THE ARCHITECTURAL RECORD

COUNTRY HOUSE NUMBER

NOV
1932

ERNEST BORN

K-3395
SPEAKMAN Anystream Self-Cleaning Shower Head (Pat. Jan. 2, 1923 and Nov. 3, 1931). Lever operated. For residences, hotels and general installation.

K-3396
SPEAKMAN Anystream Self-Cleaning Shower Head for school and institutional use. ½" I. P. female inlet and lockshield arranged to operate by a key.

K-3397
SPEAKMAN Anystream Self-Cleaning Shower Head for school and institutional use. Head is flushed and plungers set by attendant. Screw-driver control. ½" I. P. female inlet.

NO MATTER WHAT KIND OF SHOWER INSTALLATION • RESIDENCE, CLUB, INSTITUTION, HOSPITAL —

There is a Speakman Anystream Self-Cleaning Shower Head which has been especially designed to give the last word in efficiency, satisfaction and economy.

ANY degree of shower force and volume and any kind of spray, from a full flood shower to a needle bath, is obtained by simply turning the lever handle.

These heads can never stop up for holes have been eliminated—instead, there are graduated slots in six plungers. As these are moved in or out, the size and force of the stream is changed.

Speakman Anystream Self-Cleaning Shower Heads fit all makes and types of showers, and are furnished, when specified, with Speakman Showers.

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K-3399 (Patented)
SPEAKMAN Anystream Self-Cleaning Wall Type Shower Head with ½ inch I. P. female inlet in center of back and arranged to operate by a 5/16 inch hexagon wrench. For hospitals and institutions.

K-3416
SPEAKMAN Anystream Self-Cleaning Unit Control Triple-Cluster Shower Head (patented). For use where a large amount of water is desired, especially in clubs.

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

THE ARCHITECTURAL RECORD

VOL. 72 NO. 5 NOVEMBER, 1932

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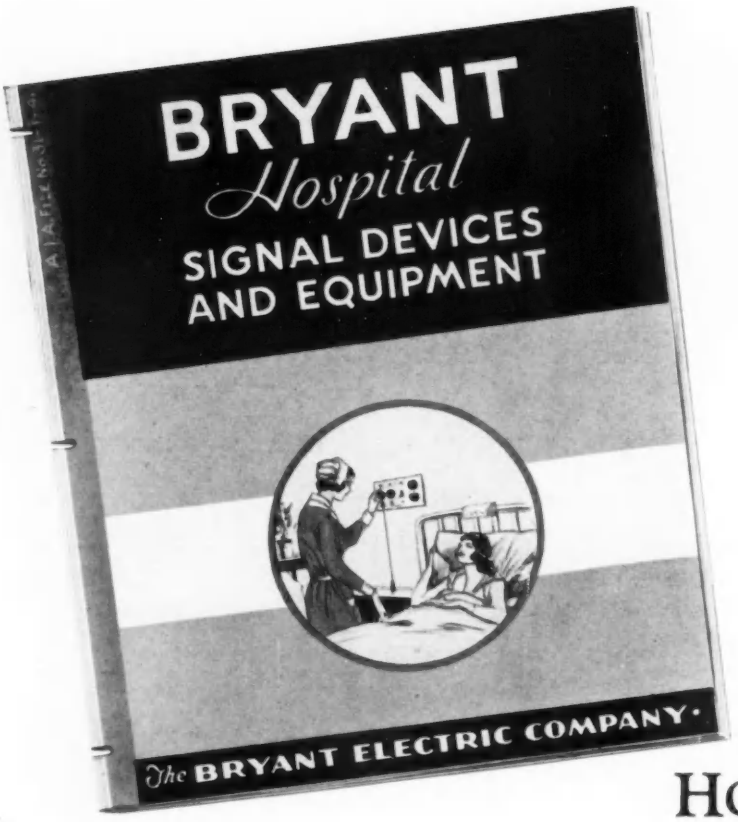

Have You Received Your Copy of the

NEW BRYANT HOSPITAL BULLETIN?

THE New Bryant Hospital Bulletin describes the latest additions and improvements to the Bryant Electric Company's Pull Control Nurses' Calling System.

Outstanding are the new Tamper-Proof Signal Switch, new double face side wall annunciators, glass-front annunciators, doctors' "in-and-out" register, doctors' paging system, and improved elapsed time recorders.

Other developments are a new Bull's Eye Section with readily removable jewel to facilitate lamp replacement, single and duplex radio outlets, the use of tumbler switches for emergency calls, and a complete line of signal stations for diet kitchens and utility rooms.

Every piece of apparatus is illustrated and described. Full information regarding size and types of boxes required, suggested layouts, and typical wiring diagrams is included so that the architect or engineer can design an efficient, dependable, low-cost, high-quality Calling System for any hospital, large or small.

Bulletin CS932 should be in your files. Ask for a copy if you do not have one.

A1132

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The ARCHITECT'S LIBRARY

MODERN ARCHITECTURAL DESIGN. By Howard Robertson. The Architectural Press, London. 217 pp., 106 illus. 15 shillings.

This book discusses the modern approach toward architectural design. It analyzes convincingly the logic of contemporary building from the viewpoints of organization and plan, structure, exterior materials and details, expression, and interior decoration. There are also short chapters on domestic design and on needs in architectural education.

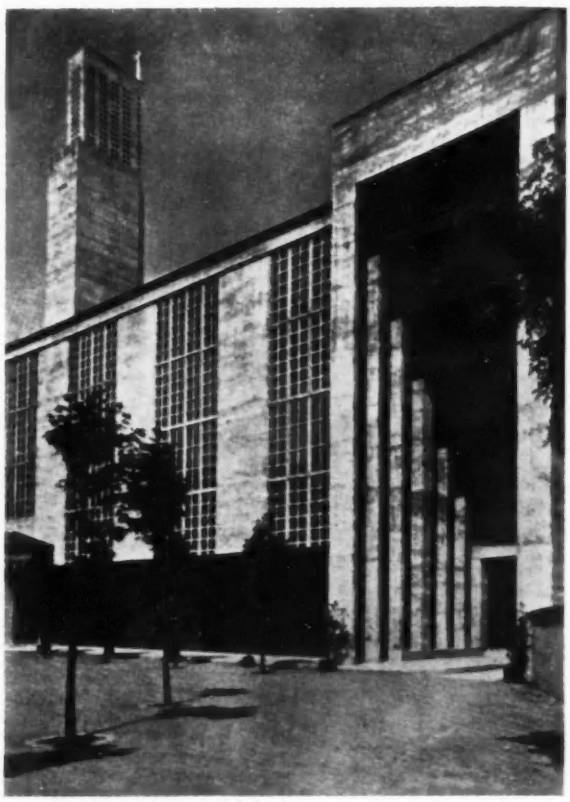
GLI ELEMENTI DELL'ARCHITETTURA FUNZIONALE (The Elements of Functional Architecture). By Alberto Sartoris. Published by Ulrico Hoepli, Milano, Italy. 56 pp., 676 illus.

The brief text of this volume concerns itself with the theory, methods, and materials of functional architecture. The remaining pages, nine-tenths of the book, are photographs, drawings, and plans of contemporary functional architecture in twenty-five countries including Brazil, Persia, and Japan, selected by the architect-author. Germany, Italy and France are given most space in that order. The photographs are excellent and much of the material hitherto unknown in this country.

PLANNING FOR RESIDENTIAL DISTRICTS. The President's Conference on Home Building and Home Ownership, Washington, D. C. 248 pp., 29 illus., diagrams, tables. $1.15 postpaid.

This first volume published by the President's Conference includes the final reports of the Committee on City Planning and Zoning, Subdivision Layout, Utilities for Houses, and Landscape Planting and Planning. The efforts of the various committees as reviewed by this book have been uniformly devoted to recording fundamentals of present good practice and standards in these fields, and to showing by definite cost data the marked economies and improved conditions possible through wider understanding and greater cooperation resulting from public education. They have also indicated needed research.

Waste is basically ignorance. The community and individual may profit and save not only in dollars and cents but in irreplaceable amenities preserved or obtained through heedful provision for these values. These reports, systematized in a form valuable for reference, present bases for future operations.



From Modern Architectural Design

Exterior of the concrete church of St. Antoine at Basle. Karl Moser, architect

BUILDING—HOLLAND. By J. B. van Loghem. Published by N. V. Uitgevers-Maatschappij "Kosmos," Amsterdam, Holland. 64 pp. text; 79 pp. illus. 8,50 Dutch florins.

The text of this book is in Dutch with summaries and captions in German, French, and English. In the introduction the author develops his theory and forecast of modern architecture as a reasonable contribution to the well-being of society by large building concerns with state and town support. Research laboratories would likewise be subsidized and obsolete materials forced off the market. The city would preferably be without residential traffic streets. All buildings would be abundantly lighted by sun, light in construction and appearance, and readily removable, permitting the city to "live."

The author also shows the influence of cubism with its stiff form and pure colors as an aid to the pure conception of space and as the seed of modern functionalism. He sees the end of the static and the beginning of a dynamic world made possible by new materials—stressing lightness, mobility, and alterability.

The illustrations, many of now familiar Dutch buildings (with the exception of some of the work of Le Corbusier), are often new views, plans, and project renderings that describe Holland's present status of progress.

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Floors of this versatile and dignified material become an intrinsic part of the interior . . . a true expression of architects' plans for surface, color, design, durability.

Zenitherm is smooth and solid . . . durable as stone, yet resilient underfoot. Pleasing designs can be worked out in it. It is fire-resistant, vermin-proof, highly insulating, and most convenient to use (the blocks come in 15 sizes, ranging from 5½ inches to 47½ inches, all 5/8 of an inch thick). There are 21 colors, faintly mottled, from which of course it is possible to select a tone that blends with walls or furnishings.

Zenitherm is the *ideal* material for floors as well as walls.

Floors of Zenitherm, in the new executive offices of the American Oil Company, Baltimore, Maryland.

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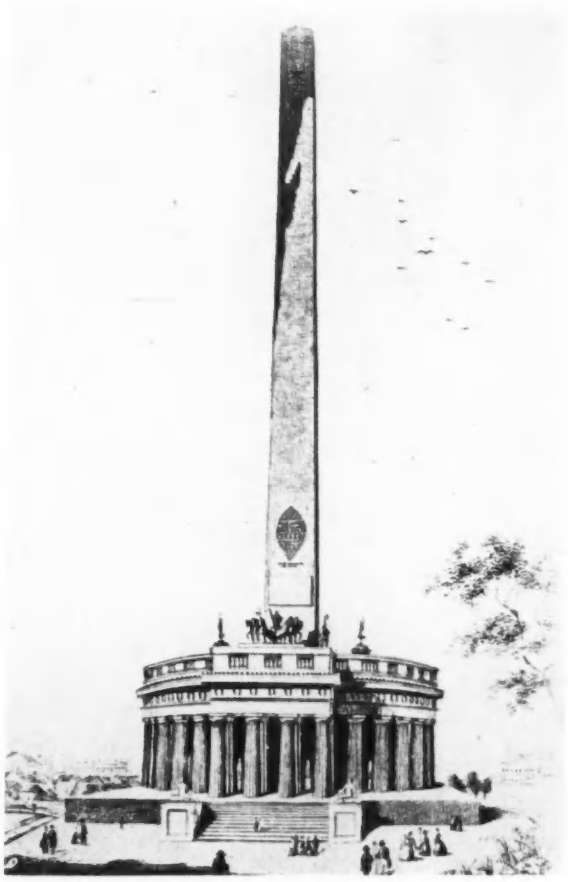


From Planning and Building, Washington

Mills' design for the National Washington Monument. Base of Parthenon, 250 feet in diameter, 100 feet in height; obelisk, 500 feet in height.

PLANNING AND BUILDING THE CITY OF WASHINGTON. By the Washington Society of Engineers. Edited by Frederick Haynes Newell. Published by Ransdell, Inc., Washington, D. C. 252 pp., 95 illus. $2. Autographed, $3.

This contribution of the Washington Society of Engineers to the George Washington Bicentennial presents a complete story of the development of the Capitol from its planning to the present year. This development is set forth in fifteen chapters, each by an authority, dealing with such features as the highway system, federal buildings, drainage, water supply and utilities, scientific institutions and residential advantages. Appendices, including a bibliography, offer additional material.

THE HISTORY OF TASTE. By Frank P. Chambers. Published by The Columbia University Press, New York City. 324 pp., 12 illus. $4.25.

This book establishes a development in aesthetics from the Middle Ages to the present time. The scene is limited to Europe, and more particularly to France.

DER ARCHITEKT OSKAR KAUFMANN. 140 pp. Ill., including 5 color plates. Ernst Pollak Verlag. Berlin.

A second time the Rococo has come forth from Vienna in the work of a German theater architect, Oskar Kaufmann. The present work, which presents the modern Rococo, like the Rococo of the past, as primarily a matter of the arrangement of interiors and their decoration in a manner at once rich, whimsical and light, is not one of those books which look very definitely forward on architecture. Yet these theaters of Oskar Kaufmann, minor as they may appear beside such buildings as the Stuttgart Railroad Station or the *Theatre des Champs Elysees* of Perret, are perhaps the very perfection of the style of the first quarter of the twentieth century in their admirable planning, their graceful eclecticism, and their bright but harmonious color.

The book is somewhat over sumptuous and the photographs are too frequently small. The absence of plans in connection with buildings where plans are of peculiar importance is a very serious lack. Yet on the whole this is one of the most interesting and practical books among the great flood which has come out of Germany on the architecture of the twentieth century, including as it does, in addition to the theaters which have seemed particularly to deserve comment, a considerable amount of domestic work in which the *Drittes Rokoko* appears as entertaining but not very appropriate to modern life.

Henry-Russell Hitchcock, Jr.

BAUEN IN FRANKREICH, EISEN, EISENBETON. By Siegfried Giedion. Klinkhardt and Biermann Verlag, Leipzig, Berlin.

This book attempts to estimate the importance of France for *contemporary* architectural development. It is the more valuable and refreshing to the American reader, since particularly in this country France has exacted the most conservative influence, full of rigid traditional formalism.

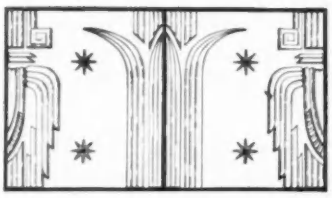
Mr. Giedion follows the work of the French engineering mind in all its exactness and in its two fields of structural achievements: *steel* and *reinforced concrete*. It may be that the United States, England, Germany, Switzerland and Austria have participated to a greater extent in the practical propagation of these materials than can be concluded from Mr. Giedion's deduction. But it can be accepted as a fact that France is fertile in producing progressive and scientifically trained engineers. The *Ecole Polytechnique* in Paris should rightly gain that favorable reputation which the *Academie des Beaux Arts* is loosing increasingly.

Mr. Giedion is secretary of the *Congres International d'Architecture Moderne*, formed in Switzerland in 1928, which has aimed to promote general public interest in contemporary architecture and is represented in all civilized countries.

Richard J. Neutra

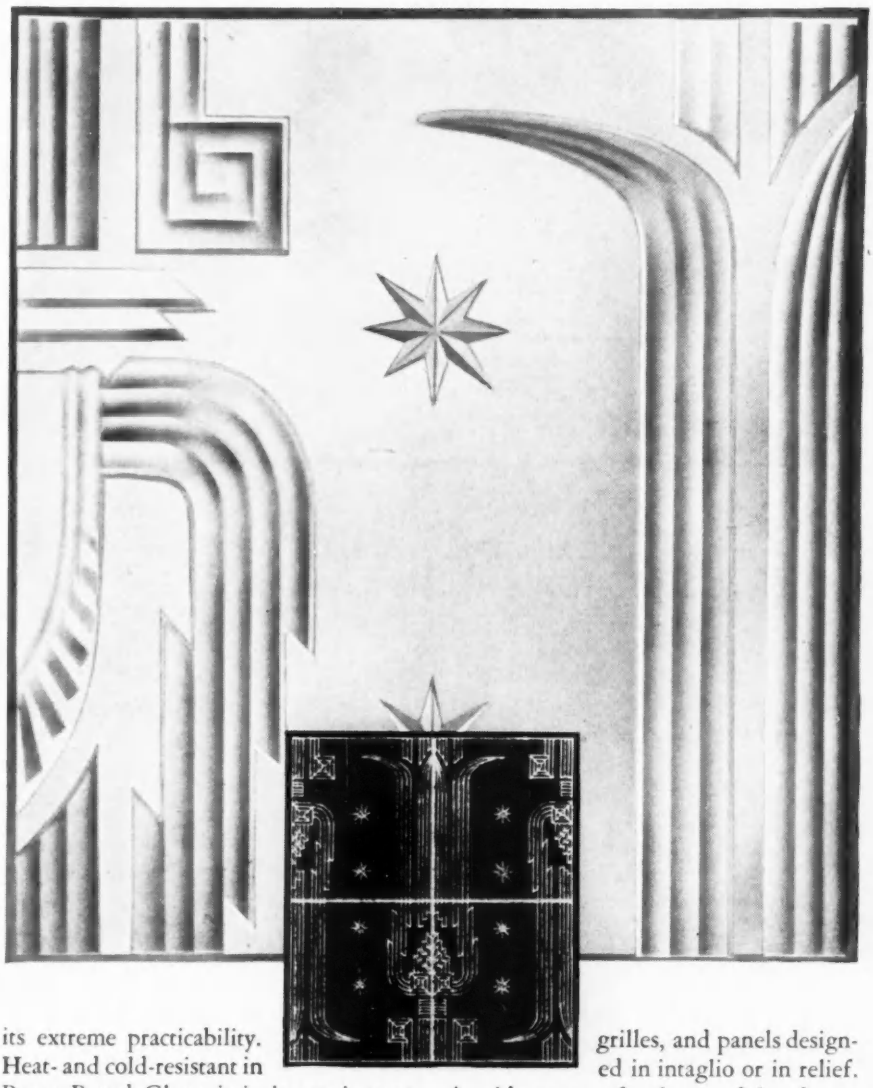
RADIO CITY

chooses this New Architectural Form



Above: Architect's preliminary sketch for Steuben Architectural Glass panels (dustless finish) used as glass panel screen in Foyer No. 9, Theater No. 8, Radio City (Rockefeller Center), N. Y. Photograph at right shows single panel (size 20 1/2" x 23 1/8"; thickness—at edge, 7/16"—of design, 12/16"), while blue print below illustrates assembly of four panels into single unit.

Architects: Reinhard & Hofmeister — Corbett, Harrison & MacMurray — Hood & Fouilhoux.



Architects' drafts show creation of one of several heat-resisting Steuben cast glass installations used in Rockefeller Center.

RADIO CITY'S architects have enhanced the decorative scheme of this noted cultural center with the exquisite shapes, transparent coloring and light play of Steuben Cast Glass. They designed and specified Steuben Architectural Glass for several important installations, one of which is shown on this page.

Leading architects find in this newest type of architectural decoration a facile medium for their own individual expression in both interior and exterior design.

The brilliant beauty of Steuben Architectural Glass is matched only by its extreme practicability. Heat- and cold-resistant in Pyrex Brand Glass, it is impervious to sudden changes in temperature. Extremely durable, it successfully resists the destructive forces of weathering.

Steuben Architectural Glass includes cast, pressed and mould-blown forms, grilles, and panels designed in intaglio or in relief. A wide range of colors and handsome finishes is available.

Our brochure, "Sculptured Architectural Glass by Steuben Furnaces," shows many of the proprietary designs of leading architects. Address Steuben Division of Corning Glass Works, Corning, New York.

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Steuben

ARCHITECTURAL GLASS

CALENDAR OF EXHIBITIONS AND EVENTS

November 14	"Housing and Slum Clearance Technique"—a conference of architects and others interested in this subject to be held in Pittsburgh. For information address Frederick Bigger, 1802 Law and Finance Building, Pittsburgh.
December 1	Closing date of entries for 1932 Small House Architectural Competition conducted by Better Homes in America, 1653 Pennsylvania Avenue, Washington, D. C.
December 5-10	Tenth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York City.
1933	
January	Exposition of modern architecture and city planning in the Department of Agriculture Building, in Algiers.
January 23-25	Annual meeting of the American Society of Heating and Ventilating Engineers, in Cincinnati.
April 23-30	Better Homes week, an educational movement under auspices of Better Homes in America, 1653 Pennsylvania Avenue, Washington, D. C. Demonstrations of new and remodeled houses, lectures, contests, etc., are urged.
October	"A Century of Progress," International Exposition at Chicago.

ANNUAL MEETING OF A. S. H. V. E.

The 39th annual meeting of the American Society of Heating and Ventilating Engineers will be held January 23-25 at the Hotel Gibson, Cincinnati, under the auspices of the recently organized Cincinnati Chapter. President F. B. Rowley, Director of Experimental Engineering Laboratories at the University of Minnesota, will preside.

The program provides for morning and afternoon sessions, beginning on Monday, January 23. A number of research and technical papers, reports of the officers and committees will be given and considerable time will be devoted to discussion of Revision of the Constitution and By-Laws.

The Officers and Council of the Society extend a cordial invitation to all engineers interested in heating, ventilating and air conditioning to join the Society at this meeting. A preliminary program has been prepared and copies may be obtained from the secretary of the Society, A. V. Hutchinson, 51 Madison Avenue, New York City.

EXPOSITION IN ALGERIA

In January, 1933, there is to be an international exposition of modern architecture and city planning in the Department of Agriculture Building of Algiers. Lack of space makes it possible to accept only photographs of plans, elevations and interiors.

An international money order of 75 cents should be sent by each exhibitor to cover entrance fee and return postage. All entries should be sent on or before December 1 to Jean Hastings, 38 rue Charles Jeanmaire, Algiers, Algeria.

ANNOUNCEMENTS

E. S. Draper, Landscape Architect, 1522 East Fourth Street, Charlotte, N. C., announces the opening of a branch office at 726 Jackson Place, Washington, D. C., for the professional practice of landscape architecture.

Howard D. Fiedler, architect, has moved from 89 Franklin Street to 99 State Street, Boston.

The Department of Architecture at Rensselaer Polytechnic Institute, Troy, New York, is undertaking a permanent display of all kinds of building materials and appliances. Samples of materials or products, and literature describing manufacture and use are requested. All communications should be addressed in care of Mr. Wayne F. Koppes of the Department of Architecture.

BETTER HOMES IN AMERICA COMPETITION

Attention is again called to the announcement of the third annual Small House Architectural Competition, which was made last month by Better Homes in America. The first two competitions were described and illustrated in THE ARCHITECTURAL RECORD for April, 1931 and April, 1932. The awards for this third competition will likewise be featured in the April, 1933 issue of THE ARCHITECTURAL RECORD.

The competition closes December 1, 1932.

The awards are to be made to practicing architects for the best design submitted for each of three types of houses—three medals in all:

(a) One-story house—
Storage space but no living accommodations may occur in roof space.

(b) Story-and-a-half house—
Living accommodations partly in a second story which is actually a "half story."

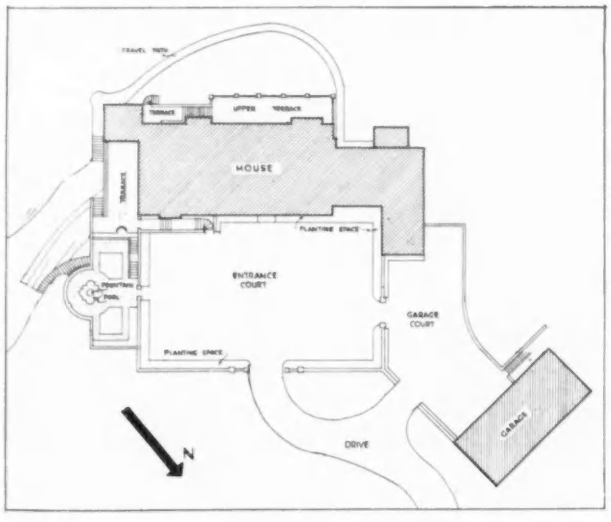
(c) Two-story house.

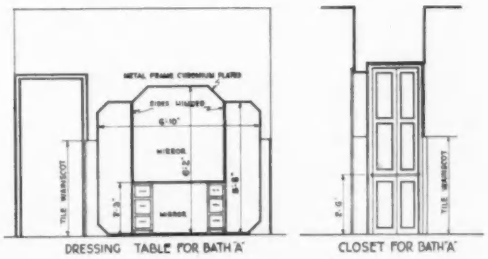
The actual cube of the house, above the level of the first floor, shall not be greater than 24,000 cubic feet except for two-story houses for which a cubage of 26,000 cubic feet is permitted. Open porches estimated at ½ cube.

Documents to be submitted: Floor plans, blueprints or otherwise, showing first floor, and second floor if it has living accommodations. Two elevations. One or two photographs of exterior, preferably two. Two photographs (but not more than two) of interior may be submitted if desired; but the award is to be based upon the design of the structure, not on its furnishings; therefore, interior photographs if submitted should be selected with this in mind.

Exhibits should be shipped addressed to Better Homes in America, c/o the American Institute of Architects, 1741 New York Ave., Washington, D. C., to be received not later than December 1.

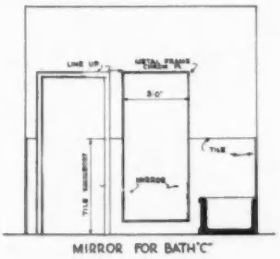
The awards will be made by a jury of five architects appointed by the President of the American Institute of Architects. All awards will be made and announced about January 1, 1933, or as soon thereafter as practicable.





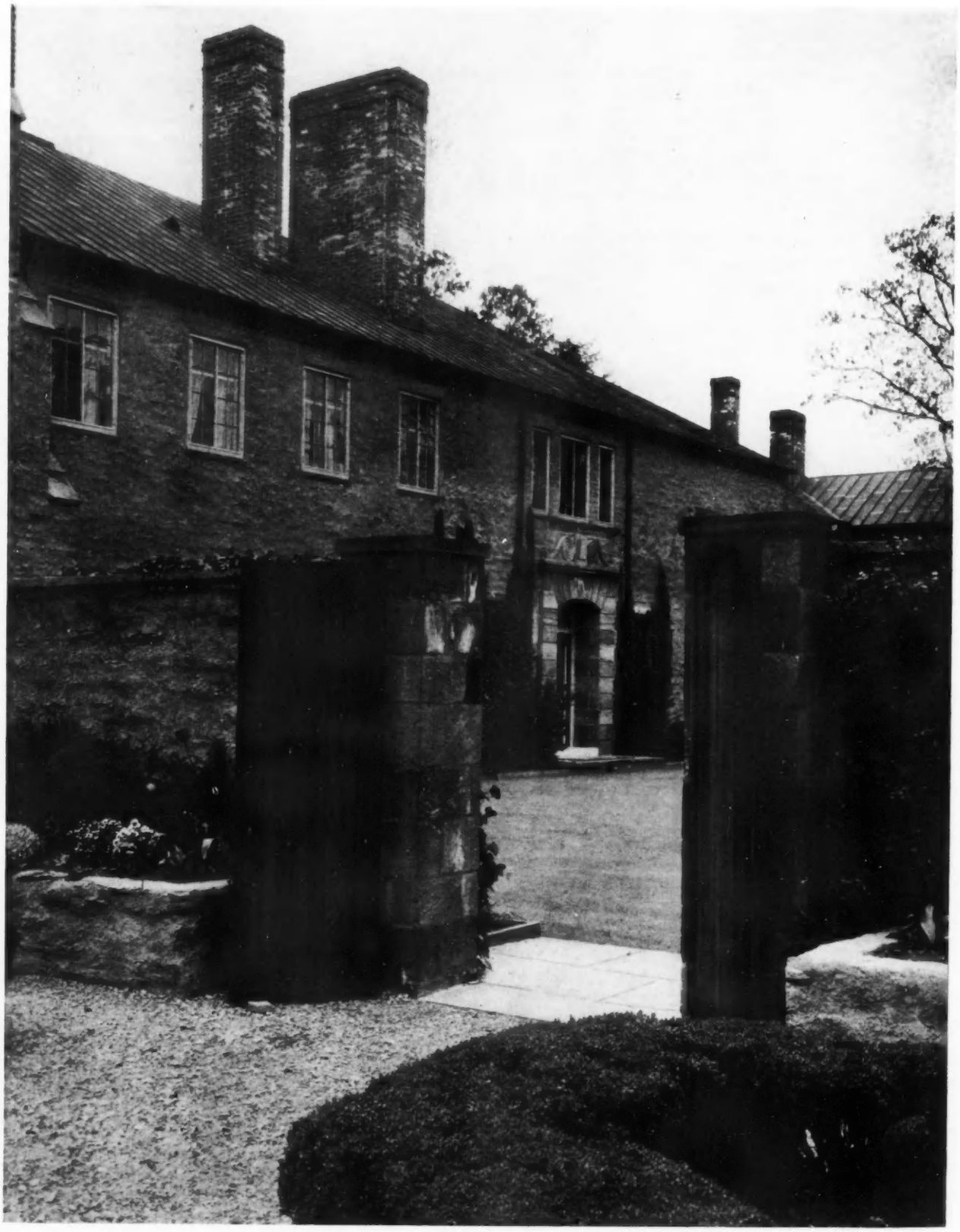
DRESSING TABLE FOR BATH 'A'

CLOSET FOR BATH 'A'



MIRROR FOR BATH 'C'

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS



(Plans on back of this page.)

HOUSE OF FREDERIC ROSENGARTEN AT CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

THE ARCHITECTURAL RECORD NOVEMBER, 1932
VOL. 72—NO. 5

PLANNING THE HOUSE

A CHECKLIST OF REQUIREMENTS

By FREDERIC ARDEN PAWLEY

This outline of household requirements presents information gathered from many sources. For additional specific information the reader is referred to the excellent publications of the President's Conference on Home Building and Home Ownership (Volumes V and IX in particular), to "Modern Architectural Design" by Howard Robertson (published by The Architectural Press, London, 1932), and to previous studies of residential design appearing in The Architectural Record and other architectural magazines.

LIVING SPACES

Orientation:

Living or sitting rooms should have south, east and west, south and west, south and east, or south exposures in order of preference. Dining areas are most cheerful with east or south and east exposures. Recreation or entertainment rooms do not need sun except when used as playrooms or workshops for children. Studies, studios and libraries are usually given north light. Porches, terraces and decks should be sunny for winter use, shaded for summer use. Considerations of privacy, quiet, outlook, trees and desirability of prevailing winds or crossdrafts should also govern the location of these elements.

