

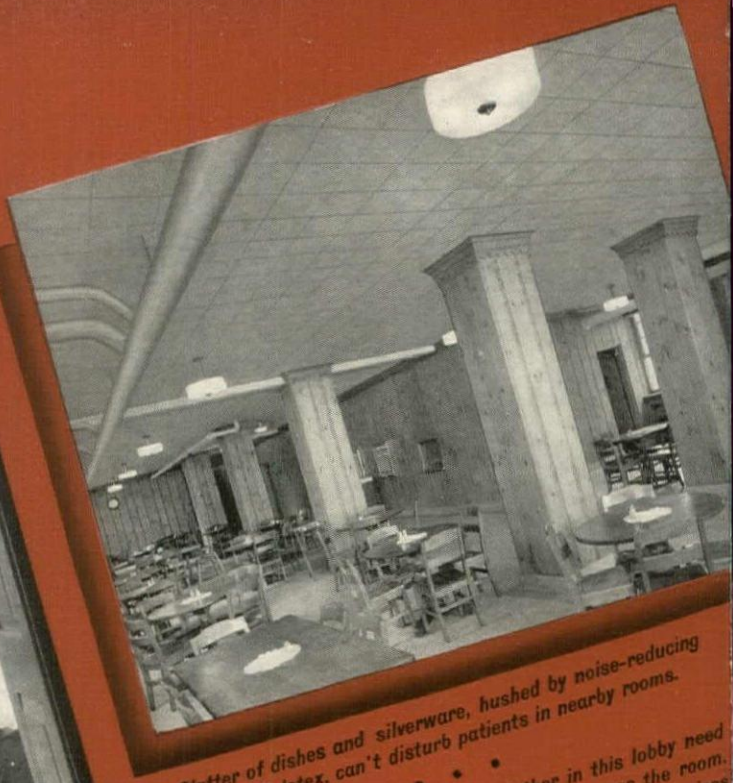
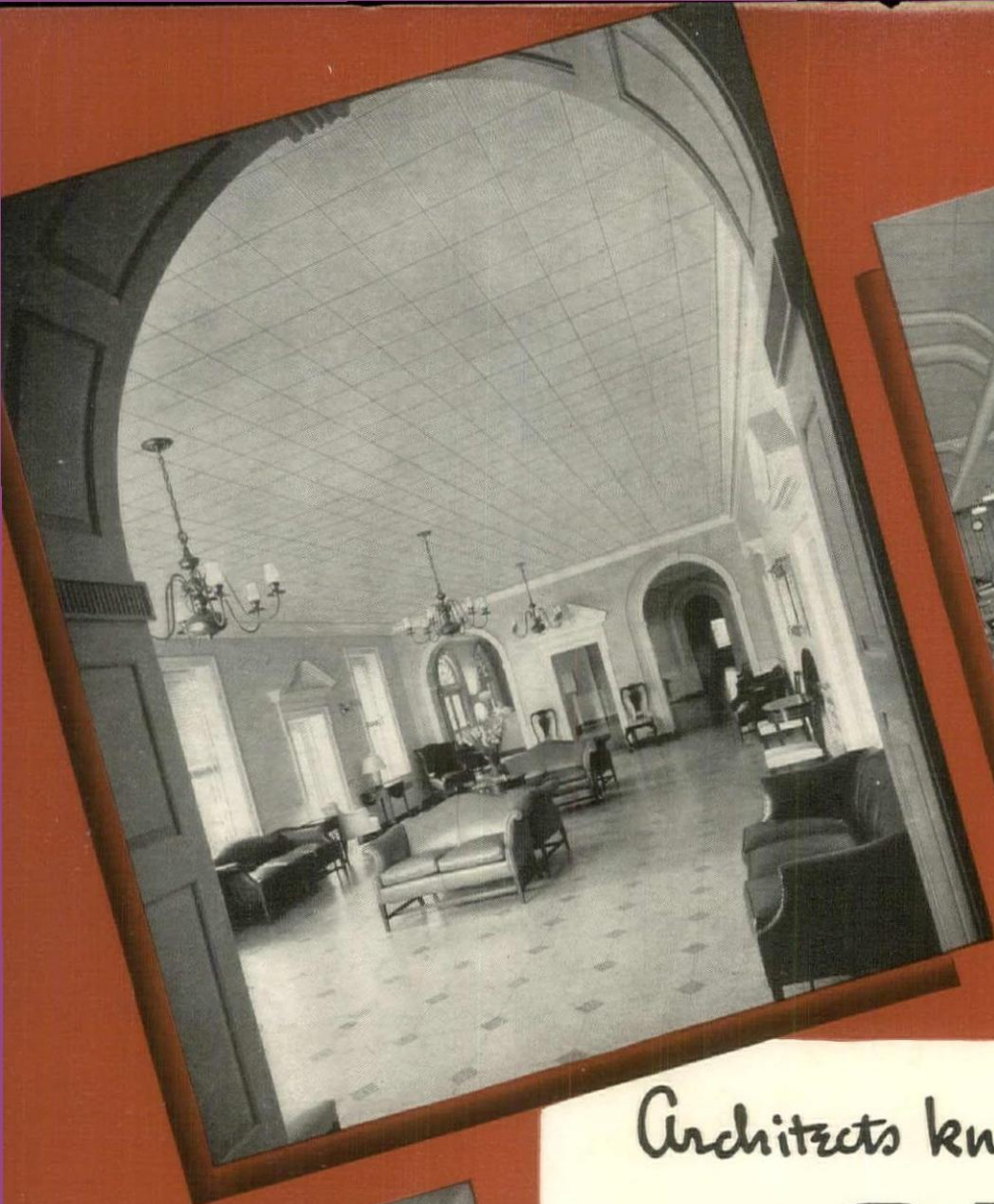
NOV 1 1939

H. F. Hancock
NOV 24 1939

UNIVERSITY OF MARYLAND
LIBRARY

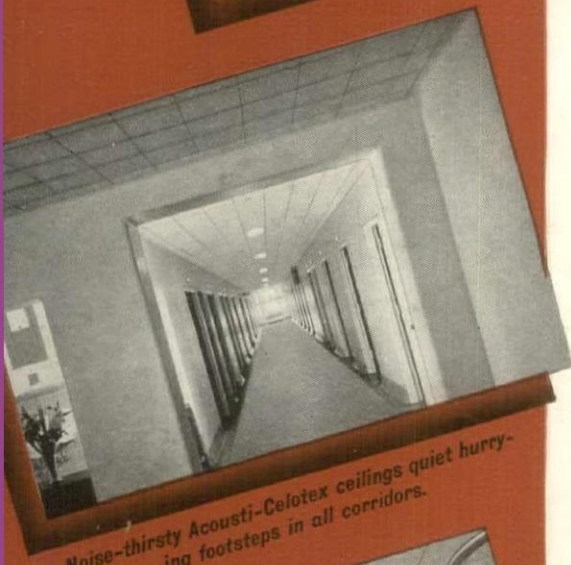
THE ARCHITECTURAL FORUM

NOVEMBER 1939

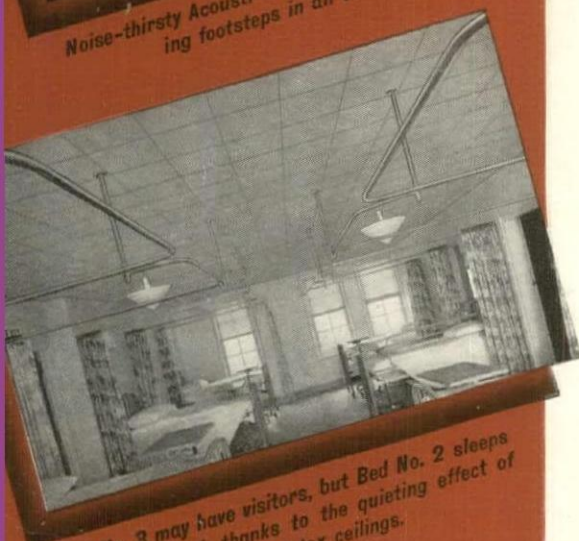


Clatter of dishes and silverware, hushed by noise-reducing Acousti-Celotex, can't disturb patients in nearby rooms.

Joyous congratulations to a new father in this lobby need not disturb an anxious group conferring across the room. Acousti-Celotex Sound-absorbing Fibre Tile subdues voices.



Noise-thirsty Acousti-Celotex ceilings quiet hurrying footsteps in all corridors.



Bed No. 3 may have visitors, but Bed No. 2 sleeps on, undisturbed, thanks to the quieting effect of Acousti-Celotex ceilings.

Architects know the importance of **QUIET** in all hospital noise centers

HEACOCK, HOKANSON, AND SHEURINGER planned the beautiful new Ellis Hospital at Schenectady, New York. They know the importance of QUIET, consequently the ceiling of every noise center in the hospital is sound-conditioned with Acousti-Celotex Fibre Tile.

Lobby, dining room, nursery, wards, and corridors—all are potential sources of *disturbing echoes*—sounds of voices and footsteps which doctors and nurses are glad to have kept from their patients. Thousands of hospitals and other institutions subdue Noise with this famous paintable

material, proved through years of service.

Whether your immediate acoustical problem be a hospital or a bank, a courtroom or a theatre, one of the Celotex acoustical products can meet your requirements exactly—both as to architectural effect and sound control. Our experience is yours to command, without obligation. Complete information on all Celotex acoustical materials should be in your files. A request from you will bring it by return mail.



The word Acousti-Celotex is a brand name identifying an acoustical product marketed by The Celotex Corporation.

PAINTABLE PERMANENT
ACOUSTI-CELOTEX

TRADE MARK REGISTERED

U. S. PATENT OFFICE

Other Celotex Brand Acoustical Products:

CALICEL CALISTONE ABSORBEX

Sales Distributors Throughout the World. In Canada: Dominion Sound Equipments, Ltd.
THE CELOTEX CORPORATION • 919 NORTH MICHIGAN AVENUE • CHICAGO, ILLINOIS

NOVEMBER 1939

CASTLE VILLAGE	340
A 569-family apartment project oriented to an 180° view. Reinforced concrete and cross planning carried to new highs.	
ASSOCIATED AMERICAN ARTISTS	347
Controlled circulation and improved lighting in a new gallery.	
MUSEUM LIGHTING	350
Special installations for picture and sculpture galleries.	
RESIDENCES and SETTLEMENT HOUSE	351
A portfolio of distinguished recent work by Paul Schweikher and Theodore Warren Lamb of Chicago.	
PRODUCTS & PRACTICE	367
Reinforced brick masonry . . . a rediscovered building technique which offers new design opportunities and economy in the enlarged application of man's oldest building material.	
THE ARCHITECT'S WORLD	371
Supplementing <i>Forum's</i> record of what is being achieved in architecture, here is a digest of what is being thought and argued.	
THE DIARY	377
Random comment of a peripatetic observer.	
HOSPITALS	379
Recent trends in hospital design shown by a number of new institutions of widely varying size and function: Memorial Hospital for the Treatment of Cancer and Allied Diseases; Little Traverse Hospital; Surgical Floor, St. John's Hospital; White Plains Hospital; Hospital for Chronic Diseases, Welfare Island.	
BUILDING MONEY	399
Home Building's most important financiers are the local savings and loan associations—their past, present and future . . . A 200-house subdivision with steel and concrete floors and vest-pocket heating plants . . . Brooklyn remodels an apartment, looks at its 50-year history of maintenance costs . . . A portable rental project plugs prefabrication in Reno . . . How the war in Europe is affecting building statistics in the U. S.	
MONTH IN BUILDING	2
FORUM OF EVENTS	10
American Institute of Architects bestows offices and honors . . . News in pictures . . . Awards . . . Competitions . . . Educational . . . Personal.	
BOOKS	14
Washington, Victoriana and the New Architecture . . . Books on New York, New England, modern furniture.	
LETTERS	16

Editor, Howard Myers; *Managing Editor*, Ruth Goodhue; *Associates*, Paul Grotz, Joseph C. Hazen, Jr., George Nelson, Henry H. Saylor, Henry Wright; *Assistants*, John Beinert, Anna De Cornis, Barbara Hunt, Richard E. Saunders, Madeline Thatcher, Allan Woodie.

THE ARCHITECTURAL FORUM is published by Time Inc., Henry R. Luce, Chairman, Board of Directors; Roy E. Larsen, President; Eric Hodgins, P. I. Prentice, Allen Grover, Vice Presidents; Charles L. Stillman, Vice President and Treasurer. Publication and Subscription Office, Erie Ave., F & G Streets, Philadelphia, Pa. Subscriptions may also be sent to 330 East 22nd Street, Chicago, Illinois. Executive, Editorial and Advertising Offices, Time & Life Building, Rockefeller Center, New York. Business Manager, H. A. Richter. Advertising Manager, George P. Shutt. Address all editorial correspondence to Time & Life Building, Rockefeller Center, New York. Yearly subscription, Payable in advance, U. S. and Possessions, Canada, Cuba, Mexico, South America, \$4.00. Elsewhere \$6.00. Single issues, including Reference Numbers, \$1.00. All copies Mailed Flat. Copyright under International Copyright Convention. All rights reserved under Pan American Copyright Convention. Copyright, 1939, by Time Inc. Printed in U. S. A.

BUILDING STATISTICS. Covering the first month of World War II, the trends of these building indices are particularly significant: wholesale material prices, up to the highest level since April 1938; rents, up to the highest level in twelve months; employment, unchanged; interest rates, down; mortgages selected for FHA appraisal, down. September trend of the last mentioned item, however, may reflect the coming seasonal lull. Despite the construction upsurge of 1938's second half, August 1939 permits (opposite), contracts and mortgage recordings all bettered last year's figures. See page 410.

PERMITS

(Source: U. S. Dept. of Labor)

	Monthly data			First eight months	
	Aug. 1939 (millions)	Comparison with July '39	Aug. '38	1939 (millions)	Comparison with 1938
Residential	\$116.6	+20.9%	+33.8%	\$766.1	+37.2%
Non-residential	45.5	-22.0	+ 2.5	398.5	+15.7
Additions, repairs . .	32.8	+11.8	+21.2	235.5	+10.1
TOTAL	194.9	+ 7.5	+23.0	1400.1	+25.4

LOST MAN-DAYS. Imagine a construction job requiring the labor of 520 men every working day for three solid years, enough men and time to build several Castle Villages (page 340). According to *News & Opinion*, mouthpiece of New York City's Building Trades Employers Association, such a job is a measure of what strikes meant last year to the Nation's building and construction industry—405,000 man-days of idleness. But, strike-wise, Building was not the hardest hit industry; it ranked fourth behind Wearing Apparel (764,000 man-days), Textiles and Retail Trade. Sixth on the list was Iron and Steel with a loss of 397,000 man-days; Automobiles ran twelfth (288,000); Water Transportation (126,000) came in last in the field of nineteen.

PERMITS VS. CONTRACTS.

Last month came answer to a poignant question long in the back of Home Building's mind: "What is the relation between permit valuations, contract prices and selling prices on one-family houses?" The answer: contract prices are 19 per cent higher, and selling prices are 42 per cent higher than permit valuations. Its source: U. S. Department of Labor's Bureau of Labor Statistics—Building's prolific and increasingly important tabs-keeper. The basis: reports from contractors and operative builders in eight large cities. The detailed figures expressed in percent of permit valuations:

	Contract Prices	Selling Prices
Atlanta	124	136
Boston	126	133
Cleveland	123	143
Dallas	111	134
Indianapolis	114	131
Philadelphia	110	130
San Francisco	129	172
Washington	114	160
Average	119	142

Permit valuations and contract prices exclude profit and overhead (of operative builders) and land value. Selling prices include all these factors plus sales commissions, etc.

Variations in ratios from city to city are attributable in part to differences in building ordinances, in their enforcement, in the use of permit valuations by tax assessors and in other local practices.

CLAN CALLING. September and October are habitually the months for Building's conventions. With the calling of seven clans, representing Building branches from labor to capital, September and October, 1939 were no exceptions.

AIA. Washington played host to the American Institute of Architects (see pp. 10, 378).

MBA. Composed primarily of insurance companies and their loan correspondents, title and trust companies, commercial banks, mortgage banking firms, realtors and farm mortgage lenders, the Mortgage Bankers Association met in Detroit. There they heard 1) from Speaker George W. Drennan that, thanks to the automobile, urban decentralization had already progressed much further than they thought; 2) from President Joseph M. Dodge of the Detroit Bank—Michigan's oldest—that "there is much to be said for three-to five-year mortgages. . . . Renewal and extension forces a review of the loan value and makes possible an adjustment of interest and amortization in keeping with conditions"; 3) from Retiring President Samuel M. Waters that many States "have mortgage and foreclosure laws that truly belong to horse-and-buggy days"; 4) from Dr. William G. Murray, professor of Agricultural Economics at Iowa State College that "a quicker rise (than during World War I) in farm prices and farm values can be anticipated now"; 5) from

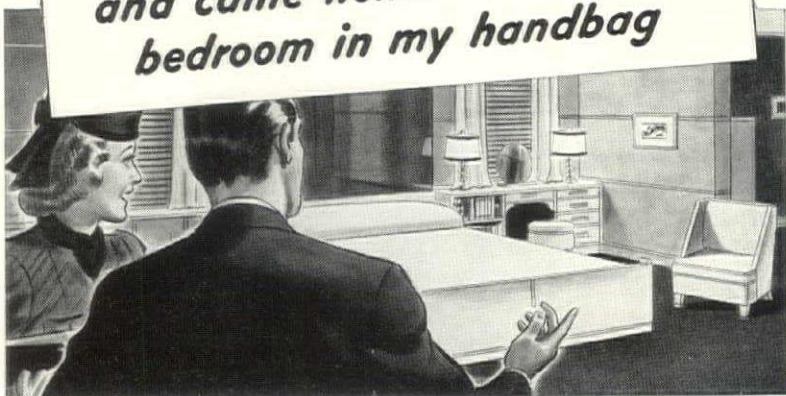
informal bar-room discussions that (much to USS&LL's consternation) the Nation's banks and trust companies will increase their purchases of home mortgage loans; and 6) from a MBA survey that "fear of holding their jobs" is the primary reason why people shy away from home construction. Of all member institutions polled, 97 per cent offered this reason. Other reasons: the over-exaggerated high cost of labor and materials (74 per cent), cheaper to buy an old house (67 per cent), high taxes (46 per cent), renting is more attractive (28 per cent), and war (only "a few"). MBA's new president is Kansas City's Byron T. Shutz, "not yet 40 years old," the second youngest president of the 26-year-old association.

ABA. For their 65th annual convention the American Bankers Association chose Seattle. For their next president they chose Robert M. Hanes, president of Winston-Salem's Wachovia Bank and Trust Co. and brother of Under Secretary of the Treasury John W. Hanes. For criticism they picked out Government's easy money policy, agreed with Chase National Bank President H. Donald Campbell's words: "The thrifty and prudent have been penalized by its effect. . . . And yet, low rates have not perceptibly increased borrowing." For the records, they opposed as "fundamentally unsound" current Federal proposals to insure or guarantee loans to small businesses, and

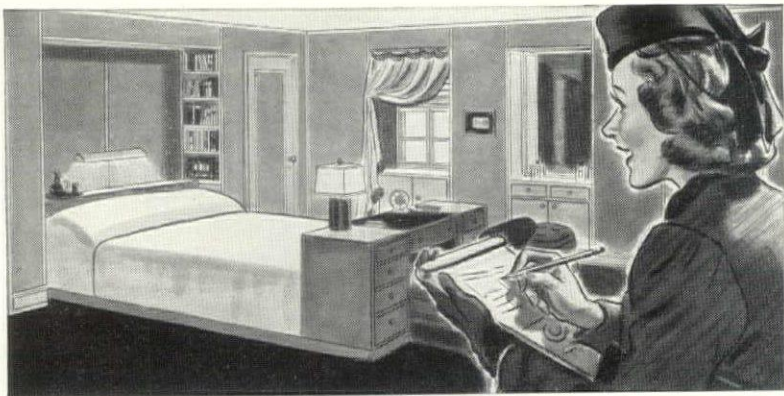


ABA Presidents: Brooklyn Banker Philip A. Benson, retiring, pins presidential badge on Winston-Salem Banker Robert M. Hanes, incumbent, at 65th annual convention in Seattle. In Atlantic City at a competitor's convention, the same officers struck the same pose (page 399).

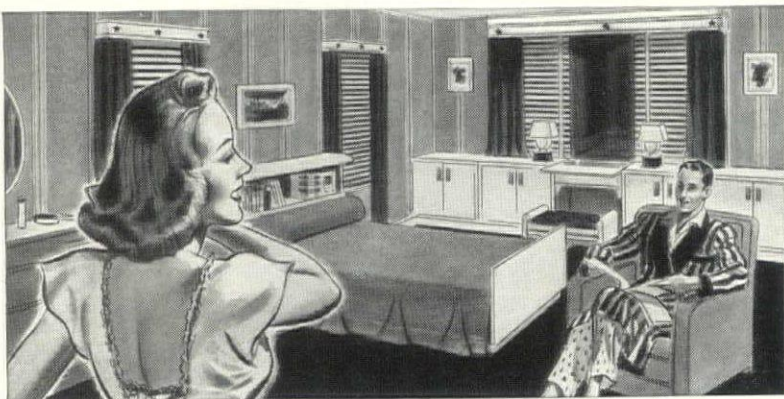
**I WENT TO BUY A CHAIR -
and came home with a new
bedroom in my handbag**



I'd heard a lot about Masonite Tempered Presdwood, but never saw it until I went to buy a chair. All the store's display rooms were made of it. The manager said they use Tempered Presdwood because it's a clean, dry board . . . easy to install . . . and they can get really beautiful walls and ceilings with it. What's more, it costs *very little*.



I suddenly realized Tempered Presdwood might enable Larry and me to have our whole bedroom done over, so I made some pencil sketches of those smart model rooms. Sure enough, we found that Tempered Presdwood could go on right over the old walls. It's grainless and moisture-resisting too. It won't warp, chip, split or crack. And it can be painted.



You'd never know the old bedroom now. Our walls are Tempered Presdwood, scored vertically and painted deep blue. The ceiling is light grey. We have a built-in chest of drawers along one wall—Tempered Presdwood, of course. And a handy built-in shelf over our bed for radio and books. P. S.—Larry was so pleased that he bought me *a whole suite* of new furniture.



COPYRIGHT 1939.
MASONITE CORPORATION

• MASONITE TEMPERED PRESWOOD

is the ideal, economical material for new building and remodeling.

MAIL THIS COUPON FOR FREE SAMPLE ➔

NO WONDER your clients recognize the name "Masonite" when you include it in your specifications. Lifelike, human-interest advertising carries the story of Masonite Products to millions of home-conscious people every month. Reproduced here is the advertisement that will appear in national home magazines in December. And below is a coupon for YOUR convenience. Mark and mail it today for free samples and full information about these modern building materials.

FREE SAMPLE COUPON

MASONITE

TEMPERED PRESWOOD

**THE WONDER WOOD OF A THOUSAND USES
SOLD BY LUMBER DEALERS EVERYWHERE**

**MASONITE CORPORATION, DEPT. AF-3
111 W. Washington St., Chicago, Illinois**

Please send me, without cost or obligation,
sample and more information on Masonite
Tempered Presdwood.

Name _____

Address _____

City _____ State _____

THE ARCHITECTURAL
FORUM

Published monthly by Time Inc., Henry R. Luce, President, Publication Office, Erie Ave., F & G St., Phila., Pa. Yearly Subscription: U. S. A. Insular Possessions, Canada and Cuba, \$4.00. Foreign Countries in the Postal Union, \$6.00. Single issues, including Reference Numbers, \$1.00. Entered as Second Class Matter at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879. Additional entry at New York, N. Y. Copyright, 1939, Time Inc. Spiral Binding U. S. Pat. Nos. 1516932 and 1942026. Other Patents Pending.

VOLUME 71
Number 5

THE MONTH IN BUILDING

advocated "not only . . . strict economies in governmental operations to lessen . . . taxation, but also the withdrawal of pressure on Government by special groups among our citizens urging the expenditure of huge sums for non-essential projects." For institutional and private investors they announced their "continuing conviction that the bonds of our Federal Government are the safest of all investments."

USS&LL. Representing Home Building's No. 1 financiers, the U. S. *Building and Loan League* convened in Atlantic City, N. J. on September 25, spent the following week-end celebrating its day at the New York World's Fair, on October 1 went home rechristened the U. S. *Savings and Loan League*. For further information on the convention and its significance, see page 399.

AFL. Building's interest in the American Federation of Labor's Cincinnati convention centered upon the pow-wow of nineteen building trades union presidents. While the general convention lambasted the Roosevelt administration in general, this little group singled out two of its children for particular chastising: 1) The Tennessee Valley Authority was accused of actively discouraging craft union membership and of refusing to enter into closed shop agreements with the unions. 2) The U. S. Department of Justice was severely criticized for the anti-building-trust drive of Assistant Attorney General Thurman Arnold's Anti-Trust Division. AFL's attack was led by General Counsel Joseph A. Padway who characterized Mr. Arnold as a "crusader who sought and probably procured more indictments against labor unions than he has against capital and industry or other persons who are charged with violating anti-trust laws. . . . Mr. Arnold is a college professor . . . (trying) to make a name for himself." Prayed Mr. Padway: "God deliver us from college professors." Of more significance, however, was Counsel's claim that the Clayton Act specifically exempted labor from anti-trust laws. Interestingly, AFL absolved Attorney General Frank Murphy of any blame in the building trades investigation, hoped that he would "perhaps suppress" the program.

CIO. Despite its recently foaled United Construction Workers Organizing Committee, the Congress of Industrial Organizations in convention at San Francisco had nothing to say concerning its entry into the building industry. From another source, however, came word that UCWOC has established itself in about 55 communities in eighteen States.

NAREB. Last convention of the month was the Los Angeles gathering of the National Association of Real Estate Boards. Highlights: confirmation of the fact that the World War II has already had a firming effect upon real estate prices; discussion in both general session and round table conference of Arthur W. Binns' plans for low cost housing by private industry (*ARCH. FORUM*, Sept. 1939, p. 149); reconvention on November 1 of an "adjourned session" in Honolulu.

ROOM VALUES. No more enterprising body of mortgage bankers exists than the Group Five Mortgage Information Bureau whose membership includes most of the top-flight savings banks of Brooklyn, Queens, and Manhattan, N. Y. Latest enterprise of the Group was the adoption last month of "standardized room values" to be used in appraising and computing rooms in new apartment houses in its sphere of operations. Like its two-year-old dictum on minimum construction requirements which has materially improved the quality of local apartment building, the Bureau's agreement on room sizes should promote better planning. Thus, no member bank will consider a dining alcove or gallery a half room unless it (as well as the adjacent kitchen) has an individual window and unless the combined kitchen-alcove has an area of at least 140 sq. ft.

Other standardized room values: The dining room will be counted as a half-room if its area is less than 130 sq. ft. A kitchen with window is a half-room if it does not measure 7 x 10 ft. or the area equivalent. Unless it contains at least 220 sq. ft., a living room is not acceptable. A primary bedroom must have at least 180 sq. ft.; a secondary bedroom without individual bathroom, at least 130 sq. ft. A smaller area lowers the secondary bedroom to half-room rank. No count is allowed a bathroom, kitchenette (without window), foyer, dressing room or balcony.

LOW COST FILLIP. Analysis of World War II and its effects on Building commanded these columns last month, forced many a newsworthy development to go unreported. Worth belated mention, however, is FHA's latest shot in low cost housing's arm—insurance of fifteen-year home loans upon a down payment of only 5 per cent.

In effect, the new program is merely a widening of FHA activities under Title I of the National Housing Act—generally associated with the insurance of modernization and repair loans which are designated by FHA as Class I loans. This title also authorizes insurance of loans for the financing of new construction to be used

for other than residential purposes—Class 2 loans. But, the new regulations relate to still another category—Class 3 loans for the financing of new construction to be used in whole or in part for residential purposes.

On September 1, FHA Administrator Stewart McDonald upped the amortization period of Class 3 loans from ten years and thirty-two days to fifteen years and five months. He also announced that the recipient of such a loan must own the lot in fee simple or hold it under at least a 30-year lease and that his equity in cash or in land must be equal to 5 per cent of the appraised value of the completed property. Otherwise, the rules and regulations are the same. The loan may not involve a principal amount in excess of \$2,500, and the borrower may not be charged more than \$3.50 per \$100 including interest, insurance premium (1/2 of 1 per cent), discount and all other fees. (The cost is equivalent to about 6.0 per cent per annum.) Proceeds of the loan may not be used to supplement another loan on the house nor for the purchase of land, but they may be used to pay for architectural services.

Under these provisions, a family owning a lot valued at \$125 or able to purchase a \$125 lot can obtain a loan for \$2,500 to finance construction of a house. If such a lot is not owned and is not available (as will more frequently be the case), this family can apply its \$125 cash down payment toward the purchase price of the lot, write a second mortgage for the balance of the land cost, thus become eligible for an FHA-insured Title I construction loan in an amount up to \$2,500.

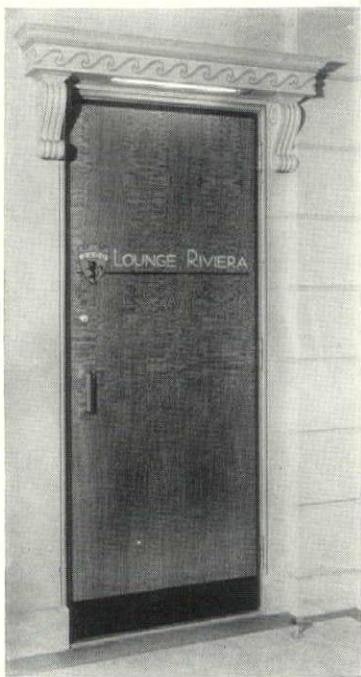
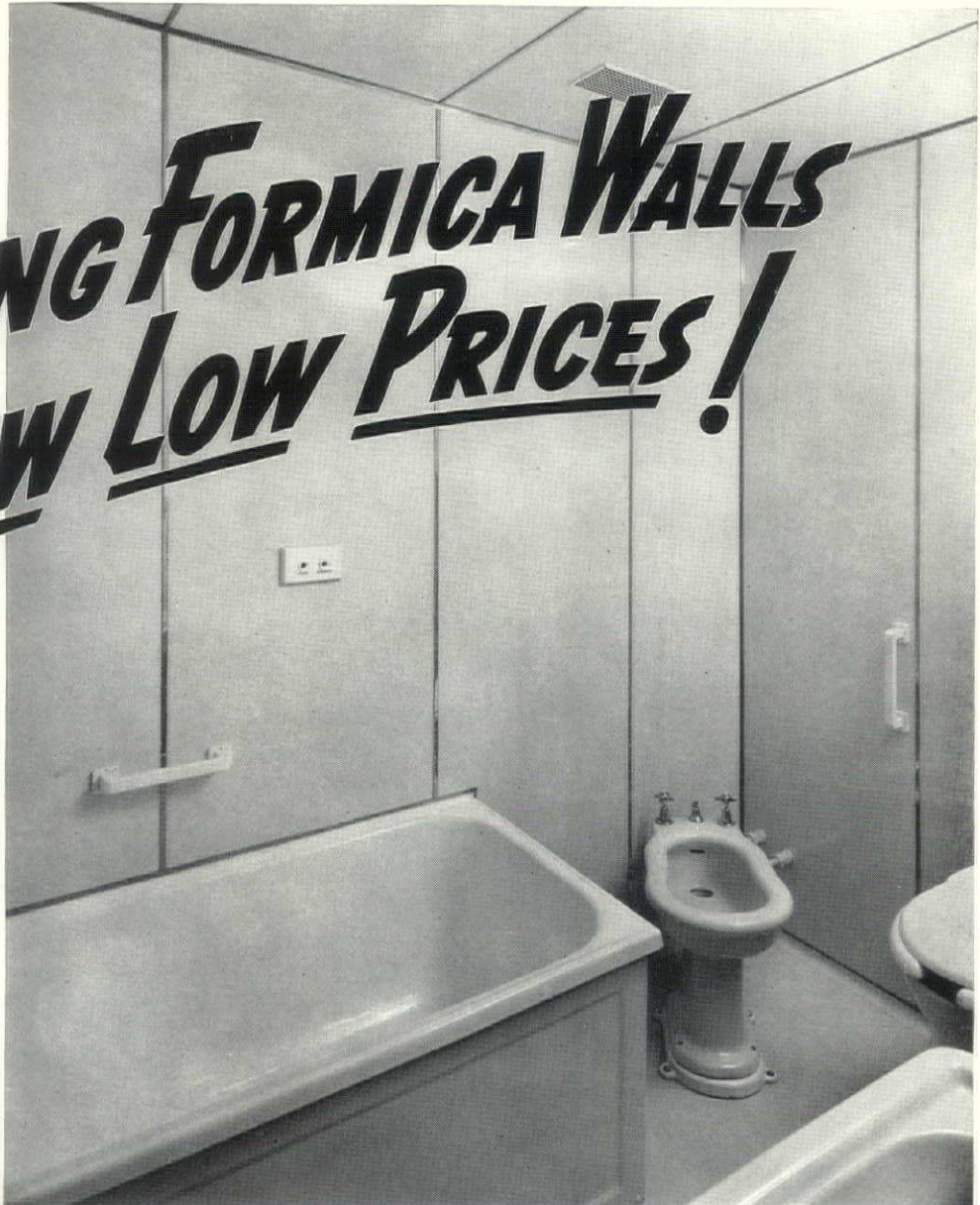
Purpose of the new program is to assist low cost home building in areas that do not fully meet the requirements of other phases of the FHA program, particularly where building codes and neighborhood restrictions and land planning requirements are less rigid. Also, houses built with Title I loans are not subject to as strict FHA inspection and construction standards as are houses constructed under Title II. The lending institution makes the loans; FHA agrees to reimburse the lending institution for losses sustained by it up to a total aggregate amount equal to 10 per cent of the total amount advanced in the form of Title I loans.

Another low cost housing fillip may be expected in the near future when the Federal National Mortgage Association announces that it will serve as a discount agency for Title I home loans as well as Title II mortgages. FHA is currently trying to convince FNMA that such a step is in order and expects to succeed.

HOLC INTEREST. Last month the announced (*ARCH. FORUM*, Sept. 1939, p. 2) reduction in HOLC interest rates became effective. On October 16 all purchasers of HOLC-owned properties as well as all HOLC borrowers began reaping the benefits of an interest rate shaved from 5 to 4 1/2 per cent.

LASTING FORMICA WALLS AT NEW LOW PRICES!

● Formica bathroom in an oyster shell mottled effect on the Dutch Steamer Nieuw Amsterdam



● Formica Realwood door at the Lounge Riviera in Washington

HANDSOME and permanent bathroom and kitchen walls of Formica are possible in more than 70 colors and with attractive inlays in color and metal where cost will permit it. This wainscot material has just been reduced in price by 20 per cent and is now available for many uses from which price formerly excluded it.

It will not stain with ordinary liquids; it is not brittle and will not crack if the walls shift; it is easily installed for modernization purposes in old houses.

Let us send you all the facts.

The Formica Insulation Co., 4620 Spring Grove Ave., Cincinnati, O.

FORMICA

FOR BUILDING PURPOSES

"Sound" advice

... a service that saves you a lot!

ONE JOB that no architect wants, is the engineering of a complex sound distribution system. Fortunately, there's no need for you to struggle with the countless technical problems involved.

TO RELIEVE YOU of such worries and to assure installations that are right, Graybar has sound-transmission experts who for years have worked with leading architects.

NO MATTER what the special problems involved in your project —no matter what the size of your

building—you and your clients can count on the Western Electric equipment that Graybar will recommend, for highest quality sound reproduction and for lasting satisfaction. It's designed by Bell Telephone Laboratories and built by the maker of Bell Telephones.

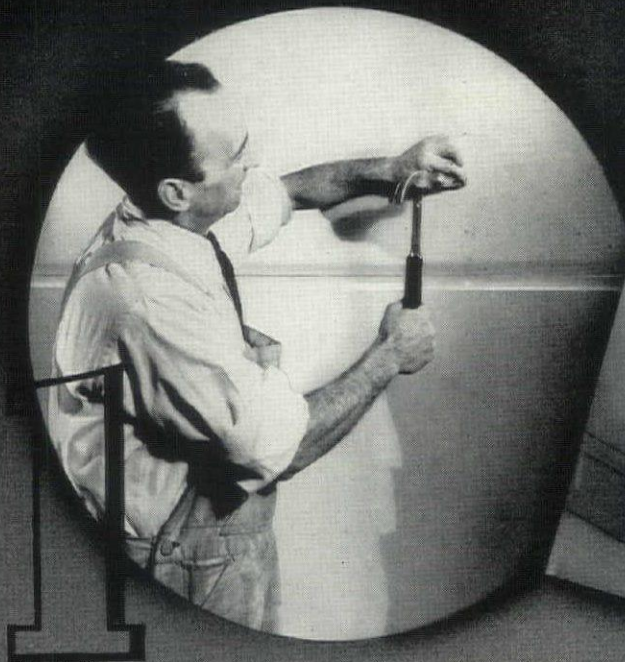
WHEN YOU'RE READY for "Sound" advice, get in touch with Graybar Electric Company, Graybar Building, New York.

Western Electric

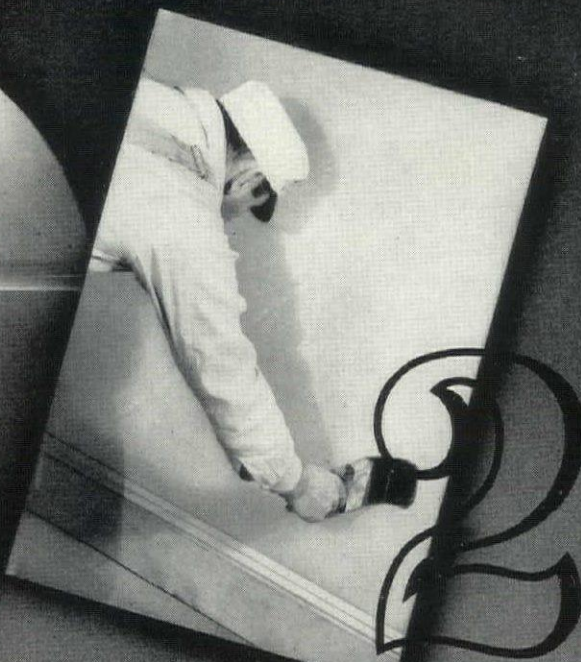
LEADER IN SOUND-TRANSMISSION APPARATUS

TAKE TWO EASY STEPS WITH BESTWALL

Get two extra advantages for houses you build or remodel this Winter!



Apply Bestwall on studding as soon as house is closed-in.



Start any decorative treatment twenty-four hours after Bestwall is applied.

When you specify Bestwall — the original Gypsum Wallboard with improved Reinforcing Joint System — walls and ceilings are ready for decoration days earlier. And they are strong walls that delight the eye with straight, true smoothness.

Big, strong, resilient sheets of Bestwall go up fast, nail easily, speed up the job. There is no waiting period with tricky Winter temperatures to be constantly watched . . . the decorators can go to work

the day after the final Bestwall panel is in place. And on remodeling work you give clients the extra advantage of no muss, no fuss, no dirt.

Strong, crack-resisting walls and ceilings of Bestwall have virtually rock-like permanence plus the characteristic fire-resistance of gypsum. That means lasting beauty and protection for the home owner's investment . . . more satisfied clients for you! Use coupon below for Bestwall samples and booklets.

Another timely tip for faster Winter building is "roof with Wood-Tex" — the fire-resistant asphalt shingle with the heavy grain actually built-up on the thick butt. With deep shadow lines and skilfully blended Wood-Tex colors, the house is cheery and inviting in even the bleakest Winter landscape!

© Certain-teed Products Corporation, New York, N. Y., 1939.

Certain-teed

REGISTERED U.S. PAT. OFF.

QUALITY MADE *Certain*
SATISFACTION GUARAN-*teed*

CERTAIN-TEED PRODUCTS CORPORATION • GENERAL OFFICES, NEW YORK, N. Y.

Certain-teed Products Corporation
100 East 42nd Street, New York, N. Y.

J-8

Gentlemen: Without obligation, send me literature and samples as checked below:

Bestwall For Better Walls
 C-S-I Insulation

Certain-teed Roofs
Of Character

Name _____

Address _____ City _____ State _____



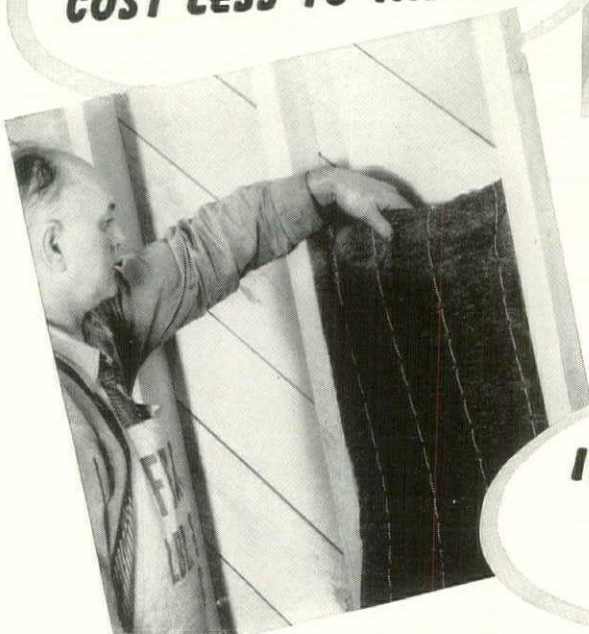
Stitching
**MAKES KIMSUL
 STAY PUT**

Presstitched
KIMSUL
REG. U.S. & CAN. PAT. OFF.
Expanding Blanket
INSULATION

● Four rows of strong twine, stitched down the entire length of each Kimsul* blanket—a most important development in guarding against shifting, settling and the formation of heat escaping “transoms.” Being many times stronger than needed to support the entire weight of the blanket, the stitching keeps Kimsul permanently in place.



**MAKES INSULATION
 COST LESS TO INSTALL**



Stitching permits Kimsul to be expanded only to its most efficient density. No farther! It makes the application of Kimsul more than ever a one man job. For even an inexperienced laborer can hardly fail to install Kimsul so as to get the full value of its unusual insulating efficiency.

**INCREASES
 INSULATION
 EFFICIENCY**

By eliminating thin spots and preventing shifting or settling, Stitched Kimsul provides the snug, unbroken, evenly dense insulation essential to greatest fuel savings and greatest comfort.

*Reg. U. S. & Can. Pat. Off.

OF SPECIAL INTEREST TO ARCHITECTS

Stitched Kimsul comes in various widths to fit snugly between studs . . . and, when expanded, Commercial, Standard and Double Thick. So the correct width and thickness, best suited to every job, is available.

KIMBERLY-CLARK CORPORATION (Kimsul Division), Neenah, Wis.
Established 1872 AF1139
 NEW YORK, 122 East 42nd St. CHICAGO, 8 South Michigan Ave.

Mail me copy of booklet describing Kimsul, also a full sized sample. Name _____ Address _____

City _____ County _____ State _____

PLEASE CHECK: ARCHITECT BUILDER DEALER

flexwood

[WOOD IN FACILE FORM]

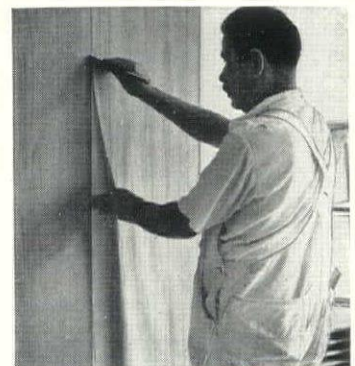
For luxurious renovations of hotel interiors



*English Oak Flexwood treatment in Model Suite, Hotel Albany, Denver, Colo.,
from design by Burnham Hoyt, Architect.*

Flexwood can be applied so easily and so speedily to new or old walls, flat or curved, that it is a boon to designers and owners of hotels, restaurants and other businesses catering to the public. The renovation of the Hotel Albany in Denver, by Burnham Hoyt, Architect, is a case in point. Flexwood was specified because it was adaptable to Mr. Hoyt's designs, saved time and came within the budget. Several model suites and private dining rooms, the Bar and the Manager's Office were transformed with 4,500 sq. ft. of Flexwood in such rare and exotic woods as Orientalwood, African Mahogany, English Oak, Curly Maple and Prima Vera. » » » Result—charming design, and the luxury obtainable only with genuine wood. Complete data, and samples of Flexwood, will be sent gladly.

UNITED STATES PLYWOOD CORPORATION, 103 PARK AVE., NEW YORK
Manufacturers of Flexwood, Plywood, Armorply, Weldwood, and kindred products



Flexwood is thin wood mounted on cloth and made flexible for direct application to flat and curved surfaces . . . it takes any wood finish. Wood in no other form approaches Flexwood in cost, ease and speed of application in modern wood treatment.

FORUM OF EVENTS



Important architects, more often than not, look like bankers, as this photogenic gallery proves. In upper line at right: President Edwin Bergstrom, Los Angeles; Vice President Walter R. McCornack, Cleveland; Secretary Charles T. Ingham, Pittsburgh; Treasurer John R. Fugard, Chicago. New Regional Directors (second line): for Central States, Benedict Farrar, St. Louis; for Sierra Nevada District, Gordon B. Kaufmann, Los Angeles; for Gulf States, J. Frazer Smith, Memphis; for South Atlantic District, Rudolph Weaver, Gainesville, Fla.



NEWLY ELEVATED FELLOWS, A. I. A.



FREDERIC C. BIGGIN
Alabama Tech

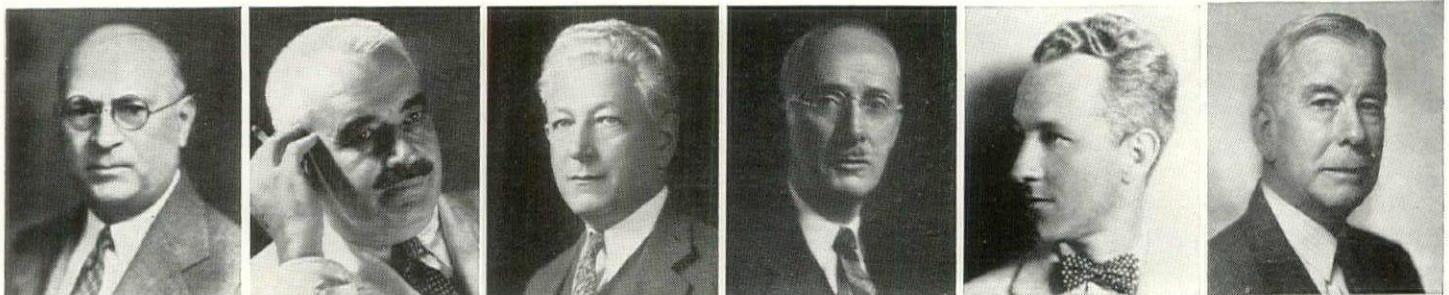
PIERRE BLOUKE
HOLC

ERIC GUGLER
New York

ANDREW H. HEPBURN
Boston

GERALD A. HOLMES
New York

WM. TEMPLETON JOHNSON
San Diego



RICHARD KIEHNEL
Miami

FISKE KIMBALL
Philadelphia

EUGENE H. KLABER
FHA

EMIL LORCH
U. of Mich.

DOUGLAS W. ORR
New Haven

WM. T. PARTRIDGE
Washington



E. DONALD ROBB
Boston

MOTT B. SCHMIDT
New York

SUMNER SPAULDING
Beverly Hills

FRANCIS P. SULLIVAN
Washington

CARLETON M. WINSLOW
Los Angeles

Photos, Steinhilber, Strauss, Greystone, Vreeland, Blank & Stoller, Blackstone, Alfred Chanutin, © Harris & Ewing, Joseph A. Stone, Tzamoouzakis, Kazanjian, Kay-Hart.

Up goes NEW YORK CITY'S skyline!

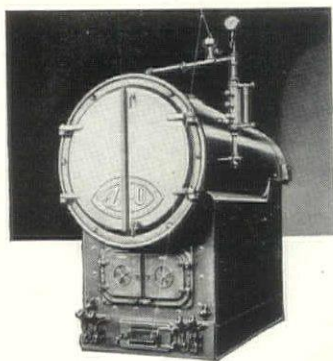


IMPORTANT FACTS ABOUT CASTLE VILLAGE

Five dominating apartment structures overlooking the famous Palisades — three of 13 stories, one of 12, one of 11. All of reinforced concrete construction. Approximately 550 apartments. Every room an outside room.

Architect, George Fred. Pelham, Jr., New York City. Engineer, Victor Mayer, New York City. Consulting Engineers, Daniel & Wallen, New York City. Heating Contractors, J. H. Bodinger Co., Inc., New York City.

All buildings heated by ten 24,200 sq. ft. oil-fired Fitzgibbons R-Z-U steel boilers.



HEATED BY

FITZGIBBONS STEEL BOILERS

Towering high above the Hudson, the boldly beautiful outline of Castle Village expresses the very best of modern living comfort. And a large part of this comfort will be due to the ten Fitzgibbons R-Z-U boilers which will heat these five majestic apartment buildings.

History repeats itself. The famous Paterno Castle which formerly occupied this commanding site, was also heated by Fitzgibbons Steel Boilers—so successfully, so economically, that in selecting boilers for Castle Village, the owner Dr. Chas. V. Paterno, unhesitatingly chose Fitzgibbons.

The detailed reasons for the selection of Fitzgibbons Boilers for installations like this would interest you. Ask us.

Fitzgibbons Boiler Company, Inc.

General Office: 101 PARK AVENUE, NEW YORK

Works: OSWEGO, N. Y.

Branches and Representatives in Principal Cities

FORUM OF EVENTS

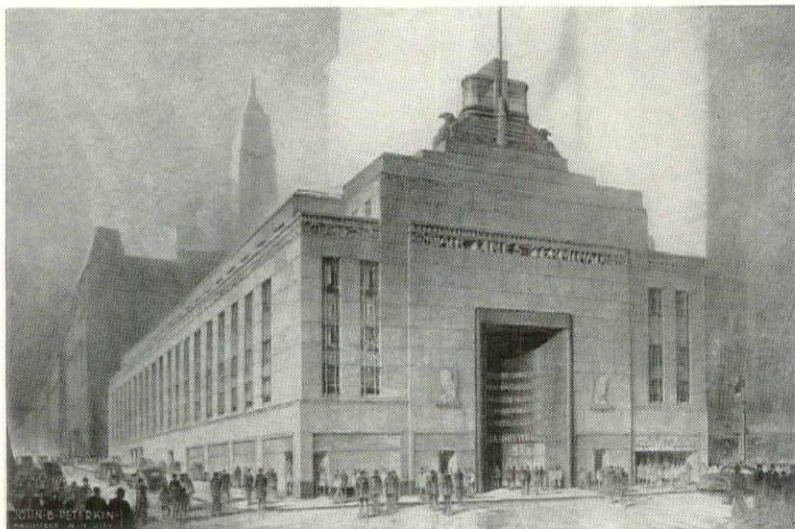
(Continued from page 10)

McLaughlin Air Service

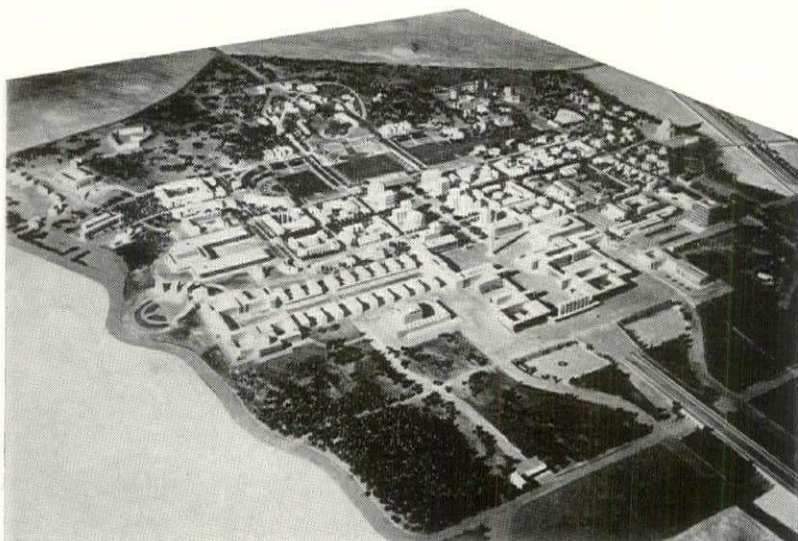


Largely through the efforts of her dynamic Mayor La Guardia, New York will no longer depend on Newark for her airport. North Beach (Delano & Aldrich), largest WPA project, is costing \$40 million.

Louis H. Dreger



Opposite Grand Central Terminal, where once stood Hotel Belmont, will soon rise what looks to us like a sub-treasury. For the guidance of unsuspecting travelers it is labeled "Air Lines Terminal."



From European

Geraldine K. Scott

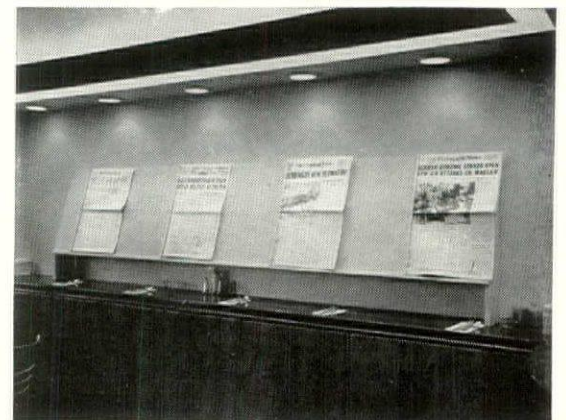


In a Moscow park, girl landscapists keep alive this plant portrait and another of Lenin. A rose by any other name . . .

Frank Randt



For their new headquarters at 595 Madison Avenue, New York, the American Institute of Decorators did this.



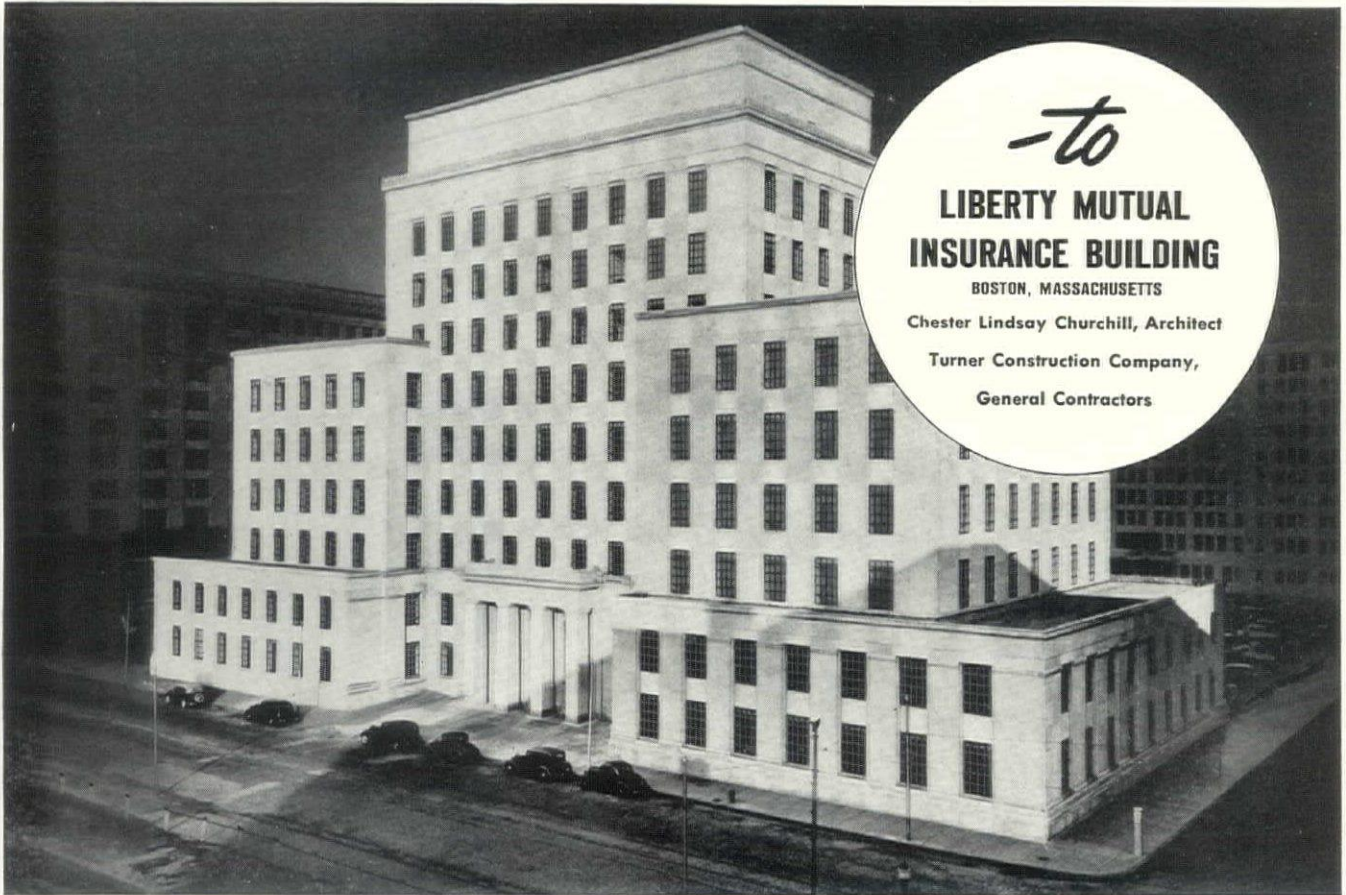
In a Cleveland restaurant, Designer Wilbur Henry Adams has given a thought to those who read while they eat.

The Rome-Berlin axis may be indistinct but the main axis and all the minor axes of Mussolini's 1942 World's Fair are being laid down in accordance with this model.

(Forum of Events continued on page 42)

Fenestra

BRINGS MORE LIGHT, BETTER VENTILATION



-to

LIBERTY MUTUAL INSURANCE BUILDING

BOSTON, MASSACHUSETTS

Chester Lindsay Churchill, Architect

Turner Construction Company,

General Contractors

Specifications call for building products by brand name and indicate sizes, types and models... but there is much more behind them than such identifying details. This is particularly true of Fenestra Fenmark Windows.

For example, "light" was not specified in this monumental building, yet Fenmark Windows provide it in abundance. The same with "fresh air," yet Fenmark Windows provide it by easy-opening ventilators which afford 100% window opening if desired. Even when open, these better windows provide weather protection: in projected types, open-out vents form canopies over openings;

open-in vents deflect drafts upward, shed water to the outside. And because of the "double weathering" of framing sections and cam-action hardware which draws the vents *tight-shut*, Fenmark windows are weather-tight.

And every demand of the architect for attractive lines and pleasingly proportioned glass areas is fully met. Fenestra Screens for all Fenmark Windows permit complete operation of vents without touching screens. Glass is easily and safely washed from within the room. Complete details will be gladly furnished upon request. See Fenestra Catalog in SWEET'S for 1939 (30th Consecutive Year).



One of many types of Fenestra Fenmark Windows. When equipped with Fenestra Flat Screens — on the inside for the swing leaves, on the outside for the sill vents — screens are attached or removed quickly and safely from the inside.

Fenestra

HEAVY CASEMENT-TYPE STEEL WINDOWS

BY AMERICA'S OLDEST AND LARGEST STEEL WINDOW MANUFACTURER

DETROIT STEEL PRODUCTS CO.
2252 East Grand Boulevard, Detroit, Mich.

Please send free literature, as follows:

- Heavy Casement-Type Steel Windows
- Detention Steel Windows
- Residence Steel Casements

Name _____

Address _____

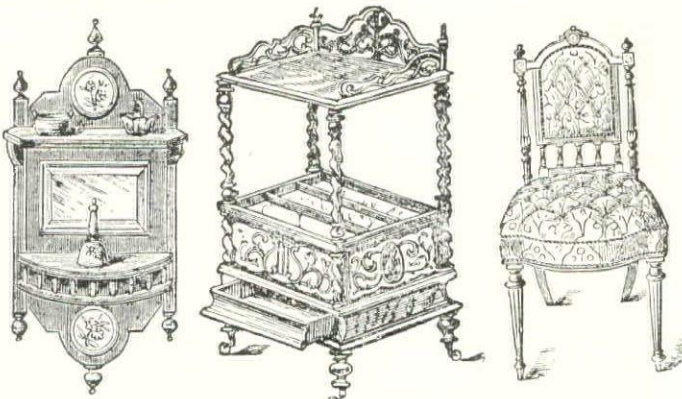
City _____ State _____

BOOKS

Washington, Victoriana and the New Architecture. . . . WPA's guide to New York City. . . . New England towns in photographs. . . . Modern furniture making and design.



THE WHITE HOUSE: SOUTH PORTICO



FURNITURE FROM "THE YOUNG LADIES' TREASURE BOOK"



DESERT SHELTER

WASHINGTON: NERVE CENTER, by Edwin Roskam. Co-editor: Ruby A. Black. Alliance Book Corporation. 144 pp., illustrated. 8½ x 11. \$2.50.

This is no picture-postcard guide to Washington. It shows the main buildings, but comments: "It takes a young nation to build itself a symbol as solemn and irrelevant as the interminable perspectives of marble columns we made for ourselves." The inside of a boarding house gets as much space as the Lincoln Memorial. For every picture of the city, there is at least one from outside, showing the effect of Federal activities on the nation at large. Throughout the book it is activity rather than architecture which is stressed, an approach which seems quite suitable, because if Washington "looks like nothing else we ever built to use," the work of Government bureaus leaves no citizen unaffected. Thanks to the numerous pictures, one can read the book in under an hour; that a pretty good general idea of what goes on in the "nerve center" is given in less than 150 pages indicates the extraordinary potency of the infant art of pictorial journalism. If the author's terse descriptions occasionally seem too whimsical, the defect is minor in a stimulating book. To architects, accustomed by long training to express themselves in pictures and symbols, Mr. Roskam's rapid word-and-photograph technique should be of unusual interest.

HOME: A VICTORIAN VIGNETTE, by Robert Harling. Constable, London. 166 pp., illustrated with contemporary prints. 5 x 7½. 6s.

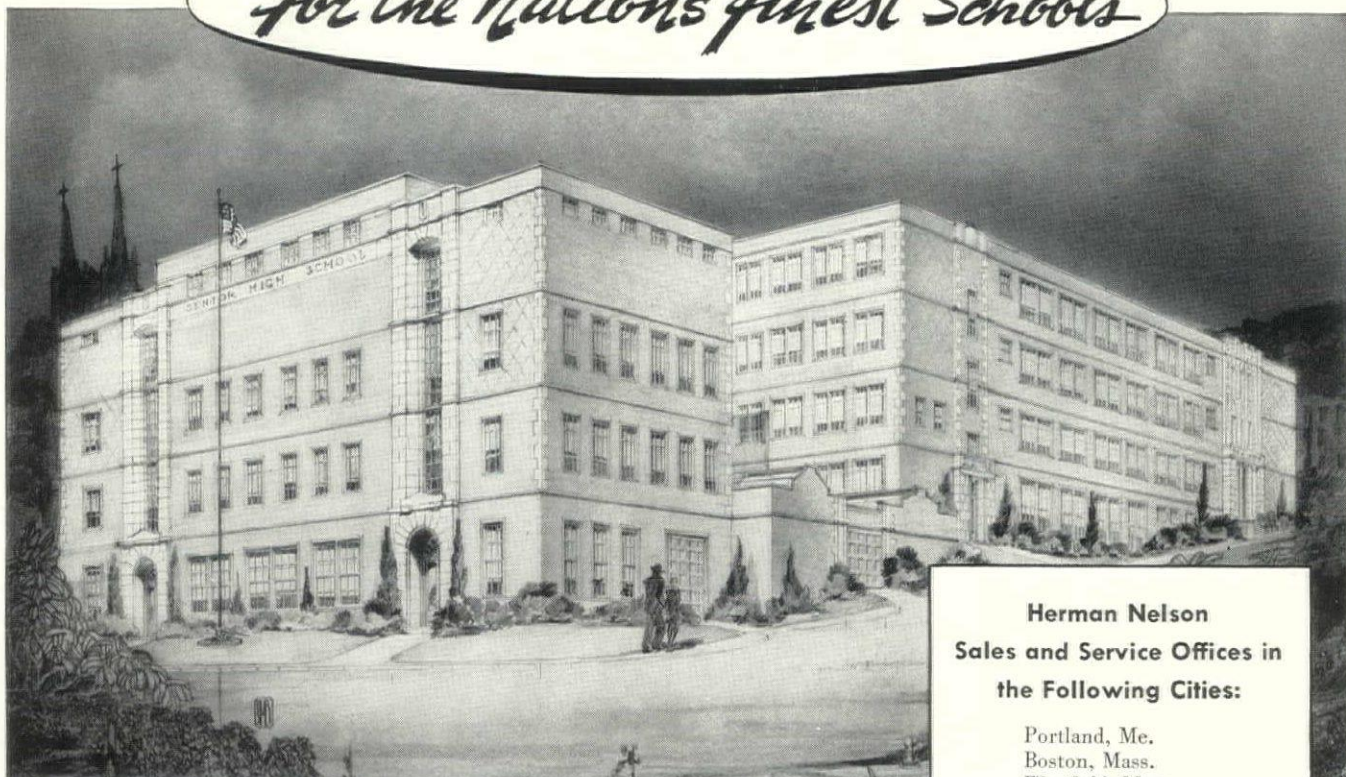
Now that the Victorian period has achieved the respectability never denied any safely interred era, there are signs—and not only in the fashion magazines—that it may again come into its own. If it should, Mr. Harling's amused and amusing little book will be useful. Here are half-tester iron or brass bedsteads, "modern Gothic" wash-stands, color schemes ("blue and pink with brown, seaweed-like"), planting tips on selaginella, toad-flax and Aaron's beard, rustic window-boxes with enamelled tiles, and a host of other objects, customs and designs which made the Victorians "the most ingenious, most exhaustive and most fantastic race of elaborators the world has ever seen."

IN SEARCH OF A LIVING ARCHITECTURE, by Albert Frey. Architectural Book Publishing Co., Inc., 95 pp., illustrated. 8 x 10½. \$3.75.

Both the title and subject matter of this book inevitably recall the earlier published works of LeCorbusier, which, beginning some fifteen years ago, attempted to explain the origins and functions of modern architecture. It is difficult to see how the present volume extends in any important way LeCorbusier's original contributions. Nevertheless the material is arranged in a stimulating and highly intelligible manner, and deals with abstract design, the value of traditional architecture and modern technics. The general technique is to present modern buildings and natural, primitive, or industrial forms on facing pages, emphasizing in each case the common underlying basis of design. A typical example is shown at the left, a desert structure illustrating the special problems presented by this environment.

(Continued on page 58)

For the Nation's Finest Schools



Senior High School, Oil City, Pa. Vaughn R. DeLong, Superintendent. Holmes Crosby, Oil City, Registered Architect. George S. McEllroy and Theodore F. Rockwell, Pittsburgh, Registered Engineers. F. C. Paterson Co., Bradford, Pa., Heating Contractor.

A **NOTHER OIL CITY, PENNSYLVANIA,**
SCHOOL HAS BEEN EQUIPPED WITH
HERMAN NELSON AIR CONDITIONERS

Sixty-two Herman Nelson Air Conditioners have been installed to maintain ideal classroom air conditions in the Senior High School at Oil City, Pennsylvania. This is the fifth school in Oil City to be equipped with these units.

Architects and School Authorities in hundreds of cities select Herman Nelson Air Conditioners for all new school projects. They have learned through past experience that superior results and greatest economy can be secured only with Herman Nelson Units.

Herman Nelson's 30 years of experience and nation-wide reputation for intelligent, reliable service in the heating, ventilating and air conditioning of schools are other reasons why these units are being selected today in preference to any others.

Herman Nelson
Sales and Service Offices in
the Following Cities:

Portland, Me.
Boston, Mass.
Westfield, Mass.
New York City
Watervliet, N. Y.
Buffalo, N. Y.
Washington, D. C.
Richmond, Va.
Roanoke, Va.
Charlotte, N. C.
Nashville, Tenn.
Memphis, Tenn.
Indianapolis, Ind.
Chicago, Ill.
Philadelphia, Pa.
Harrisburg, Pa.
Scranton, Pa.
Pittsburgh, Pa.
Johnstown, Pa.
Milwaukee, Wis.
St. Louis, Mo.
Emporia, Kans.
Minneapolis, Minn.
Omaha, Neb.
Oklahoma City, Okla.
Detroit, Mich.
Grand Rapids, Mich.
Saginaw, Mich.
Cleveland, Ohio
Cincinnati, Ohio
Dallas, Texas
Missoula, Mont.
Denver, Colo.
Salt Lake City, Utah
Spokane, Wash.
Seattle, Wash.
Portland, Ore.
Los Angeles, Cal.



THE HERMAN NELSON CORPORATION Moline, Illinois

LETTERS

Smithsonian Gallery Forum:

... It is difficult to add anything to the fine understanding of the competition stated so completely by your editorial. From my experience with the Section of Fine Arts which is based on the open anonymous competition method, the success of the results led me to believe that the same method would open the field of opportunity to the creative architects of the country as it has to the creative artists. I know the opposition and the arguments to the competition method but I believe that in the architectural field the results of the Smithsonian Gallery competition are the answer to that opposition. The inventiveness of the ideas brought out in this competition and the superb understanding of the problems involved and their solution in the design of the Saariniens and Swanson could not have been brought out other than by competition.

As your editorial pointed out the important thing now is that the building must be built. With such a challenging design those who cannot see architecture for the columns will undoubtedly try to make the Smithsonian Gallery feel like an intruder on the classic serenity of Washington. However, for those of us who believe that architecture as well as art can sometimes be good if it grows out of life instead of a copy book, the Saarinen building will be an achievement in which I for one am proud to have been able to share.

EDWARD BRUCE

*Public Buildings Administration
Washington, D. C.*

Esoteric Forum:

As a lowly builder I feel somewhat hesitant about writing to so esoteric a publication as an architect's magazine. I suffer I suppose from the natural shyness of the layman when confronted by Art—as well as from the diffidence of the builder when called upon to speak before his peers and counselors. But having read THE FORUM for some fifteen years while waiting in the anterooms of practicing architects I have drawn some very pertinent conclusions about the magazine, particularly in its appeal to plodders in my own field.

I suppose that you include that peculiar appendage to the magazine known as Building Money in order to appeal to the building and financing fraternity. My experience indicates otherwise, although the section serves a very useful purpose as I will indicate below.

Builders like THE FORUM for the same

reasons that everyone likes the movies. It gives us a release from the humdrum business of building frame houses and filling stations, gives substance to our dreams of what we would really like to build. In thumbing through an issue we read what the architect's world is like; we boomerang into pure fancy with PLUS, we admire glittering mansions, streamlined hospitals, and skyscrapers. And then we arrive at Building Money. It is like being shaken out of a sound sleep with the admonition that it is time to go to work.

I tell you, builders don't buy THE FORUM to read Building Money, but when we get to it it brings us down to earth, and, incidentally, gives us many a pointer on building houses instead of dreams.

H. A. WALSH

Des Moines, Iowa

More alert reading will reward gracious subscriber Walsh with pointers galore from cover to cover.—Ed.

Two Schools Forum:

... It seems rather asinine when building operations are increasing, when labor is finding more employment, when there is an indication that we might be coming out of the throes of the terrible conditions that we have labored under for the last six or eight years, that there should be so much propaganda to the effect that practically the entire building industry is in the hands of racketeers.

It all simmers down, as I see it, to the difference between those two schools of thinking; the one that follows the idea that humanity is best served when prices are low, when everything is cheap and when no one is making a profit on any activity in which he is engaged; the other group follows the idea that humanity is best served when prices are high, when labor is generally gainfully employed, when goods are supplied in abundance and when profits are made as the result of industrious effort.

Underlying the whole thing is just the question of a true or false analysis of human nature. When we once get the human being to a point where he will exert his best effort, work tirelessly and endlessly for the good of humanity without expecting any reward, then the cheap low-priced philosophy will have its day. But since we know that human nature has not, and perhaps for many years will not arrive at this stage of development, we are going to have incentives that are of a little more substantial nature, that are more direct, and that will come a little closer to satisfying a proper human sel-

fishness. As long as this condition obtains, the second school of thinking above referred to alone can best serve us.

To me, this is all very interesting, were it not for the fact that the butcher, the baker and the candlestick maker want their bills met on the first of the month. One wouldn't mind sitting calmly on the sidelines and watching the whole thing work itself out, but when you are in there pitching yourself and trying to get a little something out of life, it does seem rather discouraging to see that the industry that you are personally engaged in, is being so liberally maligned.

H. J. REINHARDT

*Frank Adam Electric Co.
St. Louis, Mo.*

TVA

Forum:

Having recently returned from an educational visit to the Tennessee Valley, I wish to compliment you upon your presentation of this subject. In many respects, the information through your presentation was easier to comprehend than through a personal visit.

However, the Tennessee Valley Authority has been doing a considerable amount of research, particularly on the economics of building construction and even in such details as insulation which they have recently published for technicians. It would seem that your readers would be as much interested in these researches as they are in the overall views of the Tennessee Valley Authority accomplishments.

WHARTON CLAY, *Secretary*
National Mineral Wool Assn.
New York City

THE FORUM attempted to explore not exhaust TVA in August. More anon perhaps.—Ed.

Forum:

... As one of your newest subscribers may we call attention to an error in your article on TVA. On page 75 you speak of "the heart of a valley 40,000 miles square." Such a valley would have an area two and a half times the area of the total land and water surface of the earth.

Like many other features of the last seven years of the age in which we are living, even our areas seem to be assuming astronomical magnitudes.

DOZIN FINLEY
Librarian

Paraffine Companies, Inc.
Emergyville, Calif.

To Reader Finley, apologies for the astronomical error. TVA covers about 40,000 square miles.—Ed.



**PENBERTHY AUTOMATIC
ELECTRIC SUMP PUMP**
Made in 6 sizes

**PENBERTHY AUTOMATIC
CELLAR DRAINER**
(Water or Steam operated)
Made in 6 sizes

*Copper and Bronze
Throughout*

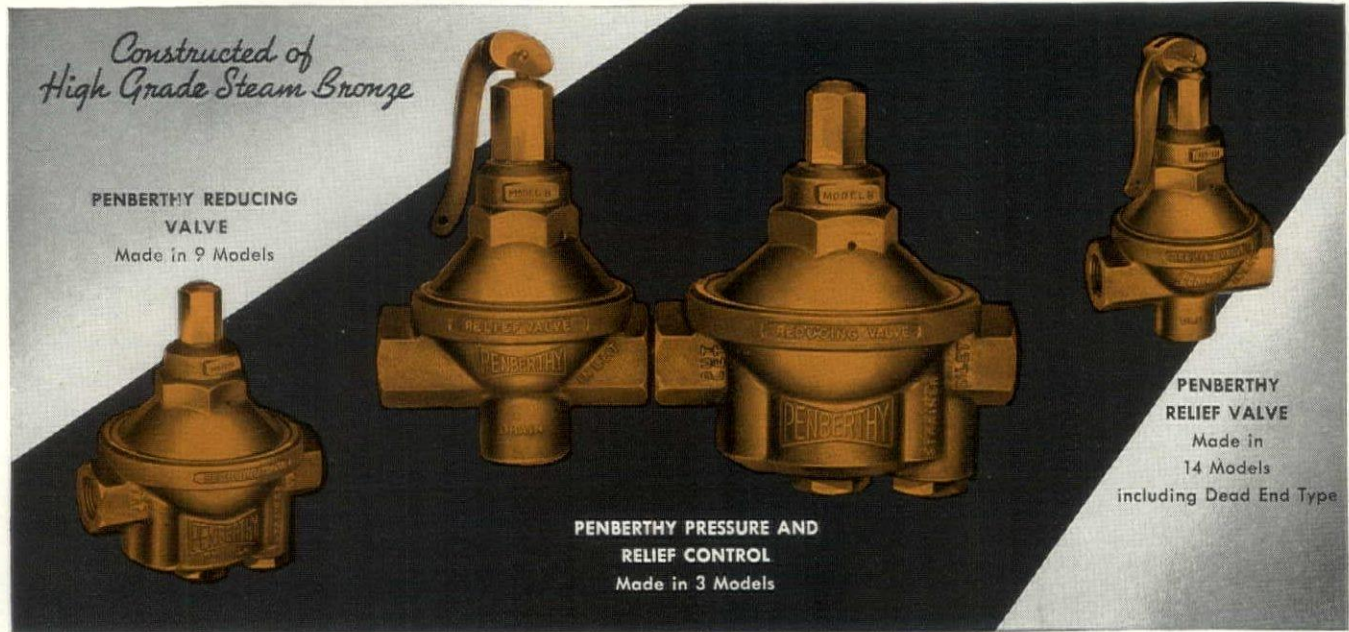


Thrifty

YOUR client gets a superior product at an attractive price when you specify one of the units shown above to keep his basement free from seepage water—or the specialties shown below to modernize his hot water heating plant. Thrifty clients particularly appreciate these thrifty products.

Penberthy Products are carried in stock by jobbers everywhere.

PENBERTHY HOT WATER HEATING SPECIALTIES



*Constructed of
High Grade Steam Bronze*

**PENBERTHY REDUCING
VALVE**
Made in 9 Models

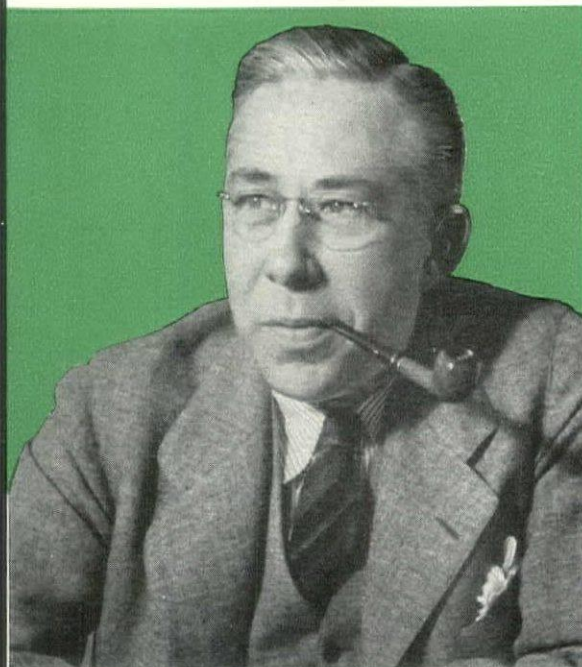
**PENBERTHY PRESSURE AND
RELIEF CONTROL**
Made in 3 Models

**PENBERTHY
RELIEF VALVE**
Made in
14 Models
including Dead End Type

PENBERTHY INJECTOR COMPANY Manufacturers of QUALITY PRODUCTS Since 1886
DETROIT, MICHIGAN • Canadian Plant, Windsor, Ont.

**"DOUGLAS FIR
PLYWOOD is one of the
most versatile materials
I use . . . and so safe
to specify, now that
every panel is
grade trade-marked"**

... George Wellington Stoddard



GEORGE WELLINGTON STODDARD of Seattle is a modernist but his designs generally have a traditional background with a picturesque mass and well-studied detail. Ranking as one of America's distinguished residential architects, Mr. Stoddard has won many honors and is in demand as a jury member for architectural competitions. Alert to technologic developments, he regularly specifies practical modern materials such as Douglas Fir Plywood.

● There is almost no limit to what you can do with Douglas Fir Plywood. Many architects declare it the most versatile of modern building materials because there is a trade-marked grade for every building purpose. For wall and roof sheathing, sub-flooring, concrete forms, exterior walls, interior walls and ceilings, cabinet work and fine paneling. Each grade is made in accordance with United States Commercial Standard CS45-38 and is distinctively trade-marked. You're safe when you specify this real lumber engineered for greater size and strength.

A new method using all of the grades of Douglas Fir Plywood is revolutionizing building practice. It is called Dri-Bilt with Plywood and is adaptable to every type of residence. This method slashes building and supervisory time as much as 6 weeks . . . adds amazing strength and rigidity . . . and gives your client more house for his money.

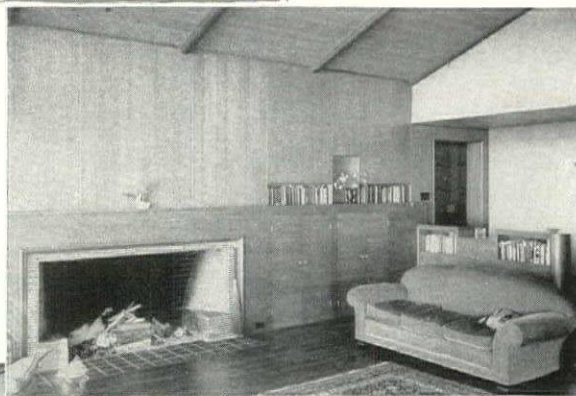
The basic principle of the Dri-Bilt method is the use of 4' x 8' standardized plywood panel as a module, which minimizes cutting, fitting, nailing and material requirements.

For more information consult Sweet's Catalog or ask us for any of the following: "Suggested Specifications for Douglas Fir Plywood," "Commercial Standard CS45-38," Dri-Bilt Manual. Douglas Fir Plywood Association, Tacoma Bldg., Tacoma, Wash.



In Seattle, the Lake Washington home of Mrs. Mark Reed is distinguished both for beauty of design and setting. Mr. Stoddard used Douglas Fir Plywood in entrance hall and for much interior cabinet work.

Richly finished selected panels of Douglas Fir Plywood add inviting warmth to the living room in the Stoddard-designed home of Mr. and Mrs. Romig Fuller which overlooks Puget Sound near Seattle. Here Plywood also is used effectively to give rounding lines and distinction to cabinets and bookcases.



FHA has accepted Douglas Fir Plywood for home construction, and its use is approved in Uniform Building Code.



**DOUGLAS FIR
PLYWOOD**
Real Lumber
**MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER**



**SPECIFY DOUGLAS FIR PLYWOOD
BY THESE "GRADE TRADE-MARKS"**

PLYPANEL D.F.P.A.

EXT.-D.F.P.A.



PRIZE-WINNING DESIGNS IN THE INSULUX GLASS BLOCK COMPETITION *No. 2*

CONDUCTED FOR OWENS-ILLINOIS GLASS COMPANY BY THE ARCHITECTURAL FORUM

MEETING in San Francisco, in September, the Jury selected eight prize-winning designs and made a report as given below. The authors' names were published in a preliminary announcement last month, and the drawings are reproduced in the following pages.

THE PROBLEM—Remodel parts of an old business block to provide modern fronts for a restaurant and an apparel shop and an efficient interior for a second-floor beauty shop.

REPORT OF THE JURY—“Generally speaking, the competitors gave evidence of a rather comprehensive understanding of glass block, whether used as a major element or merely as a minor one. As we review the eight prize-winning designs it becomes evident that the selections made, with one exception, show glass block as a predominating material; this fact represents no conscious intention in our deliberations nor any predilection for quantitative use.

“As to the apparel shop, there was one rather conspicuous fault in a large majority of the designs submitted: the Program stated that the store would face west—a stipulation that should have suggested to competitors a definite need for awning protection of display windows. Few designs showed provision for awnings, though in some of the others such equipment could be added without serious harm to these facades.

“Plans for the restaurant floor were generally interesting, and many of them displayed fresh and ingenious uses of the material. The use of plants as integral parts of the design was frequently noted, not only in the restaurant problem but in the other two as well.

“Comments upon the individual prize-winning designs appear with the reproductions; representing the expression of one or more of the Jurors, in which all concurred.”

