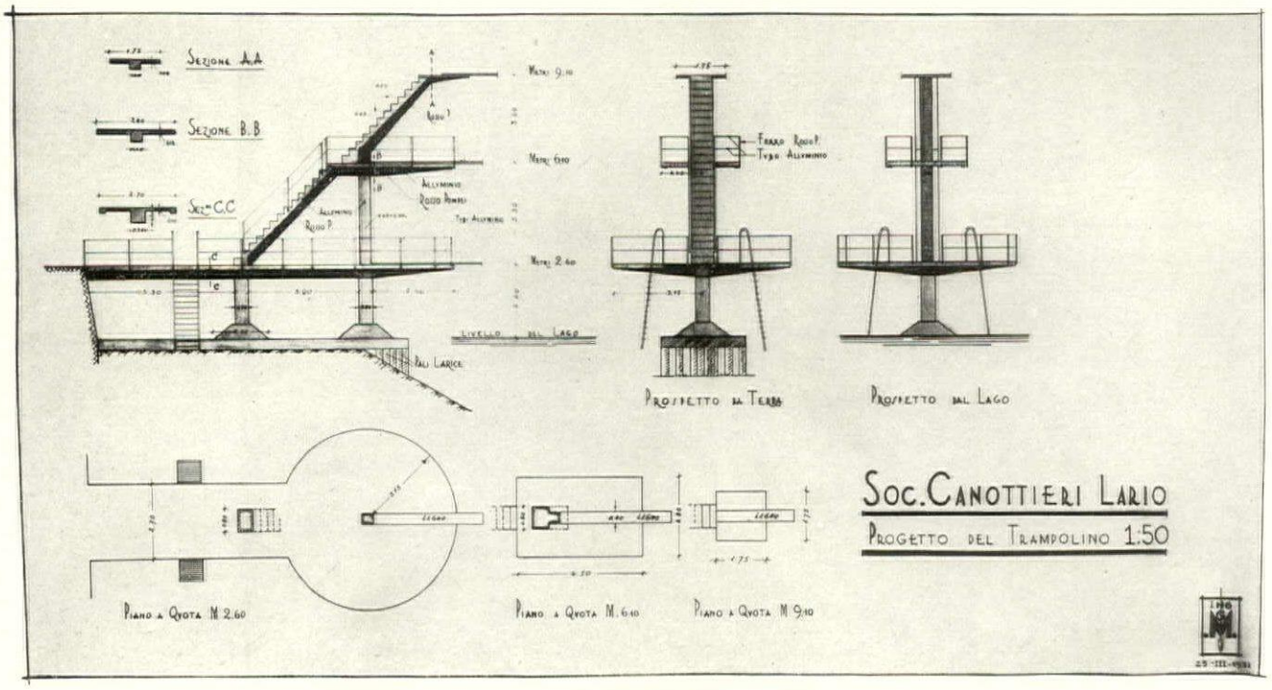

ROWING CLUB—"CANOTTIERI LARIO"
LAKE COMO, ITALY
GIANNI MANTERO, ARCHITECT

ROWING CLUB—"CANOTTIERI LARIO"
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ROWING CLUB—"CANOTTIERI LARIO"
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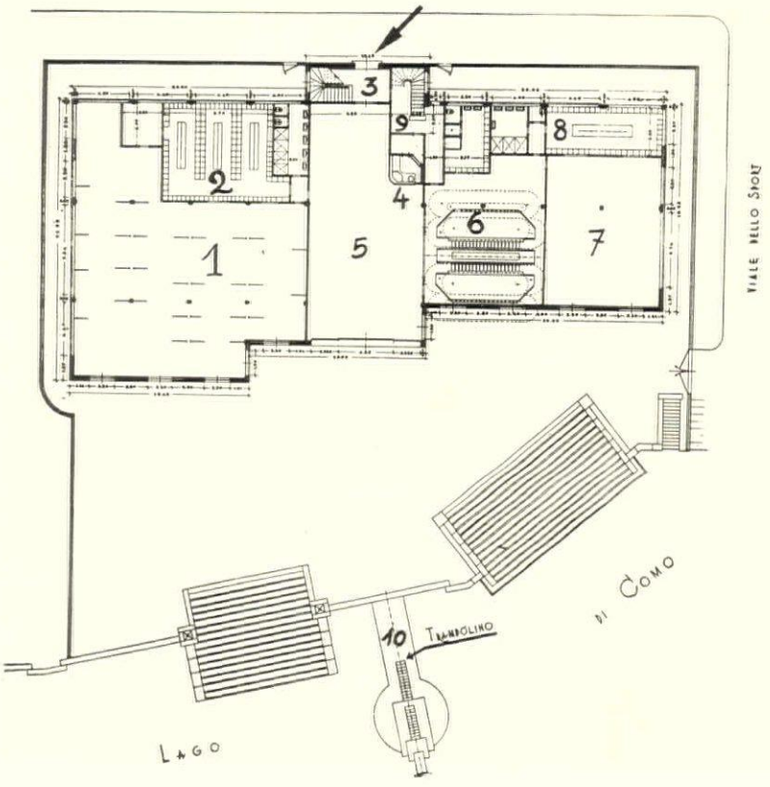
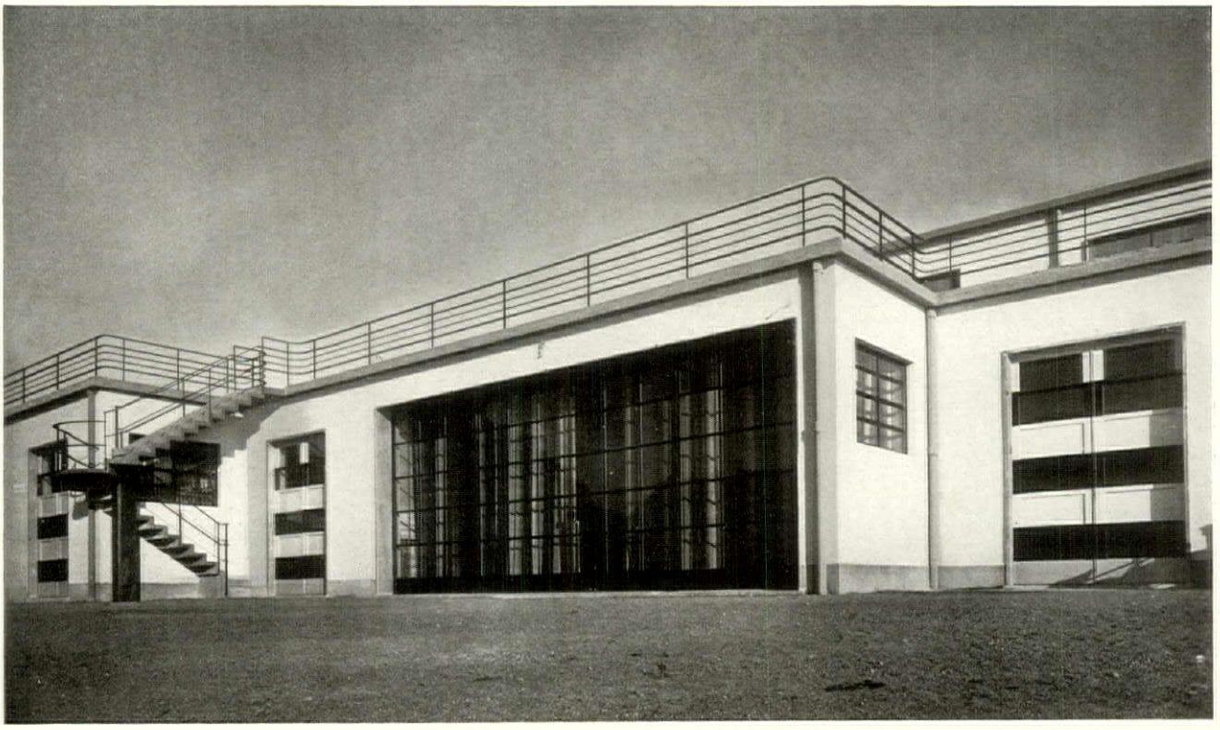


1. Rowing boats.
2. Junior dressing room and shower baths.
3. Main entrance.
4. Bar.
5. Hall.
6. Teaching basin.
7. Rowing boats.
8. Senior dressing room and shower baths.
9. Service entrance.
10. Diving platform.

ROWING CLUB—"CANOTTIERI LARIO"
LAKE COMO, ITALY
GIANNI MANTERO, ARCHITECT

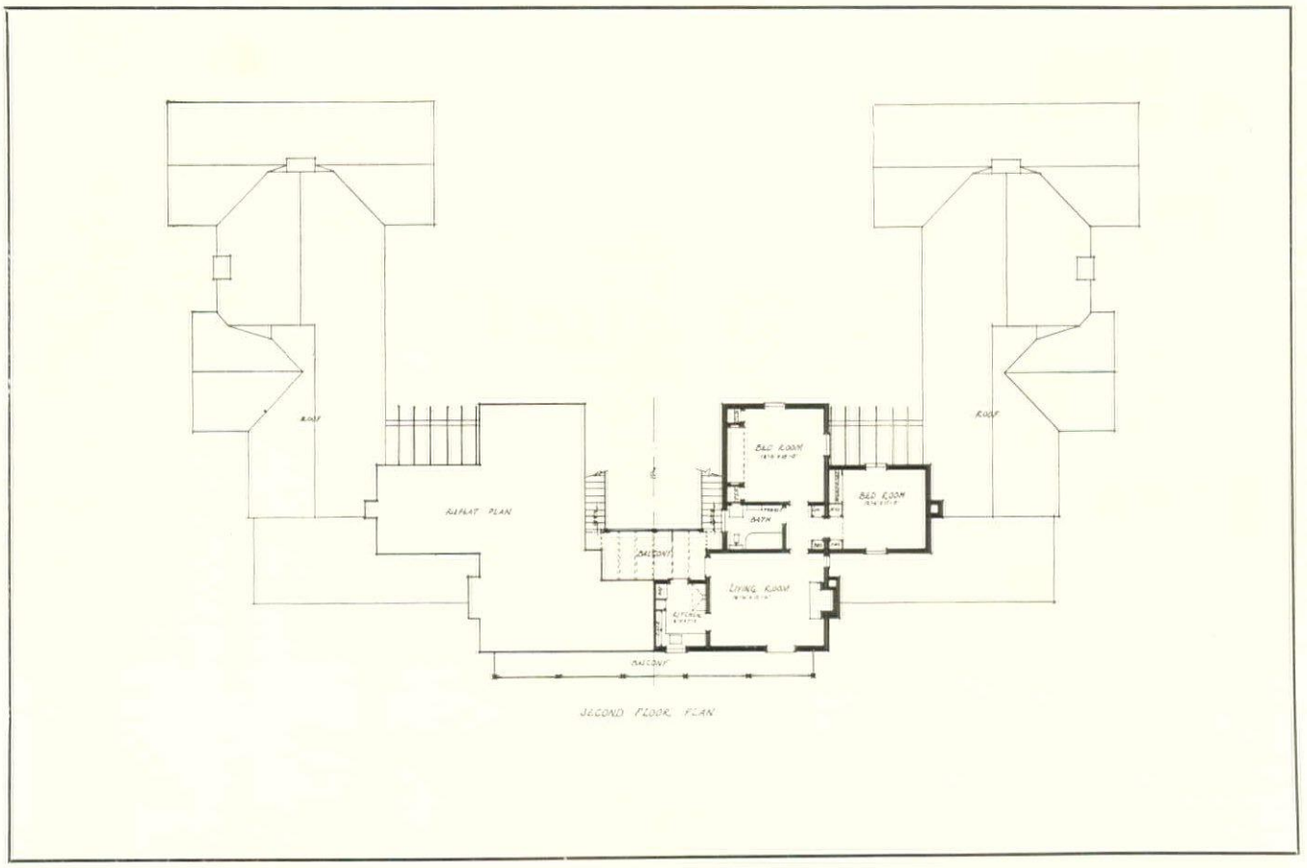


Lake façade.

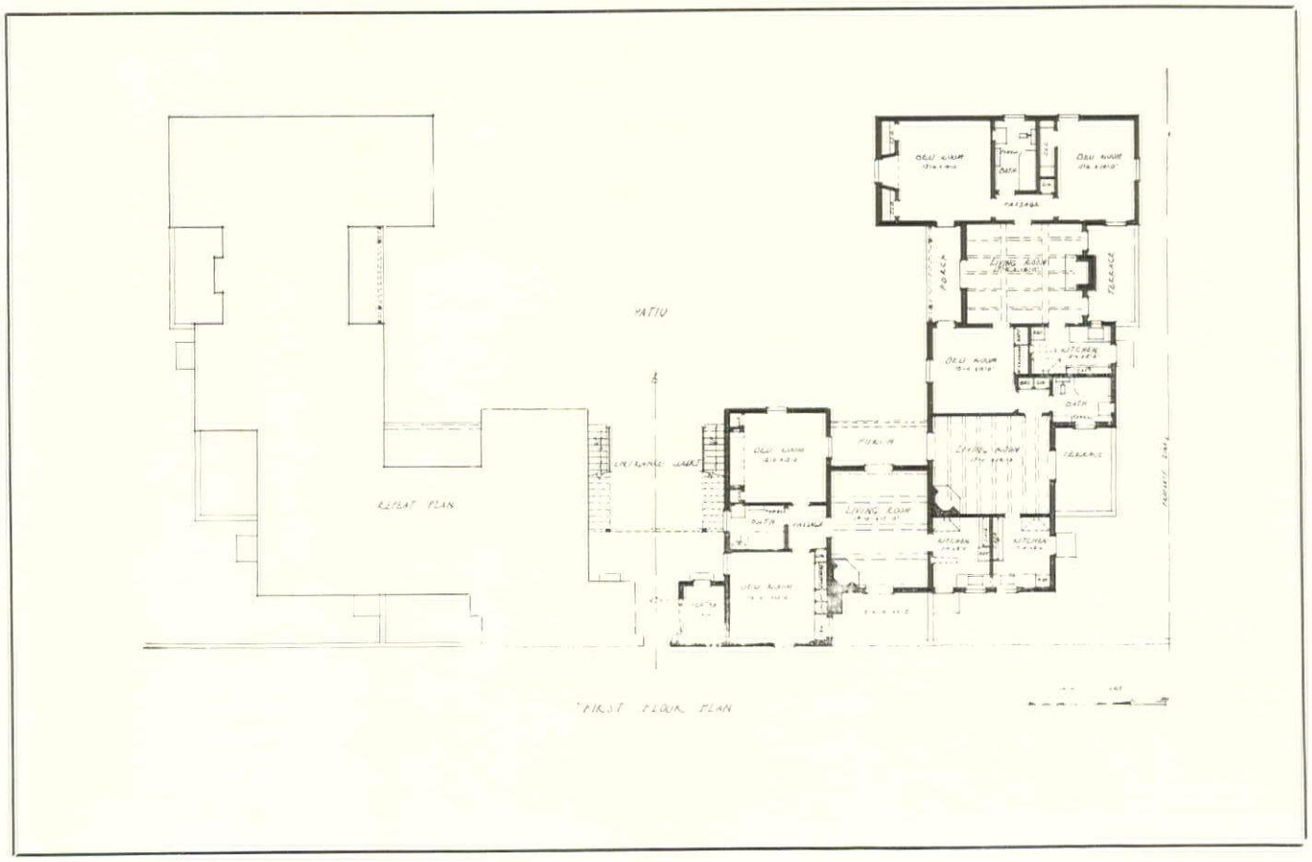
Hall window with view to lake.

ROWING CLUB—"CANOTTIERI LARIO"
LAKE COMO, ITALY
GIANNI MANTERO, ARCHITECT

EL ENCANTO APARTMENTS
PALM SPRINGS, CALIFORNIA
MARSHALL P. WILKINSON, DESIGNER



SECOND FLOOR PLAN



FIRST FLOOR PLAN

EL ENCANTO APARTMENTS
PALM SPRINGS, CALIFORNIA
MARSHALL P. WILKINSON, DESIGNER

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PALM SPRINGS, CALIFORNIA
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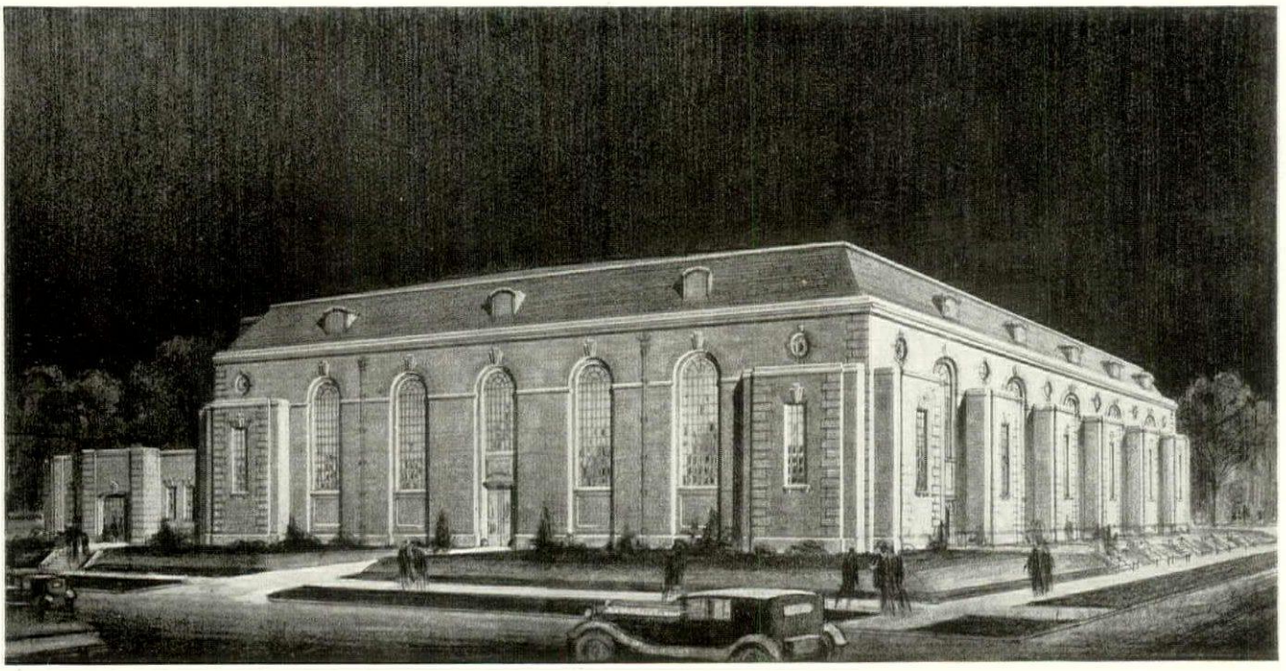
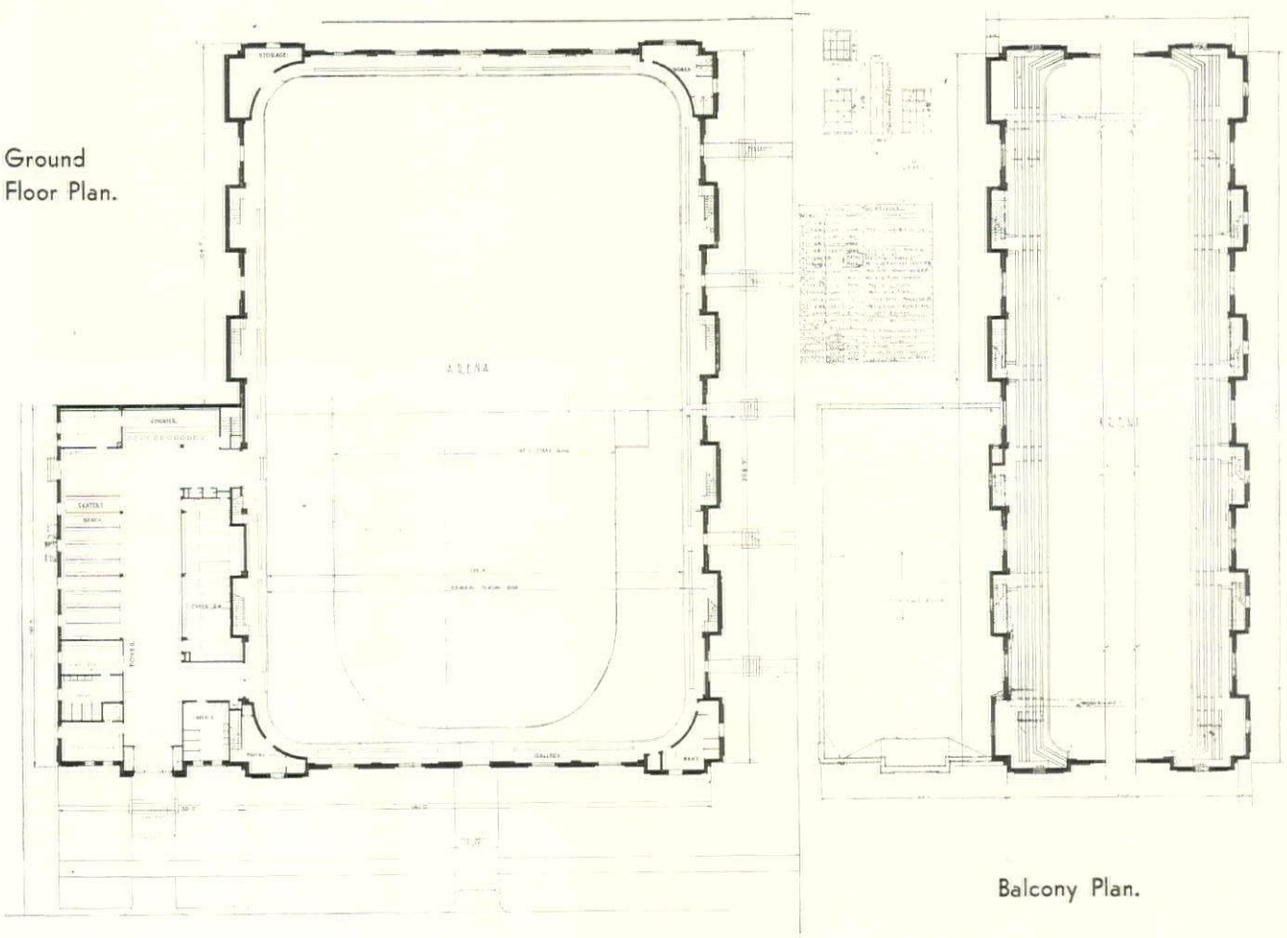




Ground
Floor Plan.

Balcony Plan.

SKATING RINK AT URBANA
UNIVERSITY OF ILLINOIS
HOLABIRD AND ROOT, ARCHITECTS

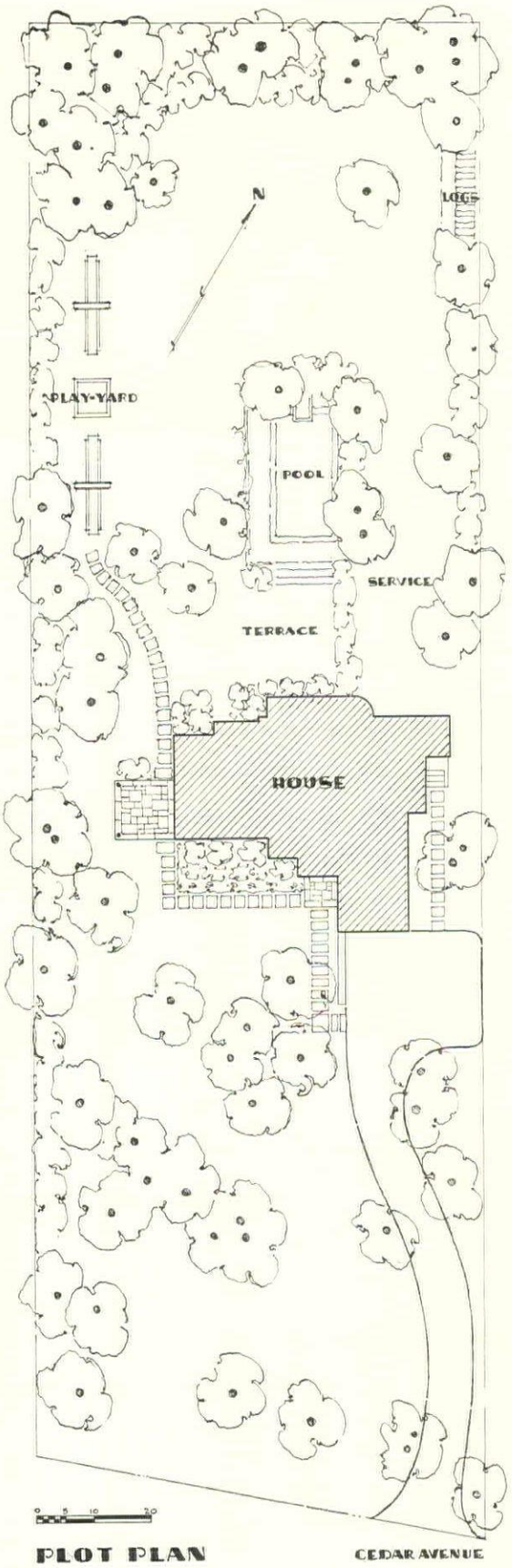
VIEW FROM SOUTHWEST

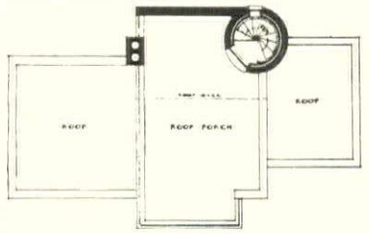
NORTH ELEVATION

BATTLEDECK HOUSE

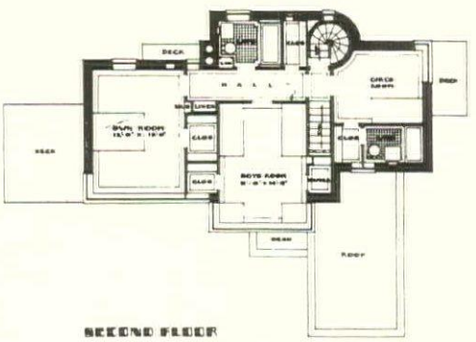
OF HENRY DUBIN, ARCHITECT
HIGHLAND PARK, ILLINOIS

Features of this house: Shop fabrication of large sections (roofs, decks and stairs complete). Horizontal fenestration. Roof porch. Large economy of "dead" space.

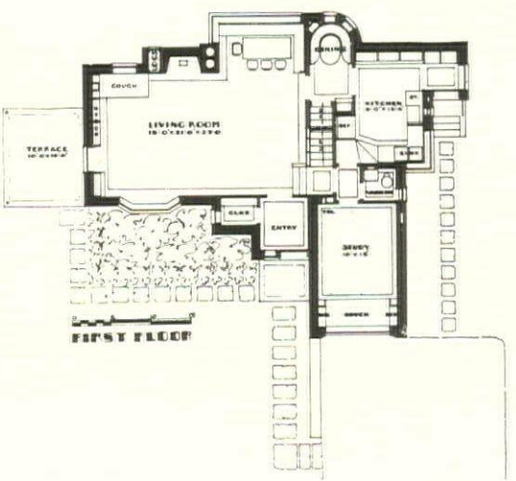




ROOF



SECOND FLOOR

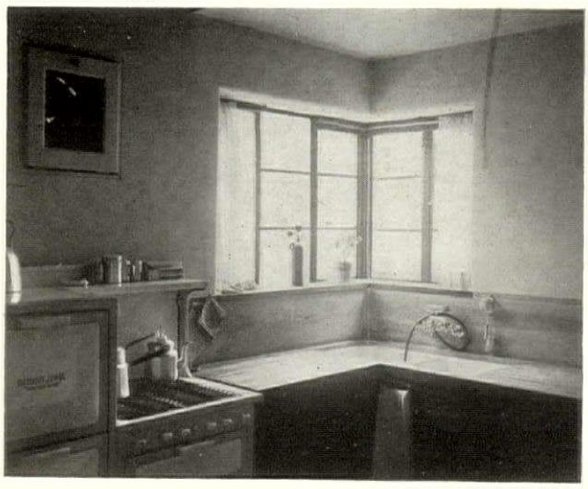


FIRST FLOOR

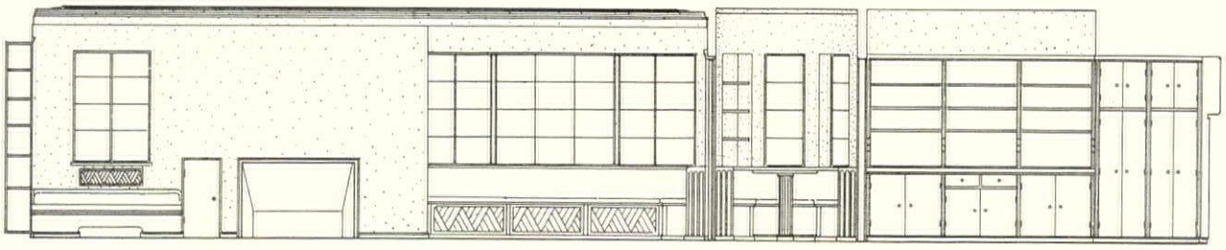
BASEMENT

HOUSE OF HENRY DUBIN
HIGHLAND PARK, ILLINOIS
HENRY DUBIN, ARCHITECT

Northwest corner of living room.

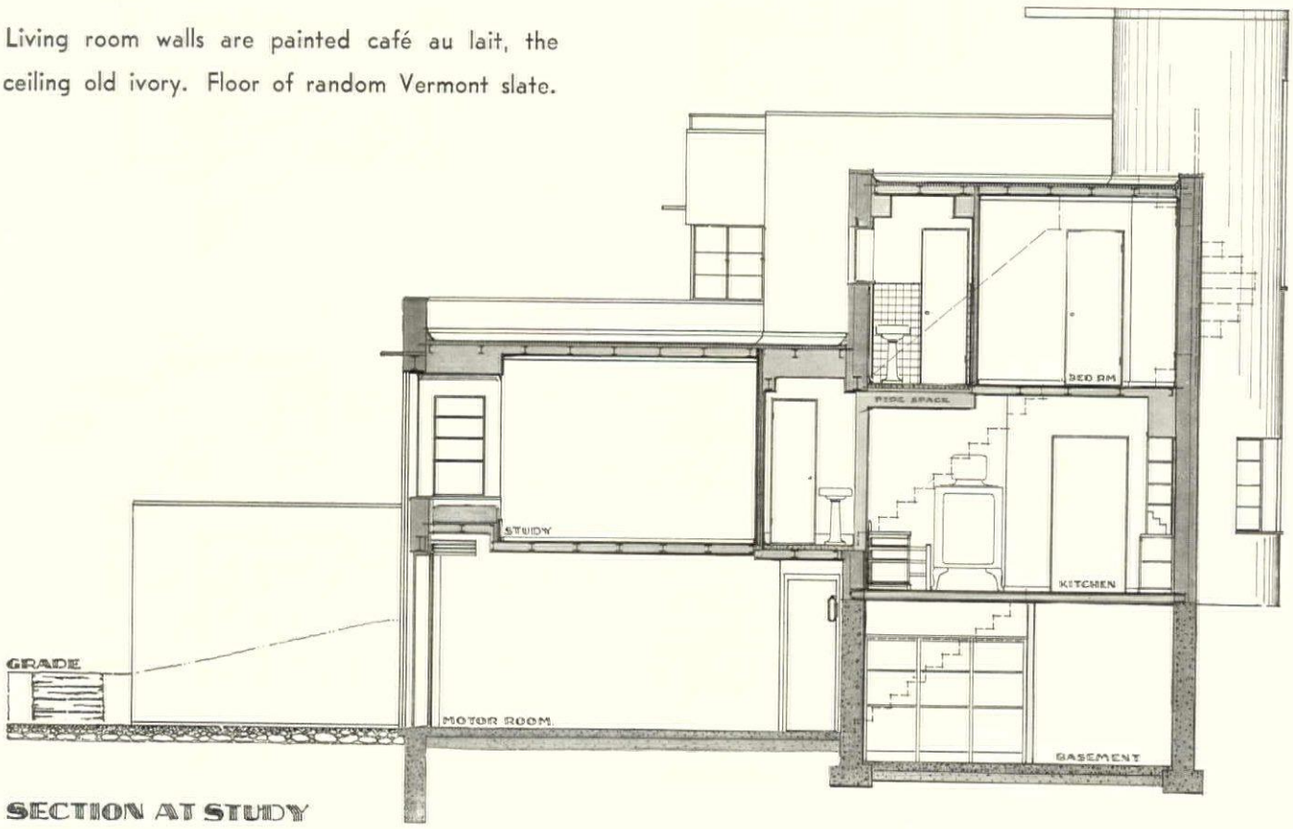


Kitchen.