Tennis courts should not require either player to face the sun. North and south long axis is preferred. Swimming pools, sand piles and gardens need sun, preferably all day.

Living Rooms:

Preferably these rooms should not be entered so as to reach stairs from front door; they should be screened from entrance and from dining area. Provision of a second floor sitting room, which may be a sewing room, is advisable for families with children and is also a good place for additional book shelves. Fireplaces should be out of drafts and away from lines of traffic. In smaller houses the living room often combines social functions with study (for parents and children), library, rest or relaxation corner, and dining space. A play corner with shelves, cupboards or a chest for toys and games may be needed. Bookcases may be used as screens or built-in walls. They may have cupboards in the lower sections. Living spaces in cold climates should be protected from front-door drafts by a vestibule. Changes in level, "dropped" living rooms, are considered pleasant but make vacuum cleaning difficult. For standard dimensions of pianos and furniture, *"Architectural Graphic Standards,"* by Ramsey and Sleeper; published by John Wiley and Sons, is useful.

Dining Areas:

Service access should not be lengthened by breakfast room or porch. Provision should be made for visible shelving of china, glass and silver pieces not in daily use; for storage of linen and table leaves not in use. Dining alcove with fence can be used as play space for young children.

Studies, Studios and Libraries:

Proper lighting, quiet, provision for books, work desk, typewriter, materials or instruments of particular art, filing space, magazine and paper racks or shelves.

Recreation or Entertainment Rooms:

Shelves, cupboards and chests for games, toys, books, and outdoor sport equipment; golf clubs, guns, fishing tackle, rackets, bats, gloves, musical instruments. Space for storing and using game tables: cards, ping pong, billiards, cue rack.

Provision for 16 mm. motion picture projection. Screen (size and distance from projector are interrelated), stand and outlet for projector. Storage of film and records. Utility room for servicing, bench for splicing film, rewinding, repairing.

Phonograph. Radio. Waxed floor for dancing. Piano. Music cabinet for sheet music, rolls records.

Playroom, Boys' Workshop:

Sunlight. Located where noise will not disturb others. Storage for toys, games, tools, and miscellaneous. Work bench. Low voltage outlet for electrical toys. Washable walls. Blackboard. Drafting table (lighting). Dark room and junior chemist laboratory: slate top table, sink, shelves, bunsen burner outlet.

Amenities:

Living spaces should be decorated and furnished in keeping with character of use. Useful unbroken wall space for furniture is as important as window space. Study of site for development of most pleasant outlooks may govern location of windows. Picture moldings are useful, but most attempts to divide walls into panels by vertical moldings and wall bracket lights limit the flexibility of room arrangement. Built-in furniture, while limiting flexibility, conserves space, simplifies cleaning, increases efficiency of plan if well located, and is more economical.

Outdoor Porches, Terraces, Decks:

Covered porches often cut off light from rooms in winter. On ground floor they offer less privacy, more restricted outlook than roof terraces or decks, and usually have insect problems. A dining porch should have direct service access. Enclosing windows give increased usefulness but should not serve to make the porch too like the dining room.

Terraces on ground level are most practicable where there is privacy, a pleasant outlook, reasonable freedom from insects, and where a good flat local stone is available. They simplify care of grounds by providing spaces that will not deteriorate in appearance with use. Decks or terraces make good places for exercising equipment, ping pong tables, deck tennis, sand boxes, slides. A dumbwaiter will make a roof deck serviceable as a summertime dining area provided there is some shade (beach umbrellas, awnings, or permanent roof with screens). There should be storage for umbrellas, games and equipment. Penthouses, hatches, boat companionways with slides provide more security and privacy than outside stairs to roof decks and may afford a skylight for an interior stair. If kitchen and dining room are in upper part of house, service to decks will be most prac-

Ralph Steiner

Casement windows with metal sash are set in angle frame welded to the steel structure. Light controlled by Venetian blinds. Floor laid with cork in 18" x 24" pieces, no borders, and cove base.

HOUSE OF FREDERICK V. FIELD AT NEW HARTFORD, CONNECTICUT
HOWE AND LESCAZE, ARCHITECTS

tical. Terraces may be given garden treatment with boxes, tubs, trellises, changes in level, decorative paving. An example in Paris has hedges in boxes arranged to slide to one side by electric power, thus providing privacy or view as desired. Parapets and railings should be designed so that they cannot be climbed by children. Sunbathing requires protection from wind, privacy from other rooms, grounds, or nearby houses. A cot should be provided. Privacy may be gained by a curtain which may be pulled around the section used. For winter use a small heated room with open window placed for midday sun is advisable. If roofs are to be used much, a lavatory and toilet and telephone should be at hand. An outdoor fireplace may prove a pleasant feature.

Grounds:

Character of site. Use of change in levels. The layout of the site has tended in better examples toward development of gardens and landscaping for the benefit of the living spaces rather than the public. Some sort of wall, fence, hedge or other planting must usually be provided for security and privacy. (See THE ARCHITECTURAL RECORD of November, 1928, for an article on drives, walks, and other landscape details.) Flower boxes, trellises, sundials, vases, birdbaths and birdhouses, pools, changes in level, rock gardens, borders and other disciplined planting not only are pleasant in themselves but also may frame or accent natural features.

Recreational Facilities:

Tennis courts, swimming pools, croquet, clock golf. Outdoor gymnastic apparatus, sand piles, swings and slides may be placed in or near loggias, providing shelter and outdoor exercise in inclement weather.

Faxon

House of Mrs. J. F. Skinner in Pasadena, California. Wallace Neff, architect. Charles Gibbs Adams, landscape architect.

From Das Werk

Roof terrace of a house in Lucerne, Switzerland. Armin Meili, architect.

SLEEPING, DRESSING, BATHROOMS

Orientation:

Bedrooms may have eastern exposure if occupants will not be annoyed by early sun. This exposure is pleasant while dressing. Western exposure is objectionable for children's bedrooms because of late setting summer sun. North is also acceptable for bedrooms.

Sleeping porches should be protected from northern wind, should be open on two sides, and connect with bedroom. Open air sleeping recesses opening off each bedroom have been suggested, along with the use of several glazed doors instead of windows. Also suggested is the use of only one wall for bedroom windows, crossdraft to be assured by gravity or fan ventilator high on opposite wall (unless bedrooms are air conditioned when windows are best kept closed). The interior door may have louvers if there is no other means of effecting a crossdraft for summertime. In winter, bedroom doors may be weatherstripped to prevent cooling the rest of the house.

Noisy locations for bedrooms, on traffic street side of the house, for instance, should be avoided.

Window silencing, air filtering, cooling and warming units are now on the market. The relation of bed to windows to avoid drafts should be studied. Dressing and bathrooms should have eastern exposure. Air conditioning or a good ventilating system permits interior bathrooms (see local code).

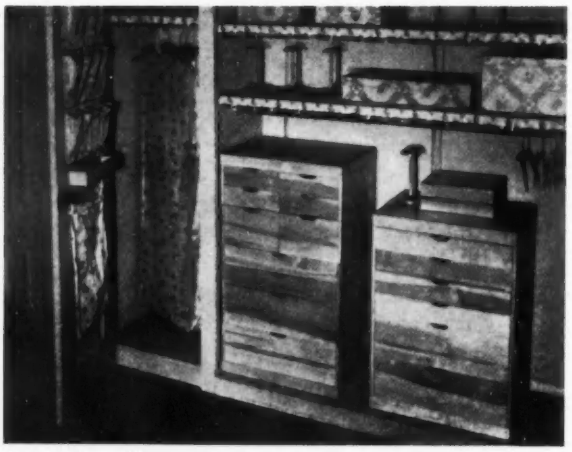
Sleeping Rooms:

One should not have to pass through other bedrooms to reach any bedroom. If dressing room or rooms are possible the bedroom may contain only bed or beds with built-in provision at head for books, clock, telephone, reading light, water carafe and glass. Hooks for dressing gowns. A metal-lined, ventilated cupboard for pillows in daytime suggested by an English writer would not be necessary with air conditioning. European practice places twin beds on separate walls instead of side by side. Assure room for bed-making. There should be general room illumination controlled from door in addition to the reading light. Electric heaters, remotely controlled from bed, in bath and dressing rooms. Doorbeds, swinging through vertical or both horizontal and vertical arc, in other rooms will provide extra sleeping quarters. Closets or wardrobes and built-in drawer space will be needed in bedroom if separate dressing room is not possible.

Dressing Rooms:

Full-length mirror on window wall for best natural lighting. Space for soiled clothes. Wall safe for valuables. A dressing room should be well heated for winter use. It may be a private den or study as well.

The closet space should be organized by a study of the particular function each closet or part is to fulfill and of even the specific possessions it is to hold in order to make everything accessible through classification and grouping of articles. The finish and trim might well correspond with the rest of the room. The lighting should be planned to reach all corners either by placing the fixtures to avoid shelf overhangs, or by use of a flexible arm socket. Space above closet may be used for hand luggage. The dressing room might have a built-in shoe polishing stand with space for brushes. A man's dressing room will need closet with pole for coats and trousers, drawers of the right size and shape for shirts, other linen, small articles, hanger for neckties, row of shelves for shoes, cupboard with doors for hats, perhaps corner for golf bag, rackets, walking sticks. A woman's dressing room requires a vanity dresser with three-leaf mirror (built-in, if desired), rod for skirts and dresses, dustproof shoe cupboard, hat stands, drawers cut into more subdivisions, corner for umbrellas. A child's closet should have lower hooks and shelves. Space for household linens and blankets (mothproof) should have planned differences between storage compartments for single and double beds and cribs. Cedar closets or chests will be needed for out-of-season garments. (See THE ARCHITECTURAL RECORD of March, 1931, pp. 237-243, for an article on closets, giving standard dimensions of various items of clothing, construction of cedar closets, and illustrating unusual types of hangers intended to conserve space.)



R. H. Macy Co.

Standardized sectional closet equipment.

Bathrooms:

Lavatory and toilet on first floor, accessible and inconspicuous. General bathroom should be accessible without going through another room.

Cabinet with mirror in wall over lavatory. Arrangement so that all equipment may be reached for cleaning. Handles easily reached. Tub should be built in to facilitate cleaning. Safety handrail beside tub. Handles on long side. Plug and chain waste. Over rim supply. Mixing faucets for tub and lavatory. Seat tub. Shower in separate compartment or over tub. Shower curtain on rail or glass door. Small soiling surface in toilet. Built-in soiled linen locker. Exhaust grille high on wall over toilet, and door louvered or with ½" clearance above saddle for ventilation if room is interior. Built-in scale.

Servants' Quarters:

Bedrooms, bathrooms, living room, porch. Service dining room. Apartments over garage or cottages for married employees on larger estates.

Services and Equipment:

Vertical circulation: stairs, dumb-waiter, laundry chute (convenient to bedrooms, bath, kitchen and laundry), cellar entrance, ash hoist, delivery receiver (milk, packages). Mail box (door slit, built-in box), elevator for aged or invalid, access to garage from front hall, access to roof.

Glazed Areas*:

Size: Very large windows may be mechanically or electrically operated. Such windows afford an openness to living and sleeping quarters which must be protected in some way from public view and access (terraces or screened porches). Larger openings give more light, cut up wall space less.

*An interesting recent text is "Fenster" by A. G. Schneck. Published by J. Hoffmann, Stuttgart. 1932.

and save time in operating. They may cause overheating in summer and be cold in winter unless there is adequate provision for curtaining and ventilating, or unless they are double-glazed.

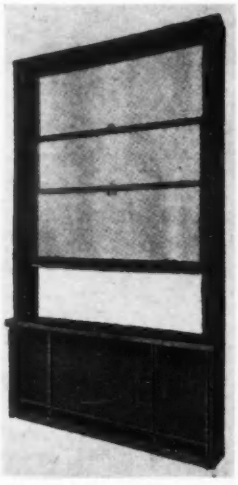
Amount of opening: Complete opening is advisable, especially in bedrooms, unless air conditioning is available or window areas are very large.

Location: Corner windows light all four walls of a room, unify the wall spaces and increase the apparent size of small rooms. The view from corner windows is especially good because of the wider range in the visual angle. Windows high on the wall are sometimes desirable in work or other areas where privacy is wished or where the outlook is not particularly pleasant.

Protective and other features: If natural ventilation must be relied upon, some protection of open windows from rain should be provided, especially in bedrooms. Wide eaves and hoods over individual windows should not be so wide as to cut off winter sun. Some types of casement windows have sections hinged at top which offer sufficient protection of this sort. There are also various types of ventilating *panes* on the market. Some recent models have weatherstripping attached to the window at the factory.

Double-glazing, dehydrated panes and glass blocks decrease heating and cooling expenses, afford sound insulation, and prevent drafts and very cold windows. Such treatment is useful behind window seats and in flower windows. If the interspace is not dehydrated and sealed there may be trouble from condensation.

Ultra-violet ray transmitting glass may be used for residence work though its value is not comparable to direct sunlight. For information on this subject see Bureau of Standards Research Paper No. 113, "Data on Ultra-Violet Solar Radiation and the Solarization of Window Materials"; also an article on *Glass* by K. Lönberg-Holm in the October, 1930, issue of THE ARCHITECTURAL RECORD.



Double-hung window, frame and heating recess manufactured as a single unit. Truscon Steel Co.

Screens can be placed on the outside with those types of windows that do not project when open. They do not have to be moved until the season no longer requires them. Full-height screens permit top and bottom opening of double-hung windows. Inside screens must be easily moved, have hand openings, or otherwise permit window operating devices to be reached from within. They are of three types: hinged, vertically or horizontally

From Die Kunst

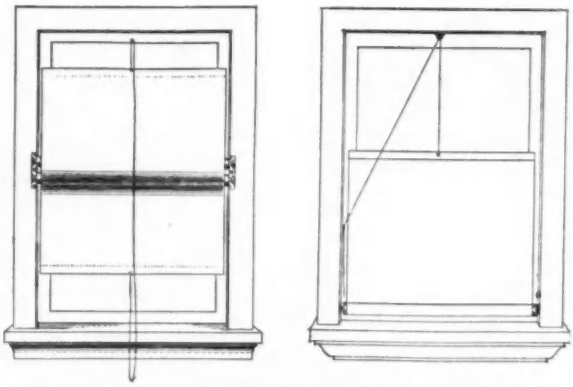
Living room in this house in Stuttgart, Germany, opens directly on garden. Paul Laszlo, architect.

sliding, and rolling. The latter is a permanent installation which may be rolled up when the window is closed. The other types may be easily replaced by storm windows in winter.

Built-in steel rolling shutters placed outside all windows may be desired for houses of brief seasonal occupancy, or hospital or "detention" windows with maximum five inch opening may be used to prevent forced entrance. Outside shutters are chiefly decorative in function now. Varieties of Venetian blinds of heat-reflecting and light-diffusing value have been developed. The main objection to Venetian blinds is their dust-catching nature and the prolonged cleaning process.

The long horizontal expanses of glass in some recent examples of residences have been successfully treated with horizontal draw curtains. About one-third of the horizontal window length should be allowed for curtain fullness, that is, the curtain material should be one and one-third the length of the window. Such curtains may be made an integral part of the design.

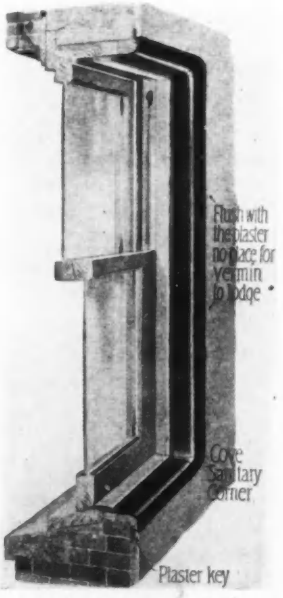
Double-hung: May be made watertight and are easy to operate. Only fifty per cent ventilation, however, and crossbar obstructs vision unless 6 feet high. Can be opened top and bottom for definite air circulation. A type now manufactured has pivots permitting the two sections to be revolved into the room through a vertical arc to a horizontal position for full ventilation or cleaning.



Window shade installations. At left, one shade pulls up and the other down from center piece. At right, shade pulls up from bottom, giving both light and privacy as desired. Columbia Mills, Inc.

Casement: In-opening casements are difficult to make watertight and interfere with curtains. Out-opening casements require special types of screen and unless provided with extension devices are not always easy to operate. If set flush with exterior wall the valves may be set to catch a breeze from any direction, but this reflecting ability may not be so advantageous in noisy locations. The exterior wall mounting gives more interior space and permits a wider sill which may be used for plants. Where such windows are used in accessible places the hinges should have nonremovable pins to discourage forced opening.

French windows or glazed doors provide maximum ventilation but less privacy. They should preferably open on a balcony or terrace. If screened, this porch precludes the necessity of screening the doors. If the terrace is covered the doors may be left open during storms.



A sanitary metal window trim used around entire opening. Knapp Manufacturing Co.

Sliding and sinking windows have been used abroad more than in this country. Horizontally sliding sections are the usual treatment for the long ribbon window. Other models disappear into wall pockets or fold up into hinged sections. Screening may have to be planned specially. Several Central European residences have large electrically operated plate glass windows that sink into sill recesses and, with cantilever construction, give complete openness.

Fixed windows should not be in locations inaccessible for cleaning. They are economical in construction and installation even if double-glazed. Windows should be double-glazed and fixed for best results and economy in air conditioning, since the system will be unbalanced by changes due to open windows. Filtering and other factors of complete air conditioning will assure better air conditions indoors than out. Sound can also be excluded. Curved glass may be used more extensively and easily when the panes are fixed. No screens will be required. No other protection against weather or window intruders is needed. Glass blocks may be used where especially diffused light is wanted.

Skylights may be constructed of panes or of glass blocks. A movable skylight over the stair well may serve to give access to roof as well as light and ventilation to the interior of the house. Ordinary skylights with panes are noisy in windy locations, and unless well-made will leak.

Plant windows should face south. If this is not possible east is preferable to west. Such windows are best in the form of a bay with top lights, but will be reasonably efficient if set flush with outside of wall. Double-glazing protects plants from cold. There should be heat and ventilation (vents top and bottom) and a drain for the bench on which the plants will be placed.

A conservatory with adjacent accessible greenhouse to bring plants up to proper development is the logical expansion of the simple bay windows. (See THE ARCHITECTURAL RECORD for November, 1931, for article on Greenhouses and Conservatories.)

Work Centers:

The lighting, air conditioning, outlook, and arrangement of equipment should be such as best to promote health, safety and comfort, conserve time and strength, and permit the meeting of several responsibilities at once (children, kitchen, laundry). (One development in Frankfurt has windows between kitchen and living rooms.) There should be ample provision for the storing of supplies and equipment of daily and occasional use.

Orientation:

Both kitchen and laundry require sun and cross-draft. Western exposure is not preferred for kitchens. South and east are better for both. Sewing room is best with north light.

Kitchen:

Plan relation to dining area, rest center, play space for children, front entrance, business shelf and telephone, laundry and washroom. The general functions are preparing, cooking and serving of food, sometimes dining, and clearing up after meals. The arrangement should be compact to save steps in the following sequences of action: *Preparing*: refrigerator and food cupboard, cab-

inet and sink, garbage receptacle, stove, serving table. This order should end at door to dining room. *Clearing away*: stack table, sanitary garbage disposal, sink, drainboard, china and glass shelves, silver drawer, utensil space. This work is toward left for right-handed workers. There should be a separate and ample surface for each kind of work: serving, mixing and preparing, stacking soiled dishes, and draining, with toe and knee room beneath equipment at which worker must stand or sit. Shelves and cupboards above and below continuous working surfaces along walls. Windows above and not breaking into these surfaces. Small equipment near place of first use. About 100 square feet of floor space is sufficient for food work in average kitchen; 30 inch free walking space between working areas is minimum. Surfaces and storage must be at proper heights to lessen stooping and reaching; 34 inches is a safe average height of working surfaces.

Consider the relation of the water supply to stove, serving table, food storage and waste disposal.

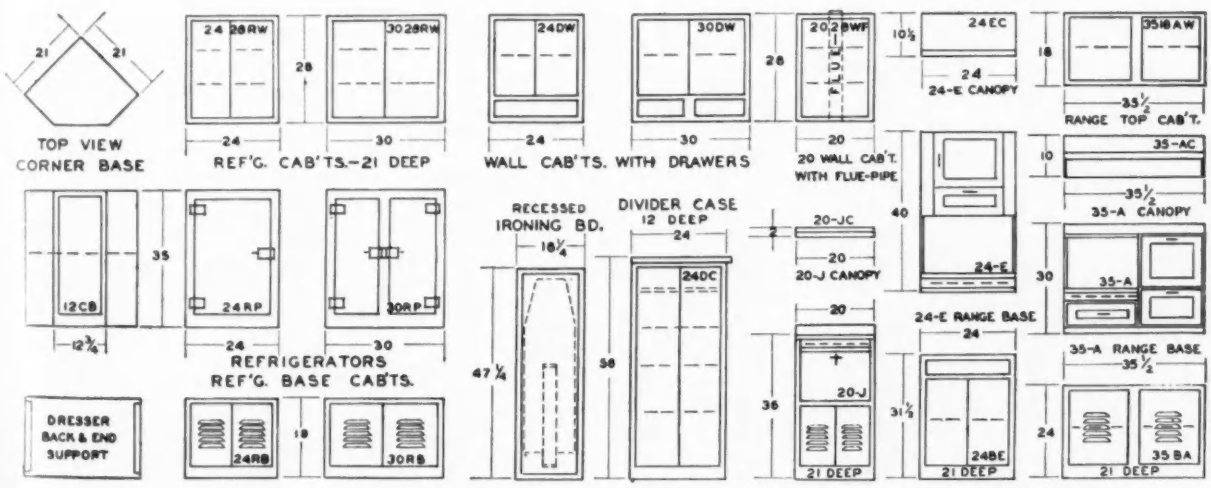
Sink should have drainboard to left and flat surface or drainboard to right at height of top of sink. Kneeroom under. Pop-up waste. Spray dishwashing connection through mix faucet. Swing spout. Usual maximum size sink 22″ x 42″, with 72″ double drainboard. Above sink: shelves for cleaning materials; storage of breakfast foods and drinks, much used utensils; hooks for scraper, paring knife, egg beater within reach. Towel rack. Window preferably at right angles to sink. If on same wall give protection from glare. Artificial light should neither glare nor cast shadow from worker on any work surface. Dish storage within reach from drainboard.

Stove at right angles to sink or directly opposite if kitchen is narrow. Wood, coal, bottled gas and oil stoves require fuel space. In gasless houses oil stoves are often used in summer and coal ranges

American Studio

New "Straitline" Monel metal double drainboard sink. International Nickel Co., Inc.

Standardized "White House" sectional steel cabinet units for kitchen layouts. Janes and Kirtland, Inc.



Dimensional drawings of standard steel units for kitchens. Elgin Stove and Oven Company.

in winter. There may be storage for utensils on, over, or under some types of stove. Smoke pipe connections and other protection are under building code restrictions. A vented hood over range or oven or an exhaust fan will increase comfort and efficiency. Usual size stove 28″ x 43″.

A preparation table or surface (wheeled), which may be serving table, should connect with burner side of stove at same height. Bread box and board on shelf above. Work table for seated worker (height and kneeroom) should be near supplies, refrigerator and stove.

Vegetable storage below drainboard or cabinet at left of sink. Should have outside ventilation controlled to prevent freezing.

Refrigerators with compressors on top may be closely confined but should not be curtained off since increased consumption of electricity will result. Proximity to heat increases operating expense of all types. If compressor is below, 6″ clearance above and at least 1″ behind is necessary for air circulation. There should be an outside ice door and permanent drain under box if ice is used. Usual maximum refrigerator size 24″ x 39″ x 64″ (high).

Storage for fruits, canned goods and vegetables.

Business center should have keyboard with hooks and labels, pencil sharpener, pad, writing space, filed recipes, cook books, clock, telephone extension.

Doors, closets and cupboards not for food services (cleaning equipment: vacuum cleaner, sweeper, brooms, brushes, dust pan, cloths, polishes) should be at far end of kitchen away from traffic.

Laundry:

Sun. Ventilation. Hooks for hat and coat near access to drying yard (drying tree or line). Wicker basket or hamper, utility wagon for yard. Provision for interior drying (rack or line on hooks), drying chamber (gas or electricity) must be connected to a chimney flue, occasionally with exhaust fan.

Tubs or trays. Height of top for 5′ worker, 33 inches; for 5′ 8″ worker, 36 inches above floor. Floor drain. Washing machine. If room must be cleared for other use, a cupboard for wringer, boiler, and soap supplies, may be provided.

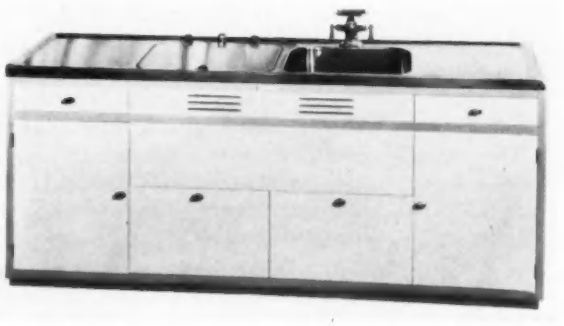
Provision for water heating. Faucet above gas plate or stove for filling boiler.

Built-in ironing board. Outlet. Space for iron, cord, bottle sprinkler. Wringer or centrifugal drier. Ironers.

Supervision of children. Access to front and rear door and telephone.

Basement:

Screened cellar windows and other precautions against pests. Dampproofing. Headroom under pipes and girders. Fuel storage and access for delivery and use. Removal of ashes and trash. Dustproof coal bin.



New General Electric dishwasher. Space below sink and washing compartment is used for extra drawers and cupboards.

Sewing Room:

North light. Latest model sewing machines have many accessories. Electric outlet. Relation to window. Cabinet for supplies: scissors, needles, pins, thread; extra belts, oil, accessories. Drawers for materials. Cutting table. Long mirror. Closet for hanging garments in process. Room for dress form. Built-in ironing board. Out-of-season garment storage. Table loom. Hooked rug frame. Overflow bookshelves. Use as additional sitting space or study.

Miscellaneous Storage:

For trunks, boxes, as well as objects of more frequent use: baby carriages, wagons, bicycles. Should be dry and secure. May have outside entrance only.

Utilities and Fuels:

Water, gas, electricity, telephone, sanitary sewer, storm sewer: locations, connections, meters. Fuels: coal, briquets, coke, charcoal, crude oil, oil distillates; gas, natural, artificial and bottled gas, electricity; wood. Storage for oil, coal and wood, etc. Dumb-waiter service for fireplace and kitchen.

Is the oil burner company service satisfactory? Is the electricity reliable for oil burner, or is an emergency plant for oil burner and general lighting advisable? Is the water pressure good, or is a gravity tank, or underground pressure tank with open tank in attic space, desirable?

Plumbing and Sanitation:

Kind of pipe and sizes for various uses. Galvanized steel, galvanized wrought iron. Muntz metal, yellow brass, red brass, Admiralty metal, and copper are used for interior water piping. See code. Services: bathrooms, first-floor lavatory and toilet, kitchen sink, laundry, hot water supply, sanitary and storm sewer, scuppers, interior downspouts, gutters, conductors, dry wells. Septic tanks. Well and pump. Garden hose faucets. Buried lawn sprinkler, outlets 10 feet apart. Lawn and garden sprinkler pipes should drain to sprinkler valves or main. Drain pipes should be pro

vided with traps for cleaning. Toilet and other traps should be easily drained when house is to be closed. Soil stacks and vents may be put through penthouse or chimney or made 6 feet high on terraces or roofs to be used as living spaces. If a soil pipe must go through a wooden construction member, it should be centered on member and extreme cut fibers reinforced.

Hot water supply. Separate systems: automatic gas or oil heaters. Instantaneous heaters without storage tanks. Unit electric heater connected to cold water supply at basin or tub (requires special wiring and permission of local service). Combined with heating: water jacket on furnace, coil in firebox or indirect coil. Extra load on boiler. Automatic all-year system: oil, gas, mechanically-stoked coal for steam or vapor heat; indirect coil with aquastat in boiler. Hot water heat: motor valve on each riser controlled by house thermostat. Indirect coil and aquastat.

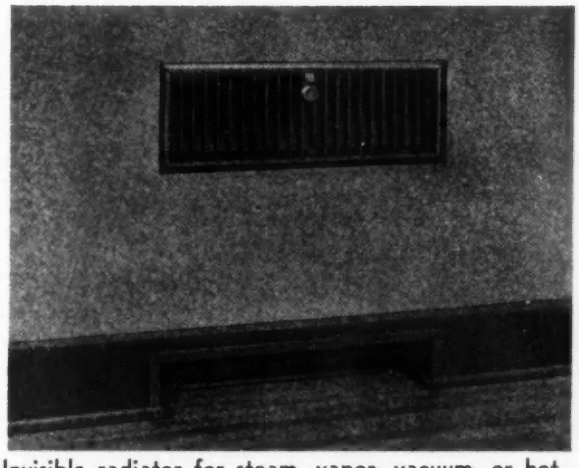
Heating and Air Conditioning:

Types of heating systems. Warm-air furnace with centralized duct system has the advantages of simply effected humidification or dehumidification, filtering, and circulation of cooled air. No radiators are necessary, the system cannot freeze, and there is no need of draining for a period of non-use. Heating and cooling are quickly accomplished, and there is good air circulation and motion throughout the house. This type, unless specially insulated, is noisy when oil burner and fan are used, and dangerous if the combustion gases leak into the system. A gravity system is possible for a small house. Where fans are necessary there should be by-pass shutters for use when fans are not working. Forced air gives more uniform heating, needs smaller ducts, and does not require basement location. When open metal joist construction is used the first-floor ceiling thickness may be used for ducts, also forming a large area low temperature radiating surface. Since usual loose building construction results in many air changes by infiltration, recirculation of the house air is not disagreeable and decreases operating expenses. Cold air returns must be ample. The garage, kitchen, laundry and bathrooms should have separate exhaust systems. Bedrooms may have shuttered exhaust grilles to prevent cooling.