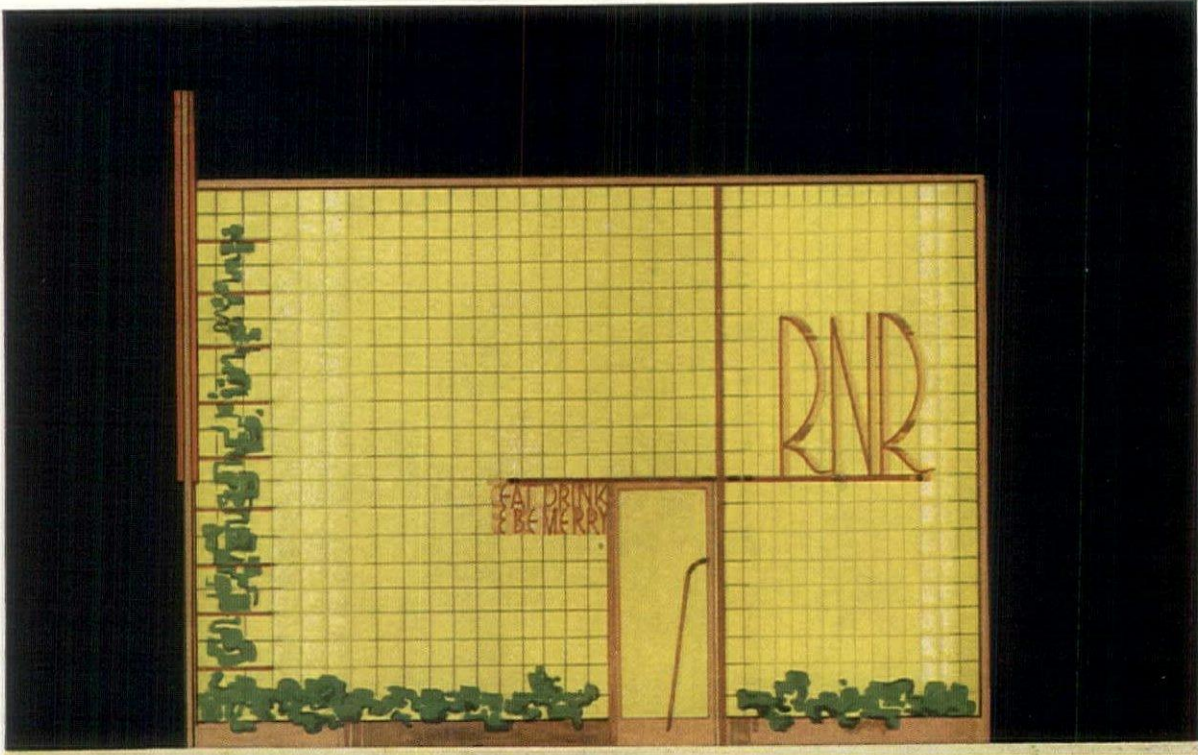
THE JURY

WALTER E. CHURCH, Portland, Ore.
STILES O. CLEMENTS, Los Angeles, Calif.
GARDNER A. DAILEY, San Francisco, Calif.
GORDON B. KAUFMANN, Los Angeles, Calif.
DONALD B. PARKINSON, Los Angeles, Calif.
TIMOTHY L. PFLUEGER, San Francisco, Calif.
GEORGE W. STODDARD, Seattle, Wash.
WILLIAM W. WURSTER, San Francisco, Calif.

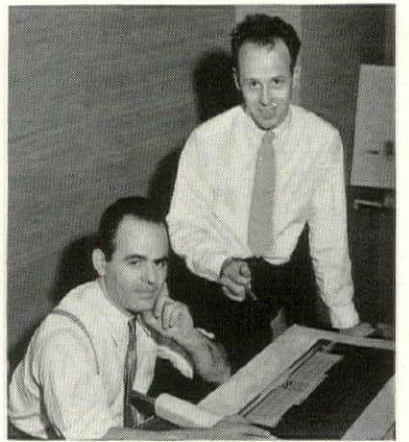
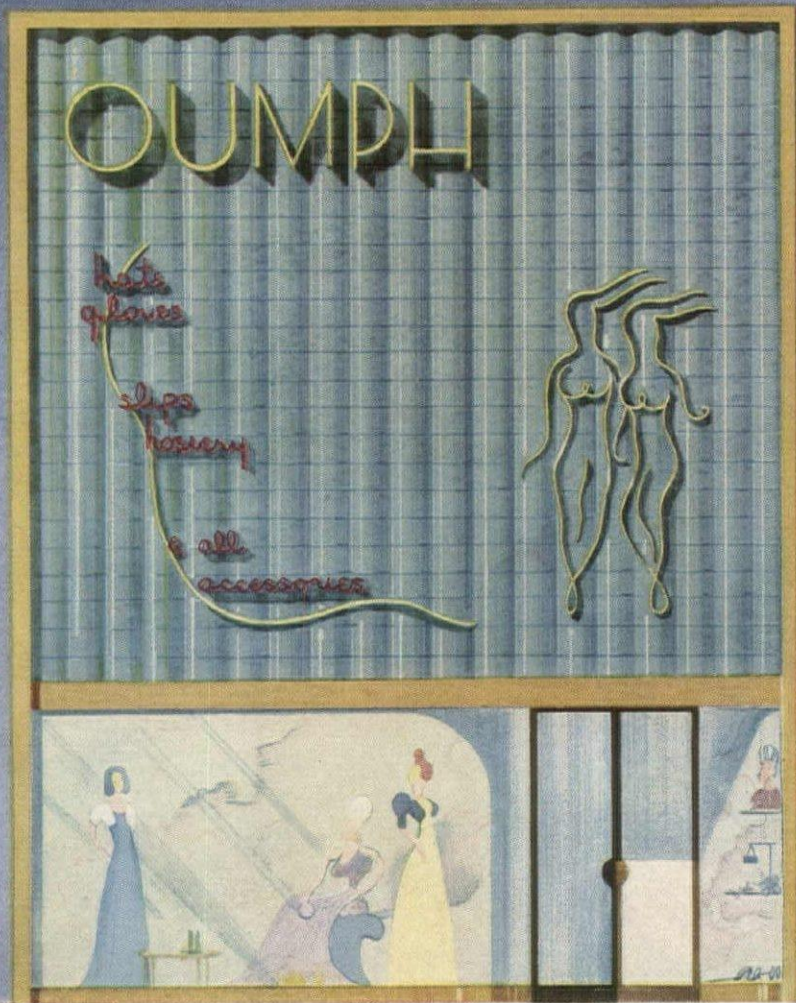


Gabriel Moulin

The Jury meeting at The Family Club, San Francisco. Seated, l. to r., Chairman Pflueger, Clements, Kaufmann; standing, the professional adviser, Dailey, Church, Stoddard, Parkinson, Wurster.



1



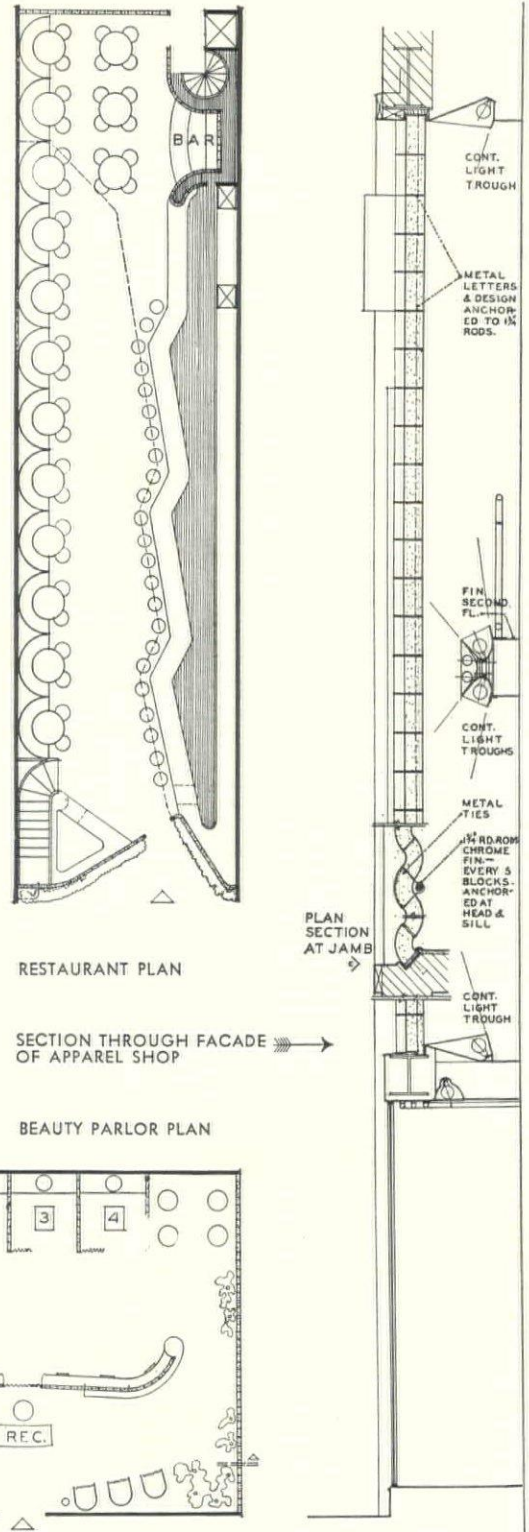
The Bulletin Index, Pittsburgh
James A. Mitchell (left) and Dahlen K. Ritchey of Pittsburgh

FIRST PRIZE—\$1,000
JAMES A. MITCHELL
AND DAHLEN K. RITCHEY,
PITTSBURGH

JURY COMMENT—"An interesting form leads the eye nicely to the restaurant entrance, neatly framed in metal. Here is a good background for a sign and the designer has well placed the lettering of what he had to say.

"On the apparel shop facade full attention is drawn to the show window and it is given all the space that the frontage affords. Through the use of glass corner blocks, alternating direction, the designer has secured an arresting yet simple background for the neon sign.

"The plan of the beauty parlor, as in a majority of the designs, displays a less comprehensive grasp of the problem's requirements and potentialities."



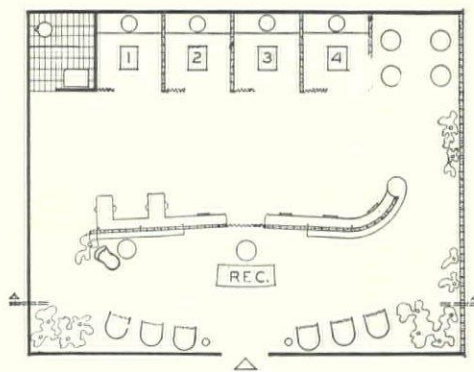
RESTAURANT PLAN

SECTION THROUGH FACADE OF APPAREL SHOP

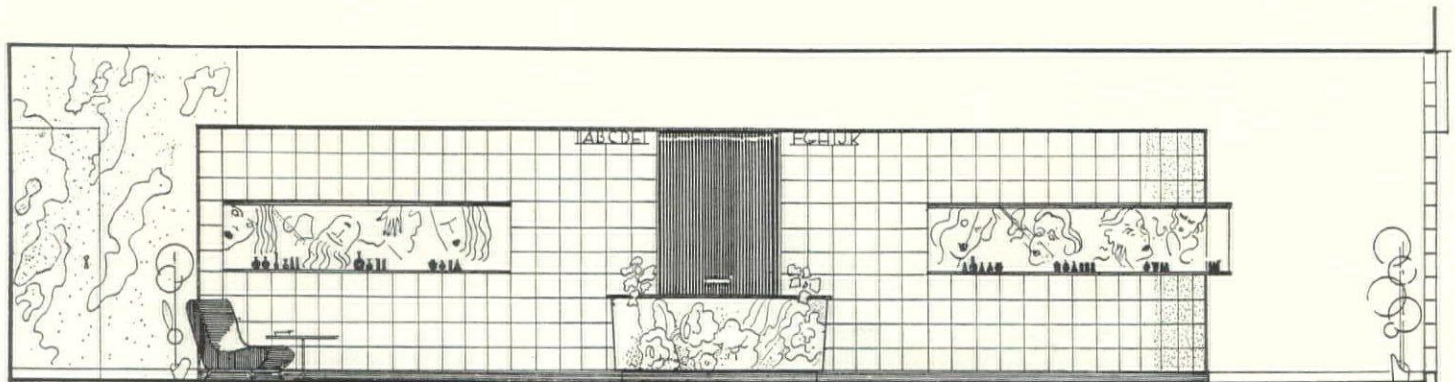
BEAUTY PARLOR PLAN

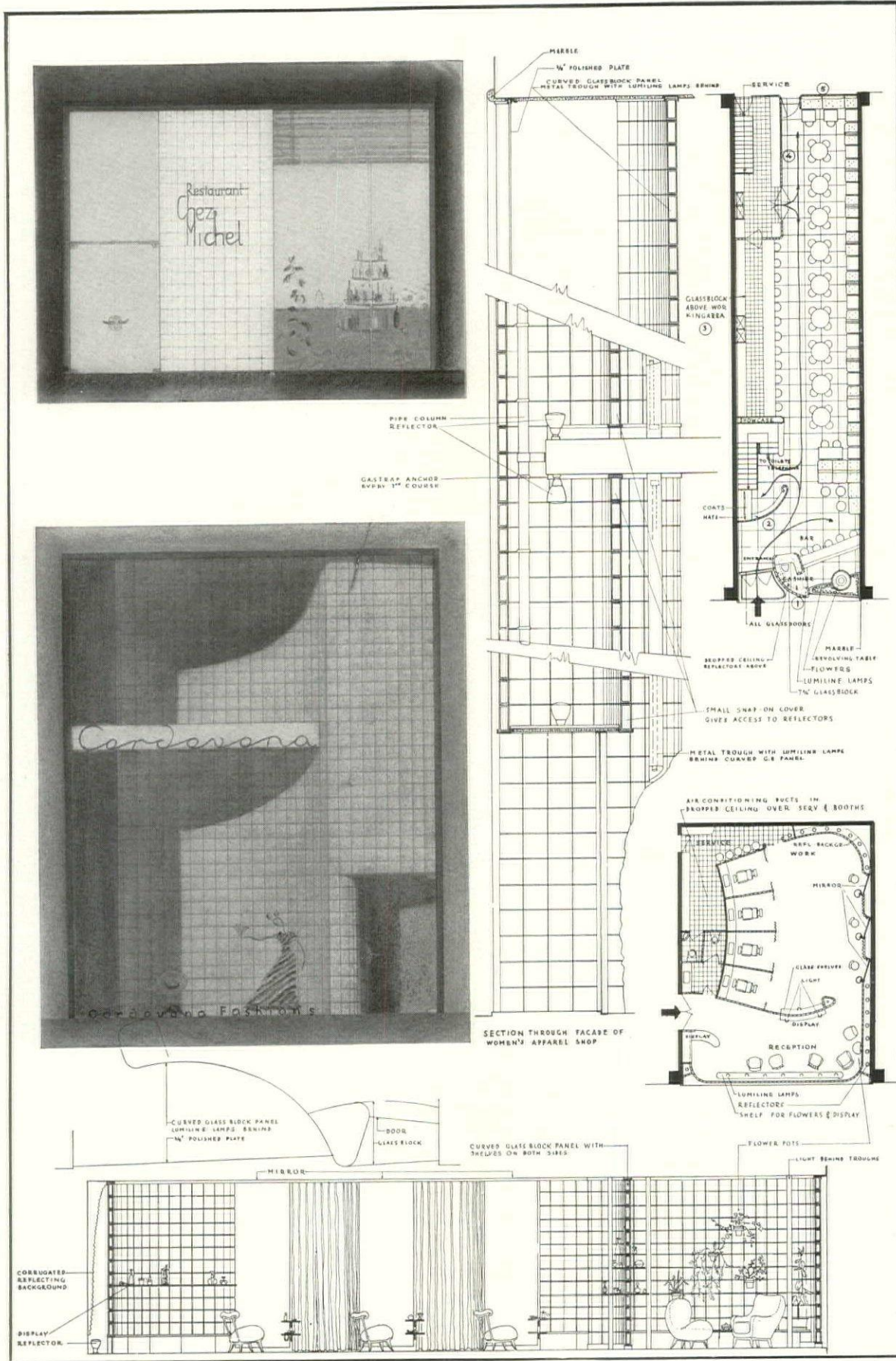
MITCHELL: Educated at Carnegie Tech ('32) and Columbia ('33); winner of Columbia Graduate Scholarship in '32 and A.I.A. medal for highest B.A.I.D. rating in '32; Paris Prize finalist, '33; John Stewardson Traveling Scholarship, '34; registered architect in practice with Ritchey since '37. The pair placed third in Smithsonian Gallery competition finals '39; won honorable mention in Insulux Competition No. 1.

RITCHEY: Educated at Carnegie Tech ('32) and Harvard ('34); Paris Prize finalist, '33; Nelson-Robinson Traveling Fellow from Harvard, '34.

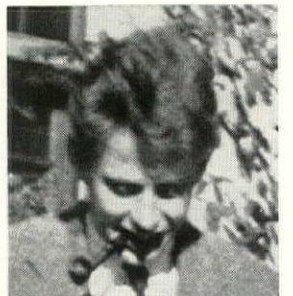


OPPOSITE, FACADES OF RESTAURANT AND APPAREL SHOP; BELOW, SECTION THROUGH BEAUTY PARLOR





SIMON SCHMIDERER. Studied architecture in Vienna; received degree and Austrian State Prize, '37. In U. S. A. since August, '38, and at present employed by Cross & Cross, architects.

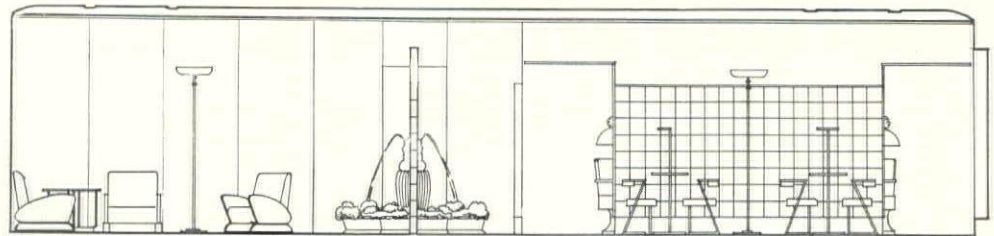


SECOND PRIZE—\$750
SIMON SCHMIDERER,
 NEW YORK

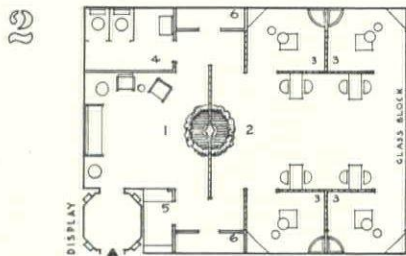
JURY COMMENT—"An effective use of glass block, both outside and inside the restaurant.

"In the apparel shop a particularly interesting form is developed through the combination of blocks and plate glass, creating a sense of space that is achieved by no other design in the competition.

"A very practical use of the glass block is indicated in the beauty parlor."



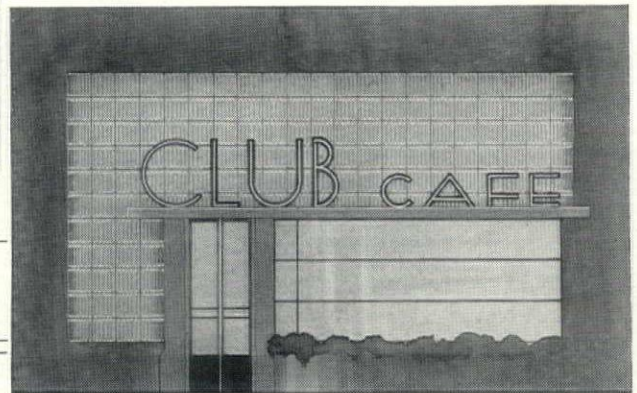
T H E L O N G I T U D I N A L S E C T I O N



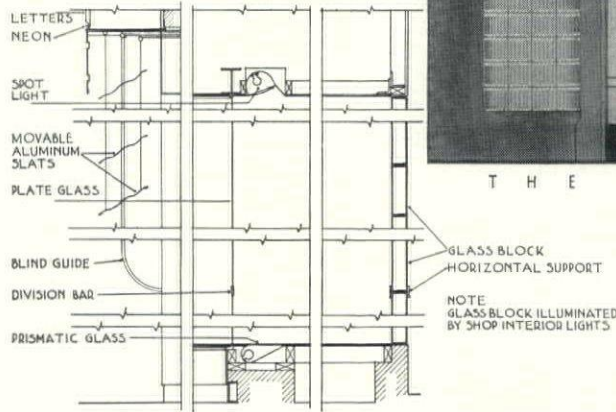
- 1 RECEPTION
- 2 WORK ROOM
- 3 CUBICLES

- 4 WASH ROOM
- 5 OFFICE
- 6 CLOSETS

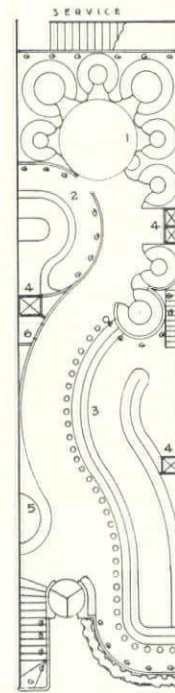
T H E P L A N



T H E E L E V A T I O N

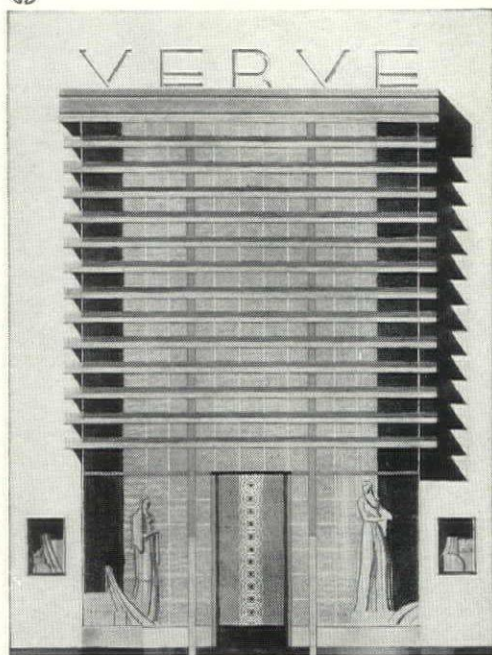


T H E S E C T I O N



- 1 TABLES
- 2 BAR
- 3 FOUNTAIN
- 4 DUMB WAITERS
- 5 CASHIER
- 6 TELEPHONE
- 6 GLASS BLOCK

T H E P L A N



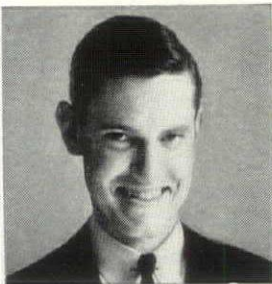
T H E E L E V A T I O N

- 1 RESTAURANT
- 2 BEAUTY PARLOR
- 3 APPAREL SHOP

THOMAS spent one year at Duke University; degree B. Arch. from Carnegie Tech, ('38). Has been employed in office of Frampton & Bowers, Huntington, W. Va.; in office of Associate Architects, Charleston, W. Va.; and at present with Clarence B. Kearfott, Bristol, Va.



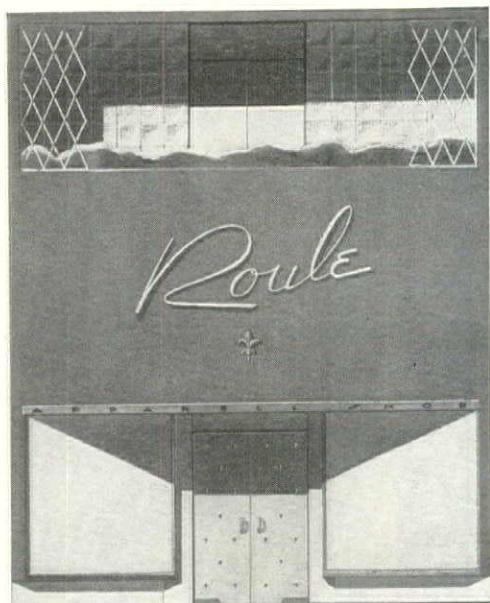
SHEAR: B. Arch. degree at Carnegie Tech, (38), followed by graduate study there in '38-9. At present also with Mr. Kearfott. Holder of fellowship for graduate study at Princeton for '39-'40.



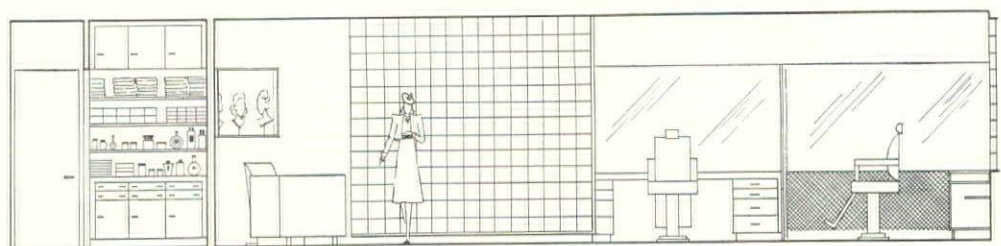
JURY COMMENT—"A good restaurant plan and one not difficult of execution; its curved lines offset the narrow and deep area and provide good arrangement for seating and service.

"An effective facade for the apparel shop, its clear plate glass shaded by the exterior louvers, its tall wall of glass block a background for displays."

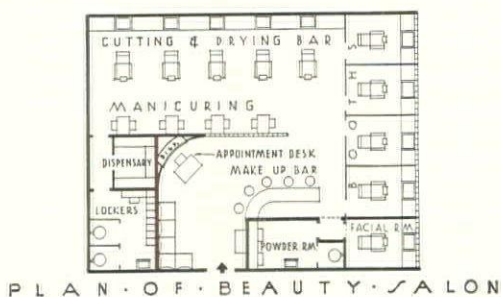
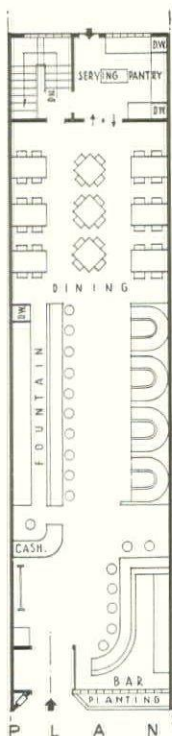
THIRD PRIZE—\$250
JOSEPH F. THOMAS
AND JOHN KNOX SHEAR,
 BRISTOL, TENN.



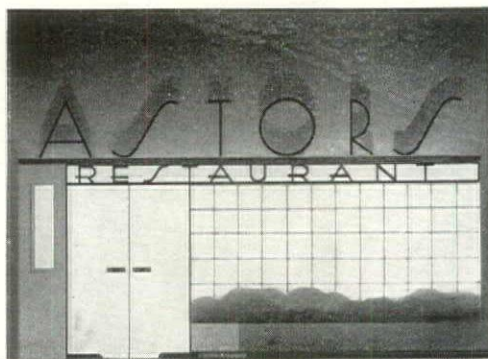
ELEVATION OF APPAREL SHOP



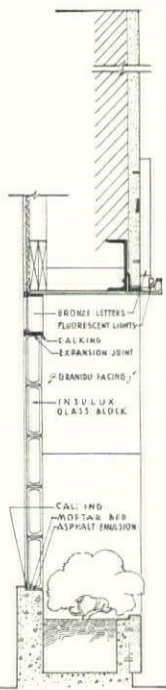
SECTION OF BEAUTY SALON



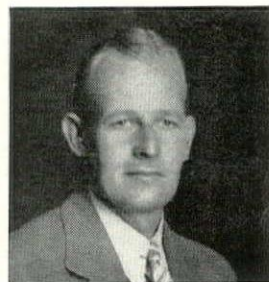
PLAN OF BEAUTY SALON



PLAN ELEVATION SECTION



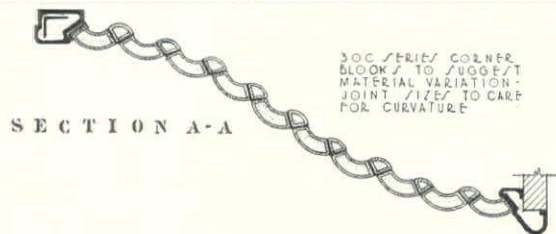
SWICEGOOD won his B.S. in Arch. from Georgia Tech; M.S. from Massachusetts Tech. Winner of first prize in Brunswick-Balke-Collender bar competition, '34; first prize in modernize Main Street competition (drug store), '35; and second prize in small house competition sponsored by *The Ladies Home Journal* in '38.



FOURTH PRIZE—\$100
M. RIGHTON SWICEGOOD,
 NEW YORK

JURY COMMENT—"Restaurant's depth of plan made less apparent by departmental breaks. Simple restrained use of glass block with front planting, and effective lettering. Incidentally, a particularly good rendering.

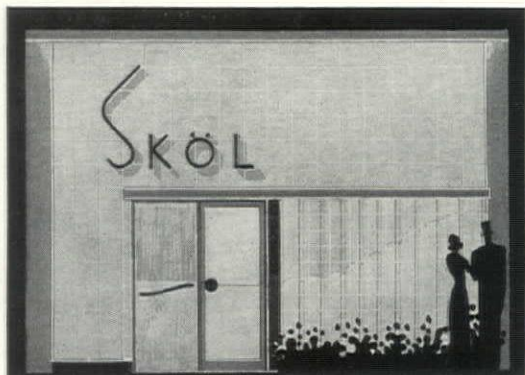
"The apparel shop is one of a comparatively few which frankly expresses two floors, gaining thereby an unusually generous space for the sign. On the upper level the combination of ironwork lattice, planting, glass block and clear glass is pleasing."



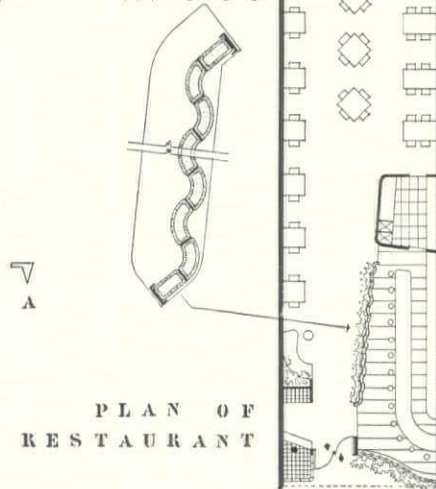
SECTION A-A

SCREEN
DETAIL

300 SERIES CORNER BLOCK LAIN IN OPPOSITION TO COURSE ABOVE FLOWER CURD HIGH-METAL MOLD ON TOP

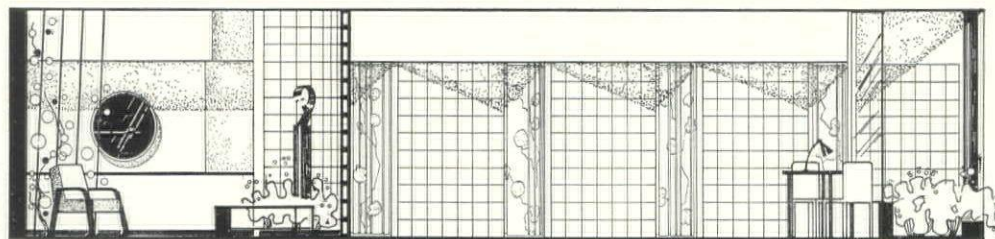


RESTAURANT FACADE

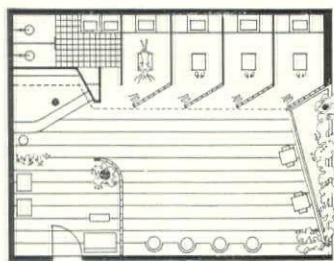


PLAN OF
RESTAURANT

ALDERMAN: B.S. in Arch. from Massachusetts Tech, ('35); consultant on lighting to Metropolitan Edison, Reading, Pa., '35-6; M. of Arch. from Massachusetts Tech, '37; M.I.T. Traveling Fellow in Architecture, '37-8; instructor in design at M.I.T., '38-9; instructor in design at University of Washington in collaboration with W. E. Hartman, '39-'40. Received mention in William and Mary competition and honorable mention in Smithsonian Gallery competition. Has worked during summers in Boston offices of Coolidge, Shepley, Bulfinch & Abbott and of Perry, Shaw & Hepburn.



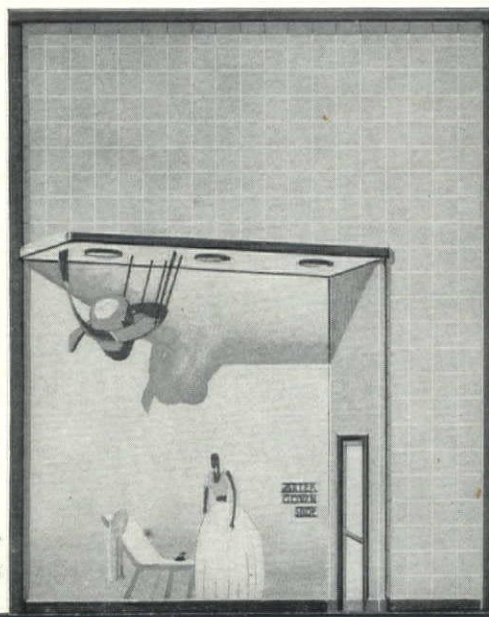
SECTION THRU
BEAUTY PARLOR



PLAN OF
BEAUTY PARLOR



HOFFMAN: B. of Arch., Carnegie Tech, ('36); graduate work at Massachusetts Tech, '36-7; won Boston Society of Architects Prize, '37; M. of Arch. at Mass. Tech., '39. Now instructor in architectural design at Oklahoma A. and M. College, Stillwater, Okla.



WOMEN'S APPAREL SHOP
FACADE

JURY COMMENT—"Entrance to restaurant considered one of the best. The contrasting areas secured by different uses of glass block are ingeniously developed. More enthusiastic approval was expressed for this facade than for that of the apparel shop.

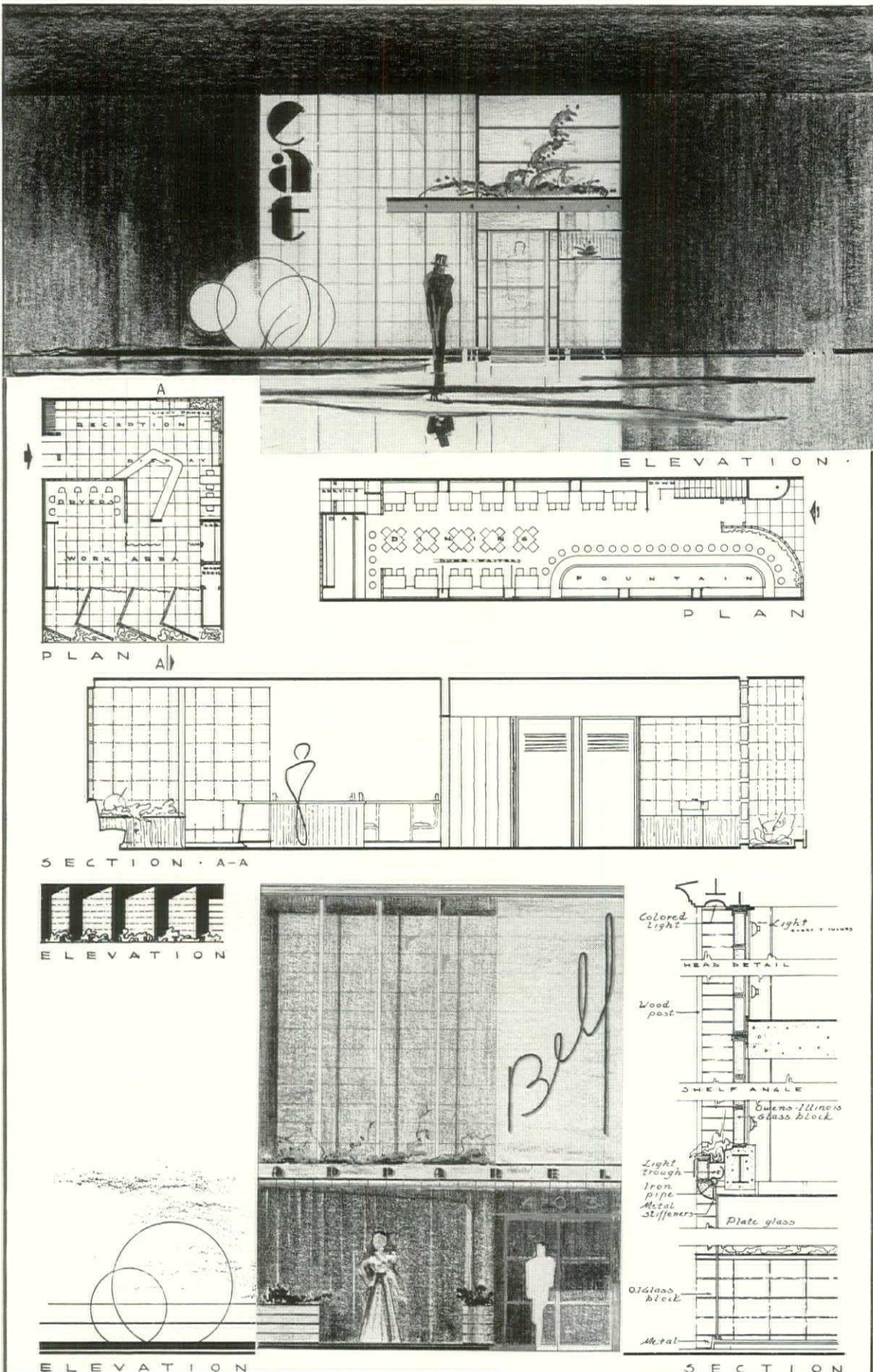
"A provocative design and one that aroused much discussion was this apparel shop with its suggestion of a Brancusi abstract as the store's trademark. The partial penetration of the glass block plane by the rectangular space for window and entrance, calling for some structural ingenuity, would seem to offer a facade more notable for its eccentricity than for its appeal to enter and buy."

FIFTH PRIZE—\$100
BISSELL ALDERMAN,

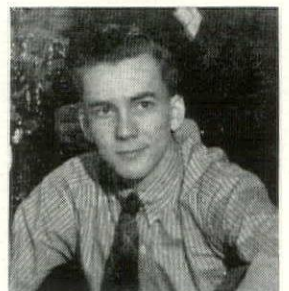
SEATTLE, WASH.

AND **GILBERT E. HOFFMAN,**

STILLWATER, OKLA.



GRIEB entered the University of Illinois June '36 and is now a senior there. Outside of the regular competitive work of the Beaux-Arts Institute of Design, this is his first try in a national competition.



SIXTH PRIZE—\$100
DONALD L. GRIEB,
 MILWAUKEE

JURY COMMENT—"Restaurant exterior pleasing, if one is not too distracted by the over-generous background, leading one easily past a display window into the doorway.

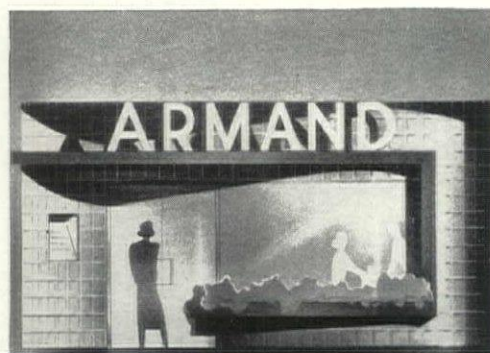
"In the apparel shop a rather pleasing combination of light metal forms, planting and glass block, the latter adapted neatly to background for the sign.

"A beauty parlor plan reflecting careful study and developing unusual and effective booths."

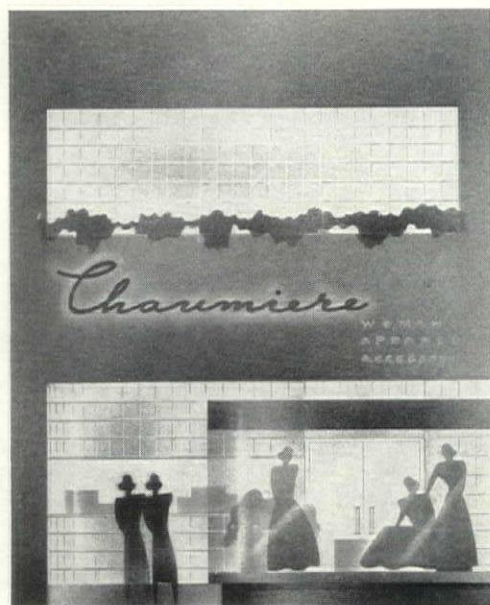
JOHNSON studied at Art Institute of Chicago; won Barnhard Scholarship; worked on exhibits for Chicago and New York World's Fairs; individual practice in design, including commercial work.



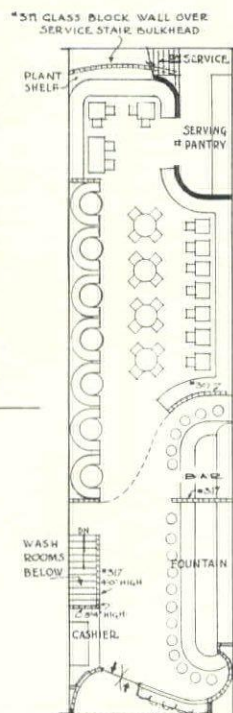
OLSON: registered architect; member of Nat'l. Council of Architectural Registration Boards. Studied at Pratt Institute, Columbia Extension Courses, and New York University. Has worked in offices of Penrose V. Stout, H. T. Lindberg and Randolph Evans; now in practice alone.



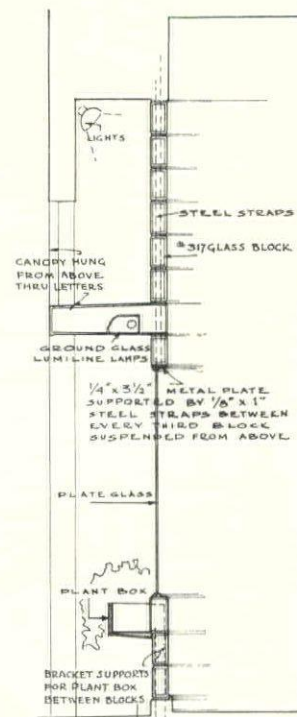
RESTAURANT ELEVATION



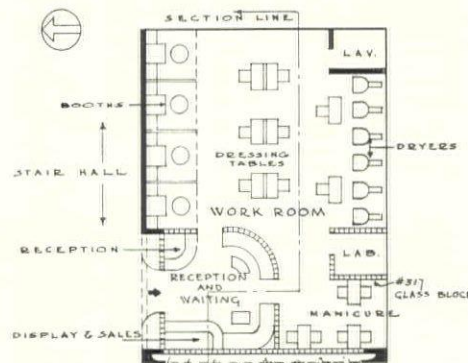
WOMENS APPAREL SHOP ELEVATION



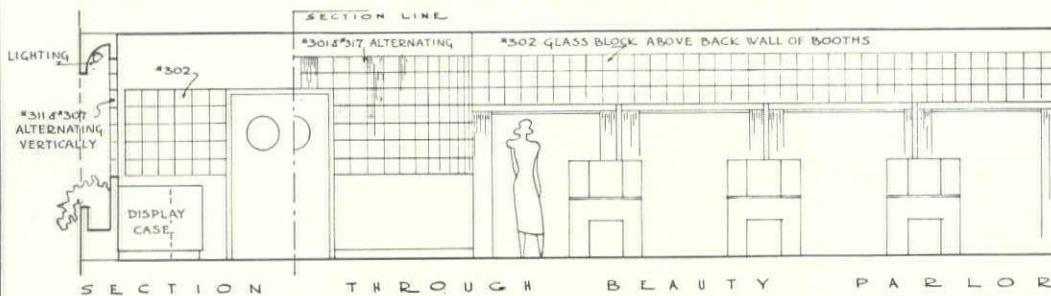
PLAN



DETAIL



PLAN



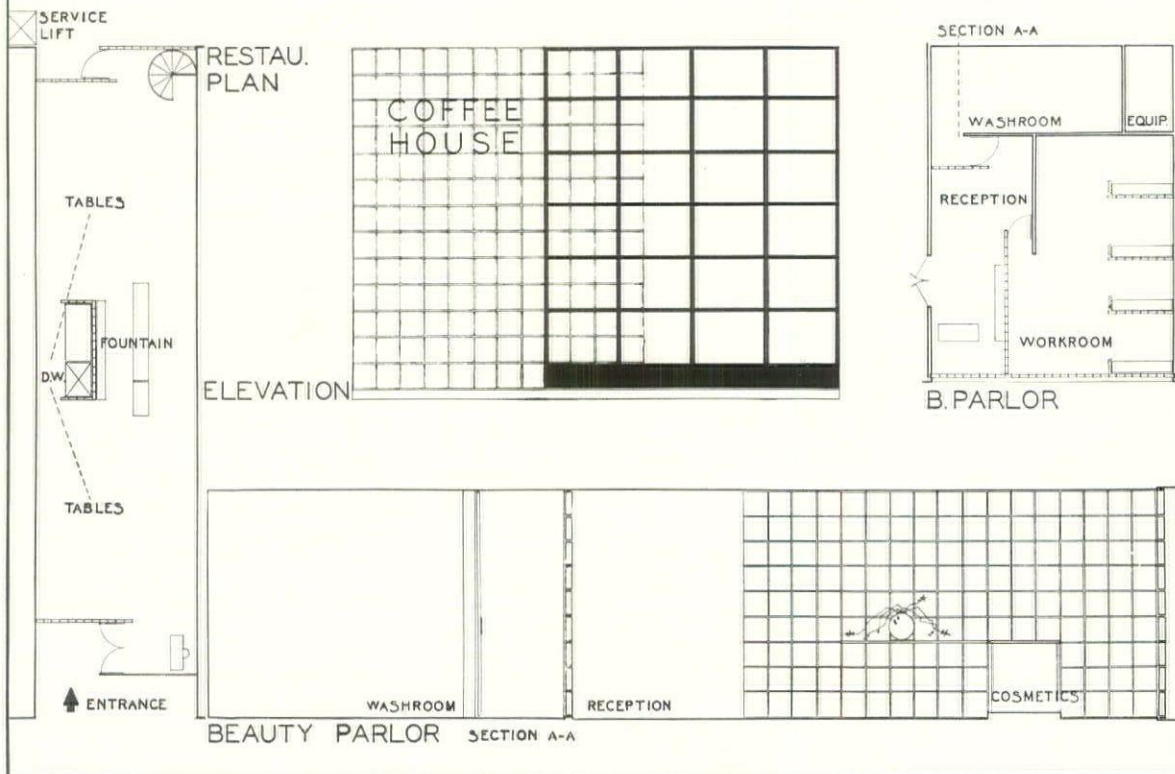
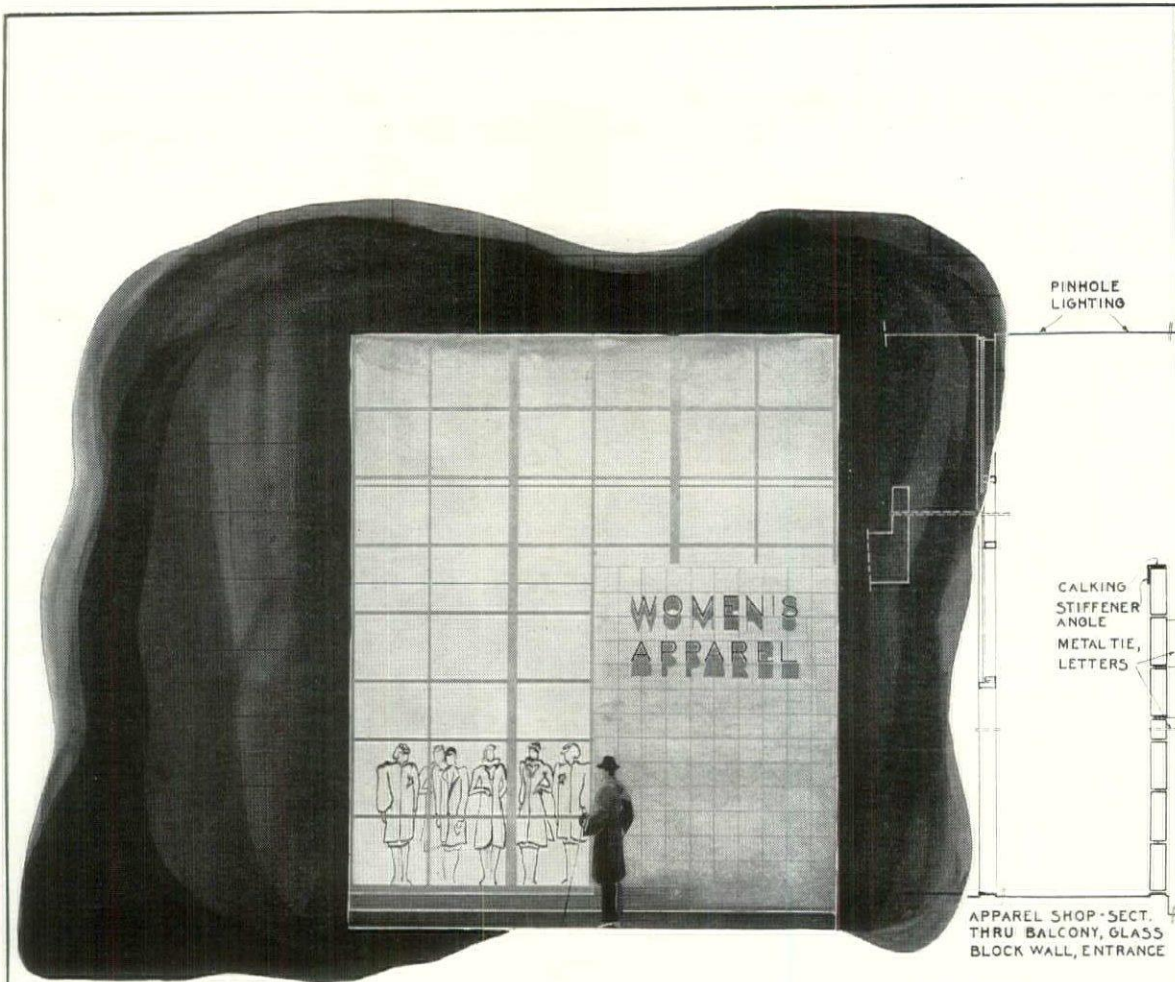
JURY COMMENT—"Exterior of restaurant provides inviting access, but the deep hole behind the sign and the tangential meeting of block wall with party wall are questionable features.

"This design was premiated largely because of the island show window arrangement of the apparel shop, with the vestibule walls of glass block interrupted by a small accessory display. Absence of any provision for access to what seems to be a balcony, the space above the isolated show window, and the somewhat tortuous entrance, were questioned."

SEVENTH PRIZE—\$100

ROY JOHNSON
AND ALBERT E. OLSON,

NEW YORK



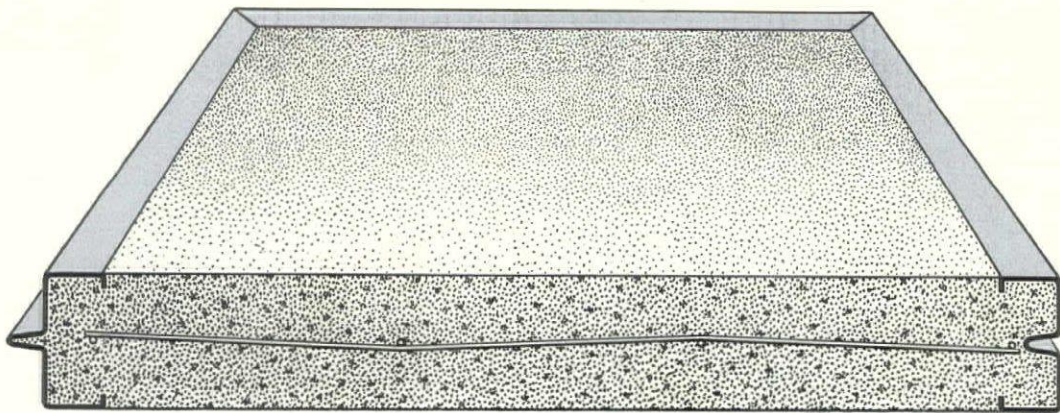
DAVID BAKER won his B.S. in Arch. from Armour Institute; was presented on graduation with A.I.A. award for scholarship and Charles L. Hutchinson Medal for highest record in architectural design. One year of graduate work at Armour. Has been employed in office of Samuel A. Marx, architect, and with Alfonso Iannelli, sculptor.



EIGHTH PRIZE—\$100
DAVID BAKER,
 CHICAGO

JURY COMMENT—"An ingenious use of baffle walls of contrast—block and clear glass for both restaurant and apparel shop. Open to question is the use of steps up to and around the free-standing screen of block shielding the apparel shop entrance; also the effectiveness of the store front's muntined glass wall for display purposes.

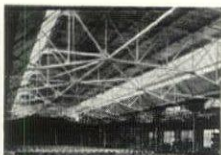
HERE'S THE *Clinch* IN OUR STORY



THE steel binding around GYPSTEEL PLANK* is turned down and *clinched* into the body, holding on with a bulldog-grip and forming a perfectly flat surface *flush with the gypsum core*. Thus, for all types of roof decks and for light load floors, PLANK provides an ideal surface for the covering materials. The center is reinforced with steel wire mesh.

PLANK's smooth, unobstructed face and light weight make it easy and economical to handle. Erected like lumber—it can be cut, sawed, bored, or nailed *and* it is fireproof, termite-proof, and vermin-proof. It offers all the advantages of masonry (plus high insulation value) at much less cost and labor.

More of the advantages of GYPSTEEL PLANK are



(Right) Plank is adaptable to any type of roof.



(Left) Plank gives fire-resistant masonry construction

contained in a new 28-page *Plank Bulletin*. Write for your copy today. It will enable you to make valuable savings in present and future plans.

DID YOU KNOW? The walls of our Linden, New Jersey Plant, some of them 90 feet high, are made of Gypsteel Partition Tile—the same composition as PLANK. These have not been waterproofed or treated in any way and the only effect of years of exposure has been to make them harder.

GYPSTEEL PLANK is a complete structural unit shaped like lumber. Made of extra dense, nailable gypsum. All four sides are bound with galvanized steel tongues and grooves which lock to form a strong, continuous I-BEAM. Center is reinforced with steel wire mesh. Vermin-proof, termite-proof. Will not shrink or warp.

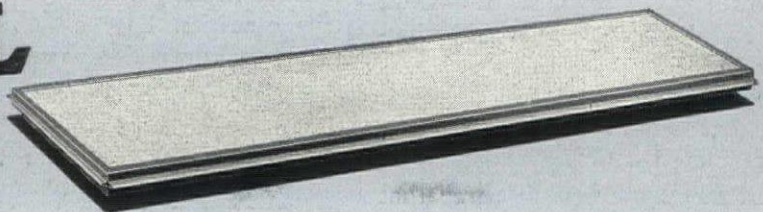
*The term PLANK as applied to cementitious building products is a trade-mark of the American Cyanamid & Chemical Corporation.



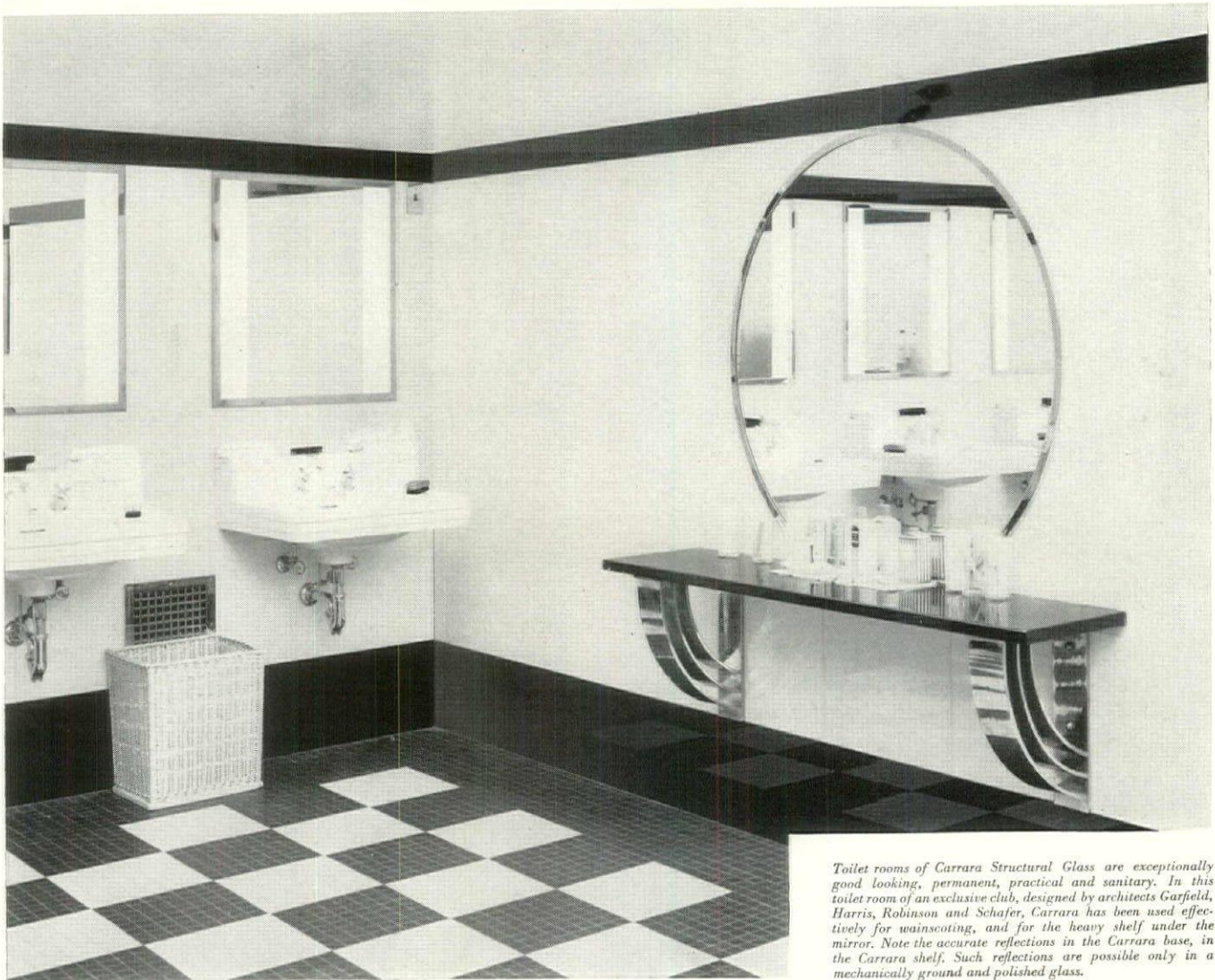
AMERICAN CYANAMID & CHEMICAL CORPORATION
Structural Gypsum Division

30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

**GYPSTEEL
PLANK**



ALL CARRARA IS *Structural Glass at its Best!*



Toilet rooms of Carrara Structural Glass are exceptionally good looking, permanent, practical and sanitary. In this toilet room of an exclusive club, designed by architects Garfield, Harris, Robinson and Schafer, Carrara has been used effectively for wainscoting, and for the heavy shelf under the mirror. Note the accurate reflections in the Carrara base, in the Carrara shelf. Such reflections are possible only in a mechanically ground and polished glass.

THE best structural glass obtainable is mechanically ground and polished to a true, brilliant, mirror-like finish. Only a glass so finished can provide the accurate reflectivity, the richness, the perfection of surface so vital to effective architectural design where structural glass is used.

That's why every piece of Carrara Structural Glass produced . . . whatever its color, size or thickness . . . is mechanically ground and polished. And that's why every piece of Carrara represents structural glass at its best!

Architects everywhere agree that Carrara is a beautiful material for

toilet room walls, partitions and stiles; for entrance lobbies, corridors, bathrooms, kitchens and scores of other uses in buildings of every type. But Carrara has other qualities, too, which recommend it highly. A wide range of attractive colors, of thicknesses, of decorative treatments, which means latitude in design. Exceptional sanitary qualities. Easy cleaning. Permanence. Low maintenance.

Here is an ideal material for the resourceful architect to work with.

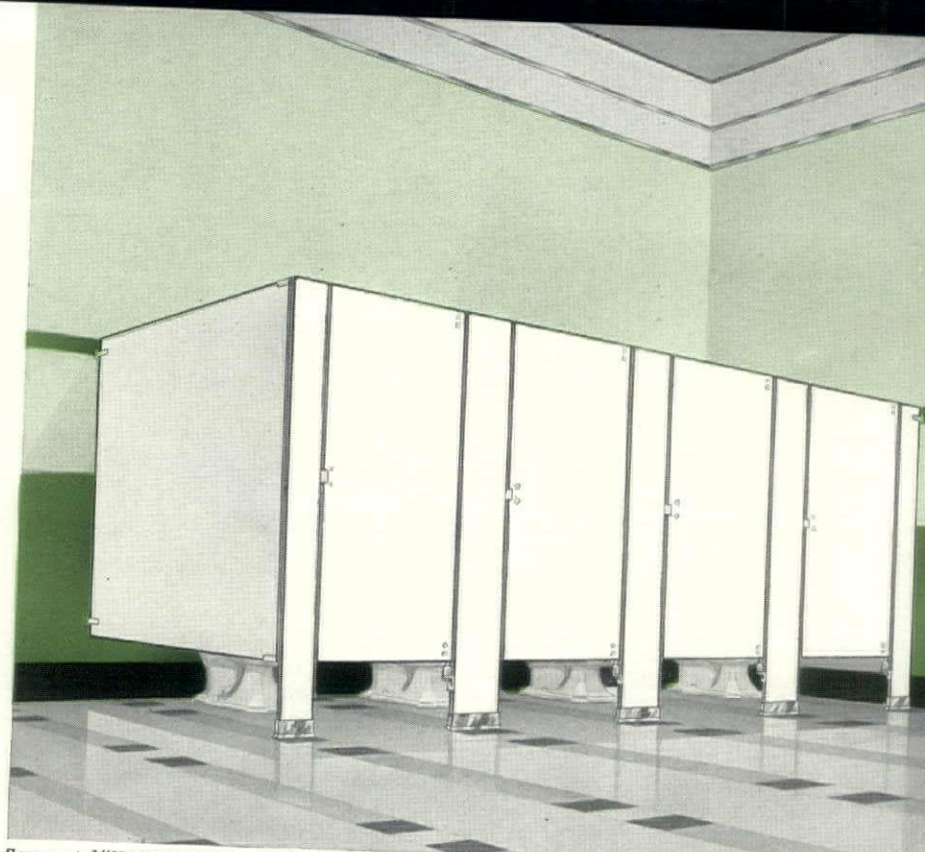
We urge you to write us for complete information, contained in our illustrated booklet entitled "Carrara, the Pittsburgh Plate Glass Co., 2025-9 Modern Structural Glass." Address Grant Building, Pittsburgh, Pa.

Carrara
THE MODERN STRUCTURAL GLASS

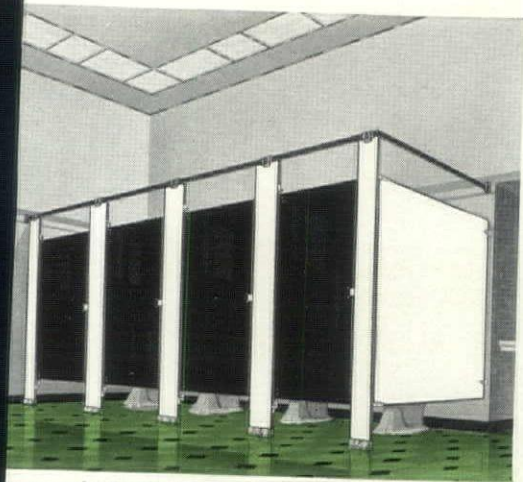
PITTSBURGH PLATE GLASS COMPANY

Choose from these 5 types

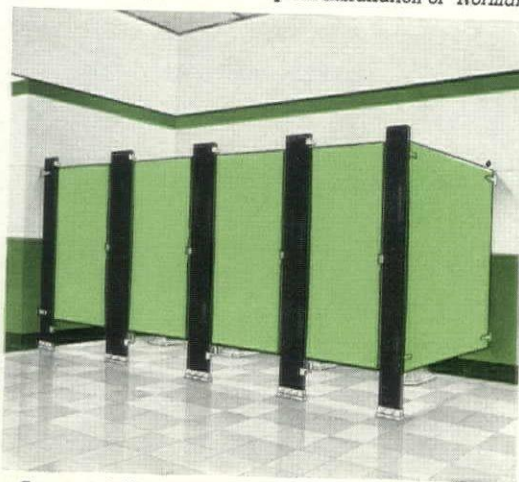
THE TOILET PARTITION THAT IS NEEDED
TO MAKE A TOILET ROOM ENVIRONMENT
LIKE YOU WANT IT TO BE



Sanymetal "Normandie" Type Toilet Partitions, available in any one of 3 finishes, provide classic beauty wedded to utility. An installation of "Normandie" Type Partition provides the utmost in sanitary service.



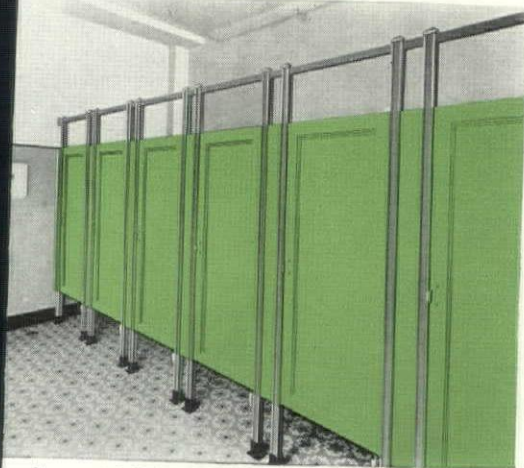
Sanymetal "Academy" Type Toilet Partitions combine all the dignity and distinctiveness of the flush type construction, unmarred by posts, with headrail design. This is the only type in which these popular features are available. The "Academy" Type Partitions are available in any one of three finishes.



Sanymetal "Embassy" Type Toilet Partitions are designed for those who prefer modification of the modernity evidenced in the "Normandie" Type. The classic lines of this design endow it with unusual character. Available in any one of three finishes and suitable for environments where unapproachable sanitary service is essential.



Sanymetal Flush Type Toilet Partitions have been installed in every known type of building throughout the length and breadth of this country. They are available in steel or aluminum usually furnished with baked-on paint enamel finish throughout, but partition panels only can be furnished with porcelain enamel finish.



Sanymetal Full Panel Type Partitions are suitable for any type of building where utility is the main consideration. Full Panel Type Partitions are available in steel or aluminum, and are furnished in baked-on paint enamel finish only.

COMMON TREATMENTS of toilet room environments neither inspire creative effort nor win favor. Toilet room environments are undergoing a renaissance to catch up with the standard of sanitary convenience afforded by modern bath rooms.

Choose from these five types of Sanymetal Toilet Partitions the one that offers you the particular design characteristic needed to endow the toilet room environment with modernity and beauty in good taste. These elements as combined in any one of these five types of partitions provides the utmost in sanitary service throughout the years these units are served.

Sanymetal offers more than a range of types. It offers a range of materials and a range of finishes that in turn permit you a heretofore unheard of freedom in working out what you have wanted to do in laying out these all-important facilities.

Everyone passes judgment on toilet environments. Sanymetal Toilet Partitions emphasize cleanliness, promote respect and appreciation of toilet facilities and often prove to be the keynote in maintaining the good-will of tenants, customers, employees, and others.

Through a Sanymetal representative, you may tap a wide and varied experience of 24 years acquired from making over 46,000 installations. Write for new Catalog No. 77.

FOR A FULL DESCRIPTION OF EACH OF THESE TYPES REFER TO SANYMETAL SECTION OF SWEET'S FOR 1939, CATALOG 20/21.

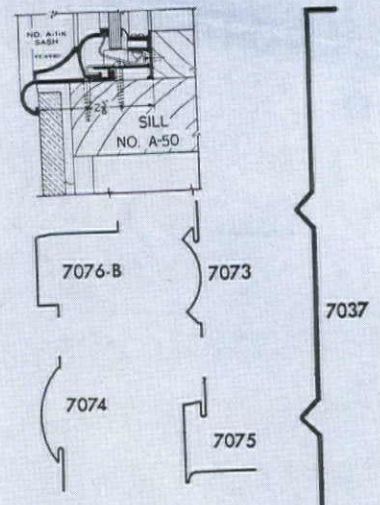
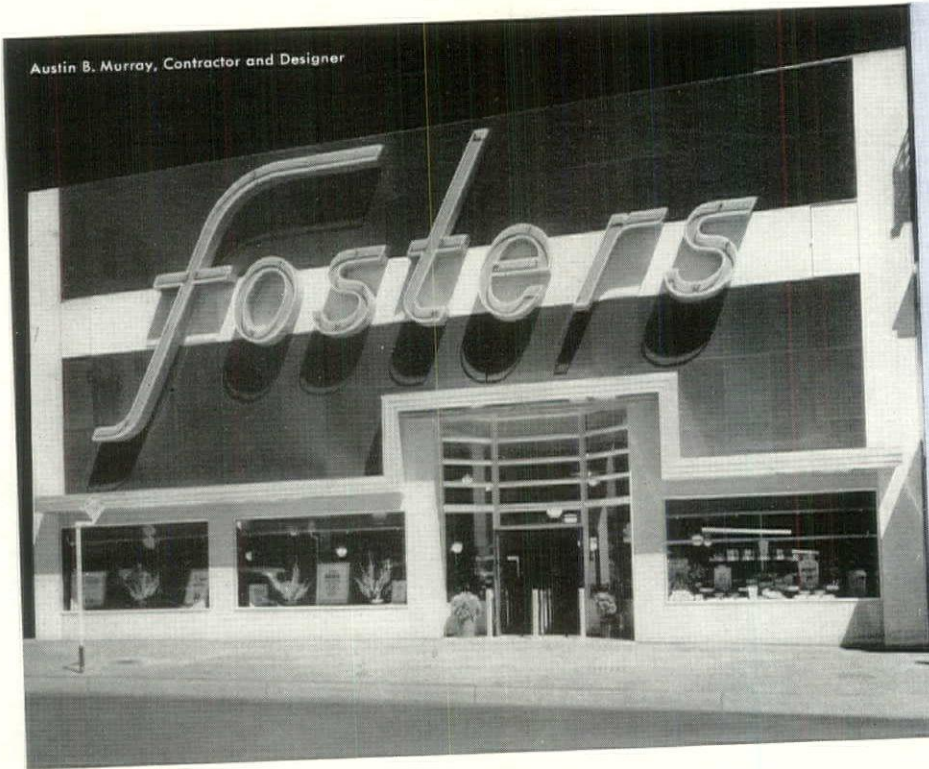
Sanymetal

THE SANYMETAL PRODUCTS CO., INC.
1687 Urbana Road • • Cleveland, Ohio

TOILET AND OFFICE PARTITIONS



Austin B. Murray, Contractor and Designer



Quarter size details show standard Kawneer mouldings used on these fronts. Many useful shapes are available.

UNLIMITED DESIGN POSSIBILITIES-

with standard KAWNEER MOULDINGS!



**COMPLETE
3" SCALE DETAILS
AVAILABLE**

The two store fronts illustrated show how easy it is to obtain striking effects with a few of the many standard Kawneer mouldings and shapes, available in aluminum, bronze and stainless steel. Such mouldings may be used alone, or in a wide variety of combinations—offering the designer great freedom in the development of his ideas.

In the Kawneer front above, Shape No. 7037 (face piece of the Kawneer Concealed Awning Bar) has been used to form an unusually attractive cornice and light box.

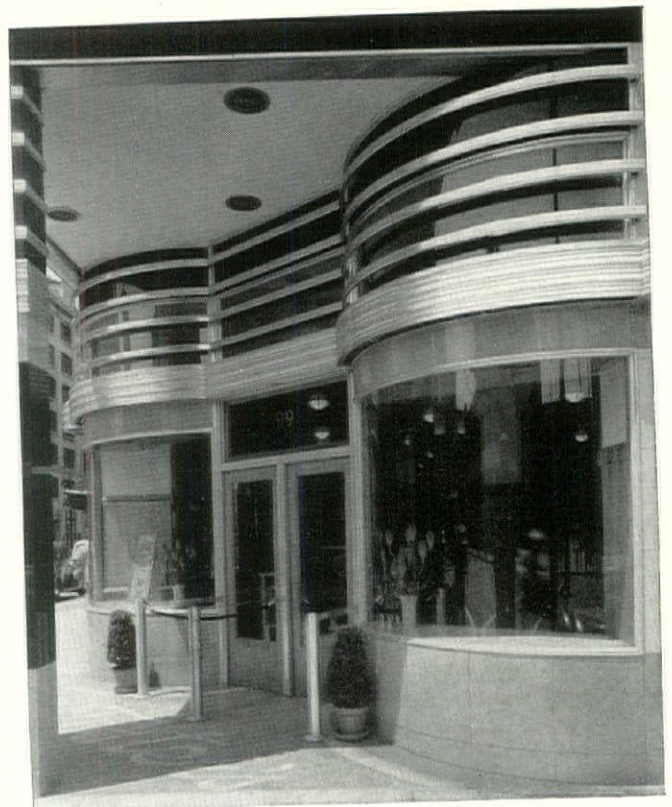
In the store front shown at right, Shapes No. 7076-B, 7073, 7074, and 7075 have been used very effectively in combination.

PLATE GLASS PROTECTION

Show window glass in these fronts is securely and safely held by Kawneer RESILIENT EXTRUDED SASH and BARS. This type of sash, as well as the Kawneer Rolled Sash, provides a strong yet resilient grip evenly distributed along surface of plate glass—for maximum protection against glass breakage.

PORCELAIN ENAMEL IN 27 MODERN COLORS

K. Z. S. Architectural Porcelain Enamel also offers interesting possibilities for modern design. Adaptable to all types of store fronts. Panels are individually suspended. 27 appealing, modern colors! Standard or special shapes to meet all design requirements! WRITE FOR COLOR CARD AND BOOKLET.



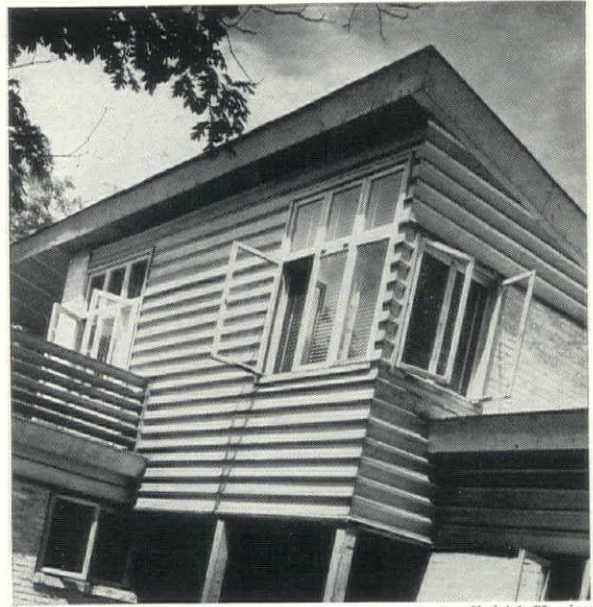
Kawneer

THE KAWNEER COMPANY, NILES, MICHIGAN. BRANCHES: NEW YORK, CHICAGO, BERKELEY, CAL. DISTRIBUTORS IN PRINCIPAL CITIES.



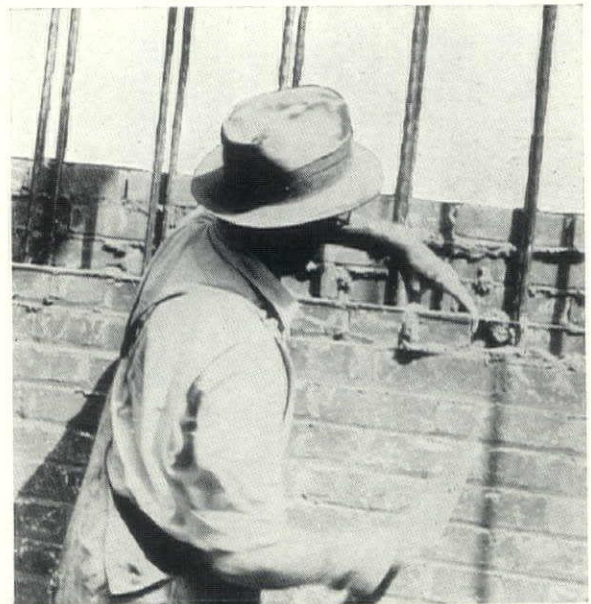
Dana Hull

MEN OF THE MONTH . . . from sentiment they filter out requirements (page 351)



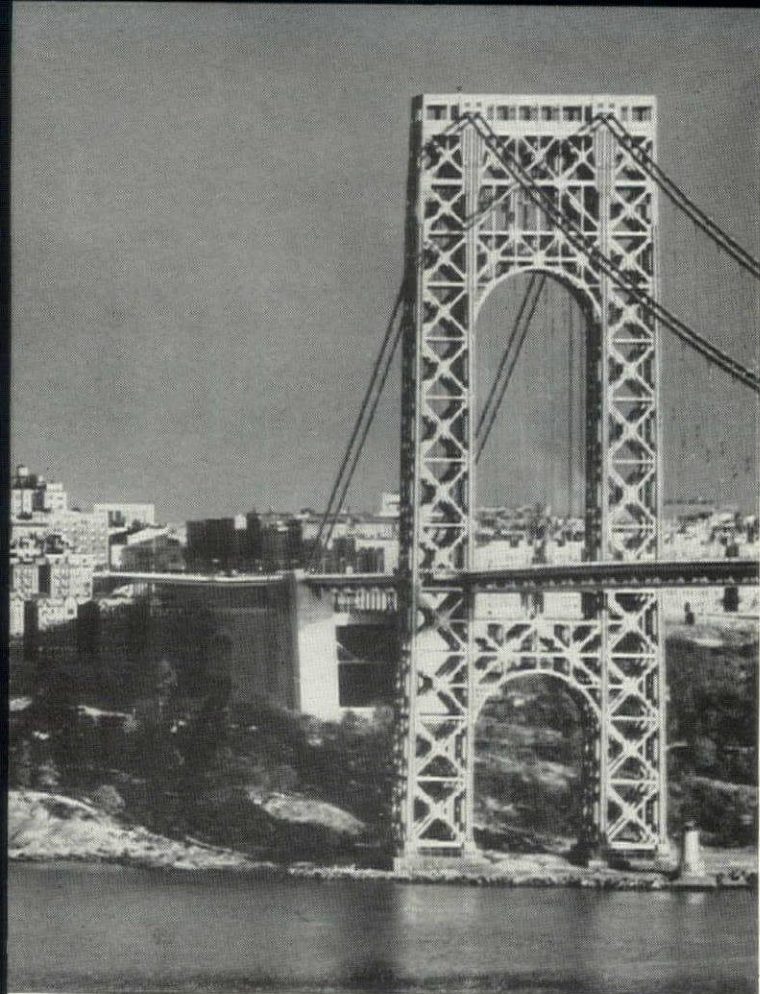
Hedrich-Blessing

BUILDING OF THE MONTH . . . yesterday and tomorrow meet in today (page 352)



TECHNIQUE OF THE MONTH . . . to other virtues, steel adds strength (page 367)





F. S. Lincoln Photos

CASTLE VILLAGE

. . . designed to an 180 degree view

ARCHITECT:

GEORGE FRED PELHAM, JR.

BUILDER:

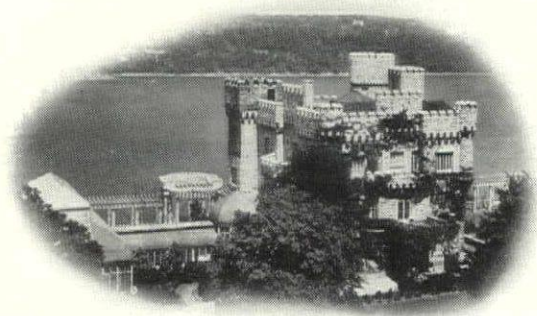
DR. CHARLES V. PATERNO

CONTRACTOR:

WALTER KIDDE CONSTRUCTORS, INC.

ENGINEER:

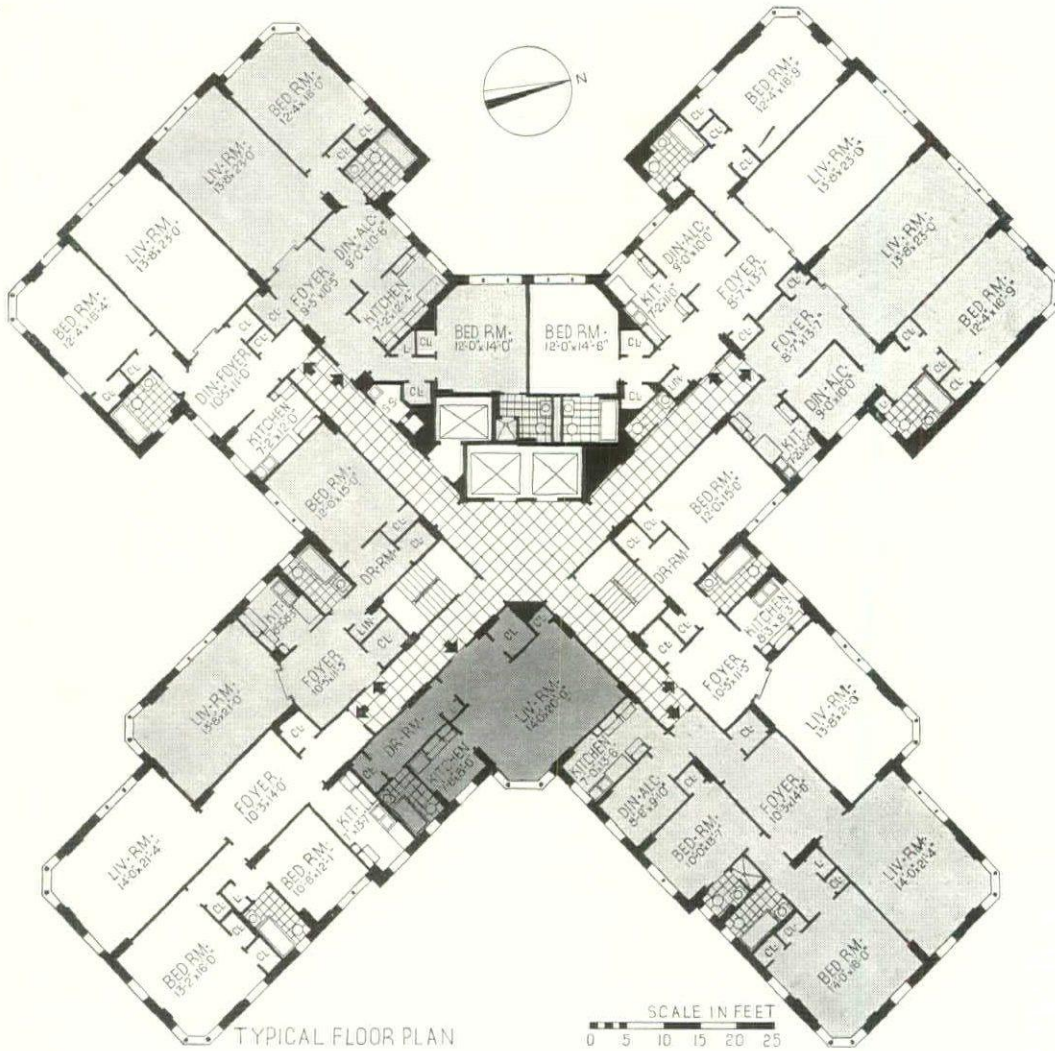
VICTOR MAYPER



W. J. Anderle

Perched atop a 200-ft. Manhattan bluff just north of the George Washington Bridge, Castle Village enjoys a 180 degree view up and down the Hudson River. To capitalize on this prize possession the project is divided into five separate cross-planned buildings—high enough to dominate the skyline and orientated to the advantage of a maximum number of apartments. Ingenious planning has given 90 per cent of its apartments command of the view.

While site planning and apartment layout are Castle Village's two focal points, the project is noteworthy on several other counts. 1) Provision has been made on the premises for dining and recreation facilities for its 569 tenant families and for the storage of 300 automobiles. 2) It is the tallest (as well as the largest private enterprise) apartment development ever built around a reinforced concrete frame. 3) Its historical background, centering around "The Castle" which once occupied the site and its builder who once occupied "The Castle" is worthy of a page in Building's annals. The romantic and scenic aspects of Castle Village have been fully capitalized in its promotion, explain in part its 70 per cent occupancy one month after opening. These and other significant phases of this project are presented on the following pages.

