

H. J. France
SEP 24 1940
UNIVERSITY
LIBRARY

THE ARCHITECTURAL FORUM

SEPTEMBER 1940

Owners Wanting Safe Home Investment

WILL THANK YOU FOR SPECIFYING
CELOTEX GUARANTEED INSULATION



W. C. Tackett, Inc., Builders, Chicago Herman Bruns, Architect

Celotex Vapor-seal Sheathing and Lath Delights Owners With Lifetime Insulation, Fuel Savings, Low Net Cost

MOST home owners have a fairly definite idea of *what they want*. Few of them are familiar with all the features *they should have* in a new home—to give it needed structural strength and year-round comfort—to make it economical to heat—to make it easily salable in case resale becomes necessary, *thus protecting their investment*.

They look to you for guidance on the points which are unfamiliar to them. For instance, most owners today know they want insulation. But in many cases it is

left to you to recommend *the most serviceable, the most economical* insulation for sidewalls and top-floor ceilings.

By specifying Celotex Guaranteed Insulation, you will earn their everlasting thanks. Because Celotex Vapor-seal Sheathing and Vapor-seal Lath provide needed structural strength and continuous fuel savings—because these products are permanently protected against termites and dry rot by the exclusive, patented Ferox Process—and because they are *guaranteed in writing for the life of the*

*building!** Yet, with all these advantages, Celotex Guaranteed Insulation is *economical*—because it replaces other needed materials!

CELOTEX SPURS BUILDING

Celotex national advertising now tells your clients: "NOW IS THE TIME TO BUILD! It is a hedge against inflation • Financing is easy • Interest rates are low • Material costs are low • Labor is plentiful!"

*When issued, applies only within Continental United States

THE CELOTEX CORPORATION
919 N. Michigan Ave., Chicago, Ill.
Please send complete information about Celotex
Guaranteed Insulation.

AF 9-40

Name.....

Address.....

City.....

County..... State.....

CELOTEX

REG. U. S. PAT. OFF.

BUILDING PRODUCTS

INSULATING SHEATHING, LATH, INTERIOR FINISHES
ASPHALT SHINGLES, SIDING, ROLL ROOFING
HARD BOARDS • ROCK WOOL BLANKETS, BATTS
GYPSUM PLASTERS, LATH, WALL BOARDS

Sales Distributors Throughout the World

SEPTEMBER 1940

LAKE COUNTY TUBERCULOSIS SANATORIUM

146

A distinguished addition to the roll call of modern American buildings.

RECENT WORK OF VICTORINE AND SAMUEL HOMSEY

159

A varied portfolio of modern and traditional architecture by two Delaware architects.

THE ARCHITECT'S WORLD

173

Architecture for the Man in the Street . . . Apprentices . . . Art in the Preparatory Schools.

THE DIARY

177

Rambling remarks of a peripatetic observer.

HOUSES

179

More case histories in the small house series. Interior-exterior photographs . . . floor plans . . . critical comment . . . cost data . . . construction outlines.

PRODUCTS & PRACTICE

195

Latex cushions aid architect in designing furniture . . . Laminated wood arches offer an interesting new design form.

CBS STUDIOS, NEW YORK CITY

199

Remodeling on a giant scale, with polished stucco, special air conditioning, and "acoustivanes" thrown in.

BUILDING MONEY

205

One full year of war bends Canada's building curve upward—a reassuring record for U. S. builders now entering a year of national defense . . . Owensboro, Ky., scrapes the bottom of the low cost house market with three-room dwellings with lot at \$1,750 . . . A case-by-case diagnosis of eight ailing FHA-insured rental housing projects . . . From mansion to rooming house to apartment—a convincing remodeling case history . . . A small Indianapolis subdivision benefits by architectural design . . . Building's vital statistics charted and tabulated.

MONTH IN BUILDING

2

FORUM OF EVENTS

10

Chicago's Auditorium, Sullivan, Adler—remarks by Frank Lloyd Wright . . . News in photographs.

BOOKS

20

Modern houses in the U. S. . . . Houses by Royal Barry Wills . . . Housing in Scandinavia.

LETTERS

24

Editor, Howard Myers; Managing Editor, Ruth Goodhue; Associates, Paul Grotz, Joseph C. Hazen, Jr., C. Theodore Larson, George Nelson, Henry H. Saylor, Henry Wright; Assistants, John Belzert, Anna De Cormis, Betty Judell, Richard E. Saunders, Madeline Thatcher, Nadia Williams. THE ARCHITECTURAL FORUM is published by Time Inc., Henry R. Luce, Chairman; Roy E. Larsen, President; Charles L. Stillman, Vice President and Treasurer; Howard Black, Allen Grover, Eric Hodgins, P. I. Prentice, Vice Presidents; David W. Brumbaugh, Secretary. 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, 1940, by Time Inc. Printed in U. S. A.

VOLUME 73—NUMBER THREE

THE MONTH IN BUILDING

BUILDING TRENDS. A seasonally expected June drop in residential permits put Building's cumulative half-year total in some 2,100 reporting cities a shade below the healthy 1939 level (see tabulation, right). The industry entered the second half-year with the recorded mortgage volume up 15 per cent, FHA home mortgage insurance up 10 per cent, marriages up 7 per cent, costs fractionally higher than a year ago but down slightly from their mid-winter highs, rents steady, foreclosures down (see charts and statistics, p. 216).

PERMITS

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

	Monthly Data			First six months	
	June 1940 (millions)	Comparison with May '40	June '39	1940 (millions)	Comparison with 1939
Residential	\$94.0	-23%	- 6%	\$575.7	+ 4%
Non-residential	49.4	+ 1	-24	256.4	-14
Additions, repairs..	34.4	+11	+10	166.9	- 4
TOTAL	177.8	-12	- 9	999.0	- 2

TO DEFEND. National Defense developments of the month on Building's far-flung front:

►Disclosure that Congress would have balked at the housing amendment authorizing USHA to build defense projects had it realized it was tacked on a naval expansion bill (ARCH. FORUM, July 1940, p. 2). Eager to leave for the Republican National Convention, Congress passed the bill without careful reading, now accuses USHA of trickery for having sneaked into the legislation. However, at mid-month, USHA still had no additional funds with which to try its new wings.

►Introduction of a bill (unlikely of enactment) to appropriate \$70 million for the Navy to use in building its own housing. Sponsor: Representative Vinson of Georgia, Chairman of the House Naval Affairs Committee who did not realize the meaning of the USHA amendment to his Naval expansion bill, had a vague notion that FHA would do the building.

►Introduction of another bill (more likely of passage) by Senator Wagner of New York which would give the President \$300 million for defense housing to be divided as he sees fit among existing agencies in the building business—the War and Navy Departments, Public Building Administration, FSA and USHA. Chances are that the dollars would be dealt to all these agencies.

►Appointment of Architect Stephen H. Voorhees to the National Defense Advisory Commission as consultant to Chief William H. Harrison of the Construction Division.

►Announcement by Army experts that it will cost about \$350 per man to provide temporary housing for draftees called to the colors under the pending compulsory service bill. Scope of the task is indicated by the Army's desire to have some 550,000 new men under arms by year-end. Probability is that this rush order will be given to private large scale residential builders by the War Department on the basis of directly negotiated contracts (a cost-plus-fee, rather than the usual cost-plus-percentage basis). Since the buildings will be frame, army housing will involve a colossal carpentry job.

►Assignment to National Defense Housing Coordinator Charles F. Palmer and his new assistant, former Assistant USH Administrator Jacob Crane, of these general powers: 1) To conduct surveys of general and specific defense housing problems and see that necessary action is taken. 2) To determine whether construction should be handled by private or Government builders and to cooperate with both. 3) To coordinate all defense housing activities. 4) To explore existing housing legislation, draft any needed legislation. 5) To forecast exact housing needs from information supplied by the Defense Advisory Commission.

Latest Washington advice indicates that the Public Buildings Administration will handle all self-liquidating Government housing, that USHA will step in only where subsidies are required.

TO MARKET. Newest contender for a place in the prefabrication sun is PHC Housing Corp., currently the subject of considerable attention in several magazines of general circulation. Having spent ten years and "hundreds of thousands of dollars" on design and production research, cost analysis and the construction and demolition of a half-dozen handmade

indoor houses, the newcomer in recent months has changed its name (from Pre-built Housing Corp.), moved its New York City offices to the top story of an old midtown building (from an old uptown movie studio) and bought a Jackson, Miss., plant (from a wood working company). But, contrary to the claims of some reporters, the newly installed machinery is not turning out houses at the would-be record rate of "several dozens a week." Month ago, PHC's Jackson plant had accounted for only one more indoor house, plus parts for two others which were scheduled for shipment to faraway New York State.

To show for its sizable investment in research, PHC has a new house building technique which looks good but not simple and inexpensive. Principal features: A 20-in. module, a "bridge" frame of 1 x 6 in. wood members reenforced with steel; lap siding with attached insulation which hooks on the frame; panels of copper or conventional roofing material similarly applied; narrow floor, wall and ceiling panels which are clipped in place; a porcelain enamel steel bathroom-kitchen plumbing assembly not unlike Pierce Foundation's pride and joy (ARCH. FORUM, May 1940, p. 365). Advantages claimed: 100 per cent prefabrication of "assemblies," 100 per cent salvage value, conventional appearance, strength, quick erection with little skilled labor and without nails and—yet to be proved—low costs.

Potentially, PHC Housing Corp. is big, for several interested big names are potential financiers and several potential orders may mean big business. But, despite its auspicious and much ballyhooed start, the corporation undoubtedly has many lessons still to learn—both in the shop and in the field. Prefabrication is a tough game. In more than 40 years of trying by more than 100 contestants no one has nicked the bull's-eye, and only two or three have even hit the target. So, a large gallery is waiting to check the marksmanship of one-time automaker Ernest W. Pavey (P), Viennese engineer Henry Hasenburger (H) and Rockefeller Center Architect Harvey Wiley Corbett (C) who comprise the PHC first team.

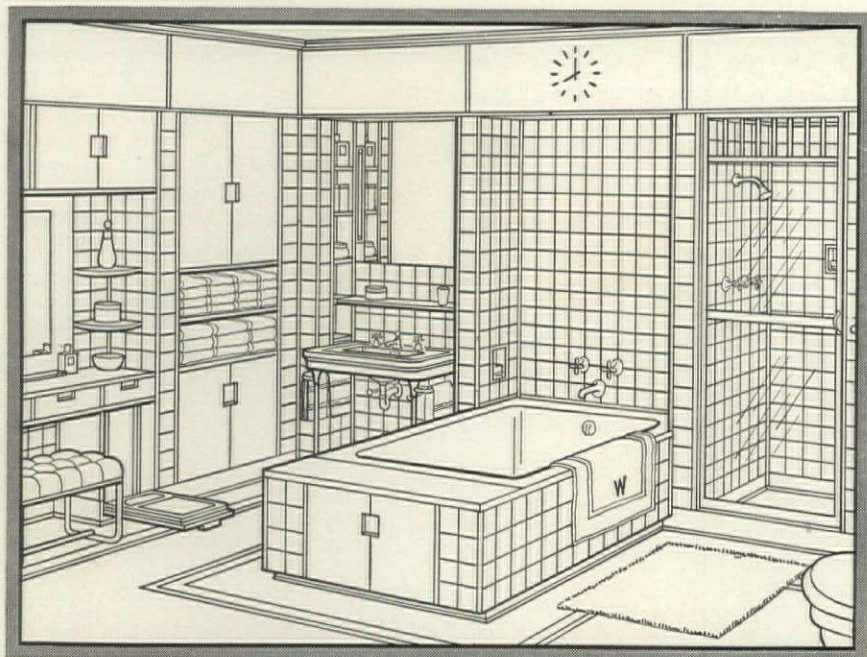


Architect Corbett—the C in PHC

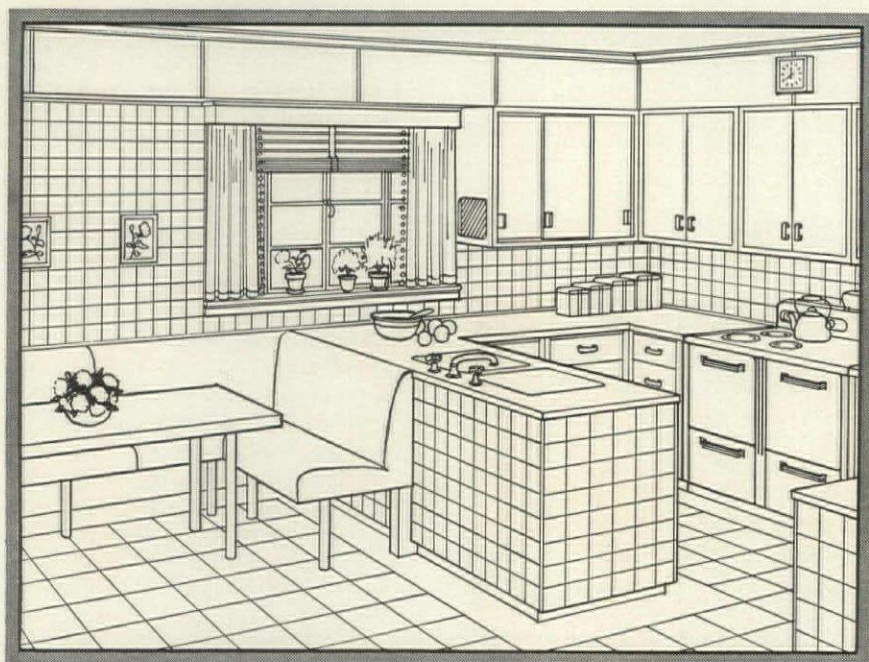
Seidman

MASONITE PRESDWOOD TEMPRTILE

... NO NEED FOR A SHOE HORN



FOR UTILITY ALONE, this bathroom deserves special mention. There's ample space for towels and toiletries without that "storeroom" air. The uses of Presdwood Temprtile are in good taste. And notice how easily the board can be cut to fit into small places to give an over-all effect of spotless smartness. For this room, the board could be enameled any pastel shade with a contrasting color for striping. The framing around the tub has a lot of utility value because it not only provides a seat for foot bathing, but also allows an extra cabinet for soaps.



COMPLETE, even to a built-in radio in the china cabinet. Presdwood Temprtile is a wise material to select for kitchens because it can be kept clean with little effort, and it does not absorb cooking odors. Here it might be enameled white, with black enamel striping. Indirect lighting can be installed in the overhead wall valances which, incidentally, are made of Masonite Tempered Presdwood. This material is also excellent for the counter tops, because it is able to stand up under years of hard service without scuffing or scratching.

WHEN there's just so much in the budget, and you're using the proverbial "shoe horn" to try to squeeze in all the extras, let Masonite Presdwood Temprtile help you save dollars. It's the practical, inexpensive way to get the tile effects you want—without sacrifice in construction quality. This hard, all-wood board is there "for good," once it's properly applied. There's no breakage and it won't shrink, warp, split or crack when used according to instructions. The two rooms shown here have been designed expressly to illustrate the flexibility of Presdwood Temprtile, and the many unusual effects that can be easily achieved at exceptionally low cost.



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

COPYRIGHT 1940, MASONITE CORPORATION

If you would like to examine a sample of Masonite Presdwood Temprtile FREE, just fill out and mail this coupon to:

MASONITE CORPORATION
Dept. AF-9-40
111 W. Washington St., Chicago, Ill.

Name _____
Address _____
City _____
State _____

THE MONTH IN BUILDING

TO PRESS. Waving Vol. I, No. 1 of the *United Construction Workers News*, CIO's infant building union last month fanned out the sole candle on its birthday cake, dried the ink of its first publishing venture. A modest, four-page semi-monthly, the new mouthpiece of United Construction Workers Organizing Committee spoke many interesting facts and opinions to its members in 30 States:

►An editorial message from UCWOC's bushy-browed Chairman Alma D. Lewis, brother of CIO's bushy-browed President John L.—"It is clear that 20th Century building methods are demanded in the current period. Jurisdictional disputes, racketeering, restraints on production, and the whole mess of craft unionism, is out-moded and impossible to maintain at a time when speed is of the essence on so much of the new construction."

►Review of UCWOC's first year—wage agreements on an industrial union basis signed with "several hundred" contractors; 155 local unions chartered.

►A jab at AFL—"Work on a \$14 million project for occupancy by the War Department and the Defense Commission" and "more than 2,000 workers were made idle in Washington . . . as the result of a jurisdictional strike by AFL craft unions." Reason: dispute over who should build wooden "horses"—carpenters or plasterer's helpers. Solution: a temporary compromise pending a final jurisdictional award—no more "horses."

►Greetings from CIO President John L. Lewis—"The program of the UCWOC must proceed with all vigor until the workers in every phase of construction are united into a powerful organization that can protect them against the vicissitudes in an industry that has operated for too long on a basis of jungle law. . . ."

TO COURT. Lost amid the blare of national defense headlines has been recent news of Trust-buster Thurman Arnold's drive against alleged restraints of building trade. But, the Justice Department is doing business as usual. To wit: month ago in Pittsburgh eighteen of the topmost local and national officials in AFL's populous carpenter union (including International President William L. "Big Bill" Hutcheson and his entire executive board) lost their fight to escape prosecution under the Sherman Anti-Trust Act when Federal Judge F. P. Schoonmaker dismissed their demurrers to a conspiracy indictment. The way was thus opened for the first actual court trial—probably in November—to be held as a result of the "Buster" Arnold's six-month grand jury investigation of the Smoky City's building industry.

TO SLEEP. An important and growing naval center, Seattle would seem to merit the early attention of National Defense housers. Reports last month from THE FORUM's local correspondent indicate that the ever-increasing number of navy yard workers in the vicinity may not work long for want of better living quarters.

Narrowest of the housing bottlenecks is at Bremerton, home of the Puget Sound Navy Yard just west of Seattle. In addition to a 15,000 civilian population—up 50 per cent from the 1930 census—Bremerton now has 7-8,000 Naval officers and men plus 7,900 Navy Yard workers. The latter group is larger than at any time during World War I.

Despite the denials of the local Apartment Operators Assn., which sees no housing shortage and asserts that rents have not been raised, impartial observers offer convincing evidence that Bremerton's population has outgrown its shelter: garages have been converted into bedrooms; beach shacks are commanding \$50 rents; the municipal jail sleeps seven or eight newcomers per night; others sleep in trailer camps, parked automobiles, tents and on the city park's well-worn grass. And, those Government hired skilled workers who seek good apartments are confronted with \$75 rents, obviously too big a stretch for their small purses.

To relieve the acute shelter shortage, bulging Bremerton has organized a housing authority, will soon ask USHA for \$3-4 million with which to build 600 low rent dwelling units and will try to coax private builders to erect 400 more. If private capital balks, the whole problem will be dumped in USHA's lap. This will not please Bremerton property owners, for they well remember that Government during World War I built one hotel, one apartment project and 250 houses scattered all over town, then boarded them up after Armistice and crippled realty values for years. If and when built, USHA's dwellings will probably be concentrated in one project.

TO PROVE. Required reading for those who still doubt the tremendous dimensions of the low cost house market is the maiden report of M.I.T.'s Albert Farwell Bemis Foundation. A technical pamphlet replete with tabulations, examples and graphs galore, its title is "A Method for Analyzing the Economic Distribution of Shelter," its author, the Foundation's smart Director John Burchard.

With the aid of a new formula and several rule-of-thumb assumptions, Houser Burchard proves that with an economic rent of 11.1 per cent of the cost

of shelter (an assumed national average) and the allocation of 20 per cent of income to shelter (another assumed national average), only 3 per cent of the non-farm, non-relief families can afford houses and lots valued at more than \$10,000. Going down the scale, only 14 per cent can afford properties valued at more than \$5,000; only 23 per cent, at more than \$4,000; 65 per cent, at more than \$2,000.

If interest charges are removed entirely from the economic rent, the market for the ordinary \$4,000 property jumps from the 23 per cent mentioned above to 59 per cent. And, about the same result is achieved by knocking the value down to \$2,200. On the other hand, these same assumptions indicate that taxes play a much smaller part in determining the size of the housing market, for, when all taxes are omitted from the economic rent, the potential market for the \$4,000 house jumps from 23 per cent of the total to only 37 per cent. This percentage is about the same as that which results from the elimination of the entire cost of land.

While Burchard's findings present a fairly accurate picture of the national market, substantiating THE FORUM's estimates*, on a local basis it is apt to be out of focus—unless, of course, the locality in question happens to jibe with the general assumptions as to income distribution, economic rent levels, family income levels, etc. In fact, one of Burchard's prime conclusions is the vital need for more detailed local or regional information on all aspects of the housing problem. To those who wish to delve deep into the demand for housing, Burchard's Foundation offers its theoretical thesis.

EARNINGS for the six-month period ended June 30:

	1940	1939
American Seating	\$100,197	\$53,818†
Anaconda Wire & Cable	497,259	54,132
Blaw-Knox Co. . .	602,717	211,086
Carrier Corp. . .	278,698	147,642
Climax Molybdenum	3,466,225	2,569,214
Crown Cork & Seal	1,318,188	795,895
Electrolux	897,560	818,611
Flintkote‡	621,470	610,331
Formica Insulation	235,326	101,403
Holland Furnace	262,384	132,944
Inland Steel	5,933,499	3,785,060
Koppers#	2,150,831	1,270,139
National Steel	7,013,817	4,385,424
Otis Steel	362,143†	251,441†
Phelps Dodge	5,804,538	4,601,038
Reynolds Metals	1,601,534	488,704
Tilo Roofing‡	185,970	156,436
U. S. Gypsum	3,536,458	3,117,857
U. S. Steel	36,315,003	1,970,311
Wheeling Steel	1,664,078	1,538,656

* Arch. Forum, April 1939 and February 1940.

† Net loss

‡ 28 wks. to July 13

12 mos. to June 30

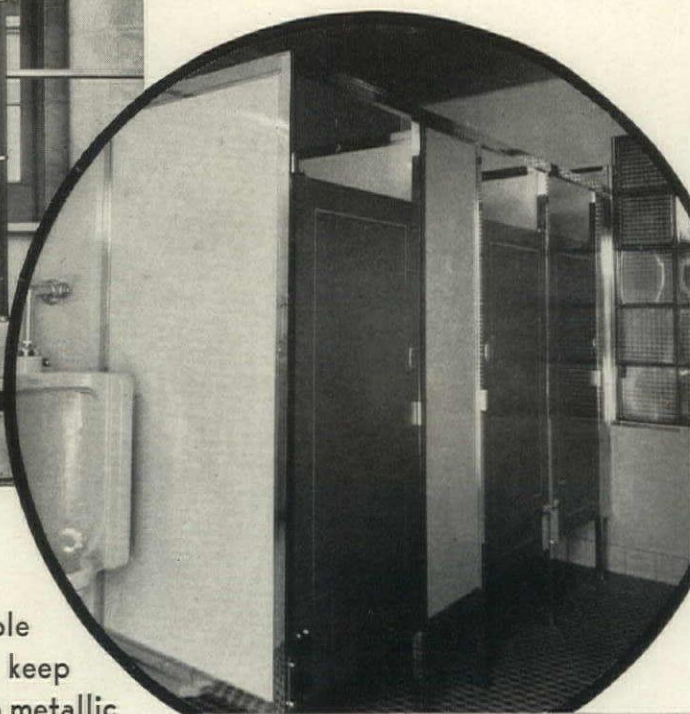
Light, Permanently Finished

DOORS of FORMICA



• Doors, Guardian Building Portland, Oregon, Walnut Realwood with bronze frame. H. Herzog, architect.

• Toilet Stall doors Formica color with inlay.



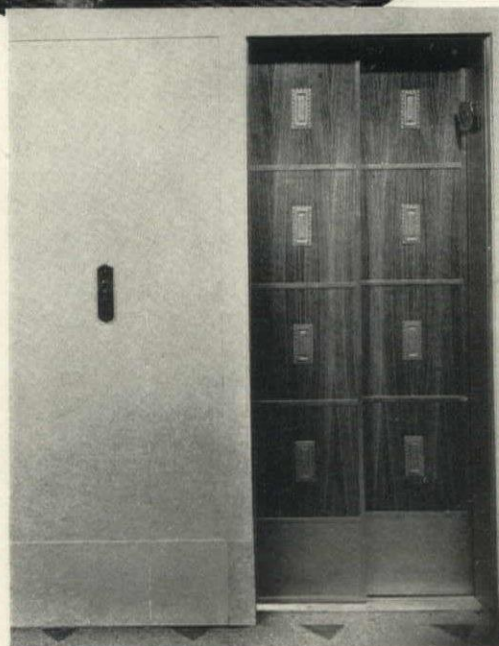
FORMICA doors on wood cores are light, stable in dimensions and shape, colorful, easy to keep clean and very durable. Where heavier doors of a metallic type are desired Formica can be very effectively combined with bronze.

Formica "Realwood" for doors is a surfacing material combining an actual veneer of real wood with all the qualities of a plastic—chemical inertness, permanent finish, freedom from crazing, and absence of porosity to prevent stains. There are also more than 70 Formica colors and patterns of other kinds, and inlay of one color over another. Let us send literature and color charts.

THE FORMICA INSULATION COMPANY
4620 Spring Grove Ave., Cincinnati, Ohio

FORMICA

FOR BUILDING PURPOSES



• Elevator Doors, Guardian Building, Portland, Ore. Panels in Formica Walnut Realwood, edging and motifs bronze. H. Herzog, architect.

BETHLEHEM ELEVATOR CABLE

in Hotel New Yorker



Elevators in the 40-story Hotel New Yorker are in motion day and night. Their swift smooth flight from floor to floor may seem gentle to guests—but it's far from gentle to the wire rope in the shaft.

Here's why Bethlehem hoisting, compensating, and governing cables are used extensively in the New Yorker: Bethlehem Elevator Cable is designed to handle every kind of elevator service.

Every wire is special steel, precision-drawn on modern equipment. The entire rope—core, wires, strands—is packed with scientific lubricants that stay in the rope, do not leak out in service.

To specify Bethlehem Elevator Rope in your next building design will do much to increase client satisfaction. This cable is a quality product, through and through. It's safe, dependable, economical in buildings large or small.

BETHLEHEM STEEL COMPANY



MAKE THIS TEST - *Prove* **BRIXMENT** *is* **BEST!**



1 Butter one brick with Brixment mortar, colored with any good black mortar color. Then butter another brick with mortar made from lime and cement, and the *same* mortar color.



2 Set both brick aside for a couple of weeks. You'll find that the sample made with Brixment mortar retains its full, rich color, while the other turns dull or pale.

BRIXMENT Mortar Does Not Fade Mortar Colors!

FADING of mortar colors is ordinarily caused by the action of aggressive chemical compounds (usually tri-calcium compounds) present in lime and cement mortars. If sufficiently strong, such chemicals may burn or bleach the pigment.

Brixment mortar, however, is practically free from such compounds. *Brixment mortar therefore cannot fade mortar colors.*

Furthermore, the waterproofing material incorporated in Brixment during manufacture, gives added protection—helps prevent the color from being leached out of the mortar joint by rain . . . For these reasons, Brixment is endorsed by *manufacturers* of mortar colors, for use with their products.

If *you* have a mortar color job, get a bag of Brixment and try it with your favorite mortar color. Sack for sack, we believe you will find that the mortar color goes further and *looks better* with Brixment than with any other mortar you have ever tried.



BRIXMENT

For Mortar and Stucco

SPECIFY *Carey* BUILT-UP ROOFS

FOR HOMES AND APARTMENT BUILDINGS

(Below) House in Auburn, Alabama. Sidney Wahl Little, Architect. Carey Built-Up Roof.

(Above) Cathedral Apartments, Florida. Carey Roof and Rocking Well.

(Below) House in Arizona. Arthur Architect. Carey Roofing.

PROFITING by the experience of industry, which uses CAREY Built-Up Roofs extensively throughout the nation, architects are specifying this same weather-defying protection for residences, with gratifying results.

No roof is better than the materials that go into it. CAREY Roofs are built up—layer on layer—with CAREY Feltex, the superior asphalt-saturated felt, and the finest asphalt the world affords. The result is a roof that retains its elasticity under all weather conditions . . . will not melt and run under the sun's heat . . . will not crack under zero temperatures.

Still another factor enters into every CAREY Roof—the intangible, yet invaluable factor of experience. Back of every CAREY Roof are research facilities of a nation-wide organization and manufacturing skill developed through 67 years of progress.

For residence and apartment construction requiring built-up roofs, specify CAREY Products.

THE PHILIP CAREY COMPANY

LOCKLAND

Dependable Products Since 1873

CINCINNATI, OHIO

(Left) Century Apartments, Washington, D. C. Carey Built-Up Roofs.

(Right) Wellington Town Houses, Chicago.

Build in Extra Quality

WHERE IT SHOWS TO ADVANTAGE

with MIAMI BATHROOM CABINETS



Home owners—more and more—want beauty and luxury in their bathrooms; no doubt about that.

Yet all too often the one item of equipment that can do more than any other to add **EYE APPEAL** is selected or specified without a study of the many different types available. We refer to the **CABINET**.

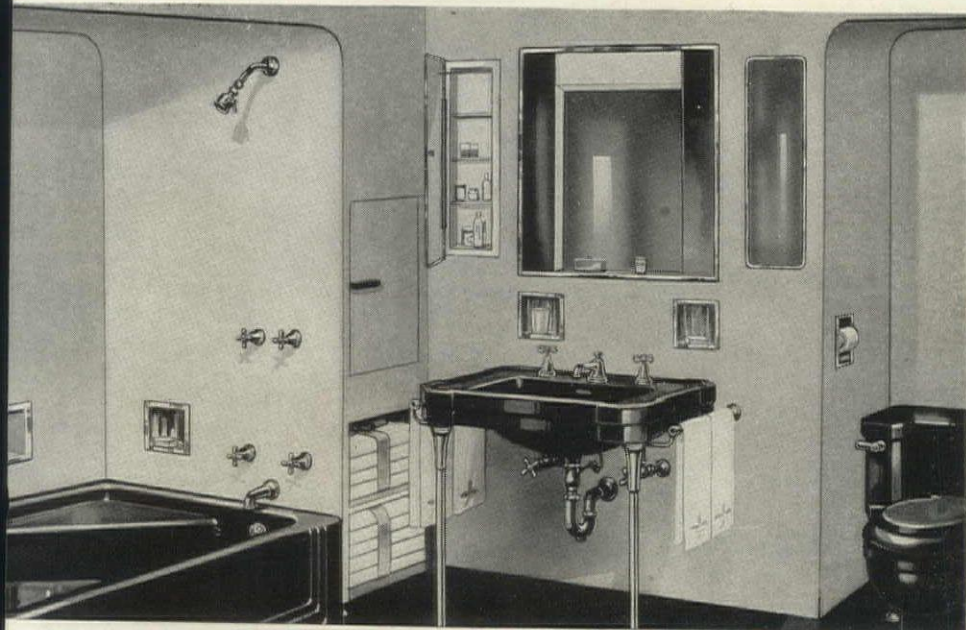
The point we make is this—Deluxe bathrooms, as a matter of consistency, should be equipped with Deluxe cabinets and ensembles. For only a few dollars more, you can equip your bathrooms with the finer **MIAMI Cabinets**—then you have real beauty—complete harmony.

Don't permit cheap cabinets to let your bathrooms and your reputation down. Build them "UP" with **MIAMI CABINETS**.

See the **MIAMI Catalog** in Sweets—or write Dept. AF for your copy.

Suggested Layout for Master Bathroom

Miami Cabinets and Accessories in the suggested layout below are: Supply Cabinet No. 510-A; Back of alcove above tub—Octagon Towel No. 5001 and Recessed Shelf No. 5002; Side wall of alcove above tub—Recessed Soap Holder No. 6000; Over the tub—Miami Louis XIV Cabinet Ensemble; Recessed Tumbler No. 6001; Recessed Soap Holder No. 6000; Side wall of alcove above tub—Recessed Paper Holder No. 6002.



Residence in Webster Gardens Subdivision, Webster Groves, Mo. Webster Bldg. & Supply Co., Builders. Treanor & Fatio, Architects.



House in Crestmoor Park, Denver, Colo. Garrett-Bromfield & Co., Builders, Denver. Willard Walker, Architect.



Home of Mason R. Smith, Gouverneur, New York. D. Kenneth Sargent, Architect, Syracuse, N. Y.



River Terrace Apartments, Detroit, Mich. Derrick & Gamber, Inc., Architects and Engineers, Detroit. 178 Miami Cabinets used.



Residence in Norgate Homes, Roslyn, N. Y. Philip Resnyk, Architect, New York City.

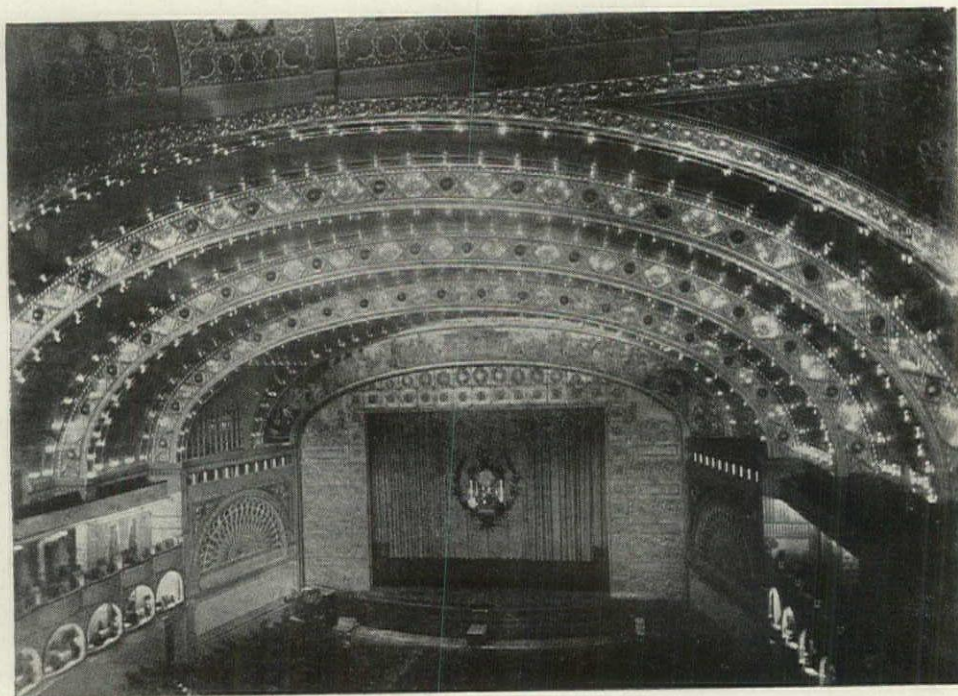
THE MIAMI CABINET DIVISION
THE PHILIP CAREY COMPANY • MIDDLETOWN, OHIO

FORUM OF EVENTS

CHICAGO'S AUDITORIUM IS FIFTY YEARS OLD



The Auditorium before the arrival of the Wabash Avenue El. Below, the theater interior photograph overemphasizes the ceiling and its decoration; with the normal lighting of the stage as the one bright focal point, the decoration falls into key.



Stressing the importance of The Auditorium as an architectural milestone, and the epoch-making work of Adler & Sullivan, Chicago's Art Institute has staged an exhibition that will remain open until October 20. Ferdinand Peck conceived the combination of theater, hotel and office building, and rallied the financial support. The two latter adjuncts were to carry the financial load for the theater which set new standards in acoustics, sight lines and ventilation. Dedicated December 9, 1889, it continues to serve its purpose today.

Of The Auditorium's creation, the reminiscent impressions of Frank Lloyd Wright form an historical document of unique value; he was at the time a junior draftsman serving the man he has always called Master—Louis Sullivan.

FRANK LLOYD WRIGHT:—

The Auditorium was the largest and most important commission Adler & Sullivan, or any architects in America, had had up to that time. The building became famous before it was completed.

We used to call Dankmar Adler "Chief" in those busy days when The Auditorium was building, and he stood squarely in the midst of the great turmoil, solidly dominating the whole building process, from the trenches where the footings were going into a floating foundation, to the great trusses that later spanned the greatest room for opera the world has ever seen.

Contractors would take a drink before they came to "get it" from the Chief. I've heard him take one of them on as a mastiff would pick up a rat, shake him and drop him. I've seen them red-faced and perspiring leaving his little place next the outer office, mopping their brows, but jacked up to better work and more of it. Or perhaps condemned to tear out what they had done and do it over again as he had told them to do it in the first place. Most of the profit gone out of the job because they had tried and failed to fool the Old Man. These would be green ones. Those who knew him feared and respected him mightily. He was master of their craft and they knew it. His bushy brows at that time almost hid a pair of piercing gray eyes. His square gray beard and squarish head seemed square with the building, and his personal solidity was a guarantee that out of all that confusion would issue the beauty of order.

During that constructive war time I've heard Louis Sullivan's cry of "Adler!

(Forum of Events continued on page 12)

● The portland cement stucco facade of this new C.B.S. studio was applied quickly and economically over the old front—then polished mechanically to a smooth, hard surface. Architect: Fellheimer and Wagner, N. Y.; Plastering Contractor: E. L. Hewes, N. Y.; Stucco Manufacturer: Artstone Rocor Corp., Brooklyn.

**IT DOESN'T LOOK LIKE STUCCO
IT DOESN'T FEEL LIKE STUCCO**

...BUT IT IS

STUCCO

IT'S as hard as granite and as smooth as your watch crystal... but actually the clean, crisp facade of the Columbia Broadcasting Company's new studio is portland cement *stucco*—finish coat of Artstone stucco made with Atlas White cement!

After the stucco was applied, its 4428 sq. ft. of surface was ground and polished mechanically with carborundum bricks... in much the same manner as a terrazzo floor. Result is a smooth, rock-hard, semi-glazed surface that repels dust and dirt particles, and can easily be cleaned with soap and water.

Here, then, is an old material in a new dress particularly suitable in cities where dust, smoke and oil fumes dirty modern structures. Stucco was highly economical—it made it possible to modernize without ripping out the front of the old building to stay within the building line. Projections were removed, the many window openings were bricked in, the old brick and limestone front was roughened and scratch, brown and finish coats of stucco applied.

Let portland cement stucco made with Atlas White cement help build your next house or remodel your next building. It blends well with any architectural style or material. And it's surprisingly low in initial and upkeep cost. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

Offices also at: New York, Chicago, Philadelphia, Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

● Polishing stucco surface with carborundum bricks.

FACTORY-MADE STUCCO IS PREFERABLE

AF-S-21

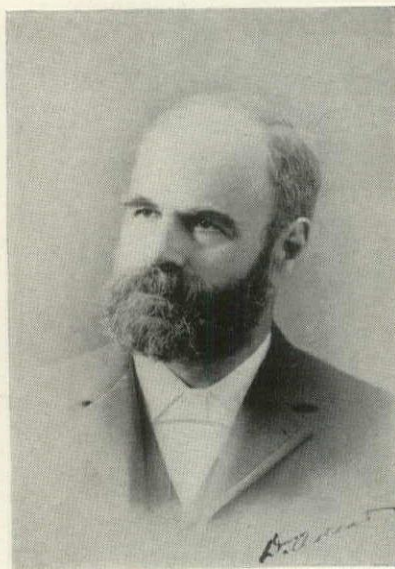
ATLAS WHITE CEMENT

A UNIVERSAL ATLAS PRODUCT

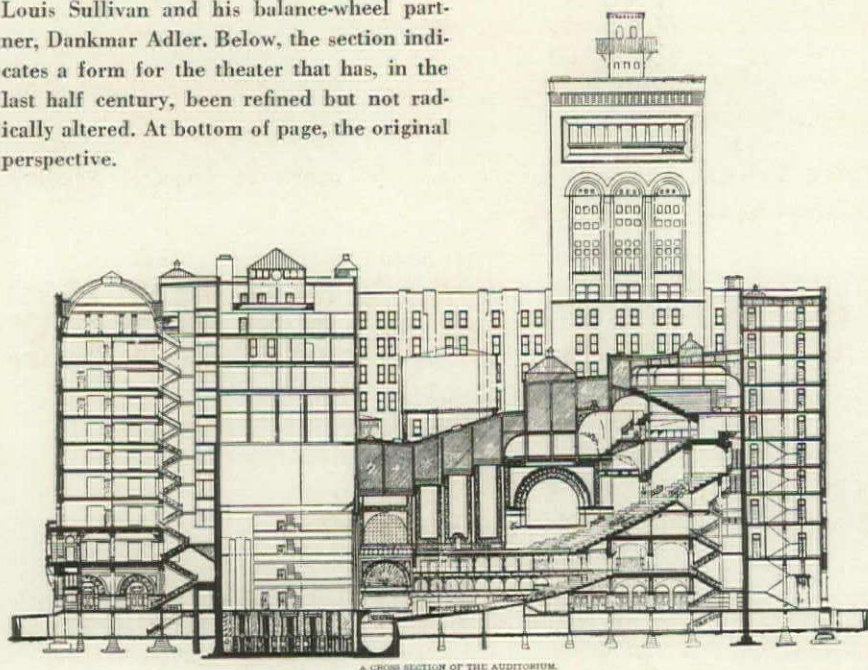


FORUM OF EVENTS

(Continued from page 10)



Louis Sullivan and his balance-wheel partner, Dankmar Adler. Below, the section indicates a form for the theater that has, in the last half century, been refined but not radically altered. At bottom of page, the original perspective.



Adler!"—the cry rising every now and then in emergency appeals to the chief. In emergencies, not only *lieber meister* but all of us always turned to Adler. "Adler!" was the common cry in the drafting room as on the works. And Adler never failed anybody. We used to feel him back of us just as the gangs on the building did. He would range up alongside the boards and put a heavy point straight without hesitation. At other times he would ponder, with a guttural growl, and invariably come out with what was needed to straighten out the problem. And tough problems were coming up day in and day out for years.

Sullivan, designing partner, was novice in those days. The respect of the two partners for each other—and affection too—seemed unbounded. Adler, master of that particular plan for The Auditorium, was Sullivan's best critic, and his judgment quieted and strengthened greatly the final result.

Adler himself had never developed the facility in design naturally possessed by Sullivan, but Sullivan himself at that time had no such grasp of building technique as was necessary to build this vast, complicated building, and had acquired no power at all over either the men building it or the men owning the enterprise.

The Chicago Auditorium was entirely Adler's commission and more largely Adler's own building than Sullivan's—where its constitution and plan were concerned. The dramatic expression of the interior was Sullivan's; and that of the exterior, Richardson's influence, I should say, except the square tower developed by Adler's criticism and, after the footings were already in, raised by Sullivan to a more dominating mass. This tower was the best feature of the outside, the one causing most trouble and receiving most careful study from both men. They were both satisfied with it, but the additional height caused serious settlement that never ceased to worry the Chief.

The receding elliptical arches spanning the great room were the best feature of the interior, and they were a development by Sullivan of Adler's invention of the sounding board or sloping ceiling above the proscenium; it had marked all Adler auditoriums before he took the young genius Sullivan in.

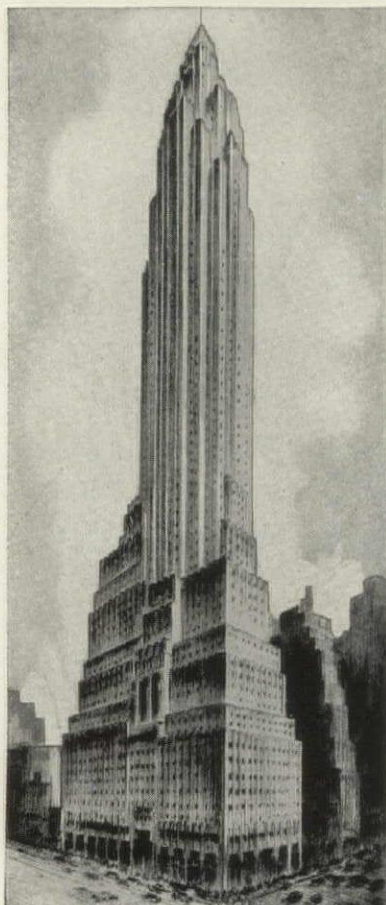
Most of this work in planning the Auditorium took place in the Borden block, now destroyed, but long before the opening we all moved into the new offices in the tower, where we were in constant touch with what went on below, an industrial world under a great architect.

Stage craft has not advanced much since that day. Adler's Auditorium stage would stand up with the best stages in the world today. Acoustics were Dankmar Adler's specialty. There is no house in the world equal to the Auditorium in that respect. Among all the theaters built by Adler, and later by Adler & Sullivan, there were no failures acoustically.

A pity that the great room should not now be the Chicago home of grand opera!

(Forum of Events continued on page 14)

ONLY A LONG *and* OUTSTANDING RECORD WOULD PERMIT OF SUCH A Warranty



60 Wall Tower, New York City. Clinton and Russell, Holton and George, Architects. James Stewart & Co., Contractors. Truscon W. Paste used from 30 feet below-grade to 700 feet above the sidewalk.

FOR thirty years Truscon Waterproofing Paste—the pioneer integral waterproofing paste compound—has kept faith with architects, engineers, builders and owners.

During this time it has been used in hundreds of thousands of buildings and in every type of concrete construction, not only in America but throughout the world. The list of outstanding structures which have employed Truscon Waterproofing Paste to assure efficiency and permanency of waterproofing reads like the blue book of a three-decade building era.

And in all this period Truscon Waterproofing Paste has never registered a failure.

On the basis of the record and proved merit of Truscon Waterproofing Paste, Truscon offers a

25 YEAR GUARANTEE with **TRUSCON** *Zilicon* **WATERPROOFING PASTE**

**ALWAYS EXCELLENT—BUT NOW EVEN BETTER BECAUSE OF
*Improved Workability***

● Truscon Zilicon Waterproofing Paste now contains the remarkable chemical achievement—Zilicon—which incorporates into concrete all the most modern, scientific advances—including:

- 1—USE OF LESS WATER. 3—STRENGTH INCREASE.
- 2—SHRINKAGE REDUCTION. 4—PUZZUOLANIC PROPERTIES.
- 5—CORROSION RESISTANCE.

Write for a copy of our guarantee and learn how Truscon Zilicon Waterproofing Paste protects you and your work.

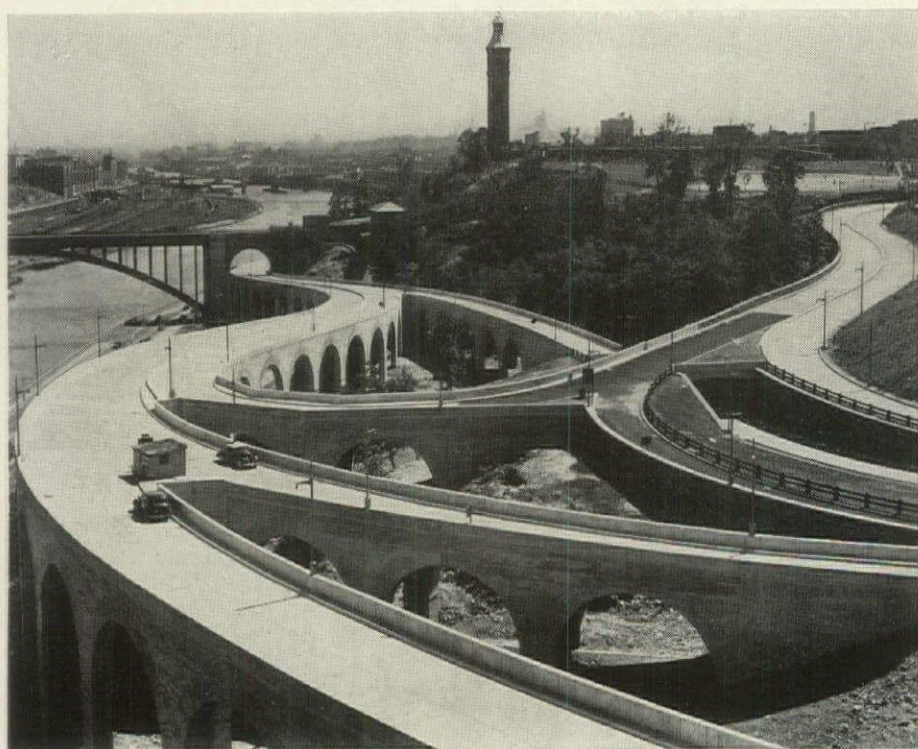
General Motors Building, Detroit, Michigan. Albert Kahn, Inc., Archts. Basements and Sub-basements waterproofed in 1919.



TRUSCON LABORATORIES
CANIFF AT GRAND TRUNK R. R. • DETROIT, MICH.

FORUM OF EVENTS

(Continued from page 12)



Convolutions of Motor Traffic. New York's new viaduct in High Bridge Park, connecting the Harlem River Speedway (at far left) with the 178th Street Vehicular Tunnel approach to the George Washington Bridge. Five million dollars built the first cross-town motor tunnel to avoid street-level interference for cars using the Bridge and passing across uptown Manhattan. Designed by the Port of New York Authority.



Please. Edwin Markham Memorial Association wants to buy and make a museum of the poet's Staten Island home. We are strong for keeping the memorabilia but would put the house out of its misery.



Relief. WPA workers have made for the City Planning Commission an accurate articulated model of San Francisco, 1 in. to 100 ft., on which it is possible to study future improvements of this city of steep grades, taking it apart block by block.

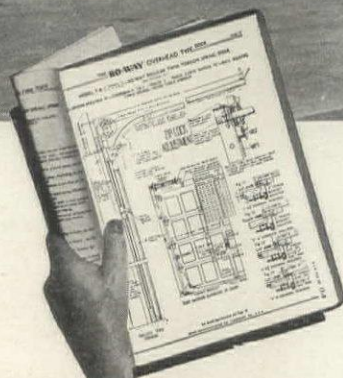
SAN FRANCISCO'S ARCHITECTURE-PLANNING-HOUSING EXHIBITION

To fill a lack in Golden Gate Exposition of 1939, Timothy Pflueger was commissioned to provide this year's Palace of Fine Arts with a section on architecture. With the aid of ideas from Dr. Grace Morley and Dr. Walter Heil of San Francisco's museums, and with the designing and executive talents of Ernest Born, the resulting show is a three-star feature of this year's Fair.



Esther Born Photos

(Forum of Events continued on page 48)



FREE to Architects

72-page "Time-saving Specification Book" contains detailed drawings of every model for residential, commercial and industrial doors. Shows full line of Extension Spring, Torsion Spring and "Ro-To Live" Spring Doors of Overhead Type. Gives Architect's specifications on back of each detailed drawing. Shows 4 pages of special architectural effects. Use convenient coupon or write for Free copy for your A.I.A. File.

NO EXTRA COST to Your Clients

for these 5 Refinements in Ro-Way OVERHEAD TYPE DOORS

In appearance, performance and trouble-free service, Ro-Way Doors reflect credit on the architect who specifies them. Five improvements, without extra cost, make Ro-Way a truly modern Door.

1. "Crow's Foot" Outer Bearing Support

Rigidly holds the chain sheave wheel in permanent alignment. No twist . . . no sag to cause friction.

2. "Ro-To Live" Spring

A powerful Floating Torsion Spring (used on some models), gives perfect balanced lifting power, and ends side-drift and binding.

3. "Zip-Lock" Adjustment

Used on Ro-Way Doors having Twin Torsion Spring Power. Permits instant easy adjustment of spring tension.

4. "Tailor Made" Spring

Each spring is individually made for the Ro-Way Door on which it is used. Each is power-metered to the weight of the door.

5. Parkerized and Painted Hardware

Ro-Way Hardware and Tracks are given finest known protection against rust and corrosion . . . same method as used on fine motor cars, refrigerators, etc. Parkerizing and Painting process occurs AFTER all forming and/or other machine operations have been completed.

Authorized Representatives in all principal cities are prepared to render prompt cooperation and service. Send coupon for 72-page "Time-saving Specification Book."

ROWE MFG. CO., 909 Holton Street
GALESBURG, ILLINOIS, U.S.A.



One of many "Conoco" Filling Stations equipped with Ro-Way "High Lift" Doors.



Attractive Residence with attached Garage, using 2 Ro-Way Doors. Zimmerman, Saxe & Zimmerman, Chicago, Architects.



Bus Station, Terre Haute, Indiana, using 12 Ro-Way Doors. Miller & Yeager, Terre Haute, Ind., Architects.

Please attach your Professional Card or Business Letterhead to your request.

Rowe Manufacturing Co.,
909 Holton St., Galesburg, Ill.

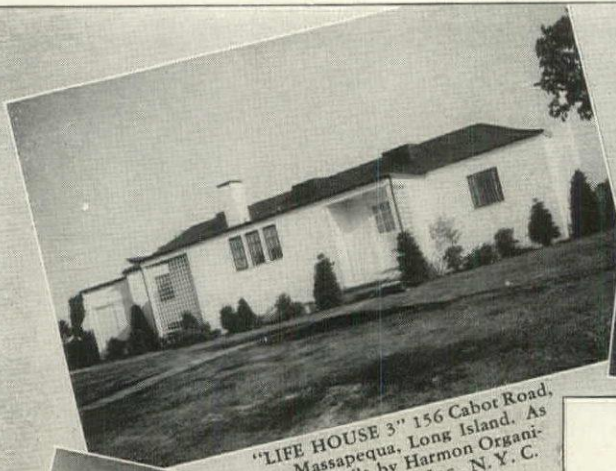
Gentlemen: Please send me Free copy of your 72-page "Time-saving Specification Book" for Architects, as advertised in Architectural Forum.

Name.....

Address.....

City.....State.....

There's a Ro-Way for every Door way!



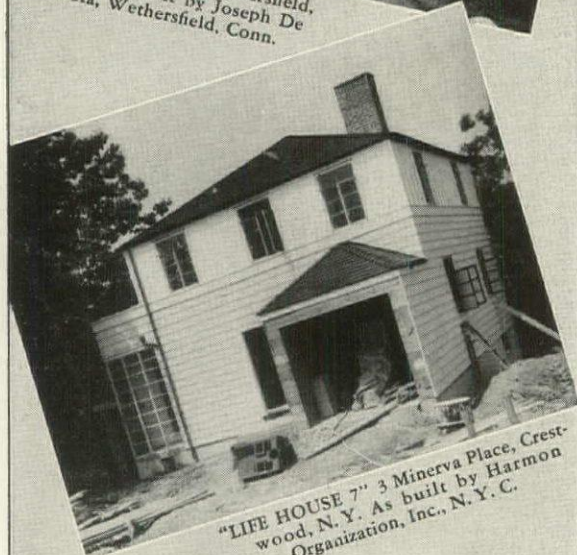
"LIFE HOUSE 3" 156 Cabot Road, Massapequa, Long Island. As built by Harmon Organization, Inc., N. Y. C.



"LIFE HOUSE 4" 14 Nassau Rd., Massapequa, Long Island. As built by Harmon Organization, Inc., N. Y. C.



"LIFE HOUSE 5" Wethersfield, Conn. As built by Joseph De Paola, Wethersfield, Conn.



"LIFE HOUSE 7" 3 Minerva Place, Crestwood, N. Y. As built by Harmon Organization, Inc., N. Y. C.



"LIFE HOUSE 7" 46 Rowan Road, Chatham, N. J. As built by Harmon Organization, Inc., N. Y. C.

Builders Select

KIMSUL

INSULATION

for these Five New "Life" Houses!

● The builders of the "Life" houses illustrated here are typical examples of KIMSUL* boosters. And no wonder — for like hundreds of other architects and builders they have discovered in KIMSUL, an insulation that is highly effective yet remarkably low in cost.

KIMSUL's ever-growing popularity is undoubtedly due to the many outstanding advantages it offers. With a conductivity of 27 B.t.u./hr./sq. ft./°F. inch. (J. C. Peebles) KIMSUL is one of the most efficient insulating materials known. It is clean, light in weight and installs with remarkable speed and ease. Furthermore KIMSUL is highly resistant to fire and moisture. And because of the unique stitching feature which holds it in place, KIMSUL stays put — won't sag, sift or pack down inside the walls.

KIMSUL is an insulation that lives up to the claims made for it—and, as a result is specified nationally by architects, builders and contractors. Investigate KIMSUL for your new homes. For complete information about how much more KIMSUL will do for the money — mail coupon today!

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

COMPARE!
and you'll
choose
KIMSUL

KIMBERLY-CLARK CORPORATION (Kimsul Division)
Established 1872

Neenah, Wisconsin

AF-9

☐ Please send a representative

☐ Please send Free Book — "Greater Comfort — Winter and Summer."

Name _____

Address _____

City _____ County _____ State _____

"I have yet to see a client who hasn't shown keen appreciation of the convenience of the Square D Multi-breaker. That is why they are included in all our specifications." R. W. Bramberg

above • Mr. R. W. Bramberg, prominent Chicago builder and realtor, has built more than 700 homes in the Chicago metropolitan area—no two of them alike. He always specifies Square D Multi-breakers.

at right • Mr. Bramberg discusses building details with a client. Behind them is a framed photograph of the Bramberg-built home which won first honors for architectural design in a recent national contest.

below • Three Bramberg houses in the beautiful North Oak Park section. They reflect the charm and distinctive design which Mr. Bramberg builds into every one of his homes. The use of Multi-breakers evidences the importance which he assigns to quality equipment and features.

THE thoughtful architect, builder or realtor designs and builds for the life-long comfort and convenience of his clients. The Square D Multi-breaker is a low cost item of equipment which should be included in all specifications. It is service entrance equipment which replaces switches and fuses and gives circuit breaker protection and convenience.

Your clients will readily appreciate the relief from the annoyance of replacing blown-out fuses. When a short circuit or dangerous overload occurs, the Multi-breaker cuts off the current. A simple movement of a lever restores the circuit unless danger still exists.

The Square D line includes Multi-breakers suitable both in size and price for any home. They seldom cost more than ordinary switch and fuse equipment . . . often less. Write for bulletin No. CA-4000 which gives the complete story.

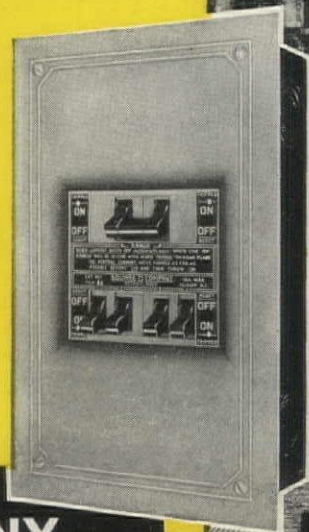
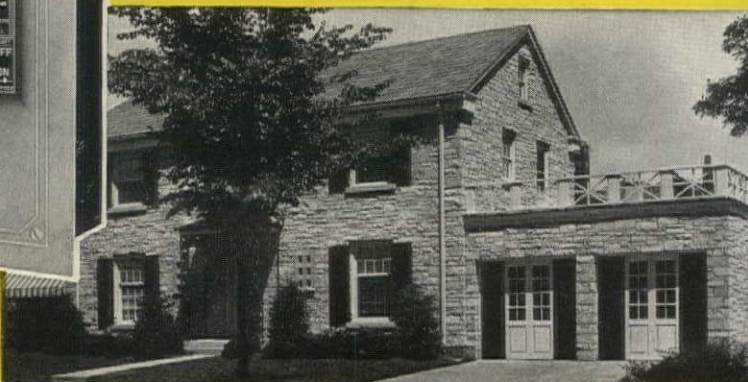
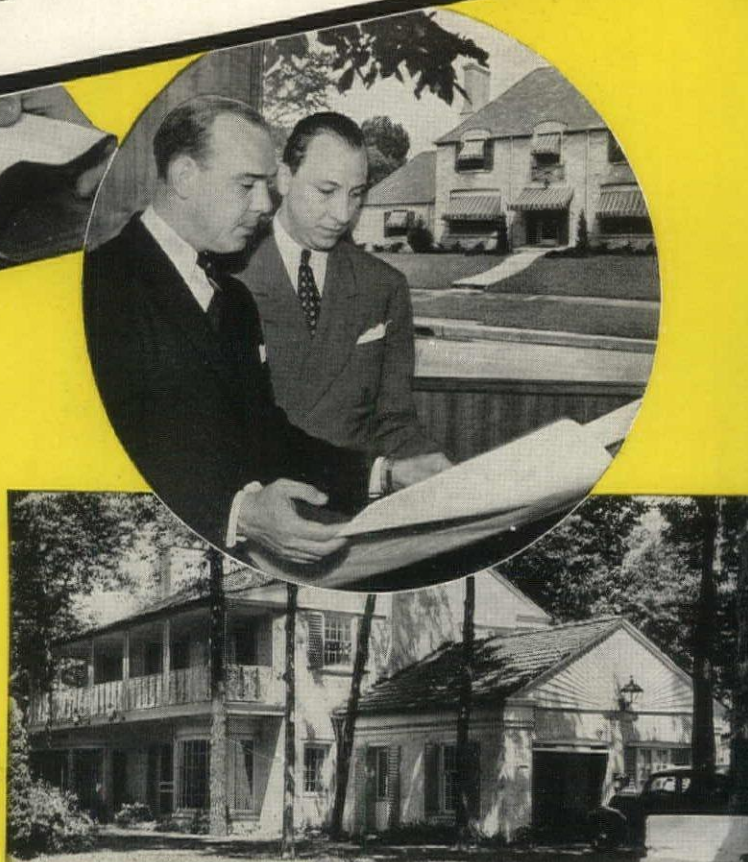
at right • Square D Multi-breaker with 2-pole circuit for electric range and four single pole lighting circuits.