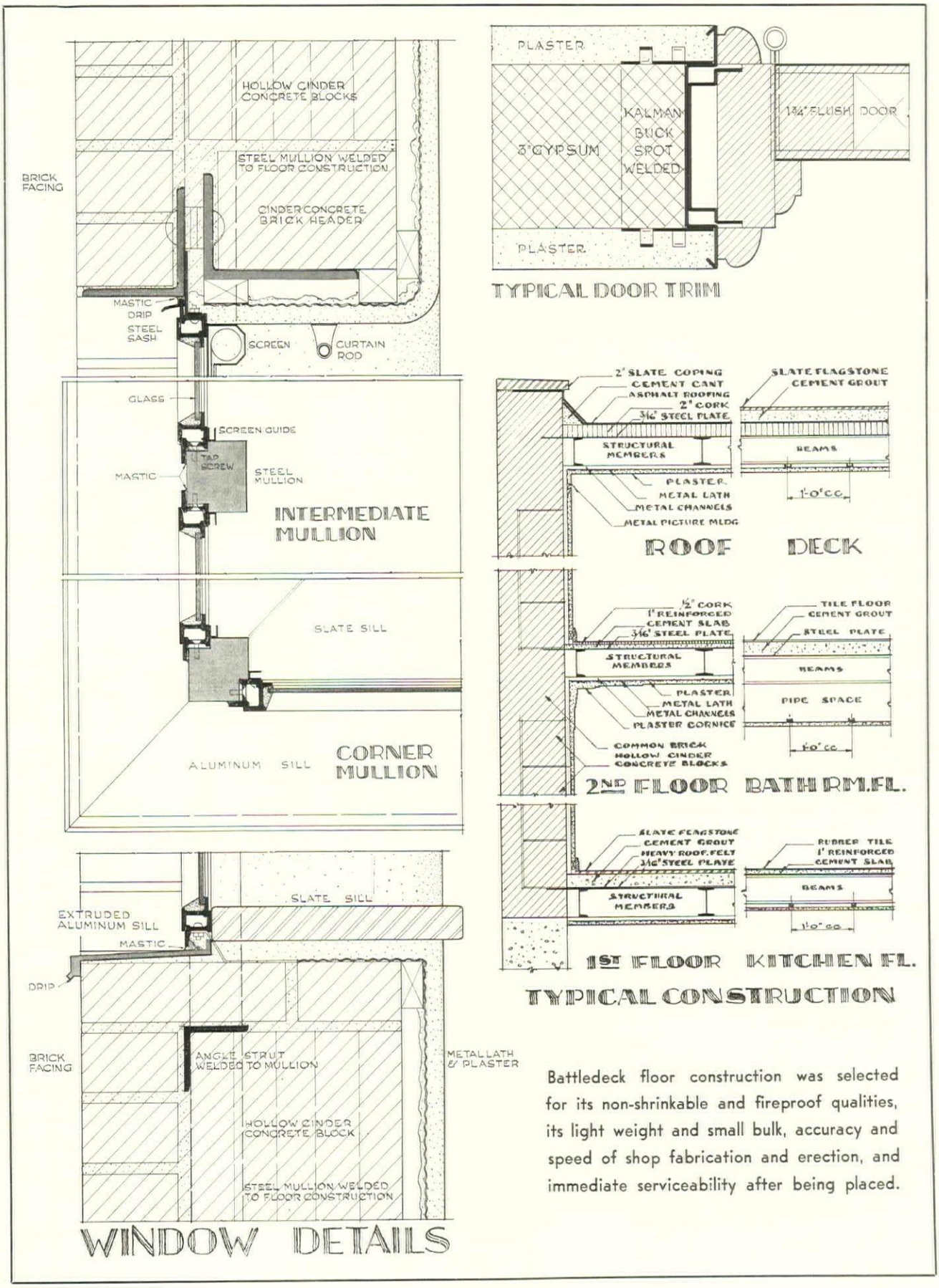
NORTH-WEST WALLS OF LIVING ROOM, DINING ROOM & KITCHEN

Living room walls are painted café au lait, the ceiling old ivory. Floor of random Vermont slate.



SECTION AT STUDY

HOUSE OF HENRY DUBIN
HIGHLAND PARK, ILLINOIS
HENRY DUBIN, ARCHITECT



Battledeck floor construction was selected for its non-shrinkable and fireproof qualities, its light weight and small bulk, accuracy and speed of shop fabrication and erection, and immediate serviceability after being placed.

HOUSE OF HENRY DUBIN AT HIGHLAND PARK, ILLINOIS
HENRY DUBIN, ARCHITECT

Wallace

MERION WAR TRIBUTE HOUSE AT MERION, PENNSYLVANIA
KARCHER AND SMITH, ARCHITECTS

CHECKING LIST FOR COMMUNITY HOUSE DESIGN

By WALTER T. KARCHER and LIVINGSTON SMITH, Architects

Type

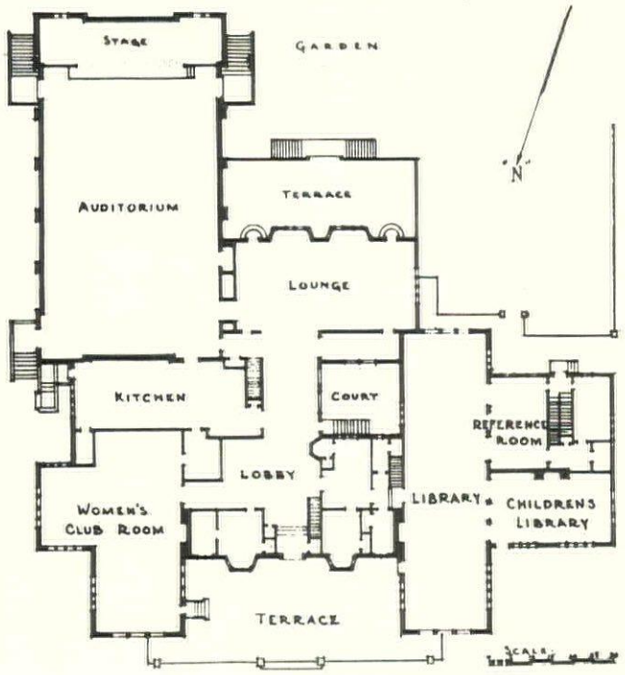
A. Clerical:
   a. Special features. (Chapel, Sunday School rooms).
B. Secular:
   a. City.
   b. Suburban.
C. Character of neighborhood:
   a. Residential only.
   b. Part residential and part tenement.
   c. Tenement only.

Business Management

A. Endowed.
B. Self-supporting:
   a. System of apportioning cost to various activities.
   b. Meters on gas, electricity, heat.
C Civic Association, a part of or separated from management office:
   a. Clerical staff.
   b. Storage for records.

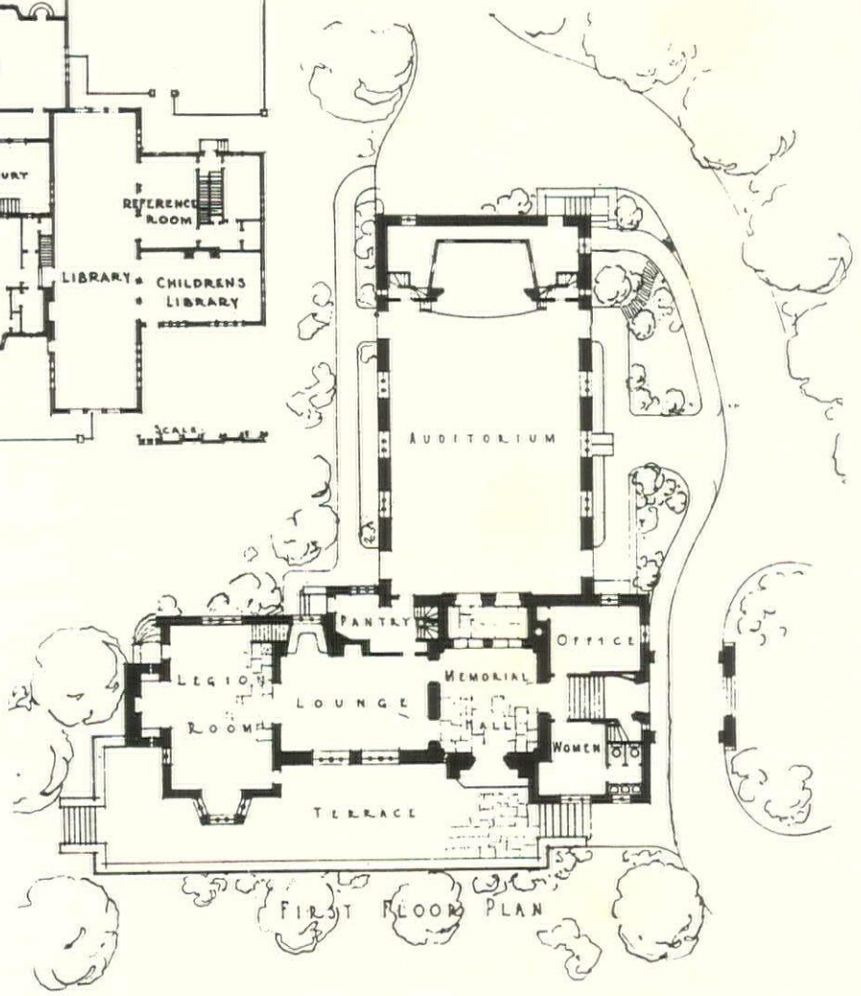
Plan

A. How many lounge rooms?
(Different in size. Possibility of several separate functions at same time with proper uninterrupted traffic for entrance and exit of food and traffic. Men's and women's cloak rooms near entrance of building; also possibility of accordion door divisions which can open several rooms for one large function.)



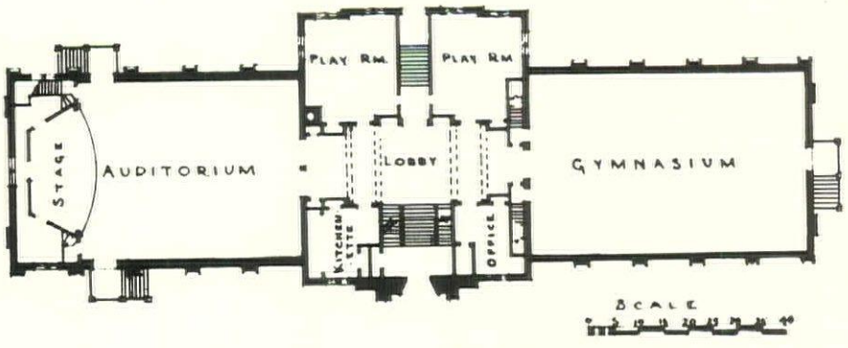
Left:

MOORESTOWN COMMUNITY HOUSE
MOORESTOWN, NEW JERSEY



Right:

MERION WAR TRIBUTE HOUSE
MERION, PENNSYLVANIA



Left:

FANNIE M. JACKSON COPPIN
RECREATION CENTER
PHILADELPHIA

PLANS OF COMMUNITY HOUSES
KARCHER AND SMITH, ARCHITECTS

B. Auditorium:
   a. To be used as gymnasium or separately?
   b. If used as gymnasium, ample storage for seats adjacent;
   c. If separate auditorium,
      1. Flat or sloping floor.
      2. Fixed or movable seats.
   d. Organ:
      1. Location of organ chambers.
      2. Organ to speak in one room only or in other rooms if desired, or to outside of building for community singing.
      3. Self-player attachment.
   e. Victrola amplification device.
   f. Movie booth.
   g. Stage:
      1. Concert stage—no fire curtains or sets.
      2. Dramatic stage—fire curtain, fly gallery lighting, switchboard, etc.
      3. Dressing rooms with separate outside entrance.
   h. Acoustical treatment.
   i. Ventilation—forced preferred.

C. Gymnasium:
   a. Ample space for basket ball with side galleries above.
   b. If used for dancing, platform for orchestra or connections for music from auditorium.
   c. Sound deadening treatment.
   d. Visiting team rooms—possibly in connection with D.

D. Swimming pool:
   a. Suits rented or brought to building.
   b. Visiting team rooms.
   c. Water purification, locker rooms, toilets, ample ventilation, forced preferred to natural.
   d. Spectators' seats—raised above pool runways.
   e. Sound deadening.

E. Public library—use typical small library checking list—separate outside entrance.

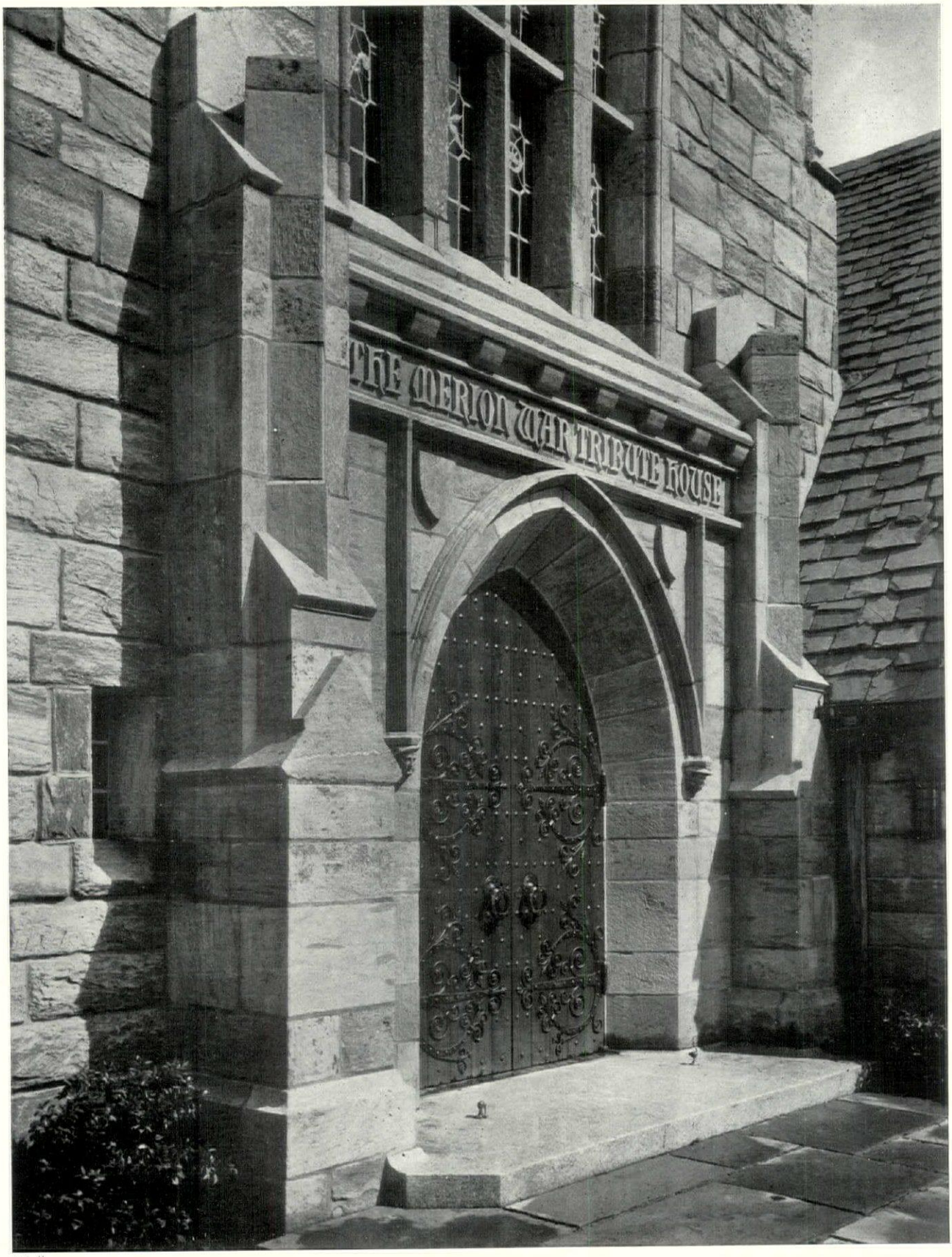
F. Other activities:
   a. Church Federation.
   b. Visiting nurses:
      1. Baby clinic room with space for waiting perambulators.
   c. Men's club.
   d. Legion Post:
      1. Memorials.
      2. Own quarters.
   e. Boy Scouts.
   f. Girl Scouts.
   g. Rotary or welfare clubs.
   h. Workshops or teaching rooms—mechanical training, sewing, cooking (in connection with kitchen).
   i. Bowling alleys; pool and billiard tables, shuffle boards; cards.
   j. Outdoor activities—tennis, croquet, bowling, garden club, etc.

G. Food:
   a. Separate delivery entrance.
   b. Pantry—type of district to determine for use of outside caterer only or in connection with kitchen.
   c. Kitchen:
      1. Food prepared by caterer only.
      2. Food prepared by community workers.
      3. Food prepared regularly by servants in definite quantities.
      4. Dietary instruction. See F (h) noted above.
      5. Food for social service distribution—possibly in connection with F (b) noted above.
         (a) Space for waiting applicants protected by weather.
         (b) Method of checking slips or payment.
      6. Ventilation—forced or natural.
      7. Refrigeration.
      8. Sound deadening treatment.
   d. Type of food service:
      1. Occasional large gatherings.
      2. Regular luncheons—Rotary, etc.
      3. Regular supply for personnel living at house.

H. Sleeping quarters:
   a. Caretaker—room and bath or apartment.
   b. House Personnel—nurses or servants.

I. Garage accommodations:
   a. Nurses or secretary's cars.
   b. Larger numbers.

J. Details:
   a. Public telephones.
   b. Radio reception:
      1. General.
      2. Specified locations.
   c. Connections for
      1. Lighting for outside pageants.
      2. Road lighting.
      3. Signs.



Wallace

This building is in a high class residential district having no shops or business activities and practically no requirements for welfare work. It is a headquarters for civic associations and a place for dances, teas and social functions.

MERION WAR TRIBUTE HOUSE, MERION, PENNSYLVANIA

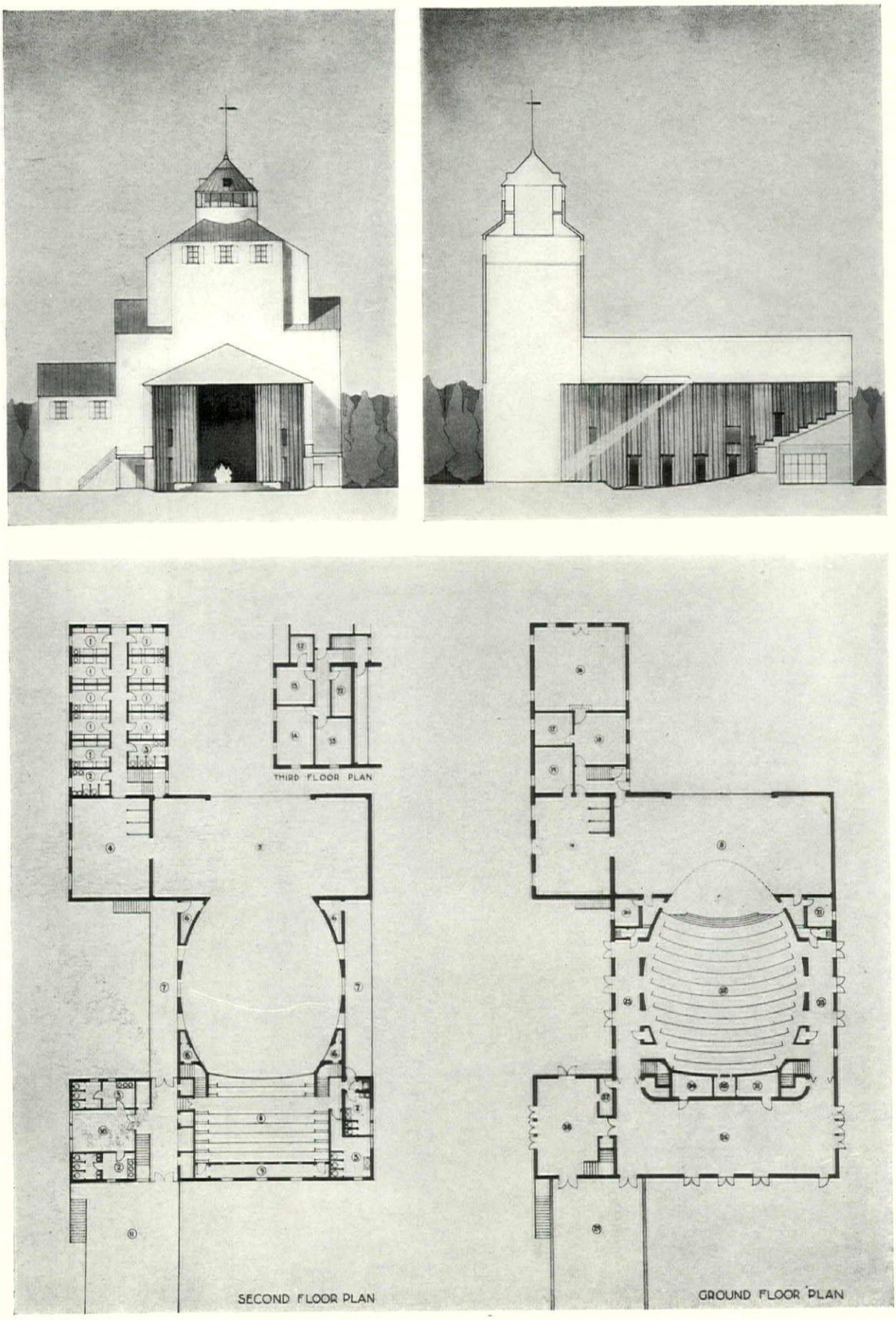
KARCHER AND SMITH, ARCHITECTS

Wallace

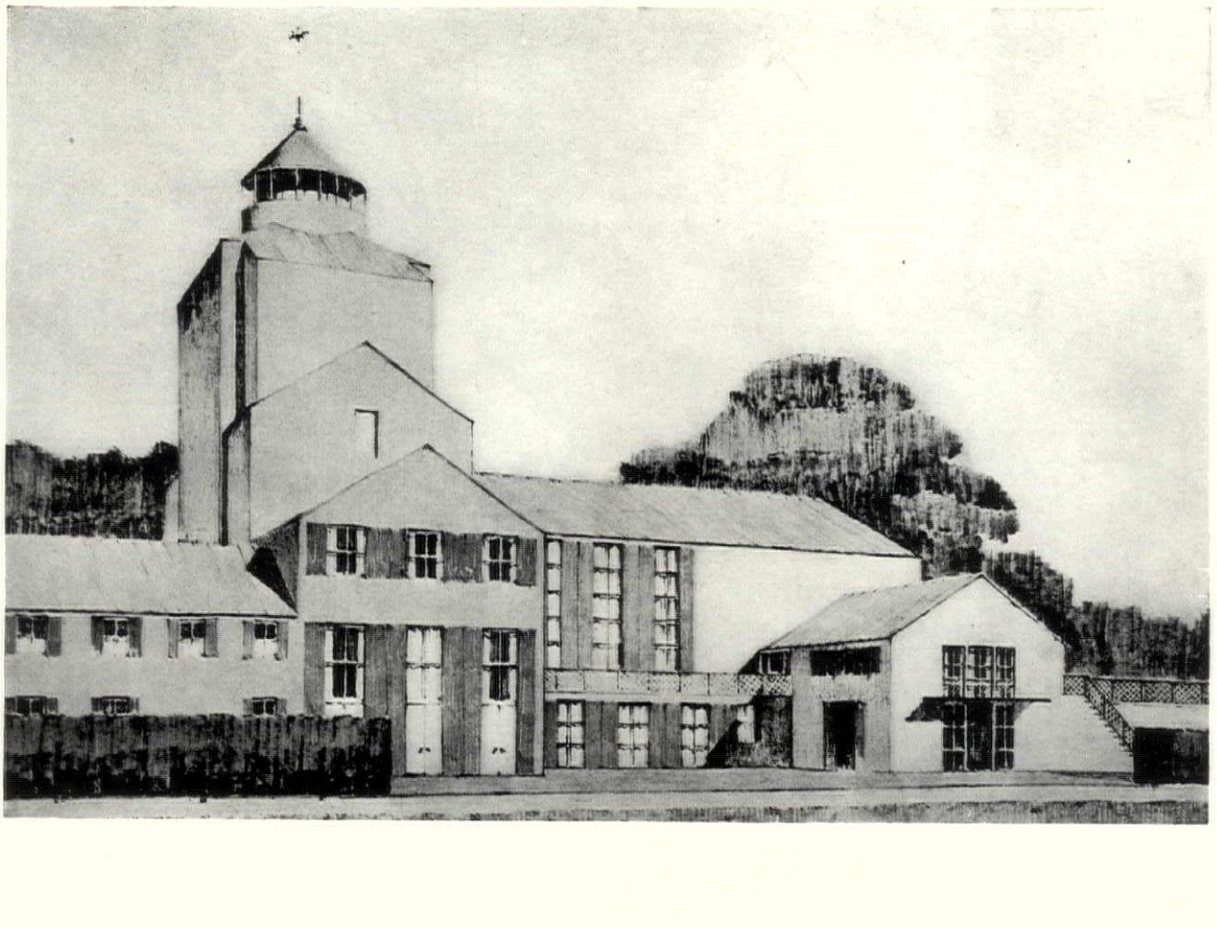
Here there is more need for social service and those in charge have developed the idea of community work. The building is some distance from a busy city so that activities are more localized but cover a much wider district.

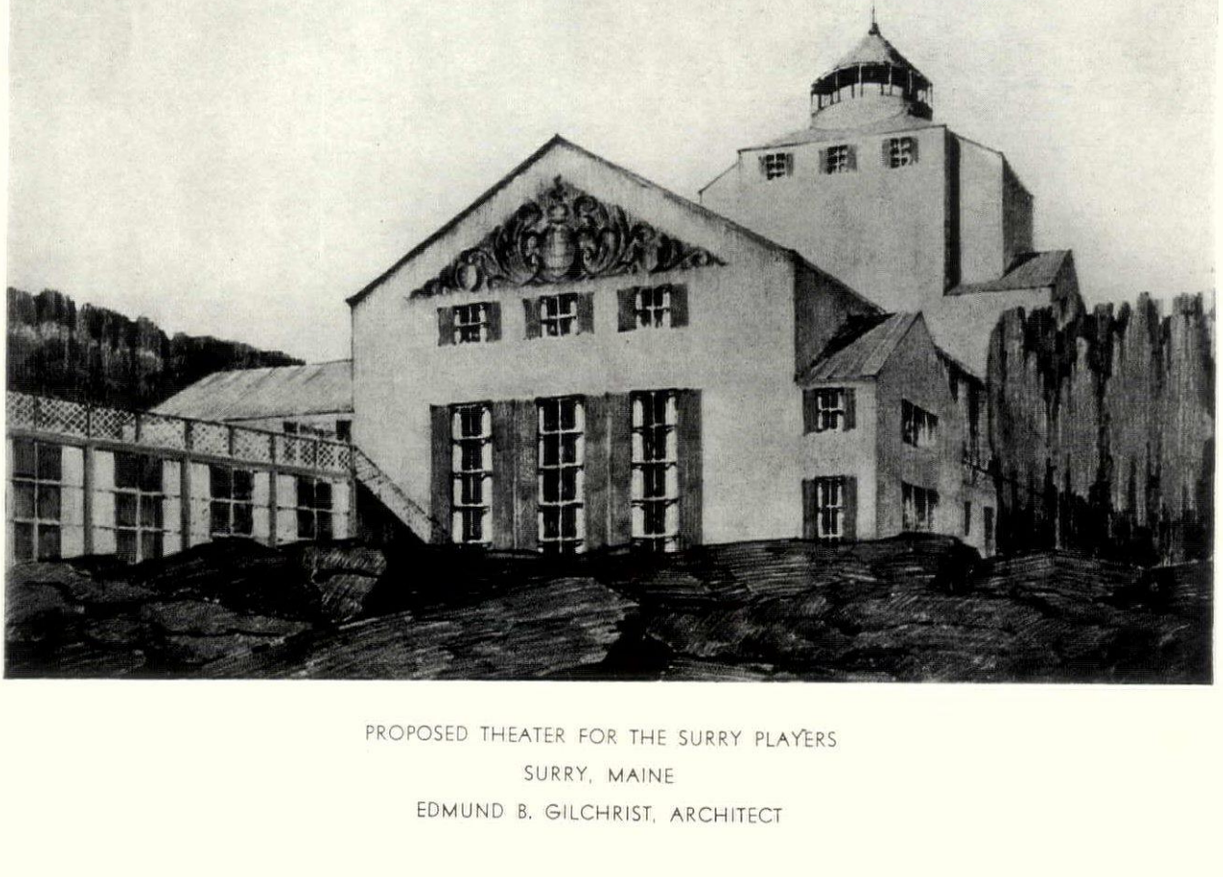
MOORESTOWN COMMUNITY HOUSE, MOORESTOWN, NEW JERSEY

KARCHER AND SMITH, ARCHITECTS



PROPOSED THEATER FOR THE SURRY PLAYERS
SURRY, MAINE
EDMUND B. GILCHRIST, ARCHITECT





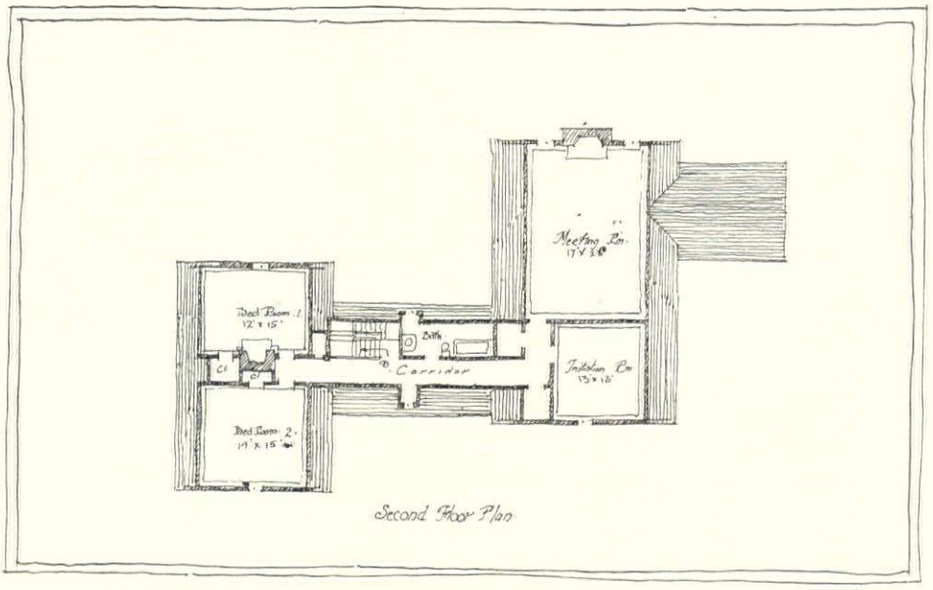
PROPOSED THEATER FOR THE SURRY PLAYERS
SURRY, MAINE
EDMUND B. GILCHRIST, ARCHITECT

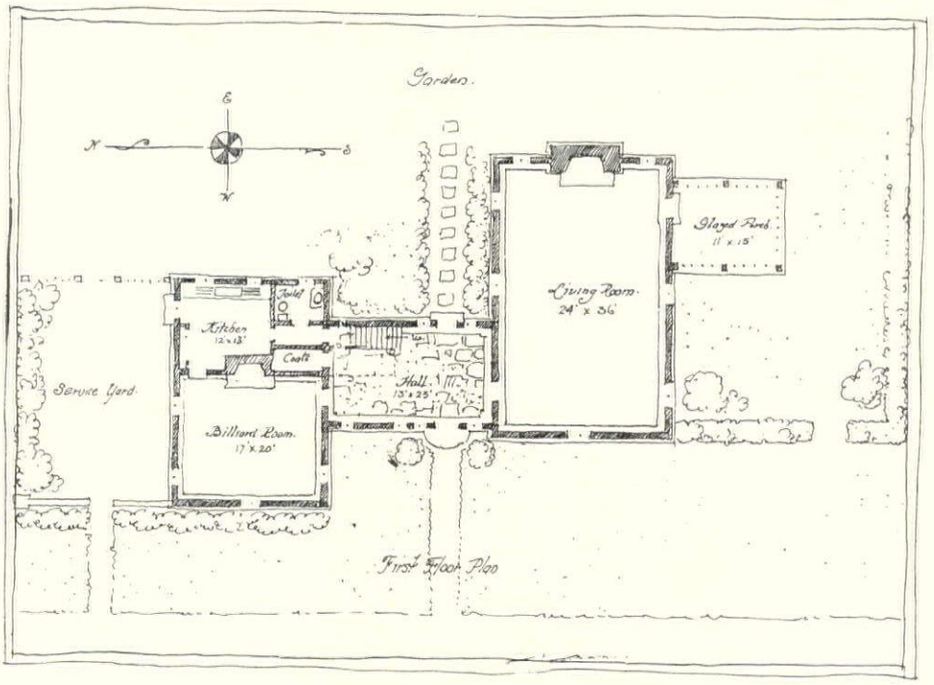
RENDERINGS IN PENCIL

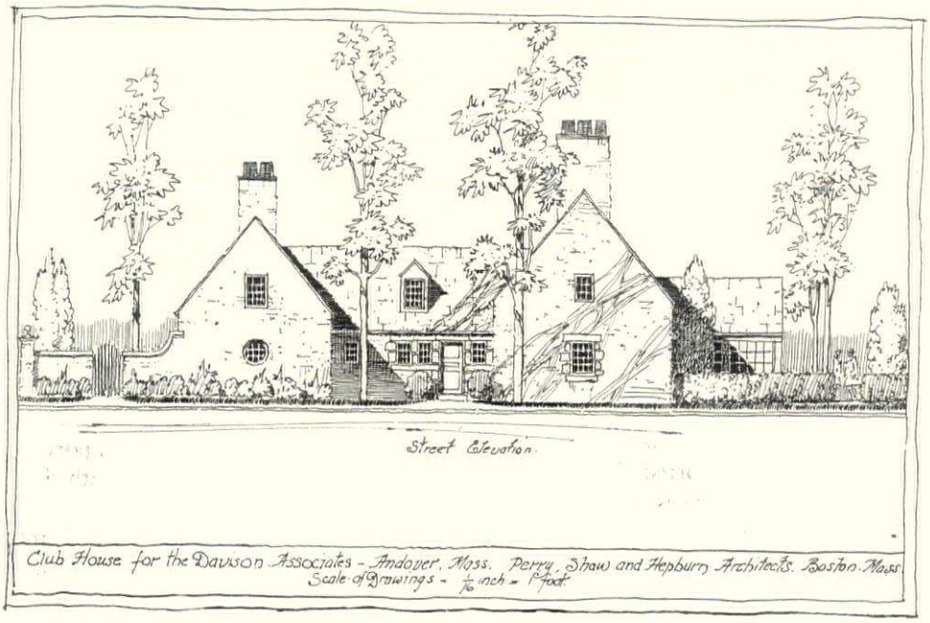
ON CAMEO PAPER

PERRY, SHAW AND HEPBURN, Architects

PRESENTATION SKETCHES OF PROPOSED CLUB HOUSE







Club House for the Davison Associates - Andover, Mass. Perry, Shaw and Hepburn Architects. Boston, Mass.
Scale of Drawings - 1/16 inch = 1 foot.