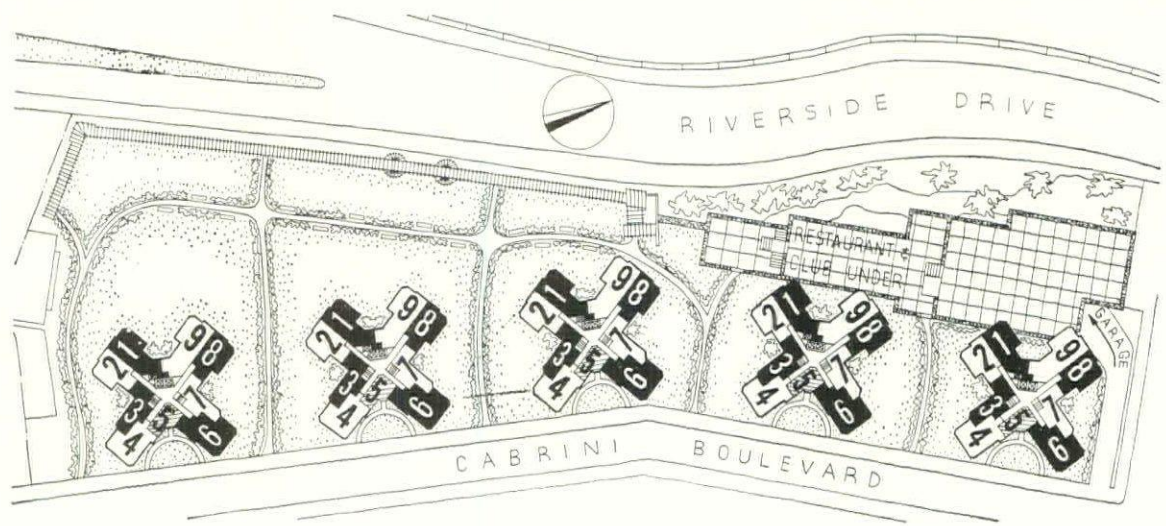
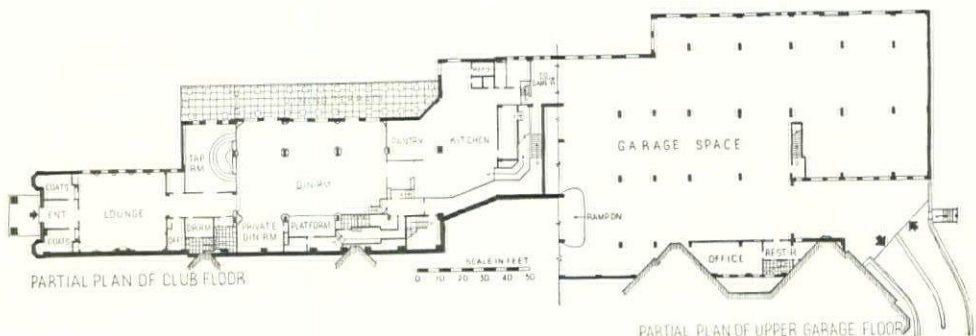
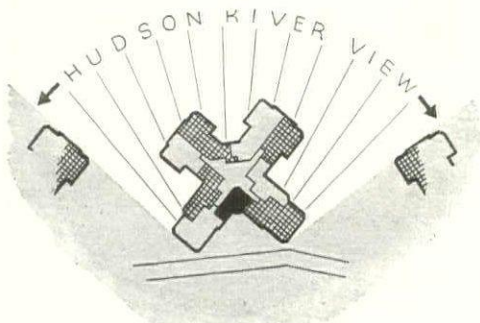


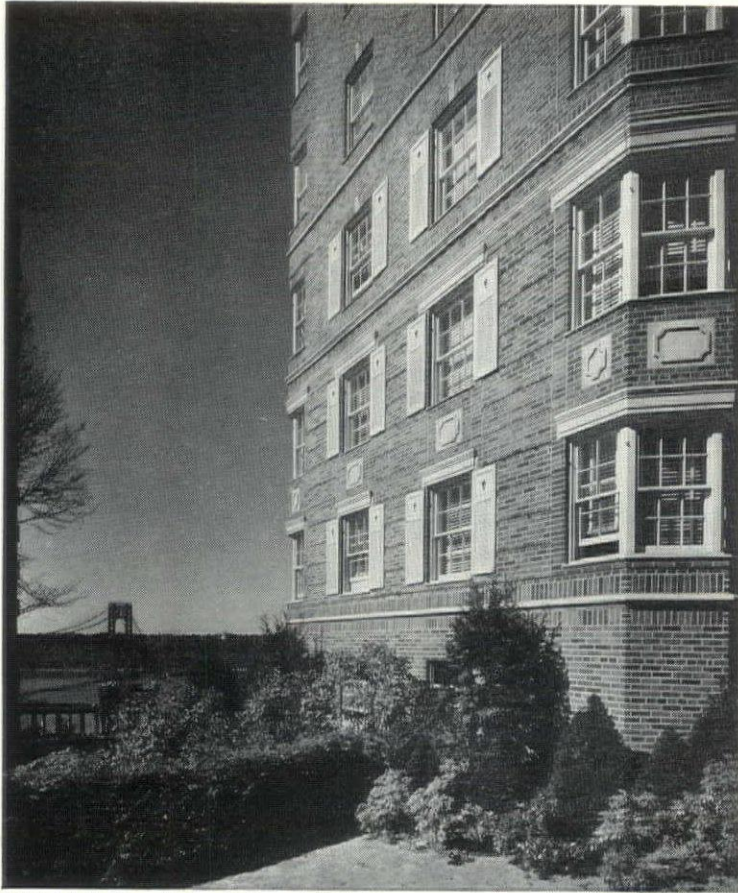
DESIGN

An example of the trend toward super-block planning, Castle Village covers four ordinary city squares. Five buildings of identical plan but ranging in height from eleven to thirteen stories are set close to the street, leave 80 per cent of the site for landscaped lawns and garage roof terraces.

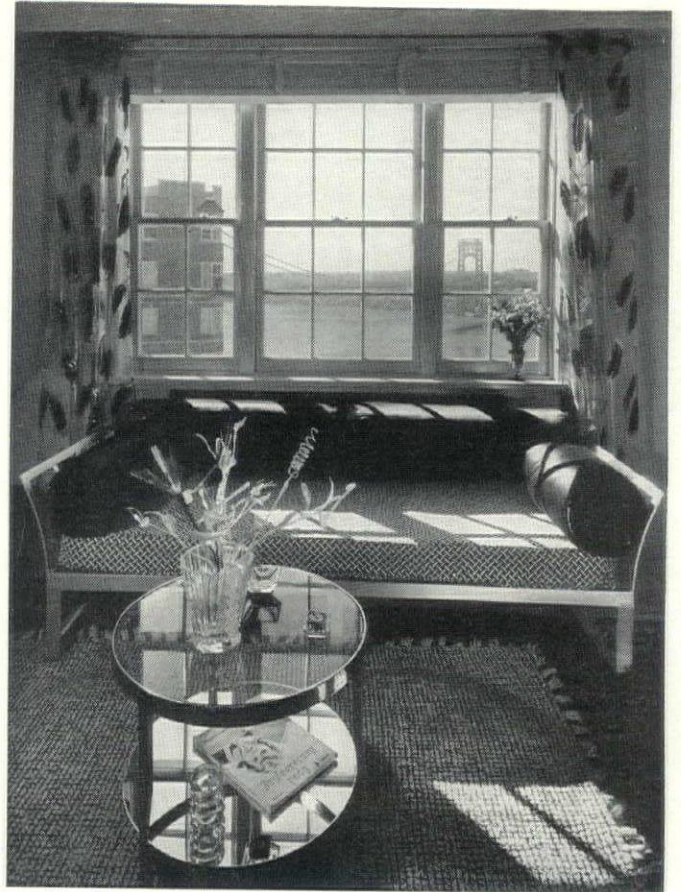
Most commendable feature of the development is its adaptation to the scenic character of the six-acre site. Division of the project into five separate units increased exterior wall area, permitted unusually generous fenestration. Working within these detached cross plans, the architect arranged the 569 dwelling units so that 512 of them have an unobstructed view of the Hudson River and the New Jersey Palisades beyond. Minimum apartment view is 30 degrees.

Well integrated with the living facilities is the service building—a 300-car three-level ramp garage with restaurant (capacity: 500) and recreation rooms below, paved terraces above. Built into the side of the cliff, this four-story structure is, in effect, a continuation of the property's 75-foot retaining wall and does not interfere with the view of even first-floor tenants.





ORIENTED TO THE RIVER



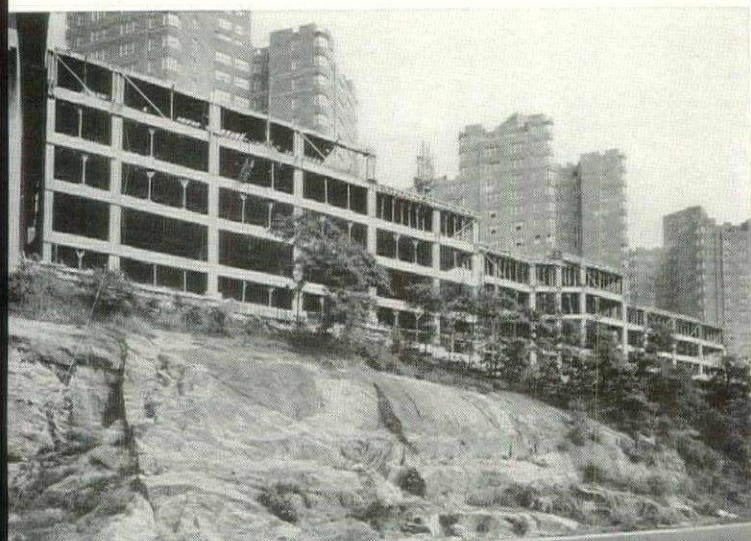
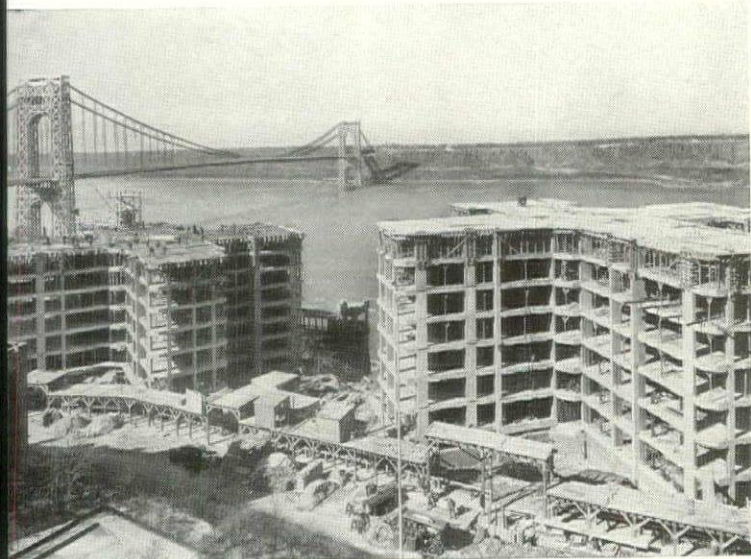
F. S. Lincoln Photos

McLaughlin Air Service





Construction photos—courtesy of Walter Kidde Constructors, Inc.



CONSTRUCTION

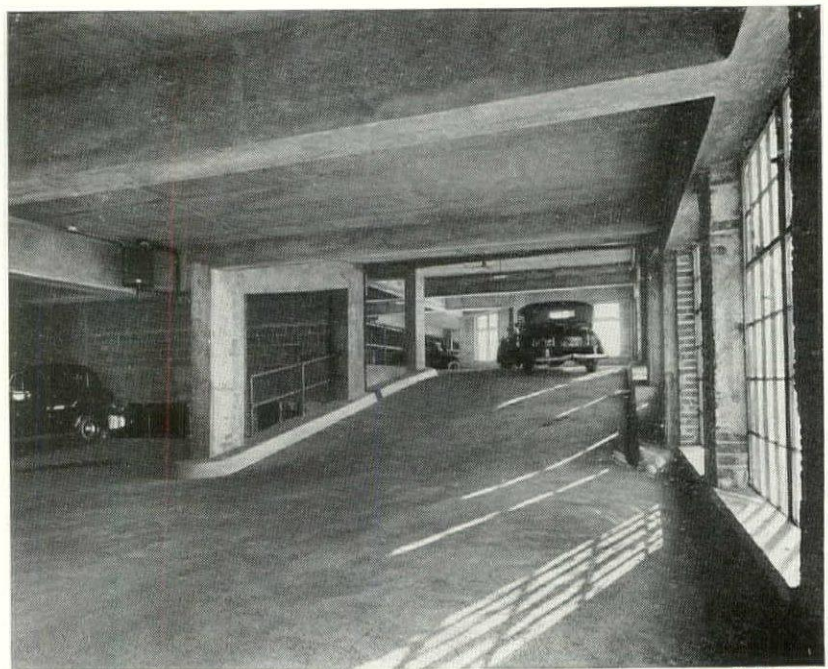
Castle Village is the tallest apartment project ever built of reinforced concrete. Reasons for choice of this system over the conventional steel frame construction:

- 1) It is claimed to be more economical (about 15 per cent at Castle Village) in a large project where the plywood forms may be used many times.
- 2) It permits shallower floor construction, reduces considerably the height of the buildings.
- 3) It produces more attractive flush ceilings unobstructed by the drop beams which go with steel frame construction.
- 4) It reduces the areas to be plastered—all elements of the concrete frame which form part of the walls are smooth enough to paint or paper. Only curtain walls and ceilings were plastered at Castle Village*.
- 5) Subtly suggests its builder: "This construction may be bombproof."

During construction the five buildings were divided into two groups, and each group was serviced by a scaffold bridge, necessitating only two temporary elevators. The three-building scaffold appears in the third picture, left. Fourth picture: concrete frame of the garage and social center.

* Original plan was to leave all ceilings unplastered, but union plasterers would not touch the walls unless allowed to plaster the ceilings as well.

GARAGE



F. S. Lincoln



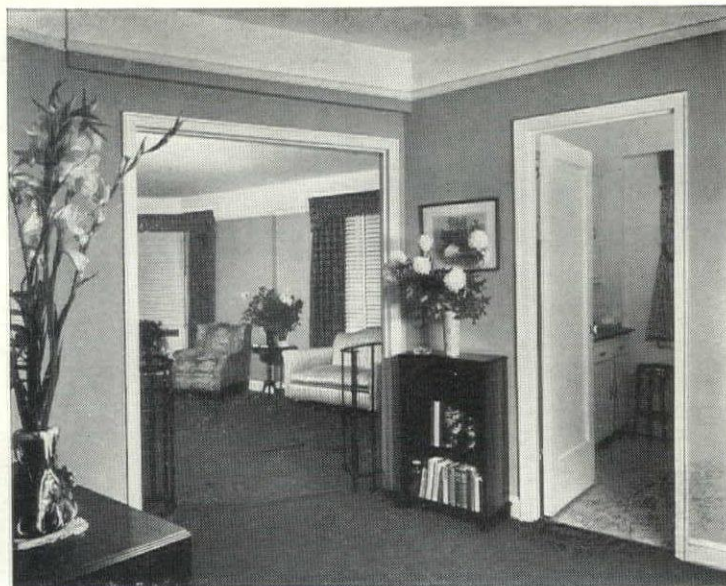
LIVING ROOM-APARTMENT NO. 4. (See plot plan page 342)

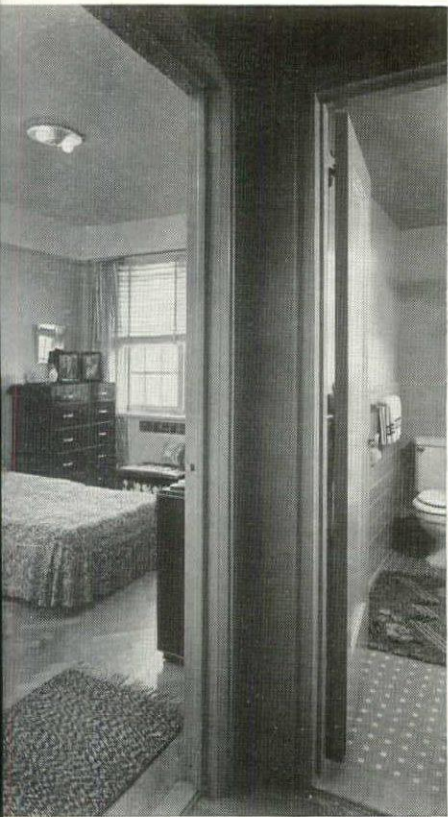
FOYER-APARTMENT NO. 8.



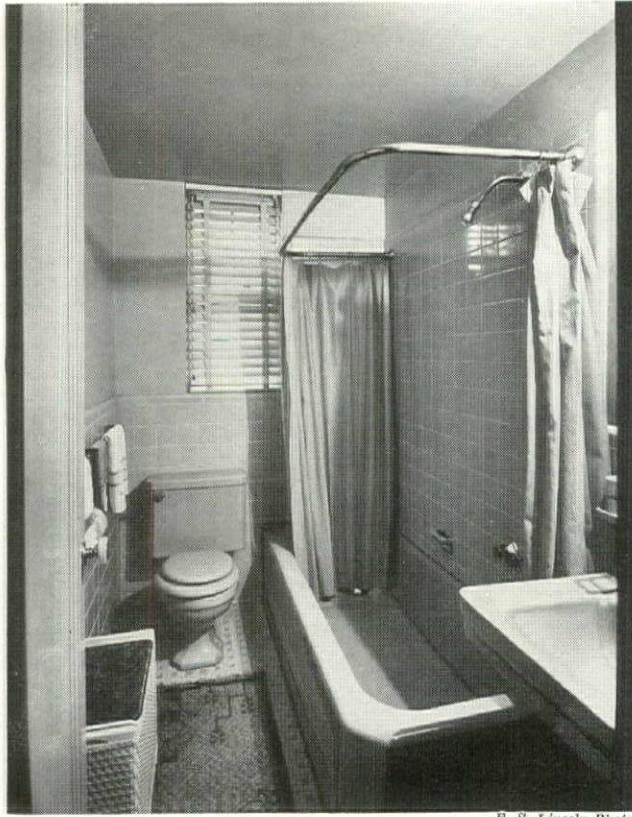
F. S. Lincoln Photos

FOYER-APARTMENT NO. 3.





BEDROOM AND BATH



P. S. Lincoln Photos

KITCHEN



AMENITIES AND COSTS

Castle Village's apartments have many amenities, the usual number of gadgets. Amenities: large living and bedrooms, generous closet space, corner triple windows commanding excellent views, cross ventilation in most living and bedrooms, two-way metal delivery boxes, tiled terraces on the roof, and laundry facilities and maids' rooms in the basement. Gadgets: built-in bathroom clothes hampers, disappearing kitchen towel racks, radio outlets, plastic door knobs, and two one-and-one-half inch steps between foyers and living rooms. To give the tenants an "at home" feeling, all windows are unfortunately divided with mullions. To impress visitors, all public space is carpeted and wallpapered.

Apartments range in size from two to five rooms, in rent from \$60 to \$150 per month including gas and electricity. Average rent per room per month: \$28.

Total cost of the project is a guarded secret. A conservative guess of \$5,200 per apartment would place the construction cost of dwelling facilities at about \$3 million. The combination garage and social center plus landscaping and utilities probably came to another \$1 million. Total guess: \$4 million.

CONSTRUCTION OUTLINE

STRUCTURE: Reenforced concrete frame throughout, Lehigh Portland Cement Co. Exterior curtain walls—4 in. brick veneer, Binghamton Brick Co.; 8 in. terra cotta blocks, National Fireproofing Co.; 3 coat plaster. Interior partitions—3 in. gypsum blocks, U. S. Gypsum Co.; 4 in. cinder concrete blocks, National Building Units Corp. Floor construction—reenforced concrete.
ROOF: 5 ply waterproofing, screed coat; roofing tile, Ludowici-Celadon Co.
INSULATION: Party walls—clip partitions, U. S. Gypsum Co. Roofs—Flintkote Co.
WINDOWS: Sash—wood, double hung, Weisberg-Baer Co. Glass—single strength, quality B, Libbey-Owens-Ford Glass Co.
RAMPS: Garage—D'Humy ramp, Ramp Buildings Corp.

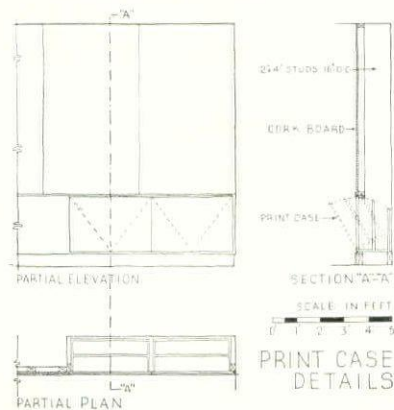
ELEVATORS: Westinghouse Elec. & Mfg. Co. Cabs—Park Ave. Woodworking Co.
FLOOR COVERINGS: Kitchen—linoleum, Sloane-Blabon Corp. Oak floors laid in mastic—W. M. Ritter Lumber Co. Public halls—base and border, asphalt tile; center, carpet, A. & M. Karagheusian, Inc.
WALL COVERINGS: Wallpaper—Imperial Paper & Color Corp.
TRIM AND DOORS: Pressed steel, Superior Fireproof Sash & Door Co.
HARDWARE: Interior—Catalin Corp. Exterior—Howard Lock Co., Inc.
ELECTRICAL INSTALLATION: Wiring system—conduits, Pittsburgh Standard Metal conduits, Enameled Metals Co. Switches—Bryant Elec. Co.
PLUMBING: Pipes, soil, waste and vents—

National Tube Co. Hot and cold water pipes—copper, Phelps-Dodge Co. Tanks—Quaker City Iron Works, John B. Ketchum Pump Co. Bathroom equipment—Standard Sanitary Mfg. Co. Kitchen equipment—Kitchen Maid Corp. Ranges, J. B. Slattery & Bros. Refrigerators—Electrolux, Servel Inc.
HEATING: Two pipe steam, National Tube Co. Boiler—Fitzgibbons Boiler Co. Burner—Ray Oil Burner Co. Radiators—Rome-Turney Radiator Co. Enclosures—Ferro-Co Corp. Zone control system—Barnes & Jones. Valves—Kennedy Valve Co.
SPECIAL EQUIPMENT: Mail chutes and boxes—Capital Mail Chute Co. Incinerator—Veht-o-matic, Construction Products Corp. Radio outlets—Arrow, Hart & Hegeman Electric Co. Blinds—Arlington Shade Co.

ASSOCIATED AMERICAN ARTISTS' GALLERIES
NEW YORK CITY
VICTORINE & SAMUEL HOMSEY, DESIGNERS

All photos, F. S. Lincoln





ENTRANCE AND CONTROL DESK

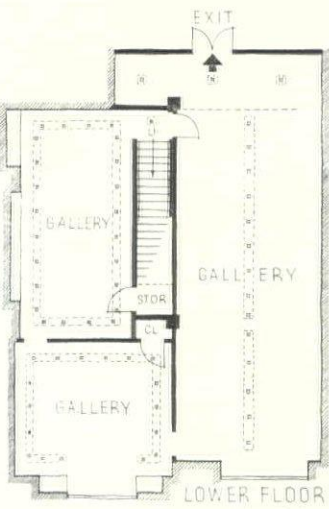
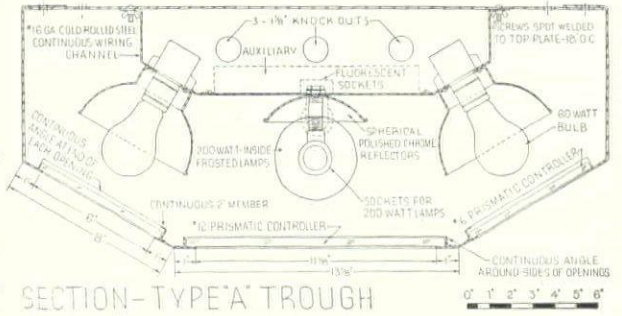
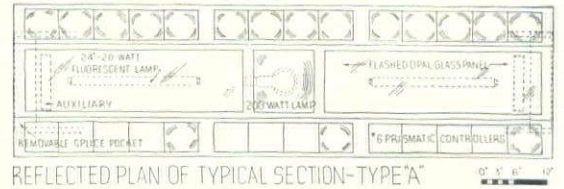
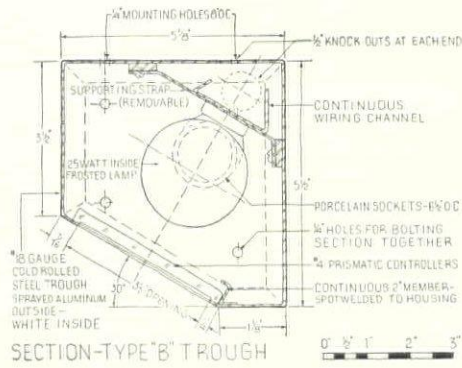
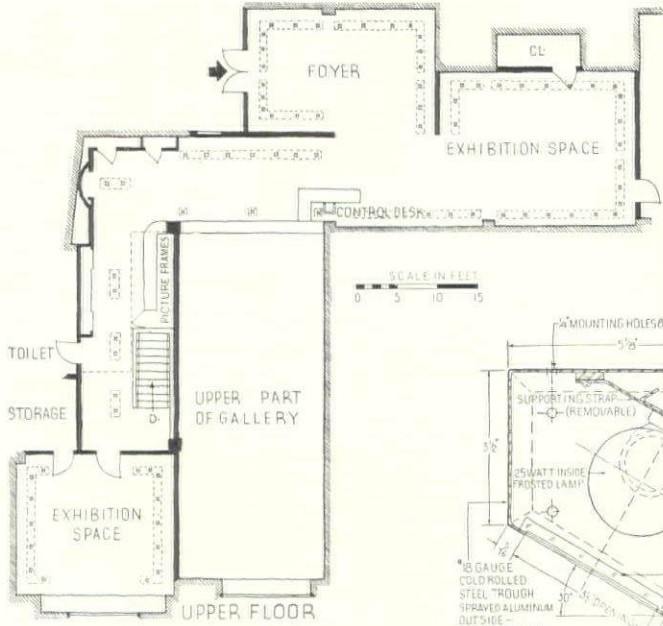
Associated American Artists, an organization which sells prints and paintings at moderate prices, uses its galleries for sales as well as exhibition. A scheme of controlled circulation was so devised that prospective buyers would be sure to visit each room. The entrance is located on the upper level, with a control desk directly opposite the foyer. As the galleries are in conventional office space, it was necessary to leave beams and girders exposed as part of the general design scheme, although the effect of the ceiling is minimized by the directional lighting. The illumination throughout has been very carefully designed; a new feature of unusual interest is the combination of mazda and fluorescent lamps in the galleries, permitting a certain amount of color variation in the lighting.

FINISHES AND EQUIPMENT

INTERIOR PARTITIONS—gypsum block and hollow tile. STAIRS—steel with terrazzo treads. FLOOR COVERINGS—linoleum and carpet, Regal Carpet Co. WALL COVERINGS—cork, Armstrong Cork Co. FURNITURE AND FURNISHINGS—Dunbar Furniture Mfg. Co. and Eastern Woodcraft Co. CABINETS, CASES AND FLUSH PANELS—Eastern Woodcraft Corp. DOORS—Atlantic Metal Products Co. HARDWARE—Russell & Erwin Mfg. Co. LIGHTING FIXTURES—Condi-Lite Corp.

GALLERIES

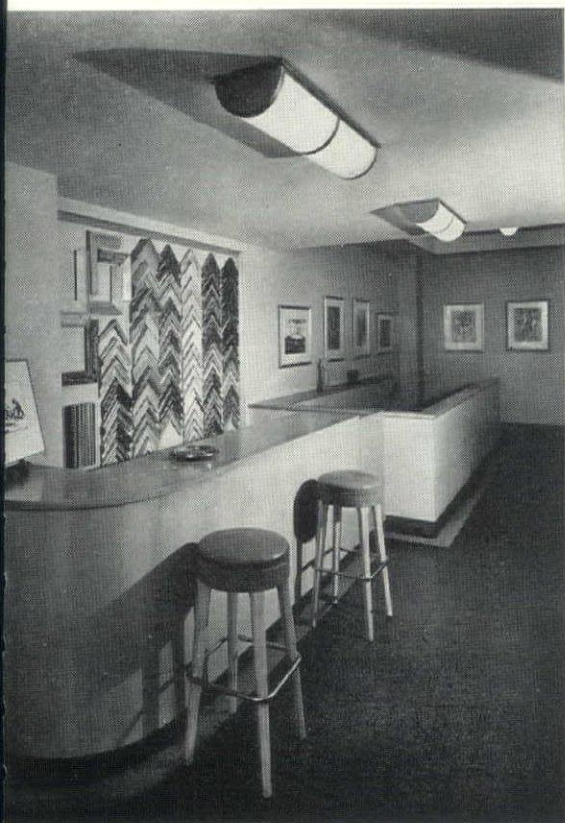
VICTORINE & SAMUEL HOMSEY, DESIGNERS



GALLERY—LOWER FLOOR

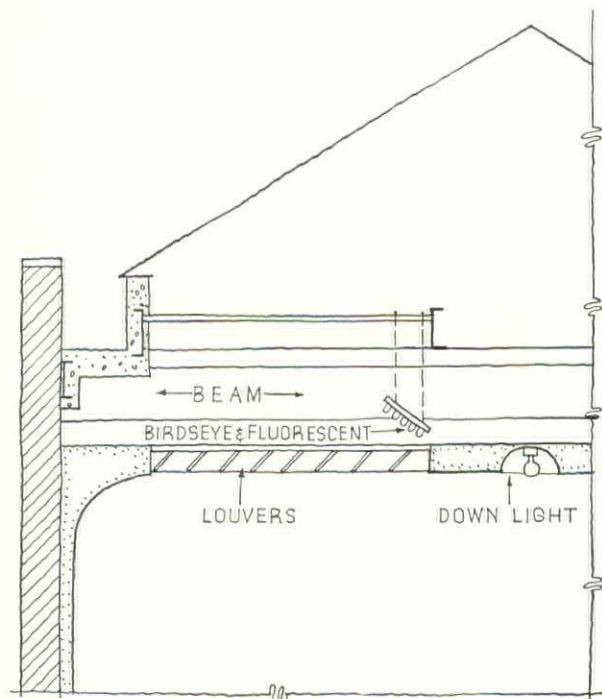


FRAME DEPARTMENT



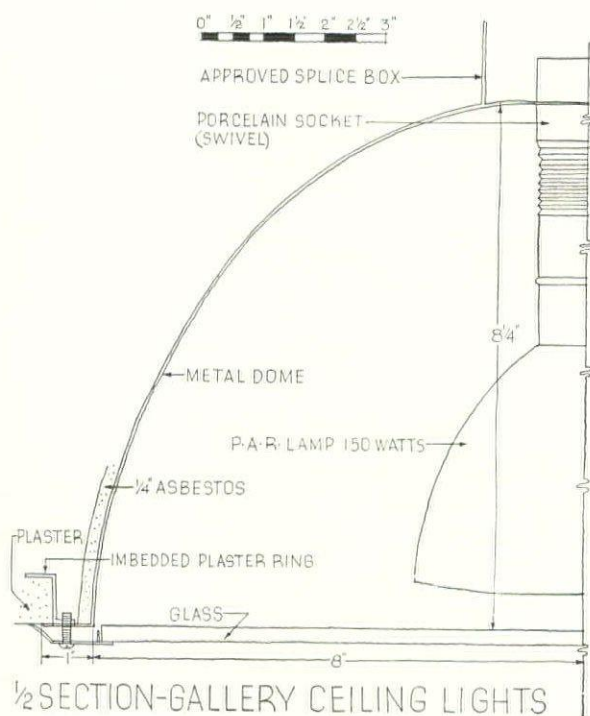


F. S. Lincoln Photos

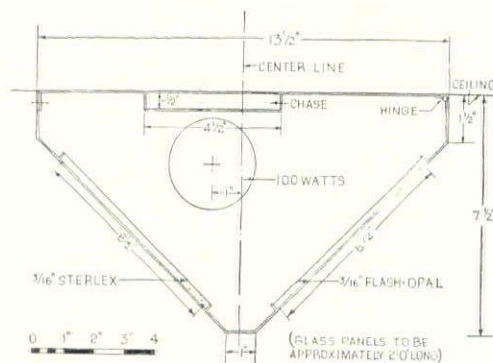


SECTION THROUGH CEILING
LARGE UPPER GALLERY

0' 1' 2' 3' 4'



1/2 SECTION-GALLERY CEILING LIGHTS



SECTION-UNIT FOR LARGE 1st FL GALLERY

Two successful lighting installations in the Whitney Museum of American Art, New York City, each specifically designed for its purpose. The painting gallery is illuminated to eliminate all glare; a combination of fluorescent and mazda lamps produces a close approximation of natural daylight. In the sculpture gallery both direct and indirect sources are used to build up a level of about 30 foot-candles. Each piece of sculpture is high-lighted by an overhead louvered spotlight to eliminate the monotonous flatness of the general illumination.

RECENT WORK BY THE OFFICE OF

PAUL SCHWEIKHER AND THEODORE WARREN LAMB

ASSOCIATED ARCHITECTS

The office of Paul Schweikher and Theodore Warren Lamb has yet to round out its first decade. Both studied at the Yale School of Fine Arts, where they made brilliant records as students; both achieved national recognition with a grand prize in General Electric's house competition in 1935. In the few years following, the office has quietly turned out buildings — mostly residential — which have won the firm a secure place in the small group doing significant modern work. And in a very special sense their buildings are significant, because these architects have their own idea of what constitutes "modern." Their comments on this page and the houses which follow tell the story. There are few architects who can show a relationship so consistent between their theories and their practice.—The Editors.

"A building problem is seldom presented to us completely free of certain preconceived ideas of the client for its eventual solution. These we examine carefully in an effort to separate the ideas based on real requirements from those based on sentiment.

"Ensuing discussions find both architect and client trying to free the problem from any factors which would inhibit a satisfactory solution.

"During such discussions the principles which guide us in our work take form and expression.

"A working philosophy is made up of growing and changing ideas and we hesitate to crystallize it into irrevocable statements. Besides, the structure itself will proclaim its merit or lack of merit more emphatically than written or spoken text. Nevertheless, certain guiding principles which have influenced our work up to this time are set down here.

"Our first problem often is one of enclosing the greatest amount of usable space, with the least amount of enclosing material and therefore with the greatest economy. This space to be most usable should be freed from all unnecessary subdivisions dictated by dogmatic preconceptions of room arrangement.

"We adhere to the essential principles of structure; that material shall perform the work for which it is best suited.

"We try to avoid the use of those new synthetic materials which seek to imitate others in texture or color, materials that pretend to perform work for which they are unsuitable.

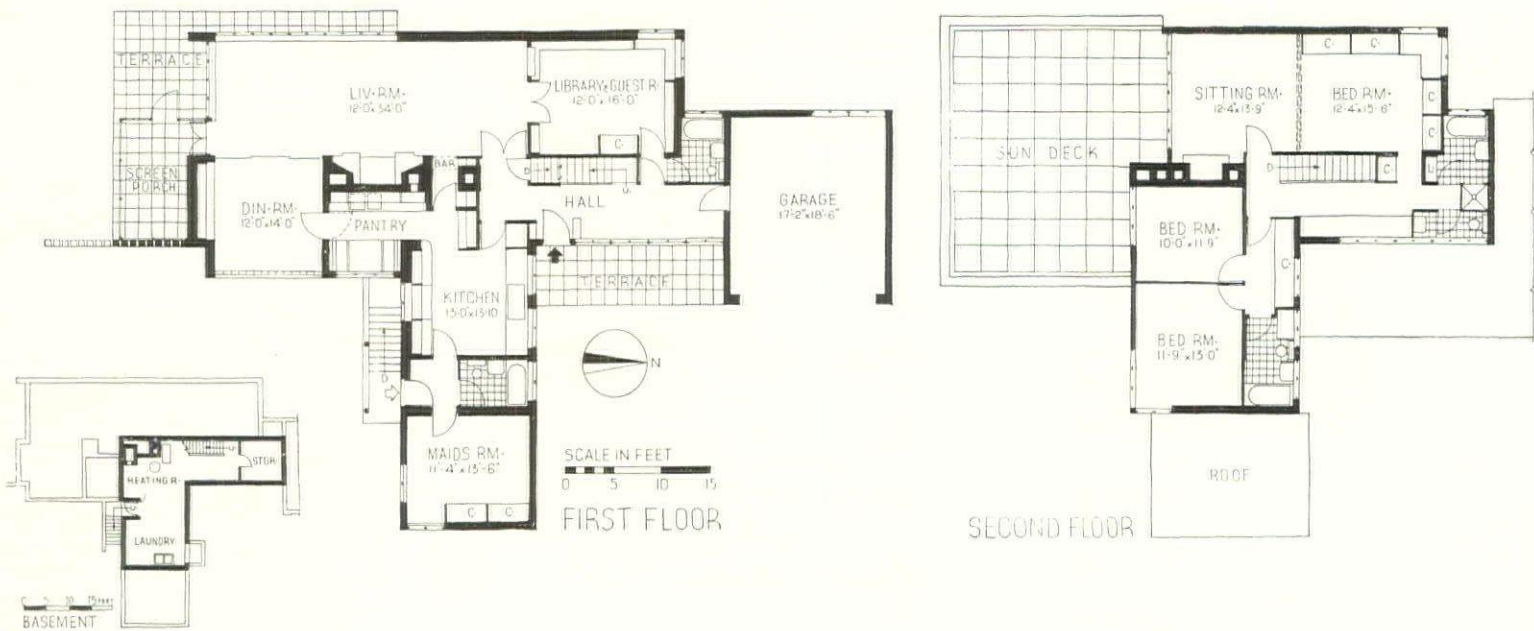
"We believe that it is better to be satisfied with a closer acquaintance with a few basic materials such as stone, wood, brick, copper, tile, lead, etc., and to concentrate on the use of these rather than to be over-enthusiastic about new materials simply because they are new.

"If we solve the vital problems of satisfying the true requirements of the client, creating simple workable structure, orienting the structure to sunlight, to prevailing winds, and to the physical character of the property and adjusting these to social and economic influences we find little need for serious discussion of the building's 'style.'

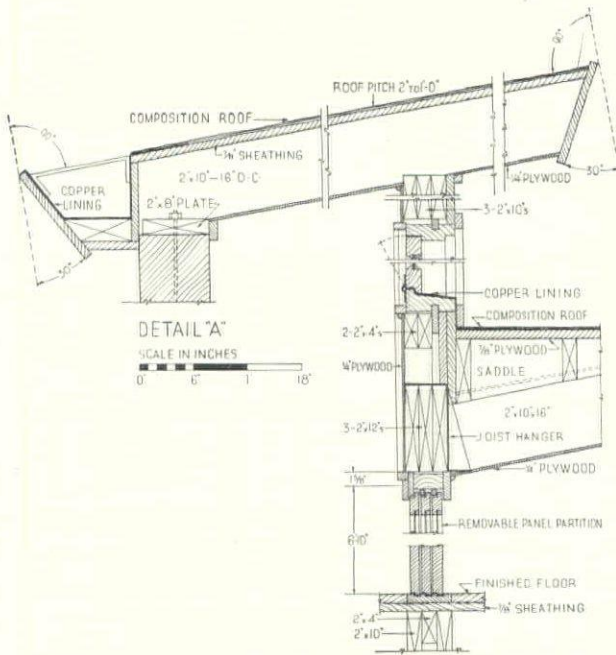
"We prefer to justify the building as an expression and embodiment of the life and structure within rather than to attempt to justify it as an 'authentic' reproduction or rejuvenation of a past style."



All photos, Hedrich-Blessing

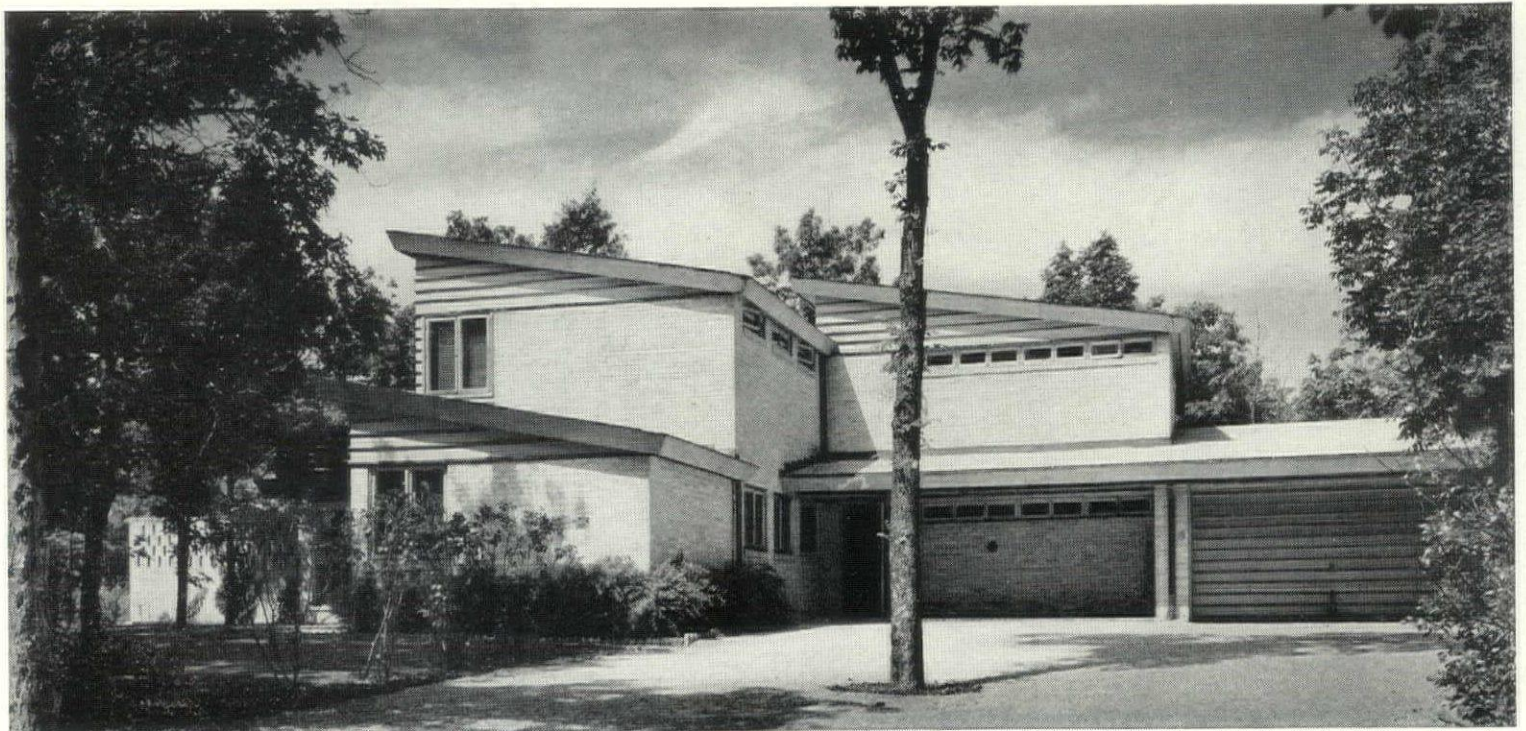


HOUSE FOR RICHARD M. LOEWENSTEIN, HIGHLAND PARK, ILL.

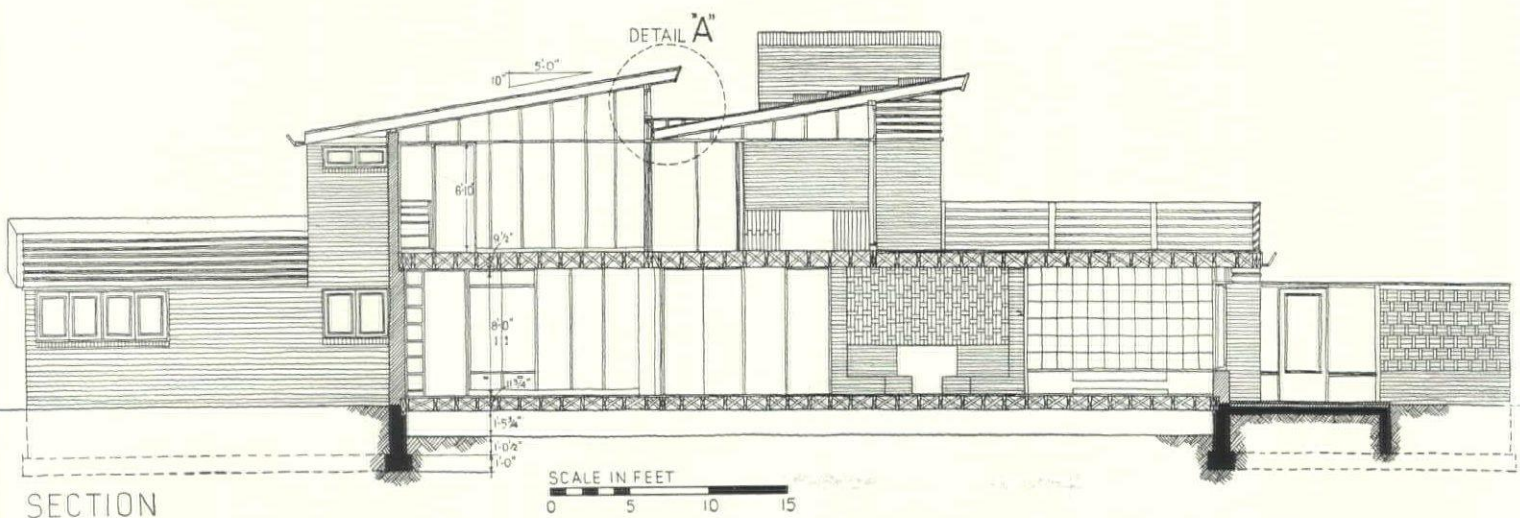


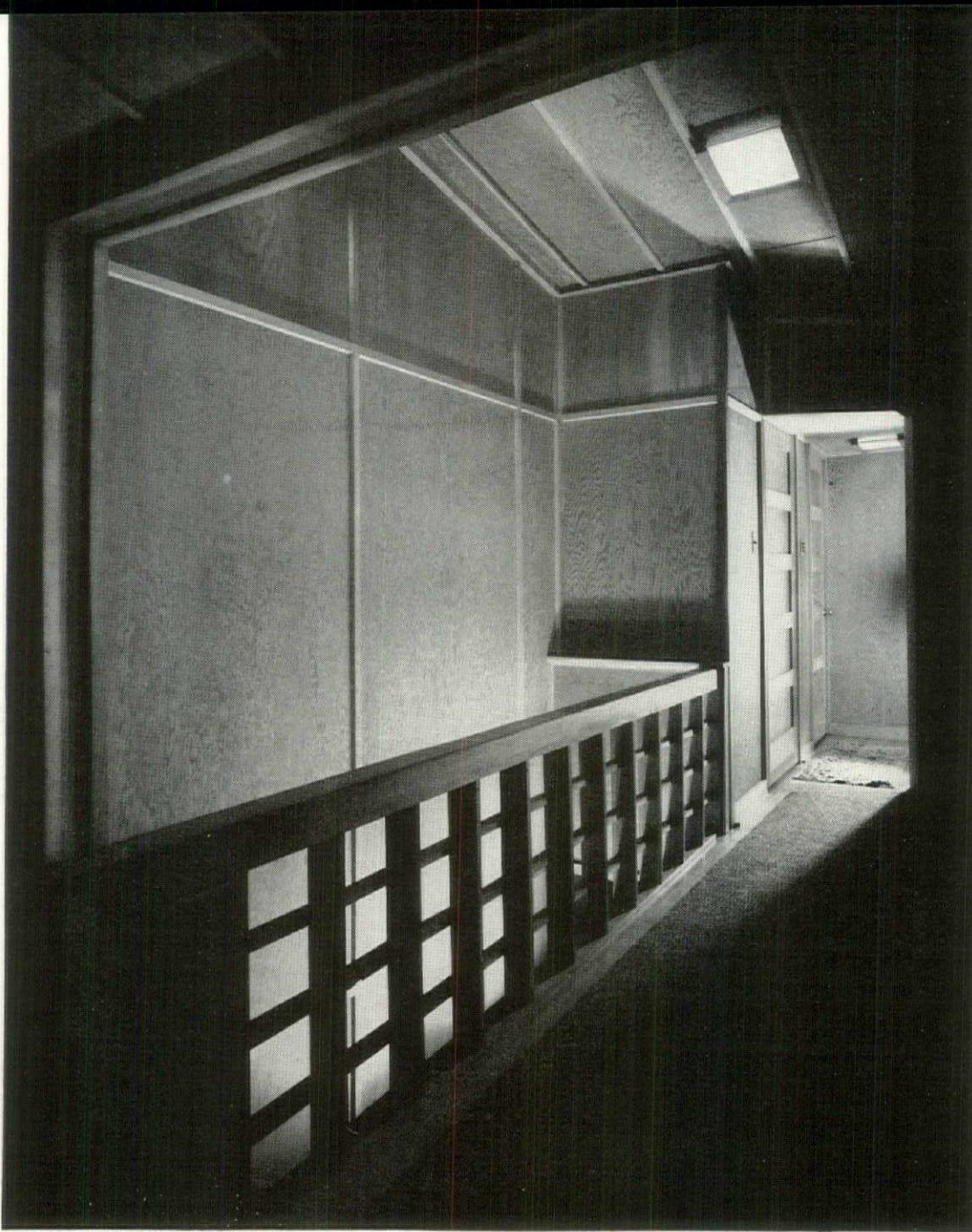
Long considered suitable for nothing more dignified than chicken houses, the shed roof has been lately re-examined by a number of architects with an eye to extending its applications. Here it forms a major element in a design of considerable vigor, setting the character of the exterior. The combination of brick and wood is of unusual interest, and the manner in which these materials has been used was definitely conditioned by the roof. The brick, for example, has been used only in simple rectangular areas, rarely extending above the window heads, and is never laid in the triangular sections formed by the roof. Wood is used where its strength, light weight and workability make it more desirable. Few houses show a more intelligent use of materials.

The plan is equally well organized. The entrance hall is generous; there is a very flexible relationship between the three main rooms on

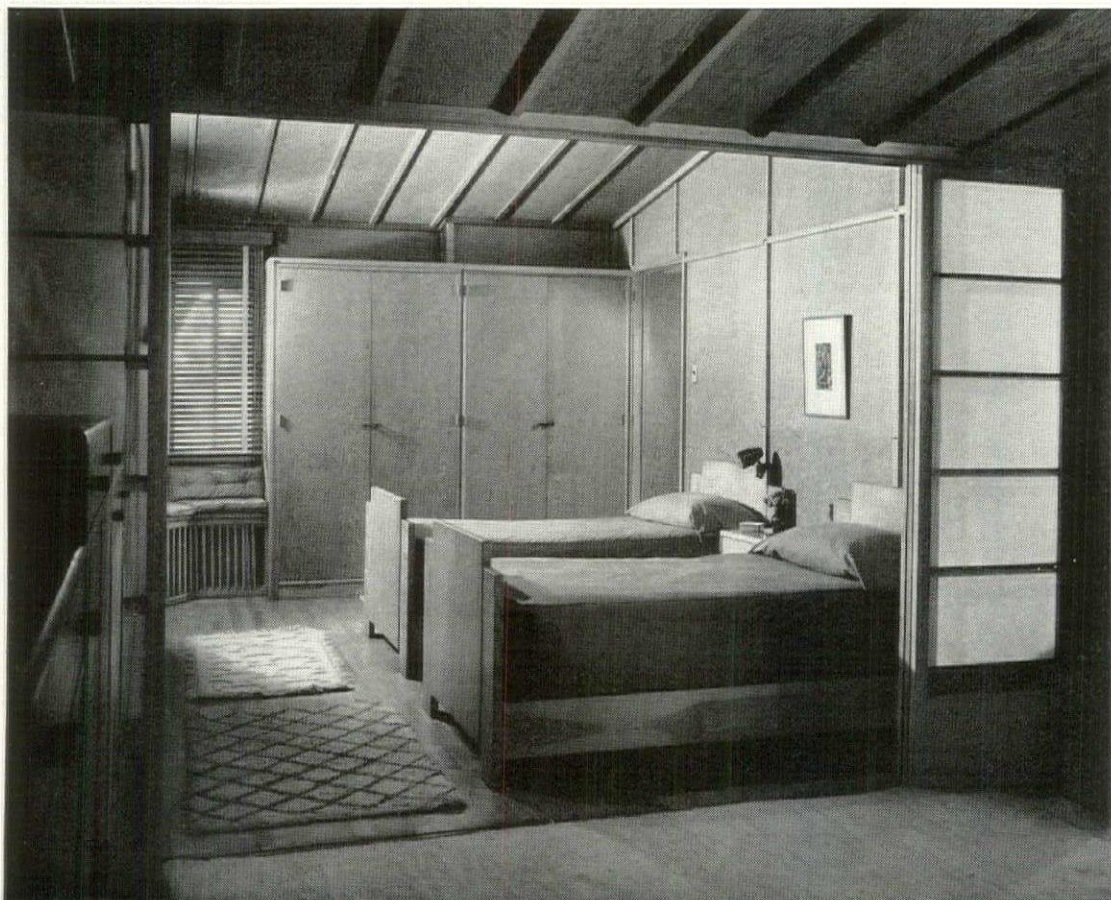


THE OFFICE OF PAUL SCHWEIKHER AND THEODORE WARREN LAMB, ASSOCIATED ARCHITECTS





HALL SECOND FLOOR
MASTER BEDROOM

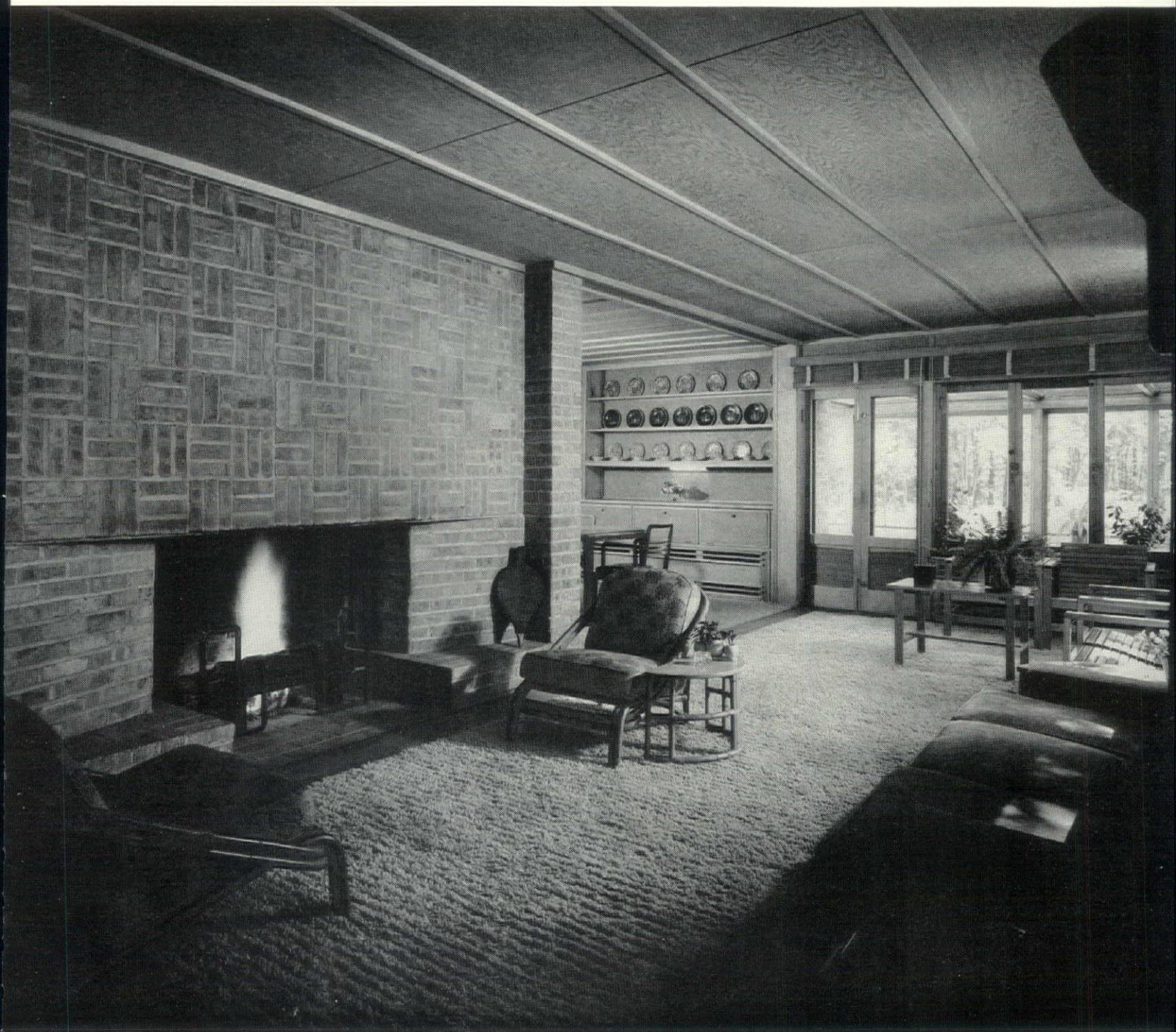


HOUSE FOR

the ground floor; the placing of kitchen and pantry for equally convenient access to the front door, dining room or living room is excellent. Upstairs there are two bedrooms arranged so that closets are outside the sleeping space.

A pleasing variety of forms has been achieved on the bedroom floor by sloping ceilings which follow the line of the rafters. Plywood sheets are the main interior finish, the joints being covered with batten strips. Cubage: 38,211. Cost: \$20,866.

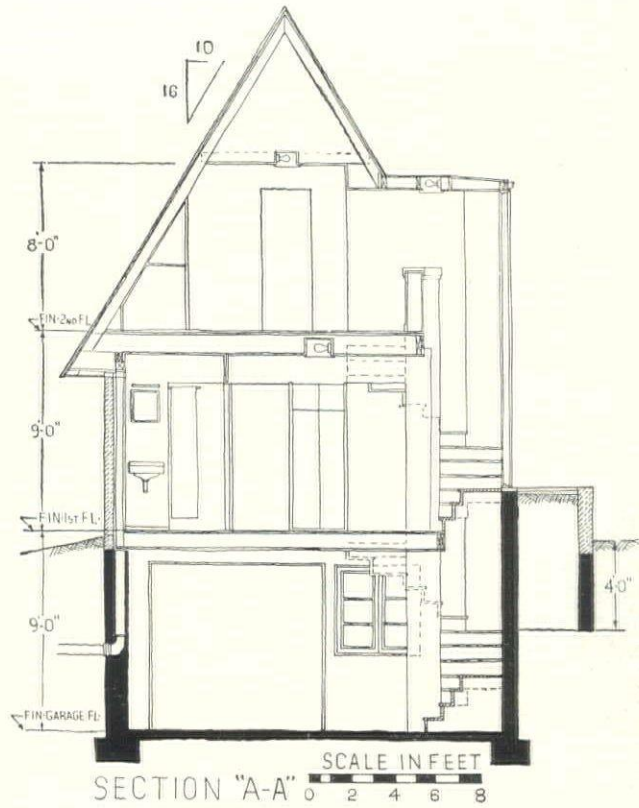
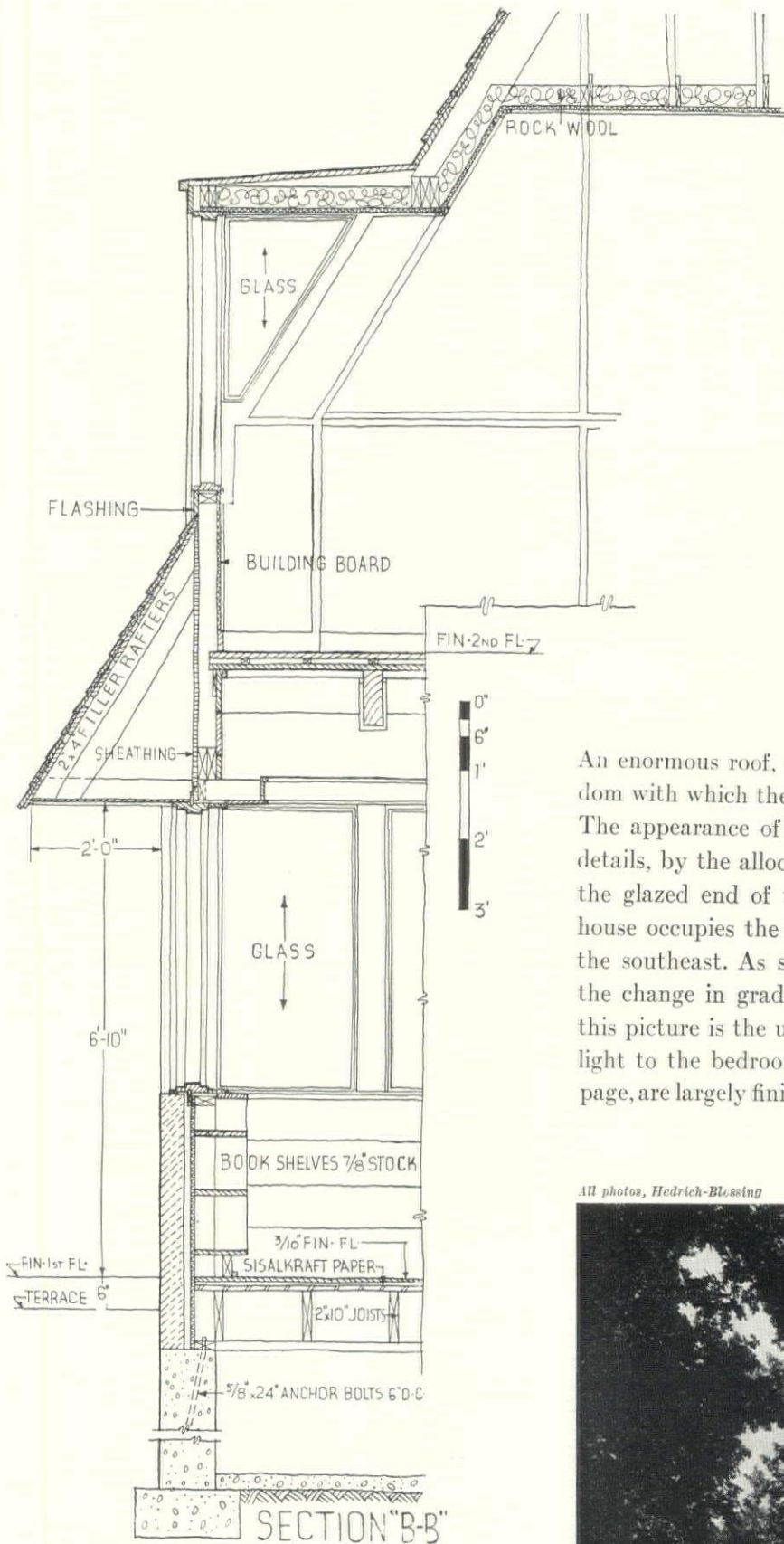
RICHARD M. LOEWENSTEIN



LIVING ROOM

HOUSE FOR RALPH C. GUENTHER, PINE LAKE, LA PORTE, IND.



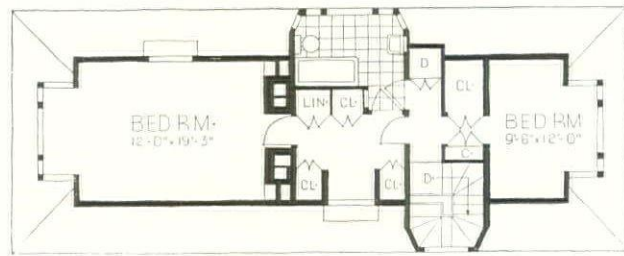


An enormous roof, suggestive of European cottage designs, indicates the freedom with which the architects approach the problem of enclosing their houses. The appearance of a traditional approach, however, is negated by the crisp details, by the allocation of bath and kitchen to the large bay at the rear, by the glazed end of the living room, and by the fenestration in general. The house occupies the highest part of a large, irregularly sloping plot, and faces the southeast. As shown by the photograph below, advantage was taken of the change in grade to place the garage below the study. Also illustrated in this picture is the use of fixed glass in the sides of the dormers to admit more light to the bedrooms. The interiors, one of which is shown on the following page, are largely finished in sheet materials. Cubage: 23,600. Cost: about \$14,500.

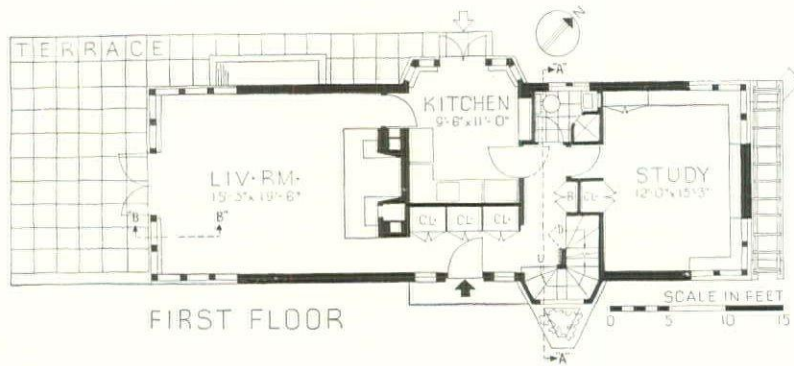
All photos, Hedrich-Blossing



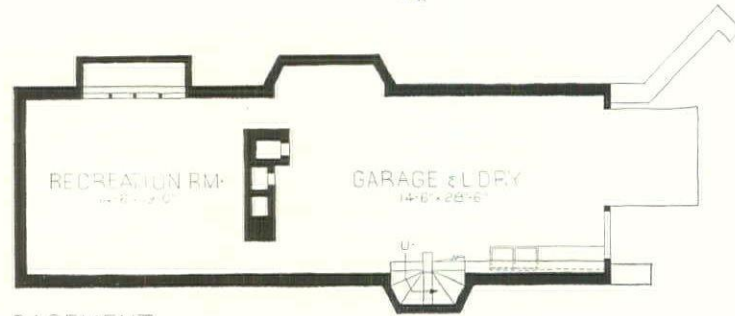
HOUSE FOR RALPH C. GUENTHER



SECOND FLOOR



FIRST FLOOR



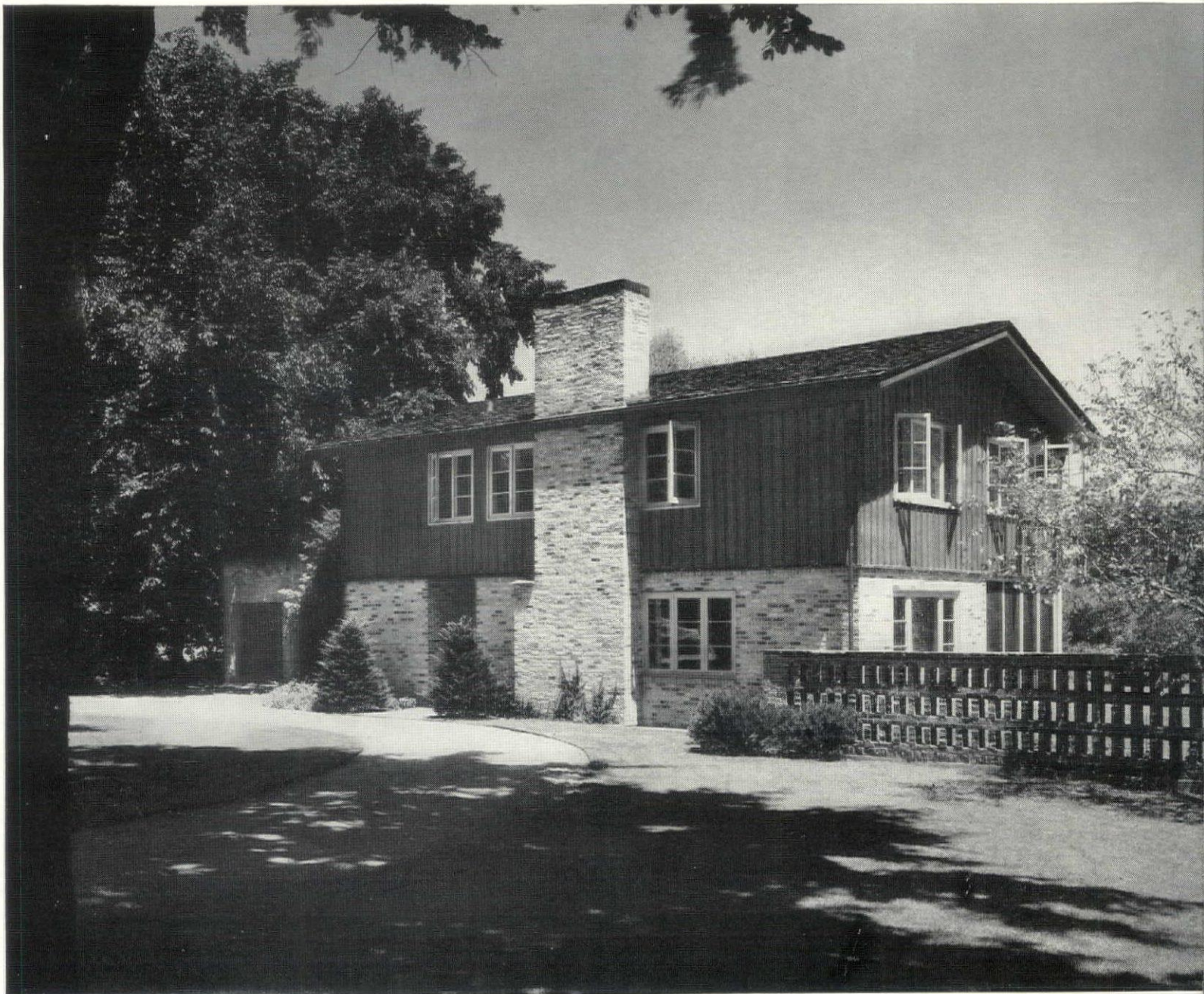
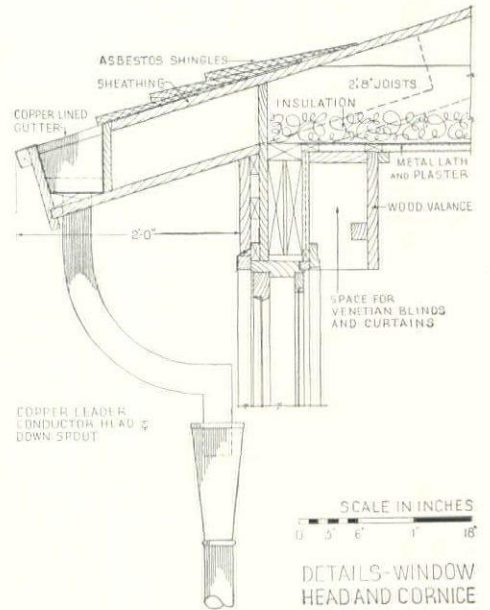
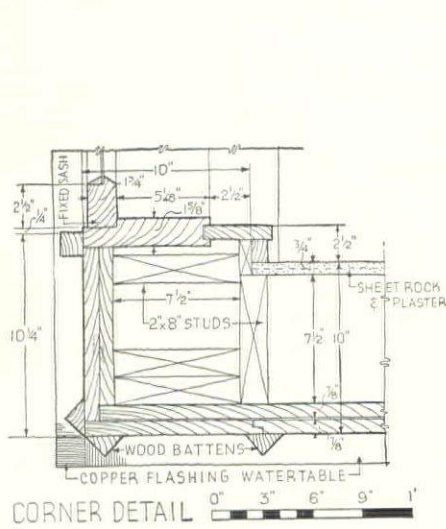
BASEMENT

STUDY



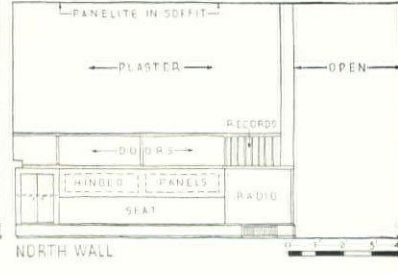
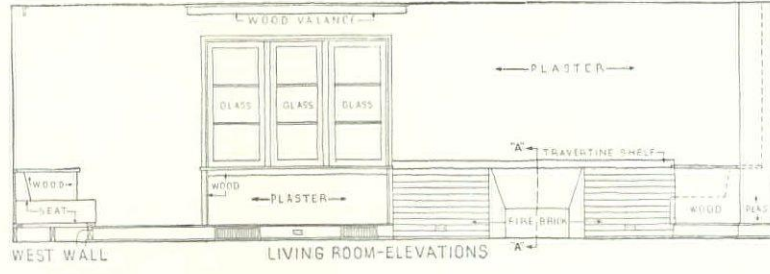
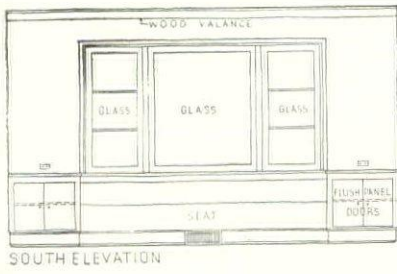
HOUSE FOR WINFIELD FOSTER, HINSDALE, ILL.

PAUL SCHWEIKHER AND THEODORE WARREN LAMB, ASSOCIATED ARCHITECTS

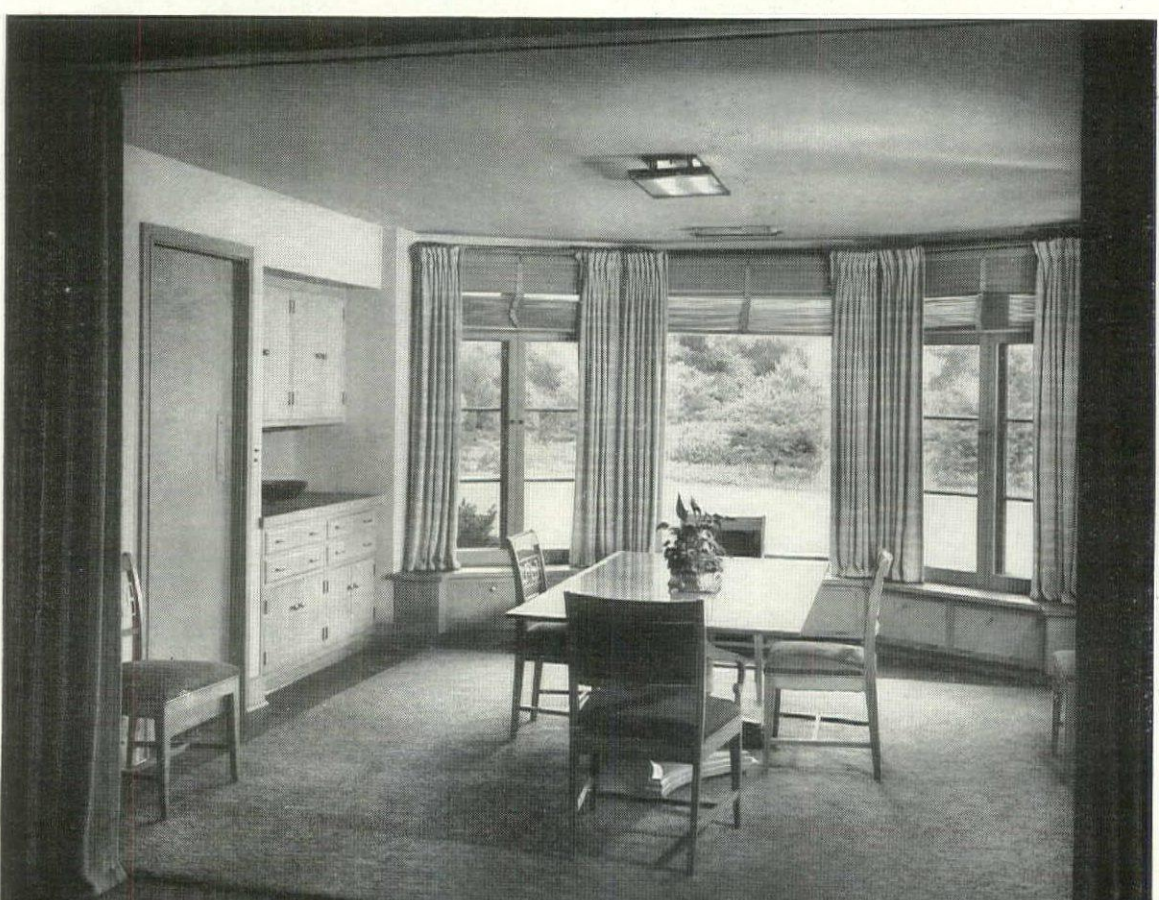
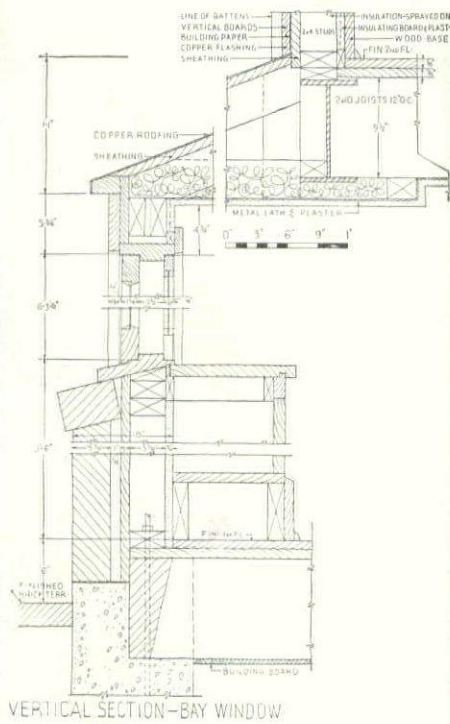
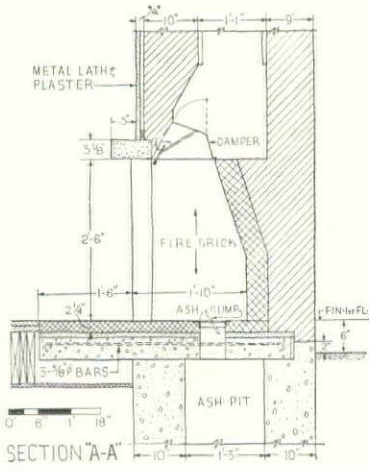


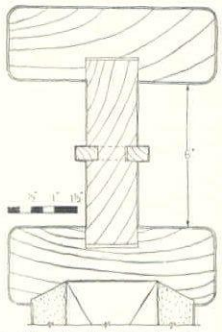
All photos, Hedrich-Blessing

HOUSE FOR WINFIELD FOSTER



LIVING, below DINING

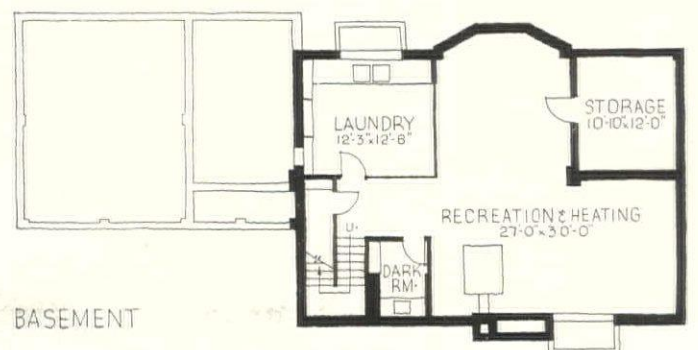
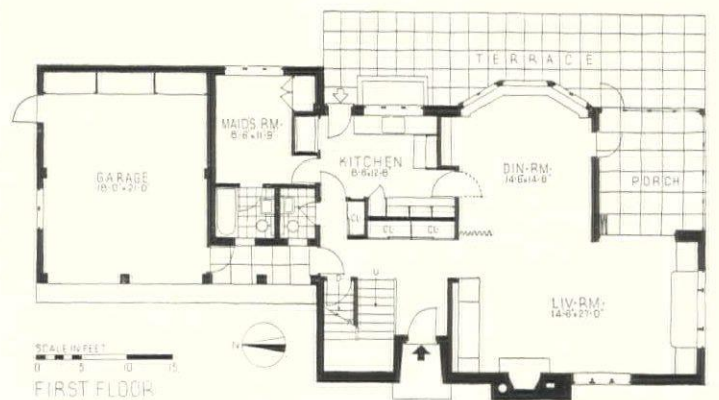
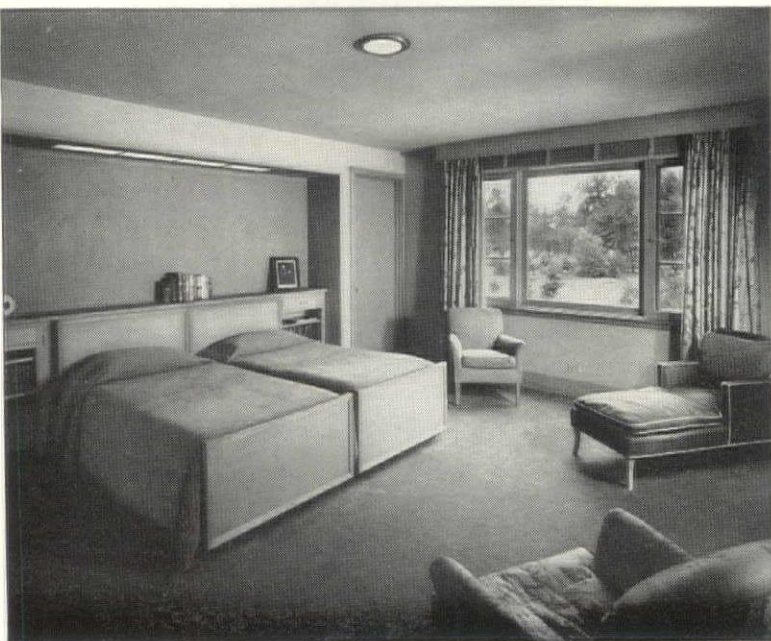
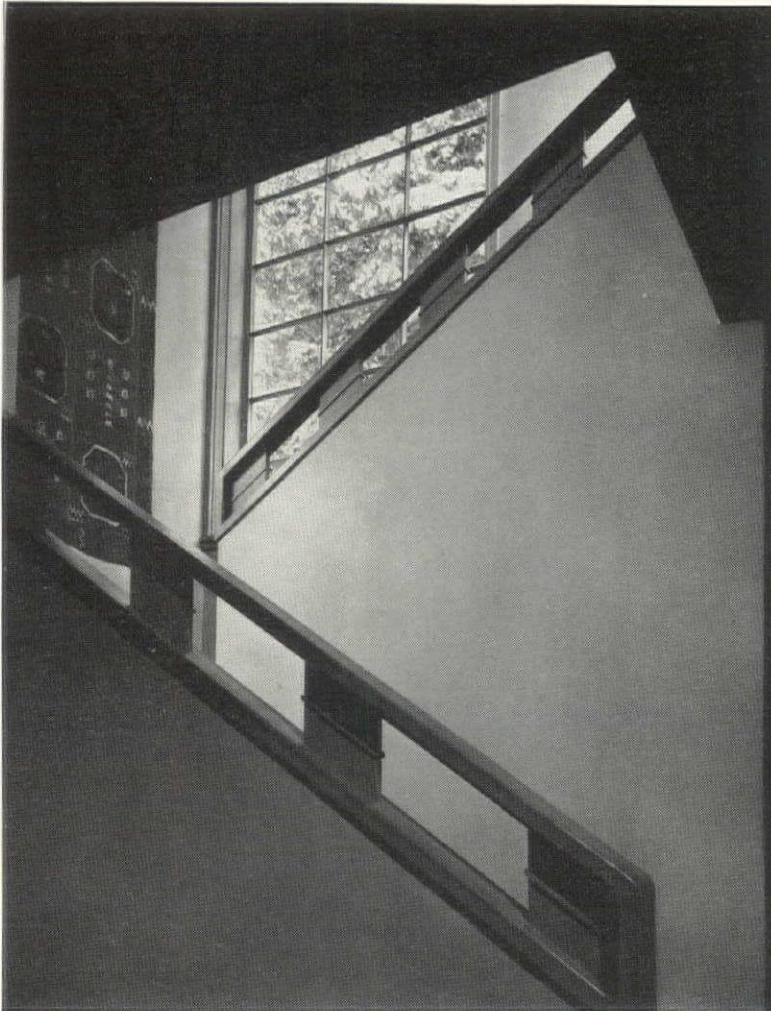




HANDRAIL DETAIL

STAIR, below BEDROOM

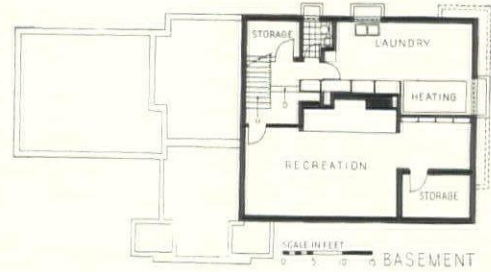
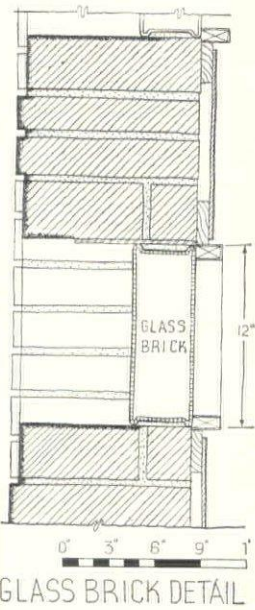
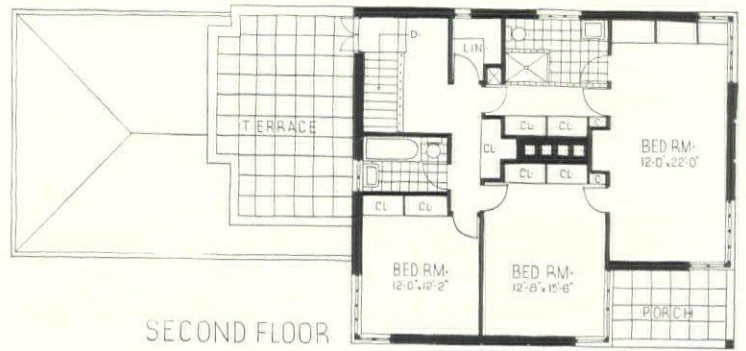
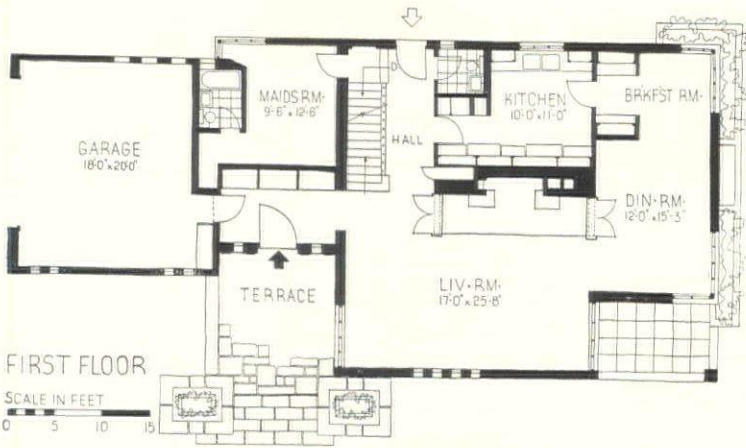
While different in appearance from the other houses in this portfolio, the exterior of this residence shows the same imaginative use of brick in combination with wood. As in the Loewenstein house, the masonry has been restricted to plain rectangular areas, save for a garden wall which is laid up in a simple open pattern. Interiors are notable for their comfortable simplicity, discriminating use of materials and excellent fenestration. The plan shows a careful organization of living space, with living and dining rooms treated as a single large area. It was arranged to orient important rooms away from the street and toward a lawn in the rear and small garden to the south. Cubage: 41,150. Cost: \$22,500.