CALL IN A SQUARE D MAN

SQUARE D COMPANY

DETROIT - MILWAUKEE - LOS ANGELES

IN CANADA: SQUARE D COMPANY CANADA LIMITED, TORONTO, ONTARIO



IN SKILLED HANDS



Unlike The Surgeon whose own skilled hands perform their delicate work, in creative building the skilled hands of the carpenter are directed by the architect, who specifies the material with which he works. When the architect specifies Genuine White Pine, the carpenter's hands respond with better work. He likes its durability, its soft, even texture, the way it saws with or against the grain, its nailing qualities, and the way it takes and holds paint. The architect likes it, too, for Genuine White Pine builds homes that gracefully express his best creative ability.



Genuine White Pine is neither scarce nor expensive. To safeguard the architect's specifications, we have double endmarked each board "Weyerhaeuser 4-SQUARE" and "Genuine White Pine."

WEYERHAEUSER SALES COMPANY • SAINT PAUL - MINNESOTA

"THE NORMANDIE"

"THE EMBASSY"

"FLUSH TYPE"

"FULL PANEL TYPE"

"THE ACADEMY"

Porcena
(porcelain enamel finish)

TOILET PARTITIONS

possess the natural structural strength of steel (not one sheet, but two 16-gauge sheets, each securely bonded on opposite sides to dense insulating core); strengthened by porcelain enameling (four layers on each sheet) which provides a non-porous, flint-hard, glass-smooth surface that is positively impervious to odors, acids, and moisture.

Factory Buildings are no place to skimp on Toilet Facilities

● Factory buildings are more than shelters for equipment and people at work. Suitable and adequate toilet room facilities are imperative to the development and maintenance of employees' good will. Insist on installation of modern and adequate toilet facilities in new factory buildings, and add to your reputation for comprehending this important phase of your client's situation.

Consider the influence toilet compartments can exert upon a toilet room environment. The primary function of toilet compartments (to provide privacy) frequently becomes secondary to the fact that the right type and finish of toilet compartments emphasize the modernity and convenience of toilet facilities, and lift them out of the category of being merely a "commonplace convenience." In new factories or old, installations of Sanymetal Toilet Partitions are a guarantee against obsolescence of toilet room environments because they promote orderliness, cleanliness, and respect for such facilities.

Sanymetal offers five distinct types of toilet room compartments that are suitable for factory toilet rooms. Three of Sanymetal's five types of compartments are available in a range of three finishes, among which is "Porcena" (porcelain enamel)

finish available on the Normandie, Embassy, and Academy Types. This finish is also ideal for shower and dressing room compartments. The flint-hard, glass-smooth surface that is non-porous, absorbs no odors, resists the effect of ordinary acids, and is moisture-proof and rust-proof, provides a compartment that is as suitable for exclusive clubs and hotels as it is for factory buildings on account of the unusual structural strength and cleanliness of this finish.

The sound, simple, and exclusive construction features embodied in Sanymetal Toilet Compartments are a protection against accelerated deterioration that is sometimes experienced. All five types of Sanymetal Toilet Compartments are suitable for both modernization and new construction projects. They are the result of twenty-five years of research and experience in making over 48,000 installations.

The Sanymetal Representative is prepared to help you plan toilet rooms for every type of structure. Consult him. Write direct for Catalog No. 77.

THE SANYMETAL PRODUCTS COMPANY, INC. • 1683 URBANA ROAD • CLEVELAND, OHIO

FOR A FULL DESCRIPTION OF ALL FIVE TYPES, REFER TO SANYMETAL SECTION 20/23 IN SWEET'S FOR 1940

Sanymetal TOILET AND OFFICE PARTITIONS

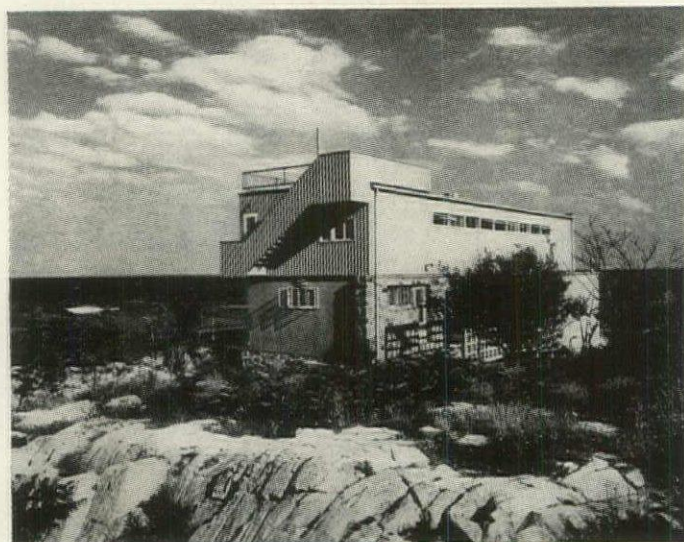
Craftsmanship in Metal



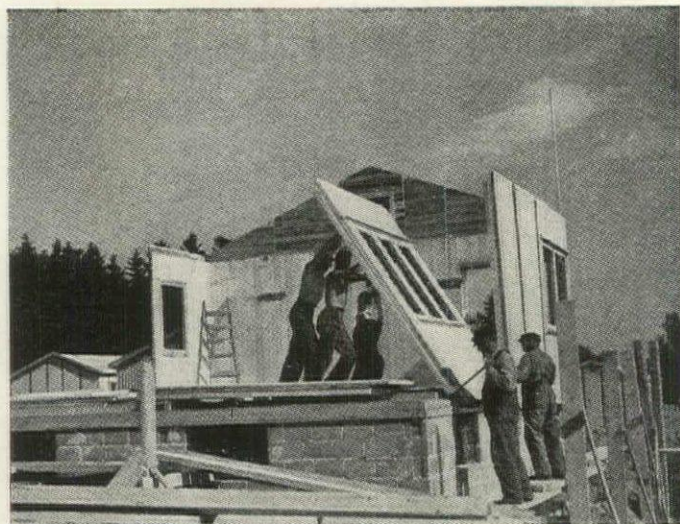
BOOKS



Sutor House, Portland, Ore.



Colby House, Marblehead, Mass.



Prefabricated Wood House, Stockholm

THE MODERN HOUSE IN AMERICA, by James Ford and Katherine Morrow Ford. The Architectural Book Publishing Co., Inc. 134 pp., 318 illustrations. 8½ x 10¾. \$5.00.

The appearance of a book of respectable size dealing with the modern house in America, completely unfortified by the customary admixture of foreign examples, is an indication that if the modern house has not yet come of age, it is well along on its way. Of the 64 houses shown, representing the work of 44 architects, the geographic range spreads all the way from the traditional stronghold of New England to the West Coast. Varying widely in treatment, and hence in their appeal to different tastes, the houses nevertheless show a high average standard of quality, and taken as a whole the book is an excellent record of contemporary U. S. domestic architecture. An inevitable disadvantage of such a collection is that little if any of the material is unfamiliar; FORUM readers, for instance, have already seen virtually all the houses in the magazine at some time during the past few years.

HOUSES FOR GOOD LIVING, by Royal Barry Wills. The Architectural Book Publishing Co., Inc. 104 pp., about 150 illustrations. 9 x 12. \$4.00.

The work of Royal Barry Wills needs no introduction to anyone even slightly familiar with residential architecture. The attractive Colonial cottages have appeared in virtually all the magazines which publish houses, firmly establishing Mr. Wills' reputation as an architect capable of handling traditional forms with superlative skill. This book, devoted exclusively to houses designed by his office, is as handsome a promotion piece as any architect has ever had, with beautiful photographs, excellent reproductions and a pleasing layout. Interspersed with the traditional work are a few modern houses, designed in collaboration with Hugh A. Stubbins, Jr., one of which is shown at the left. In addition to the illustrations of executed houses, there is a brief but valuable introduction for the lay reader, covering styles, the analysis of needs, budgeting, ways of saving money and the function of the architect.

HOUSING IN SCANDINAVIA, by John Graham, Jr., University of North Carolina Press. 223 pp., illustrated. 6½ x 9. \$2.50.

Books on Scandinavia and its housing are legion. Whether it is the climate or the pleasant manners of the people, most writers have come away to produce such uncritical effusions that the achievements of the Middle Way have been glorified out of all resemblance to reality. To some extent this book suffers from the same ailment. Its chief defect, however, is that the author is never quite sure whether he is doing a travel book or a study of housing, and the factual material is hopelessly enmeshed in pointless anecdotes and quotations in the best after dinner speech manner. On the positive side it must be said that there is a great deal of information in the book, and the patient reader can extract enough data from it to get a quite complete picture. An excellent chapter dealing with land shows clearly how the Scandinavian countries, with limited resources, have nevertheless been able to show results in both housing and city planning.

STRAN-STEEL BUILDINGS

GO UP

Faster!

Speed of erection, now more than ever, is an important requirement of modern buildings. Buildings *must* go up faster, yet have great strength and rigidity. The logical material for that specification is Stran-Steel, the low-cost, fire-safe building material being used by leading architects and builders everywhere.

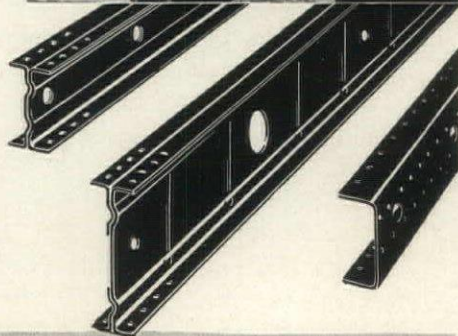
Stran-Steel is a lightweight, nailable steel framework for houses, apartments, barracks, airplane hangars, etc. The nailing feature alone permits unusual time savings in attaching collateral materials such as lath, sheathing, etc., all of which may be nailed direct to the steel.

The Stran-Steel design, with all the facilities for shop fabrication and speedy field erection of the pre-fabricated wall panels by well-trained crews familiar with this work, appeals to the general contractor as a definite time saver, a vital element in the successful organization of the job—and the consequent savings in overhead.

Complete technical data and descriptive literature on this modern, high-speed building material is available on request. Write for it today.



YOU
NAIL
TO
STRAN-STEEL



STRAN STEEL

607 SHELBY STREET, DETROIT, MICHIGAN

DIVISION OF GREAT LAKES STEEL CORPORATION

UNIT OF NATIONAL STEEL CORPORATION

Westinghouse Presents A.. NEW PLASTIC LUMINAIRE

A new Plastic Luminaire,

designed specifically for general commercial installations, is announced by Westinghouse to meet the demand for a low-priced, high quality fixture. This new, luminous indirect unit is ideally suited for the illumination of offices, schools, banks, stores, shops and restaurants, and is available in 300-500 watt size.

Construction Details.

The translucent plastic basin is made to exacting Westinghouse specifications. It provides a pleasing pearl-white tone which blends smoothly with all interior color and decorative schemes. The smooth, polished reflecting surface assures a high reflection factor, and the basin exterior employs an attractive design pattern.

Easily Wired and Adjusted.

The canopy is of heavy gauge drawn brass, supported by a knurled ring on a swivel hickey. Both canopy and ring slip down over the stem for free access when wiring. The one-piece seamless brass stem may be easily shortened to suit variable ceiling heights, while the Westinghouse variable light cut-off is fully adjustable to further meet individual requirements. The heavy drawn brass husk with slightly flared bottom assures maximum rigidity and intercepts a minimum of light. The hanger is finished in satin chromium. Full length lead wires are included.

By all means see this new, low-priced Plastic Luminaire today. Your nearest Westinghouse Lighting Distributor has full details. Or write Westinghouse Electric & Manufacturing Co., Lighting Division, Edgewater Park, Cleveland, O.



PL-500—New Plastic Luminaire, designed by Westinghouse engineers for general commercial lighting.

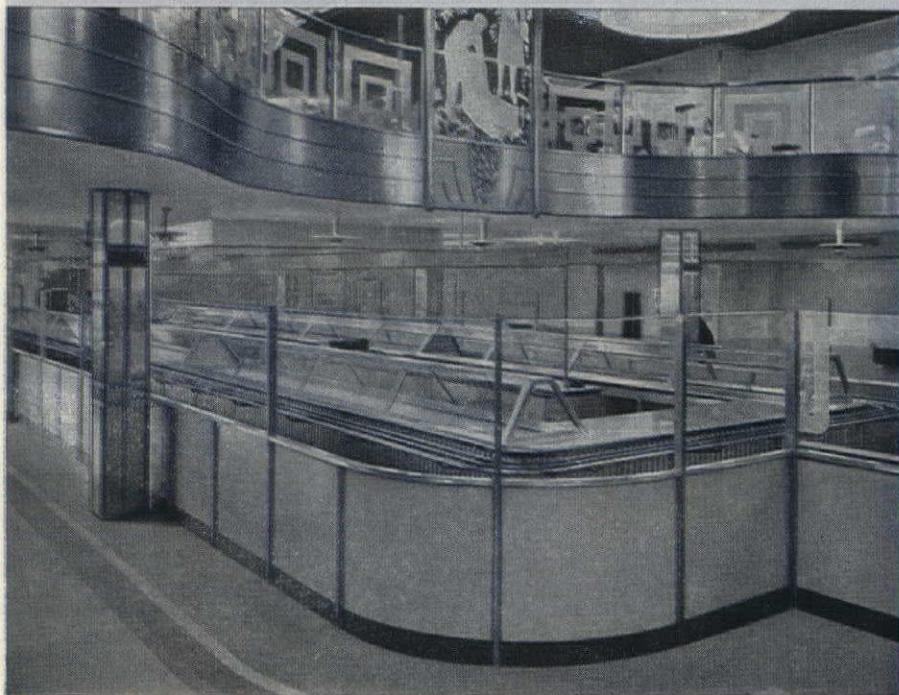
Tune in "Musical Americana," N. B. C. Network, Coast-to-Coast, every Tuesday evening.

Westinghouse Lighting Equipment



How STAINLESS STEEL

helps keep restaurants clean and attractive



Architect: G. B. Franklin

THE gleaming beauty and corrosion resistance of stainless steel has led to its increasing use in restaurants. A few recent applications are illustrated. Consider these advantages of stainless steel for restaurant design:

Minimum Maintenance—easily kept clean and sanitary . . . never needs refinishing . . . inexpensive, considering long life.

Lasting Beauty—will not tarnish . . . resists scratching . . . stainless throughout—no coating to chip, crack, or wear through.

Ease of Installation—available in a variety of shapes and forms . . . installed by low-cost methods . . . weldable by all processes.

Although we do not make steel, we have for over 30 years produced "Electromet" ferro-alloys and metals used in making steel. With the knowledge accumulated from this experience, we are in a position to give impartial assistance to architects, engineers, designers, and others who work with steel. If you are interested in the manufacture, fabrication, or use of steel of any kind for a specific purpose, consult us without obligation.

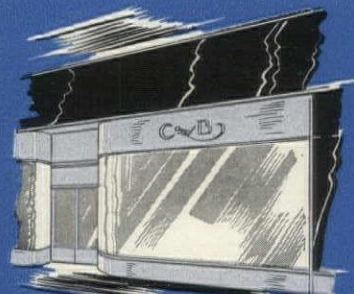
ELECTRO METALLURGICAL COMPANY

Unit of Union Carbide and Carbon Corporation

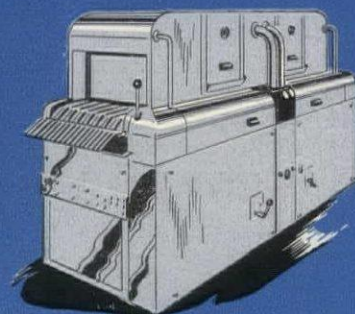


30 East 42nd Street, New York, N. Y.

In Canada: Electro Metallurgical Company of
Canada, Limited, Welland, Ontario



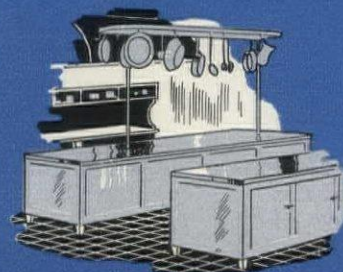
Stainless steel trim adds to the attractiveness of both the exteriors (above) and interiors (left) of modern restaurants.



The easy cleanability of stainless steel makes it an ideal material for restaurant equipment such as this dishwasher.



Stainless steel trim and risers on escalators need no polishing to keep them bright.



Stainless steel cabinets and work surfaces promote cleanliness in restaurant kitchens.

Electromet
Trade Mark
Ferro-Alloys & Metals

LETTERS

Art or Action

Forum:

After reading "The Architect in War Time" on p. 25 of your July issue, I am wondering how much the plight of the architect in America differs from that of our English brothers. Yes, I know that the A.I.A. has put out a questionnaire, and as a result the Army and Navy can merely lift a card indicating who can do what. Probably the R.I.B.A. did the same, months ago, but their government seems to have found little or no use for any architect who can't join the fighting forces. The job of planning has been taken from the planners and given to the statesmen.

The British author seems to put the blame on the architect himself, for permitting and even abetting, in past years, the public's impression that he is a long-haired dreamer rather than an analyst and coordinator—a master builder. Has the profession in the U. S. done any better for itself? Out here where I live, the term architect still connotes the would-be maker of beauty rather than of usefulness, the trimmer of buildings rather than the guide to efficient function and economy of structure. What, if anything, is the profession doing to correct this picture? What can I as an individual do to put the architect in his proper light?

Now that I've set down those questions I'm depressed by a doubt: perhaps too many of us fit the picture as it stands. Perhaps it is our conception rather than the public's that is distorted. I wonder how many of us who call ourselves architects really measure up to the level of efficiency society has a right to expect of those who should be planning and building its shelter. Certainly I for one do not measure up to it.

You will not be able to answer these questions in a decision handed down from the editorial throne—perhaps no one of them. What FORUM could do, if it would, is to give us more interchange of opinion, a fuller reflection in your pages of thoughts like these that must be keeping many of us awake at nights. The architect is said to be able to express himself only with a drawing pencil; aren't there some of them who can express thought in words? FORUM ought to be able to smoke them out. Whether for defense or for normal life, this nation has a building job ahead. Are the architects good enough to lead it?

T. E. WHITTLESEY

Kansas City, Mo.

FORUM redirects this letter to the man to whom it is written—the Architect of America, will print his reply.—Ed.

Airports

Forum:

As one who is following our National Defense program with the grave concern it merits I am moved to question a statement in your otherwise admirable article on U. S. Airports in the August issue. In discussing the value of underground air bases you give two reasons: 1) "... the complete difference between the U. S. and Europe from the viewpoint of air vulnerability" and 2) Expense. Does your first assumption admit the possibility that Nazi air bases may be established in Mexico, Central and South America and Canada—in any or all of these places?

In the light of World War II events to date (and believe me it is a *World War!*) does that seem too fantastic? Has anything happened in Europe, is anything happening now, to warrant our discussing this as too fantastic? In my opinion, more dangerous than any Fifth Column, more to be feared than mass sabotage, would be any government and public adoption of the "theory of impossibility." And as for expense, how can we justify any attempt to rationalize expense where one of our two prime arms of defense is involved? This has been a war of the air; every indication suggests it will continue to be. Is it also too fantastic to believe that the fleet will prove to be our Maginot Line? Too fantastic to believe that Hitler will not attempt to match salvos with us but will take to the air instead of the sea? I prefer not to see us gamble with our most highly trained personnel and most flexible defense arm—aviation. Damn the logic and damn the expense. Let's be sure!

RICHARD DONOVAN

Boston, Mass.

FORUM makes no claims to authority on military matters, but insists on its right to report the best available military opinion on underground airports. If Nazi attempts were made to establish bases in this hemisphere, and were successful, the question might still be answered in favor of many small surface airports.—Ed.

Forum:

With national defense occupying so prominent a place in the press these days, it was not surprising to open the latest FORUM and find a leading article on airports. In face of the mounting hysteria, however, it was a surprise—and a pleasant one—to find so reasonable an approach, and so calm an evaluation of the present situation and immediate problems. In this connection I liked particularly the brief but quite adequate summary of the question of underground airports; I also liked the consoling reminder that the development of airports and aircraft for war might still pay dividends to the country in their use for peace. More power to

your sane and adult editorial approach!

But what of the airports themselves? In the entire article there is not a single complete presentation of an executed airport, showing a plan of the terminal, hangars and field. La Guardia Field, a great achievement, is dismissed with scattered pictures, a sketch plan, and a comment on the "fantastically primitive" method of getting from the building to the planes. Surely the work of one of the outstanding architectural firms in this country is worthy of more than this. In Washington another great airport is going up, but all we are shown outside of a plan is the discarded scheme by Fellheimer & Wagner. Interesting as this project may be, it represents, in my opinion, an unfortunate attempt to make a building look like an airplane simply because it happens to serve for air transportation. The excessive use of glass, the modernistic interiors and the unarchitectural appearance of the design as a whole is a deplorable reversion to a type of European building that has already fallen into disrepute. Again I call your attention to the La Guardia buildings, modern, but still with the monumental character of all great architecture. A similar criticism might well be applied to the page on Exterior Design, a flippant dismissal, apparently, of practically all the work that American architects have done on terminal buildings. Again I ask, why must an airport terminal look like an airplane? To judge from the space given to the different examples and the comments made, THE FORUM is impressed with (1) the Kansas City terminal (a trite brick rectangle) (2) nothing else, outside of two unbuilt projects.

A final criticism. Data on airport design is important; so are general articles on the subject. Having re-read the article several times I am still at a loss to know which approach you selected. There are not nearly enough data on fields, hangars, expansion, etc., to serve the designer, and on the other hand there is more detailed discussion than is needed in an article covering the field in a broad way. Perhaps this is unimportant, but the subject is not, and both a calm appraisal and adequate, accurate information are urgently needed.

J. H. BANKS

New York, N. Y.

To Reader Banks, equal thanks for the orchids and brickbats. FORUM believes that a good project is better than a bad building, that there is more than one good terminal in the U. S., that contemporary design is neither exclusively European nor in disrepute, that a terminal building should not look like an airplane—or for that matter, like Mount Vernon, an adobe house, a girl's school, or anything but a terminal building.—Ed.

(Continued on page 68)



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.

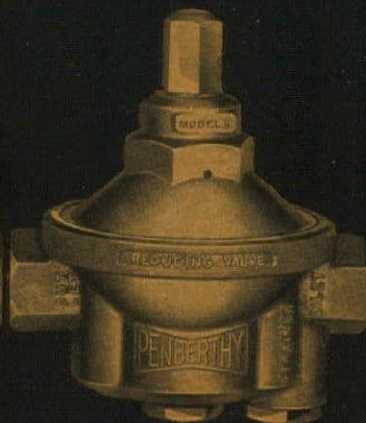
PENBERTHY HOT WATER HEATING SPECIALTIES

*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.

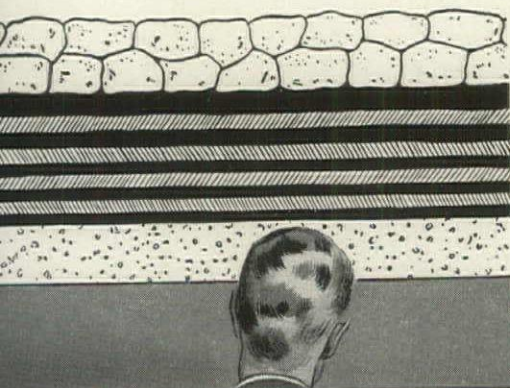


**"The best records
have been made
by
Pitch and Gravel Roofs"**

**(in survey of 7,500 roofs
on damage by hail)**



ROOF DAMAGE by hail usually comes when hail stones puncture raised "blisters" on a roof and thus permit water to enter. This may cause damage not only to the roof, but to the roof deck and to contents of the building as well. What has been the record on this? Here is the latest report:



"WHY did the coal tar pitch roofs do so well?"
"Partly because the slag surface protects them from injury. Partly also because tar roofs have a property known as "cold flow" which enables the tar to self-heal any small surface breaks and thus keep out the water."



"OUR ORGANIZATION kept records on damage done to roofs by hail during the five years ending last fall."

"How many roofs did your records cover?"
"About 7,500."



"WHEN YOU REALIZE that the tar roof's superior ability to resist hail is coupled with a similar ability to resist wind damage, sun damage, water damage, and fire, you can see how important it is to specify coal tar pitch for your roofs."



"WE FOUND INJURY from hail in a considerable number of roofs that were not protected by slag or gravel surfaces. But only one of all the tar and slag or tar and gravel roofs had suffered any damage."

"How serious was the damage?"

"On the roofs without a slag or gravel surface, the average damage was about \$1,000.00. On the *one* tar and slag roof, it was less than \$150.00."

WHEN YOU HEAR of built-up roofs that have lasted 20, 30 or 40 years, you usually find they are roofs of coal tar pitch and slag or gravel. That has been no accident. Coal tar pitch has inherent properties that make it best for roofs . . . and for waterproofing.

OTHER KOPPERS PRODUCTS: Tarmac Road Tars for paving drives, parking areas, walks, etc. . . . Bituminous-base Paints . . . Pressure-treated Piling and other timber products.

KOPPERS COAL TAR ROOFING — KOPPERS COAL TAR WATERPROOFING

KOPPERS COMPANY, PITTSBURGH, PA.

use **K O P P E R S** *products*

Medusa White in terrazzo in chapel floor, St. Mary's Academy, Monroe, Mich. Contractor, Art Mosaic & Tile Co., Toledo, Ohio.



Medusa White stucco store front, Chicago. Kritzer Construction Company, Oak Park, Illinois.



Medusa White stucco residence, Mineola, N. Y. Stucco, Hamlin Stucco Company, Garden City, New York.



Medusa White in Italo columns and wainscoting, Buffalo Airport Administration Building. Italian Mosaic & Marble Company, Buffalo, New York.

Medusa Products also made in Canada by Medusa Products Company of Canada, Limited, Paris, Ontario.



where to use MEDUSA WHITE [THE ORIGINAL WHITE PORTLAND CEMENT]



There was a time, thirty-three years ago, when Medusa White, the original white Portland cement, had few uses. But today its applications are limited only by the architect's creative ability. Every day terrazzo floors of marvelous beauty are being fashioned with Medusa White. Public, industrial and store buildings are being transformed and modernized with White trims handsome brick and stone structures. Wainscoting, stair treads and columns are constructed with the aid of this non-staining White Portland Cement. Architects are calling for Medusa White for pre-cast concrete slabs. These are but a few of many applications.

This original White Portland Cement can be used white or tinted and can be given a wide variety of surface treatments to harmonize with other building materials and to meet every design requirement. If you seek greater charm and individuality in your work, send in the coupon below and let us send you information on Medusa White Portland Cement, Plain and Waterproofed, that will help you attain those ends.

Medusa Portland Cement Co. • 1013 Midland Bldg., Dept. S, • Cleveland, O.

Gentlemen: Please send me the following books:

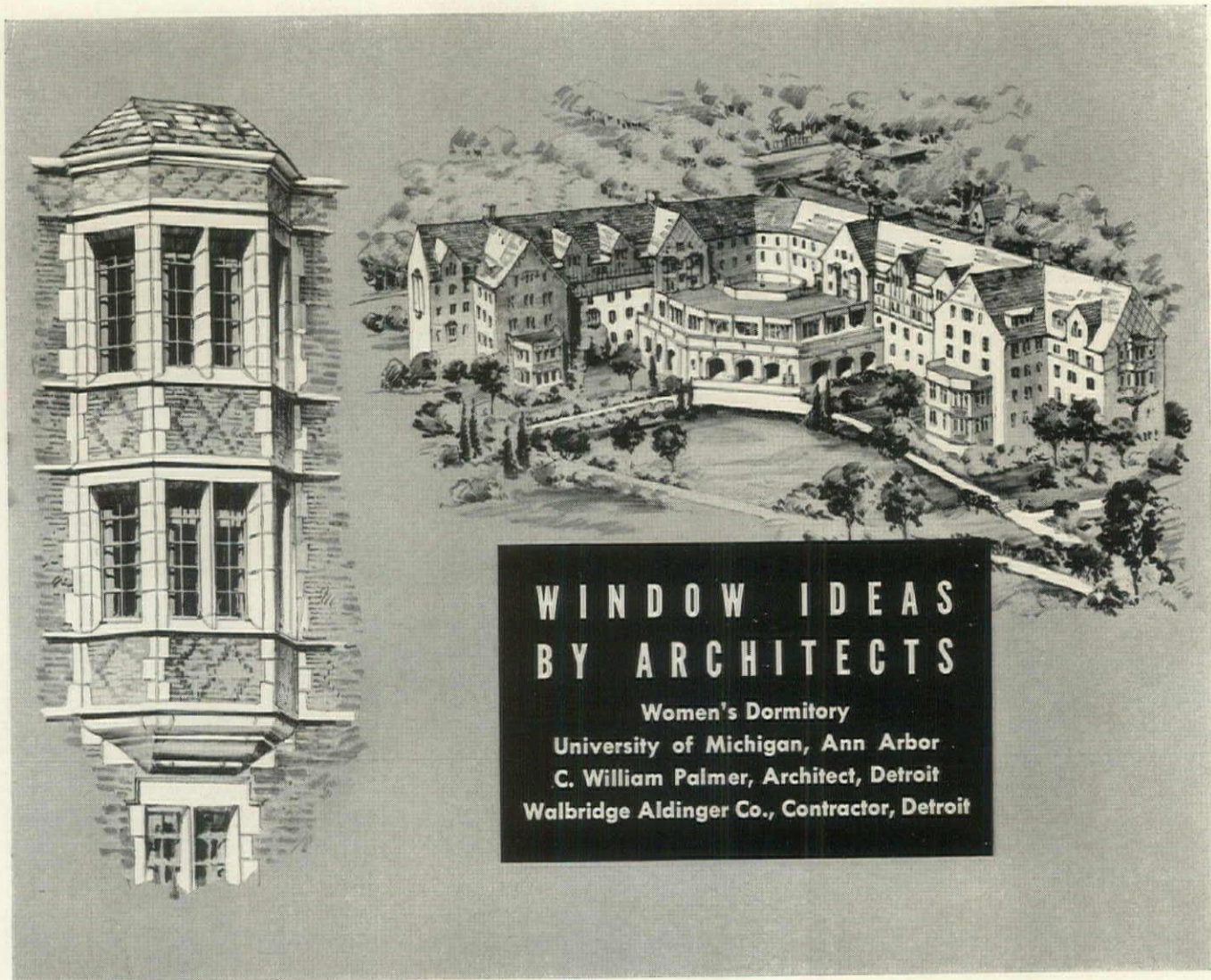
- ☐ The Beauty of Terrazzo ☐ Medusa White Portland Cement Stucco
☐ Medusa White Portland Cement

Name

Address

City

State



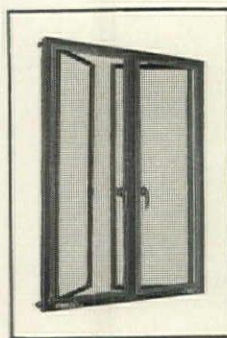
WINDOW IDEAS BY ARCHITECTS

Women's Dormitory
University of Michigan, Ann Arbor
C. William Palmer, Architect, Detroit
Walbridge Aldinger Co., Contractor, Detroit

Available to the architect in meeting his window needs for public, monumental and commercial buildings, Fenestra Steel Windows offer thousands of possible window arrangements in many different types. Whether the problem relates to harmony of design, to the degree of ventilation, to the demand of daylighting or the division of glass areas, there are Fenestra types that "fill the bill" exactly.

One example is illustrated in this beautiful Women's Dormitory, University of Michigan, at Ann Arbor, where Architect C. William Palmer has selected Fenestra Screened Fencraft Casements. This heavy casement-type steel window provides these 10 important features:

1. Increased Beauty.
2. More Daylight.
3. Better Ventilation.
4. Easy opening.
5. Safe Washing.
6. Superior Weather-tightness.
7. Better Screens.
8. Added Fire Safety.
9. Reduced Maintenance.
10. Lower First Cost.



Complete details furnished upon request. See Fenestra Catalog in SWEET'S for 1940 (31st consecutive year) or use coupon below.

Fenestra
HEAVY CASEMENT-TYPE STEEL WINDOWS

Detroit Steel Products Co.
2252 E. Grand Boulevard, Detroit, Mich.
Please send free literature, as follows:

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

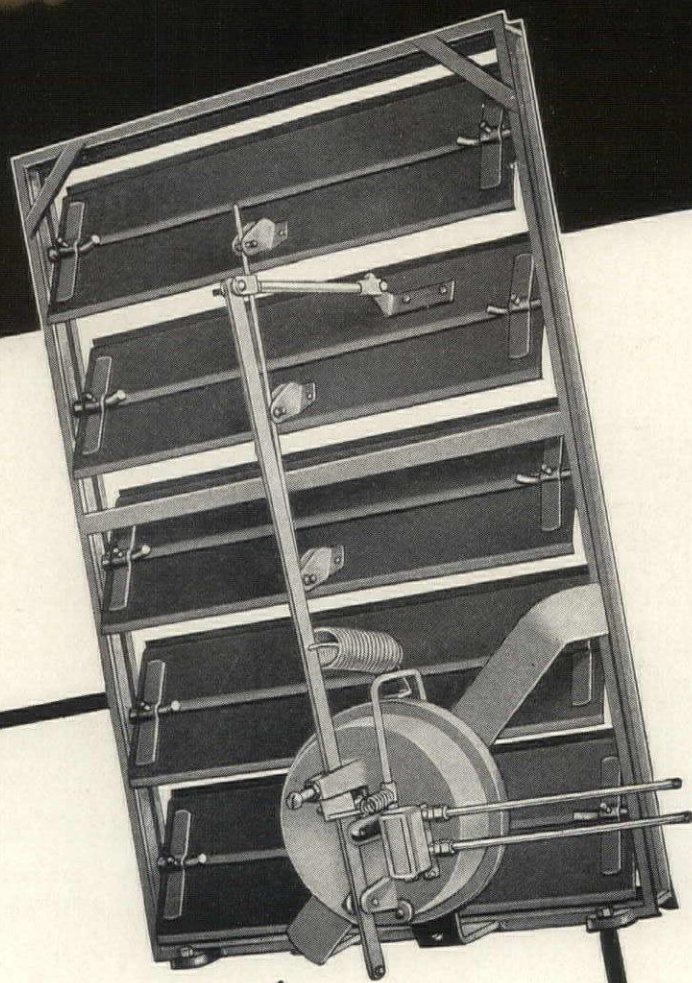
Name _____
Address _____
City _____ State _____

Compare them all

POINT *by* POINT

With

GRADUTROL DAMPER MOTOR



*Check
Damper Motors for:*

- ✓ PRECISE POSITIONING OF DAMPERS
REGARDLESS OF AIR VELOCITIES
- ✓ FRICTION FREE BEARINGS
- ✓ INFINITE NUMBER OF POSITIONS
- ✓ SMALL AIR CONSUMPTION
- ✓ METAPHRAM CONSTRUCTION
VS. CONVENTIONAL BELLOWS

VOLUMES could be written on the relative efficiency of various makes of damper motors. Knowing that its engineers have developed a superior type of damper motor for Pneumatic Systems, Minneapolis-Honeywell welcomes comparison of Gradutrol Damper motors with any competitive type offered. Use the check points here listed to make your comparison. We feel sure what your decision will be after such a study is made. Minneapolis-Honeywell Regulator Co., 2740 Fourth Avenue South, Minneapolis, Minnesota. Canadian Plant: Toronto, Ont. European Plant: London. Company owned branches in 49 other cities.

MINNEAPOLIS HONEYWELL *Gradutrol System*
OF PNEUMATIC CONTROL

There's a SERMON on PAINT in this HISTORIC CHURCH

HOW much good paint contributes to the preservation of good architecture is strikingly illustrated by this lovely old Long Island church, built in 1784.

In all its 156 years not a single wooden shingle has had to be replaced — due in no small part to the protection against the ravages of time and weather afforded by pure white lead paint used exclusively in renewing its gleaming beauty through the years.

It's worth remembering that white lead — *made from the metal lead* — gives paint an elasticity and toughness which enables it to last for years without cracking and scaling.

This not only insures longer wear and lasting beauty — it also forms an impervious seal against the elements, protecting the construction beneath.

And when you consider in addition that white lead's high spreading-rate makes it one of the most economical pigments to use, it's easy to understand why paints made with white lead are preferred by so many leading architects.

That's why it's a good idea in specifying paint to make sure how much white lead it contains.

WHAT RANGE OF COLORS CAN YOU GET WITH WHITE LEAD? This is only one of many important paint questions you'll find fully answered in the valuable booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT." Send for your free copy today.

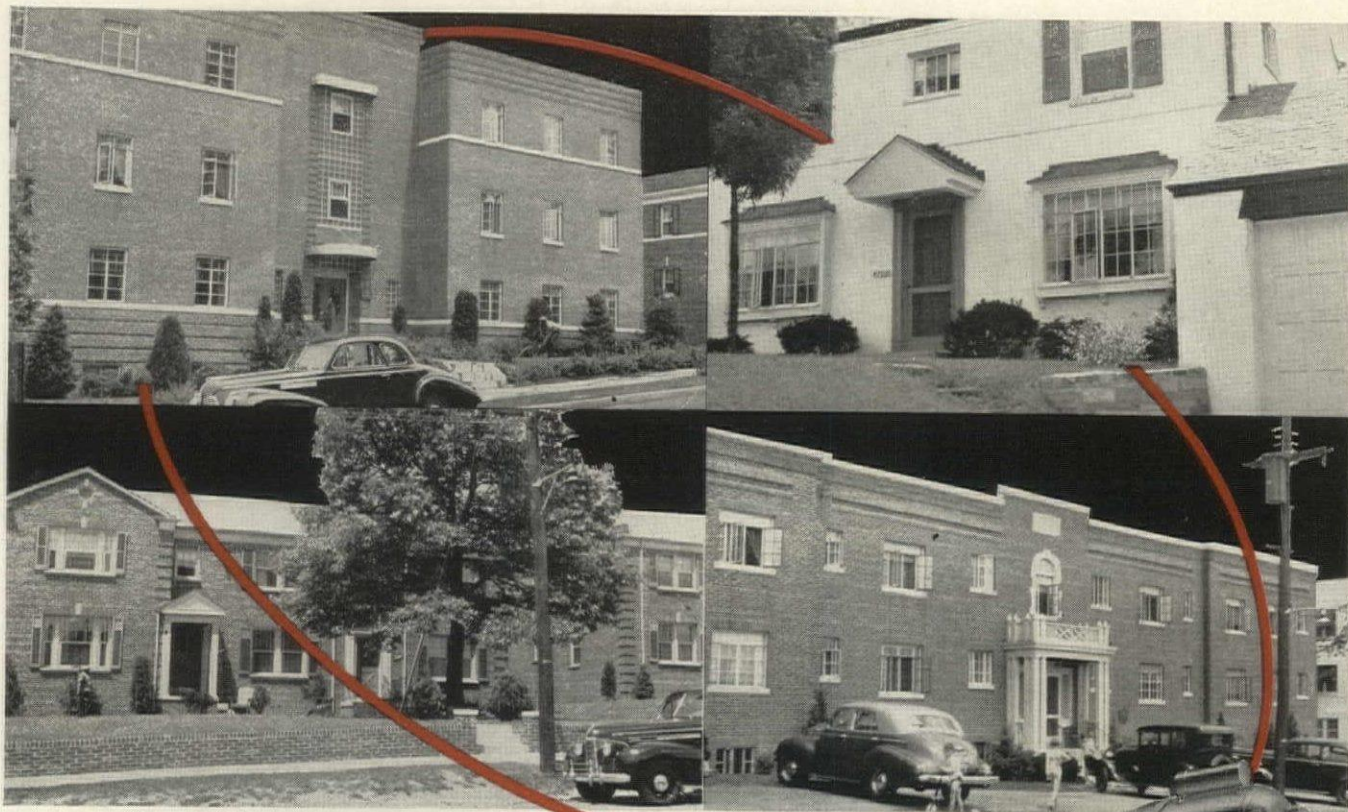


156 YEARS YOUNG—First Presbyterian Church, Huntington, Long Island, built in 1784 and protected since its erection by pure white lead paint.

And it's pretty safe to say: the higher the lead content, *the better the paint.* You can't, for example, get a more durable paint than one containing one hundred per cent white lead. This is the kind good painters mix from lead-in-oil. In many localities it is also sold now in prepared, ready-to-use form — in white and colors.

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue, New York, N. Y.





Hoffman Hot Water Controlled Heat is ideal for apartment house zoning . . . eliminates problem of thermostat placement.

THE SECRET OF UNIFORM ROOM TEMPERATURE DISCOVERED IN *CONTINUOUSLY CIRCULATED HEAT*

These modern dwellings are equipped with Hoffman Dual-Controlled Hot Water Heating Systems . . . designed on a 240 BTU basis for lower installation cost and smaller radiation.

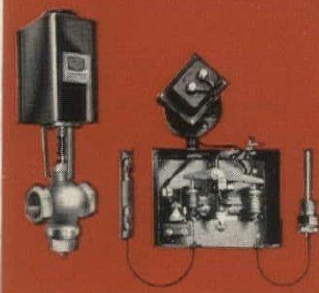
Hoffman Hot Water Controlled Heat offers first the comforting, all-pervading warmth of Radiant Heat. Second, it provides a hairline regulation of that heat. Its system of controls holds a constant balance between heat demand and supply, so that the temperature in the home never varies from the desired degree!

The system is not elaborate—it is simplicity itself. Its operation is based on *continuous*

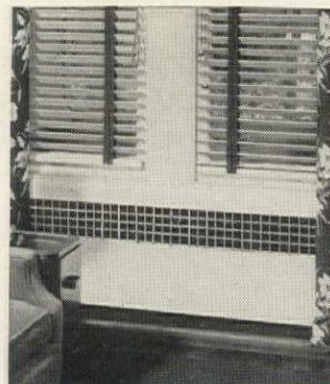
circulation of heated water through the radiators, with the temperature of the water regulated by coordinated outdoor-indoor temperature bulbs. No needless heat is ever delivered, hence fuel consumption is held at rock-bottom.

This is heating comfort at its best, yet the cost is within the budget requirements of even modest homes. Send for detailed information. Hoffman Specialty Co., Inc., Dept. AF-9, Waterbury, Conn.

This system, when equipped with an indirect heater, will furnish a boundless supply of low-cost domestic hot water the year around.



Any hot water boiler can be equipped with these three operating units of Hoffman Hot Water Controlled Heat.

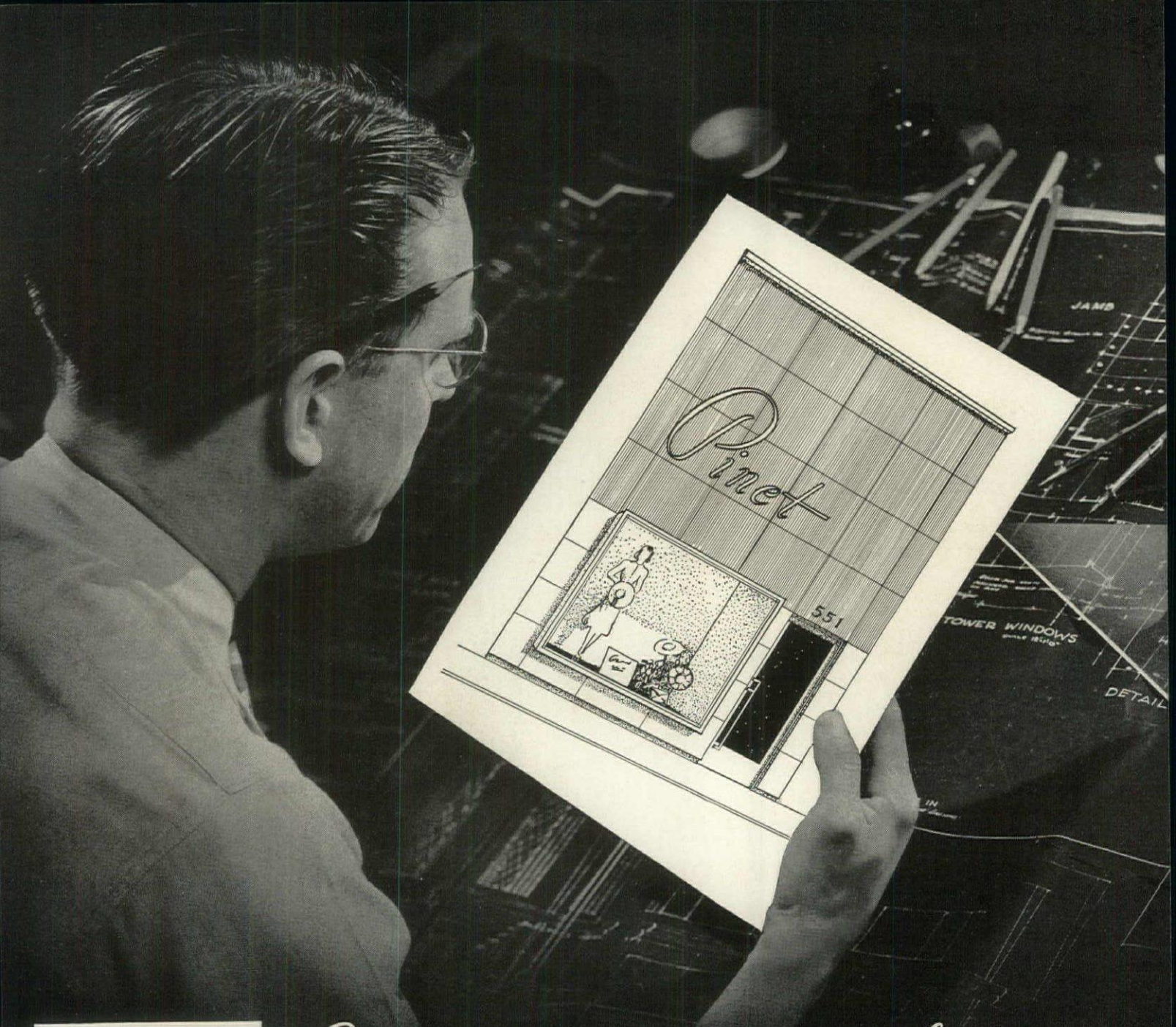


Designing the system for a 240 BTU heat emission means small, easily concealed radiators.

HOFFMAN

Hoffman Valves, Traps, Pumps and Hot Water Specialties are sold everywhere by leading wholesalers of Heating and Plumbing equipment.

Hot Water CONTROLLED HEAT



STORE FRONT
DESIGNERS—

Secure new effects—with lustrous ALUMINUM FACING!

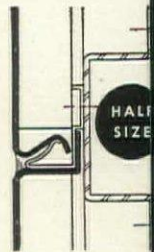
WITH THE DURABLE ALUMILITE FINISH

POSSIBILITIES for the dramatic use of aluminum in store front design have been greatly increased by Kawneer's introduction of K.Z.S. Aluminum Facing.

Available with plain or corrugated surface, these superior facing panels may be used with colorful K.Z.S. Architectural Porcelain Enamel (27 standard colors)—in many interesting combinations. Flat, curved, or special shapes are furnished to meet the most modern design requirements. The durable Alumilite Finish assures a rich, appealing lustre, and lasting protection against

atmospheric conditions. Installation is made entirely by mechanical means, with sturdy Supporting Clips and continuous Steel Furring Channels—safe and dependable.

Secure a new effect in your next store front by employing this versatile facing material in conjunction with the complete line of Kawneer Rustless Metal Store Front Construction—fully resilient sash and bars, awning bars, entrance doors, sign letters, and decorative mouldings and shapes. See SWEET'S, or write THE KAWNEER COMPANY, NILES, MICH., for latest details and data.



ALUMINUM, BRONZE AND OTHER NON-FERROUS METAL—

Kawneer

STORE FRONTS • DOORS • WINDOWS • ARCHITECTURAL METAL WORK



ARCHITECTS OF THE MONTH . . . work separately and combine ideas' (page 159)



Hedrich-Blessing

BUILDING OF THE MONTH . . . the structure is part of the cure (page 146)



PRODUCT OF THE MONTH . . . beaten like eggs, baked like a cake (page 195)

THE LAKE COUNTY TUBERCULOSIS SANATORIUM

WAUKEGAN, ILL.

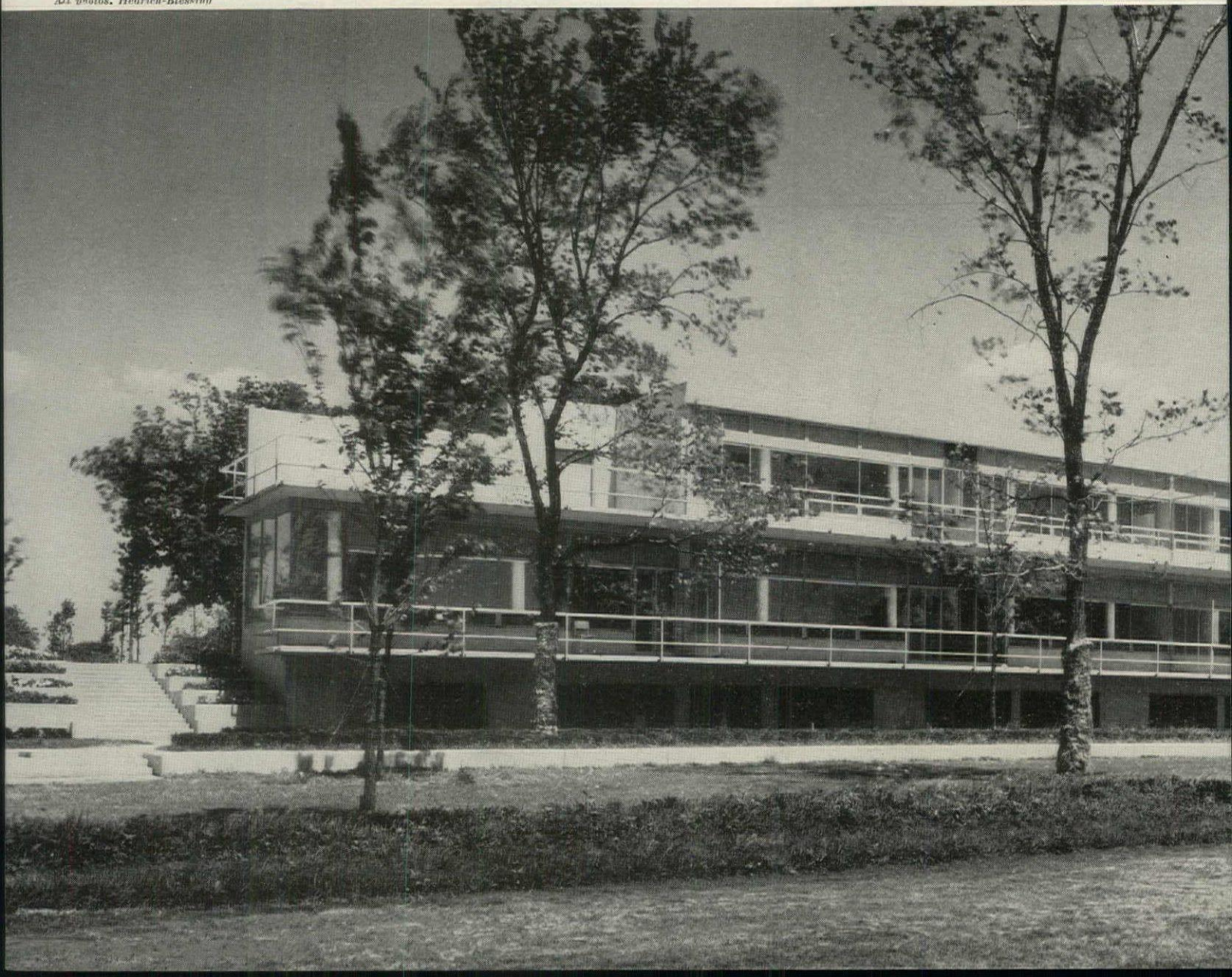
WILLIAM A. GANSTER AND OFFICES OF W. L. PEREIRA, ASSOCIATED ARCHITECTS

Determined to produce the best possible solution of a highly specialized problem, the designers of this tuberculosis sanatorium have achieved one of the most distinguished buildings in modern America. Into it went months of meticulous study of the problem in all its aspects—study in which client and architects played an almost equally important part. The result adds new and convincing proof of the thesis that painstaking analysis, rather than divine inspiration, is the essence of contemporary architecture.

Equally, if not more important, is that here, at last, is a tuberculosis sanatorium which not only works as it should but looks what it is: a pleasant place to rest. Implied in this definition is the further requirement that such a building must be a pleasant place to stay in bed or close to bed, thus making generous terraces for daytime use a mandatory requirement. In most former solutions, these have been apologetically placed at the ends of the building or sandwiched between solid units; here they are frankly made the outstanding feature of the design. Its modernity is consequently no mere architectural whim.

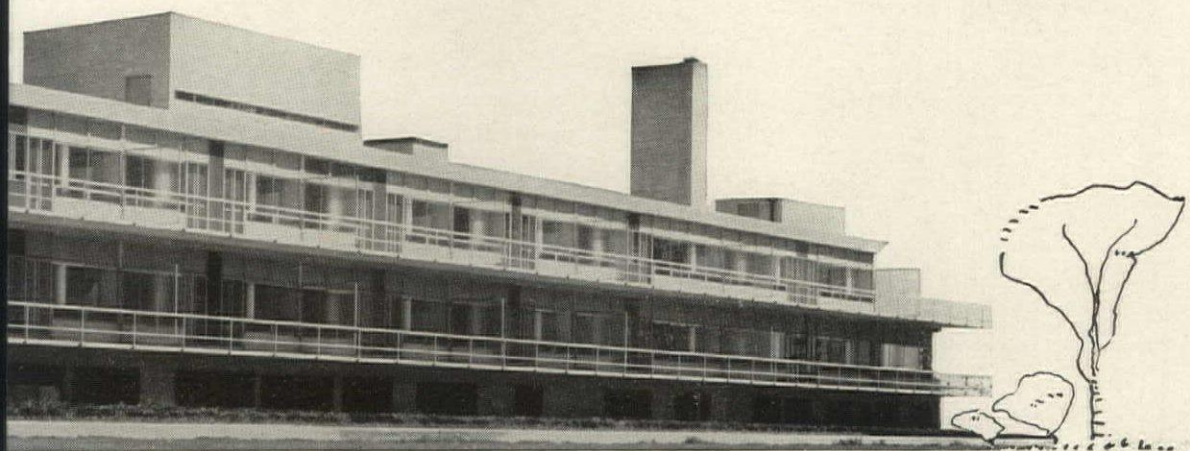
Located on a gentle rise in the midst of a partly wooded 22-acre tract in wealthy Lake County, a Chicago suburb, the sanatorium represents the culmination of a campaign instituted by the National Tuberculosis Association and carried through by local doctors, association members, and public spirited citizens. Until its construction, the County had no adequate facilities for the discovery and treatment of the tuberculous, despite an annual death rate from the disease of 38.

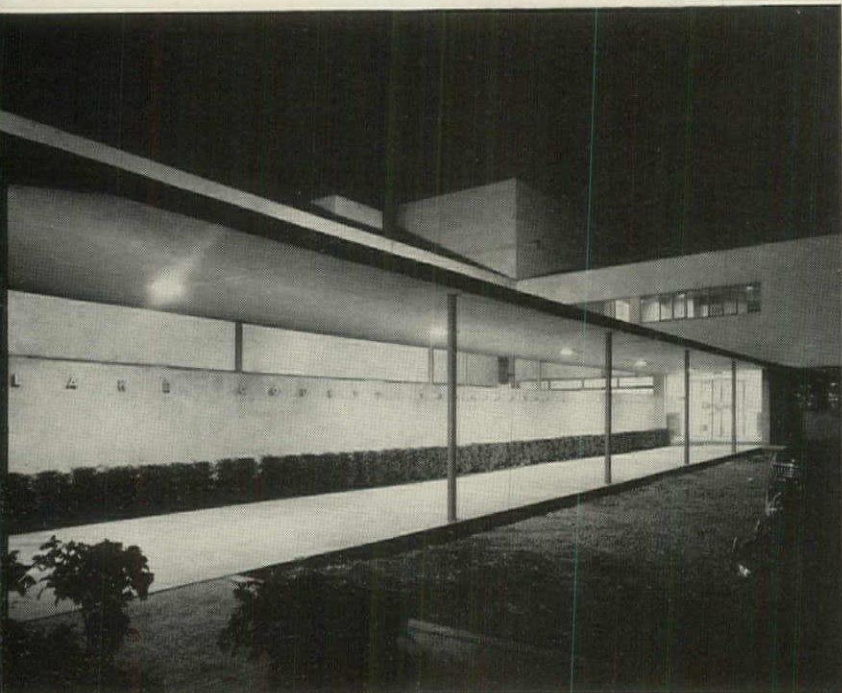
All photos, Hedrich-Blessing



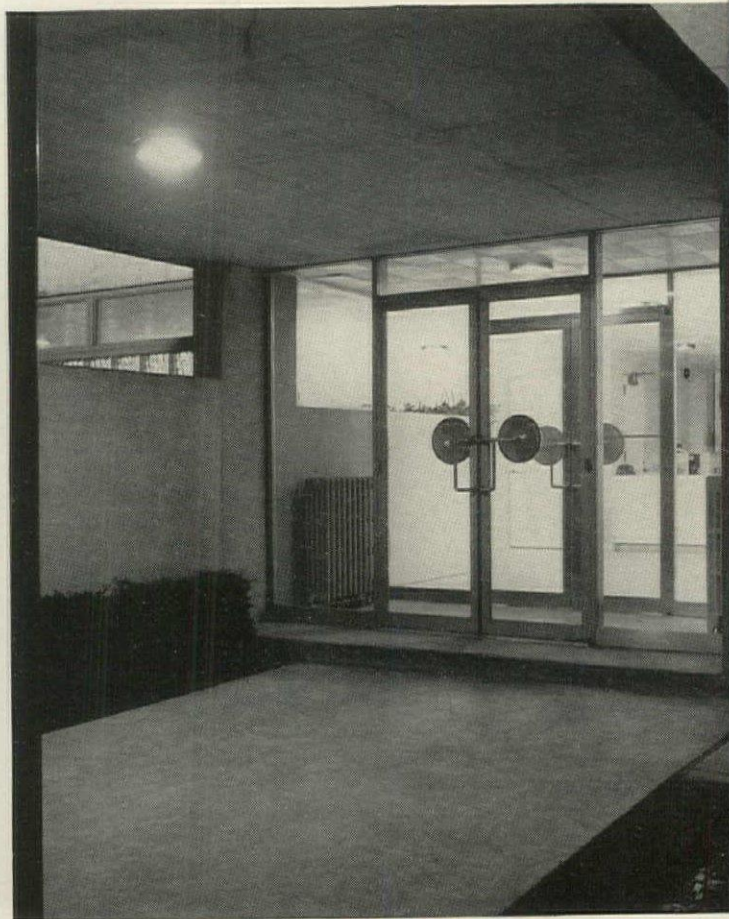


EAST ELEVATION

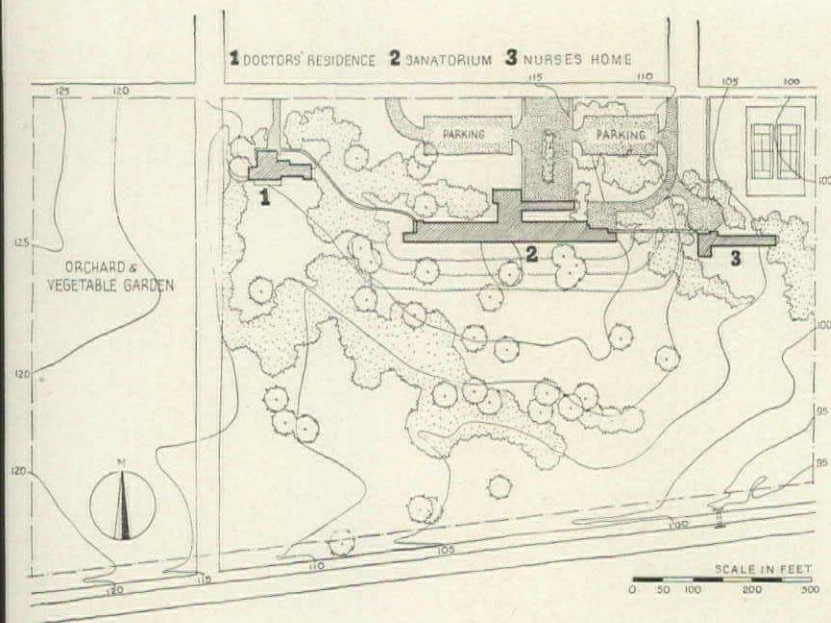




COVERED APPROACH

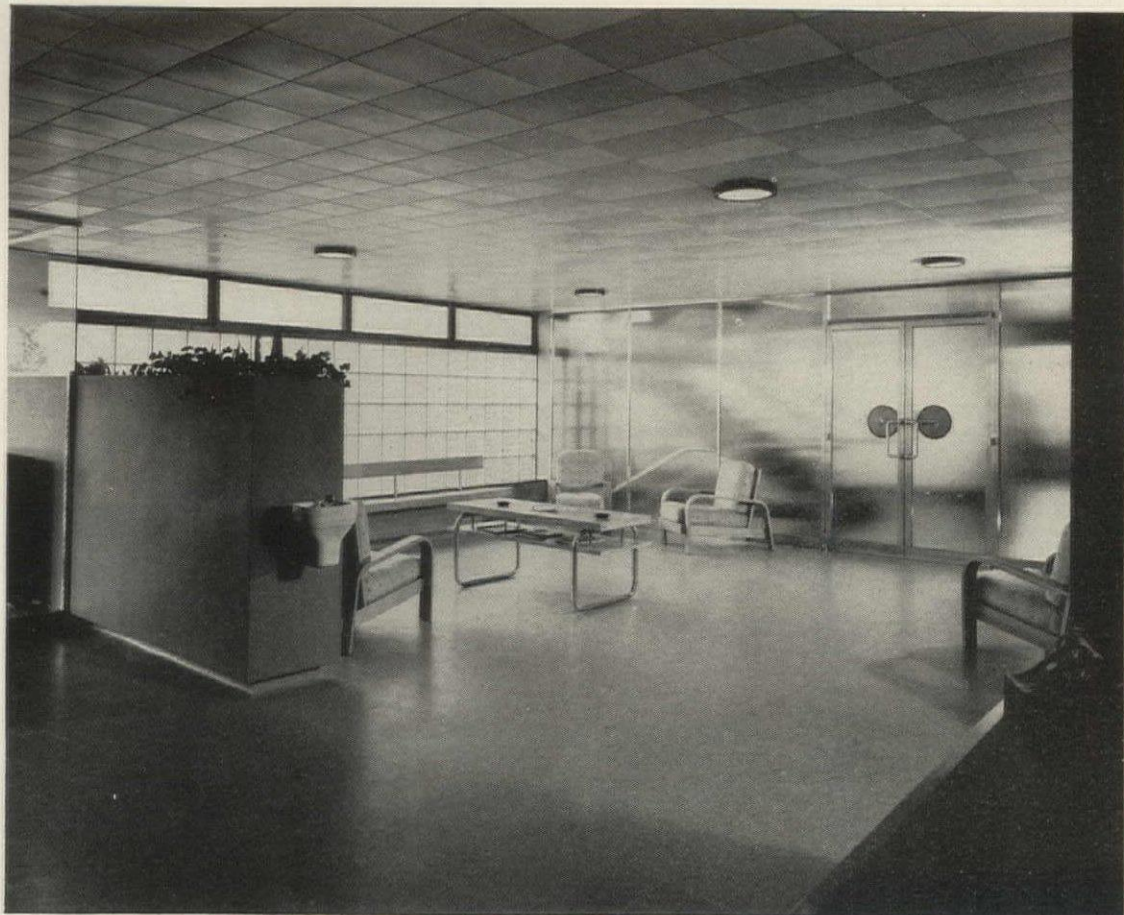


ENTRANCE



In addition to the patients' pavilion and its administration-clinic wing, a nurses' home, and a residence for the superintendent are included. The buildings are arranged in a line from east to west, and face south down a wooded slope. Approach and parking areas, on the north, are screened from the patients' section by a striking covered way (above), extending almost 100 ft. from the main entrance and affording simultaneous covered access from a number of cars.