STEEL INSTITUTE HOUSING CONFERENCE

By PETER A. STONE

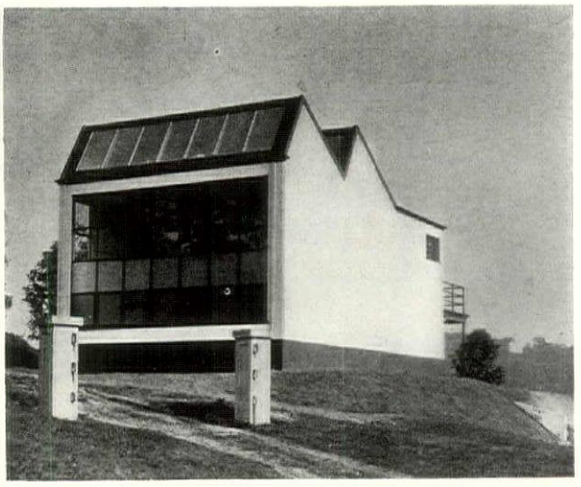
The factory-produced house as the most probable solution to the low-cost housing problem seems to have been accepted without serious opposition by the majority of architects and household experts in attendance at the Small House Forum held May 23 and 24 in New York City under the auspices of the American Institute of Steel Construction Other important conclusions derived from the meeting are: (1) in spite of experimental efforts to reduce costs, steel frames are still too costly to compete with wood frames; (2) builders have failed to use new materials because of the extra efforts required to sell them to the public.

The object of the meeting, according to the announcement of the sponsors, was to develop the most improved methods and materials for a house consisting of not more than six rooms and containing not more than 12,000 cubic feet above ground. Three principal viewpoints were given, that of the architect, the household expert, and the builder. The architect's answer to this problem, as given by Harvey Wiley Corbett and others, was that only by factory-production methods is it possible to produce *low-cost* single-family residences which will have improvements over present designs. A large number of those attending the meetings had in mind the housing of the 90 per cent of the population who cannot afford individually-tailored houses, whereas those in charge kept to the subject of new methods and materials on the single-family house, limited only as to size and number of rooms.

Most of the household experts who represented the "women's viewpoint" accepted the belief that the factory-produced house is inevitable, but, in describing the things that such a house should contain, seemed to have the idea that it would be just an imitation of present day structures, stamped out in one piece, instead of a new type of structure, so different as to change contemporary notions of household economics.

Some interesting discussion resulted at this session, particularly that provoked by the report of Dr. Allene Houghton ("Prudence Penny"). Dr. Houghton reported the results of round-table discussions with thousands of housewives in the New York district on the subject of home architecture. The majority of women, she said, do not think that an attic is necessary since it soon becomes a dumping place for cast-off accumulations. Dr. Houghton also reported that nearly all women attending her conferences insisted on a basement.

An analysis of this report indicated that most housewives are consistently inconsistent. On the subject of basements their replies indicate that what they really want is plenty of space and sound construction. Whether that space is located above or below ground is a matter that might produce a different answer. After all, the fact that recreational activities must be relegated underground to prevent "shaking down the house" is a sad commentary on present-day house construction. In general, the report of the household experts proved what every speculative builder knows, namely: "gadgets" sell the house.



Studio designed and built by Housing Company of Waverley, Massachusetts. Columns and sills are of steel. An upturned channel is placed on foundation wall, and wood studs are set in between the columns and held at the base by the channel.

The session devoted to new materials and methods consisted chiefly of reports of steel-frame residence construction. The reason for this was made apparent by the talk of Lee H. Miller of the American Institute for Steel Construction: steel manufacturers expect a market of several million tons of steel annually if steel framing is adopted for residential construction. These figures are based on the report of J. C. Shields of the Carnegie Steel Company who stated that the average residence *could* use from 5½ to 7 tons of steel. However, if that much steel will be necessary for a residence, steel will have to be very much cheaper than it is at present before its adoption will become universal. Practically every house described at the meeting showed an increase in cost of from $150 to $300 as a result of the substitution of steel framing for wood.

One important exception was the suggestion of Fred T. Llewellyn, Consulting Engineer of the United States Steel Corporation, that it might be more economical to consider structural steel only for the important stress members. This suggestion met with little objection although it cuts down the potential steel market by about two-thirds of the estimated total. A good illustration of Mr. Llewellyn's idea was presented by H. W. Brown

(Continued on page 38, advertising section)

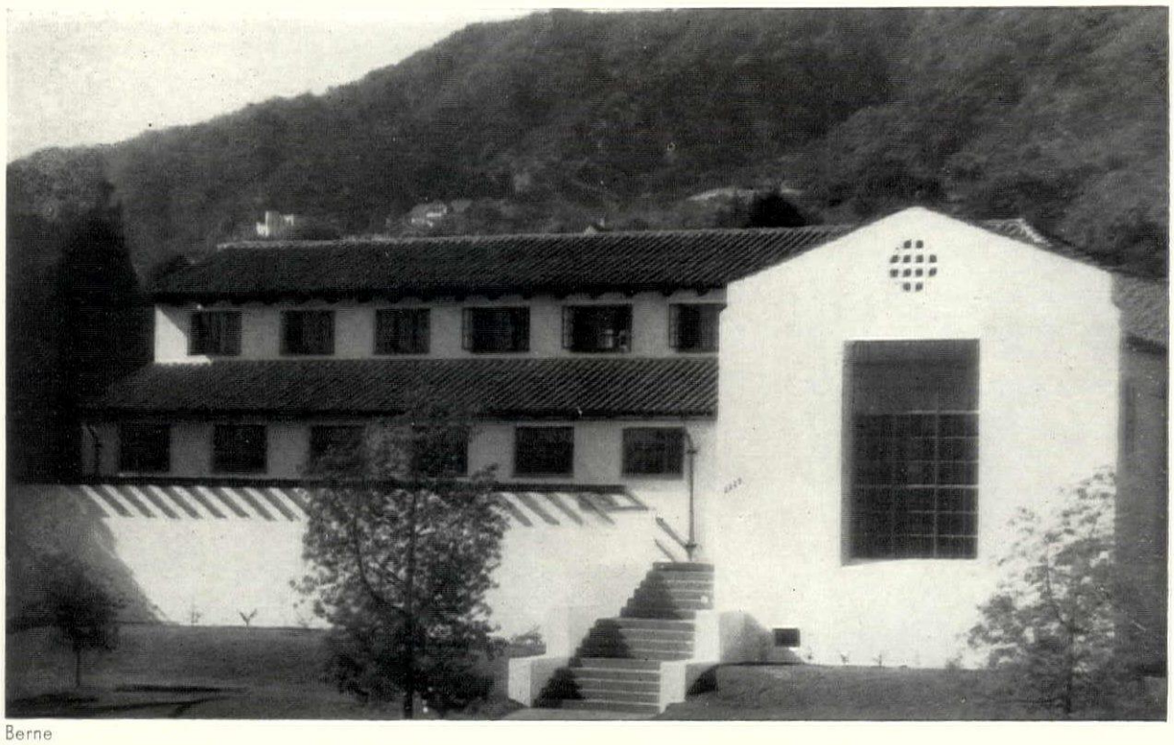
PORTFOLIO OF LIBRARIES

Berne

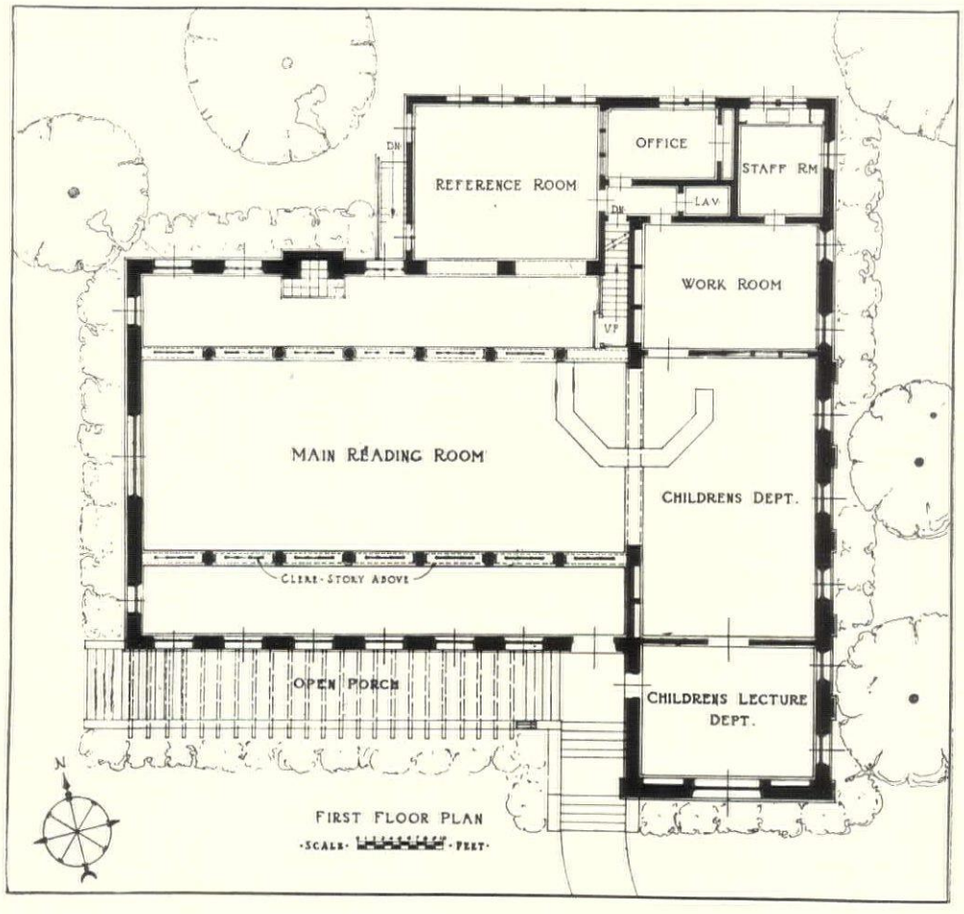
EAGLE ROCK PUBLIC LIBRARY IN LOS ANGELES
NEWTON AND MURRAY, ARCHITECTS

Berne

MAIN READING ROOM
EAGLE ROCK PUBLIC LIBRARY IN LOS ANGELES
NEWTON AND MURRAY, ARCHITECTS



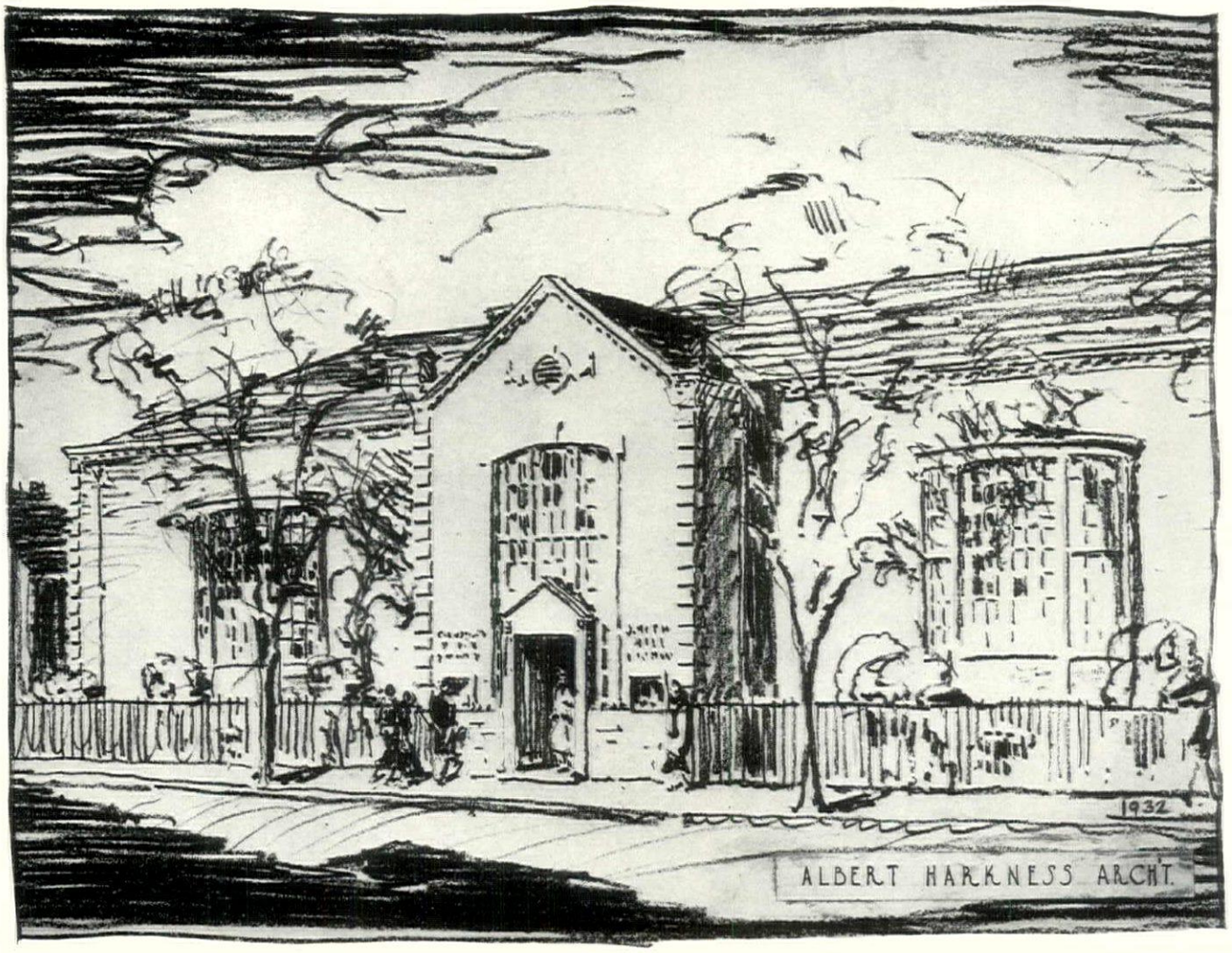
Berne

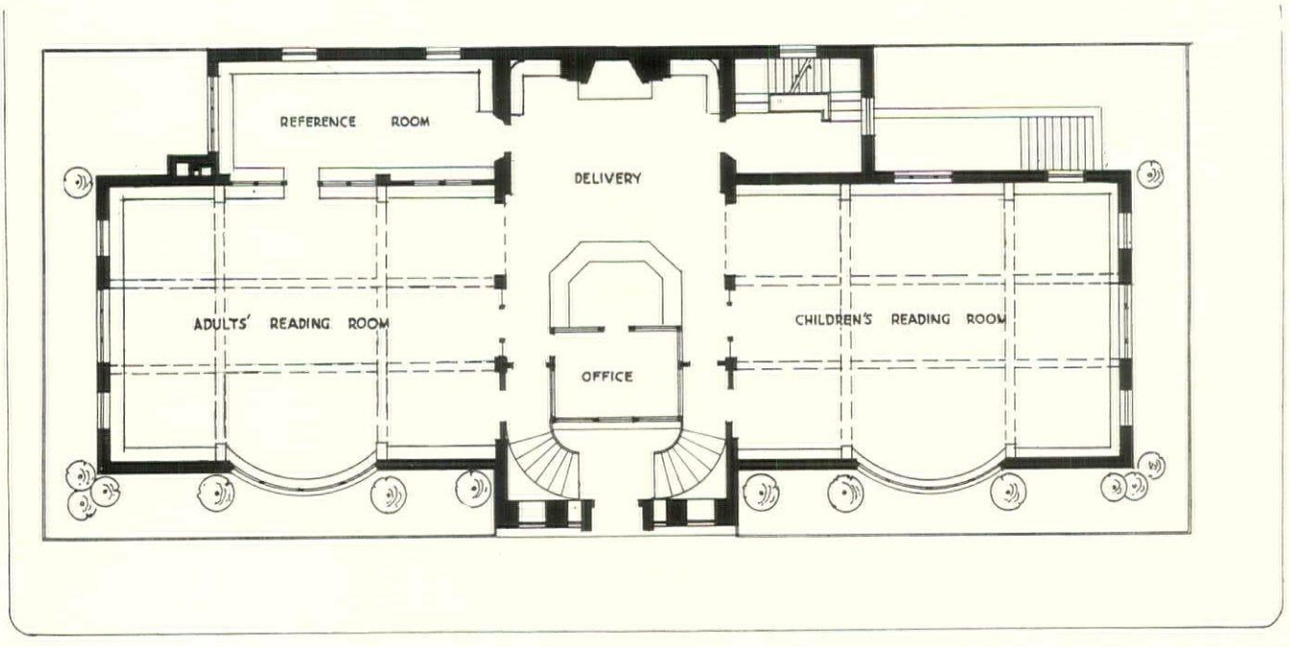


Foundations, basement, walls and flooring of an old outworn building on this site were utilized and remodeled with a saving of $10,000.

EAGLE ROCK PUBLIC LIBRARY IN LOS ANGELES

NEWTON AND MURRAY, ARCHITECTS





FIRST FLOOR PLAN

SMITH HILL BRANCH LIBRARY
PROVIDENCE, RHODE ISLAND
ALBERT HARKNESS, ARCHITECT

Todd

ECHO PARK BRANCH
LOS ANGELES PUBLIC LIBRARY
W. S. AND PIERPONT DAVIS, ARCHITECTS

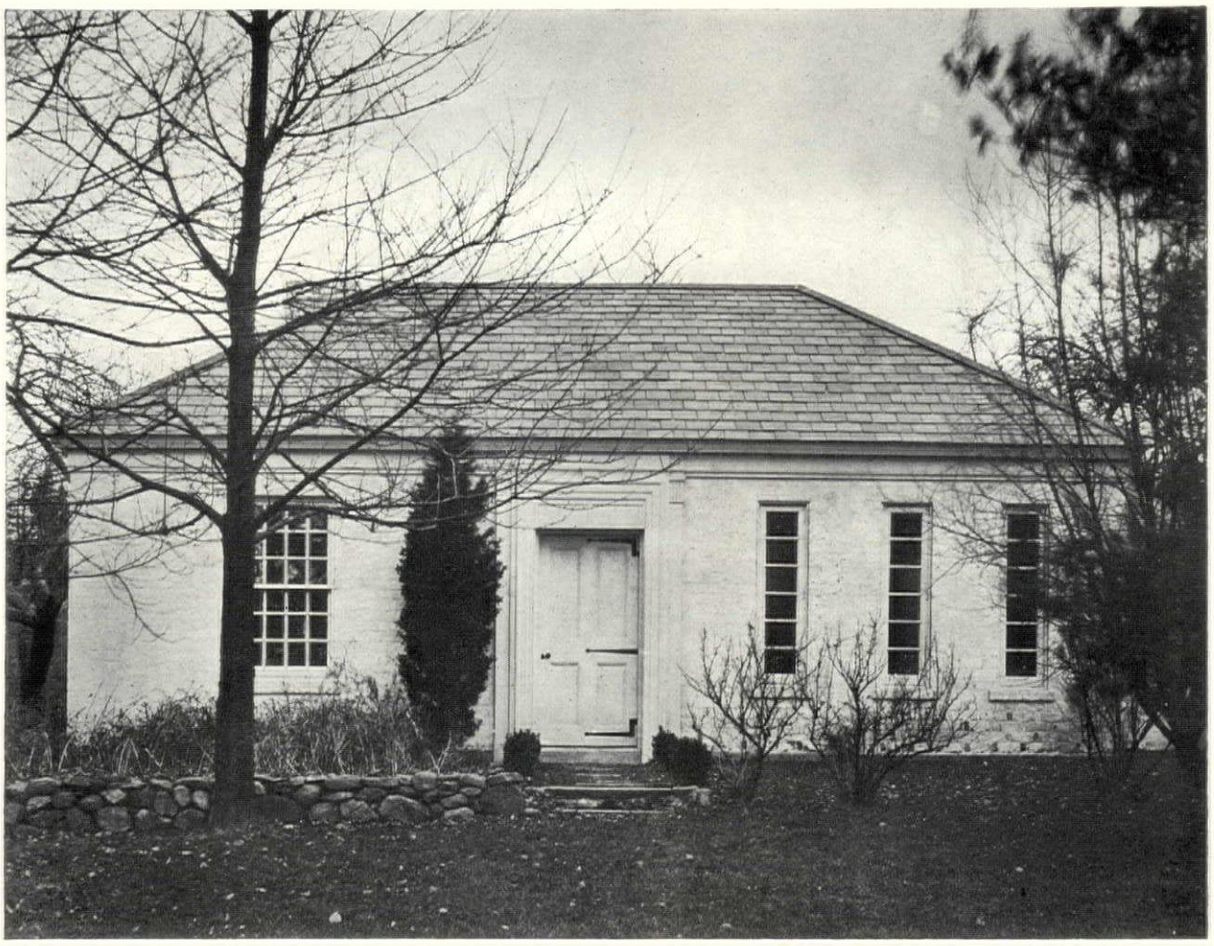
Starrett

WILSHIRE BRANCH LIBRARY IN LOS ANGELES
ALLEN KNOFF, ARCHITECT

Weber

LIBRARY READING ROOM
BEAVER COUNTRY DAY SCHOOL, BOSTON
GORDON ALLEN, ARCHITECT

TECHNICAL NEWS AND RESEARCH



Private Library on Long Island, New York. This small fireproof building contains a stack room with metal shelving, a large vault for manuscripts, and a study. It was built at the edge of the orchard and across the garden from the owner's remodeled farmhouse, as a quiet retreat and for the safe preservation of the collection of books. The walls are laid with the brick on edge to give a continuous air space. Charles G. Loring, architect.

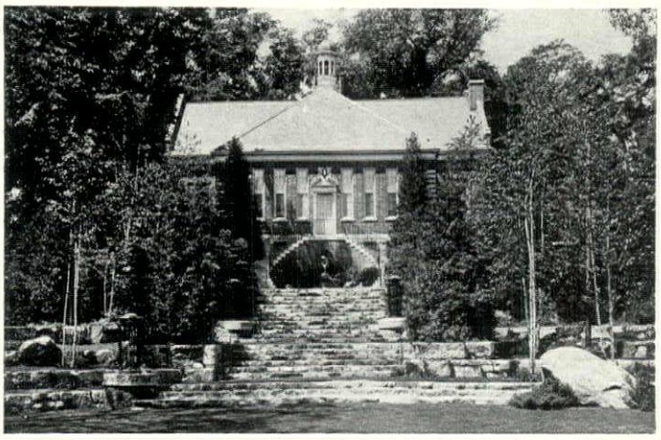
THE SMALL PUBLIC LIBRARY

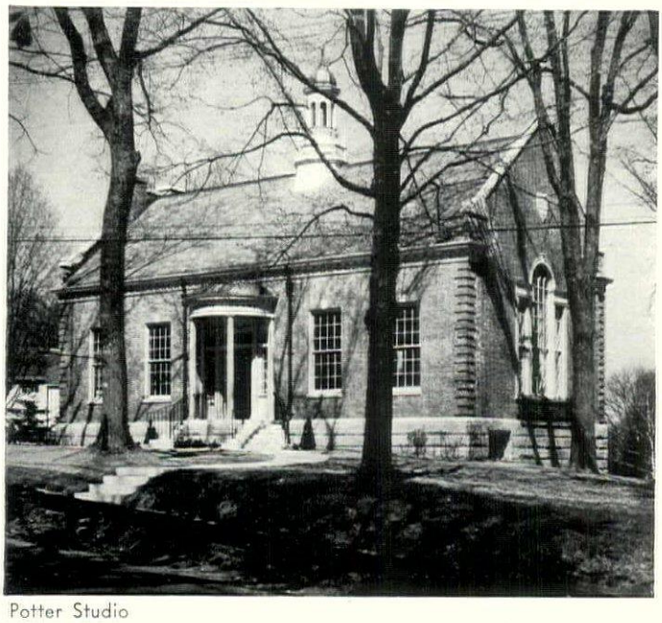
By CHARLES G. LORING, Architect

The United States Government report of 1872 listed 1,080 public, society and school libraries of more than 1,000 volumes each; in 1893 there were 3,503; and in 1929, the last compilation, the number had grown to 10,937, the majority of which were small units.

To make the following checking list of library requirements concise and definite, a small public library has been considered as having a shelf capacity of not more than 18,000 volumes and a ground area of not more than 3,000 square feet.

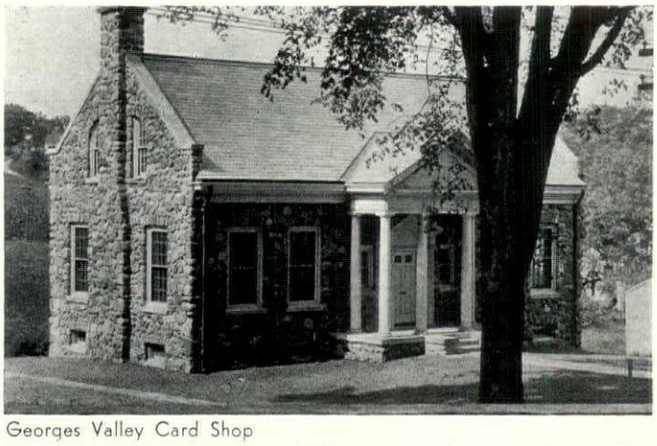
In the equation of the proposed new building, the trustees, the librarian and the architect must recognize three "variables"—size, quality and cost. When any two of these have been fixed, the third is automatically determined. For example: if there is a definitely limited bequest, the total of the cost is settled, and, if in addition the will requires fireproof construction and expensive materials, the quality is also fixed and then the size can be no greater than what the contractor will do for the money. If, however, there must be a certain minimum of stack space and a minimum of accommodation for the reading public and for special gatherings and if the quality of labor and material is settled, then the third "variable," the cost, is also self-established.





Potter Studio

Public Library at Camden, Maine. The exterior is of red water-struck brick, with granite base and steps; the trim and cupola are of wood; the roof is of slate. The building is 49 feet from the sidewalk. The ground slopes to the rear where the open air theater has been built. Parker Morse Hooper and Charles G. Loring, architects; Fletcher Steele, landscape architect.



Georges Valley Card Shop

M. R. Matthews Memorial Library at Warren, Maine. The exterior is of weathered field stones, with slate roof and wood trim. This type of wall is picturesque but more expensive than brick. Charles G. Loring, architect.

CHECKING LIST OF

SIZE

Books. Shelf space is determined by:

1. Number of volumes on hand when weeded out. (Useless books should be eliminated.) In addition, empty space of about one-sixth capacity is needed on the shelves for easy handling of books and for receiving new books without general rearrangement.

2. Future growth for ten years. (A new building stimulates public interest and gifts.)

3. Distribution of books on open shelves in reading rooms, in stack room (whether open or closed to public), in blind storage and in "reserve" (such as medical or censored books in librarian's office or locked reference room.)

4. For quick computation, calculate shelving at 8 volumes per running foot. Shelves are 7 tiers high. These are usually subdivided vertically every 3 feet with structural supports. (The utilization of the two bottom shelves, back to back, in metal stacks for large books and of extra high shelves for atlases and the like will reduce the capacity per linear foot on plan.)

Readers. Floor space is determined by:

1. Number of adults and children, seated in separate groups, with at least three quarters at tables. Allow 15 square feet per person at tables and 8 square feet in free-standing chairs with width of 3 feet clear space in front of shelving, bulletin boards, etc.

Administration. Additional floor space is needed for:

1. Charging or delivery desk. This with the aisles around it will occupy a minimum of 8 by 12 feet. Near this should be the card catalogue and bulletin board.

2. Office for librarian. This should be included except in the smallest units, if omitted, there should be a workroom. Space required for desk, table, couch, bookcases and files and for meeting of trustees.

3. Allow space, usually in basement, for workroom and unpacking, boiler room and janitor's quarters, supply closets, toilets, vault, coat room, etc.

Supplementary. According to local needs or resources, the following items should be considered:

1. Museum for natural history, art or historical objects.

2. Lecture room. (Possibly combined with museum.)

LIBRARY REQUIREMENTS

3. Club rooms for social, military or scholastic bodies.

MATERIALS

A preliminary general consideration should be given to the various types which may be listed in nontechnical terms, such as:

1. Strictly fireproof; with masonry partitions, metal doors, windows and interior trim and concrete, slate or tile roof covering. (The cost is justified only in some treasure house, like the Morgan Library in New York City.)

2. So-called fireproof or "first class" construction; with wooden doors, sash and moldings. (To all intents and purposes as safe as preceding classification.)

3. Semi-fireproof; with stud partitions but masonry floors and outer walls and spark-resisting roof covering. (At present not much more expensive than following classification.)

4. "Second class" construction; with wood framing but masonry exterior. (The boiler room should be fireproof.)

5. "Third class"; wood framing and exterior. (Not justified except in the smallest country communities.)