HOUSE FOR DAVID B. JOHNSON, CHICAGO, ILL.



All photos, Hedrich-Blessing

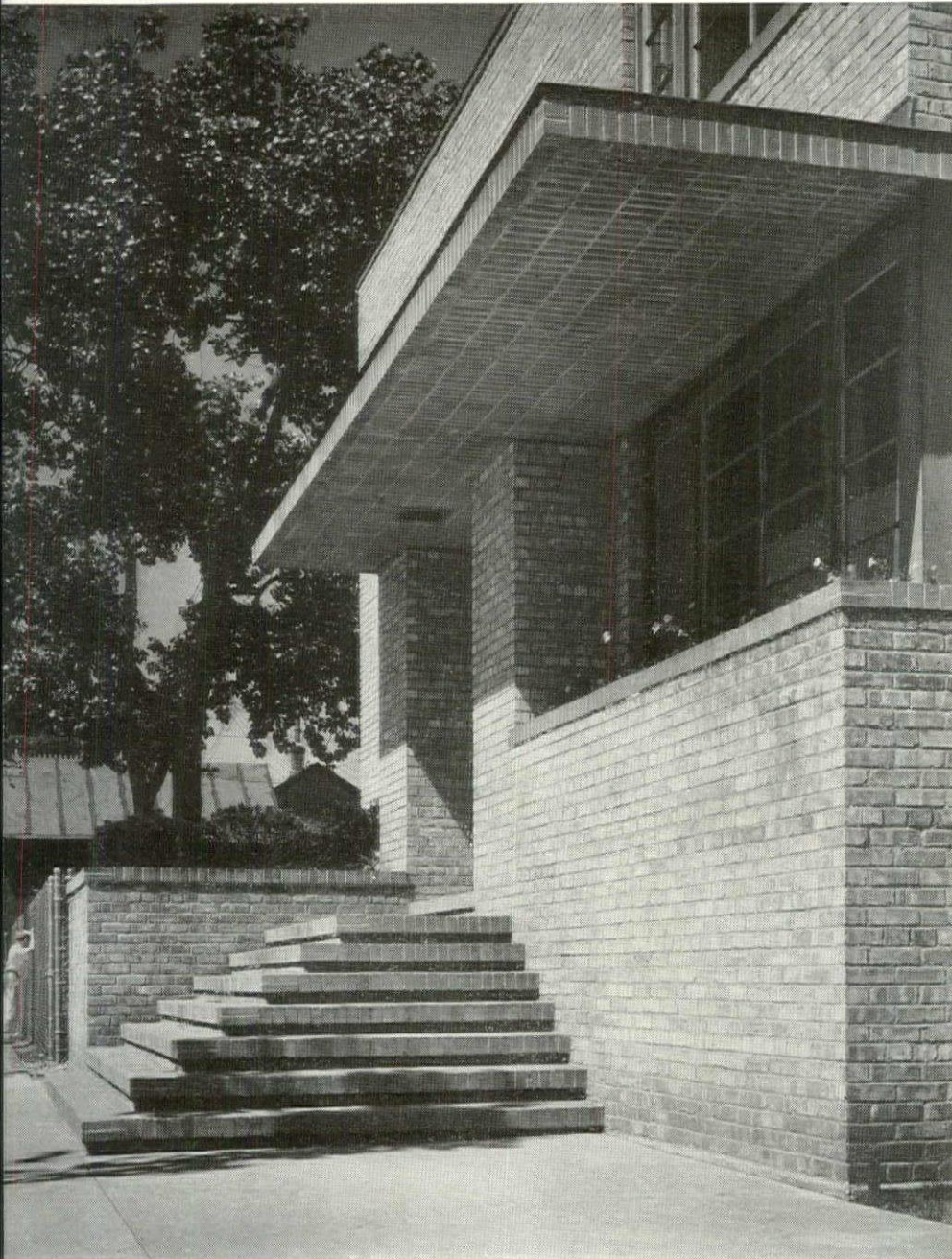


The formality of a two-story block in masonry has been relieved by a low wing containing the entrance, garage and maid's room. A broad flight of steps between field-stone blocks further helps to tie the house in with the setting. As indicated by the plan above, the first floor is remarkably open, the stair hall, living room, dining and breakfast rooms occupying one practically uninterrupted space. Located only a short distance from the street, the main wall of the living room is blank save for a few openings filled with glass block; ample light and air are provided for at each end of the room. The second floor is interesting for the concentration of flues and closets in the section least desirable for living purposes. Wall and storage space is more than adequate; closets, it will be noted, are almost all the efficient shallow type. Cubage: 50,000. Cost: about \$20,000.

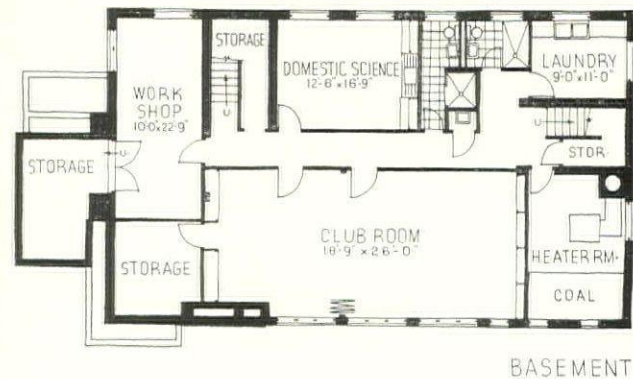
LIVING ROOM



EMERSON SETTLEMENT HOUSE, CHICAGO, ILL.

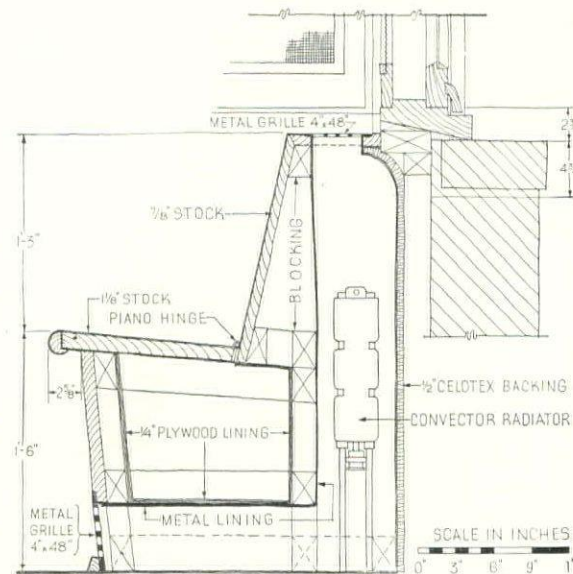


All photos, Hedrich-Blessing



BASEMENT

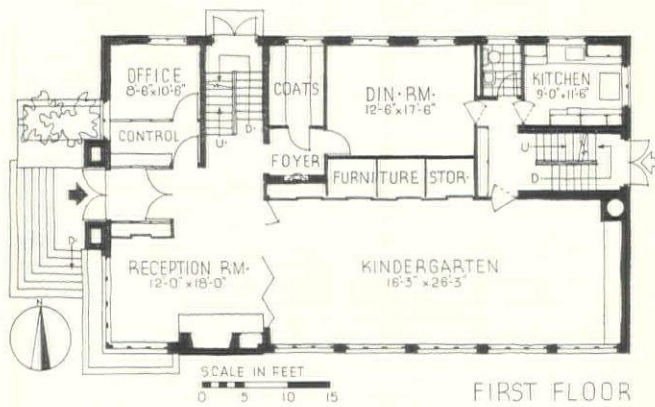
Emerson House is a community house providing activities for under-privileged children of Chicago's crowded west side, and has a kindergarten and day nursery for the children of working mothers. Executed entirely in brick, even to the reinforced slab shown directly above, it is an excellent, unpretentious solution of a not uncommon problem. The main element of the first floor is a large kindergarten which can be merged with the reception room. In the well-lighted basement are placed rooms for sewing, handicrafts, cooking and other activities. Many of the interior walls are finished in the same brick as the exterior, an economical and attractive treatment also used by the architects in many of their houses. The third floor is given over entirely to staff quarters. Cubage: 66,000. Cost: \$30,600.



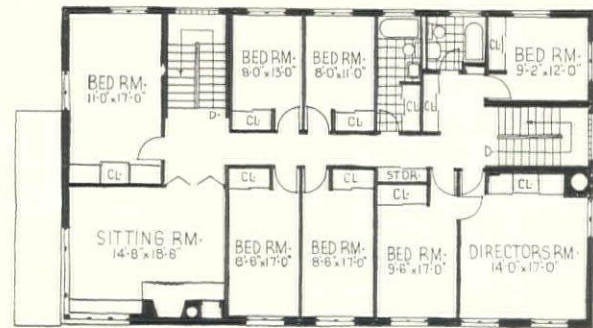
WINDOW SEAT DETAIL



KINDERGARTEN



FIRST FLOOR



SECOND FLOOR

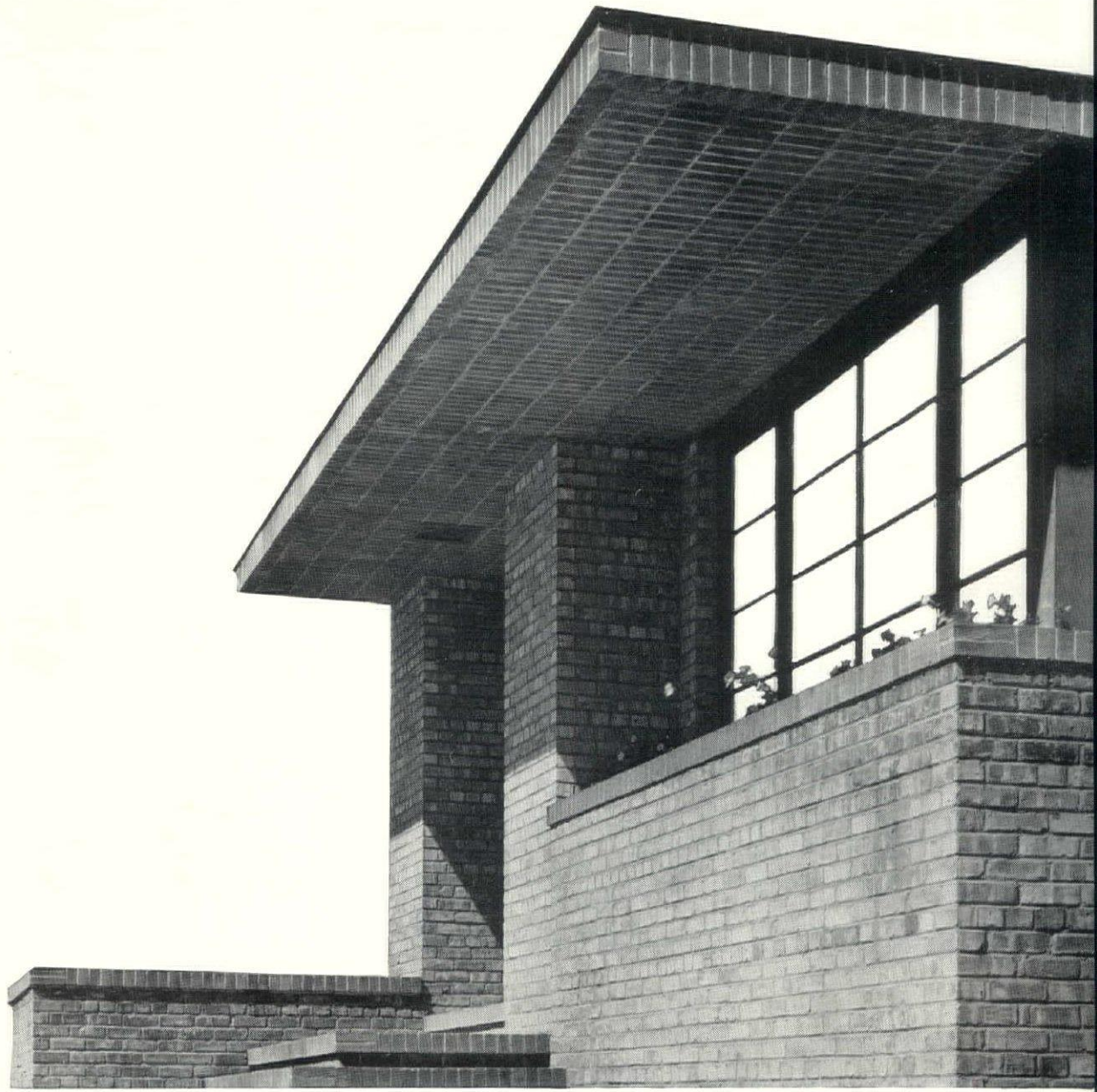
RECEPTION ROOM

KINDERGARTEN



CONSTRUCTION OUTLINES HOUSES BY PAUL SCHWEIKHER AND THEODORE W. LAMB, ASSOCIATED ARCHITECTS

	LOEWENSTEIN	GUENTHER	FOSTER	JOHNSON	EMERSON
STRUCTURE	Exterior walls—Solid brick and parts in stud construction with white pine shiplap and battens; ¼ in. plywood inside. Interior partitions—Stud and ¼ in. fir plywood. Floor construction—Wood joists, maple-strip flooring throughout.	Exterior walls—4 in. stone veneer (Wisconsin Lannon, "top stripping"); 1 in. Vapor-seal Celotex Corp. sheathing; 2 x 4 stud; ¼ in. white pine plywood except living room. No. 2 pine boards. Interior partitions—¼ in. white pine plywood.	Exterior walls: First floor—4 in. brick veneer, sheathing, studs, plaster. Second floor—1 x 10 vertical siding with battens; 2 x 4 studs, plaster.	Exterior walls—first floor 4 in. face brick, 8 in. back up. Second floor 4 in. face brick, 6 in. and 8 in. back up. Interior partitions—wood stud and "Pyrobar," U. S. Gypsum Co., hard plaster. Floor construction—steel joists with poured concrete slab, Truscon Steel Co.	First floor—12 in. common brick exposed on interior. Second floor—8 in. common brick furred and plastered. Interior partitions: 3 in. "Pyrobar," U. S. Gypsum Co.; plastered. Floor construction—precast concrete joists with reinforced concrete slab.
ROOF	4-ply built-up, gravel finish.	Red cedar shingles.	Cedar shakes. Deck construction—6 in. concrete, covered with 2 in. concrete.	Wood framing covered with slate shingles.	Concrete slab covered with 1 in. Celotex, Celotex Corp.; 4-ply, Philip Carey Co.
CHIMNEY	Damper—Colonial Fireplace Co.	Wisconsin Lannon "top stripping" stone.	Brick, vitrified tile for gas furnace flue.	Damper—Colonial Fireplace Co.	
INSULATION	Outside Walls—1 in. Sprayo-Flake, Sprayo Flake Co. Ground floor—1 in. "Porosil," Universal Insulation Co. Roof—4 in. Rockwool. Weatherstripping—Monarch Metal Weatherstrip Co.	Outside walls—Vapor-seal Celotex, Celotex Corp. Roof—4 in. rockwool. Weatherstripping—Bronze spring and interlocking, Monarch Metal Weatherstrip Co.	Outside walls and ground floor—Sprayo Flake Co.	Outside walls—1 in. Sprayo-Flake, Sprayo Flake Co. Attic floor—4 in. rockwool. Weatherstripping—bronze.	Second floor—1 in. Sprayo-Flake, Sprayo Flake Corp. Roofs—Rigid (Vapor-seal) on concrete slab, Celotex Corp.
WINDOWS	Sash—White pine casements, Richards-Wilcox track for living room windows. Glass blocks—Pittsburgh-Corning Corp.	Sash—white pine casements. Glass—double strength. Screens—copper bronze, white pine frames.	Sash—Wood casements. Glass blocks—Owens-Illinois Glass Co.	Sash—Casements, Truscon Steel Co. Glass—double strength. Glass blocks—Pittsburgh-Corning Corp. Screens—bronze.	Sash—white pine casement. Glass—double strength. Screens—16-mesh copper. Glass blocks—Pittsburgh-Corning Corp.
STAIRS	Maple throughout.	Maple throughout.		Steel, terrazzo treads.	Steel, concrete treads.
FLOOR COVERINGS	Living room, bedrooms and halls—maple. Kitchen and bathrooms—linoleum.	Living room and bedrooms—red oak. Kitchen and bathrooms—linoleum—Armstrong Cork Prod. Co.		Living room, bedrooms and halls—carpeting on concrete slab. Kitchen—linoleum—Armstrong Cork Products Co.	Asphalt tile throughout.
WALL COVERINGS	All walls—¼ in. fir plywood.	Living room—No. 2 pine boards; remainder—¼ in. white pine plywood.		Living room—¼ in. birch veneer plywood. Master bath—Carrara glass—Pittsburgh Plate Glass Corp.	
WOODWORK	Trim and cabinets—white pine. Doors—7/8 in. fir plywood. Garage doors—McKee Door Co.	Trim, cabinets, and doors—white pine.	Trim and cabinets—birch. Doors—flush birch. Entrance door—oak.	Trim—birch and gum. Garage doors—white pine—McKee Door Co.	Trim—White pine. Doors: Steel jambs, white pine doors.
HARDWARE	Cast brass, Yale & Towne Mfg. Co.	Cast brass—Yale & Towne Mfg. Co.		Cast brass, Yale & Towne Mfg. Co.	Yale & Towne Mfg. Co. Richards-Wilcox sliding door hardware.
PAINTING	Interior—stain and Minwax. Exterior—linseed oil.	Interior—stained and waxed. Exterior—stained and linseed oil.	Exterior of walls—3 coats of oil stain.		Trim and sash—oil stain and wax.
ELECTRICAL INSTALLATION	Radial wiring—General Electric Co.	Wiring system—220 A. C. Switches—General Electric Co.	Wiring system: Radial wiring—General Electric Co.	Wiring system—220 A. C., General Electric Co. equipment.	Wiring system—220 A. C. standard. Switches—G. E. flush tumbler.
KITCHEN EQUIPMENT	Range, refrigerator and dishwasher—General Electric Co. Sink—Kohler Co.	Range—Westinghouse Electric and Mfg. Co. Refrigerator—General Electric Co. Sink—Kohler Co.	Range—Electrolux—Serval, Inc.	Sink—Briggs Mfg. Co. Cabinets—Whitehead Metal Products Co.	Sink—Standard Sanitary Mfg. Co. Cases mill made.
BATHROOM EQUIPMENT	All fixtures by Kohler Co.	All fixtures by Kohler Co.		All fixtures by Briggs Mfg. Co.	All fixtures by Standard Sanitary Mfg. Co.
HEATING AND AIR CONDITIONING	"Force Flo" hot water system, Bell & Gossett. Boiler—General Electric Oil Burner. Radiators—National Radiator Co. Thermostat—Minneapolis-Honeywell Regulator Co. Valves—Bell & Gossett. Incinerator—Ewing Incinerator Co.	Warm air with filter and humidifier, Holland Furnace Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—side arm. Incinerator—Ewing Incinerator Co.	Air conditioning, filtering, humidifying, Bryant Gas Fired furnace—Bryant Heater Co.	System including air conditioning and filtering—Fitzgibbons Boiler Co. Boiler: National Gas. Radiators—Convectors, Young Radiator Co. Thermostat—Minneapolis-Honeywell Regulator Co.	Forced hot water radiation convection, "Force Flo," Stevens-Root. Boiler and radiators: American Radiator Co. Thermostats: Minneapolis-Honeywell Regulator Co. Hot water heater—side arm—Bell & Gossett.



R-B-M

REENFORCED BRICK MASONRY

Brick hood, Emerson Settlement House, Chicago. Office of Paul Schweikher and Theodore Warren Lamb, Associated Architects (see p. 364).

So far as basic building technique is concerned, the 1930's will probably go down in history as a decade of false starts and unfulfilled promises—a period which began with the prediction of a factory-fabricated house delivered in a streamlined truck and ended with a reassertion of the fundamental soundness of time-tested methods and materials. For those who look beneath the surface, however, the significance of the past ten years is greater than that. Changes have taken place—many and far-reaching changes—but those which show most signs of virility and growth have been evolutionary rather than revolutionary in scope; in fact, the extent to which such changes have found general application can be accurately scaled by the degree of their adherence to familiar practice.

Many believe that this is as it should be, that the soundest pattern for progress is by such easily taken steps. In any event, it is a pattern forced on Building by its complex system of distribution: however practicable a given innova-

tion may be it cannot hope for general application if it calls for materials not everywhere available or requires sweeping modification of other structural elements or dictates a certain type of design. Only those innovations have succeeded which offer real, immediate advantages and at the same time avoid all three of these pitfalls by the use of common materials obtainable in all parts of the country, by development along lines permitting their application without compelling changes in other structural parts, and by not tying the designer to any particular style.

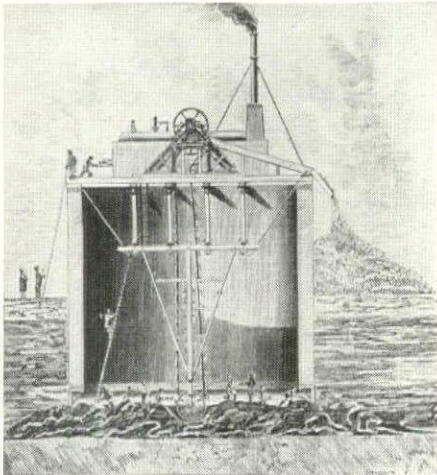
Such an innovation is reinforced brick masonry, known to its intimates by the initials R-B-M. Reinforced brickwork offers real and immediate advantages in the form of tremendously increased flexibility in the use of an already-popular material with substantial cost-savings over other methods when properly employed. It uses only materials everywhere available: standard brick of all types and

HISTORY

[Digest from: Brick Engineering Handbook of Design, by Harry C. Plummer and Leslie J. Reardon, Structural Clay Products Institute, Washington, D. C., 1939. \$4.00.]

The history of reinforced brickwork goes back to the early days of structural engineering. Its theory was developed about 1800 by Marc Isambard Brunel, an Englishman, once chief engineer of New York City. First major application of the principle occurred when he used it in building two shafts in constructing the Thames River Tunnel in 1825.

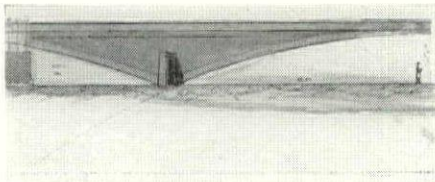
These shafts, reinforced with wrought iron bolts attached to wooden curbs at bottom and top and by hoop iron laid in the brickwork, functioned as caissons. Built by the open method, their strength



Shaft for Thames River Tunnel

and cohesion were severely tested by uneven settling due to varying soil conditions. The shafts, however, were undamaged, the Tunnel successfully completed, and Brunel knighted by Queen Victoria. In the words of his biographer, "The fortunate combination of iron ties with brick and cement in the construction of the shafts . . . suggested to Sir Marc the idea of establishing a general principle of construction which should unite to an eminent degree utility and economy."

Accordingly, in 1836 he proceeded to demonstrate the strength of the new masonry in a series of tests, notably by building the "Nine Elms beam," an inverted T-section, and a structure of two cantilevered half arches.



Brunel's Cantilevered Half Arches

The results of the Nine Elms beam experiment were reported to the Society of Engineers. The Society was skeptical, some members attributing the superior strength of the masonry to the use of Roman cement in the mortar, others refusing to accept the theory that two materials with widely different physical properties could act together as a structural unit.

A year later Col. Pasley, of the Corps of Royal Engineers, definitely settled the dispute as to whether or not flat hoop iron strengthened brick beams. He constructed three beams, one of bricks laid in pure cement, the second laid in pure cement reinforced with iron, the third reinforced like the second but laid in mortar one part lime, three parts sand. Tested to destruction the second beam had carried the greatest load, showed that the metal had carried the full tensile stress, that lime-sand mortar was unsatisfactory for this type of masonry.

(Continued on page 378)

regular reinforcing steel of the kind usually used in concrete work. It requires no changes in other structural parts and can be employed with any style of design. Moreover, experience has shown that the introduction of reinforcing steel into brick masonry can be accomplished without materially reducing the daily output of the mason and requires no special skill or training.

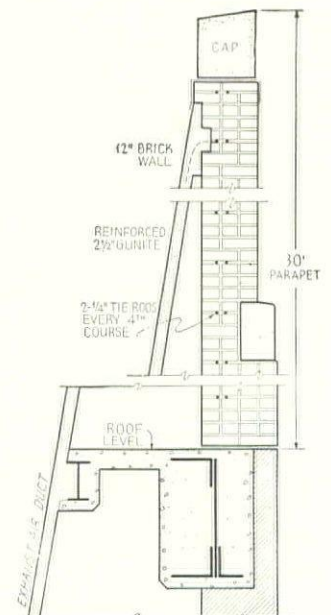
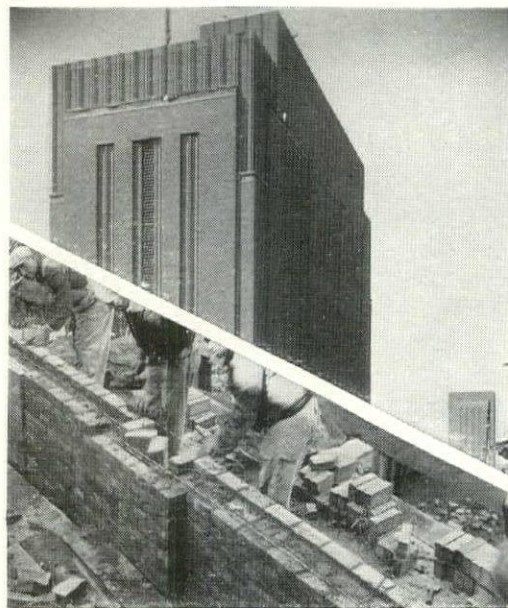
USES

Introduction of reinforcing steel into brickwork broadens the scope of its application in exactly the same way that the use of steel in concrete increased the adaptability of this material. Because of its relatively low tensile strength, masonry of all kinds is commonly limited in its structural applications to purely compressive loads; with steel rods properly placed to resist tensional stress, however, it may be employed for lintels, beams, slabs and other structural elements which are called upon to resist simultaneous compression and tension. Actually, as the history in the left-hand margin shows, this fact was first discovered in connection with brick masonry, but the development of reinforced concrete has been so much more rapid and widely publicized that it is convenient to indicate the potentialities of reinforced brickwork by comparison with its better known cousin.

Reinforced brickwork may be used everywhere, and with the same facility, as ferro-concrete. It develops approximately the same unit strength, and the limits placed on the size and spacing of reinforcing rods by their position in the mortar joints are not such as to interfere with efficient design. It may therefore be used as a complete structural frame, for columns, plain and cantilever beams and slabs, in lintels over wide or narrow openings, and wherever a structural member is required for the support of masonry or other loads. In addition, it may be employed to stiffen or strengthen ordinary masonry at trouble spots such as around floor slabs, at the top of parapets or chimneys, for earthquake-resistant construction, and in instances where a structural frame would otherwise be required. The peculiar advantages of R-B-M construction, however, suggest its use in a host of special applications where nothing else would do as well.

ADVANTAGES

First and foremost of these advantages is, of course, reinforced brickwork's attractive and weatherproof surface—an advantage so widely recognized that brick masonry is about as close as we have approached to a universal fireproof exterior wall. R-B-M gives this already popular structural medium the added quality of tremendously increased lateral strength, so that it may be used for columns carrying heavy loads, exposed beams and lintels where appearance is a factor, and even for monolithic slabs. It enables the designer who has chosen brick for its appearance and durability to



PARAPET WALLS up to 30 ft. in height were successfully built from reinforced brick masonry in the various ventilation buildings of New York's new Midtown Hudson Tunnel, thus eliminating the skeleton framework which would otherwise have been necessary. Change to R-B-M was suggested by interference of column tie-beams with ventilation ducts, resulted in considerable cost saving.

develop a consistent structure in which the brick walls and spandrels are not merely a protective veneer but serve a structural function as well.

The second advantage of R-B-M is its great saving in formwork. Forms need not be watertight and in many instances, such as beams and lintels, need be no more than a single board. This often makes reinforced brickwork cheaper than cast masonry, especially where complex shapes, otherwise calling for elaborate formwork, are involved. Even in cases where appearance or surface characteristics are not a factor, this advantage sometimes determines its choice as an economy measure.

Third advantage of R-B-M is light weight. A reinforced brick beam is about 20 per cent lighter than a concrete beam of similar size, and this weight-saving may add up to a considerable total in large buildings, producing a similar cost-saving which is not to be ignored.

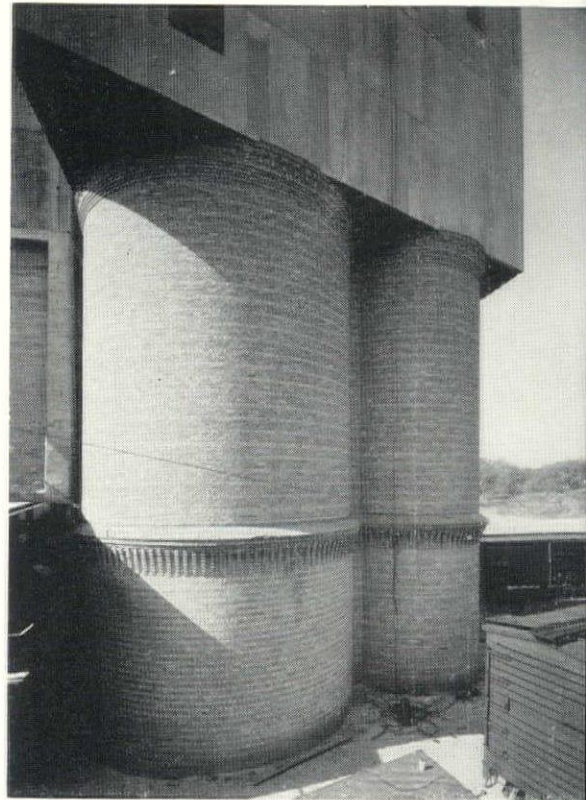
Finally, there is the fact that R-B-M fits so nicely into the gap which has hitherto existed between skeleton-frame construction and load-bearing masonry. In many structures some stiffening of the exterior walls is desirable, without, however, justifying the use of skeleton construction. Here R-B-M fills a long felt need. Similarly, reinforcement of the bearing walls on lower floor may obviate the necessity for increased thickness, permit uniform wall thickness with added space and consequent simplification of lower floor plans.

DESIGN

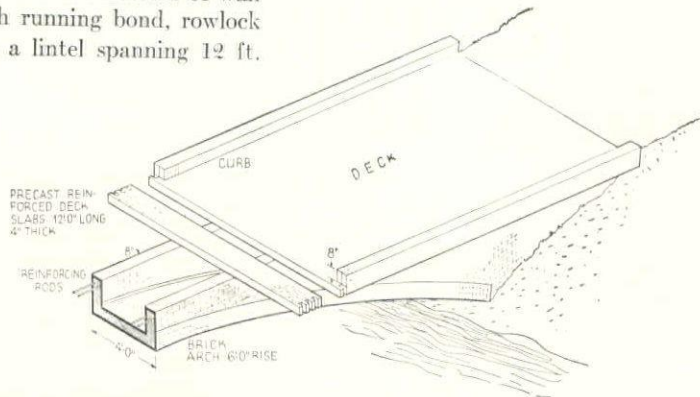
Exhaustive tests on R-B-M slabs, beams, and lintels have established the fact that their structural performance is comparable with reinforced concrete. Design procedure and formulae used in calculating stresses and deflections in reinforced concrete are therefore applicable to the design of reinforced brickwork. The Structural Clay Products Institute has compiled and analyzed test data from various universities and independent laboratories and on the basis of these data prepared complete and convenient formulae and tables covering slabs, lintels, beams, and columns. These tables are available in handy form in "Brick Engineering," a handbook published by the Institute (\$4.00).

Reinforced brick slabs are built 2¼ in. (brick laid flat), 3¾ in. (brick on edge), and 6½ in. (two layers, bottom on edge, top flat) in thickness, for spans up to 14 ft. Reinforcing rods are placed in the joints and regular brick employed, which may be exposed on both faces. Diameter of rods is usually ¼ or ⅜ in. In 6½ in. slabs, the top layer of brick may be placed in basket weave and other patterns. Cantilever slabs, such as projecting hoods over doorways, may be built in this way.

R-B-M lintels are formed by placing three or more light rods near the bottom of wall over openings. Lintels may be formed with equal facility with running bond, rowlock or soldier courses where desired for architectural effect. Such a lintel spanning 12 ft.



HUGE storage bins, 16 and 25 ft. in diameter and 52 ft. high, built in reinforced brick masonry for the storage of more than 2,000 tons of sand. R-B-M was used in this case because of the saving in formwork and scaffolding it permitted.



ALL-BRICK bridge, recently built on the grounds of the Melrose Country Club, near Philadelphia. Here reinforcing rods were placed in the upper part of the arch so as to permit its construction on the cantilever principle with simple movable centering supported by the arch itself. Platform is built from 3¾ in. precast, cantilever brick slabs, stiffened at the edge with a brick curb. Precast slabs of this type are being used in the mid-West for porch and terrace floors, eliminating the need for cinder fill and separate supporting slabs for brick pavement.

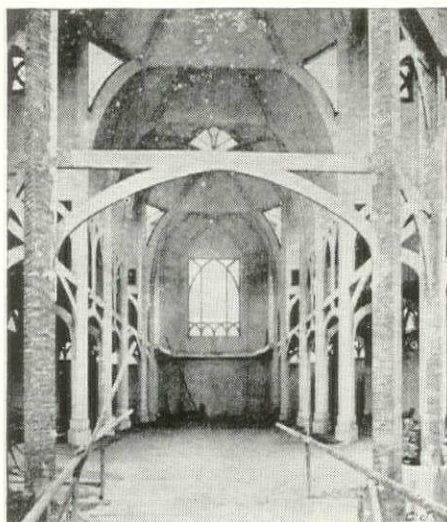


HISTORY (Cont'd)

Except for a few experiments, such as the beam tested at the Great Exposition in London in 1851, the theory was largely ignored until 1872 when N. B. Corson deduced a value for the tensile strength of brick masonry as shown by previous tests and developed a formula for the design of lintels, published in his "The Strength of Brickwork."

During the next forty years reinforced brickwork was used with increasing frequency throughout Europe and to some extent in the United States. Indeed, it was for a time so common in the construction of high thin walls, columns, silos and tall chimneys that the sponsors of reinforced concrete referred to it as a convincing example in their arguments for combining metal and masonry in construction.

The present active interest in reinforced brick masonry dates from 1922. In that year A. Brebner published two volumes of "Notes on Reinforced Brickwork" which reported widespread use of the construction in public buildings and officials' dwellings in India. He came to the same conclusions reached by investigators in the United

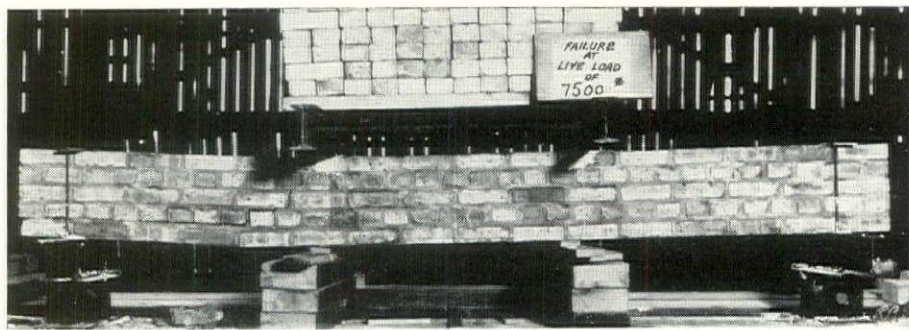


Reinforced Brick Columns Supporting Upper Story, Church of St. Jean de Montmartre, Paris

States and other countries: that the theory of reinforced concrete design may properly be applied to reinforced brickwork.

Since 1924 numerous field and laboratory tests have been made on reinforced brick beams, slabs, columns, and full-sized structures. The Reinforced Brick Masonry Research Board, organized in 1932, has outlined a comprehensive research program, directed and coordinated tests.

In the United States reinforced brick masonry is used most extensively on the West Coast, where the Long Beach earthquake of March 1933 and California's earthquake law greatly stimulated the development of construction practices. Of these changes, introduction of the grouting method was most important. In the California area it is now the only method used to fill interior joints, and it is beginning to appear in other parts of the country in plain as well as reinforced brickwork.



Ravenwood

in an 8 in. wall (no floor load) requires but three 3/8 in. rods, and lintels up to 25 ft. span and larger may be constructed in this way. Formwork consists merely of a single board, which need not be full wall thickness, adequately supported by shoring. The advantages of such construction over the usual combinations of steel angles and channels are obvious.

R-B-M beams, columns, piers, and other structural members are constructed in the same way by placing rods, stirrups, and hoops in the horizontal and vertical mortar joints. "Brick Engineering" shows designs for 8 in. and 12 1/4 in. thick beams of various depths from 13 3/4 to 24 3/4 in. for loads up to 3,500 lbs. per ft. and spans up to 30 ft. Data are given for the design of square and rectangular columns, reinforced brick footings and retaining walls, and other R-B-M structural elements.

MATERIALS

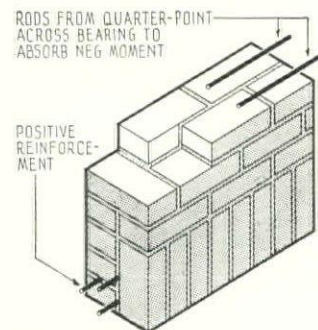
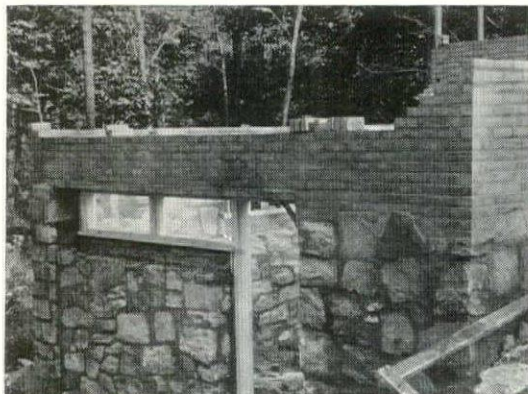
In general, the brick, mortar, and reinforcing steel used in reinforced brickwork are of regular type and quality and set up no stringent or special requirements. For the design of structural members of minimum dimension, however, it is important that the brick conform to certain minimum standards and that their structural characteristics be known. It is recommended that only well-burned brick having a minimum compressive strength (flatwise, on edge, or on end) of 2,500 lbs. per sq. in. be used for structural members or slabs. Most clay brick exceed this figure by a comfortable margin.

To assure proper bond between the brick and mortar it is important that the absorption, or penetrability of the brick fall between certain limits and, to a lesser extent, that the brick have sufficient surface roughness. Best mortar bond is obtained with brick having absorption sufficient to prevent them from "floating" on the mortar bed but not over 20 grams per minute when laid flatwise in 1/8 in. of water, or, for grouted work, not over 30 grams per minute. Brick with a higher rate of absorption may be used provided they are properly wetted before laying. Brick with wire cut bed faces or cored holes develop somewhat more strength in reinforced members than smooth-surfaced brick.

In California, where reinforced brickwork has been used extensively in earthquake-resistant construction, a special brick, known as Groutlock, has been employed with considerable success. These brick are made by a soft mud process, producing an open pore rough surface which develops an excellent bond with the grout.

Mortar for general use should be relatively high strength and should consist of one part cement, 1/4 part lime putty, and three parts sand, by volume. Mortars in which the proportion of lime by volume exceeds the proportion of cement are not recommended. For interior joints in columns and beams, and for all joints in floor slabs, free

(Continued on page 62)



TYPICAL R-B-M LINTEL

LINTEL, spanning 11 ft., of reinforced brickwork, and typical R-B-M lintel construction, shown with decorative soldier-course over opening. Such lintels may be used for openings of practically any width with considerable saving in steel and simplification of detail.

THE ARCHITECT'S WORLD

WHY SLUM CLEARANCE MAY FAIL

By Alfred Rheinsein and Henry F. Pringle

(Excerpts from *Harper's Magazine* for October, 1939. Mr. Rheinsein has recently resigned as Chairman of the New York City Housing Authority.)

Government housing has developed violent antagonists and equally violent advocates. And if the advocates are to achieve their aims they cannot avoid the dilemmas posed by the opponents simply by denying that they exist. . . .

The proponents of slum clearance too often assert that it will remedy all the ills of modern civilization, and they brand as economic royalists, or worse, all who dare to oppose it. Its enemies cry to heaven that to replace a tenement before it falls or burns down is rank Socialism. All this violence of opinion, from whichever side, is a hindrance to housing reform. . . .

Few will disagree that the subsidy now offered is generous, for it means that the tenant's rent need meet only the operating cost; but the sociological or philosophical thinking behind the 1937 Housing Act can justify the generosity on several grounds. The experiment is sound if it points the way for private enterprise to enter the field of low cost housing. It is sound if the cost of the subsidized housing projects is continuously reduced while their quality is improved. It is worth while if the properties are efficiently managed, if the right tenants are selected, if class hatred in the low-income brackets is not heightened instead of lessened, if politics does not enter to do its nasty work. These are forbidding "ifs" and not all of them, by any means, are now adequately guarded against. . . .

★

One existing project backs up against a grimy row of old-law tenements. The new houses have light and air and space. They were built around gardens. Their tenants could stroll in the evening through the shrubbery and sniff the flowers. The tenants of the adjoining old-law tenements, on the other hand, could sniff little but garbage and the results of faulty plumbing. At six-month intervals, more or less, the windows of the old-law tenements banged up at night and a barrage of bricks, tin cans, and other refuse descended on the carefully planned gardens. . . .

A housing project made possible through the money of all of the taxpayers should not, then, be an isolated spot of health and decency for a small group, unshared

by the community as a whole. . . . The project should be so constructed and so operated that certain benefits, such as playgrounds, nurseries, assembly rooms, and other recreational facilities, are available to the entire neighborhood. The landscaped, uncrowded area should ventilate the neighborhood. Model apartments can be an inspiration and not a basis for grievance. . . .

Without scientific, systematic selection of the occupants, for example, the best housing project will fail. The entire purpose of government housing can be met or defeated in the selection of tenants. The first rule of course must be the need of those who apply. The New York City Housing Authority, after careful study, has developed a system which thus far appears to be working. It is called the Preferential Rating Method, and it attempts to take all of the numerous factors into account before an applicant is admitted to tenancy. . . .

But no family can be considered unless its total income is less than five times the rent or, if there are three or more children, six times the rent. That at least is the law. The maximum has been drastically lowered by a mandate from the USHA in an endeavor to reach those with the very lowest incomes. In New York that means renting a large proportion of the dwelling units to families on relief or receiving other government aid. It means leaving in the slums the independent, self-supporting individual who is able to provide for his family, but not well enough to include a decent home. . . .

The officials operating a completed housing development must walk warily. On the one hand, their relationship toward the tenants should be strictly that of a landlord. Rents must be paid promptly and in full. But the fact to be remembered is that the occupants of subsidized dwellings are families who have not hitherto enjoyed the facilities of modern life. Obviously, there must be educative management to help them adjust themselves to their new environment. But if there is too much control, or if it is unwise, trouble is certain to follow. To put it another way, a little socialization is right and beneficial. Too much would be harmful and disastrous. . . .

The New York City Housing Authority, after careful study, has trained a force of management assistants who come into constant contact with the tenants. . . . A first obligation of the Authority was to keep them from being too active. So they are strictly forbidden to volunteer advice to tenants. Over a period of time, however, they become friendly and are asked many questions. These, naturally, they are free to answer. Often, in due time, they can give valuable information on a wide variety of subjects. . . .

In some cases the management assistants become in a small way instructors in domestic science. The contrast between the equipment, kitchen and otherwise, of one of the new apartments and an old-law flat is very great. . . .

The day has passed, or nearly so, when critics of public housing insisted that bathtubs would be used for coal and that the most model apartment unit would soon be transformed into a crumbling, dirty tenement. The New York City Housing Authority is already operating three large projects, and while it has complexities enough to face, the one of misuse is not among them. It must be remembered that a large percentage of the tenants have never lived in buildings anywhere near as good, and most of them take an immediate and fierce pride in their new homes. The real problem of the Authority lies in their desire to buy too much furniture. They are easy victims to the wiles of installment houses. Evidence even exists to show that some of the tenants cut down on food in order to furnish their homes. . . .

★

A real danger is that too many social experiments will fasten themselves on housing. The temptation is great. Ten or twelve thousand individuals living in model tenements constitute a convenient and interesting body for experimental purposes. Group medical care is suggested. Nursery schools are likely to be staffed with the best teachers. The accumulation of such benefits is surprisingly easy, and is of course grossly unfair to the less fortunate residents of the neighborhood. . . . But it is vital that they should be available to all the people of

the vicinity and not merely to the minority lucky enough to have been admitted to the new houses.

One of the greatest dangers in the financing of government-assisted housing is that of losing sight of real costs. Nobody denies that land on the outskirts of a city is cheaper per square foot. But selection of a housing site must depend on other matters as well. Let us assume that the new houses have been built at a total apparent cost lower than in some slum areas. Then it may suddenly be discovered that the city has been forced to lay out new streets, establish police and fire protection, build sewers and schools. The actual capital cost will have been much greater than if a higher price had been paid for land in a centrally located area. . . .

Further, the resettlement of large numbers of people on the outskirts of a city may mean an intolerable burden on transportation facilities. The cost of improving these may be staggering. . . . To an extent, industry will have to be located so that the blessings of shorter hours will not be wholly dissipated in traveling to and from work. . . . Nor is it wise to shift large centers of population away from neighborhoods where shopping centers, of long standing and representing heavy investments, are located.

The great opportunity of clearing away slums and improving old neighborhoods may be lost if new houses are built only in cheap-land districts which are still sparsely settled. . . .



The arbitrary ruling of Administrator Nathan Straus of the USHA that land shall not cost more than \$1.50 a foot is short-sighted. A standard maximum price for land all over this varied country is out of the question. If safeguards are so rigid and cumbersome that they make it impossible for the authorities to function when conditions vary from the normal, an evil about as great as bad housing itself is created. . . .

Mr. Straus has also suggested that delay may effect a remedy. If the cost of land is too high where slum clearance and new housing are most needed, he has said, prices will be beaten down to \$1.50 or less if nothing is done for several years. Such a form of enforced devaluation would seem unwise both economically and morally. It means that people would be forced to live in structures which deteriorate more and more each year—with the resulting effect on health and morals. The cities too would suffer because of losses in taxation as the devaluation progressed. Nobody really profits from an ancient, broken-down slum. . . .

Subsidized housing can bring relief from intolerable living conditions to, at best, a few hundred thousand people among the 11,000,000 American families now forced to remain in substandard

dwellings. This is vastly valuable, but it offers no long-time cure for the situation. Housing will remain a semi-philanthropical, institutionalized movement unless it points to some path along which private enterprise can follow. The movement will not be continued very long, in view of the ponderous burdens on government, unless this is done.

One way is for subsidized housing to constitute a proving ground for experiments which private capital dare not risk. The USHA has missed an opportunity in failing to foster an experimental attitude. Housing authorities are now operating in the ten largest cities of the U. S. and in scores of smaller communities as well. Yet there is little unity. One authority receives small benefit from the discoveries or mistakes of the others. All data, of every nature, should be instantly available to every local authority and to the building industry. . . .

The dollar is not worth today what it was worth a decade ago. The economic royalist gets smaller returns on his bonds and, if he is lucky enough to get any, lower dividends from his stocks. The building-trades leaders are willing to have everything else changed. They oppose bitterly, however, nearly all new methods in building construction. This is quite apart from any willingness to cut wages. They oppose new methods because, they fear,

their members may thereby lose their jobs or be forced to do other work.

Without new methods the housing program will surely fail. Construction is today the one vital industry which has not been able to take full advantage of factory or mass production. . . . This is not to say that, but for labor, houses could be turned out like automobiles. Industry too has been at fault and the prefabricated house does not yet seem to be a success. Sections and parts which make up a house can, on the other hand, be manufactured on a mass basis and thus represent the greatest single opportunity for economy in building. But the building trades oppose prefabrication in any form.



The building boom, so persistently predicted over the last decade, is not yet here and one of the main reasons for the delay is cost. Obviously, it will be profitable to the building trades if there is increased activity. Equally obviously, this activity must be calculated in round numbers for the entire country and for the building trades as a whole. It is true that certain trades will suffer. Some of them may disappear. Employment in general will be greatly stimulated though. One of the costs of progress is that the few shall suffer for the many. Unless that cost is paid the procession will be halted.

A NEW A. I. A. PRESIDENT ACCEPTS

By Edwin Bergstrom

Excerpts from his acceptance address at the closing of the Seventy-first Convention, September 28, 1939

I approach my task with the respect of one who knows its honors and responsibilities. The presidency of the Institute is the greatest honor that a member can receive from his fellows, and I am profoundly appreciative of your giving it to me. It is also the greatest responsibility you can place on a member. . . .

The road ahead is not clear and the path may be more confused if reason does not prevail. We pray that our country will not be involved by untoward events beyond its borders, but if trouble comes, the Institute should be fully prepared to do completely the part it is fitted to do. We shall appoint a preparedness committee to develop means by which the profession may be of immediate service to the government.

We intend to examine our own house and seek out deficiencies in the services we render. These cannot be remedied until our objectives and our failures have been clearly defined, but we are determined that the profession shall render

uniformly and universally better services.

We shall study seriously whether the long period of preparation for our profession is leading. The opportunities to demonstrate ability in the art of design seem far from commensurate with the many costly years spent in study and the acquirement of knowledge, and the period at which we are permitted to exercise our imaginative efforts is steadily being deferred until it looks as if not long hence many of our profession may be middle-aged before they can function as architects.

We shall continue the studies of the costs of performing the various parts of architectural services, for it has been clearly demonstrated that the minimum fees established twenty-five years ago for the profession are not adequate compensation today, especially as it is the tendency of minimum fees, over a series of years, to be considered as maximum fees. . . .

We intend to continue vigorously our

efforts to extend the private architect's practice, which has been menaced by the establishment of designing bureaus by Federal, State, and municipal authorities, and by institutions and large corporations. Strange as it may seem, members of the Institute who have been very vocal with respect to Federal building programs, seem indifferent to the encroachments on their practices by their State and municipal governments, and their local corporations, in spite of the fact that these three fields of practice, in the aggregate, constitute a field for architectural practice perhaps greater than all other fields. . . .

We expect firmly to encourage all efforts that will make the small house field our own. One of the methods that may lead in this direction has received your approval. It is a cooperative effort by re-

lated interests, and we shall do what we can to prove its usefulness. . . .

The movement by the whole profession to organize into one national body is profoundly significant. Through the efforts of the Committee on State Organization much progress toward a unified profession has been made, and the last report of that Committee to the Board will be the foundation for conclusions that will be presented to a later convention.

We are aware that this is a serious period for the profession, and that those who conduct the smaller practices in architecture, constituting perhaps 80 per cent of those who practice the profession, are expecting us to give serious consideration to the conditions they are facing. This we shall do.

THE MODERN APPROACH TO ARCHITECTURE

By William G. Perry

OF PERRY, SHAW & HEPBURN

Excerpts from an address before the Society of Beaux-Arts Architects, New York, February 8, 1939

The ideas of yesterday have made the institutions of today. The ideas of today will make those of tomorrow. We are aware therefore, as we stand here together that we are not quite detached from what we see before us. On the contrary, it is we who are responsible through our mind processes for the forms that will make up the detail—constructive, destructive, or neutral—in that future which from this distance looks so broad to us and so simple and serene.

If we are to be frank, as we must be, it is quite necessary first to examine into and perhaps admit of a number of our least creditable prejudices (not yours and mine, of course). Without doing so I do not see how such questions can be answered. And they must be answered.

★

Shall we be very frank?

1) There is first, the prejudice of *omnipotence* and *omniscience*. This heavy crust upon our minds includes in its composition the human propensity of questioning the value of reality of the accomplishments of others for the singular purpose of erecting a sadly fictitious monument to our own wisdom and capacity. It includes also the propensity to deny the application of the principles which underlie the accomplishments of the masters to the problems of today.

2) There is, second, the prejudice of *impatience*. This sad human propensity qualifies in advance the value of a result, if perchance it may not be accomplished within a space of time commensurate with

that to which we have become accustomed by our improved mechanisms. This leads the mind into the facile assumption that the machine is our means and that its mastery will bring with it the inevitable beauty that is a part of all perfection.

3) There is, third, the prejudice of *evasion*. This is truly the saddest of all our prejudices, but conversely I believe it to be the easiest to dispel by disillusionment. Our second prejudice, that of impatience, has led us into a mechanistic maze. It is only natural that the study of mechanisms should induce the mind to consider their corollary and principal purpose: namely, that of the saving of labor. Our third prejudice, therefore, permits us to apply it to ourselves. A mechanistic conception provides us with plausible means. We are relieved of the requirement of expending the necessary labor upon the dire, but I may say fascinating, apprenticeship such as that which nurtured the genius of Leonardo. A glibness of speech, a facility in phraseology of terms rushes in to fill the gaps in our training.

4) There is, fourth, the prejudice of *intolerance*. This inexcusable propensity works both ways against the middle. It provides no room for one's neighbor, it prevents us from profiting by his example, it frequently denies the achievements of the past, or in accepting the past too literally it denies all achievements of the present. It is a most reprehensible prejudice.

Divested of these prejudices what do we see? It is my belief, if I am able so

to divest myself, that we should see a vast number of agreeable persons earnestly at work to our delight, surprise, and admiration. Have you, like myself, recognized in certain of the prominent men of our generation aptitude and capacity that you believe would have made great architects of them or perhaps artists? It is a diverting thought.

Our task today is to supplement the admirable quality possessed by the more patient of our contemporary colleagues by a greater admixture of the brilliance that has been heretofore more strongly attracted to business. This can be done and in reasonably simple ways.

Consider for a moment a common cause which is to be found in the protests against architectural forms and philosophies in the past. These protests have generally been successful in leading to the adoption of other but not always new forms. You are familiar with these protests, those that resulted in the Renaissance, the Greek and Gothic revivals; Neoclassicism. It is popular impatience with the excess of these forms and philosophies which has given voice to these protests. That is the common cause. In the Renaissance it was impatience with the excess of flamboyance. In short, is that not the essence of the protest today? Flamboyance is an evidence of uncontrolled prosperity. All periods of prosperity put heavy demands upon creative genius. They overtax the available supply. The gap is filled by untrained exhibitionists. The results are truly shocking, and therein the protest finds its plausible point of departure. But most protests in the past have gone too far. They have taken no time to guide themselves by examining and curbing their prejudices (the very four to which I have alluded). They have taken popular condemnation as their mandate, forgetting that in people as a group it is the eye that sees first and the mind that reasons afterwards. From flamboyance to severity—a quick scenic change. The popular eye is refreshed and its possessor applauds; the columnist eagerly heralds the new era. But slowly and surely the mind begins its analysis.

★

The trend that we recognize today is in many ways distinctly refreshing. This refreshing quality is that which appeals to me. It is perhaps more refreshing than the first steps of the studied Renaissance could have been; for it is independent (sometimes so independent as to be even independent of thought); it runs by few rules and claims the horizon as its front yard.

There will be another period of prosperity, perhaps during our own lifetime. It will most certainly apply heavy pressure through demand for creative initiative. It will just as certainly overtax the available supply. It will nurture the seeds of its own artistic destruction by its fail-

ure to control excess. To avert this, at least in some measure, we must plan at the bottom for a greater supply of competent architects to put into the field. The violent change of diet from gingerbread and cream to plain hardtack must not be permitted to fall upon us again.

In our efforts to create in America a thoroughbred architecture peculiar to ourselves, we have but to be patient and sensible. By trial and error; by careful selection we can take up the best of all available and adaptable strains, being oh!

so careful before we mix the blood with elements which are purely alien or poisonously indigestible. We can use our horse sense first by admitting the essential nature of cool logic to all problems. Upon this firm peg we can then hang (but not before) other desiderata; good planning, scale, proportion, grace, color and all sorts of specialized knowledge.

Underlying this, like the Arabian strain, must be the element of imaginative creative ability, and with it must be a clear picture of the goal that we are seeking.

on the door. He has a secretary and a few assistants. He is "in private practice," and he receives from his clients a commission which varies with the cost of the work he undertakes. For the last two hundred years this amiable and gentlemanly kind of architect has got on very well. He still gets on well enough; but his position is not quite what it used to be. There is now no distinct patron class. Wealthy individuals with dynastic aspirations are rare; nobody builds great country houses. On the other hand, vastly more money is spent by local authorities and by big businesses, both of whom demand a service from the architect of a less personal and more comprehensive kind. So it is not surprising to find that the character of the architectural profession is changing.

It is changing in two ways. In the sphere of "private practice" the tendency is for the firm to supersede the individual. The firm is often built around one successful practitioner who enlists a group of partners and whose office becomes a large organization probably incorporating one or two engineers and surveyors. The other change is the great increase in the size and importance of official departments, attached either to public authorities or to big business concerns.

There is, of course, nothing new either about private architectural firms or public architectural departments. They have been with us for a generation or more. But what is new, and what I would specially distinguish as a factor affecting the future of English architecture, is that collective conditions of practice are coming to be recognized as normal and characteristic and, in short, a good thing. It used to be the custom to regard the architectural "firm" as necessarily commercial and philistine—an architectural "business." In the same way, the official department was despised by the *cognoscenti* as, at the best, a safe berth for efficient hacks, who had not the ability to succeed in private practice. Even today such views are widely held, and are, indeed, justified in certain cases. But the trend of opinion, young opinion especially, follows the need of the day, which is for big, well-organized offices giving consistent service independent of the whims and limitations of individuals, yet preserving the freedom and integrity of the individual designer.

ARCHITECTURE: A CHANGING PROFESSION

By John Summerson

Condensed from *The Listener* (London), April 20, 1939

This country [England] spends about four hundred million pounds a year on buildings, but produces little architecture; and of the architecture it does produce only a small proportion is distinguished enough to engage the attention of connoisseurs and critics. Yet it could be argued that it is not the occasional, exciting building but the general trend that really matters. There is truth in this, though we must not forget that without the rare innovator there would be no trend. In any case, it is to the general condition of architecture rather than particular instances that I want to draw attention here, and especially I want to show how certain changes in the architectural profession are likely to modify the character of the architectural output of the future.

★

There are no accurate statistics relating to the designers of buildings, but it is certain that professional architects are responsible for a very small percentage of the buildings erected in this country. The reasons are simple. First: speculative house-building, which is responsible for a large proportion of the whole output, is carried on by building firms who use stereotyped designs for detached and semi-detached villas which have varied only superficially during the past 150 years. Second: many buildings of the factory type are mere assemblages of mass-produced materials—steel columns and roof-trusses, patent glazing and asbestos sheeting—put together by the contractor on lines suggested by the building owner. Third: the building works of local authorities are often undertaken by employes with engineering qualifications, sometimes with, but very often without, architectural assistance.

There remain the more expensive categories of building in which architects are

almost invariably employed. Architects in this country number about 13,000. They vary considerably in their economic relation to society and in their professional outlook, and these variations are of interest as one of the chief underlying causes of the differentiated character and quality of the buildings continually going up in town and country.

★

What is an architect? There are two answers—one historical, the other legal. Historically, the architect is a respectable dependent of the moneyed classes whose job it is to conduct their building operations so that the results are economically sound and in correct taste. The early English architects based their pretensions chiefly on their knowledge of the antique; latterly, success has been equally accessible to those able to procure a satisfactory return on their client's outlay. And the legal definition? The legal definition is something quite new; it has only existed since the Architects Registration Bill received the Royal Assent last July. This important Bill has at last given the architectural profession a status similar to that of medicine and the law; that is to say, after June, 1940, nobody will be able to call himself "architect" unless his name is on the register of the Architects' Registration Council of the United Kingdom. And the only way of getting on that register will be by passing one of the stiff examinations approved by the Council.

Parliament now recognizes the architect, not as an exponent of styles but as a technician with a special function and special obligations toward the public. Let us see now through what channels these obligations are exercised.

The typical architect—the architect the public knows about—is an individual in an elegant office with a neat brass plate

But still more important than the tendency toward reorganization in private practice is the growing prestige of the official department. Here discouraging traditions still hold which cannot be uprooted in a day. There is the conventional pretense, for example, that all the work done in a department is the work of the chief architect whose function is, in fact, largely administrative; there is the tradition of the "safe job" and "safe" design; and there is the tradition of inadequate remuneration and petty classroom discipline. But set against this is a contrary movement not only in the architectural profession, which wants its services to be used with the greatest possible advantage to the public, but among enlightened administrators as well. The problem is to devise a type of organization in which the training and abilities of the individual architect will have their proper scope. Enough has already been done in this

direction to show that such organizations will attract the best brains and produce architecture as good as any which private practice has achieved. I am not saying that private practice, even of the one-man type, is finished. It is not, and is never likely to be, so long as people are free to make or mar their own lives. But the bulk of the architectural work in the future will come from big offices, and the best work will be from those offices where the relation between the individual designer and the organization as a whole is most satisfactory.

It remains to ask what kind of architecture we may expect as these changes develop. Clearly, the changes will not in themselves affect architectural style, though they will tend, perhaps, toward impersonality and will certainly bring about a closer relationship between the teaching in the schools of architecture and the idioms of current practice.

YE OLDE MODERNE

From "Notes and Comment" in *The New Yorker* for August 12, 1939

Looking at one of the newer buses, streamlined to cleave the trade winds that sweep Fifth Avenue, we wondered again what another generation will think of the bogus functionalism which seems to be the keynote of our own. We can remember our grandmother's house quite clearly. Outside it was an atrocity of scrollwork and irrelevant turrets; inside, a dim museum in which animal and vegetable matter decayed quietly and respectably, under glass; altogether it was the typical house of its time. It was absurd, but it was saved from vulgarity by its innocence, and we still think of it with affection; and, because its furnishings were always rational though often hideous, we can easily imagine what it would have been like to live

there. This nostalgia, we feel, is going to be a little harder for the grandchildren of many of our contemporaries. How to account, except by a sort of mass insanity, for a generation that designed everything, from automobiles to alarm clocks, to buffet a hypothetical tornado? How to picture one's ancestors, warm and alive, in all that steely symmetry? It is inevitable that the American home, in its current design, will presently come to be regarded as old-fashioned, but it is hard to believe that it will be remembered with love or pleasure. If your grandchildren think of you at all, surrounded by your bright, functional toys, it will be with terror or dislike, as a madman or stranger.

THE TRAINING OF AN ARCHITECT

By William Emerson

RETIRED DEAN OF THE ARCHITECTURAL DEPARTMENT, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Excerpts from an address at the Seventy-first Convention, A. I. A., September 26, 1939

In this day of sudden and revolutionary changes in governmental as well as in educational policies, it might be appropriate to point out those characteristics that have marked the School's policy in recent years, not in an assumption that they thereby differentiate it from other schools, but merely to clarify its objectives.

Obviously the major purpose of our teaching is to so equip our students that upon graduation they may be provided

with such methods of work, habits of thought, and standards of performance as will enable them to cope competently with current professional problems and achieve leadership in their profession. What was adequate in curriculum or method twenty years ago is evidently unsuited to the needs of today, *but the fundamental principles of good architectural design are the same—will always be the same.* Such touchstones as economy

of space, directness of circulation, simplicity of construction, convenient interrelation of spaces, suitable character and proportion, are as properly applied to the buildings of this century as to those of any previous age.

Believing this to be fundamentally true, our methods and curriculum from year to year have echoed the changing needs of a changing civilization, of new materials, of new methods of construction. We have thus endeavored to keep our minds open to new opportunities and resources without being carried away by current fads and fancies; convinced that in evolution founded upon considered experience we shall find the safest, the most inspiring guidance for our teaching.

ALUMINUM

Condensed from *Better Methods*

Fifty-four years ago, the Washington Monument was finished. As the crowning achievement of the period, a special white metal cap was cast for the 550-foot shaft, so precious that it cost \$1.10 an ounce, and so rare that it was exhibited in Tiffany's window before it was placed on the monument.

If that cap had been made ten years previously, it would have cost \$35 an ounce. But even at the greatly cheapened price, it was still a curiosity; and if anyone had predicted that men then living would see that precious metal made as cheaply as ten cents an ounce, he would have been laughed at. The metal wasn't rare—it was just that so little of it was used that much labor went into purifying and perfecting it.

Yesterday that same metal was quoted at less than two cents an ounce. It is aluminum.

THEY SAY—

"Only the very young are altogether modernists, and only the old men are the traditionalists: the wise man takes the good and avoids the bad in both."—PERCY THOMAS, past president, R.I.B.A.

"We are all agreed that the government ought never to step in wherever private business and private economy can and does handle the situation. It still is true that the government is best which governs least."—ADOLF A. BERLE, JR.

"If we regard ourselves as doctors called in to treat specific cases, public confidence in us will increase. On the other hand, public confidence in us will decrease if we regard ourselves as reformers justified in spending other people's money upon what we think they ought to want."—H. S. GOODHART-RENDEL.

"The steep red roofs of the first garden suburb, that at Bedford Park, Chiswick, were widely suspected of sheltering Bohemian and subversive philosophies. Nowadays Bohemian and subversive philosophies seem ill at ease under any roof that is not flat."—H. S. GOODHART-RENDEL.

"Although the architects of the Washington Plan desired to impose a general form and system upon the buildings of Washington, it was certainly not their intention—and still less the intention of L'Enfant—to burden all future buildings in Washington with an armature of granite and classic form."—JOSEPH HUDNUT.

"The architectural profession, almost without exception, has heretofore revolved around the dominant thought that the juicy plums come from the rich, and has lost sight of the requirements for *elementary* shelter which are the basic justification for the profession's existence."—ALFRED KASTNER.

"You cannot speculate in the things sacred to life. You cannot make ground a speculative commodity; you cannot make money a speculative commodity; you cannot make the ideas by which we live a speculative commodity, without getting the kind of thing we have. It is inevitable."—FRANK LLOYD WRIGHT.

"Modern art is an adventure of the eye and mind. Like many adventures it is beset with pitfalls and quicksands, false starts and blind alleys—many of which are really imaginary difficulties born of our general reluctance to face anything new or strange. Understanding modern art does not require any great effort of the intellect. The theories back of most apparently abstruse paintings can usually be expressed in a few sentences. But understanding modern art, or for that matter the art of the past, does require some initiative and imagination. Modern art is not for the timid or complacent man who does not want to be disturbed, but for the alert, the youthful-minded, the adventurous."—ALFRED H. BARR, JR., Director of the Museum of Modern Art.



WHAT DO YOU READ?

In support of the theory that the architect does read, and might if encouraged read more, here is what has been found good by Thomas E. Tallmadge. Not only an eminent architect, but the author of "The Story of Architecture in America" and "The Story of England's Architecture," Mr. Tallmadge ought to know. He says, "These are the books that have inspired

me the most in days gone by and to which I often turn."

Short History of Architecture	Hamlin
Renaissance in Italy	Symond
Ancient Rome	Lanciani Books
Medieval Architecture	Kingsley Porter
Gothic Architecture in	
England	Francis Bond
American Churches	Ralph Adams Cram
Domestic Architecture of the	
American Colonies and the	
Early Republic	Fiske Kimball
Mont St. Michel and	
Chartres	Henry Adams

Suggested by Edwin Bateman Morris, Editor *The Federal Architect*, another architect who not only reads but also writes:

The Cathedral	Hugh Walpole
Mont St. Michel and	
Chartres	Henry Adams
The Life and Times of	
Charles McKim	Charles Moore
The Autobiography of an	
Idea	Louis Sullivan
Mount Vernon, Its Owner and	
History	Dodge
Stained Glass	Viollet le Duc



ARE THERE TWO KINDS OF ARCHITECTS?

By Robert H. Orr

TREASURER STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Excerpts from an article in *Southwest Builder and Contractor*

It has been expounded, and not without merit, by several architects of repute that the present system of examination and licensing of architects in the State of California is not stabilizing the architectural profession and is driving many worthy men capable of rendering a service to society, into an obscure field; making plans for contractors or owners at a mere wage, which encroaches upon the architect's practice.



It is the belief of these gentlemen that there should be set up two classifications for architects admitted to practice; one obtained by a minor examination which would permit a practice in a restricted field; and a more technical examination which would have no restrictions except the ability of the recipient to perform.

They point out that there is some precedent for such differential which may be found in other professions. A lawyer may be admitted to practice before the Municipal or Superior Courts; by qualifications he may be permitted to practice in State and District courts; and, from experience in these courts and ability, may reach the highest command in his profession and practice before the United States Supreme Court. The medical profession likewise has some stepping stones. There are those who practice osteopathy, medicine and surgery. There are internes in hospitals or medical clinics, all leading in the direction of practical experience before entering into professional practice. Then too, in the educational field there are limitations for those who may be permitted to teach in the grade schools; by added experience and credits, be advanced to teach in high schools; and by more exacting requirements may enter the realm of teaching in colleges and universities.

Any such system would set up some

fine points in jurisprudence. The elements of construction are not gradient, except in the most mediocre work. Any foundation should be required to sustain the load. Columns, beams and girders have but one formula for each, be the building small or great.

Suppose a junior certificate holder be permitted to practice only in the field of domestic architecture, and that restricted also as to cost; he has a client, to whom he has given satisfaction in that capacity, who prefers to retain him for work of greater magnitude; would it not be embarrassing for the architect to admit that he had but a minor qualification to practice? The temptation would be great to conceal the fact and to carry on, preferring to take a reprimand or subject himself to any penalty that may be applied.



In casting about to ascertain what other system than type of building and limit of cost might be invoked, the natural appeal would be that of professional comradeship, heretofore known by a fine word, "mentor," in architectural parlance.

Assuming then, that out of the most worthy young draftsmen, 600 junior certificates to practice were issued, each good only when used in collaboration with one holding an unlimited certificate to practice architecture, would it not electrify the whole profession?

To issue 600 junior certificates would not mean 600 newly established offices, but it would mean that 600 good draftsmen would eventually be withdrawn from the drafting boards of the speculative builders. Each could find one who would become a comrade and help the junior to be absorbed into the profession of architecture to which he justly belongs but now lends himself helplessly to its disadvantage.

THE DIARY

Henry W. Saylor

En route across the Continent, Monday, August 21.—The train paused in Kansas City tonight for an hour or so—just long enough for me to walk across the plaza and have another look at Van Magonigle's great Liberty Memorial, bearing aloft its symbolic flame. It looks even better than I had remembered it, and now Edmond Amateis' bas-relief extends across the long base wall on the steep slope of the hill. I walked around it, sensing again the delicate variations from the horizontal and perpendicular which Magonigle, following the Greeks, gave to his arrises. Robert Aitken's sculpture, high up on the shaft, is cut most effectively, but it was with particular interest that I looked again at Magonigle's own hooded sphinxes flanking the monument on the plaza side. They reminded me again of Magonigle's fifteenth century versatility—architect, painter, sculptor.

San Francisco, Thursday, August 24.—My first sight of the Golden Gate International Exposition, by night, when both Fairs are at their best. The first question, in the inevitable comparison between New York and San Francisco: What is the basic purpose of a Fair? There are two answers, and those responsible for the East Coast show have apparently accepted one, those for the West Coast the other. In New York the exhibits are the important goal, the architecture subordinated to serve as a convenient setting for what is to be seen of "the world of tomorrow." The designers of the Golden Gate Exposition have held to the other answer—that people visit a Fair for the spectacle as a whole; they come to get away from the everyday realities, to feast their eyes upon a dream city. Each group of Fair builders has followed through with these contrasting convictions and the results at New York and San Francisco reflect them accurately and efficiently. A member of the Eastern Fair's Board of Design, in answer to a visitor's question about the architecture, said, "There isn't any; the buildings are efficient showcases." In the Western Fair, on the other hand, there is little incentive to see what is inside the buildings; the showcase is beautiful—so much so, particularly at night, that the exhibits would have to be superb to entice one indoors, and with a few exceptions they are not that good.

One observer's opinion as to a comparison of the two Fairs is of little significance. Nor do the figures prove anything. New York built a \$150 million fair on 1,200 acres and the midsummer daily attendance is 125,000; San Francisco built a \$50 million fair on 400 acres and draws 45,000. (The cost figures are not mine—apply your own discounts.)

San Francisco, Saturday, August 26.—If the exhibits out here in the Golden Gate Exposition are, as a whole, nothing much to write home about, there are a few blazing exceptions. One of these I examined casually today with the man who designed it, René D'Harnoncourt. It is a pictorial representation of the Indian in America, housed in a wing of the Federal Building. As a result of the designer's rare gift for dramatic and meticulously detailed presentation, the visitor gains a vivid impression of the varied civilization that ended with the settling of America—the totem worshippers of the northwest, the shepherd tribes of the plains, the men who knew the woods and the rivers, the cliff dwellers, the gentle people of the mesas. It is a story told by artifacts. The textiles, metal working, accoutrements of pageantry, woodcarving, the fine art of utilizing animal skins, pottery, sandpainting—museum specimens of all these creative activities—are a wholesome revelation to one who knows little of Indian arts beyond Hoboken-woven Navajo blankets, curio-seekers' pottery, and Albuquerque's vast stock of turquoise-studded silver bracelets. Best news of all is that this accumulation is the basis of a permanent public collection.

★

San Francisco, Monday, August 28.—Another one of the Golden Gate Exposition exhibits that in itself is worth the trip across the Continent is inside the Palace of Fine and Decorative Arts. Eight galleries are filled with arts and crafts from the fifty countries of the Pacific's rim, assembled I am told by Langdon Warner of the Boston Museum of Art. When one can bring under one roof such spectacular treasures as a gold-lacquered howdah from Siam, great carved stone lintels from Cambodia and from seventh century China and Guatemala, turquoise-encrusted golden goblets from Peru, Maori woodcarvings, American Indian beadwork and the like, there is no lack of visitors. Add to this a train of galleries in which one comes face to face with Botticelli's Birth of Venus, Raphael's Madonna of the Chair, Titian's Portrait of Paul III, Michelangelo's Madonna and Child with Young St. John, and one does not have to worry about the attendance. It was a heartening sight to find that of all exhibits on Treasure Island, the Arts, in spite of its extra admission fee, was the most crowded. And inside the big palace—later to be an airdrome—it seemed to my casual eye that those seeking a view of modern art were outnumbered by those seeking the old masterpieces by about ten to one.

San Francisco, Sunday, September 3.—I went out toward the Presidio today to see what remains of the 1915 Exposition. The Palace of Fine Arts—by Bernard Maybeck—is all that is left—a typical example of what we used to think of as "exposition architecture." Very Beaux-Arty; a tour de force in the utilization of every motif, every carved molding known to classical architecture; brash with applied sculpture; nevertheless it still radiates a certain grandeur. No longer does it shelter treasures of art. On its smooth concrete floor are a dozen or more tennis courts where, under city sponsorship, new champions are being built.

San Francisco, Wednesday, September 6.—The judgment of Insulux Glass Block Competition No. 2 has added for me one more to an unbroken line of convictions that a group of eminent architects is of the salt of the earth. Any faint doubts I may have had as to the safety with which Los Angeles and San Francisco architects might be closely commingled were wiped out—the only real argument that broke the unanimity of opinion had to do with the relative hazards of driving a car up and down San Francisco's hills or through Los Angeles' crowded traffic. In architectural matters, Stiles Clements, Gordon Kaufmann and Donald Parkinson of the South formed no battle line against Gardner Dailey, Timothy Pflueger and William Wurster of the Bay, nor called for the balance of power in Walter Church of Portland and George Stoddard of Seattle.

San Francisco, Saturday, September 9.—Two local phenomena are sure to strike the visiting architect in the city inside the Golden Gate. One is the fact that a level building site is the rare exception. Gardner Dailey showed me a house he is building on a plot 35 by 85 ft., and one corner of the site is just 30 ft. higher than the corner diagonally opposite. What with such topography and the need for protection against earthquake, the foundations of a modest home are likely to cost more than superstructure, fittings and furniture. The other phenomenon is the building of row after row of houses in which each wooden end wall is separated from its neighbor by just one inch. How are they built that way?—by laying the framework on the ground, covering its outer side and imitating the old barn raising method of New England.

Salem, Ore., Monday, September 11.—Dropped off to have a look at Oregon's new capitol, and see whether a statehouse

without the traditional Renaissance dome really looks like a statehouse. Recalling the flood of words, spoken and printed, at the time Trowbridge & Livingston and Francis Keally of New York won the competition, I was the more anxious to see what Oregon had got for her money. It's a grand job, and now that the smoke has all cleared away, Oregon knows it. Leo Friedlander's massive sculptured groups have just been unveiled; Ulrich Ellerhusen's heroic figure of a pioneer has just been gilded—and will, I trust, not be too long in toning down. The rotunda murals by Frank Schwartz and Barry Faulkner, though showing each artist's individuality, are miraculously blended into a unit. In front of the capitol a large sunken garden is being planted, and one of the two buildings that are to complete an open-square composition is now finished—the Library designed by Whitehouse & Church. So all is well in Salem.

Portland, Ore., Tuesday, September 12.—Walter Church was good enough to bring together the architects he could reach for an impromptu luncheon, fitted in between wide-ranging and speedy inspection tours of the city and its outlying sections. Messrs. Brookman, Church, Crowell, Doty, Holford, Whitehouse and I talked of architecture, depression, convention, building codes, the need for young blood in the A.I.A., public taste and many other subjects—but not of war, which out here seems far away and of little import. Nevertheless, while sojourning along the Pacific I have come to believe that if Japan should go in on either side, the whole West Coast would rise almost as one man to enter the war on the other.

Seattle, Wash., Wednesday, September 13.—Another one-day stand, motoring over the particularly beautiful sections where the people of Seattle live, with a luncheon sandwiched in to renew old acquaintances and form some new ones among architects Aiken, Bain, Holmes, McClelland, Narrison, Loveless, and Overturf.

I'm beginning to realize how widely a typical architectural problem varies with the geography of this broad land. Lest anyone should imagine that the moderate-size house might simmer down to more or less of a nation-wide standard type, witness the Pacific Coast differences. About Los Angeles and its suburbs the first consideration of the architect is a defense against sun and reflected heat; about San Francisco Bay it is the west wind from which the home-builder must be sheltered, with every effort to trap the sun in the lee; moving up the Coast, the architects about Portland and Seattle give as their number one problem a secure defense against driving rains. The variety and individuality of these Pacific Coast houses never ceases to surprise one accustomed to typical repetition in the East, yet there is very little seen of the merely

bizarre—what Wade Pipes says we shall in a few years be calling "Ye olde moderne."

Washington, D. C., Monday, September 25.—In spite of the cancellation of the Fifteenth International Congress of Architects, the A.I.A. Seventy-first Convention is well attended. Hotel Mayflower's broad lobby seethes with delegates, members, guests, Producers Council members and the press. What the architects may lack in sparkling color of dress is made up by the identification badges—a different color for each of the above classifications plus white for the visitors from abroad. Registration totals 752 this year, as compared with 726 last year at New Orleans, 595 in Boston, 1937, and 545 at Williamsburg in 1936. Meanwhile, the Institute membership has made no such proportionate advances. What brings them? Is it the hope of learning the answers to the present crop of questions regarding the profession? I doubt it. Certainly, one of the strongest magnets is the opportunity for meeting face to face one's fellow practitioners who, beneath a layer of serious purpose, turn out to be human beings who speak our language.

Washington, D. C., Tuesday, September 26.—There is a certain machine-level of dullness in these regular convention sessions; a delegate is either listening to a committee report, briefed by the Board and capped with an appropriate resolution—to which he votes "Aye," or else he is listening to a bylaw revision in which it is proposed to strike out the words "if" and "but" and substitute in the third line the word "perhaps." The time-honored procedure rolls on and the hours pass—hours in which one would prefer to be seeing any one of the three or four exhibitions spread for our eyes in other parts of Washington. This evening, in the session given over to the Committee on Education, a delegate turned to me and said, "That's the first time I've heard the word 'architecture' mentioned in these two days of Convention business." It recalled a remark by one of our Scandinavian visitors to a Convention of several years ago. After a half day of treasurer's report and its ramifications, he expressed his surprise that a body of architects could find such sustained interest in the subject of dollars.

Washington, D. C., Wednesday, September 27.—If it were possible to expunge from the record of this Convention all words by President Maginnis—which, thank Heaven, it is not!—this meeting would go down in history as the great Dust Bowl of all A.I.A. Conventions. From his opening address, through his countless impromptu "asides" regarding the impedimenta of parliamentary procedure, and including his banquet speech tonight, the sharp flick of his wit and the sonorous majesty of his diction must

have repaid even those who journeyed from the farthest chapters. One is always charmed by what Mr. Maginnis has to say, but one listens with positive delight to the rare and luscious words with which he clothes his thought. "Clothes" is an inadequate word here; "evening dress with decorations" comes nearer the mark.

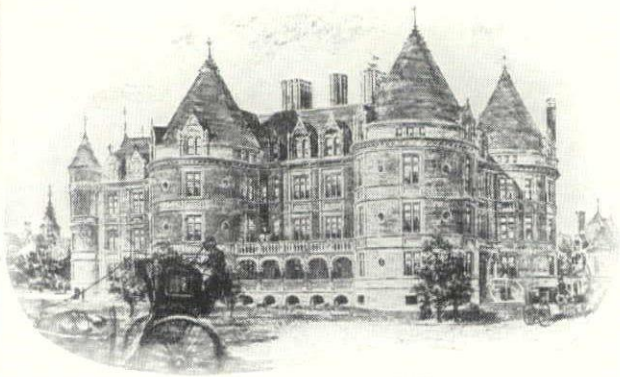
If the Convention has seemed an occasion of uninteresting—though perhaps necessary—business routine, it should be remembered that the war is to blame. All of the inspirational ingredients that had been put in to make the draught palatable were removed when the International Congress was cancelled. Such an unfortunate combination of circumstances could hardly occur twice in our lifetime. We have been eating our salad—or was it merely spinach?—without the French dressing. Next year—in Detroit, perhaps—the chefs will not be so frustrated.

Washington, D. C., Thursday, September 28.—Close students of convention routine must have observed that a resolution on any subject—perhaps two resolutions on diametrically opposite sides of one subject—is automatically voted when proposed by the Resolutions Committee in the closing hour. Delegates have reached the coma wherein any call for a vote brings an "Aye" and no argument. How, otherwise, could the American Institute of Architects have voted today a resolution to the effect that, "there shall be no other national body of architects"? In past years there have usually been two or three of the elder statesmen awake and watching these final resolutions, to guard against those too complaisant "Ayes." Possibly, hearing the oft-repeated insistence that the younger men be permitted to rule, they are standing back to see what will happen.

The ceremony of raising members to Fellowship has been gaining in importance during the last few years, and to many of us is the high point of a Convention. Rather less impressive this year, it seemed to me, in having been moved from the banquet night to a morning business session. Honors seem to comport better with evening dress and the ladies' presence than with pipe and tweeds after breakfast.