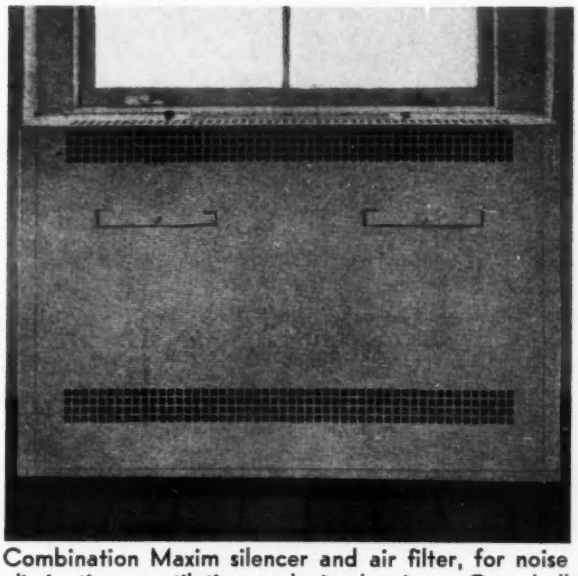
A centralized duct system with air heated by radiators instead of furnace gives automatic hot water supply, permits no leak of combustion gases into system and no noise from oil burner to reach rooms by ducts. Direct radiators may be used to supplement duct system where needed. This type is more expensive.

The ordinary radiator system, direct or semi-indirect, takes up floor space. The radiators may be concealed but there is inadequate humidifying facility with this type. In bathrooms a special

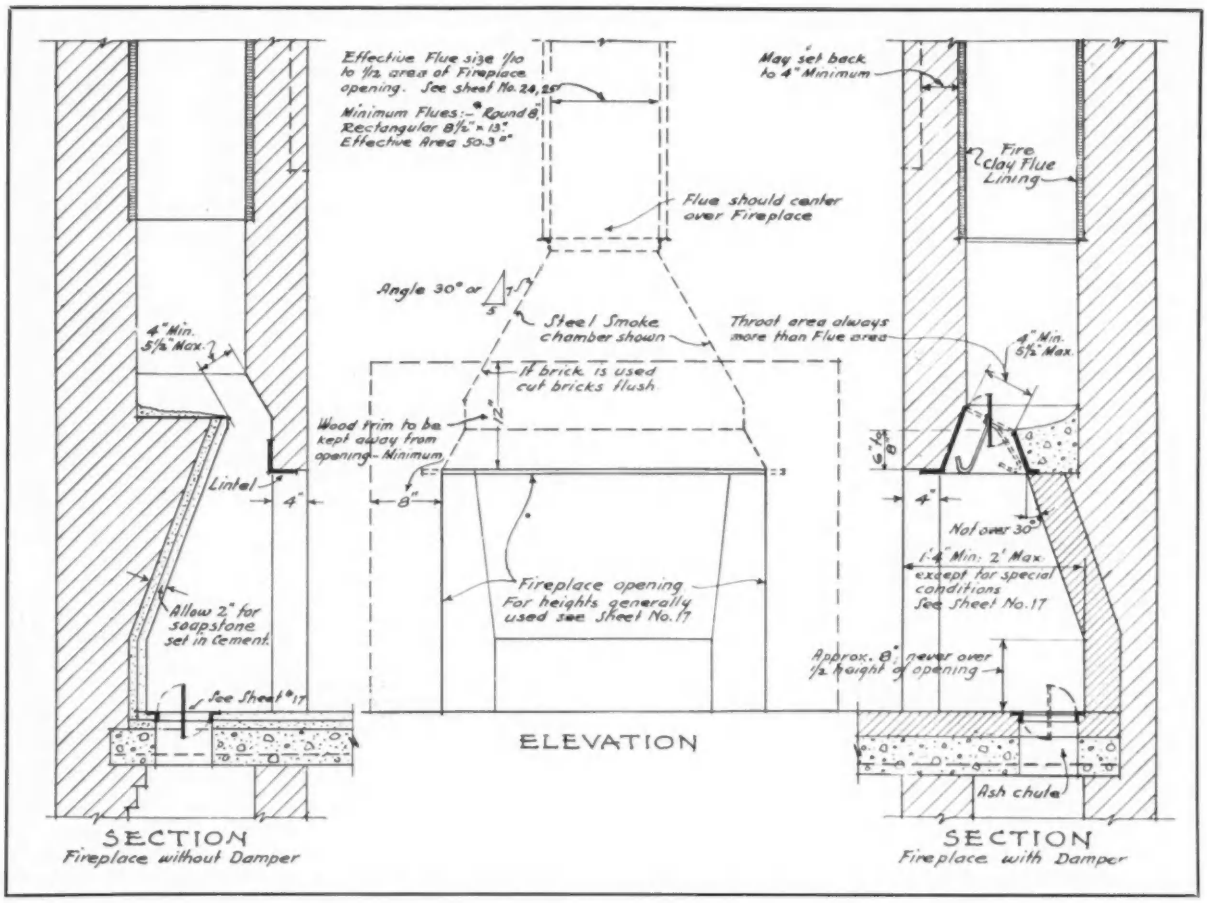
"Silentaire" sound excluder for double-hung windows. Truscon Steel Company.



Invisible radiator for steam, vapor, vacuum, or hot-water heating systems. Herman Nelson Heating and Ventilating Equipment Co.



Combination Maxim silencer and air filter, for noise elimination, ventilation and air cleaning. Campbell Metal Window Corporation.



Working Details of Fireplace Construction
From "Architectural Graphic Standards," by Ramsey and Sleeper

small radiator hung on wall under lavatory is preferable to other exposed radiation.

Concealed, non-ferrous convector heaters give good uniformity of heat levels (from floor to ceiling), require small space, and are quick acting.

A steam one-pipe system is hard to control, least expensive, and gives automatic hot water supply.

Vapor requires larger radiators, is more easily controlled, and also supplies hot water automatically.

Hot water requires still larger radiators but results in more uniform temperatures in rooms. It is slow in action, both heating and cooling off. It may have an auxiliary pump to speed the action and then it does not require basement location.

Panel heating systems use a concealed, welded coil in special plaster ceiling which heats room by radiation. There is no heating by convection. This method gives comfort at temperatures as low as 62°. Moving persons create an air current which decreases monotony of merely radiant heat. This type is also being developed through the use of electrically radiant elements.

Unit heaters and coolers are practically limited to garages, shops, and sport buildings in domestic work. They might be used in basement rooms to assist overhead heating, and for air motion.

Controls: Examination of the problems of control has developed the reasonable thesis that slightly variable conditions are beneficial. A thermostat should be located away from places exposed to abnormal cold or heat (chimney, front hall). Clock thermostats will make lower night temperatures possible. The heating system may permit the use of several thermostat stations to offer conditions more suitable for differing room uses.

Various factors of air conditioning: Humidification is important for health, comfort, economy (because of lower temperatures required), better conditions for furntiure, textiles, books, and results in less dust. Condensation must be taken care of by interior gutters, double-glazing, dehydrated double panes or heated glass. Sleeping rooms, kitchens and laundries do not need humidification particularly, but are important rooms to dehumidify in summer. Only a method using automatic control and filling should be used. Several methods are in use. Furnace pans are not always desirable. Water sprays, in which the water must be heated or sprayed over hot radiators, are usually noisy. The drip method, use of separate units, or steam outlets in rooms are other types.

Exhaust fans assist air movement and remove odors from work areas. If directly connected with

outside, they should have automatic weatherproof louvers to prevent backdrafts when stopped.

For the purposes of air purity the supply may be forced through dry, viscous or oil filters (manual or automatic cleaning), pollen removers or a water spray.

Air may be cooled either by a central system or by units. Double-glazing and other insulation will increase cooling or heating efficiency. The centralized type may use a naturally or artificially cooled water spray, possibly employing a mechanical refrigerating unit with large fins placed in the duct. The cabinet types use ice, or mechanical refrigeration with compressor placed elsewhere, and a local fan. Cold water may be circulated in radiators and made effective with local fans.

Dehumidification may be effected by means of a water spray, or by the silica-gel bed systems.

Fireplaces and Chimneys:

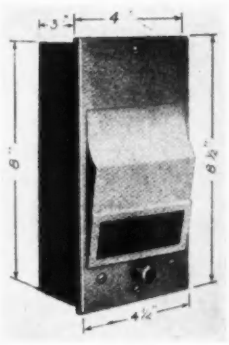
See latest "Chimney Ordinance" of the National Board of Fire Underwriters. Residential oil burning requires uniform draft of low intensity, and two-thirds flue area needed by coal. Allowance for changing back to coal should be made. Chimneys should extend 2 feet above a ridge or 3 feet above an unused flat roof. Flue lining should extend to top. There must be special protection of upper portions of chimney used for gas furnace since the condensate of products of combustion formed in these cooler parts is very corrosive and destructive of mortar. There should be separate flues for boiler, laundry stove, hot water heater and fireplaces. The chimney cap should be incombustible and weatherproof. Four inches is the minimum thickness of brick or reinforced-concrete walls of smoke flues, not including the lining. There should be separate smoke flues for each story with minimum area of 64 square inches. Effective area of flue is 90 per cent of total area due to spiral action of smoke. Flue areas must be increased for high altitudes (37 per cent more at 8000 feet above sea level). The effective flue area should equal one-tenth of fireplace opening into room. There should be a damper with lever control and proper throat and shelf to prevent down drafts. The hearth supporting construction is preferably 20 inches minimum width with length 2 feet more than opening. All chimneys should be smoke tested for tightness and noninterconnection of flues. An ash trap and cleanout door in basement simplifies cleaning. A wire screen over the top of the incinerator flue will prevent lighted scraps from igniting roofs or trees.

Never use house heater for incineration. Incinerator should have a separate flue and may be gas-fired. If in basement, a chute with hopper door in kitchen will simplify use. There should be an air passage through or around the waste chamber.

Fireplaces and chimneys may be supported on the floor slab where interior columns are used. They then may be at any place in the room and thus be kept out of traffic and away from drafts. The heating efficiency of such fireplaces and chimneys is obviously increased by independence of the structure and interior location.

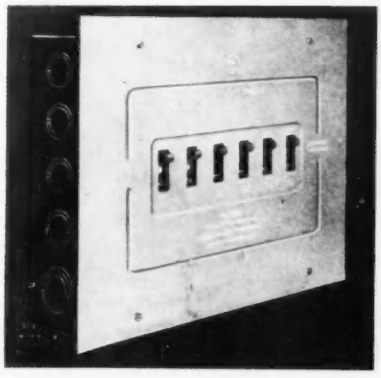
Electrical Work:

A.c. or d.c. Meter location, panel board, or circuit breaker (no fuses). Wiring system: knob and tube, rigid conduit, armored cable, sheathed nonmetallic cable, or threadless metallic tubing. Uses: lighting, power, telephone and signals, and radio. House telephones. Tube lighting. Burglar floodlighting switched from house to illuminate grounds to frighten away or assist the apprehension of intruders. Master switch at bedside to light house completely. House and garage switches for lights needed in passage either way. Dim louvered lights in baseboard and beside stair risers switched from master bedroom (for late trips to front door, heating plant). Low voltage outlets for electrical toys, annunciators. Convenience outlets: kitchen, bathroom, dining table,



"Glo-Ray" night light for base of wall installation. Curtis Lighting Co.

Stromberg-Carlson metal locker radio for concealed installation. Remotely controlled by "Telektor." Speaker outlets where desired.

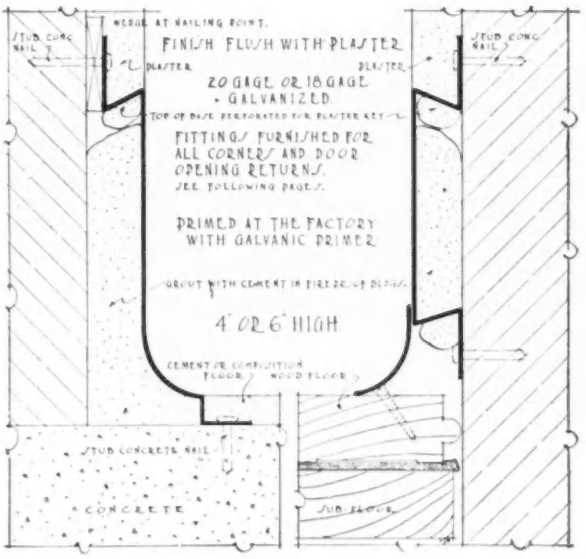


Westinghouse "Nofuze" load center—an automatic circuit breaker. Wiring is protected but, unlike a blown fuse, there is no delay in restoring service.

laundry, bedroom. Electric clocks, sewing machines, washing machines, oil burner. Remote control radio, built-in loudspeakers. Keyed switch on post beside driveway for garage door control. Door, dining room, bedroom, service bells or buzzers, annunciator, battery or transformer. Radio aerial and ground. Lightning rod system (see THE ARCHITECTURAL RECORD for November, 1929, page 491). Control of bedroom, bathroom, dressing room quick heaters from bed. Window closing device. Special wiring for electric range, water heaters, etc. Supplementary circuits (one for each five in use).

Access and Other Services:

Drive, service and drying yard, garage, turnaround. Other service buildings. See THE ARCHITECTURAL RECORD for November, 1928; November, 1931; and January, 1931 (garages).



Metal cove base for interior plaster walls. Knapp Brothers Manufacturing Company.

CONSTRUCTION

The elements of residential or any other construction are foundations, wall sections, treatment of openings (see "Glazed Areas"), supporting construction, connection of members, floors, roofs, exterior and interior materials, and protective treatment. Research in all these directions is progressing rapidly today in anticipation of the economies to be realized by the analysis of each member and process with quantity prefabrication of structural units and simplification of assembly and erection as the goal.

Many residences have been built without basement and with the structure supported on simple footings of adequate bearing area extending below frost and a slab (4 inches with wire mesh) on cinder fill (6 inches). Floors, to mention a few types, are of plastic compounds, rigid insulation, with plywood finish; or linoleum plus insulation board with duct for air conditioning framed by open metal joists; or finish plus fill plus interlocking steel channels plus fireproof suspended ceiling; or other light steel floor with modern finish. Where the space is not wanted for ducts a deck floor construction may be made strong and tight enough to save cubage.

Experimental wall sections have not yet been produced in large enough quantities to secure the advantages of mass pre-fabrication. A promising type consists of two thin sheets of light noncorrodible metal separated by not more than 2 inches of incombustible, noninfestible insulating material. Aluminum has been used but there is a possibility of some magnesium alloy also being used. One suggested type is formed of steel stampings plus 3 inches of light reinforced aerocrete plus fabric plus paint over the whole unit. Interior partitions may be only an inch in thickness, formed of some wall board with composition or thin linoleum surfaces. The use of movable partitions may lead to some system of floor and ceiling grooving or other arrangement for rapid alteration.

Some of these wall units are intended to be rigid enough in themselves, with flanges for connecting at the sides, to be supporting members. Others depend on light steel either in column or cantilever construction from a core of reinforced concrete central to the plan of the structure, perhaps containing the stair well.

There is a need for some secure, immovable, and easily set connection for holding the various structural units together. One scheme uses a wedge bolt, a type of shackle pin that may be jammed tight with a thin metal wedge piercing it. There are also new kinds of fast bolts combining the advantages of a rivet with the ease of threaded connection. Covering strips and corners for baseboards and coves are necessary for tight construction. Doors and windows already may be had from the factory complete with hardware and weather stripping.

Protective treatment must include insulation against, and other regard for, the destructive and disagreeable elements of heat, cold, water, wind, snow, ice, fire, sound and vibration. These forces may put additional loads on structure as well as seek to penetrate it. Generally the insulation against one takes care of others as well. "Bats" of nonrigid insulating material thus keep out or hold in heat and cold, may be fireproof, and deaden or absorb sound and vibration. Very tough building papers and plastics hold out the weather. Excess water must be conducted away from the building and foundations.

Before and after views of the remodeled house of Thomas Raeburn White at Penllyn, Pennsylvania. Porch columns of cast concrete with carved oak lintels. Edwards and Hoffman, architects.

REMODELING THE HOUSE

To enlarge its usefulness, modernize its equipment and increase its value as an investment.

Planning

Re-orient rooms for more desirable exposure and increased sunlight.

Combine two rooms as one.

Study plan for improved or added entrances.

Make roof accessible for outdoor living porch.

Combine house and garage.

Enlarge existing rooms.

Add new rooms.

Convert existing rooms to new uses.

Arrange space for outdoor dining in sun.

Repairs and Additions

Replace gutters, downspouts and flashing.

Reface exterior of house by applying brick facing, shingles, clapboards, stucco.

Scrape and refinish floors.

Add fireplace to living room or library.

Tile bathrooms.

Linoleum in kitchen and other rooms.

Build in a small safety box for household silver.

Create game room or children's room in basement.

Build toy cabinet in playroom.

Enlarge windows in basement by use of standard steel or wood sash.

Correct defective and smoky fireplaces.

Clean chimney flues.

Repair brickwork and stone coping.

Patch stucco.

Strengthen house structure by use of Lally columns.

Check all windows to see that they work properly.

Repair porch columns, railing, balusters.

Remove antiquated exterior woodwork.

Concrete basement floor.

Weatherstrip doors and windows.

Add disappearing stairway to attic to obtain new storage space.

Insulate inner face of roof.

Repair interior plastered walls.

Plaster basement walls and ceiling on metal lath for fire protection.

Provide at least one fire extinguisher.

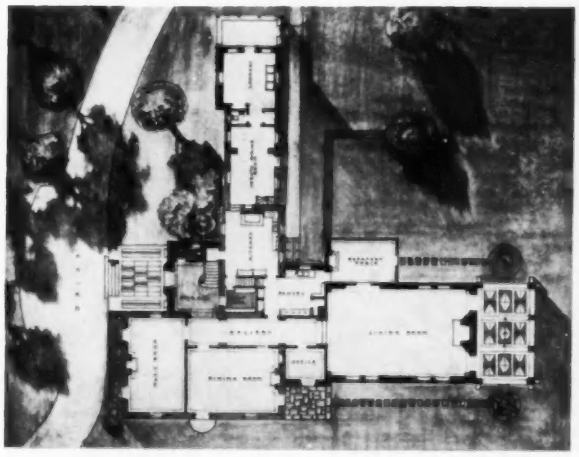
Add sleeping porch accessible from second floor.

Improve livability of flat-roofed porch with awnings and canvas screens.

Replace glass in sun room with ultra-violet glass.

Replace old kitchen cabinets with new equipment.

Replace old with new gas range.



Plan showing new additions to remodeled house of Thomas Raeburn White at Penllyn, Pennsylvania. Edwards and Hoffman, architects.

Build in weighing scale in bathroom.
Provide door-bed to library or extra room.
Add built-in ironing board.
Additional hangers and fixtures to closets.
Provide special linen closet.

Electrical Equipment

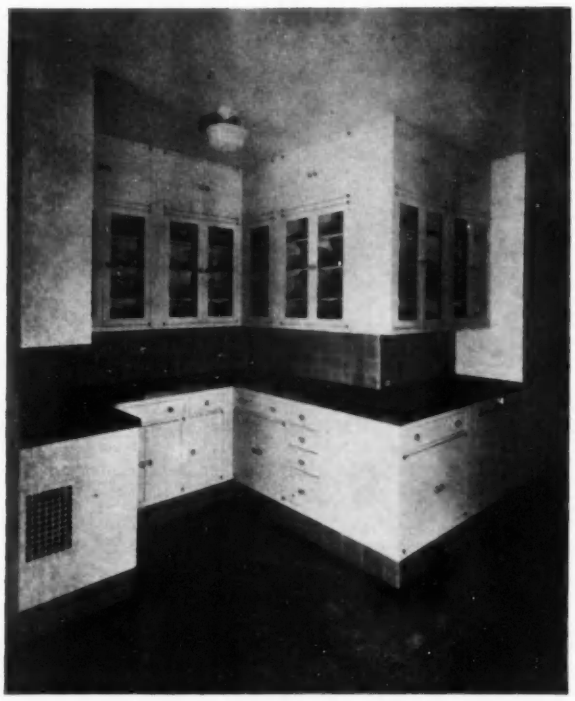
Check wiring and add new outlets.
Provide special power line.
Add electric dishwasher.
Conceal radio wires including antennae.
Add safety switch boxes.
New plates for receptacles.
Provide outlet in playroom and living room for motion picture camera.
Install built-in electric bathroom heater.
Install electric plate warmer in kitchen.
Add lights to outside entrances.
Replace old refrigerator with electric refrigerator.
Install conduits for new electric connections.

Plumbing

Shut-off valves in bathrooms, kitchen and basement.
New built-in bath tubs.
Install new shower.
Chromium-plate all nickel fixtures or replace with new.
New lavatories.
New toilet seats.
Automatic hot-water tank.
Add new laundry equipment.
New sink.
Vent kitchen.
Install water softener.

Heating

Convert coal-burning boiler to oil or gas-burning equipment.
Add asbestos covering to heat pipes.
Add humidity control to ventilation.
Cover heater.
Fire-protect ceiling above furnace.
Replace smoke-pipe.
Renew valves as required.
Provide thermostatic control for heat.
Add heat to garage.



A remodeled kitchen equipped with "White House" sectional steel cabinets. Use of standard size units allows closets to be fitted around corners and existing ceiling beams. Janes and Kirtland, Inc.

Painting and Paper Hanging

Repaint exterior of house or trim.
Repaint and paper interior walls.
Paint radiators and exposed heating pipes.
Finish floors.

Landscaping

Plant large tree to cast shadow over outdoor terrace.
Plant shrubbery and garden.
Resurface driveway and add curbing.
Recondition garden walks.
Install trellis work.
Provide drying yard.

PORTFOLIO OF COUNTRY HOUSES

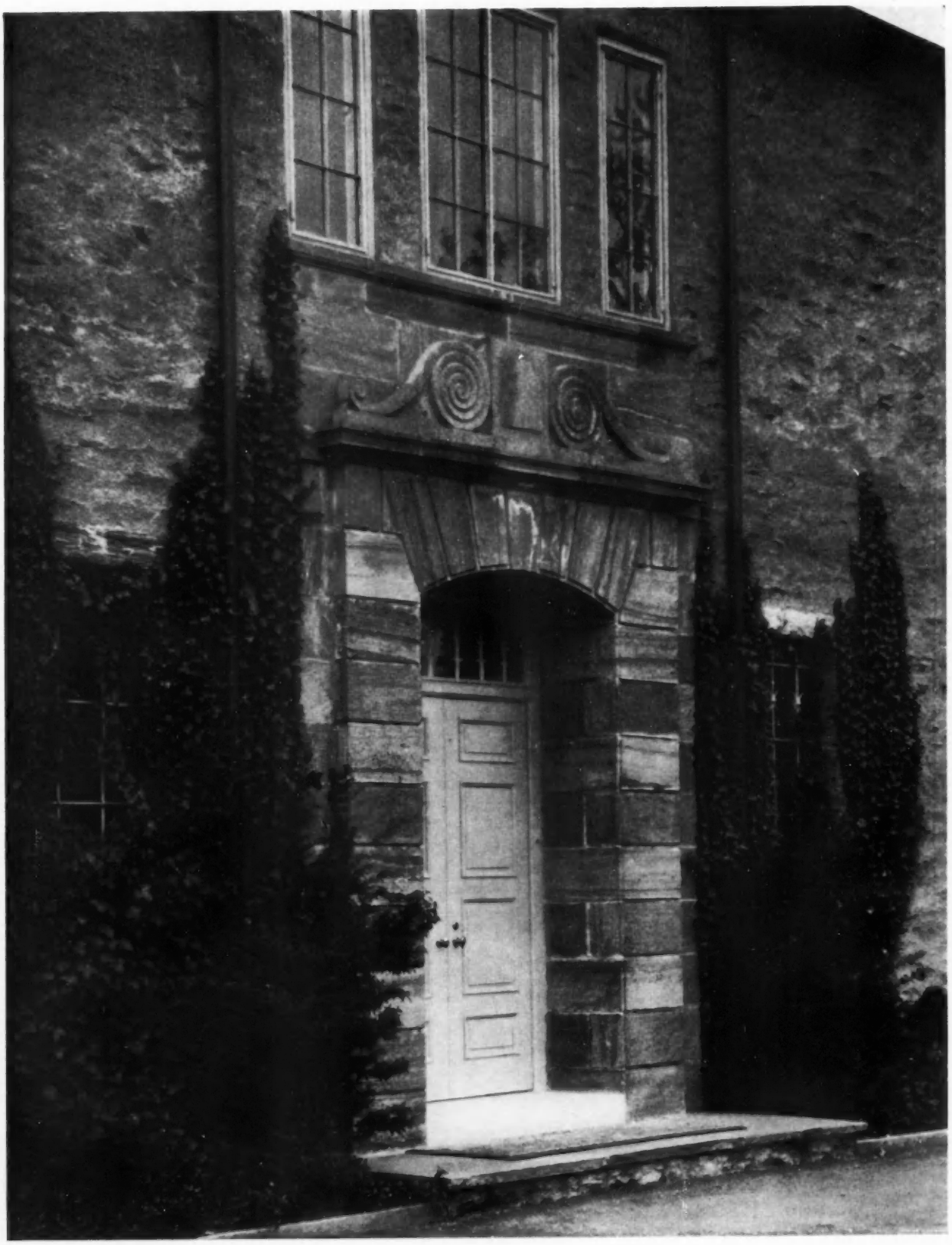
HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

Plans of this house appear on back of frontispiece.

Terraces and outside steps are of flagstone.

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS



HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
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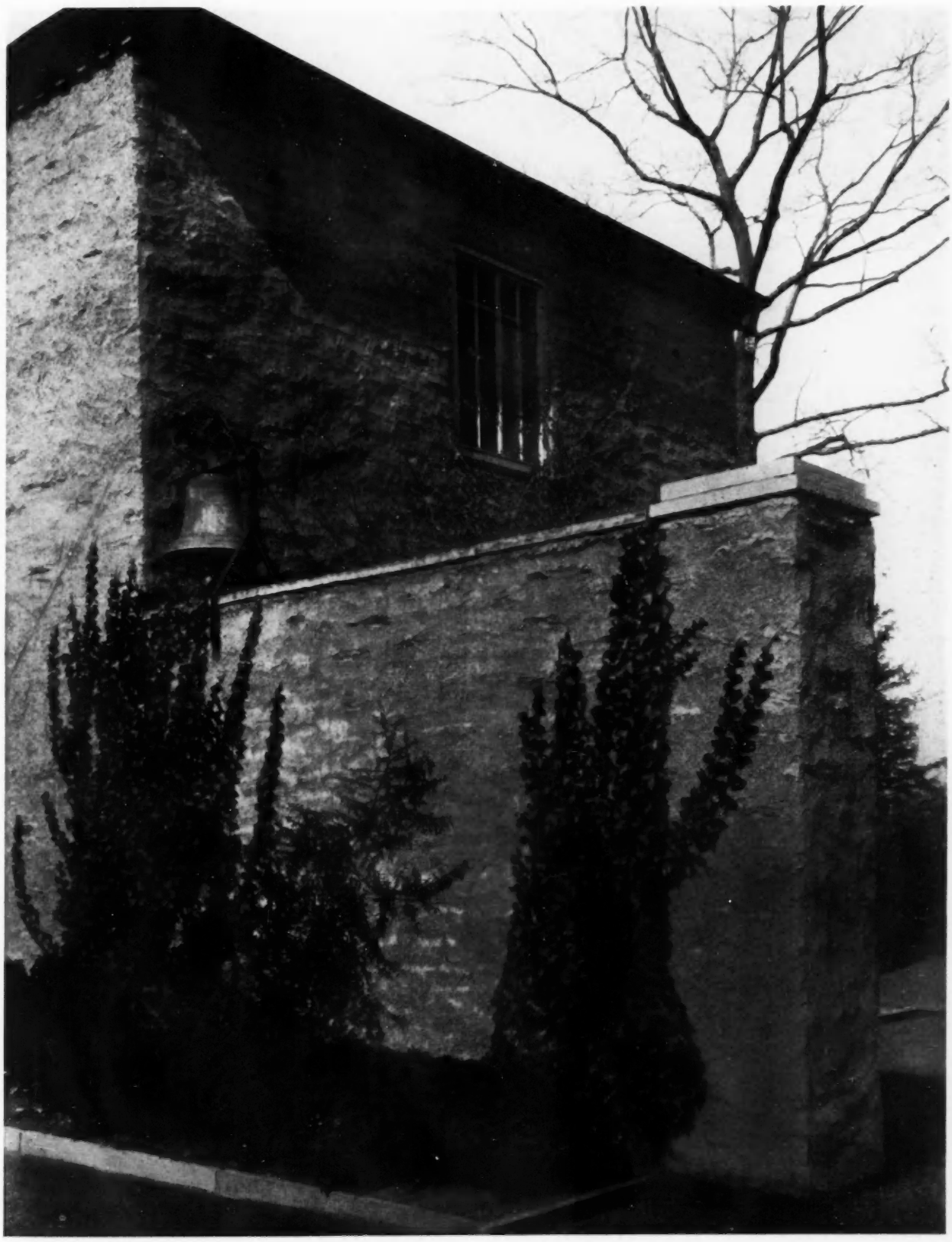

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

West end of Music Room opening on terrace.