The following qualifications should be considered in making the choice from the types listed above:

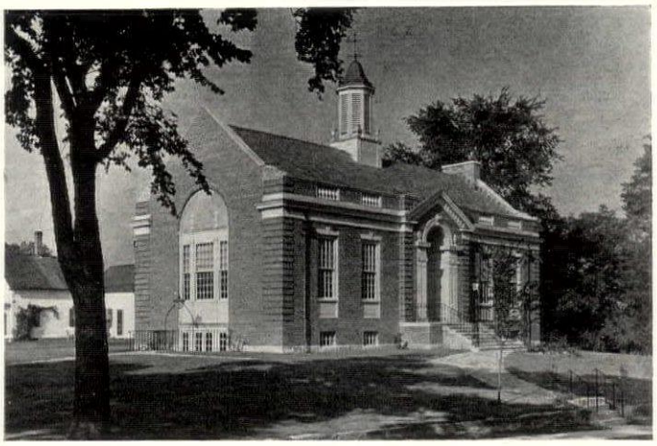
1. Cost. (The five preceding classifications show the gradation in expense.)
2. Permanence. (Upkeep, repairs, heating.)
3. Fire risk. (Low in libraries and open sites.)
4. Comfort. (Including soundproofness.)
5. Appearance. (This is a community criterion.)
6. Cost. (Usually the last as well as the first consideration.)

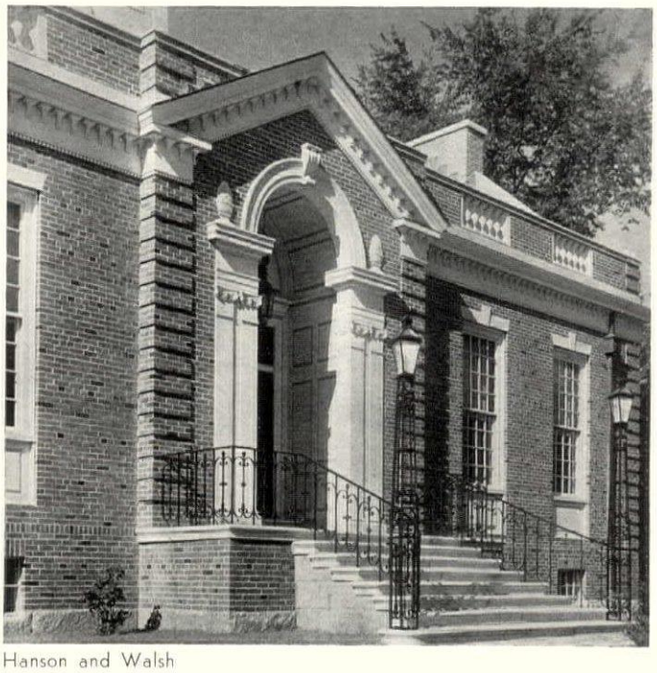
COST

1. Cost varies from year to year, from city to country, and according to states.

2. A convenient method of tabulation is the "cost per cubic foot" of gross volume. In the New England states in the last few years small libraries of the five classes listed above were built at a cost per cubic foot of (1) 54c, (2) 46c, (3) 42c, (4) 38c, (5) 28c. (See notes under illustrations for definite examples.)

3. These figures do not include the land, furniture, draperies, seeding and shrubbery, or the architect's fee. They do include the cost of grading



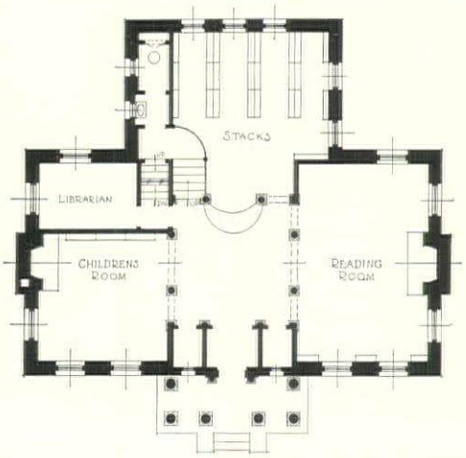


Hanson and Walsh

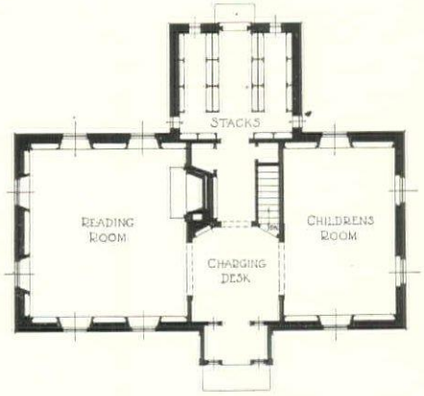
Hart Free Library at Townsend, Mass. The walls are of dark red brick with granite grass course and limestone around the entrance and windows. The roof is slate with wood cornice and cupola. Over the entrance is a carved and painted wood tablet. The ironwork is galvanized after fabrication, then painted. Charles G. Loring, architect.

Fred Stiff

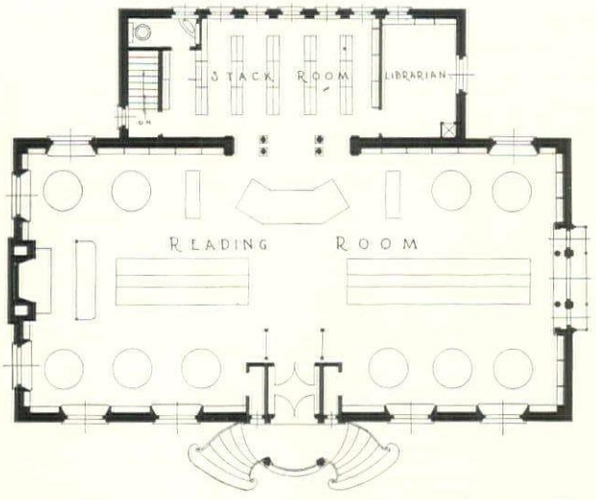
Brownell Memorial Library at Little Compton, Rhode Island. Outside walls are of common brick painted white to match the other buildings on the village green. The roof is covered with slate; the trim is wood, the gutter and downspouts copper. Charles G. Loring, architect.



Matthews Memorial Library at Warren, Maine. Front, 52′; depth, 50′. Cost, $18,342. The attic story, lighted by rear windows, contains a museum of local natural history.



Brownell Memorial Library at Little Compton, R. I. Front, 47′; depth, 36′. Cost, $13,272, including flagstone path, gravel drive, hanging sign. Capacity, 6,200 volumes. The basement contains a hot-air furnace, coal pocket and storerooms.



Public Library at Camden, Maine. Front, 67′; depth, 49′. Cost, $45,731, including walk and drive, but not landscaping. Capacity, 17,600 volumes. The basement contains the coal-burning steam boiler, a tier of stacks, story room, workroom and men's toilet.

out to the sidewalk and within 20 feet of the building, the concrete paths and gravel service drive, also the built-in bookshelves and glazed exhibition cases and the lighting fixtures.

Having determined the size, quality and cost, the next step is to crystallize the data into drawings and specifications. The items which follow are self-explanatory, but each should be weighed for both practical and aesthetic values.

LOT DESIGN

1. Land sloping downwards from the sidewalk allows easy access to the main floor and a basement well lighted at the rear.

2. A distance from the sidewalk of at least 20 feet is advisable for setting and to minimize noise and dirt. A distance of more than 50 feet, in northern climates, involves excessive snow shoveling and makes the library less inviting.

3. Allow for future expansion.

4. The long side should face the street in order to obtain better lighting.

5. Locate inconspicuously the service drive for express delivery, fuel and ashes, and, if possible, combine with a parking space.

6. Include an illuminated show case or a decorative signboard near sidewalk entrance.

7. A secluded outdoor reading room is sometimes, but not often, desirable.

8. Deciduous trees giving shade in summer but allowing sunlight in winter make desirable landscaping. Shrubbery, when thick and sturdy, is of practical value as a hedge to prevent trespass across lawns.

PLAN DESIGN

1. Determine the balance between free circulation and visible control. The fewer the interior partitions, the better. A small staff with complete supervision is the ideal. No convenience of arrangement should be sacrificed for architectural effect.

2. Assure maximum natural lighting, even at the expense of wall shelving. Avoid skylights which are hot in summer and likely to leak.

3. Prevent noise whether from outside or inside. The reading public selecting fiction is the most troublesome, next come the children, then the magazine readers, while those using the reference or study rooms are the quietest. These latter should have the quietest setting.

4. Determine whether there shall be one large room with free-standing shelves or a separate stack wing. In either case, place the delivery desk near the main entrance.

5. Separate rooms for adults and children are preferable.

6. In the basement, locate a lecture room, fireproof storage vault, toilets and boiler room.

7. There should be no loafing places; smoking rooms are the refuge of the nonreading bench warmer.

8. In addition to the main entrance (with a vestibule for protection from the weather) and the basement service entrance, provide separate doors for the lecture hall and for the children, if justified by the size of the building.

9. Future expansion should be kept in mind, especially for the stacks which may be enlarged vertically as well as horizontally.

10. No bookshelf should be so high that it is out of reach of a person of medium height. Stacks should be placed in parallel lines.

EXTERIOR DESIGN

1. *Permanence.* The library building is a storehouse of knowledge and literature and may well express local architectural traditions. It is not a temporary, commercial set-up which will be replaced within a few years.

2. *Materials.* A low building has the full range of materials for selection: red, gray or whitewashed brick; concrete or stucco; terra cotta; stone dressed, seam-faced or weathered, and uncut from old pasture walls or ledges.

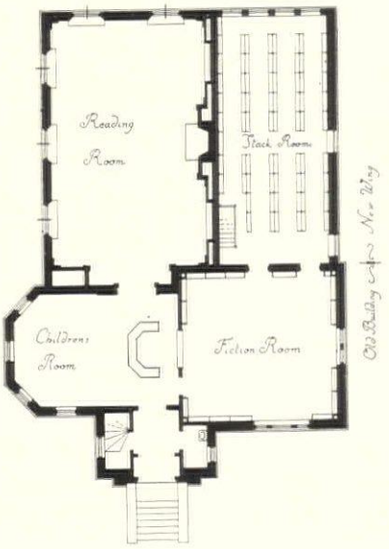
3. *Character.* The style of the doors and windows should express hospitality and domesticity rather than formality and bureaucracy. The main floor should be reached by low and inviting steps.

4. *Windows.* For proper interior lighting, the windows should extend almost to the ceiling. Square heads give more light than round. In stack rooms, windows should be opposite the aisles. Windows with the sills 6 feet or so from the floor give additional wall space for shelves but decrease the space available for readers.

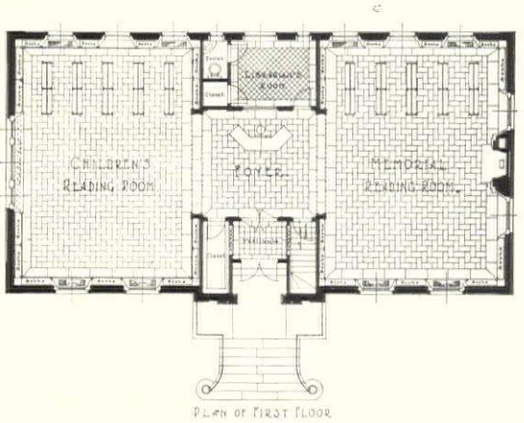
INTERIOR DESIGN

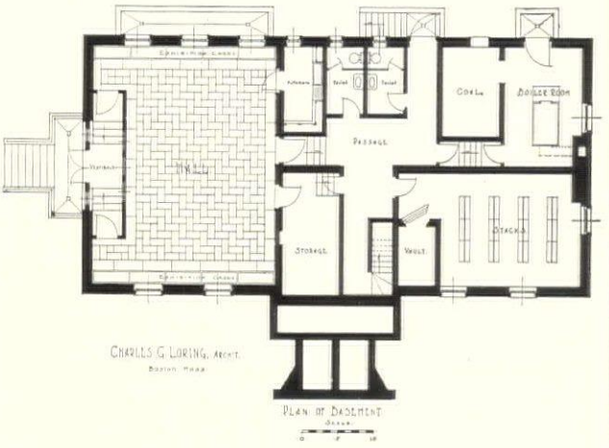
1. The floor covering, whether on masonry or wood, for reading rooms and delivery hall on the main floor should be clean, quiet and comfortable, preferably rubber tile, cork tile or battleship linoleum; for stack rooms it may be glass, marble or mastic tile on concrete; in basement rooms, cork, rubber and linoleum may suffer from dampness and mastic tile is better. Concrete floors should be treated to prevent dusting.

2. Walls of main floor may be plaster, sand float

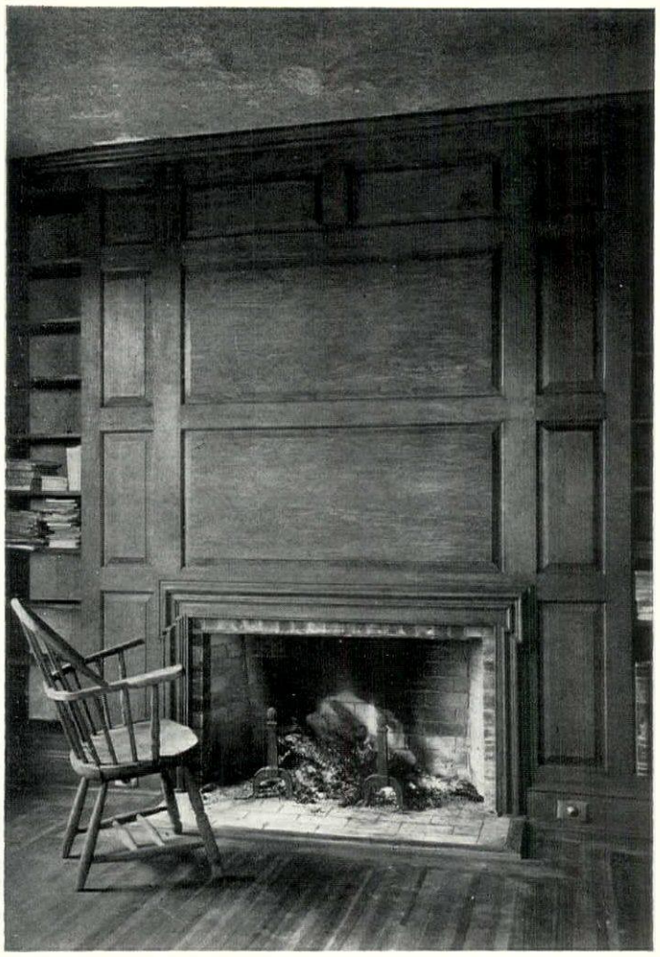


Gammans Memorial Reading Rooms at Belfast, Maine. Cost of new wing, new heating plant and extensive alterations to old building, $33,526, plus two tiers of metal stacks, $2,600. The basement contains one tier of stacks, the oil burner, toilet rooms, storage and workroom.

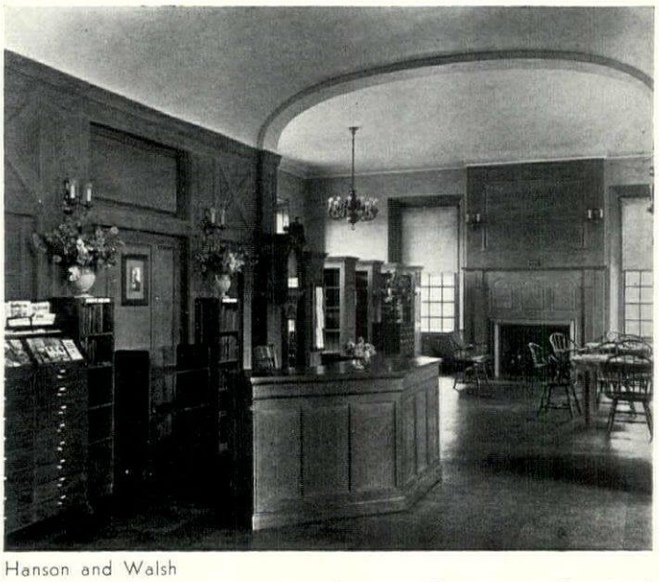




Hart Free Library at Townsend, Mass. Front, 71'; depth, 35'. Cost, $46,500. Capacity, 17,370 volumes. The library authorities called for "free-standing" bookcases in the two reading rooms, rather than "open stacks" in a rear wing. The basement hall has a kitchenette for club meetings.



Private Library on Long Island, New York. The study is paneled in stained pine with a large fireplace at one end. The windows have double-hung metal sash. Upper floor is hardwood over concrete. Secondhand brick used in fireplace.



Hanson and Walsh

Hart Free Library at Townsend, Mass. The trim is of stained oak, with rough plaster above. The floor is of cork tile and the cornice is plaster. All furniture in the children's room is of small sizes. The light fixtures are dark bronze.

natural finish or semi-gloss paint to avoid sharp reflected light, and may have wood-paneled dado, stained or painted. The color should be pale near the top to increase the light, but darker near the floor for more restful appearance.

3. Shelving should be of wood in reading rooms and metal in stack and storage rooms.

4. Recessed bookcases, a fireplace, built-in bulletin boards, concealed radiation, window seats, all add to the interior design.

5. Draperies. Roll shades are best for keeping out direct sunlight; heavy strip hangings at each side of the windows are helpful decoration.

6. Memorials and decorations. Bronze tablets with enameled letters or wood panels with painted inscriptions, fittingly acknowledge gifts and add interest when incorporated in the mantelpiece, door heads or paneling, but literary platitudes of an uplift nature have a bad effect. Memorial wall clocks are especially suitable but memorial stained-glass windows seldom add to the beauty and always cut down the light. Ship models and old weapons should be welcomed, but pictures, unless of historic or artistic merit and appropriately framed, should be limited to the children's room and bulletin boards.

7. Show cases with sloping glass tops or vertical glazed doors should be installed in the halls and lecture room.

HEATING

The following notes on *mechanical equipment* are limited to the special functions of libraries where the janitor service is limited and the public use has been well defined.

1. In weighing the relative merits of coal and oil for fuel, consider ashes vs. soot, noise vs. janitor attendance, storage and supply, fire risk, and above all the standing of the local service station.

2. Consider the relative merits and risks of hot water, steam and, especially in small plants open only part time, hot air.

3. Radiation in the reading rooms may be concealed under the windows by wooden, asbestos-lined cases with grilles at the top, set at a slope or under seats with an open space at the rear or behind the shelving with grilles at top and bottom. Easy access to valves and piping must be designed.

PLUMBING

1. Separate toilets for the staff and for the janitor are required. Toilets are necessary for the public but they should be somewhat remote to avoid the use of the library as a public comfort

station. The toilet rooms should be kept locked with the keys at the delivery desk.

2. There must be a sink in the librarian's workroom, a lavatory where the children can wash under easy supervision, and a drinking fountain placed where no harm can come from splashing.

3. Install enough hose cocks on the exterior for watering the grounds but with key control and interior shut-off.

VACUUM CLEANING

A vacuum system with pump in basement and with special tools for cleaning books is important if it can be afforded; if not, leave ample electric outlets for portable equipment.

ELECTRIC LIGHTING

1. The lighting fixtures should be considered for general illumination, for readers at tables, for the titles of books on open shelves, for aisles in stack rooms and as decoration.

2. Indirect lighting above cornices is the most satisfactory for general illumination but is more expensive to install and more difficult to keep efficiently clean. Chandeliers, if sufficiently high, can have unshaded lights without causing undue eyestrain. In low rooms, painted metal shades are inexpensive and practical.

3. For table lamps, waterproof floor outlets are needed. The furniture should be bored and lined to keep the wires out of the way. Table lamps should have bronzed or painted shades and individual chainpulls or keys.

4. For the books in open shelves in reading rooms, small brackets at the top of the cases with individual control are best and in the metal stacks special glass shades set above the center of the aisles are designed to throw the light where needed; these are controlled by switches at the end of the stacks.

ORGANIZED INFORMATION

Sooner or later in planning the new building, technical advice on its future operation may be needed. Thirty-five states have "Library Extension" Agencies, and they and the American Library Association are always willing to assist in the organization of efficient card-cataloguing, the elimination of valueless books or the preparation of lists of books for children, for fiction readers or for students of special subjects, and in the selection or training of librarians. The Department of the Interior in Washington does not cooperate to the same extent but issues valuable statistical pamphlets.

Rockland Photo Studio

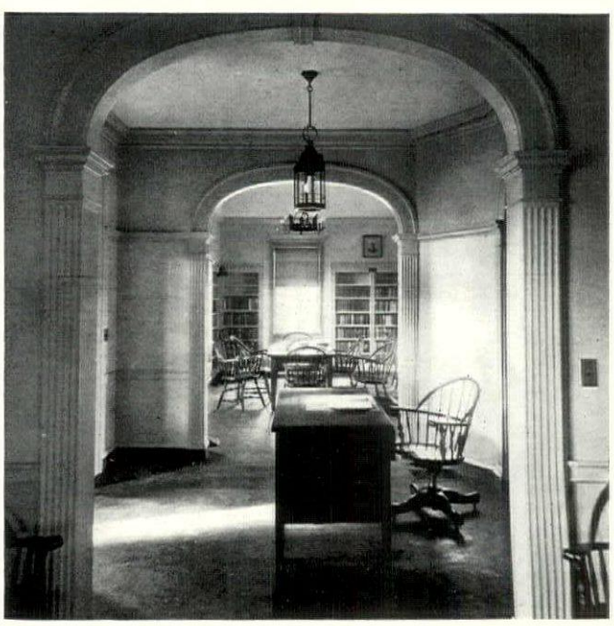
Public Library at Camden, Maine. This Palladium window was located to give a view over the harbor and sweeping shore. There is radiation underneath the seat. The plaster walls are furred out flush with the front of the bookcases.

Rockland Photo Studio

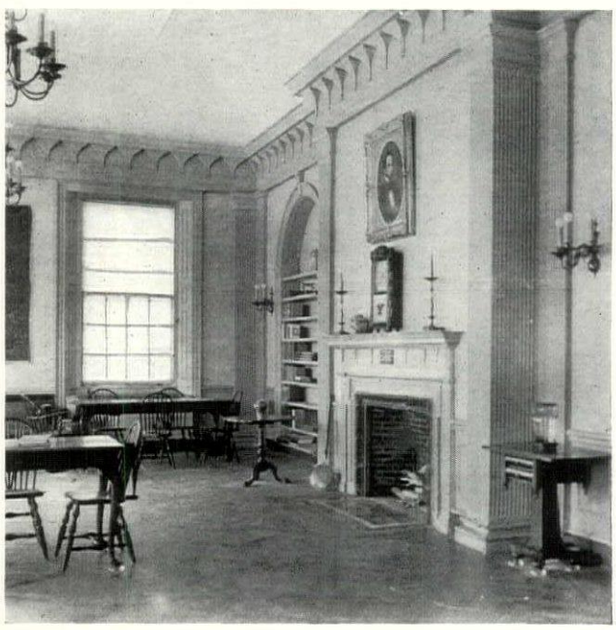
Public Library at Camden, Maine. The floor is of rubber tile. The wood trim is painted a light ivory, the window hangings and cushions are of dark blue and the light fixtures are silver plated.

Fred Stiff

Brownell Memorial Library at Little Compton, R. I. The hot-air registers are under the end window seats. The magazine table has specially designed racks of efficient but inexpensive type; otherwise all furniture is stock pattern.



Brownell Memorial Library at Little Compton, R. I. The interior walls have sand-float plaster above the dado, painted wood trim and recessed bookcases. Cork tile flooring. Painted tin light fixtures. Charles G. Loring, Architect.



Cook's Studio

Gammans Memorial Reading Rooms at Belfast, Maine. The bequest called for a new reading room which was to contain the furniture and bric-a-brac left by the will. The wood trim and rough plaster walls are painted two shades of gray-green and then glazed. Cork tile flooring.

METAL WALLS FOR UPPER STORY OF FEDERAL RESERVE BANK IN PITTSBURGH

WALKER AND WEEKS
Architects

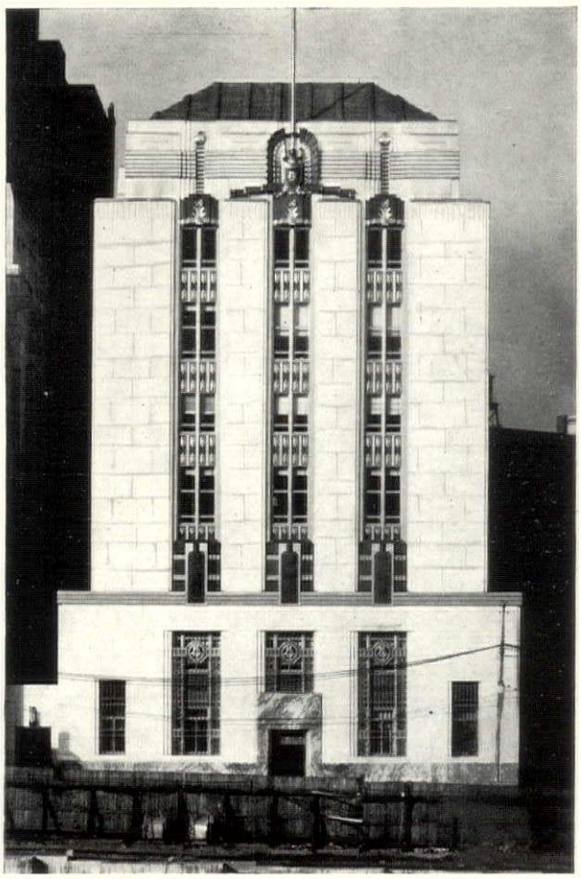
By EUGENE CLUTE

The feasibility of constructing buildings with all-metal exterior walls has just been demonstrated in the Pittsburgh Branch Building of the Federal Reserve Bank of Cleveland, where the entire top story, approximately 143 feet long by 55 feet wide by 16 feet high, exclusive of roof, has walls of ⅛″ sheet aluminum supported on 3″ channel studs. The inside is plastered on metal lath and the space between filled with an insulation of rock wool.

This wall, the greater part of which is only 4 inches in thickness, is more than twice as effective in preventing the leakage of heat as a 17″ wall of the usual masonry construction. The average weight of this metal wall per foot of length is only 285 lb. as against 2440 lb., the average weight per foot of a masonry wall. The lightness of this wall made possible the actual saving of 20 tons of structural steel on this comparatively small job.

The cost of a typical bay of this wall, according to an estimate furnished by the general contractors, was $1004.08 as against the estimated cost of $1140.17 for a typical bay of masonry construction.

During the very early study of the building design, when it was decided to have a high setback top story supported by the roof-slab construction below it, A. H. Tashjian of the office of Walker and Weeks, architects of the building, suggested a structure entirely in metal and the elimination, so far as possible, of all masonry and plastic materials. It seemed absurd to load the roof construction with the weight of masonry, if the same results could be obtained by a metallic inclosure of much lighter weight at approximately the same cost. Preliminary estimates were made which showed that an aluminum exterior wall for this story should not cost any more than the usual construction.



Johnston and Johnston

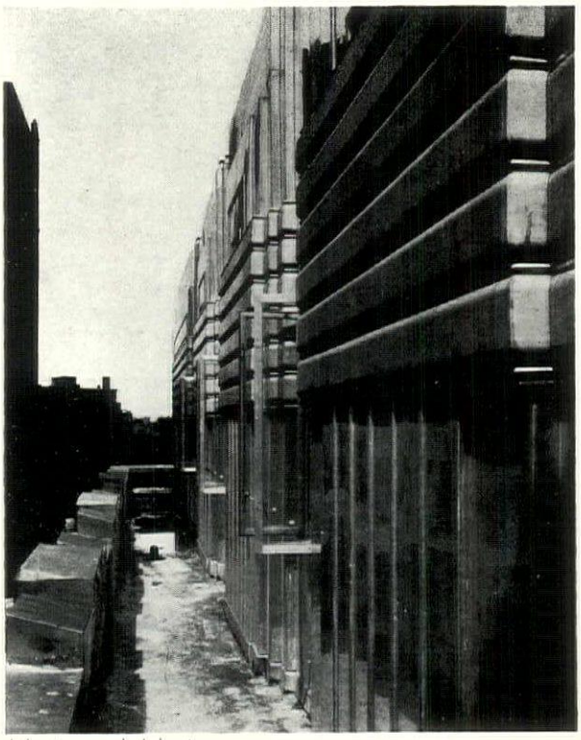
East Elevation of Pittsburgh Branch Building of the Federal Reserve Bank of Cleveland

Construction Details

Aluminum was chosen because of its inherent characteristics. Steel naturally recommended itself for the supporting framework and steel channel studding was used 3 to 4 feet on centers. This was covered on the outside with ⅛″ sheet aluminum, both plain and formed to the shapes required by the design.

An ornamental band formed of extruded aluminum extends around this story. Extruded aluminum moldings were also used in the horizontal joints of the plain sheets where they serve both as a means of attaching the sheet metal to the framework and as a decorative feature. The battens on the vertical seams of the plain portion of the walls are also of extruded aluminum sections. Portions of the plain walls were made to form panels, one within another, and the walls were stepped back at either side of the windows and the louvered openings to form deep reveals. All of this has a practical as well as a decorative value, for breaking up the plain surfaces of the material into panels and other forms of relatively small area prevents the buckling and wavy appearance which a large sheet of metal is sure to show, unless it is of a heavier gauge than it is reasonable to use. It also allows for expansion and contraction, because of the right-angle breaks. This is particularly true of the forms in the deep band which, though resembling rusticated stonework, are really true to sheet-metal construction, in that this formation permits considerable come-and-go with changes of temperature, preventing the sheet-metal work from opening at the joints.

It is to be noted that the jointing has been made a feature of the design wherever it could be given sufficient importance to count decoratively and that in the few instances where such emphasis was not warranted the connections have been completely



Johnston and Johnston

Detail of Aluminum Wall in Pittsburgh Branch Building of the Federal Reserve Bank of Cleveland. Walker and Weeks, Architects.

concealed. The featured joints are marked by battens of extruded aluminum moldings applied either vertically or horizontally over the joints and so designed that the heads of the bolts by which they are attached to the steel frame back of them are hidden in the batten itself. Where screws are used upon the face of the work they are of the double-headed variety, the upper head being chipped off after the screw was driven to place and the counter-sunk head ground down flush with the surface so that it is not visible.

All aluminum wall work was made in the shop in as large units as practicable for field handling and these units were assembled together and fitted before delivery to the building. The extruded sections were assembled with concealed aluminum bolts and all corners were mitered and welded. Butt joints were cleated at the back and back-fastened with aluminum screws. All joints were specified to be made straight, true and watertight and all welds to be ground and finished smooth.

The specifications stipulated that all sheet-aluminum work should have straight, true breaks, formed to patterns and designs strictly as shown, fastened to extruded sections and butt jointed as specified above for extruded sections. So far as practicable all vertical joints were made at breaks, lapped, bolted and welded and all straight, true and watertight.

All applied moldings are of single length extruded members, welded or blind-screwed to the sheet from the back, the corners neatly mitered and fitted to a tight fit.

The louver frames, heads and jambs are made of ⅛" sheet aluminum, like the walls, all corners mitered and welded.

The louver slats are of No. 18 B & S gauge sheet aluminum, made in one piece, with the ends bent and welded to the jambs.

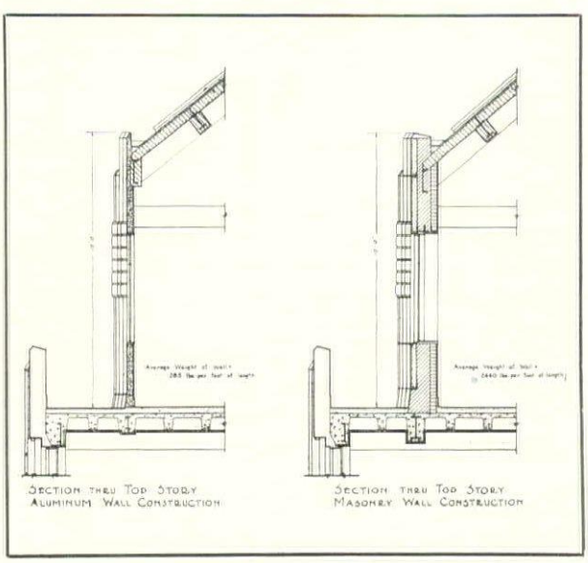
Welded, reinforced-aluminum screen frames with removable stops and aluminum wire screens are installed back of the louvers. The screens are of No. 16 B & S gauge aluminum wire woven in ½" square mesh and made removable in sections for cleaning.

All door and window openings are framed with ⅛" sheet aluminum, as specified for walls, including finished jambs, heads and sills, with all necessary steel section framing for such openings. The doors in this story are of aluminum, hollow construction.