Highlights of accomplishment in the four days seem to me to have been: 1) embarkation upon a well charted course of small house service—a service that weaves together design, finance, certified construction and supervision; 2) material progress toward a better understanding of what unification of the profession does and does not mean; 3) the realization that a subdivided clinical type of convention would be worth trying; 4) a willingness to crown with laurel the man who will devise a system by which bylaws, committee resolutions and other noncontroversial matters can be executed by mail; and 5) the renewing of established friendships, the inception of new ones.

HOSPITALS



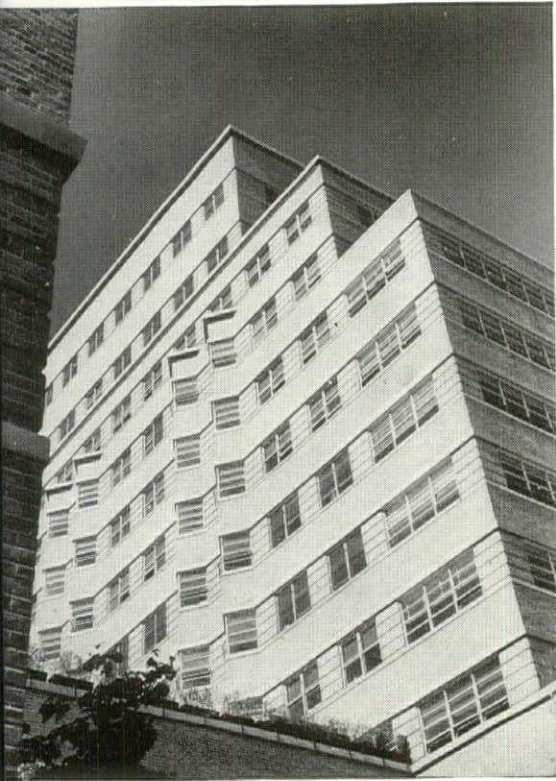
THE MEMORIAL HOSPITAL 1887-1939

THE MEMORIAL HOSPITAL
FOR THE TREATMENT OF CANCER AND ALLIED DISEASES, NEW YORK CITY

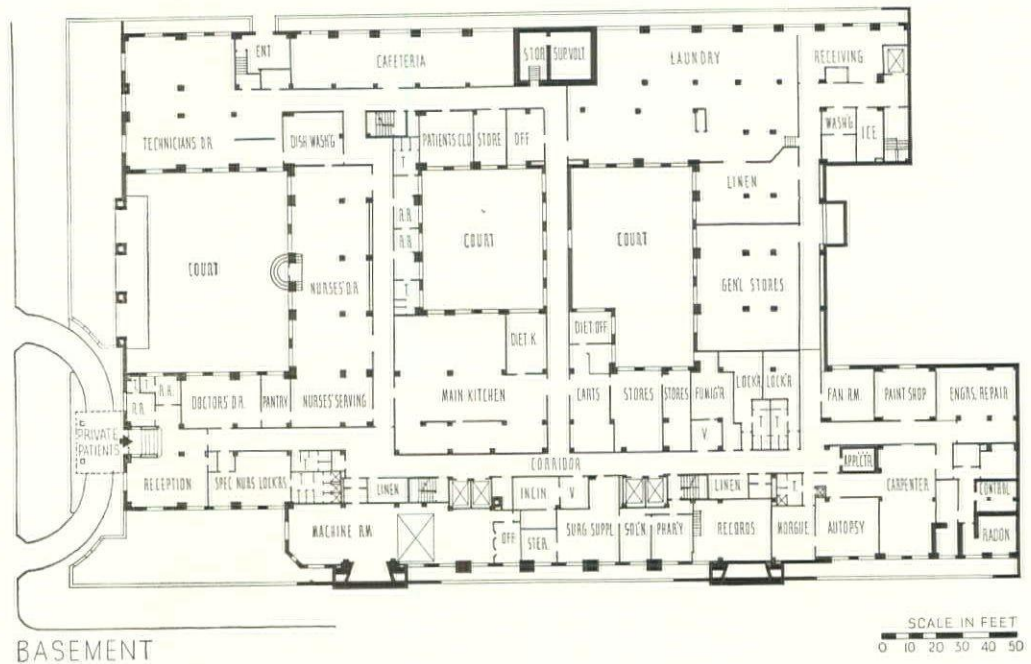
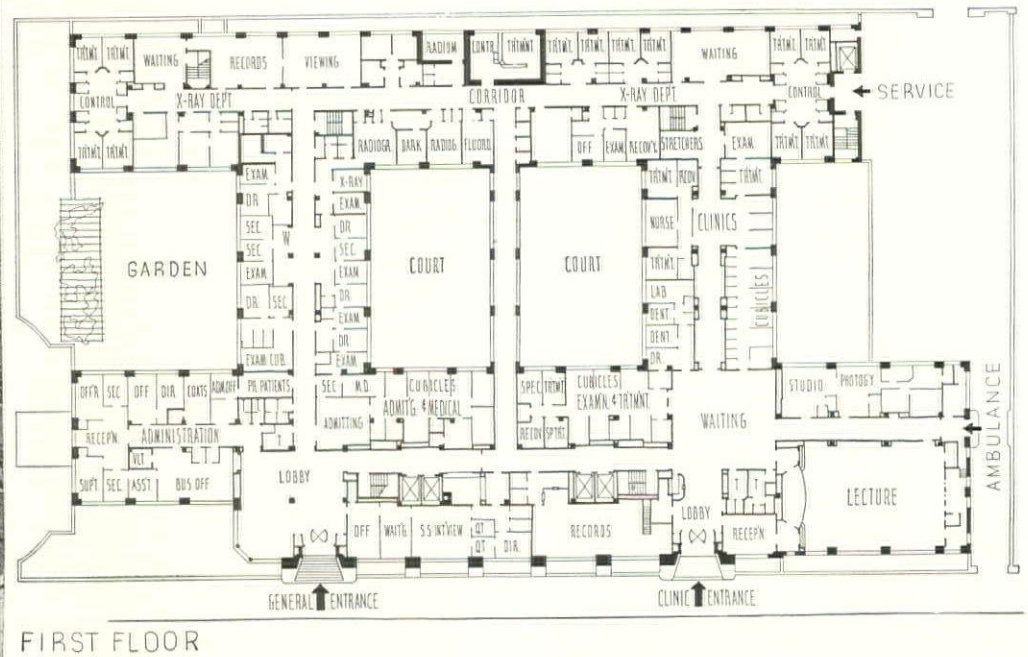
JAMES GAMBLE ROGERS, INC., HENRY C. PELTON, ASSOCIATED ARCHITECTS

Ezra Stoller





Ezra Stoller

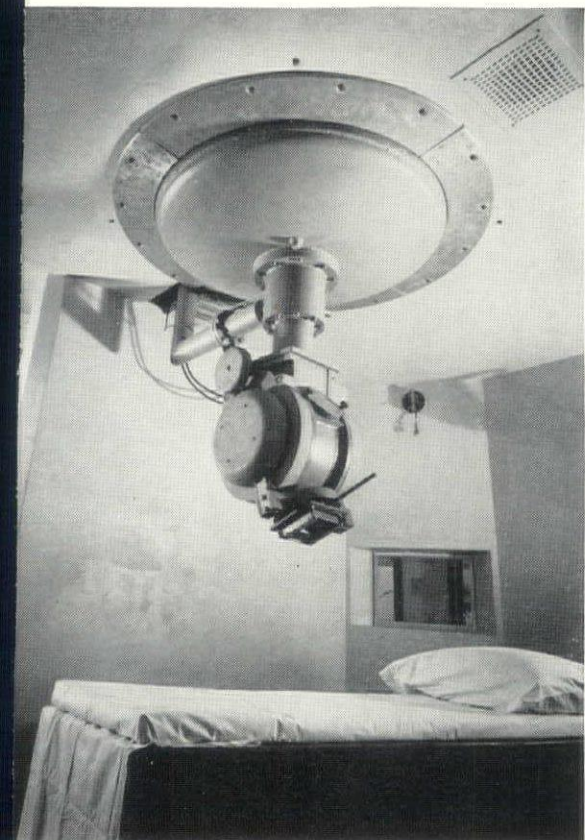


Major trend in hospital design, as the examples in this portfolio indicate, is toward the large, specialized institution, like this mammoth plant devoted to the treatment and study of cancer and allied diseases. As the first modern building designed especially for this purpose, Memorial is exceptional both as to type of equipment and emphasis on research—a fact which accounts for its vast proportions despite a patient capacity of but 168 beds. Bulk of the space is used by the out-patient, X-ray, and laboratory departments, all of unusual importance in cancer work.

In keeping with its midtown location, the building has been designed in a modern set-back scheme of unusual vigor and distinction. This makes possible a sharp separation between those facilities which require the most in the

way of light, air, and outlook and those which are best grouped together on large floors, and permits full utilization of premium ground space. Thus office space, laboratories, and services are collected in an extensive three-story unit grouped around several courts while wards, patients' rooms, staff housing and the operating suite occupy the ten-story tower.

Built to house, among other things, two "largest in the world" items—largest amount of radium used for treatment and most powerful X-ray equipment—Memorial Hospital is also the center of cancer treatment in America, with an educational program including yearly symposiums on cancer for undergraduate medical students and weekly clinical conferences open to the medical profession.

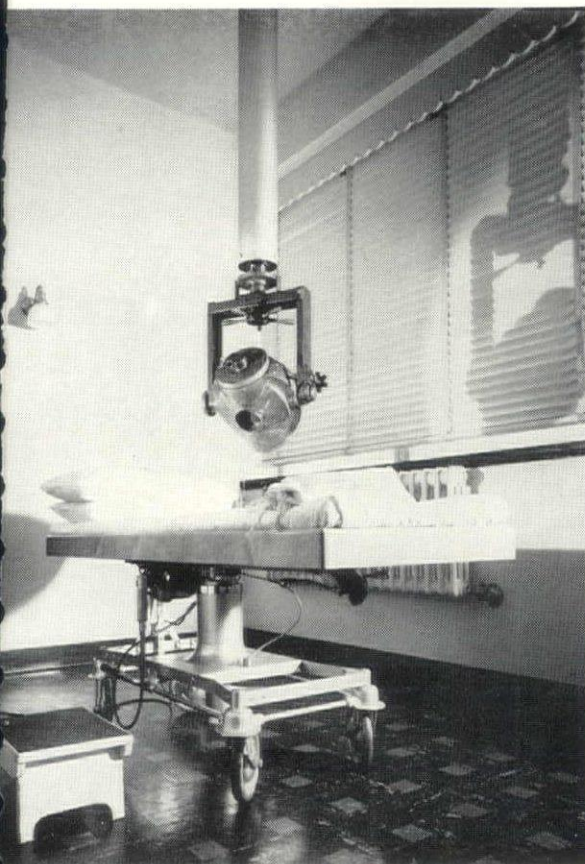


MILLION VOLT X-ray machine, for deep therapy, especially designed for Memorial's cancer treatment, extends through ceiling into machine room above.



X-RAY DEPARTMENT for private patients. Controls are located between pairs of treatment rooms. Two dressing rooms per treatment room assure steady use of facilities during peak periods.

RADIUM PACK ROOM. Like the X-ray room, this space must be surrounded in a continuous lead envelope to bar the escape of dangerous rays.



HEAD AND NECK CLINIC. the busiest in the hospital and in use every day. Opens directly off general clinic waiting room (visible through doorways at end) and surrounded with treatment and recovery rooms.

Ezra Stoller Photos





BIO-PHYSICS LABORATORY indicates Memorial's emphasis on research. The entire second floor is given over to laboratories, animal, record and study rooms.



Ezra Stoller Photos

CHILDREN'S WARD is divided into individual cubicles just large enough for bed and work table, and varying in size for various size beds, with glazed partitions between.

CANCER MUSEUM opens off the library, may be used as an extension of the latter for large meetings by moving aside a folding partition (shown open in picture below).



X-RAY VIEWING and record room. Since diagnosis and treatment depend so largely on photographic examination, this room has been conveniently located on the main floor near the X-ray department.



LITTLE TRAVERSE HOSPITAL, PETOSKEY, MICH.



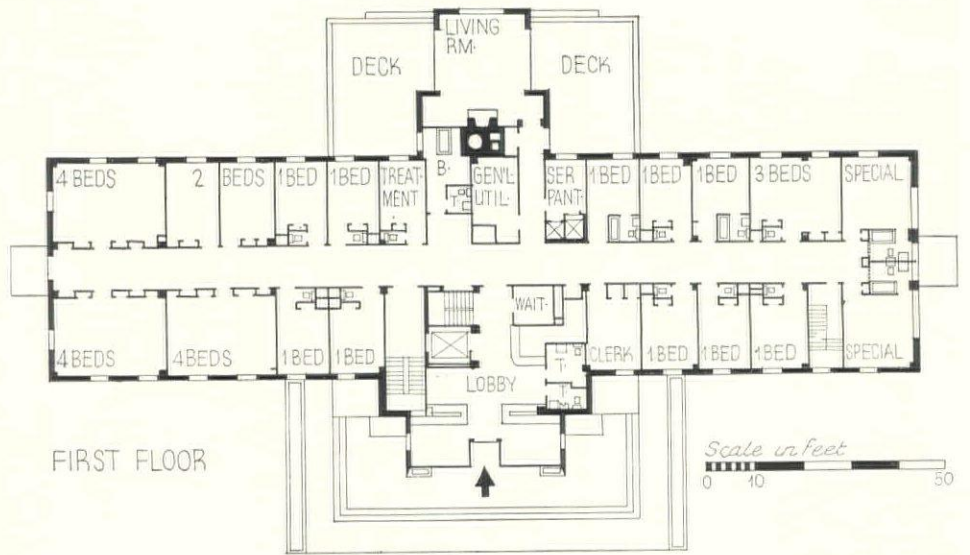
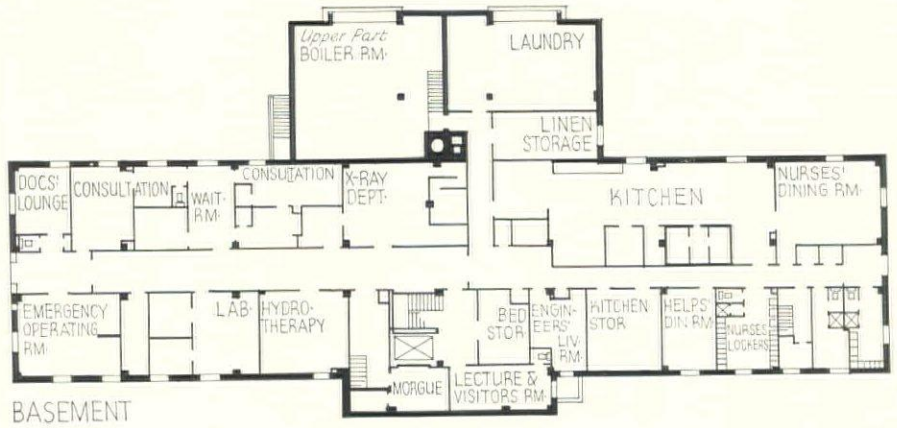
All photos, Hedrich-Blessing

ENTRANCE

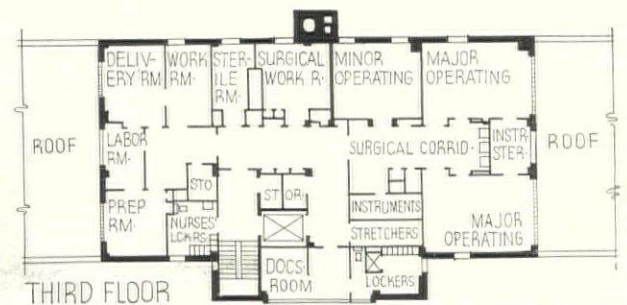
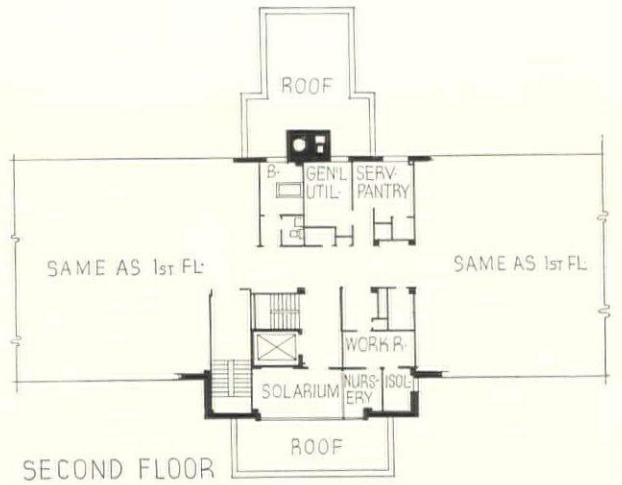
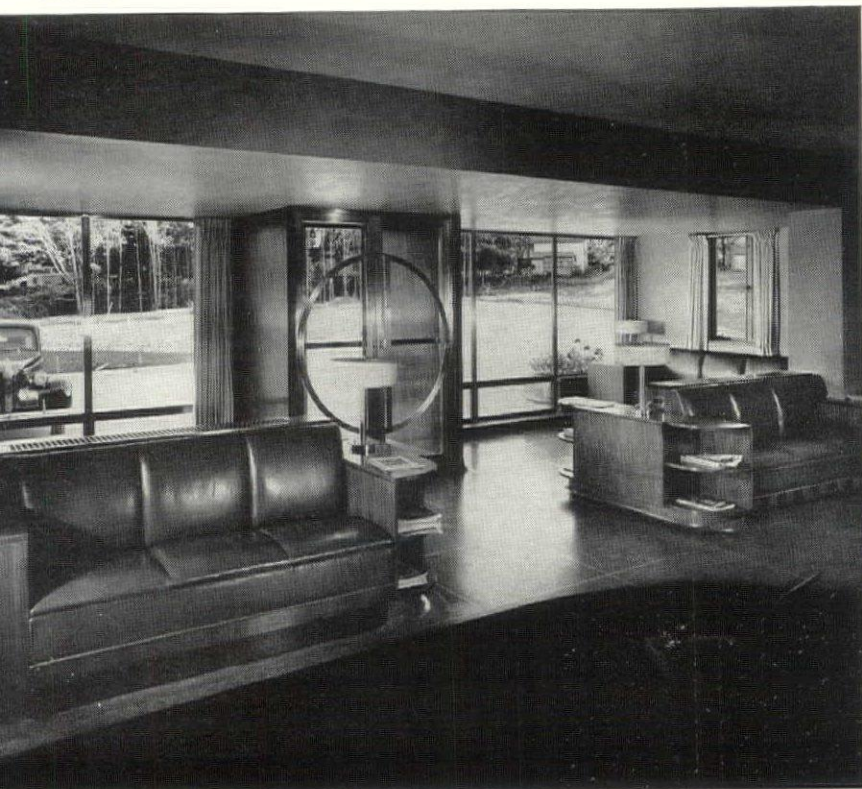


In this case the problem of the small, rural hospital was complicated by two distinct types of patronage—the year 'round needs of the native population and a peak summer demand including vacationists. This called for a flexible scheme planned for minimum maintenance and operating costs during the winter "slump" and maximum summer capacity, to which was added the not unusual requirement of a small budget fixed by a fund-raising campaign.

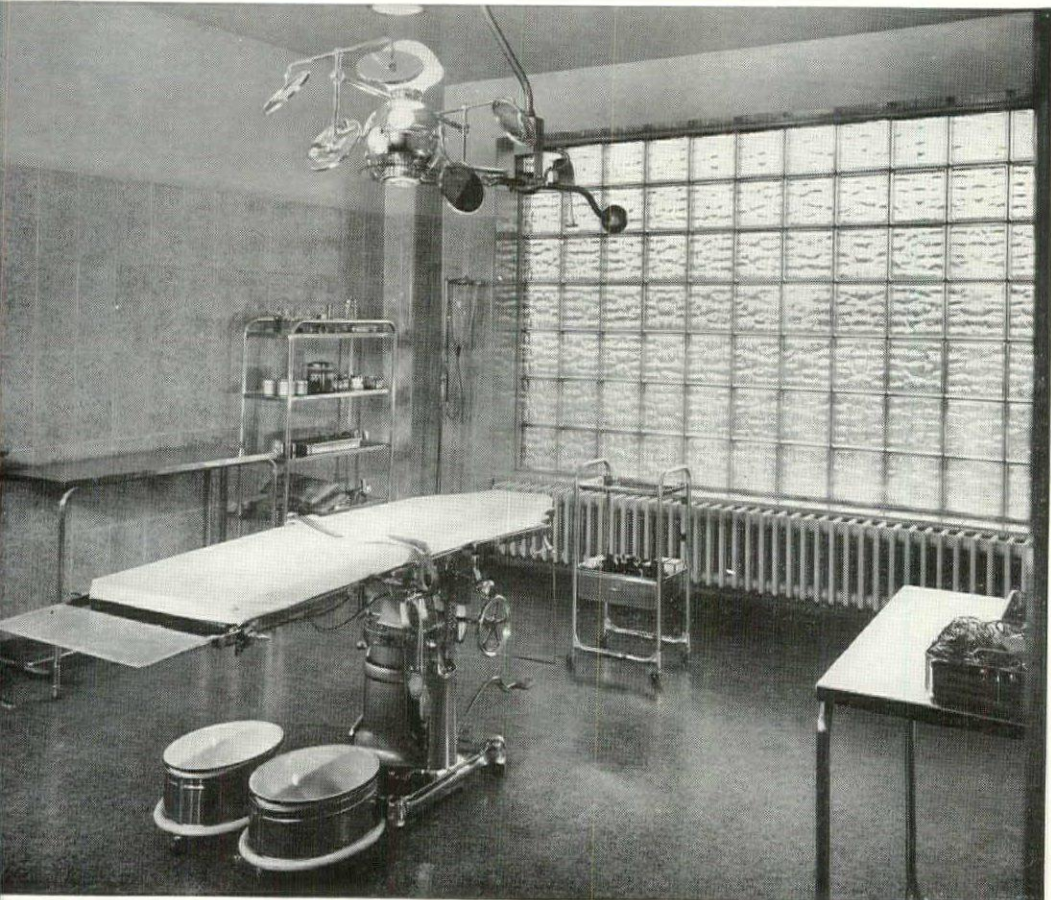
The result is a straightforward exterior of admirable simplicity and an interior distinguished by attention to detail. Focus of interest, inside and out, is the attractive and well-lit entrance lobby, and the treatment throughout is commendable for its logical use of appropriate modern materials. Rear of building faces lake view to the west. Cost, \$282,000 at 70½ cents per cu. ft.



LOBBY



LITTLE TRAVERSE HOSPITAL, PETOSKEY, MICH.

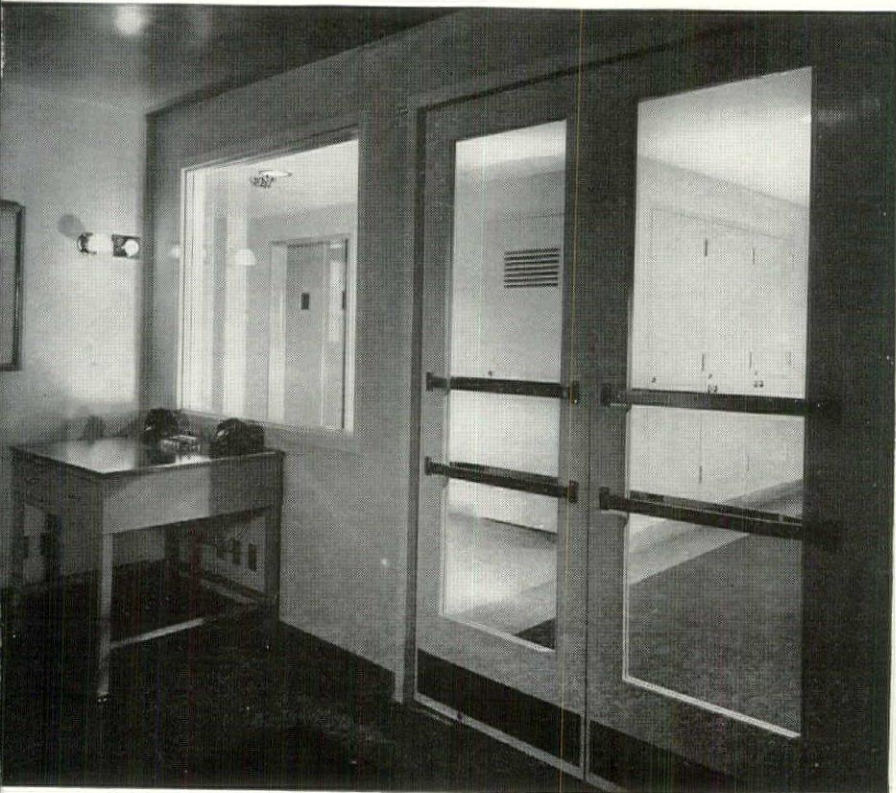


OPERATING

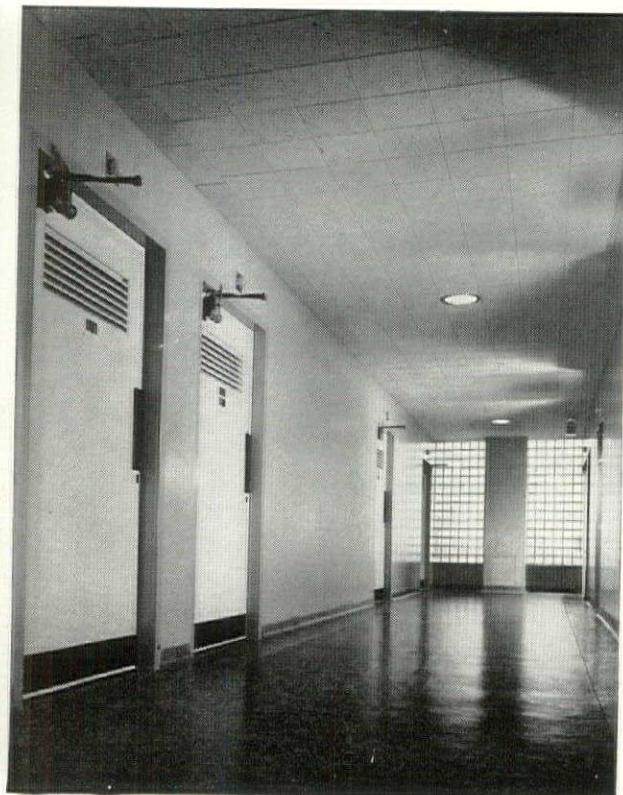


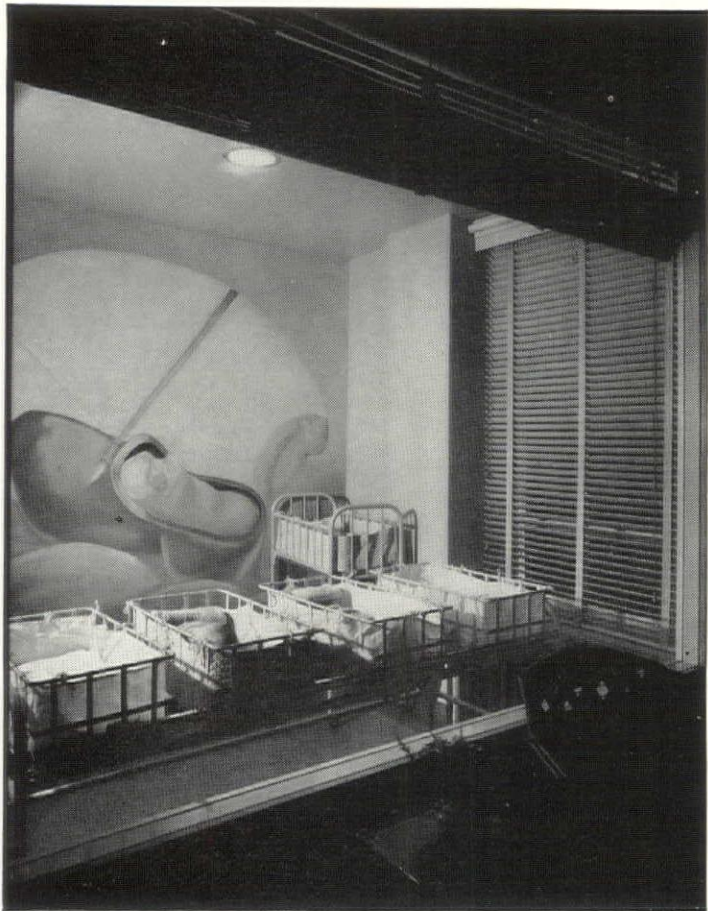
SCRUB-UP

NURSE'S STATION



CORRIDOR





Probably the biggest step forward in hospital design in recent years has been the abandonment of the aseptic interiors formerly considered necessary in favor of a more homelike atmosphere. This is well illustrated by the handling of the nursery, typical patient's room, and living room shown at the left, where comfort rather than forced cleanliness has been emphasized.



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—face brick and 8 in. back-up. Interior partitions—clay tile, U. S. Gypsum Co. Columns—steel, Bethlehem Steel Co., concrete fireproofing. Floor construction—concrete beams, pan construction.

ROOF: Covered with built-up and gravel roofing, Koppers Co. **INSULATION:** Roof—cork. Sound insulation—Acoustone, U. S. Gypsum Co.

WINDOWS: Sash and screens—Campbell Metal Window Co.; entrance—bronze, General Bronze Corp. Glass—double strength, quality A and ¼ in. plate. Glass blocks—Pittsburgh-Corning Corp. **STAIRS AND ELEVATORS:** Stairs—metal frame, terrazzo treads. Elevators—Otis Elevator Co.

FLOOR COVERINGS: Corridors—linoleum; remainder—terrazzo. **WALL COVERINGS:** Living room—Flexwood, U. S. Plywood Co., Inc. Solariums—wallpaper. Operating rooms, etc.—ceramic tile. **WOOD AND METAL TRIM:** Trim and doors—Metal Door & Trim Co. Entrance door—General Bronze Corp.

HARDWARE: By Yale & Towne Mfg. Co. **PAINTING:** Interior paints by Arco Paint Co. Exterior sash—Pittsburgh Plate Glass Co.

ELECTRICAL INSTALLATION: Switches and X-ray equipment—Westinghouse Electric & Mfg. Co. Fixtures—Solar Light Co.; operating room lights by Scanlon-Morris.

PLUMBING: Hot and cold water pipes—galvanized steel. Laundry equipment—American Laundry Machinery Corp. Toilet fixtures—Standard Sanitary Mfg. Co. Kitchen equipment—Albert Pick Co.

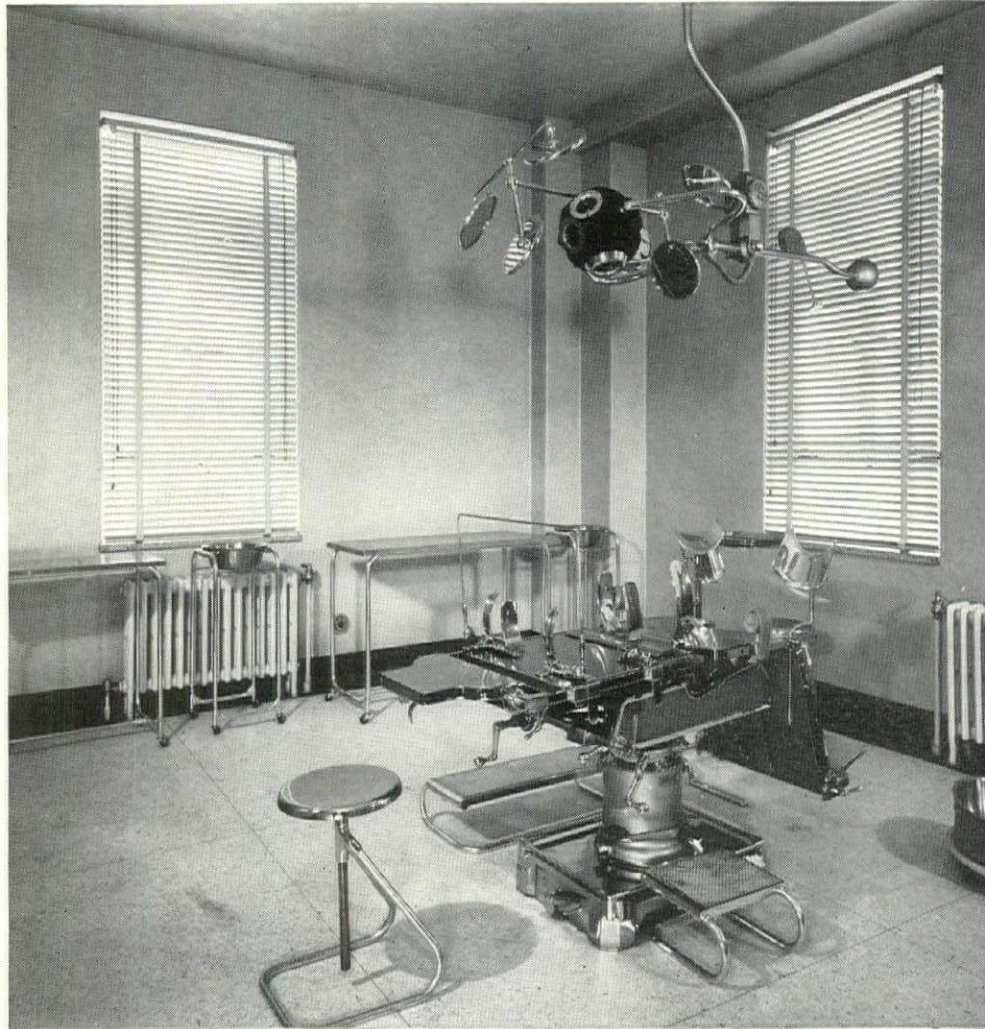
HEATING AND AIR CONDITIONING: Heating—forced circulation hot water system. Operating room—filtering and humidification. Boilers, radiators and valves—American Radiator Co. Grilles—Harrington & King and Tuttle & Bailey Mfg. Co. Thermostats—Powers Regulator Co. Hot water heater—Whitlock Coil Pipe Co. Water softeners—Elgin Softener Corp.



SURGICAL FLOOR, ST. JOHN'S HOSPITAL, SPRINGFIELD, ILL.

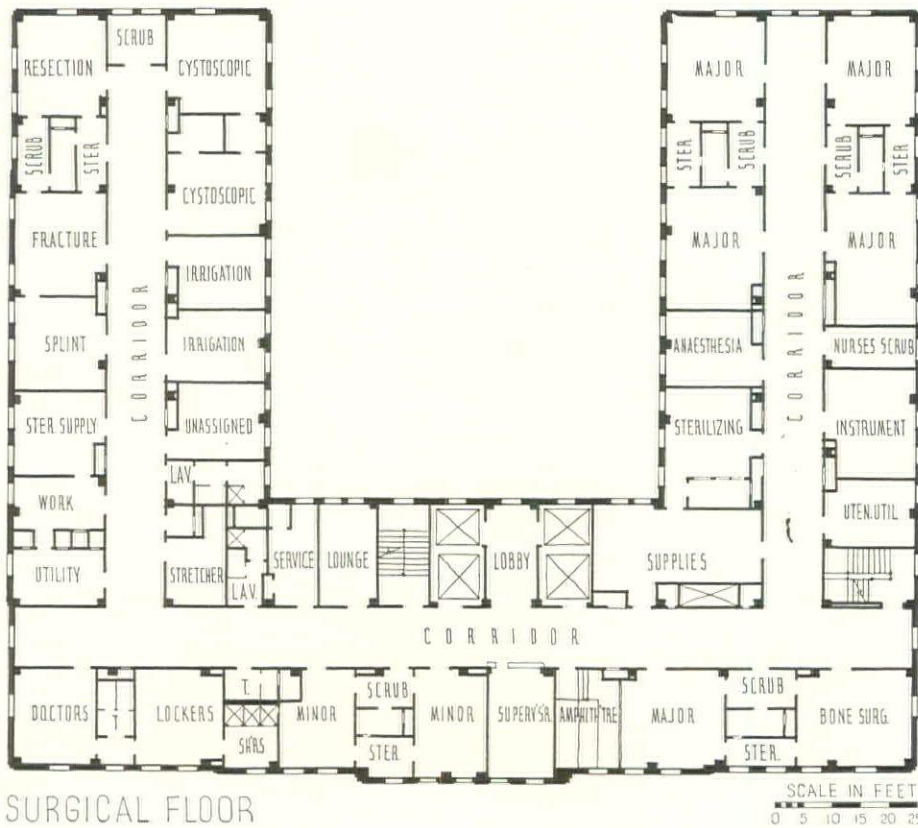
Operating suite layout, once held to be among the major mysteries of hospital design, has reduced itself to a standard grouping of two operating rooms with sterilizing rooms and scrub-up between, the latter opening off the corridor. That the surgical department of a modern hospital is by no means simple, however, is indicated by the plan below, which illustrates an unusually complete set-up for a general hospital of 374 bed capacity.

General practice is now to concentrate this department on one or two floors, and, in institutions large enough to permit it, to separate the rooms according to septic and clean type. Thus, in St. John's Hospital, the ninth floor contains two major septic operating rooms, a minor septic operating room, two dental operating rooms, and eight specialists' operating rooms; the tenth floor six clean major operating rooms, a fracture room, and an orthopedic surgery room. An exception to this, made where conditions warrant, is an emergency operating room located near the ambulance entrance. In the detail plan and photographs, note provision for recessed sterilizers, which—besides being more attractive—are more readily cleaned.

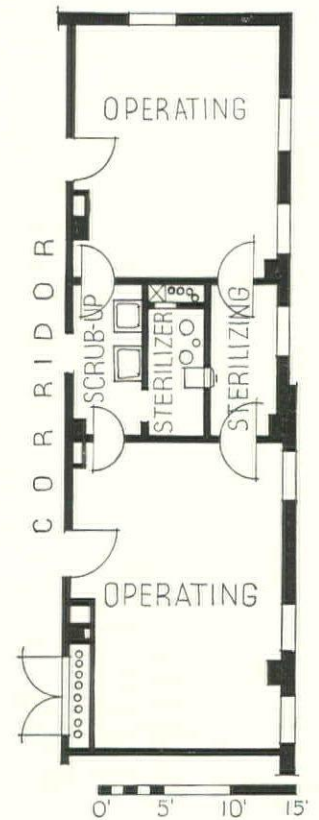


MAJOR OPERATING

All photos, Frank Oberkoetter

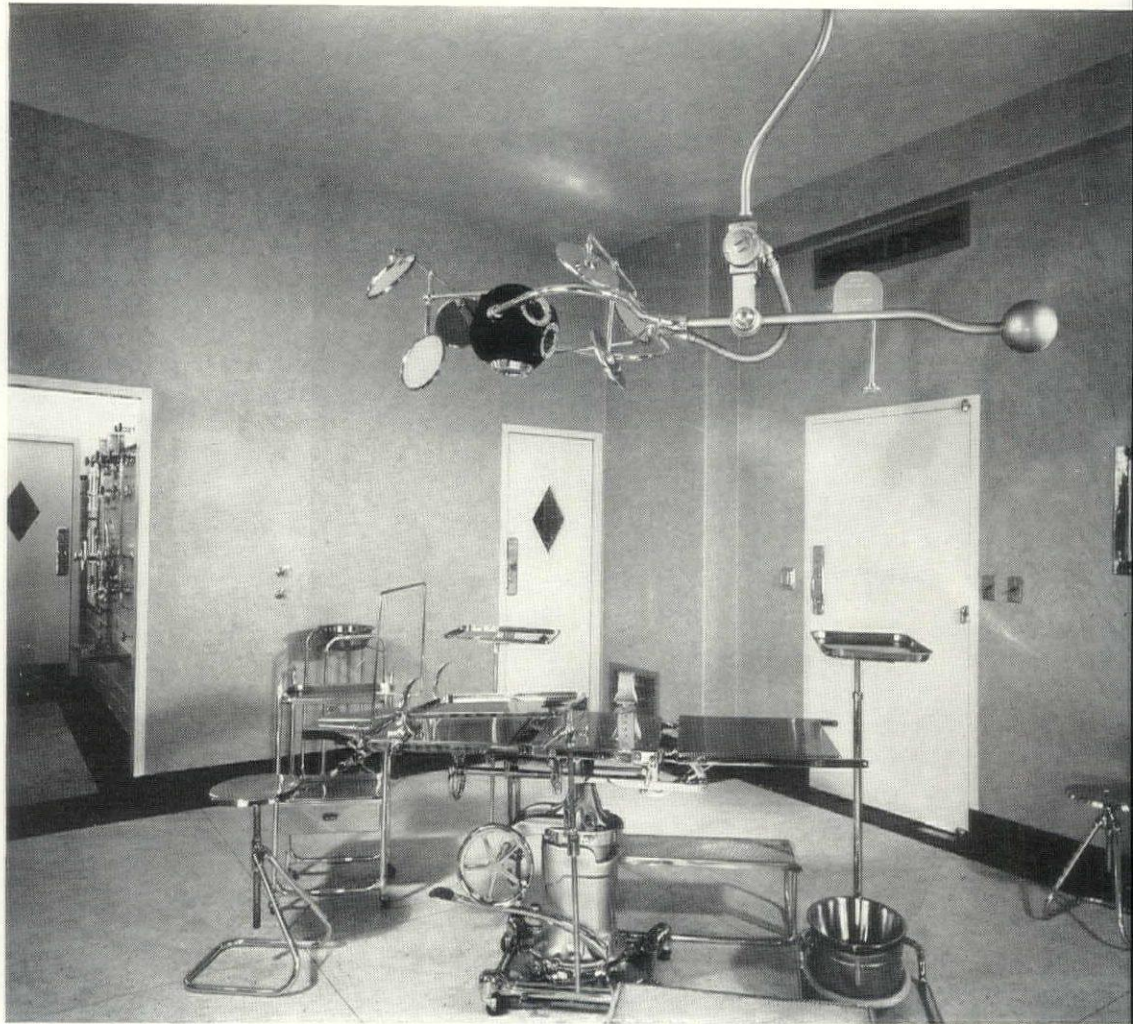
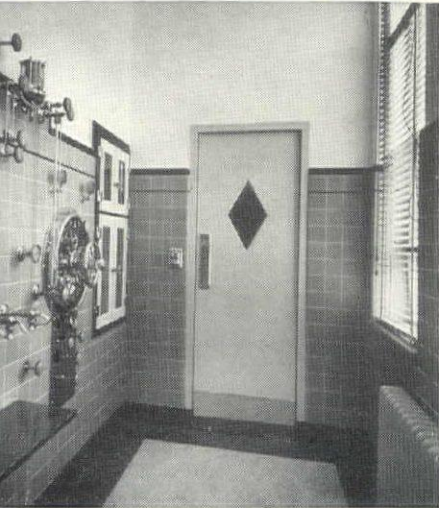


SURGICAL FLOOR





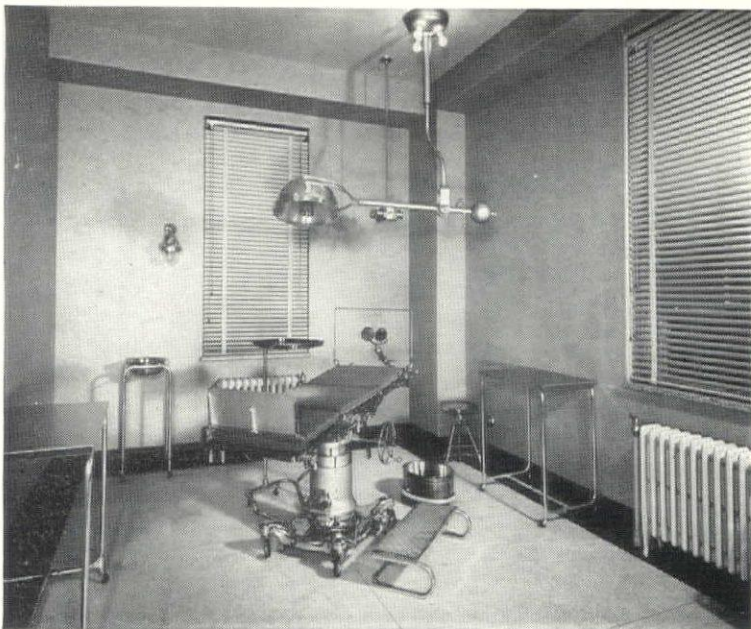
SCRUB-UP, STERILIZING



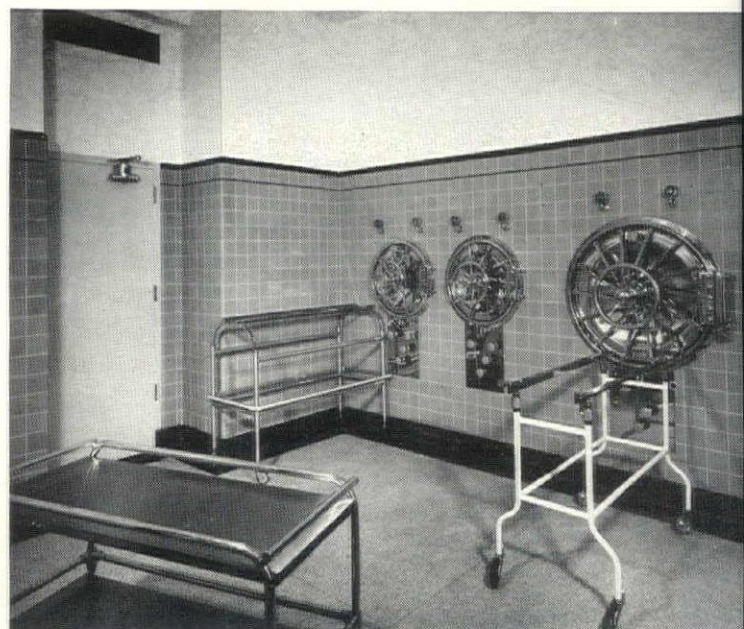
ORTHOPEDIC SURGERY

FINISHES AND EQUIPMENT

WINDOWS: Sash and screens—Detroit Steel Products Co. Glass— $\frac{1}{4}$ in. plate. FLOOR COVERINGS: Terrazzo throughout. WALL COVERINGS: Walls and ceilings—linoleum, Armstrong Cork Co. and Congoleum-Nairn, Inc. ELECTRICAL INSTALLATION: Switches—explosion proof for surgical floors—Crouse Hinds Co.

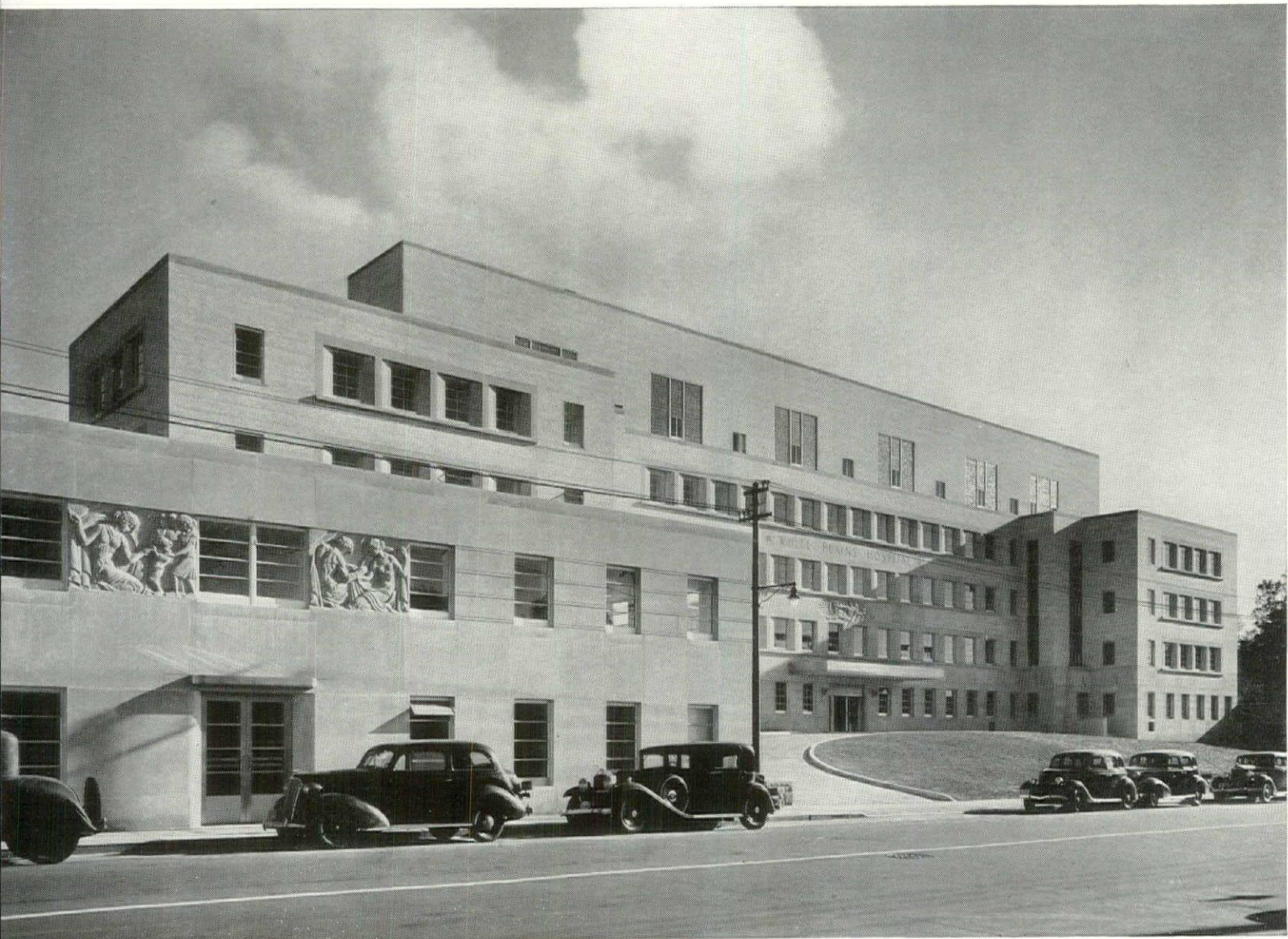


SPECIALISTS' OPERATING ROOM

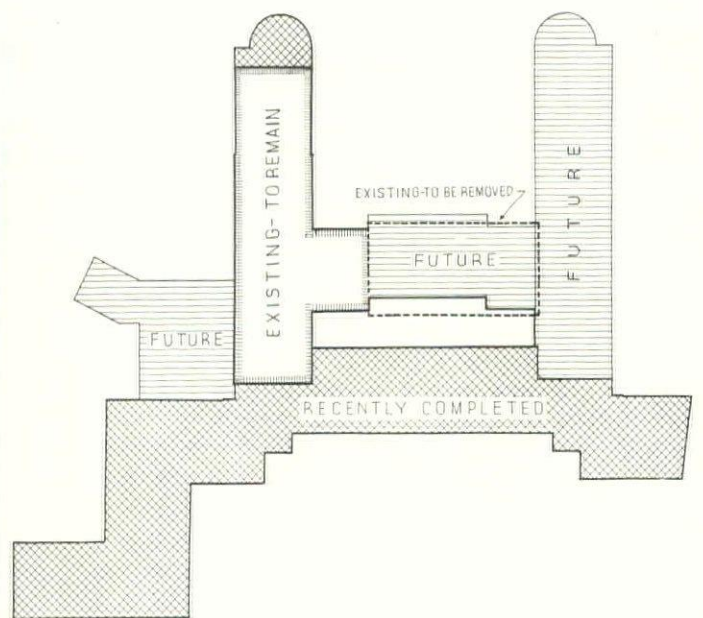


SURGICAL STERILIZING

WHITE PLAINS HOSPITAL, WHITE PLAINS, NEW YORK



Wurts Bros. Photos





MODEL OF COMPLETED BUILDING (REAR VIEW)

Harold Haliday Costain

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—granite base course, limestone and brick facing; common brick backing, mastic dampproofing, furred with Celotex Corp. Thermax partition blocks. Interior partitions—terra cotta, cinder concrete and Celotex Corp. Thermax blocks. Floor construction—cinder concrete. Ceiling—plaster and Johns-Manville Sanacoustic tile.

ROOF: Covered with 20-yr. composition roofing, Barrett Co.

WINDOWS: Sash—Ventrolite, Security Products Co. Glass—clear AA, Pittsburgh Plate Glass Co. Glass blocks—Pittsburgh-Corning Corp. and Owens-Illinois Glass Co.

ELEVATORS: Otis Elevator Co.

FLOOR COVERINGS: Bath, toilet, utility, delivery and operating rooms—ceramic tile. Bedrooms, wards, corridors and public spaces—Johns-Manville asphalt tile and Danbury Rubber Co. rubber tile and base.

WALL COVERINGS: Toilet rooms and utility spaces—tile wainscot.

WOOD AND METAL TRIM: Integral metal trim and frame throughout. Interior doors—wood.

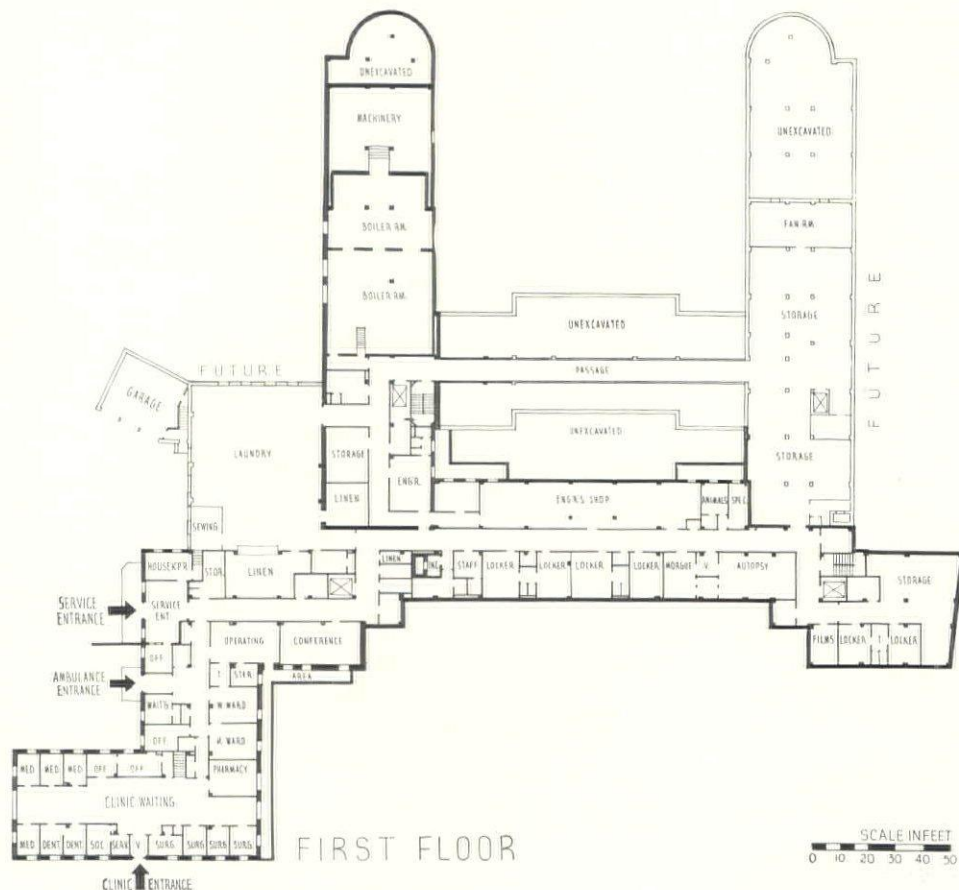
HARDWARE: By Russell & Erwin Mfg. Co.

PAINTING: All paints by E. I. Du Pont de Nemours & Co.

ELECTRICAL INSTALLATION: Wiring system—Frank Adam Electric Co. Switches—Hart & Hegeman Electric Co. Signal systems—Auth Electric Co. Clocks—General Electric Co.

PLUMBING: Hot and cold water pipes—red brass. Tanks—Patterson-Kelley Co. Valves—Jenkins Bros. Sewage ejector—Nash Engineering Co. Fixtures—Standard Sanitary Mfg. Co.

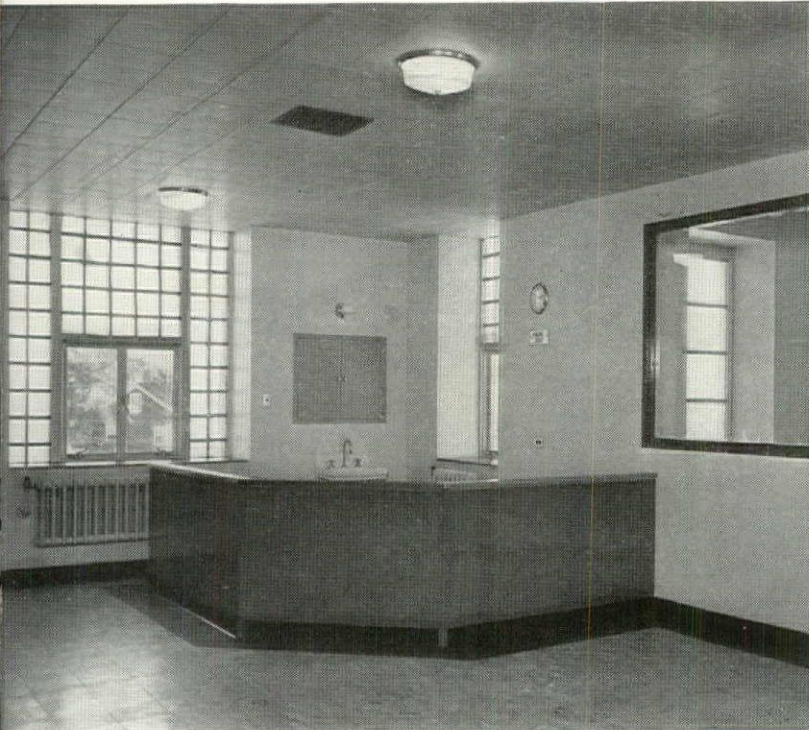
HEATING AND AIR CONDITIONING: Heating—vapor vacuum system. Air conditioning and refrigerating equipment—York Ice Machinery Corp. and Trane Co. Oil burners—Ray Oil Burner Corp. Radiators—American Radiator Co. Thermostats—Powers Regulator Co. Heating valves—C. A. Dunham Mfg. Co.; remainder by Jenkins Bros. Hot water heater—Patterson-Kelley Co. Pumps—Nash Engineering Co. and Worthington Pump Machinery Co.



A vexing problem often encountered in general hospital work is the desire to enlarge and replan an existing building without interference with its use during building operations. This often results in a compromise between the best arrangement and what is possible in view of existing facilities. In this instance, however, the architects are to be congratulated for meeting and surmounting this problem with considerable success, since the resulting scheme may well be considered a model for the medium-size general hospital, despite its having been so largely dictated by the position of the original building.

As will be seen on the key plan on the page opposite, the old building here forms one lug of an enlarged building shaped like the Greek letter Pi, a scheme which has the advan-

WHITE PLAINS HOSPITAL, WHITE PLAINS, NEW YORK

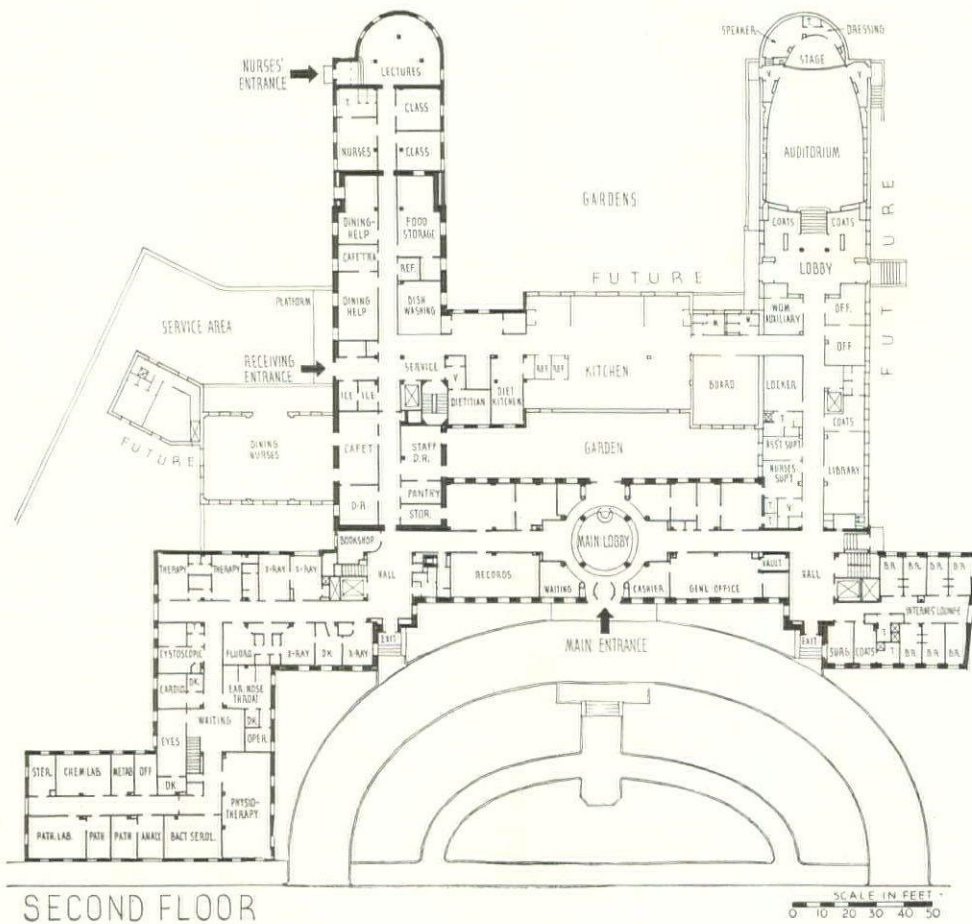
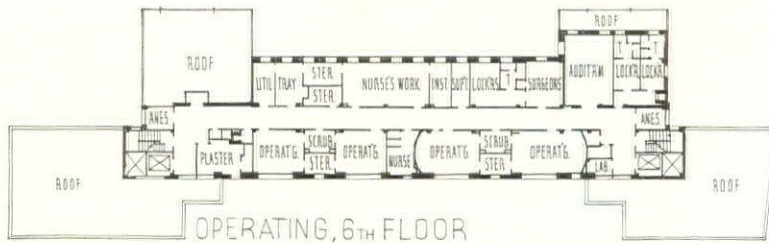


NURSE'S STATION



TEN BED WARD

Rodney McCay Morgan

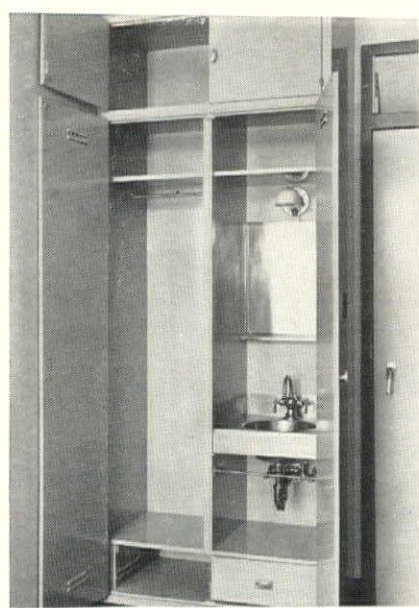
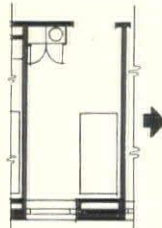
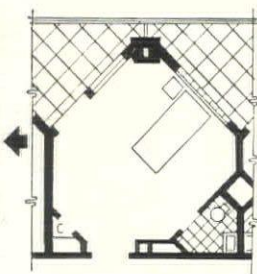
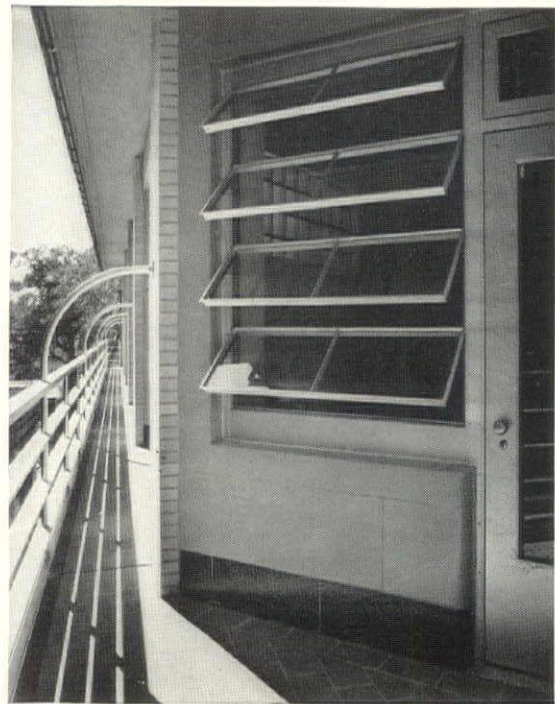


SECOND FLOOR

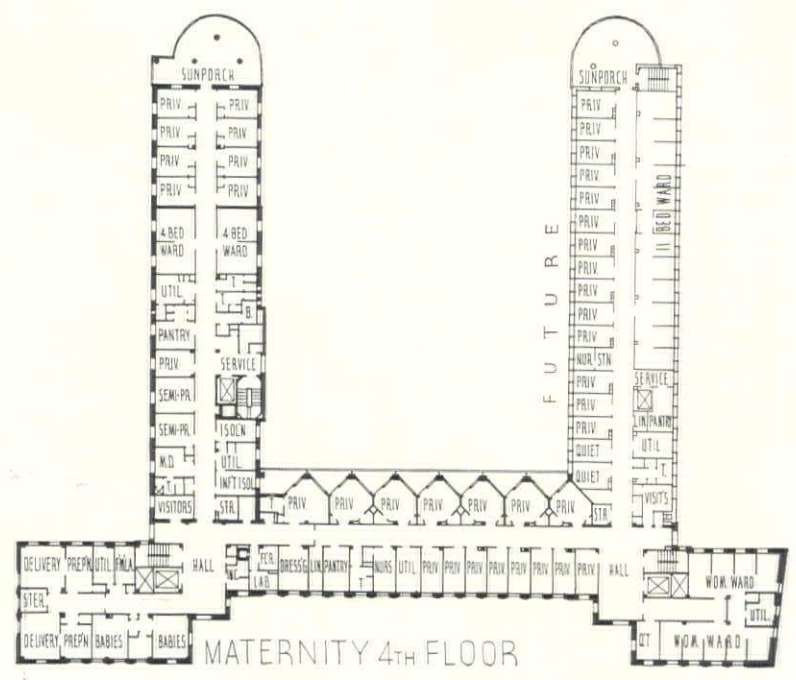
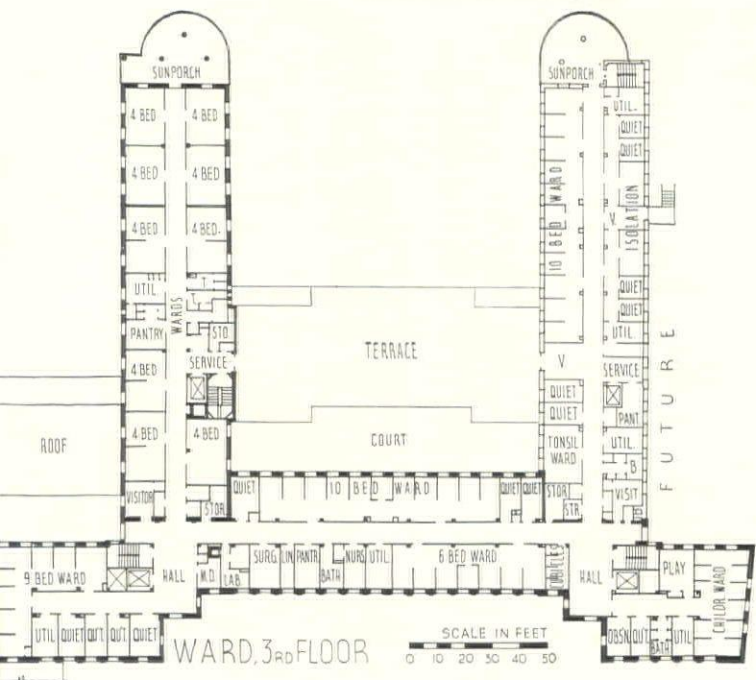
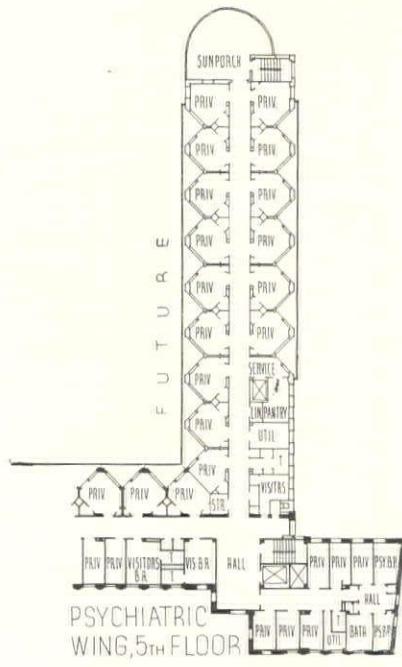
tage of placing a majority of patients' rooms on a landscaped court away from street traffic and with a general southernly orientation, while providing direct street access to the projecting clinical wing at the front. The plans show a commendable segregation of the multiplicity of departments required by the modern city hospital, and here each of these units has been exceptionally well provided with service facilities. Easy circulation through well-lighted corridors, the convenient arrangement of the large wards, and generous use of compact single rooms are other noteworthy features.

An especially interesting detail is the use of the sawtooth plan for the larger private rooms on two floors at the back of the main building. This provides a private sun terrace for each of the rooms overlooking the landscaped courts without sacrifice of light in the rooms.

Equipment, such as lockers, cabinets, and work tables has been beautifully worked out and detailed, and an attractive color scheme, with variations for rooms of differing purpose, replaces the all too common "hospital white." Glass brick has been employed to maximum advantage, especially in the operating rooms.

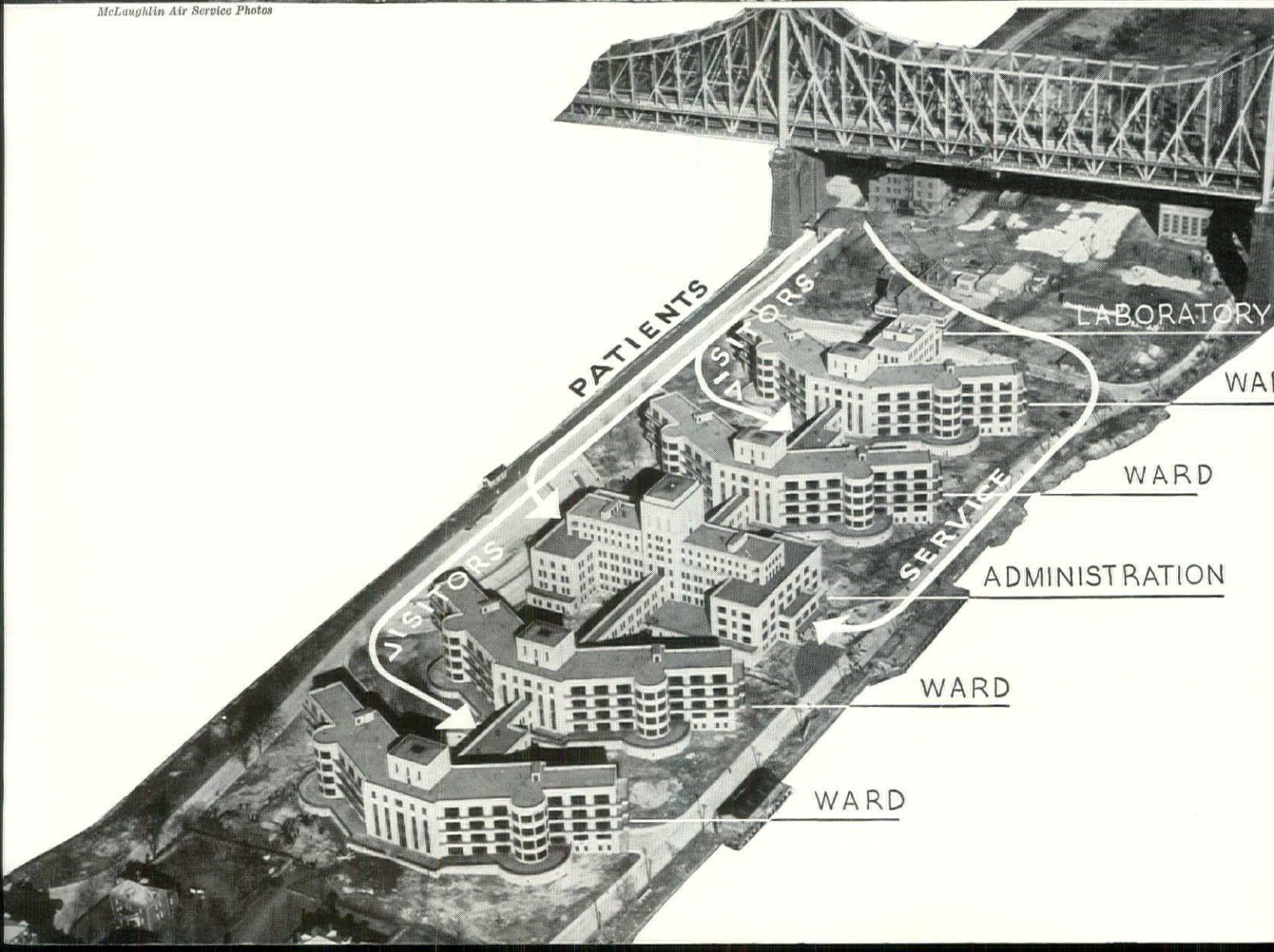


LARGE AND SMALL PRIVATE ROOMS
Crank operated, awning type windows have been used throughout, and prefabricated metal closets, especially designed by the architects, provide maximum facilities in minimum space.



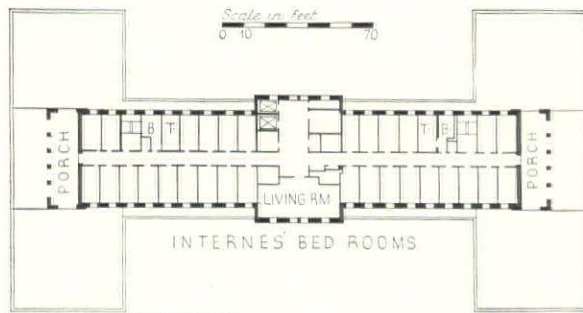


McLaughlin Air Service Photos

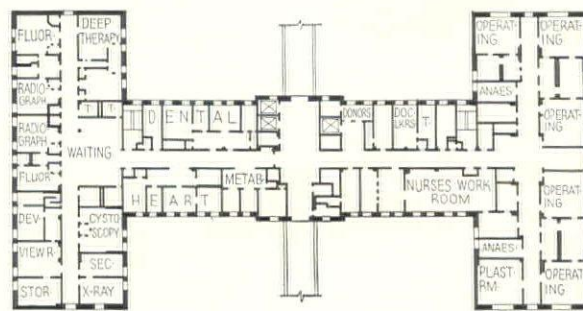


HOSPITAL FOR CHRONIC DISEASES, WELFARE ISLAND, NEW YORK

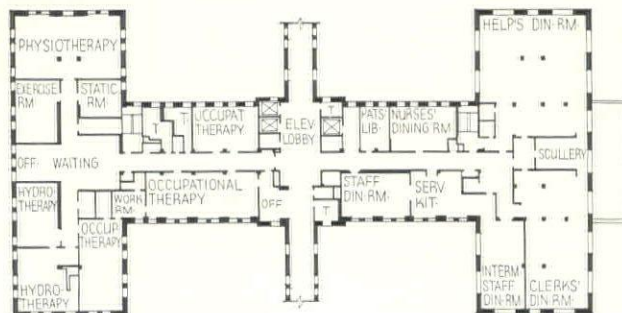
BUTLER & KOHN, YORK & SAWYER,
ASSOCIATED ARCHITECTS



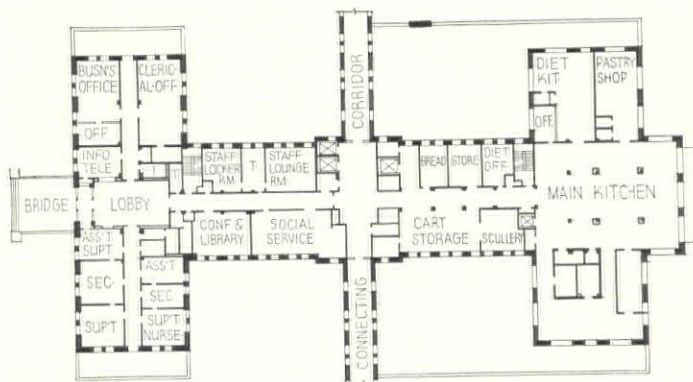
FOURTH & FIFTH FLOORS



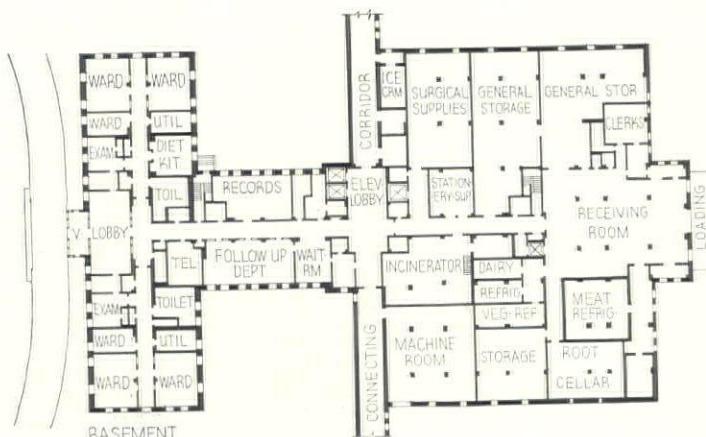
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



BASEMENT

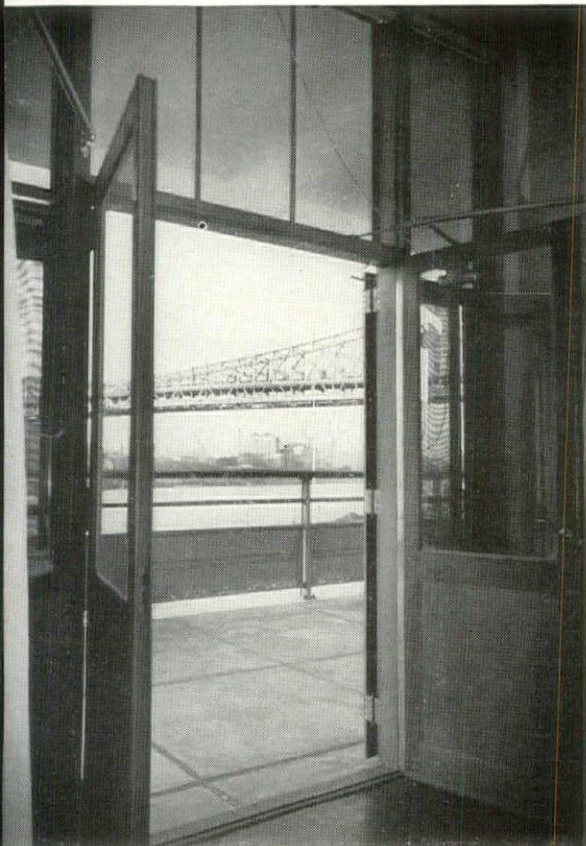
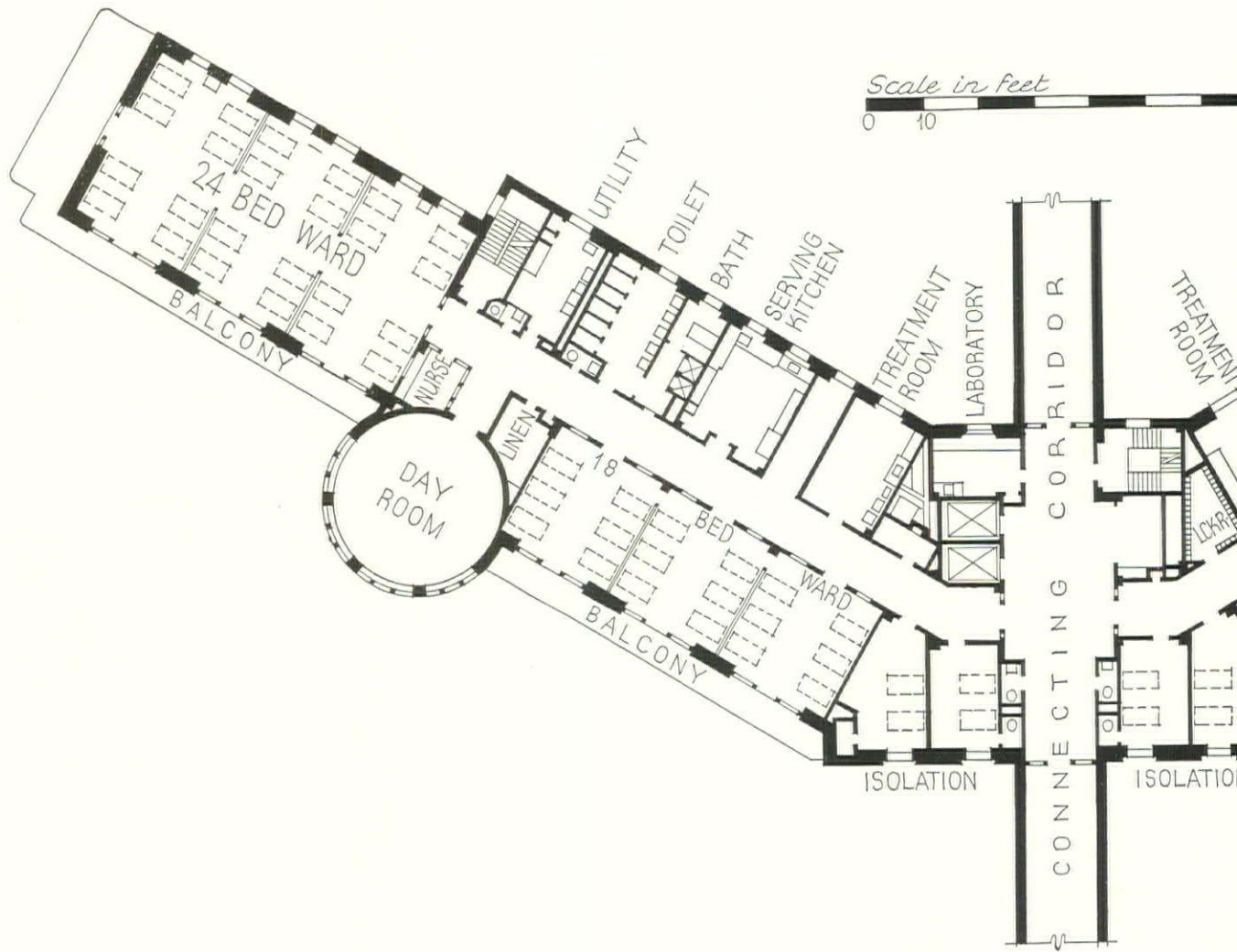
PLANS OF ADMINISTRATION BUILDING

Unique from the functional as well as the physical standpoint, this latest unit in New York's gargantuan system of public welfare is the first in any city to be devoted solely to the treatment of chronic diseases. The design problem faced by its architects consequently had two main aspects—to utilize to the utmost the advantages of a really superb site and to develop an entirely new type of institution.