The general plan of the main unit follows the familiar pattern in which in-patients' rooms occupy the major portion of the building and administrative offices and the out-patients' clinic a centrally located wing. Due to the fact that the institution as a whole is not large (92 beds in place of the usual 200-300) and the out-patient load light (two mornings a week), the wing has been kept small and the several sections combined more closely than is usual. Thus all three are served by a single stair (right) and elevator, and much of the clinic has been placed in the basement and the back of the first floor of the patients' pavilion. This leaves room on the entrance floor for offices and an exceptionally generous and attractive lobby and waiting room (above, right) and results in an intimate arrangement in keeping with the scale of the building.



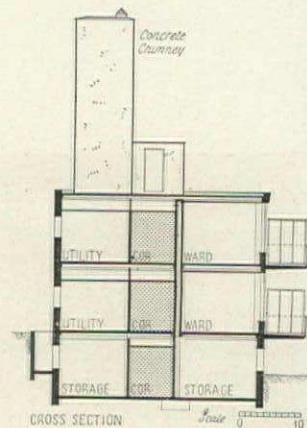
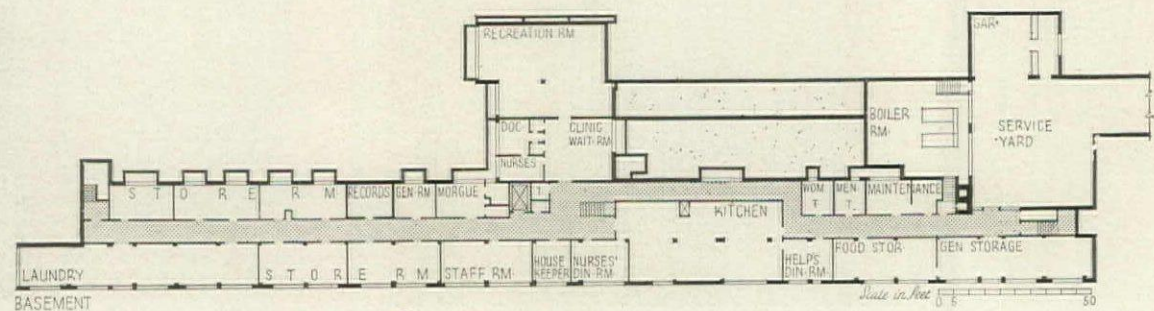
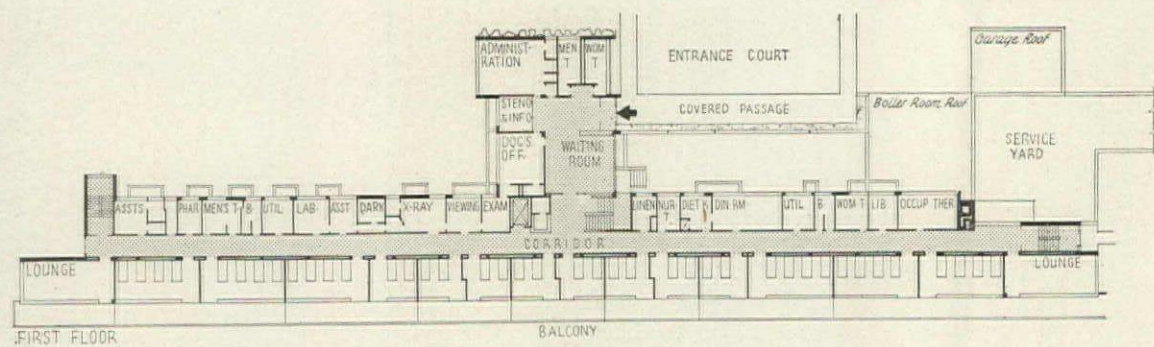
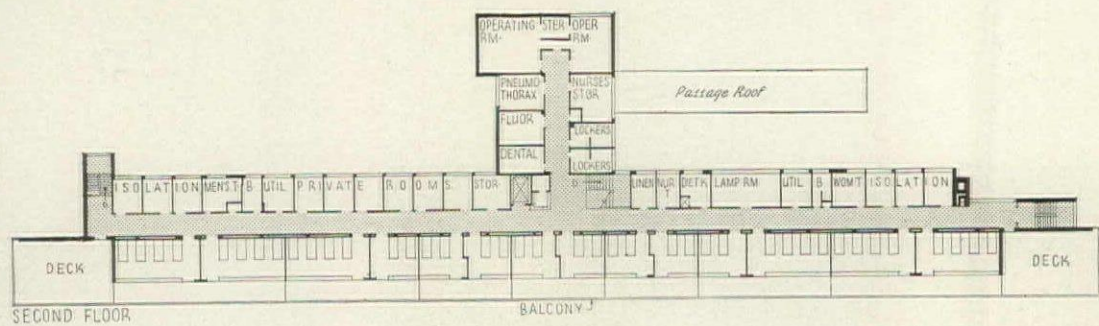
WAITING ROOM



INFORMATION

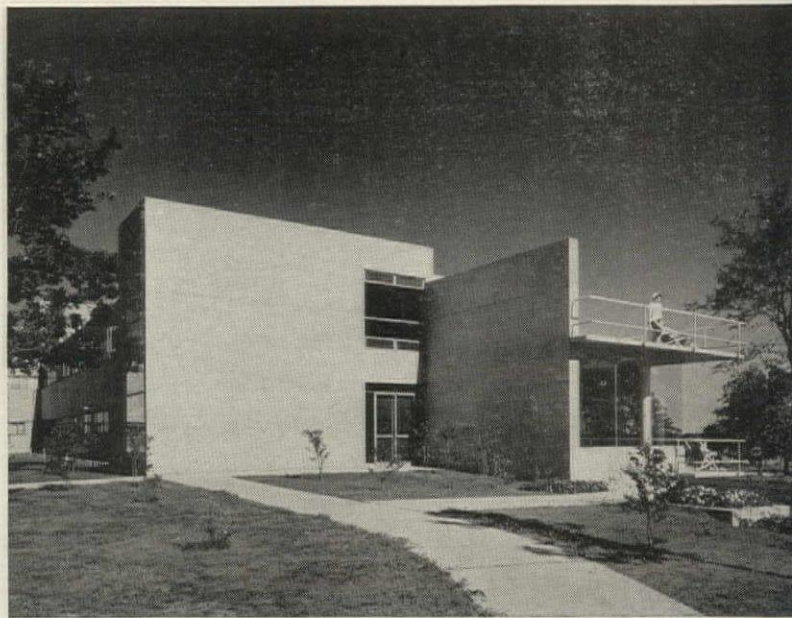


TUBERCULOSIS SANATORIUM, WAUKEGAN, ILL.





NORTH ELEVATION-ENTRANCE

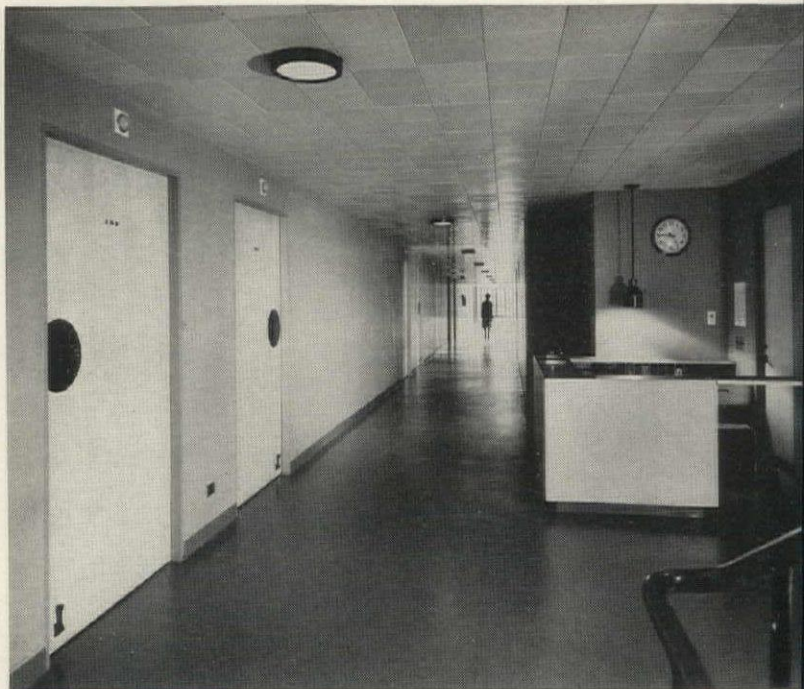


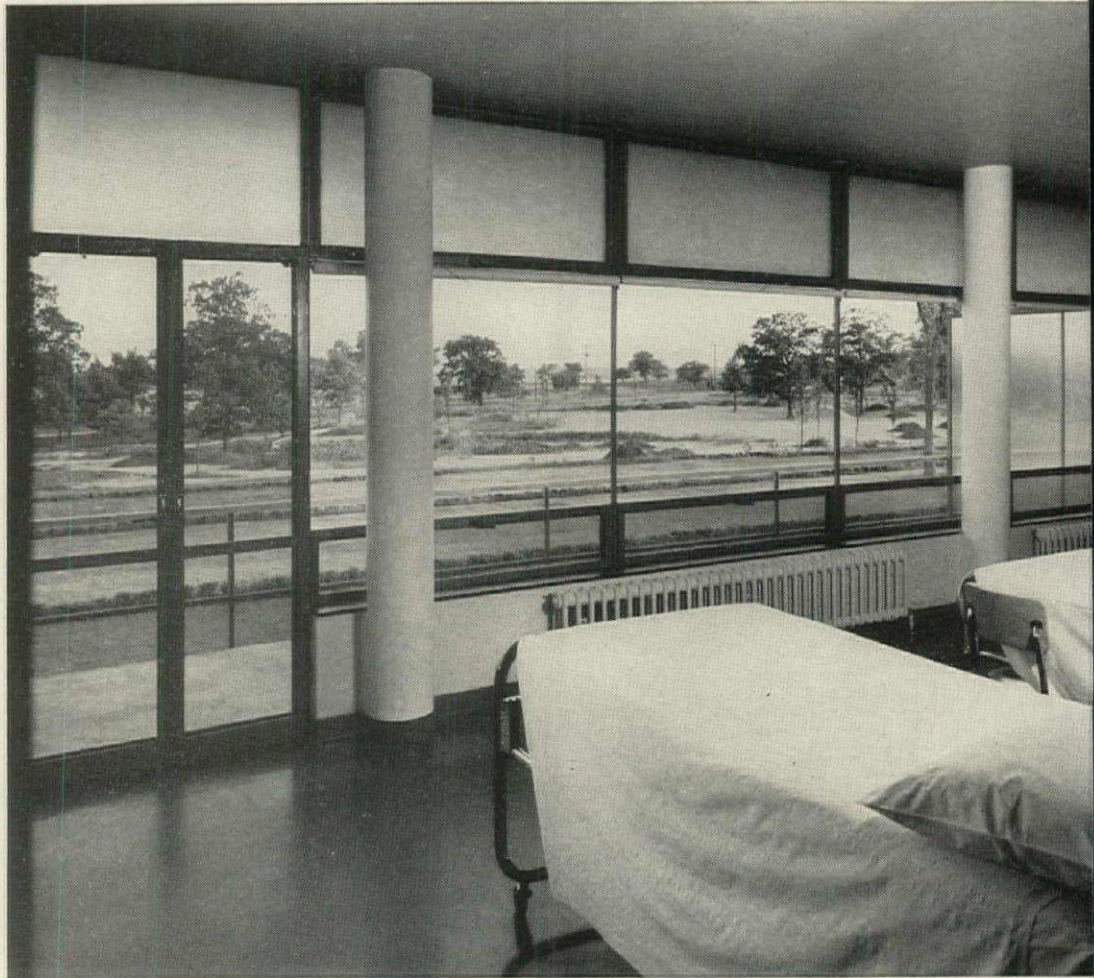
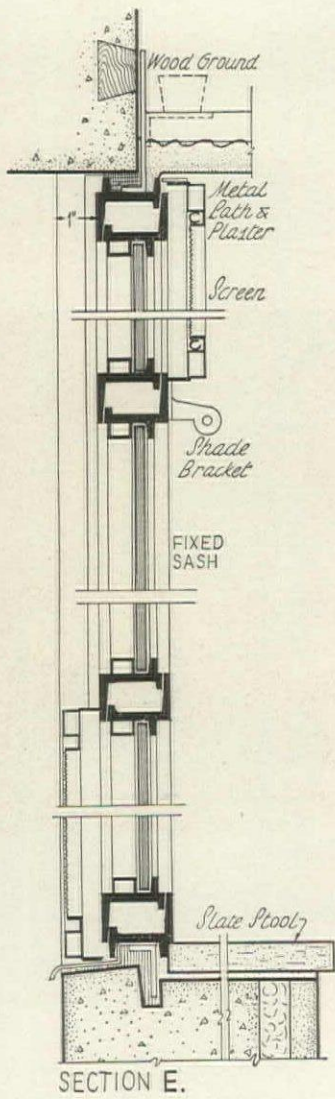
WEST ELEVATION

Opening off the main lobby is the office of the superintendent, on one side, and the clinical department and patients' pavilion on the other. Downstairs are the clinical waiting room and the recreation room, upstairs fluoroscope, treatment, and operating rooms. Kitchen, food storage, and maintenance rooms are located in the basement of the main portion of the building.

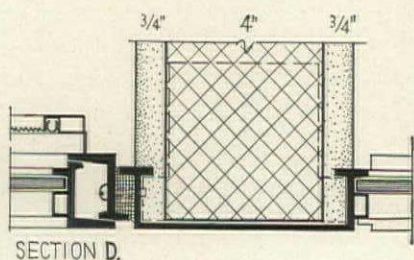
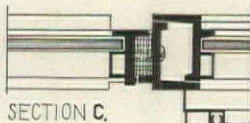
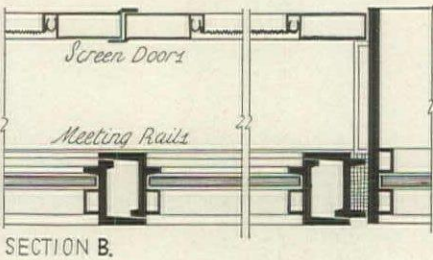
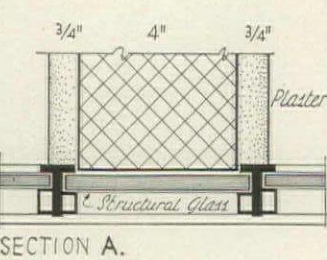
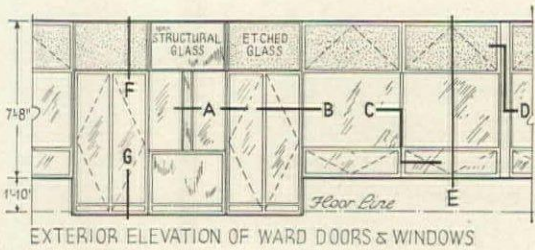
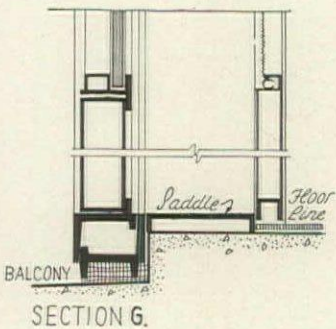
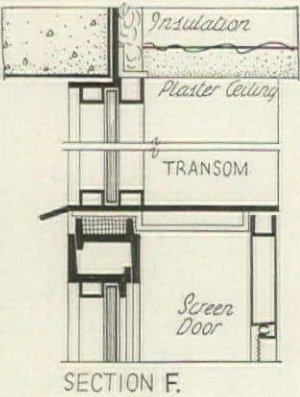
The balance of the plan is given over to the main function of the institution—housing for in-patients. Patients' quarters are located almost entirely on the south side of the main part of the building, and take the form of standardized 2- and 4-bedrooms opening directly onto the continuous balconies. Ambulant patients occupy first floor rooms, with access to the lounges, or day rooms, at either end of the building, lamp and occupational therapy rooms, and the patients' dining room, all of which are on this floor. The sunnier second floor rooms are reserved for semi-ambulant and infirm patients, with meals served in the room on trays sent up in heated trucks from the basement kitchen. Seriously ill patients, pre-operatives, and post-operatives are housed in the private rooms at the back of this floor, which were deliberately placed on the north side to be free from sunlight and external disturbance.

CORRIDOR





FOUR-BED WARD



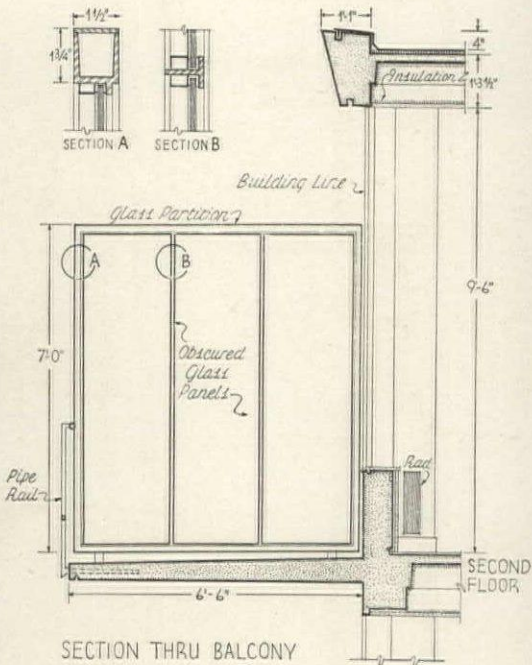
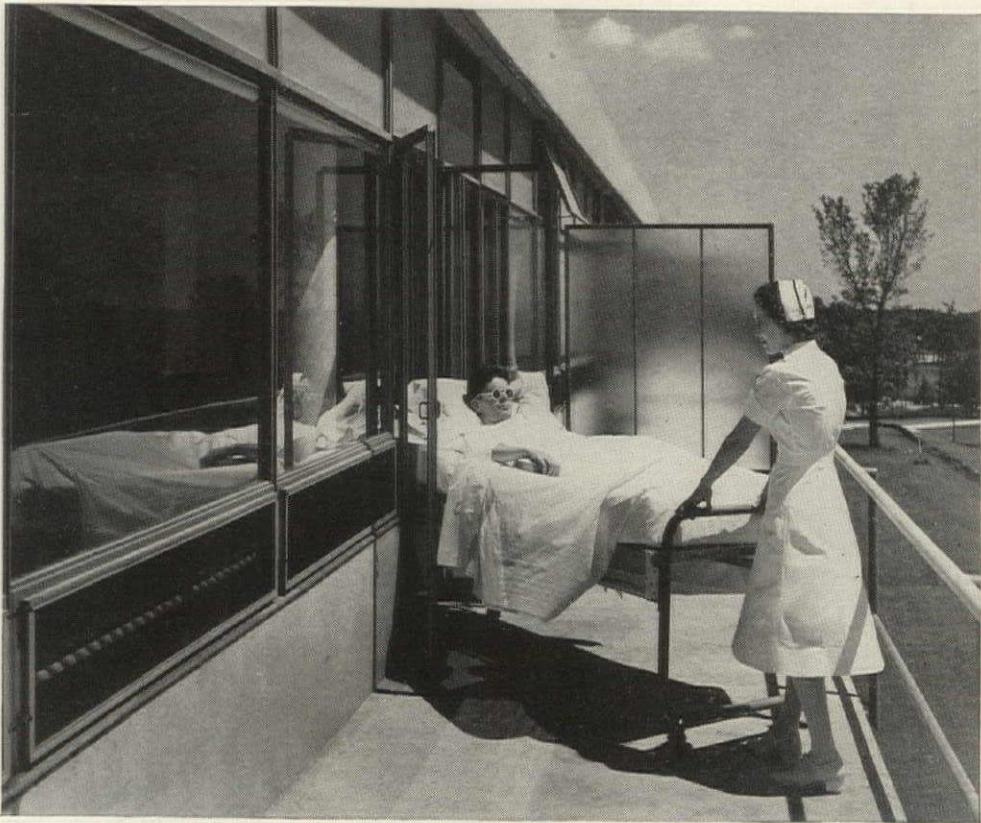


FOUR-BED WARD



PRIVATE ROOM

PATIENTS' ROOMS are each equipped with a steel clothes locker, running hot and cold water, and a cabinet for wash basins and clinical utensils. Above each bed is a goose-neck reading lamp, nurses' call button, and a radio, telephone, and electric outlet. Each room has an overhead fresh-air inlet, as well as upper and lower movable window sash designed for draftless ventilation (details, left). Double doors opening onto the sun-terraces are sufficiently wide to permit easy passage of beds. Balconies are divided between each pair of 2- or 4-bedrooms by an obscured glass partition (details, right) extending to the railing.

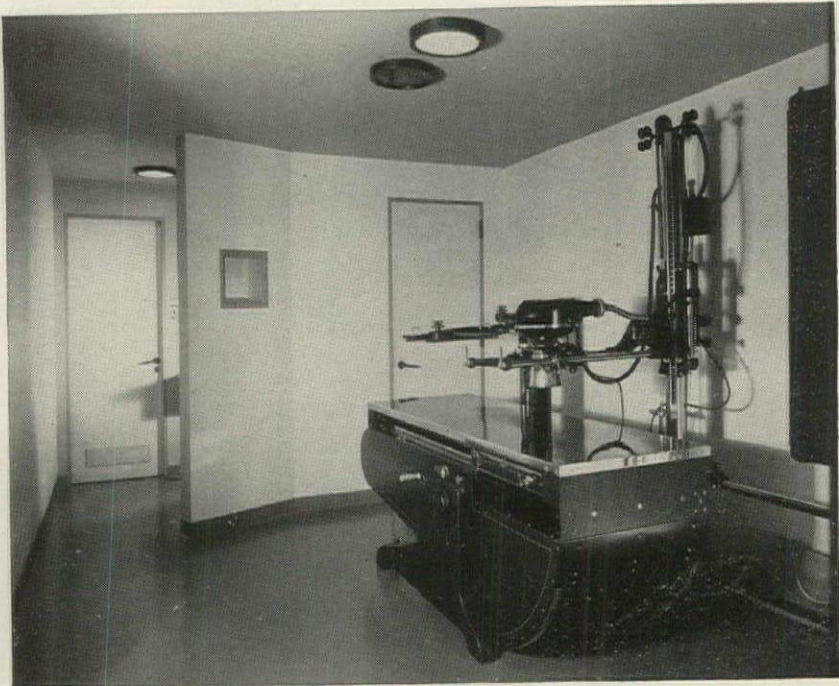


TERRACE

TUBERCULOSIS SANATORIUM, WAUKEGAN, ILL.



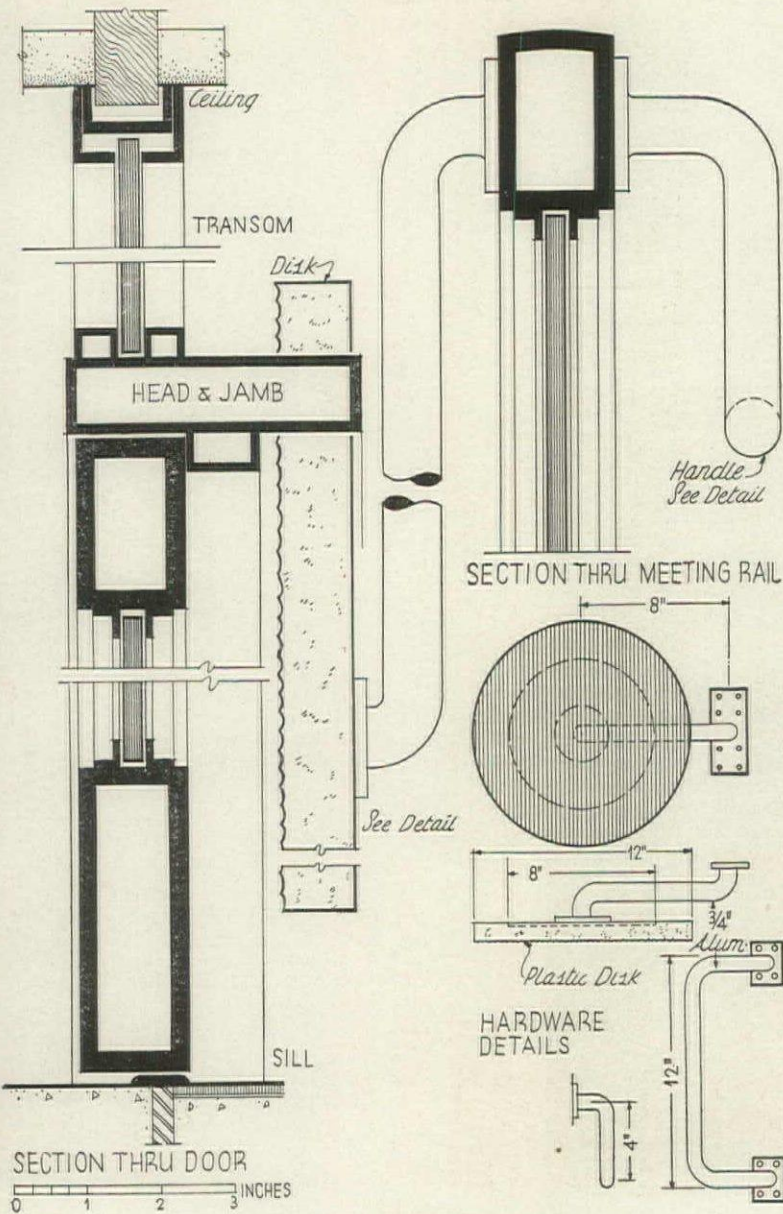
LABORATORY



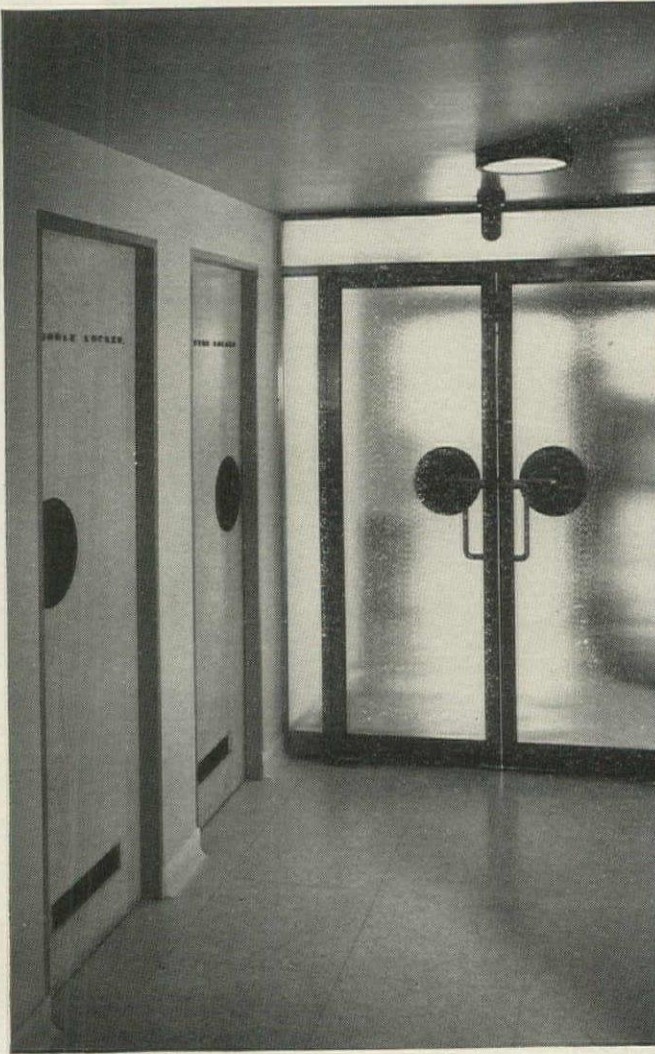
X-RAY ROOM

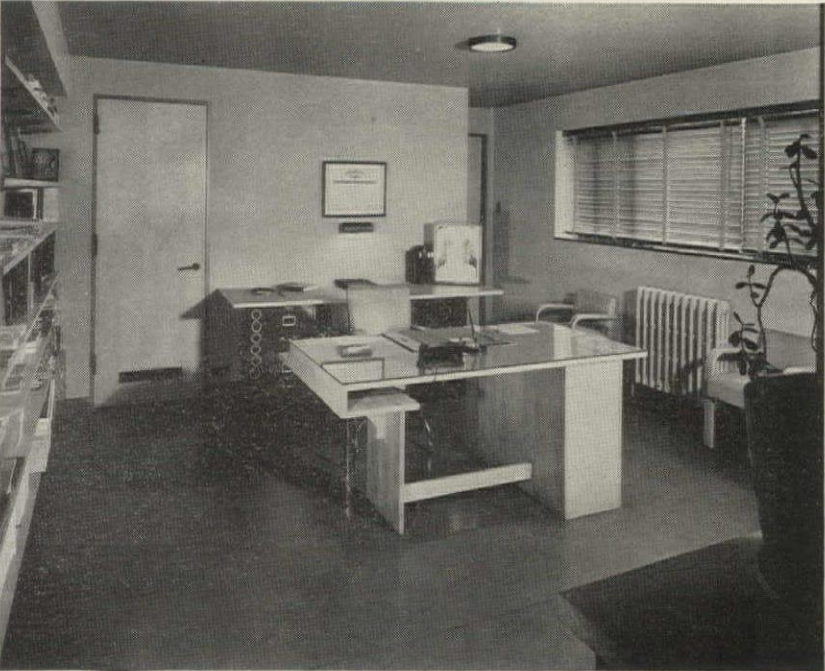


VIEWING ROOM

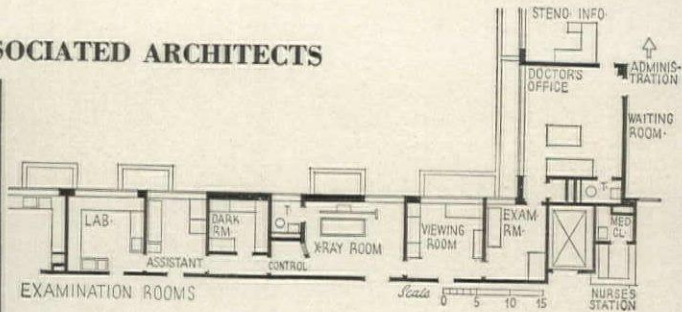


ENTRANCE TO OPERATING ROOMS





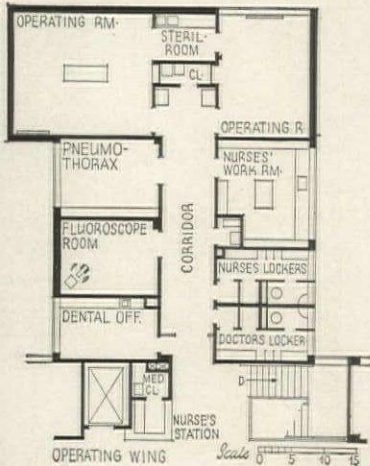
DOCTOR'S OFFICE

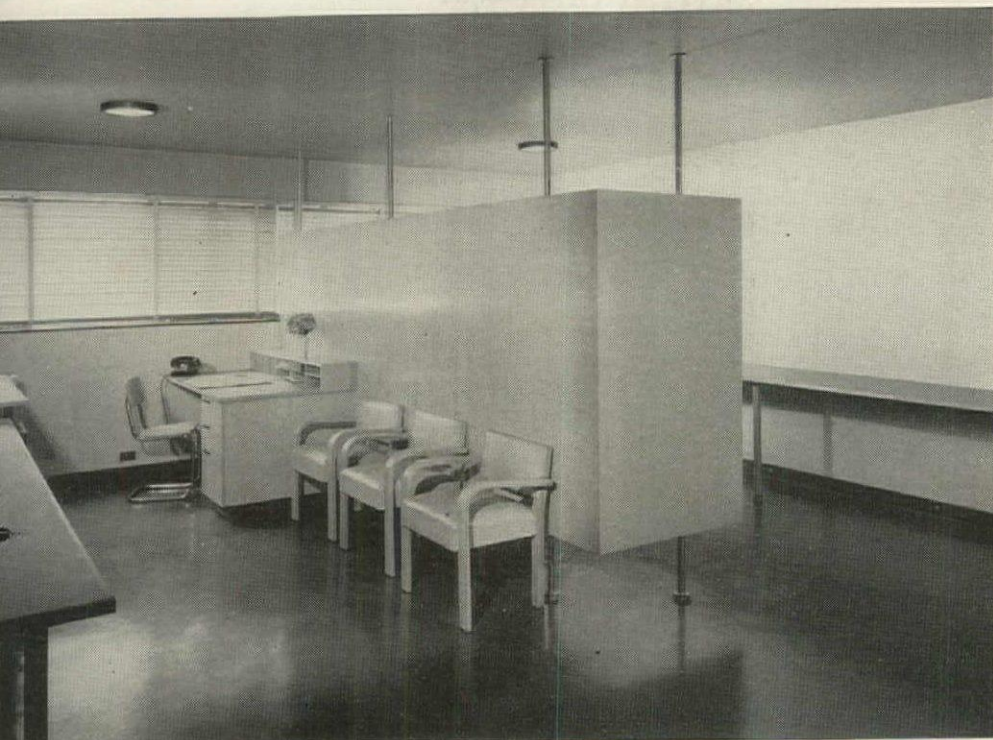


CLINIC and x-ray rooms (plan, above) are carefully studied for easy access of beds, hospital carts, and wheel chairs. The generous laboratory takes care of routine laboratory work necessary in every hospital as well as the special requirements of a tuberculosis institution. In addition, research of a bacteriologic and pharmacologic nature are an important part of the sanatorium function.

OPERATING suite (plan, below) is air conditioned for patients' comfort and to maintain a physiological equilibrium during major surgical operations. Illumination of the main operating room is wholly artificial because this simplifies cleaning and since many electrically lighted instruments are used. The light and airy room next to the operating room is primarily for out-patients receiving pneumothorax treatment, but also contains basal metabolism apparatus, electrocardiograph, and oxygen tanks on trucks. The proximity of the fluoroscopic room to the operating rather than the x-ray section is intended to avoid the necessity for transporting surgical patients through the building.

OPERATING ROOM





OFFICE OF HEAD NURSE AND ASSISTANT



DIET KITCHEN



LAMP ROOM

CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete footings.
STRUCTURE: Reinforced concrete structure. Tile partitions. Plaster walls—Gold Bond Plaster, National Gypsum Co. Lime—Woodville Lime Co. Galvanized metal lath—Consolidated Expanded Metal Co.

ROOF: Twenty year bond tar and gravel dead level, Reilly Tar and Chemical Corp.

INSULATION: Exterior sidewalls— $\frac{1}{2}$ in. balsam wool, Wood Conversion Co. Ceilings—2 in. Balsam wool, Wood Conversion Co.

WINDOWS: Sash—Lemco, Lundell-Eckberg Mfg. Co. Plate glass—Franklin Glass Corp. Window glass—Libbey-Owens-Ford Glass Co. Obscure glass—Mississippi Glass Co. Glazing Contractor: Hamilton Glass Co. Shades and awnings—"Holdfast" rollers, Charles W. Rice and Co., steel rolled by American Steel and Wire Co.; cloth, Ohio Falls Dye and Finishing Works.

ELEVATORS: Cab—W. S. Tyler Co. Doors—Variety Fire Door Co.

FLOOR COVERINGS: Tile—Olean Tile Co. Terrazzo—Roman and Co., Inc. Linoleum—Sloane-Blabon Corp.

WALL COVERINGS: Wall tile and trim—Franklin Tile Co. Panels—National Plywoods, Inc. Solid wood—Columbia Hardwood Lumber Co.

FURNISHINGS: Mirrors—Pittsburgh Plate Glass Co. by Semon Bache Co. Office furnishings and equipment—Remington Rand, Inc. Built-in furniture—Poetsch Interior Construction Co. Rubber mattresses—Firestone Tire and Rubber Co. Mattresses, springs and metal chairs—Simmons Co.

WOOD AND METAL TRIM: Doors—Hardwood Products Corp. Mill and cabinet work—Illinois Interior Finish Co. Ornamental iron—Chicago Ornamental Iron Co. with Republic Steel Co. and U. S. Steel Co. materials.

HARDWARE: Locks, trim and door closers—Reading Hardware Co. Checking floor hinges—O. C. Rixon Co. Overhead holders and shock absorber—Glynn Johnson Corp. Push plates and pulls—Payson Mfg. Co.

PAINTING: Great Western Paint and Varnish Corp.

ELECTRICAL INSTALLATION: Conduits, wiring, wiring devices, boxes, covers, lighting reflectors—General Electric Co. Main switch and distribution panels—Kinney Electric Mfg. Co. Fixtures—Belson Mfg. Co. Special equipment: storage battery equipment—Electric Storage Battery Co.; nurses' call equipment—Edwards and Co.; clock and fire alarm systems—International Business Machines Corp. Lighting Equipment—Carl Bejohr Lighting Equipment Co. Electrical Contractor: S. H. Bente.

PLUMBING: Fixtures—Crane Co. Piping: Pipes—A. M. Byers Co. Pipe Insulation—Ric-Wil Co. Fittings, Crane Co.; sewer pipe and fittings, M. H. Hussey Co.; floor drains, Josam Mfg. Co.; downspout heads, Wade Mfg. Co.; soil pipe and fittings, Standard Sanitary Mfg. Co.; watermain pipe, James B. Clow and Sons. Hangers, pipe and fittings—Crawford Co. Water softener—Lakeside Engineering Co. Plumbing contractor: M. J. Corboy Co.

KITCHEN EQUIPMENT: Refrigeration—General Refrigeration Corp. Cooking utensils—"Wear-ever," The Aluminum Cooking Utensil Co.

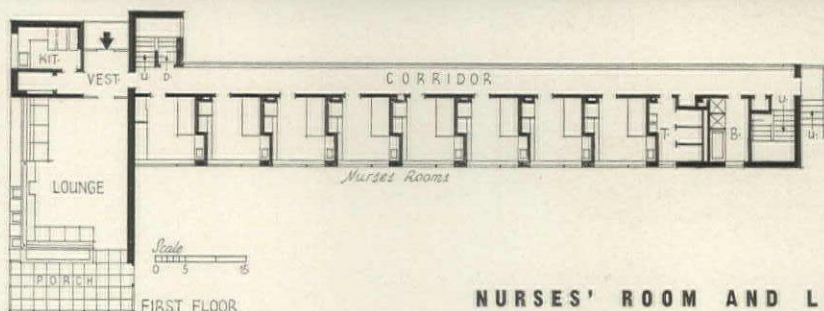
LAUNDRY EQUIPMENT: Machinery—U. S. Hoffman Machinery Corp.

HEATING: Forced circulation hot water system; unit heater—Venturafin, Weil-McLain Co. Air conditioning—vento and aerofin units, American Blower Co. Boilers—United States Radiator Corp. Water feeders and cut-off—McDonnell and Miller. Boiler breeching—Chicago Steel Tank Co. Gas burning boiler—Ideal, James B. Clow and Sons; automatic oil burners—Ray Burner Co. Convectors and enclosures—American Radiator Co. Pumps—Chicago Pump Co. Meters—Badger Meter Co. Monoflo Hot Water Heating System—Bell and

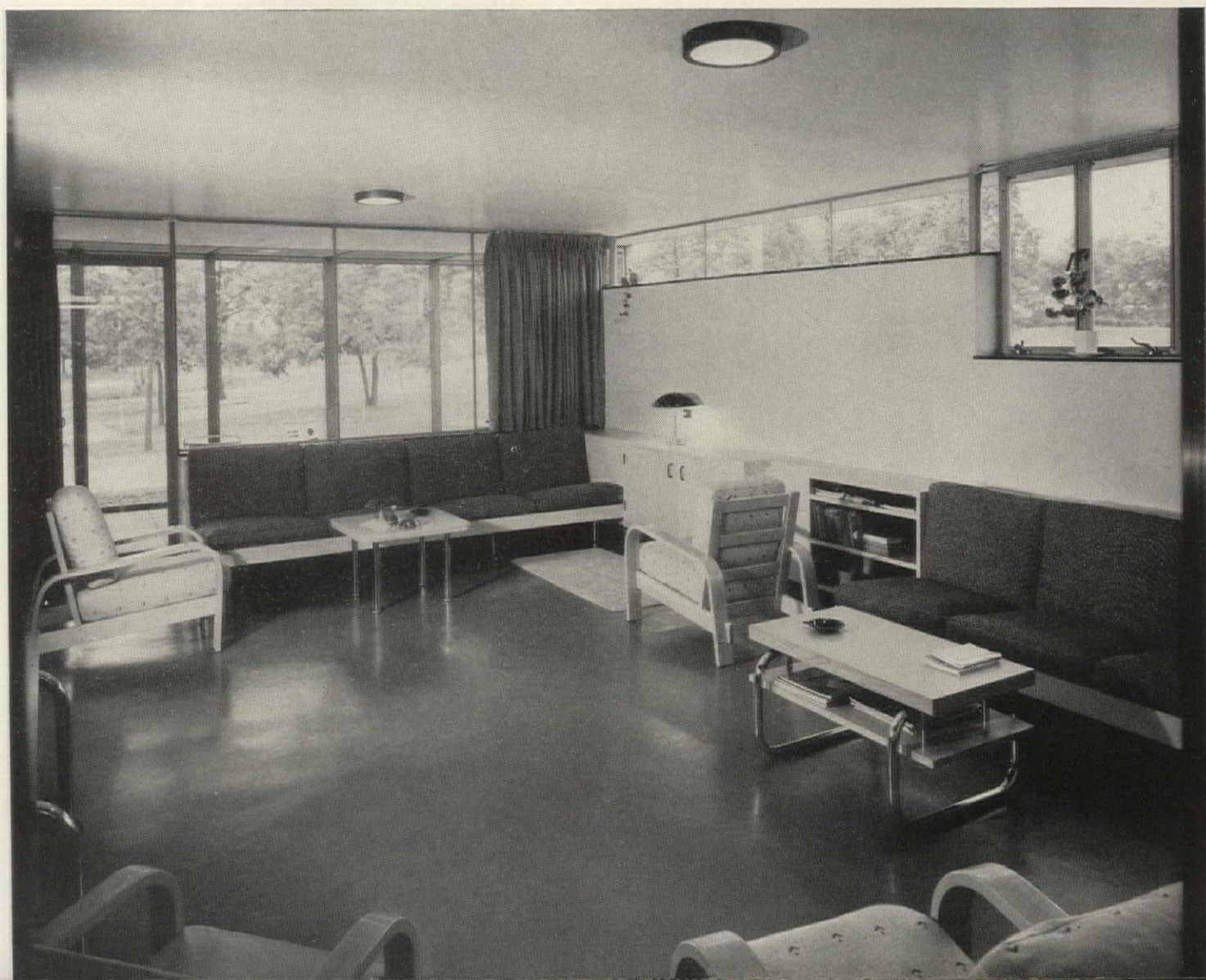
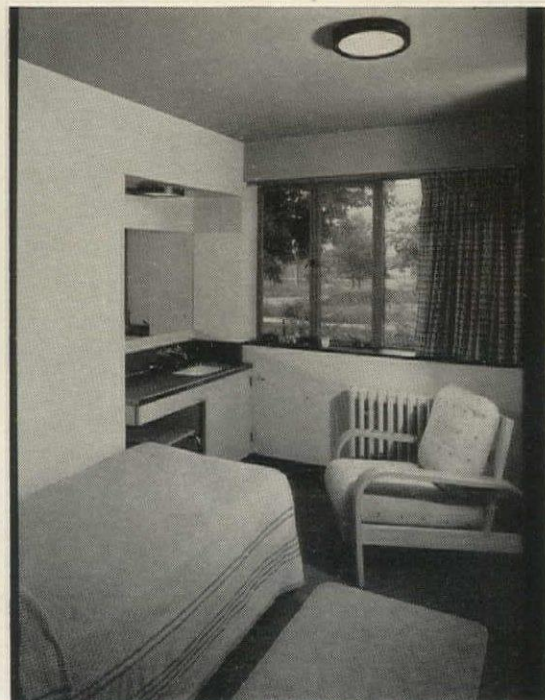
(Continued on page 158)

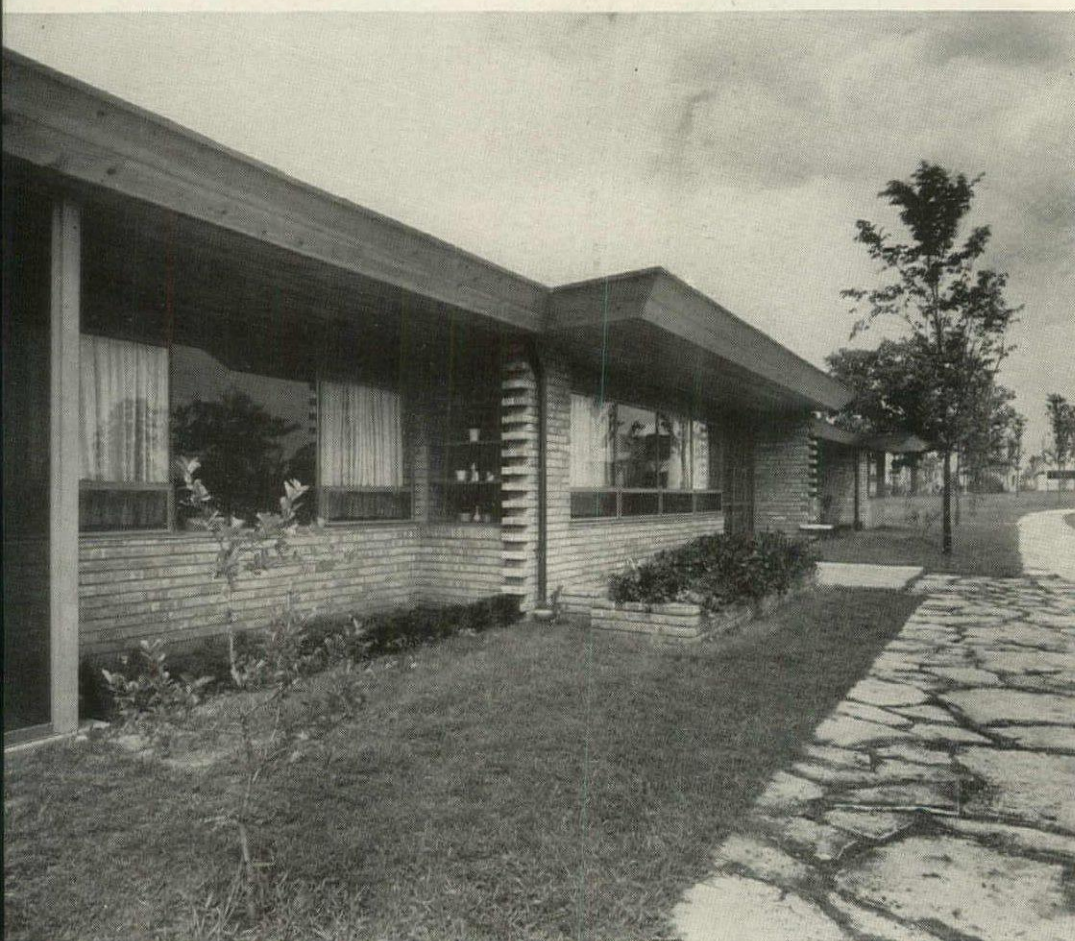


NURSES' HOME is as modern as the hospital which it serves. Identical rooms are located in a single line on one side of a well-lighted corridor, with toilets and bath at one end, kitchen and lounge at the other. Second floor is similar, except for lounge and kitchen. Like the patients' rooms, all of the nurses' rooms in this ideally oriented institution face south, slit windows on the north serving the corridors.

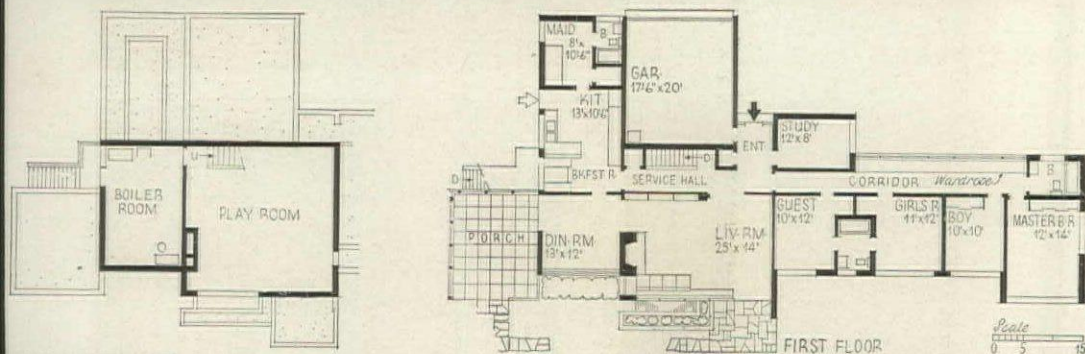
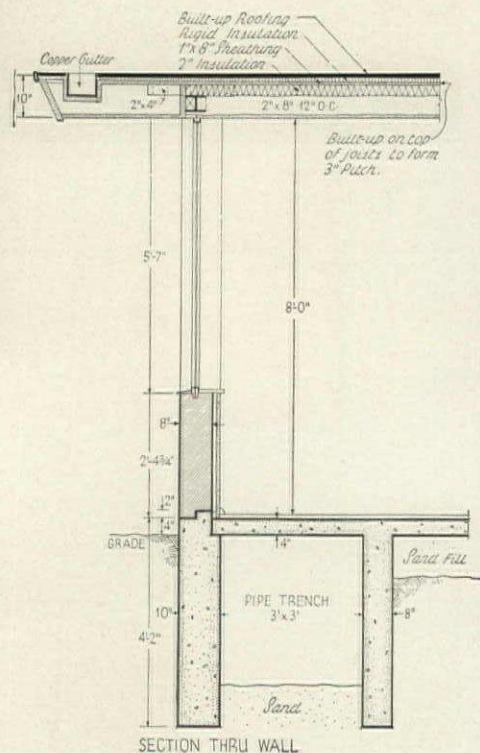


NURSES' ROOM AND LOUNGE





DOCTOR'S HOUSE has been given an appealingly domestic character without departure from the planning principles which governed the design of the balance of the buildings. Again, major rooms are placed in a row on the south side, while the corridor receives adequate north light. Center portion of windows is fixed, upper and lower parts open for ventilation.



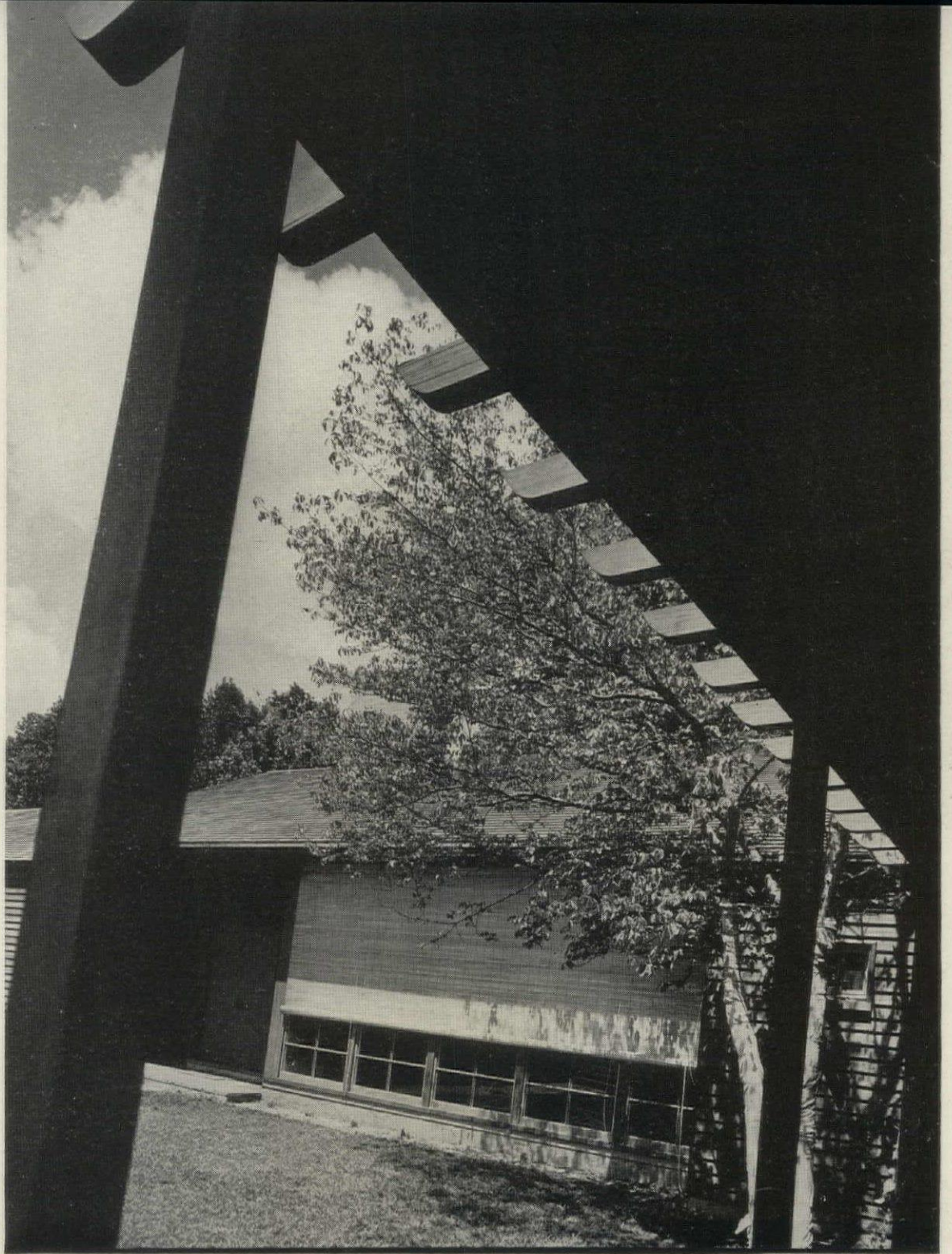
LIVING ROOM



CONSTRUCTION OUTLINE cont'd

Gossett. Condensation & Circulating Pump—Weinman Pump Mfg. Co. Temperature controls—Minneapolis-Honeywell. Valves—Crane Co. Return Valve, Detroit Lubricator Co. Water heater—Gas fired, Crane Co. Storage water heaters—Patterson-Kelly Co. Heating specialties—Sarco Co. Hot water converters—W. P. Whittington and Co. Heating contractor: Phillips-Getschow Co. Ventilation and Air Conditioning Contractor: Rudy Heating and Air Conditioning Co.

SPECIAL EQUIPMENT: Radio equipment—R. C. A. Victor. X-Ray equipment: Standard X-Ray Company; Picker X-Ray Corp., X-ray tubes, Machlett Laboratories. Sterilizing equipment—American Sterilizer Co. Operating table—Scanlon Morris Co. Operating room light—Wilmot Castle Co. Ultraviolet lamp, Infra red lamps, short wave machine—Hanovia-Chemical and Mfg. Co. Venetian blinds—"Aluminite," Chicago Venetian Blind Co. Tennis court fence—Cyclone Fence Co. Drinking fountains—James B. Clow and Sons. Steel lockers—Art Metal Construction Co. **CHARLES B. JOHNSON AND SON, INC., GENERAL CONTRACTOR.**



All photos, Robert M. Damora

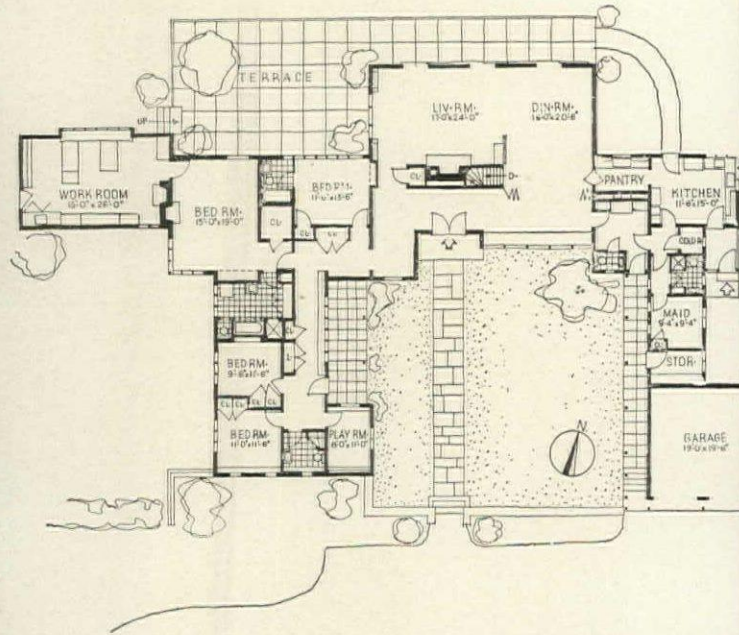
A PORTFOLIO OF RECENT WORK

BY **VICTORINE & SAMUEL HOMSEY**

OF WILMINGTON, DELAWARE

HOUSE IN HOCKESSIN, DEL.