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
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HOUSE OF FREDERIC ROSENGARTEN
CHESTNUT HILL, PHILADELPHIA
WILLING, SIMS AND TALBUTT, ARCHITECTS

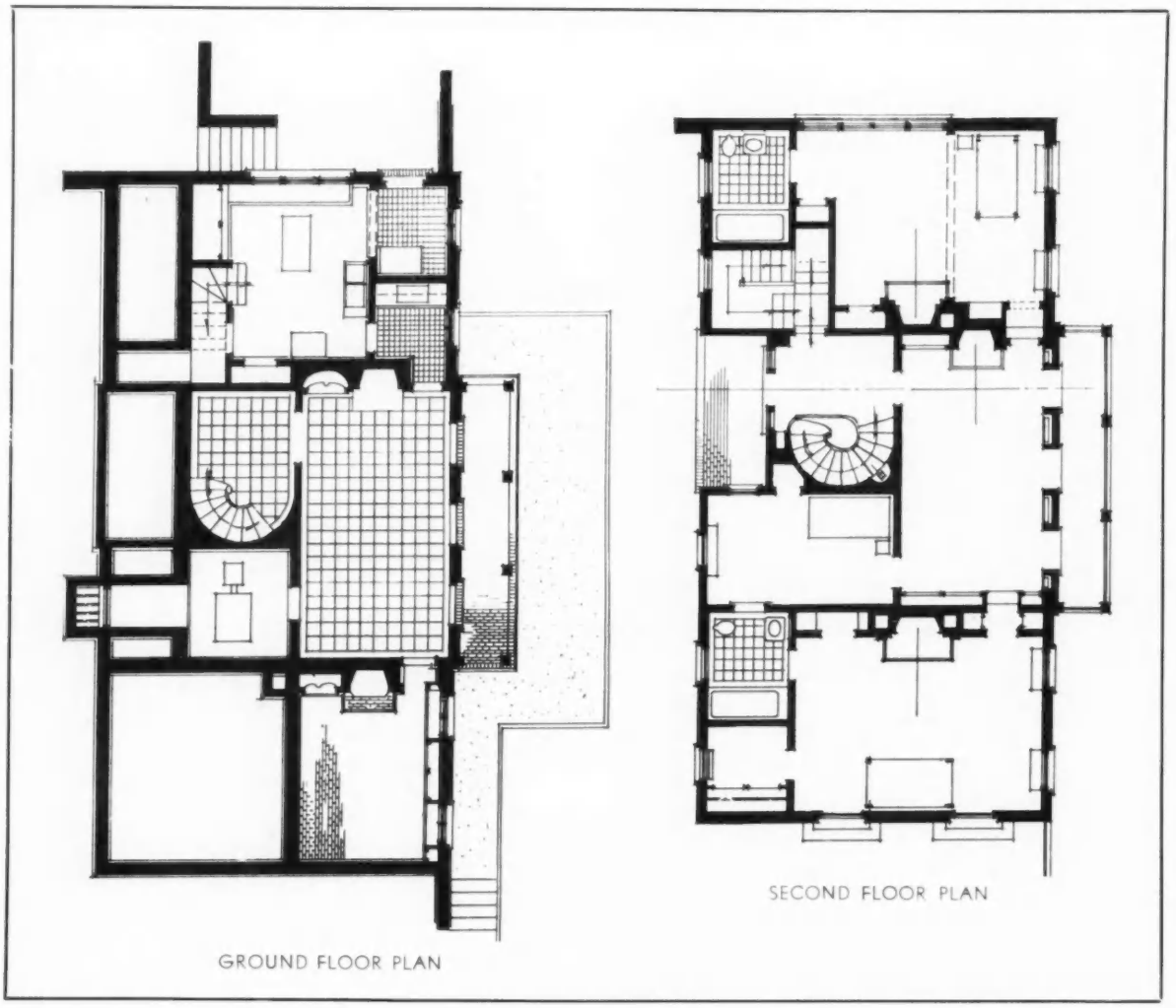
HOUSE OF MRS. W. EDGAR BAKER
GREENWICH, CONNECTICUT
THOMAS AND BAKER, ARCHITECTS

Estate includes 3-story house and two smaller buildings: one containing studio, 2-car garage and stable, the other containing pump, water tank and storage space.

Drix Duryea

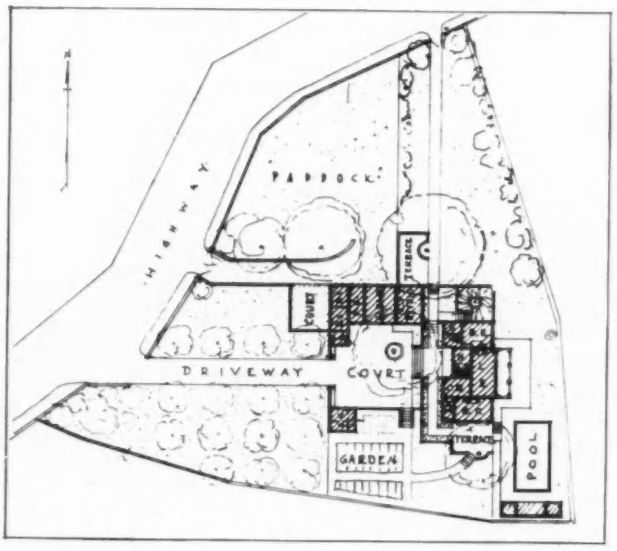
Cost of entire development, including terraces and approaches, $40,000.

HOUSE OF MRS. W. EDGAR BAKER
GREENWICH, CONNECTICUT
THOMAS AND BAKER, ARCHITECTS



GROUND FLOOR PLAN

SECOND FLOOR PLAN



WALLS: On first floor, masonry where not exposed, 12" brick where exposed. On second floor, 4" brick veneer; central bay, clapboards. All walls painted white.

ROOFS: Black slate, random width, 5½" to weather.

FLOORS: First floor, reinforced-concrete slab with brick finish in study, marble in dining room and stair hall; linoleum over wood in service parts. Second floor, old oak and pine; baths, marble. Service buildings, cement.

MILLWORK: Living room paneled and painted. Study in pine. Simple pine wainscoting and chair rails. Stock work for exterior.

HOUSE OF MRS. W. EDGAR BAKER
GREENWICH, CONNECTICUT
THOMAS AND BAKER, ARCHITECTS

Drix Duryea

HOUSE OF MRS. W. EDGAR BAKER
GREENWICH, CONNECTICUT
THOMAS AND BAKER, ARCHITECTS

Amemya

Site is wooded but open to the south. The living and dining rooms were given this exposure. Differences in grade permitted 2-story garage to be placed in basement. Walls of stucco; roof of heavy slate.

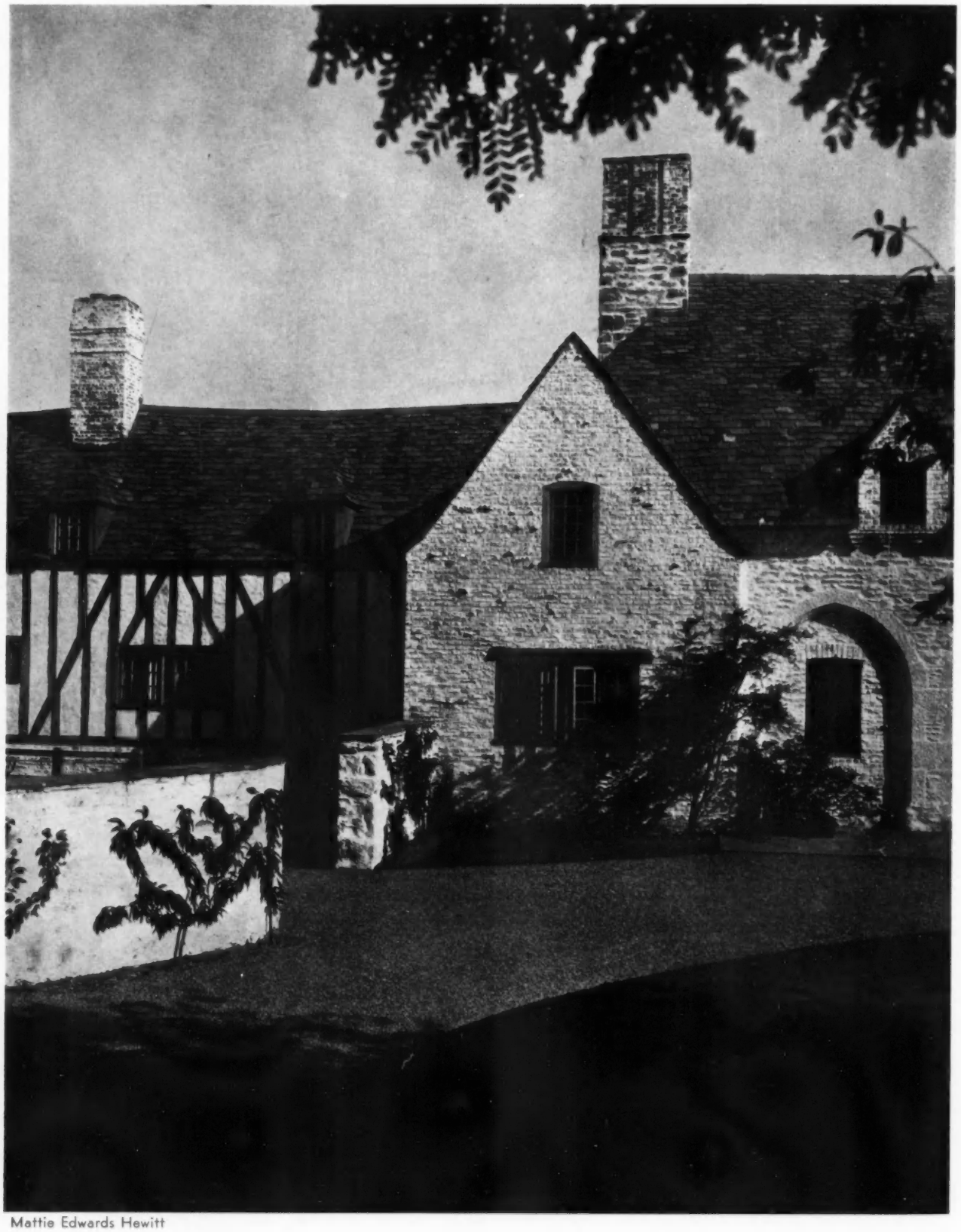
FIRST FLOOR PLAN

SECOND FLOOR PLAN

ESTATE OF HENRY T. FLEITMAN
BROOKVILLE, LONG ISLAND
JAMES W. O'CONNOR, ARCHITECT

Amemya

ESTATE OF HENRY T. FLEITMAN
BROOKVILLE, LONG ISLAND
JAMES W. O'CONNOR, ARCHITECT

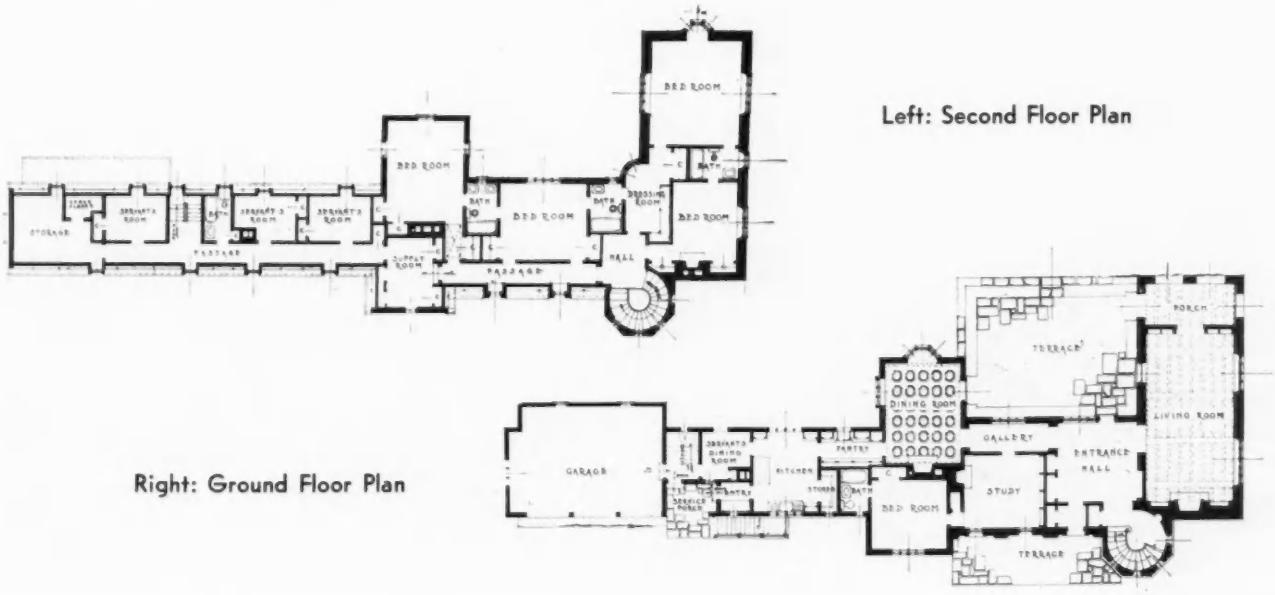


Mattie Edwards Hewitt

HOUSE OF JOHN EYRE SLOANE
WEST ORANGE, NEW JERSEY
FRANK J. FORSTER, ARCHITECT

House is set on level lawn, surrounded with woodland. Constructed of stone, brick, stucco and half-timber. Exterior surfaces whitewashed. Roof of graduated slate in greens and purples.

Mattie Edwards Hewitt



Left: Second Floor Plan

Right: Ground Floor Plan

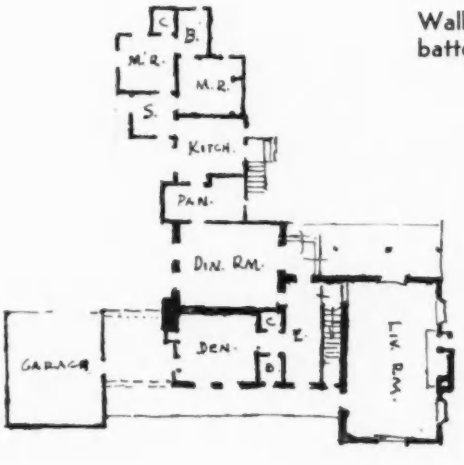
Living room has heavy molded beam ceiling of solid oak with random surface of knotty white pine boards. Natural plaster with slightly uneven surfaces used on walls.

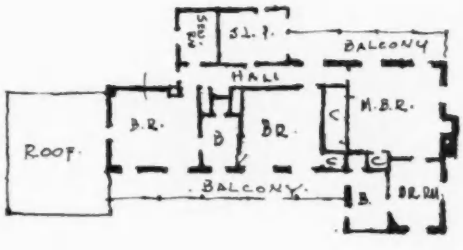
HOUSE OF JOHN EYRE SLOANE
WEST ORANGE, NEW JERSEY
FRANK J. FORSTER, ARCHITECT

Mattie Edwards Hewitt

HOUSE OF JOHN EYRE SLOANE
WEST ORANGE, NEW JERSEY
FRANK J. FORSTER, ARCHITECT

Miles Berne





Walls of stucco on ground floor, and 1"x12" boarding and molded battens above. Shake roof. Knotty pine used in interior treatment.

HOUSE OF MR. AND MRS. J. D. KERR
BRENTWOOD HEIGHTS, LOS ANGELES
JOHN BYERS, ARCHITECT

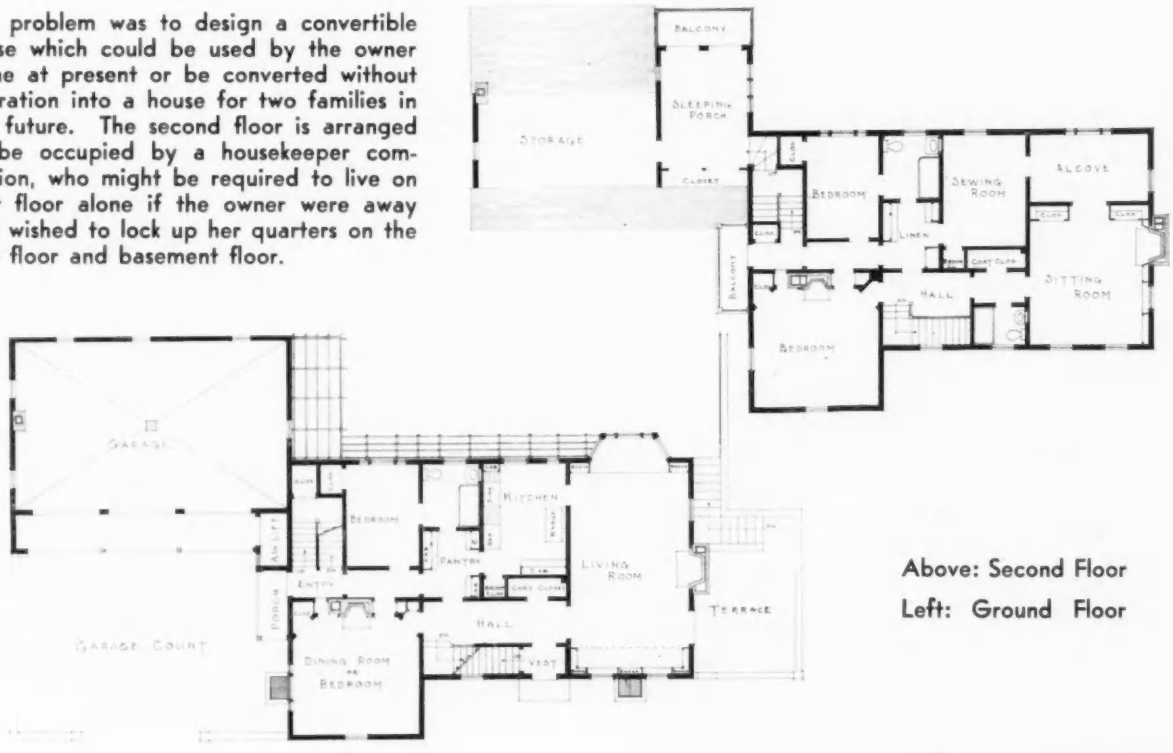
Paul J. Weber

A SUBURBAN HOUSE
MILTON, MASSACHUSETTS
ELEANOR RAYMOND, ARCHITECT

Exterior walls of rough-sawed, matched California pine laid horizontally. Roof of asphalt shingles. Total cost, including equipment: $40,700, or 64c a cubic foot.

Paul J. Weber

The problem was to design a convertible house which could be used by the owner alone at present or be converted without alteration into a house for two families in the future. The second floor is arranged to be occupied by a housekeeper companion, who might be required to live on that floor alone if the owner were away and wished to lock up her quarters on the first floor and basement floor.



Above: Second Floor
Left: Ground Floor

The second-floor sewing room is planned for a future sink and gas stove. The kitchen must serve the bay window end of the living room if the dining room is converted into a bedroom.

A SUBURBAN HOUSE
MILTON, MASSACHUSETTS
ELEANOR RAYMOND, ARCHITECT

Mott Studios

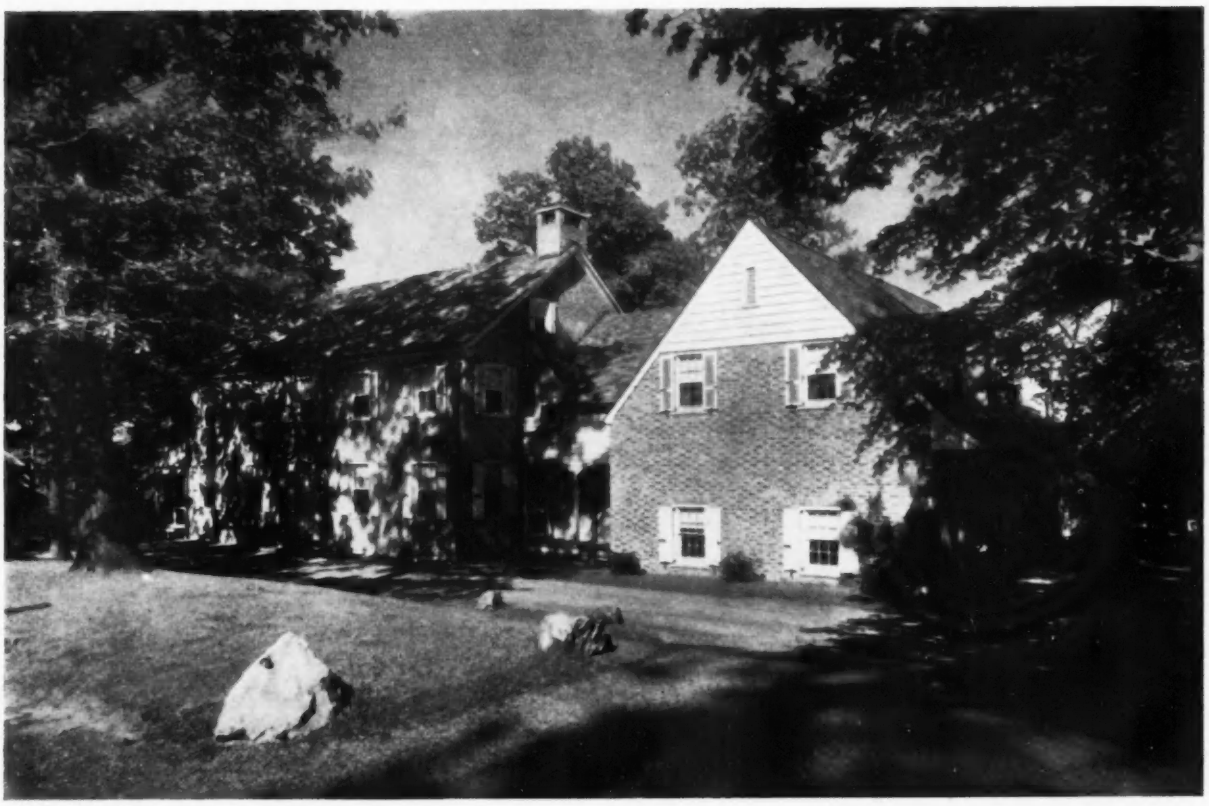
HOUSE OF GODFREY RUEGER
PASADENA, CALIFORNIA
J. D. ATCHISON, ARCHITECT

Lot measures 100'x120' and faces west. Oak trees on site determined location of house.

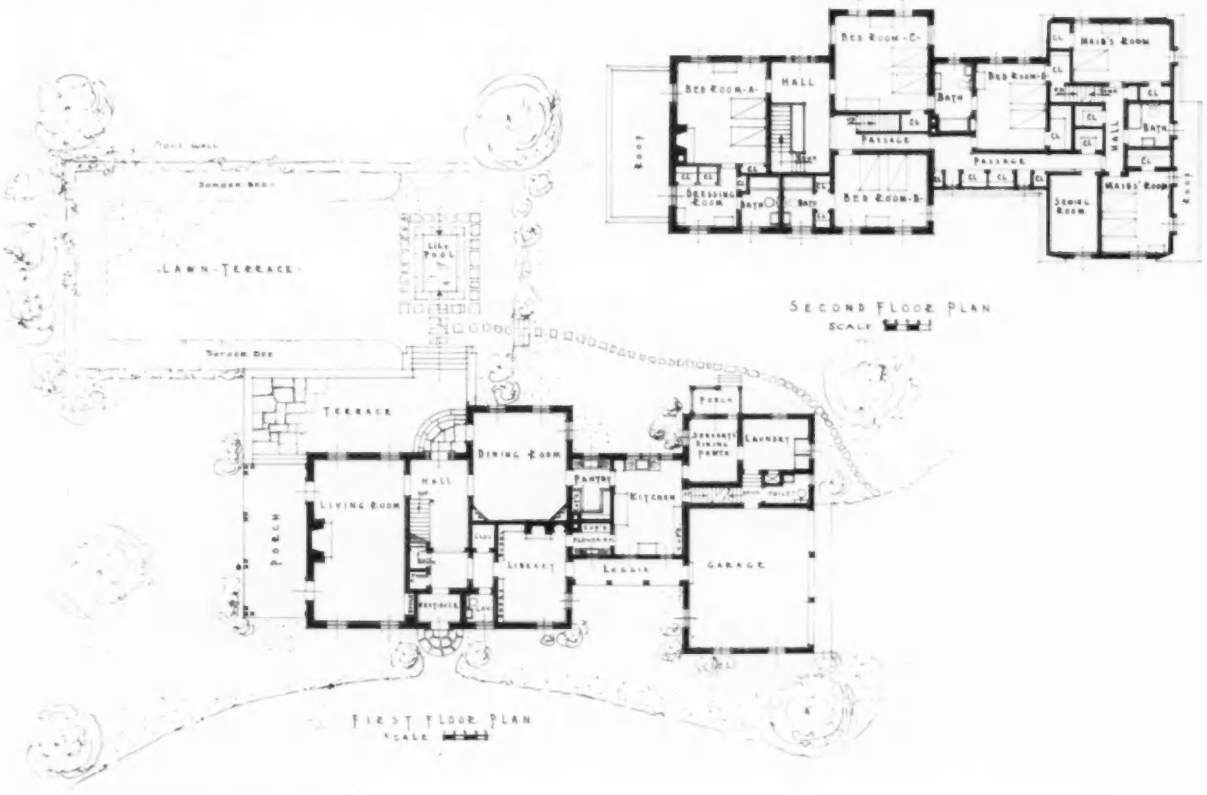
Mott Studios

Exterior walls of frame construction with white stucco. Outside trim stained driftwood brown; sash painted blue. Shingled roof.

HOUSE OF GODFREY RUEGER
PASADENA, CALIFORNIA
J. D. ATCHISON, ARCHITECT

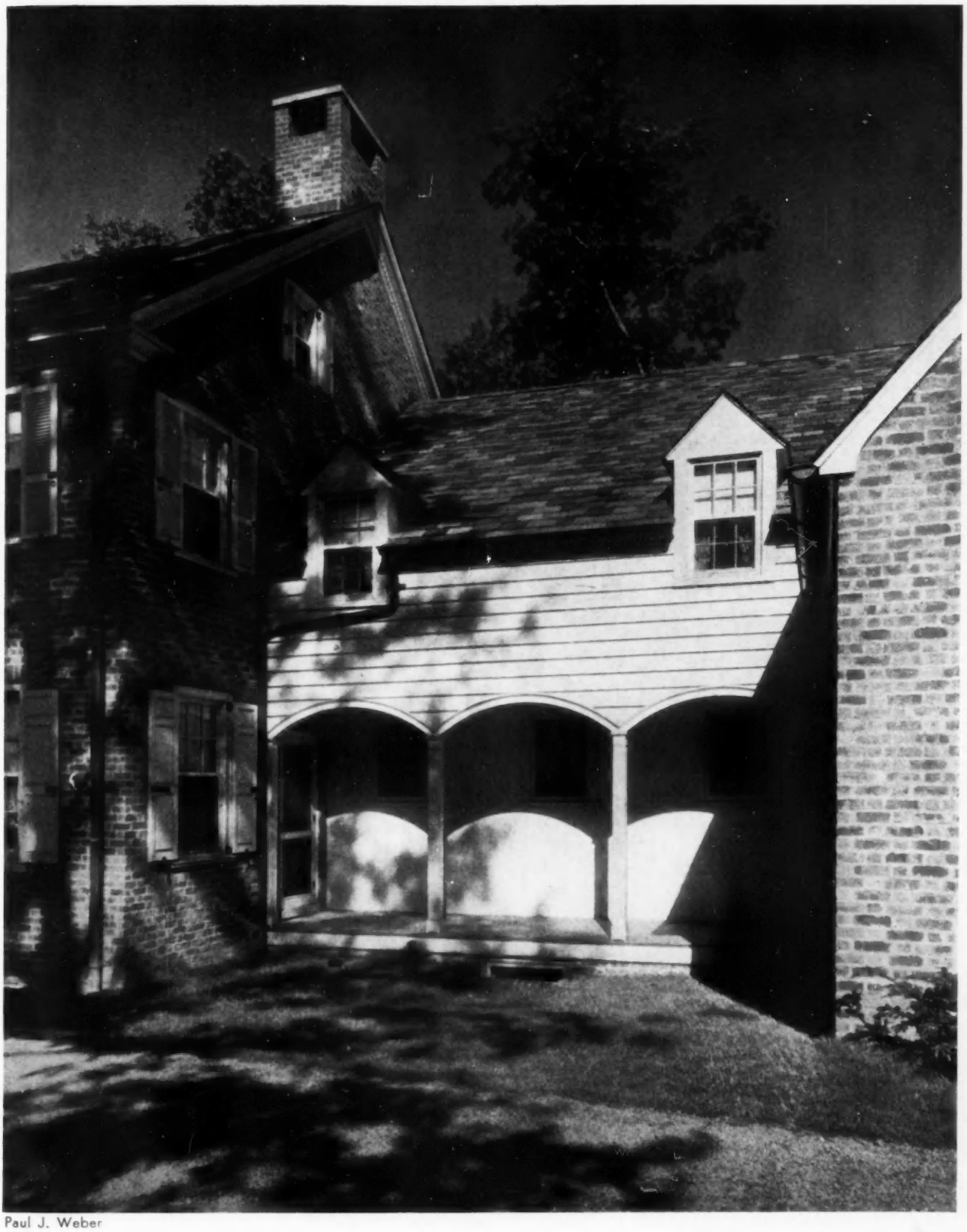


Paul J. Weber



HOUSE OF CHARLES D. BRUYN
ENGLEWOOD, NEW JERSEY
TELLER AND HALVERSON, ARCHITECTS

Walls faced with common brick laid in Flemish bond with light mortar. Woodwork of white pine painted ivory white. Cost, exclusive of landscaping: 65c a cubic foot.



Paul J. Weber

Roof of slate shingles, graduated in thickness and width of face to weather, and blending in shades of green, yellow, rust and some dark colors.

HOUSE OF CHARLES D. BRUYN
ENGLEWOOD, NEW JERSEY
TELLER AND HALVERSON, ARCHITECTS

Paul J. Weber

HOUSE OF CHARLES D. BRUYN
ENGLEWOOD, NEW JERSEY
TELLER AND HALVERSON, ARCHITECTS

Floors in oak with boards of varying width, finished in coffee brown tone. Walls of study in natural old pine finish.