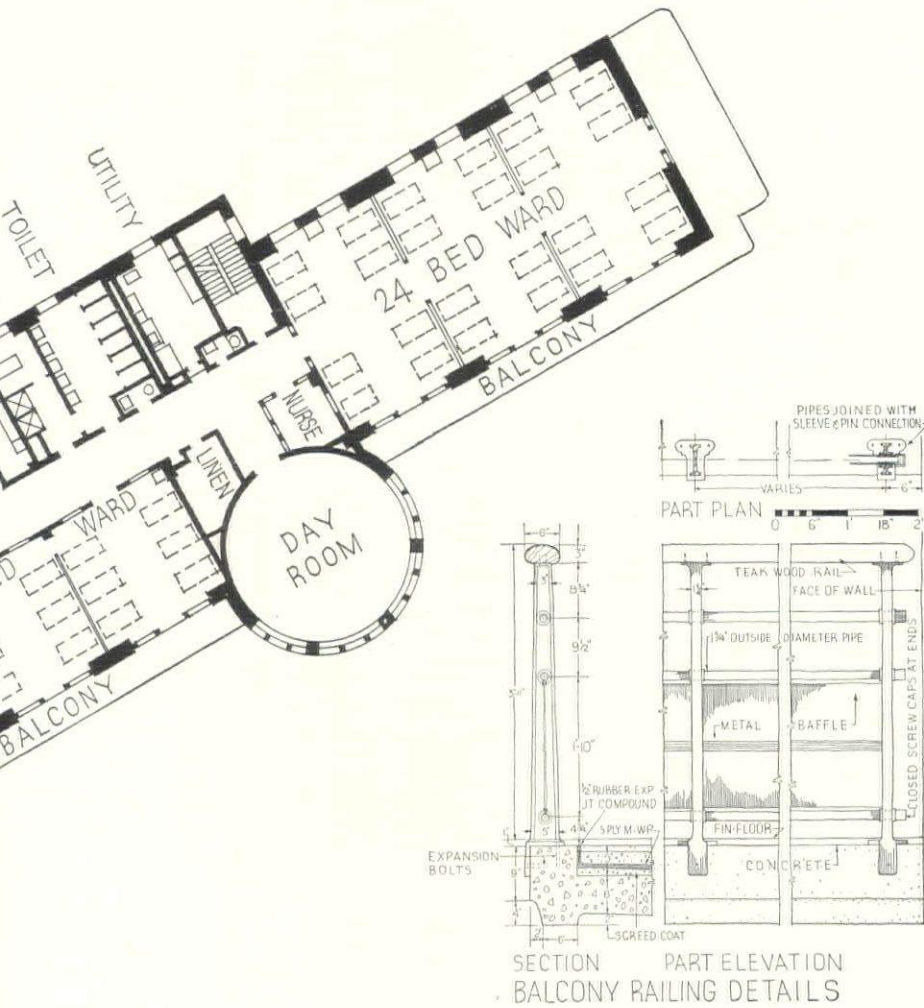
A glance at the air-views on the opposite page will suffice to demonstrate how well the first of these requirements was met. The wings of the unusual chevron-shaped ward buildings are turned to take advantage of both the river view and an unobstructed southerly orientation. Four such buildings, grouped on either side of the central administration building, comprise a unit as much to be envied for its compact simplicity as for the unusual amenities afforded the wards. A special feature of the scheme, indicated by the arrows on the lower picture, is the location of small buildings for the reception of visitors between each pair of ward buildings, an arrangement which relieves the central administration unit of the considerable visitors' traffic.

The second requirement has been satisfied by borrowing many features from the tuberculosis sanatorium. The treatment of exclusively chronic diseases has much in common with the treatment of tuberculosis, since in each case patients are hospitalized for long periods and in the majority of cases not entirely bed-ridden. For this reason, patients have been segregated in special ward buildings and service facilities developed as separate buildings. Most important of these is, of course, the central administration building, the plans of which appear at the right. This building contains not only the administrative offices, but also admitting rooms, kitchen, clinic, and internes' quarters. It is connected to the ward buildings by basement, first and second floor corridors, in which circulation is carefully segregated for maximum efficiency and convenience.

HOSPITAL FOR CHRONIC DISEASES, WELFARE ISLAND, NEW YORK



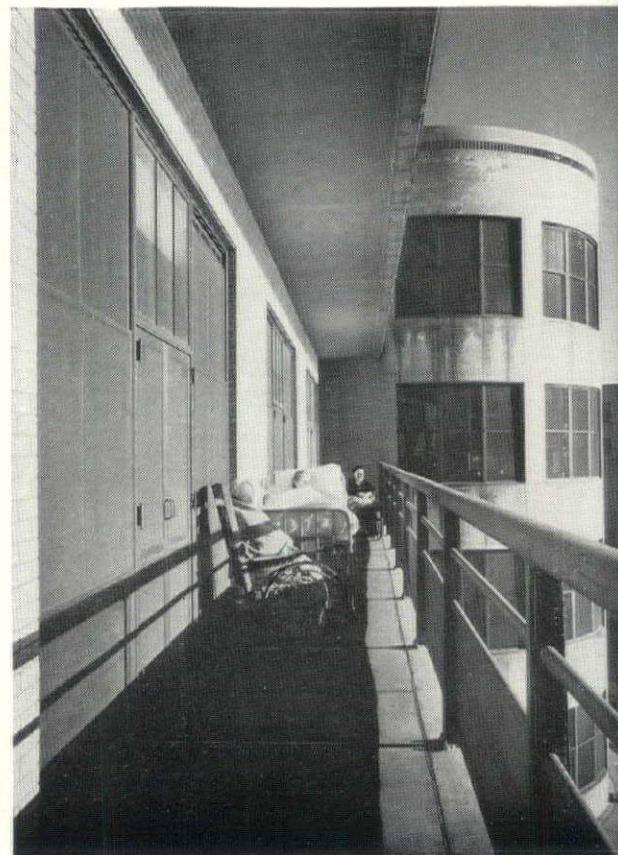
Esra Stoller Photos



The typical plan of the ward building floors, shown at the left, concentrates wards and dayrooms on the southerly side of the unit, with continuous balconies overlooking the river view, and places service rooms in the less desirable space at the back, quiet rooms at the center. Beds are in all cases placed parallel to exterior walls and are separated by dwarf partitions into groups of four and six, each group having separate access to the balcony and each bed a separate, hooded reading light. On the ground floor, broad terraces are provided in place of the balcony. Ambulant patients, will, in general, be housed on the lower floors for access to the grounds. Balcony rails are provided with a broad, rounded top member of wood, which can be leaned upon in comfort, and a baffle to protect patients using the balcony from the stiff river breeze.



Palmer Shannon



Esra Stoller

BUTLER & KOHN
YORK & SAWYER,
ASSOC. ARCHITECTS



Ezra Stoller Photos

Circular dayrooms are provided at the middle of the ward building wings, commanding the river view. Photo above shows the sweeping terrace at the ground floor level, directly accessible from the wards occupied by the most active half of the hospital's patient population.



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—4 in. face brick, Freedenburg & Lonsbury, 8 in. sand lime backup brick, air space, 4 in. terra cotta furring and plaster or tile. Interior partitions—4 in. terra cotta, salt glazed or slip glazed blocks. Structural steel—Harris Structural Steel Co. Floor construction—Knickerbocker Concrete Arch Co. arch with Aerocrete slabs and fill, Aerocrete Corp. Ceilings—metal furring and plaster, Brown Plastering Co.

ROOF: Concrete slabs, promenade tile and slag, New York Roofing Co.

INSULATION: Roofs—Perfotile, U. S. Gypsum Co. Sound insulation—Cork Insulation Co.

WINDOWS: Sash—double hung, bronze, General Bronze Corp. Glass—double strength, quality A, flat drawn sheet, Pittsburgh Plate Glass Co. Screens—bronze, Russell-Peppler Co.

STAIRS AND ELEVATORS: Stairs—iron,

Virginia greenstone treads. Elevators—Westinghouse Electric Elevator Co.

WALL AND FLOOR COVERINGS: Tile by Leitch Asphalt Tile Co., U. S. Quarry Tile Co., Hanley Co. and Ketcham & Co., Inc.

FURNISHINGS: By Herring-Hall-Marvin Co., General Fireproofing Co. and Excel Metal Cabinet Co.

WOOD AND METAL TRIM: Trim and metal doors—Art Metal Construction Co. Wood doors—Sloane & Moller, Inc. Exterior doors—bronze, General Bronze Corp.

HARDWARE: By Sargent & Co., Ellison Bronze Co., Norton Lasier Co. and United Specialties Mfg. Co.

PAINTING: All paints, Keystone Varnish Co.

ELECTRICAL INSTALLATION: Wiring contractor—Arc Electrical Construction Co. Switches—Arrow, Hart & Hegeman Electric Co. Fixtures—The Simes Co.

PLUMBING: Contractor—Jarco Bros., Inc. Pipes by Pacific Foundry, Bridgeport Brass

Co., Bethlehem Steel Co., Wheatland Tube Co., Warren Foundry & Pipe Co., Reading Iron Co., and Transite ducts by Johns-Manville. Sterilizers—J. A. Zurn Mfg. Co. Kitchen equipment—Nathan-Straus-Duparquet, Inc.

HEATING AND AIR CONDITIONING: Contractor—Daniel J. Rice, Inc. Heating—hot water system. Air conditioning—exhaust ventilation system in general; filtering, humidifying in operating rooms, cooling added for X-ray service. Radiators—American Radiator Co., and National Radiator Co. Grilles—Register & Grille Mfg. Co. Thermostats—Johnson Service Co. and Kelly & Mueller, Inc. Connectors—Frank Engineering Co. Pumps—Quimby-Ryan Engineering Sales Co. Compressors and piping—Worthington Pump & Machinery Co. Oil burner and fuel oil pumps—Enterprise Engineering Co., Inc. Refrigerators—Jewett Refrigerator Co., Lehigh Fan & Blower Co. Unit heaters—Trane Co. Incinerators—Morse-Boulger Destructor Co.

CONTENTS:

SAVINGS AND LOANS	399
FIREPROOF SUBDIVISION	403
REMODELED APARTMENT	406
STEEL RENTAL PROJECT	408
BUILDING STATISTICS	410



Past and present presidents of the U. S. Savings and Loan League: Clarence T. Rice bites his tongue, pins presidential button on handsome George W. West. Banner in background: "The American Home—The Safeguard of American Liberties." *Prod Hess & Son*

HOME BUILDING'S NO. 1 FINANCIER is the Savings and Loan Association. A glimpse of what it was, is and will be.

FINANCIALLY fattened by the best business season in a decade, to Atlantic City, N. J., month ago trooped Home Building's own financiers—the U. S. Building and Loan League. There, 1,500 strong, they opened their 47th Annual Convention, exchanged handshakes, backslaps, a few hot words and many ideas. They puffed with pride when League Secretary-Treasurer H. F. Cellarius reported that for the second consecutive year since 1930 the Nation's saving, building and loan associations in 1938 registered a "phenomenal (10 per cent) membership growth." They amen'd when Retiring President Clarence T. Rice, referring to recent interest rate reductions by FHA and HOLC, commented, "I do not feel that the Federal Government with its so-called 4½ per cent money will bring us good times." They sighed with relief when they read the consensus of their twelve Federal Home Loan Bank presidents: ". . . only unexpected adverse influences resulting from the war can prevent expanding (residential construction) activity in the future." They bravoed when Executive Vice President Morton Bodfish roasted the increasingly home-loan-minded commercial bankers, warned them that "savings and loan associations have been for more than 100 years in the savings and home loan business and expect to stay in it."

Unanimously they went on record as being opposed to extension of the USHA's public housing program, to the extreme long-term, low-down-payment program of FHA, to the high real estate taxes im-

posed by most municipal governments, and unanimously they agreed to correct a 100-year-old grammatical error in the League's constitution and elected Atlanta's George W. West the 1940 president. Finally, but without unanimity, they voted to rename their organization "The U. S. Savings and Loan League."

THE DILEMMA

Despite its new monicker, the League still serves the same purpose for the same people: it is the national trade association for some 4,000 local savings and loan institutions, representing about one-half the business in numbers, about 85 per cent of it in total assets.¹ While both numbers and assets bulk large, this business, despite 150 years of improvement, still continues as the least known, the most misunderstood branch of U. S. Finance. Thus, despite the fact that there are 8,951 savings and loan associations in the country, representing practically every community of any import, and that 113 of them from coast to coast each have assets of more than \$5 million, close to 60 per cent of the urban U. S. population has never invested a cent in them, and one in three people cannot even name one local association.² These associations hold more than \$4.6 billion of savings, but only 10 per cent of the public would rec-

¹By reference to "savings and loan associations" THE FORUM herein refers to building and loan and Federal savings and loan associations and homestead associations whose only major differences are their names.

ommend them for such a purpose. And, with a volume of more than \$1 billion in new savings and loan mortgages appearing every year, it is somewhat surprising that only 29 per cent of the public would go to one of these associations to borrow for home construction or purchase.

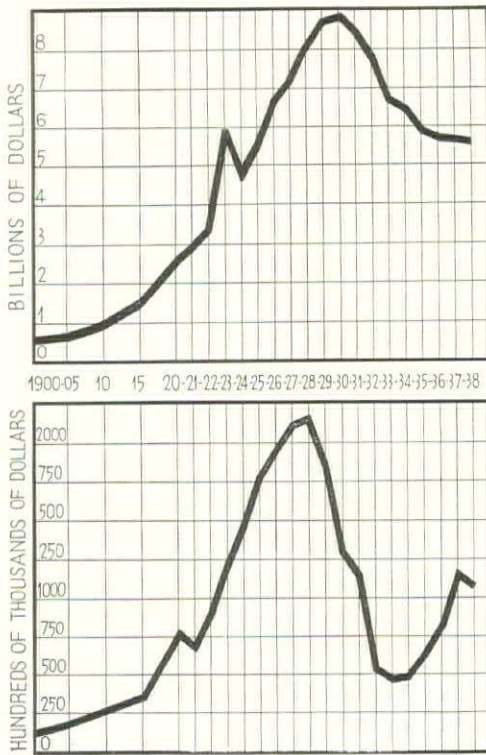
Still bigger thorns in savings and loan's side are the facts that, although the books of all associations are subject to State or Federal supervision (or both) and although most of their accounts are Government-insured, 22 per cent of those people who are familiar with savings and loans are suspicious or afraid of them and that a far greater percentage of the U. S. public knows nothing at all about this big business. In view of these many inconsistencies and misgivings and this widespread ignorance, THE FORUM herewith presents a fast-moving, brief explanation of the savings and loan movement.

CRASSUS TO FHLBB

Every organization is proud of an early founding. Some rather rash savings and loaners point as far back as Crassus, fancy their origin in his reputed ownership of half of ancient residential Rome which he bought in depression and sold on the installment plan during prosperity. More reliable is the claim that the idea came from building societies in Birmingham,

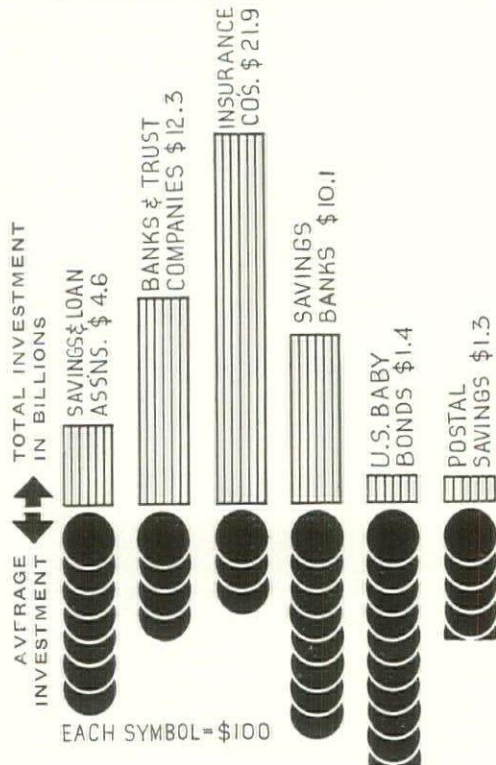
²Ratios presented are based upon a 1934 nation-wide sampling in 102 communities of persons in all but the lowest income group by the American Savings, Building and Loan Institute.

1. ASSETS—all associations



2. LOANS—all associations

3. INVESTMENT OF SAVINGS by types of institutions



4. NEW SAVINGS AND LOAN LOANS by purpose Eight months, 1939

HOME PURCHASE.....	\$214,247,000	34%
NEW CONSTRUCTION.....	193,365,000	30
REFINANCING	119,723,000	19
RECONDICIONING	39,080,000	6
ALL OTHER.....	68,297,000	11
TOTAL	\$634,712,000	100%

England, which date back to 1781. Not until the prosperous year of 1831, however, did U. S. savings and loan history begin. By that year the stage was set: cooperation and the cooperative movement were growing; the first mutual savings bank was fifteen years old; population was increasing rapidly, moving slowly to cities and in hordes to the Middle West where President Andrew Jackson was offering Government-owned land at \$1.25 per acre; transportation, commercial enterprise and manufacturing were being developed; most important, there was emerging the working class with regular wages but without property ownership. And, in that year the first savings and loan association was founded—the Oxford Provident Building Association in what is now Philadelphia—by two manufacturers, a physician, a surgeon and a lawyer. Purpose of this “building club” was to help subscribers, most of them wage earners in the local textile industry, to save and to build or buy houses. To this end shares of \$500 par value were issued to subscribers who agreed to pay a \$5 membership fee and \$3 per month on each share held. Money accumulated by the association was loaned to the highest bidders among stockholders, but not more than \$500 for each share held and only for home ownership within a five mile radius. Every one was supposed to build a house, so, when there were no bidders for loans, the names of those who had not borrowed were placed in a hat from which the name of the next borrower was drawn. When every one owned a house and all the shares had matured, the affairs of the association were wound up, the profits divided among members.

Following closely the Oxford's purposes and pattern, other associations sprang up in step with the country's growth. The movement reached the Middle West in 1849 when Illinois' first association was founded and the West Coast in 1865 with California's first. During this period of cross-country expansion there was much experimentation within various savings policies and loan plans. Although each step was a step forward toward better financial operation and although there is still a residue of these early forms, a modern standard organization for savings and loans has gradually developed and is generally accepted. (See detailed explanation, page 401, column 2.) To explain the intricacies of its many prototypes would only add to the confusion which has long been Savings and Loan's No. 1 curse.

Suffice it to say that associations became permanent capitalized organizations, that dividend payment plans were adopted, that additional resources were built up through the sale of paid-up shares, that reserves were accumulated, and that these improvements were accompanied by considerable publicity which attracted new members, money and general interest to the savings and loans.

By 1893 there were 5,589 associations in the country with an average age of

between six and seven years and with assets totaling about half a billion dollars. Also by that year the famous (or rather infamous) “national” associations were well on their way to record-breaking expansion and ruin. Capitalizing on the increasing popularity and growth of local associations, the “nationals” called themselves “building and loan associations” with which they had many features in common. But, there were salient differences: Their operations covered larger areas through the aid of paid agents; they allocated up to 8 per cent of members' “deposits” to “expenses”; they promised “profits” up to 58 per cent; they advertised uncommonly low interest rates to borrowers (as low as 1¾ per cent); they made loans for higher percentages of value. Obviously, many of them were frauds, and after 1896 the whole movement collapsed of its own weight.

Due to their similarities with the nationals, the local savings and loan associations suffered from the downfall; but eventually they benefitted. The “national” movement was undoubtedly one reason for the formation in 1892 by the locals of the U. S. League of Local Building and Loan Associations—the forerunner of the body which met in Atlantic City in late September. The “nationals” also showed the locals what aggressive salesmanship and advertising could do and the negative effects of extending loan operations over large areas. And, combined with the rapid expansion of the business, the experience of the “nationals” did much to hasten State supervision of the savings and loan business. By 1900 half the States, following New York's lead, were supervising their associations—today all of them are.

Aimed not at stamping out dishonesty (of which the savings and loans have conspicuously little), State supervision was designed to eliminate careless accounting and to liquidate insolvent institutions. Many an association in the old days was run by men who knew but little of finance, and failure of such an organization was hard felt by its low-income, wage-earning membership. Subsequent events in savings and loans' history bolstered the cause for supervision.

At the turn of the century the savings and loan movement suffered its first setback. Between the peak year of 1897 and 1901 the number of associations decreased from 5,872 to 5,302; total assets, from \$601 million to \$565 million. Cause: the general business depression prefaced by the panic of 1893 and the failure of the “nationals.” After 1901, although the trend of association numbers did not reverse itself for five years, total assets began another upward climb which continued without significant interruption until 1930. Presaged perhaps by a decrease in the number of associations (the numerical record of 12,804 was set in 1927), total assets in 1931 began to taper off from their all-time high of \$8,829 million. And the trend is still downward—in 1938 there were 8,951 associations with assets

totaling \$5,630 million (Figure 1, page 400).

This Depression downslide between 1931 and 1938, inclusive, was accompanied by the average annual failure of 166 associations with an average loss of \$18 million. In view of these sad statistics it was small wonder that in 1932 Congress, by approving the Federal Home Loan Bank Act, created a system of twelve banks to serve as a permanent Federal reserve of home mortgage credit for any savings and loan association which meets the Act's stringent requirements as to financial condition. Contrary to general opinion, the Act was not forced upon the associations; its essence was hatched by the U. S. Savings and Loan League in 1919 and was carried to Congress practically every year thereafter. Today more than 4,000 associations are members of this system. Of this number, 1,386 are Federal savings and loan associations—associations which either began business under a Federal charter (636) or voluntarily switched from a State charter to a Federal charter (750) and which are required by law to preface their corporate titles with the word "Federal." All 4,000 associations subscribe to stock of the FHLBanks and are eligible for Bank advances secured by home mortgages or U. S. Government obligations. In brief, the Banks, which obtain their capital through public sale of debentures, serve as discount agencies for the country's savings and loan associations and thus promote home mortgage liquidity.

With the passage of the National Housing Act (FHA's creator) in 1934, another Governmental savings and loan agency was formed—the Federal Savings and Loan Insurance Corp. At this time the insurance of bank deposits was siphoning funds out of the savings and loan associations and thus out of the housing field, and the corporation was designed to correct this lopsided state of affairs. FSLIC insures against loss up to \$5,000 the accounts of individual investors in all Federal savings and loan associations and State-chartered associations which apply and are approved.

BUILDING'S NO. 1 FINANCIER

Despite the fact that savings and loan failures and voluntary liquidations last year were numerically larger than ever before, Federal credit, supervision and insurance are bearing fruit. Thus, last year's losses through failure totaled only \$11 million dollars, as compared with \$16 million in 1935 and \$44 million in disastrous 1933. Furthermore, not one Federal association got into trouble last year.

Currently downward, the trend in the number of associations causes the business no concern. On the contrary, it looks with satisfaction upon this trend, claims that "this would indicate that the business is returning to a more normal footing . . . and that the cleaning up of dead spots is proceeding faster than at any previous time." With still more satisfaction, it looks upon these facts: 1.) That 1938 brought the second consecutive increase

in shareholders since 1930, boosted the total to 6,829,167 persons. Depositors in mutual savings banks, to which the business habitually refers for savings comparison, dropped in 1938 to the lowest level since 1931—12,505,071 persons; 2.) That the mortgage lending side of the business is once again working back toward pre-Depression levels. In 1933 mortgages written by all savings and loan associations totaled \$435 million; last year they amounted to \$1,075 million—exactly half of the record volume of 1928. And as shown in Figure 2, page 400, the general trend is upward. In 1939 the savings and loans are writing one out of every three home mortgages made in the entire U. S., will break 1937's Recovery record.

Savings and loan is a big business, but it is made up principally of many small enterprises. The average association has assets of \$600,000 to \$1,000,000, serves a community of 10,000 to 25,000 population and operates something like this:

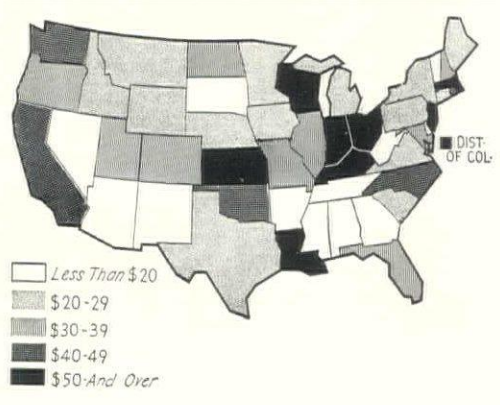
Like all corporations, this association is owned by the people who invest in it, but they do not directly manage the organization. Instead, they elect directors who meet once a month to determine the association's policies, business procedure and the conditions under which loans are to be made. To handle the day-to-day office business, the directors select such officers as a president, an executive vice president, a secretary and a treasurer.

The lending side of this association's business is restricted to residential property loans for purchase, new construction, remodeling, etc. (See Figure 4, page 400.) In the case of a home purchaser, his credit status and title to the lot are examined and neighborhood trends are analyzed. Where the borrower is to build a house, his plans and specifications are also studied. If all are satisfactory, the loan is negotiated. Under a new construction loan, the association makes payments to the builder as the building progresses and is approved by association inspectors. (All savings and loan association loans are, and always have been, long-term loans amortized at regular intervals—now universally amortized each month.)

The savings side of the association's business is equally simple. There are generally three savings plans, all based upon the purchase of shares in the association: The first is for the individual who wishes to invest regular amounts each month—usually from \$5 to \$20. Every six months the association adds to his account his share of the organization's earnings. It is called a dividend and usually ranges between 2½ and 4 per cent. If the individual invests \$10 per month and receives 3½ per cent dividends, his account will total \$1,437 at the end of ten years, \$3,470 at the end of twenty years.

The second savings plan is for the individual who wishes to invest a lump sum which may run as high as several thousand dollars. While dividends on such an account are usually made in cash, this association will allow the dividends to ac-

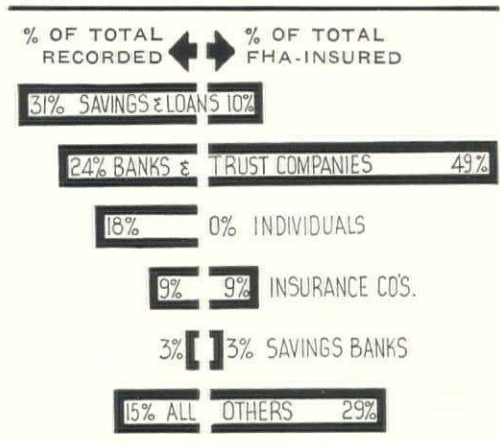
**PER CAPITA DISTRIBUTION OF ASSETS
all FHLB-member associations**



**DISTRIBUTION OF ASSETS by types
of savings and loan associations**

	Millions	
FEDERAL ASSOCIATIONS	\$1,471	24.5%
STATE-CHARTERED FHLB MEMBERS	2,500	41.6
OPERATING NON-MEMBERS	1,711	28.5
LIQUIDATING NON-MEMBERS	326	5.4
TOTAL ASSOCIATIONS	\$6,008	100.0%

**MORTGAGE VOLUME
by type of institution**



**ASSET AND LIABILITY BREAKDOWN—
A typical savings and loan assn.**

Basis: consolidated statement of 10 assns.

TOTAL ASSETS (\$8,639,740)	100.0%
First mortgage loans	83.0
Loans secured by shares . . . . .	.7
Real estate sold on contract	3.9
Real estate owned	3.1
Real estate in judgment and subject to redemption . . . . .	.2
Stock in Federal Home Loan Bank	1.0
U. S. Government obligations	1.6
Cash on hand and in banks	4.8
Office building	1.1
Furniture, fixtures & equipment . . . . .	.3
Deferred charges . . . . .	.1
Other assets . . . . .	.2
TOTAL LIABILITIES (\$8,639,740)	100.0%
Repurchasable or free shares	80.5
Net mortgage pledged shares	3.1
Deposits, investment certificates	1.4
Advances from FHLBank	7.0
Other borrowed money . . . . .	.6
Loan in process . . . . .	.8
Taxes accrued on real estate owned . . . . .	.0
Advance payments by borrowers . . . . .	.3
Permanent, reserve or guarantee stock . . . . .	.3
Deferred credits to future operations . . . . .	.5
Reserves	4.0
Undivided profits	1.5



New vice presidents of the U. S. Savings and Loan League: Fermor S. Cannon of Indianapolis at the Convention rostrum lectures on savings and loan research and education; Paul Endicott of Pomona, Calif., poses in his Sunday-best.

accumulate in the account if it is desired.

The third plan is designed for individuals whose income is not steady (professionals, farmers and seasonal employees). They may deposit their savings whenever they wish and will have dividends credited semi-annually to the amounts invested.

While this association is prepared to repay money whenever needed, it will probably require 30 days' notice of intention to withdraw—except in the case of a real emergency on the part of the saver. It is in this respect that the association differs primarily from the local bank. Thus, the savings and loan association is essentially an investment medium for long-term savings and cannot be used for depositing weekly or monthly pay checks, most of which will be withdrawn during the course of the month.

Annual statement of financial condition of this average association will show approximately the same percentage distribution of asset and liabilities as tabulated in Figure 8, page 401. This sample breakdown of assets and liabilities is based upon a consolidation of reports from ten associations having assets of from \$500,000 to \$1,000,000, and was prepared by the U. S. Savings and Loan League.

HEADACHES

In many more important aspects, all savings and loan associations, regardless of size, are alike—they all have the same problems:

Within every business there is **competition**, and the business of home finance is no exception. Moreover, savings and loans' competition is double-barreled. In addition to such long-standing *savings* competitors as insurance companies and banks, they now have to contend with Government Baby Bonds and the U. S. Postal Savings System (see Figure 3, page 400). And, while savings banks have always been *loan* competitors, not until recently did commercial banks and insurance companies seriously enter the home mortgage field. Two factors led them there: 1) FHA mortgage insurance and 2) their pre-Depression outlets for funds—commercial and industrial loans—have dried up.

Problem No. 2 of the savings and loans has been the continually downward trend of **interest rates**. Since they pay dividends instead of interest and since they cannot guarantee immediate withdrawals, associations to attract savings must pay dividends at a rate higher than the interest rate at the local savings banks. In most communities that means roughly 3 to 3½ per cent. And to earn that dividend an association must charge a mortgage interest rate of 5 to 5½ per cent. In other words, the operating expenses and the creation of necessary reserves require that the association maintain a two point spread between the two rates. Many a savings and loan antagonist has argued that, if the British building societies can operate successfully on a spread as low as 1¼ per cent, so can the U. S. savings and loans. But these antagonists overlook the facts that in England mortgage lending risks are smaller, that foreclosure costs are nominal, that foreclosures can be negotiated in much less time, that mortgage claims come ahead of taxes, that mortgage moratoriums are non-existent and, finally, that English communities are generally more stable than their U. S. counterparts. Also, the building societies are not burdened with expensive supervisory activities and, in the main, operate in much larger units—the two largest being Halifax and Abbey Road Societies. All these factors contribute to the low cost of mortgage lending in England.

While the Treasury's easy money policy is the prime mover behind the low interest rate trend, FHA and HOLC have swung the scythe in the field of home finance. (ARCH. FORUM, Sept. 1939, p. 2.) Interestingly, HOLC takes its orders from the FHLBB which, as shown above, is now the guardian of most savings and loan associations. To the Convention statement of FHLBB Chairman John H. Fahey that "reduction of interest rates . . . is one of the most outstanding incidents in mortgage lending history . . . a record of which you have a right to be proud," the savings and loans through their retiring League President Rice replied "five thrifty people (have) had their incomes cut in two as a result of the attention given to . . . one borrower."

The inflationary effects of war may solve the savings and loans' interest rate problem.

World War II may solve another savings and loan problem—**owned real estate**. The anticipated War inflation will bring higher property values with it, make the disposal of foreclosed properties more attractive than it is in today's rather depressed market. In any event, the volume of owned real estate will probably continue the encouraging downward course established in 1937. In 1936 it totaled \$1,144 million; in 1938, \$943 million.

Another problem concerns the publicity given by FHA to its insurance of **long-term, high-ratio mortgages** (25-year loans covering 90 per cent of appraised value). Holding their loans down to twelve years and 70 per cent of value (average maximums), the savings and loans discourage more lenient lending on three grounds: 1) By taking 20-25 years to pay off a mortgage the borrower is "doubling his chances of losing the house because he is increasing the possible number of periods of poor business through which he will pass." 2) "It is easier to make substantial payments on the principal of the loan in the early years when repair bills are low." 3) When foreclosure costs and incidental expenses (taxes, repairs, sales cost, etc.) are high, they may easily produce losses for the mortgagee when 70-75 per cent loan ratios are exceeded.

Since the policies of FHA and the savings and loans do not jibe, the latter do only a small business with the Government insurance agency (see Figure 7, page 401). Most associations are FHA approved lending institutions; they paste the FHA shield on their show windows to attract loan prospects; but, once inside, these prospects are preached the advantages of the orthodox uninsured savings and loan mortgage, are given an FHA-insured mortgage only as a last resort—to meet competition.

The next depression will tell whether or not the savings and loans' opinion of long-term, high ratio loans holds water.

Home ownership is the backbone of the savings and loan movement, and the associations are convinced that the only sane argument against owning a home is the high cost of **taxes**. Thus, the average purchaser of a \$6,000 house and lot must figure on paying \$14 in real estate taxes every month, and he will not be surprised if the tax item runs to \$25 per month—the average for high-tax cities. To solve this problem the U. S. Savings and Loan League urges its membership to campaign for lower municipal government costs, urges the State legislatures to consider homestead tax exemption laws (ARCH. FORUM, Sept. 1939, p. 205).

Since business buildings and apartment houses were the Savings and Loan's biggest Depression headaches, the associations are currently steering clear of commercial property mortgages (the Federals must) and are viewing with alarm

(Continued on page 34)

LOW COSTS AND NEW PRODUCTS

sell out a subdivision. An experiment in steel, concrete and heat.

WITH prices as low as \$4,335, with floors of steel and concrete and with a heating system unique in many details, the 198 semi-detached houses collectively called "Westmont" again push Arlington County, Va., into Home Building's foreground.* Fifteen minutes and ten cents by bus from the heart of Washington, D. C., this newsworthy subdivision is aimed at the ever-increasing number of the Capital's white collar workers (average income: about \$2,100) and bull's-eyes the market with the lowest prices in local history.

Westmont was sired by Mace Properties, Inc., a well-knit building organization whose prime purpose is to produce non-philanthropic low cost and low rent housing. To this end it has several design, construc-

* Situated across the Potomac River from Washington, D. C., Arlington County, Va., is largely responsible to the Capital's top-flight rank among U. S. home building centers. Today the County's \$42 million assessed valuation is the largest in the State, is exceeded by only three of the 24 cities in Virginia—Richmond, Norfolk and Roanoke. Assessed valuation jumped 10 per cent last year, will jump again this year due to the completion of Arlington Village (ARCH. FORUM, Aug., 1939, p. 135), an addition to Buckingham (ARCH. FORUM, Feb., 1938, p. 123), the Westmont development and its successors and the County's many other housing projects.

tion and procedure aces up its corporate sleeve. For fifteen years a reputable builder of individual houses, Mr. Merwin Ardeen Mace year before last decided that low cost housing was more than a one-man job, hence called in Architect Adolph Frederick Thelander, a well-known Washington free lance and Promoter J. (for Joseph) William Elmann. Together they are Mace Properties, Inc.—president, vice president, and secretary, respectively. And, better to round out their technical personnel, the trio recently adopted Heating Expert Gerald Joseph Monteith from the McCord Radiator and Manufacturing Co.

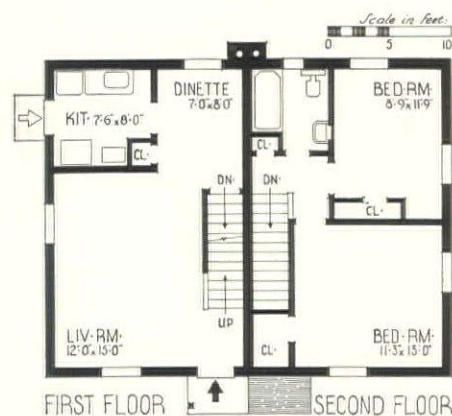
First undertaking of Mace Properties, Inc., was an Arlington County row house development—104 five-room units built and sold in one year at prices of \$4,990. Capitalizing on experience gained in this project, Builder Mace (his competent assistants notwithstanding, he and his money are the mainsprings of Mace Properties, Inc.) last spring set out on project No. 2—Westmont. However, since Arlington County in the meantime had passed an ordinance outlawing the furtherance of Washington's row house tradition, the company was forced to change its low cost tactics. Logical was the turn to the next cheapest type of housing—semi-detached or two-family housing. While Archi-

tect Thelander prepared designs for two basic double houses (one with five rooms, the other with six), Mace went shopping for land. At a bargain price he picked up 20 acres of corn field strategically located near both elementary and high schools and bounded on two sides by main thoroughfares.

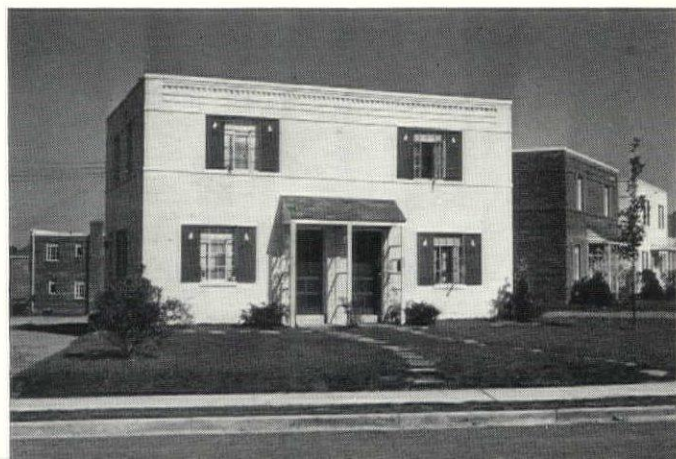
Setting aside two acres at the intersection of these highways for future business building, he platted the balance with 198 lots, laid out moderately curved streets and a few back alleys. Reserved for five-room houses, 160 lots were made an average of 25 ft. wide, and each of them was allocated about \$400 of the cost of the eighteen residential acres. The remaining 38 lots for six room houses were made 28-30 ft. wide, and their share of the land cost was set at about \$525 each. Utilities were laid in two trenches under the streets, concrete gutters and curbs were poured, and cement sidewalks and driveway aprons were provided—all at a cost of about \$175 per lot. Thus, before construction began, each five-room house started out with a cost of \$575 for land and utilities; each six-room house, with a cost of \$700.

Prices. In addition to the wholesale purchase of land and installation of utilities, Mace relied on most of the other well-known aids to cost reduction:

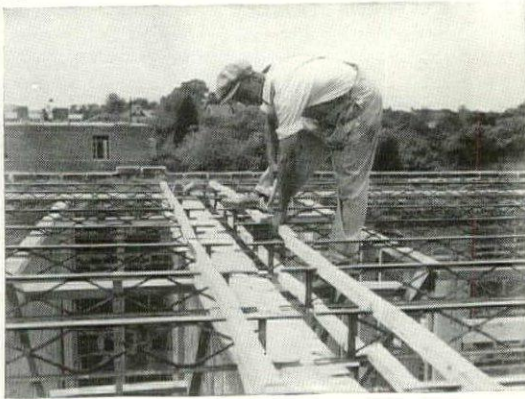
► Standardization of simple, rectangular house designs was carried to an economical extreme. From basement floor to second-story ceiling all houses are identical. But, through variation in details, the subdivision does not give the appearance of so



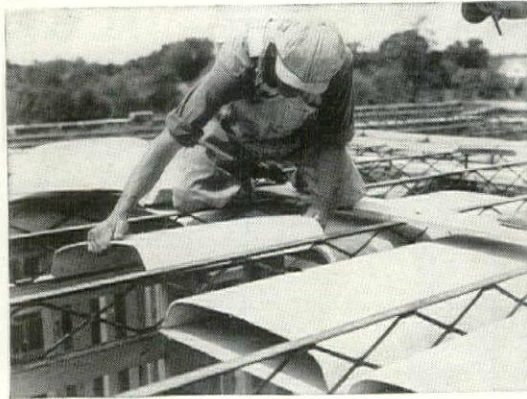
Individuality in Westmont's semi-detached houses is obtained primarily through variations in room design. Each of the five-room, hipped-roof houses shown to the left sells for \$4,485 with lot, as do their gable-roofed sisters. Flat-roofed units, however, cost less to build, sell for \$4,335. All 160 five-room houses are based on the floor plans above. The 38 six-room units have larger dimensions, a third bedroom, sell for \$5,600.



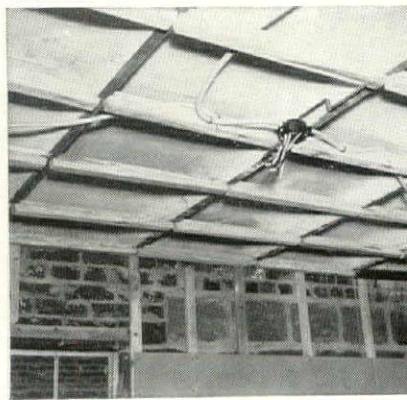
1.



2.



3.



many cheese boxes. Three styles of roof were used—flat, gable and hip—and their asphalt shingles vary in color. Individuality was also obtained by altering front entrance details, by shutter colors, by commendable handling of brick ornamental details (quoins, cornices, etc.), by painting some of the houses white and by staggering the building lines along the curved streets.

► Mass purchasing of materials and equipment was expedited by the size of the project and by the fact that all its houses were essentially alike. Many Mace orders went directly to material and equipment manufacturers.

► Mass production and a systematic construction schedule saved Mace time, labor and money. The first house was begun March 4, was finished May 27, and during the succeeding four months (the project was complete on October 1) the other 197 houses were completed at a rate of a little better than one-and-a-half per day. Labor was non-union, totaled about 500 at the peak of employment.

► A complete house-building organization, Mace Properties Inc.'s office personnel of 20 is equipped to handle every function from design to sales, thus saves many an outside fee and reduces customary overhead allowances.

► Reinforced concrete floor construction, while about equal in cost to conventional framing, eliminated waste, served dual purposes and facilitated other phases of construction (see below).

► Garages were omitted in step with the Arlington County trend. Instead, a wide gravel drive-way serving two houses was run between each two-family unit. (Although there is ample room for a garage at the rear of each lot, no purchaser has yet indicated his intention to build one.)

► A heating system was installed which boasts low initial cost (about \$370 per five-room house) as well as low operating cost (see below).

► The building of double houses is in itself economical. Thus, in Westmont, an 8 in. party wall of cinder block supplants two exterior brick walls, and excavation and roofing problems are simplified.

Combination of all these elements made it possible for Mace to market his 11,800 cu. ft. five-room houses at \$4,335 to \$4,485 depending on roof design (\$28 per month on a 25-year FHA-insured mortgage), his six-room 16,600 cu. ft. houses at \$5,600

(\$35 per month) including land and improvements. And the marketing was easy—all of the 160 five-room units were sold before completion, and the last of the 38 six-room units went shortly after. Three factors made it so: 1) The obvious appeal of low prices combined with the fact that no new houses in the entire Washington area offered any price competition. 2) Convincing sales talk was woven around such qualities as brick, steel and concrete fireproof construction, steel cabinets, steel insulation, porcelain enameled steel wainscoting in bathrooms, steel casement windows, bronze screens, cross ventilation in every room but kitchen and bath, filtered forced air heating, copper piping throughout, oak flooring, and sodded, landscaped yards.* 3) A ten-page advertising supplement to the Washington *Times-Herald* loudly and effectively attracted the public to Westmont's debut and its two department-store-furnished model houses. The biggest real estate advertisement ever carried in local papers, it cost Mace \$3,000, but the expense was shared by manufacturers and local material dealers who advertised their products and the part they played in the construction of Westmont. So easy was the disposal of his self-selling houses, that Builder Mace allocated only \$150 per house to the cost of sales—less than the usual 5 per cent sales commission.

Fireproof Floors. Like nine out of ten other houses in metropolitan Washington, the Mace houses have 8 in. brick veneer walls atop cinder block foundations. But, unlike all the rest, they have reinforced concrete floors, whose system of construction has much to commend it.

Steel rib trusses 6 in. deep and factory fabricated to required lengths are set 24 in. on center much as are conventional wood joists. Asbestos "fillers," or inverted U-shaped panels (about 1/4 in. thick), are then laid between the trusses resting upon the lower flanges of the steel members. When the entire floor has been so covered, a quick-hardening concrete is poured to the top of the trusses. (One cu. yd. of concrete covers about 150 sq. ft. of floor

* Inspired in part by an inspection of Gilbert-Varker's Clairton, Pa., project (ARCH. FORUM, Dec., 1938, p. 477), Mace's specifications call for a total of 4,870 pounds of steel. The conventional house of comparable size contains 2,380 pounds.

area.) The resultant reinforced monolithic slab is flush on the top but vaulted between trusses underneath. This vaulting not only cuts down the weight of the floor construction to about 30 pounds per sq. ft. but also provides space for ducts, plumbing, wiring, etc.

At Westmont this new system of floor construction is covered with oak shorts laid in a mosaic pattern over hot mastic. Before applying ceiling lath to the underside, wood furring strips 24 in. long are inserted between the lower flanges of the trusses which are left exposed after the pouring operation. Since these strips hold the lath about one-half inch below the trusses, there is ample room to run wiring between the lath and the trusses.

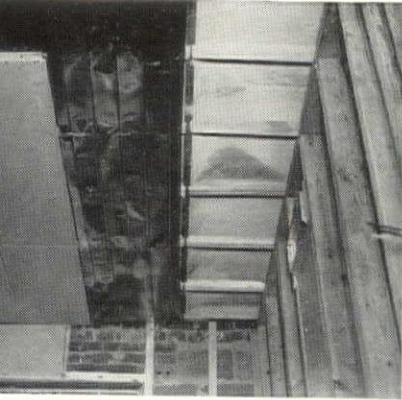
Claimed advantages of the floor construction are many: It is fire-, termite-, vermin- and sound-proof; it does not shrink in the drying process as does wood; it is more substantial than frame construction; it offers good thermal insulation; it reduces fire insurance rates (about 50 per cent at Westmont); its factory fabrication minimizes waste; it is easily installed with unskilled labor; left unlathed as a basement ceiling, it gives a better, more finished appearance than conventional frame construction. Furthermore, when, as at Westmont, a "vault" is enclosed with flat sheets of asbestos, it becomes a well insulated heating duct.* Due to the reduced thickness of the floor construction, the height of the building is lowered and materials are saved (an important saving when multiplied by 198 houses). Bathroom floors are ready for tile or other finish without the usual concrete fill used with joist construction.

A firm believer in this new floor construction, Builder Mace holds that its advantages place it ahead of conventional wood framing with which it is a cost competitor.** He does, however, point to one disadvantage—the fact that, despite the

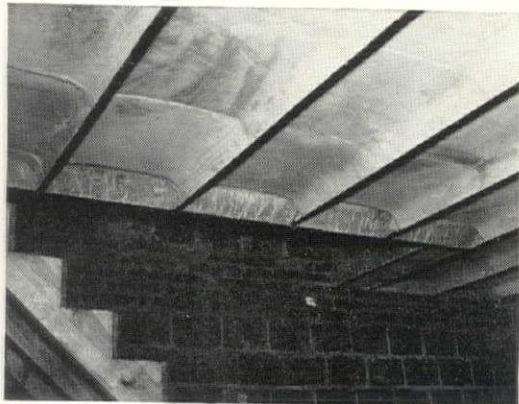
* When it is necessary to run a duct across the trusses, the asbestos U-shaped "fillers" may be turned around to make a vault perpendicular to the other vaults. The open webbing of the trusses permits the facile passage of air through such a duct.

** Average cost, Westmont's floor construction: materials, 16 cents per sq. ft.; installation, 10 cents, sub-total, 26 cents; less 3 cents saving in other materials; total, 23 cents.

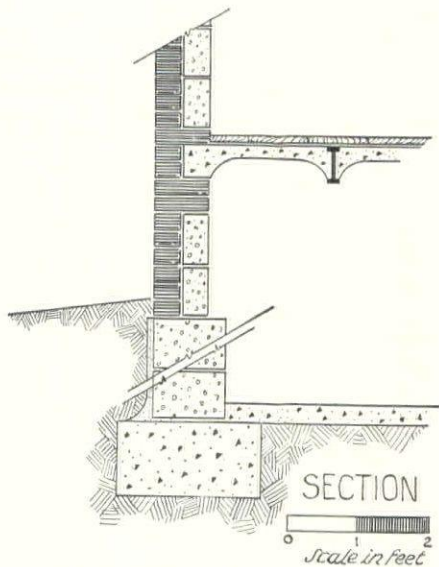
4.



5.



Floor construction: 1. Steel rib trusses are laid in place atop party wall, temporarily secured by wood spreaders. 2. Asbestos pans, or fillers, are inserted, resting on bottom flanges of trusses. Note formation of heating duct in foreground by prior insertion of flat asbestos panel. 3. After poured concrete has dried, wood furring strips are fitted between trusses as foundation for ceiling finish. Note BX cable within floor construction. 4. Second floor ceiling is insulated with sheet steel, covered with board lath and plaster. 5. Basement ceiling is left unfinished, gives a vaulted appearance. Below: a typical section through exterior wall and first floor of a Westmont house.



Compact and trim, Westmont's combination burner, "boiler" and hot water heater occupies less than four sq. ft. of basement floor space, stands 73 in. high. Piping system: 1. Supply to heat-exchanger on first floor. 2. Return from heat-exchanger. 3. Inlet to hot water heater. 4. Supply to hot water fixtures. 5. Supply from "boiler" to hot water heat transfer cylinder. 6. Return from cylinder to heating coil of "boiler."

use of quick-drying concrete, FHA requires that reinforced concrete floors must set for 48 hours before work progresses.

Heating System. Equally significant with the floor construction of Westmont houses is their heating equipment—a combination hot water and forced air circulation system developed especially for low cost houses. Water at a temperature of 190-200° is generated in a small (22½ in. diameter) copper coil "boiler" in the basement—oil-fired with a wall-flame rotary burner. Thus heated, water circulates by gravity through oversize (one-and-one-half-inch) copper pipes to copper coils in a heat-exchanger and animator situated in a corner of the kitchen directly above the "boiler." And, after a temperature drop of about 25° the water then flows back to the boiler, completing the cycle. The entire heating system has a capacity of only five gallons.

The animator, enclosed in a ceiling-high steel closet, occupies 15 x 22 in. of floor space. In it is a ⅛ hp. electric motor

which drives a squirrel cage blower. Cold air is drawn from the return ducts built into the first floor, is forced through a spun glass drawer-type filter, thence past the copper heating coils and through short ceiling and wall ducts to the various rooms. Outlets are high on the interior walls of rooms; return intakes are low—in the baseboards. (Bathrooms and kitchens have no returns intakes, an open window taking their place.)

Hot water for domestic purposes is generated in a 21-gallon tank held vertically above the boiler and enclosed neatly in a continuous jacket (see picture, right). During hot weather, closure of a hand valve excludes hot water from the animator, permits its use as a cooling device. Since provision has been made in the animator for a pan-type humidifier, it is possible to obtain the effect of air conditioning—both summer and winter.

Total heat loss is calculated at 38,000 BTU's per hour per house—the equivalent of about 255 sq. ft. of hot water radia-

(Continued on page 38)

CONSTRUCTION OUTLINE

FOUNDATION: Walls—12 in. cinder block, Washington Concrete Products Co. Cellar floor—4 in. concrete atop gravel fill.

STRUCTURE: Exterior walls—4 in. common brick veneer on 4 in. cinder blocks, West Bros. Brick Co.; 1 in. x 2 in. furring strips, Lathrite and plaster, Ebsary Gypsum Co.; paint, John W. Masury & Son. Interior partitions—ordinary 2 x 4 in. stud partitions. Floor constructions—(see text for description) Tilecrete System; Tilecrete Co., licensees under patents: steel rib trusses, Bethlehem Steel Co. and U. S. Steel Corp.; asbestos pans, Ruberoid Co.; concrete; Oak shorts laid in hot mastic, McBride and Moeller Corp. Ceilings finished with lathrite and plaster, Ebsary Gypsum Co.

ROOF: Flat—Tilecrete, covered with 4-ply built-up roofing, 15-pound felt and slag finish. Gable and hip—frame, covered with triple-sealed asphalt shingles, Celotex Corp.

CHIMNEY: Brick and 6 in. round clay Bell tile.

SHEET METAL WORK: Flashing, gutters, leaders, downspouts, ducts—28 gauge galvanized iron.

INSULATION: Roof—Ferro-Therm sheet steeling, American Flange & Mfg. Co. Weatherstripping, Quaker State Co.

WINDOWS: Standard Lupton steel casements, Michael Flynn Mfg. Co. Glass—double

strength, quality B. Screens—bronze, wicket type, metal frame, A. W. Barnhardt Co.

STAIRS: Main stair—oak treads and risers.

FLOOR COVERINGS: Kitchen and bathrooms—Chromolin, Bird & Son. Porches—concrete.

WALL COVERING: Bathrooms—porcelain enamel steel sheeting, USS Vitrenamel, Ingram-Richardson Mfg. Co.

WOODWORK: Trim—No. 1 white pine. Interior doors—2 panel fir. Exterior doors—8 light, 1¾ in. fir, Speight-Moore Lumber Co.

HARDWARE: Reading Hardware Corp.

PAINT: John W. Masury & Son.

ELECTRICAL INSTALLATION: BX cable. **KITCHEN EQUIPMENT:** Range—Hardwick S'ove Co. Sink and steel cabinets—St. Charles Mfg. Co.

BATHROOM EQUIPMENT: Briggs Beautyware, Briggs Mfg. Co., with Truart fittings, Republic Brass Co. Cabinets—F. H. Lawson Co.

HEATING AND AIR CONDITIONING (see text for description): Boiler and firing unit—Timken Silent Automatic "BER" Heating unit, Timken Silent Automatic Div., The Timken-Detroit Axle Co. Heat exchanger and animator. (Manufacturer's name supplied on request.) Thermostat—Julian P. Friez & Sons, division of Bendix Aviation Corp.

A TENEMENT TURNS OUTSIDE IN, takes tenants for a walk through the

park. A 50-year financial history of Brooklyn apartments remodeled from red to black.

"IMPROVED dwellings for the laboring classes"—thus philanthropist Alfred T. White unpretentiously tagged his late nineteenth century venture into low cost, limited dividend housing. Planning for a modest savings-bank return, he spent \$600,000 on the construction of 499 apartments in two Brooklyn, New York, projects titled Tower and Homes, and Riverside. Sixty years have shown that the projects have not only lived up to their definition and purpose, but that in one respect they were three score years ahead of their time. In an era when "railroad" and "dumbbell" tenements were the norm, Alfred T. White built around a landscaped court, produced a prototype of today's popular garden apartment. More important, White and his heirs have kept a careful count of income and expenses which throws needed light on the long-term trend of profits and maintenance in low rent housing.

Today, Tower and Homes and Riverside Apartments have particular significance, for they are being remodeled for the first time in their 60-year history. Started in 1935, modernization to date has been carried to 86 of the 219 Tower and Homes apartments, and to 120 of the 280 in Riverside.

Construction: 1890. Construction of the two projects was carried out over a thirteen-year period, beginning with Tower and Homes in 1877, ending with Riverside in 1890. Designed by Architects Wm. Field & Son, they are both six story walk-ups with similar facades dominated by iron-railed balconies upon which circular stair wells open at each floor level. (For Riverside's facade, see drawing, facing page.) Ground floors of both are largely devoted to stores.

Unheard of in that day for low cost dwellings was Riverside's attractive in-

terior park; bargains were the apartments at rents of \$2 to \$4 per week; a luxury was the running water and lavatory in every unit. Nonetheless, apartments were without hot water, baths and heat. Tenants had to bathe under basement showers, had to haul coal as many as six weary flights upward, and had to burn it in a living room stove or fireplace. Those unpleasant features were, however, common in tenements of that day and did not affect occupancy. Setting no restrictions on tenants except that they make good neighbors, A. T. White grossed \$39,056 in rentals from Riverside that first year, netted \$10,734 after a generous allocation for depreciation.* That was 3 per cent on his \$350,000 investment in the project.

Profits: 1891-1935. Significant in Riverside's financial history are two facts illuminated by the chart below: 1) The real estate depressions of 1895 and 1910 were unable to drag the project into the red. 2) The trend of repairs and other expenses has been inexorably upward, making them the determining factors in the project's long-range earning power.

During Riverside's first 20 years gross income was relatively stable, never getting out of the \$30,000-\$40,000 bracket. Variations in profits resulted principally from fluctuations in expenses. With the World War, however, the trend took a more violent turn. Income shot up during the inflationary 20's, but expenses were right on its heels. Net profit, therefore, only crawled to new highs. Yet, even during this prosperous period, Riverside showed evidences of waning popularity. Tenants were hard to get and keep. When the de-

pression corner was turned, that trend showed its full force. Tenancy and income fell off, even though hot water was installed, constant repairs made. Profits stepped down year in, year out, until in 1935 the project's 45-year earning record was broken; it lost \$2,064.

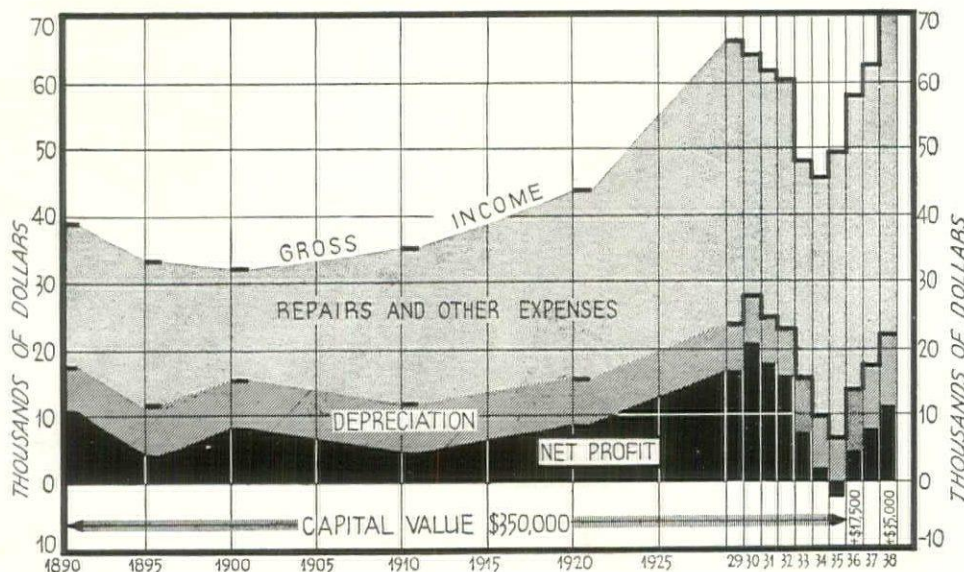
Remodeling: 1935-1939. It was during 1935 that the White Estate hatched plans to remodel completely the interior of the buildings, but to leave the exteriors alone. In that year 25 Riverside units were modernized; during the following four years, the number was increased to 120, finishing the work in one of Riverside's three buildings.

Responsible for the planning was New York Architect Cameron Clark, whose biggest problem was to make the entrances to the project more enticing (grim brick facades gave no inkling of the pleasant park within, caused many a prospective tenant to turn away.) Blue-ribbon solution of Architect Clark was to switch the entrances from the street side to the court side of the buildings. Tenants and visitors now enter from a side street (see plans, opposite), gain access to the remodeled building via a raised walk which the sloping ground made necessary. With the building facing inward instead of outward, tenants are more prone to play and relax in the park than when their only access was through the cellar or around the block.

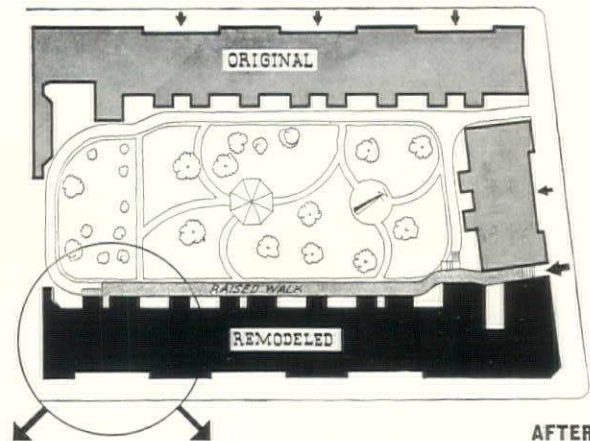
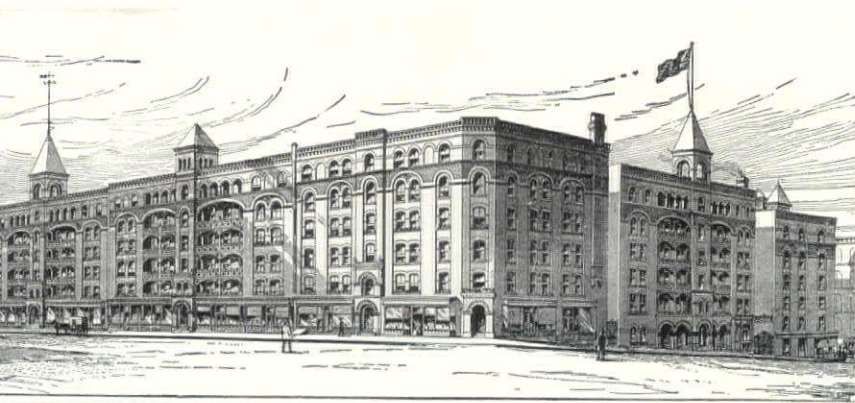
Total cost of remodeling one of Riverside's three buildings was \$181,505. Of that amount, \$10,870 went for the elevated walk and new entrances, \$2,998 for two heating plants, the remainder for construction, fire escapes, fixtures, and the like. Remodeling cost per room of specifically dwelling facilities came to only \$440.

When the White Estate first planned the remodeling, they applied for an in-

* To avoid confusion, the subsequent discussion is limited solely to Riverside Apartments. The histories of both have been generally parallel.



Ups and downs in income, expenses and limited profits write the 50-year history of Brooklyn's Riverside Apartments. Trend through 1934 reflects the rental of cold-water flats, the gradually increasing cost of upkeep. Upward jogs after 1935 are attributable to general business betterment and the remodeling into modern apartments of about 30 units per year. Capital value (at chart's bottom) did not exceed project's original cost until the time of modernization. Expansion of capital value in 1935 and 1937 reflects remodeling expenditures which were partially carried by current earnings. Only once (1935) did Riverside's financial curve dip into the red. And that dip was only \$2,000 deep.



AFTER

sured mortgage, but FHA ruled against six-story walk-ups, turned down their thumbs. Rather than hunt around for mortgage money, the Estate took 71 per cent of the remodeling cost from current earnings, shelled out only \$52,500 from its own pocket. (The \$2,000 loss during 1935 was partially attributable to remodeling, was also pocket money.)

Belying FHA's decision is the fact that the remodeled building has been continuously rented from top to bottom. Guess of Architect Clark is that the stairwell opening on the balconies at every flight makes the climb seem easier, helps keep the upper stories tenanted. But, low rents and pleasant apartments certainly have had something to do with it. Furthermore, tile baths with showers, electric refrigeration and modern gas stoves are a far cry from the old apartments, are better than most of New York's inexpensive apartments.

Profits: 1938. Rents are not, however, at the old \$2-\$4 per week level. New rent schedule for the remodeled apartments is from \$23 for two rooms and kitchenette to \$37 for four rooms, excluding utilities. Increased rents have helped boost gross income from \$49,492 in 1935 to \$70,099 in 1938—a new high for Riverside.

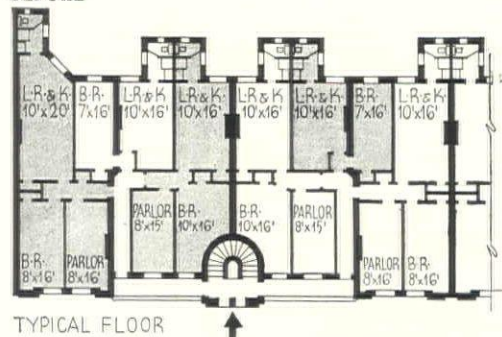
During most of that period the unremodeled apartments struggled along as best they could with vacancies running high. This year, however, there has been a sudden demand for them. Probable reason: the low rents (now \$3 to \$4.80 per week) are attractive to families recently cut from WPA rolls. Only seven of the 160 unheated apartments in Riverside are currently vacant. (All those in Tower and Homes that are considered habitable are occupied.)

Although Riverside's earnings are currently excellent, payment of part of remodeling costs from earnings has eroded net return to the level of 1890. In 1938, the project's books showed a profit of \$11,559, which was 3 per cent of the \$402,500 capital value (original cost plus remodeling costs).

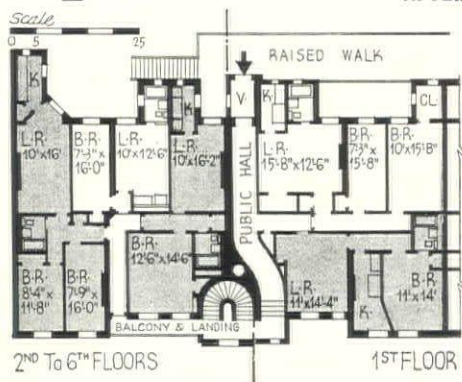
In view of its recent financial trend, Riverside's prospects are bullish. The 120 apartments that have so far felt the plasterer's trowel will certainly need a minimum of serious repair work for some years to come, will help carry their unremodeled neighbors until they too have their turn.

John Beiner Photos

BEFORE

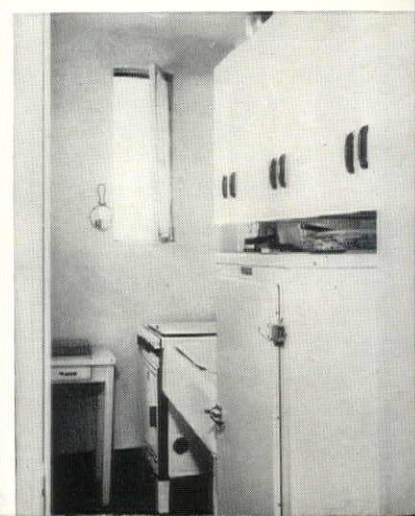


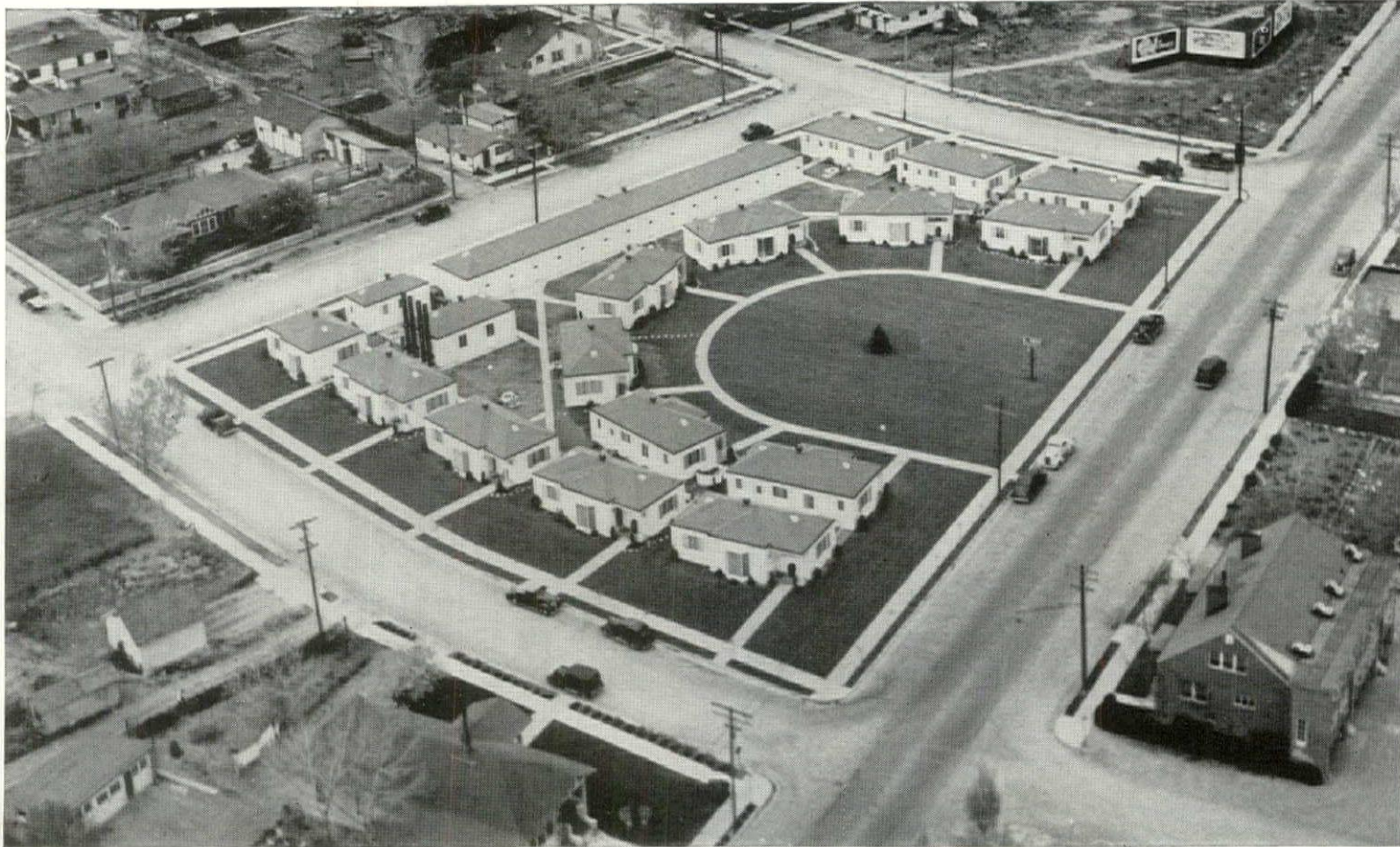
TYPICAL FLOOR



2ND TO 6TH FLOORS

1ST FLOOR





PORTABLE RENTAL HOUSES make their first stop in Reno, command high rents, produce tidy return. A plug for prefabrication.

WHEN California orchardist Roland Giroux decided to supplement his apple growing with some other form of investment, he turned to rental housing in Reno, Nevada. In so doing, he brought a fresh viewpoint into the field, for instead of building conventional apartments, he built single-family houses of prefabricated construction. And even more significant, he chose prefabrication, not to satisfy a whim, but to fill a need for structures that could be taken apart and moved if need be. Project's name: El Reno.

Giroux purchased the one and one-half acre plot air-viewed above because he had high hopes for a future increase in land value. But he also had hopes for its present earning capacity via temporary rental housing that would reap the rewards of the present and permit him to bow out when the rewards of the future came along. Hence these qualities for the buildings: 1) high salvage value, 2) low maintenance costs, and 3) attractive appearance. Meeting them to a lintel were the steel houses of Los Angeles Prefabricator W. F. Lea, whose building technique was adaptable not only to the project's fifteen dwellings, but also to the other buildings—a caretaker's cottage, boiler house and garage.

Basis of the project's final form as well as of Giroux's tidy (13 per cent) net return, is Reno's unique rental market. As

an unusually large part of the town's population is transient, and as a large number of those transients stay for a month rather than a day, there is a heavy demand for furnished apartments. Giroux set out to skim the cream off that market by providing attractive furnished single-family houses with all the conveniences of apartments. With rents of \$100 a month (which includes garage and all utilities) he has so far skimmed deep enough to keep his houses 94 per cent occupied despite a rapid tenant turnover. Majority of his tenants are retired business men, innocent tourists, and the like. (The city's notoriety as a divorce factory obscures its popularity as a resort.)

Plot and Plans. Investor Giroux's block-sized piece of property cost him a cool \$20,000, even though it is located in only a sporadically developed residential section one mile from downtown Reno. Reasons: It is in the path of the city's development, is near junior schools and fronts an important through street.

Problem of arranging the eighteen buildings on the odd-shaped property was solved by giving the development a focal point in the form of an unlandscaped semicircular lawn around which seven of the houses are arranged. The remaining eight houses face side streets, with garages and utility buildings at the back.

All fifteen houses as well as the caretaker's cottage are Lea Steel House stock models designed by Los Angeles Architect Paul Williams. Fourteen of the houses are identical. Measuring only 21 x 38 ft., they are well within the small house field, but in plan they do not exhibit the most common small house cost-saving characteristic: instead of being side by side, the two bedrooms are separated by the living room, and one has a full bathroom, the other a lavatory. The fifteenth house is a smaller edition, has only one bedroom. Hence, it rents for \$85 a month instead of \$100 as do the rest.

Fabrication. Although Steelbuilder Lea's construction method is patented and unique, the El Reno buildings were assembled on the site with local union labor under two Lea Steel House supervisors*. This use of local labor was possible because about 70 per cent of the fabrication was done in the company's Los Angeles factory, 600 freight miles from Reno. Thus, each structural part was as complete as possible, short of actual assembly. Windows, for example, were glazed and calked, needed only to be anchored in place.

* For a detailed analysis of the Lea Steel House system see ARCH. FORUM, July 1938, p. 20.

Blanket charge made by Lea for all the buildings in El Reno was \$50,000. In addition, Giroux spent \$1,000 per dwelling on furnishings and electrical equipment. All floors are carpeted or linoleumed, all furnishings are out of Montgomery Ward's catalogue. Kitchens are electrically equipped down to ventilating fans.

Heating. Because Reno, Nevada, is 4,500 ft. up in the midst of the Rocky Mountains, residents there have heating problems a little harder than those of New Yorkers, a little easier than those of Chicagoans. Hence, heating plays an important part in the operating costs of El Reno. That it is also an important factor in keeping those costs to a minimum is well proved by Giroux's heating cost record: last winter he paid out only \$30.93 per dwelling unit for 6-cents-a-gallon fuel. For all fifteen houses and caretaker's cottage, heating costs average \$500 a year.

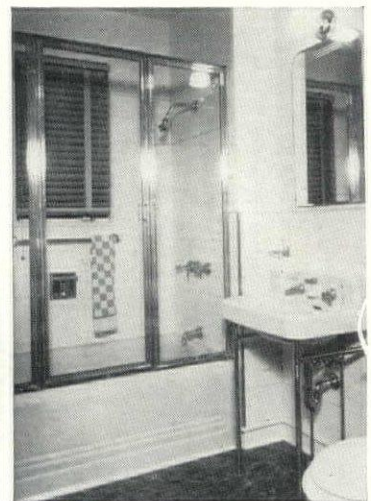
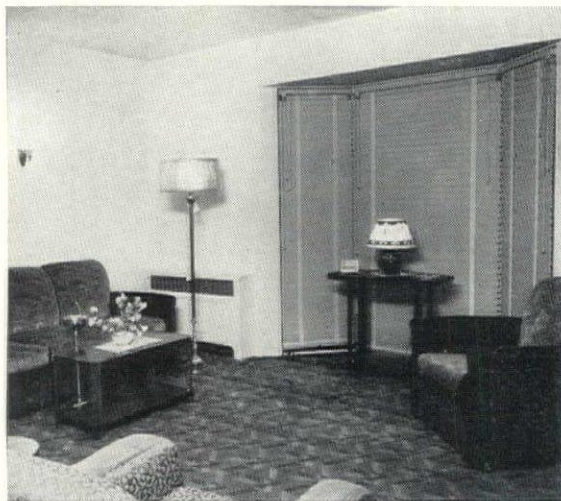
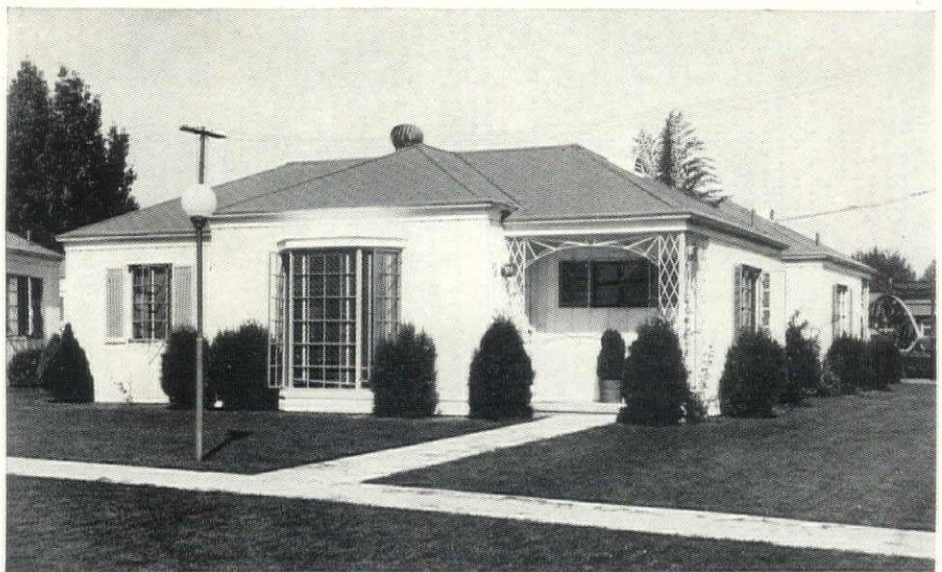
Two factors contribute principally to those low costs—insulation and a flexible heating system. The houses are all well mineral-wooled, both walls and roof, while a battery of four boilers (see four black stacks in air view) are flexible to the varying demands of both the weather and the tenants. The system's hot water heat is carried by underground conduits to the houses which have individual thermostatic controls.

Finance. All told, Investor Giroux shelled out \$90,000:—for land (\$20,000), buildings (\$50,000), landscaping (\$5,000) and furnishings (\$15,000). On top of that capital investment he pays annual operating expenses that total \$5,200:

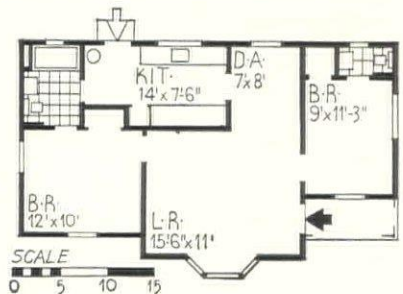
Maintenance and management...	\$1,500
Heat	500
Hot water	400
Utilities	1,200
Taxes and insurance.....	1,600

Since Giroux paid for the entire project out of his own pocket, mortgage costs are conspicuously absent from the list. Also missing is an allocation for depreciation. Assuming run-of-the-mill maintenance, a conservative estimate of the life span of the steel houses is 50 years, in which case total depreciation of the buildings could be covered by setting aside \$1,000 each year during that period.

If Giroux's apartments were always 100 per cent occupied, he would gross \$17,820 per year. In practice, however, his annual take is nearer \$16,750. Looking at El Reno's profit picture from its blackest side reveals it to be a long way out of the red: annual net income with the project 94 per cent occupied amounts to \$11,550, or 13 per cent of the investment. If \$1,000 depreciation is included the return is still nearly 12 per cent. And, when Giroux feels that his parcel of land has appreciated enough in value to make sale profitable, he can loosen a few bolts, pick up bag and baggage and operate his house-hostelry somewhere else.



Steel from frame to gutters, this prefabricated stock model was duplicated fourteen times at El Reno. Ten-foot panels of 22 gauge steel give the appearance of vertical siding. Serving a somewhat transient market, all El Reno rental houses were completely furnished by the owner.

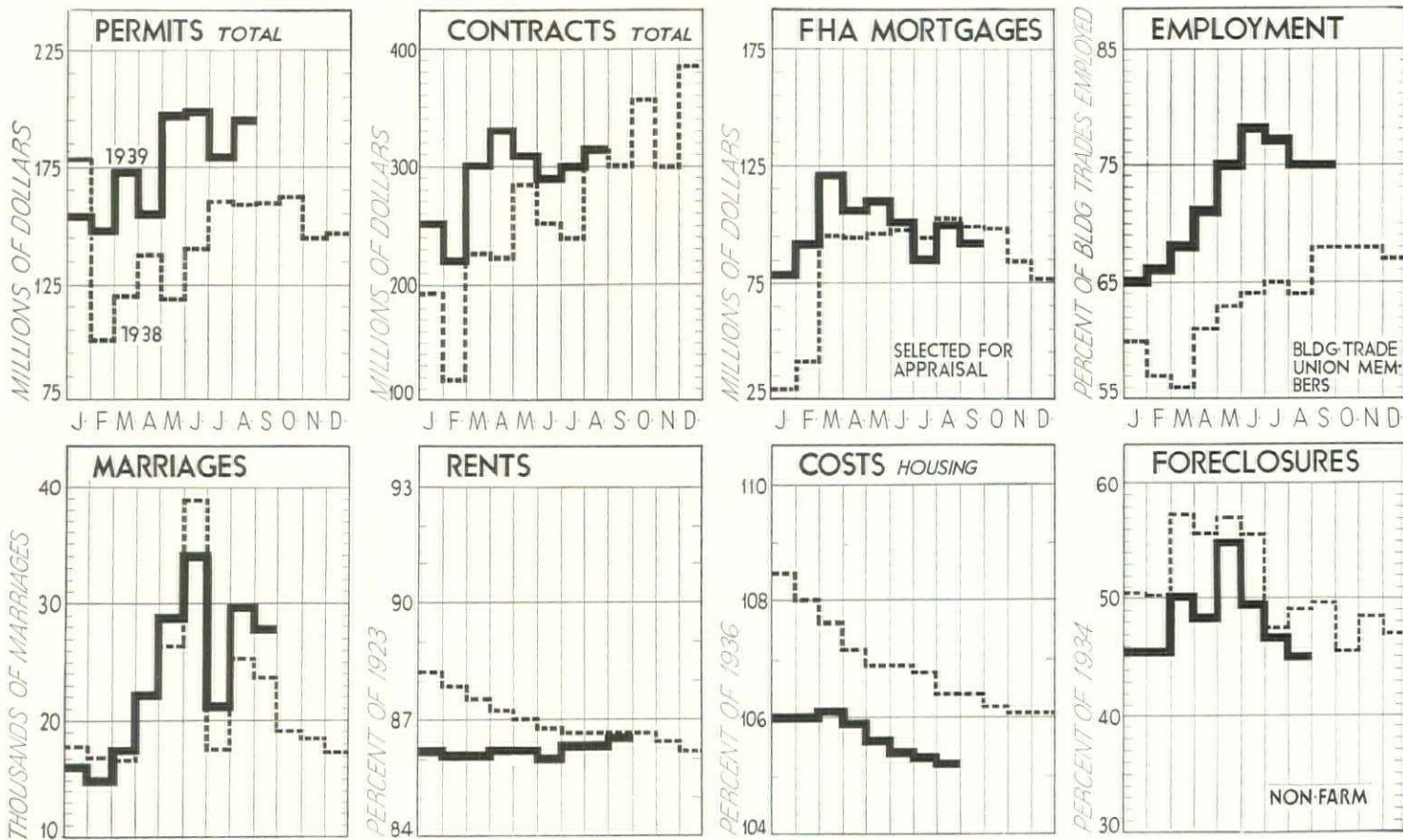


CONSTRUCTION OUTLINE

FOUNDATION: Concrete slab.
STRUCTURE: Exterior walls—Lea Steel Products Co.'s prefabricated panels of 22 gauge galvanized sheets backed with Insulite boards, Insulite Co., galvanized steel studs, 3½ in. mineral wool, Insulite board interior. Interior partitions—Same with Insulite board on each side, Insulite Co. Floor construction—sub and finished wood flooring. Insulite board ceiling.
ROOF: Steel framing, Lea Steel Products Co.; solid wood sheathing and shingles, Flintkote Co.
INSULATION: Outside walls and attic floor—Gimco Mineral Wool, General Insulating Mfg. Co.
WINDOWS: Sash—Lea Steel Products Co. Glass—single strength, quality B. Screens—metal frame.
FLOOR COVERING: Living room, bedroom—carpeting, Alexander Smith & Sons Carpet Co. Kitchen, bathroom—linoleum, Armstrong Cork Products Co.
WALL COVERINGS: All interior wall finish—Insulite board, Insulite Co.
PAINTING: Paint material for interior—

General Paint Co. For exterior—L & S Portland Cement Paint, General Paint Co.
ELECTRICAL INSTALLATION: Parkway Cable, underground, General Electric Co.
KITCHEN EQUIPMENT: Range and refrigerator—Westinghouse Elec. & Mfg. Co. Sink—Standard Sanitary Mfg. Co. Cabinets—Modern Steel Equipment Co. Fan—Emerson Electric Co.
LAUNDRY EQUIPMENT: Sink—Crane Co. Washing machine—Westinghouse Elec. & Mfg. Co.
BATHROOM EQUIPMENT: Lavatory, tub, toilet—Standard Sanitary Mfg. Co. Shower—Crane Co. Cabinets—Modern Steel Equipment Co.
PLUMBING: Soil pipes—Cast iron, Crane Co. Hot and cold water pipes—Copper tubing, Chase Brass and Copper Co.
HEATING: Hot water with forced circulation from central heating plant. Underground conduits—The Ric-Wil Co. Boiler—oil fired, Century Engineering Co. Radiators—Copper fin convactor type, Crane Co. Valves and pumps—Bell & Gossett. Thermostat—Penn Co.