The shop-made units of the aluminum wall work were erected in place and back-bolted rigidly to the steel framework with aluminum bolts and back-fastened together with aluminum bolts and screws and welded together where necessary to make a watertight job. The largest of these units delivered to the building and hoisted to place measured 5′ 6″ by 10′ and did not weigh over 75 lb.

The main structural-steel framing was furnished by others, but the contractor for the sheet-aluminum work furnished and erected all other steel framing necessary to brace the sheet aluminum against 30 lb. per square foot wind pressure without buckling. All such steel was given one field coat of red lead and oil paint and two coats of aluminum paint. This contractor did all field drilling and tapping of steel framing necessary for the erection of the aluminum work.

In order that the jointing of the various elements of the aluminum construction might be studied thoroughly, before awarding the contract, the archi-



Detail Drawings of Upper Story Construction, Pittsburgh Branch Building of the Federal Reserve Bank of Cleveland.

tects had a full-size section of the wall built in Cleveland and had the bidders study it before putting in their figures, with the result that there was very little experimentation after the award of the contract. All work was required to be in accordance with this full-size section in every way, including workmanship and finish.

The drawings and specifications called for an asbestos wallboard lining to form the interior surface of the entire penthouse story, the vertical joints of the wall boards to be at alternate struts, approximately 48 inches on centers, these joints to be covered by vertical aluminum binding strips, or battens 1⅛" wide by ¼" thick, with beveled edges. Aluminum strips were called for to frame all openings and at the base of the walls, and angle strips at the corners; all these strips to be of extruded aluminum sections, neatly fitted, mitered and fastened to the steel back of them with oval-head aluminum screws tapped into the steel.

The aim was to eliminate all masonry and all wet materials. During the progress of the work, however, the contractors offered to substitute metal lath and plaster, at no additional cost, in place of the specified interior finish described above and their offer was accepted by the architects.

The space between the interior lath-and-plaster finish and the outer metal covering was filled, in accordance with the original specifications, with rock wool insulation of a density of 12 lb. per cubic foot, introduced by means of a pneumatic blowing machine through a 3" hose and nozzle, under an air pressure of 3 lb. to the square inch. Every hollow space and crevice in the walls from floor to ceiling was filled in this way. Nozzle holes were provided in the interior wall surface for the introduction of this insulation. The thickness of the wall construction varies from 4 inches, for the greater part, to 12 inches to obtain the window reveals as designed.

It is assured that there will be no hollow space in the top of these walls due to any settlement of the insulation, for the architects made the experiment of filling a 6' glass tube with rock wool under the specified air pressure and subjecting it to continuous jarring, with the result that the insulation did not settle at all.

The efficiency of this wall in preventing the passage of heat is shown by the actual computed average heat transfer through one square foot of wall surface per degree Fahrenheit of temperature difference, of .066 B. t. u., as against .163 B. t. u. for identical units of masonry wall. Incidentally it deadens sound to a great degree.

Design Considerations

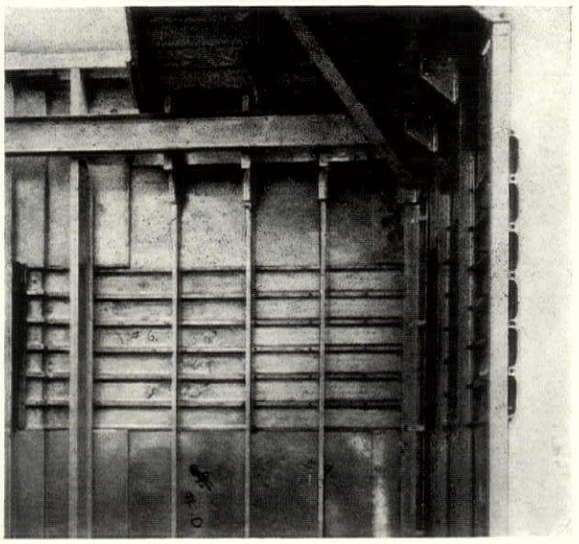
The considerations that guided the designing of this all-metal exterior wall and that point the way to the wider use of this method of construction are stated by Mr. Tashjian as follows:

"An excellent example of the principles to be followed in constructing the walls of modern buildings is to be found in the construction of the modern refrigerator box, since the basic purpose of the walls of both is the same, namely to protect the contents against external conditions, including differences in temperature, efficiently and in such a way as to require the minimum of maintenance. Why not build one's home or other building with stainless metals and efficient insulation; with a crackless, cleanable interior and with hardware that does not need polishing; with walls that do not leak and floors that do not crack? The insulation need not equal that of a refrigerator box, half that resistance to the leakage of heat is sufficient, and if the insulation can be made to furnish the interior finish, that will be ideal.

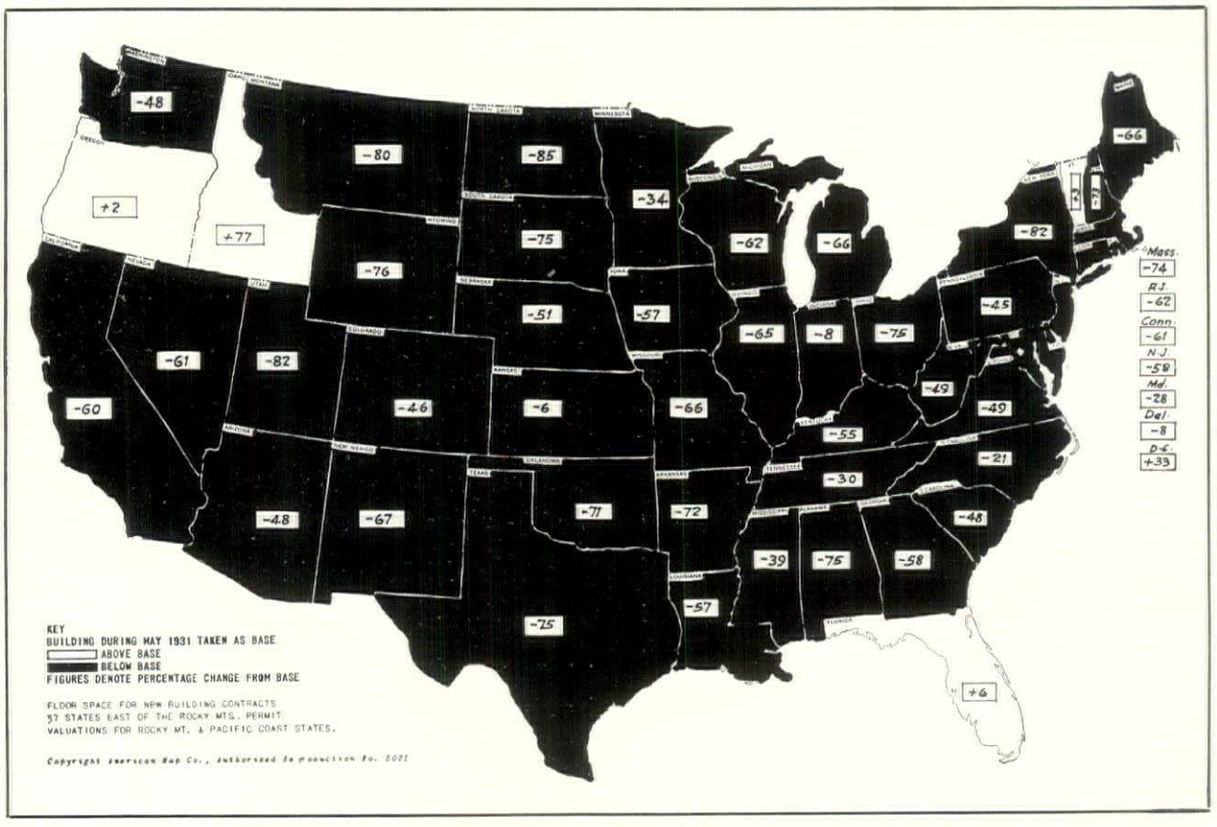
"Upon first thought, the weight of the metal used for the exterior covering may seem of importance, but this is not so, for unquestionably the material will be used in such thin gauges that its weight as such, will not be a factor, aside from the question of ease in handling units in the field. Nor will its strength be a matter of any importance, provided it does not dent easily.

"On the other hand, the resistance of the metal cover to corrosion in our city atmosphere is of utmost importance. A metal which, in such thin gauges and subjected to such exposure, will rust or pit should be ruled out. A minimum life of fifty years should be the metallurgist's goal.

"The metal exterior should require no coating or covering for either protection or appearance. Maintenance cost is one of the determining factors, therefore exterior painting or finishing should not be necessary. By all means finishing in imitation of any other material should be avoided, and I should not like to see our thoroughfares lined with houses enameled in the rainbow tints that many seem to think one should have in one's bathroom. It is best to let the metal show its own character and develop its own oxidized coating."



View of full-size model assembled in the shop to show aluminum wall construction. Walker and Weeks, Architects.



The May building map showed gains over a year ago only in Vermont, the District of Columbia, and Florida, of all the states east of the Rocky Mountains. In April only Maine and the District of Columbia showed floor space totals of new contracts above those of the corresponding month of 1931. In March the map showed five states where awards were higher than in the corresponding month of last year; while the February map showed seven states on a higher basis than a year earlier.

BUILDING TRENDS AND OUTLOOK

By L. SETH SCHNITMAN

With half of the year gone it appears safe to state that the total volume of construction undertakings during 1932 as a whole will show a contract valuation lower than that reported for 1931 by at least 60 per cent, as based upon figures covering the area east of the Rocky Mountains. This indicated decline is by far the most severe since the recession set in at the end of 1928. The 1929 total volume of construction, embracing both building and engineering works, showed a decline from 1928 of 13 per cent. The 1930 volume was lower than that of 1929 by 21 per cent; the 1931 total showed a loss from 1930 of 31 per cent; and now for 1932 the indicated decline from 1931 is at least 60 per cent. If the decline in 1932 is as drastic as appears probable at the moment, then it would mean that the current rate of contract-letting is less than 20 per cent of the 1928 level, measured in dollars. This large and accelerating retrenchment has deep-seated implications both to the construction world and to business and industry generally.

Almost without exception, the monthly contract figures that have come to hand since the beginning of 1932 have shown about the same rate of decline from the corresponding months of 1931. For the first half of 1932, total volume of construction, both building and engineering, in the 37 states east of the Rocky Mountains approximated $675,000,000. This compares with $1,792,000,000 for the corresponding six months of 1931. There has, of course, been a sizable reduction in construction costs during the past year which, if considered, would make the comparison between the two periods somewhat more favorable. Analysis of the contract record for the first six months of the current year, however, renders little hope for any nearby turn for the better in the construction industry at large, since approximately 50 per cent of all work undertaken was financed by public treasuries—municipal, county and township, state and federal. This is an abnormally large proportion of the total construction bill of the nation. Carried to the extreme, we are now rapidly approaching the point where all new construction will be publicly financed, if any of the more seri-

(Continued on page 30, advertising section)

The handsome new building of the McGraw-Hill Publishing Co., Inc., in New York City. Its interiors are painted with 2200 gallons of Barreled Sunlight.

Raymond Hood, Godley and Fouilhoux, architects.

Interiors *of the* new McGraw-Hill Building *are painted with* BARRELED SUNLIGHT

In many respects, a pioneer; in all respects, a model of modern building practice, the new McGraw-Hill Building occupies a proud place among the recent architectural achievements of the world's largest city.

Walk through its corridors. Glance into the offices. Pause in the reception rooms. You will be impressed by the distinction of furnishings and decorations.

Observe particularly the efficient working light in composing, engraving and binding rooms.

You will find light . . . lasting cleanliness . . . beauty — wherever each, or all, is needed. For ceilings and walls are painted with Barreled Sunlight.

. . .

Flawlessly smooth, Barreled Sunlight stubbornly resists dirt. Washable as tile, it is readily cleaned. Unusually durable, it survives repeated washings with no apparent damage to its original handsome surface.

Barreled Sunlight is an all-oil product and is easily tinted any harmonious shade.

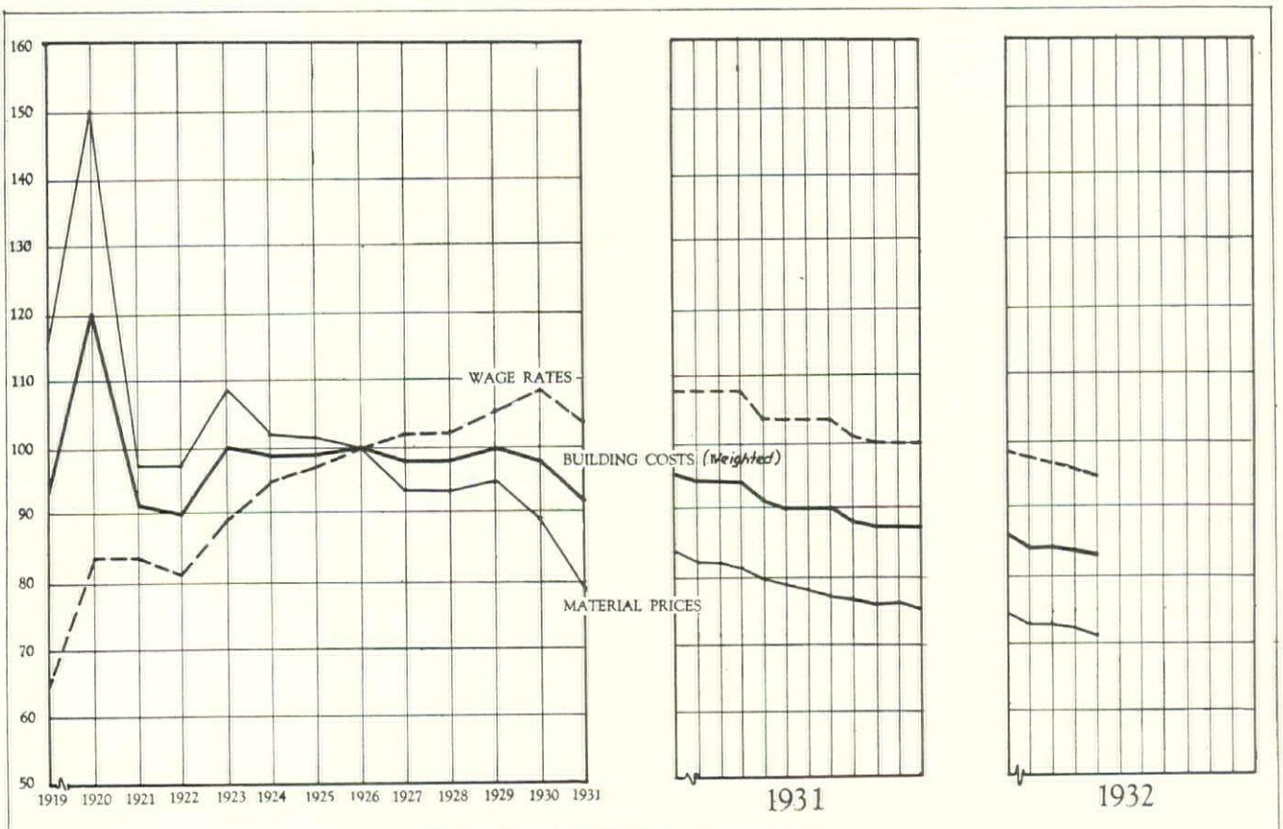
Our catalog in Sweets will give you complete information. For your own files, let us send you our booklet, "For Interiors of Lasting Beauty and Cleanliness." Write U. S. Gutta Percha Paint Co., 22G Dudley Street, Providence, R. I. Branches or distributors in all principal cities. (For Pacific Coast, W. P. Fuller & Co.)

Barreled Sunlight is now available in two forms, Interior and Outside. Write for complete information on Outside Barreled Sunlight—its more pronounced whiteness, richer lustre and marked durability. (Note that both forms of Barreled Sunlight are readily tinted any desired shade.)

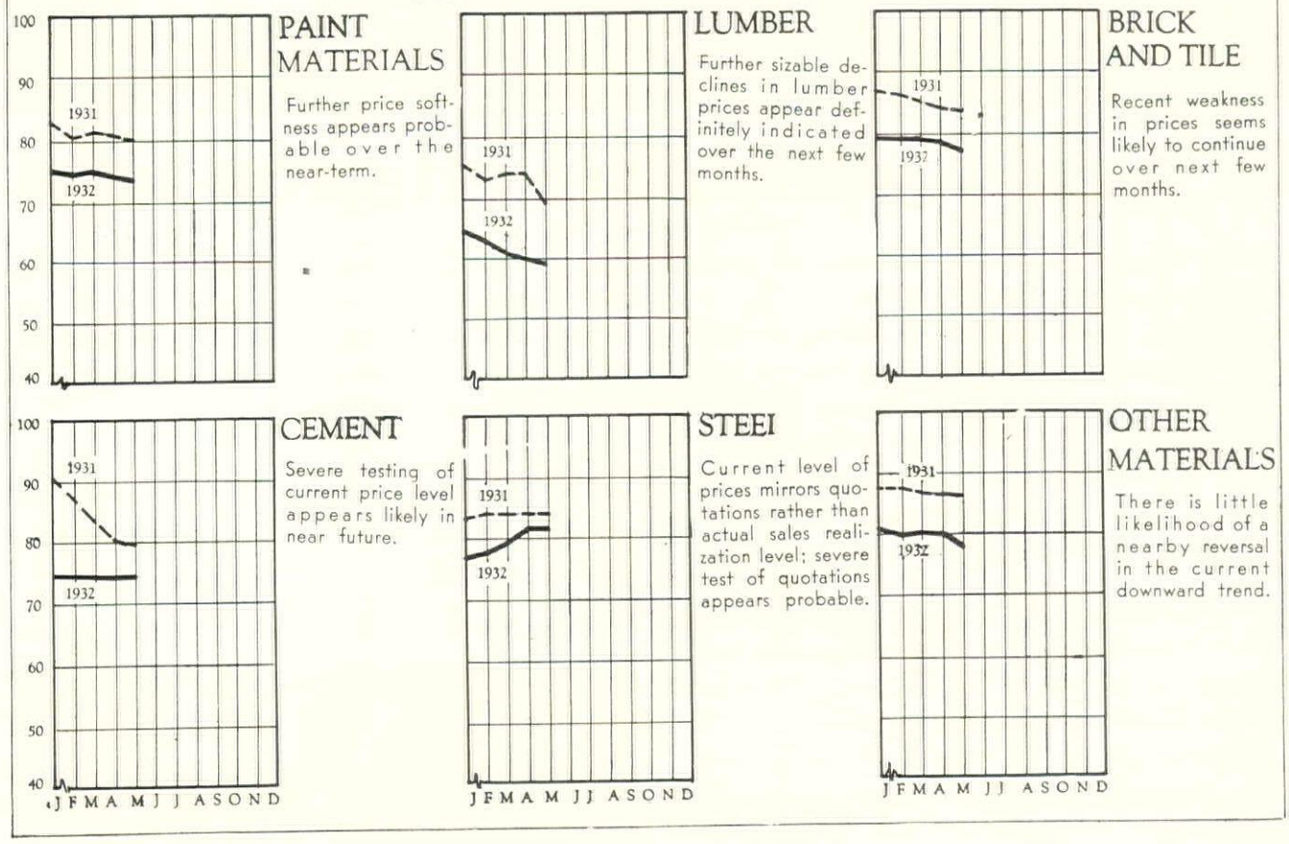
Barreled Sunlight
REG. U. S. PAT. OFF.

MATERIAL PRICES, BUILDING WAGE RATES AND BUILDING COSTS COMPARED

1926 Monthly Average — 100



WHOLESALE PRICE INDEXES



PAINT MATERIALS

Further price softness appears probable over the near-term.

LUMBER

Further sizable declines in lumber prices appear definitely indicated over the next few months.

BRICK AND TILE

Recent weakness in prices seems likely to continue over next few months.

CEMENT

Severe testing of current price level appears likely in near future.

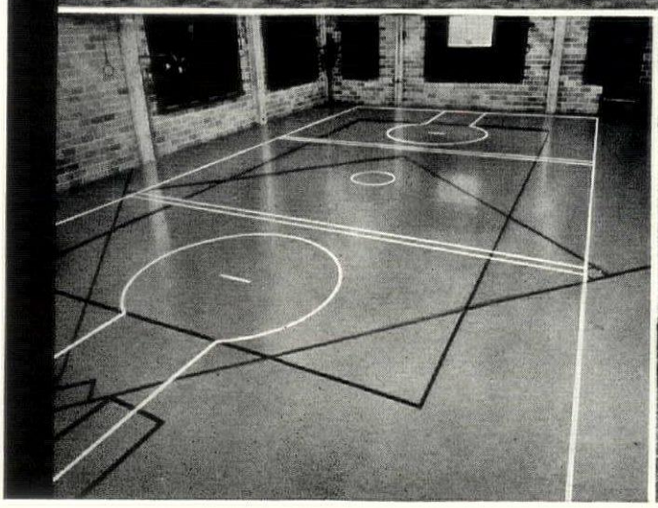
STEEI

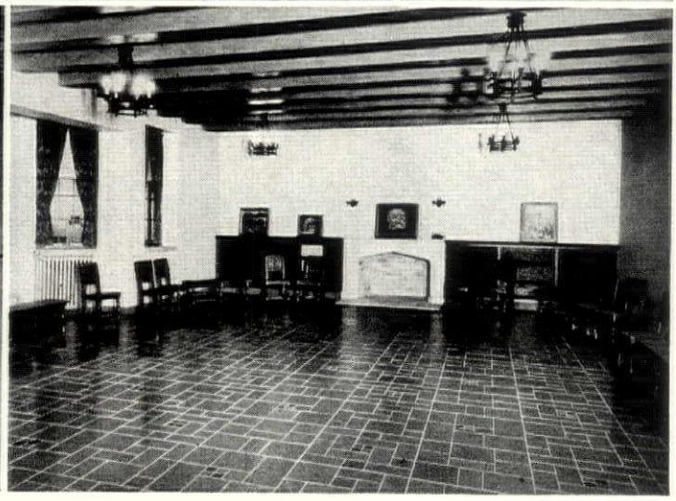
Current level of prices mirrors quotations rather than actual sales realization level; severe test of quotations appears probable.

OTHER MATERIALS

There is little likelihood of a nearby reversal in the current downward trend.

With the aid of Sealex Linoleum, Topeka's new $1,750,000 high school demonstrates what can be done by the close collaboration of architect and flooring contractor. Thos. W. Williamson and Company, architects, and O. McCormick Rug Company, flooring contractors, both of Topeka, Kansas.





In Topeka's Senior High School

Topeka, Kansas (population about 65,000) has a $1,750,000 high school which the largest cities in the country might readily envy. Several acres of Sealex Linoleum Floors were installed in this splendidly equipped building—in more than 100 rooms—in over half a mile of corridors. These modern school floors offer the highest degree of colorful beauty—assure greater quiet throughout the building—and cut down maintenance costs.

The rooms pictured above are excellent examples of Sealex Linoleum's ability to cope with any situation. In the Art Gallery, a Sealex Veltone Linoleum Floor is decorative—yet does not distract attention from the exhibit. In the English Room, the Sealex Floor in a cut-to-order tile design harmonizes with the old-world atmosphere.

The gymnasium floor illustrated is also Sealex Linoleum, with permanent, inlaid game markers of contrasting colored linoleum. Durable, resilient, splinter-proof—Sealex Linoleum stands out as the ideal gymnasium floor.

Write us for full information on Sealex Floors—and on our Bonded Floors expert installation service, in which Sealex materials are backed by Guaranty Bonds.

CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

SEALEX
REG. U.S. PAT. OFF.
LINOLEUM FLOORS

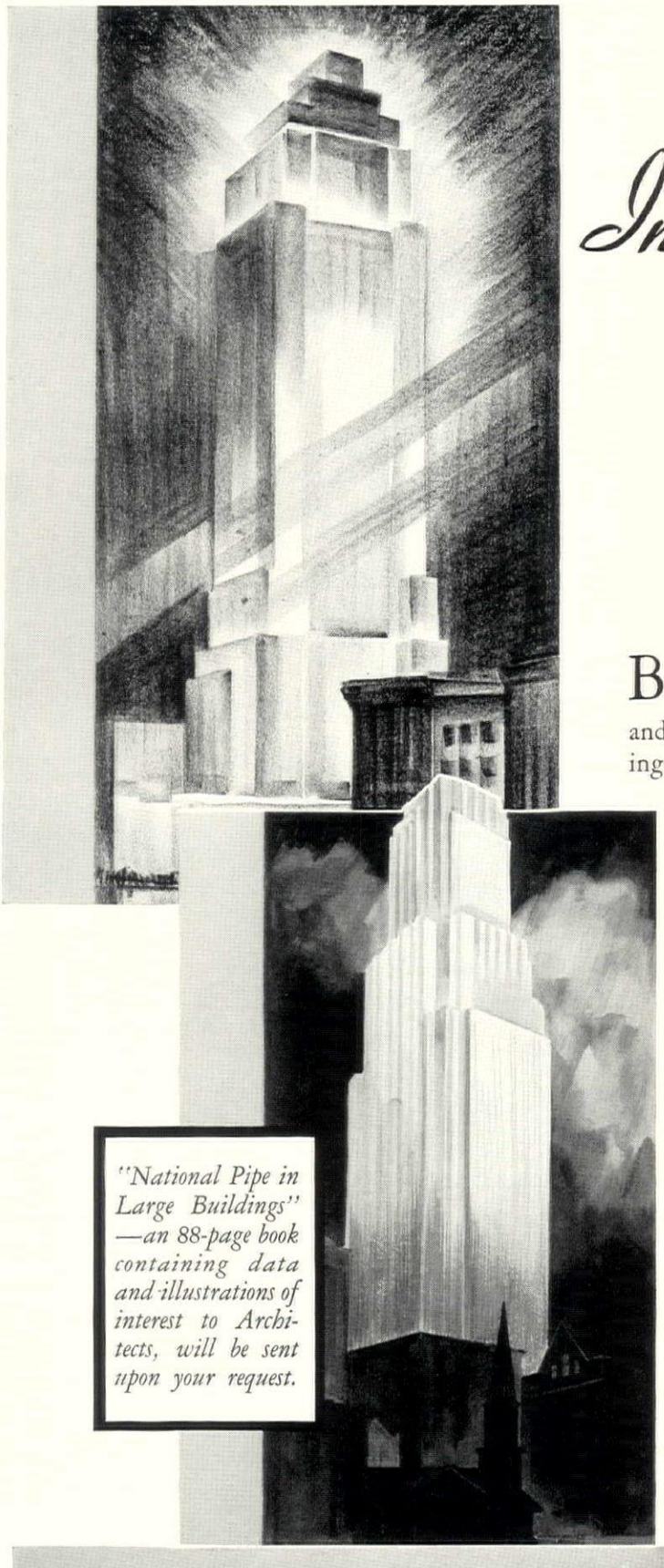
WAGE SCALES IN THE BUILDING TRADES

Information Furnished by National Association of Builders Exchanges and Compiled by Division of Statistics and Research, F. W. Dodge Corporation, as of June 15, 1932