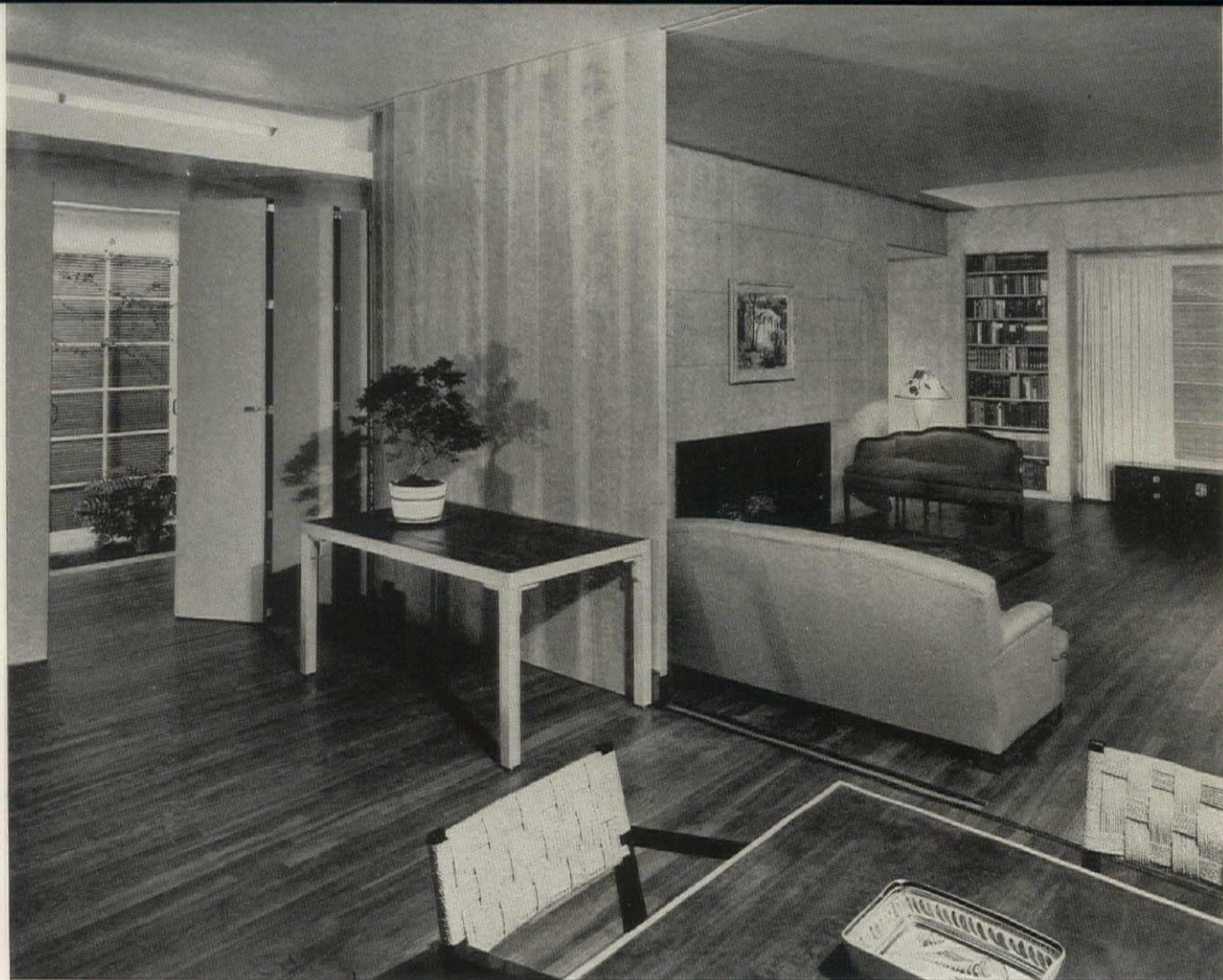
VICTORINE & SAMUEL HOMSEY, ARCHITECT



ENTRANCE COURT

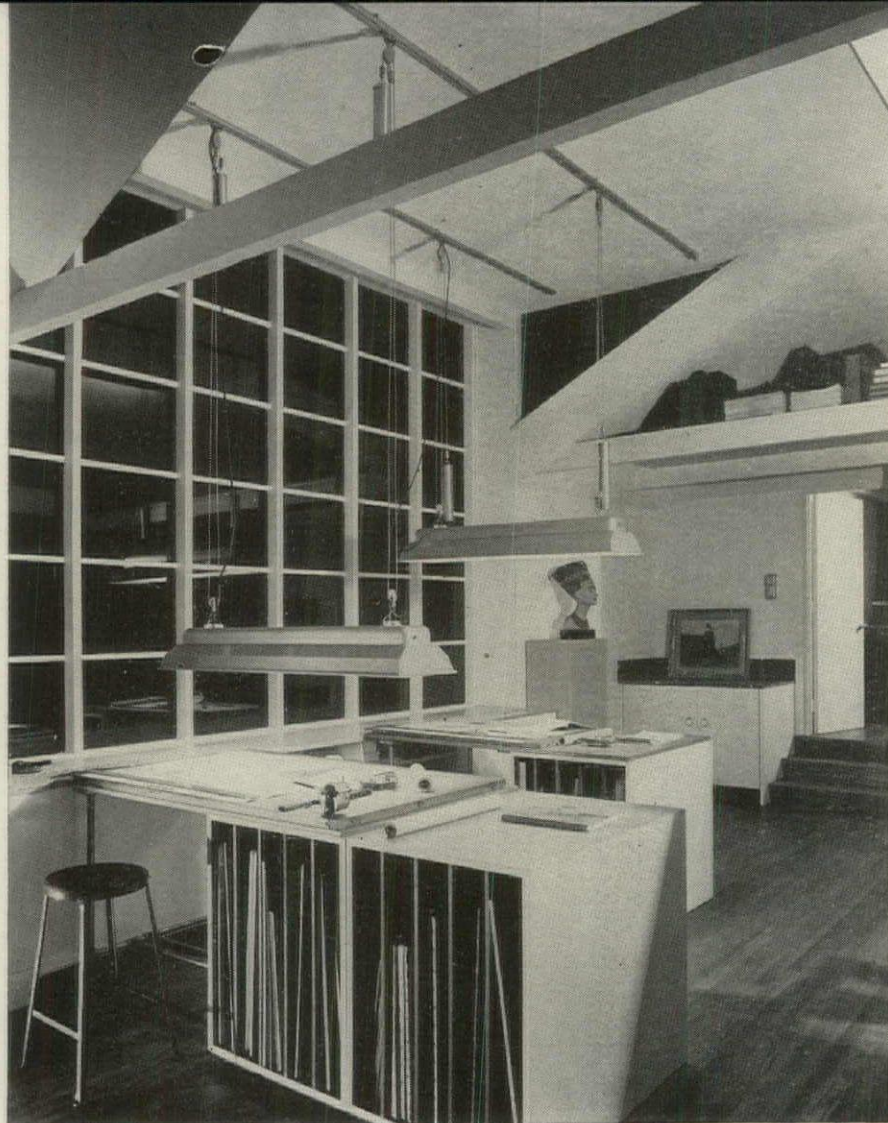
The architects' own house is located on a partly wooded tract in a farming section near Wilmington. A serious problem was presented by the fact that the best location for the main rooms is on the north, and it was met by an open plan which takes advantage of the sunlight coming through the large plant window on the south. While none of the rooms is unduly large, the plan is sufficiently flexible to meet all requirements of entertaining. Placement of the children's wing was determined by the prevailing winds from the southwest; with the service wing on the east it forms an exceedingly pleasant entrance court and the resulting composition is in excellent character with the surroundings. The main interiors are done in birch, and walls painted dusty pink and gray-white, a restful color scheme based on the large painting in the dining room, shown on the opposite page.





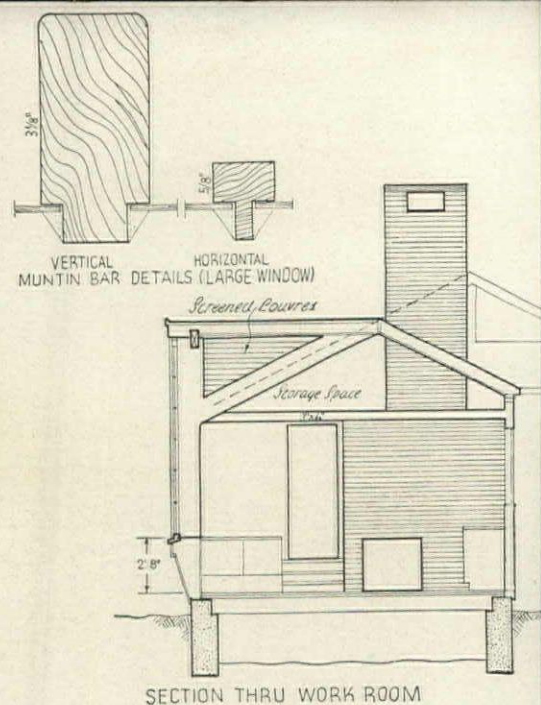
LIVING-DINING





WORKSHOP

HALL WINDOW



Of primary importance is the workshop, one of the most interesting rooms in the house. It is used by the owners as a second office, and by the entire family for the pursuit of hobbies such as painting and modeling. A view of the exterior of this handsome room is shown on the opposite page. The illustration below shows the plant window, hall and dining room.

CONSTRUCTION OUTLINE

STRUCTURE: Cypress siding, Sisalkraft paper, t. & g. diagonal sheathing, fir studs, rock lath and plaster. Floor construction—wood joists, t. & g. subfloor, pine and oak finish flooring, E. I. Bruce Co.

ROOF: Covered with cedar shingles.

INSULATION: Attic floor—4 in. spun glass, blown in. Weatherstripping—Watson Screen and Weatherstrip Co.

WINDOWS: Sash—special casement, white pine. Glass— $\frac{1}{8}$ in. Quality A, Pittsburgh Plate Glass Co. Special lights of Thermolux, Libbey-Owens-Ford Glass Co. Shades—Tem-lite, The Aeroshade Co.

WOODWORK: Trim—metal molding, Knapp Brothers Mfg. Co. Doors—flush birch, Johns-Manville Corp. Exterior Doors—W. D. Crooks & Sons.

HARDWARE: Interior—dull nickel, Russell and Erwin Mfg. Co. Exterior—Adolph Soef-fing Co.

PAINTING: Interior—all by E. I. DuPont de Nemours and Co., Inc. Exterior—creosote and oil stain on walls; paint on soffits; sash—Samuel Cabot, Inc.

LIGHTING FIXTURES: Condi-Lite with Holophane lenses and with Louvered Lucite. Drafting lights—Fluorescent, Benjamin Electric Mfg. Co. Special Fixtures & Equipment—Hatzel & Buehler Co.

KITCHEN EQUIPMENT: Range—Hot Point electric, Edison General Electric Appliance Co., Inc. Refrigerator—Stewart-Warner Corp.

BATHROOM EQUIPMENT: All fixtures by Hajoca Corp. Cabinets—Charles Parker Co.

PLUMBING: Cold and hot water pipes—Type "L" hard tubing, Bridgeport Brass Co. Fittings—Mueller Brass Co. Water pump—Fairbanks-Morse and Co.

HEATING: Vapor system. Boiler—Fitzgibbons Boiler Co., Inc. Oil burner—Electrol, Inc. Convectors—Rome Mfg. Co., Div. of Revere Copper and Brass, Inc. Valves—Veco, Vapor Engineering Co. Thermostat—Minneapolis-Honeywell.

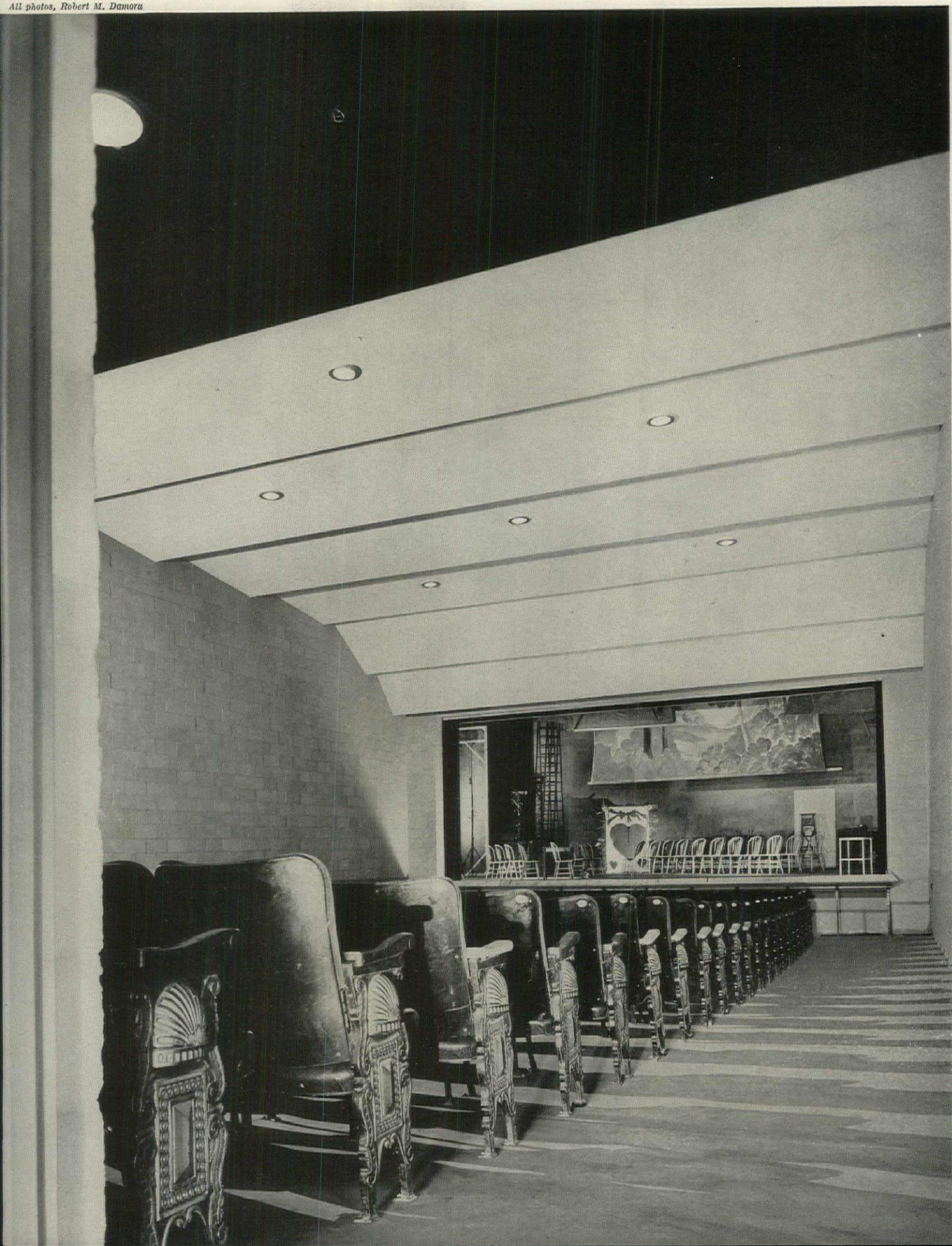
J. S. CORNELL & SON, CONTRACTOR

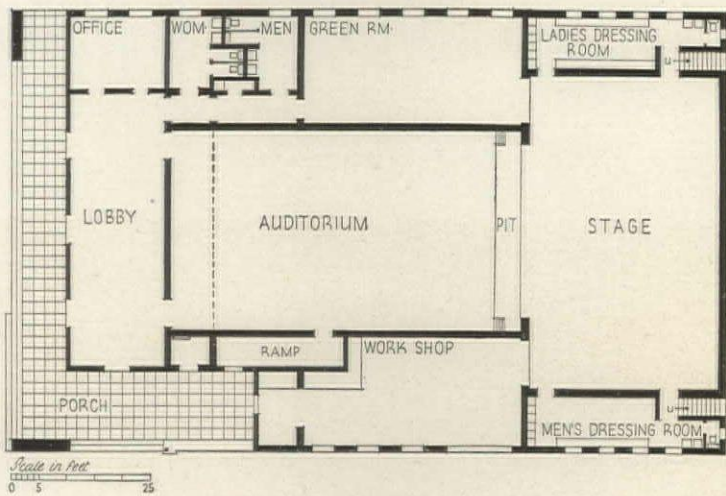


WILMINGTON DRAMA LEAGUE THEATER

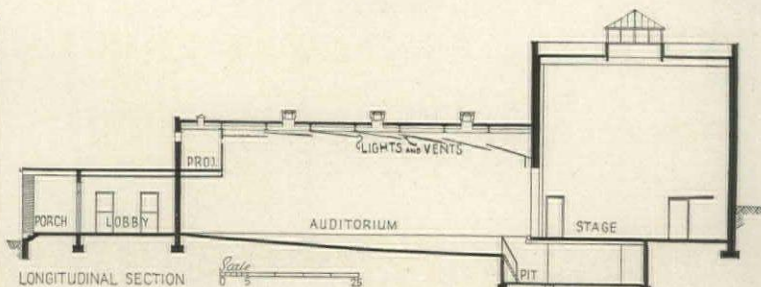
VICTORINE & SAMUEL HOMSEY, ARCHITECTS

All photos, Robert M. Damora





The Drama League Theater, built for a young and active local organization, required maximum space for a minimum budget. As is evident from the photographs, no money was wasted on embellishments, although this does not detract from a distinguished architectural solution. The interior walls are of exposed cinder block, painted by the League members themselves; auditorium chairs were purchased second-hand. The plan has been so arranged that the lobby, green room and stage can be used simultaneously for rehearsals; on social occasions a kitchenette in the green room can serve the lobby as well. Unit gas heaters replace the conventional central heating plant, eliminating excavation, the need for janitor services, and permitting the heating of only those spaces in use.



CONSTRUCTION OUTLINE

FOUNDATION: Reinforced concrete. Waterproofing—Hydron, The Barrett Co.

STRUCTURE: Exterior walls—common hard burned brick backed with cinder concrete block, Media Concrete Block Co. Structural steel—Carnegie Steel Co. and Bethlehem Steel Co. Floor construction—cement finish on reinforced slab; hardener by Master Builders Co.

ROOF: Steel beams, Cantilite concrete plank, Concrete Plank Co., Inc., Barrett Co. specification roofing. Skylight—Rocsvelt Sheet Metal Works.

INSULATION: Auditorium—Sabinite, U. S. Gypsum Co.

WINDOWS: Sash—projected, Hope's Windows, Inc. Glass—Mississippi Glass Co. and Pittsburgh Plate Glass Co.

HARDWARE: By P. & F. Corbin, Richard Wilcox and Hope's Windows, Inc.

PAINTS: By Medusa Portland Cement Co. and E. I. duPont de Nemours & Co.

ELECTRICAL INSTALLATION: Wiring—conduit and BX, General Electric Co. Switches—Arrow Electric Co. Fixtures—Garden City Plating & Electric Co. Panel boards—Wardock Electric Co.

PLUMBING: Plumbing fixtures and kitchen equipment—American Radiator-Standard Sanitary Corp.; Speakman Co., Inc. fittings. Hot and cold water pipes—copper, Mueller Brass Co.

HEATING: Forced air system, Humphrey Co. Grilles—Hart & Cooley Mfg. Co. Thermostats—Minneapolis-Honeywell Regulator Co.

RUPERT & FULENWIDER INC., CONTRACTORS



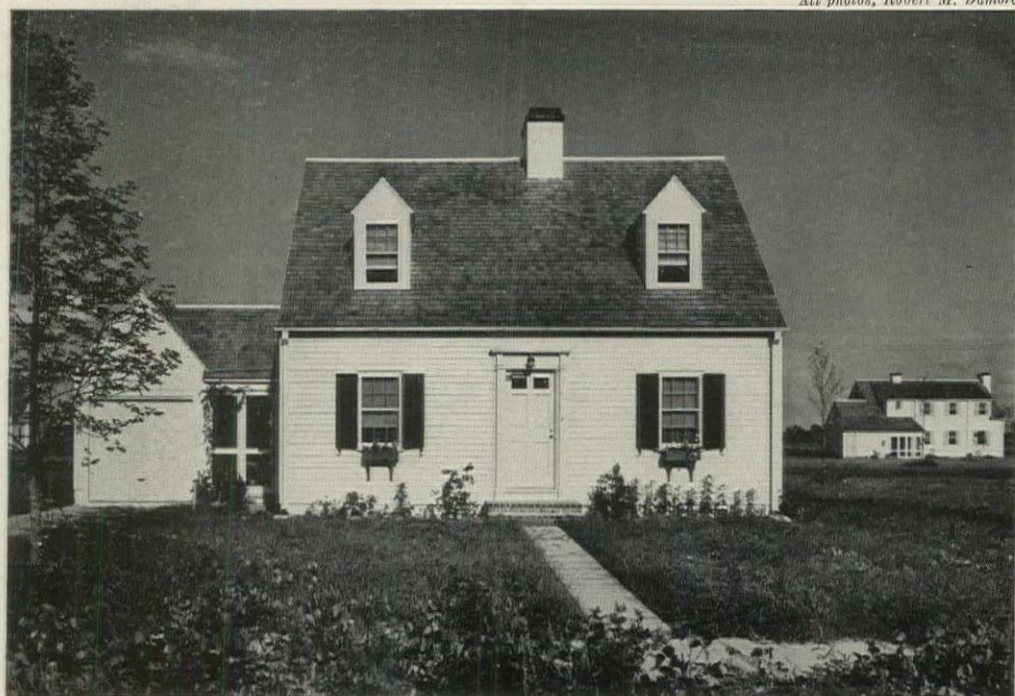
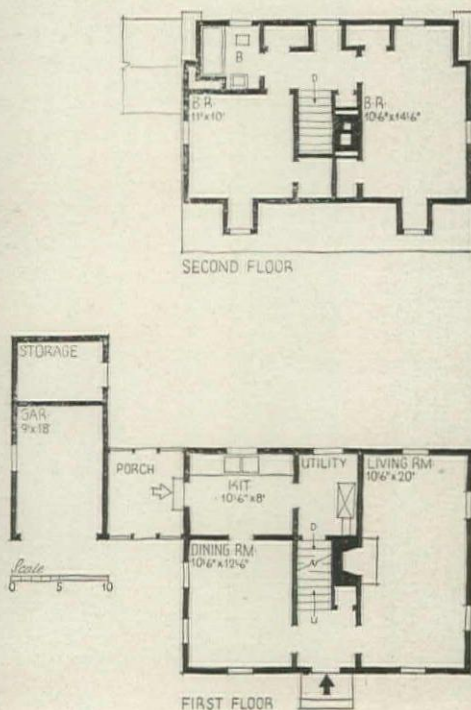


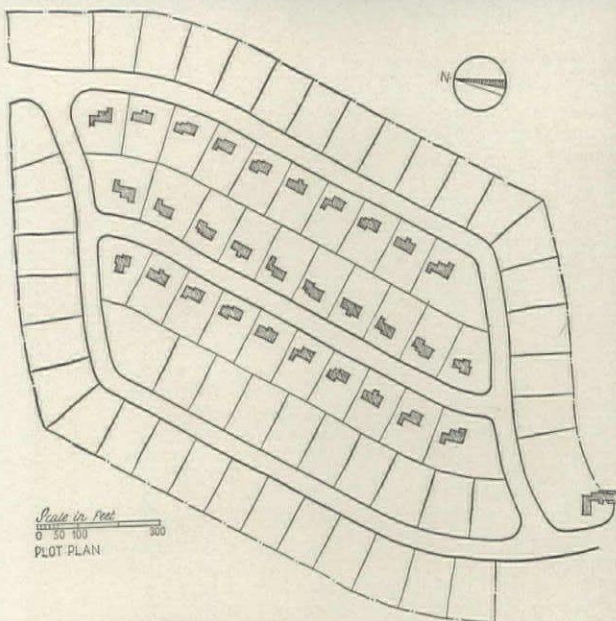
All photos, Robert M. Damora

HOUSING DEVELOPMENT SEAFORD, DEL. VICTORINE & SAMUEL HOMSEY, ARCHITECTS

Built for the DuPont Company, this development which consists of thirty dwellings, serves foremen and superintendents of the new Nylon plant. Provision has been made for expansion to about one hundred units. The houses were built from six plans, varied in color and details of the exterior. The general scheme places garages near the lot lines to the north, leaving the other three exposures free; with 100 x 150 foot plots there is ample room around each house and no lack of privacy. By staggering the houses so that none is directly back of another, by varying the depth of set-backs, and by careful placing of trees, the group has been given an unusual degree of openness and individuality.

All photos, Robert M. Damora





CONSTRUCTION OUTLINE

FOUNDATION: Concrete block walls on poured concrete footings.

STRUCTURE: Exterior walls—2 x 4 studs, sheathing, shingles or siding. Inside—lath and plaster, U. S. Gypsum Co.

ROOF: covered with 18 in. red cedar perfection shingles.

FIREPLACE: Poker control—The Donley Brothers Co.

SHEET METAL WORK: Flashing, gutters and leaders—26 gauge galvanized Toncan metal, Republic Steel Corp.

INSULATION: Outside walls—fiber board sheathing. Second floor ceilings lathed with 1 in. plaster lath—Armstrong Cork Products Co.

WINDOWS: Sash—double hung, weatherstripped, Morgan Woodwork Co. Glass—Single strength, Quality A, Pennvernion, Pittsburgh Plate Glass Co.

FLOOR COVERINGS: All floors oak except kitchen and bathrooms—linoleum, Sloane-Blabon Corp.

WOODWORK: Trim and doors—stock design, Morgan Woodwork Co. Garage doors—1¾ in. cypress, shop built.

HARDWARE: All by P. & F. Corbin except garage doors—Richards-Wilcox Mfg. Co.

PAINTING: All paint—E. I. DuPont de Nemours & Co., Inc.

ELECTRICAL INSTALLATION: Wiring system—BX cable. Switches—bakelite-ivory toggle type. Fixtures—Artcraft Fixture Co.

KITCHEN EQUIPMENT: Sink—2 bowl, flat rim, American Radiator—Standard Sanitary Corp. Cabinets—Morgan Woodwork Co.

BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp. Cabinets—Miami Cabinet Div., Philip Carey Co.

PLUMBING: Cold and hot water pipes—¾ in. tinned copper.

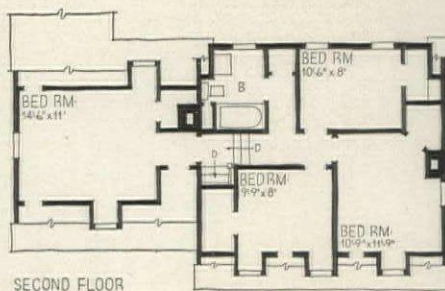
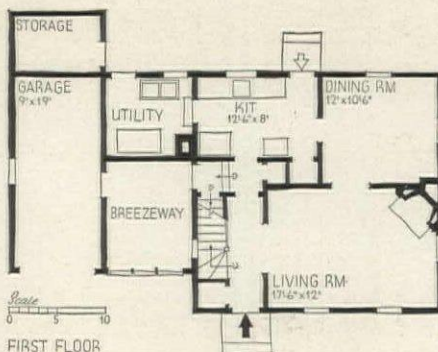
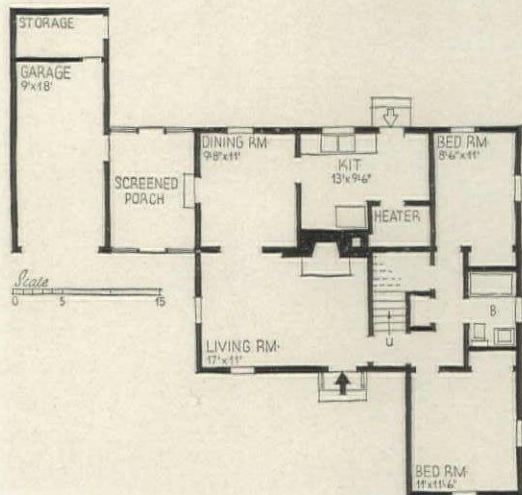
HEATING: Hot water system with oil burner—National Radiator Corp. Valves—Detroit Lubricator Co.

HEATING: Hot water system with oil burner—National Radiator Corp. Valves—Detroit Lubricator Co.

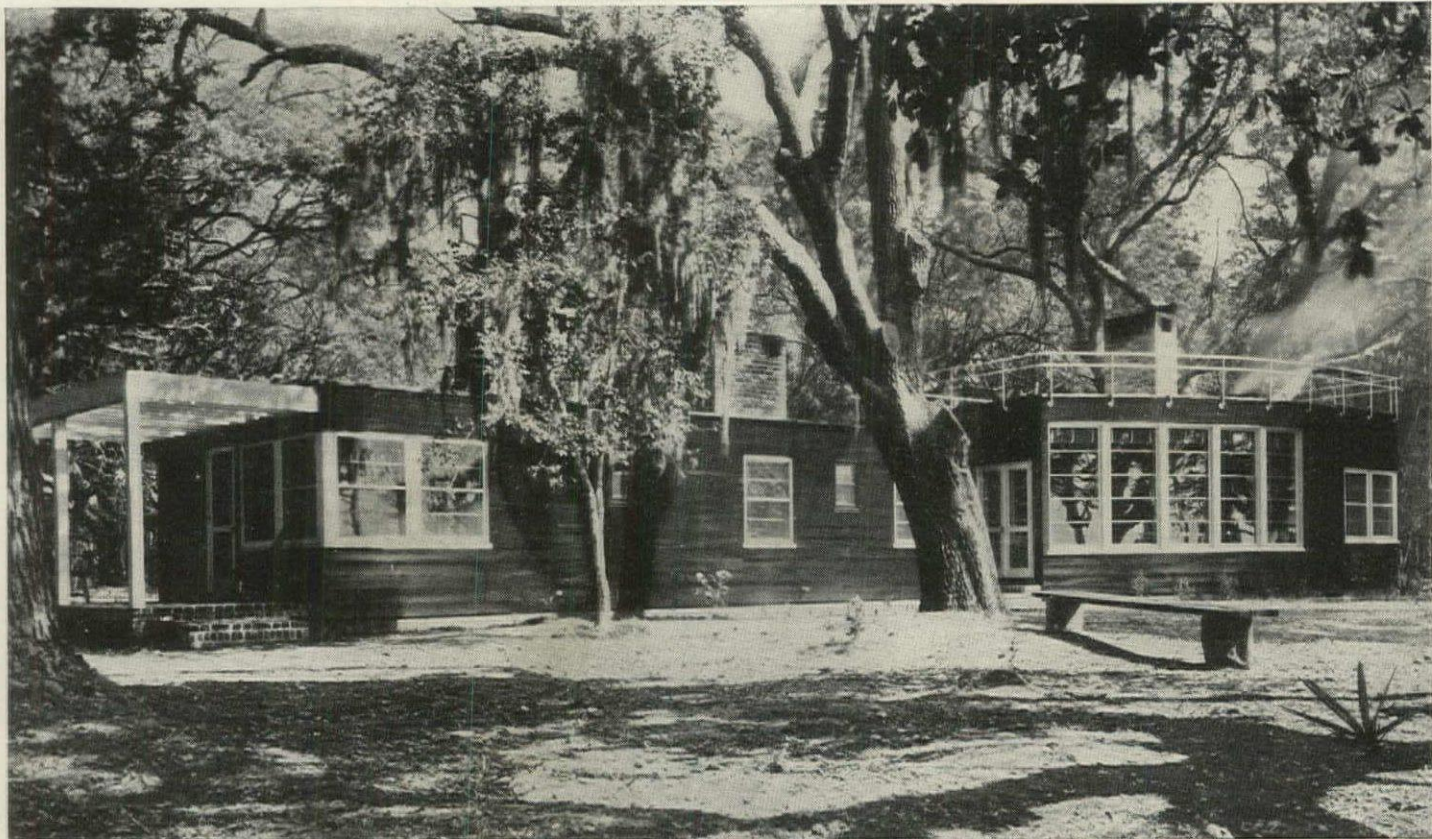
HEATING: Hot water system with oil burner—National Radiator Corp. Valves—Detroit Lubricator Co.

HEATING: Hot water system with oil burner—National Radiator Corp. Valves—Detroit Lubricator Co.

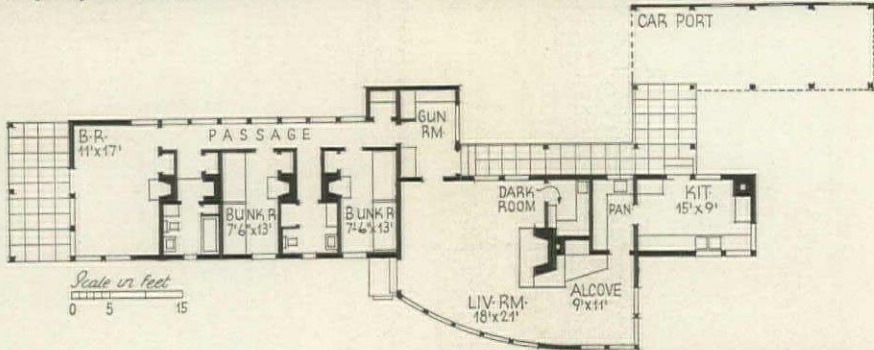
E. S. ADKINS CO., CONTRACTORS



SHOOTING BOX CAT ISLAND PLANTATION, GEORGETOWN, S. C.



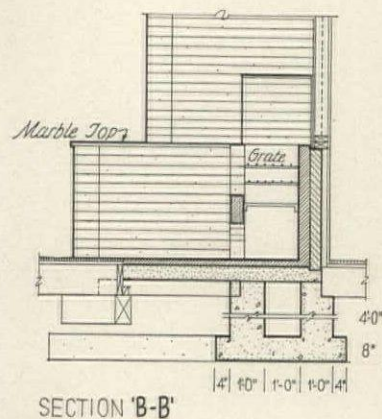
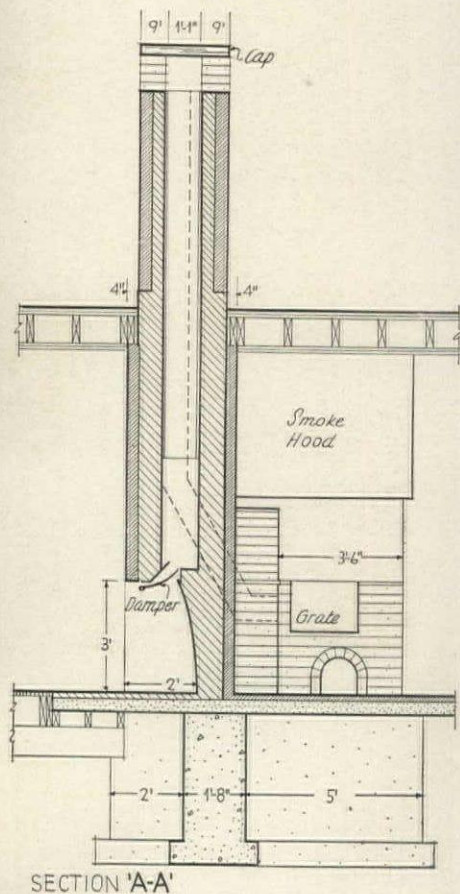
All photos, Robert M. Damora



This house was designed for winter use only, and provides accommodations for the owners and guests. Located in a setting of rice fields and thick woodland, the house has been painted black, and fits unobtrusively into its dark background. Heating is provided by means of fireplaces, which accounts for the unusual number of these units.



LIVING ROOM

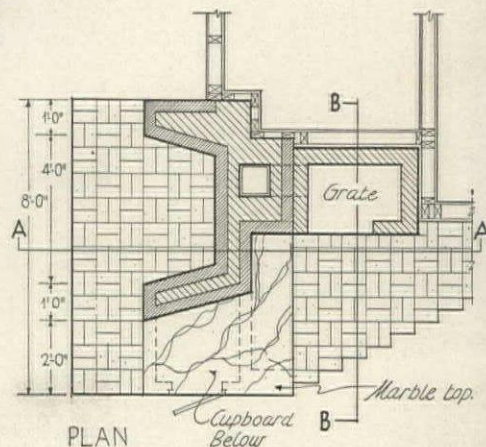


CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—cypress siding, Sisakraft Co. paper, Celotex Corp. sheathing; inside—cypress vertical boarding. Interior partitions—studs, cypress vertical boarding. Floors—oak finish flooring. **ROOF:** Covered with 5-ply built-up, Barrett Co. Deck—1 in. Celotex, Celotex Corp., canvas, Con-Ser-Tex, William L. Barrell Co., Inc. **FIREPLACE:** Damper—H. W. Covert Co. **SHEET METAL WORK:** Lead coated copper. **WINDOWS:** Sash—white pine, double hung. **FLOOR COVERINGS:** Main rooms—oak

plank. Kitchen and bathrooms—linoleum, Armstrong Cork Co. **PAINTS:** By E. I. duPont de Nemours. **ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—Bryant Electric Co. **BATHROOM EQUIPMENT:** All fixtures by American Radiator-Standard Sanitary Corp.; fittings by Speakman Co., Inc. **PLUMBING:** Soil pipes—cast iron, Hajoca Corp. and A. M. Byers Co. Hot and cold water pipes—copper, Mueller Brass Co. Pump—Kohler Co. Water heater—American Radiator-Standard Sanitary Corp.

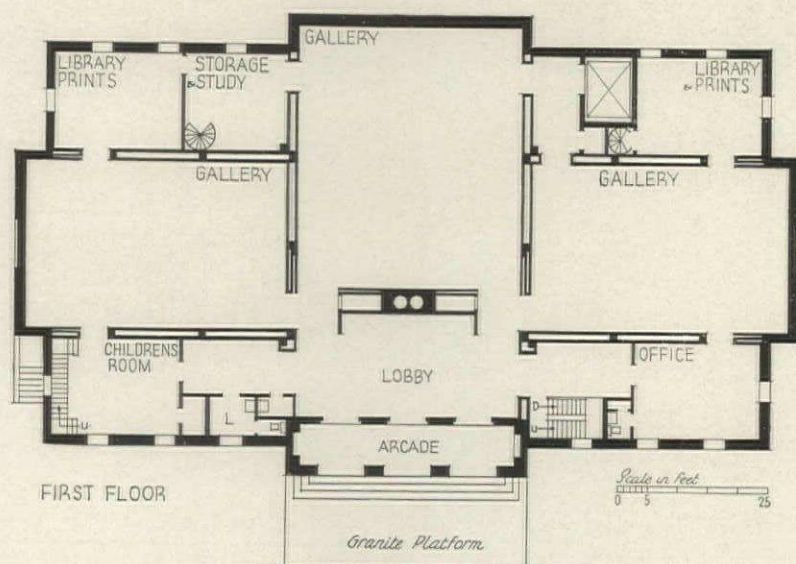
P. W. MUNNEKE, CONTRACTOR



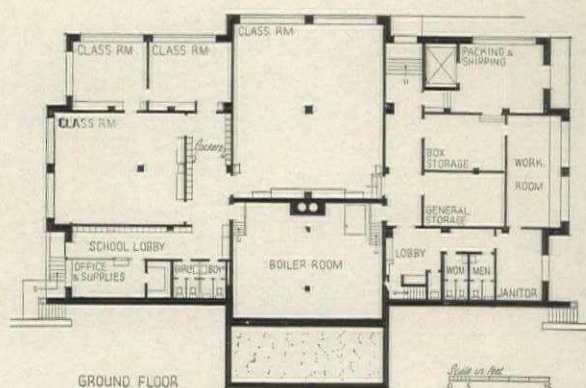
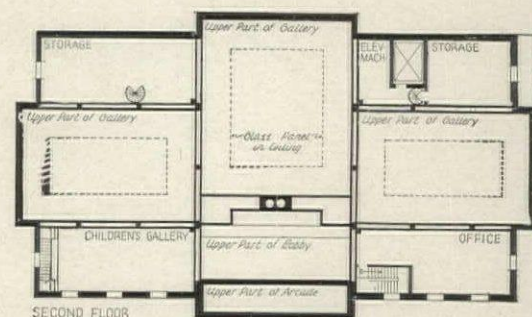
DELAWARE ART CENTER

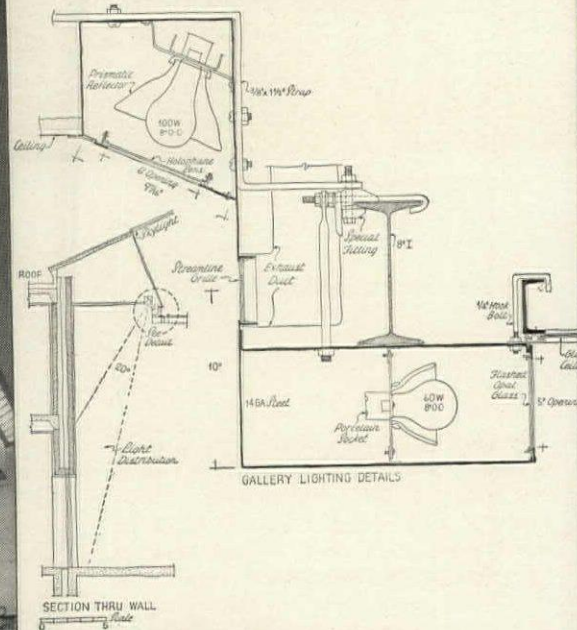
All photos, Robert M. Damora





The architects comment: "It was required that the exterior be Georgian. We tried to retain the dignity and inviting character of the style without too much waste in unnecessary embellishment. In spite of the symmetrical layout we tried to keep it flexible, with easy circulation and the possibility of varied exhibitions. At present the Wilmington Academy is temporarily located in the basement, which is above ground and well lighted. It is hoped to build a connecting building on the north for the school and to use their present studios for additional storage and study space. There is also ample room for the addition of large galleries at each end of the building if these should be required in the future."





CONSTRUCTION OUTLINE

FOUNDATION: Concrete. Waterproofing—metallic, Truscon Laboratories.

STRUCTURE: Exterior walls—brick, damp-proofed with asphalt primer and Hydroside semi-mastic, L. Sonneborn Sons, Inc. Interior partitions—hollow tile, cinder block and brick. Columns—reinforced concrete and steel. Floor construction—concrete slab. Ceilings—acoustic plaster.

ROOF: Flat decks—reinforced concrete slabs, Celotex Co. insulation covered by Barrett Co. specification roofing. Sloping roofs—lead coated copper. Skylights—Pennsylvania Wire Glass Co.

SHEET METAL WORK: Flashing—16 oz. copper, Cheney Co. Ducts—galvanized copper bearing steel plate, Bethlehem Steel Co.

INSULATION: Roof and ceiling over boiler room—Celotex, Celotex Corp. and Atoz, Neill Products Corp.

WINDOWS: Sash—white pine and Truscon Steel Co. steel. Glass—plate. Ceiling panels—Blue Ridge Glass Corp. Glass blocks—Owens-Illinois Glass Co.

STAIRS AND ELEVATORS: Spiral stairs—Logan Co. Freight elevator—Green Elevator Co.

FLOOR COVERINGS: Classrooms—asphalt tile, Thomas Moulding Floor Co. Children's room—Wood Mosaic Co. Art School—cement. Lobby—terrazzo. Remainder—linoleum, Armstrong Cork Co.

WALL COVERINGS: Gallery—plaster, U. S. Gypsum Co. Sheetrock and monk's cloth.

DOORS. By W. D. Crooks & Sons and Truscon Steel Co.

HARDWARE. By P. & F. Corbin Co., Garden City Mfg. Co., Richards-Wilcox Mfg. Co. and Victor & Shields.

PAINTS. By E. I. du Pont de Nemours Co.

ELECTRICAL INSTALLATION: Wiring system—conduit; wire by U. S. Rubber Co. Switches—Bryant Electric Co. Switchboards—Trumbull Electric Mfg. Co. Fixtures—Condi-Lite Corp. and Holophane Co. Spotlights—Century Lighting, Inc. Transformers—General Electric Co. Special Fixtures—Hatzel & Buehler Co.

PLUMBING: Hot and cold water pipes—Mueller Brass Co. Soil pipes—Hajoca Corp. and A. M. Byers Co. Toilet fixtures—Speakman Co., Inc. and American Radiator-Standard Sanitary Corp. Kitchen equipment—Parsons Co.

HEATING: Vapor vacuum system, Warren Webster & Co. Filters—American Air Filter Corp. Exhaust fans—American Blower Co. Anemostat—Anemostat Corp. of America. Radiators—National Radiator Co. Water heater—Rudd Mfg. Co. Pumps—Nash Engineering Co.

SPECIAL EQUIPMENT: Electric clocks—Warren Telechron Co. Grease trap—Josam Co. Firehoses—Wirt-Knox Co.

TURNER CONSTRUCTION CO.,
CONTRACTORS.



THE ARCHITECT'S WORLD

ARCHITECTURE FOR THE MAN IN THE STREET

By James MacQuedy

Condensed from the May, 1940 issue of *The Architectural Review* (London) in which the author continues a series on Criticism

The revolutionary phase of modern architecture is now over. It has successfully re-established the principles of efficient planning and sound structure as things which must come first, instead of being subordinated to pictorial "composition" or stylistic pedantry. But this assumption means that modern architecture can no longer claim exemption from criticism on esthetic grounds. Modernity is not enough. As at all times in the past a building must stand or fall by its superficial appearance, which in any case is all the Man in the Street has to judge by.—Editorial introduction in *The Architectural Review*.

★

A few months ago I wrote something about the *cliché** in contemporary architecture, suggesting, among other things, that although we may dislike on sight some of the rather tiresome mannerisms we observe in many architects' work, we ought to take a longer view and recognize them as an attempt—successful or not, and probably unconscious—to answer the need for a familiar idiom as the basis of architectural language; one such as we once had but were compelled temporarily to discard at the same time as we threw overboard the mumbo-jumbo of exotic poses that the connoisseur's architecture of the nineteenth century had grown into. I said that we must not be too hasty to despise certain superficial substitutes for a modern vocabulary until the latter is forthcoming from modern architecture itself, for these constitute the only non-period vocabulary so far devised. . . .

We dislike *clichés* or mannerisms only when they are a substitute for design—in the same way that we dislike verbal *clichés* when they are a substitute for thought. The *clichés* that architecture in its maturity employs, however, are the accepted language of design itself, the terms in which architecture expresses its ideas in a way that will make them clear to the Man in the Street. Of this kind of necessary *cliché* the classical column is, of course, the supreme example, together with the various standardized units that go to make up the orders. For in classical,

* I use this word in its French sense of something that is subject to limitless repetition: not in the English sense of being necessarily boring as well.

and even more in Renaissance, architecture the process of design was reduced in a remarkable degree to a matter of the handling of standard units much in the way that a modern structural engineer handles his standard sections, canons of taste taking the place of the laws of mechanics. But these units get their effect to a considerable degree by association, and in architecture of other periods the same principle is there, in a less cut-and-dried fashion. In fact architecture cannot speak clearly without it. For however eager we may be to re-establish today the visual appreciation of architecture, . . . nevertheless if we analyze the process of looking a little further we shall find that, with all the sensibility in the world, a purely visual impression has to share the stage with that which is colored by symbolism and association. . . .

The architect's . . . own search for the shorthand notation which we call a style probably derives only from his wish for an array of ready-made solutions, ready to his hand, to all the design problems he meets with. But to his public they mean something quite different. If the contemporary architect looks at the fashionable corner window as something from the box of tricks that he can employ to give personality to a building, his public values it, though unconsciously, for what it symbolizes: in this case perhaps some degree of release from the rigidity of the four solid walls within which he is usually confined, or possibly the idea of a diagonal view as a change from the boring view either down or across the street.

In the same way the motifs the architect or builder employs in the ordinary suburban house are not, in the householder's eyes, simply architectural shapes that he likes his home to be provided with. He does not look at them esthetically at all. He demands them partly because they are a social symbol, a make-believe of the middle-class world of his ambitions—the lower class always apes the upper class of a generation before—and partly because half-timbered gables, tile hanging and lattice windows suggest shelter and coziness. Similarly, when he goes on a holiday and makes a trip to see the local sights, he genuinely admires columns and pediments, but not for esthetic reasons. For him they suggest dignity and formality, and rosy brick-

work, heraldic beasts and twisted chimneys suggest romance and pageantry: qualities he likes to find in the architecture he looks at if not in that which he lives in. The difference, in fact, between the architect's and the public's view of the familiar elements of the various architectural styles, is the difference between the two conceptions I am trying to analyze: the *cliché* and the symbol.

In classical architecture the translation of design into terms of a shorthand composed of easily recognizable symbols or groups of incidents is most marked, but it occurs in all architecture—except the modern. In medieval architecture the symbolism is of a less sophisticated kind; it is less a symbolism by association and more a direct pictorial symbolism. It was on its purely physical appeal that many of the arguments of the Gothic Revivalists were based: the aspiring lines of the Gothic spire, the rich mystery of the chancel hidden behind a fretted screen, were the kind of attributes that suggested its advocacy on ethical grounds, that fitted it for its role as the answer to pagan materialism in an age that was seeking an emotional rather than a rational expression. . . .

★

It was in America, a country that always does things on a more spectacular scale than any other—whether railway smashes, pastiche architecture, natural catastrophes or racketeering—that this differentiation of style according to function was most highly developed. So much so that the symbolism almost approaches to being a form of functionalism; style is determined by purpose instead of period. The Corinthian column is associated exclusively with banking and finance. To the public eye it is the actual symbol for a bank, the label by which it is identified, and no longer a classical motif used for decorative purposes. Roman bath forms mean railway stations and that horrible invention Collegiate Gothic means educational establishments—it was devised when the founders of colleges demanded a style quite distinct from that which had been adopted by big business. . . .

We have recently become aware that the absence of any recognizable language is the handicap that principally prevents the development of modern architecture

into a mature style, because it deprives the Man in the Street of any familiar combination of motifs that he can rest his eye on. Whatever the theoretical merits of modern architecture, at the moment it simply does not offer him any suitable alternative to the Olde Worlde styles that for many years have at least offered him the solace of suggestiveness.

This point is illustrated by what has lately happened in Russia. The sudden reaction about a dozen years ago from extreme and uncompromising experimentalism was not due to any second thoughts about the Revolution, and was only partly due to disillusionment on account of technical failures. It was, as Mr. J. M. Richards observes in a recent book,

due to the uselessness of modern buildings for purposes of propaganda and prestige. To quote his words: "Architecture was required to serve as a symbol of the successful establishment of the new regime, and to the impressionable peasant, for example, paying a visit to Moscow, palatial stone buildings decked with rows of sturdy columns were more convincing evidence of the progress of the Five Year Plan than modern buildings of whatever quality, which for him had no associations with prosperity and security; nothing to make him proud of his share in them. . . ."

The problem before modern architecture in this country therefore is partly

one that time will solve: when the appearance of modern buildings has become sufficiently familiar it will be possible for them to acquire associations of all kinds. Nowadays the forms of modern architecture easily enough suggest efficiency and skillful organization; that is why the most successful modern buildings are factories, hospitals and department stores; but they less easily evoke the dignity demanded of a city hall or the coziness demanded of a country cottage. Partly it is a matter of time, but partly also modern architecture must go half way to meet its public by the development of a character that others besides the sophisticated can recognize and a kind of beauty that others besides those with trained vision can enjoy.

APPRENTICES . . . AND BUILDERS

By Harry Lorin Binsse

FORMERLY MANAGING EDITOR OF LITURGICAL ARTS

Excerpts by permission from an article in *The Commonweal* for August 2, 1940.
This followed an analysis of the apprentice system in the New York Printing trades

The number of separate unions in the building trades is staggering. In the New York area, for example, there are 68 different organized trades affiliated with the Building and Construction Trades Council; it is conceivable that on any given job all of these different trades might be involved, even though that is unlikely; the simplest dwelling will require at least a score of them. The possibility of securing the cooperation of all these trades in anything like a rationalized or uniform system of training is on the face of it somewhat remote. . . .

Some of these crafts are indeed highly skilled and so specialized that they are comparable to the printing trades in the amount of training absolutely requisite for their practice. But this is not true of all of them. There is therefore constantly available on the labor market, except in times of maximum employment in all industries, a great number of men who can be carpenters or painters or bricklayers after a fashion, and whose skill is adequate to the needs, say, of a speculative builder. Unions will not admit such workers to membership, yet their existence constitutes a constant threat to scales of pay and to working conditions, and acts as a psychological brake on any scheme for apprentice training. . . .

Finally the seasonal nature of employment in the construction industry (it is in fact sporadic rather than seasonal; modern methods have all but eliminated the winter layoff) affords one of the greatest difficulties of all. If even the largest contracting firms feel they cannot possibly guarantee permanent employment to journeymen, how can they make any such guarantee to apprentices? As a result many contractors don't want ap-

prentices at all, while others have been known to try all sorts of fancy tricks to cut down on the number of journeymen they employ and to get the bulk of their work done by apprentices at apprentices' wages. Naturally the unions will do all they possibly can to eliminate this abuse, and they have largely succeeded, but only by cutting down the number of apprentices to the vanishing point.

★

In building as in all American industry there is no uniform solution of any problem, that is uniform in the sense that it applies to all parts of the country. Some States have instituted State-controlled apprenticeship training; some municipalities have opened to the trades the facilities of the public school systems. In Washington we have the Federal Committee on Apprenticeship of the Department of Labor which acts as a source of advice and assistance to local bodies concerned with the problem. The most I can undertake, therefore, is to describe the situation in my own back-yard—the Greater New York area. . . .

The apprenticeship situation in the New York building trades is not only socially bad; it is chaotic. If such a situation existed in all departments of American industry, it would seriously threaten our future as an industrial nation.

About a year ago this summer the Joint Commission on Building Trades Apprentices of the City of New York—a group of nine men representing every major interest in the industry, banking, materials, contractors, labor, architects—determined to find out exactly and in detail what the apprenticeship situation was. The Federal Committee on Apprentices

made available the services of its Senior Field Representative, Mr. John E. Gallagher, a life-long union man who was particularly well suited to persuade the various unions to give the information required for the Commission's survey. The results of his interviews in questionnaire form were all carefully tabulated by Mr. George Brown, then of the Commission, whom I must thank for much of the material in this article. . . .

Out of 123 building trade union locals in the Greater New York area, 63 were willing to give membership figures. Their membership totaled 67,215. Out of 83 locals reporting, 29 had no apprentices whatever. The remaining 54 locals reported 2,885 apprentices, which meant one apprentice for approximately 20 journeymen in those locals that had any apprentices at all. If one prorates the number of apprentices over the total membership, including the membership of those unions that have no apprentices at all, the result is one apprentice for about every 30 journeymen. Add to all this that the declared average age of mechanic members is 42½ years, and it is obvious that the New York building trades unions are in no way providing for the next generation of mechanics.

The record of a specific union may serve to make all this clearer. The bricklayers have in Greater New York seven locals, all of which reported as one unit. Their total membership is about 9,000; the average age of mechanics, 40. In June, 1939, all seven locals reported a total of 275 apprentices, and apprenticeship in this trade is a four-year affair. The seven locals further reported that only 25 of these apprentices were in their fourth year, which gives some idea of

how many apprentices fall by the way-side in the course of their training. The union's own officials stated that, in their opinion, there should be an apprentice for every ten journeymen if the trade is to be maintained. There is in fact one apprentice for each 32 journeymen.

Just how hit-or-miss all this is can be gleaned from a few other facts elicited by the survey. The only qualifications apart from age required for apprenticeship enrollment among bricklayers is that the boy shall have taken out citizenship papers, if he is not already a citizen. The only thing the apprentice is required to do through his four years is work on jobs—no school, no examinations (compare this with the specific provisions in the printing trades union contract as to precisely what work and how much of it a boy is to do in each year of his training). After the four years of bricklaying, the only requirement for admission to the union as a journeyman is sponsorship by two other journeymen. About all one can say of this situation is that it does possess the virtue of simplicity. . . .

Anyone who has ever given any thought at all to the exquisite effects in brick produced by Spanish craftsmen through the centuries, or by such an architect as Dom Bellot in France and England and Belgium, or by such a genius as Jefferson at the University of Virginia, can begin to comprehend how high a mystery this craft can be. One could be forgiven for wondering how long the craft will continue a mystery under such an apprentice set-up as that described above. . . .

★

If there were not a single bricklayer in New York, it would be a simple matter to meet all New York's building needs with an endless variety of other materials. So, it may be asked, what does it matter whether such trades die out or not? In many of the trades it does not matter. Yet it matters a great deal if this tendency toward self-extinction exists in all or even in a majority of trades. . . .

A tendency in the building trades long since began to manifest itself. Today's speculative builder doesn't bother any more with skilled mechanics—at least he bothers as little as he possibly can. More and more he buys prefabricated materials which can be installed by unskilled labor, and he uses construction techniques which will hide the botching inevitable with unskilled labor—or at least will hide them until the house is safely sold. From the point of view of better housing, prefabrication is eminently desirable to the extent that it makes building cheaper and therefore more available to the consuming public. But if prefabrication is used as a device for eliminating skilled labor, it can only make worse the already shoddy quality of so many large scale housing enterprises. . . .

It is essential that enough apprentices be trained to supply what careful forecasts indicate as the needs of the future. There should be set up in each section a board or commission, representing all the interests involved, one of whose tasks should be to estimate this need to the best of its ability, so that if mistakes are made, at least they will be humanly unavoidable mistakes, and not mistakes arising from sheer disorder.

All apprenticeship should include some school work, and that not in the manual skills of the craft, but rather in its principles of physics and chemistry and engineering and economics; of this all those who stand to benefit directly should bear the expense. It would be unjust and unfair that such education should be paid for entirely out of public moneys.

Since it seems that the nature of construction work prevents any given employer from guaranteeing continuity of

employment, apprentices should be indentured to the trade and not to the employer, which means that for each trade there should be set up apprentice clearing houses calculated to keep apprentices evenly distributed over the work in process at any given time and to minimize apprentice layoff time.

Above all, there should in every trade be definite apprentice standards of achievement and skill.

These are a few of the primary problems that await solution; if they are not solved by private initiative, it is inevitable that government, representing the interests of society, step in; and in all probability that will deprive the unions of one of their great pillars of strength—their right to determine their own membership. That right and that strength are today threatened seriously by a hit-or-miss, ill-considered attitude toward the problems of apprenticeship.

ART IN THE PREPARATORY SCHOOLS

By Thomas M. Folds

ART DIRECTOR, THE PHILLIPS EXETER ACADEMY

Condensed from an address before the annual convention of the American Federation of Arts at San Francisco, July 11, 1940

Fortunately art instruction in the college preparatory schools is not yet included among the "examinables." For though a college entrance examination in art would undoubtedly increase the prestige of this subject in the curriculum, it would at the same time imprison it within the rigid framework of an *a priori* theory of education which would not make those allowances for adventure in learning lying at the root of all true art appreciation.

If we deny the student this adventure, most of the art we feed him is so much spinach, which he will eventually disgorge. He must be given freedom to explore problems and media that expand his own abilities and interests. In other words most of us who are teaching art in the preparatory schools believe in the old saying that what is "one man's meat is another man's poison." We assume that, although it is good for some boys to paint in oils, it is better for others to paint in water-colors, or not to paint at all, but to build, to carve, to use the camera or explore other media. Since there are many approaches to general art appreciation, we believe it is our responsibility, no matter how exasperating this may prove at times, to help each student follow that approach which develops his own natural ability.

One way of doing this is to combine activities in many different media within the walls of a single studio. If you were to poke your head into the average preparatory school workshop, you would probably see many different projects in sculpture, drawing, painting, display technique, and architecture carried on side

by side—some of them individual projects, others collaborative efforts. The main value in such a program lies in the informal learning it encourages. For each boy is curious about the other fellow's problems; and one of the art instructor's tasks is to stimulate this curiosity without resorting to the formalized lecture pattern which most colleges must put up with. In this way the young architect gradually learns something about painting; the painter learns about architecture; and both learn about sculpture, or industrial design, or even the comparatively restricted fields of mapmaking and exhibition technique.

Now, up to a certain point this method of teaching is similar to that developed by the progressive schools. And we freely acknowledge our debt to their pioneering work. At the same time, however, we are aware of certain weaknesses in this type of teaching, of its tendency, for example, to rob creative activity of discipline by offering the student too much freedom. Well, we have no intention of extracting discipline from studio activity. We have no intention of using art as an aspirin tablet for curricular headaches, as a cure for regimented teaching in other subjects. But if the framework of our teaching is flexible, if it makes those necessary allowances for individual aptitudes and interests, there is no reason why it cannot offer *both* freedom and discipline.