BUILDING'S CHARTS AND TABLES



	LATEST MONTH*	PRECED. MONTH	CORRES. MO. 1938	CUMULATIVE 1939	CORRES. MONTH-1938
PERMITS—residential (000,000) ¹	\$116.6a	\$96.4	\$87.1	\$766.1	\$558.3
non-residential "	45.5	55.5	44.4	398.5	344.6
alterations "	32.8	29.4	27.1	235.5	213.9
total "	194.9	181.3	158.6	1,400.1	1,116.8
CONTRACTS—residential (000,000) ²	\$127.1a	\$109.3	\$99.7	\$881.0	\$586.7
non-residential "	69.9	88.5	87.3	675.0	593.6
engineering "	115.3	102.0	126.1	755.6	666.9
total "	312.3	299.8	313.1	2,311.6	1,847.2
DWELLING UNITS—total (000) ³	31.0a	25.6	23.2	209.1	152.0
FHA—mortgage selections (000,000) ⁴	\$91.7s	\$98.5	\$98.4	\$876.6	\$752.1
mortgage acceptances "	62.8	62.3	68.4	545.5	474.3
rental housing m't'g's "	1.0	6.2	4.5	45.5	36.5
modernization loans "	14.9	17.8	20.1	164.5	108.5
MORTGAGES—					
bldg. & loan assns. (000,000) ⁸	\$112.5a	\$105.9	...	\$763.7	...
insurance cos. "	30.8	29.8	...	217.6	...
bank & trust cos. "	80.1	75.0	...	603.8	...
mutual savings bks. "	13.8	13.7	...	86.2	...
individuals "	58.8	58.0	...	439.6	...
other mortgages "	49.6	47.6	...	362.8	...
total "	345.6	330.0	...	2,473.7	...
MARRIAGES—38 cities (000) ⁹	31.8s	29.4	23.7	217.6	214.9
INSURANCE CO.—real estate held (000,000) ¹⁰	\$1,745.0j	\$1,746.0	\$1,797.0		
COSTS—wholesale materials (% of 1926) ¹¹	90.9s	89.6	89.5		
housing—labor (% of 1936) ¹²	111.2a	111.3	112.3		
materials "	102.3	102.4	103.4		
total "	105.2	105.3	106.4		
RENTS—new leases (% of 1923) ¹³	86.5s	86.3	86.6		
FORECLOSURES—non-farm (% of 1934) ¹⁴	45.1a	46.7	49.0		
metropolitan (% of 1926) ¹⁵	146.0	152.0	161.0		
INTEREST RATES—N.Y.C. mortgages (%) ¹⁶	4.57s	4.61	4.65		
BOND PRICES—real estate ¹⁷	\$305.0s	\$315.0	\$321.0		
STOCK PRICES—bldg. materials (% of 1926) ¹⁸	83.0s	87.0	98.5		
WAGE RATES—common bldg. labor (per hr.) ¹⁹	\$0.685s	\$0.685	\$0.677		
skilled bldg. labor (per hr.)	1.44	1.44	1.43		
EMPLOYMENT—bldg. unions (% of total) ²⁰	75.0s	75.0	68.0		
COST OF LIVING—(% of 1923) ²¹	84.5a	84.9	85.9		
PAYROLLS—factory (% of 1923-25) ²²	83.8jl	85.9	70.6		
PRODUCTION—industrial (% of 1923-25) ²³	98.0a	98.0	87.0		

FOOTNOTES:

1—Valuation of building permits in some 2,100 communities; source, U. S. Department of Labor.
 2—Valuation of contracts awarded in 47 States; source, F. W. Dodge Corp. via U. S. Dept. of Commerce.
 3—Number of dwelling units covered by permits. See footnote No. 1.
 4—Home mortgages selected for FHA appraisal under Title II, Section 203; source, FHA.
 5—Home mortgages accepted for insurance under Title II, Section 203; source, FHA.
 6—Large scale rental housing mortgages becoming premium paying under Title II, Section 207; source, FHA.
 7—Property improvement loans insured under Title I; source, FHA.
 8—Non-farm mortgage recordings of \$20,000 or less based on

500 counties (48 States); source, FHLBB.
 9—Number of marriages recorded in 38 largest U. S. cities; source, ARCHITECTURAL FORUM.
 10—Total real estate holdings by member companies of the Assn. of Life Ins. Presidents.
 11—Composite index of wholesale building material prices; source, U. S. Department of Labor.
 12—National averages based on six-room house of 24,000 cu. ft. unfinished; source, FHLBB.
 13—Rates at which new rental contracts are made; source, National Industrial Conference Board.
 14—Foreclosures in some 1,500 non-farm communities; source, FHLBB.
 15—Foreclosures in metropolitan communities with population in excess of 100,000; source, FHLBB.

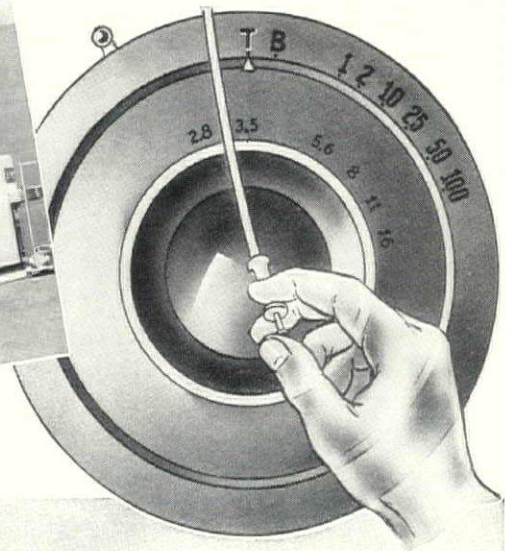
16—Average interest rate on all recorded New York City mortgages of \$10,000 or more; source, N. Y. Mortgage Conference.
 17—Average price of 200 hotel, office building and theater bonds; source, Amott-Baker & Co.
 18—Average price of twelve building material manufacturers' stocks; source, Standard Statistics Co.
 19—Source, Engineering News-Record.
 20—Trade Union members employed; source, American Federation of Labor.
 21—Covers clothing, food, fuel and light, housing and sundries; source, NICB.
 22—Source, U. S. Dept. of Labor.
 23—Combined unadjusted index; source, Federal Reserve Board.

Woolworth's — Brasco Stainless Steel Store Front Construction, entrance doors, canopies. Arch., George Braun, Jr.; Superintendent of Const., E. H. Anderson, both of Chicago.



Hahn's, an outstanding, modern installation of Brasco Aluminited Construction. Architect, William Denton, Washington, D. C.

Built to defy TIME EXPOSURE



You earn your client's lasting gratitude when you choose Brasco, for this soundly engineered store front provides a life-time of care-free, brilliant beauty.

Brasco is built to endure. Exclusive patented features, correctly fabricated in heavy-gauged materials, assure rugged strength and complete safety to the glass. The modern, distinctive design is topped by the highly effective use of all newer metals and finishes.

A complete line of essential store front members and all complementary items is provided, in both Rolled and Extruded Constructions. Coupon will bring Samples and Details.

BRASCO MANUFACTURING CO.
HARVEY (Suburb of Chicago) - - ILLINOIS

Brasco MODERN STORE FRONTS

**Solid Stainless Steel, Aluminum,
Bronze, Copper, Extruded Bronze
or Extruded Aluminum,
in Any Finish.**

BRASCO MFG. CO., Harvey, Ill.
Send Samples and Details of Brasco Modern Store Front Construction.

Firm.....

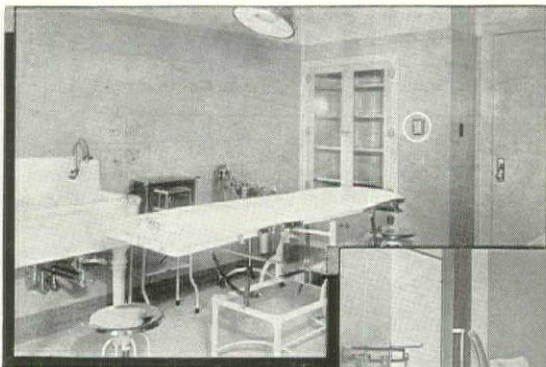
Address.....

Individual.....

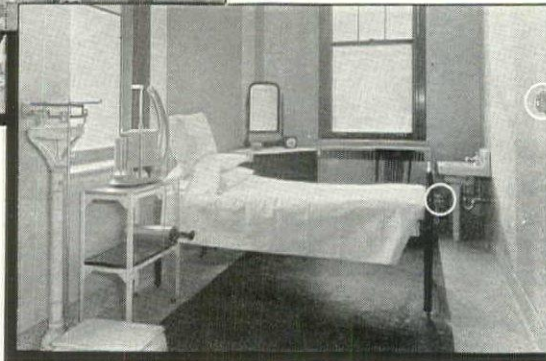
F11

ADDED AID TO RECOVERY

WITH JOHNSON CONTROL



Saint Elizabeth's Hospital, Chicago, Ill. Hermann J. Gaul & Son, architects, Chicago. 235 Johnson room thermostats control 328 radiators, as shown in the rooms pictured here.



CORRECTLY CONTROLLED TEMPERATURES A HOSPITAL ESSENTIAL

In keeping with the care and skill which are watchwords in hospitals, the consistent performance of Johnson automatic temperature control systems places them high on the list as desirable equipment in such institutions. Operating rooms, oxygen chambers, premature birth incubators, private rooms, wards, preparation rooms, and corridors through which patients pass each present distinct problems as to the temperature to be maintained . . . A Johnson thermostat in every room operates the radiators in accordance with each particular temperature requirement, independent of other parts of the building. Automatic operation is much more reliable and accurate than manual control. There can be no oversight or negligence. Hospital personnel, relieved of the necessity of operating radiator valves, is free to turn its undivided attention to technical work.



JOHNSON automatic temperature control is engineered for perfect correlation. The devices themselves are of finest quality, their application intelligent, and their installation careful. No haphazard arrangement of control mechanisms can attain the desired efficiency. Johnson "service" is highly specialized. When Johnson equipment is specified, the control problems remain in the hands of Johnson men, exclusively, from the preliminary engineering study, through the actual manufacture and installation, and onward to periodic inspection and service. Johnson engineers and mechanics—all specialists—operate from thirty-five direct branch offices in the United States and Canada.



JOHNSON

Automatic TEMPERATURE AND AIR CONDITIONING *Control*

JOHNSON SERVICE COMPANY: MILWAUKEE, WIS. AND DIRECT BRANCHES IN PRINCIPAL CITIES

SAVINGS AND LOANS

(Continued from page 402)

the widespread expansion of rental housing. Also, rental housing is at odds with the savings and loans' campaign for home ownership. This fact, coupled with reputed failure of purpose, prompts the business to denounce the building of USHA "poor farms." Its answer to the public housing question is best expressed in the words of League Spokesman Morton Bodfish: "Savings and loan associations find 70 to 80 per cent of their borrowers for owned homes among people who make less than \$2,000 a year. And this is in spite of the contention of housing authorities that people living on less than \$2,000 cannot afford to provide their own housing." The business is against increasing USHA's borrowing and lending powers but, if USHA must go on, it recommends that "no Federal subsidies of any sort be poured into a community for its housing without the approval of the voters."

Although savings and loaners originally asked for and obtained Federal and State supervision, today they think that they are getting an overdose of it. The business admits that supervisory authorities should undertake complete examinations, take civil or criminal action if necessary, but, in eyes of Convention Speaker Horace Russell, "it is all wrong for somebody in Washington or the State capital to tell us in 'Podunk' who will manage our money as directors . . . or who would do the work of officers or employers of ours whom we must employ and pay." The submission of "confidential reports" concerning various associations directly to Washington without the knowledge of association directors was also decried. Mr. Russell's solution to the supervision problem: "Open and frank dealings between supervisors and the directors and officers of institutions. . . ." Adds Mr. Bodfish: "Confidential reports and the building of secret records in regard to businesses have a tinge of un-Americanism which does not appeal to the savings and loan mentality."

Of most recent vintage is the war problem. Practically every Convention address was introduced with some reference to the declaration of World War II and its probable effect upon the savings and loan business. Consensus was that, barring U. S. participation, the trend of residential construction would continue up and that in many industrial localities home building would reach boom proportions. From a credit standpoint the savings and loans are well prepared for war. Thus, if the business experiences a shortage of deposit funds through war investment competition, the twelve FHLBanks could float more debenture issues, lend the proceeds to the member institutions for home financing purposes. Should these debentures

(Continued on page 36)

MORE THAN 10,000
CUTS ON BUCKEYE CONDUIT
WITH THE SAME THREADING DIE

That's what a contractor told us recently, and he added that the die was as good as new.

You, too, can have a money-making experience like this if you use Buckeye Conduit. Why? Because Buckeye Conduit is made as a specialty by Youngstown. The steel has just that

right combination of ductility and tensile strength. Men using it develop a better skill and more speed because there are no hard spots to fight a hickey or a die. Time is money. Buy Youngstown Buckeye Conduit and get in on some of these fast-time, better-workmanship, more-profit jobs.

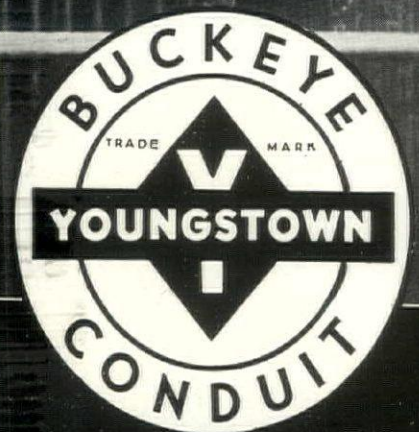
THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon and Alloy Steels

General Offices - - - YOUNGSTOWN, OHIO

Ask your distributor for Youngstown Conduit - Pipe and Tubular
Products - Sheets - Plates - Tin Plate - Bars - Rods - Wire - Nails -
Tie Plates and Spikes.

26-11B



YOUNGSTOWN



Southern New England Telephone Company.
Administration Building, New Haven, Conn.
Architects: R. W. Foote and Douglas Orr.

LEAK PROTECTION FOR MODERN BUILDINGS! WASCO

COPPER-FABRIC FLASHING

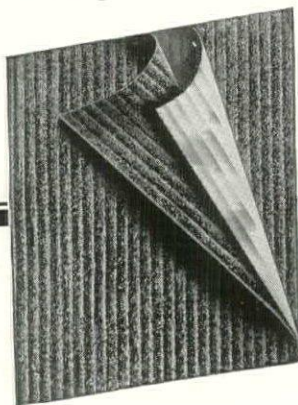
WASCO is the Modern Flashing—the only flashing that combines copper and fabric in one flexible, easy-to-work material.

It does the job of old-fashioned, heavy copper flashings with more speed and efficiency for much less money—because its less costly, lighter weight copper core is protected on both sides by a tough, asphalt-saturated fabric, to which it is bonded.

In addition, **WASCO** is rough-textured to insure tight adhesion to the mortar—and it is corrugated to allow for expansion and contraction and to facilitate drainage.

Address Dept. F. for Architectural Folder and Sample Booklet

WASCO FLASHING COMPANY
Cambridge, Massachusetts



(Continued from page 34)

tures also prove unattractive to the public, the U. S. Treasury, through a pending Congressional amendment to the FHLB Act, could be authorized to purchase and carry them.

PROGNOSIS

Trends, of course, are the biggest problem. Informed savings and loaners see these in their crystal globes:

- ▶ The number of associations will continue to decrease, leaving only the stronger associations. Branch banking beyond its present extent will not develop in the savings and loan business. (Contrary to general conception, many associations already operate outside their own bailiwicks—many in the Middle and Far West cover their entire States, many others operate in three or more nearby States. The business of new Federals, however, is limited in large part to a 50-mile radius.)
- ▶ Efforts will be made to increase the liquidity of members' investments.
- ▶ Larger reserves will be established.
- ▶ Increased emphasis will be placed upon informed management. A straw in the wind was the Convention election of a management-type man over a lawyer for a key position in the U. S. Savings and Loan League.
- ▶ To obtain and maintain better management and personnel, higher rates of compensation will be paid.
- ▶ To help meet loan competition, more associations will adopt the principle of variable interest rates—commensurate with the risks involved.
- ▶ Mortgage interest rates will rise slightly but will remain comparatively low for several years.
- ▶ The *monthly* amortized mortgage will increase in popularity. In 1929 about 20 per cent of the associations used it; today 85 per cent are in this group.
- ▶ The term and mortgage-to-value ratio of savings and loan mortgages will continue far below FHA's 25-year and 90 per cent maxima. Shorter terms and lower ratios may be expected as the country approaches the next real estate depression which the savings and loaners have scheduled for "sometime in the Forties."
- ▶ Mortgages carrying FHA insurance will continue to be written only as a last resort to combat competition. In fact, FHA may expect decreasing business from these institutions.
- ▶ Competition for both savings and loans will continue from all sides. But, since no competitor (with the possible exception of the savings banks, 70 per cent of which are concentrated in three Eastern States) can boast comparable experience in home mortgages, it is more than likely that the Nation's savings and loan associations will weather the competition and fortify their current position as the No. 1 branch of Home Finance.



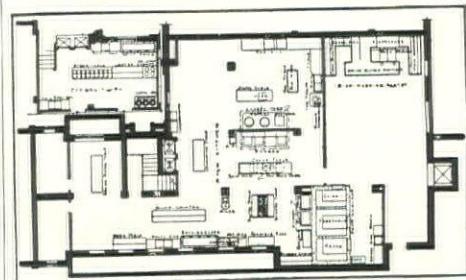
BE SURE YOU'LL NOT NEED A TRAFFIC COP IN THAT KITCHEN

Smooth circulation in the area devoted to the preparation and serving of food is a primary consideration with every restaurant, hotel, hospital and public institution.

Only by proper planning in advance can traffic jams with resultant breakage and delays be prevented in a kitchen.

Many architects avail themselves of the experience of John Van Range Kitchen Engineers before planning these departments.

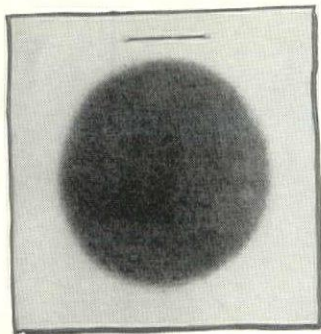
Have you such a problem under consideration?



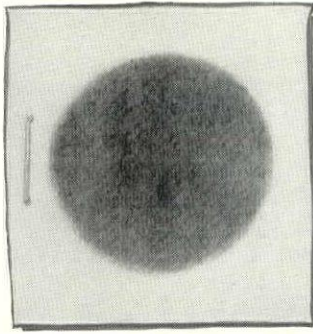
The John Van Range Co.
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD
328 EGGLESTON AVE. CINCINNATI, OHIO
Branches in Principal Cities

PRECIPITRON[®]

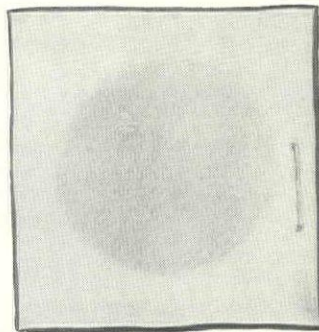
The First Commercially Practical
ELECTROSTATIC AIR CLEANER



Uncleaned air



Mechanically cleaned air



Precipitron cleaned air

(10,000 cubic feet of air through each test pad.)

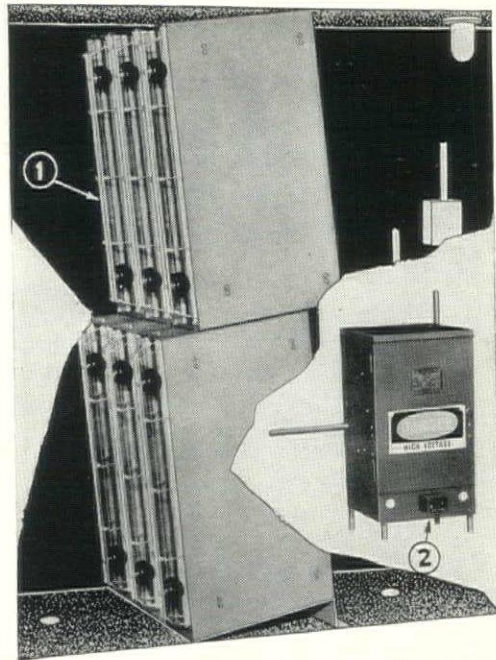
In announcing the PRECIPITRON, Westinghouse brings to reality the first commercially practical electrostatic method of removing dirt, dust and similar air-borne impurities in ventilating systems. So efficient is this new achievement that microscopic particles, as small as 1/250,000 of an inch in diameter and including even tobacco smoke particles, are removed from the air stream.

The efficiency of the PRECIPITRON in removing air-borne foreign matter is illustrated by the three test swatches above. The "Blackness Test", as applied by the U. S. Bureau of Standards, was used to measure the relative amount of dirt in atmospheric air in the three conditions photographed.

In practical applications the PRECIPITRON'S efficiency answers the mass air cleaning problems of commercial, industrial and public buildings using forced ventilation or air conditioning duct systems. In commercial and public buildings the PRECIPITRON protects documents, decorations and merchandise. In industry it protects machines, production and stocks. In all applications, it reduces maintenance and cleaning costs and improves working conditions.

You can obtain complete information about the PRECIPITRON from your local Westinghouse Office, or by writing direct to Westinghouse Electric & Manufacturing Company, Precipitron Department, Edgewater Park, Cleveland, Ohio.

*Trade Mark Registered in U. S. A.



PRECIPITRON Cells (1) and Power Pack (2) mounted in typical air circulation duct.

Westinghouse PRECIPITRON

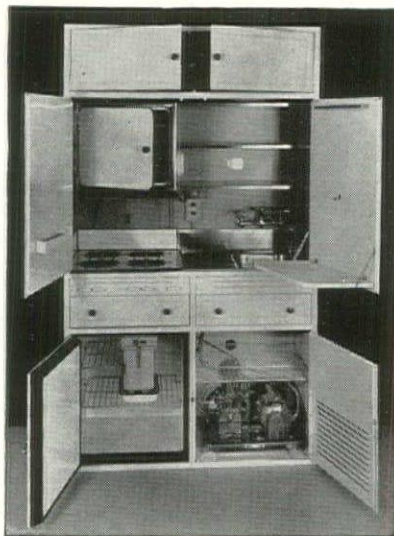




Odorless Cooking

Set Pureaire into the wall ANYWHERE. It thus occupies almost no floor space. Tenants can cook the finest meal you ever ate without allowing odors or vapors to escape into the room. Pureaire's patented ventilation whisks them all away into the outer air. So less decoration costs, and do tenants like these odorless Pureaire apartments! . . . Remember, Pureaire is complete—stove, oven, sink, refrigerator and unit, ample storage. All-steel, built like a battleship, installs in one piece, no extra doors. . . . Models for all-gas, all-electricity and combination. Write!

THE PARSONS COMPANY
Detroit



Patented and patents pending

PARSONS

Pureaire
KITCHEN

FIREPROOF HOUSES

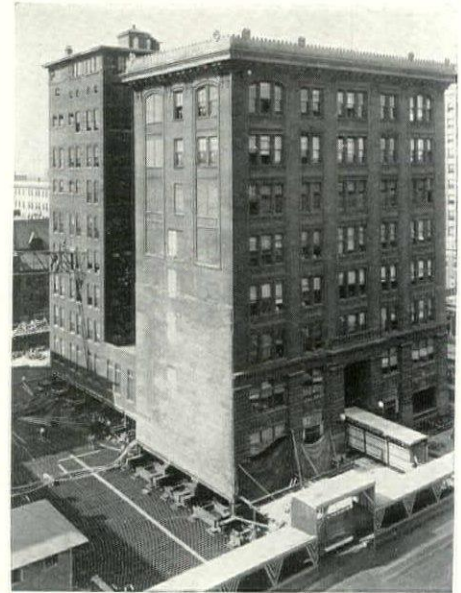
(Continued from page 405)

tion. Thus, with a capacity of 60,000 BTU's, the small compact heating unit specified by Mace is more than ample for its purpose. Designed especially for low cost homes, it boasts a half-dozen economical features: 1) The "boiler," burner and hot water tank are factory assembled in one piece, delivered as a unit, installed at low cost. 2) Occupying less than 4 sq. ft. of floor area, standing about 6 ft. high, and weighing only 543 pounds, the unit fits handily into a small basement or first floor utility room. 3) The firing rate is low—one-half to three-fifths of a gallon per hour as compared with the small house average of 1.35 gallons. 4) Comparatively inexpensive No. 2 oil is burned. 5) With but one moving part, the fan and oil distributor rotor of the shaded pole motor, maintenance costs are minimized. 6) This motor is small (1/60 hp.), consumes but 60 watts per hour—less than half the average.

Preliminary estimates indicate that during an average year at Westmont this unique heating plant will consume about 900 gallons of oil at a cost of about \$54. Westmont home owners benefit cost-wise by the fact that one company has the oil contract for the entire subdivision. This company maintains in its offices a record of each house's consumption and delivers fuel whenever its degree-day compilations show that the supply is running low. Oil is metered from a truck to the house's basement tank through an outside connection, and a printed receipt goes to the purchaser. Thanks to this service, the home owner need never concern himself with the level of his fuel supply.

So successful have been the Westmont houses and their many new departures that Mace Properties Inc. is currently planning two other projects of 170 similar dwelling units. Their purpose is to sop up the overflow demand for Westmont's 198 low cost houses; but, unlike the original houses they are to be built for "outside" investors who have come to Mace for building assistance.* Beyond the planning stage is still another Mace undertaking—the initial phase of an Arlington County rental housing project which may eventually make room for some 2,000 families. Brick walls and reinforced concrete floors are already well along for the first 152 dwelling units scheduled for January occupancy at rents averaging less than \$11 per room per month. Thus, Builder Merwin Ardeen Mace is not only giving Washington its lowest cost houses but also its lowest rent apartments. More important, his rental project will set a new low in the rent scales established to date by all FHA-insured housing projects.

* Construction loans for the Westmont project were made by a local building and loan association.



"Hello"
ON THE
MOVE

When the Indiana Bell Telephone Company wanted to move their building at Indianapolis, they called in Eichleay.

The building, weighing 12,000 tons, was moved 52 feet and pivoted 90 degrees. Telephone service, steam heat, water and sanitary services were maintained.

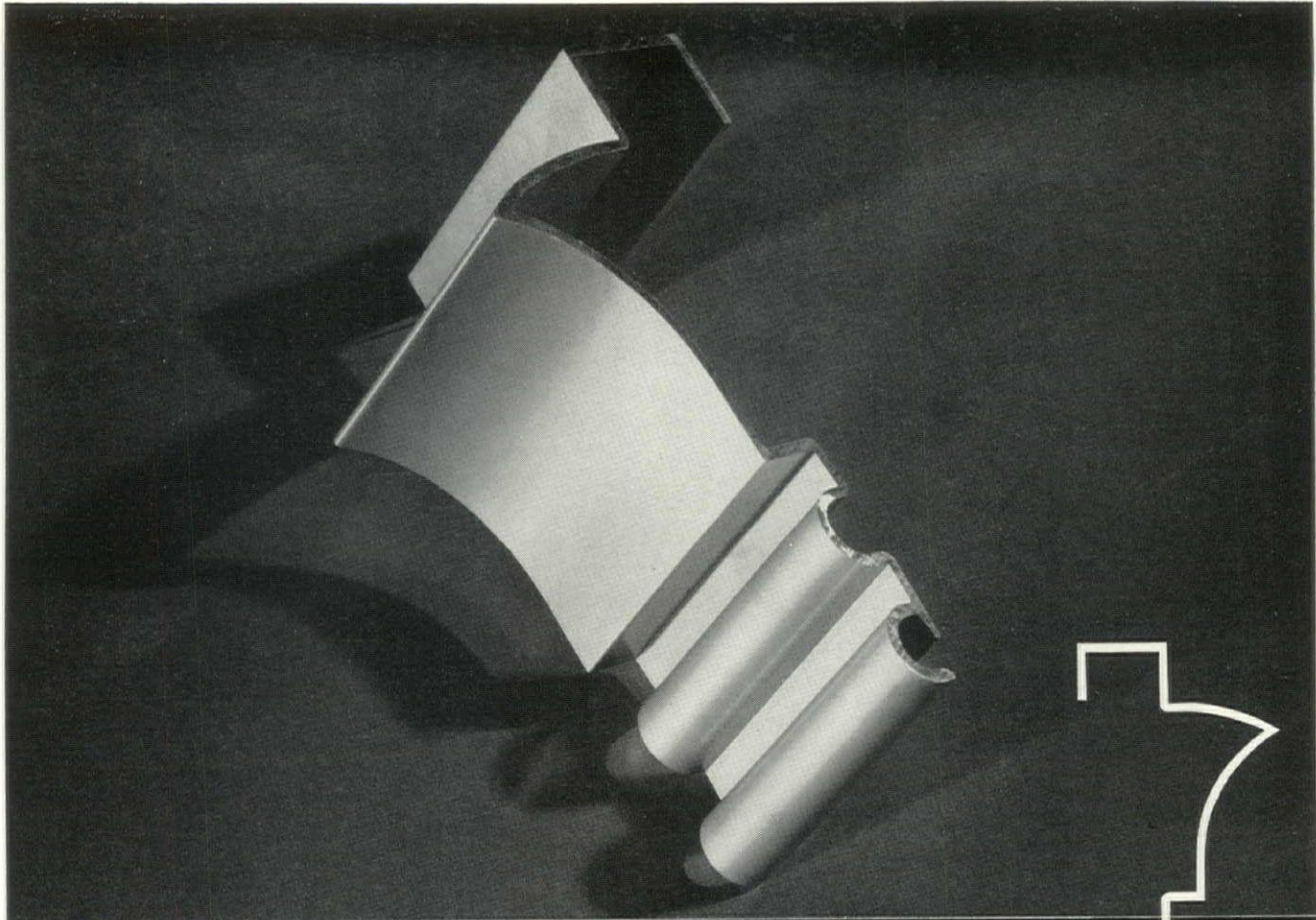
Eichleay moves large buildings and small with equal facility. The savings to owners are in many instances remarkable.

Consult us if street widening or any other reason might make it advisable to move your property.



EICHALEY ENGINEERING CORP.

311 Ross Street Pittsburgh, Pa.
Branch Office, 1600 Arch Street, Philadelphia, Pa.



BEAUTY WITH STRENGTH

PITTCO Store Front Metal members are distinguished by a fluid, sweeping beauty of line; by clean, sharp contours; and by a pleasing relationship and harmony of design between all units. Yet in achieving the unique beauty of this quality store front metal, strength was not sacrificed. The sturdiness and proven durability of Pittco members are as noteworthy as their attractive appearance. In the wide variety of mouldings, bars and sash offered by the Pittco Store Front Metal line, the architect will find suitable units to meet every need encountered in store front work. And he will discover, in the versatility of this outstanding metal, new design possibilities.

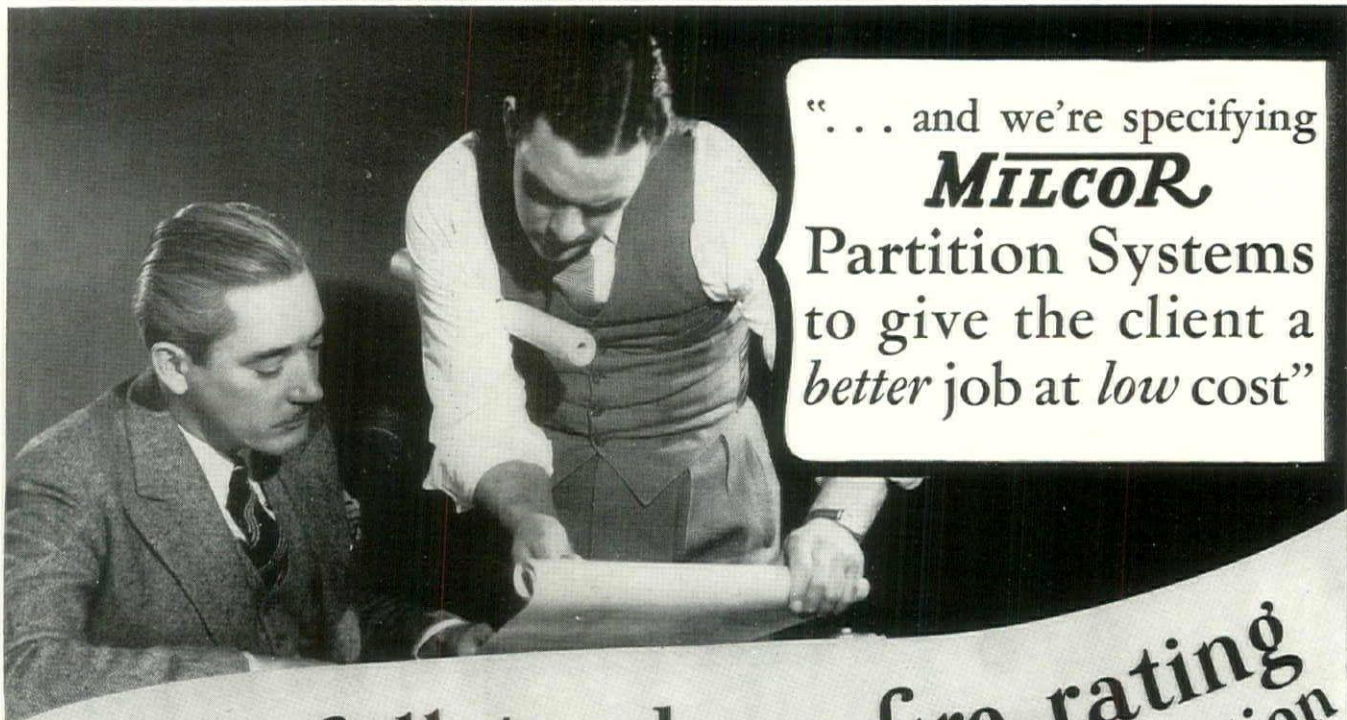


DETAIL:

Cross-section of a typical Pittco Metal moulding, illustrating the combination of beauty and strength for which Pittco Store Front Metal is noted.

PITTCO
STORE FRONT METAL

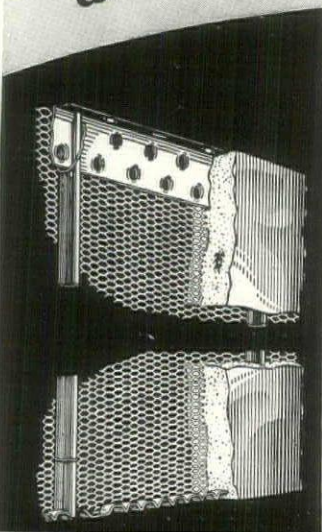
PITTSBURGH PLATE GLASS COMPANY



“... and we're specifying
MILCOR
 Partition Systems
 to give the client a
better job at low cost”

Now - full two-hour fire rating
 at costs that compete with *any* construction

...with **MILCOR** Plaster-on-Steel Partition Systems



• Three simple prefabricated members—Ceiling Angle Runner, continuous Crimped Floor Runner, and Slotted Channel Studs (patents pending) — form a supporting structure for standard Milcor Metal Lath.

• Installing Milcor Lath on Milcor Steel Studs in Coshocton City Hospital, Coshocton, Ohio. Architect: Fred Jacobs, Coshocton. General Contractor: W. J. Paul, Zanesville, Ohio.

Now you can plan for fire-safety on almost anything from bungalows (for non-bearing partitions) to skyscrapers — and please your clients with the surprisingly low cost . . . Using a construction principle always preferred by the building industry — the solid plaster partition — but too costly until now to compete with other types of construction — Milcor makes possible a revolutionary cost reduction in the fireproof field, and opens up new possibilities for fireproofing . . . Introduced a year ago, this new method has set amazing cost records on large-scale housing projects. Using three simple, prefabricated members, one man can erect as many as 150 channel studs per hour . . . It becomes economically practical to give your clients all the well-known advantages of a solid plaster wall, on an interlocking web of steel that makes it practically a one-piece construction . . . The new Milcor Steel Stud makes a similar improvement in the mechanical efficiency of erecting fireproof hollow plaster partitions. A single unit serves a *studding, ceiling runner, floor track* . . . There are other possibilities that you should know about when you talk to clients. Write today for the colorful Milcor Solid Partition and Hollow Partition Bulletins.

F76



MILCOR STEEL COMPANY

MILWAUKEE, WISCONSIN CANTON, OHIO
 CHICAGO, ILL. KANSAS CITY, MO. • LA CROSSE, WIS. • ATLANTA, GA.
 • NEW YORK, N. Y. • ROCHESTER, N. Y. • BALTIMORE, MD.
 Sales Offices: Minneapolis, Minn., Little Rock, Ark., Dallas, Tex., Denver, Colo.,
 Washington, D. C., Boston, Mass.

DO LUMBER

substitutes

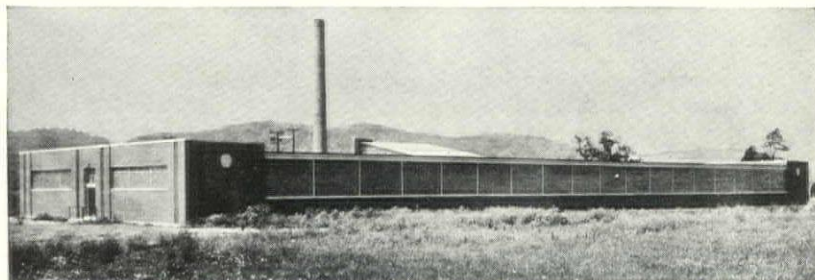
HAVE A CASE ?

**Wolmanized Lumber* now fills the need
for economy, convenience, endurance**

Real lumber, Wolmanized Lumber*, now suits requirements for even the most permanent types of construction. Wolmanized Lumber is protected by dependable pressure treatment with Wolman Salts* preservative against decay and termite damage. The cost of using it is remarkably low because it is applied only at points where moisture fosters damage, to protect the whole structure. In an ordinary dwelling it is used for sills, joists and subfloor, increasing the total

* Registered Trade-mark

ANOTHER EXAMPLE is this ultramodern hosiery mill of the Red House Manufacturing Company, Eleanor, West Virginia. All lumber, including roof decking, trim, etc. (about 95,000 feet) is Wolmanized. Alfred M. Marks, Pittsburgh, was the architect.



cost less than 2%. For industrial and commercial buildings it is proving especially useful and economical as a safeguard against damage caused by moisture condensation due to modern insulation and air conditioning installations. Get complete details by sending today for the new booklet "*Wood Preservation*," which fully describes all phases of the use of Wolmanized Lumber. AMERICAN LUMBER & TREATING COMPANY, 1425 Old Colony Building, Chicago.

WOLMANIZED LUMBER

LUMBER FOR ENDURING, ECONOMICAL CONSTRUCTION





... The Best Things in Life are FREE!

MOTHER NATURE is mighty generous with her gifts. Even a barefoot country boy can enjoy the crisp air of early Fall—the crystal clearness of a flowing stream—the keen adventure in an afternoon's fishing. Yet, some of us refuse the gifts of Nature and pay hard-earned cash for things which she offers free in profusion.

Take casein paint, for example. Some people buy it in paste form and pay a good stiff price for water (common ordinary river water) added by the manufacturer. Others, more shrewd perhaps, buy Modex, the modern casein paint in powder form and save substantially by adding their own water (one of Nature's most generous gifts). The saving is about 25%—one quarter of your entire paint cost. For an interesting booklet about Modex Powder Casein Paint, write The Reardon Company, 2200 North Second Street, Saint Louis, Mo.

FORUM OF EVENTS

(Continued from page 12)

AWARDS

HENRY ADAMS SCHOLARSHIP (\$1,000) for travel and study, particularly of ancient ecclesiastical architecture in Europe, under the direction of the American Institute of Architects, to Professor Arthur Herrman of the University of Washington.

MILTON B. MEDARY SCHOLARSHIP (\$400) for graduate study under the direction of the American Institute of Architects, to Miss Susan Sallee of Washington University, St. Louis, who will specialize in housing problems.

HOOVER MEDAL, "awarded by engineers to a fellow engineer for distinguished public service," to Gano Dunn, president of the J. G. White Engineering Corp. and of Cooper Union, New York.

WILLIAM CAMPBELL FELLOWSHIP for research in metallurgy, under the direction of Columbia University, awarded for the first time this year to Warren H. Mayo, Westfield, N. J.

WILLIAM PETIT TROWBRIDGE FELLOWSHIP for study in engineering, under the direction of Columbia University, to James C. Hicks, Webster Groves, Mo.

SAMUEL WILLARD BRIDGHAM FELLOWSHIP for engineering research, under the direction of Columbia University, to David L. Atwood, Winsted, Conn.

JULIAN CLARENCE LEVI, architect of New York, chairman of the A.I.A. Committee on Foreign Relations, has been made an Officer of the Legion of Honor of France. Mr. Levi has been a Chevalier of the Legion, cited for his services at the Paris International Exposition of 1937.

COMPETITIONS

INSULUX GLASS BLOCK COMPETITION No. 3—A Dairy; \$2,500 in prizes; conducted by THE ARCHITECTURAL FORUM—reprint of program on request; closing date November 20, 1939.

U. S. GOVERNMENT REGION No. 3 COMPETITION—a post office and court house building for Jamestown, N. Y., at an estimated cost of \$500,000. This, the fifth in the series initiated by Secretary Morgenthau and carried forward by John M. Carmody, Administrator of the Federal Works Agency, is open to registered architects in Region No. 3. Regions Nos. 2 and 3 are the only ones of the ten into which the U. S., for purposes of these competitions, is divided on other than State lines. Region No. 2 includes New York City and Long Island, southern half of Ulster County, southern half of Dutchess County, and Westchester, Rockland, Putnam, Orange and Sullivan Counties; Region No. 3, in which this Jamestown competition is held, includes the remainder of New York State. A detailed Program is in preparation and will be available probably before November 15. Copies may be had upon application to "Commissioner of Public Buildings, Federal Works Agency, Washington, D. C." Personnel of the Jury, drawn from private practitioners in neighboring Regions, will be announced therein, also a closing date; in the preceding competitions it has been customary to allow six weeks to two months after issuance of the Program for the study of the problem and submission of simplified drawings.

(Continued on page 44)



Reg. U. S. Pat. Office

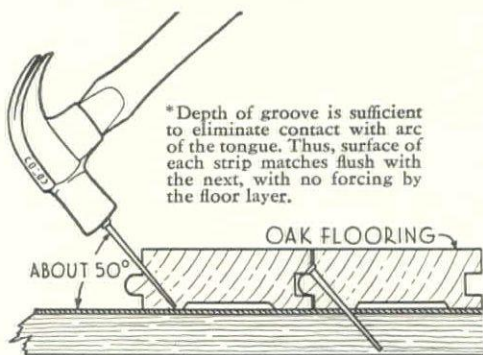


Why NOFMA HARDWOOD FLOORING *protects your Specifications for Beautiful Floors*

- ① Shrinking and swelling in the finished floor are minimized by controlled seasoning and conditioning of the hardwood lumber before it is run through the flooring machines.
- ② Improved methods of seasoning preserve natural texture of the wood; no case-hardening, no splitting at nails, no torn grain in trimming at end of each course.
- ③ Tongue and groove are designed to match flush, without forcing in drawing up*; prevents surface checking and cupping.
- ④ Evenly conditioned texture protects hardwoods' original color, figure and flower, and provides uniform absorption of applied finishes.
- ⑤ Foregoing steps mandatory upon manufacturers of NOFMA hardwood flooring before they may identify their products by attaching the NOFMA copyrighted label.
- ⑥ This label, see below, certifies manufacturing standards as approved by the U. S. Bureau of Standards (CS-56-36) and guarantees the grade stamped on the flooring.

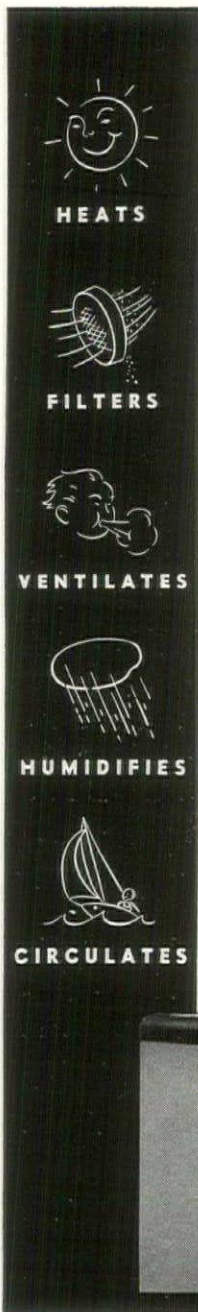
NOFMA hardwood floors are immediately available from local distributors throughout the United States, in NOFMA guaranteed grades of Oak, Beech, Birch, Hard Maple and Pecan. Authentic data for specification writing is furnished in the NOFMA Master Work Sheet, AIA File 19-E-9, which will be mailed on request.

**WRITE
FOR THE
NOFMA
MASTER
WORK
SHEET
AIA FILE 19-E-9**



NATIONAL OAK FLOORING MANUFACTURERS ASS'N
1120 DERMON BUILDING, MEMPHIS, TENNESSEE



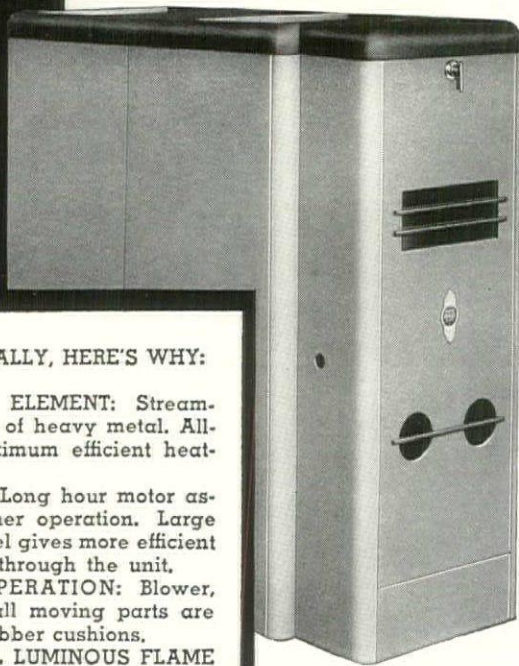


THE IMPROVED
Payne
ZONEAIR
LICKS 5 BIG
HEATING
PROBLEMS!

Here is a gas-fired Payne Unit which is a jack-of-5-trades—and master of them all! It heats—filters—ventilates—circulates—and humidifies, all automatically.

The improved Payne Zoneair gives the homeowner year 'round weather control—24 hours a day—from bedroom to basement. Used individually to heat separate groups of rooms, it provides zoned winter air conditioning.

Architects and builders everywhere are acclaiming the improved Payne Zoneair as the last word in modern home comfort-insurance.



MECHANICALLY, HERE'S WHY:

- **HEATING ELEMENT:** Stream-lined design of heavy metal. All-welded. Maximum efficient heating surface.
- **BLOWER:** Long hour motor assures smoother operation. Large size fan wheel gives more efficient air delivery through the unit.
- **QUIET OPERATION:** Blower, motor, and all moving parts are floated on rubber cushions.
- **OPTIONAL LUMINOUS FLAME BURNER:** Exclusive with Payne, guarantees efficient combustion of manufactured gas.
- **FILTER:** 25% more filter area. Finest grade, replaceable type spun glass filters.
- **ACCESSIBILITY:** Heating element, blower, motor, filter, control panel—every part may be quickly and easily reached.
- **SIZES:** Five sizes (60,000 to 200,000 B.T.U. input rating) used singly or in combinations cover every home heating requirement.

For further information see your Payne dealer, or write

Payne
**FURNACE AND
SUPPLY CO., INC.**
Beverly Hills, Calif.

FORUM OF EVENTS

(Continued from page 42)

EDUCATIONAL

CRANBROOK ACADEMY OF ART, Bloomfield Hills, Mich., offers a scholarship for the study of advanced sculpture under the direction of Carl Milles. The scholarship consists of free tuition, board and room, December 1, 1939 to June 30, 1940. Application forms, which may be had from the Academy, must be filed not later than November 15, 1939.

COOPER UNION, New York. Five appointments to the faculty of Cooper Union Art Schools are announced: Simon de Vaulchier, industrial designer, succeeding Paul Feeley who has joined the faculty of Bennington College; Leo Katz, mural painter and author; Douglas Grant, director of the Merriewold Summer Art School; Russell Mitchell-tree; Saul Yalkert, designer.

CHOUNARD ART INSTITUTE OF CALIFORNIA, Los Angeles. Harwell H. Harris will conduct a course in architecture and interior architecture during the coming semester. Collaboration between advanced students of this and the painting and other departments of the school is possible on certain projects.

CORNELL UNIVERSITY, Ithaca, N. Y. Appointments to the staff of the College of Architecture: Eric Gugler, F.A.I.A., as associate professor of architecture, F. H. Bosworth being on leave of absence for the current year; James O. Mahoney, assistant professor of fine arts; A. Henry Detweiler and John Udall, instructors in architecture.

METROPOLITAN MUSEUM OF ART, New York. In a series of lectures on Historic Styles in Modern Decoration, which started October 29, Nancy V. McClelland will speak November 12 on "French Styles: Nineteenth Century"; on November 19 Leonard C. Brothers on "English Styles: Nineteenth Century." Lectures at 3 p.m.

THE NEW YORK SCHOOL OF INTERIOR DECORATION. Evening sessions beginning with the coming semester include three Practical Training Courses: Section A, for beginners; Section B1, a continuation of the former; and Section B2, supplementing the practical, historical, and compositional training included in the other two Sections. The instruction is under the direction of Sherrill Whiton, with Louis Bouché as associate director aided by a large staff.


OZENFANT SCHOOL OF FINE ARTS, New York. Amédée Ozenfant has transferred his Paris and London schools to New York, where students may receive instruction in drawing and modeling, painting, colors, framing, murals, besides general lectures on various phases of art, photography, music, typography, ceramics, and the like. Further information may be had from the Secretary, 208 East 20th St., New York, N. Y.

UNIVERSITY OF NOTRE DAME, Notre Dame, Ind. Frank Montana, 29th winner of the Paris Prize, Beaux-Arts Institute of Design, has joined the faculty of the Department of Architecture, where he will teach architectural design and water color.

CALENDAR

December 4-8. Sixtieth Annual Meeting, American Society of Mechanical Engineers at Bellevue-Stratford Hotel, Philadelphia.

(Continued on page 46)



Administration Building, Municipal Airport, Memphis, Tenn. Walk C. Jones and Walk C. Jones, Jr., architects. Gardner and Howe, structural engineers. W. B. Fowler, city engineer. Col. Henry S. Berry, WPA Administrator.

Buildings in the public eye gain fresh beauty *at low cost with* **CONCRETE**

BEAUTY is a commercial asset for buildings catering to the public—but it must be attained without sacrificing economy or low upkeep. That is why hundreds of new stores, offices, theaters, and other “public” buildings are going concrete.

CONCRETE DELIVERS!

It is so low in first cost that it is likewise being widely used for factories, power houses and other strictly “utility” structures. Concrete permits walls, floors and decoration to be cast as a unit in one economical material. It assures

a high degree of firesafety plus long life and low maintenance.

YOUR ARCHITECT or engineer can tell you about advantages of concrete for your new building —no matter what its size or architectural style.

WRITE FOR BOOKLET “*The NEW Beauty in Walls of Architectural Concrete*” (furnished free in U. S. or Canada), or ask for one of our engineers to call.

PORTLAND CEMENT ASSOCIATION
Dept. 11-7, 33 W. Grand Ave., Chicago, Ill.

A national organization to improve and extend the uses of concrete—through scientific research and engineering field work.

Architectural Concrete

... ARCHITECTURAL AND STRUCTURAL FUNCTIONS
COMBINED IN ONE FIRESAFE, ENDURING MATERIAL

FORUM OF EVENTS

(Continued from page 44)

January 22-26, 1940. Sixth International Heating and Ventilating Exposition, Lakeside, Cleveland, Ohio, held under the auspices of the American Society of Heating and Ventilating Engineers, in conjunction with their annual meeting and the national meeting of the National Warm Air Heating and Air Conditioning Association.

DEATHS

Raymond F. Almirall, architect, 69, in New York, N. Y. Born in Brooklyn, Mr. Almirall's architectural education was had at Brooklyn Polytechnic Institute, at Cornell University, and at L'Ecole des Beaux-Arts in Paris. Mr. Almirall practiced in Brooklyn excepting for a period some years after the World War, when he lived in France. While there he was one of a group of architects commissioned to rebuild the Palace of Versailles.

He was a member of the American Institute of Architects and of the Society of American Engineers. France had made him a Chevalier of the Legion of Honor.

CHARLES H. BAUER, 59, architect, in East Orange, N. J. Mr. Bauer was born in Philadelphia, was graduated from Columbia University, and, until illness forced him to retire in 1933, he was affiliated with the firm of Guilbert & Betelle, architects in Newark. He was a member of the American Institute of Architects.

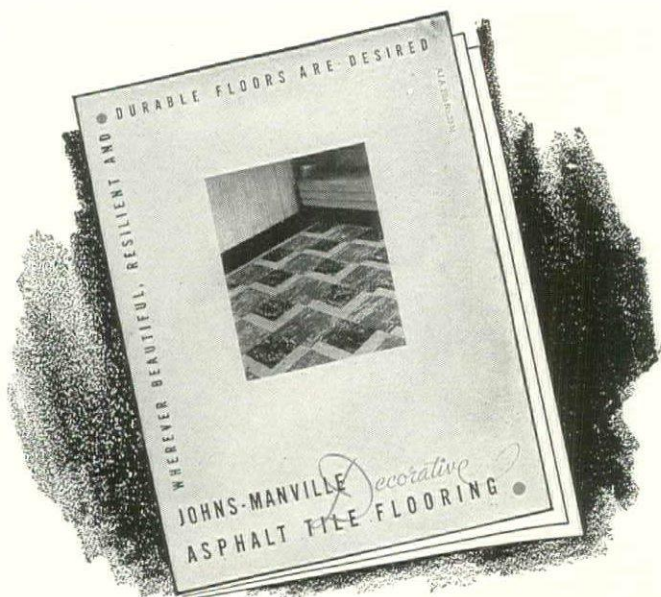
JEAN BOUCHER, 69, sculptor, in Paris. Internationally known for his sculpture, he was also a professor at the L'Ecole des Beaux-Arts. Among his best known works are the "American Volunteers" and the statue of the revolutionary leader, Camille Desmoulins, both in Paris.

JOHN V. DAVIES, 76, consulting civil engineer, in Flushing, N. Y. A native of South Wales, he was educated at Wesleyan College, Taunton, England, and the University of London. He came to the U. S. in 1889, and is credited with a great number of achievements in engineering, largely in the hydraulic field. He built the first tunnel under the East River, an eleven foot tube for the East River Gas Co., in 1893. He designed the four tunnels underneath the Hudson, and supervised the building of the Hudson Terminal, New York. His profession honored him with the Norman Gold Medal of the A.S.C.E., and with the Rowland Prize of the same organization. He also received the Tilford Gold Medal of the Institute of Civil Engineers.

VICTOR FRISCH, 63, sculptor, in New York. Born in Vienna, Mr. Frisch studied art there and in Munich and Paris. From 1894 to 1914 he worked in Rodin's atelier as an assistant. He came to the U. S. in 1925, and subsequently became a citizen. Among many famous achievements in portrait busts, he designed the bust of Rodin which the master desired to have on his grave.

IRVING KANE POND, 82, architect of Chicago, died in Washington, D. C. while attending the A.I.A. Convention. Mr. Pond was one of the most widely known figures in the architectural profession, receiving his first degree as a civil engineer at the University of Michigan in 1879. Among many buildings designed by the firm of Pond & Pond, in which he was associated with his brother, Allen B. Pond, are Hull House and the Chicago Commons in his home city; the Federal Building at Kankakee, Ill.; the Michigan

(Continued on page 48)



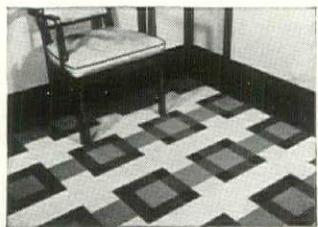
Do you want the **LATEST IDEAS** for **DECORATIVE FLOOR COVERING**?

Send for this **FREE** book of **Johns-Manville Asphalt Tile Suggestions**

This stimulating *Idea Book* is packed with photographs of interesting floor designs. Many are reproduced in full color. It contains suggestions for smart, colorful floors in stores, display rooms, lobbies, etc.; interesting



Two of the many distinctive J-M designs shown in full color in the J-M Asphalt Tile Flooring brochure.



ideas for offices, schools, public buildings; restful designs for churches and hospitals. The book includes color plates of the 37 plain and marbled colors of J-M Asphalt Tile which make it easy for you to select just the color combinations you need to carry out your ideas of interior treatments. It shows why J-M Asphalt Tile floors are quiet and resilient, give long years of service with little, if any, upkeep expense.

For your free copy, including specification data, mail the coupon!

CLIP COUPON FOR FREE BOOK

Johns-Manville, Dept. AF11, 22 East 40th St., New York City
Send me specification data and your full-color brochure on J-M Asphalt Tile Flooring.

Name

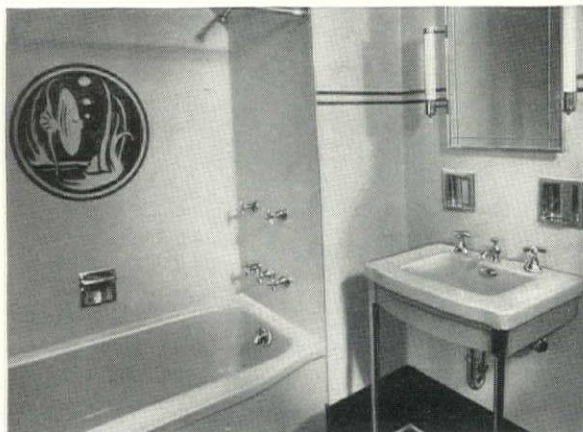
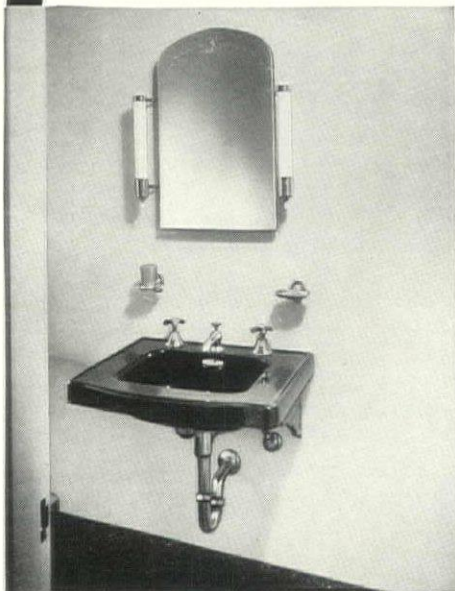
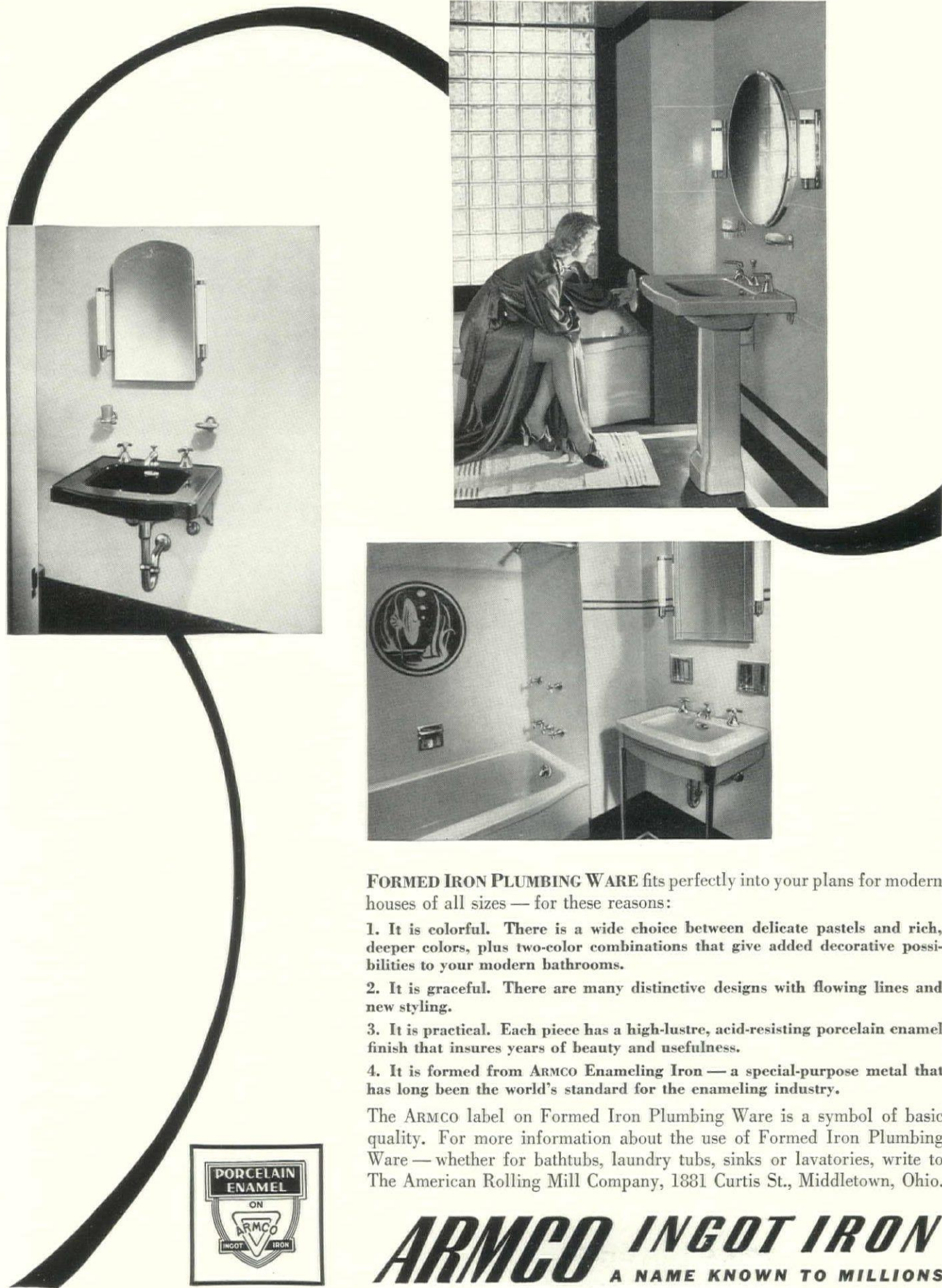
Address

City State



JOHNS-MANVILLE ASPHALT TILE FLOORING

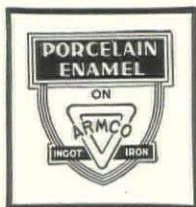
ACCENT ON FORM



FORMED IRON PLUMBING WARE fits perfectly into your plans for modern houses of all sizes — for these reasons:

1. It is colorful. There is a wide choice between delicate pastels and rich, deeper colors, plus two-color combinations that give added decorative possibilities to your modern bathrooms.
2. It is graceful. There are many distinctive designs with flowing lines and new styling.
3. It is practical. Each piece has a high-lustre, acid-resisting porcelain enamel finish that insures years of beauty and usefulness.
4. It is formed from **ARMCO Enameling Iron** — a special-purpose metal that has long been the world's standard for the enameling industry.

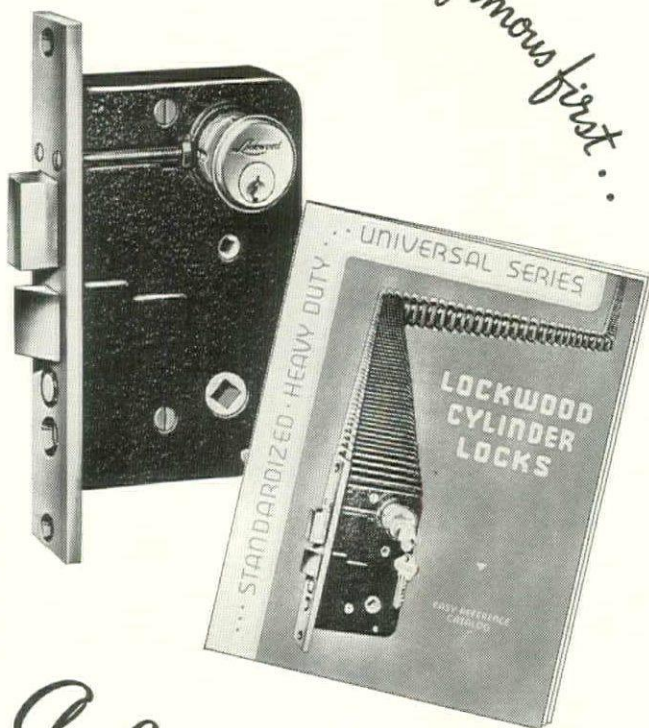
The **ARMCO** label on Formed Iron Plumbing Ware is a symbol of basic quality. For more information about the use of Formed Iron Plumbing Ware — whether for bathtubs, laundry tubs, sinks or lavatories, write to The American Rolling Mill Company, 1831 Curtis St., Middletown, Ohio.



ARMCO INGOT IRON

A NAME KNOWN TO MILLIONS

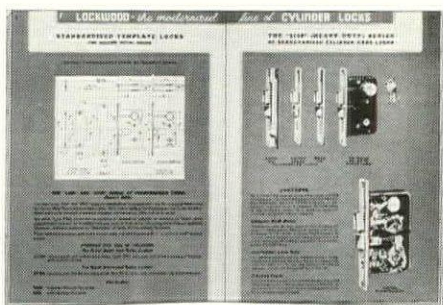
Another Lockwood famous first...



A Lock Catalog for Architects

For the first time in the history of the industry, here is a *simplified, easy reference* catalog of cylinder locks. It shows the most complete, thoroughly modernized line on the market, catalogued in a condensed, systematic style that makes selection and specification a surprisingly easy job.

More than three hundred locks—standardized for metal or wood, heavy duty or standard grade—flat, armored or rabbeted fronts—plain or antifriction latch bolts—locks for Underwriters' labeled doors—all these condensed and arranged for quick identification on twenty-eight pages.



Every architectural office will want at least one of these unique catalogs. Write for your free copy now.

LOCKWOOD HARDWARE MFG. CO.
DIVISION OF
INDEPENDENT LOCK COMPANY
FITCHBURG, MASSACHUSETTS

FORUM OF EVENTS

(Continued from page 46)

Union and the University of Michigan League Buildings at Ann Arbor. He was the author of "The Meaning of Architecture," "A Day Under the Big Top," and "Big Top Rhythms," the latter two books arising from his lifelong interest in the circus and its possession of little recognized art forms. Mr. Pond was a Fellow of the American Institute of Architects and one of its former presidents; a former president of the Chicago Chapter; a founder of the Cliff Dwellers Club and of the Chicago Architectural Club. The University of Michigan conferred on him the honorary degree of Master of Arts in 1911 and of Doctor of Architecture in 1930. He was honored with an honorary corresponding membership of the Institute of German Architects, the Royal Institute of British Architects, the Central Society of Austrian Architects.

PERSONAL

John P. Brown, architect, has moved his offices to 37 Pearl Street, Boston, Mass.

The new firm of Ditchy-Perry-Sidnam, architects of Detroit, Mich., is announced as the successor of Ditchy-Farley-Perry, architects. The members of the partnership include Clair W. Ditchy, Leo I. Perry, and Verne H. Sidnam.

Waldron Faulkner announces a partnership with Slocum Kingsbury for the general practice of architecture under the firm name of Faulkner & Kingsbury at 917 Fifteenth St., Washington, D. C.

Nairne W. Fisher, architect, announces the removal of his office to 3121 Excelsior Boulevard, Minneapolis, Minn.

James W. Follin, who has become widely known to architects through his work with the Federal Home Loan Bank Board in Washington, D. C., as chief of the Home Building Service Division, has been appointed managing director of The Producers' Council. Mr. Follin is a graduate professional engineer, a past president of the Philadelphia Section, A.S.C.E., and for several years he was assistant engineer to the Pennsylvania Department of Highways. He also served as secretary of the Construction Code Authority, Inc., the administrative and coordinating agency created by the Construction Code.

Sydney B. Hayslip, architect, has moved his offices to 303 Postal Building, Portland, Ore.

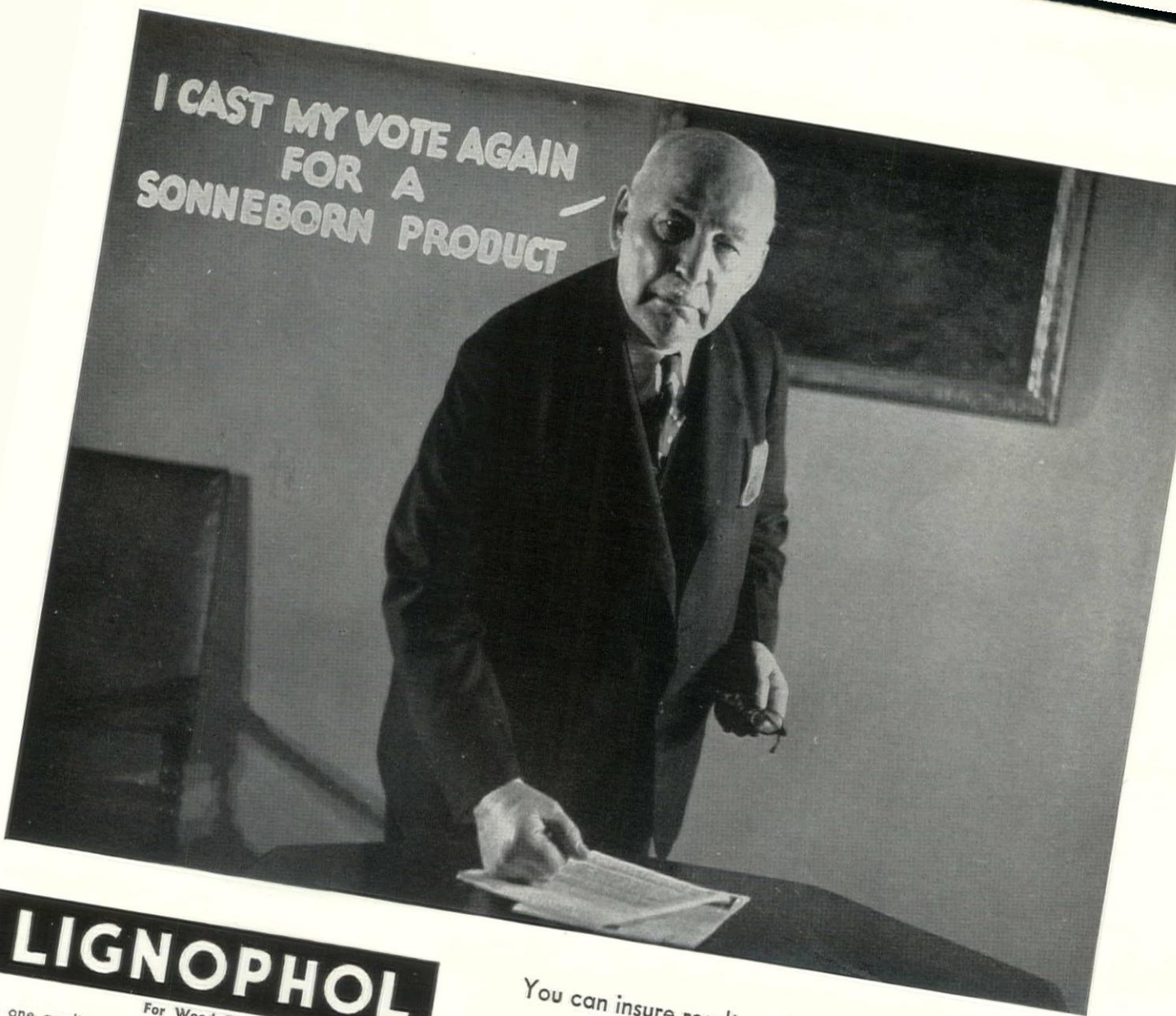
William O'Neil, industrial designer, has moved his offices to 50 Rockefeller Plaza, New York, N. Y.

Antonin Raymond, architect, has removed his office to 132 East 58th St. in New York City, his residence and studio to New Hope, Pa.

Hobart A. Walker of East Orange, N. J., and Augustus R. Archer of Somerville, N. J., announce that they have associated for the practice of architectural and engineering work with offices as noted above.

White & Weber, architects, announce a change in the name of the firm to Bertram A. Weber, architect, with offices at 820 North Michigan Avenue, Chicago, Ill.

(Continued on page 50)



I CAST MY VOTE AGAIN
FOR A
SONNEBORN PRODUCT

LIGNOPHOL

For Wood Floors

The one application wood finish that preserves and beautifies—and leaves nothing to wear off. Lignophol gives permanent protection, costs little to apply and less to maintain.

LAPIDOLITH

Liquid for concrete floors

is a liquid chemical *compound that penetrates the porous cement and binds the loose particles together into a fine, granite-hard surface that resists wear and is dustproof for years. Works equally well on new or old floors.

*U. S. PATENT APPLIED FOR

CEMCOAT

Filler and Dustproof for wood or concrete floors

A durable, decorative treatment for floors subjected to light or heavy traffic—in attractive colors—made to outlast conventional floor paints . . . and inexpensive to use.

You can insure results and keep costs down by specifying Sonneborn's Tested Floor Products—Lignophol, Lapidolith and Cemcoat—whose outstanding worth has been proven on numberless jobs, from coast to coast, over a long period of years.

The records of many of these tests are on file—they will show you why specifying Sonneborn's Tested Floor Products insures complete customer satisfaction.

OTHER SONNEBORN TESTED PRODUCTS

Hydrocide Colorless, Kaukit, Hydrocide Waterproofing and Dampproofing, Architectural Finishes (Paints and Enamels).

Write Dept. F11 for descriptive literature and scientific tests.

L. SONNEBORN SONS, INC.

88 Lexington Ave., New York City

FORUM OF EVENTS

(Continued from page 48)

A BUILDER LOOKS AHEAD

On Construction Day at the New York World's Fair, Arthur C. Tozzer, vice president of the Turner Construction Co., gave an address under the above title. From it we quote his remarks on the subject of jurisdictional disputes.

"For years many vexing problems have plagued the industry, but no one has been so expensive, wasteful, and useless as that of the Jurisdictional Dispute—the dispute between crafts, as to which shall do a particular part of the construction work.

"Originally structures were made of stone or wood only, and there were then two classes of craftsmen, the mason and the carpenter. Then there was no dispute, because the division of work was clear-cut. Individual craftsmen of the fundamental trades attained skill in certain lines and were hired primarily for work calling for those specialties. It was natural that the specialists would seek to monopolize the work for which they were fitted, until these classifications became recognized as separate crafts.

"As labor became organized these specialty crafts became separate unions. Always one of the principal activities of the unions has been to hold work for their respective members and resist encroachment from other trades, and to absorb the employment created by the introduction of new materials and equipment.

"These jealousies and controversies which we know as jurisdictional disputes are arguments between unions, not between employers and employes, and are abhorred by all.

"Over the past twenty years, a number of plans have been

set up to correct this evil and prevent this stoppage of work. Employers and employes have come together and tribunals have been established to settle craft disputes. These plans have had some temporary success, but have lapsed for one reason or another.

"For a long time union officials had been anxious to stop jurisdictional disputes. It was evident to them that problems could not be settled for an individual project; or even for a separate area, without a means of settling questions on a country-wide scale, since many of the issues at stake were considered of national importance. While the officers of the nineteen international unions in the Building and Construction Trades Department of the American Federation of Labor have long considered this of extreme significance, it is regrettable to admit that they have sometimes been divided and lacking in their efforts to clear up the issues involved.

"Without going into detail, let me report that last August the Labor Relations Committee of the Associated General Contractors of America and the Executive Council of the Building and Construction Trades Department of the A.F.ofL., sat around a table in Atlantic City and through frank discussions unanimously agreed on the fundamentals of a plan which is being put into effect to prevent stoppage of work by jurisdictional disputes, and to arbitrate them.

"Both parties recognized that continued progress in the construction industry will inevitably bring differences of opinion as to which craft should do specific parts of the work. But both sides recognized, now as never before, the necessity for preventing stoppages of work.

"I cannot say today that since the understanding was reached that there has been no stoppage of work because of jurisdictional strikes. But the number of strikes, taking the country as a whole, has been drastically reduced, and their duration has been shortened. The plan will work."

He's using

SEAL-O-SAN
the finish that

HOSPITAL PEOPLE APPROVE

A beautiful money-saving finish, Seal-O-San is first choice in more than 2000 hospitals

WHEN YOU SPECIFY Seal-O-San you safely put your trust in the one wood finish that for years has met every demand made by hospital administrators. Penetrating deep, Seal-O-San actually becomes part of the wood . . . leaves no surface film to chip or crack. Sealing the wood cells, it puts an end to hidden crevices that harbor germs or dirt . . . thus permits easy cleaning.

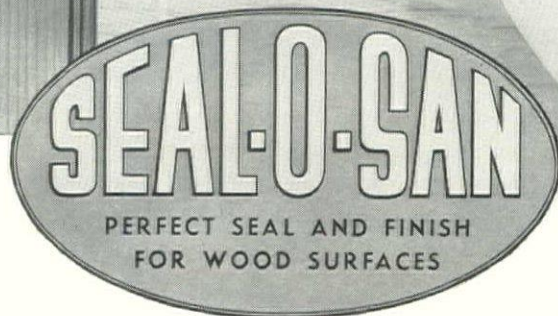
Free-flowing, it leaves a natural finish—a finish as smooth and polished as on a piece of polished furniture. And the ease of application—without mixing or preparation—brings worthwhile labor savings.

You'll earn the thanks of everyone charged with hospital management when you insist on Seal-O-San. For specifications and complete details, write today

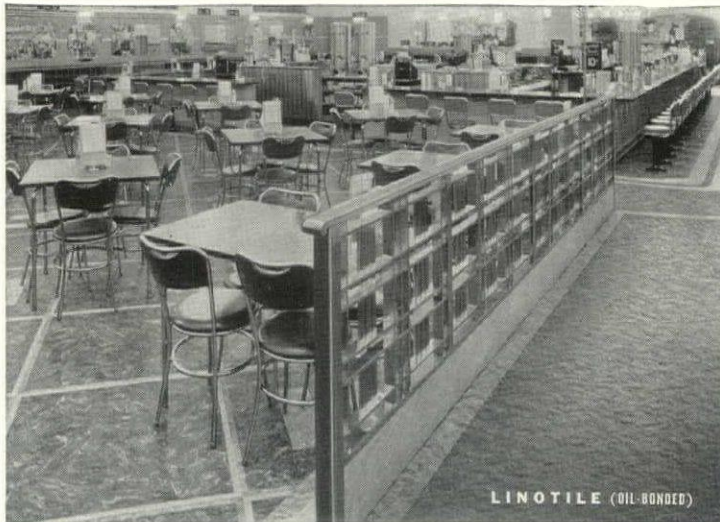


**FOR THE INITIAL FINISH ON MASTIC FLOORS SPECIFY
NEO-SHINE WAX**

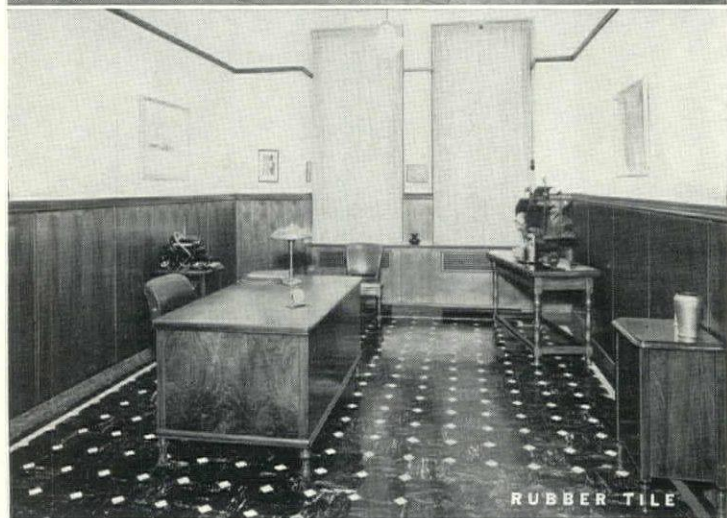
The higher wax content in Neo-Shine provides greater protection for new hospital floors. That's why 6 hospitals out of 10 prefer Neo-Shine.



MADE EXCLUSIVELY BY
The HUNTINGTON LABORATORIES Inc
DENVER • HUNTINGTON INDIANA • TORONTO



These three S. S. Kresge installations of Armstrong's Resilient, Non-Ceramic Tiles show their variety of use—Linotile (Oil-Bonded) in the soda fountain and tea room; Asphalt Tile in the basement salesroom; and Rubber Tile in the executive office.



HERE IS KRESGE'S *triple answer* TO FLOOR WORRIES

Is it durability, quietness, or low cost you want? One of these resilient tiles will do the job.

WHEN specifications are being made up, and you decide that only a resilient non-ceramic tile will do, then comes the question "Which type?" Armstrong makes it easy for you to decide by offering three from which to choose.

Special Floors for Special Needs

If extra resilience and a rich glossy finish are of primary importance, and the installation must be the finest possible, it will pay to use Armstrong-Stedman Reinforced Rubber Tile.

If heavy traffic and dent-resistance must be considered, and if you want a flooring that will stand up, year after year, use Armstrong's Linotile (Oil-Bonded).

And if you want a combination of good qualities at low cost, to fit a tight budget—or a material for installation on or below grade, the answer is Armstrong's Asphalt Tile.

All three of these resilient floorings have the following qualities in common. They are beautiful and offer a large variety of colors and patterns. They are durable. The rich colors run through the full thickness of the composition. Scuffing feet can't wear away their freshness or mar their original beauty. And all are easily kept clean and serviceable with only a daily sweeping and occasional washing and waxing.

Write for Suggestions

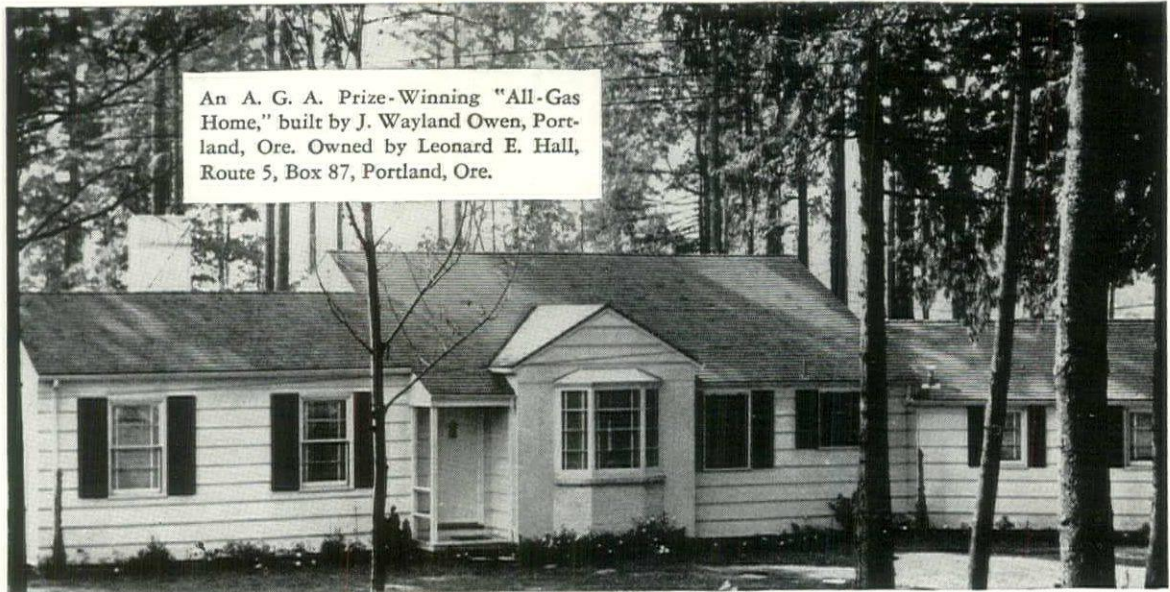
For further suggestions, we invite you to consult with Armstrong's Architectural Service Bureau, which will gladly give you unbiased help on the type of floor best suited to your plans. Also see *Sweet's Architectural Catalog* for detailed information, or write now for illustrated literature. Armstrong Cork Company, Building Materials Division, 1204 State St., Lancaster, Pennsylvania.