	Asbestos Workers	Bricklayers	Bricklayers' Tenders	Carpenters	Cement Finishers	Electricians	Hoisting Engineers	Iron Workers —Ornamental	Iron Workers —Structural	Laborers	Lathers	Painters	Plasterers	Plasterers' Tenders	Plumbers	Roofers—Composition	Roofers—Slate & Tile	Sheet Metal Workers	Steamfitters	Stone Masons	Tile Setters	Tile Setters' Helpers
Akron	$1.37½	$1.45	$0.45	$0.95	$0.90	$0.90	$0.70	$1.00	$1.15	$0.45	*$1.37½	$0.90	*$1.62½	$0.80	$1.00	$0.95	$0.95	$0.95	$1.00	*$1.45	*$1.25	*$0.50
Atlanta	1.00	1.25 1.40	‡.30 .45	.70	1.25	.90 1.10	.60 1.00	.35 1.85	1.25	.25 .35	1.00 1.25	.75	1.25	.30 .45	1.25	.80	.80	.90 1.00	1.25	1.00 1.25	1.25	.40
Baltimore	1.12½	*1.25	1.00	*1.00	*1.25	*1.43¾	*1.25	*1.65	*1.65	.35 .40	*1.50	*.90	*1.25	1.00	*1.00	1.00	1.00	*1.37½	*1.25	1.25	1.25	.72
Boston	*1.50	*1.30	.70	*1.17½	1.17½	*1.50	1.17½	1.17½	1.17½	.70	*1.50	1.12½	*1.37½	*.95	*1.25	*1.17½	*1.37½	1.17½	*1.25	*1.30	*1.50	*.95
Buffalo	1.50	*1.25	.50 .60	*1.00	1.12½	*1.30	$49.50 to $55.00 wk.	.85	*1.37½	.50 .60	1.37½	*1.00	1.62½		1.25	.85	1.37½	1.10	*1.25	*1.25	*1.43¾	.70
Chicago	1.37½	*1.37½		*1.31¼	1.31¼	1.25 1.50	1.31¼	1.31¼	1.35	.82½	*1.37½	*1 41	*1.37½	.88¾	1.37½	1.37½	1.40	1.37½	1.37¼	1.37½	1.37½	.90
Cincinnati*	1.15	1.37½	.70	1.20	1.02½	1.25	1.07½	1.25	1 25	.45	1.31¼	1.10	1.37½	.70	1.25	.92½	1.07½	1.07½	1.25		1.25	
Cleveland*	1.17½	1.37½	.72	1.12½	1.12½	1.05 1.25	1.12½	1.25	1.25	.72	1.37½	1.12½	1 37½	.72	1.25	1.15	1.37½	1.12½	1.25	1.37½	1.25	.81¼
Columbus	1.25	1.30	.90	1.00	.85 1.25	1.00	.60 1.25	1.25	1.25	.50	1.37½	1.00	1.00	.40 .50	1.00	.70 .80	.80 1.00	1.00	1.00	1.30	1.37½	.45
Dallas††	10.50	10.00	.50	8.00	10.00	*11.00	10.00	10.00	10.00	.35	10 00	*9.00	*10 00	*.50	12.00	8.00	9.00	*10.00	12.00	10.00	*12.00	†*.75
Dayton*	1.25	1.30	.80	1.00	1.15	1.55	1.25	1 35	1.35	.35	1.10	1.00	1 25	80	1.15½	85	1.00	1.00	1.15½	1.30	1.50	.60
Denver††	9.00	12.00 *13.00	6.50 7.00	10.00	10.00 11.00	10.00 11.00	10.00	10.00 11.00	10.00 11.00	4.00 5.00	11.00	*10.00	12 00	7.00	11.00	7.00 8.00	7.00 8.00	9.00	9.50	12.00 13.00	10 50	†.62½
Des Moines	1.00	1.25	.65	1.00	1.00	1.00	1.00	1.00	1.00	.55	1.00	1.00	1.25	.75	1 25	1.12½	1.12½	1 12½	1.25	1.50	1.25	.67½
Detroit	1.37½	1.25 max.	.55 .60	.80 1.00	.70 .90	1.25 1.55	.60 1.00	1.00 1.20	1.00 1.25	.50 .55	1.37½	.80 1.00	1.00 1 25	.70 .80	1.00 1.50	.70 .90	.80 1.00	.80 1.00	1 25 1.50	1.25 1.50	1.00 1.25	80
Duluth	.85	1.10	.35 .45	.75 .85	.75 .85	.90	.80	.80	.90	35 .45	.85	.80	1.10	.70	.95	.70	.70	.80	.95	.75 1.10	1.25	.80
Erie	.80 .90	1.31¼	.50 .60	.75 1.00	1.00	1.00 *1.15	1.12½	.60 .90	1.10 1.12½	.35	1.12½	.75 .90	1.31¼	.50 .60	1.18¾	.60 .70	1.00	1.00	*1.18¾	1.31¼	1.00	.50 .60
Grand Rapids	.65 .80	1.25	.40	.60	.65	.90	.75	.80	1.00	.35	.80	.60	.80	.40	.90	.50	.70	.70	.90	1.25	1.25	.50
Houston	NO FIGURES AVAILABLE																					
Indianapolis	1.32½	1.62½	.90	1.22½	1.17½	1.50	1.37½	1.45	1.45	.40 45	1.37½	1.25	1.57½	1.00	1.00	.60 .90	1.27½	1.22½	1.50	1.62½	1.50	.60
Kansas City	1.05	1.32½	.80	1.12½	1.12½	1.50	1.12½	1.12½	1.12½	70	1.25	1.12½	1.32½	.80	1.25	.92½	.92½	1.37½	1.25	1.12½	1.25	.75
Los Angeles††	10.00	8.00	6.00	7.00	8.00	8.00	8.00	7.00	7.00	4.00	8.00	7.00	9.00	7.00	9.00	7.00	7.00	7.00	9.00	11.00	10.00	†.75
Louisville	1.12½	1.25	.50	.80	1.00	1.00	1.00	1.25	1.25	.25 .35	1.37½	.90	1.62½	.60	1.12½	.30 50	.85	.85	1.12½	1.25	1.00	.50
Memphis	1.00	1.37½	.50	.50 .87½	.50 .75	1.00		.75	.75	.20	1.00	.75	1.25	.50	1.25			1.12½	*1.25	1.37½	1.25	.50
Milwaukee	1.15	1.00	.90	1.10	1.00	1.25	1.15	1.05	1.05	.50 .75	1.00	1.00	1.00	.90	1.00	1.00	1.00	.92½	1.00	1.00	1.00	.82½
Minneapolis	1.06¼	1.10	.55 .65	.75 .85	.75 .85	.90	.80	.90	.90	.45	.75 .85	.80	1.10	.70	.95	.70	.70	.80	.95	1.10	1.25	.65
Nashville	1.00	1.00		.65		.75 .87½					1.00	.80	1.00	.30		.65	.65	.65	1.25	.90	.65	
New Haven*		1.40	.50 .60	.90 1.06¼	1.40	.80 1.00	1.16¾ 1.27½	1.37½	1.37½	.50 .65	1.27½	.80 1.00	1.40	.50 .65	1.06¼	.65	1.50	1.06¼	1.06¼	1.40	1.40	
New Orleans	.65 .80	1.25	.85	.55 .75	1.00	1.25	1.25	1.25	1.25	.35 .50	1.25	.75 .90	1.25	.75	1.00 1.25	.40	.90 1.15	.90	1.05 1.25	1.50	1.25	.35
New York City††	10.00	12.00	7.00	10.00	10.00	10.00	12.00				10.00	10.00	10.00	7.00	10.00	9.00	11.00	10.00	10.00	.	10.00	7.00
Oakland††	8.00	11.00	5.60	7.20	7.20	8.00	9.00	8.00	9.60	5.00	10.00	7.00	8.80	6.00	10.00	8.00	8.00	7.50	10.00	10.00	9.00	6.00
Oklahoma City††	8.00	8.00	4.00	6.00 8.00	8.00	6.00 8.00	8.00	8.00	8.00	3.50	.80	7.00 8.00	.80	4.00	.80	6.00	6.00	8.00	8.00		11.00	†.62½
Omaha	1.32	1.00	.45	.80	.90	1.00	1.00	.90	.90	.35	1.00	.80	1.00	.45	1.00	.72½	.87½	.87½	1.00	.90	1.00	.50 .60
Philadelphia	1.12½	1.50		1.05	1.05	1.50	$40.00 to $50.00 wk.	1.25	1.00 1.15	.30 .45	1.37½ 1.62½	.80	*1.62½	1.12½	1.04	.80 1.00	1.00	1.25	1.04	.50 1.00	1.25	††6.00
Pittsburgh	*1.70	*1.50		*1.25	*1.40	*1.56¼	1.37½ 1.43¾	*1.37½	1.37½	*†.80	*1.66¼	*1.27½	*1.66¼		*1.71⅞	*1.50	*1.57½	*1.31¼	*1.71⅞	*1.62½	1.33¾	.88
Portland, Ore.††	8.00	*12.00	4.80	7.20	*7.20	*8.00	6.40 9.60	8.80	8.80	7.20	*8.80	7.04	*9.60	*7.20	*8.80	7.20	10.00	*8.00	*8.80	*10.00	10.00	6.00
Reading	.70 .80	.90	.75	.75	.85	.75				.35	.75	.70	.85	.75	.90		.80	.80	.90	.75	.90	.50
Richmond	.60 .65	1.50	.55	.80	.75	.75 .87½	.75 .90	.90 1.00	.87½ 1.12½	.40	.75	1.70	1.25 1.50	.50 .60	.87½	.80	.80	.87½	.87½	1.25	1.12½	
Rochester	1.01¼	1.25		*1.00	*1.12½	*1.15½	1.00	.80-*1.00	.80-1.00	.55	1.00	*1.00	*1.25		*1.17½	*.90	*.90	*1.00	*1.17½	*1.25	*1.25	
Salt Lake††	6.00 7.20	9.00	6.00 8.00	7.20	8.00	8.00	9.00	8.00	8.00	4.00	10.00	7.20	10.00	8.00	9.00	7.20	7.20	8.00	9.00	9.00	9.00	†.50
San Antonio††	6.00 10.00	8.00 12.00	2.00 3.50	3.00 7.00	6.00 10.00	6.00 9.00	4.00 8.00	6.00 8.00	6.00 10.00	2.00 2.75	7.00	4.00 7.00	6.00 8.00	2.00 6.00	6.00 8.00	5.00 8.00	8.00	6.00 10.00	8.00	5.00 12.00	8.00 12.00	2.50 3.00
San Francisco	8.00	11.00	7.00	9.00	9.00	9.00	9.00		11.00	5.50	8.50 10.00	9.00	11.00	7.50	10.00	8.00	8.00	9.00	10.00		10.00	
Seattle††	8.00	9.60	5.28	7.20	7.20	*8.80	8.00	8.00	8.80	4.75	*8.80	*7.20	*9.60	*6.40	*8.80	7.20	7.20	8.00	*8.80	9.60	8.00	
Sioux City	.90	1.50		1.00	.75	1.00		1.00	1.00	.40	.90	.60 .90	1.15		1.00	.60 1.00	.60 1.00	.90		1.25	.60 1.00	
St. Louis	1.25	1.50	1.00	1.25	1.31¼	1.67½	1.35	1.47	1.47	.78¾	1.25	1.25	1.50	1.06¼	1.43¾	1.17½	1.25	1.25	1.43¾	1.25	1.25	.76½
St. Paul	1.18	1.10		.75 .85	.75 .85	.90	.80	.90	.90	.45	.75 .85	.80	1.10	.70	.95	.70	.70	.80	.95	1.10	1.25	
Washington, D.C.	*1.50	1.75	.50 .75	*1.37½	1.25	*1.65	*1.37½	*1.65	*1.65	.75	*1.62½	*1.37	*1.75	*.75	*1.50	*1.37½	*1.37½	*1.50	*1.50	*1.25	*1.50	.75
Wichita	.60	.75 1.25	.25 .40	.40 .75	.40 1.00	.50 .87½	.30 .75	.40 1.00	.40 1.00	.20 .40	.50 1.25	.50 .87½	.60 1.25	.25 .50	1.00	50 1.00	.50 1.00	.50 1.00	.75 1.12½	.75 1.25	.50 1.00	.25 .40
Youngstown††	*1.37½	12.00	6.80	10.00	9.00	11.00	10.00	12.00	12.00		12.00	10.00	12.00	6.80	11.00	10.20		10.00			10.00	.70

NOTE.—Where two figures are shown they are the minimum and maximum. All figures are for hour rates except as indicated. ††8-hour day. †Rate per hour. *On 5-day week basis. Asterisk after city indicates all trades on five-day week basis.

ABOVE DATA ARE WAGE SCALES AND DO NOT NECESSARILY INDICATE ACTUAL WAGE RATES BEING PAID IN THE RESPECTIVE TRADES.



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NATIONAL PIPE

BUILDING TRENDS AND OUTLOOK

By L. SETH SCHNITMAN

(Continued from page 72, editorial section)

ously considered plans are put into execution.

Even public undertakings are now actually smaller in volume than they were a year or two ago. The high relationship between public and private work reflects a decline of smaller magnitude in public undertakings than that in private work. This condition calls for careful study, particularly since further stimulation is sought for public undertakings of various descriptions. Public buildings and public works have for years been looked to as stabilizers for the construction industry and through it for business generally. One important fact seems to have been overlooked in this premise and that is that such undertakings must be paid for by taxation either immediate or mediate through bond flotation.

Stimuli to construction such as have been afforded by public undertakings of various descriptions can accomplish little to alter the current downward trend in private work. Self-liquidating public undertakings, of which much has been made in recent weeks, are relatively few in number and if already designed and ready for execution, could do little to offset further losses which loom in private work. At the same time governmental subsidies to slum clearance projects do not at the moment appear feasible. Economic rehabilitation of slum areas for residential purposes presupposes careful and methodic survey and relative speed in land acquisition; above all planning and time are the essence of the problem, assuming that there are no other important impediments to the solution.

It is of interest to examine the contract record for the first five months of 1932. Out of a total of $554,000,000 for all classes of work for which contracts were let in the 37 eastern states, $271,000,000, or practically 50 per cent, represented undertakings with public funds—federal, state, county and township, and municipal. Of all public undertakings during the period, 69 per cent were with either federal or state monies or both. In fact, federal and state treasuries provided $187,000,000 or 32 per cent of all the funds represented by total awards during the five-month period. It is safe to assume that these relationships will not differ much with the inclusion of the June record to give the results for the first half of 1932. This is a serious drain upon public resources, particularly in the light of mounting deficits, proximity to statutory debt limits, and the ability and attitude of our taxpayers.

The distressing part of the current picture of construction contracts lies in the fact that residential building, which normally is the most important category, accounted for less than 25 per cent of the total volume of new construction awards during the first half of 1932; while nonresidential building, which is usually less important than residential work, accounted for 39 per cent of the total contract volume; and public works and utilities, which normally are of least importance, represented about 37 per cent of the contract total.

If normal relationships are again to hold, residential building must first be restored to larger importance before any significant improvement may be expected from construction generally. Any plan for the resuscitation of construction which does not carefully weigh the economics of residential building in its relationship to the other divisions of the industry can hardly be successful, particularly since all other announced plans involve increased taxation from which there is now a noticeable flight.

If we are to drift aimlessly towards an ever larger public program to be financed by taxation, then let us at least envision the consequences and plan for them. Surely the size of public expenditures contemplated in pending measures and by existing instrumentalities is rapidly forcing governmental ownership and operation of housing and of our facilities for communication and transportation, to say nothing of our financial institutions. It is one thing to advance these projects as matters of relief and it is still another thing to encompass their implications if such involve ultimate governmental operation. The former is inherent in the short-sighted plans thus far advanced while the latter must necessarily be considered in the longer view.

MATERIAL PRICE MEASURING ROD*

The prices in this tabulation enable one to visualize at a glance the main trend of the material market.

Their significance does not extend beyond that point, and the explanation under them should be read carefully.

F. W. Dodge Corporation Composite Prices as Indicated in Explanation—

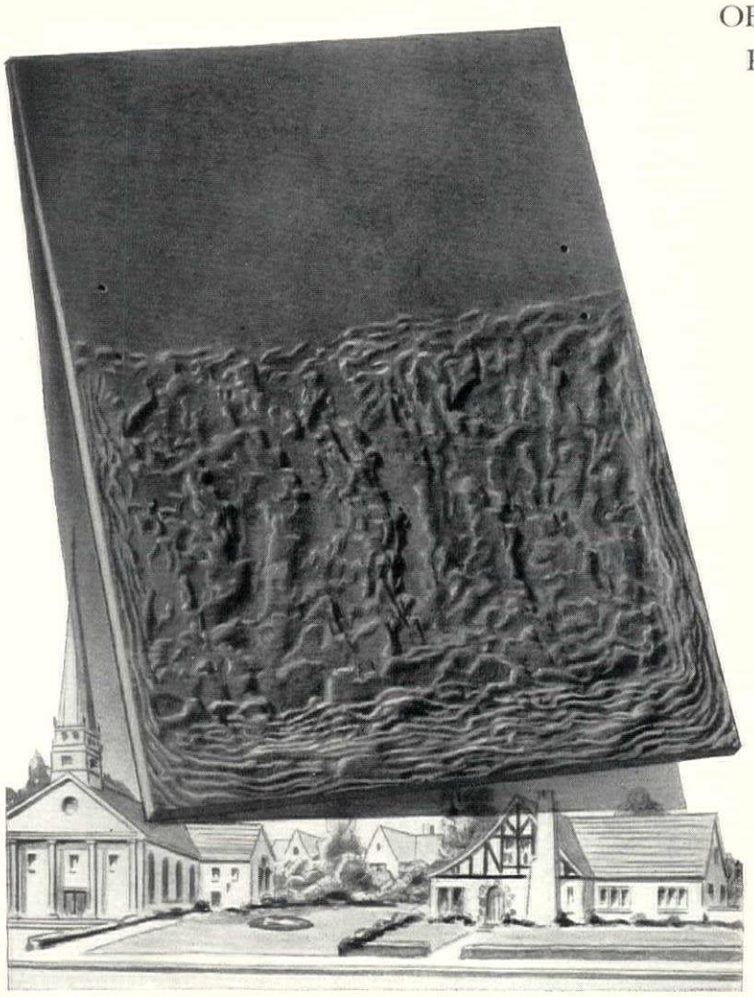
Material	This Month	Month Ago	Year Ago
Portland Cement..	$2.00	$2.00	$2.02
Common Brick....	11.90	11.93	12.53
Structural Steel...	1.60	1.60	1.65
Lumber.....	15.77	15.85	17.99

Prices given in this comparison are composite and do not in all cases refer to one item. For instance, the price of structural steel is the composite of prices of shapes and plates f.o.b. Pittsburgh; the price of lumber is a composite of five items of Southern pine and five items of Douglas fir f.o.b. mill; the price of cement is a composite of prices in fourteen different cities per barrel, carload lots, to contractors; price of brick is composite in fourteen cities per M, delivered on the job.

* (as previously published in *General Building Contractor*)

Architects Widely Acclaim the Gothic Eternit's *Newest* Asbestos Shingle

RUGGED TEXTURE, RANDOM WIDTHS, HEAVY BUTTS and MELLOW COLORS OFFER UNUSUAL OPPORTUNITY FOR ROOF INDIVIDUALITY WITHOUT PRICE PREMIUM



From Coast to Coast architects have been most generous in their praise of Eternit's newest asbestos shingle, the Gothic. They immediately recognized in the unique features of the Gothic, values heretofore unknown in roof beauty, individuality, durability and economy.

Under today's building conditions, no architect can afford to ignore these eight major Gothic features:

1. AGELESS AND FIRE-PROOF. Ingredients: Portland Cement, reinforced with asbestos rock fibres. Both are time and fire-defying.
2. TAPERED CONSTRUCTION. Designed to provide thickness and strength where it is most required. Needless weight eliminated.
3. RUGGED TEXTURE. 7" exposed shingle area, textured like rugged rock, carved by time.
4. MELLOW COLORS. Ten rich, time-mellowed colors. Ideal for color harmonies or color contrasts.
5. RANDOM WIDTHS. Full size shingle 12" x 16". Supplied also in random widths of 5", 6" or 7".
6. STAGGERED BUTTS. Double sets of punched nail holes permit laying irregular shingle courses.
7. DEEP SHADOWS. Butts are 5/16" thick, assuring deep, massive shadow lines.
8. MODERATE COST. Saving in both materials and labor permits roof cost in keeping with 1932 incomes.

No expense has been spared to make the Gothic the type of shingle that will win your admiration and confidence. See it yourself. Samples and architect's folder will be mailed upon request. Write or telephone the nearest Eternit or Ruberoid office today.

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SEWAGE DISPOSAL

PART ONE

By GEORGE L. ROBINSON, Consulting Engineer

It was not until about 1900 that the necessity for sewage disposal as a sanitary mesaure became apparent. The spread of disease due to insect carriers became definitely known and the danger of water carried germs was demonstrated beyond the shadow of a doubt.

While the medical men were proving the dangers due to sewage and other pollution, the sanitary engineers and chemists had started work on experiments leading to the elimination of these dangers.

In the United States one of the first serious studies was carried on by the Massachusetts State Board of Health under the direction of the late Dr. Thomas Messenger Drown. At the same time such men as Rudolph Hering, Col. George Waring and others began the installation of treatment plants for institutions and municipalities. The engineers of England and the continental countries had made quite a study of these problems before this time, although even now the cities of Europe are not, as a rule, as well provided with sewerage systems and disposal works as are found in the United States.

Interest in this subject as part of our architectural problem in planning institutional and private housing soon became active.

More than twenty-five years ago disposal plants were installed in great country estates by architects of Philadelphia and New York. Since that time it has become a matter of course that any country project must be provided with proper sanitation in the disposal of sewage waste and the protection of water supply.

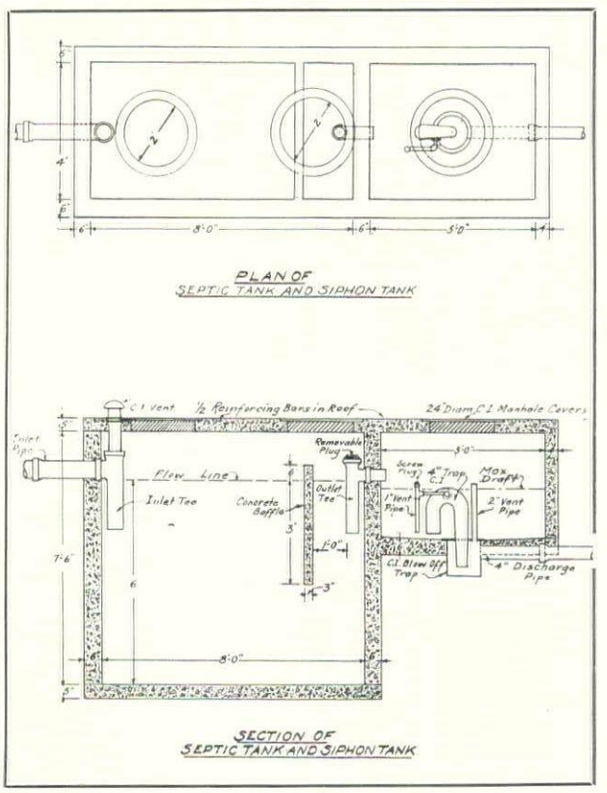
Since the State Boards of Health have passed regulations as to stream protection, and also protection of ground water from which wells and springs find their supply.

During the following years much experimentation and study led to a technique in design and construction which has been growing and developing ever since.

We have now arrived at a point where the several problems resolve themselves into items about as follows:

(a) Nature of sewage to be treated.
(b) Amount of sewage to be treated.
(c) Degree of purity required.
(d) Proper location with regard to topography, economy and sentimenal interest.

It was early discovered that domestic sewage (which is the spent water supply made dirty by use) will separate into floating and sinking particles if retained in a tank or vat large enough to permit



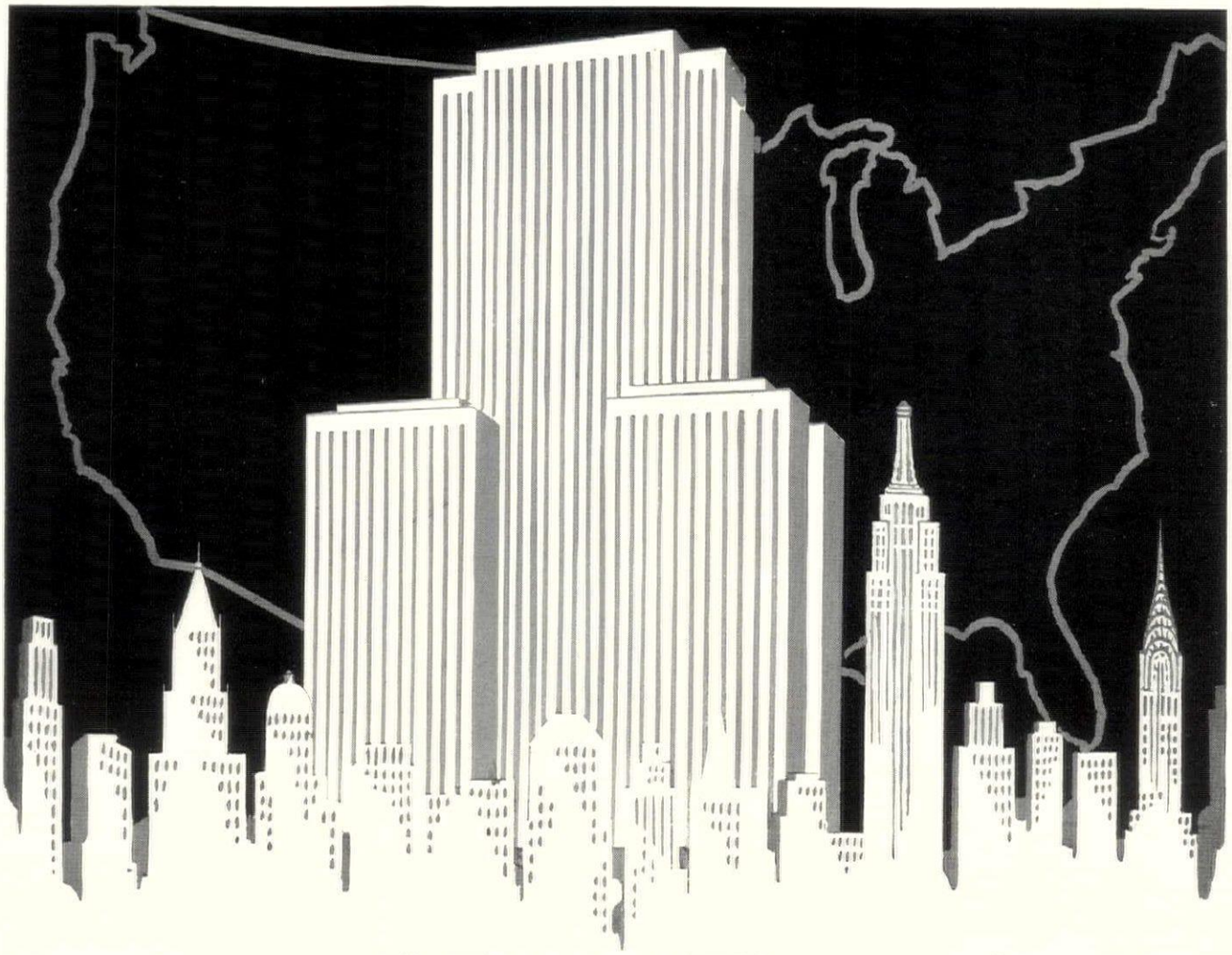
quiescence for several hours. This separation of organic and inorganic matter is brought about partly by gravity but more largely by the natural fermentation set up by the several bacterial organisms which thrive under proper conditions. Some of the solid matter settles to the bottom in the form of a watery mass called sludge, while some floats at the top forming a scum or crust. As additional sewage enters, the disintegration continues and the matter is, to quite a large degree, turned to water and gas. For want of a better name such a tank is called a *septic tank*.

It is most important to emphasize the fact that these tanks do not purify sewage. They break down and separate the organic matter in solution and suspension, but the tank effluent, while in many cases quite clear in appearance, does carry with it highly decomposable matter and the germs of disease. This is particularly true with intestinal germs such as found in typhoid cases.

The effluent from a septic tank, besides causing a nuisance if not properly disposed of, may become a serious menace to public health. Therefore, while admitting the value of a properly designed tank as an element in the plant we must remember that it is even more important to dispose of the tank effluent or run-off in a perfectly sanitary way.

In small installations the most satisfactory method of disposing of the effluent is through its dispersion in the upper layers of the soil by means of a system of special open jointed tiles laid in stone or gravel at a depth of not over two feet and along the contours in such a way as to receive a uniform distribution of the effluent.

The most satisfactory plan is the use of a sewage dosing siphon to produce periodic discharges of the tank effluent throughout the tile lines.



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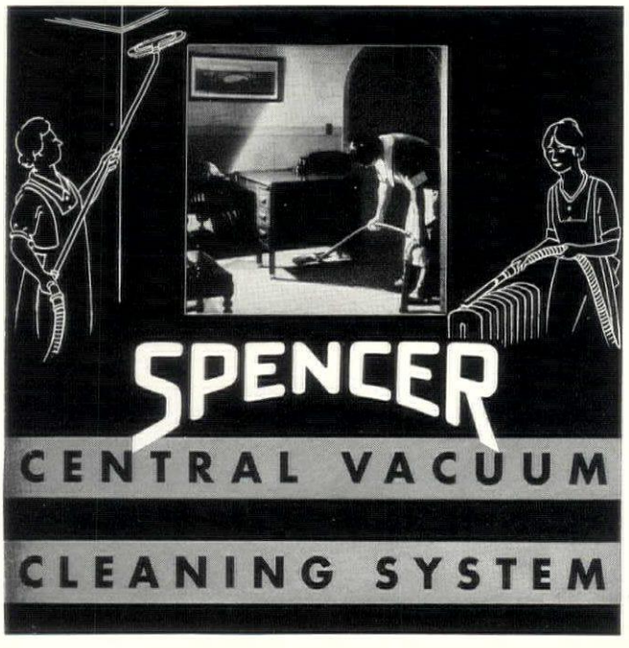

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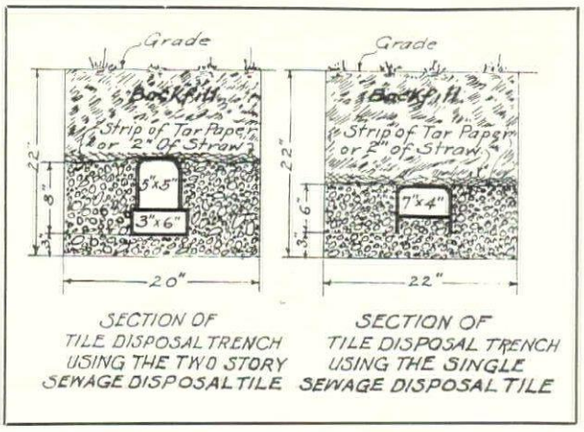

SECTION OF TILE DISPOSAL TRENCH USING THE TWO STORY SEWAGE DISPOSAL TILE

SECTION OF TILE DISPOSAL TRENCH USING THE SINGLE SEWAGE DISPOSAL TILE

A further help to purification is the division of the tile filtration area into two or more parts with a gate which can be turned once a week or month, as the best operating conditions may indicate.

Of course the action of the soil bacteria is to seize upon and oxidize or burn up the organic content of the effluent. This action of the soil bacteria does bring about a complete purification of the organic matter carried out of the tank. In designing and locating a small plant for a population of, say from 5 to 20 people, it is of the utmost importance that the site be chosen where there is no chance of polluting a spring or well.

The character of the soil should be studied as to its ability to absorb the given amount of effluent and to be sure that in limestone or other rock formations no cracks in the rock can act as leaders for a run-off of polluted water.

It is a fact that in some parts of Pennsylvania and elsewhere such rock crevices are looked for and used for the disposal of sewage. This has frequently resulted in the most serious spread of disease even at points some miles distant from the infection.

The elements of a small plant are made up as follows:

1. The sewer from the plumber's soil pipe at the building leading to the septic tank. This should be laid of vitreous clay sewer pipe with tight cement joints or calked cast iron. Care should be used to have the line to a proper grade, not less than one foot to 100 feet, and that all cement or lead is removed from the inside so that the bore of the pipe will be smooth and clear of any obstructions.

2. The septic tank should be a brick or concrete masonry structure of sufficient size to hold at least 24 hours' flow of sewage. In estimating the amount of sewage flow per day it is wise to allow at least 100 gallons per person. This will include all waste water. Of course this per capita estimate will be changed by the experienced designer depending on the nature of the population to be served.

In small family houses the daily sewage production might be as low as 40 gallons per person per day. While in some institutions like hospitals for mental cases the flow has been known to be more than 200 gallons per capita.

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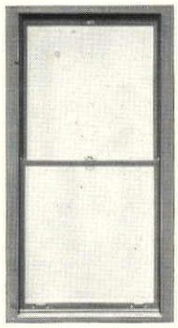

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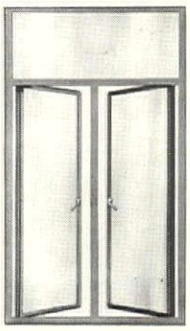

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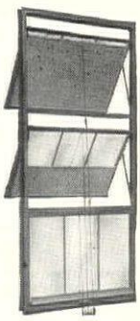
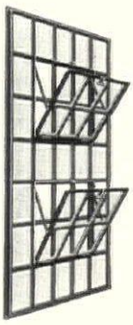
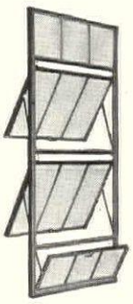


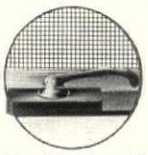
Donovan Awning Type
Steel Window



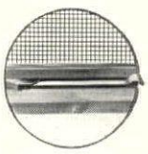
Detention Type
Steel Window



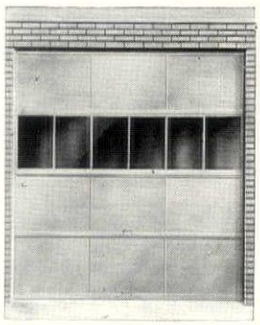
Monumental Projected
Steel Window



Artex Underscreen Operator
Automatic Control



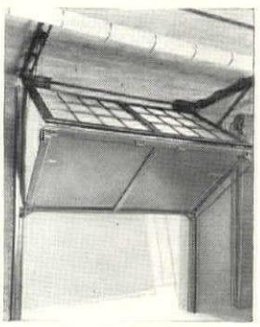
Auto-Lock Underscreen Operator
Push Bar Type



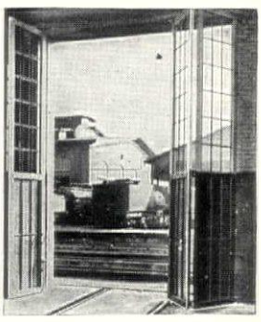
Overdoor
Operating Overhead

DOORS

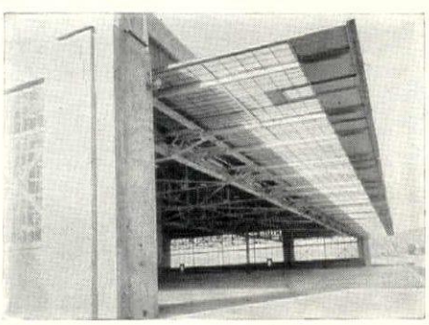
Truscon Steel Doors are designed in all types and sizes to meet the specialized requirements of every kind of industrial and commercial use. Strong and well built, they give long service under hard usage. They do not warp, stick or get out of line under severe weather conditions. The complete line includes Vertical Folding, Lift, Bi-fold, Kanopy, Telescoping Canopy, Overdoor Operating Overhead, Lift-Swing, Hangar, Swing and Slide Doors.



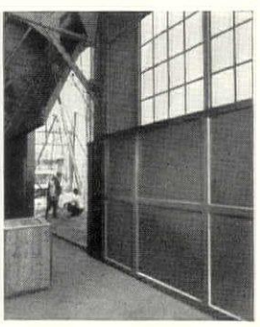
Bi-fold
Steel Door



Vertical Folding
Steel Door

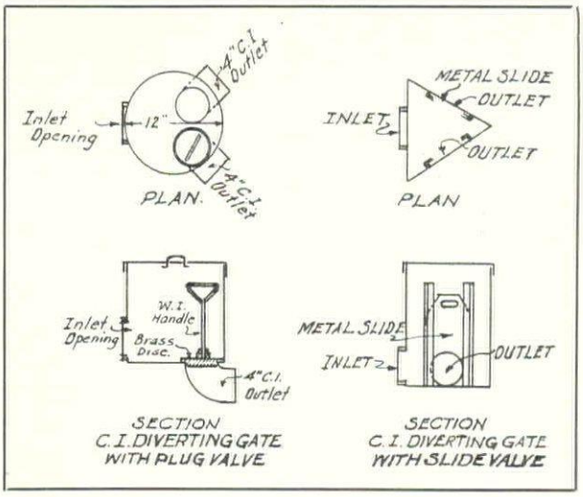


Original ~~Kanopy~~ Type
Airplane Hangar Steel Door



Vertical Lift-Swing
Steel Door

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO. SALES OFFICES IN PRINCIPAL CITIES
Consult Telephone Directories for Addresses



The small tank for a dwelling should hold, to be safe, 30 per cent more than the daily flow to make up for the space occupied by sludge and mat.

There are numerous small tanks ready made in the market but as a rule these are so small and are so unintelligently installed by plumbers that they are apt to give trouble.