★

Perhaps the kind of discipline needed most today is the discipline of *cooperative*

constructive thinking, which we sometimes lose sight of in our enthusiasm for encouraging individual talent. "Rugged" individualism has been corroding democracies for a good many years. Certainly it has not husbanded natural resources or created beautiful communities; above all it has not promoted that group enthusiasm for community ideals which is the backbone of any healthy culture.



One way to develop such group enthusiasm, such cooperative constructive thinking, is through education in community planning. But where in the secondary school field can you find evidences of such activity? Very few courses in art, civics, social studies or history include it in their programs. Yet there are certain rudimentary studies in community planning which are quite as necessary for the development of sound citizenship today as the elementary principles of law and economics which we customarily include in the high school education of every American boy and girl.

How can this be done? Obviously not by tacking a one-year art course onto the fringe of the curriculum and offering it to a small number of gifted or maladjusted students. Art is a complex language which can be learned only over a period of many years. Logically it should be a continuous training ranging from kindergarten up through the secondary school into the college, changing in content as the child or adolescent changes, growing with him until it becomes an integral part of his mental habits, his whole conception of life. And if art is a language—a universal language, then why should it be restricted to only a few privileged people? Why should it not become a basic prop in the framework of every child's and adolescent's education?



In a democracy communities are not built by the privileged few but by the people as a whole; and when better communities are built, the people will build them. Without their group enthusiasm for better planning and building, without their tolerance of new forms and their general art appreciation, city planners and architects must file away their drawings and blueprints in despair. For we no longer live in the comparatively simple communities of the seventeenth and eighteenth centuries, which reflected the harmonious thinking and will-to-style of the people themselves, rich and poor alike. The early American community was the product of a single living tradition in design, from the mills by its river to the town common, the church and the homes. It had not yet been flooded by great backwashes of stylistic clichés handed down from cultures long dead. And for this reason the teaching of art or the study of community planning was not needed in the early American school: the

town itself was a work of art and a daily lesson in color, texture, and form to every one of its inhabitants.

The art course today is a modern invention designed to answer modern needs. And one of the greatest modern needs is the generation of real art appreciation among the masses. Stimulating interest in community planning must be our next move. Teaching boys and girls how to dabble in paint or plasticene is only a small part of the program. If the school is going to develop good American citizenship, then it must reorganize its art and history courses to include the study of people—how they live and how they build. What meaning has a course in American history if it overlooks the character of the early Yankee community or of its formal contemporary in the old South? Here are the visible symbols of those much misunderstood words "freedom" and "liberty." What meaning had they then, and what meaning have they now? The textbooks young people read ignore this aspect of history. They tell of beautiful Washington, but not of its obsolete Baroque military plan which stubbornly resists a century's industrial expansion. They tell of Boston, breeder of revolution and early American patriotism, but not of Boston clinging pitifully today to its past, laced tight in old corsets, chopped into narrow, tortuous streets and infected with malignant slums. Here is the history of degeneration in esthetic conviction and civic pride—the result of a hundred years of rugged individualism run berserk. Why have the history books overlooked all this?

The same question might be asked of our art teaching. Too often it is limited to only three or four fields, particularly those of the pictorial and plastic arts. Yet there is always a certain number of students whose talents lie along the lines of planning and building; and it is important that the curriculum develop these talents. Fortunately this is being done to a certain extent in many of the eastern preparatory schools. A year ago, for example, a small group of boys in one school made a two-year study of architecture and city planning, pooling the information they had gathered in a series of three-dimensional wall displays, then finally designing and building a scale model of a hypothetical modern American community which included stores, school, parks, community center and housing units for varying income groups. Boys specializing in exhibition technique designed the wall displays; those primarily interested in painting worked on murals for the community center, and fledgling sculptors designed reliefs for the entrance to the school. In this way the study of community planning became the focal point of a considerable variety of different creative activities as well as an extension of the school's history courses. It marked the beginning of a new approach to secondary school education.

If we are going to prepare young people to recognize the importance of the arts in modern life and to participate intelligently in the planning and building of their physical environments, then projects of this kind must be extended throughout all levels of the secondary school, woven into the fabric of both art and history teaching. And though there is no one way to do this, because individuals, schools and local traditions differ from one another, yet I believe that the stimulation of cooperative constructive thinking in the field of the arts, which form the stuff of our visual and physical environment, should be an important part of every school's program. For this kind of teaching lays the groundwork of democratic culture.

THEY SAY—

"It is easy to become interested in and ready to buy a motor car that costs \$750 but looks to be worth \$1,500; it is difficult to become interested in and ready to buy for \$5,000 a new house which looks to be worth only \$2,500."—GEORGE F. LINDSAY.

"In 1929 materials were as rich and costly as the purse could buy, and the purse was overflowing. . . . In 1940 designers have striven to replace the distinction of perfect lines and the luster of rich materials with the impact of a new idea or the drama of light and color."—ARTHUR LOOMIS HARMON, writing of the Metropolitan Museum's exhibition of Contemporary American Industrial Art.

On the occasion of the presentation of Building Congress Certificates of Superior Craftsmanship to mechanics who helped build the new Aetna Life Building, New York: "Twenty-five per cent of this type of building is done by mechanics in the mechanical and electrical trades, the major portion of their work being concealed from the public view. The 25 per cent of the building cost that applies to mechanical and electrical equipment is to me not merely a quarter of the cost; it is the essential quarter."—CLYDE R. PLACE.

"First place for personality of the year goes to Frank 'Get-away-from-it-all' Lloyd Wright, who got away with it so successfully at the R.I.B.A. The impressive appearance of this almost legendary prophet, his soft, dawdling voice, his obvious sincerity and easy charm captivated his audience and achieved without effort the surrender of the *avant garde*. Not till long afterwards was the question asked: 'What really was the preacher's message?' Was it really no more than fragments well phrased but disconnected, a few wisecracks, and some colored films? No matter. He had brought for a few weeks Romance into our lives, and for a time A.R.P. was forgotten."—*The Architects' Journal*, London.

THE DIARY

Henry J. Saylor

Wednesday, July 17.—Having noted last month only the bare fact that the Albert Kahn office was putting into effect a profit-sharing plan, Mr. Kahn now tells me some of the details. Some 25 key men will share in the profits and be put in a better position to carry on the practice after the retirement or death of the principals. To this end a new corporation has been organized, and the key men who have served for from 15 to 35 years will be stockholders. Two classes of stock will be issued: 10,000 shares of A, held by Albert and Louis Kahn who provide the paid-in capital, and 2,500 shares of B which will be given the key employees. These holders of B stock are to receive, of the profits, a dividend of \$8 per share before any dividend is paid the A stockholders. In the event of the retirement or death of the principals, the capital is to remain for a period of eight years thereafter. In that period the B stockholders will replace out of earnings the capital invested and will own all but a very small portion of the stock.

As Mr. Kahn points out, the plan assures a continuation of the organization and secures the future of the men who helped to bring about its success. It also provides for inviting others into the organization, men who may prove themselves of special worth. Moreover, other details of the plan indicate that it is designed not only to increase the privileges and security of the key men but also their present and future responsibilities.

★

Friday, July 19.—While a large part of the world is wondering what form civilization will take tomorrow, Tulane University is unearthing civilizations of the past in the little known artifacts of the Mayans. At Campana San Andres in western El Salvador, Tulane's research expedition has found the remains of one of the most important southern Mayan outposts. In five years an interesting ancient city will have been uncovered, if the schedule is not interrupted. Meanwhile some cities elsewhere in the world, now above ground, may have been returned to the dust.

Monday, July 22.—Karl Billner, who built the first concrete bridges in Oregon, and who invented both aerocrete and the vacuum process of hastening concrete setting, is out with a new scheme. He substitutes reinforced ice for the usual form work

in arch construction—puts up an assembly of pipes, pumps refrigerant through them and sprays water on to form ice around the pipe reinforcement. Sounds pretty good, particularly in these dog-days.

Wednesday, July 24.—This whole defense job of ours, as Alfred Rheinstein pointed out today, is essentially a matter of timing along a great assembly line. Starting at the end, instead of the beginning, our product is, let us say, a man in an airplane dropping a bomb upon an enemy vessel at sea. The line leading back from that product attains almost infinite complexity. Not only have the munitions, plane and trained man been brought together at the right time and place, but housing has had to be provided for skilled artisans who made the plane's instruments, factories have had to be expanded to produce the duralinum, railroad facilities have had to be enlarged to bring young men to the training fields and thence to the air bases. The ramifications are almost beyond listing, yet each contribution has its own place in the process, its own time to appear. Viewed as an assembly line job, it appears more clearly within the realm of the possible. Master expeditors are the first need—they and their schedules.

★

Wednesday, July 31.—Harry Anderson, who knows everything there is to be known about what is going on in the world of furniture and interior decoration, gave me an imperative 'phone call today. I was summoned to see a new sort of furniture—possibly revolutionary—which had been designed by Eliel Saarinen, Robert Swanson and R. Ratili. We had several illustrations of it in August FORUM, page 12, but there's a lot more to the story than the short caption could give. When one enters a furniture store he is asked whether he would see bedroom, dining room or living room "suites." This new product doesn't fit into that scheme of selling at all, for with the exception of beds and dining table, the various pieces are for use in any room. The designers have dug up the old unit idea—buried some years ago after the furniture trade had treated it as just another seasonal "style." Whether your need is for a bureau, a sideboard or a library print case, the net of it is a chest of drawers. A table is a table; a straight chair is at home in bedroom, dining room or hall. If the

functional and esthetic needs are met in the simplest manner, if the machine craftsmanship is faultless and the materials quiet and durable, without shouting for attention, the resulting furniture should be at home in any environment which hasn't gone all-out period. Add the factors of low cost, and size standardization for the combination of units; take a tip from the kitchen cabinet trade and make units in lengths that can be put together to fill exactly any length of wall; design so as to outwit the baseboard's traditional job of keeping wall cases away from the wall; make it possible for the buyer to match and extend what he has bought, whether next year or next decade. Do all these things that Saarinen, Swanson and Ratili have done or are contemplating, and you have what seems to me to be the first rational furniture idea that has happened along in some time.

★

Friday, August 2.—I suppose the landlord has always had and will continue to have his full share of trouble. Possibly in his corporate form, directing a low cost housing project, he felt that Utopia had been achieved and his tenants hereafter would continuously glow with pleasure over being alive and so ideally housed. It was a brief dream. The tenants' association looms up to assure the landlord that of real troubles he ain't seen nuthin' yet. Knickerbocker Village in Manhattan was a limited dividend project built with the aid of an RFC loan. It has a tenants' association whose aims are to prevent rent increases, to seek better services, to acquire more privileges, and to build up a community spirit. To some of the tenants recently came a formal notice that their leases, soon to expire, would not be renewed. Into the courts goes the argument. The landlord claims the prerogative under the law of renewing or declining to renew leases. The tenants claim that the project is a public utility, built with public money, and that the final authority for granting leases and renewals is vested in the State Housing Commissioner. Not only the 1,600 families of Knickerbocker Village, but tenants and housers generally will await the answer as to when is a landlord not a landlord.

Tuesday, August 6.—George F. Diehl of Detroit reminds us that 40 States are now operating under registration laws for architects. To this group should also be

added the District of Columbia, Alaska, Hawaii, the Philippine Islands and Puerto Rico. The States still in the process of making registration laws or contemplating that possibility for themselves are Kansas, Maine, Massachusetts, Missouri, Nevada, New Hampshire, Vermont and Wyoming.

★

Thursday, August 8.—Motored up over some of the comparatively new motor parkways reaching into New England. The men who do the parkway building have learned well the needs brought by increasing speed, in longer radius curves, judicious banking and the separation of traffic lines by planting. One thing I am afraid they have not learned—or perhaps it is not their job—is bridge design. The Merritt Parkway collection of bridges carrying overhead crossings is certainly the worst I have seen. Simplicity in an overhead bridge on a parkway is certainly the number one requisite. In this particular series over the Merritt Parkway, the designers seem to have the run the whole gamut of involved and meaningless convolutions of concrete. Apparently they just could not make their pencils behave.

Williamstown, Mass., Friday, August 9.—Today I met my first doubt as to the superiority of the motor parkway. It brings unquestioned comfort in uninterrupted movement and in relief from traffic tensions. It is a grand way to get somewhere quickly and comfortably, but it exacts a new sort of toll—it cuts off from the motorist the real character and flavor of the countryside. Rolling over the Hutchinson River Parkway, in Westchester County of New York, the Grand Central Parkway on Long Island, the Mount Vernon Memorial Highway in Virginia, one would find them almost indistinguishable one from another. Good paving, easy curves, big trees, clipped grass and massed shrubbery—these are the elements of a motor parkway, whether in Ohio or Minnesota. The slow driver might know the shrubbery of the Carolinas from that of Michigan, but for most of us even that would be too subtle a difference to detect at 40 m.p.h.

One reason for my driving up through Connecticut was to savor once again the stone walls, the shady lanes, the distinctive architecture of that State. I saw none of these things from a motor parkway. All it did for me was to conduct me rapidly, comfortably and blindfoldedly through miles of a country that has a lovable personality out beyond and behind that parkway planting. Here's your hat; what's your hurry?

The motor parkway is a grand achievement but it is not the whole answer. If New England ever should achieve a continuous series of them, the chief reason for motoring through New England would have vanished.

Brattleboro, Vt., Saturday, August 10.—This expedition into New England seems to have turned out to be a quest of simplicity. The run of the mine architecture that one sees today in city and in country flaunts a sort of sophisticated elaboration. Perhaps its great fault is a lack of simplicity. Roadside stands, tourist cabin groups, suburban residential developments leave upon the motorist's mental film a kaleidoscopic dazzle of irrelevant detail. The one thing that brings one up short—too often at the expense of a bump from the rear—is the simple old barn or farmstead that has by some miracle escaped the additions of the present era. Perhaps the speed of motor travel leaves no opportunity for other things to register. To the quick glance the ultimate in simplicity is the only picture that comes into sharp focus out of the continuous blur. I am gaining a vastly increased respect for the old barn.

★

Monday, August 12.—David Lynn's annual report as Architect of the Capitol, to the President, contains as usual some interesting items, such as: every fall the Capitol and usually also the Senate and House Office Buildings are washed down by the fire department of the District of Columbia—a custom that has held for many years; the statue of Will Rogers by Jo Davidson has been added to Statuary Hall by the State of Oklahoma; the statue surmounting the dome of the Capitol known as the "Statue of Freedom" was designed by Thomas Crawford, the father of F. Marion Crawford, the novelist, and the sculptor died before the plaster model was shipped from his studio in Paris. Through the generosity of Archer M. Huntington the Library of Congress has been given the Hispanic Room, which was designed by Paul Cret and built by the Architect of the Capitol acting as contracting officer for the project.

Wednesday, August 14.—I must confess that the announcement of Alvar Aalto's appointment to M.I.T.'s faculty seemed to me not wholly good news. Here is a man chosen by his own country to direct the rebuilding of homes for 500,000 Finns, the creation of twelve entirely new cities and the building or reconstruction of 40 or 50 hospitals. Before he can sail back to tackle this staggering job we grab him off to teach our own architects of the next generation. It didn't seem cricket. The announcement, moreover, brought from the profession a new outbreak of remarks as to "hiring another foreign architect to teach American architecture." No further comment is available from M.I.T., but a little prying, the digging up of a related fact here and there, coupled with some understanding of Aalto's conception of his job for Finland, puts together a picture puzzle unlike what a random piece or two had suggested. This picture, as it

looks to me, shows Aalto more rather than less concerned about rebuilding Finland. Two thirds of his time will probably be spent over there, one third here. At M.I.T. I can see him involved chiefly in research—how to get better buildings more quickly and more economically—all of which is the essence of his own country's reconstruction needs. Some months before the appointment was made, Aalto sketched for me his hope that out of America would rally about him a group of young men fired with the opportunity of rebuilding a devastated land—"career architects," who, without prospect of material reward, would jump at such a chance. I thought I could assure him that his crusade would be oversubscribed in man power before the news of it got well started. This liaison with Tech suggests that an American base for the holy war is already established; that an interflow of picked research students will soon be under way between Finland and the U. S.; and that Alvar Aalto, far from retiring to a professor's easy chair, is girding up all available forces to build anew his own country and perhaps more of the world. All of which is a personal view of what lies behind the news; if it be untrue, blame me.

★

Thursday, August 15.—I suppose the day of the great country house will return. It always has. Nevertheless, from the myopic viewpoint of the present, the great mansions seem definitely on the way out. To look for a moment only at Long Island: The Otto Kahn chateau at Huntington, no longer desired by the family after the banker's death, has been bandied about by lawyers, New York's white wings, town tax officials, and is at the moment said to be platted for a small residential development, with the likelihood that the hundred-room chateau itself will have to be razed. Destruction is also rumored for Colonel Henry H. Rogers' famous "Port of Missing Men," the palatial beach house at Southampton. Mrs. Graham Fair Vanderbilt's estate of 115 acres at Manhasset has passed into the hands of the subdividers. Clarence Mackay's Roslyn estate is at the moment awaiting a buyer. Up in Westchester County the magnificent house and gardens of the late Samuel Untermyer were offered by the estate to the city of Yonkers, refused by reason of the cost of maintenance, and put on the auction block. The responsibilities and financial burden of a great country estate would seem to have the present generation completely cowed. Their tastes, whether by reason of a cyclical development or the present picture of the world, are conspicuously simple. So, it will be recalled were those of Marie Antoinette, momentarily rebelling at the excesses of Louis XVI's court. Great houses, however, continued to be built thereafter, and doubtless will be built in a not distant tomorrow.

HOUSES

HOUSE IN REDDING, CONN.

HENRY N. WRIGHT, DESIGNER. HORNPOSTEL & BENNETT, ASSOCIATES

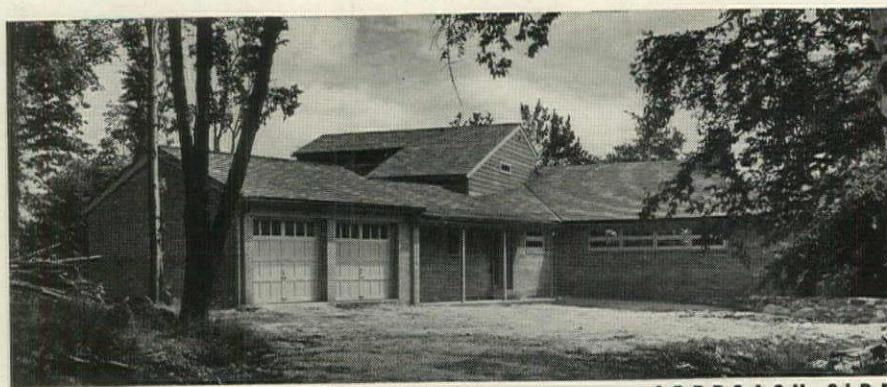
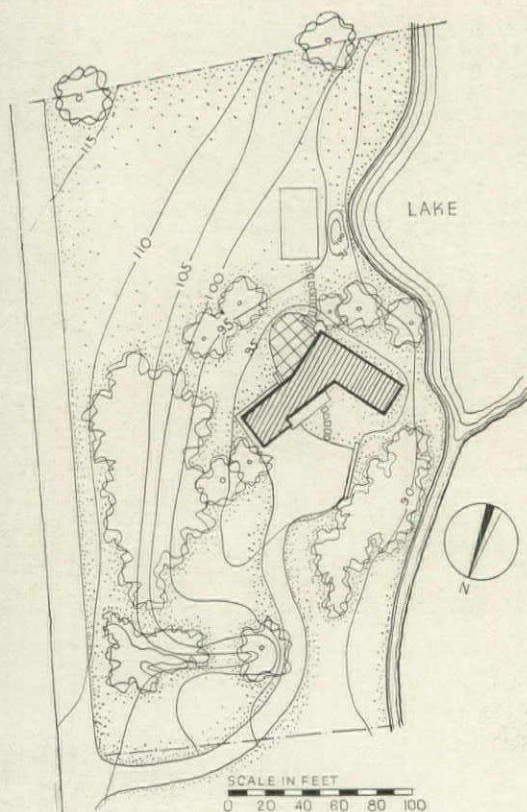


HOUSE IN REDDING, CONN.



All photos, Samuel H. Gottsche

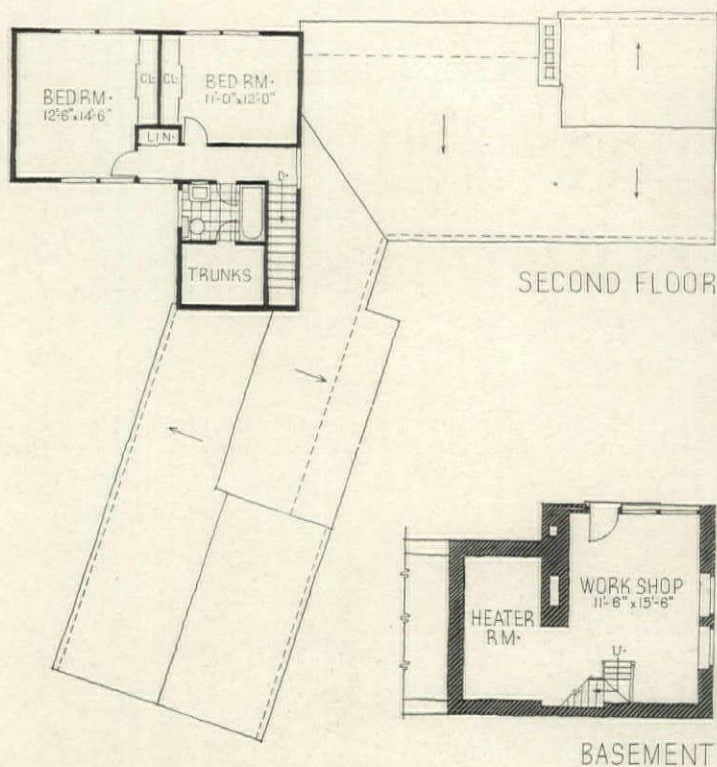
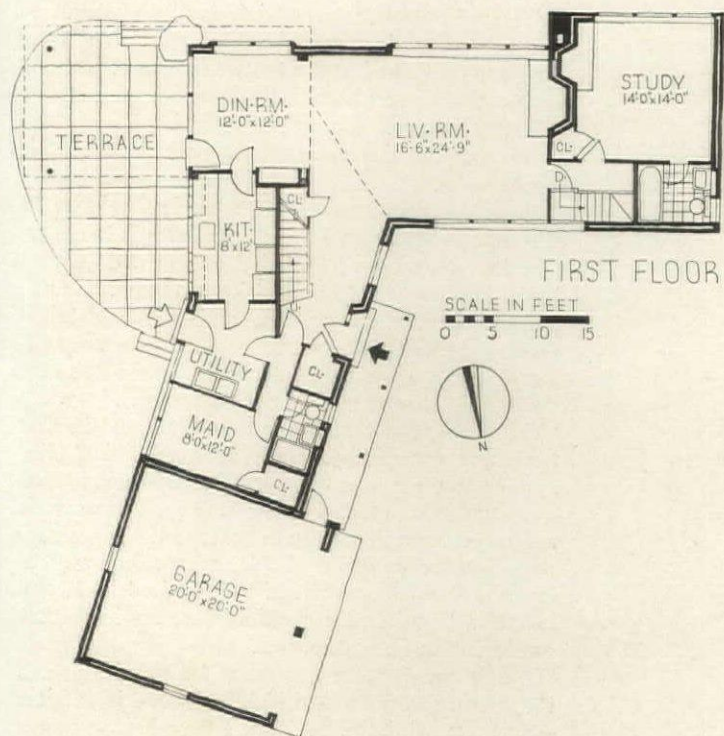
LAKE SIDE



APPROACH SIDE

The designer comments:

"The design of the house was determined largely by the advantages and disadvantages of the site. For once, the best view and the most favorable orientation happened to coincide. The plot faced a lake on the south; outlook in other directions, while pleasant, did not compare with the view of the lake. All of the major rooms, without exception, were therefore assigned to this side of the house. On the other hand, the area suitable for building was limited to a rocky knoll, accessible only from the west. It would have been next to impossible to have placed the garage in any position other than that chosen; more important, it was considered essential that the kitchen and dining space be at the east end of the house, so as to receive



year-round morning sunshine. This, coupled with the factors already mentioned, fixed the location of the balance of the rooms. In the process, what started out as a one-story plan necessarily sprouted a second floor, since this seemed the only way to provide the required space and desired circulation.

"Client and designer were both convinced modernists, but neither was convinced that real modernism consisted in draping an old-fashioned plan in a cubistic exterior. Rather, the effort was to

achieve a workable, open plan—open in the vertical dimension as well as the horizontal. With this as the objective, sloping roofs were found a help rather than a hindrance; consequently they became an essential part of the scheme. Finally, the owner's desire to demonstrate the practicability of brick cavity walls and to experiment with radiant heating had much to do with the solution—the former by determining the character of the exterior, and the latter by permitting construction directly on the ground."

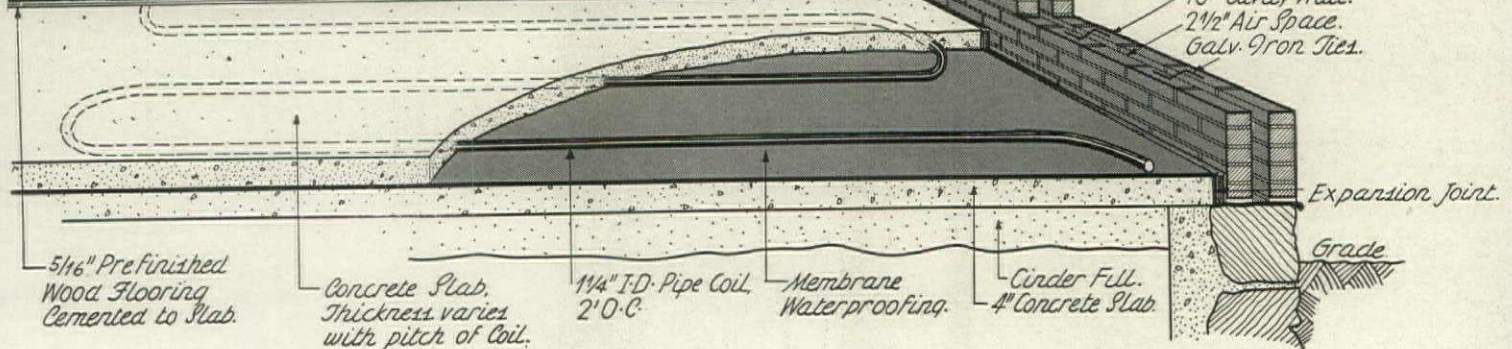
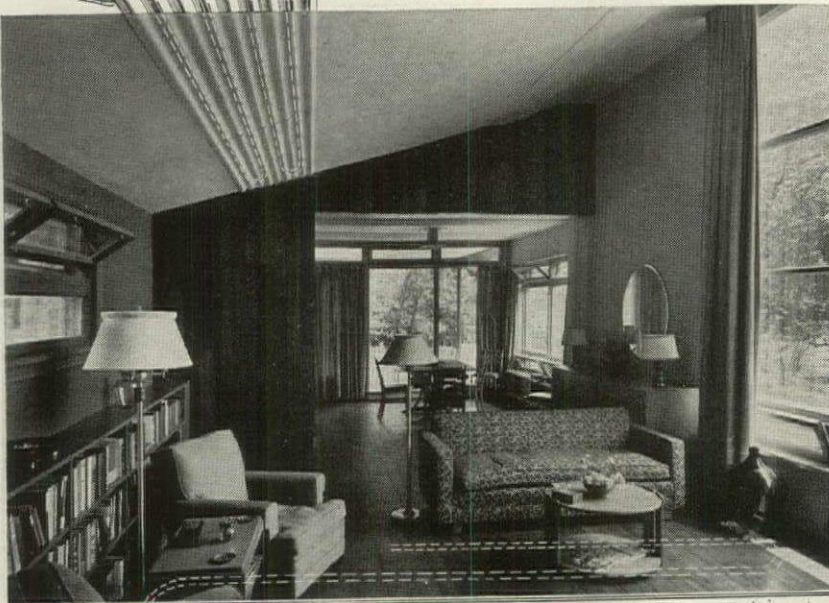
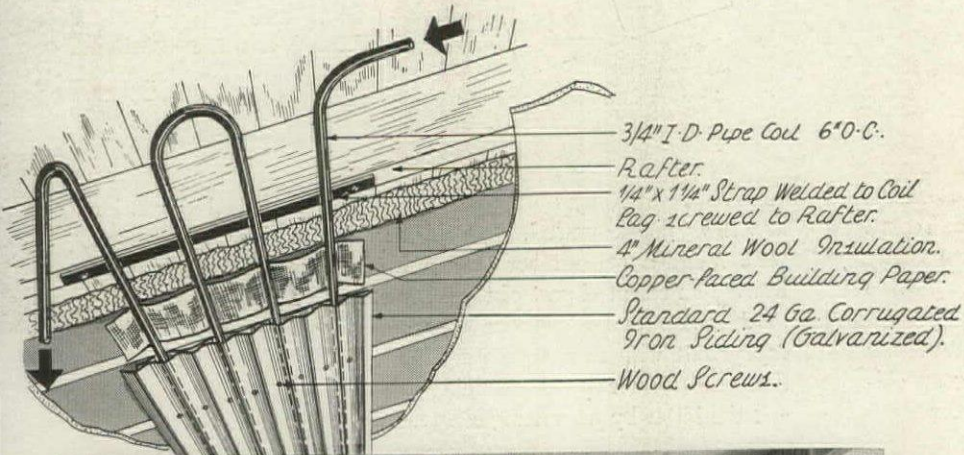
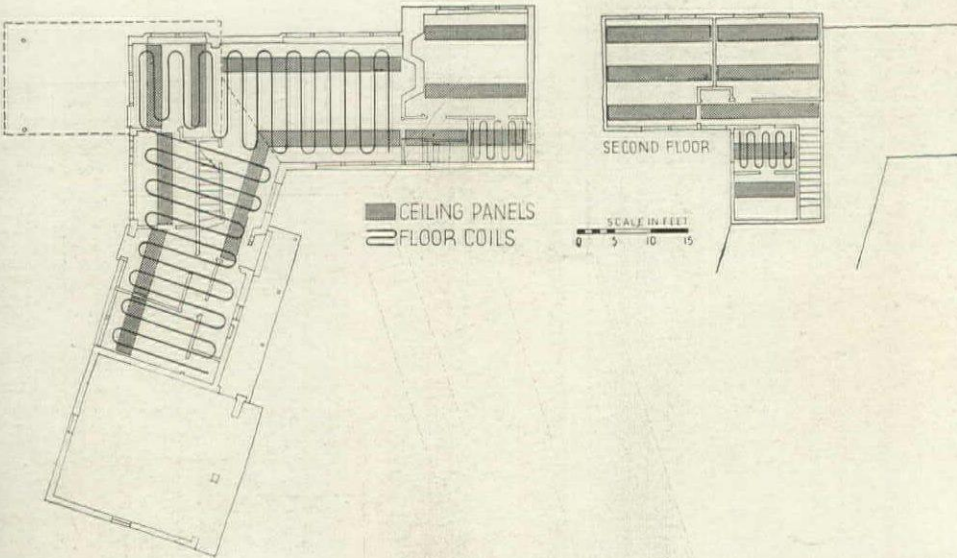
LIVING ROOM



TERRACE



HOUSE IN REDDING, CONN.



RADIANT HEATING

"Our experience with the heating system is an Odyssey in itself. Every conceivable obstruction was encountered: No contractor could be discovered willing to undertake the work at a reasonable figure; the bank reduced its loan by an amount sufficient to cover the cost of replacing the system; there was no guarantee that, once installed, it would work.

"Credit for surmounting these barriers belongs to the engineer-owner, who finally undertook to supervise the work himself. Carried out on a day labor basis, costs were as low if not lower than for a comparable convection system, and—while detailed performance data are yet to be obtained—the ability of the system to heat the house in sub-zero weather is already amply demonstrated.

"The arrangement of the system is unique in that both floor and ceiling surfaces are used. This "split" system is the result of a number of complicated considerations. Floor heating was used because it assured a warm floor despite basementless construction, because it was a simple, economical way to introduce about one-half of the required heat, and in order to minimize stratification, an important consideration in high rooms.

"Ceiling panels were necessary for the study and the second floor rooms—which had wood joist floors—and seemed desirable for the floor-heated rooms to help to provide enough heat without overheating the floor, and to permit room-by-room control and speed-up the response of the system to sudden demands for heat. Finally, small floor coils were provided for the bathrooms with wood joist floors, because we thought it would be nice to have warm floors in these rooms.

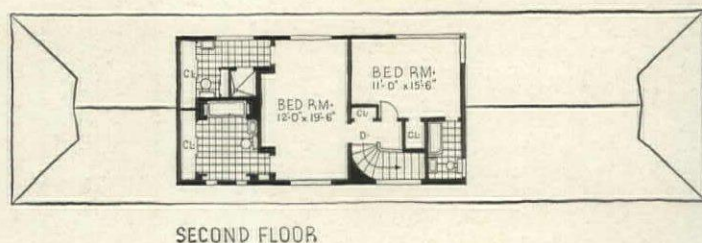
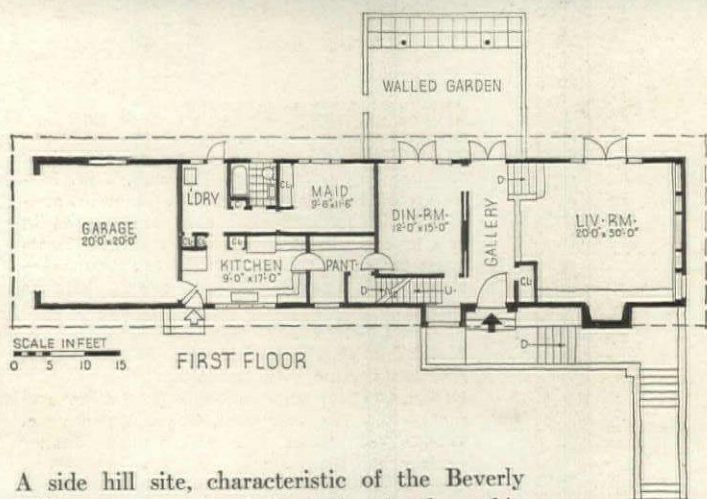
"The main floor coil presented no great problem. It is simply a sinuous pipe coil about 500 ft. long buried in a concrete slab which also acts as protection for the membrane waterproofing over the structural slab. To provide some leeway for expansion, sand was poured around the bottom of the pipe and at the bends before placing the slab.

"The ceiling panels were somewhat more difficult. Metal was used in order to reduce the necessary size by permitting a 180° panel temperature if necessary. Corrugated iron siding, galvanized and painted to match the ceilings, proved ideal. It fits snugly over 2, 3, or 4 pipe coils, the regular 2 ft. width thus providing similar panels of varying capacity.

"The balance of the system is identical with any forced circulation hot water plant. An oil burning boiler controlled by an aquastat furnishes water which is pumped first through the ceiling panels and then through the floor coil. Temperature control is by a standard thermostat, usually set at about 65° F., attached to the circulating pump."



Stuart O'Brien Photos



A side hill site, characteristic of the Beverly Hills country, pointed the logic of a long thin plan for the house of another of the many artists who have deserted New York for the Pacific Coast. In the photographs there is abundant evidence of Mr. Frankl's instinctive feeling for the part that furniture and interior decoration can play as complementary factors in gracious living. The entrance gallery, looking down into the living room, the vista through the house into the walled garden, the doubling of baths and dressing rooms adjoining the owners' bedroom, these are distinctive features of an unusual plan. The three photographs at left of the opposite page—top of entrance steps, grilled window at the foot of the stairway, and the trellis-roofed wall garden recall a Japanese utilization of intricate shadow silhouettes. Cost \$12,940.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls— $\frac{7}{8}$ in. cement plaster on galvanized iron hog wire, backed with waterproof felt and 16 gauge wire 12 in. on center horizontally, 2x6 in. Douglas Fir studs, 16 in. on center, $\frac{3}{4}$ in. hardwall plaster on wood lath. Floors— $\frac{1}{2}$ in. white oak on 1x6 in. diagonal subfloor. **ROOF:** Covered with 5 in 2 perfect red cedar shingles.

SHEET METAL WORK: Flashing, gutters and leaders—26 gauge galvanized iron.

WINDOWS: Sash—heavy steel casements, Soule Steel Co. Glass—Quality B, single and double strength, "Factrolite," Libbey-Owens-Ford Glass Co. Screens—Fixed flat metal frame.

FLOOR COVERINGS: Living room and bedrooms—oak. Halls—12x12 in. red tile, Gladding McBean Co. Kitchen and bathrooms—linoleum, Armstrong Cork Co.

PAINTING: Interior walls and ceilings—lead and oil. Floor—stain, fill and wax. Exterior walls—brushcoat. Roof—stain.

ELECTRICAL INSTALLATION: Wiring system—rigid conduit. Switches—H & H, Arrow-Hart and Hegeman Electric Co. Fixtures—Generally recessed flush ceiling and soffit lights.

KITCHEN EQUIPMENT: Range—gas. Refrigerator—electric. Sink—American Radiator-Standard Sanitary Mfg. Corp. Fan—Pryne and Co.

BATHROOM EQUIPMENT: All fixtures—American Radiator - Standard Sanitary Mfg. Corp. Seat—C. F. Church Mfg. Co.

PLUMBING: Cold and hot water pipes—Galvanized wrought iron.

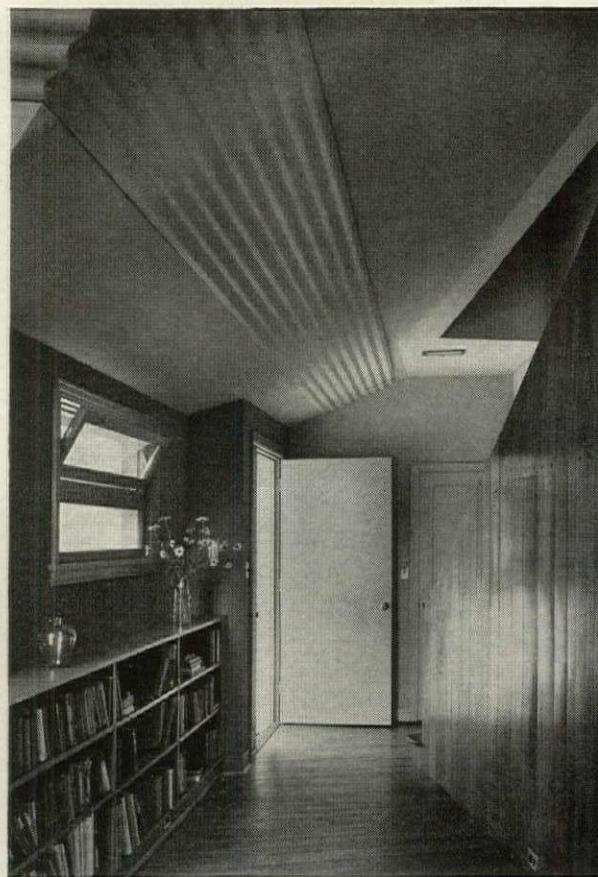
HEATING AND AIR CONDITIONING: Gas fired warm air system, booster fans with electric control—Hayes Furnace Co. Water heater—"General Trojan," General Electric Co.



LIVING ROOM



HENRY N. WRIGHT, DESIGNER
HORNBOSTEL & BENNETT, ASSOCIATES



ENTRANCE HALL

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—Hudson River common brick, 10 in. cavity wall, 1 in. furring, rock lath and plaster. Floors—8 in. concrete laid on cinderfill; concrete poured in two layers with 1 oz. copper armored Sisal-kraft between. Ceiling (study and terrace)—Homasote, Agasote Millboard Co., balance plaster.

ROOF: Covered with asbestos shingles.

SHEET METAL WORK: All 16 oz. copper, Anaconda, American Brass Co.

INSULATION: Outside walls (2nd story and roof)—Red Top rockwool, U. S. Gypsum Co.

WINDOWS: Fixed with double glass. Sash—horizontal ventilators, Whitco hardware, Vincent Whitney Co. Glass—double strength and plate, Pittsburgh Plate Glass Co. Glass blocks—Owens-Illinois Glass Co.

FLOOR COVERINGS: Main rooms—5/16 in. oak, Wood Mosaic Co. Kitchen—asphalt tile, Dahlander Floor Co. Bathrooms—Linotile and linoleum, Armstrong Cork Co.; rubber flooring, Voorhees Rubber Co.

WALL COVERINGS: Plaster and 5/16 in. teak planks, Wood Mosaic Co. Study—pine. Bathrooms—sheet rubber, Voorhees Rubber Co.

HARDWARE: By Schlage Hardware Co.

KITCHEN EQUIPMENT: Range and refrigerator—General Electric Co. Cabinets—William Henderson Kitchen Cabinet Co.

BATHROOM EQUIPMENT: Toilet—W. A. Case & Son Mfg. Co.; remainder—Kohler Co. Cabinets—Maryland Metal Bx Co.

PLUMBING: Hot and cold water pipes—copper tubing.

HEATING: Radiant panel heating, black iron pipe coils in floor and ceiling. Boiler—American Radiator Co. Valves—Crane Co. Water heater—Taco Heaters, Inc.

DOUGLAS HONNOLD
ASSOCIATED ARCHITECT



GALLERY

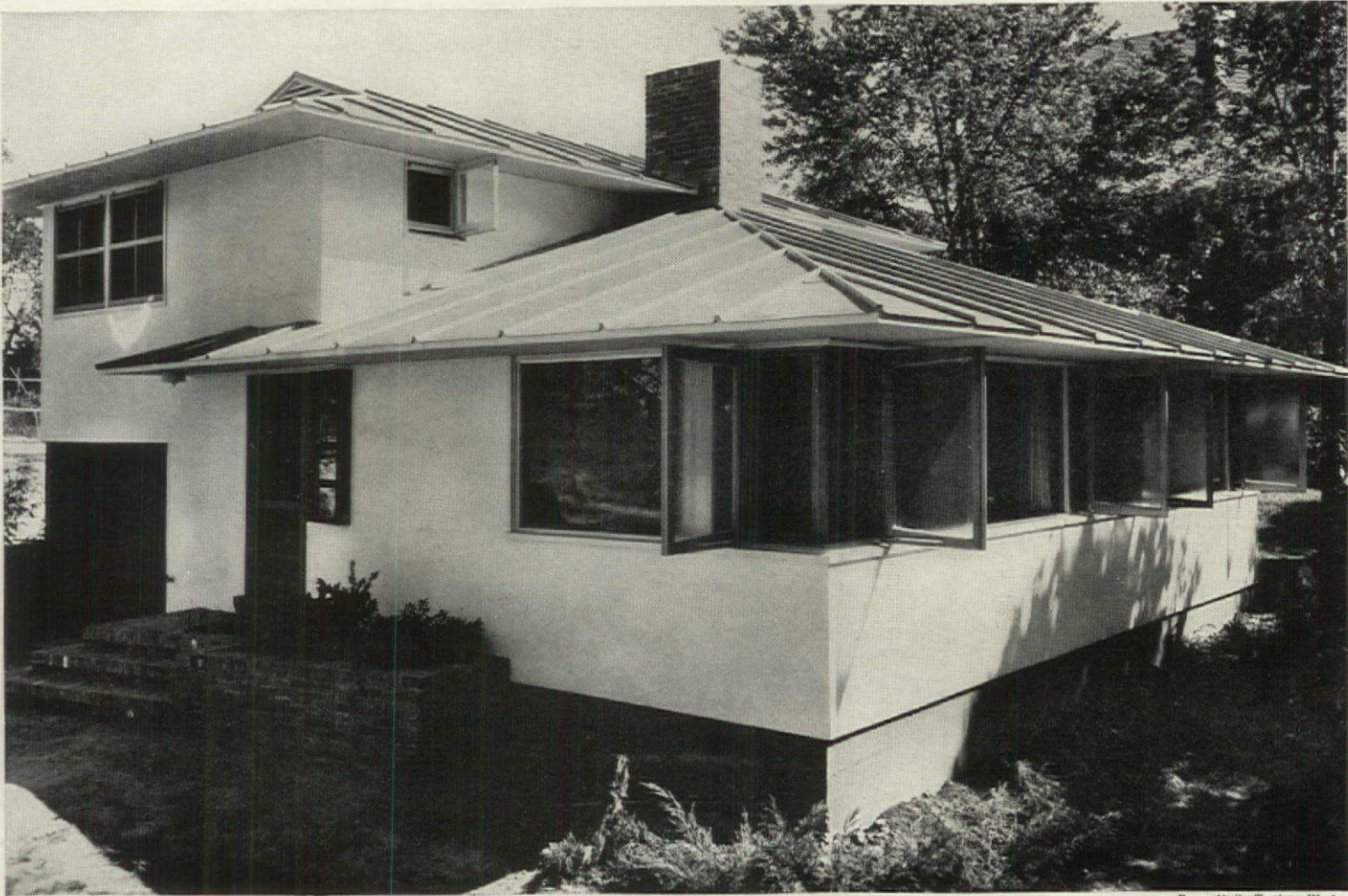
LIVING ROOM



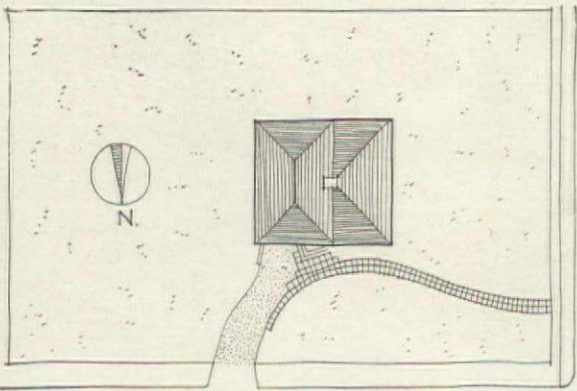
DINING ROOM



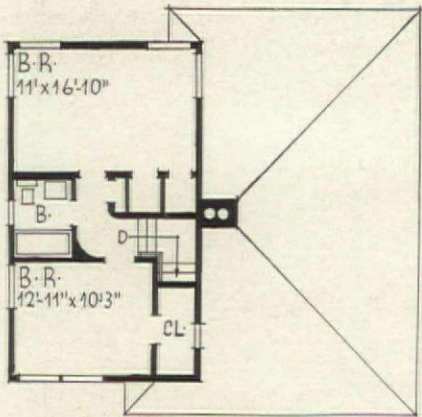
HOUSE IN KIRKWOOD, MISSOURI



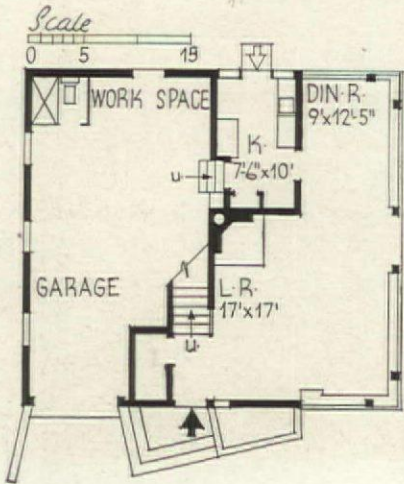
Bennett S. Tucker Photos



An unusual variant of the square plan for a small house, recognizing the importance of the car and its shelter but denying it the exclusive floor space it usually receives. The work space, adequate when car is in, more than generous when car is out, fits unusual family requirements. Close by the central chimney snuggles a compact gas-fired warm air furnace, and in the corner are toilet and shower. Instead of the shingled roof indicated in the detail section, a mica-covered asphalt roll roofing was used, its battens capped with channels of galvanized iron. The wide overhang at eaves provides weather protection for the outswinging casements that alternate with fixed glass. Neon cove lighting, continuous recessed curtain track and the corner fireplace are unusual details. Cost, \$7,000.



SECOND FLOOR

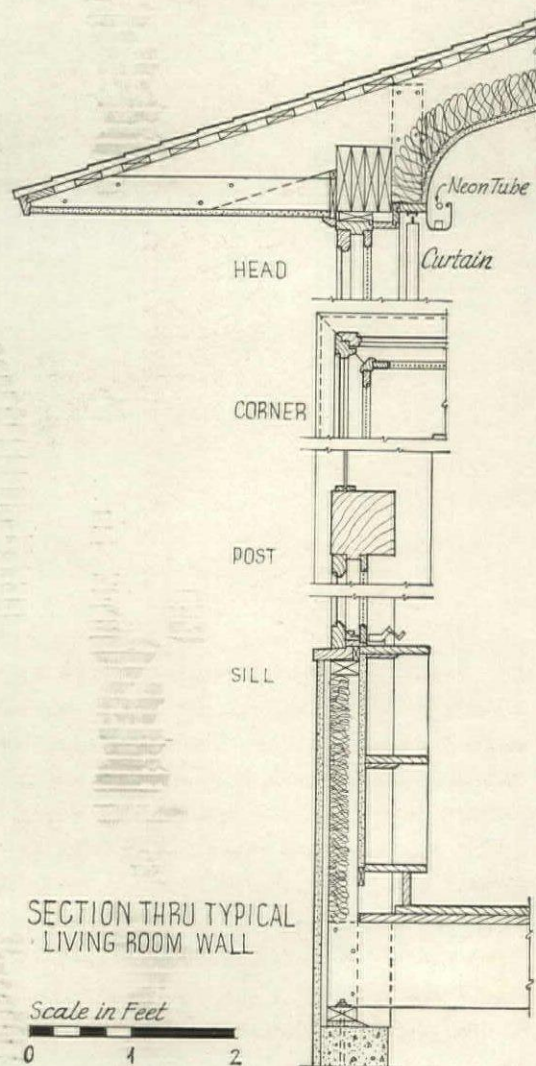
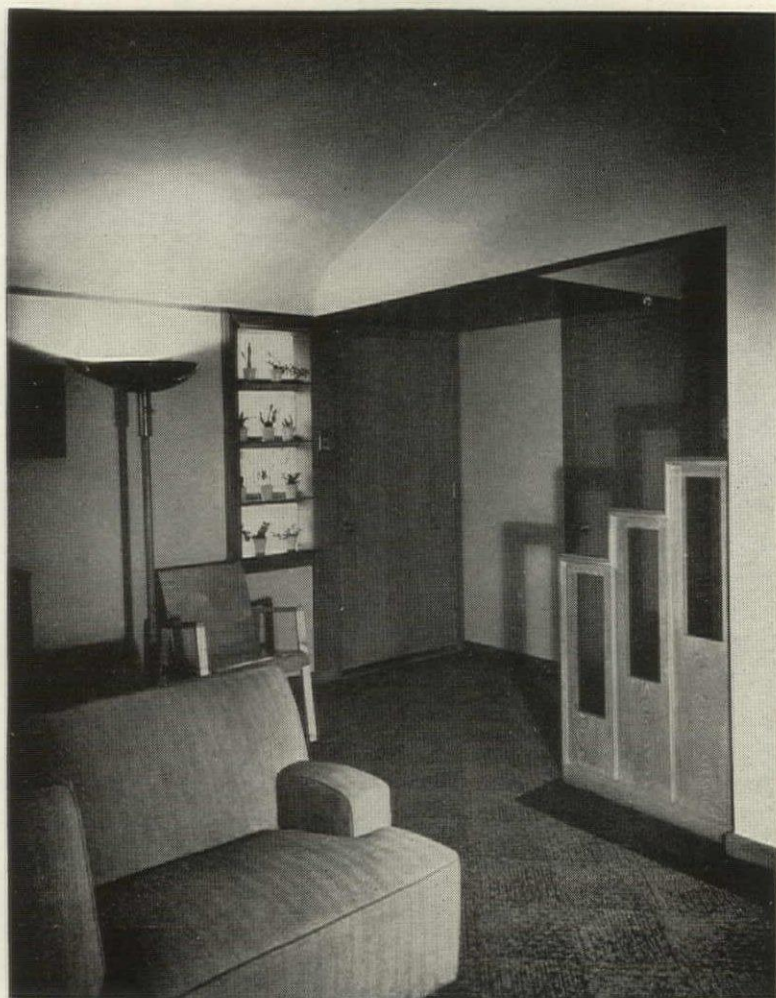




LIVING ROOM

CONSTRUCTION OUTLINE

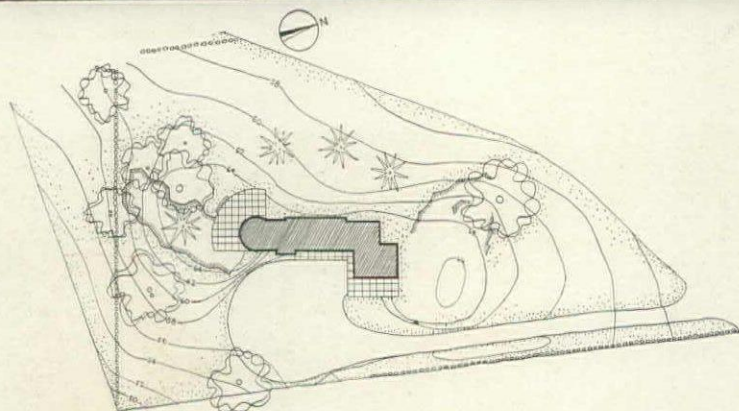
FOUNDATION: Concrete.
STRUCTURE: Exterior walls—frame, metal lath and stucco; inside—insulation, studs, lath and plaster. Floor construction—oak finish.
ROOF: Covered with asphalt roofing.
FIREPLACE: Damper—H. W. Covert Co.
SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron.
WINDOWS: Glass—double strength, quality A, plate and Tapestry obscure.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum.
WALL COVERINGS: All rooms—plaster.
HARDWARE: By Schlage Lock Co., Casement Hardware Co. and Sargent & Co.
PAINTS: By Reardon Co. and Minwax Co.
ELECTRICAL INSTALLATION: Wiring system—BX.
BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp.
PLUMBING: Soil pipes—cast iron. Water pipes—galvanized steel.
HEATING: Warm air system, gas fired. Grilles—Independent Register Co. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—American Radiator-Standard Sanitary Corp.



HOUSE IN DARIEN, CONN.

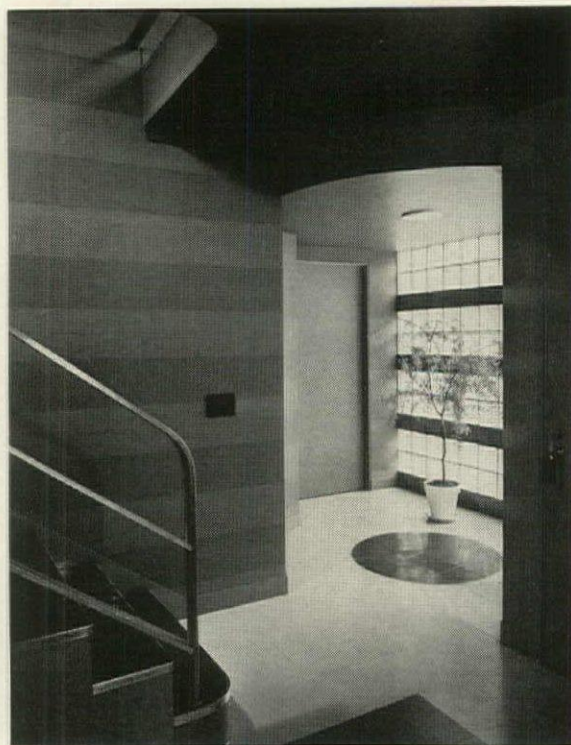


Rodney McCay Morgan Photos



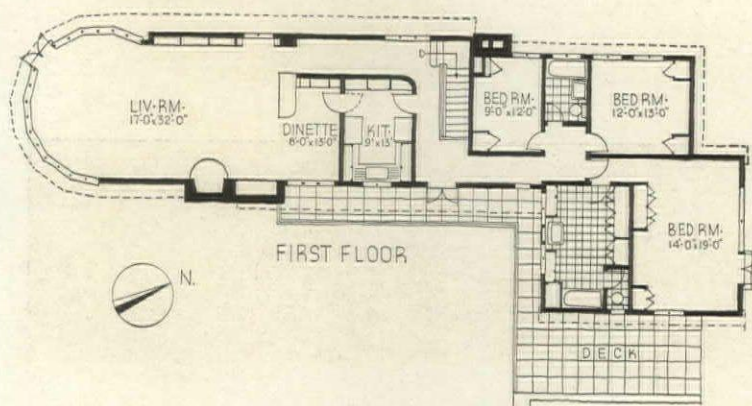
Some remarkable trees and two outcropping rock knolls with a hollow between sold the site to the owner and dictated the general plan. A long low building bridges the dip between the two rocky anchorages, utilizing the lower level for main entrance, garage and service quarters as indicated in the basement plan on opposite page. On the exterior the marked horizontality is accented by the unusual color scheme of black slate roof and walls of horizontal V-jointed siding painted gray down to the window sills, white below. Indications of life in 1940: subordination of food service, elaboration of owners' bath-dressing room, built-in radio, the self-contained electric organ.

HALL





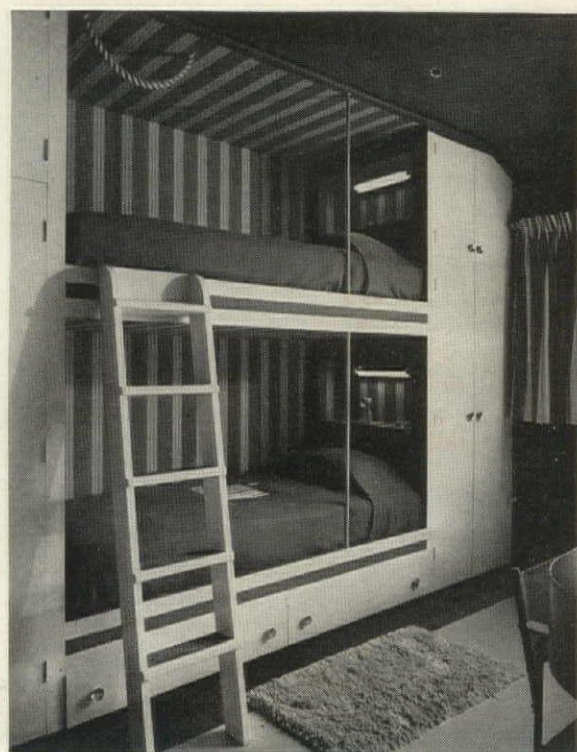
LIVING ROOM



LIVING ROOM



BEDROOM



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—Standard braced framing with insulated board sheathing, building paper, California redwood siding. Floors— $\frac{1}{2}$ in. plywood, covered with linoleum, Armstrong Cork Co.

ROOF: Covered with Black Bangor Pennsylvania slate. Deck covered with $\frac{1}{2}$ in. Celotex Promenade Traffic Top, Celotex Corp.

INSULATION: Ground and attic floor—4 in. of rock wool between joists. Weatherstripping—American Weatherstrip Co.

WINDOWS: Sash—metal casements, David Lupton Sons. Glass—double thick, Quality A, Libbey-Owens-Ford Glass Co.

WALL COVERINGS: Living room—wormy chestnut paneling, Cummings and Engbert, Inc. Halls, owner's room and guest rooms—wallpaper, Katzenbach and Warren. Kitchen and bathrooms—Formica Insulation Co.

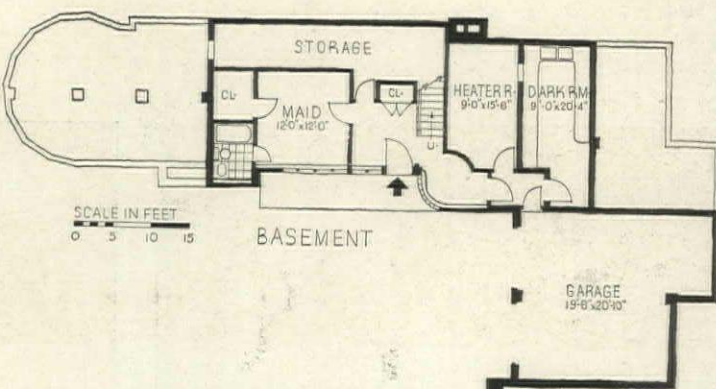
WOODWORK: Interior doors—flush panel "Wellbuilt," Johns-Manville Corp. Garage doors—Overhead Door Co.

KITCHEN EQUIPMENT: Range, refrigerator—Edison General Electric Appliance Co.