Tebbs and Knell

Second Floor Plan

Ground Floor Plan

HOUSE OF WILLIAM B. EISENDRATH
HIGHLAND PARK, ILLINOIS
EUGENE H. KLABER AND
ERNEST A. GRUNSFELD, ARCHITECTS

Tebbs and Knell

HOUSE OF WILLIAM B. EISENDRATH
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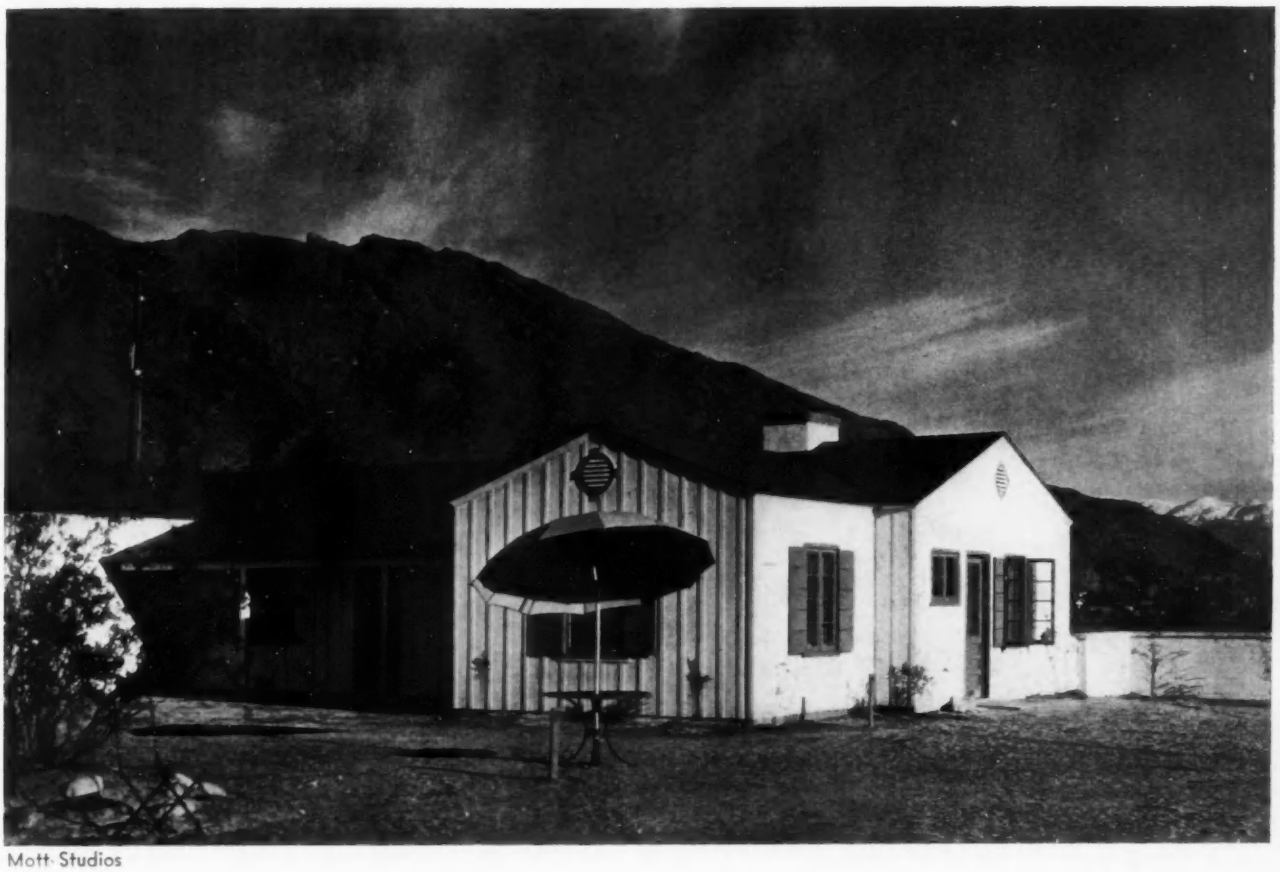
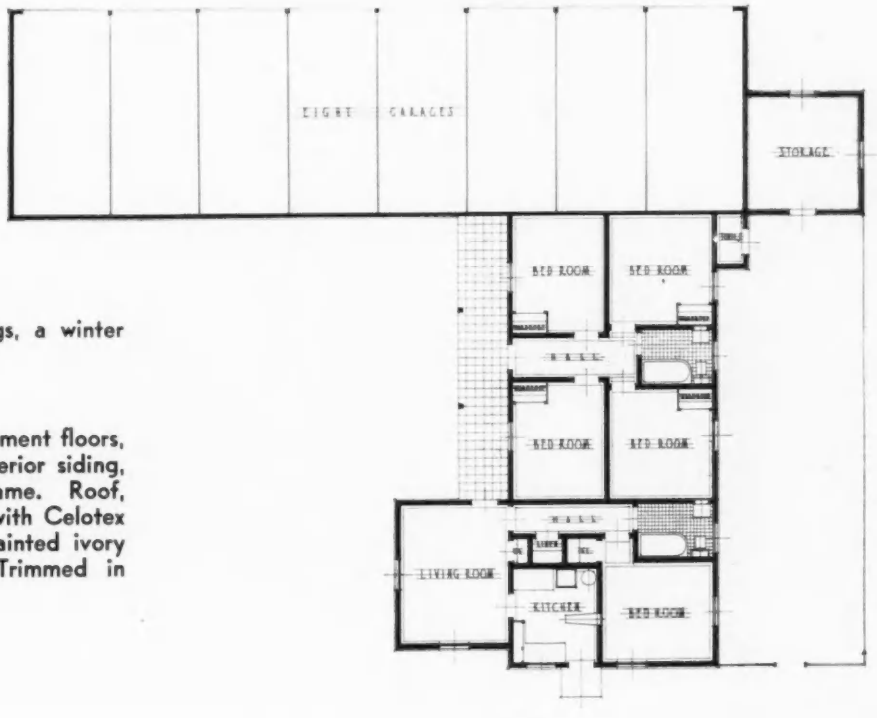


Mott Studios



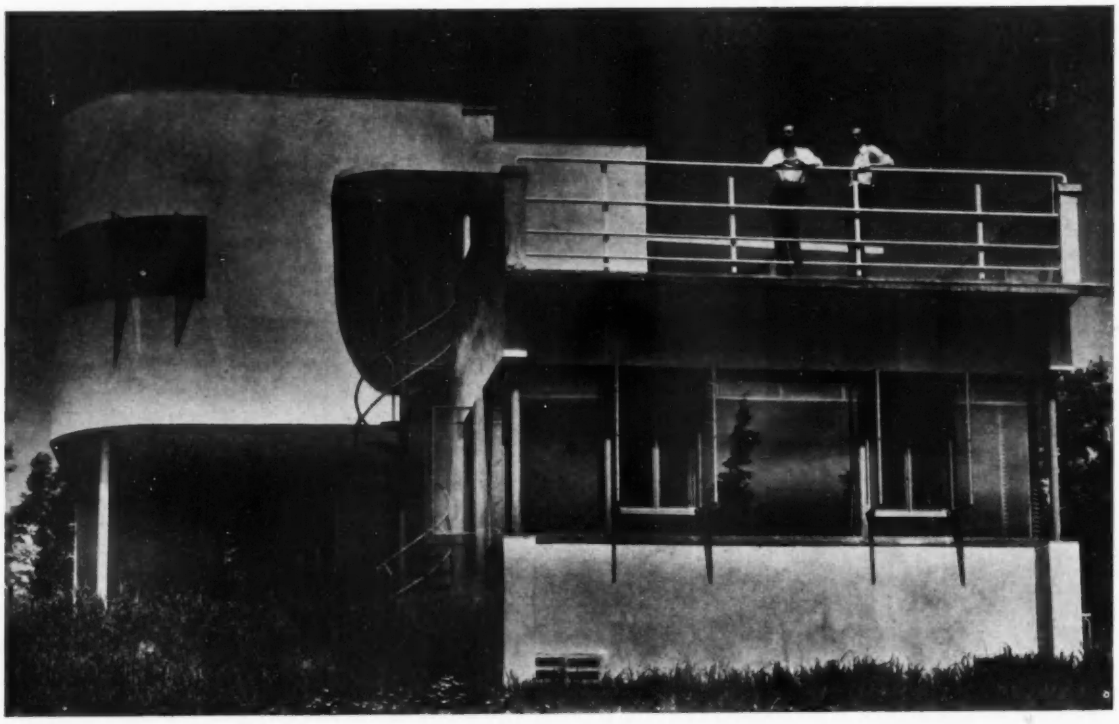
Site: On the desert at Palm Springs, a winter resort.

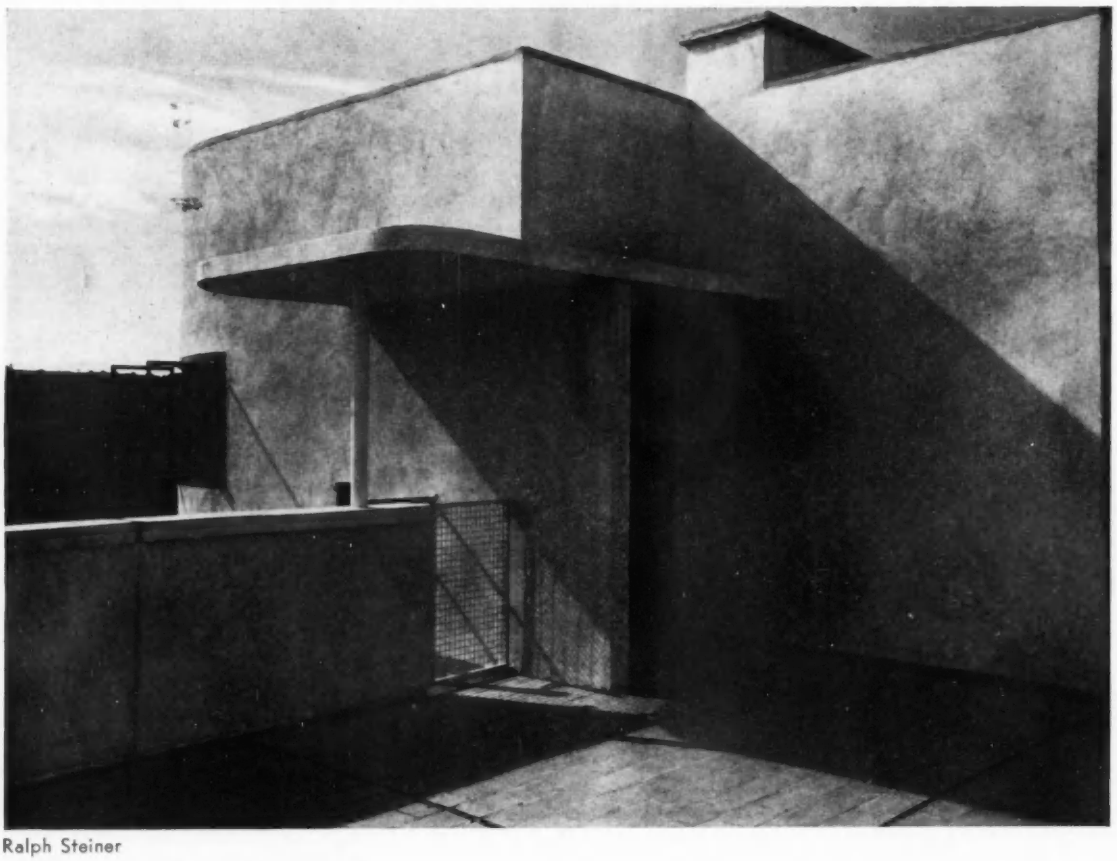
Climate: Moderate to hot.

Construction: Concrete footings. Cement floors, acid stained in living quarters. Exterior siding, clear redwood; vertical. Wood frame. Roof, cedar shingles. Ceilings, insulated with Celotex in living quarters. Exterior walls painted ivory with natural oil stain on roof. Trimmed in chrome yellow.

Cost: $6,500.

SERVANTS' QUARTERS
EL ENCANTO APARTMENTS, CALIFORNIA
MARSHALL P. WILKINSON, BUILDER





Ralph Steiner

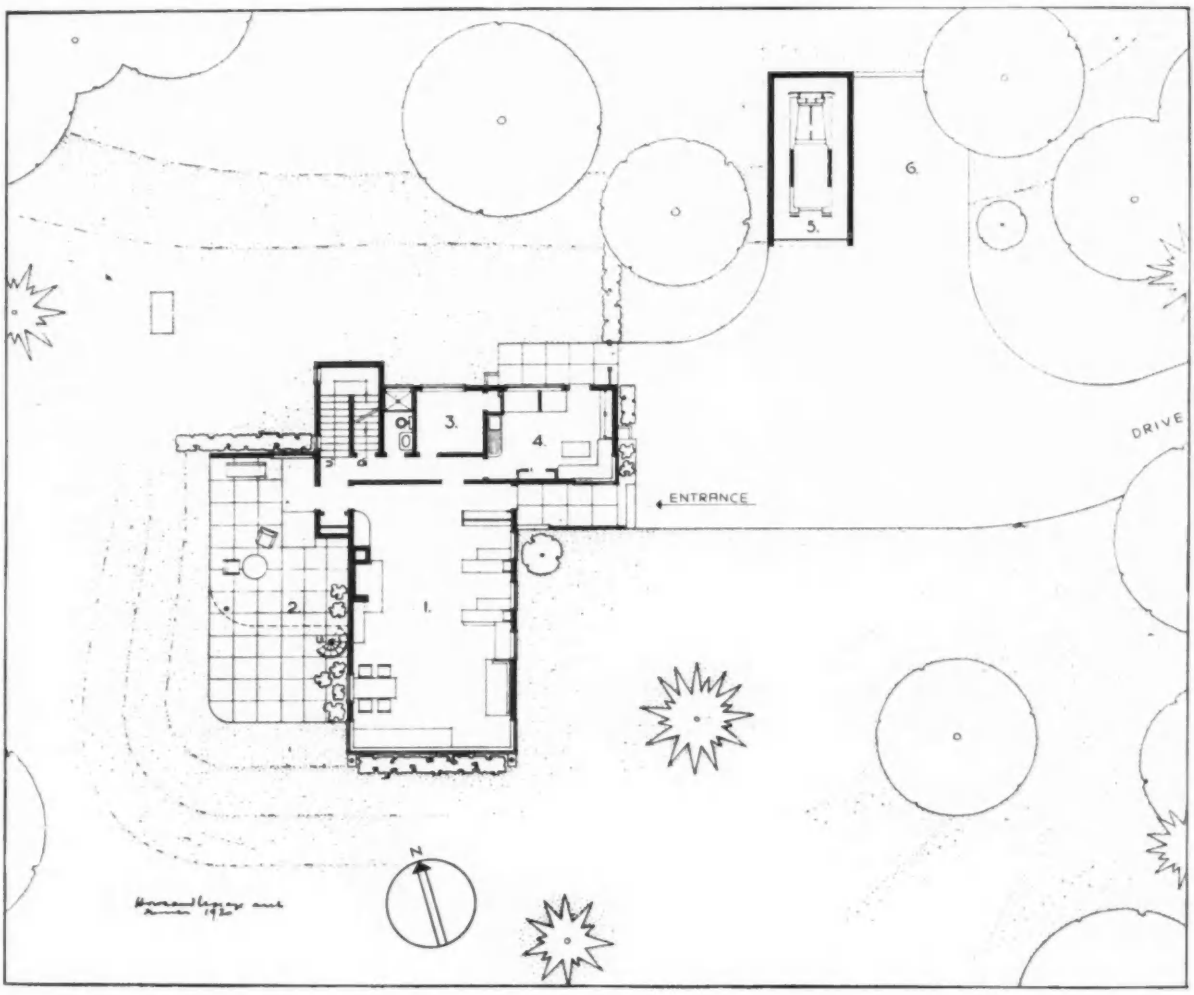
HOUSE OF FREDERICK V. FIELD
NEW HARTFORD, CONNECTICUT
HOWE AND LESCAZE, ARCHITECTS

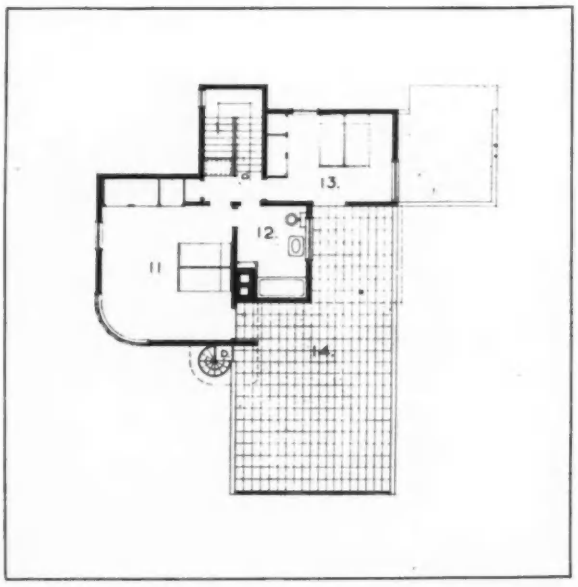
Site is about 30 acres, a wooded hilltop with view to south. The house is situated on highest part, with exposure to east, south and west. Designed to be used all summer and a few weekends during winter.

Ralph Steiner

Floors and roof slabs formed by laying wire back mesh on top of beams, then pouring 2" concrete slab. All projecting roofs are of steel framing with concrete slab; all exposed concrete finished with cement.

HOUSE OF FREDERICK V. FIELD
NEW HARTFORD, CONNECTICUT
HOWE AND LESCAZE, ARCHITECTS





FIRST FLOOR:

1 Living Room
2 Terrace
3 Servants' Room
4 Kitchen
5 Garage (Future)
6 Parking Space

SECOND FLOOR:

11 Master's Bedroom
12 Bathroom
13 Child's Room
14 Terrace

HOUSE OF FREDERICK V. FIELD
NEW HARTFORD, CONNECTICUT
HOWE AND LESCAZE, ARCHITECTS

Ralph Steiner

All exterior walls above the first-floor level are of steel frame construction, with paper back mesh and three coats of cement stucco on exterior, and with 1½" of insulating cork and two coats of hard finish white plaster painted with flat oil paint on interior. Interior partitions formed by plastering over paper back mesh placed over the steel studs.

Chimney built of good quality hard brick with terra cotta flue lining. Interior of fireplace and hearth of soapstone. All walls plastered to a smooth finish.

Metal sash of casement type set into angle frame and welded to the steel structure. All exterior and interior doors are 1¾" thick, flush kalamein, covered with furniture steel with a satin Duco finish. Exterior doors in blue Duco finish. Interior doors beige.

Floor coverings: Kitchen, servants' room, lavatory and entire second floor of linoleum in solid color. Living room, stairs and halls laid with cork in 18"x24" pieces 5/16" thick, no borders, in colors medium and dark, with cove base 4" high.

Interior stairs of structural steel. Treads and risers covered with cork, aluminum nosing. Exterior railing made of first grade wrought-iron pipe and painted. First-floor terrace of cement laid in blocks with large joints to receive top soil and grass.

Roofing: All roofs slope to form natural drainage.

Drains omitted because of severe winters and the fact that the house may remain unoccupied at times. Parapet designed to stop the water from flowing off the roof down the face of the building. On top of roof slabs 2" cork insulation was placed, then enough cinder concrete to give proper rise and fall for drainage, then the built-up roofing which runs up the side of the parapet and laps over the wall. The stucco runs over the parapet and down to the roof, and the top of the parapet is formed by running a 2" concrete coping. On the roof portion which is used as a terrace are 6"x6" quarry tiles with cove base flush with stucco on top of built-up roofing.

Waste is carried off in soil lines collected together and run into septic tanks, and from the tanks through feeders laid with field tile 18" below grade.

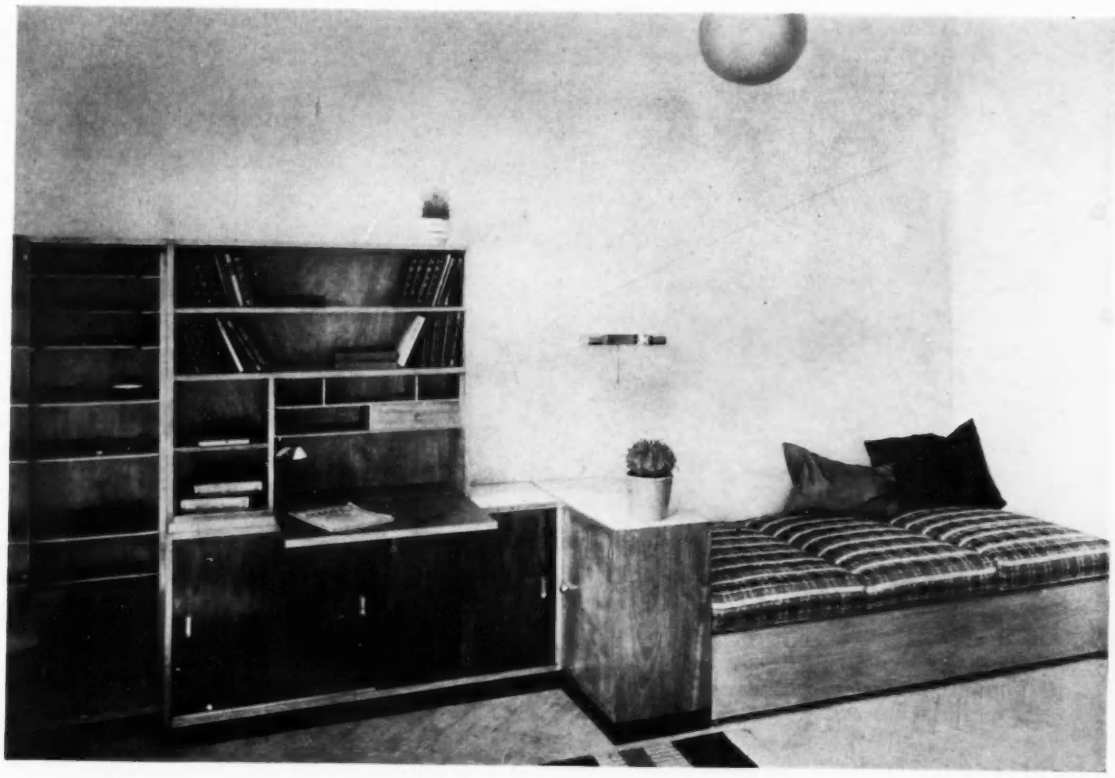
HOUSE OF FREDERICK V. FIELD
NEW HARTFORD, CONNECTICUT
HOWE AND LESCAZE, ARCHITECTS

Drawing room.

V. Scherb

View through drawing room into bed- and living-room.

"WERKBUND SIEDLUNG" INTERIOR
IN VIENNA
LEONIE PILEWSKI, ARCHITECT



Bed- and living-room.

V. Scherb

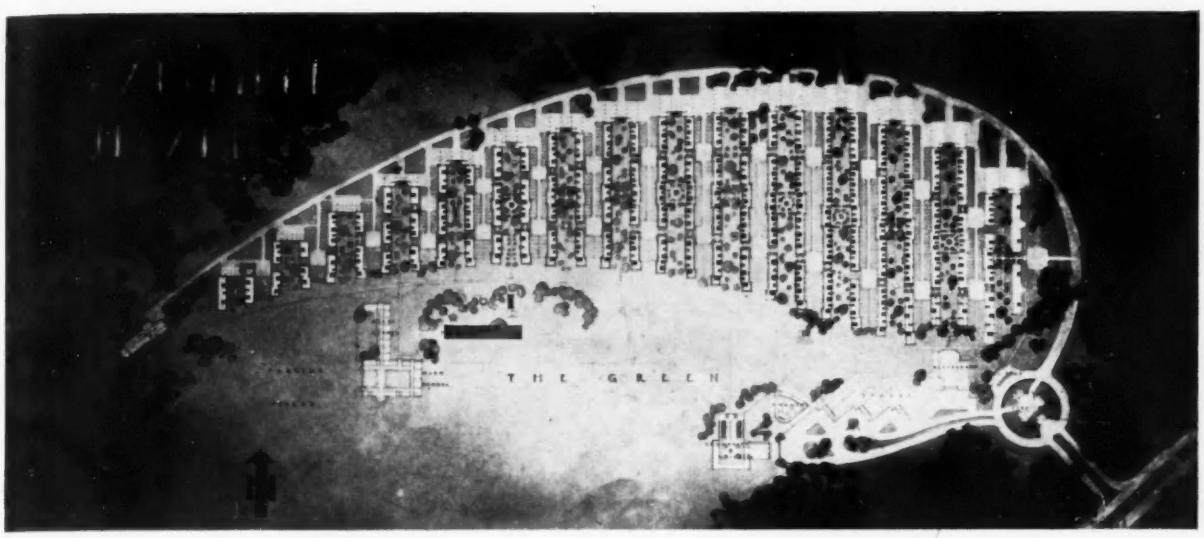
Cupboard in dining room.

"WERKBUND SIEDLUNG" INTERIOR
IN VIENNA
LEONIE PILEWSKI, ARCHITECT

V. Scherb

"WERKBUND SIEDLUNG" INTERIOR
IN VIENNA
LEONIE PILEWSKI, ARCHITECT

Writing desk with built-in typewriter.



SPACEFIELD VILLAGE—A PRINCETON THESIS

By W. F. R. BALLARD

There is promise that increasingly our architectural schools will recognize problems of housing and community planning, among other subjects, for training in Site Planning and Design. With this situation in mind it is appropriate that The Architectural Record has chosen to publish the housing thesis work of William F. R. Ballard, together with his own explanation of the problem.

By orderly grouping, standards of exposure and general amenities superior to usual suburban development may be secured. Within 50 to 66 per cent of the land area saved is converted into broad open spaces which isolate the residential areas in groups of three to five thousand families and provide them, at no additional inconvenience in location, generous nearby playfields, golf courses or open country. Such a standard has been effected in modern German town planning practice, particularly at Frankfurt-am-Main.

In attempting to remain within the field of low-cost housing, Mr. Ballard has appropriately adopted the two-story group house, with one suite above another, as his principal housing unit. He shows the wide variation in size and arrangement of dwellings thus obtained. One regrets, however, that in seeking the most economical solution of grouping and arrangement he did not permit himself the slight advantage of a moderately sloping site rather than an absolutely flat site, as in so doing he might have provided an outlook over the broad park areas for a large portion of the units in the plan.

One can only hope that so promising a start will lead many students to make similar studies, especially now that slum clearance and housing are in the forefront of public attention.

HENRY WRIGHT.

Assumed:

That it would be advantageous to have the commercial heart of a city set in a park rather than choked by a belt of cheap housing. This could be accomplished by setting up concentrated village communities in this park, replacing present wastefully-planned blocks, and by evolving a system of simple, high-speed motor ways which would knit the whole more closely together. This assumption is illustrated by using the village units as developed herein.

Required:

To develop a typical village unit for five or six thousand people with proper housing, organic relations and facilities. The unit here developed is for those able to afford only minimum rents; some villages would have more elaborate housing.

Housing:

Type: Other authority is accepted for the statement that two-story row flats are the most economical form of housing.

Elasticity: The basis of plan is a grouping of four standard compact baths and kitchens together on the two floors around one plumbing and vent stack. The spacing of these service units may vary with relation to a structural unit as desired to create larger or smaller living spaces between. Intermediate space is to be rented by each family and partitions erected accordingly, as demonstrated on the drawing (see page 334).

All roofs are flat with access from stairs. Roof space is to be used for laundry and baby pens. Basements are eliminated: a pipe space runs the length of each row of houses. Individual room heating unit proposed.

Orientation: Rows are run north and south for best sunlight and for protection from weather in the North Temperate Zone.

Construction: Light vertical angles support two tiers of 12" I-beams which support light reinforced-concrete floor. Forms are corrugated fiber forms, which remain in place and need no painting. Light exterior walls hung from floor slabs are to be (together with interior partitions) a strong sheet material. Floors covered with linoleum and roofs waterproofed and tiled. Bath and kitchen units factory fabricated and set in place complete. Individual gas-fired radiators are proposed where practical, but each general locality must be studied for its best individual heating solution.

Organic Relations:

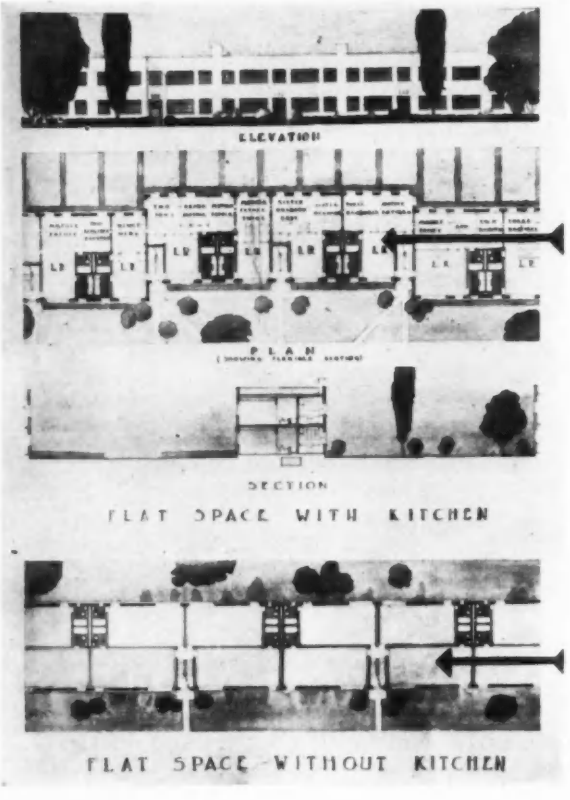
Segregation of Circulation: Automobile circulations *serve* the town. Safe isolated pedestrian circulation is essential.

Motor circulation taps general metropolitan circulation at one point only and eliminates annoying extraneous penetration. This circulation adequately serves all housing by entering alternate rows, thus interlocking with pedestrian intra-town circulation without crossing it at any point. Stores are served (for distribution trucks and individual marketing); likewise theater, restaurant, community building and hospital. Police and fire services are joined to all motor circulation. Village renting office is prominently displayed to newcomers. Bus stop at key position of both motor and pedestrian circulations.

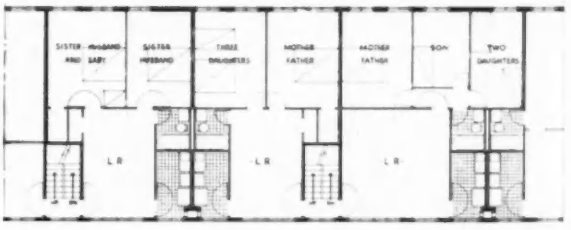
Pedestrian circulation penetrates alternate spaces between housing (which form branches of Village Green), hooking up with automobile turn-arounds and serving all entrances to housing. This circulation also penetrates into garage units at motor end of each housing row, so that the transition at these points between pedestrian and motor circulations occurs at the automobile standing in the garage. Pedestrian ways lead from every housing entrance to every commonly-used element of the village, without crossing any automobile traffic.

Relation of Housing to Facilities: In working out many of these principles for this typical village a general arrangement or town plan takes shape. The stores, theater and restaurant group is made readily accessible to pedestrial ways which, in turn, should be not over-long. Establishing this length for all housing rows creates (with the quality of housing determined) a rectangular block of row-flats. In order to make the store group equally accessible to all residents it should be placed at a center point of the pedestrian exodus side of this rectangle. This would create great regularity of plan and suggest uniform function for all housing.