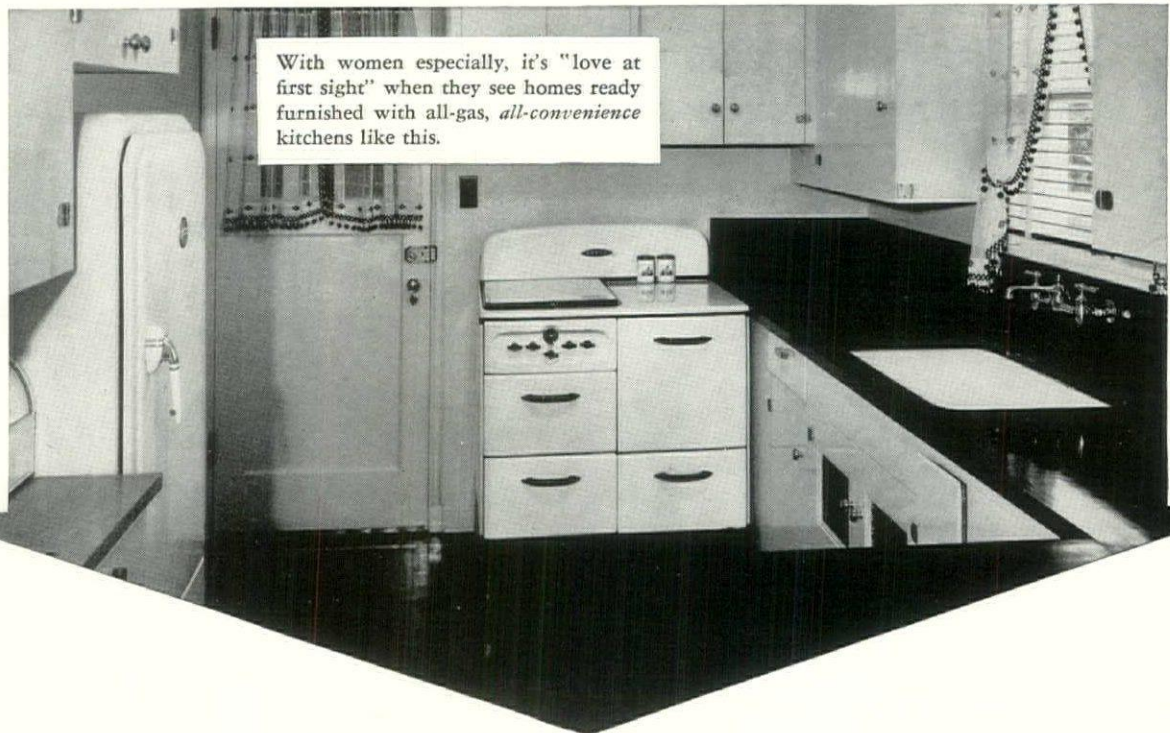
RUBBER TILE • LINOTILE (OIL-BONDED) • ASPHALT TILE

Armstrong's **LINOLEUM**
and **RESILIENT, NON-CERAMIC TILES**

CORK TILE • LINOWALL • ACOUSTICAL CEILINGS



An A. G. A. Prize-Winning "All-Gas Home," built by J. Wayland Owen, Portland, Ore. Owned by Leonard E. Hall, Route 5, Box 87, Portland, Ore.



With women especially, it's "love at first sight" when they see homes ready furnished with all-gas, *all-convenience* kitchens like this.

PRIZE-WINNING ALL-GAS HOMES ARE SALES-WINNERS, TOO!

BUILDERS everywhere are discovering that homes "ready to live in" are far easier to sell than unequipped houses.

Prospects become ready customers when "*Gas does the 4 Big Jobs,*" because they know that gas is the modern fuel that *lets them enjoy life!*

They know, too, gas is clean, silent, odorless, fully automatic and the most economical fuel in the long run.

Modern gas ranges, refrigerators, water heaters and house-heating

equipment are compact, beautifully designed and equipped with the latest automatic devices and work-saving features... They help "complete the picture" and transform a barren house into a livable home.


*A complete picture...
an easier sale!*

You make quicker, easier, bigger profits when you sell gas-equipped homes. Ask your local gas company for facts and figures.

AMERICAN GAS ASSOCIATION

LET
Gas
DO THE 4 BIG JOBS

COOKING
WATER HEATING
REFRIGERATION
HOUSE HEATING

 Be sure the gas appliances you specify bear the Approval Seal of the American Gas Association Testing Laboratories.

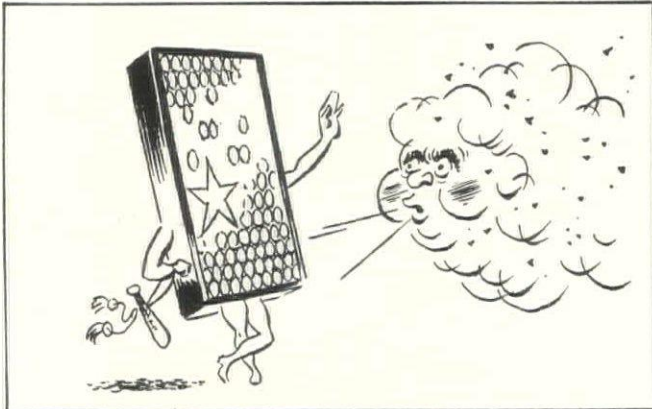
How to get the most out of the filter installations you specify



1 Watch your client cut capers when you specify Dust-Stop Air Filters.* Why? Because they cost approximately 1 cent per CFM to install (including frames): and less than 1/10th of a cent per CFM to maintain. Compare these costs with permanent and mechanical installations!



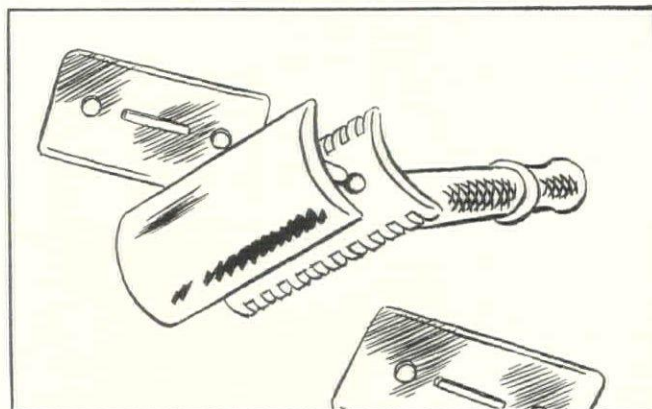
2 Facts for your client's entire management! Dust-Stops are safer because the all-glass filtering medium, *Fiberglas**, and the patented adhesive will not support combustion.



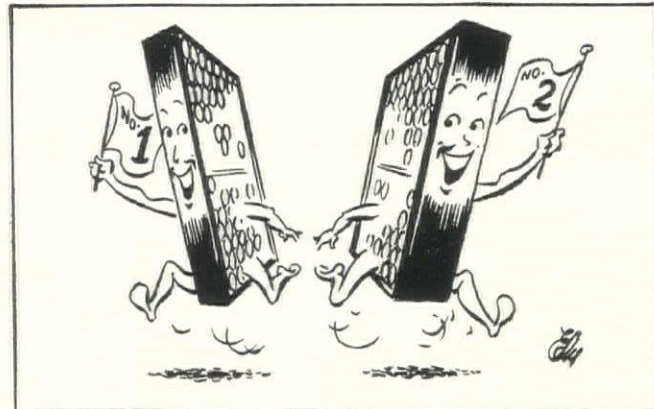
3 How about efficiency? Dust-Stops strain out virtually all "nuisance" dusts (including hay fever pollen). Capacity—2 CFM per square inch of area at 300 ft. FPM. Resistance (in water gauge per in. of depth)—.045 to .050 clean to .11 to .12 dirty.



4 You'll never have to take the blame for stained walls and ceilings, due to "bleeding" of the filtering adhesive, when you specify Dust-Stops. Likewise, there'll be no worry about the serious fire hazard of filtering oil blowing and settling in minute drops in the duct system.



5 Dust-Stops are as easy to change as a razor blade. Being a "throw-away" filter, Dust-Stops eliminate cleaning, recharging, draining, expert supervision, and the need to keep a supply of "spares." They fit all types of "L"—and "V" frame assemblies. These facts are good news to clients!



6 Dust-Stops are available everywhere. Your clients can get them at a moment's notice. For more technical data about No. 1 Dust-Stops (1-inch) and No. 2 Dust-Stops (2-inch), consult us. Write today to: Owens-Corning Fiberglas Corporation, Toledo, Ohio.

FIBERGLAS DUSTOP AIR FILTERS

*T. M. REG. U. S. PAT. OFF.

Made by Owens-Corning Fiberglas Corporation, Toledo, Ohio

Markets - Sales - Profits -

GET YOUR SHARE OF
INTERIOR FINISH JOBS

with

INSULITE

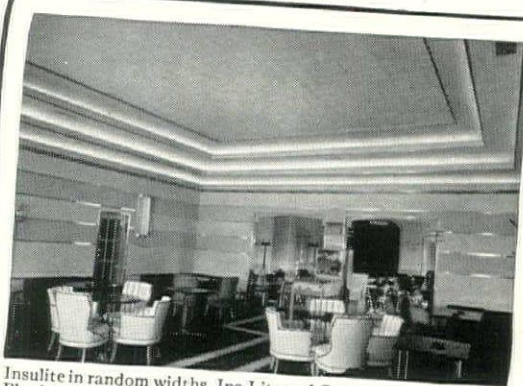
WINTER is here! Building moves inside. Now is the time to remodel, redecorate, beautify. Interior finish jobs command the attention of every architect, builder and dealer.

You will find quick sales by meeting this demand with Insulite Interior Finish materials. Insulite taps new markets because of its infinite variety. Five surface textures — variation — design — patterns — make sales in *every* market. All right in your town — your neighborhood.

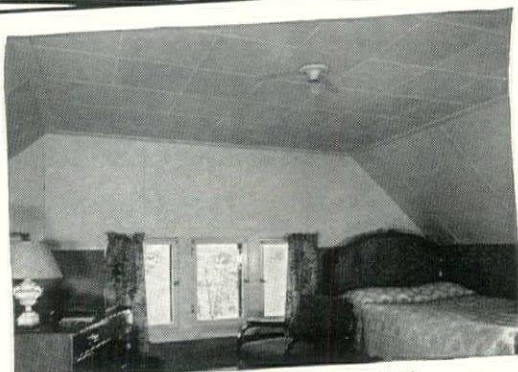
Easy, quick application. Beautiful interiors—bring satisfied customers that tell others — sell more jobs for you. Insulite profits are cumulative.

And, as you know, Insulite not only decorates but INSULATES — reduces and quiets sound — saves fuel.

Write today for literature and samples about INSULITE. The Insulite Company, Dept. AF119, Minneapolis, Minn.



Insulite in random widths, Ins-Lite and Graylite Plank on walls with Smoothcote Tile in a basket weave on the ceiling, combine to beautify this inviting cafe. Metal mouldings add the finishing touches at the joints.



Insulite Smoothcote in Board and Tile turned this attic into an attractive bedroom and study, helping, too, to INSULATE the entire house.

INSULITE PRODUCTS INCLUDE:

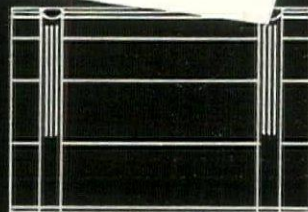
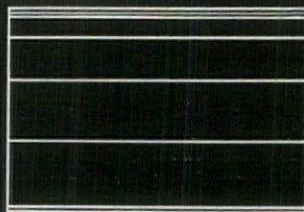
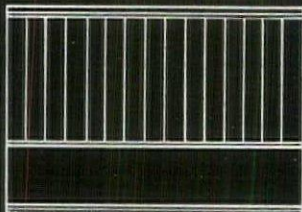
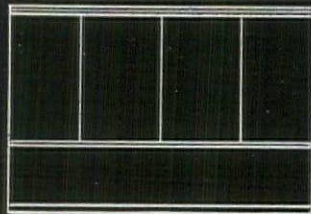
Insulite Interior Finishes:

INS-LITE • GRAYLITE • ACOUSTILITE
SATINCOTE • SMOOTHCOTE • HARDBOARDS

For Schools, Shops, Stores, Restaurants, Tap-rooms, Bedrooms, Basement Rooms—everywhere a new interior means more comfort or more profit to the owner.

Structural Insulite:

LOK-JOINT LATH • BILDRITE SHEATHING



INSULITE WALL PATTERNS

INSULITE

Copyright 1939,
The Insulite Company



THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD

A MESSAGE to Architects

A SUCCESSFUL operator* who has succeeded in providing outstanding theatres at astonishingly low per-seat cost tells us that by using our consulting service he saves more in building cost than the price of the chairs he installs—and he buys the finest—American Bodiform Chairs.

He writes that his first step is to make a topographical survey of the selected site. "This, together with the land survey, we took immediately to your Engineering Department. We told them approximately how many seats we wanted ultimately to get and asked them to lay out seating and floor plans giving us the maximum number of desirable seats, the ideal pitch of the floor and sight lines and the height of the screen. From this plan we actually started and around same the architect made plans for the building of the theatre."

We will be pleased to extend to you, without charge or obligation, consulting assistance as to maximum efficient seating capacity, sight lines, slopes, ventilator connections, riser dimensions, and floor constructions best adapted for dependable seat attachment. Inquiries regarding all public seating problems are invited.



American Seating Company

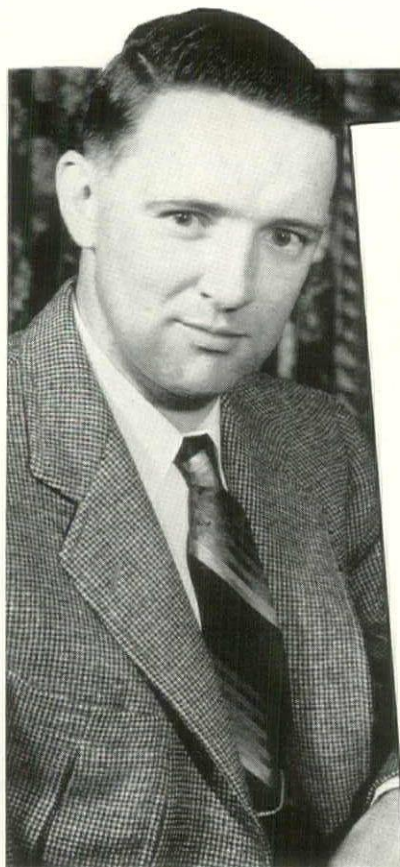
GRAND RAPIDS, MICHIGAN

Pioneers and pacemakers in theatre, auditorium, school, church, stadium and transportation seating

Branch Offices and Distributors in Principal Cities

*Name on request

"Window Conditioning cut my coal bill in half...!"



"And now we don't have to worry about Drafts, Frosted Windows and Uneven Temperatures"

That's what W. D. Caswell, Manchester, N. H., says about Storm Sash. That's what thousands of satisfied users are saying clear across the country.

When you specify Window Conditioning for the new homes that you plan you bring your clients more winter comfort, greater economy than is offered by almost any other item of comparable cost.

The comforts are freedom from chilly drafts... the elimination of excessive condensation on windows... the maintenance of more even temperatures throughout the house. Its economy represents substantial savings in fuel costs.

And the small added cost of the Storm Sash or Double-Glazed Sash is often more than offset by the resultant use of smaller and less costly heating equipment without impairing heating efficiency.

Since your clients will be looking through two panes of glass instead of one, the quality of that glass becomes doubly important. L.O.F. Quality Glass is today as it has been for many years, Clearer, Brighter and Flatter than any window glass that the industry has ever offered. These superior qualities make it ideal for Window Conditioning.

Libbey-Owens-Ford Glass Company, Toledo, Ohio



ROSSFORD, O.

"Water used to run down the windows but now there is no condensation at all."
—F. R. McLaughlin



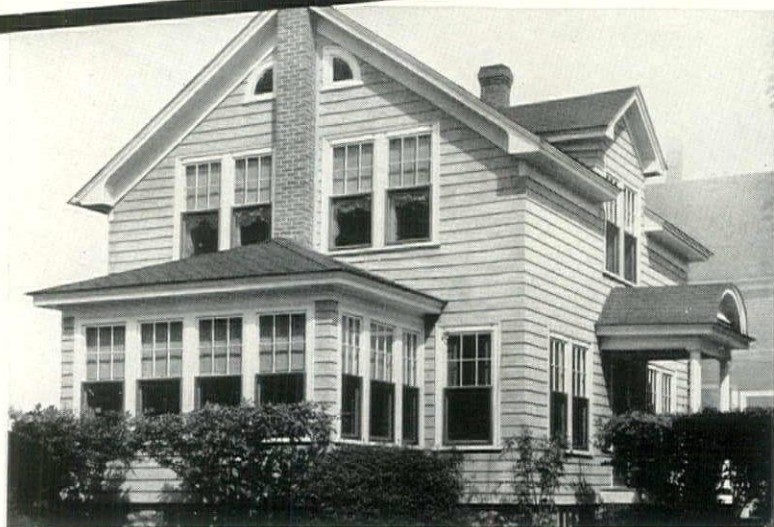
MARLTON, N.J.

"I'm a builder and I always recommend Storm Sash because of savings and comfort."
—Lewis Peters



KANSAS CITY, MO.

"With Storm Sash we sit by the windows in comfort."
—Earl W. Allen



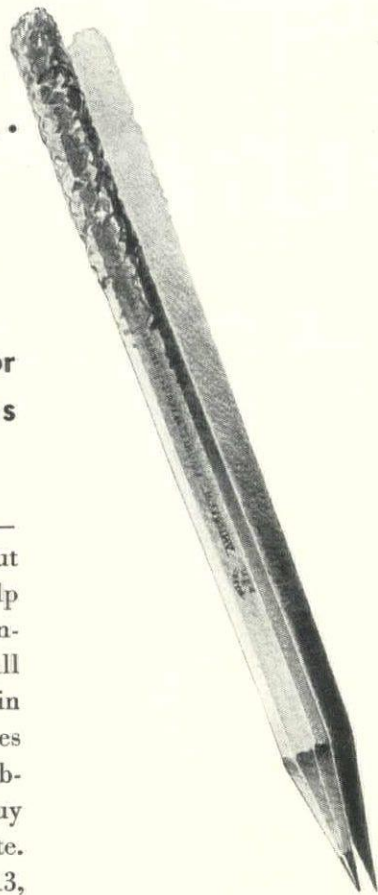
LIBBEY · OWENS · FORD

QUALITY GLASS



LOOK FOR THE LABEL

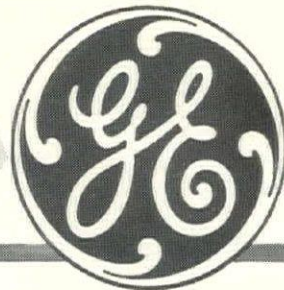
IT REALLY WASN'T NECESSARY
TO CHEW UP THIS NICE PENCIL!...



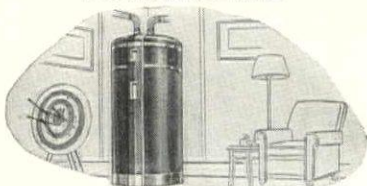
Tough heating, air conditioning or commercial refrigeration problems are easily solved by G-E.

When you get to the pencil-chewing stage—beware! Chances are you're wasting time. But that's not necessary. General Electric can help settle most *all* of your heating, air conditioning or commercial refrigeration problems. All you do is 'phone, wire or write—and zip—in comes the answer—backed by facts and figures to prove G-E is the *right* answer to your problem. Oil-fired units now cost no more to buy than many other makes... cost *less* to operate. General Electric Company, Division 190-313, Bloomfield, N. J.

AUTOMATIC HEATING, COOLING, AIR CONDITIONING
AND COMMERCIAL REFRIGERATION HEADQUARTERS

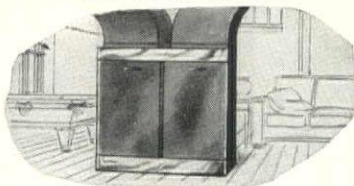


FOR RADIATOR HEAT



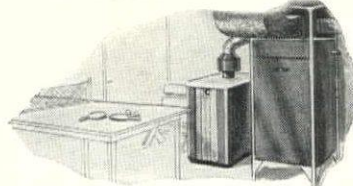
G-E FURNACE (oil or gas) for steam, hot water or vapor. Probably the most beautifully designed furnace you've ever seen. Compact—easy to install—economical to operate.

FOR WARM AIR HEAT



G-E WINTER AIR CONDITIONER (oil or gas). One of the most popular of all G-E units. Compact in size—highly efficient in operation. Heats, humidifies, filters and circulates warm air.

FOR A SPLIT SYSTEM



INCORPORATES ALL THE ADVANTAGES of radiator heat *plus* winter air conditioning—A G-E Furnace (oil or gas) with Conditioner Unit. Summer cooling may be added. Priced right.

FOR RESIDENCES



AIR CONDITIONING UNITS—for one room—or for the entire house. Available with air-cooled or evaporative-cooled condenser. G-E air conditioning units are unusually quiet in operation.

FOR STORES, SHOPS, ETC.

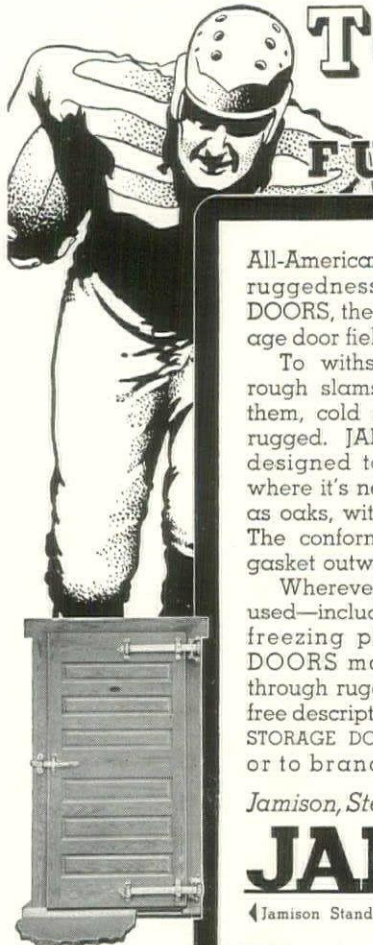


INSTALL A G-E "PACKAGED WEATHER" unit for low cost air conditioning. Available in a complete range of sizes. Low installation costs. Low operating costs.

AIR CIRCULATORS



FOR ATTIC VENTILATION in homes, for exhaust service and air circulation in commercial establishments. Two sizes and various models, all using G-E Aphonic Fan for unusual quietness.



TOUGH AS A FULLBACK

All-American fullbacks are noted for ruggedness. So are JAMISON-BUILT DOORS, the champions in the cold storage door field.

To withstand constant abuse and rough slams by the he-men who use them, cold storage doors have to be rugged. JAMISON-BUILT DOORS are designed to put maximum strength where it's needed. They're built sturdy as oaks, with insulation that stays put. The conforming resilient pure-rubber gasket outwears old types many times.

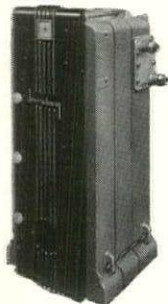
Wherever cold storage doors are used—including new locker and quick-freezing plants—JAMISON-BUILT DOORS maintain their leadership through rugged performance. Send for free descriptive bulletin to JAMISON COLD STORAGE DOOR CO., Hagerstown, Md., or to branches in principal cities

Jamison, Stevenson, and Victor Doors

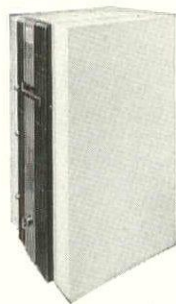
JAMISON-BUILT DOORS

◀ Jamison Standard Door with Wedgetight Fastener

(See our catalog in Sweet's Catalog File)



The Junior Yellow Jacket is shipped all ready for connecting. No base to set up.



Has an attractive tailor made jacket finished in dandelion yellow and black.

A Small House Boiler That Is One

This Junior Yellow Jacket is not a big boiler squeezed down.

It's an out-and-out, newly-designed small cost oil boiler, having a small fuel consumption, for small homes.

Send for printed matter.

Burnham Boiler Corporation
IRVINGTON, N. Y. ZANESVILLE, OHIO

Burnham Boiler

BOOKS

(Continued from page 14)

NEW YORK CITY GUIDE, by the Federal Writers' Project, WPA. Random House. 708 pp., illustrated. 5½ x 8. \$3.00.

A prodigiously detailed guidebook, well up to the high standard set in the earlier volumes of the series. The book begins with a general information section, devoted to the instruction of tourists on how to get where, restaurants, theaters, hotels, etc. The main part of the guide is broken up into five sections dealing with the five boroughs; to Manhattan, of course, go the bulk of the pages. It should be of particular interest to architects because there is hardly a building or monument of any importance which is not described in detail. Although the book makes no claims on this score, it is probably the best architectural guidebook to the city that has yet appeared. In addition there are 39 maps, and over 175 illustrations, most of which are excellent. Supplementary material includes a section on the New York World's Fair and a bibliography.

NOTRE-DAME OF NOYON IN THE TWELFTH CENTURY, by Charles Seymour, Jr. Yale University Press. 202 pp., illustrated. 8 x 11. \$7.00.

A detailed study of one of the important early Gothic cathedrals, designed in the twelfth century and brought virtually to completion around 1240. While the interest of such a work is limited to a very restricted group, it represents something of a pioneering effort in that it attempts to relate the cathedral to the social and economic conditions of the time. It is copiously illustrated with photographs, plans and other architectural drawings. The church was bombarded during the World War, and World War II finds it partially restored and almost ready for new bombardments.

LEXINGTON AND CONCORD, by Samuel Chamberlain. Hastings House. 73 pp., chiefly photographs. 6¼ x 7½. \$1.25.

NANTUCKET, by Samuel Chamberlain. Hastings House. 73 pp., chiefly photographs. 6¼ x 7½. \$1.25.

Two more books in the "American Landmarks" series, which now numbers seven titles. Like their predecessors, these are handsome collections of beautifully reproduced photographs, standard in format. Mr. Chamberlain, already well known for his etchings and illustrated books, is the author-photographer, and is undoubtedly responsible for the successful design of the books as well.

MODERN FURNITURE MAKING AND DESIGN, by Rodney Hooper. The Manual Arts Press, Peoria, Ill. 160 pp., illustrated. 9¾ x 6½. \$4.00.

First published in England, this book is intended for the designer and cabinet maker rather than the amateur furniture builder. Copious illustrations show photographs of a variety of furniture, with drawings of construction details. The book is almost unique in that the examples are in good taste. Both traditional and modern pieces are illustrated.

As a service to interested readers, THE ARCHITECTURAL FORUM will undertake to order copies of books not conveniently obtainable locally, which have been reviewed in this department. Checks and money orders to be made payable to THE ARCHITECTURAL FORUM.

**WASH
WASHABLE
REALLY WASHABLE**

"FLAT" THAT'S REALLY WASHABLE

GIVE YOUR CLIENT A "FLAT" THAT'S REALLY WASHABLE

BY USING DUTCH BOY WHITE-LEAD AND DUTCH BOY LEAD MIXING OIL YOU GIVE YOUR CLIENT A "FLAT" THAT'S REALLY WASHABLE

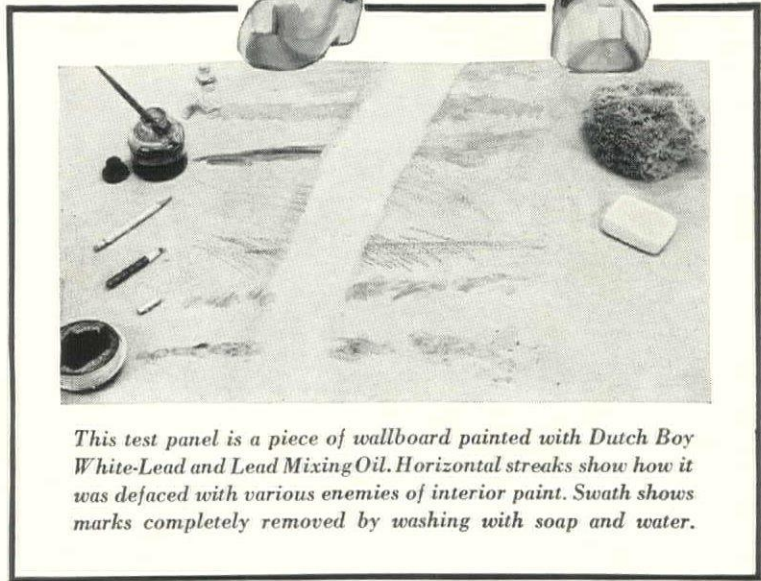
TEST YOUR "VISION"
AS A
PAINT CHOOSER



Be far-sighted when you choose interior paint. Make sure that the "flat" you specify is *really washable*. Walls that can be kept clean do not need to be repainted so often. Therefore, real washability means *real economy* for your client.

Flat paint made with Dutch Boy White-Lead and Lead Mixing Oil is washable in both senses of the word. (1) The beauty of this paint is not destroyed by hard scrubbing. (2) Those scrubbing actually get you somewhere. The test panel at the right shows how stubborn stains and dirt really do "come out in the wash."

But there's more to the story of Dutch Boy money-saving than that. This paint has all the durability for which white-lead has long been famous. It mixes quickly, spreads easily and has high coverage—300 sq. ft. per gal. on smooth plaster. Those three qualities mean low first cost. Then add long wear and real cleanability, and you have *long-run economy* also.



This test panel is a piece of wallboard painted with Dutch Boy White-Lead and Lead Mixing Oil. Horizontal streaks show how it was defaced with various enemies of interior paint. Swath shows marks completely removed by washing with soap and water.



This is the slogan of the national advertising campaign on white-lead now being conducted by the Lead Industries Association. The purpose of this campaign is to promote a wider understanding of the advantages of white-lead paint.



DUTCH BOY WHITE-LEAD AND LEAD MIXING OIL

NATIONAL LEAD COMPANY—111 Broadway, New York; 116 Oak St., Buffalo; 900 West 13th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.



Los Angeles Union Passenger Terminal Protects its Future with Toncan Iron

Nineteen thirty-nine saw the completion, at a cost of more than \$11,000,000, of a new Union passenger terminal in Los Angeles, Cal. It ranks as the finest on the Pacific Coast and serves the needs of the Atchison, Topeka & Santa Fe, the Southern Pacific and the Union Pacific railroads in this community of 1,300,000 population.

The new station, reflecting the spirit of Southern California, is of Mediterranean architecture—a rambling effect with broken roof lines and colorful exterior and interior treatment. It sets back 200 feet from the

street line, affording a striking vista of the tropically landscaped structure and providing ample drives, walks and parking area.

The same influence is carried out in the interiors of the different units—exposed roof construction, the extensive use of colorful tilework in wall bases, wainscoatings and floors and the general treatment of walls and ceilings.

Winter heating of all the station buildings is provided by means of three four-drum water-tube boilers. All heating of the main public areas is by the indirect method, employ-

TONCAN IRON

AN ALLOY OF REFINED OPEN-HEARTH IRON, COPPER
AND MOLYBDENUM . . . THAT GROWS OLD SLOWLY

MACKIN PREMIER BLINDS

*Consider these Distinctive Features
When You Buy Venetian Blinds*

- Slats are easily removed.
- No cords to wear or jam.
- Equalized, positive lift.
- Firmly positioned with metal guides.
- Long-lasting tapes, and many other exclusive features.

FROM HUNDREDS OF INSTALLATIONS,
Here Are a Representative Few.

Radio City—each successive building since 1933.
Western Electric Co. and the Bell Telephone System, extensive
users since 1929.
University of Pittsburgh.

Write for a list of installations in your vicinity.
SEE FOR YOURSELF!

DESIRABLE TERRITORIES
are open for qualified representatives.
Write us.

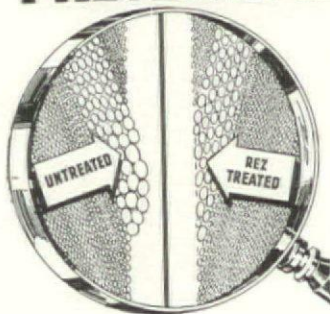
MACKIN
VENETIAN BLIND COMPANY

Factory: BRADLEY, ILL. Mail Address: KANKAKEE, ILL.
Sales Offices in Principal Cities

HOW REZ

Trade Mark Reg. U. S. Pat. Off.

PREVENTS GRAIN RAISE



The REZ Line
(Synthetic resin finishes)
REZ, sealer, primer
REZITEX, exterior plastic paint
REZIGOTE, stucco, etc., paint
PLASTEREZ, plastic wall paint
Specify plywood, doors, millwork Rested-at-mill
For samples and information, write
LAUX SALES CO.

(Division of I. F. Laucks, Inc.)
Seattle, Oakland, Los Angeles, Chicago,
Minneapolis, Houston, Portsmouth,
Va., Vancouver, B. C. ●
Stocks available nationally: Harbor Ply-
wood Corporation, distributors and ware-
houses in 22 leading cities; other leading
distributors.

REZ revolutionizes wood-finishing! Here is "magnified" proof that REZ seals by penetration, binds down soft Spring wood fibers. When untreated wood comes in contact with water or ordinary finishing liquids, the result is grain raise, uneven surface. No amount of paint could smooth it. Now look at the Rez treated part! Rez penetrates deep into wood fibers, anchors them down. Notice the smooth even surface that takes lacquer, varnish, wax or paint beautifully. It "finishes like hardwood." The REZ treated board is preserved, protected from decay, abrasion, binding, moisture. Write for free REZ sample and further information.

PRODUCTS and PRACTICE

(Continued from page 370)

flowing grout has been used successfully to replace stiff mortar, and this practice is now recommended because it assures freedom from voids which would seriously weaken structural members. This grout was first produced by adding water to a cement-sand mixture. It has since been found, however, that the addition of lime up to $\frac{1}{4}$ of the cement by volume adds to the fluidity of the grout without materially reducing its strength.

Reinforcing steel used in R-B-M is exactly the same as that used in reinforced concrete. In addition to round and square bars, wire fabric, and—especially in slab construction—ex-



Reinforced trestle piers, built for the support of heavy loads practically without formwork.

panded lath have been used with success. In general, size of rods is kept small enough to fit within the regular joints in the masonry, but where heavier steel is needed joints are sometimes increased to accommodate rods up to an inch or more in diameter.

CONSTRUCTION

As has been indicated above, the only special precaution to be observed in laying up reinforced brickwork is to see to it that interior joints are completely filled with mortar or grout, to eliminate voids. Bars may be placed in the joints as the wall goes up, or may be placed in advance of the mason and temporarily wired in position. Formwork may be exceedingly simple since it need not be watertight. Forms for slabs may therefore be built from square edge boards which need not be tightly fitted and side forms for beams and lintels are not required.

It is important that the absorption factor of the brick used be known and that brick be wetted if necessary. Naturally, all materials must be kept clean and where work is interrupted the top surface of the wall must be kept free of mortar or grout. When forming such horizontal construction joints in structural members it is well to rake back vertical joints about $\frac{1}{2}$ in. to form a key for the new work. In other respects, R-B-M is identical to ordinary brick masonry and requires no special skill or training. Supervision need not be so strict as in the case with reinforced concrete since the design-position of the reinforcement is nicely regulated by the joints in brickwork. It has been the experience of most contractors that the mason's output is not materially reduced and that the added cost of reinforced over plain masonry is no more than the cost of the reinforcing rods and the expense of putting them in place.



**There's double
economy in this
self-cleaning paint!**

ONE of the big advantages of using white lead paint on exteriors is its *self-cleaning* characteristic.

When white lead paint is exposed to the weather, its top surface slowly wears away by gradual powdering, commonly called "chalking."

Thus dirt which collects on the surface is sloughed off, and this aids to keep the paint clean.

This in itself helps to preserve the beauty of a white lead paint job—but there is another advantage as well.

As the surface grime dusts off, the tough, white lead film beneath stays smooth and elastic—free from brittleness and cracking.

As a result white lead paint provides a *smooth, unbroken surface for repainting.*

There's no need for costly burning and scraping—there's a solid base of white lead to paint on.

Thus white lead paint insures the double economy of longer life and lower-cost repainting. That's why "you're money ahead when you paint with white lead."

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue, New York, N. Y.



"...and here, Gentlemen, is why we can promise a long-lived heating system"



"The U·S·S Copper Steel label means greater protection against rust and corrosion . . . longer life for heating and air conditioning systems."

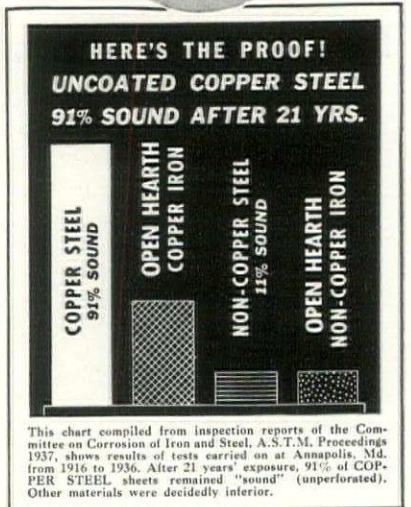


"WE needed a material for duct work that would resist the corrosion caused by high humidity and wet-air condensation of modern heating systems. A material to successfully combat the corrosive atmosphere of a large city. A material to make the ducts last as long as the building itself. And yet, we couldn't afford to pay a high price for it. We specified U·S·S Copper Steel Sheets. They met the requirements perfectly."

The discovery by metallurgists long ago that a little copper added to molten steel greatly increases the life of the steel has made the problem of specifying steel sheets an easy one for the

architect. He can be sure of a more durable material—at only a slightly higher cost — by standardizing on U·S·S Copper Steel. And his clients readily accept a product bearing the well-known U·S·S label.

Architects everywhere are finding U·S·S Copper Steel ideal for gutters, downspouts, roofing, siding and flashings. The chart on this page gives you a picture of the extra life that may be obtained from it. U·S·S Copper Steel Sheets are available, plain or galvanized, for quick delivery in principal cities. For further information about U·S·S Copper Steel write to one of the companies listed below.



U·S·S COPPER STEEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*

COLUMBIA STEEL COMPANY, *San Francisco*

TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

Scully Steel Products Company, *Chicago, Warehouse Distributors* • United States Steel Products Company, *New York, Export Distributors*

UNITED STATES STEEL

Constant STEAM PRESSURE
TO MEET *Changing* LOADS ...

TODD

**VARIABLE CAPACITY Mechanical
Pressure Atomizing BURNER with**

1. UNLIMITED FIRING RANGE without

change of {
1. Burner tips
2. Oil delivery pressure
3. Angle of spray

**2. AUTOMATIC CONTROL without loss of
efficiency over all firing ranges**

Highly satisfactory performance* under varying conditions proves the Todd Variable Capacity Burner offers decided advantages of economy and efficiency in the burning of liquid fuel. Eliminating intermittent firing by means of an exclusive "variable range" feature, this remarkable burner can maintain *constant* steam pressure regardless of demand... can meet changing load requirements at a moment's notice.

Designed and operating on the basic principles of standard type, mechanical pressure atomizing burners, Todd Variable Capacity Burner installations, like all Todd combustion equipment, is *individually engineered* to specific requirements.

Todd engineers are always available for consultation on your combustion problems.

***TODD VARIABLE CAPACITY BURNER
INSTALLATIONS INCLUDE:—**

NEW YORK

Hunter College.....New York City
Hotel McAlpin.....New York City
Presbyterian Building.....New York City
Millinery Towers.....New York City
N. Y. State Hospital for
Malignant Diseases.....Buffalo
S. M. Frank Pipe Co.....L. I. City
98th Street Municipal
Pumping Station....New York City
Milburn Municipal
Pumping Station....New York City

NEW JERSEY

Sonoco Paper Products Co...Garwood
E. R. Squibb & Sons Co., New Brunswick
Art Color Printing Co.....Dunellen

CONNECTICUT

Pratt & Whitney
Machine Tool Co.....W. Hartford
International Silver Co.....Meriden
Lee Hat Company.....Danbury
Mallory Hat Company.....Danbury
Bryant & Chapman Milk Co...Hartford
Jenkins Valve Co.....Bridgeport
Amer. Hatters & Furriers....Danbury
Sikorsky Aircraft Corp.....Bridgeport
Clifton-Wright Hat Co.....Bethel
Stratfield Hotel.....Bridgeport

ILLINOIS

A. Finkl & Sons Co.....Chicago
Grey Lake Gelatin Co.....Chicago
Hales & Hunter Co.....Chicago

MASSACHUSETTS

Uxbridge Worsted Co.....Uxbridge

WASHINGTON, D. C.

Woodward & Lothrop Dept. Stores

NEW HAMPSHIRE

U. S. Navy Yard.....Portsmouth

WASHINGTON

U. S. Navy Yard.....Bremerton

CANADA

Internat. Foils Co., Ltd...Three Rivers
City Hall Annex.....Montreal

TODD COMBUSTION EQUIPMENT, INC.

(Division of Todd Shipyards Corporation)

601 West 26th Street, New York City



NEW YORK

MOBILE

NEW ORLEANS

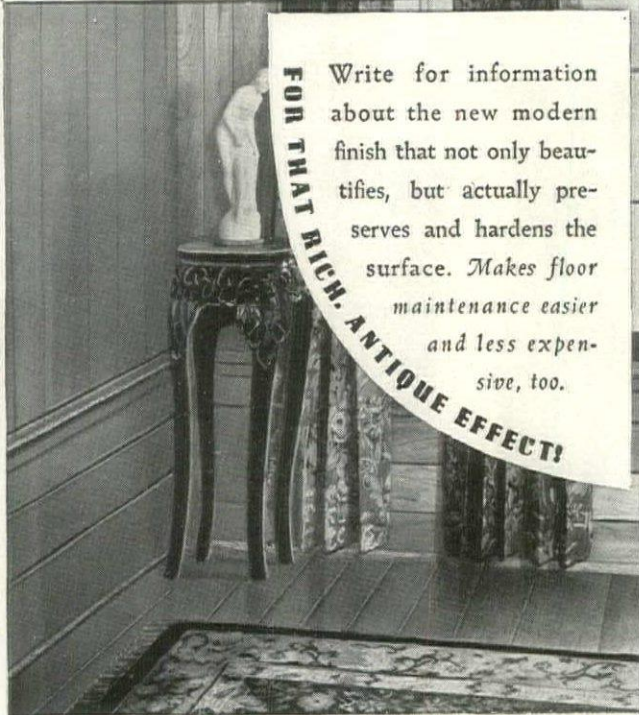
GALVESTON

SEATTLE

BUENOS AIRES

LONDON

CHEKIT PENETRATING WOOD SEAL



Write for information about the new modern finish that not only beautifies, but actually preserves and hardens the surface. Makes floor maintenance easier and less expensive, too.

FOR THAT RICH-ANTIQUE EFFECT!

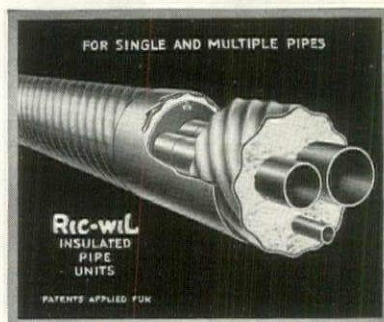
Franklin Research Company
PHILADELPHIA, PA.

Manufacturers of "RUBBER GLOSS WAX", "RUBBER GLOSS CLEANER" & a complete line of floor finishing & maintenance materials

Pre-sealed

Ric-wiL Insulated PIPE UNITS

Pat. in U.S. and Canada



Pre-Sealed Units for underground steam lines, in standard lengths, complete with steam pipes and all accessories.

Armco Hel-Cor Conduit of heavy gauge pure ingot iron, with protective coatings to resist all forms of deterioration.

Water-Tight, light in weight, yet amply strong to bear abnormal stress and strain, even in shallow trenches.

Pipe Support Guides are removable, give permanent pipe alignment, and seal ends of units.

Insulation 85% asbestos with roofing jacket, or any other standard commercial insulation specified.

Important!—Ric-wiL Units have heavy protective coating of asphalt, but do not depend on this material (which is not strictly a solid, but has many of the characteristics of a liquid under all conditions) for their structural strength. Ric-wiL is a correctly engineered system, mechanically sound, rigid, and durable.

Write for Bulletin with Specifications

The RIC-WIL CO.

Union Commerce Bldg., Cleveland, Ohio

NEW YORK CHICAGO

AGENTS IN PRINCIPAL CITIES

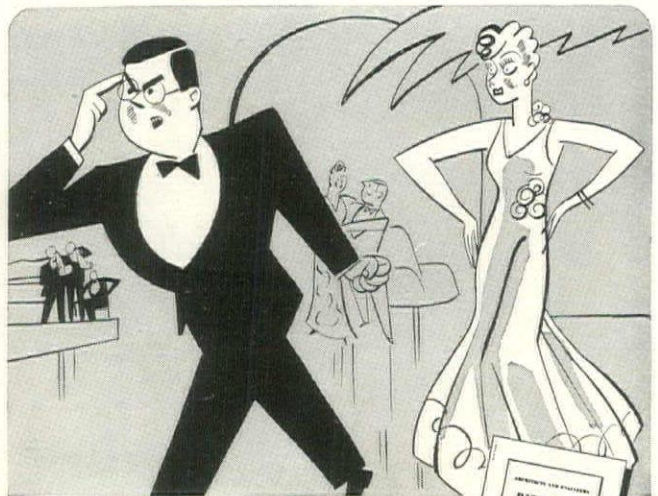
REG. U. S. PAT. OFF.

Ric-wiL

CONDUIT SYSTEMS FOR UNDERGROUND STEAM PIPES

DURABILITY

• Armco experience indicates a life expectancy of 40 years in this type of conduit.



SORRY TOOTS! I FORGOT TO LOCK UP MY WADB!*

*Westinghouse Architects' Data Book.

You'll have to excuse him, Blondie. John Architect wouldn't be here tonight, if it weren't for the time saved by WADB. Remember the hours he used to spend writing electrical specifications? Now WADB saves all of that. Any architect can do the same — simply use the office copy, or Sweet's.

J-94057



Westinghouse

A FEW COPIES OF THE

WORLD FAIRS

NUMBER ARE STILL AVAILABLE

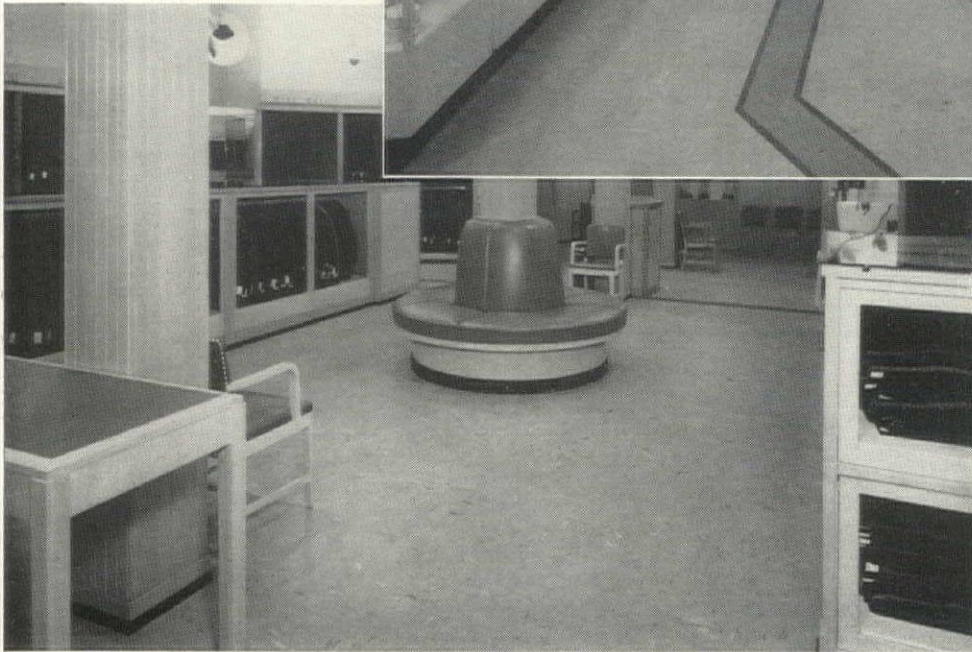
ADDITIONAL COPIES OF THIS EXCITING BOOK WITH 336 PICTURES OF BOTH GREAT 1939 FAIRS MAY BE OBTAINED FOR \$2 EACH.

EDITION IS LIMITED. SEND YOUR ORDERS TO

THE ARCHITECTURAL FORUM

TIME & LIFE BUILDING, ROCKEFELLER CENTER, N. Y.

*Let's
be
Frank*



Pictures show interior views of Frank Bros., men's store in San Antonio, Texas. A recently completed remodeling program modernized the entire store, interior and exterior.

ARCHITECTURAL authorities place a frank emphasis on the importance of the modern floor covering, especially as it affects the interior appearance . . . the LASTING interior appearance . . . of a business establishment. So, when FRANK BROS., large and prosperous men's-wear shop in the large and prosperous State of Texas, undertook to remodel their entire store recently, their capable architect was delighted to find his clients had already made a study of various types of floor covering available.

We are "mighty glad", as one says in Texas, that both client and architect were in complete accord in selecting AZROCK TILE as the floor covering to be used throughout. AZROCK, the modern mastic tile, owes thousands of installations throughout the nation to just such careful examination, by thoughtful architects and builders.

Durable, long-lived, with beautiful colors penetrating the entire thickness of tile for permanence, AZROCK TILE is resilient for quiet and comfort underfoot, close-laid and micro-cut for sanitation, moisture-proof, fire-resistant, easily cleaned, easily maintained . . . a floor covering that gives a minimum of trouble and a maximum of downright self-satisfaction for the choice that was made. And it costs no more than many ordinary floor coverings.

AZROCK

TRADE MARK REG U S PAT OFF

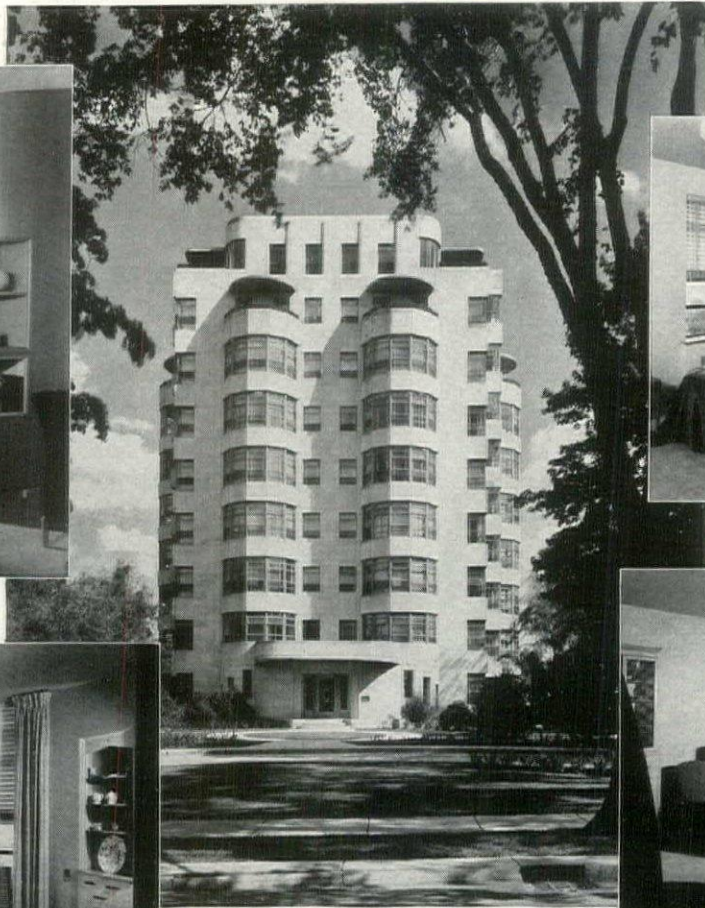
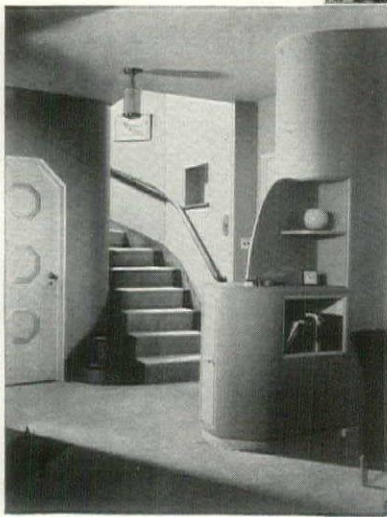
Manufactured by

Uvalde Rock Asphalt Co.

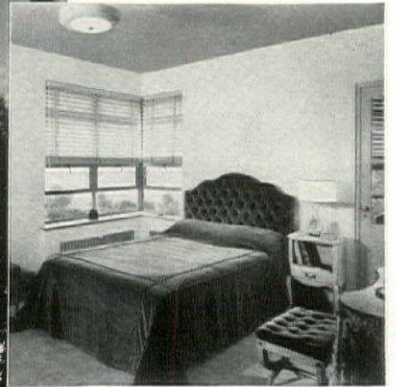
(In Business Since 1912)

Gen. Offices: San Antonio, Texas; Mines: Blewett, Texas; AZROCK Plant: Houston, Texas; Distributing Contractors: in principal cities of U. S. A.





Hedrich-Blessing Studio



1260 PROSPECT BUILDING
MILWAUKEE, WISCONSIN

H. W. Tullgren, Architect, Milwaukee · A. G. Koch, Painting Contractor, Milwaukee · Sisel Construction Co., General Contractors, Milwaukee · Meckelburg Sash & Door Co., Milwaukee

WHEN appropriate, attractive decoration is added to good design, the result is pleasing to all concerned. This desirable objective was easily and economically accomplished in the above apartment building with Pratt & Lambert materials and color schemes that are modern, harmonious and refreshing. There is a Pratt & Lambert finish for every type of surface. Constructive, whole-hearted co-operation with architects for many years makes Pratt & Lambert architectural service something more than a mere term. This practical aid is quickly available to any architect seeking maximum decorative results at minimum cost. Contact the office nearest to you. Pratt & Lambert-Inc., Paint & Varnish Makers · New York · Buffalo · Chicago · Fort Erie, Ont.



Pratt & Lambert Paint and Varnish

Where **QUIET**
and **FIRE-SAFETY**
are Imperative

Municipal Hospital,
Virginia, Minnesota.
Architect: E. H. Berg,
Eveleth, Minnesota



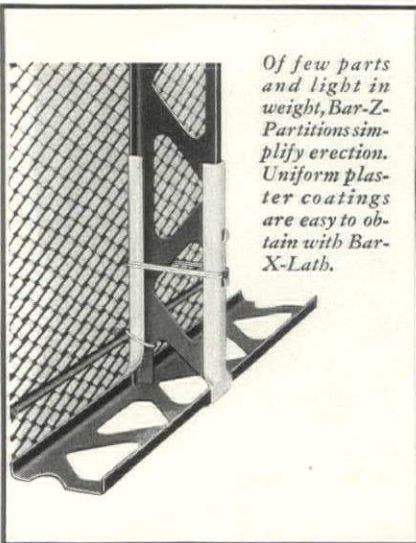
Architects Specify



BAR-Z-SYSTEM
OF HOLLOW PLASTERED
PARTITIONS

IN HOSPITALS where freedom from noise is a vital essential, the Bar-Z-System—the original system of hollow plastered partitions—offers adequate sound deadening qualities at a saving in floor loads.* Consisting of Bar-Z-Studs and Bar-X-Lath—the diamond mesh lath with twin welded reinforcing bars—the Steelcrete Bar-Z-System has no elements in it to burn. Tests by the Bureau of Standards, Washington, D. C. prove that Bar-Z-Partitions, plastered with 3/4" gypsum plaster provide one hour fire rating. This safer, more rigid construction also assures lasting protection for the beauty of plastering which it reinforces. Write the nearest office for full details.

"IT'S WHEELING STEEL"



Of few parts and light in weight, Bar-Z-Partitions simplify erection. Uniform plaster coatings are easy to obtain with Bar-X-Lath.

*"A Bar-Z-Partition, weighing 16 lbs. per square foot, has the same sound insulating value as a clay or Gypsum wall weighing 22 lbs. to the square foot."

(Signed) Dr. Paul E. Sabine,
River Bank Laboratories.

The **CONSOLIDATED** Expanded Metal **COMPANIES**

WHEELING, WEST VIRGINIA

Branch Offices and Warehouses:

New York • Chicago • Cleveland • Pittsburgh
Philadelphia • Detroit • Boston • Buffalo • Houston • Atlanta

Export Office: 330 West 42nd St., New York, N. Y.

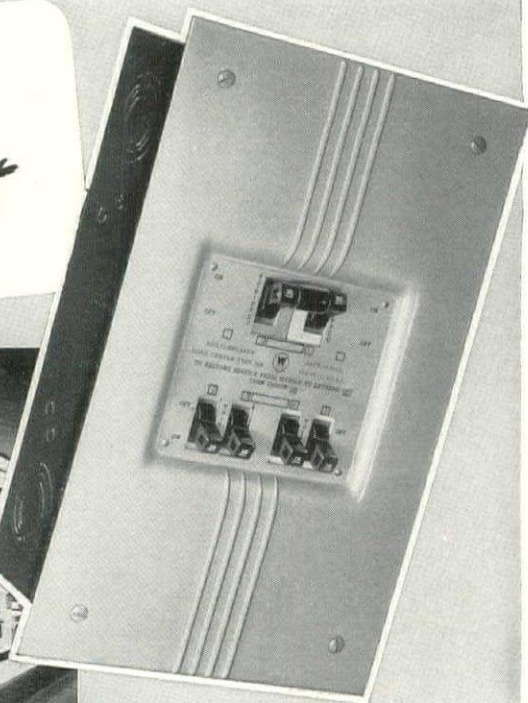
YOU CAN'T BE THE *First*
YOU DON'T WANT TO BE THE *Last*



One of Niagara Hudson's
Five Star Model Homes



The Wright Building, Toronto
is Nofuze protected



to make fuseless circuit protection standard

Westinghouse Nofuze equipment protects electrical circuits by means of a bi-metal tripping unit. It automatically disconnects the circuit before overload or short circuit can do harm. And it will function year after year — as long as the building stands — without replacing a thing. Service is restored by flipping the switch — that's all. It's safe, convenient... the modern way to protect electrical circuits.

Nofuze equipment now protects over 3,000,000 electrical circuits. Typical installations are in:

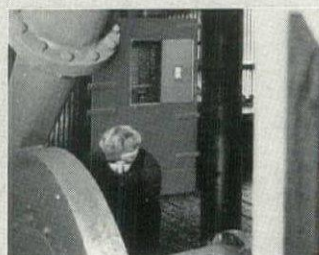
Niagara Hudson's Five Star Model Homes
Wright Building, Toronto
Los Angeles Athletic Club
Arnold Constable's newest store,
and in thousands of homes, apartments,
office buildings, factories.

Suggested specifications for homes and other buildings are in A. I. A. File 131, Architects' and Engineers' Data Book. Make a note to look into Nofuze protection before writing electrical specifications.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

J-60297

Nofuze Multi-Breakers for homes



Nofuze power panelboards for industrial plants

Nofuze lighting panelboards for commercial buildings



Westinghouse Nofuze Protection

The **"OVERHEAD DOOR"**
 TRADE MARK
 THE DOOR WITH THE
MIRACLE WEDGE
Wedges Tightly — Yet — Opens Easily



It's the **SLANT** of vertical tracks, the corresponding heights of the hinges and the full-floating ball-bearing rollers that produce the **MIRACLE WEDGE** . . . the feature which allows perfect freedom for The "OVERHEAD DOOR" to wedge tightly, yet open easily.

Backed By

A NATION-WIDE SALES-INSTALLATION SERVICE!

Please send full information and free literature on doors for the purpose checked:

- Private Garage
- Public Garage
- Warehouse
- Factory
- Greasing Station
- Other Buildings

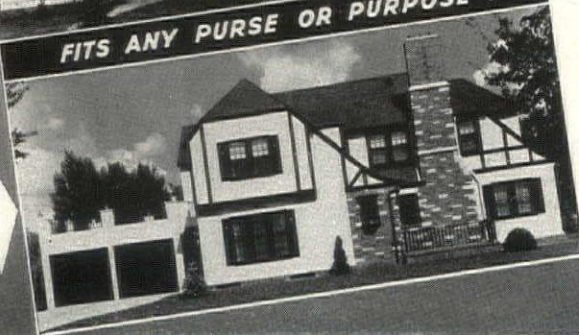
- Wood Sections
- Steel Sections
- Hand Operated
- Electric
- Standard Model
- Master Model

AF-11-39



HOMES
under
\$2,000

FITS ANY PURSE OR PURPOSE!



HOMES
over
\$10,000

NAME _____

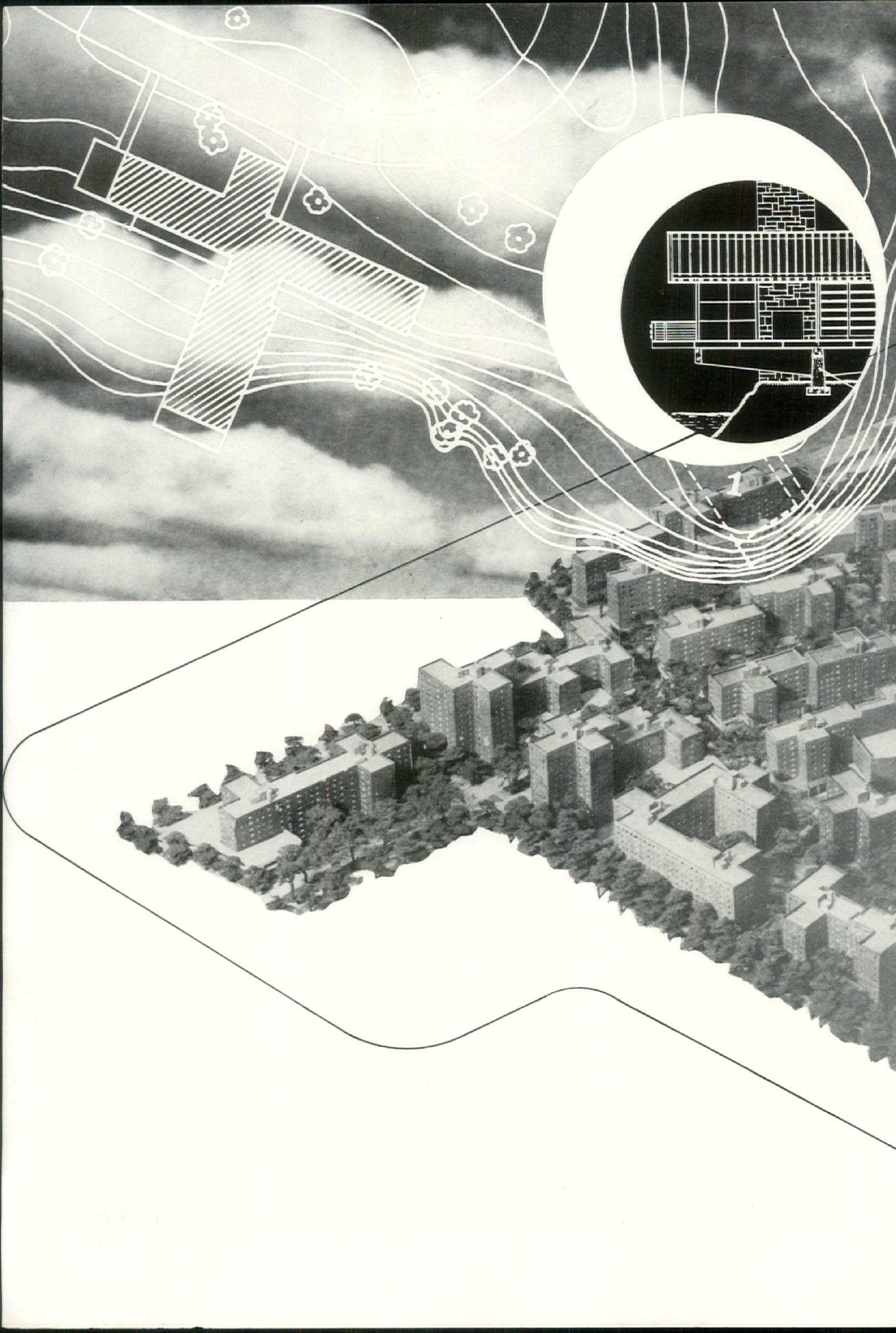
ADDRESS _____

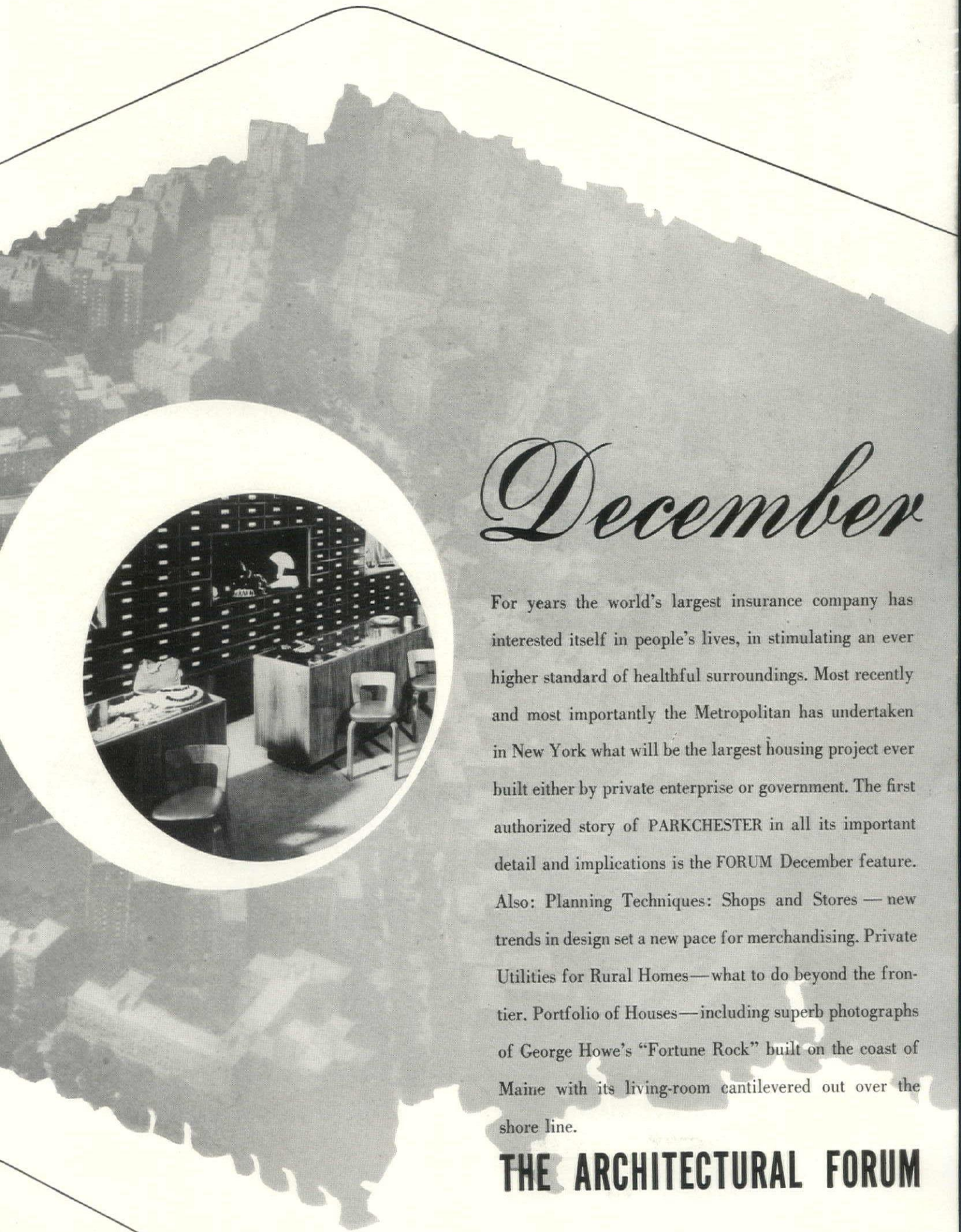
CITY _____

STATE _____

OVERHEAD DOOR CORPORATION
 HARTFORD CITY, INDIANA, U. S. A.

**MAIL
COUPON
TODAY**





December

For years the world's largest insurance company has interested itself in people's lives, in stimulating an ever higher standard of healthful surroundings. Most recently and most importantly the Metropolitan has undertaken in New York what will be the largest housing project ever built either by private enterprise or government. The first authorized story of PARKCHESTER in all its important detail and implications is the FORUM December feature. Also: Planning Techniques: Shops and Stores — new trends in design set a new pace for merchandising. Private Utilities for Rural Homes—what to do beyond the frontier. Portfolio of Houses—including superb photographs of George Howe's "Fortune Rock" built on the coast of Maine with its living-room cantilevered out over the shore line.

THE ARCHITECTURAL FORUM

**MIKE!
DID YOU HEAR
THE BIG NEWS?**

THE VICTOR MASTER
NOW ONLY **\$19.95**
LESS REGULAR DISCOUNT

The Victor Master

Yes sir! Now every home you build can have the big sales advantages that Victor In-Bilt Ventilators provide. Freedom from cooking odors, grease and smoke is what everybody wants and now you can give it to them at an extremely low price. Get the facts about the Victor Master—send for free data book today!

VICTOR ELECTRIC PRODUCTS, INC.
3023 Robertson Avenue Cincinnati, Ohio

**VICTOR In-Bilt
VENTILATORS**



Easy 2-Unit Installation



FREE!
Victor also makes a Standard and a Deluxe Model to meet every home ventilation need. Free Data Book shows the complete line — write for it!

Selected FOR CASTLE VILLAGE



Suggested
FOR HOMES YOU PLAN

Selection of Kitchen Maid Cabinetry for the distinctive Castle Village apartments requires little explanation. Known the world over for beauty, convenience and efficiency... it is just as practical for the metropolitan kitchenette as it is for the kitchens of modest or pretentious houses. And this famous cabinetry is now available in two price ranges for every type of home. Write for color catalog and details. **THE KITCHEN MAID CORPORATION,** 691 Snowden St., Andrews, Ind.

Typical Kitchen Maid Cabinetry similar to that in Castle Village apartments.



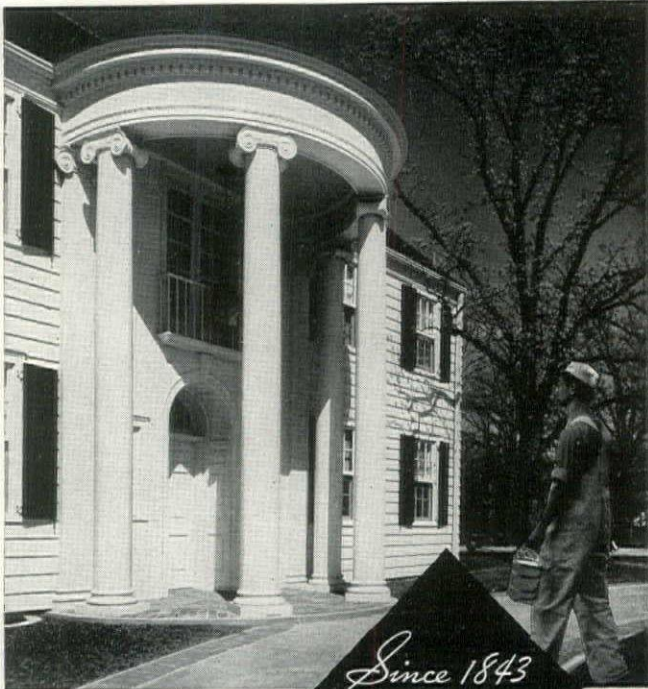
MONCRIEF
WINTER *Air Conditioners*

The "Aristocrat" Gas-Fired

A Complete Line for Every Domestic and Commercial Need... Specialized types for burning oil, coal or gas... Write for literature.

THE HENRY FURNACE & FOUNDRY CO.
3485 EAST 49TH STREET, CLEVELAND, OHIO

MANUFACTURER FOR 45 YEARS OF WARM AIR HEATING EQUIPMENT FOR THE HOME



Trent Sanford, Architect

Protect the **BEAUTY** of the homes you design this old-fashioned way

Since 1843
EAGLE pure
WHITE LEAD



THE EAGLE-PICHER LEAD COMPANY CINCINNATI
(Makers of Eagle Lifetime Insulation — Thick, Fireproof Mineral Wool)

New "Castle Village" gets Gas Refrigeration

DR. CHARLES V. PATERNO AGAIN GIVES PREFERENCE TO SERVEL
ELECTROLUX FOR ITS SILENT FREEZING WITH *No Moving Parts!*

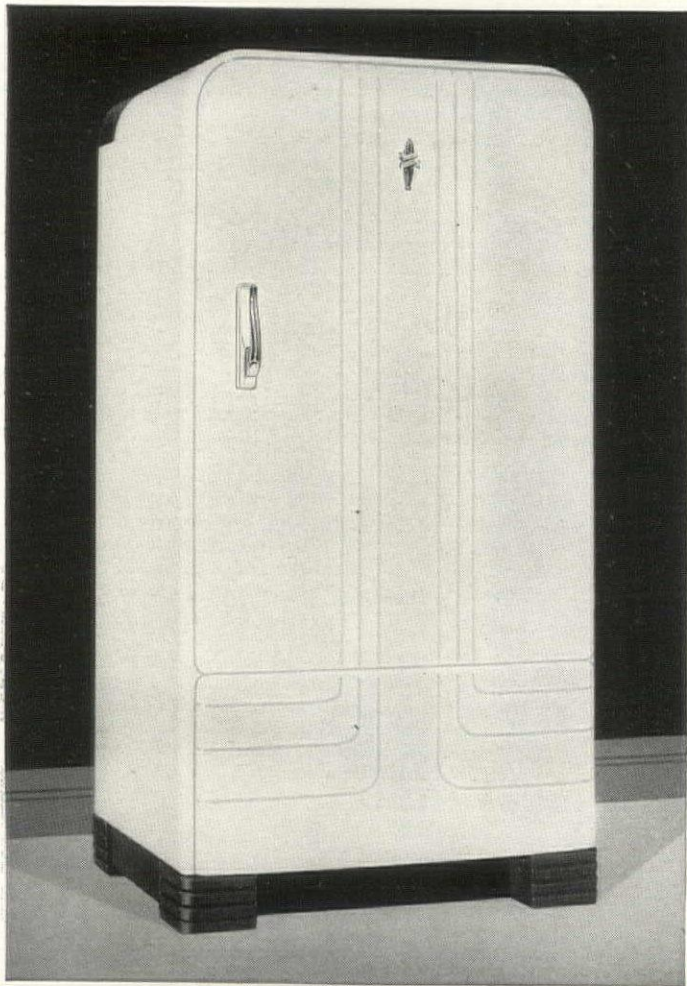


Castle Village

Upper Manhattan, on cliffs 200 feet above the stately Hudson. More than 500 beautiful, modern apartments . . . and in the kitchen of each, a shining new Servel Electrolux offers tenants the satisfaction of permanent silence, greater savings, freedom from the annoyance of wear from moving parts. Another scoop for gas refrigeration . . . for again it has won the choice of another of the Nation's leading builders!

**Only Servel Electrolux offers tenants
and builders all these advantages:**

- NO MOVING PARTS in the freezing system
- PERMANENT SILENCE
- CONTINUED LOW OPERATING COST
- MORE YEARS OF DEPENDABLE SERVICE
- SAVINGS THAT PAY FOR IT



SPECIFY THE REFRIGERATOR THEY HEAR ABOUT • BUT NEVER HEAR

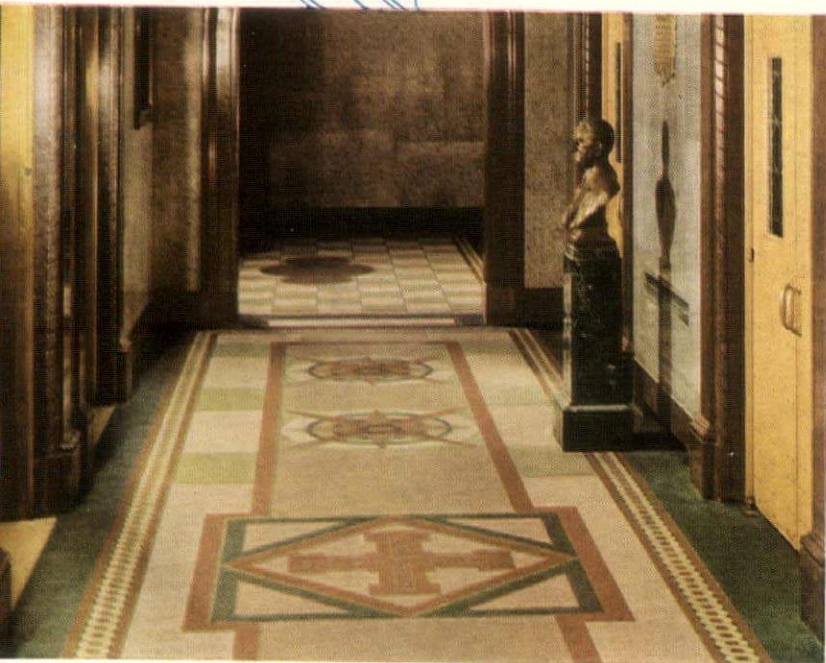
SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built completely of products advertised in THE FORUM. While it is not possible for a magazine to certify building products, it is possible to open its pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

American Cyanamid & Chemical Corporation,		Mackin Venetian Blind Company	62
Structural Gypsum Division.....	29	Masonite Corporation.....	3
American Gas Association.....	52	Milcor Steel Company.....	40
American Lumber & Treating Co.....	41		
American Rolling Mill Company, The.....	47	National Lead Company	59
American Seating Co.....	55	National Oak Flooring Manufacturers Association.....	43
Armstrong Cork Company.....	51	Nelson, Herman, Corporation.....	15
Brasco Manufacturing Company	33	Overhead Door Corporation	71
Burnham Boiler Corporation.....	58	Owens-Corning Fiberglas Corporation.....	53
		Owens-Illinois Glass Company.....	19-28
Carnegie-Illinois Steel Corporation	64		
(United States Steel Corporation Subsidiary)		Parsons Co., The	38
Celotex Corporation, The.....	Cover II	Payne Furnace & Supply Co., Inc.....	44
Certain-Teed Products, Inc.....	7	Penberthy Injector Company.....	17
Columbia Steel Company.....	64	Pittsburgh Plate Glass Company.....	30, 39
(United States Steel Corporation Subsidiary)		Portland Cement Association.....	45
Consolidated Expanded Metal Companies, The.....	69	Pratt & Lambert, Inc.....	68
Detroit Steel Products Co.	13	Reardon Company, The	42
Douglas Fir Plywood Association.....	18	Republic Steel Corporation.....	60, 61
		Ric-Wil Co., The.....	66
Eagle-Picher Lead Company, The	74		
Eichleay Engineering Corp.....	38	Sanymetal Products Co., Inc., The	31
		Servel, Inc.....	75
Fitzgibbons Boiler Company, Inc.	11	Sonneborn Sons Inc., L.....	49
Formica Insulation Company, The.....	5	Structural Gypsum Division American Cyanamid & Chemical Corporation.....	29
Franklin Research Company.....	66		
		Tennessee Coal, Iron & Railroad Company	64
General Electric Company	57, Cover IV	(United States Steel Corporation Subsidiary)	
		Todd Combustion Equipment, Inc.....	65
Henry Furnace & Foundry Company, The	74	Truscon Steel Company.....	opp. Cover III, Cover III
Huntington Laboratories, Inc.....	50		
		United States Plywood Corporation	9
Insulite Company, The	54	United States Steel Corporation.....	64, opp. p. 76
		Universal Atlas Cement Co.....	opp. p. 76
Jamison Cold Storage Door Co.	58	(United States Steel Corporation Subsidiary)	
Johns-Manville.....	46	Uvalde Rock Asphalt Company.....	67
Johnson Service Company.....	34		
		Van Range, John, Co., The	36
Kawneer Company, The	32	Victor Electric Products, Inc.....	74
Kimberly-Clark Corporation.....	8		
Kitchen Maid Corporation, The.....	74	Wasco Flashing Company	36
		Western Electric Company, Inc.....	6
Laucks, I. F., Company	62	Westinghouse Electric & Manufacturing Co.....	37, 66, 70
Lead Industries Association.....	63		
Libbey-Owens-Ford Glass Co.....	56	Youngstown Sheet and Tube Company	25
Lockwood Hardware Mfg. Co.....	48		
(Division of Independent Lock Company)			

THE KEY TO LASTING FLOOR BEAUTY

TERRAZZO



Terrazzo floor (above), made with Atlas White cement, in City Hall and Auditorium, Montgomery, Ala. Architect, Frank W. Lockwood, Montgomery. Contractor, J. S. Fornara Tile & Terrazzo Co., Atlanta.

Indian rug design (below right) in FINE TERRAZZO made with Atlas White cement, in Friars Club, Cincinnati. Architects, Crowe & Schulte; Contractor, Martina Mosaic & Tile Company—both of Cincinnati.

WHETHER it is in a club, a post office, or a civic building, floor specifications call for good appearance, durability, easy and inexpensive maintenance. And there is one answer to all three requirements—*FINE TERRAZZO*. All the floors shown here are built of *FINE TERRAZZO*, made with Atlas White cement. Colors are clear and true—exactly as specified. Designs are sharp in every detail. And they will remain that way permanently.

You can count on beauty and unexcelled durability for your floors when you specify terrazzo. Use any color motif you choose. Create any design or pattern. Then specify Atlas White portland cement (plain or waterproofed). Its *pure white* color assures *FINE TERRAZZO* that is moderate in first cost and low in upkeep. For detailed information, see Sweet's Catalog, or write us for free booklet showing 24 true color specimens of *FINE TERRAZZO*. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

T-15



TERRAZZO floor, made with Atlas White cement, withstands daily traffic in Sacramento, Cal., Post Office. Architects, Starks and Anderson, Sacramento; Contractor, California Terrazzo Marble Co., San Francisco.



FOR FINE TERRAZZO SPECIFY



ATLAS WHITE PORTLAND CEMENT





TRUSCON

Introduces

MAXIM-AIR

A New Louvre Type Steel Window Affording 100% Ventilation

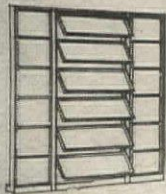
"MAXIM-AIR" is the latest addition to Truscon's diversified line of modern steel windows. As its name suggests, the "MAXIM-AIR" window provides practically 100% natural ventilation and through its louvre effect, ample ventilation is also possible under inclement weather conditions. The "MAXIM-AIR" is therefore ideally suited for use in hospitals, schools, auditoriums, or any type of building where the free circulation of fresh air under a wide range of climatic conditions is an important consideration.

Note, in the illustration on the opposite page, the louvre type ventilators which are operated mechanically by turning the small handle located near the center of the window sill. The operating handle may be attached permanently or made removable, as desired. With the single operating handle controlling the simultaneous movement of all ventilators in multiple unit assemblies up to 10 feet in width, quick and convenient ventilation control is always afforded.

Each ventilator is pivoted at the top and is limited to 15 inches in height. Detention Type Windows of the

same basic construction, are made with glass heights as low as 5 or 6 inches. In this form, the "MAXIM-AIR" design is particularly suited for use in psychiatric or other institutions where ample ventilation plus restraint against egress are important considerations. When the window is in a fully closed position, the head member of each ventilator provides full double-contact weathering for the sill member of the ventilator immediately above. The ventilators open to a maximum of 60 degrees. Each ventilator runs the full width of a multiple unit. Intervening mullions, set inside of the vents, are connected to and support each vent on pivoted brackets.

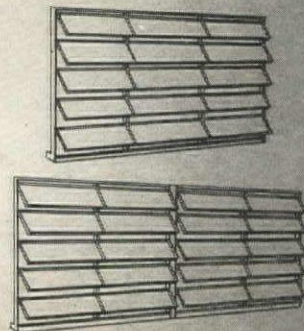
Truscon "MAXIM-AIR" Steel Windows are built of sturdy, hot-rolled casement type sections. The powerful yet smooth-acting operating mechanism concealed in the pressed steel sill box, at the jambs and in the mullions, permits the construction of these windows in integrally built units up to 80 square feet in area. Complete details of design, operation and cost of this window will be furnished promptly upon request.



TRUSCON

Steel company

61 SALES ENGINEERING OFFICES • 29 WAREHOUSES
YOUNGSTOWN • • • OHIO
SUBSIDIARY: REPUBLIC STEEL CORPORATION



Filed in Stock

Watch The House Construction Outlines
In "The Architectural Forum" For Proof of

UNIVERSITY OF MARYLAND
LIBRARY

G-E PREFERENCE

In the Profession's No. 1 Magazine General Electric Kitchens and Kitchen Equipment Get MORE MENTIONS Than All Other Makes Combined

A three-year tabulation has just been made of kitchen specifications appearing in "The Architectural Forum", magazine of America's top flight architects and home builders. Result: *General Electric* received more mentions than all other manufacturers of electric kitchen appliances combined! More proof of G-E preference! And more proof that the swing is to the *General Electric All-Electric Kitchen*.

The Whole Room In A Package — Complete From One Source

Complete General Electric Kitchens — "in a package" — can be made up for the cottage on Mill Street or the mansion on the hill. Everything comes from one source — Refrigerator, Range, Electric Sink with Dishwasher and Disposal, Cabinets. Everything is matched and in interchangeable units for maximum flexibility.

G-E Kitchen Appliances have long been recognized as "the standard of excellence" and today's prices are lower than ever.

General Electric Co. Switches — built-in with diffusing glass and Lumiline light

KITCHEN EQUIPMENT: Range and refrigerator—electric. Sink—stainless steel with garbage disposal. Dishwasher—electric. All fixtures by General Electric Company.

(Reproduced from a typical house construction outline that recently appeared in "The Architectural Forum")



G-E ALL-STEEL KITCHEN CABINETS

are flexible to the fraction of an inch. Features include adjustable shelves, spring action hinges, interior lighting, sliding shelves and interchangeable drawers. A complete line, *competitively priced*.

DON GRAF DATA SHEETS YOURS FOR THE ASKING

Give details on all equipment for complete General Electric residential kitchens. Write today for free set to Specialty Appliance Section CG-11, General Electric Company, Bridgeport, Connecticut.

GENERAL  ELECTRIC