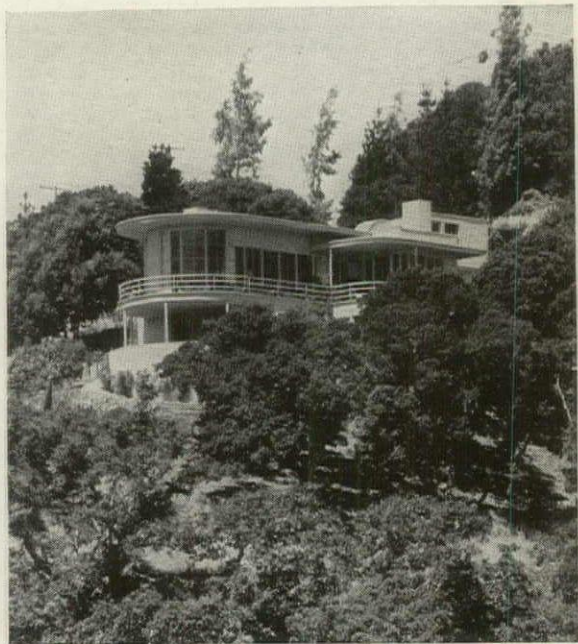
BATHROOM EQUIPMENT: Fixtures by American Radiator-Standard Sanitary Co., Briggs Mfg. Co. and Crane Co.

PLUMBING: Cold and hot water pipes—copper tubing, Anaconda Copper Co.

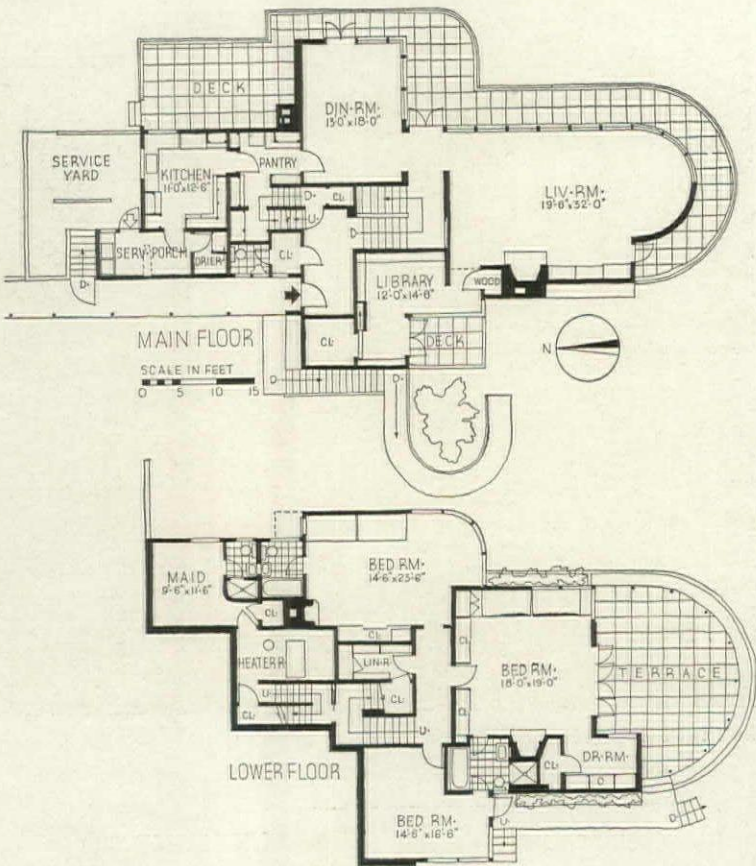
AIR CONDITIONING: Fox Sunbeam air conditioning system, Fox Furnace Co.



HOUSE IN HILLSBOROUGH, CALIF.



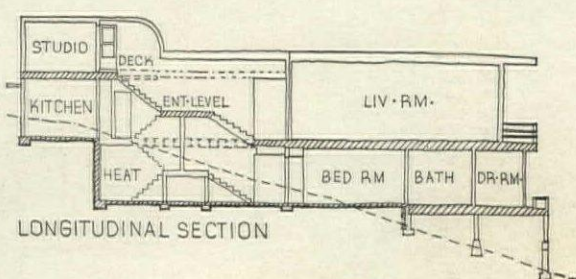
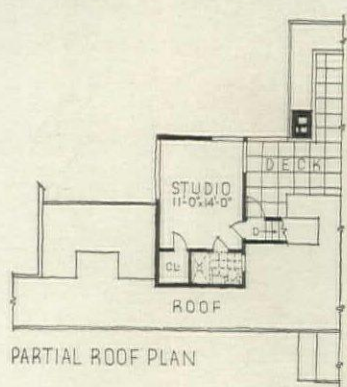
All photos, Esther Born



GARDEN PASSAGEWAY



LIVING ROOM



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—wood frame, sheathing and stucco; interior, U. S. Gypsum Co. sheetrock and plaster. Floor construction—lower, concrete; upper, wood joists.

ROOF: Covered with composition roofing. Deck—composition membrane "Laykold" walking surface, American Bitumuls Corp.

SHEET METAL WORK: Flashing, gutters, leaders—galvanized iron, American Rolling Mill Co.

WINDOWS: Sash—wood, double hung and fixed. Glass—quality A single strength Pennvernon, Pittsburgh Plate Glass Co. Glass blocks—Decora pattern, Pittsburgh-Corning Corp.

WALL COVERINGS: Living room and bedrooms—grass cloth.

HARDWARE: Cast and wrought bronze, Sargent Co.

PAINTING: Washable wall paint in living area, enameled in bathrooms and service area—W. P. Fuller Co.

KITCHEN EQUIPMENT: Range—Westinghouse Electric and Mfg. Co. Refrigerator—General Electric Co. Sink—enameled iron. Washing machine—Bendix Home Laundry, Bendix Home Appliances, Inc. Kitchen fan—Westwind Fan Co.

BATHROOM EQUIPMENT: All fixtures by Crane Co. Cabinet—Steel, Columbia Metal Box Co.

PLUMBING: Cold water pipes—galvanized copper bearing steel. Hot water pipes—copper. Water softener—California Filter Co.

HEATING AND AIR CONDITIONING: Recirculated warm air system including filtering, humidifying and cooling. Furnace—Sunbeam gas-fired, heavy duty type, Fox Furnace Co. Grilles—Tuttle and Bailey Mfg. Co. Water heater—"Superior," Crane Co.

The key to successful planning for a steep and irregular site, as shown by any number of outstanding California houses, lies mainly in the arrangement of the vertical circulation. In this respect the present example is of unusual interest. The stairs are located in the center of the plan, with landings at half-levels providing great flexibility in room arrangement. On the main floor there is one level, extending from the kitchen through the dining and living rooms to the library, a convenience not always found in hillside houses. Complete privacy is assured the bedrooms on the floor below, and a large covered terrace adjoining the master bedroom adds considerably to the living possibilities of the house. Cost: 58 cents per cubic foot.



LIVING ROOM

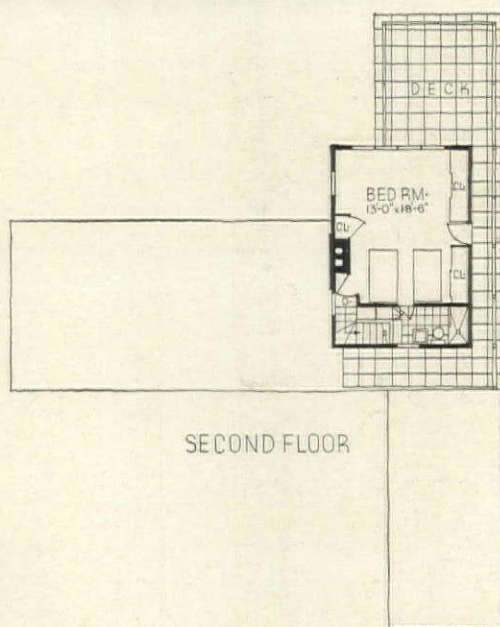
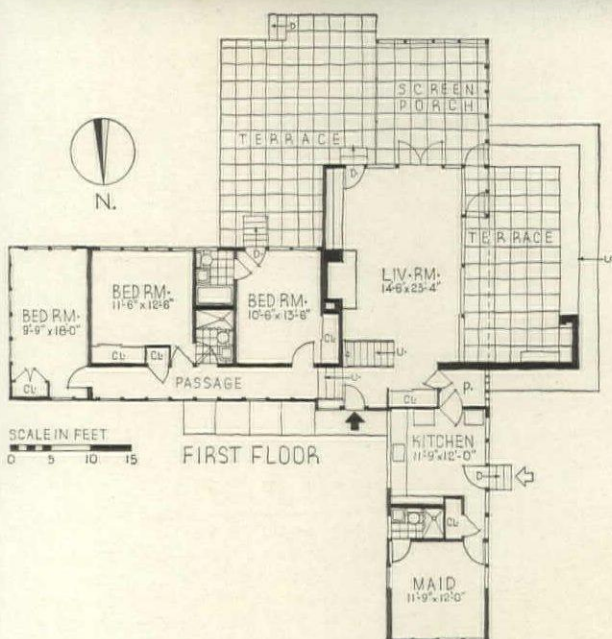
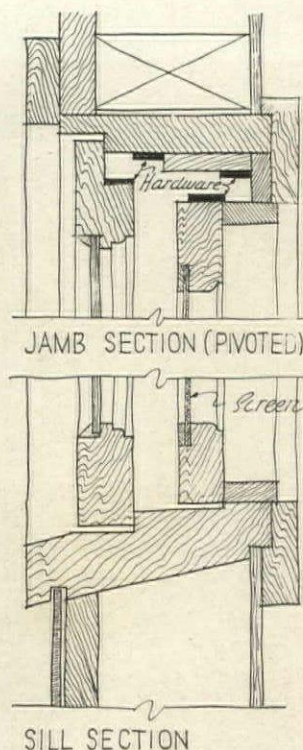


DINING ROOM

HOUSE ON HOBE SOUND, FLORIDA



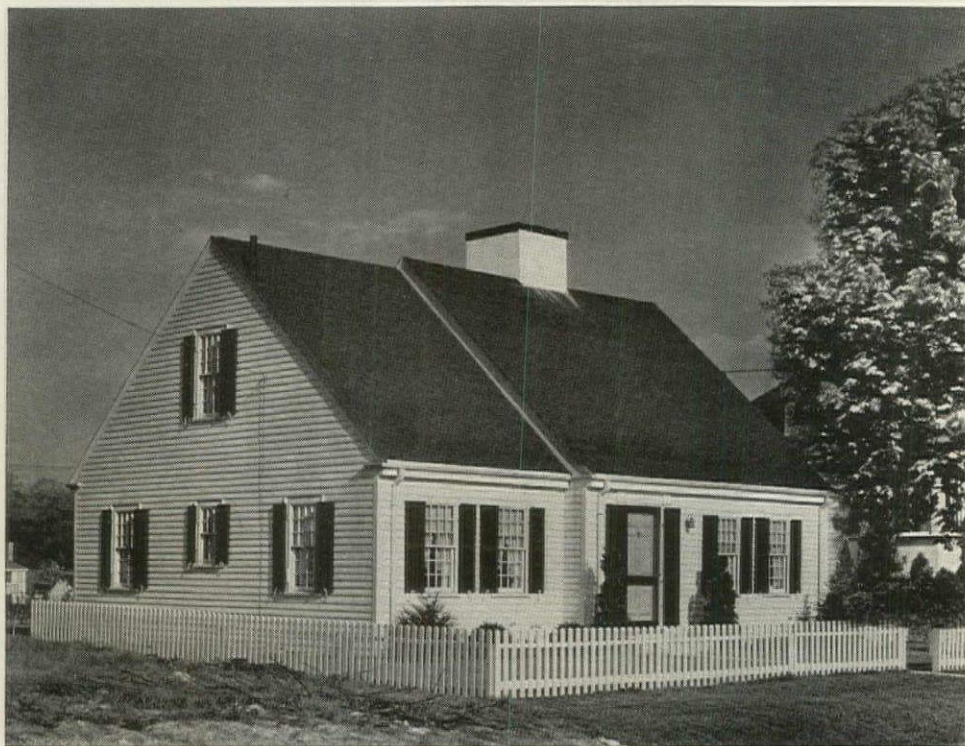
All photos, Alfred Cook



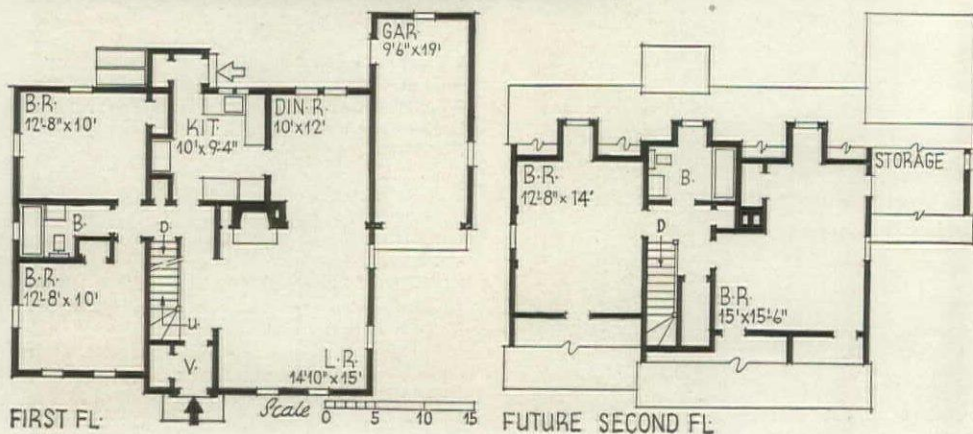
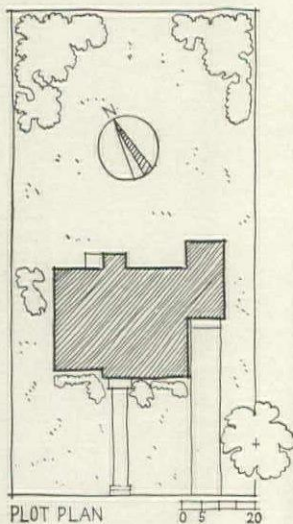
CONSTRUCTION OUTLINE

FOUNDATION: Concrete blocks.
STRUCTURE: Asbestos cement siding, paper, sheathing, studs, Duali plywood, U. S. Plywood Co., Inc. Floor construction—wood joists, sub-floor, pine finish flooring. Ceiling—Duali plywood, U. S. Plywood Co., Inc.
ROOF: Covered with asphalt roofing.
FIREPLACE: Damper—H. W. Covert Co.
SHEET METAL WORK: Flashing—copper.
INSULATION: Roof—rockwool bats.
WINDOWS: Sash—top-hung, cypress. Glass—quality A, double strength.
STAIR: Risers—pine. Treads—oak. Balustrade—Duali plywood, U. S. Plywood Co., Inc.
FLOOR COVERINGS: Bedrooms and halls—pine. Remainder—linoleum.
WALL COVERINGS: Bathrooms—Flexwood, U. S. Plywood Co.
DOORS: "Sturdibilt," M. & M. Woodworking Co.
ELECTRICAL INSTALLATION: Wiring system—Romex cable. Switches—Despard, Pass & Seymour.
BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp.
PLUMBING: Hot and cold water pipes—brass.

Holding rather closely to a three-foot module, the architect has approached the minimum of complexity in structure. Between the uniformly spaced square studs the wall is completed on the outside by sheathing and asbestos siding; on the inside by plywood, or left uncovered. Where light or ventilation is desired the three-foot space between the studs is filled by a single sash hinged at top to swing out. In some of the taller windows a lower unit of the sash remains fixed. At the south end of the west terrace a wall of local stone forms within its hooked end an outdoor fireplace.



Harold A. Willoughby Photos



The famous Cape Cod flavor, found unusually close to its native heath, and complete to the flintlock musket over the fireplace. Inherent difficulties of combining a central chimney with a central staircase have been adroitly sidestepped as plans and exterior show, by simulating an addition to the mass on which the chimney centers. Dormers retire discreetly to the rear. As a first stage, the second story rooms were merely framed and left for finishing in the future. The cubage is 25,846; the cost with upper story unfinished, \$5,900.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete blocks.
STRUCTURE: Exterior walls—New England braced frame, studs, sheathing, paper and red cedar clapboards; inside—gypsum lath and plaster. Floor construction—sub- and oak finish flooring. Ceilings—wire lath and plaster.
ROOF: Covered with asphalt shingles, Bird & Sons.
SHEET METAL WORK: Flashing—copper, Gutters—fir. Downspouts—Toncan iron, Republic Steel Corp. Ducts—galvanized iron.
INSULATION: Outside walls and roof—Forest Fleece blanket, John J. Dehaney Co. Weatherstripping—Burrowes Mfg. Co.
WINDOWS: Sash—wood, double hung. Glass—single strength, quality B.
FLOOR COVERINGS: Main rooms—select oak. Kitchen and entry—linoleum. Baths—tile.
WOODWORK: White pine throughout.
ELECTRICAL INSTALLATION: Wiring system—BX.
KITCHEN EQUIPMENT: Range—Standard Gas Equipment Corp. Refrigerator—Servel Sales, Inc. Sink—Kohler Co.
BATHROOM EQUIPMENT: All fixtures by Kohler Co. Cabinets—Hess Warming & Ventilating Co.
PLUMBING: Soil pipes—heavy cast iron. Water pipes—Streamline copper, Mueller Brass Co.
HEATING: Gas fired furnace, American Gas Products Corp. Grilles—Auer Register Co. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—John Wood Mfg. Co.



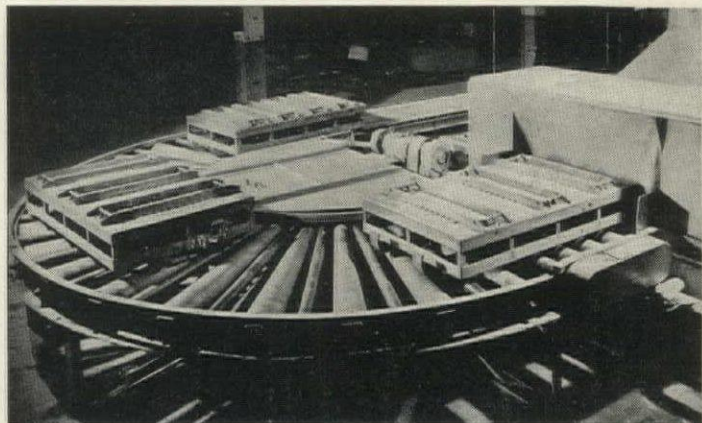
MANUFACTURE is by an entirely new process from liquid latex, the milk of the rubber tree, which is beaten into an air-filled froth, poured into molds, and baked. Upper pictures show native "milking" a tree, workman adding a jelling agent to beaten batch of latex, and operation of pouring an automobile seat cushion. Cores attached to the top of the mold form voids.

LATEX CUSHIONS

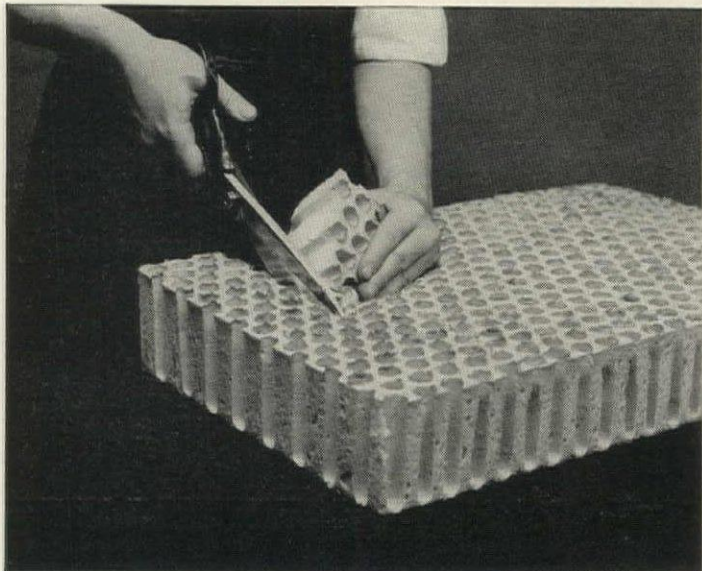
Scratch an architect, and nine times out of ten times you will find a furniture designer, amateur or semi-pro. Strictly amateurs, but with many an idea which has since found its way into general use, were the early modernists who had to furnish their first efforts at the International Style with hand-made approximations of Bauhaus designs for the machine age. Very much a professional is famed Finnish architect Alvar Aalto, with a "line" of standardized designs popular all over the world and now to be reproduced in the U. S. (ARCH. FORUM, Aug., 1940, p. 14). In between are the many who frequently include a built-in couch or breakfast room set-up in their detail drawings, sometimes fit out entire jobs with furniture of their own design.

For all of these, as for the furniture business and the automobile industry, the newly developed latex cushion promises to be a tremendous boon. Intended to replace all types of padding, and in many instances coil springs as well, this versatile new material is molded into a wide variety of standard shapes and may be fabricated by hand into many others. Its greatest advantage, so far as the designer is concerned, is accurately predictable shape and pre-determined softness—plus its ability to produce any degree of curvature or *flatness* desired; perfectly square corners are just as feasible with the latex cushion as are conventional, rounded profiles. To the user, it offers unusual comfort, permanent durability, and a sanitary, odor-free, self-ventilating padding of known quality.

Unlike ordinary upholstery bases, the latex cushion is a machine-made product. Molded from liquid latex—



BAKING, or "vulcanizing" the molded latex is exactly like baking a cake, except that it is done by machinery. Upper picture shows mattress sections being carried into the oven by conveyor, lower picture completed section of U. S. Rubber's ROYAL FOAM, baked, washed, and ready for fabrication with ordinary shears and cement.



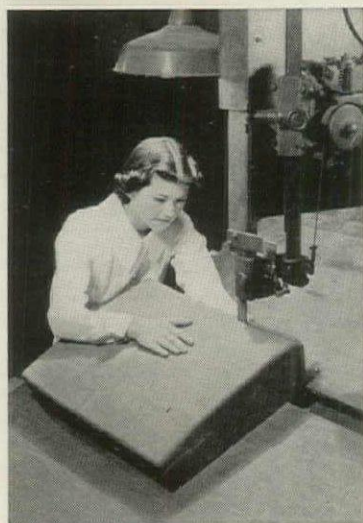
John Adams Davis



1.



2.



3.



4.



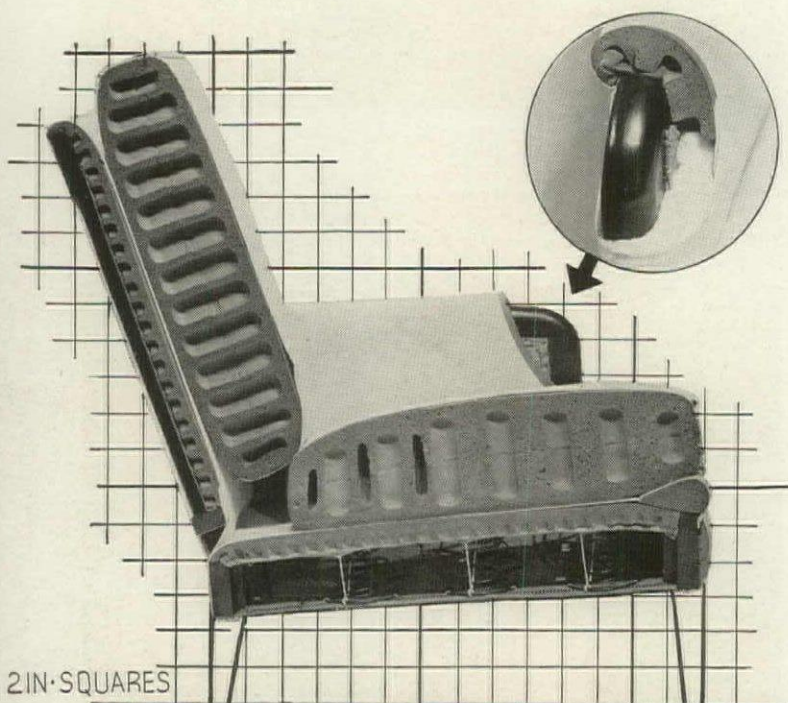
5.



6.

FABRICATION AND APPLICATION. 1. shows attachment of fabric strips to standard cushions for use in fastening the cushions in place. 2. shows fabrication of various special cushions from flat stock, 3. use of band saw in cutting down molded cushion. 1., 2., and 3. are Goodyear AIR-

FOAM. 4. shows springless chair upholstered with Firestone DIATEX webbing and AIRTEX. 5. shows application of AIRFOAM cushion over plywood for theater seat, 6. porosity tester developed by Goodrich to prove that their AIR-CELL is cooler than conventional upholstery.



CUT-AWAY view showing construction of an oversize, super-soft chair with reversible Goodyear AIRFOAM cushions and spring bottom. Cushions are standard shapes available in many sizes; split units, similar to the upper and lower halves of those shown, are also available for fixed mounting. Inset shows use of flat stock on arms.

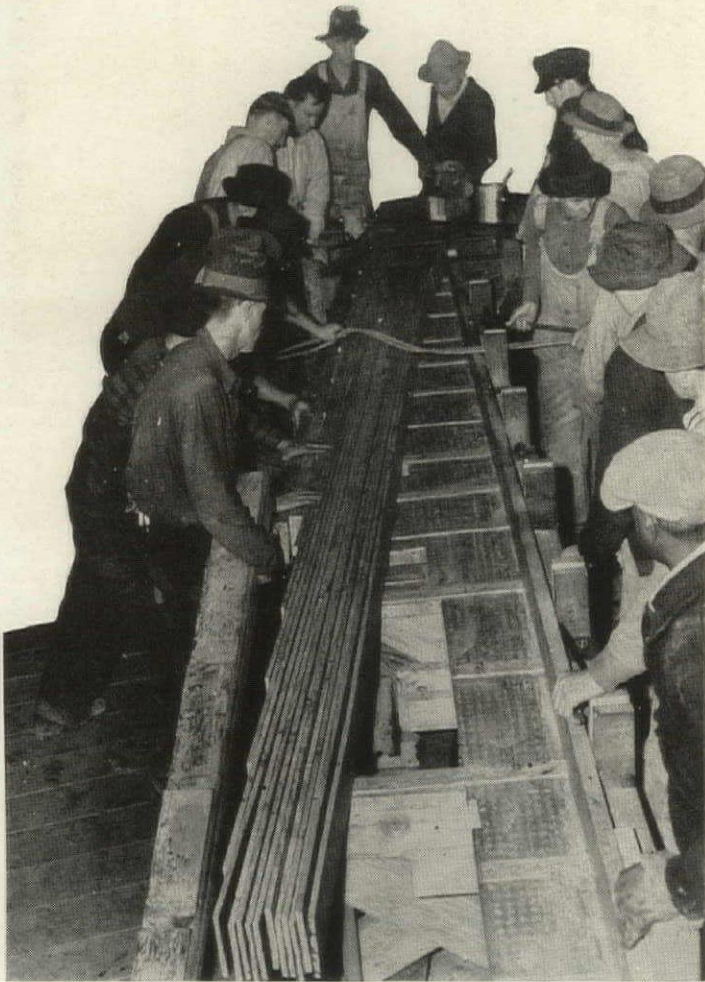
the creamy, tasteless, odorless juice found just under the bark of the rubber tree—the finished product contains a myriad of tiny, interconnecting air cells. These are created by beating the latex in an oversize egg beater, rather than by the addition of the chemicals used in making sponge rubber, and result in a softer product of more uniform texture. The creamy batter thus produced is poured into a mold of the desired shape, usually cored to form regularly spaced, round voids, and oven baked to set the mixture.

In addition to hundreds of standardized cushions of every conceivable shape and size, single and double faced flat dimension stock in various thickness (from $\frac{1}{4}$ in. to $4\frac{1}{2}$ in.) is available. The material can be cut with ordinary shears and special shapes fabricated by cementing together different stock elements. For attachment of the cushion to the base, and for fastening upholstery materials, fabric tape and beads are cemented to the finished cushion.

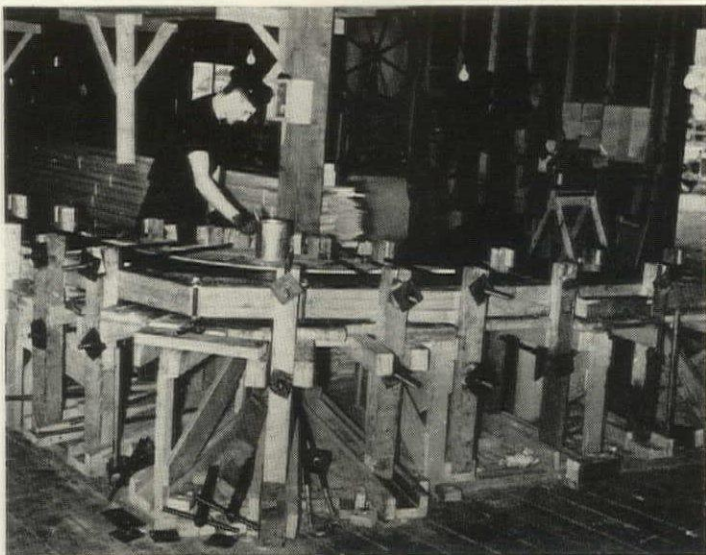
In use, latex cushions are often applied directly over a rigid plywood base, perforated for ventilation, thus eliminating the conventional coil springs and webbing. For greater resiliency, regular coil spring construction may be employed, or a special, perforated rubber webbing with a certain amount of elasticity and remarkable ability to resist sagging may be used. Final finishing with upholstery fabric is considerably simplified, due to the smooth, even shaping of the cushions and the fact that no tufts or button ties are needed to hold them in shape. Literature giving exact sizes and shapes of available standardized cushions and flat and cored sheets may be obtained directly from the manufacturers.

W. P. A. JOB-FABRICATES LAMINATED WOOD ARCHES

Glued-up units span 48 foot University of Washington theater at low cost



ASSEMBLY of glued-up arches from 26 boards had to be completed in 25 minutes to prevent setting of the glue; this, not "Boondoggling" accounts for the number of workmen, 2 to each clamp, in the above picture. Nine-sixteenths inch boards were bent dry, without steaming.

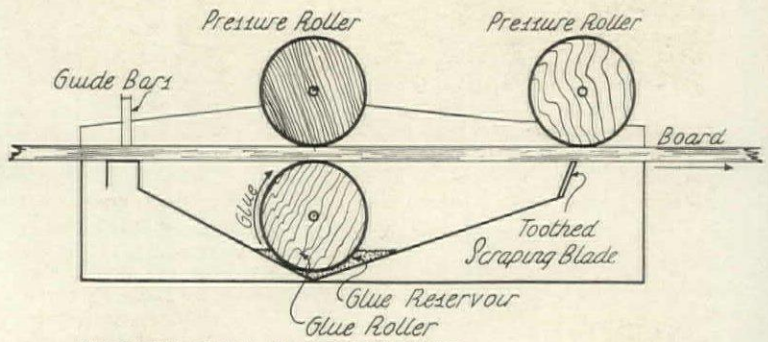


GLUE BENCH and form, shown above with completely assembled arch in place, served for all eight arches, held clamps at about 2 foot intervals consisting simply of rough lumber and threaded rods. Three piece hinged band served as an outer form.

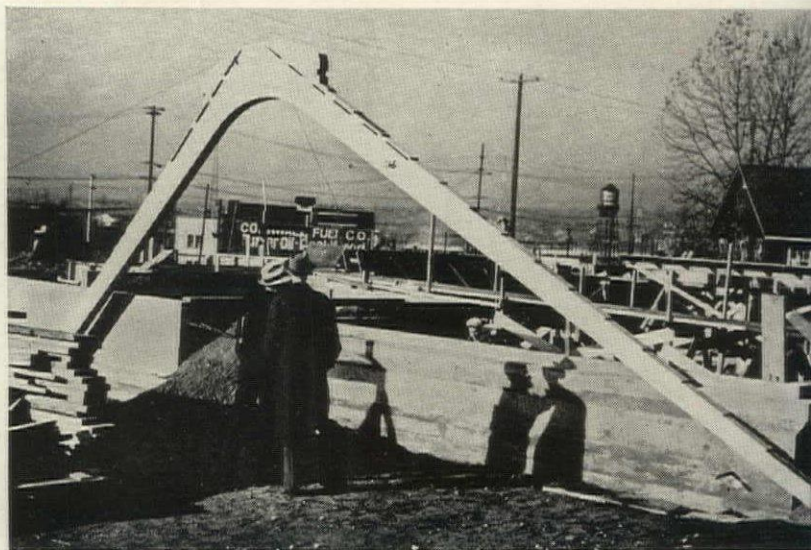
One of the most intriguing aspects of recent factory design has been the use of bent structural members, formed by bending and welding together ordinary rolled steel beams. Such "rigid arches," to use the engineering term, combine beam and column or rafter and column into a single structural member whose simple curving lines and look of easy strength can be compared only to the trunk and branches of a tree. They have essentially the same appeal as the "streamlined" shape; both are instances where engineering has hit upon forms whose eye-appeal transcends the utilitarian considerations which dictated their conception.

Result has been that in many a recent auditorium, exposition hall, or other project posing a structural problem warranting the use of specially fabricated steel members, the rigid arch has been employed for its decorative, as well as its structural qualities. But for the designers of smaller buildings this interesting new structural element has remained largely inaccessible.

Door opener for the latter group is the laminated wood arch. Developed abroad, and first used here by the Forest Products Laboratory, it affords virtually all the advantages of its welded steel cousin on a smaller scale and with readily worked materials. Already, extensive use of curved laminated wood arches in barns, theaters, and churches in the Middle West, and the amazing strength developed by sharp bends in laminated wood furniture, combine to promise much for the future of the sharply bent, rigid wood arch corresponding in form to the welded steel frame.



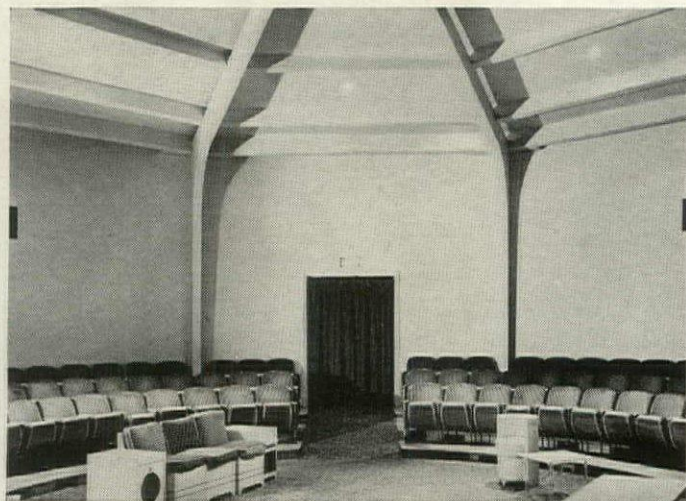
SECTION THRU GLUE SPREADER



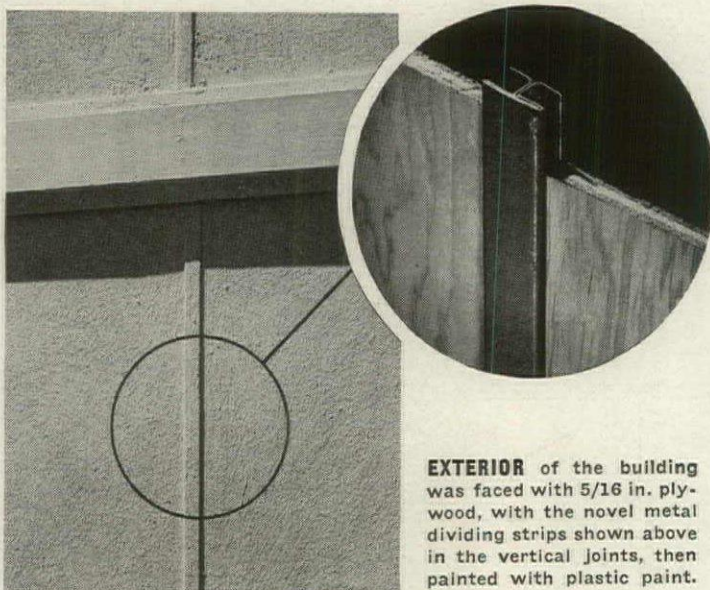
COMPLETED ARCH, ready for trimming and finishing, after 2 days in the clamps. Dotted lines near knee indicate line on which arch is to be trimmed, later to receive flat facing boards. Entire arch was then coated with waterproofing compound.



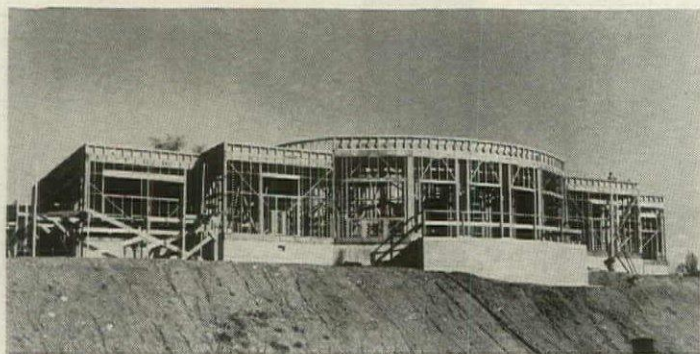
ERECTION of the eight completed arches was a simple matter of setting them on their bases and joining them together at the center with a hub. Arches support 48 ft. oval roof.



COMPLETED THEATER owes much of its attractive appearance to the structural arches and connecting purlins, frankly exposed on the inside. Capacity 200, surrounding center stage.



EXTERIOR of the building was faced with 5/16 in. plywood, with the novel metal dividing strips shown above in the vertical joints, then painted with plastic paint.



K. S. Brown Photos

The engineering department of the University of Washington, in cooperation with the local Works Progress Administration, has recently demonstrated that all that is needed to exploit this possibility is a little ingenuity and some good, strong, glue. Faced with the problem of enclosing an oval, 48 ft., center stage theater for the University's Drama Department, they developed an attractive, space-saving, laminated wood arch, set up a gluing bench on the job, and proceeded to assemble seven of the arches in short order and at remarkably low cost. The procedure thus developed is applicable to the small mill or construction project anywhere.

All of the wood used in the construction of the arches came to the job in the form of 9/16 in. by 5 7/8 in. Douglas Fir boards, 20 ft. in length (56 pieces per arch). Since the developed length of each arch was almost 40 ft., it was first necessary to splice these 20 ft. boards in pairs, using a 7 in. bevel lap, glued. In the assembly of the arches, joints were placed so that none occurred within the sharp bend of the "knee," and joints in adjacent boards were at least 2 ft. apart, those occurring over one another being separated by at least three boards. This necessitated a trial assembly of one of the arches without glue, and careful cropping and numbering of the spliced lengths so that joints would fall in predetermined positions.

In gluing up the arches, the thin boards were bent dry, without steaming or treatment of any kind. Casein glue (I. F. Laucks No. 888, 20 lbs. per arch) was applied to one side of each board in a specially constructed roller machine (detail, preceding page), the entire operation of applying the glue to each of the 26 boards and clamping them together being completed in from 18 to 22 minutes by 30 men—just within the 25 minute limit set by the manufacturer of the glue as the time beyond which the glue would begin to set. Each arch remained in the clamps, under pressure of about 75 lbs. per sq. in., for 24 hours, after which the clamps were loosened to permit placing of additional boards to form a square corner at the knee of the arch and then re-tightened for still another 24 hours. Minimum time for the assembly of the eight arches on a single glue table was thus 16 days. After removal of the clamps, the arches were trimmed to exact size and additional straight boards glued to the outer faces where the bent boards "feathered off." Final step was to treat the completed arch with waterproofing compound.

REAR VIEWS of completed building, with and without plywood facing. Bebb and Gould were consulting architects, with Edward Wallington, architect for the University of Washington, as resident architect.

CBS STUDIO BUILDING, NEW YORK CITY

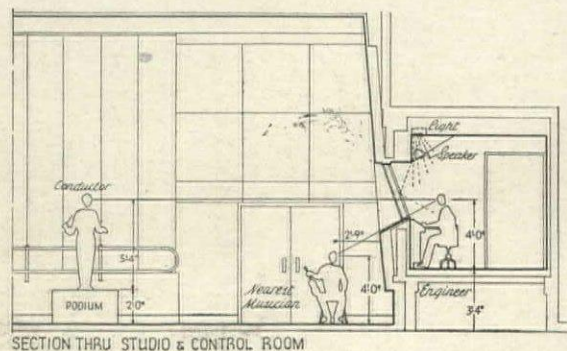
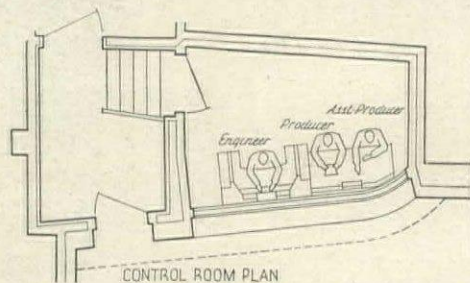
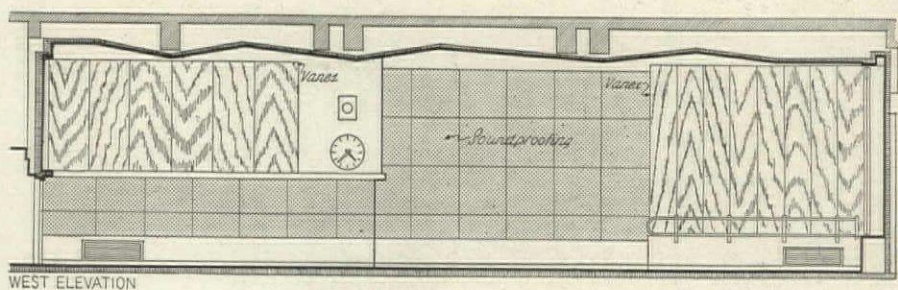
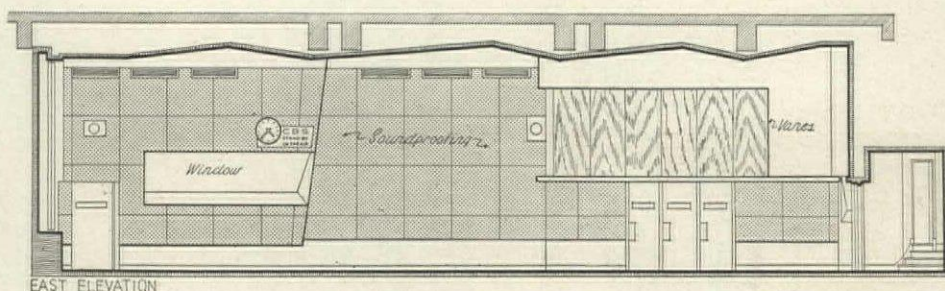
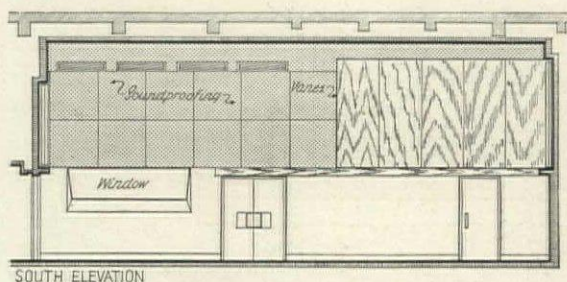
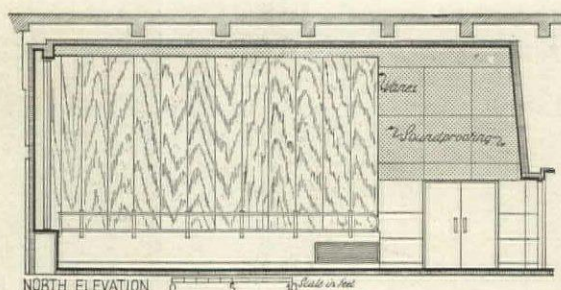
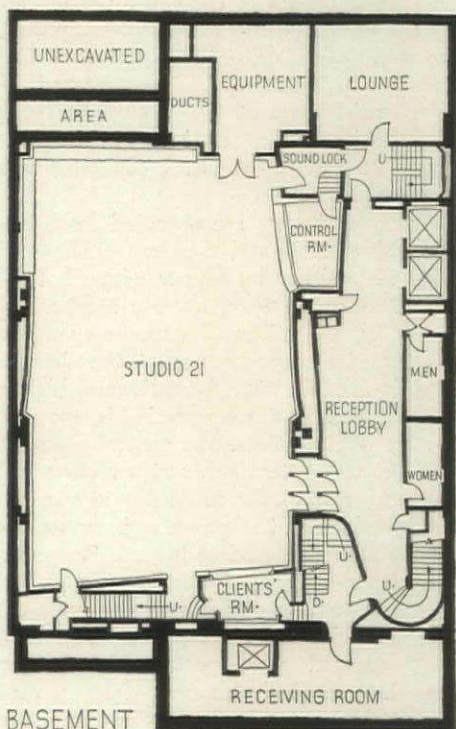
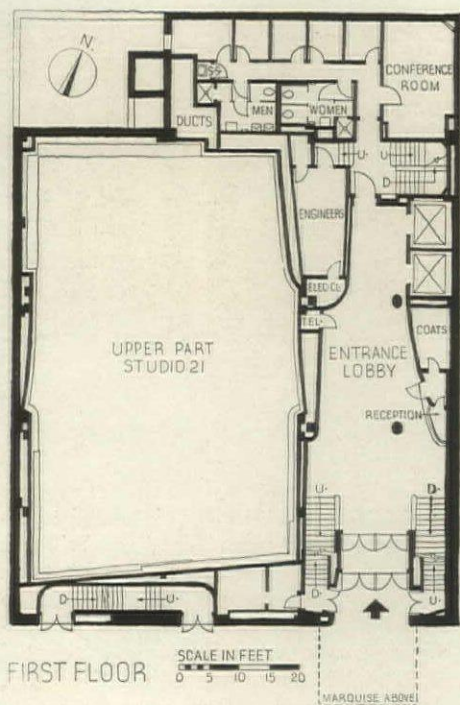


All photos, Robert M. Damora

FELLHEIMER & WAGNER, ARCHITECTS C. R. JACOBS, ACOUSTICAL CONSULTANT

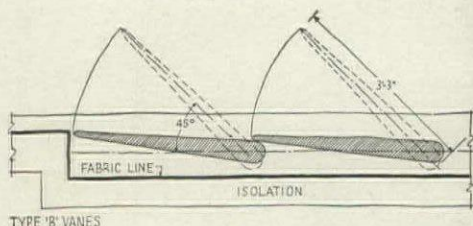
CBS STUDIO BUILDING, NEW YORK CITY



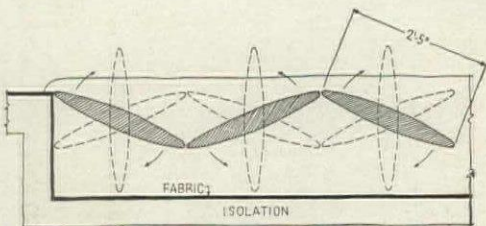


Remodeled from a former school of music located directly across the street from the overcrowded headquarters of the Columbia Broadcasting System, this modern building is the last word in broadcasting studio design and equipment. It includes two major studios with audience facilities, five smaller studios, and miscellaneous offices and laboratories. The principal studios are two floors high and are located on the basement and second floor levels for easy public access from the street; the plans above show the arrangement of the lower of the two studios, which are identical. Details above and at the right explain the arrangement of these rooms in terms of their four major elements: performance, audience, broadcast control, and sponsor. A similar set-up is duplicated on a smaller scale in each of the minor studios on the upper floors.

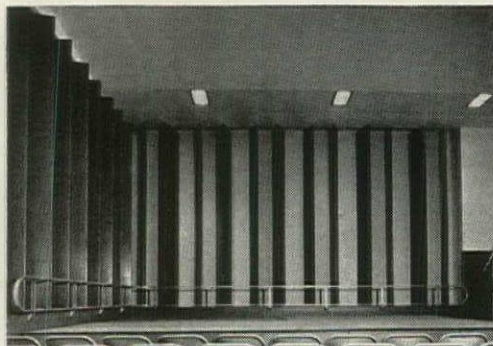
CBS STUDIO BUILDING, NEW YORK CITY



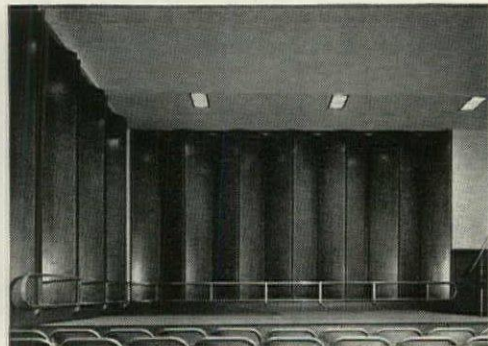
TYPE 'B' VANES



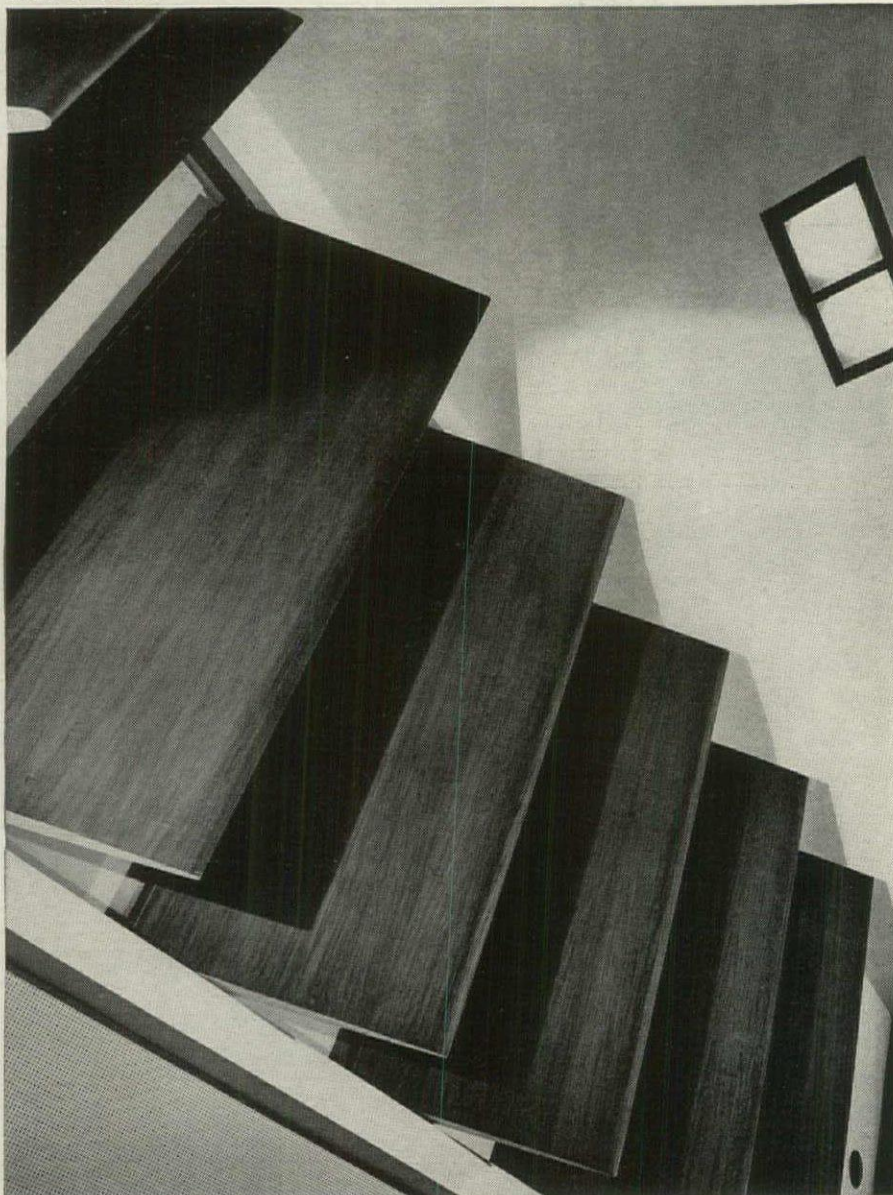
TYPE 'A' VANES



TYPE 'A' VANES IN LARGE STUDIO



TYPE 'B' VANES



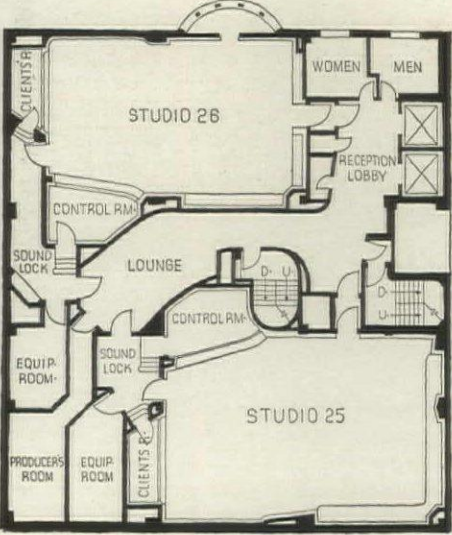
ACOUSTICAL TREATMENT is intended to result in studios more "live," or brilliant, than any built up to the present time. Brilliance and proper diffusion of the sound are achieved by the use of non-parallel opposite surfaces and serrated walls and ceilings, thus eliminating slaps, dead spots, and echoes.

A special feature of the two large studios is the use of "Acoustivanes" (left, patent applied for). These are large, shell-like vanes which resonate at predetermined frequencies to add to or amplify these frequencies. The result is, a musical program of greater definition, character and realism.

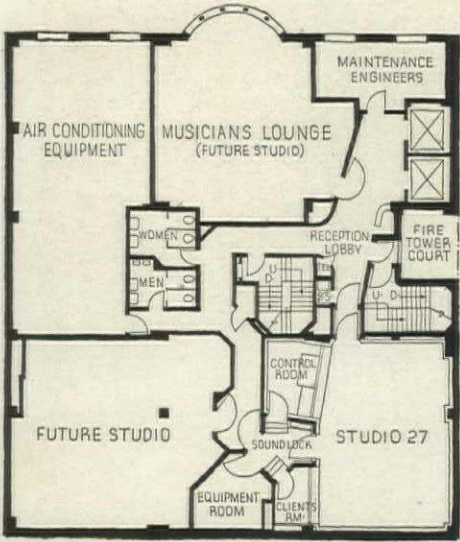
The Acoustivanes are operated from the control console and can be set at any desired position by means of push buttons, which, in turn, operate mechanism propelled by means of vacuum cylinders to turn the Acoustivanes at the desired position. Behind the Acoustivanes, highly absorbent acoustical material is covered with stretched linen. The control engineer can set the Acoustivanes at various positions to add to the resonance at various frequencies, and to expose varying amounts of the absorbing surface behind the vanes. Supplementing the Acoustivanes and the irregular contour of the enclosing surfaces, are absorbing materials on walls and ceilings covered with perforated asbestos board. Acoustical elements of seven different absorption characteristics were carefully selected and distributed to assure the desired reverberation qualities of the studios. This is the first time that the combination of this variety of acoustical construction has been used. For the first time also, precast perforated asbestos board was used.

To reduce the infiltration of extraneous noises, the six enclosing surfaces of the studios and control rooms were isolated by means of felt lined clips.

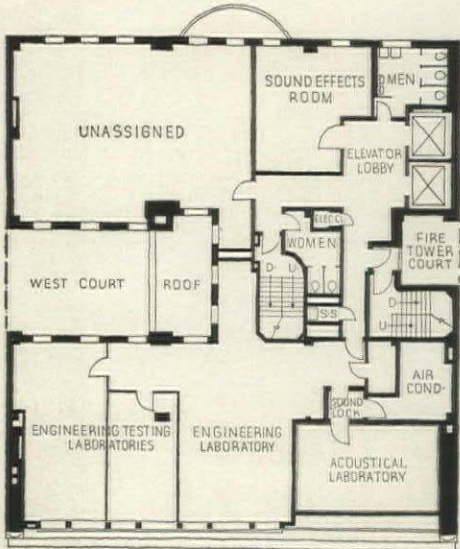
All available wall and ceiling surfaces of the sound locks were lined with 2 in. rigid rock wool element covered with perforated asbestos board. Clients' rooms were acoustically treated with Acoustone. The entrance lobby as well as the lobbies of Studios 21 and 22 have Acoustone treatment on the ceiling for general noise reduction.



THIRD & FIFTH FLOORS



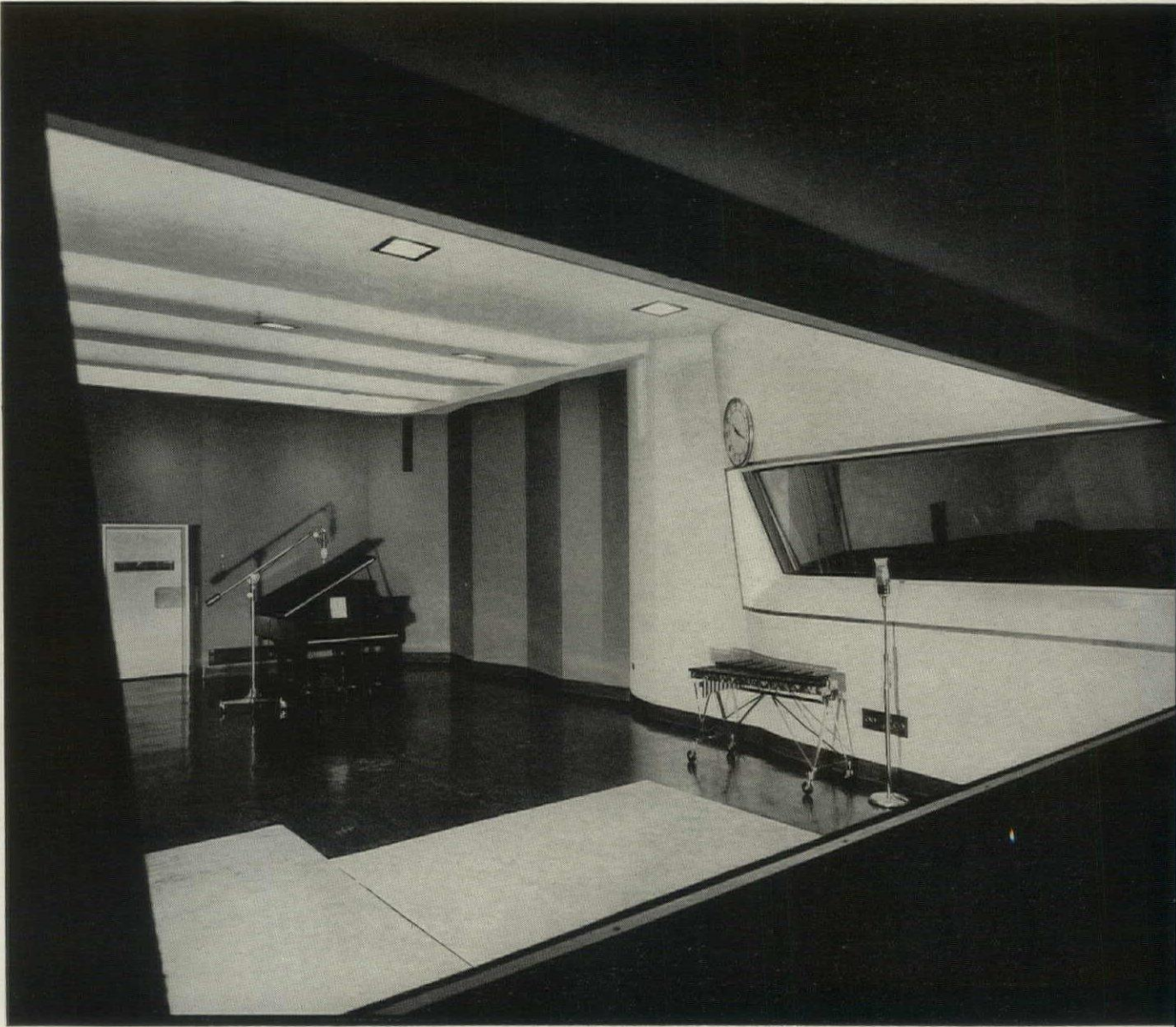
FOURTH FLOOR

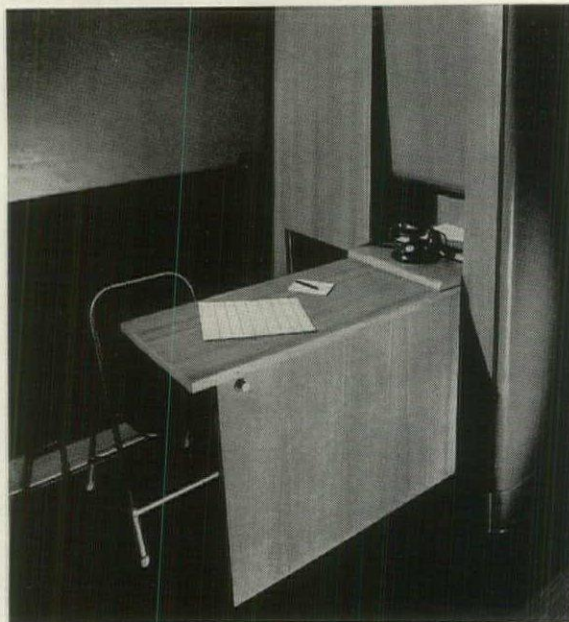


SEVENTH FLOOR

SCALE IN FEET
0 5 10 15 20

STUDIO NO. 26





FOLDING RECEPTION DESK

AIR CONDITIONING—The building is equipped with a special air conditioning system, employing both intake and exhaust fans, so as to maintain pressure within the studios at normal levels for acoustical reasons.