A good design for a tank of, say, 1,200 gallons, ample for 6 to 10 people, would be a rectangular concrete structure 8 feet long by 4 feet wide by 5 feet deep measured from the flow line in the tank.

The inlet pipe should be trapped downward about 18 inches and it would be well to have this trap extended upward to grade and provided with a cast iron vent cowl. This vent prevents air-binding in the sewer line as well as providing ventilation. A baffle wall of plank or masonry should extend across the outlet end of the tank about one foot from the outlet pipe. This is to prevent floating matter from passing over into the siphon chamber and tile filtering area beyond.

It is always well to have manhole openings so placed that the tank can be examined and mat or sludge removed with the least effort.

3. The siphon chamber should be built as part of the septic tank. It should be of capacity equal to three quarters of the cubical content of the tiles into which it is to discharge. There should be an automatic sewage dosing siphon so planned as to discharge the effluent promptly when the water level has reached the proper elevation.

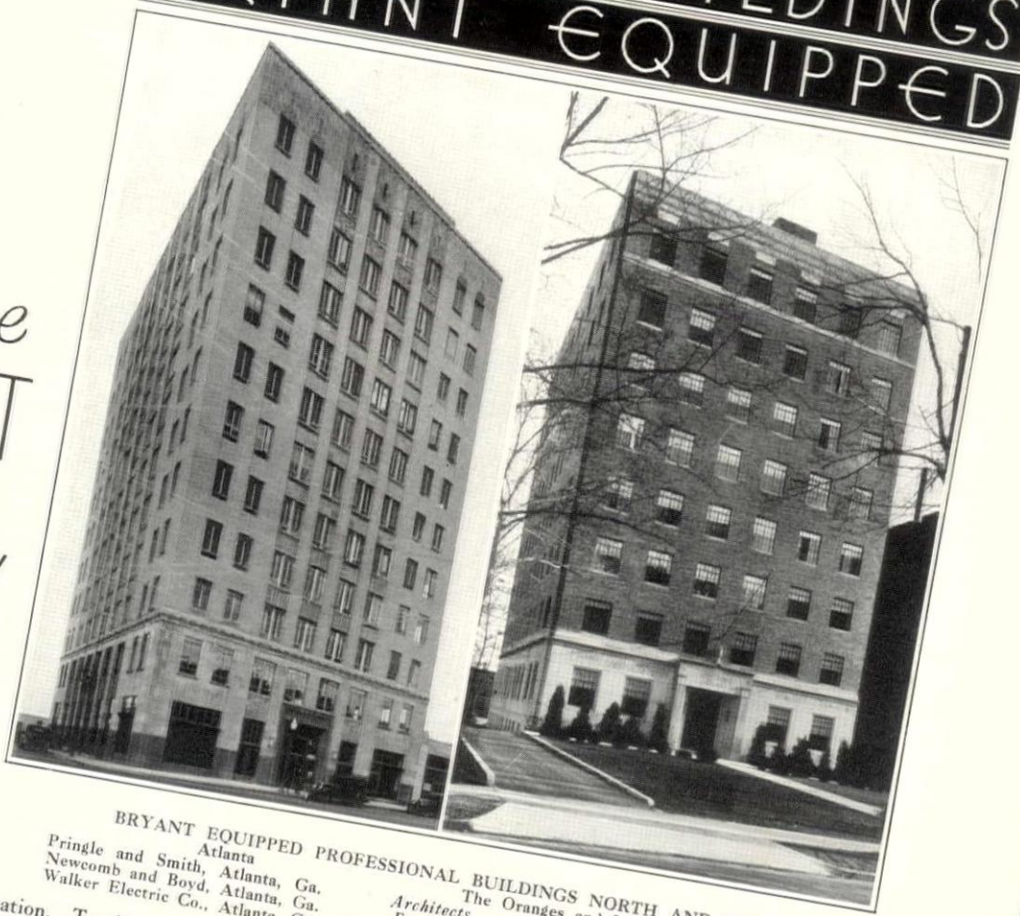
It has been found that a septic tank of brick work circular in form and brought to grade in a dome and provided with cast iron frame and cover is much less expensive than the concrete. It can be quickly built by an expert mason and has in fact in small plants all the advantages of the rectangular plan. Of course the siphon chamber can be built in the same manner as the tank.

4. A diverting gate to subdivide the tile filter area is of great importance as by its operation weekly or monthly it permits each section of the tile filter area to dry out and recover its ability to absorb and oxidize the impure tank effluent.

In school installations, where children might get at this gate or where the caretaker cannot be depended upon, it may be wiser to have only one

MODERN BUILDINGS BRYANT EQUIPPED

? because BRYANT Makes Good DEVICES



BRYANT EQUIPPED PROFESSIONAL BUILDINGS NORTH AND SOUTH

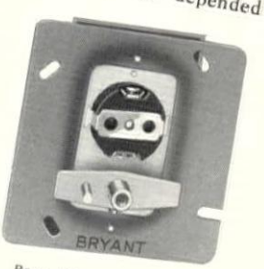
Atlanta
Pringle and Smith, Atlanta, Ga. — *Architects* — The Oranges and Maplewood
Newcomb and Boyd, Atlanta, Ga. — *Engineers* — R. B. Dilley, Newark, N. J.
Walker Electric Co., Atlanta, Ga. — *Electrical Contractors* — Dilley-Chapman, Inc., Newark, N. J.
Dilley-Chapman, Inc., Newark, N. J.

Professional buildings demand perfect illumination. To this has been added the increasing use by the Medical and Dental professions of electricity for power . . . X-ray . . . and electro-therapeutic equipment of great variety and usefulness.

The next greatest invention may convert the radiant energy of the sun into electric current or bring power from the unlimited heat below the earth's surface. It may be in the study of the human body and the better control of diseases . . . Whatever that invention is, electric current will be a factor and continue to play the part of universal servant of mankind. There is a Bryant Superior Wiring Device for every electrical purpose. They are always kept abreast of the times and can be depended upon to give the full measure of service required.

No. 3750 complete
Fan Hanger outlet may be used for hanging illuminated pictures or radio loud speaker.

Less Plate



Rear View—mounted on outlet box cover

No. 4961

No. 4962

A complete line of flush tumbler switches, especially designed to handle Type "C" lamp loads.

BRYANT

BRYANT SUPERIOR WIRING DEVICES

AR 732

MANUFACTURED BY THE BRYANT ELECTRIC COMPANY, BRIDGEPORT, CONN.

MANUFACTURERS OF "SUPERIOR WIRING DEVICES" SINCE 1888 — MANUFACTURERS OF HEMCO PRODUCTS

BOSTON
Federal Street

CHICAGO
844 West Adams Street

NEW YORK
60 East 42nd Street

SAN FRANCISCO
149 New Montgomery Street

area and to increase the discharge from the siphon chamber, which of course would lengthen the dose interval; or alternating siphons can be provided.

5. The tile area should be located as far as possible in dry porous soil and at a point convenient to the siphon chamber. The tile used may be common hard burned field drainage tile or, better, a special horseshoe mounted on terra cotta hollow base tile. They should be laid in trenches following the contours as nearly as possible and should be surrounded by coarse gravel or broken stone.

The lines should not be over 100 feet long and should have a grade or pitch of not over four inches in 100 feet. The amount of tile required depends of course largely on the nature of the soil. It is a fair rule however to provide for 3 gallons per foot per day. That is, if we take for example six people, it would be well to provide a field with two parts of 200 linear feet in each part.

Where soil conditions are bad, wet, or clayish, it is wise to underdrain the area or in special cases make an artificial filter area or bed which can be underdrained to a safe and convenient outlet. The function of tank, siphon and tile is to break down solid organic matter and to dispose of the dirty water by absorption and oxidation in the soil.

(To be continued)

●

A. I. S. C. HOUSING CONFERENCE

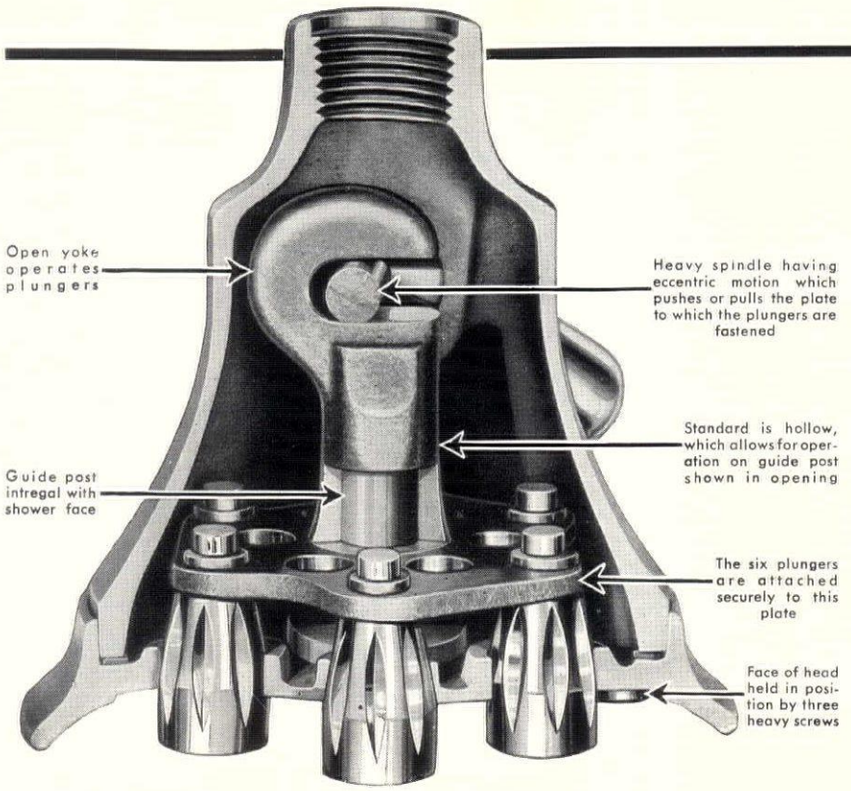
By PETER A. STONE

(Continued from page 54, editorial section)

of the Housing Company of Waverley, Mass., In the latest houses produced by this company only the columns and sills are of steel. An upturned channel is placed on the foundation wall and wood studs are set in between the columns and held at the foot by the channels. An interesting point brought out by the speaker was to the effect that in all their experimentation they have failed to produce, so far, a low-cost house using the conventional methods of erection and regardless of the materials used.

The system developed by D. E. McEvoy of New York requires only three men to erect a four-room bungalow in eight hours. The entire structure consists of standardized panels made of two sheets of Celotex. Windows and doors are fabricated into panels, each of which contains a threaded socket at the top and bottom. In erection a steel rod of ½" diameter is inserted in the edge of the panel and passes through so that it is threaded into the adjoining panel, the edges of which have received a coating of stiff lead paint. The tightening of the panels, by turning the steel rod, forms a weather-tight paint bead at the joints. Each panel is 3 by 8 feet, and the surface is treated for weather resistance.

Aside from these features nothing new was reported in the line of new materials and methods. However, it was voted to continue the conferences and a committee was appointed to receive suggestions and coordinate them to steel construction.



● Cutaway view of the Speakman Anystream Self-Cleaning Shower Head. Note particularly the heaviness of the castings and the sturdiness of all parts. ●

● HERE IS A PICTURE THAT EVERY ARCHITECT WILL UNDERSTAND AND APPRECIATE . . . . IT SHOWS A CUTAWAY VIEW OF THE . . .

SPEAKMAN ANYSTREAM SELF-CLEANING SHOWER HEAD

which gives full round streams from the entire face of the head.

Turning the lever-handle permits every member of the family to enjoy the shower that he or she likes best — normal, flood, and even a needle bath — on ordinary house pressure.

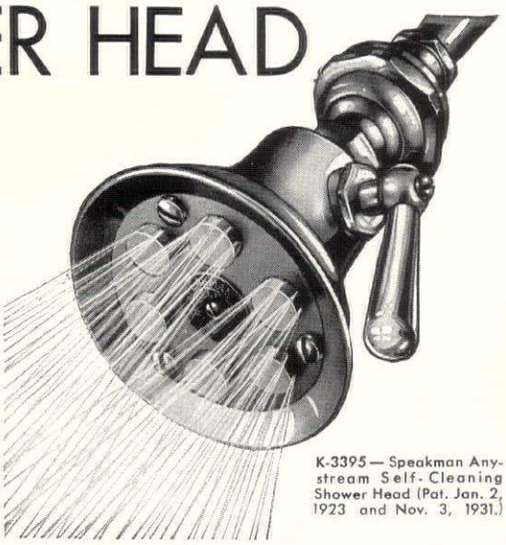
There are no holes to stop up in this head; instead, tapered slots in the plungers allow the head to be flushed of pipe scale and sediment *instantly*.

Speakman Anystream Self-Cleaning Shower Heads are made in various designs for residential, school, hospital, golf, and country club installation.

Bulletin K-57, 16 pages of information on Speakman Anystream Self-Cleaning Shower Heads and Speakman Showers prepared especially for architects' use, will be sent promptly.

SPEAKMAN COMPANY
Wilmington, Delaware

Refer to Sweet's Architectural Catalogs, pages D-4338-39-40



K-3395 — Speakman Anystream Self-Cleaning Shower Head (Pat. Jan. 2, 1923 and Nov. 3, 1931.)

Flood Shower

Normal Shower

Needle Shower

SPEAKMAN SHOWERS & FIXTURES

MANUFACTURERS' ANNOUNCEMENTS

ARMSTRONG RUBBER TILE

Rubber tile has been added to the line of floors offered by the Armstrong Cork Company, Lancaster, Pa. Twenty-one colors are offered.

This tile is a homogeneous product consisting of pure plantation rubber, processed to resist the effects of the ultra-violet rays of the sun. It is made in 3/16″ and 1/4″ gauges. A complete line of specialties, such as plinth blocks, cove and base, borders, corners and thresholds, is included.

ETERNIT GOTHIC

The Ruberoid Co., New York, announces a new asbestos cement shingle of tapered construction and rugged texture. Ten colors are available. Full size shingle is 12″ x 16″; supplied also in random widths of 5″, 6″ or 7″. Double sets of punched nail holes permit laying irregular shingle courses.

CRITTALL CASEMENT WINDOW COMPANY

Reorganization and a new sales policy is announced by the Crittall Casement Window Company, Detroit. To merchandise the new light residential type casement, and provide convenient sources of supply, a nation-wide dealer organization is being established to work under the present representatives and distributors of Crittall products.

CONVECTOFIN HEATERS

Bulletin No. 5 has just been issued by the Commodore Heaters Corporation, 11 West 42nd Street, New York City. Complete tables are given for the concealed, flush, offset and floor types. The tables give the equivalents in square feet of direct steam radiation.

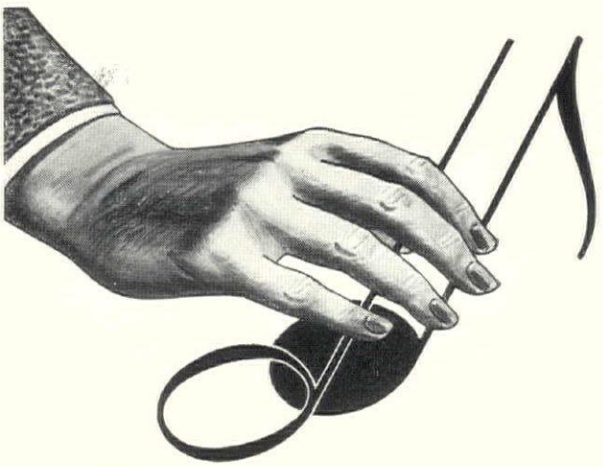
SHOWER BATH CABINETS

A catalogue describing the design, construction and assembly of shower bath cabinets has been issued by Henry Weis Mfg. Co., Inc., Elkhart, Indiana.

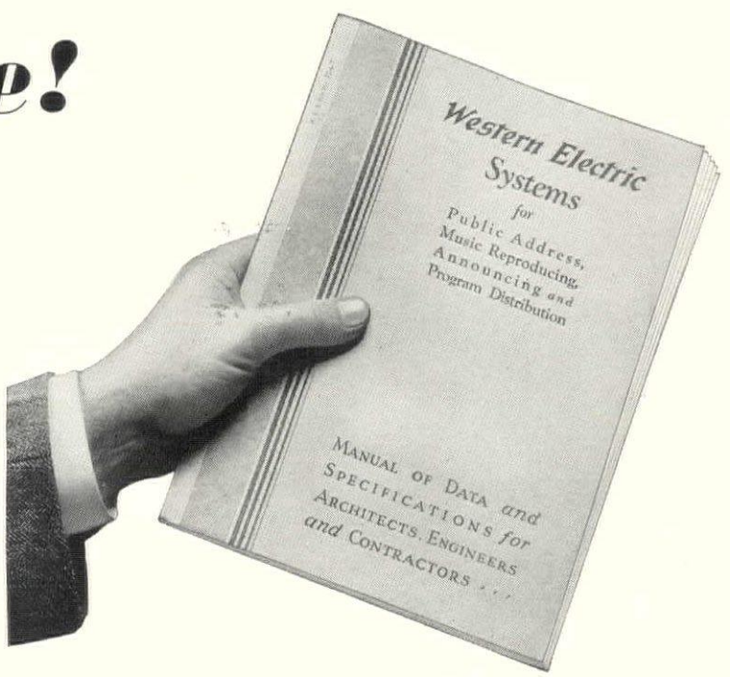
UNIFIED RADIO RECEPTION

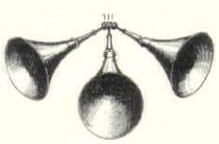
A system whereby as many as 3,000 radio receiving sets can operate independently on the same antenna without interfering with each other has been perfected, according to an announcement by the Western Electric Company. By adding further apparatus, the number of sets can be increased indefinitely without impairing the quality of reception. The sets can be of any make the individual chooses.

The system is designed primarily for hotels, apartments and other multiple dwellings and is aimed to overcome the increasing problems which dwellers in such buildings face in obtaining good antenna facilities for their radios at reasonable cost. Modified forms of the system have also been designed to operate a much smaller number of radio sets.



Keep music specifications *on file!*





In planning Music Reproducing and Distribution Systems for schools, hotels, hospitals — architects are sure to find real assistance in this practical book. Recommendations are made for the types of Western Electric Music Reproducing, Distribution and Public Address equipment which have proved best suited for each type of building. Uses are described fully, systems illustrated by diagram, and actual specifications suggested for your convenience.  Keep this book handy. It bears the A.I.A. file No. 31-i-7.

Western Electric

PUBLIC ADDRESS AND MUSIC REPRODUCING SYSTEMS

Distributed by GRAYBAR *Electric Company*

GRAYBAR ELECTRIC CO. AR7-32
Graybar Building, New York, N. Y.

Gentlemen: Please send us a copy of the book describing Public Address System. File No. 31-i-7.

NAME .....

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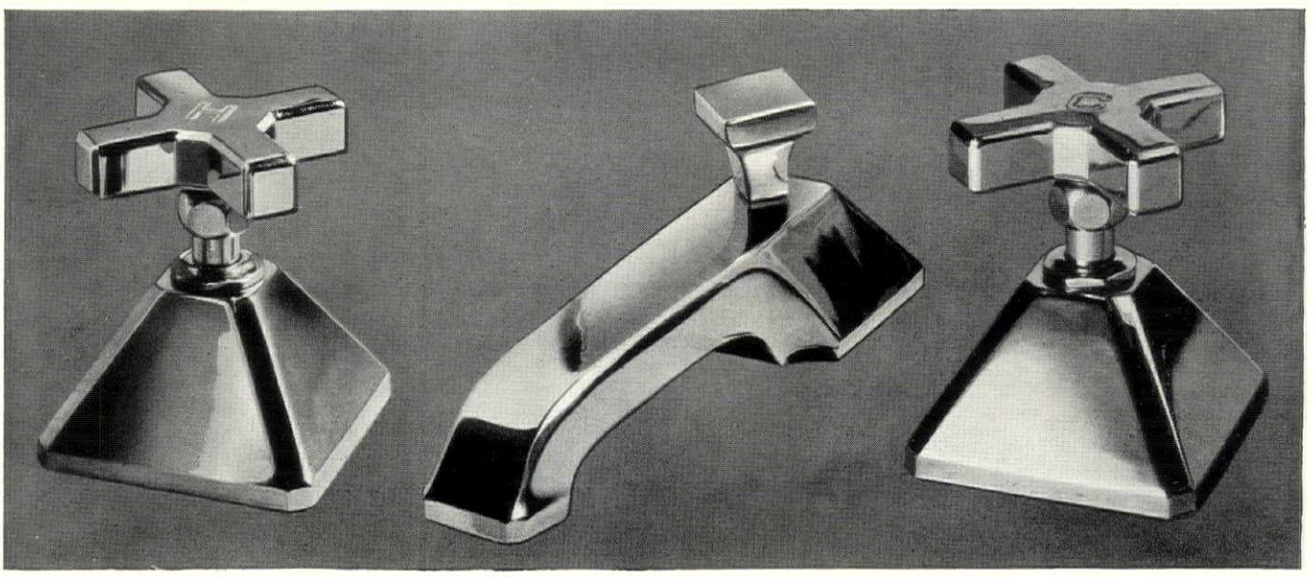
VOGUE FITTINGS BY SCOVILL

Built to the Architect's Requirements



IN PLANNING the new Vogue fittings, Scovill sought to turn out a line that would meet every requirement of the architect. In fact, architects themselves were consulted on points of design and construction. Scovill engineers interpreted their suggestions into practical plumbing terms. The result is a line that embodies sound ideas of beauty and utility.

The beauty of these fittings is timeless. They are modern but not extreme. They are not going to "date." They can be used with either old or new types of enamelware fixtures, and in either case, blend perfectly.

And these fittings have a sturdy utility behind their external beauty. They are made of fine materials. They have patented mechanical features and behind-the-wall construction that guarantee efficient, long-term service. They are backed by the Scovill reputation for quality, built up during 130 years in business.

Vogue fittings include all parts of the lavatory, bath and shower equipment. You will guard the standards of your work by specifying them in hotels, apartment houses, private residences—particularly for modernization jobs that you want to *stay* modern.

It will pay you to know more about the new Vogue line. A booklet, containing complete information for ready reference, will be sent on request. Write for it today.

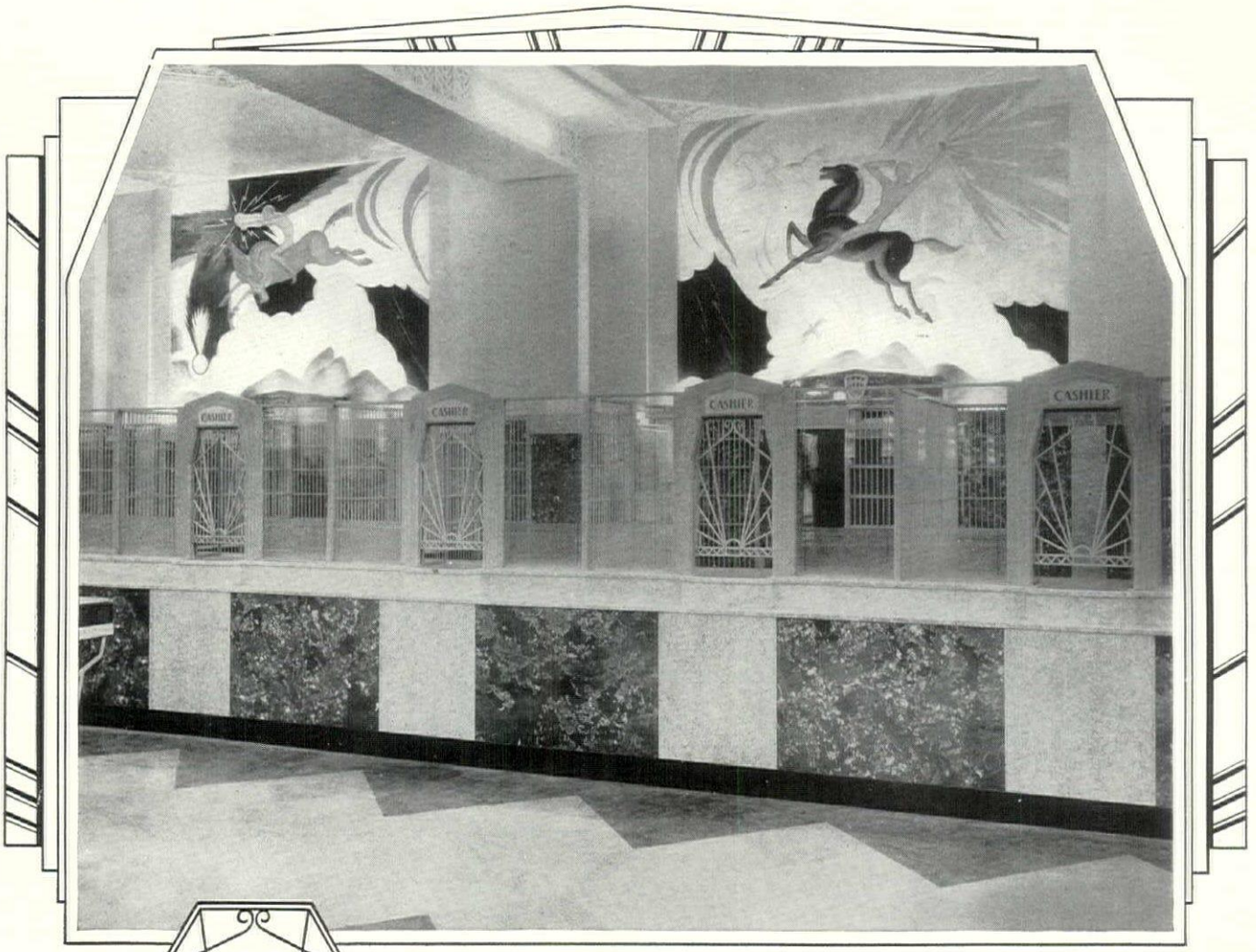
SCOVILL MANUFACTURING COMPANY
PLUMBERS' BRASS GOODS DIVISION
WATERVILLE • CONNECTICUT

Flush Valves—Shower and Bath Fixtures—Tubular and Miscellaneous Plumbers' Brass Goods for General Plumbing Requirements

Scovill

VOGUE

Protected by U. S. Design Patent
No. 86672—others pending



MODERNISTIC SERIES
Plate Thirteen

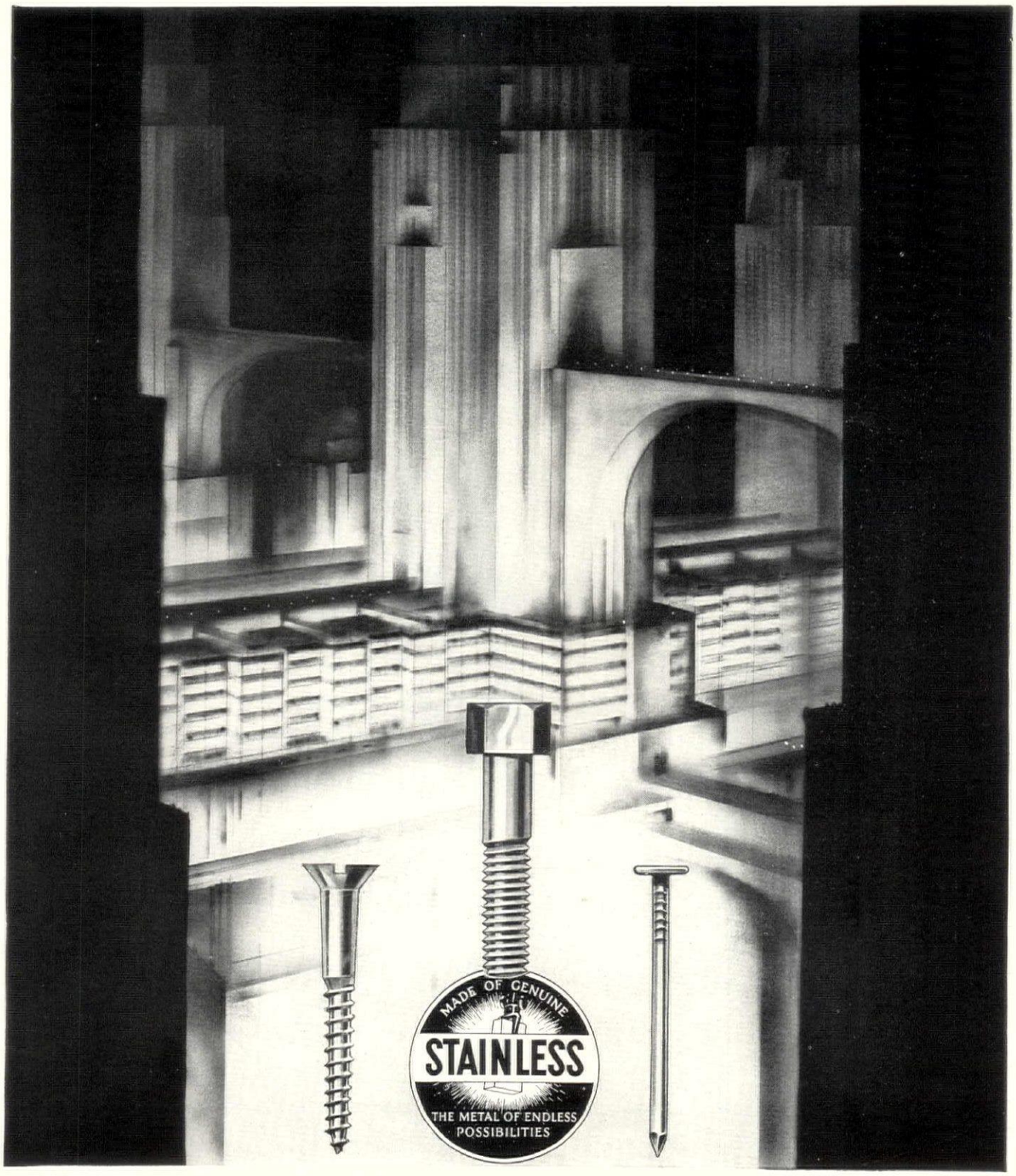
In this picture of the Northern States Power Building, St. Paul, Minn., the sky-riders seem to dominate the whole interior. A reproduction in actual colors would show how the various elements have been brought into harmony—a harmony which is enlivened by the spirit of the new era. It would show also how naturally the different marbles — Grand Isle Fleuri, French Gray and Montenelle—with their individual blends of color—can be adjusted to a plan of this kind. The structure was designed by Ellerbe & Company, Architects, and the marble was finished and installed by the Drake Marble Company of St. Paul.

VERMONT MARBLE COMPANY—PROCTOR, VERMONT

Branches in the larger cities

See Sweet's Catalog for Specifications and Other Data

VERMONT MARBLE



CORROSION IS A COWARD

● As cities soar skyward, corrosion climbs story by story, to inaccessible spots. Rust has a habit of housing itself in hidden corners where protective coatings cannot penetrate. The screw, bolt and nail, the very pegs on which the mighty bulk of building rests its weight, make ideal nests for its destructive growth. This essential trio can, in truth, be made impregnable if made of Stainless Steel because "Stainless" is immune to all atmospheric corrosion. It demonstrates as much as five times the life of ordinary steel. Genuine Stainless Steel is manufactured only under the patents of American Stainless Steel Company, Commonwealth Building, Pittsburgh, Penna. Write for our interesting new booklet. ●

STAINLESS STEEL

A STATEMENT OF AMERICAN BLOWER POLICY

in the Sale of

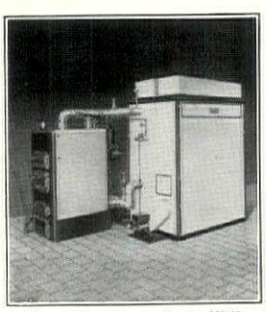
Air Conditioning Equipment

THE AMERICAN BLOWER CORPORATION is not in the contracting business; neither does it offer architectural or professional engineering service. We are fundamentally a manufacturing organization. Our policy for the sale of air conditioning equipment remains as heretofore; namely, distribution through the established channels of the contracting trade, collaborating with the architect and consulting engineer in its design and application. The activities of our sales, advertising, engineering, research and manufacturing departments will be directed toward that end.