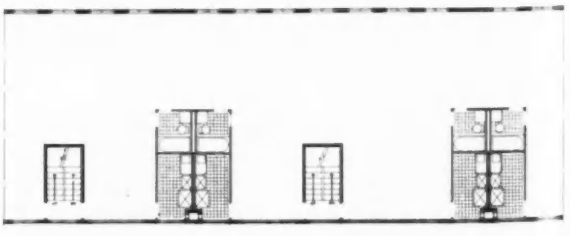
A Village Green sequestered from all motor traffic was believed to be a highly desirable element of any such community. Locating the store group at one end of this Green introduces much flexibility into the plan. It is assumed that a greater number of family units will desire to be fairly close to this group. (A family unit is either a bachelor, a family of three, or a group of twelve.) Each family unit dispatches one member to the store group when

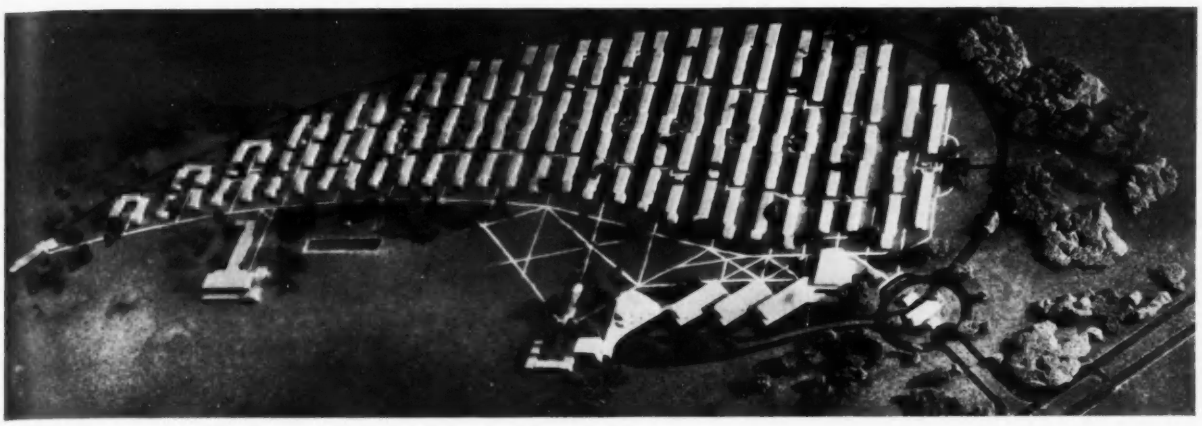


FLEXIBLE PLAN UNITS
FOR 2-STORY ROW FLATS



Four standard baths and kitchens are grouped together on the two floors around one plumbing and vent stack, as shown on plan below. Intermediate space is rented by each family and partitions erected accordingly, as shown above.





View of model of Spacefield Village.

supplies are needed. By concentrating quarters for bachelors, single women, flat space without kitchen and, in general, small flat space with kitchen near the store end of the housing block, proportionately a great number of family units are near the stores. Hence, the pear-shaped housing block.

The school is situated at one end of the Village Green toward the small end of the pear-shape. In general, larger flat spaces are available here. Large families, presumably with children, will naturally gravitate to this end of town where there is more openness for the young ones and where there is easy access to school.

The shape of the housing block, with relation to other elements of the Village, represents an *effort-comfort diagram* for all family units. Small family units have the effort of living in more compact surrounding and the comfort of being near stores and bus stop, and away from the noise of children. Large families have the effort of a greater distance to stores and the comfort of more open living and proximity to school.

Facilities:

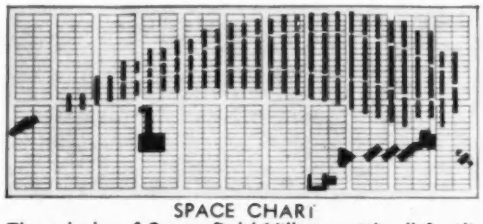
School: The kindergarten has south exposure and is nearest the housing. Grade and high school classrooms have eastern exposure, are independently grouped for segregation, but enjoy common administration. The school gymnasium-auditoriums may be used separately or thrown into one. Dressing rooms have access to these and to outside playing areas.

Hospital: Plan for one resident physician, and as a base for staff of visiting nurses. Serious cases will be taken to better-equipped institution contiguous to near-by commercial center.

Municipal and Social Building: A large hall for religious, municipal and social gatherings, with pleasantly-arranged offices for various functionaries.

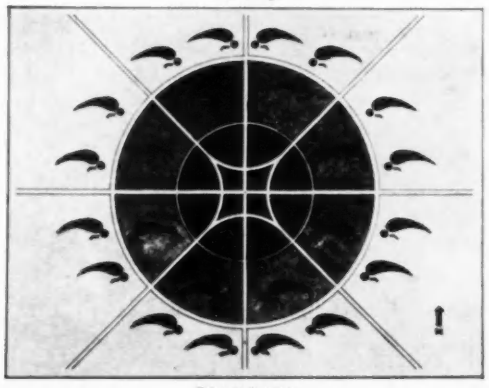
Stores: Openly and compactly arranged for receiving and for concentrated shopping. Space rented flexibly, as for housing.

Theater: Arranged for easy pedestrian and motor access, with adequate parking space.



SPACE CHART

The whole of Spacefield Village with all facilities superimposed on twenty-two city blocks (250′ x 600′) which provide only housing for an equal number of people (approximately 5,000).



DIAGRAM

Showing similar villages on motor parkway circumscribing commercial city. The commercial areas are thus surrounded by park instead of a belt of cheap housing.

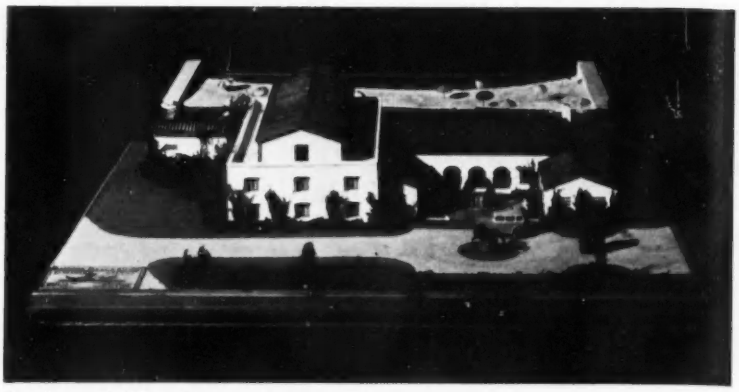
Restaurant: Large cafeteria restaurant enjoys terminal position of Village Green. Nearest access for families without kitchen.

Police Station: Small headquarters for the control of traffic and handling of minor infractions of the law.

Fire House: Centrally located to both branches of town.

Automobile Service Station: (Visible only on the model.) In main traffic circulation outside of town for servicing of passing traffic.

ILLUSTRATED NEWS



Model of proposed beach club for Shippan Point at Stanford, Connecticut. Davidson and Constable, architects.

Drucker and Baltes Co.

NATIONAL CONFERENCE ON CONSTRUCTION

The National Conference on Construction met in Washington on October 13 and 14 under the joint auspices of the U. S. Department of Commerce and the Chamber of Commerce of the United States. Among its more important actions was a resolution defining the activities of the Conference as distinguished from those of the Construction League of the United States. The resolution on this point recognized the sphere of activity of the Construction League to be that of the internal problems of the construction industry and that the Conference would concern itself with study of external or inter-industry problems. A committee was formed to formulate a program for continuing the work of the Conference.

Special committee reports submitted to the Conference were on such subjects as local construction inventories, construction statistics, accident prevention, industry planning, uniform mechanics' lien act, appraisals, uniform mortgage law, local organizations, economic relationships in the industry, plans for elimination of bid peddling.

Of outstanding interest was the report on the Cleveland Real Property Inventory. This survey, which was in progress during the meeting of the Congress, will inaugurate a perpetual inventory of the real property in Cleveland, consisting of semi-annual vacancy-occupancy surveys, intermediate data on mortgages, new construction, removals, and other pertinent data, all to be related to the data on Cleveland population by census tracts already made available by special tabulations of the U. S. Census Bureau. The Cleveland Survey will be the first of the sort instituted according to the standard procedure advocated by the Conference's Committee on Business Reports, Statistical and Trade Information. It is being financed and carried out by a local group of building, real estate and financial interests, with advisory cooperation by the U. S. Department of Commerce.

Information on the Conference activities may be had by writing to National Conference on Construction, 1615 H Street, N. W., Washington, D. C.

Ewing Galloway

NEW STATE CAPITOL AT LINCOLN

The tower in center is 437 feet high. The main structural work is finished, but several years will be required to finish the interior. Lee Lawrie is the sculptor of the figure—"The Sower"—which can be seen atop the dome. Bertram G. Goodhue Associates are the architects.

ROCKING CHAIRS IN CHURCH

Hickory rocking chairs have supplanted straight-backed pews in the Bryan Memorial Church at Haines City, Florida. Three hundred "rockers"—deep-seated, commodious and pitched for maximum rocking with minimum effort—fill the auditorium in this church.

"LONDON BENDING BADLY"

This headline appeared in a London newspaper as a result of a paper on "The Subsidence of London," read by Captain T. E. Longfield in the Geography Section of the British Association meeting at York. As seen in the illustration—a photograph taken recently from the railway bridge at Ludgate Hill and reproduced in *The Architect and Buildings News*—either St. Paul's Cathedral or St. Martin Ludgate is out of the vertical.

TRIBUTE TO SIR CHRISTOPHER WREN

American architects on October 20 joined British architects in paying tribute to the memory of Sir Christopher Wren, on the occasion of the 300th anniversary of the architect's birth, when special exercises were held in St. Paul's Cathedral, London.

The following tribute to the memory of the great British architect was sent to the Royal Institute by the Architectural League of New York, and was read during the ceremonies by Sir Raymond Unwin, president of the Royal Institute of British architects:

"To our British Fellow Architects—Greetings.

"To the Memory of Sir Christopher Wren—All Honor.

"Upon the occasion of the tricentenary celebration on October 20, 1932, of the birth of that Master Architect, Sir Christopher Wren, the Architectural League of New York desires to join in the tribute being paid to his memory.

"The architects of the United States of America freely acknowledge their debt of gratitude for the inspection afforded them by the works of their brethren of England.

"This influence began when, as colonies, we naturally looked to the mother country for guidance.

"It was thus in our formative period that the impulse of Sir Christopher Wren's stupendous activity crossed the Atlantic.

"It was particularly through the example of his unique interpretation of the Gothic spire in terms of classical motives that his influence took root and grew and persists here to this day.

"Wren's spires of London, rising after the great fire of 1666, found their echo in the growing settlements of the New World.

"But the wood of the New World forests took the place of Old England's stone, bringing about a change in proportion and detail which entitles our Colonial Architecture to its position of national individuality.

"The Architectural League of New York is honored by the invitation to participate in these ceremonies and is grateful to the authorities of St. Paul's Cathedral and to the Royal Institute of British Architects for the courtesies extended."

Word was later received by The Architectural League that Sir Raymond Unwin had placed a wreath sent by the League on Sir Christopher's tomb in St. Paul's Cathedral.

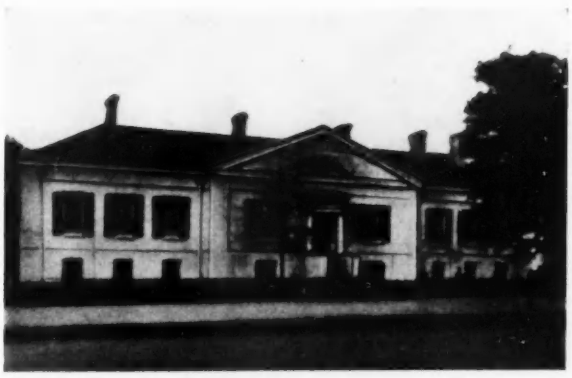
CHARLOTTE MINT BUILDING THREATENED

Opposing the threatened destruction of the second oldest mint building in the United States, established in 1835 in Charlotte, N. C., the Executive Committee of the American Institute of Architects has adopted a resolution urging the preservation of the building "not only as a local but also as a national cultural influence."

The Charlotte Mint building was established at the same time as the Mint in New Orleans. It was burned and rebuilt in 1844. There is danger that it may be torn down because it adjoins the United States Post Office, to which an addition is shortly to be built.

The proposal to demolish the Mint illustrates the menacing tendency to do away with interesting old structures under the misguided notion that they detract from the appearance of new buildings, according to Leicester B. Holland, chief of the Division of Fine Arts of the Library of Congress, and chairman of the Committee on Preservation of Historic Buildings of the Institute.

The building could be adapted for a museum and art gallery. Running across the front are two tiers of rooms similar to those in Continental Hall at Washington, where each state organization of the Daughters of the American Revolution has a state room. These could easily be used for exhibits of historical relics and documents by various organizations. At the rear of the building also are two large rooms on two floors.



MINT AT CHARLOTTE, N. C.

"HUMAN-FLY" WELDING OPERATORS AVERAGE 40 TO 50 FEET OF LAP WELDS PER HOUR ON 12 GAUGE STEEL IN FABRICATING SUSPENDED STEEL ROOFS ON GRAIN ELEVATORS AT ALBANY, N. Y. EACH OPERATOR EMPLOYED A SHEAVE BLOCK AND FALL TO HOIST HIMSELF.

HOISTING ONE OF THE 3700-POUND ROOF SECTIONS IN PLACE.

EACH 140-FOOT SECTION IS COMPOSED OF FIVE SHEETS, ASSEMBLED AND ARC-WELDED IN A JIG ON THE GROUND.

NEW TYPE OF ARC-WELDED STEEL ROOFS

Self-supporting welded steel roofs have been erected in Albany, New York, on four huge grain elevators built by the New York Port Authorities for the Port of Albany. If precedents in the construction of grain elevators had been followed, the areas covered by the roofs would have been left open, and their usefulness would have been extremely limited. Instead, these areas have been made watertight, thus giving additional storage space for grain or other materials.

The roofs were designed without columns, stanchions or purlins so that the maximum storage space would be obtained. Each roof measures 288 feet wide with a total span of 140 feet, and forms a catenary curve supported only at the top and bottom of the roof. Seventy-six sections of 12 gauge mild steel sheets, 140 feet in length and 50 inches wide, compose each roof.

The lower part of the roof starts on a ramp, approximately 22 feet above the ground level, and extends upward at an angle between 30° and 40°. Both the top and bottom ramps were constructed at an angle to conform with the slope of the roof.

Steel was ordered in lengths of 5 feet, 10 feet and 31 feet, 3 inches. Five sheets formed a section. These were fitted end to end in a jig and four of the seams butt welded on the ground. The last seam was lap welded, the lap weld being tack welded on the underneath side on completion of the section. It was necessary to place one lap weld in each section to compensate for any expansion and contraction caused by welding of the butt seams. Thus all finished sections were exactly the same in length.

A yoke of ½" steel was bolted to one end of the steel sections about to be erected. To this was attached a steel cable running through a sheave at the top of the upper roof platform and thence downwards to a hoisting engine on the ground level. As the section was hoisted upwards it was first guided to the top of the wall by inclined supporting channel members; thence, as it crossed the ramp, it slid over two cables stretched from the bottom of the roof to the top at a distance of about 36" apart.

In order to hold the expansion and contraction to a minimum and to prevent unevenness in the plates in joining them, considerable tack welding was employed. After all sections had been tack welded in place, continuous welds were laid along each seam. The step back method was used to dissipate the heat and prevent distortion. Small expansion joints were welded in place over the longitudinal seams at every tenth seam, giving the roof free expansion and a floating characteristic.

On completion the roofs were given two coats of red lead and one coat of aluminum paint.

All welding was done by the shielded arc process using Fleetweld electrodes and equipment manufactured by the Lincoln Electric Company of Cleveland.

A TYPICAL BUILDING (LEFT) AND A SECTION (RIGHT) OF TRUE ARCH CONSTRUCTION OF MUD BRICK FOUND ON EIGHTH LEVEL OF TEPE GAWRA, IRAQ.

"OLDEST CITY" UNCOVERED BY ASSYRIAN EXPEDITION

The Assyrian Expedition of the Museum of the University of Pennsylvania has found in the ruins at Tepe Gawra, Iraq, what may be called "the oldest city in the world." The acropolis uncovered by this expedition, under direction of Prof. E. A. Speiser, contains a number of fine buildings carefully disposed according to a well thought-out plan. According to Prof. Speiser, there may be single structures known to archaeology for which an earlier date could be claimed. There certainly are older objects. There is not, however, any group of buildings that equals or surpasses Gawra 8 in antiquity. The stratum actually represents the oldest acropolis, the earliest city center hitherto uncovered.

Tepe Gawra is situated 15 miles north of Mosul, northern Iraq, just two miles east of the ruins of Khorsabad. When Prof. Speiser first surveyed the mound in April, 1927, it was one of the highest artificial hills in the neighborhood, rising nearly 80 feet above the level of the plain. In spite of its height, which is usually an indication of comparatively recent occupation, surface remains showed that Tepe Gawra was first settled in the fifth millennium, and that in Assyrian times it was already an ancient "tell." Subsequent excavations fully confirmed this original diagnosis.

The accompanying illustration shows a section of what remained of a vaulted hall built with true arch construction of mud brick on the eighth level of Tepe Gawra. It had an average span of 325 cm. and was 850 cm. long. At the base this wall of the vault was 175 cm. in thickness which was more than twice the thickness of the opposite wall. This was probably considered necessary, according to Paul Beidler, architect for the Assyrian Expedition, for the wall flanked a narrow street and had no supporting walls abutting it as had the opposite one. The spring-line was very near the floor-line and the bricks of the archivolt were slightly wedge-shaped, playing the part of voussoirs. There was apparently very little transverse bonding as the longitudinal joints were one above the other. When the arcs of what remained of the vault were projected the vault was found to have been semicircular in shape and 210 cm. in height, which confirms the belief that the occupants of Tepe Gawra were short in stature.

BUILDING COST INDEX

The following table giving yearly building cost average has been prepared by the Turner Construction Company to show that costs are 30 per cent lower than in 1926:

	1913 = 100	1926 = 100	*Factors Determining Building Cost Index*
1913	100	51	1. Labor rates.
1914	100	51	
1915	103	53	2. Material prices.
1916	120	62	
1917	147	75	3. Productivity of labor.
1918	166	85	
1919	196	100	4. Efficiency of plant and management.
1920	252	130	
1921	183	94	
1922*	165	85	5. Competitive conditions.
1922†	175	90	
1923	196	100	These indexes for the past three years are lower than other published indexes, for the reason that the others as a rule do not consider factors 3, 4 and 5 above.
1924	194	99	
1925	195	100	
1926	195	100	
1927	190	98	
1928	190	98	
1929	185	95	Indexes are the average for each year except in 1922 where both the average and the low for the year are shown.
1930	165	85	
1931	145	74	
1932	136	70	

* Low † Average

Fairchild Aerial Surveys, Inc.

HOWE AND LESCAZE, ARCHITECTS

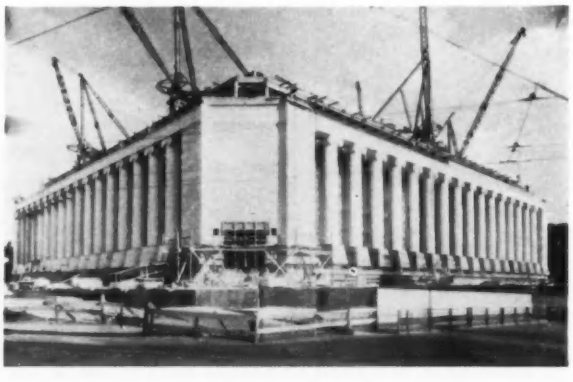
SLOAN AND ROBERTSON, ARCHITECTS

TWO HOUSING PROJECTS FOR LOWER EAST SIDE OF NEW YORK CITY

Several housing schemes for the development of the city-owned Chrystie-Forsyth Street plot of seven blocks on the Lower East Side of Manhattan have been recently proposed. Two of these are shown here.

The Howe and Lescaze project was designed in 1931 and models were exhibited at the Museum of Modern Art in February, 1932. The development comprises twenty-four elevator apartment buildings. Each building is nine stories high, and designed so that each apartment will have sunlight. The buildings are elevated a full story and the entire ground area used for play space. A total of 1,500 families could be housed at a cost of $10.95 a room, or less, according to the architects.

The Sloan and Robertson development was announced in September this year. The buildings in this scheme alternate with heights of twelve and twenty stories. Accommodations for 2,715 apartments are provided.



NEW BUILDING FOR MELLON INSTITUTE

Construction is under way on the new home of the Mellon Institute of Industrial Research in Pittsburgh. Indiana limestone is being used for the whole of the exterior. Each of the 62 columns, all of which are monolithic, is 36½ feet in height, 5½ in diameter, and 60 tons in weight. Each capital weight about 5 tons.

LIGHTING MOST IMPORTANT FACTOR IN DESIGN

Lighting is more important in building design than steel construction, acoustics, or ventilation, according to Prof. Stanley R. McCandless of Yale University, who spoke at a recent meeting of the Connecticut Chapter of the American Institute of Architects.

"There is very little excuse, from the standpoint of design, for the lighted turret, the bright steps at the setbacks, and above all, the garish colors used in many examples of the modern skyscraper which we see at present," he said.

"Lighting is primarily a problem of design, partly because it demands special treatment in the planning stage fully as much as structural steel. The abortive attempts to apply modern lighting in architecture are not so much the fault of the engineer as is the unfortunate practice of trying to apply lighting after the design, and often the building, are completed. . . . Fundamentally, lighting is not a problem of fixtures."

OPPOSITION TO R.F.C. FINANCING

Hostility of investors and real estate interests to loans by the Reconstruction Finance Corporation for low cost housing and slum clearance threatens to impede activity in "one of the few fields in which men can be put to work on the production of useful things of which there is not already a surplus," according to a statement by Robert D. Kohn, past president of the American Institute of Architects.

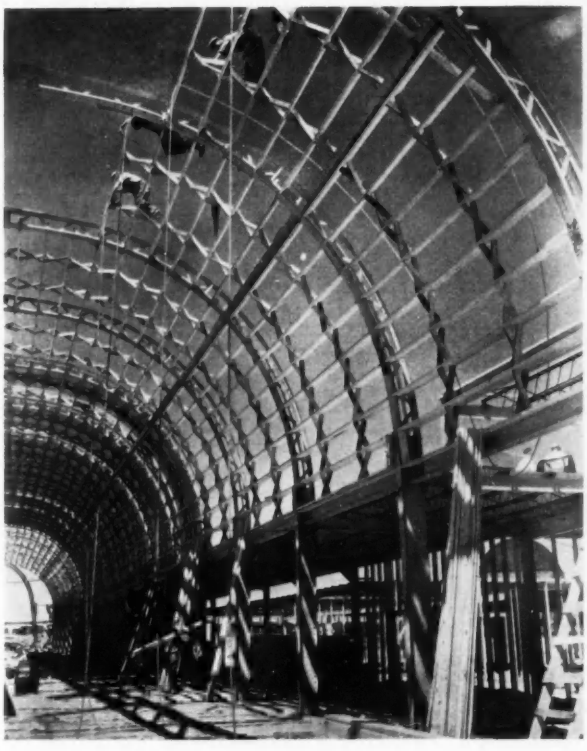
"The real estate opposition seems utterly unsocial," said Mr. Kohn, deploring the failure of the nation to awaken to the opportunities for better housing and increased employment offered by the self-liquidating provisions of the Emergency Relief and Construction Act of 1932.

PRESENT STATUS OF HOUSING LEGISLATION

The only state at present which is eligible for loans for housing purposes, according to information received from the Reconstruction Finance Corporation, is New York. A law was passed in Ohio about the first of October. This law, however, will not take effect for ninety days, so that projects in Ohio will not be eligible for loans until about the first of January. Legislation of this type has been passed in Texas, but no information is available as to whether this Act meets the requirements of the R. F. C. statute.

There is now pending before the legislature of Illinois a very well-drawn bill which it is hoped can be passed after the election in November. In Pennsylvania a bill was introduced at the extraordinary session which closed about a month ago, and failed of passage because various elements in the legislature failed to agree about eminent domain provisions. This bill will be re-introduced at the regular session in January.

In Massachusetts a committee with William Stanley Parker as Chairman and John Ihlder as Secretary is pressing the passage of state legislation, and Governor Ely may call a special session. Bills are also being prepared for introduction in Michigan and Indiana.



WORLD'S FAIR AGRICULTURAL BUILDING UNDER CONSTRUCTION

This view shows carpenters aloft on the steel frame joining the wooden supports for the roof of the Agricultural Building of Chicago's 1933 World's Fair—A Century of Progress Exposition.

The Agricultural Building is of bolted steel construction, with a concrete first floor. Its exterior walls will be of a specially treated gypsum board.

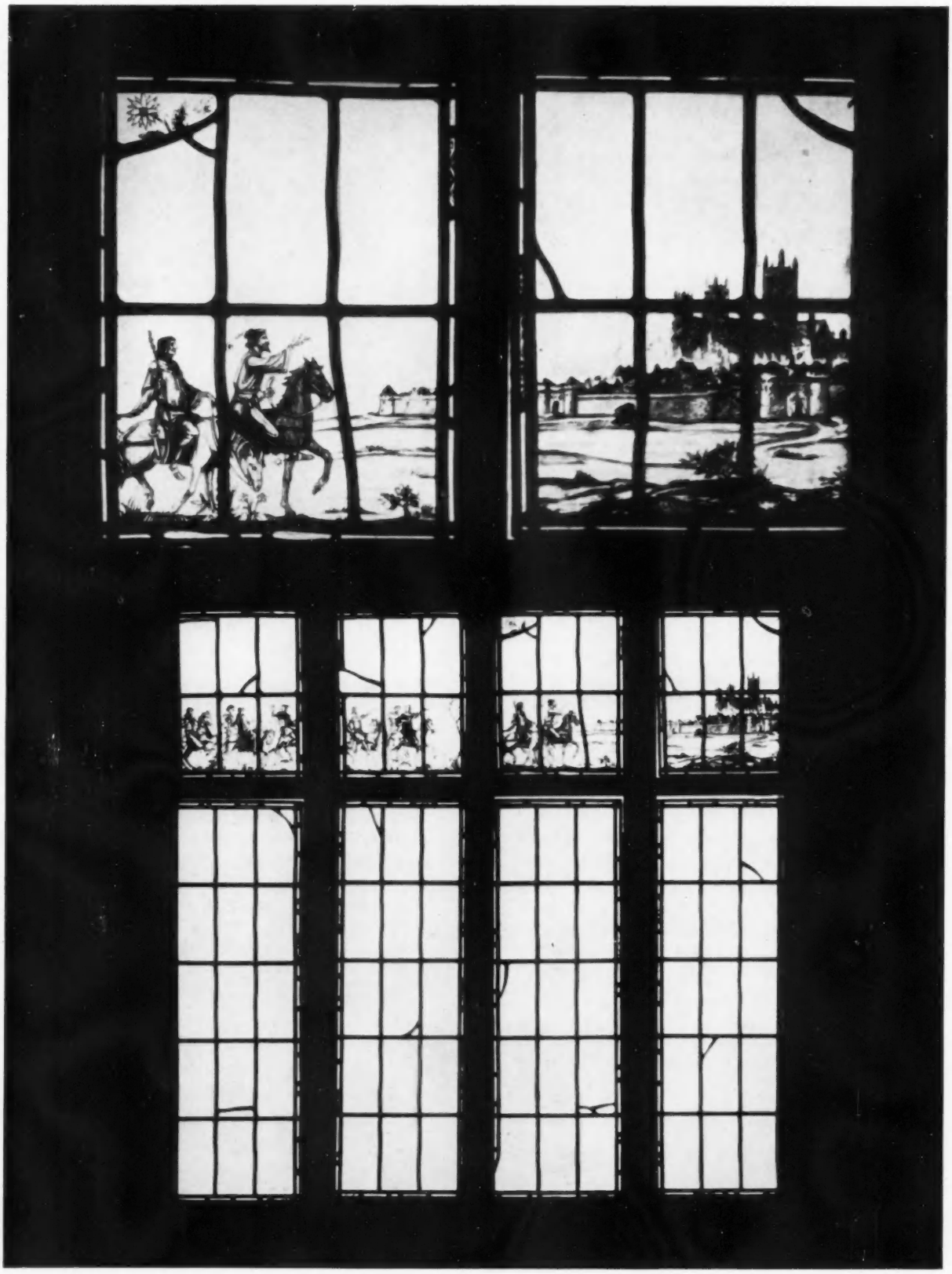
This building is 628 feet long by 108 feet wide, with three wings extending toward Lake Michigan. During the Exposition next year it will house exhibits of agricultural equipment, foods, agricultural products, and other displays depicting the progress of agriculture in the past hundred years. Edward H. Bennett of Chicago, member of the Exposition's Architectural Commission, is the architect.