EXTERIOR FINISH—The problem of finishing the front of the building with an easily cleaned plastic material which could be used to unite new and old work was solved by the use of special stucco finish. In order to prevent this surface from collecting dirt from motor exhaust and floating dust particles, it was given a hard, semi-glazed finish, cleanable with soap and water, by polishing the stucco surface with carborundum bricks. This treatment, while an entirely new development in the field of exterior finish, is almost exactly similar to the method now used in finishing terrazzo floors, and is easily carried out.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—(front) 16 in. brick, 4 in. special baked hollow tile veneer; upper portion—12 in. brick, Artstone special stucco application, Artstone Rocor Corp. Interior: Studio and control room partitions—6 in. cinder block with Johns-Manville isolators and acoustical treatment. Other partitions—4 in. cinder block, plaster finish. Columns—fireproofed steel. Floor construction—4 in. reinforced cinder concrete arches, cinder fill. Ceilings—Johns-Manville isolators and acoustical treatment; some suspended with plaster finish. **ROOF:** Cinder concrete arch, cinder fill, slag finish.

SHEET METAL WORK: Flashing—copper. Gutters—lead coated copper. Ducts—galvanized sheet iron lined with Johns-Manville Aircooustic in studio.

INSULATION: By Johns-Manville Corp. **WINDOWS:** Sash—pivoted steel. Glass—plate, Pittsburgh Plate Glass Co.

STAIRS AND ELEVATORS: Fire stairs—metal with cement treads; some covered with linoleum. Elevators—installation by Atlantic Elevator Co., cabs by Globe Van Doorn.

FLOOR COVERINGS: Studios and control rooms—rubber, Goodyear Tire & Rubber Co.; remainder—linoleum, Sloane-Blabon Corp.

WALL COVERINGS: Studios and control rooms—Johns-Manville perforated Transite, plaster. Remainder—rubber, Hamilton Rubber Co.

WOODWORK AND TRIM: All special woodwork by Henry Baumgard, Inc. Trim—aluminum and stainless steel, Penn Brass & Bronze Works. Doors—(studio) rubber facing; (entrance) Herculite glass, Pittsburgh Plate Glass Co., stainless steel frames. Fire doors—hollow metal.

HARDWARE. By Russell & Erwin and Penn Brass & Bronze Works.

PLUMBING: Fixtures by Crane Co. Hot and cold water pipes—galvanized; remainder—cast and galvanized, lead connections.

HEATING AND AIR CONDITIONING: Two pipe steam system. Air conditioning—two systems consisting of filters, humidifications, cooling and heating coils, Airtemp Sales Corp. Grilles—Tuttle & Bailey Mfg. Co. Valves—Crane Co. and Walworth Co. Pump—Kraissl Co.

ACOUSTIVANES—Akeley Camera, Inc.

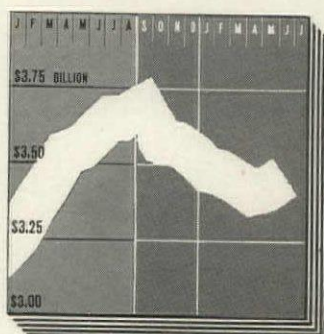
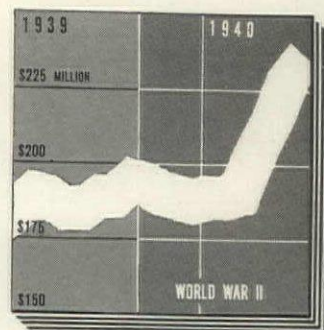
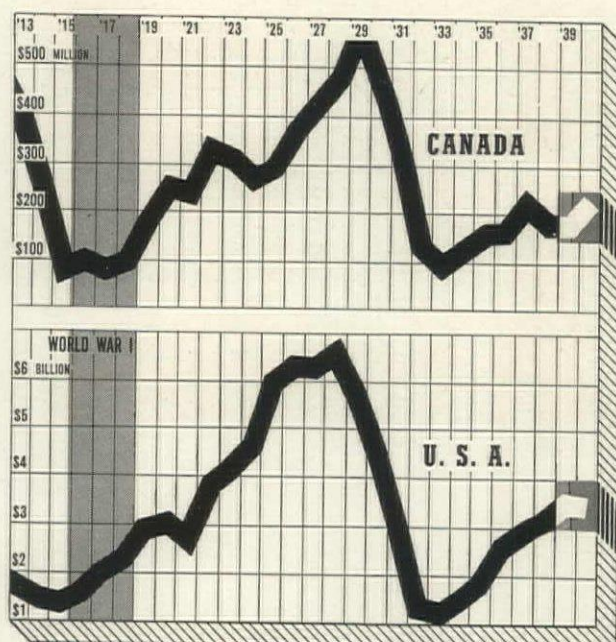
ELECTRICAL INSTALLATION: Wiring—B. Eichwald and Co. Fixtures—Lightolier and Holophane.



BUILDING MONEY

CONTENTS:

WAR-TIME BUILDING	205
LOW COST HOUSES	208
AILING APARTMENTS	210
REMODELED RESIDENCE	212
INDIANA SUBDIVISION	214
CHARTS AND TABLES	216



CANADIAN BUILDING BOOM BUDS as increased war orders reveal serious bottlenecks in housing and industrial production. Rising construction curve may point to similar trend for defense-minded U. S. Building.

For one full year, USA's next-door neighbor has been squaring off for total war, fumblingly at first, energetically now. Canada's mobilization of men and machines is still unfinished business, but its accomplishments to date may well serve as a pressure gauge for the defense-minded U. S. building industry now gearing into a war-era economy. THE FORUM this month, therefore, cocks an eye northward, scans the horizon for statistics and events that indicate a pattern of development, reports its observations.*

Total construction. Stimulated by Britain's unloosening of pursestrings for war goods, Canadian Building has overcome a weak start, is currently going great guns. Unlike World War I, when activity ebbed to a low level, World War II has bent Canada's construction curve into a vigorous upturn, as spotlighted by the charts above contrasting Building's behavior in Canada and U. S. since 1913. During the early and passive war months total construction also remained quiet, even slumped slightly. In April, however, a precipitous rise be-

gan. Contracts in June totaled \$39.1 million, the highest for any month since November 1930.

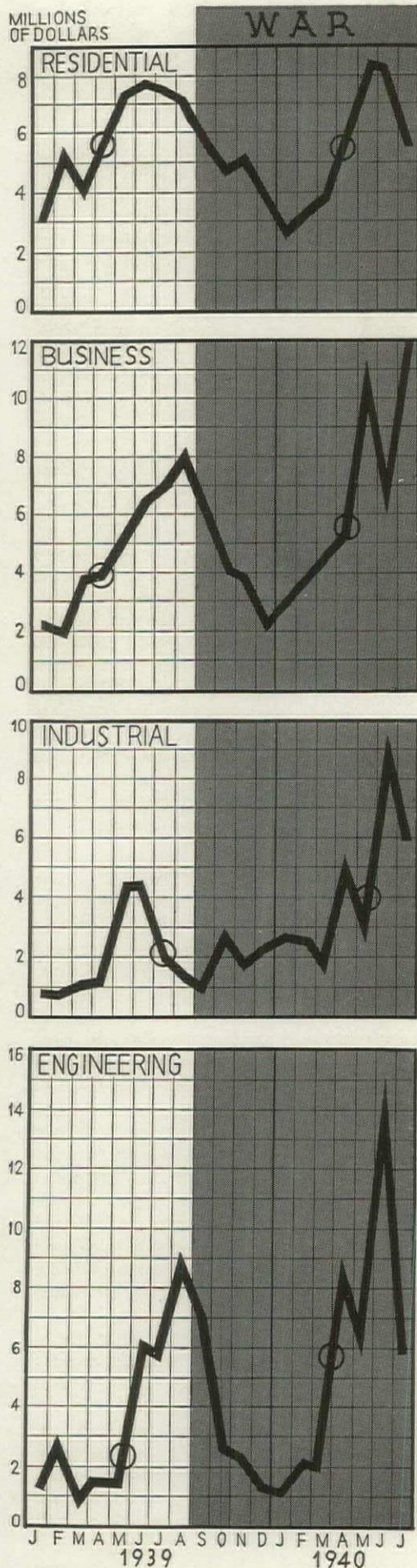
Impressive as is Canadian Building's mid-year showing, it is shadowed somewhat by other records: in June the Canadian business index skyrocketed to the highest point in twenty years. But, in making such a comparison, it must be remembered that Building started its climb from a relatively low point, whereas other lines of business had already reached a much higher level of recovery. For the first four months of this year the official business index ran 36 per cent above its 1926 level—an increase of almost 20 per cent over last year. In the same period construction, running 32 per cent under its 1926 level, gained 46 per cent over last year. And, for the full six months, it jumped 50 per cent. The upturn's briskness testifies that Canadian Building is hastily making up for lost time.

Closely paralleling the Canadian curve for the past two decades, U. S. Building's trend line also dipped slightly with the outbreak of European hostilities. A mild upward tilt, however, can now be observed (see chart above). Whether this presages a sharp upturn similar to Canada's, as U. S. votes billions for defense, is a pertinent question in view of the last war's slump. Its answer requires a more detailed look at Dominion happenings.

Bottlenecks. Entering World War I, Canadian Building had just passed the crest of a boom, was headed for a collapse. Suspension of construction activity during the war, however, left Canada with a severe housing shortage. Despite high labor and material costs in the peace years, considerable building was undertaken, pushing the construction curve to an all-time peak in 1929. Faced with a saturated market, Canadian Building next followed the pattern set by U. S. Building, nose-dived, reached another very low level of activity by 1932. Some recovery occurred between 1934 and 1937, but was followed by a recession in 1938. Entering World War II, Canadian Building this time brought with it a large deficiency in housing and other building types accumulated during depression years, thus differs radically from its position of 25 years ago.

U. S. Building today likewise faces entirely different conditions than it did in World War I. As in Canada, there is an accumulated shortage of up-to-date buildings, particularly housing, although perhaps not to the same degree, for U. S. Building's recovery from depression depths is more pronounced. Even under stimulus of a war boom, Canadian Building only now has reached the level where U. S. Building has been striding along, if statistical adjustments are made for the one-to-eleven difference in population.

* With the aid of *Daily Commercial News* and *Building Record's* Editor A. C. Jameson, *Building in Canada's* Editor John R. Walker, *The Financial Post*, *MacLean Building Reports*, Housing Commissioner F. W. Nicolls, Dominion Statistician R. H. Coats, Employment Service Director R. A. Rigg.



Generally upward is the trend in Canadian Building despite monthly fluctuations in contract awards. Circles indicate 6-month averages, mark extent of advance compared to last year. Note that even residential, usually a war casualty, holds a good stride.

Most serious building shortage in Canada, as evidenced by the Government's emergency subsidies, is in industrial facilities. Significant for private enterprise, however, is the fact that not all current factory construction is for munitions, nor are all new industrial projects sugared with government funds. Both Ford and General Motors of Canada, for example, are expanding their plants without benefit of subsidy. Grain storage capacities and flour mills are being increased in all parts of the Dominion. Canneries and food processing companies likewise are stepping up production.

Soaring employment, greater buying power, plus the fact that the blockade of Europe forces Canadians to fall back on home goods more than ever before, have combined to produce a notable shortage in commercial buildings. Well-located stores and shops are fully rented.

Significant also is the absorption of surplus office space, noticeable even before the war's onset. In Ottawa the shortage is reported acute. To house essential war services there, the government has had to convert apartment houses into office buildings besides erecting two temporary frame structures each with 50,000 sq. ft. of floor. Vacancies in first class office accommodations in other cities where military command is centered are estimated at less than 3 per cent.

Most significant for private enterprise is the growing shortage of houses. No Dominion-wide survey of housing needs has been made, so estimates are largely guesses. Local surveys indicate, however, that in nearly all the big cities vacancies in rentable properties run only 1 or 2 per cent, in several even less, thus setting an all-time low. (U. S. residential vacancies are also at a low level; see ARCH. FORUM, July 1940, p. 68.) Doubling-up of families in single dwellings is figured to be 7 or 8 per cent in most Canadian cities and towns. As the business curve shoots upward, many of these families will undouble, come into the market, further reduce vacancy percentages. Conservative estimates of the Dominion's Housing Administration reveal that some 50,000 dwelling units are needed to relieve the shortage. Particularly pressing, as in U. S. Building's case also, is a supply of houses for incomes under \$2,000 a year.

Progress in uncorking Canadian Building's various bottlenecks is apparent in current construction trends (see charts, left):

► A comforting omen to U. S. builders and developers who may fear a housing slump impends, Canada's residential curve is holding its own surprisingly well. A boomlet in apartment houses, just gaining momentum in Quebec, Ontario and British Columbia, stopped dead with the declaration of war, but has since been counter-balanced by a forward surge in other residential types. Although the half year total of \$32.5 million for total residential runs about 3 per cent under last year, due chiefly to low returns for Janu-

ary and February, the figure of \$28.8 million expended for approximately 10,200 privately-owned houses represents an increase of roughly 6 per cent over 1939 and exceeds every six-month record for the past ten years.

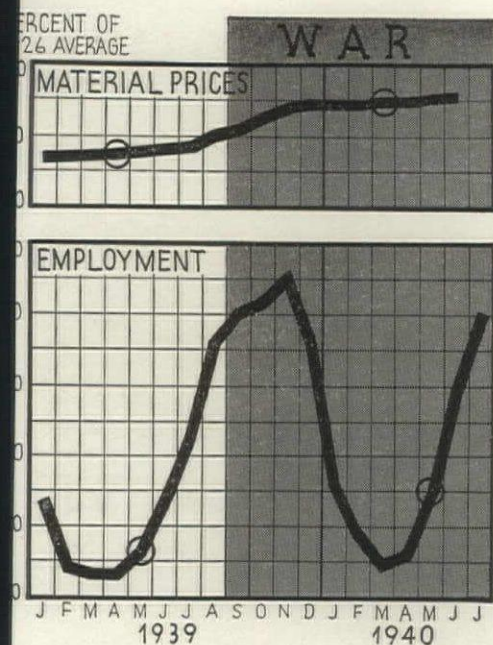
► Equally comforting is the performance of another dark horse—business construction. Efforts to catch up with the shortage in stores and office space have spurred this type of building activity to new recent highs: the half year total was 45 per cent ahead of 1939.

► Not surprising, but nonetheless significant for U. S. builders and designers, is the spirited behavior of Canada's industrial construction. Already 92 per cent above the first half of last year, further kiting of the curve is anticipated as the need for more factories becomes greater.

► Running true to war form, engineering construction leads the parade with a half-year increase of 149 per cent. As usual, some war casualties can be counted. Construction of schools, mental hospitals, post offices and other public buildings has stopped, both by the Dominion to conserve financial resources for war production and by the provinces and municipal governments to avoid competition with the Federal government in money markets. For the same reasons highway construction is severely curtailed. Offsetting these casualties, however, is a bumper crop of war babies. Large sums are being spent on land defense works, camps, barracks, ground-works and training buildings, particularly those required by the air force and air training plan.

Costs and employment. If further proof of boom times ahead for Canadian Building is needed, it can be found in the news of rising costs—another omen for U. S. Building to reckon with. Interest rates remain steady under the government's policy of lending money for low cost housing in conjunction with private institutions at a flat rate of 5 per cent to the borrower. (Due to the war, these loans are now limited to \$4,000.) The price index of building materials, however, has jumped to 95 after averaging 90 for the past two years (see chart, right). Reason: higher prices for lumber and paint.

Current index figures for building labor costs are not obtainable, but observers report that recent wage agreements show an increase of 10 to 12 per cent in some localities. Employment was definitely up in June, being greater than in any summer since 1931—but still far from 100 per cent (see chart, right). Confirming statistics come from the building trades unions: in May less than 20 per cent of the union members were without work as contrasted with 30 per cent the month before and more than 30 per cent last year. Local shortages of labor—notably carpenters, masons, bricklayers, welders and mechanics—are reported by some observers, but a general shortage of skilled workers is flatly denied by the Dominion's Labor Department.



Building costs are upping, chiefly because of higher wholesale prices for materials and the growing possibility of a labor shortage as Canada's building employment curve rises.

Subsidies. In light of the foregoing statistics, it is clear that Canadian Building owes its budding boom mainly to the large sums tossed into the war hopper by the British Supply Board and the Dominion's government for factories as well as military projects. Plants well out of reach of German bombers are needed to insure England a continuous supply of shells, chemicals, guns, ships, aircraft and—as important as armaments—foodstuffs. War contracts already exceed existing production capacities. To make possible additional orders, new factories and plant extensions must be built.

The same problem of providing new production facilities for national preparedness confronts U. S. Building—but not to the same degree. U. S. is already highly industrialized, with many plants that can be easily modernized or converted into war use, whereas Canada starts largely from scratch.

So urgent is the demand for industrial space that the British Supply Board assumes the capital cost of building and equipping Canada's war factories, thus veers with U. S. policy of coaxing new plant construction by allowing companies with defense contracts to charge off the cost of necessary new buildings and equipment to short term depreciation in calculating excess profits. In some instances Canadian manufacturers are given lump sums for plant expansion. Where such extensions are not feasible, or where products hitherto not made in Canada are to be produced, the building of new plants is authorized. In addition, the Board contracts for one year's output.

At mid-year, despite much diddling and dawdling in early war months, some 35 Canadian companies had been subsidized with more than \$50 million for plant extension and construction. In July another

\$30 million in building subsidies was announced. And, early last month the Minister of Munitions disclosed a new expenditure of \$10 million, said the total for war plants might soon reach \$170 million. This capital investment is expected to produce war materials to the tune of \$850 million annually.

Already completed, many of the smaller subsidized plants are now turning out shell components, gun barrels, gun carriages, instruments and specialized equipment. Construction has started on a \$11 million chemical plant in Ontario, on two \$20 million major explosives plants and on a \$8 million shell-filling plant. The Bren gun factory is doubling its capacity. Exact location of the new plants which will make Canada Britain's principal arsenal is kept a military secret, but most of them will be in Ontario and Quebec, where the supply of electric power is ample. Largest war plants, however, will be in western Canada where existing facilities for production of ammonia and ammonium nitrate are being extended. Meanwhile, capacities of the basic industries—steel, brass, aluminum, machine tools, etc.—are likewise being stepped up.

Besides paying the cost of industrial expansion for war goods, the British and Canadian governments are spending sizable sums for straight-out military projects: approximately \$13 million for ground works and \$20 million for buildings needed in the Commonwealth Air Training Plan; another \$7.5 million for airdromes required by the Royal Canadian Air Force; about \$20 million more on land defenses, training camps, barracks, etc., all since the break of war. But, more significant for Canadian Building's future is the recent speeding up of this program. All airdromes and training projects, the government announces, will be ready for use by year-end instead of one and two years hence, as originally proposed.

Organization. With rapid-fire construction the new order of the day, the Canadian government has revamped many cherished practices. Earlier system: National Defense Department engineers prepared all plans, supervised all construction. In some instances day labor was hired directly, but generally the government advertised for bids, opened them in public, automatically awarded contracts to the lowest bidders. Present system: All military projects are under a director of construction, but for many subsidized factories private architects and engineers are retained to make plans, in some cases to supervise construction. Standardized plans are used as much as possible to expedite design work. When drawings are ready, they are turned over to four or five hand-picked contractors who are allowed only two or three days to submit competitive prices. Where the need is too urgent to permit even this delay, the contract award is made directly on a cost-plus basis, with profits limited by law.

In this evolution the government has

followed recommendations advanced by Canada's National Construction Council, whose membership includes the Royal Architectural Institute, engineers' and general contractors' associations, various manufacturers' associations. Formed in 1933 to afford a common meeting ground for trade and professional associations and to find ways and means of cracking the depression, the Council lobbies potently in behalf of increased business and employment for its members. Council's first major accomplishment was to induce the Dominion to spend about \$60 million on public works as emergency measures for relieving widespread unemployment in 1934 and 1935. It was also a chief factor in securing legislation to prime the housing market. On break of war, it immediately went into action, petitioned the government with a plan to mobilize entire construction industry for participation in war projects. Although its recommendations have since been accepted in part, the Council itself has not yet been invited to cooperate as intimately as it hoped.

Keeping a watchful eye on a possible labor shortage, the government has also created a Labor Supply Board, made up of five labor representatives and five employers, two of whom are general building contractors. Program: to formulate plans for training mechanics. "Refresher" classes are now being set up in technical schools throughout the Dominion to put in trim skilled labor which has become rusty through long unemployment.

Outlook. Heavier income taxes and a new excess profits tax on all businesses to pay the war's cost loom black on Canada's horizon. Although increased taxation threatens to bend down the general business curve, observers believe Building will not be affected adversely, may even conceivably have a relative advantage. Reason: with industrial and farm employment on the upgrade, average incomes also rise, reflecting greater buying power for those families most in need of new housing. Topping this strategic position for Building is fact that most of its materials and equipment are exempt from the Dominion's 8 per cent sales tax, thanks to the National Construction Council's lobby in behalf of low cost housing. Taxed: hardware, electrical wiring and fixtures. No tax list additions are hinted.

A sudden peace, however, would probably upset Canadian Building's increasingly prosperous apperance. But it is generally agreed, Building would soon readjust itself and continue the slow uphill advance it has been making since 1932. If the war is prolonged, or if an unsatisfactory peace leaves Hitler master of all Europe, large scale migration from the British Isles to the Dominion is deemed likely. Any such shift of population will present Canadian Building with new housing headaches, requiring new legislation and government expenditures that undoubtedly would send the residential curve sky-high.



HOUSES AND LOTS AT \$1,570 REDEFINE LOW COST, put Owensboro, Ky., on Building's map. Secrets: minimum construction, mass production.

Accepted definition of the low cost house was revised last month as a pair of marketwise subdividers in Owensboro, Ky., put finishing touches on a group of three-room houses selling with land for a mere \$1,570 and launched a new project in which four-room units sell for only \$1,970. Financed with mortgages requiring monthly payments of only \$14 and \$18, respectively, the projects' 104 houses comprise the nation's first large scale FHA-insured operation in which prices are under \$2,000.

Situated about 130 miles west of Louisville on the Ohio River, Owensboro has a population of 30,125, four large industrial plants, several small ones, a large tobacco market, nearby oil fields and four operative builders. Three of these builders do a comparatively small volume, have never erected more than five small houses at a clip. The fourth builder is the Sandidge-Murphy Development Co. which was organized in November, 1939, by Insurance Man Christopher Caruther Sandidge and President Gleeson Murphy, Jr., of the local Murphy Chair Co., and has since put Owensboro on the building map. Aged 30 and directors of the city's energetic Chamber of Commerce, both men had learned a thing or two about housing—Partner Sandidge through his insurance connection with local real estate, Partner Murphy through his employment of factory labor and a previous house building enterprise. Year ago when FHA's Title I new construction program was publicized, they saw an opportunity to mass produce low cost dwellings to take the place of "the unsanitary and almost uninhabitable shot-gun houses in Owensboro renting from \$10 to \$15 per month."

To this end, they teamed up, bought a five-acre truck garden at the city limits, subdivided it into forty 58 x 70 ft. lots with the aid of a U-shaped gravel drive, and ran in storm and sanitary sewers. With the design assistance of the Ratican-Medley Co., which was given a complete "lock and key" construction contract for the 39 houses*, Partners Sandidge and

Murphy developed a three-room floor plan with five exterior variations. Original intention was to build the five variations of the basic model, have a grand opening and attempt to sell the other houses in advance of construction. But, in March rumors of the forthcoming development leaked out, prospects stormed the company's offices, looked at floor plans, sketches and specifications and bought all 39 houses within 25 hours.

Most of the purchasers are young married families. Each anted \$15 cash to reserve a lot and agreed to pay \$85 more when his house was complete. (Earning an average of \$100 per month, none of the purchasers made cash down payments in excess of the combined \$100 minimum.) Since all of the houses sold for \$1,570 and were financed with FHA-insured Title I Class 3 loans, their purchasers are required to pay \$11.24 monthly toward interest and 15-year amortization of the loan plus \$2.44 a month for insurance and taxes—a total of \$13.68.

Construction began April 15 under a schedule which called for the launching and, later, the completion of six houses per week. However, delays wrecked this schedule; all houses were under construction at once and were finished between June 15 and July 15—an average of three houses a week. Subdivider Sandidge figures that this, output plus the economies of large scale purchases, reduced costs about 20 per cent.

Costs were further minimized by the use of standard length materials, design standardization, tinting rather than painting plaster walls and omission of sheathing, insulation, gutters, and leaders. Moreover, heating equipment is not included in the sales price, but may be readily attached to the double-flue chimney in either living room or kitchen (see plan, opposite). Most purchasers have installed gas floor furnaces at about \$68 and, according to the local gas company, may expect a fuel bill of about \$5 per month during the heating season. Other owner additions: garages, driveways, flower boxes, shrubbery and kitchen cabinets.

Fired by the enthusiastic reception

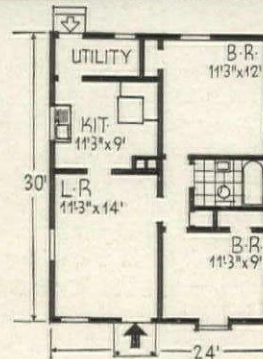
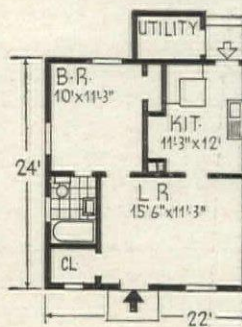
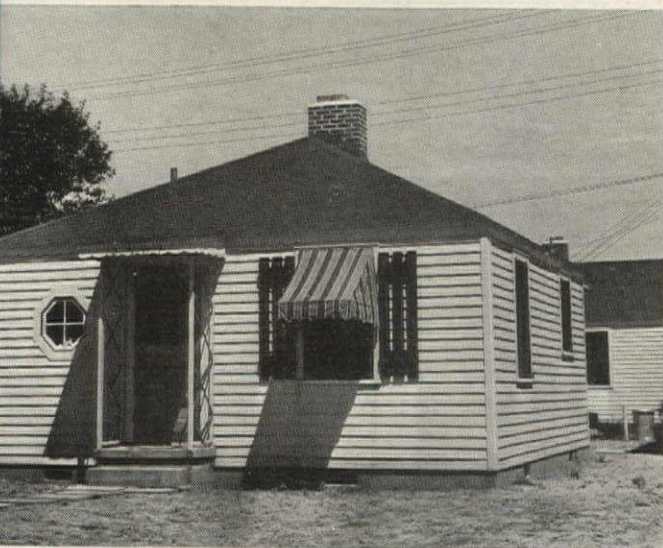
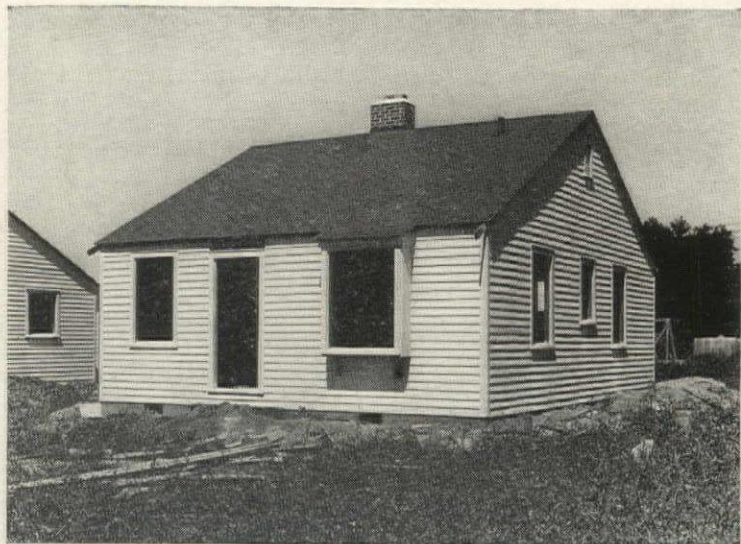
given their efforts, Messrs. Sandidge and Murphy—the day their trail-blazing project sold out—purchased another and larger land tract eight and one-half acres across from a large public park and, like its forerunner, conveniently near schools, churches, stores and employment sources. As in the previous development, cost of the 65 lots when improved came to about \$100 each. Only innovation was the development of a four-room house with exterior variations which sells for \$1,970 including a lot measuring either 40 x 100 ft. or 48 x 84 ft. Month ago, twenty of these two-bedroom houses had been sold, plus 22 one-bedroom units, and 42 houses were under construction. When completed and their Title I loans closed, it is expected that purchasers of the four-room units will be required to apply \$14.60 each month toward interest and amortization plus \$3 per month to cover taxes and insurance. If a gas-fired floor furnace is installed, fuel bills will boost this \$17.60 monthly total by an estimated \$6.50 during the heating season. (Cash deposits and down payments are the same for both size houses: \$15 and \$85, respectively.)

Subdividers Sandidge and Murphy are quick to admit that their houses are not the best they could build but believe that Owensboro's low incomers are getting the most housing possible for the money. And they undoubtedly are.

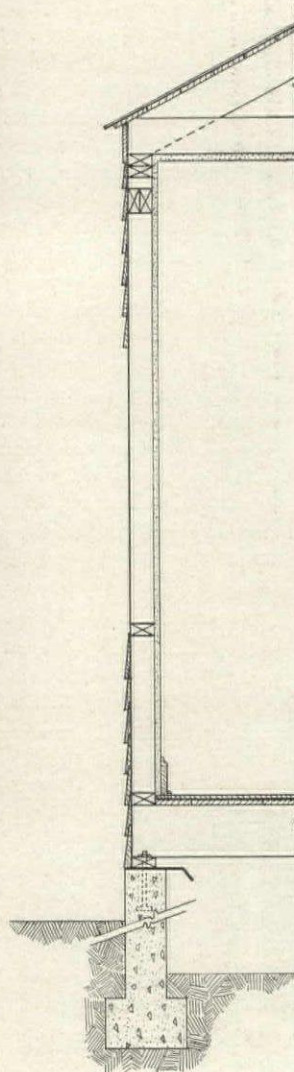
COST BREAKDOWN 3-ROOM HOUSE

Excavating	\$ 9
Concrete work	98
Brick work, flues	36
Lumber	631
Trim hardware	10
Flashing	2
Lathing & plaster labor	48
Plumbing & gas connections	226
Carpenter work	156
Electric wiring	26
Light fixtures	10
Painting	74
Sanding floor	8
Subtotal	\$1334
Cost of lot	100
Gross profit	136
TOTAL	\$1570

* One house came with the land.



Owensboro's low cost houses feature several good plan details (large kitchen-dining rooms, ample storage space), several exterior design shortcomings (fenestration, shutters). Construction is minimum, but meets FHA'S Title I requirements and local building code. Three-room houses (above) sell for \$1,570, including lot and gas, water, light and sewer connections. Four-room unit (upper right) sells for \$1,970. Ceiling heights: 7½ ft.



CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete walls and piers atop footings, Portland Cement by Missouri Portland Cement Co.

STRUCTURE: Exterior walls—½ x 6 in. No. 1 common Poplar siding; 1 layer 30 lb. felt; 2 x 4 yellow pine studs; ¾ x 1¼ in. yellow pine lath; three coats plaster. Interior partitions—2 x 4 yellow pine studding; yellow pine lath two sides, plaster two sides. Floor—2 x 8 joists 16 in. on center; 1 row 2 x 2 in. "X" bridging; 6 in. No. 3 com. yellow pine tongue and groove subflooring; layer of felt; ¾ in. x 1½ in. select white oak flooring.

ROOF: 2 x 6 in. rafters 26 in. on center; 6 in. No. 3 com. yellow pine tongue and groove sheathing; 1 layer 12 lb. per sq. ft. felt; 210 lb. thick butt asphalt shingles.

CHIMNEY: Brick with terra cotta flue lining.

SHEET METAL WORK: 40 lb. tin flashing around flues. Termite shields—galv. iron.

WINDOWS: Frames, fir—Long Bell Lumber Co.; sash—double hung on weights and cords, 12 light 1¾ in. ponderosa pine, toxic treated, Huttig Sash & Door Co.; glass—single strength, quality B; screens—full length cypress with black No. 12 mesh wire.

FLOOR COVERINGS: Kitchen—linoleum over ¼ in. fir plywood panel.

WOODWORK: All yellow pine. Doors—fir, Huttig Sash & Door Co.

HARDWARE: Materials by P. & F. Corbin.

PAINTING: All materials by Peasless-Gaulbert Paint & Varnish Co.

ELECTRICAL INSTALLATION: Knob and tube.

KITCHEN EQUIPMENT: Sink—20 x 42 in. American Radiator-Standard Sanitary Mfg. Co. Cabinets—Acme metal sink cabinet, Acme Mfg. Co.

BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Mfg. Co. Cabinets—Lawson Mfg. Co.

PLUMBING: Soil pipes—cast iron. All other galvanized iron. 30 Gal. range boiler with Hoffman gas side arm heater.

THREE JINX IN NEW APARTMENTS

are high rents, low working capital and out-of-season completion.
Eight projects, four insurance concerns and FHA take it on chin.

Before a Congressional audience back in February 1939, FHA Administrator Stewart McDonald was asked if it had been necessary to foreclose any of his Government-insured large scale rental housing projects. His curt reply was "No," but he qualified it with the frank admission, "One of them is scaring me a little bit." Exactly one year later that scare materialized, for on February 26 one of FHA's large garden apartment projects went under the foreclosure hammer. And, the sparks set off a long string of frightening fireworks which have popped the country over (St. Louis, St. Paul, Minneapolis, Dallas and New York) and have kept FHA hopping until last month it took over the eighth Government-insured project to go wrong. Today, FHA faces the unhappy prospect of paying insurance on \$10,125,000 worth of defaulted mortgages, 11 per cent of the aggregate amount insured, and of operating 2,294 dwelling units, 8 per cent of the program's total as of December 31.

FHA is not alone in its misery, however. Four top-notch life insurance companies are holding bags instead of mortgages; the sponsors, several of them architects and builders, are holding paper instead of stock while counting lost equity dollars; and a group of real estate management companies, bucking a wave of unfavorable publicity, are having trouble renting their empty projects. For the benefit of future rental housers, THE FORUM herewith presents a case-by-case diagnosis of the eight ailing projects—three are analyzed in detail below, the other five in outline on page 211, col. 3.

MANHASSETT VILLAGE, ST. LOUIS, MO.

Of all the cities on FHA's list of 218 rental housing projects, St. Louis has the blackest mark beside it. About 1,200 of the program's 28,352 dwelling units have been built in and around St. Louis—and 958 of them, in two projects, have come back to FHA to roost. First in St. Louis and first in the nation to run into trouble was Manhasset Village.

Project. Situated eight miles west of downtown St. Louis in suburban Richmond Heights (pop. 12,000), Manhasset Village contains 354 dwelling units in its seven three-story walk-up buildings and includes a five-building garage compound with a 220 car capacity. It covers 21 acres of well-wooded high ground in a sparsely developed section of the community where subdividers are currently erecting \$5,000-and-up houses. Despite these natural amenities, however, the site is far from ideal. Shopping facilities are not within walking distance, and, while an express highway to the city is nearby, the closest bus and trolley lines are one and one-quarter miles distant, the closest public school, three-quarters of a mile. To bridge these unfortunate gaps, the project itself operates free buses on half-hour schedules.

Construction is considered average, and design good. But, flat roofs and combination living-dining rooms are abrupt departures from local tradition; the latter,

In its May 1940 issue, THE FORUM discussed the market for FHA-insured garden apartment projects, observed: "1) The market is thin at \$15 per room and above; only about 10 per cent of all U. S. renting families can make such monthly payments for shelter. 2) Quantitatively, this market is well supplied. Vacancies are most numerous at the top of the rental ladder. . . . 3) Any high rent apartment project is a comparatively risky undertaking for the investor and, in turn, for FHA."

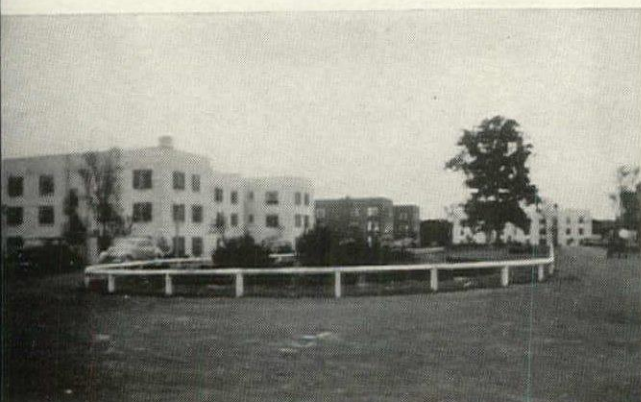
In February, the first FHA-insured apartment project was foreclosed; month ago the eighth turned sour. Presented on these pages, the diagnosis of this ailing octet shows that comparatively high rents were contributing factors to financial collapse. Average rent in only one project was below the \$15 per room per month level mentioned in the May FORUM, and it was only a scant 27 cents below. More important, the diagnosis points out several other obstacles to successful rental housing.

measuring only 11 x 15 ft. even in two-bedroom apartments, seem somewhat small in view of the rent scale (see below). Also, rental experience indicates an unwise distribution of dwelling unit sizes; thus, while most of the 60 three-room units were quickly rented, only about one-fifth of the 294 four-room units found immediate takers. After completion of the project and to comply with State law, it was necessary to add 62 fire escapes which detract from the buildings' appearance.

Finance. Manhasset Village's troubles began the day the land was purchased, for the unorthodox organizational activities were quickly spied and loudly publicized by the local press. Charge is that the site was purchased for \$39,350 by the builder's secretary and sold immediately for \$171,000 to the Manhasset Village Corp. which was formed by the builder and architect. The resultant written-up land value was then applied toward the required 20 per cent equity investment in the project. Balance of the equity was comprised mainly of stock in the corporation received by the sponsoring builder and architect in lieu of cash fees and profits. All told, the equity investment (most of it on paper) covered \$416,000 of the project's \$2,016,000 reported valuation or capitalization. The 80 per cent balance was raised via a \$1,600,000 FHA-insured mortgage written by the New York Life Insurance Co.

In addition to headlining these financial acrobatics, the press gave space to the complaints of local realtors who, fearful of the competition coming their way, criticized Manhasset Village as an unnecessary addition to St. Louis' supply of rental housing. Still more dirt was thrown when newshawks reported the project's plumbing contractor had been made plumbing inspector for the territory and was thus checking and approving his own work. And, as if the unwanted publicity was not enough to make the project's sponsors blush, its own publicity department referred to the development as "Government housing," bringing upon their heads the wrath of everyone who is against Federal subsidies. (Far from being public, FHA projects are privately financed.)

Rent. Black-balled before its construction began in February 1938, Manhasset Vil-



MANHASSETT VILLAGE



LUCAS-HUNT VILLAGE



FAIR OAKS APTS.

lage was finished a year later. Fact that February is nowhere near either of the usual renting seasons, and that the inflated capitalization dictated rents averaging \$15 per room per month contributed further to its miserable rental status upon completion. Only 60 of the 354 dwelling units were rented at the announced scale of \$49 for the three-room units to \$57.50 for the fours. Despite a knock-down in rents to \$45-51, in February 1940 at the time of foreclosure, the number of rented apartments had increased to only 113, an occupancy ratio of 32 per cent. Of the 60 three-room units, 52 were rented; of the 294 four's, only 61. In June, management of the project was placed in new hands, an aggressive advertising campaign was launched, rents were further shaved, and by early August, 32 additional units had been rented, bringing the occupancy to 145, or 41 per cent.

With the project continually operating at a sizable loss and without sufficient working capital to fill in the gap, the architect-builder owners defaulted on the mortgage principal and interest payment due September 16, 1939. Foreclosure proceedings were started and by early March FHA was the owner and operator of the project, having given the New York Life

Insurance Co. Government-guaranteed low interest debentures in an amount equal to the unpaid principal of the mortgage. Thus, pending an opportunity for FHA to sell the property at a fair price, Manhasset Village is, as originally and ironically advertised, a Government housing project.

Diagnosis. Most of the reasons for the project's failure are apparent in the foregoing discussion of its development. In summary: 1) Construction program was ill-timed in that the project was completed between the normal renting seasons. 2) Owners lacked sufficient working capital to run the project while it was being tenanted. 3) Financial organization of the sponsoring company was publicized unfavorably in the press and in Congressional hearings. 4) Owners of competitive apartment projects within the city conducted a hostile campaign. 5) Operation of a free bus service to distant schools, a shopping center and public transportation lines did not satisfactorily take the place of conveniently nearby facilities. 6) Promotional activities of the sponsors left much to be desired. 7) Experience indicates that more time might wisely have been spent on relating the project's design to the market. 8) Garage compound

is somewhat remote from residential buildings. 9) Rent scale was too high in relation to project's location and design. 10) Management policies were open to question: in an effort to correct the high-rent mistake and please all of its tenants, large concessions were offered—frequently involving three or four months' rent. Results: no one was pleased, and the whole rental picture was confused.

In addition to these more or less obvious obstacles to success, there are two

FAIR OAKS APTS. MINNEAPOLIS, MINN.

Buildings: 6 3-story units
Dwelling units: 224
Average monthly rent: \$16.25 per room
Valuation or capitalization: \$1,265,000
Total mortgage: \$960,000 (76 per cent)
Mortgagee: National Life Insurance Co.
Factors contributing to failure: Completed out of season. Lack of working capital. Publicity given discrepancy in FHA and tax assessors valuations and other factors similar to those affecting the failure of Highland Village which was built and originally owned by the same company (see text, p. 36).

PARKLAKE HOMES MINNEAPOLIS, MINN.

Buildings: walk-up
Dwelling units: 66
Average monthly rent: \$16.75 per room
Valuation or capitalization: \$407,000
Total mortgage: \$315,000 (77 per cent)
Mortgagee: Prudential Insurance Co.
Factors contributing to failure: Rent scale too high. Project got off to poor start.

STEVENS PARK DALLAS, TEX.

Buildings: walk-up
Dwelling units: 96
Average monthly rent: \$14.72 per room
Valuation or capitalization: \$508,000
Total mortgage: \$405,000 (80 per cent)
Mortgagee: Prudential Insurance Co.
Factors contributing to failure: Unfortunate location (Oak Cliff section) for project with existing rent scale—would probably have succeeded elsewhere in city, for demand is healthy and increasing. Exterior somewhat unsightly in that foundations extend above grade.

LARCHMONT ACRES MAMARONECK, N. Y.

Buildings: 8 6-story elevator units
Dwelling units: 384
Average monthly rent: \$17.50 per room
Valuation or capitalization: \$2,175,000
Total mortgage: \$1,650,000 (76 per cent)
Mortgagee: Northwestern Mutual Life Ins. Co.
Factors contributing to failure: Completed out of season. Rent a little too high in view of large local competition at this level. Internal trouble in management—disagreeing promoters preferred foreclosure to investing more funds.

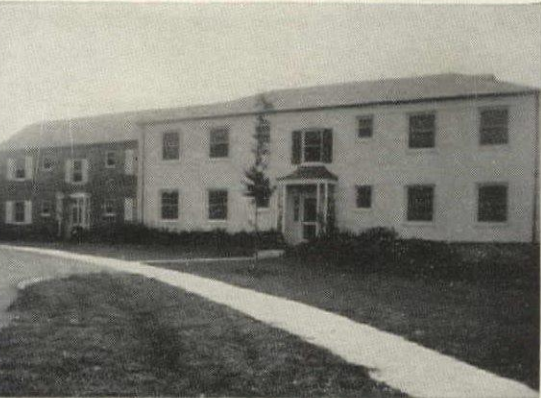
GARTH-GREYROCK SCARSDALE, N. Y.

Same original owners as Larchmont Acres (see above). Because of improved renting conditions foreclosure proceedings, although started, are being delayed on this project and probably will never be completed.
Buildings: 2 7-story units
Dwelling units: 301
Average monthly rent: \$18 per room
Valuation or capitalization: \$1,807,000
Total mortgage: \$1,395,000 (77 per cent)
Mortgagee: Prudential Insurance Co.
Factors contributing to failure: Completed out of season. Rents too high in that apartment competes with luxury buildings erected prior to Depression which have had equity money washed out and rents correspondingly lowered.

Vital Statistics—eight ailing projects against the averages.

	Average, 218 FHA projects*	Manhasset Village	Lucas-Hunt Village	Highland Village	Fair Oaks Apts.	Parklake Homes	Stevens Park	Larchmont Acres	Garth- Greyrock
Dwelling units	130	354	604	265	224	66	96	384	301
Rooms	479	1356	2160	1075	808	275	408	1392	1194
Rooms per unit	3.68	3.83	3.60	4.06	3.61	4.17	4.25	3.63	3.97
Rent per room	\$14.50	\$15.00	\$15.67	\$15.00	\$16.25	\$16.75	\$14.72	\$17.50	\$18.00
Valuation (000)	\$ 651	\$ 2016	\$ 3400	\$ 1395	\$ 1265	\$ 407	\$ 508	\$ 2175	\$ 1807
Value per unit	\$ 5010	\$ 5695	\$ 5667	\$ 5264	\$ 5647	\$ 6167	\$ 5292	\$ 5664	\$ 6003
Value per room	\$ 1361	\$ 1487	\$ 1574	\$ 1298	\$ 1566	\$ 1480	\$ 1245	\$ 1563	\$ 1513
Mortgage (000)	\$ 501	\$ 1600	\$ 2700	\$ 1100	\$ 960	\$ 315	\$ 405	\$ 1650	\$ 1395
Mortgage per unit	\$ 3853	\$ 4520	\$ 4500	\$ 4151	\$ 4286	\$ 4773	\$ 4219	\$ 4297	\$ 4635
Mortgage per room	\$ 1047	\$ 1180	\$ 1250	\$ 1023	\$ 1188	\$ 1145	\$ 993	\$ 1185	\$ 1168

* Average covers the 218 rental housing projects on which FHA had insured mortgages as of December 31, 1939. It does not cover the 51 projects which were financed under mortgages containing release clauses and which are not, therefore, comparable with the eight projects listed in the tabulation.



STEVENS PARK



PARK LAKE HOMES

basic reasons for the failure of Manhasset Village. In the first place, there is some doubt as to whether or not St. Louis offers a market for new rental housing at moderate to high rents. Amply qualified to judge is Economist Roy Wenzlick, a St. Louis resident and an adviser via his monthly *Real Estate Analyst* to financial institutions throughout the country. His research shows that "Greater St. Louis has never been a strong apartment city. In 1932, the last year for which definite figures are available, less than 10 per cent of our population lived in heated apartment units. . . . There was no shortage in apartment space in St. Louis at the time that these (Manhasset Village) units were authorized. The average vacancy in apartment units was about 7 per cent."

Surprising in the light of these statistics is the fact that FHA officials have authorized mortgage insurance in Greater St. Louis on fourteen rental projects whose 1,200 dwelling units have boosted the area's available supply by about 5 per cent. Justification for the two largest projects involving 954 dwelling units (Manhasset Village and another foreclosed project—see below) is admittedly weak and is the second basic fault responsible for FHA's current trouble. Thus, when general business activity and employment took a nose dive in the last half of 1937, New Deal spenders urged FHA to take part in the pump-priming program by getting more and bigger rental projects into construction, and in a hurry. Under this pressure, FHA became more venturesome, less exacting, and as a result is now paying for some of its follies. Had FHA's high command paid attention to its knitting, probability is that Manhasset Village would never have gone beyond the planning stage.

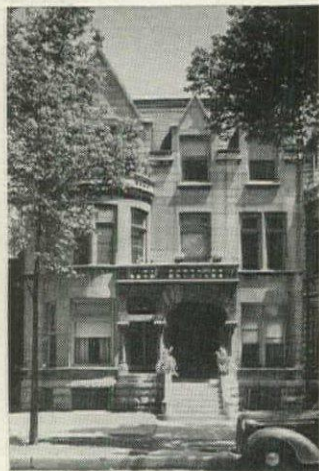
LUCAS-HUNT VILLAGE, ST. LOUIS, MO.

The third largest FHA-insured development in the U. S., this 604-unit project had three strikes against it before going to bat: 1) It was identified with Manhasset Village. 2) It had most of the unfavorable characteristics of Manhasset Village, and then some. 3) When it was ready for occupancy, Manhasset Village was ready for the wringer, and everyone in St. Louis knew it.

Project. Covering 49 acres of fairly high but flat and barren land, Lucas-Hunt Village is situated in the northwestern, most populous section of suburban St. Louis County, 35 minutes by automobile from the city's center, about one hour by bus or trolley. However, these public conveniences do not run within walking distance

(Continued on page 34)

* Interestingly, Economist Wenzlick's appraisal department has estimated the present worth of Manhasset Village as an investment at \$1,223,000, as opposed to the original \$2,016,000 capitalization which reflects the \$131,750 write-up of land value and was offered as security for the \$1,600,000 FHA-insured mortgage.

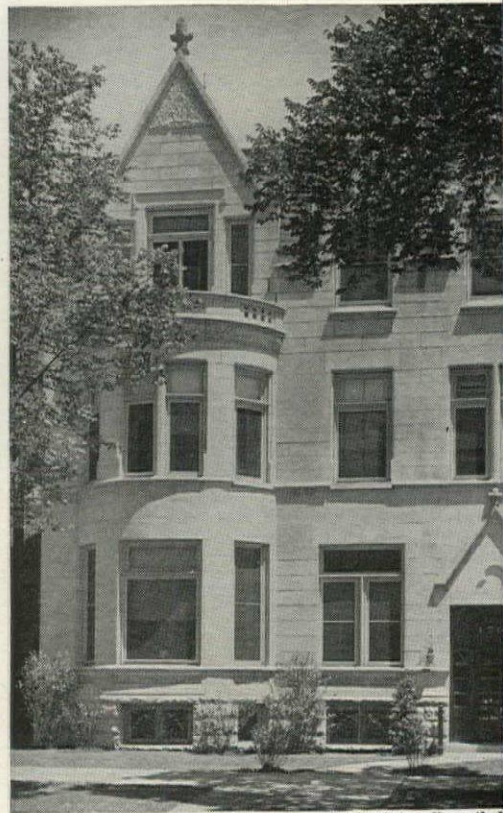


REPLANNING TRICK, pulled from a remodeler's hat, houses six families, ups gross income 125%

Not even a magician would undertake on short notice to double the earning power of the average business enterprise. But, real estate management is one business in which this trick can be performed and with but little sleight of hand. A convincing demonstration recently took place in Chicago where Realty Managers Cook & Jackson with \$13,500 worth of remodeling up their corporate sleeves converted a run-down rooming house into swank apartments and boosted gross income 125 per cent.

Once the private home of a prominent Chicago family, the Indiana limestone building contained eighteen rooms, plus six baths in its three stories and basement and was sandwiched between two other triple-decked residences. At the rear of the 41 x 132 ft. lot facing a public alley was a four-car garage and a four-room servants' apartment accessible from the street via a canyon-like walk at the left of the house. Pioneering a trend that has since become general, the building 26 years ago became a rooming house. For \$150 per month the owner leased the entire property to a manager who rented the unaltered rooms to whomever and for whatever he could get. In recent years his gross take averaged \$245 monthly (\$2,940 per year) or \$275 monthly (\$3,300 per year) including the \$30 monthly rent for the garage apartment. Of the owner's \$1,800 share, annual taxes ate \$980 on the basis of a \$10,764 assessment (1939).

Situated in the 1,500 block of North Dearborn Parkway, the building is a northerly stone's throw from the city's famous Lincoln Park and a three blocks easterly walk to Lake Michigan where Lake Shore Drive connects in fifteen minutes with Chicago's business center. While the general neighborhood from the 1,000 block to the Park has become infested with cheap rooming houses, the recent erection of several new apartment buildings, the steadfast maintenance of a few old homes by their owners and the conversion of many rooming houses back into respectable rental



All photos, Kenneth L.

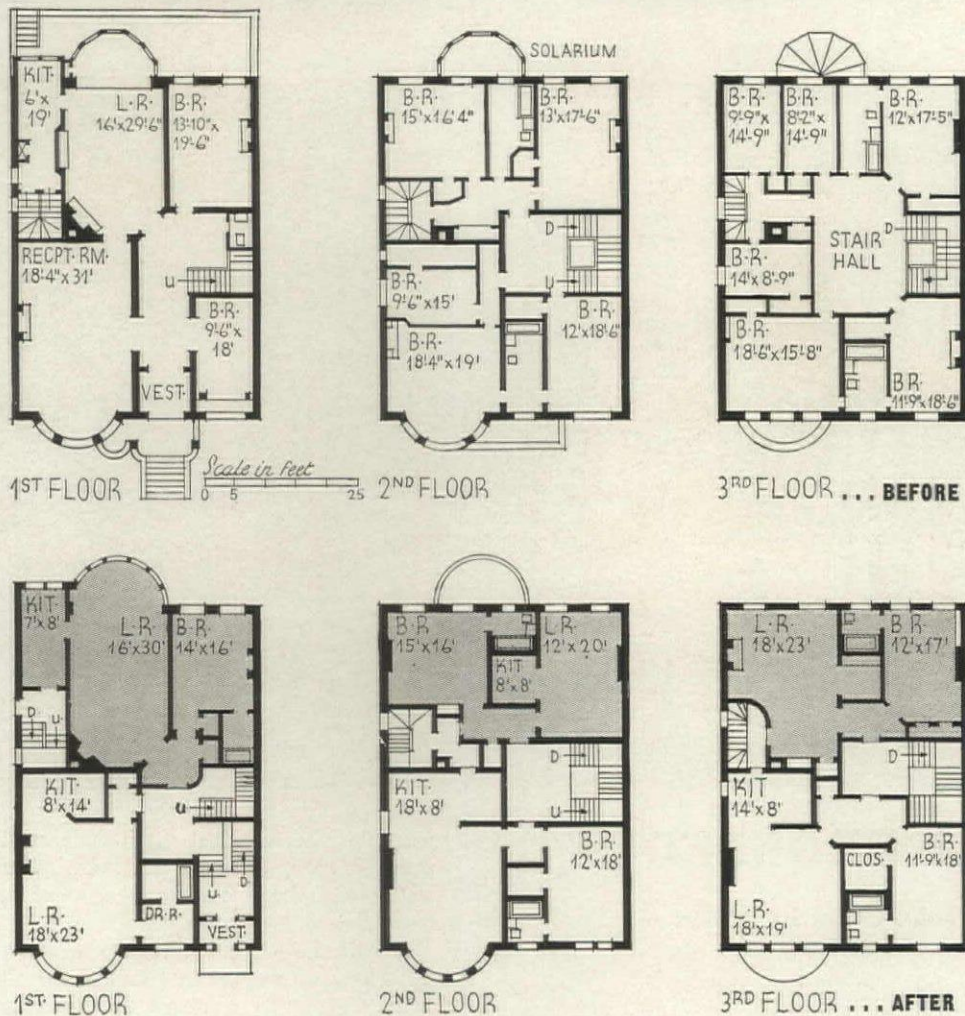
projects all point to a revival of real estate values. To capitalize on this trend, the Lake Shore Trust and Savings Bank, as trustee, agreed to let Cook & Jackson remodel and manage the building.

Thanks to the smart planning of Architect Frederick B. Schmidt, the task of converting the original one-family house into a half dozen apartments proved comparatively simple. Only about 160 lin. ft. of existing partitions had to be knocked down, and only about 200 ft. of new partitions had to be erected. Movement of the front entrance 10 ft. to the right and seven steps down was the only important structural alteration. Sandblasting the limestone and installing bronze "sun screens" were the only other improvements to the facade.

Most remodeling dollars were spent on interior finish and equipment. Major items: new plumbing fixtures, piping and wiring, new all-electric kitchen equipment, refinishing floors and painting. Remodeling totaled \$13,500 and was completed by mid-February. (Plans for the garage building, which has not yet been touched, provide for conversion of one of the four automobile stalls into tenant storage space and rehabilitation of the overhead apartment.)

Four of the six apartments were rented immediately; the others were gone by June. Ranging from \$75 to \$100, rents for the main building total \$550 per month, \$6,600 per year, or about 125 per cent more than before remodeling. Garages, at \$10 each, will swell the total to \$6,960, and the garage apartment, at \$90, will jack it up to \$8,040.

Optimistically hoping for and confidently predicting no change in the property's 1939 assessed valuation, Managers Cook & Jackson expect the two buildings to net about half their gross income, pay off remodeling costs in less than four years.



CONSTRUCTION OUTLINE

New materials and equipment

INSULATION: Rock wool over third floor plastered ceiling. Metal weatherstripping, Chamberlin.

SCREENS: Kool-Shade on facade, Ingersoll Steel & Disc Co. Ordinary half-screens on rear.

FLOOR COVERING: Kitchen—oak or linoleum, Armstrong Cork Co. Bathrooms—linoleum, Armstrong Cork Co. Oak floors refinished and waxed.

WALL COVERINGS: Living rooms, kitchens, halls, and bathrooms—paint. Bedrooms—wall paper. Bathrooms—tile and enamel.

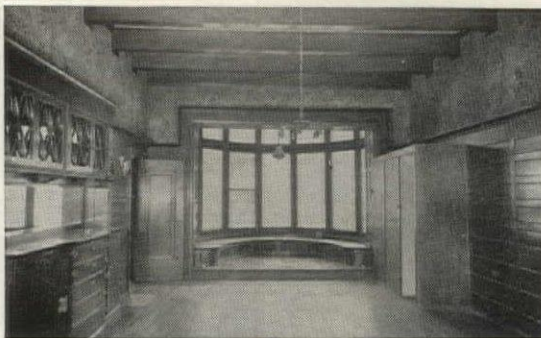
ELECTRICAL INSTALLATION: New BX cable wiring system, toggle switches and fixtures. Flat ceiling fixtures in bedrooms; tubular lighting over each sink as well as kitchen ceiling dome fixture.

KITCHEN EQUIPMENT: Ranges and refrigerators—Norge Corp. Sinks—enameled iron, American Radiator-Standard Sanitary Mfg. Co. Linoleum counters—Armstrong Cork Co. Cabinets—metal.

BATHROOM EQUIPMENT: All fixtures furnished by American Radiator-Standard Sanitary Mfg. Co.

PLUMBING: New cast iron soil, waste and vent pipes. New galvanized iron hot and cold water pipes.

HEATING: Hot water system. Boiler—American Radiator-Standard Sanitary Mfg. Co. Oil burner—Petro Nokol, Petroleum Heat & Power Co. Thermostatic controls—Raymond Duo-Stat.



LIVING ROOM, before

—after

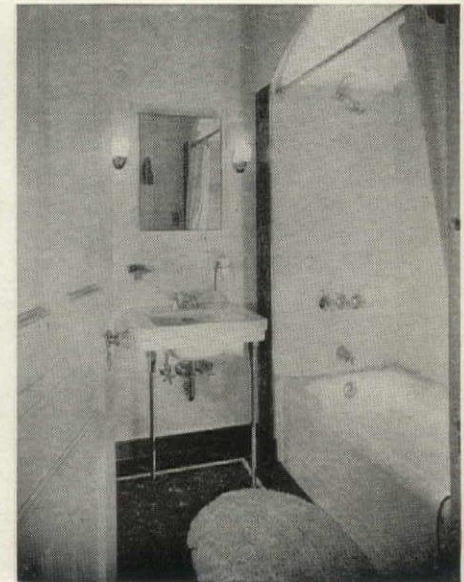


Simple changes in floor plans converted this ancient one-family Chicago house into six attractive apartments. Provision of two stair wells in the original building made new fire escapes unnecessary, give all but the first floor front apartment a separate service entrance. Monthly rents, first to third floors, front: \$75, \$95, \$95; rear: \$100, \$85, \$100. Note that white wainscoting in \$100 apartment living room (below) was all on one wall in original living room (left). Each big original bathroom (right) was cut in two, refinished.



BATH, before

—after





A BUILDER DODGES PROSPECTS

until his 17 houses are built, then sells them in a hurry.

Measured in building dollars and cents, Indianapolis trails the top-flight U. S. building centers, ranks 26th behind sprawling New York City. But, in the calibre of its home shows, Indianapolis leads the pack. Recent castings of these annual extravaganzas have included an indoor "shopping center" and a three-house indoor "subdivision" (ARCH. FORUM, June 1939, p. 4, June 1940, p. 4). They have attracted a lot of public attention (estimated attendance 1940: 100,000) and, equally important, have brought many a dollar and market lesson home to local builders.