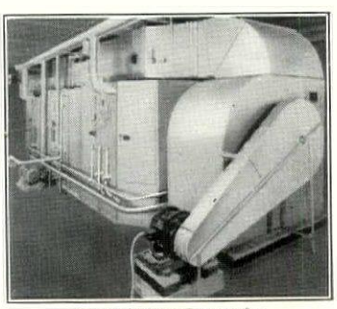
O. M. Rose
Vice President

AMERICAN BLOWER CORPORATION, DETROIT, MICHIGAN
CANADIAN SIROCCO CO., LIMITED, WINDSOR, ONTARIO
BRANCH OFFICES IN ALL PRINCIPAL CITIES

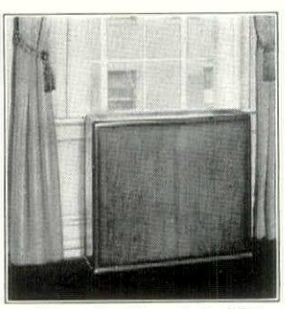
American Blower



Sirocco Conditioner Series "R" for Homes



Central Sirocco Systems for Industry and Public Buildings



Sirocco Conditioner Series "O" for Business

For repair-free permanence— specify DOUGLAS FIR PLYWOOD!

. . . for walls and ceilings, built-ins, partitions, subflooring, sheathing, etc.

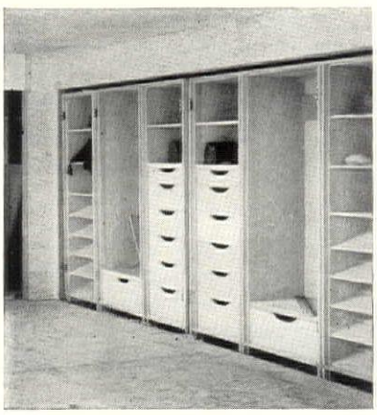
HERE'S a material that opens up a world of new possibilities in architectural design and building economy. It's virtually *damage-proof*, costs no more per surface foot than ordinary lumber, reduces carpentry 20 to 60%, and is amazingly versatile.

The new 1/4″ Douglas Fir Plywood Wallboard — split-proof and extraordinarily warp-resistant — is REAL LUMBER and takes any wood finish, including natural-grain treatments. Like other grades of Douglas Fir Plywood, it comes in giant satin-smooth panels as large as 4 x 8 feet — or even larger on special order. It retails for around 4 to 7c a sq. ft., depending on quantity and the dealer's freight cost.

The cabinet grades — 1/4″, 3/8″, 1/2″, 3/4″, etc. — make built-ins, cabinets, shelving, partitions, etc., far stronger, yet lower in cost.

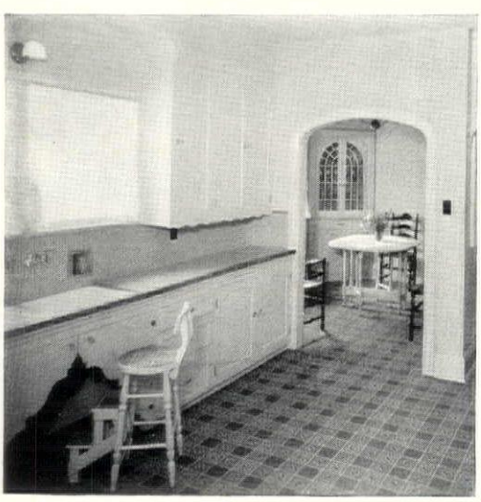
Douglas Fir Plywood also offers warp-resistant subflooring, and stronger, air-tight sheathing, at a fraction of the usual labor cost. And the new *specially-fabricated-and-treated* Douglas Fir Plywood for concrete forms eliminates costly rubbing, reduces form carpentry 15 to 25% — *and can be re-used 7 to 10 times!*

Mail the coupon for a sample and A.I.A. folder!



ABOVE: *No other material makes built-ins so inexpensive yet so strong, as does Douglas Fir Plywood. Its stubborn resistance to warping prevents doors and drawers from sticking and makes them dust-proof.*

BELOW: *The new Douglas Fir Plywood Wallboard can be bent to form the pleasing curves of a stair well. Once in place, it remains rigid — forever free from splitting or warping.*



Kitchen conveniences like these remain split-proof, warp-resistant, repair-free — when built of Douglas Fir Plywood. So also do other built-ins, such as the corner cupboard seen in the breakfast room.

DOUGLAS FIR PLYWOOD

DOUGLAS FIR PLYWOOD MFRS., Dept. 732-H, Sixth Floor, Skinner Bldg., Seattle, Wash.

Gentlemen: Please send me your new A. I. A. folder of working facts about Douglas Fir Plywood, and a free sample.

*Name*_____

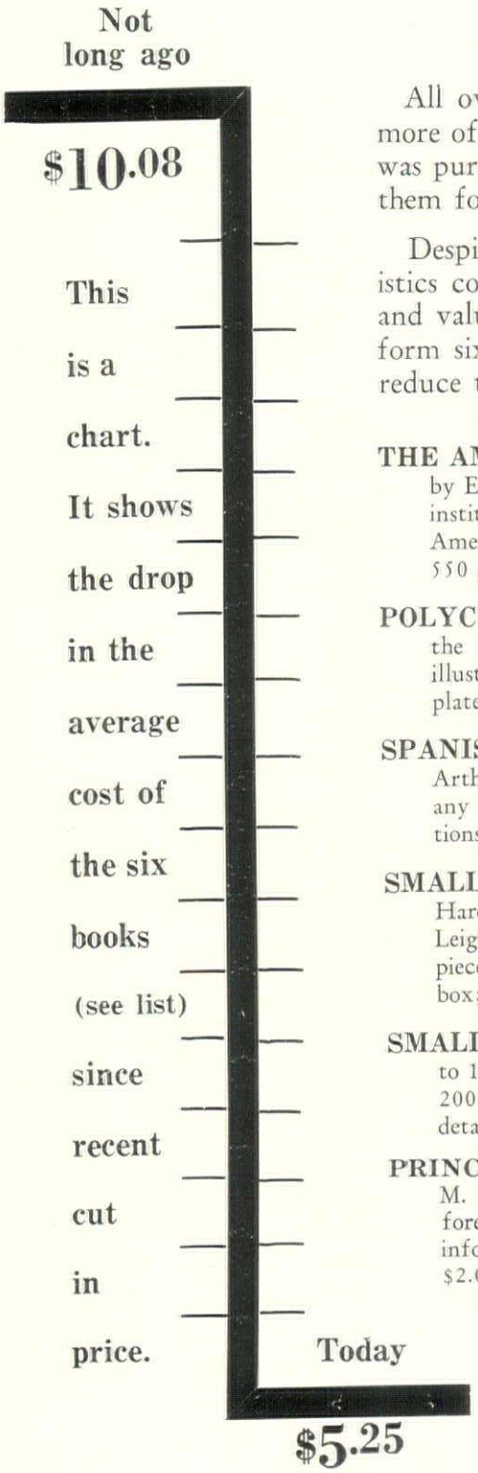
*Address*_____

*City*_____ *State*_____

*Firm Name*_____

For purpose of record, please indicate if you are an Architect ☐, *Draftsman* ☐, *or Architectural Student* ☐.

HAVE YOU *All* OF THESE BOOKS?



All over the country the libraries of architects include one or more of these six books. And every one of the copies they bought was purchased at a figure 50% to 100% more than you may have them for now.

Despite the variety of their subjects there are three characteristics common to all of these six books: (1) Professional appeal and value, (2) excellence of authorship, and (3) they happen to form six of the lowest stacks in our stock room, tempting us to reduce them all to clear-out prices.

THE AMERICAN HOSPITAL of the Twentieth Century, Third Edition—by Edward F. Stevens, who has himself planned more than 150 hospitals and institutions; describes the development of medical institutions in Europe and America; is the recognized authority on hospital planning and equipment; 550 pages, 660 illustrations and floor plans; price $7.50 (instead of $15.00).

POLYCHROMY—by Leon V. Solon with introduction by Ralph Adams Cram; the accepted authority on color in architecture and sculpture; profusely illustrated with reproductions of photographs and drawings, including nine plates in full color; price $3.00 (instead of $6.00).

SPANISH GARDENS AND PATIOS—by Mildred Stapley Byne and Arthur Byne—The first comprehensive, authoritative book on the subject in any language; over 300 pages; four beautiful color plates and 175 illustrations; quarto, in a box; price $7.50 (instead of $15.00).

SMALL MANOR HOUSES AND FARMSTEADS OF FRANCE—by Harold Donaldson Eberlein and Roger Wearne Ramsdell with introduction by Leigh Hill French, Jr.—a rare book of inspiration and information; frontispiece in color and 253 illustrations in half tone; over 300 pages; quarto, in a box; price $7.50 (instead of $15.00).

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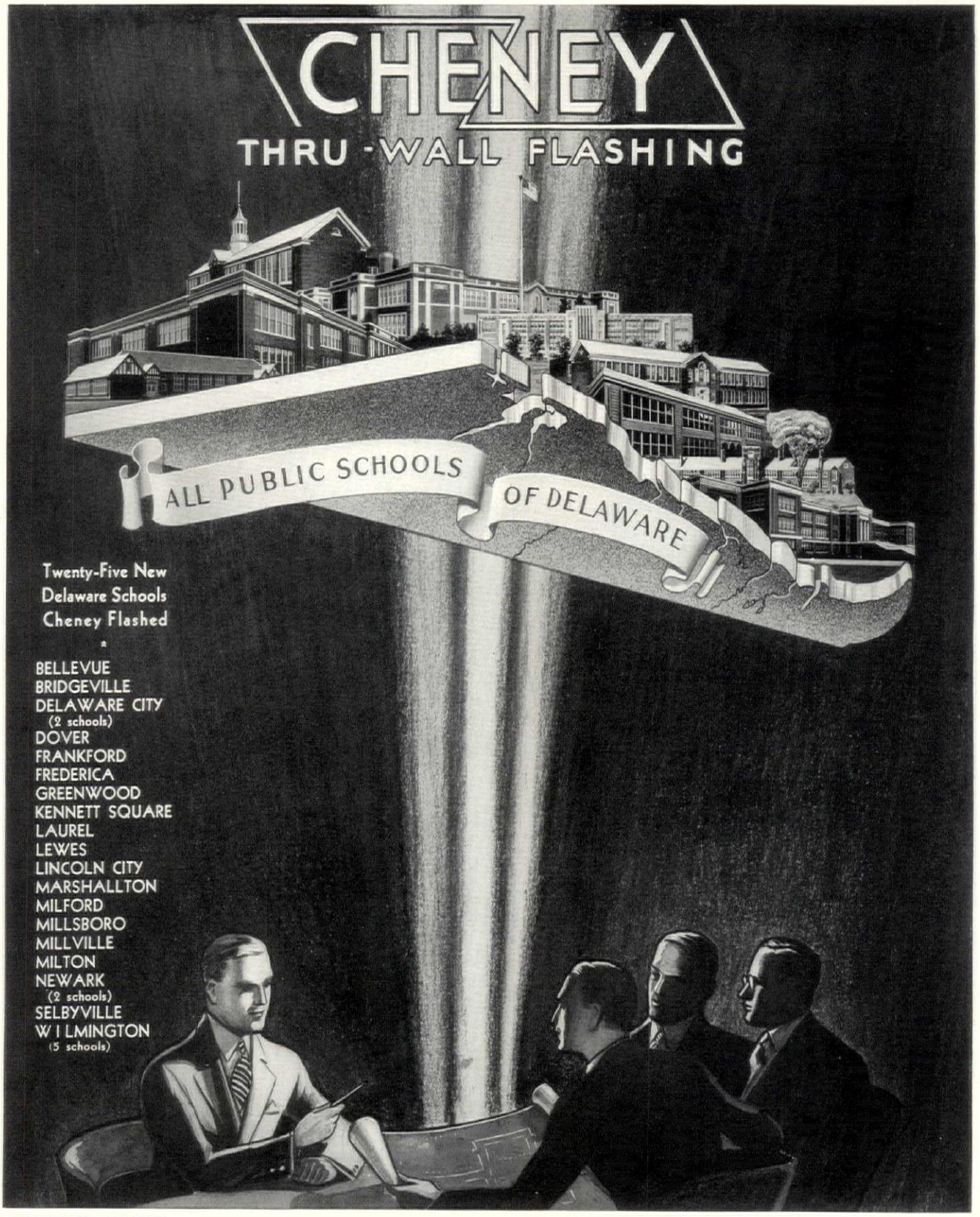

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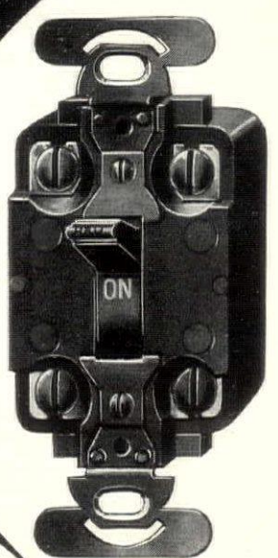

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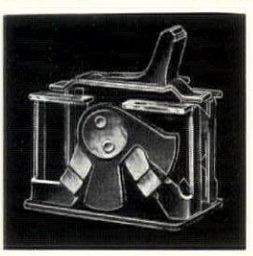

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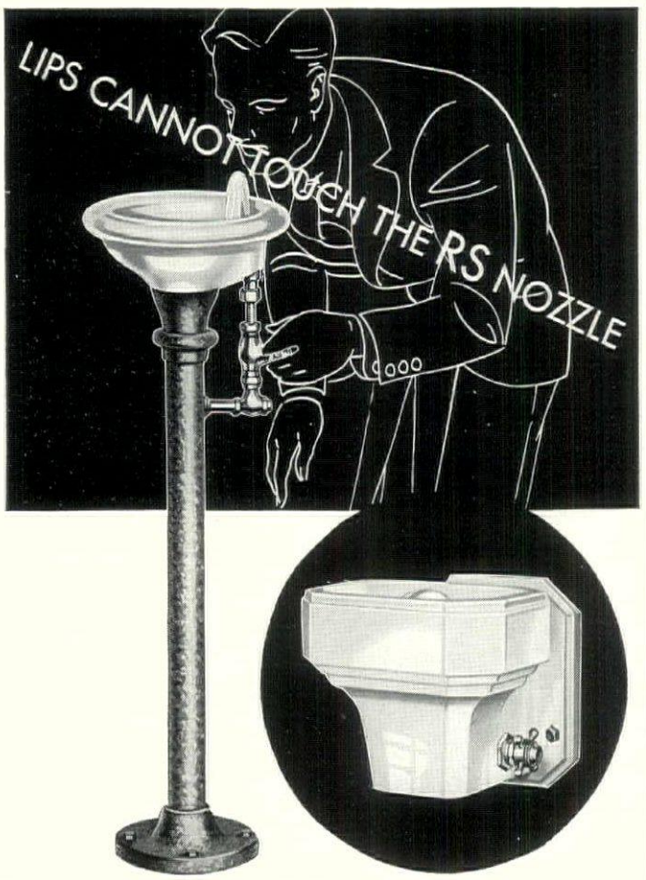

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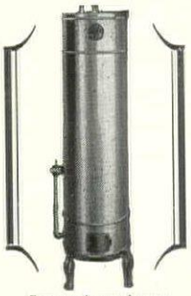

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Are the latest contribution of science to home hot water supply. They are entirely automatic, use gas or electricity, are fully insulated to avoid heat radiation, and embodying the patented aquatherm principle of water circulation, effect a remarkable economy in fuel bills. In spite of all their advantages, Dahlquist's enormous production results in the lowest prices.

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Dahlquist patented Super-Aquatherm which reduces the cost of fuel and Dahlquist Turbo which stops mud from accumulating in the boiler revolutionize the home hot water service.

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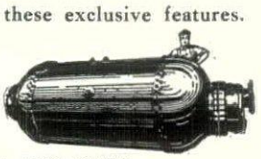

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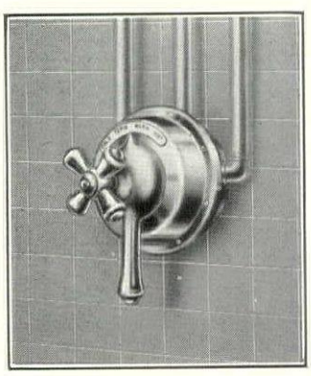

L-9-E

We have illustrated Leonard Valves in full detail; also scale drawings and roughing-in dimensions with specification data. Write for catalogue C which is standard A.I.A. File size.

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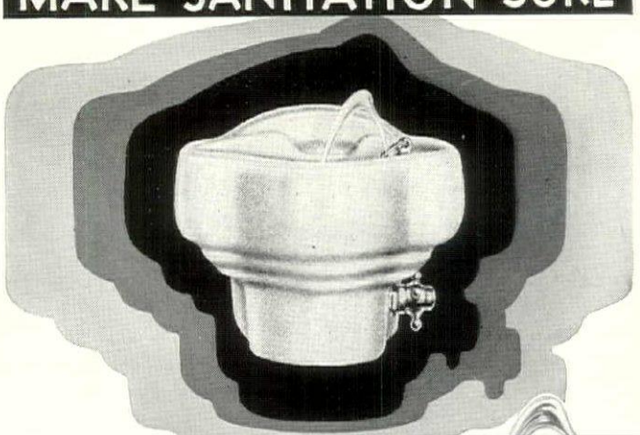

BY SPECIFYING No. 2605

● In this fountain, projector is located above overflow line of receptor to meet American Public Health Association regulations—and its patented Halsey Taylor features further guarantee sanitation.

The Halsey W. Taylor Co. • Warren, O.

Distinctive Two-Stream Projector Above Overflow

The stream always uniform, never too high, or never too low; ever sanitary!

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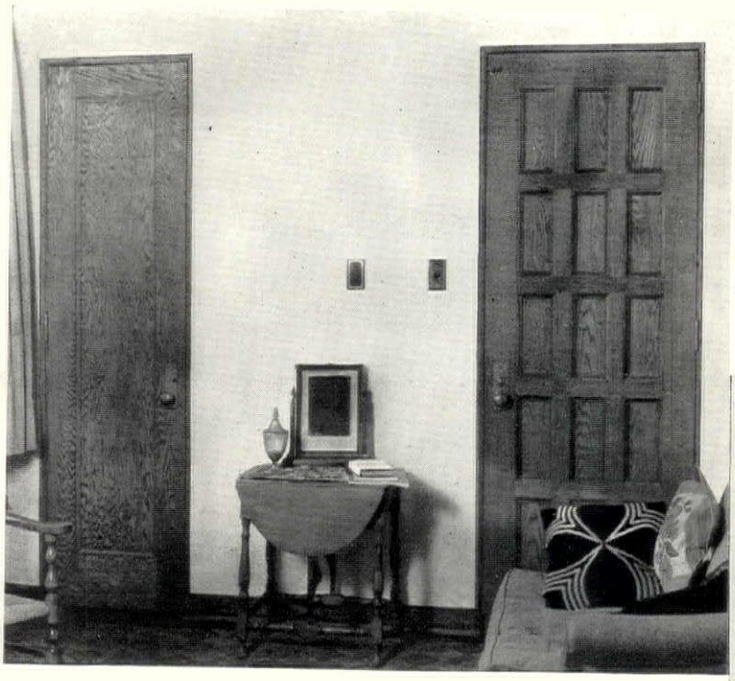
DRINKING FOUNTAINS

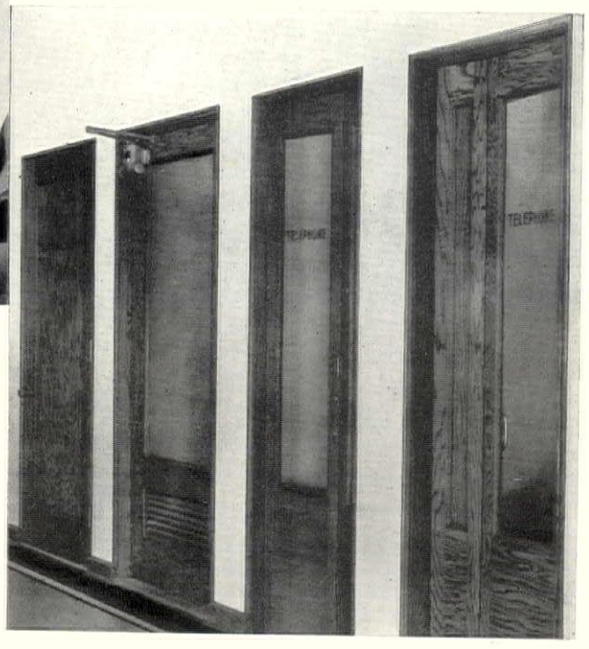
GIRLS' DORMITORY BUILDING, MICHIGAN STATE COLLEGE, EAST LANSING, MICHIGAN, affords excellent examples of the use of Kalman Steel Door Frames. See the two interior views below.

Architects: Malcomson, Higginbotham and Trout, Detroit
Contractors: Reniger Construction Co., Lansing

MODERN DOORWAYS that are *Versatile*



At the left appears a typical room in the Girls' Dormitory Building, Michigan State College. Note the clean-cut, attractive appearance of the Kalman-built doorways. Below is another interior from the same building, showing the economy in wall space and the improved appearance due to the absence in Kalman Door Frame of space-occupying trim and ornament.



KALMAN Steel Door Frames meet both esthetic and practical demands. They are good-looking, clean-cut, and blend perfectly with the atmosphere of their surroundings.

At the same time, Kalman Steel Door Frames are eminently practicable. They have been designed to take stresses which result from door action. There is nothing to warp or twist. A stronger, better wall structure is obtained. The steel frame becomes an integral part of the wall, preventing plaster cracks.

The advantages of Kalman Door Frames are of importance in every type of modern building. Architects will find that the use of Kalman-built doorways simplifies many of their design problems, at the same time adding character to the job in hand. Write for special folder giving more detailed information.

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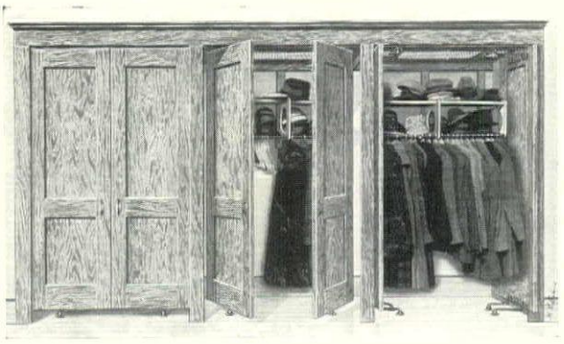
KALMAN STEEL DOOR FRAMES



EVANS
"Vanishing
Door"
WARDROBE
•
Class J

equipped with either "Floor" type (as illustrated) or "Jamb" type hinges. This is Class D wardrobe if made with flush doors.

CLASSROOM WARDROBES

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This type occupies a recess flush with the wall. Plaster back and ends. No partitions, but with mullions between pairs of doors. Wire mesh ceiling. Blackboards if required.

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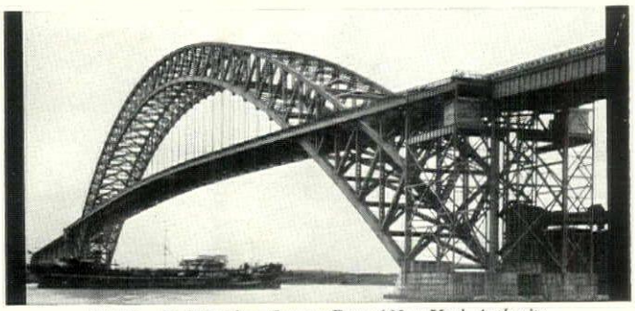

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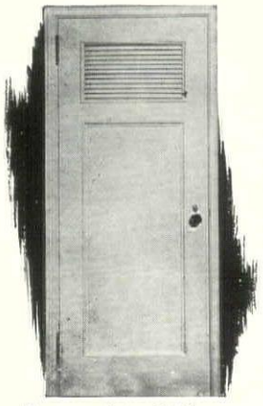

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Lignophol, you see, is more than a finish—it preserves. It penetrates deep into wood fibres and fills cells with life-giving oils. It can't evaporate like floor oil; can't wear off like varnish. It treats the whole floor, not merely the surface.

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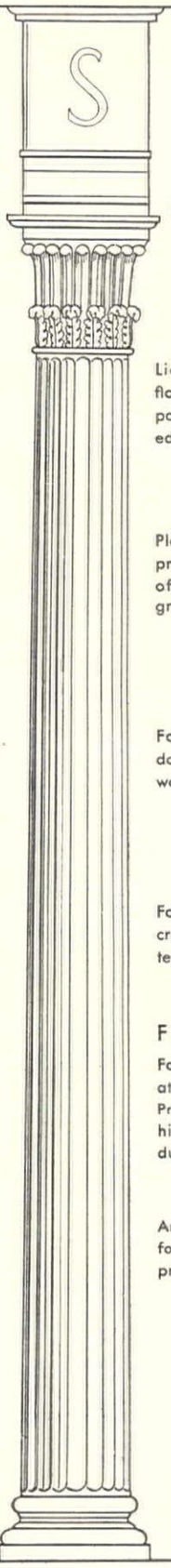
Full specifications will be found in Sweet's Catalogs, page A355. May we send you the Lignophol book?



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The italic lines appearing under the following manufacturers' names give the volume and catalogue page numbers of their catalogues filed in the 1932 Edition of SWEET'S ARCHITECTURAL CATALOGUES

Photo courtesy *The Architectural Forum*

MODERN ARCHITECTURE certainly needs no defense when so convincingly interpreted as in the Racine County Court House at Racine, Wisconsin. Credit for this strikingly beautiful conception is due Holabird & Root, the Architects. Wisconsin Bridge & Iron Company were the Fabricators and the B-W Construction Company, General Contractors.

Here again, C B Sections were selected for the structural framework. Architects and engineers find in these modern sections complete adequacy to their requirements.

CARNEGIE STEEL COMPANY · PITTSBURGH

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186

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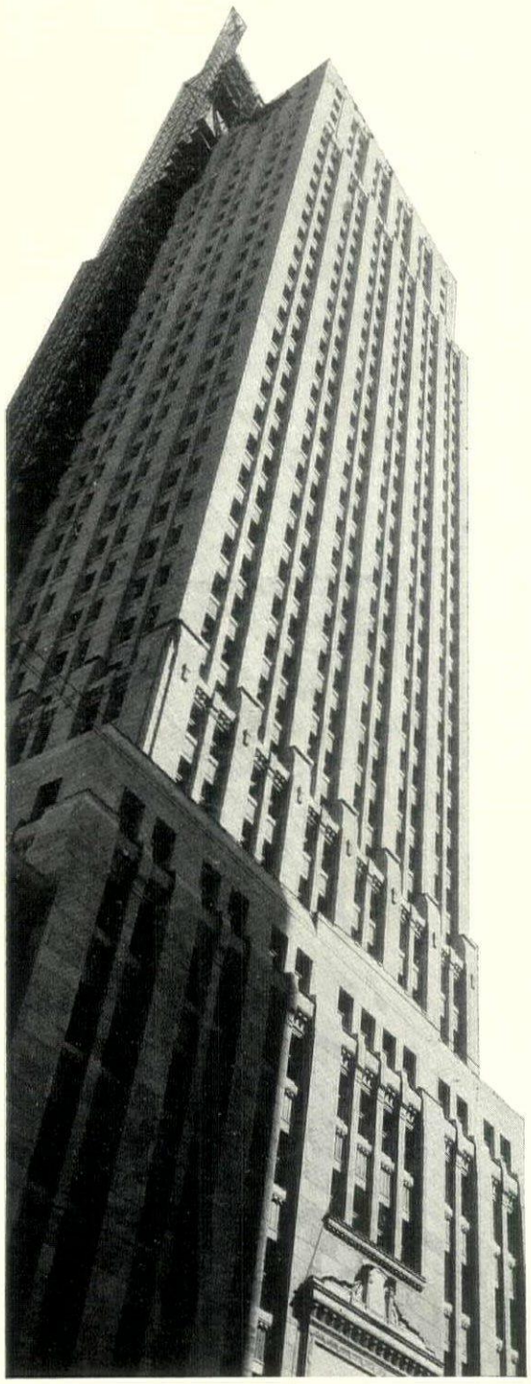

"NO SIR! NO *Twilight Zones* IN THE GULF BUILDING"

SALESMEN showing prospective tenants through the new Gulf Building in Pittsburgh have this selling answer to the question about lighting.

"No Sir! You won't find Twilight Zone* lighting in any space you rent in the Gulf Building.

"Sit down here a minute, while we make this simple lighting test with a phone book. We'll open the book at random. There! Notice how easily you can read any name, address, or number, without effort. If you couldn't—if you had to squint and draw the book closer to your face—we would be in the Twilight Zone—for the telephone book is scientifically designed for perfect legibility under proper light."

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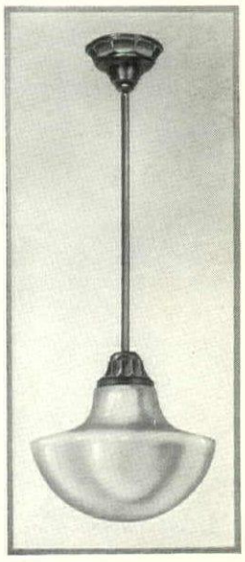

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**That deceptive half-light between obvious darkness and adequate illumination.*

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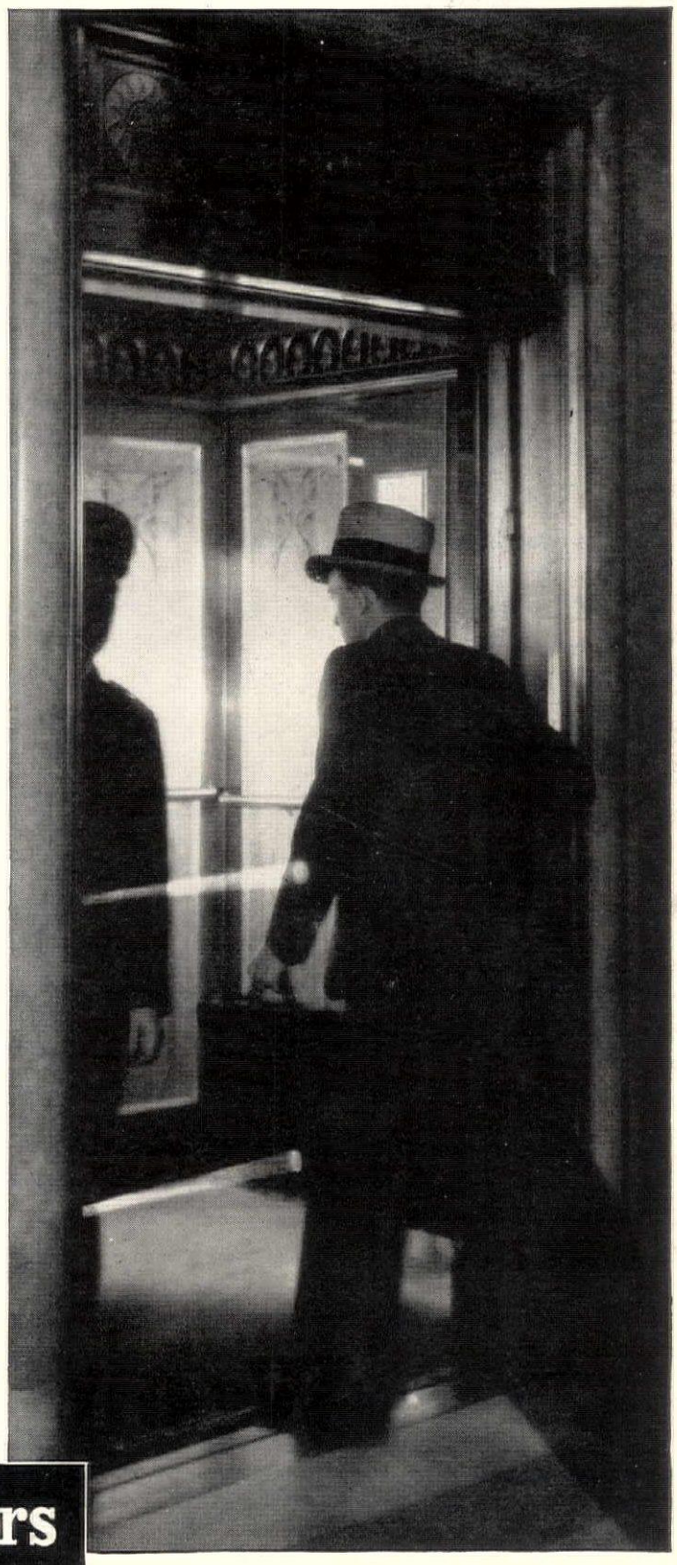

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