Woodward Studio

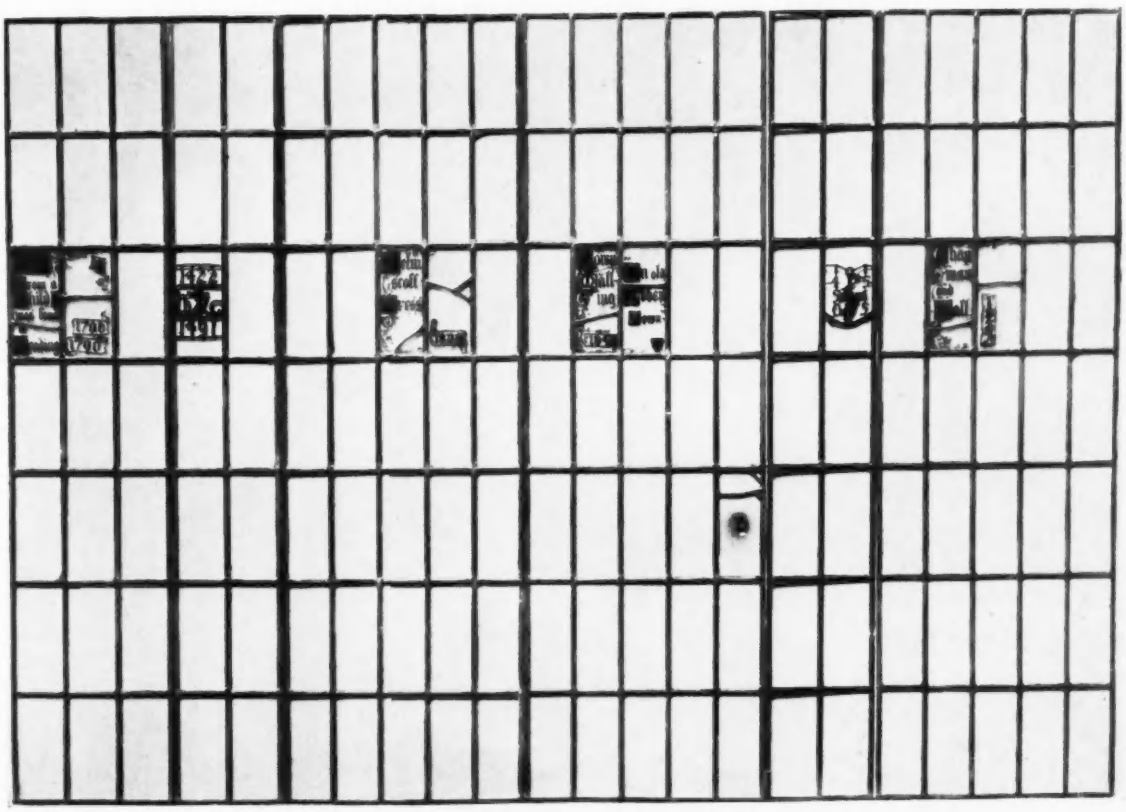
PERSPECTIVE RENDERING
OF NEW
POST OFFICE AND COURT HOUSE
JACKSONVILLE, FLORIDA

MARSH AND SAXELBYE
ARCHITECTS

PAUL PHILIPPE CRET
CONSULTING ARCHITECT



Procession of Canterbury Pilgrims (enlarged detail above) in the library window of a house in Birmingham, Alabama. The simple development of the glass painting does not obstruct desirable views.

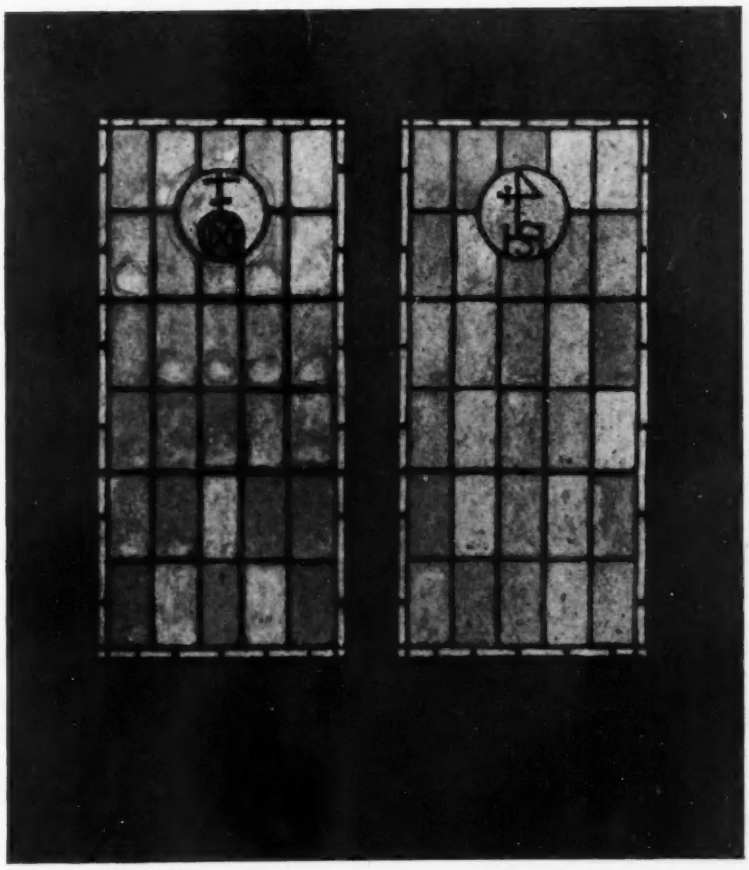


Bookcase lights showing applied printers' marks of handcut lead and painted illumination.

STAINED GLASS FOR THE HOUSE

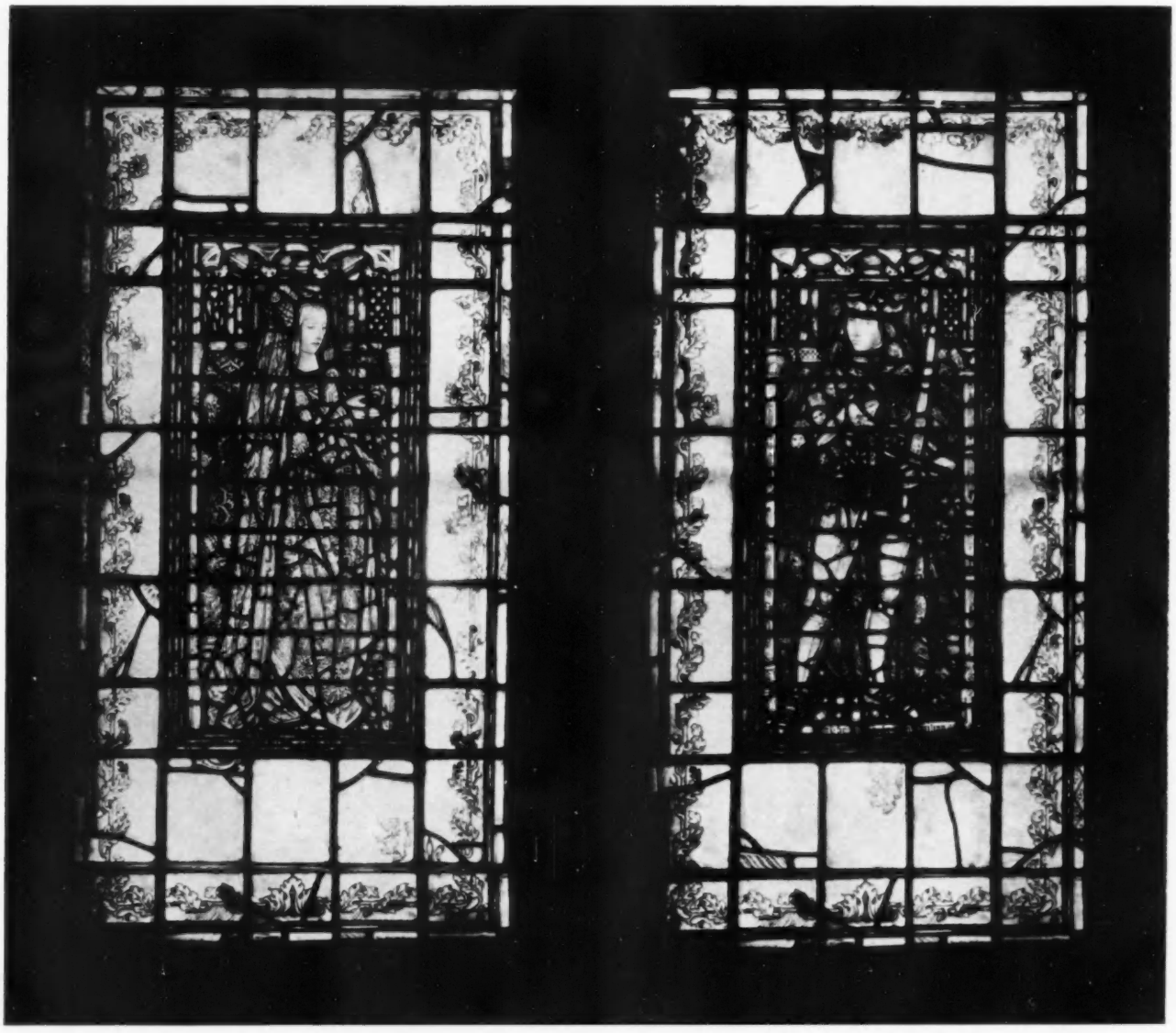
Increasing informality is found in the use of stained glass for the country house. Interests and hobbies of the household are frequently portrayed, a marked contrast to the formal type of stained glass which formerly dominated stair halls and stair landings.

Appropriate uses range from large windows to decorative designs in door panels, transoms, cupboards and bookcases, as seen in these examples of work by Nicola D'Ascenzo of the D'Ascenzo Studios, Philadelphia. In price stained glass ranges from a few dollars a square foot to $50, $60 or more, depending on originality of design and work required.



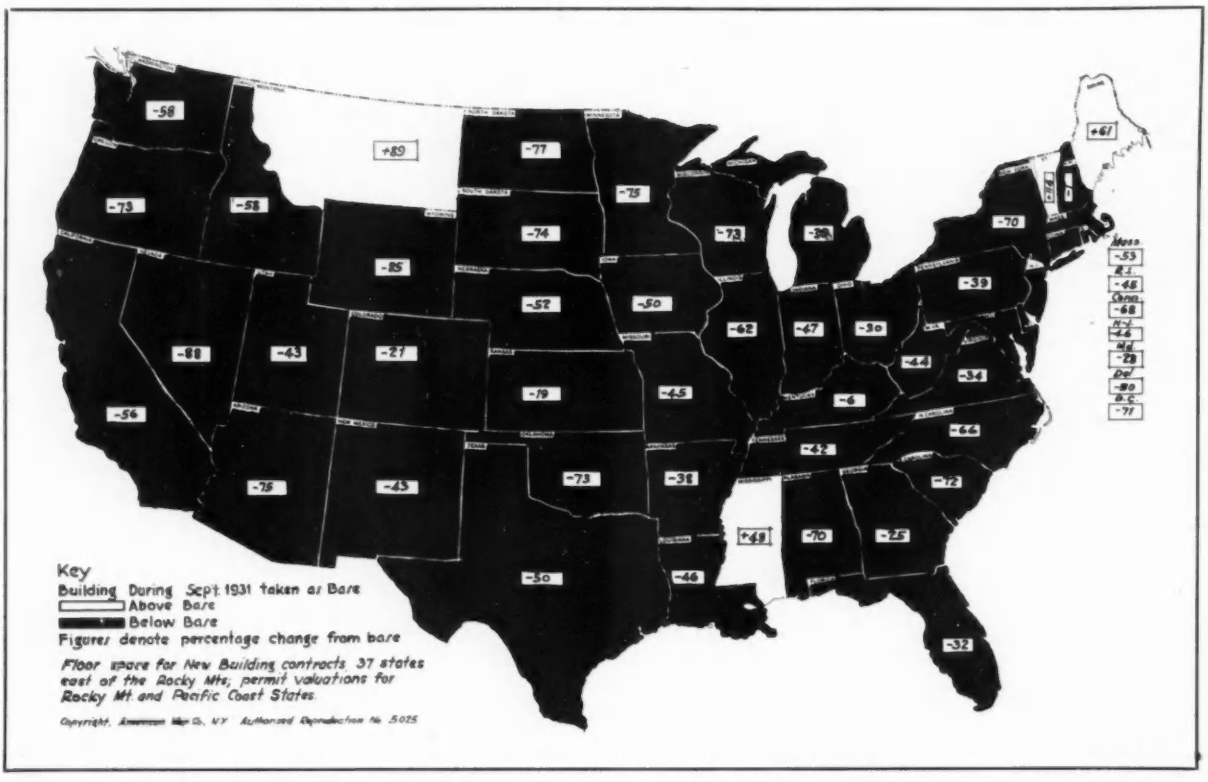
Windows featuring printers' marks made of handcut lead applied over the glass.

Peter A. Juley & Son



Above: Formal windows of 15th century type made of antique glass in rich deep colors with painted detail.

Left: Panel of molded glass. Design is produced by etching various shades of flashed glass. Lead outlines are copper finished. The total effect of the window may be either light or dark, depending on the tone of the flashed colors and the amount of etching. Executed by D'Ascenzo Studios, Philadelphia.



BUILDING TRENDS AND OUTLOOK

By L. SETH SCHNITMAN

Residential building awards in the 37 Eastern States showed a gain of $2,000,000 over the August record; this was almost 10 per cent. Normally a decline of about 4 per cent is registered between August and September residential awards. The September total of $22,803,900 compares with $20,766,800 for August and $54,552,800 for September, 1932.

At the end of the first quarter of 1932 residential building awards showed a decline of 63 per cent from the corresponding period of 1931; the second quarter showed a contraction of 70 per cent from the like 1931 period; the third quarter, likewise, showed a loss of 70 per cent from the corresponding quarter of 1931, but for both August and September the rate of loss in residential awards was progressively smaller than was shown for the quarter as a whole.

The outlook for residential building in the final quarter of 1932 is materially improved; not that any large or significant gain is indicated but rather that that quarter should show the smallest rate of decline from 1931. It is altogether probable that the last quarter of the current year may produce a contract volume at least as large as the total of $63,300,000 shown for the third quarter; this would mean a loss from the like 1931 period of only about 55 per cent. It is even possible that the final quarter's residential total may reach a volume of $70,000,000 which if it occurs would mean a significant improvement over the third quarter and a loss of only about 50 per cent from the like 1931 period.

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—

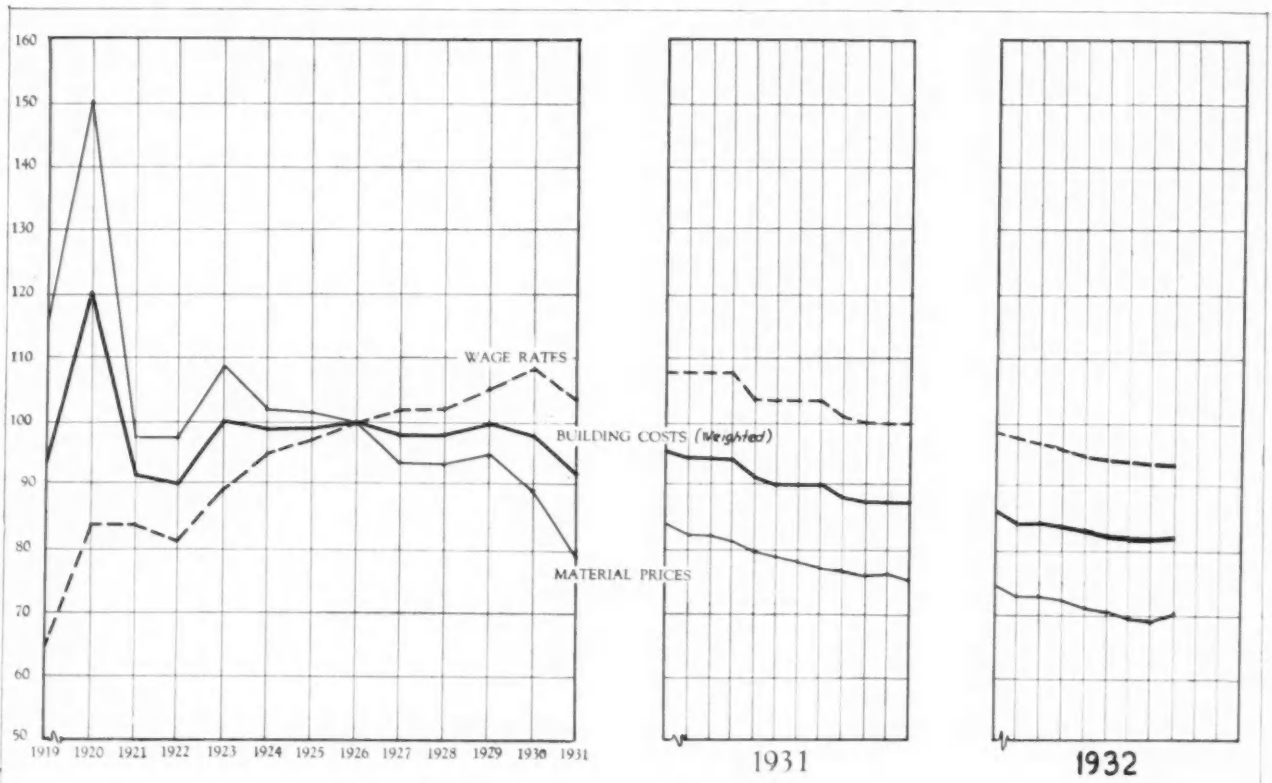
Material	This Month	Month Ago	Year Ago
Portland Cement	$2.03	$2.00	$1.96
Common Brick	11.75	11.75	12.20
Structural Steel	1.60	1.60	1.60
Lumber	15.52	15.55	16.92

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.

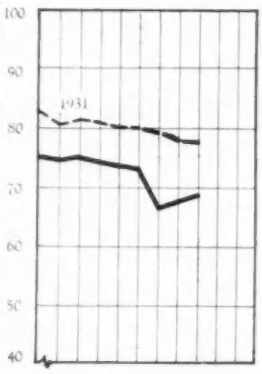
*As previously published in *General Building Contractor.*

MATERIAL PRICES, BUILDING WAGE RATES AND BUILDING COSTS COMPARED

1926 Monthly Average — 100

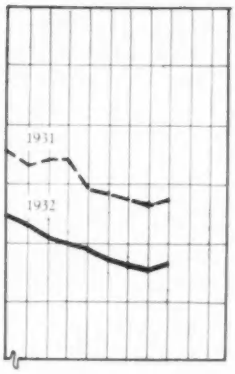


WHOLESALE PRICE INDEXES



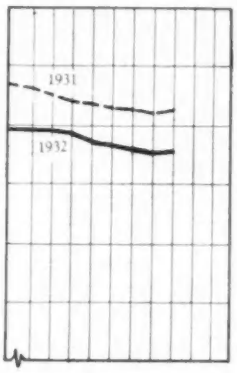
PAINT MATERIALS

Though further strength appears possible, it is not likely that the Spring levels of this year will soon be attained.



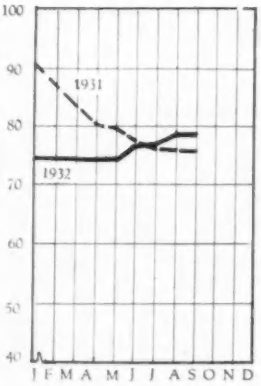
LUMBER

Current improvement in price structure is not likely to be extended materially.



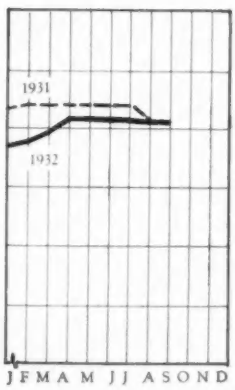
BRICK AND TILE

Further price softness appears probable for brick; this may be delayed for two or three months.



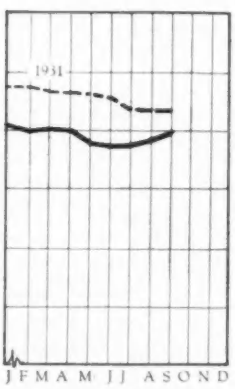
CEMENT

A severe test of current prices seems to be ahead, especially in the light of a diminishing program of highway construction.



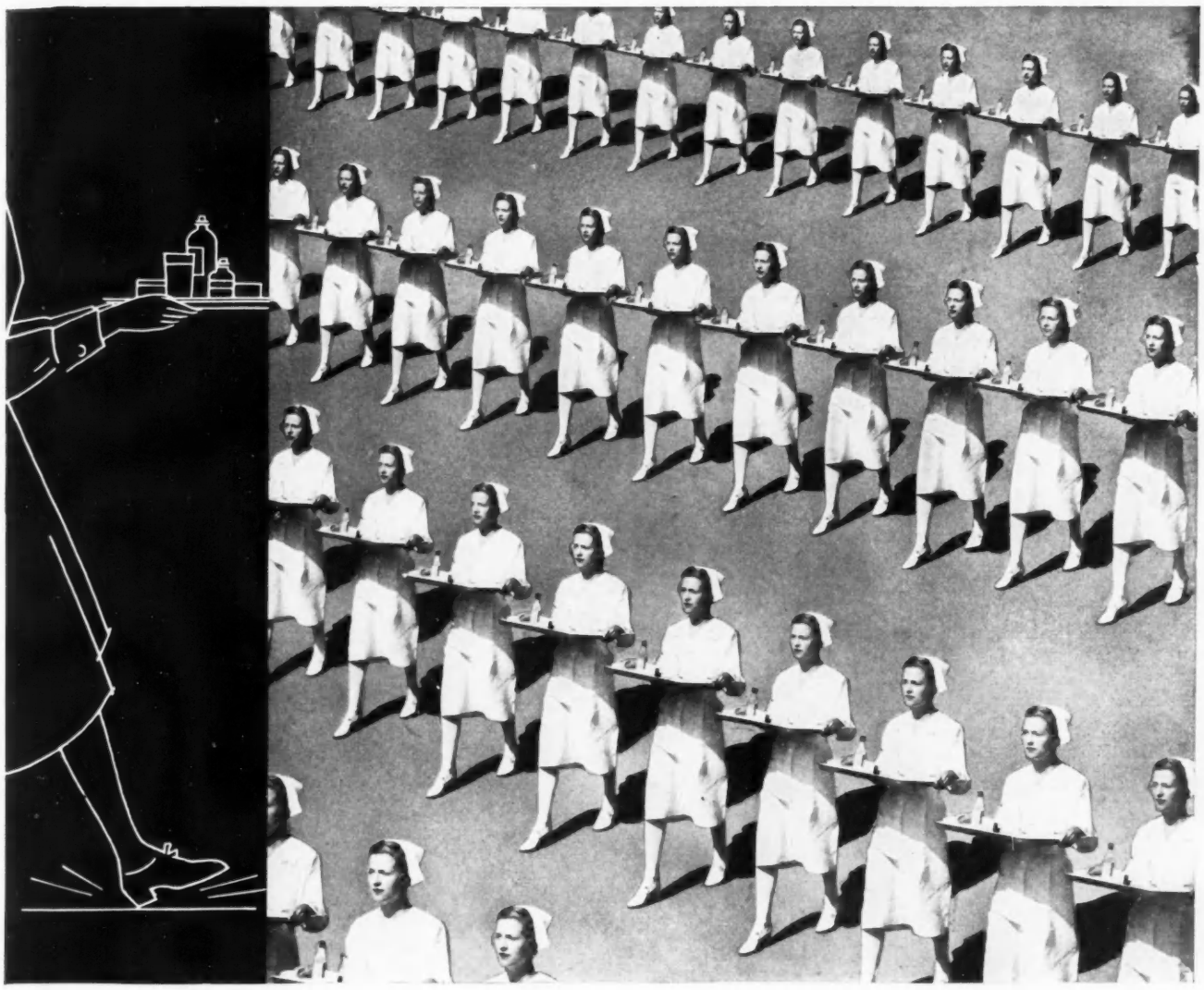
STEEL

Current levels for structural steel will doubtless be severely tested in nearby months.



OTHER MATERIALS

Other building products will move in sympathy with the general trend of material prices.



Tramp . . tramp . . tramp
the girls are marching . . .

DAY AFTER DAY—year in and year out—the nurses' army marches from eight to thirteen miles a day! That's no haphazard estimate; it is the actual showing of pedometers worn by hospital nurses while going about their ordinary day's work.

No wonder, then, that the records of forty-five new hospitals show that linoleum is the leading resilient floor today. No wonder that nurses so quickly *feel* the difference after resilient Sealex Linoleum Floors are installed. Sealex Floors have just the right amount of "give" to conserve energy and good nature in the course of a nurse's long day's hike. Patients, too, welcome these noise-reducing, eye-pleasing Sealex Floors.

Don't overlook other important advantages of Sealex Linoleum Floors. They're sanitary—easy to clean and keep clean. Durable, they withstand many years of heavy traffic. And they're not expensive—even in the more decorative types.

Write our Hospital Floors Department for further details and for complete information on our Bonded Floors and Bonded Walls Service—expert installation which includes Sealex materials backed by Guaranteed Bonds.
CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

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

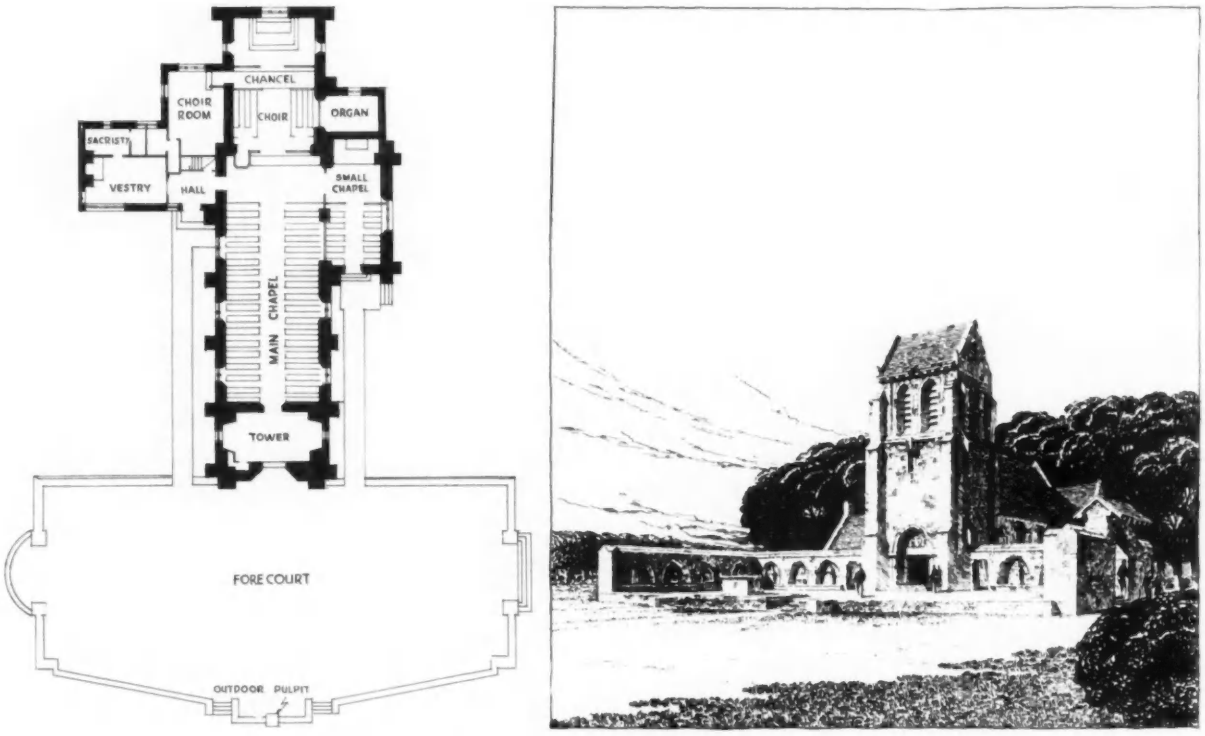
WAGE SCALES IN THE BUILDING TRADES

Information Furnished by National Association of Builders Exchanges and Compiled by Division of Statistics and Research, F. W. Dodge Corporation, as of October 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	$1.00	$1.25	$0.40	$0.70	$0.70	$0.75	$0.70	$0.60	$0.60	$0.40	*$0.87½	$0.65	*$1.20	$0.62½	$0.85	$0.80	$0.80	$0.80	$0.85	*$1.25	*$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	1.25	*1.30	.70	*1.17½	1.17½	*1.37½	1.17½	*1.20	*1.20	.70	*1.25	*1.12½	*1.37½	*.95	*1.25	*1.17½	*1.05	1.17½	*1.25	*1.30	*1.50	*.95
Buffalo	1.50	*1.25		*1.00	1.12½	*1.30	$49.50 to $55.00 wk.	1.25	*1.25	.50 .60	1.37½	*1.00	1.62½		1.25	.85	1.10	1.10	*1.25	*1.25	*1.43¾	
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	1.37½	1.37¼	1.37½	.96¼
Cincinnati*	1.15	1.37½	.70	1.20	1.02½	1.25	.80 1.25	1.25	1.25	.45	1.31¼	1.10	1.37½	.70	1.25	92½	1.07½	1.07½	1.25	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	.80
Detroit	1.37½	1.25 max.	.55 .60	.80 1.00	.70 .90	1.25 1.40	.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	1.00	1.50		1.00	1.00	1.25	1.00	1.12½	1.12½	.50	1.37½	.62½	1.00		1.25	1.00	1.25	1.25	1.25	1.00	1.25	
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	1.12½	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	1.00	1.00	.25 .35	1.12½	.90	1.00	.60	1.12½	.30 .50	.85	.85	1.12½	1.25	1.00	.50
Memphis	1.00	1.37½	.50	.50 .87½	.60 .75	1.00	.75	.75	.75	.20	1.00	.75	1.25	.50	1.25	.25 .40	1.12½	1.12½	*1.25	1.37½	1.25	.50
Milwaukee	1.00	1.00	.90	.85	1.00	1.25	1.15	1.05	1.05	.50	1.00	1.00	1.00	.90	1.00	1.00	.92½	.92½	1.00	1.00	1.00	.65
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 .65	.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††	11.20	13.20	8.00	11.20	c11.20	12.20	13.20	11.20	13.20	6.60	11.20	11.20	12.00	8.50	c12.00	11.28	12.62	11.20	11.20	13.20	11.50	8.50
Oakland††	7.00	11.00	7.00	7.20	7.20	8.00	9.00	7.20	9.60	5.00	10.00	7.00	8.80	6.00	8.25	7.00	7.00	7.50	8.25	9.00	8.00	5.00
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		1.00	1.05	1.25	$40.00 to $50.00 wk.	1.25-1.37½	1.00 1.37½	.35 .40	1.62½	.80	*1.62½	1.12½	1.04	1.00	1.25	1.25	1.04	1.00	1.25	.75
Pittsburgh	*1.50	*1.50		*1.25		*1.56¼	1.37½ 1.43¾	*1.37½	1.37½			*1.18¾			1.50	*1.25	*1.50	*1.31¼	*1.71⅞	*1.40	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	1.25	.55	.90	1.00	.80	1.00	1.25	1.25	.25 to .30	1.00	70	1.25- 1.50	.30	.87½	.80	.80	.85	1.00	1.37	1.25	
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 2.75	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	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. c Correction. 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.



AMERICAN LEGION MEMORIAL CHAPEL AT LAKEHURST, NEW JERSEY

SUB-CONTRACT CONTROL IN PRACTICE

By PAUL P. CRET, Architect

In awarding the general contract for the American Legion Memorial Chapel at Lakehurst, New Jersey, it was stipulated that the names of all subcontractors and the amounts of their bids should become part of the contract document; that no change could be made as to subcontractor or amount of subcontract except with the approval of the architect, and that any savings due to such adjustment should accrue to the owner. The background of such a plan necessarily included a sympathetic, cooperative building committee and possibly more than usual care in defining the details of the specifications.

At the time of advertising for bids the following letter was written to emphasize this subcontract stipulation:

> Gentlemen:
>
> In reporting the figures on the American Legion Memorial Chapel at Lakehurst, N. J., to the Building Committee, it is our intention to draw the contract for a stipulated sum, and require the contractor to stipulate the names of all subcontractors, with the amount of subcontracts. No change can be made as to subcontractor or amount of subcontract, except with the approval of the architect and the Building Committee. Any savings due to such change in amount of subcontracts will accrue to the owner and not to the contractor.

This letter evoked attitudes ranging from entire cooperation to complete skepticism on the part of various general contractors. One contractor submitted a bid with the frank statement that if we intended to make this clause stick, this was his bid; otherwise deduct $6000.

The definition of this clause in the general contract, which was awarded to Edwin E. Hollenback of Philadelphia, was as follows:

> *Article* 8. The Contractor further agrees that the following subcontractors shall be employed on this work, at the figures here quoted, and that no changes shall be made in this list without the approval of the Owner and the Architect, all savings to accrue to the Owner, and all additions to be paid by the Owner (see attached).

Stonemason	
Gill Doyle Corp., Philadelphia	$18,900
Cast Stone	
Formigli Archt'l Stone Co., Berlin, N. J.	6,725
Structural Steel	
Bethlehem Steel Fab. Co., Bethlehem, Pa.	405
Miscellaneous Iron	
American Iron Works, Camden, N. J.	240
Roofing & Sheet Metal Work	
A. Rotner & Co., East Orange, N. J.	2,828
Millwork	
Erik Jansson, Philadelphia	4,074
Plastering	
E. W. McClave & Son, Inc., Harrison, N. J.	1,225
Painting	
Herman Kosove, Philadelphia	621
Electrical	
Fred H. Boehm, West Collingswood, N. J.	783
Plumbing and Heating	
Harry Knecht Co., West Collingswood, N. J.	4,070

Why 2,000 schools have lower maintenance budgets

MORE than 2,000 schools . . . . city and rural, old schools and new . . . . have been enabled to lower their budgets because Spencer central vacuum systems are cutting the cost of cleaning, of floor maintenance, of redecorating.

The labor cost is lower because the work is faster . . . and because the strong suction cleans thoroughly and so quickly.

Dust and dirt are removed from every tiny crevice, pit and pore . . . . dust that only suction will remove. The floors don't need such frequent mopping and refinishing.

Since no dust is scattered in the cleaning, walls and ceilings do not become discolored. Redecorating bills shrink sharply wherever the Spencer system is used.

Whether you are planning a new school, or seeking to reduce costs in an old one, you will welcome the information given in "Modern Methods of School Cleaning". We will gladly send it on request, together with a list of Spencer cleaned schools near you.

THE SPENCER TURBINE COMPANY
HARTFORD CONNECTICUT

1785

Richard T. Dooner

PAUL P. CRET, ARCHITECT

Every one seems satisfied with this contract. We are having far less trouble than we have come to regard as usual in certain details of execution. Our only change in procedure on a similar job would be to require only the successful bidder or a few low bidders to submit subcontractors' names and totals.

Mr. Hollenback writes us as follows:

"Now that more than three weeks have passed since the announcement of the award to us of the general contract for the American Legion Memorial Chapel at Lakehurst, N. J., we should like to reduce to writing the gist of our conversation with your Mr. Harbeson concerning our reaction to the unique feature of submitting a list of subcontractors, with the amounts of their bids, as a requirement of the proposal.

"By reason of this feature we were enabled to list the amount of the lowest responsible bid in each sub-line, arrive at a cost, add a modest profit, and submit a final proposal. Each subcontractor named knows that his bid is accepted in the amount submitted. It was possible for him to present his lowest figure confident that his bid would not be shopped around after the award. The subcontractors have not hesitated to express their pleasure over this method of awards. We are certain that the general air of satisfaction prevailing will be reflected in the quality of materials and workmanship to be employed in the construction of this project.

PREVENT EFFLORESCENCE

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve and thus work their way to the surface of the wall. . . . Brixment never causes efflorescence because it contains less than ½ of 1% of soluble salts. . . Furthermore the waterproofing in Brixment mortar prevents water from entering the wall and dissolving any salts which may be present in the sand or the brick. Brixment is therefore endorsed by manufacturers of face brick.

LOUISVILLE CEMENT COMPANY, *Incorporated*, LOUISVILLE, KY.

District Sales Offices: 1610 Builders Bldg., *Chicago;* 600 Murphy Bldg., *Detroit;* 101 Park Ave., *New York*

Mills: Brixment, N. Y. and Speed, Ind.

BRIXMENT

A Cement for Masonry and Stucco

"All of us concerned know exactly where we stand—what is expected of us. We did not have to withstand the onslaughts of subcontractors and material men, all dangling tempting offers to shade the best prices we had. To our mind the plan commends itself to wider practice. The interests of the owner, architect, general and subcontractor and material men would be materially benefited thereby, we are sure."

The actual construction, well under way, lives up to these specifications. THe work is being well done, and to the satisfaction of all.

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MANUFACTURERS ANNOUNCEMENTS

NEW LINE OF SWITCHGEAR

To meet requirements of industrials, building equipment and power station auxiliaries, the General Electric Company offers a new line of switchboards employing air circuit breakers for the control and protection of power and lighting lines. The breakers are trip-free and can be manually or electrically operated. They are of the same general construction as the General Electric breakers installed in the Empire State, the Fidelity Philadelphia Trust Company, and many other buildings. The ratings are up to 750 volts and 4,000 amperes a-c. and 6,000 amperes d-c.

The switchboards are to be manufactured in three types, the dead-front, the metal-inclosed, and the metal-inclosed draw-out types.

ARCO-PETRO AUTOMATIC BOILER

Announcement has been made by American Radiator Company and Petroleum Heat & Power Company of a working arrangement whereby, without merging interests and without any modification of their corporate identities, they will cooperate in offering a joint production to be known as the Arco-Petro. The new product is a complete automatic home-heating unit of a boiler and burner combined, using either oil or gas. It provides not merely heat but also the entire household supply of hot water the year round.

ARMSTRONG ACOUSTICAL PRODUCTS

A quick reference guide of 32 pages has been published by the Armstrong Cork and Insulation Company of Lancaster, Pa. The booklet describes *Corkoustic* and *Ceramacoustic*, products used for the acoustical correction of churches, auditoriums, theaters, and the noise-quieting of banks, schools, hospitals, offices, factories and public buildings.

PLATE XV

THE MODERNISTIC MOVEMENT

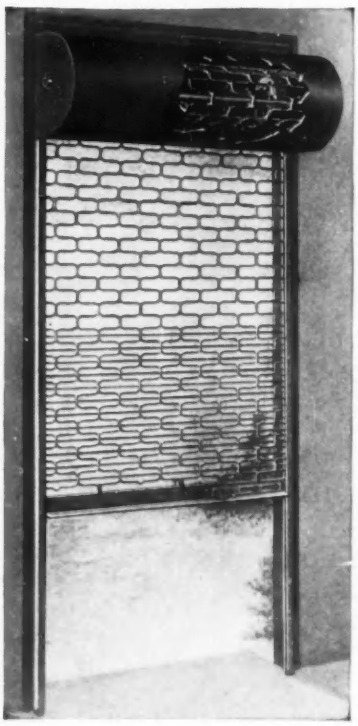
The Detroit & Pontiac Investment Building, Pontiac, Mich., is thoroughly modern in design. It was planned by Robert O. Derrick, Inc., of Detroit. This page features one of the unusual entrances—original in form and strong in the character of Verde Antique marble.

VERMONT MARBLE COMPANY—PROCTOR, VT.

Branches in the larger cities

See Sweet's Catalogs for Specifications and Other Data

VERMONT MARBLE



ROLLING GRILLES AND GATES

The *Rolling Grille*, manufactured by the Cornell Iron Works, Inc., of Long Island City, is recommended for store fronts, entrances, gateways, counters, openings and entrances where protection as well as openness is desired. Governed by the Cornell system of counterbalance, the grille operates with speed and ease. Larger sizes are operated with simple mechanical means. All are equipped with locks.

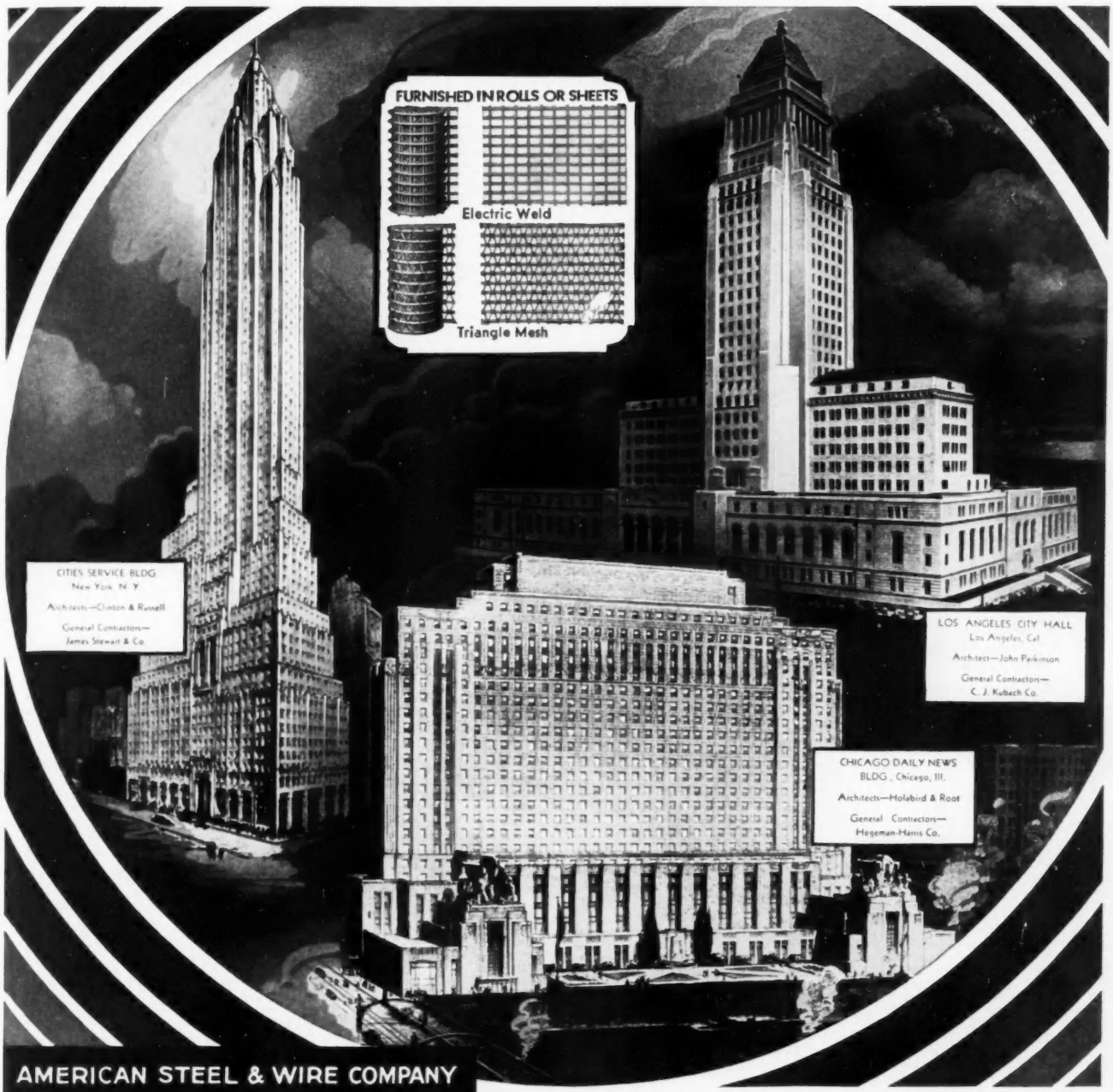
Grilles consist of rolled and pressed steel bars joined together with strong ornamental links with straight links in side guides. Traveling up and down in two vertical cold rolled steel channel shaped guides, about 1¼ x 1¼ inches, they cannot be "pulled" out of tracks. When coiled up on horizontal shaft, they are between 10 and 16 inches in diameter. Usual installations are made on face of wall, as in illustration, but can be made to coil under lintel; if furred in, becomes entirely hidden when open. Grilles are also made with bronze, rustless steel, or aluminum rods and links.

NU-WOOD BEVEL-LAP TILE

The manufacturers of *Nu-Wood* and *Balsam-Wool* insulation have added to their line of products a new triple-purpose material called *Nu-Wood Bevel-Lap Tile*. This wood fiber product, which is not only a wall and ceiling decoration but is claimed to be desirable for acoustical treatment as well as insulation, is offered in various sizes and shapes. The tiles come in tones shading from light tan and gray to a rich wood brown. One side has a rough mat surface, the other a smooth surface. The tiles can be applied on either new walls or over surfaces of old walls by simply nailing or securing with a special plastic adhesive. This product is described in a booklet issued by the Wood Conversion Company, Cloquet, Minnesota.

BRICKWORK DETAILS

"Studies in Brickwork" is the title of a brochure issued by the Metropolitan Paving Brick Company of Canton, Ohio. Illustrations and scale details of brickwork in the Teaneck, N. J., High School (Hacker and Hacker, architects) are included.



AMERICAN STEEL & WIRE COMPANY

WIRE FABRIC

THE STEEL BACKBONE OF CONCRETE

From Coast to Coast—First Choice For Concrete Floors

The Cities Service Building, New York City, the Daily News Building, Chicago, and the new City Hall, Los Angeles—outstanding building achievements in their great cities—have their concrete floors reinforced with American Steel & Wire Company Wire Fabric.

This product is recognized as standard for concrete reinforcement as its definite factors of safety, its great strength and permanency have won the enthusiastic endorsement of leading architects, engineers and contractors.

1831 

1932

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago
94 Grove Street, Worcester

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

Empire State Bldg., New York
First National Bank Bldg., Baltimore

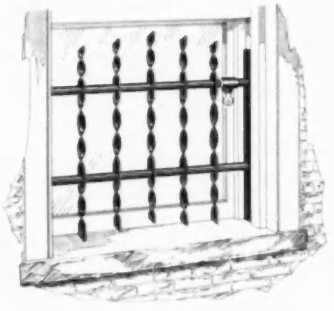
AND ALL PRINCIPAL CITIES

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

Export Distributors: United States Steel Products Company, New York

SHUR-LOC WINDOW GUARDS

Day or night window protection is assured by a new window guard marketed by the Shur-Loc Window Corporation, New York. Working on the principle of any ordinary collapsible window screen, the guard is placed directly beneath the upper window sash between the stops. The expansion locking bars are then firmly set against the window runways and locked securely with a key.



No bolts, screws, nails or rivets are necessary and no damage to paint or woodwork is possible. The guard prevents the upper window from being lowered more than a few inches.

NEW SPEAKMAN SHOWER HEAD

The Speakman Company of Wilmington, Delaware, who nearly four years ago brought out the Anystream Self-Cleaning Shower Head, has now developed another smaller head, which also permits easy cleaning. In addition, the new head, which has been given the name "Adjusta-Spray," allows two variations of the streams—fine or needle, and coarse. It is 2¼ inches across the face, about half the size of the Anystream Head. Adjustment and cleaning are both accomplished by turning the face with conveniently placed lugs.

The new Adjusta-Spray Shower Head does not permit the adjustment possible with the Anystream Head, which has six slotted plungers, operated by the lever handle on the side of the head. The Anystream head is about double the size of the Adjusta-Spray, being 4⅛ inches across the face.

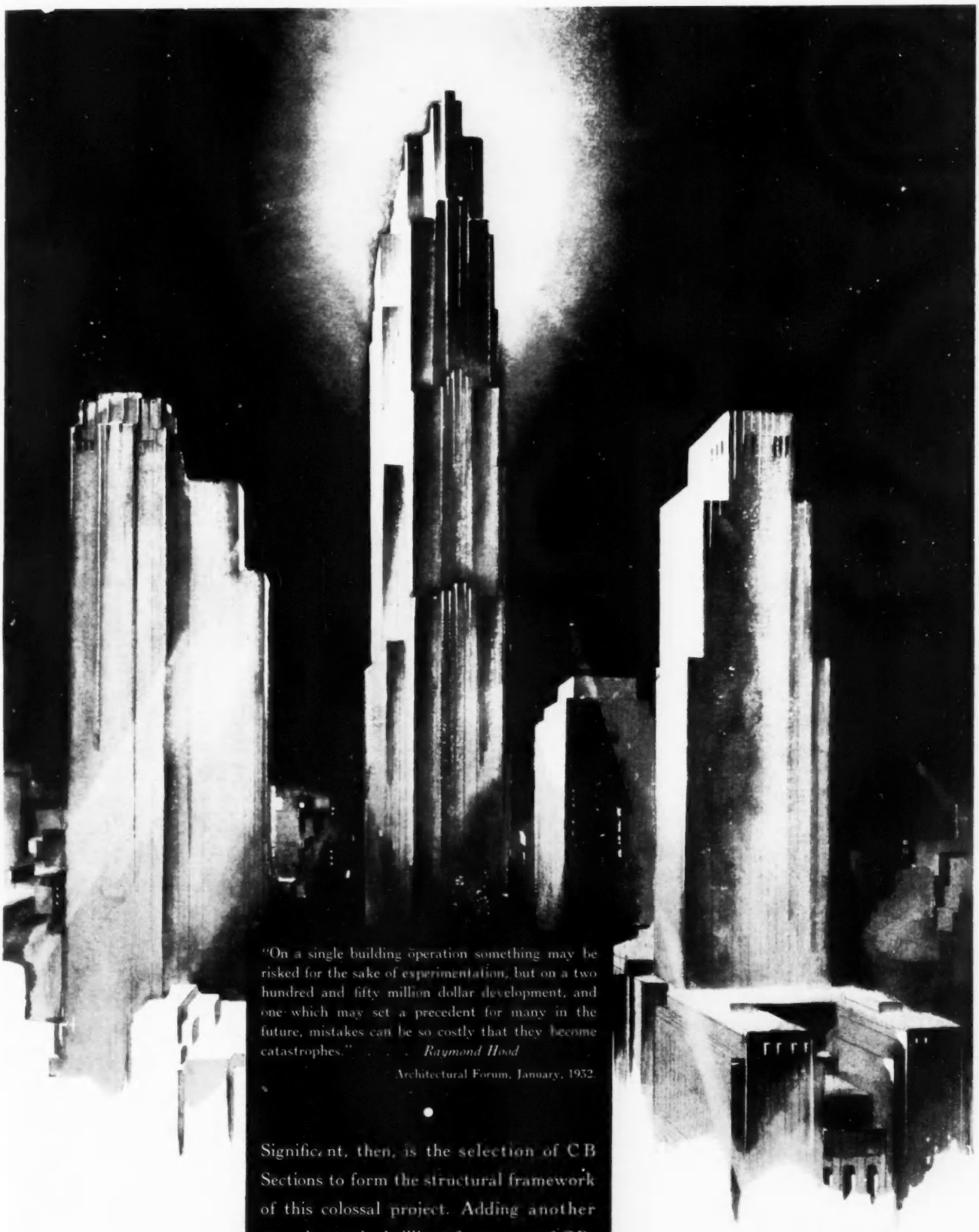
FIRE PROTECTION FOR THE HOME

A "Junior" sprinkler system for residence protection has been developed by the Grinnell Co., Inc., of Providence, R. I. Flexible copper tubing is connected to the domestic water supply and spaced on the basement ceiling, carrying at regular intervals Grinnell Speedex Sprinkler heads. The heads are held tightly shut by a special quartzoid bulb which will open only when subjected to a temperature of 135 degrees. When a bulb opens, water issues from the tubing and is broken up by the heads into a pressure driven rain. As soon as water flows through the tubing to an open head an alarm is automatically sounded.

CORRECTIONS

Frank D. Chase, Inc., were consulting architects of the power plant at Bremo Point, Virginia. A photograph of this building appeared on page 151 of the September issue.

By a clerical error in transcribing information for the checklist of air conditioning equipment, published on pages 264-271 of the October issue, the Moss-Chase Co., was listed as manufacturers in the place of the Niagara Blower Co.



"On a single building operation something may be risked for the sake of experimentation, but on a two hundred and fifty million dollar development, and one which may set a precedent for many in the future, mistakes can be so costly that they become catastrophes." . . . . *Raymond Hood*

Architectural Forum, January, 1932.

•

Significant, then, is the selection of CB Sections to form the structural framework of this colossal project. Adding another star also to the brilliant firmament of CB-built buildings.

CARNEGIE STEEL COMPANY

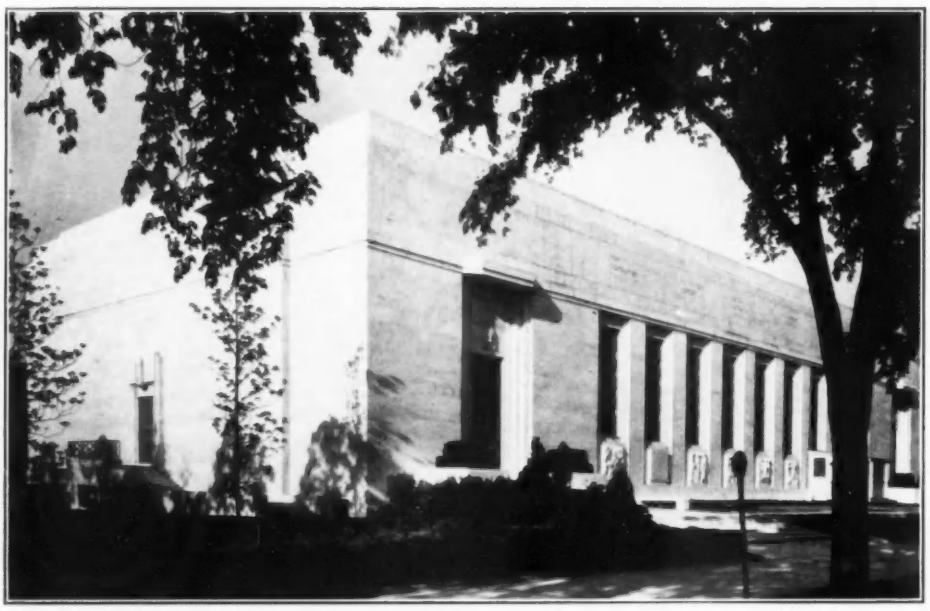
PITTSBURGH, PENNSYLVANIA

Subsidiary of United States Steel Corporation

206

ROCKEFELLER CENTER
NEW YORK CITY
Reinhard & Hofmeister,
Corbett, Harrison & MacMurray,
Hood & Fouilhoux,
Architects

Paul Cret's Office Benefits By



Folger Shakespeare Library, Washington, D. C. Paul P. Cret, Architect, A. B. Trowbridge, Consulting Architect.

THE OFFICE OF PAUL PHILIPPE CRET gains real assistance as a result of giving news of work on the boards to the Dodge reporter each time he calls. Mr. Harbeson testifies to this in his letter reproduced on the opposite page.

Mr. Cret established his present office after relinquishing some of his work as Professor of Architectural Design at the University of Pennsylvania. His organization now includes twelve men registered to practice architecture in the State of Pennsylvania, many of whom were formerly his students.

Mr. Cret, a graduate of Ecole des Beaux Arts, is a Fellow of the American Institute of Architects. He served in the First Division, A. E. F., and is a Chevalier in the Legion of Honor. He is a member of the Philadelphia Art Jury and Consulting Architect, American Battle Monuments Commission, University of Pennsylvania and Brown University. He won the Rougevin Prize and Medal of Emulation, 1901, the Gold Medal Salon, 1903, Medal of the Philadelphia Chapter, A. I. A., 1921 for Indianapolis Library and 1927 for Delaware River Bridge, and gold medal, Architectural League of New York, 1928, for the Detroit Institute of Arts. John F. Harbeson, A. I. A., associated with Mr. Cret, holds the Brooke gold medal in design. He is Associate Professor, Architectural Design, University of Pennsylvania, and the author of "The Study of Architectural Design." Other members of this firm are: *William J. H. Hough*, A. I. A., Fellow American Academy in Rome, 1914-17, winner John Stewardson Memorial Traveling Scholarship, 1911; *William H. Livingston*, A. I. A., winner John Stewardson Memorial Traveling Scholarship, 1918, Brooke gold medal and A. I. A. medal in design, 1919; *Roy F. Larson*, A. I. A., Brooke gold medal and A. I. A. medal in design, 1923, medal of the Societe des Architectes Diplomes P. L. G. F., 1922, Traveling Scholarship Chicago Architectural Club, Patron T-Square Club atelier in Philadelphia, 1930.

The following designers are associated with this office: John Lane Evans, holder of Stewardson Scholarship, 1925; Roy Ruhnka, Assistant Professor Architectural Design, University of Pennsylvania, and Darwin H. Urffer, holder Woodman Traveling Fellowship, 1927.

Giving News To DODGE REPORTS

On August 23, 1932, Mr. Harbeson wrote:

"We have found your reports of real assistance when bids are taken, in bringing inquiries of manufacturers and salesmen at the time when they are most needed to give the information which they alone can furnish. A central news agency saves much time of individual offices in keeping record of the progress of projected work.

Very truly yours,"

PAUL P. CRET

By John F. Harbeson

In this series of informal sketches about famous architects, we have been privileged to publish leters from:

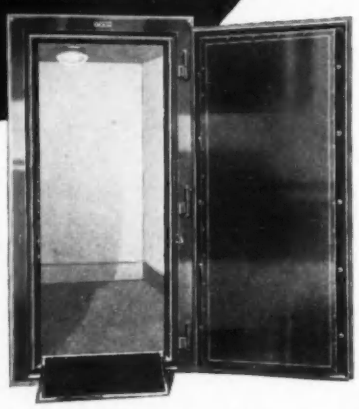
Starrett & Van Vleck
Delano & Aldrich
Geo. B. Post & Sons
Penrose V. Stout
Eberson & Eberson
The Ballinger Company
Warren, Knight & Davis
Frank Irving Cooper Corporation
Guilbert & Betelle
Holabird & Root
Gordon & Kaelber
Albert Kahn, Inc.
Weiss, Dreyfous & Sieferth
Wyatt C. Hedrick
Mauran, Russell & Crowell
R. Clipston Sturgis
Walker & Weeks
Smith & Senter
Childs & Smith

War Memorial, Chateau Thierry, France, for American Battle Monument Commission. Paul P. Cret, Architect.

F. W. DODGE CORPORATION, 119 West 40th St., New York

F.W. DODGE CORPORATION

For Every FIRE HAZARD A Diebold Vault Door

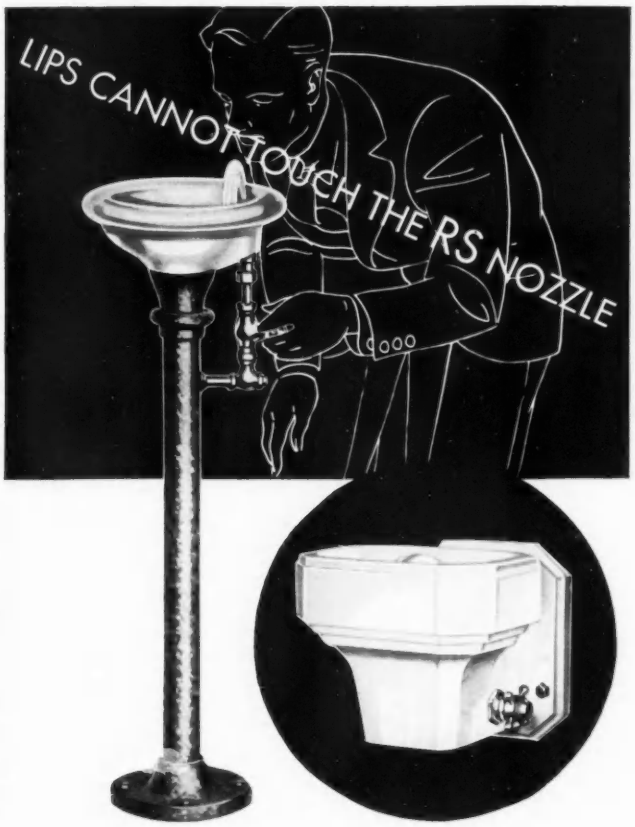


The No. 156 Vault Door, Underwriters' 6-hour fire classification, should be used on lower floor vaults which may be subjected to the soaking heat of falling debris . . . for the complete protection of vital records in any location.

FIRE HAZARDS vary in every building . . . even from one floor to the next. Occupancy and outside exposures, as well as the construction of the building itself, must be carefully considered in planning fire-resistive vaults. » » » The degree of protection desired in the vault depends upon the value of the contents, their cost of making and replacement. The vault must be so designed that the fire-resistance of walls and door are balanced. » » » The Diebold Triumph Line Vault Doors afford labeled and certified fire protection from one-half to six hours. Our catalogue in Sweet's, pages C-3772 to C-3785, provides full information, including authentic recommendations for vault or record room construction and vault door selection. » » » Long known as the leading bank vault manufacturer, Diebold offers complete protection for records, money and wealth from fire, burglary and banditry. » » » »

DIEBOLD SAFE & LOCK CO., Canton, Ohio
( ) *Please send your recommendations for vault construction and vault door selection.*
*Firm*_____
*Individual*_____
*City*_____ *State*_____

DIEBOLD
SAFE & LOCK CO., *Canton, Ohio*
Over Seventy Years of Protection Service



MORE THAN A BUBBLER
—Every Drink is a Sanitary One

Everywhere, in public buildings, parks and wherever people gather, the drinking fountain is the common meeting place. Therefore, consideration should be given the type of fountain. Remember, it is humanly economical to install the Rundle-Spence . . . the fountain with unusual sanitary advantages.

The R-S Vertico-Slant fountain design makes it impossible for the user to touch his or her lips to the nozzle. Water spouts slantingly from jet to mouth, the excess falling into the bowl and not on the jet. Only the R-S fountains have Vertico-Slant health-guarding features. Send for catalog.

RUNDLE-SPENCE MFG. CO.
440 NO. FOURTH ST. MILWAUKEE, WIS.

RUNDLE-SPENCE

LIPS CAN NOT TOUCH THE R-S NOZZLE