One of these market lessons was taught to Builder Robert L. Mason, a recognized specialist in large residences for upper incomers, who erected a small indoor house as the 1938 show's focal point. Consumer reaction enlightened him on the large market for low cost houses, and he has been building them ever since. Seventeen of Mason's houses, ranging in price from \$5,400 to \$7,500 and designed by one of the city's outstanding architectural firms, are concentrated in a small suburban subdivision which has much to commend it.

Site selected for the operation would have made any subdivider's mouth water. Five miles northwest of Indianapolis' business center, it had been subdivided some twenty years ago, but meanwhile had been only sparsely developed with a handful of houses. The block purchased by Good Homes, Inc., the new project's sponsor and Builder Mason's employer, supported only a trio of houses at one end—its only debit. The block's credits were many: it was serviced by a 50 ft. landscaped parkway on one side, by a city street car line on another and by a 20 ft. concrete driveway

(super alley) down the center; it was conveniently located with respect to public schools, Butler University (two blocks distant), and shopping facilities (one mile distant); and all its essential utilities were already in place and paid for—sidewalks, sanitary sewers, water, gas and electricity.

Good Homes, Inc., made only one change in its land find: lot stakes, originally set 41 ft. apart, were pulled up, put down 48 ft. apart, making seventeen lots of a uniform 135 ft. depth. Then, Architects Pierre & Wright (Edward D. and George C., respectively) were commissioned to design a house for each lot, different in floor plan as well as exterior appearance. To their credit are the completed houses which feature several design details less aptly handled in the average house in their price class—simple ornamentation, low front stoops, chimneys in scale with the houses, combination living-dining rooms, numerous closets in addition to full basement storage space.

For one who had only recently dropped down from the big house field, Builder Mason learned quickly one of the fundamentals of low cost housing; he completed all seventeen houses exactly according to the architects' plans and specifications before trying to sell them. This permitted production to move smoothly without the costly delays and changes in design and specifications which usually result when a half-built house is purchased and becomes, as often as not, half speculatively built, half owner built. Further to minimize construction time and costs, Mason used power saws, steel scaffold brackets and other well-known short cuts. But, he did not skimp on the quality of material and equip-

ment. To wit: specifications include solid brass hardware, factory assembled window and screen units, balsam wool insulation, precast basement areaway walls, etc.

Since conditional commitments for FHA mortgage insurance were obtained for all the houses prior to construction, operations were watched by FHA as well as city inspectors. But, when with the aid of a couple of newspaper feature articles and a little classified advertising all houses were sold, only ten of FHA's commitments were exercised. Purchasers of the other seven houses either plunked down 100 per cent cash or made more than the minimum FHA downpayment. In the latter cases, the insurance company mortgagee accepted uninsured loans. Sales prices ranged from \$5,400 to \$7,500 including lots (about \$1,000 each), one-car detached garages (about \$175) and complete landscaping.

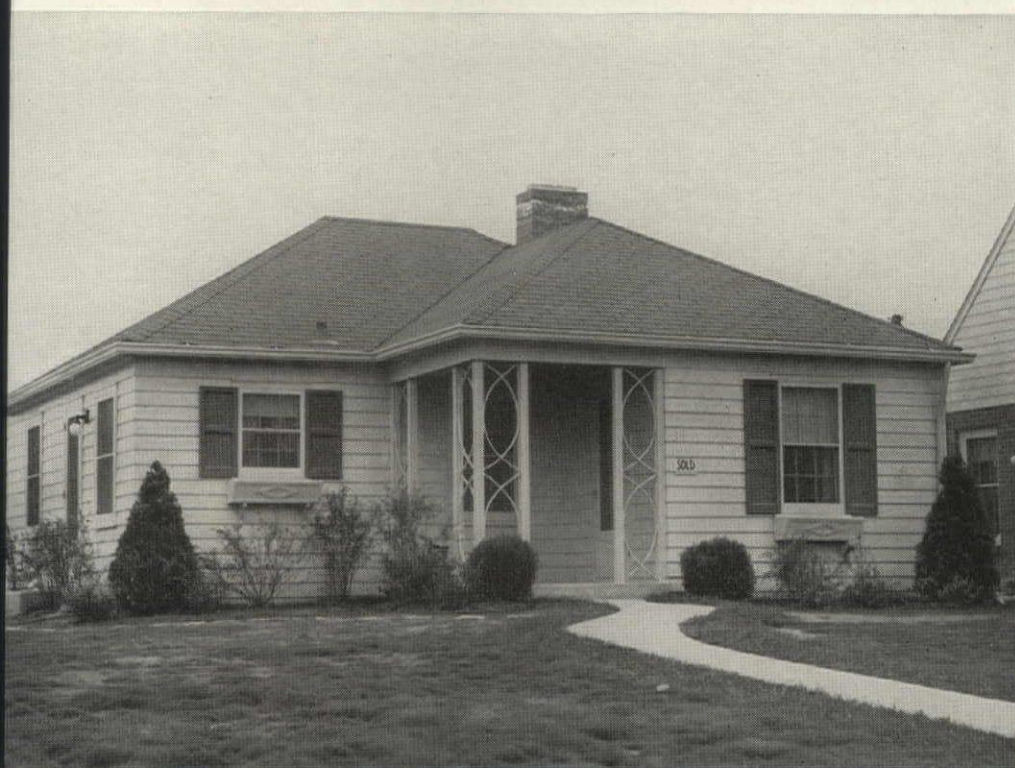
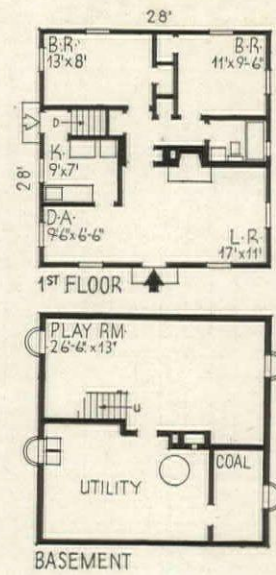
Feeling his way down the cost ladder with encouraging success, Builder Mason now plans to build a group of \$3,000 to \$4,000 houses.

CONSTRUCTION OUTLINE (house, right)

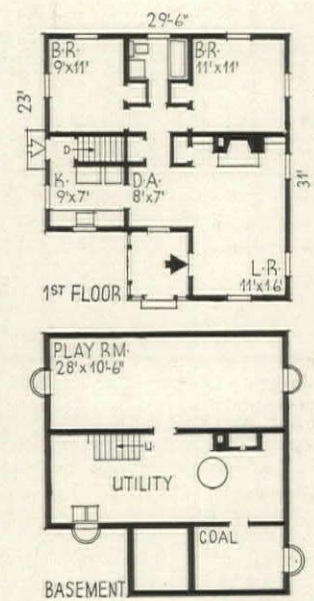
FOUNDATION: Concrete block.
STRUCTURE: Exterior walls—brick veneer, Nu-Wood sheathing, Wood Conversion Co., studs; inside—rock lath and plaster. Floor construction—sub-floor and oak finish.
ROOF: Covered with 215 lb. thickbutt asphalt shingles.
INSULATION: Outside walls—Nu-Wood sheathing. Ceiling (2nd floor)—rock wool. Side and knee walls—1 in. Balsam wool blanket. All by Wood Conversion Co.
WINDOWS: Sash and screens—Silentite, Curtis Companies.
FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum, Armstrong Cork Co.
DOORS: Interior—Curtis Companies. Garage—overhead type.
BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp.
HEATING: Hall-Neal gravity, humidified hot air system. Hand-fired coke furnace with floor registers.



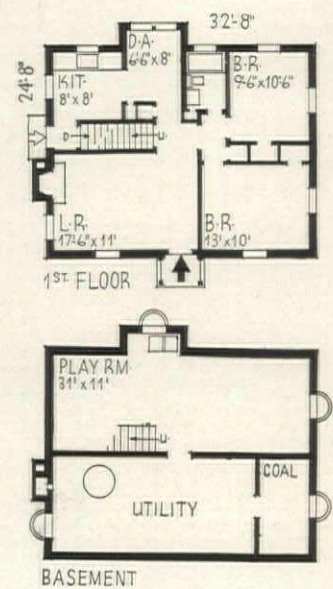
\$5,675



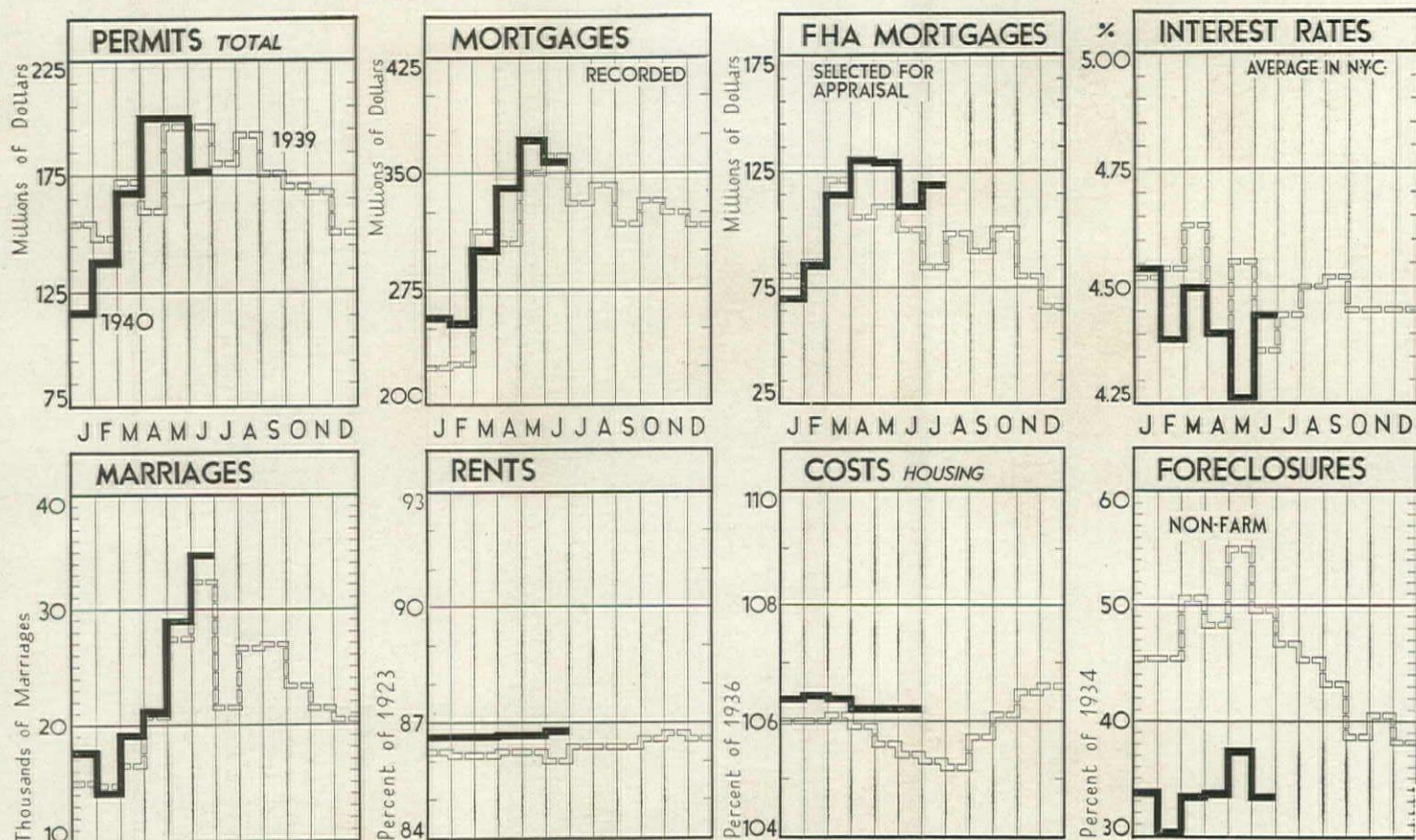
\$5,775



\$6,775



STATISTICAL BEHAVIOR GOOD as Building enters second half of year.



	LATEST MONTH*	PRECEDING MONTH	CORRES. MO. 1939	CUMULATIVE 1940	CUMULATIVE 1939		LATEST MONTH*	PRECEDING MONTH	CORRES. MO. 1939
PERMITS—residential (000,000) ¹	\$ 94.0ju	\$121.6	\$99.6	\$575.7	\$553.1	INSURANCE CO.—real estate held (000,000) ¹⁰	\$1,716.0ma	\$1,718.0	\$1,746.0
non-residential ".....	49.4	48.8	65.4	256.4	297.5	COSTS—wholesale materials (% of 1926) ¹¹	92.7ji	92.04	89.7
alterations ".....	34.4	30.9	31.1	166.9	173.4	housing—labor (% of 1936) ¹²	109.7ju	109.9	111.3
total ".....	177.8	201.3	196.1	999.0	1024.0	materials (% of 1936).....	104.4	104.4	102.5
CONTRACTS—residential (000,000) ²	\$145.9ma	\$135.4	\$133.8	\$555.3	\$532.6	total (% of 1936).....	106.2	106.2	105.4
non-residential ".....	90.2	88.8	76.7	375.8	423.7	RENTS—new leases (% of 1923) ¹³	86.8ju	86.7	86.0
engineering ".....	92.8	76.3	97.9	367.2	454.7	FORECLOSURES—non-farm (% of 1934) ¹⁴	33.8ju	37.2	49.5
total ".....	328.9	300.5	308.4	1298.3	1411.0	metropolitan (% of 1926) ¹⁵	108	119.0	161.0
DWELLING UNITS—total (000) ³	25.2ju	32.2	26.6	157.8	152.6	BOND PRICES—real estate ¹⁶	289.0ji	281.0	326.0
FHA—mortgage selections (000,000) ⁴	\$119.7ji	\$109.4	\$84.5	\$755.8	\$686.5	STOCK PRICES—bldg. materials (% of 1926) ¹⁷	68.1ji	58.1	89.6
mortgage acceptances ".....	88.1	84.4	52.9	486.6	422.4	WAGE RATES—common bldg. labor (per hr.) ¹⁸	\$0.707ag	\$0.707	\$0.685
rental housing mtgs. ".....	1.1	1.4	1.1	8.3	38.2	skilled bldg. labor (per hr.).....	1.476	1.476	1.444
modernization loans ".....	22.5	21.9	26.4	129.2	132.6	INTEREST RATES—N. Y. C. mortgages (%) ¹⁹	4.44ju	4.26	4.36
MORTGAGES—						COST OF LIVING—(% of 1923) ²⁰	86.4ju	86.0	84.7
savings & loan assns. (000,000) ⁸	\$116.6ju	\$123.5	\$113.5	\$598.8	\$545.3	PAYROLLS—factory (% of 1923-25) ²¹	96.4ma	96.3	85.0
insurance cos. ".....	28.9	29.1	30.0	151.5	157.1	PRODUCTION—industrial (% of 1923-25) ²²	114.0ju	109.0	98.0
bank and trust cos. ".....	87.6	91.2	89.6	465.3	448.8				
mutual savings bks. ".....	16.5	15.4	12.0	75.6	58.7				
individuals ".....	53.0	58.4	59.0	312.9	322.7				
other mortgagees ".....	52.9	54.9	55.8	282.9	265.6				
total ".....	355.5	372.5	360.9	1887.0	1798.2				
MARRIAGES—34 cities (000) ⁹	34.9ju	28.8	32.3	135.5	127.1				

FOOTNOTES:

- 1—Valuation of building permits to some 2,100 communities; source, U. S. Department of Labor.
- 2—Valuation of contracts awarded in 37 States; source, F. W. Dodge Co. 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 34 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 price of 200 hotel, office building and theater bonds; source, Amott-Baker & Co.
- 17—Average price of twelve building material manufacturers' stocks; source, Standard Statistics Co.
- 18—Source, Engineering News-Record.
- 19—Average interest rate on all recorded New York City mortgages of \$10,000 or more; source, N. Y. Mortgage Conference.
- 20—Covers clothing, food, fuel and light, housing and sundries; source, NCB.
- 21—Source, U. S. Dept. of Labor.
- 22—Combined unadjusted index; source, Federal Reserve Board.



Look what a world of difference TERRAZZO makes!



● Main entrance, Pulaski High School, Milwaukee. Floor of *FINE TERRAZZO* made with Atlas White cement. Architect, Guy E. Wiley; Terrazzo Contractor, American Marble Mosaic Co.

HOW MANY COLORS IN ABOVE FLOOR? Turkish Red, Yellow Verona, Red Verona, Verdolite, Botticino, Blue Turquin, Cardiff Green, Pink Tennessee, Virginia Black and Red Antique marble granules, in combination with green, red, blue, pink and brown color pigments and Atlas White cement.

A GLANCE at the floor of this \$1,500,000 Milwaukee school indicates the infinite color and design possibilities of terrazzo.

Years from now another glance at the same floor will show terrazzo still beautiful . . . with its original colors and design still clean-cut and sparkling. Further maintenance costs are practically nil.

There you have three reasons for the ever-increasing use of *FINE TERRAZZO* made with marble chips and Atlas White portland cement.

For remodeling or new construction, take ad-

vantage of terrazzo's unlimited possibilities in color and design and specify it on your next job. Atlas White (plain or waterproofed) gives terrazzo at its best—moderate in first cost, low in upkeep. See our ad in Sweet's Catalog or write for free booklet showing 24 true-color specimens of *FINE TERRAZZO*. Universal Atlas Cement Co. (United States Steel Corp. Subsidiary), Chrysler Bldg., New York City.

**. . . FOR FINE TERRAZZO SPECIFY
ATLAS WHITE PORTLAND CEMENT**



Buckeye Conduit is made of Steel, Lacquer and Loyalty

The most important element in conduit that will help you on the job is the *men who make it*.

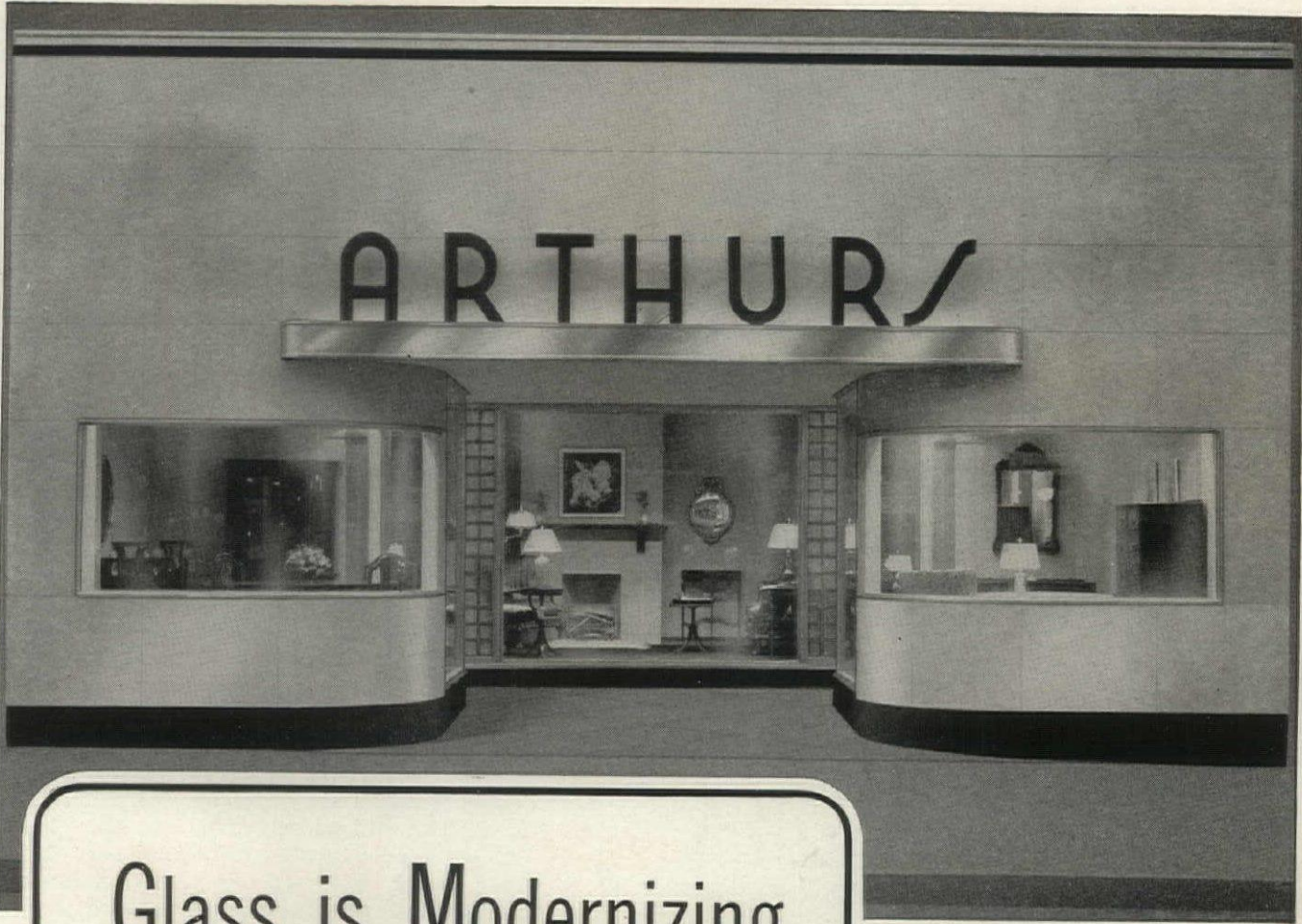
Buckeye Conduit is made in the largest and most modern conduit mill in the country. We're proud of that but we're a lot more proud of the men in those mills. Conduit making is still an art, and while these men of ours are as big and tough as they come, they're artists at their jobs. You'd know in a minute what we mean if you could see how skillfully the welder proceeds with his work only when the steel is heated within the narrow limits that mean perfect welding temperatures, and the pride he takes in every length he forms; if you could see the painstaking care of the men in the cleaning, baking and finishing divisions; and finally the sharp eyes of the inspectors who ruthlessly throw out any length that is not as perfect as it can be made.

These men -- many of them here for 20 to 30 years-- are as proud of their product as any painter could be of his work. You couldn't hire them to turn out a length of Buckeye that wasn't a tribute to their loyalty and skill. It is men like these at Youngstown that make us in the sales department proud to offer you the fine conduit they produce.



26-14C

**THE
YOUNGSTOWN
SHEET AND TUBE COMPANY**
Manufacturers of Carbon and Alloy Steels
General Offices - YOUNGSTOWN, OHIO



Glass is Modernizing Main Street

*by bringing new beauty and
versatility to store front design*

PERSONALITY, STYLE, SALES APPEAL!
Glass gives them all to this handsome Pittco Store Front in Decatur, Ill., designed by Engineering Service Corporation. This is a fine example of the versatility of glass in store front design. Note the attractive PC Glass Blocks which flank the center show window.

THERE is a kind of glass in the Pittco line to meet every store front need. Polished and Suede-finish Carrara Structural Glass, PC Glass Blocks and Architectural Glass, Pittsburgh Plate Glass, Herculite Tempered Plate Glass, Tapestry Glass, Pittsburgh Mirrors... these are some of the

glass products which have widened the scope of design and helped architects to make Main Street modern. All these Pittco Products are of high quality. All are meant to be used together to create harmonious, unified store fronts. And all of them can be readily obtained in identical

quality anywhere in the country. In your store front work, call on the versatility of glass to help you create striking, original fronts that get action for your clients. Mail the coupon now for more detailed information about Pittco Store Front Products and for graphic examples of the magic of glass in modernizing Main Street.

At the New York World's Fair, see the miniature Pittco Store Fronts in the Glass Center Building, and the full-size Pittco Fronts of the Avenue of Tomorrow in the Forward March of America Building

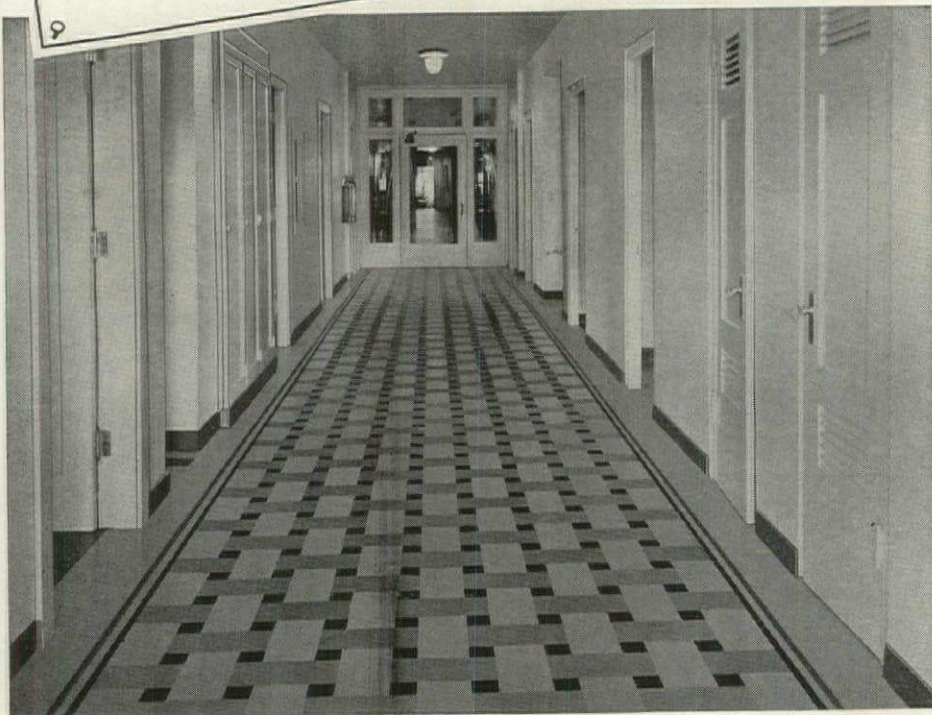
PITTCO STORE FRONTS
PITTSBURGH PLATE GLASS COMPANY
"PITTSBURGH" stands for Quality Glass

Pittsburgh Plate Glass Company
2217 Grant Bldg., Pittsburgh, Pa.
Please send me, without obligation, your new book entitled
"How to Get More Business."

Name.....
Address.....
City..... State.....

**KEEP
CORRIDORS
QUIET**

As people pass down this corridor in the X-ray department of the Hollywood Hospital, of Los Angeles, their footsteps are hushed by the resilient floor of Armstrong-Stedman Rubber Tile in tan, brown, and dark mahogany. Consultant: C. S. Pitcher, Hollywood Hospital, 1322 N. Vermont Avenue, Los Angeles, California.



It's easy with floors of Armstrong-Stedman Reinforced Rubber Tile

HOSPITAL floors must be quiet and durable under the tread of hurrying feet. Yet they must be colorful and attractive if they are to keep the hospital from looking cold and institution-like. Floors of Armstrong-Stedman Reinforced Rubber Tile meet all these requirements.

This resilient flooring—extremely quiet underfoot—is available in scores of handsome colors and grainings that add warmth and beauty to any room. These colorings do not scuff off, because they run through the full thickness of the composition, which is fibre-reinforced for additional wear.

Armstrong-Stedman Rubber Tile is comfortable and restful—a feature that weary nurses and doctors appreciate. It is easy and inexpensive to maintain by daily dusting and occasional washing and waxing—a fact that appeals to cost-conscious superintendents and hospital boards.

Colors in "Sweet's"

For more complete data on this accepted hospital flooring, write now for a file-sized copy of *Quiet, Comfort, and Color in Floors*. Armstrong Cork Company, Building Materials Division, 1204 State Street, Lancaster, Pennsylvania.



ARMSTRONG'S FLOORS RUBBER TILE

Linoleum - Linotile (Oil-Bonded) - Asphalt Tile - Cork Tile - Linowall Wall Covering

APARTMENT JINX

(Continued from page 212)

of the project, must therefore be reached via project-operated buses. These vehicles also transport children to school in Pine Lawn and Pasadena, shoppers to a wide variety of Pine Lawn stores, amusement seekers to a second-run theater in the same community.

The project's buildings as well as its site are less attractive than Manhasset's. Arranged in an uninteresting regular pattern, the 27 three-story walk-up buildings contain 240 three-room dwelling units and 364 four-room units—a considerably better distribution of apartment sizes than in Manhasset Village. However, their organization and exterior design (see photograph) uncomplimented by meagre landscaping have prompted some observers to describe them as bare and barrack-like. Eight garage buildings make room for 431 automobiles.

Financing of Lucas-Hunt Village followed closely the shaky steps taken in the development of its predecessor. Again, it is charged, the builder's secretary bought the land and sold it to the sponsors. The reported prices: \$73,000 and \$300,000, an overnight write-up of \$227,000, or 300 per cent. On the basis of this land value and development costs, the completed project was valued and capitalized at \$3,400,000. Northwestern Mutual Life Insurance Co. supplied 80 per cent of this amount (\$2,700,000) in return for an FHA-insured mortgage, while the written-up land value and the architect's and builder's services were anted as an equity investment to cover most of the 20 per cent balance. Result: Lucas-Hunt Village was subjected to the same press and Congressional attacks as helped ruin its sister project.

Rent. Not surprising therefore was the fact that upon the ill-timed completion of the first two buildings in November 1939, only eleven families moved in. By the time the balance of the project was completed in February, 38 more units were occupied, and in the following five months 56 more leases were signed at the original rent scale—\$42-57, or an average of \$15.67 per room per month excluding garages at \$2 apiece. Then, like Manhasset Village, the project went under new management. Rents were trimmed to \$41-48 and, thanks to more energetic promotion, nineteen more units were leased by August 3, date the project was officially taken over by FHA. With only 124 out of 604 apartments rented, the project's 21 per cent occupancy ratio makes Manhasset Village's measly 41 per cent appear large by comparison.

Diagnosis. Due to their many similarities, particularly in the more unfortunate de-

(Continued on page 36)

EVER JUDGE PAINT BY ITS TRADE-IN VALUE?



"Mister, I'll make you a *liberal* allowance on your old Dutch Boy paint job."

If a painter made a proposition like that, the property owner would hardly believe his ears.

Yet as a matter of fact, good paint does have a trade-in value.

This value is not brought to light until it's time to repaint. Then the owner discovers whether he's turning in a good car—or a jalopy.

Generous "trades" are the rule when the previous painting was done with Dutch Boy White-Lead. This fine paint cuts down the cost of the new job in two ways:

1. No old paint to be removed! Dutch Boy does not crack and scale. There are no scaly sur-

faces that have to be burned and scraped off (that's slow, costly work) before they can be repainted.

2. No new priming coat. Since the Dutch Boy is smooth and unbroken, it is not necessary to re-prime the surface before applying the new paint.

Make sure that your clients get paint with this high trade-in value. Plus long wear. Plus beauty. Specify Dutch Boy White-Lead.

NATIONAL LEAD COMPANY

111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th 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., 1376 River Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Building, Philadelphia.



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.

There is a Different IRON FENCE!



To Architects who ever have occasion to specify Iron Fence, we want to talk about a product entirely different and infinitely better than any other on the market. We want to tell you about a fence panel that cannot sag even when severely overloaded. We want to prove that grooved square bars of rust-resisting copper-bearing steel electrically welded under tremendous pressure insure beauty of design, permanence of alinement and longevity of life.

Let us present you with an actual sample of an electric-pressure-weld that forms an inseparable union between Anchor pickets and their carrier rails. There is no charge or obligation, and we promise that you will see something different and better than the conventional product. To obtain sample weld and descriptive catalogs, just clip and mail the coupon.

ANCHOR FENCE

MAIL THIS COUPON TODAY

ANCHOR POST FENCE CO.,
6635 Eastern Avenue, Baltimore, Md.
Please send Architect's catalog showing Anchor-Weld Iron Fence, and a sample weld for my examination.

Name.....
Firm.....
Address.....
City..... State.....

APARTMENT JINX

(Continued from page 34)

tails, Manhasset and Lucas-Hunt Villages failed for about the same reasons (see p. 211, col. 2). Had the latter project been postponed until the former had been given an opportunity to measure the various dimensions of the St. Louis rental market, chances are it would never have been built—at least, not as it is.

HIGHLAND VILLAGE, ST. PAUL, MINN.

Vying closely with St. Louis for the dubious honor of having the most foreclosed FHA-insured apartment units, the Twin Cities have seen three projects containing a total of 555 dwelling units immersed in financial hot water.

Project. Biggest of the trio, Highland Village, once known as Lakeland Manor, is situated midway between the Twin Cities' downtowns on high ground commanding an excellent view of much of St. Paul and part of the Mississippi River gorge. Its well landscaped, rolling 22 acres sprout a natural growth of trees. And besides being comfortably near the Ford plant, the Ford Bridge to Minneapolis and a high-priced boom-time subdivision called Highland Park, the project is admirably located with respect to shopping and public transportation centers. Moreover, a nearby golf course supplements recreational facilities on the site.

Inside its sixteen two- and three-story buildings are 265 one- and two-bedroom apartments. A detached garage compound makes room for 150 automobiles and may be readily expanded in line with demand.

Finance. In approving Highland Village for mortgage insurance, FHA valued the entire development at \$1,395,000, and on the basis of this figure the contractor-owner obtained the \$1,100,000 proceeds of 79 per cent loan from the National Life Insurance Co. of Vermont. Upon completion of the project, however, county officials for tax purposes placed a "fair and true" value of only \$45,000 on the land, \$862,400 on the improvements. The \$907,400 total, only about 65 per cent of the project's capitalization, raised many a St. Paul eyebrow when publicized editorially in the local press. Furthermore, some observers conclude that the contractor-owner obtained a loan large enough to cover more than his costs and built the project as a speculative sales venture. Fact that he disposed of it prior to completion (October 1939) lends weight to this conjecture.

Rent. Upon completion of the buildings in December (three months too late for Minnesota's normal renting season), rents were set at \$50-60 for the one-bedroom apartments, \$60-75 for two-bedroom units
(Continued on page 38)



What old New England sea captains could tell modern home-builders about

KEEPING BEAUTIFUL WOOD BEAUTIFUL

Back in the days when Americans toted a gun for Indian protection every time they ventured outdoors—they already knew the secret of having beautiful woods indoors. For even then New England captains brought shellac from India, to give pine-penelling and floors that hand-finished effect we now admire.

Beauty-loving colonists dissolved the shellac in pure alcohol, applied it in thin coats after the woods had been sanded smooth, and then brought it to a polish with a coating of wax from their own bee-hives.

A Lasting Beauty Treatment

Today, except for the use of paste wax, the beauty treatment for good wood is identical in process, and even more effective in results. Shellac is the toughest, most enduring finish that can possibly be used—it doesn't crack under hammer blows, doesn't break down in bowling alleys, comes out gleaming and fresh after a busy night in a ballroom!

Specify a Pure Shellac

On your next building, make sure those good floors stay that way for years to come—beautify them and protect that beauty, by specifying a good pure shellac. Write Shellac Information Bureau, 70 Pine Street, New York City, for a free copy of the standard specifications for architects, as approved by the American Bleached Shellac Manufacturers Association.

SHELLAC INFORMATION BUREAU

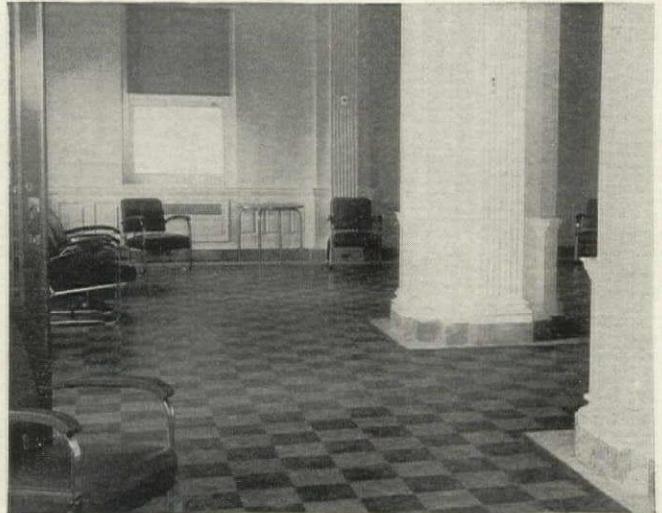
70 PINE STREET • NEW YORK CITY

Sloane-Blabon Linoleum

One of Your Dependable Aids



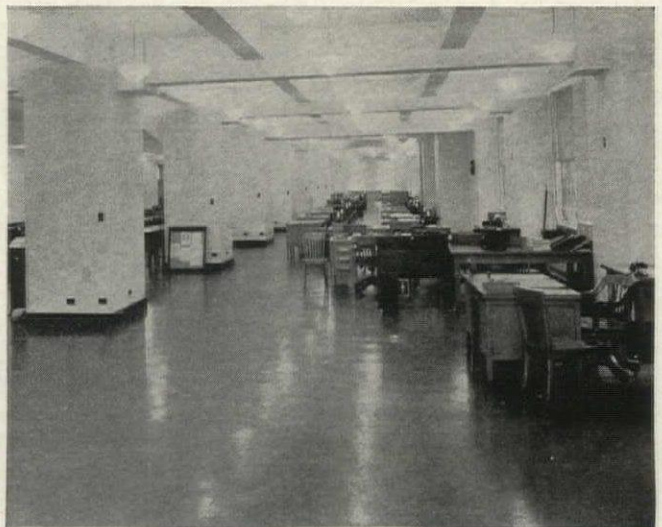
A striking note is achieved by the use of special insets in this child's room of a home in Newton Center, Massachusetts.



Sloane-Blabon Battleship Linoleum was specified for installation throughout the new U. S. Veterans' Hospital at Dallas.



In the new Men's Dormitory at Ohio State University, Columbus, 10,000 square yards of Sloane-Blabon Battleship Linoleum was used.



Its durability, ease of maintenance and quietness made Sloane-Blabon Linoleum the choice for the offices of the Cities Service Company, N. Y.

You can bank on Sloane-Blabon Linoleum to meet your most exacting requirements when it comes to the floor covering. Whether the primary requisite is one of design and color to accent a particular decorative note in home or apartment, or whether the practical qualities of long wear, resilience and quietness are paramount, there is a Sloane-Blabon Linoleum to fill the bill.

Wherever installed, Sloane-Blabon Linoleum offers the plus advantages of cleanliness and of ease and economy of maintenance.

An exclusive feature of Sloane-Blabon Linoleum is that it is delivered to the job mill waxed, a factor that means a substantial saving in your cost estimates to the owner.

You can confidently specify Sloane-Blabon Linoleum for any flooring need.

Sloane-Blabon Linoleum is giving satisfactory service in thousands of commercial, institutional and residential installations throughout the country. With distributors everywhere carrying complete stocks, it is quickly available whatever your specifications require.

L I N O L E U M S

BY

Sloane-Blabon

C O R P O R A T I O N

295 FIFTH AVENUE, NEW YORK, N. Y.

A National Organization with Distributors Everywhere



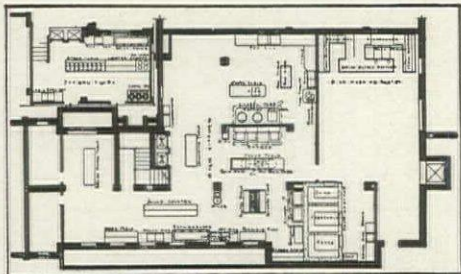
BE SURE YOU'LL NOT NEED A TRAFFIC COP IN THAT KITCHEN

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

APARTMENT JINX

(Continued from page 36)

—an average of about \$15 per room per month when due weight is given to half rooms. Five months later when foreclosure proceedings began, the 265 apartments were less than half rented. Today, in an effort to get the project in the black before expiration of the State-required one-year redemption period (for which FHA must wait before taking possession), the management is changing the heating system over to natural gas with the hope of saving half the annual fuel bill and is offering \$10 for each successful tip as to the name and address of families who might be interested in renting a Highland Village apartment. With the aid of leaflets publicizing this novel offer, the management hopes to bring occupancy up to at least the 75 per cent level where the project will begin to show a profit. But, despite the development's difficulties, rents have not been lowered.

Diagnosis. As in St. Louis' cases, major reasons for the failure of Highland Village were its out-of-season completion date and the fact that its owners were apparently more interested in its construction than its operation and were without sufficient working capital to carry the project through what will probably be its most troublesome year. Numerous other factors have combined to discourage the renting of its apartments: 1) Dwelling unit rents are too high to appeal to low incomers, and, according to some observers, the apartments lack the interior appointments necessary to attract higher income groups. 2) Unsavory publicity was given the discrepancy between the FHA and local appraised valuations. 3) Several elements of design have met with consumer disapproval. For instance: Since there are no service roads on the site, garbage collections must be made from front doors, and, when a tenant is away for the day, his unsightly garbage pail may stand beside his door for many hours. 4) Three-story buildings are without inside access to the basements, and basement locker space has been criticized as inadequate. 5) Attitude of the local FHA office, which has acted as though there were something to be hidden, has not been helpful.

SUMMARY

In addition to the three ailing projects discussed in detail above, another five have suffered by their sponsors' mistakes: two smaller developments in Minneapolis, one in Dallas and a pair of large elevator projects in suburban New York (see tabular summaries, page 211). Significantly, all eight have run into trouble for one or more of four reasons:

1 Poor timing of construction contributed to the downfall of no less than seven of

the eight projects. FHA cannot require that a project be completed at the outset of a locality's normal rental season; it can only preach its obvious importance.

2 Insufficiency of working capital, particularly when combined with the off-season completion of a project, is usually fatal, but fortunately, is something FHA can control. When most of its ill-starred projects were approved for mortgage insurance, FHA required that the sponsoring corporations have a minimum working capital equal to only 1 per cent of mortgage principal over and above the estimated funds necessary to carry development of the projects through the construction and normal renting period. Having learned by bitter experience that this figure was dangerously low, FHA has long since jacked it up to 3 per cent.

3 Dubious financial procedure has been advanced as the reason for the failure of half the eight projects. Due largely to the alleged writing-up of land values in the two foreclosed St. Louis projects, Congress last year amended the National Housing Act to limit the principal amount of Government-insured rental housing mortgages to the estimated cost of completed physical improvements, exclusive of land, public utilities and streets, taxes, interest and insurance during construction and organization, legal and miscellaneous expenses incidental to construction. Interestingly, this proviso, in conjunction with a decree that labor on such projects be paid prevailing wages, has greatly curtailed the volume of construction under this section of the Act.

4 High rent is the final common cause of housing failure. As shown in the tabulation on page 211, original room rents in all eight ailing projects were well above the program's \$14.50 average. Having admittedly burned its fingers by authorizing above-mass-market rents (in some FHA-insured projects they ran as high as \$22 per room per month), FHA five months ago ruled that it would approve no future projects in which this figure exceeds \$13.50, with the possible exception of those planned for metropolitan centers of one million population or more, where the ceiling was set at \$15 per room.

If their sponsors had paid stricter attention to local housing markets and had FHA several years ago brought currently existing limitations into play, chances are that most of the eight ailing projects would never have been built or, if built, would be in better health today. But, they may still get well. FHAdministrator Stewart McDonald before the same 1937 Congressional audience that heard his first foreclosure scare announced: "I do not think there is a single large rental project in St. Louis that has not gone through receivership at some time."

COMPLETE FREEDOM of EXPRESSION *when you specify floors of J-M ASPHALT TILE*

Available in a wide range of colors and patterns, J-M Asphalt Tile offers you unlimited possibilities in designing floors that combine decoration, quiet and low upkeep

MARBLEIZED COLORS

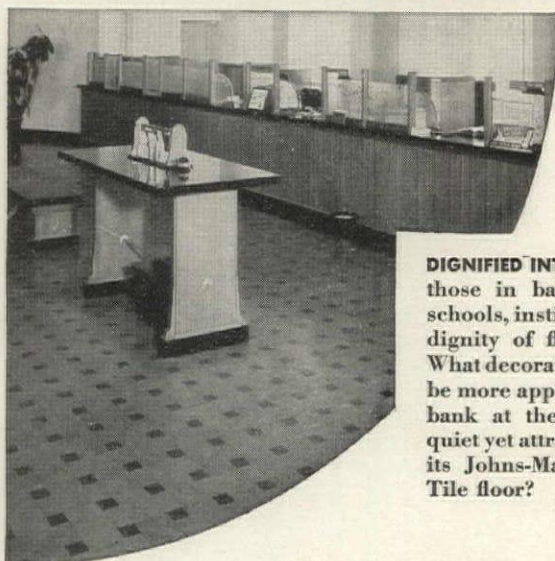
open up many possibilities to those who seek beauty in floor design. Here they have been used to provide a simple yet effective "overall" pattern for an executive's office.



SMART, MODERN floor designs that harmonize with modern business interiors are readily achieved with Johns-Manville Asphalt Tile. The floor of this display room is a typical example.



UNUSUAL PATTERNS like the one shown at the left are easy to design with J-M Asphalt Tile because of the wide range of colors and sizes you have to work with. Note how the interesting wall motif has been repeated in the floor.



DIGNIFIED INTERIORS such as those in banks, hospitals, schools, institutions require dignity of floor treatment. What decorative effect could be more appropriate for the bank at the left than the quiet yet attractive design of its Johns-Manville Asphalt Tile floor?

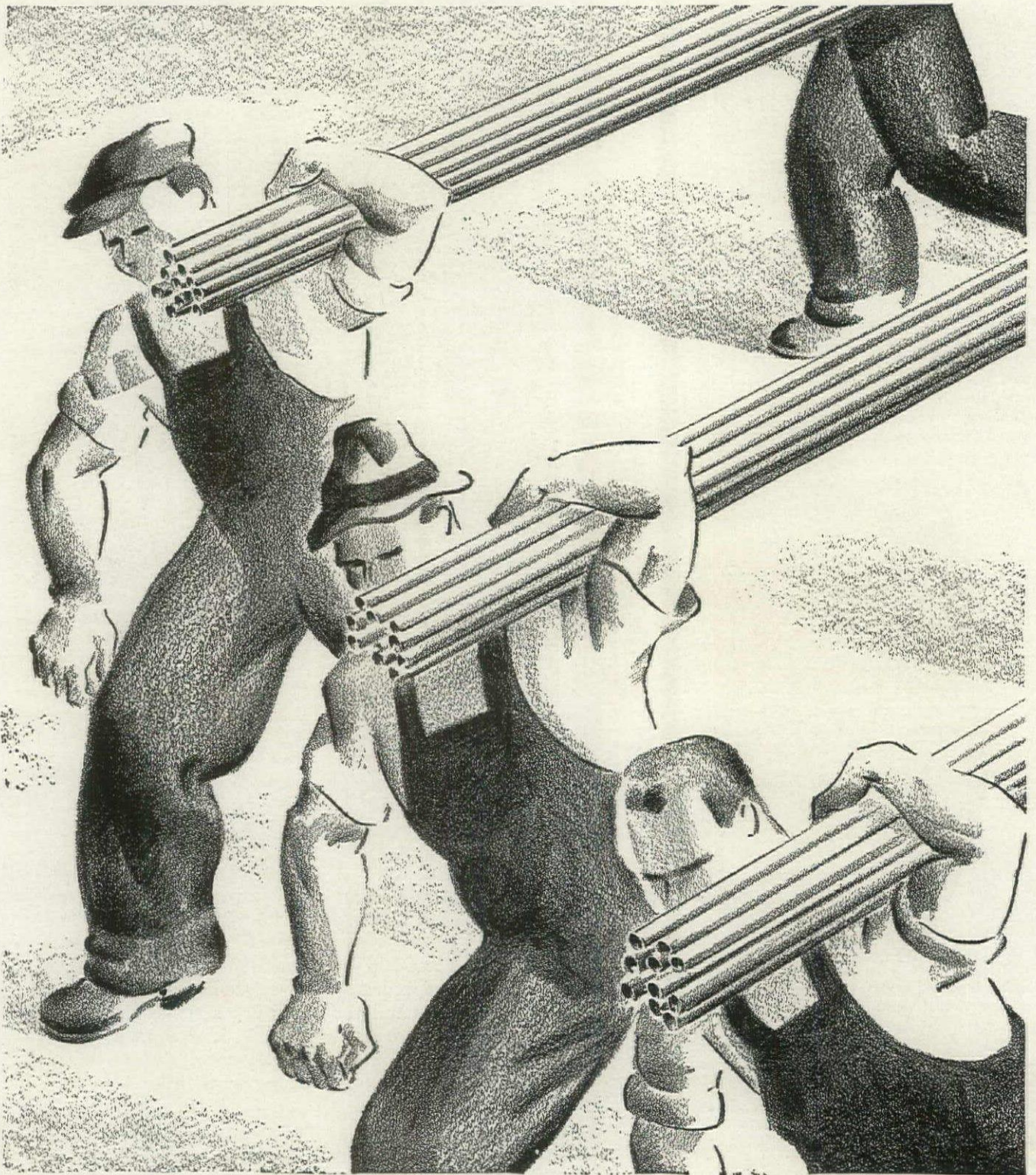
WHETHER your clients want floors with cheerful, gay patterns or quiet dignity, you can always create exactly what they require with J-M Asphalt Tile. This modern flooring comes in a wide range of colors, both plain and marbled . . . from which any type of pattern is easily designed. Actually you are limited only by your imagination. And the versatility and beauty of J-M Asphalt Tile are matched only by its unusual resistance to wear. Your clients are assured years of trouble-free service with this quiet, comfortable, easy-to-maintain flooring.

You'll get hundreds of ideas for decorative floors from the new J-M Asphalt Tile Brochure. Crammed with pictures, many in color, this stimulating book gives all the facts on J-M Asphalt Tile. For your copy, write Johns-Manville, 22 E. 40th St., New York, N. Y.



Johns-Manville ASPHALT TILE FLOORING

"Shall be" . . .



Subsidiary of
KENNECOTT
COPPER CORPORATION

CHASE BRASS

... What?

THE water pipes you are specifying for that beautiful new home . . . the heating system you are planning for that fine new school . . . the well-designed roof you are sketching for that country house . . . the gutters, the downspouts, the flashing, the screen cloth, the plumbing and lighting fixtures . . . "Shall be" . . . What?

"Shall be *brass or copper*"—if they are to look well, wear well, and work well—today, and in the years to come.

"Shall be *brass or copper*"—if they are to reflect credit on the architect and give satisfaction to the client.

"Shall be *brass or copper*"—if they are to last longer . . . serve better . . . and save the owner the expense of repairs and replacements caused by rust.

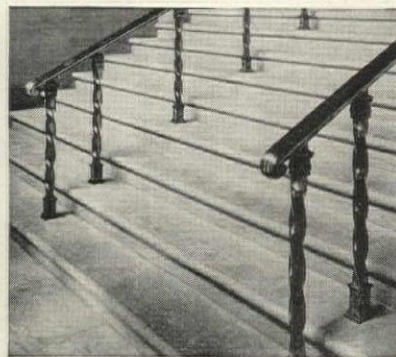
An ever increasing number of specifications call for *rustproof*, corrosion resistant Chase Brass and Copper—because neither architect, builder, nor owner can afford the expense, trouble, and repairs that inevitably follow the installation of *rustable* materials.

Can you?



CHASE COPPER THRU-WALL FLASHING

Directs water to face of wall. Helps to prevent masonry discoloration and inside wall leaks. Made of 16 oz. copper.



CHASE EXTRUDED BRONZE SHAPES

Architectural Bronze offers lightness of weight . . . economy . . . and shapes for all types of bronze work.



CHASE BRONZE SCREEN CLOTH

Strong, rustproof screen cloth made from full gage .0113" wire as approved by U. S. Bureau of Standards.



CHASE COPPER ROOFING PRODUCTS

All Chase gutters, downspouts, heads, elbows, ridge rolls and flashings are full weight 16 ounce copper.



CHASE PLUMBING FIXTURES

Chase bathroom fixtures are made in two distinctive designs ("Doric" and "Round"), with matched accessories.



CHASE COPPER TUBE

For little more than the cost of rustable pipe you can use Chase Copper Tube and Sweat Fittings.

& COPPER CO.

INCORPORATED

WATERBURY
CONNECTICUT

SAFEGUARD THE LIFE LINE

TO SAFEGUARD THE STRUCTURE



Those integral parts of the structure which deteriorate first form a building's "life line." By protecting them, you protect the whole structure, prolong its usefulness, and decrease its true cost.

With Wolmanized Lumber* it is easy and economical to safeguard important parts of the "life line." Put Wolmanized Lumber wherever there is exposure to decay or termite attack. The cost is low; dependable protection for a dwelling adds less than 2% to the total cost. In other types of construction, it pays to use Wolmanized Lumber wherever moisture fosters damage, for roof decking, sleepers, nailing strips, subfloors, and similarly exposed parts.

The endurance of Wolmanized Lumber is uniform and dependable. The treatment is always carried out according to one standard set of specifications, and Wolmanized Lumber is sold through the established lumber trade under one brand from coast to coast. That is why specifications should read, unmistakably, "Wolmanized Lumber." AMERICAN LUMBER & TREATING COMPANY, 1647 McCormick Building, Chicago.

*Registered Trade-Mark



THE LOW COST of protection by use of Wolmanized Lumber results from application at strategic points; in dwelling house construction it is used for sills, joists, and subfloor, to shield at these vulnerable points, so the whole structure is protected. Ask us to send you the file folder of construction diagrams showing methods of use.

WOLMANIZED LUMBER

LUMBER FOR ENDURING, ECONOMICAL CONSTRUCTION

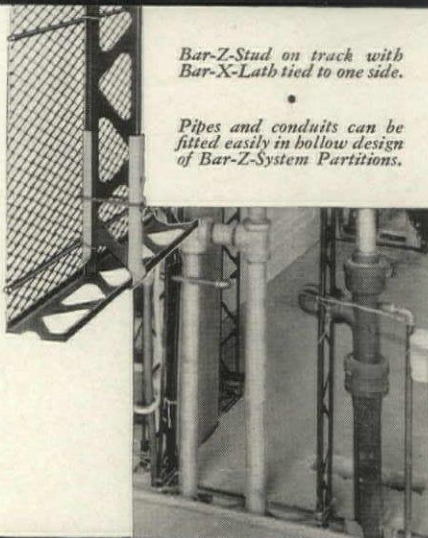


For Economical, Firesafe **HOLLOW PLASTERED PARTITIONS**



*Bar-Z-System used throughout
Frances Atherton Girls' Dormi-
tory, Pennsylvania State Uni-
versity, State College, Pa. Archi-
tect: Chas. L. Klauder,
Philadelphia, Pa.*

Specify  **BAR - Z - SYSTEM**



*Bar-Z-Stud on track with
Bar-X-Lath tied to one side.*

*Pipes and conduits can be
fitted easily in hollow design
of Bar-Z-System Partitions.*

Rigid, firesafe, non-bearing hollow partitions can be quickly and economically erected with the Steelcrete Bar-Z-System. This consists of Bar-Z-Studs and Bar-X-Lath—the popular Steelcrete diamond mesh expanded metal lath which has twin reinforcing rods for extra stiffness. Bar-Z floor and ceiling tracks are supplied for use with Bar-Z-Studs. The open design simplifies installation of plumbing and conduits as shown in illustration at the left. Bar-X-Lath is tied into position. It provides a perfect keying base for plaster and offers long-lasting protection against cracks. Write for the latest catalog containing complete details.

"IT'S WHEELING STEEL"

THE CONSOLIDATED EXPANDED METAL COMPANIES
WHEELING, WEST VIRGINIA

Branch Offices and Warehouses:

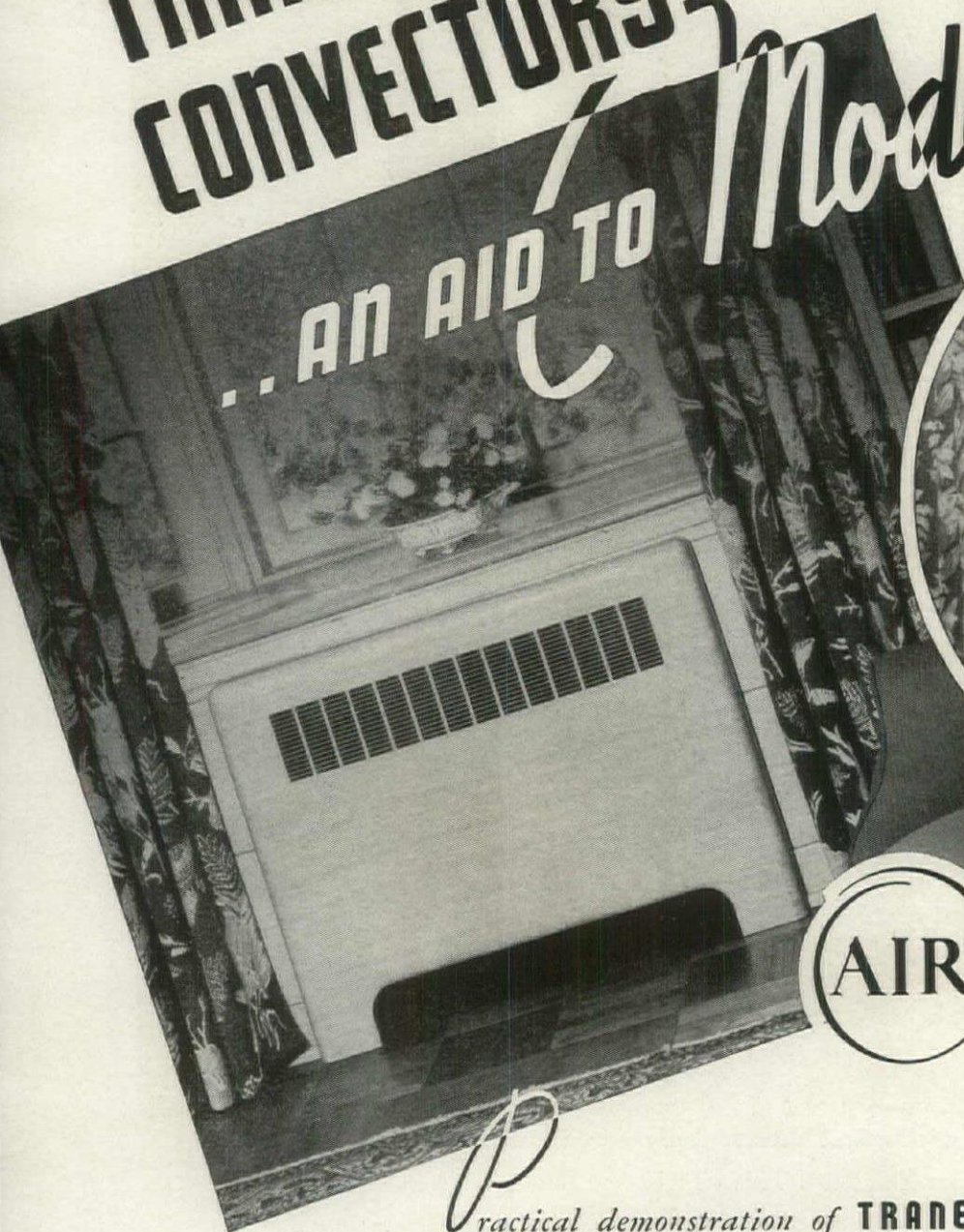
New York • Chicago • Detroit • Cleveland • Pittsburgh • Philadelphia • Boston • Buffalo • Houston • Atlanta • St. Louis

Export Office: 330 West 42nd Street, New York, N. Y.

TRANE CONVECTORS

...AN AID TO

Modernization



*I*N the words of Executive Assistant Manager Harry P. Hopkins, Kansas City's President Hotel modernized with Trane Sloping Top Convectors "to save space, improve the appearance of the guest rooms and make the housekeeper's cleaning job easier." Here Mr. Hopkins (center) watches Contractor Marshall explain the advantages of convection heating. The other gentleman is Trane Kansas City representative E. A. Cline. The Trim left is illustrated in beautiful natural color in the new Bulletin S-380. Write for your copy now.

P

practical demonstration of **TRANE** slogan
"TEAMWORK with ARCHITECTS · ENGINEERS · CONTRACTORS"

VALUABLE floor space is saved, economy achieved, and greater comfort, beauty and convenience realized in Trane Convector heated rooms. All buildings are designed or remodeled with an eye on space economy and interior harmony. That's why Trane non-ferrous Convectors, the modern successors to the old-fashioned cast iron radiator, are so popular with building owners and managers as well as architects, engineers, contractors and builders—the people whose job it is to make and keep buildings modern.

Trane Convectors are available in practically a limitless variety of models, sizes and styles to meet every building requirement. There are completely recessed Trane Convectors which may be hidden in the wall beneath windows or elsewhere in the room. One cabinet model may have its front plastered over to match the rest of the walls—another may have a flat panel flush with the finished wall. There are semi-recessed Trane Convectors which protrude into the room only a hand's width or less. Even the completely exposed floor and wall cabinets are so

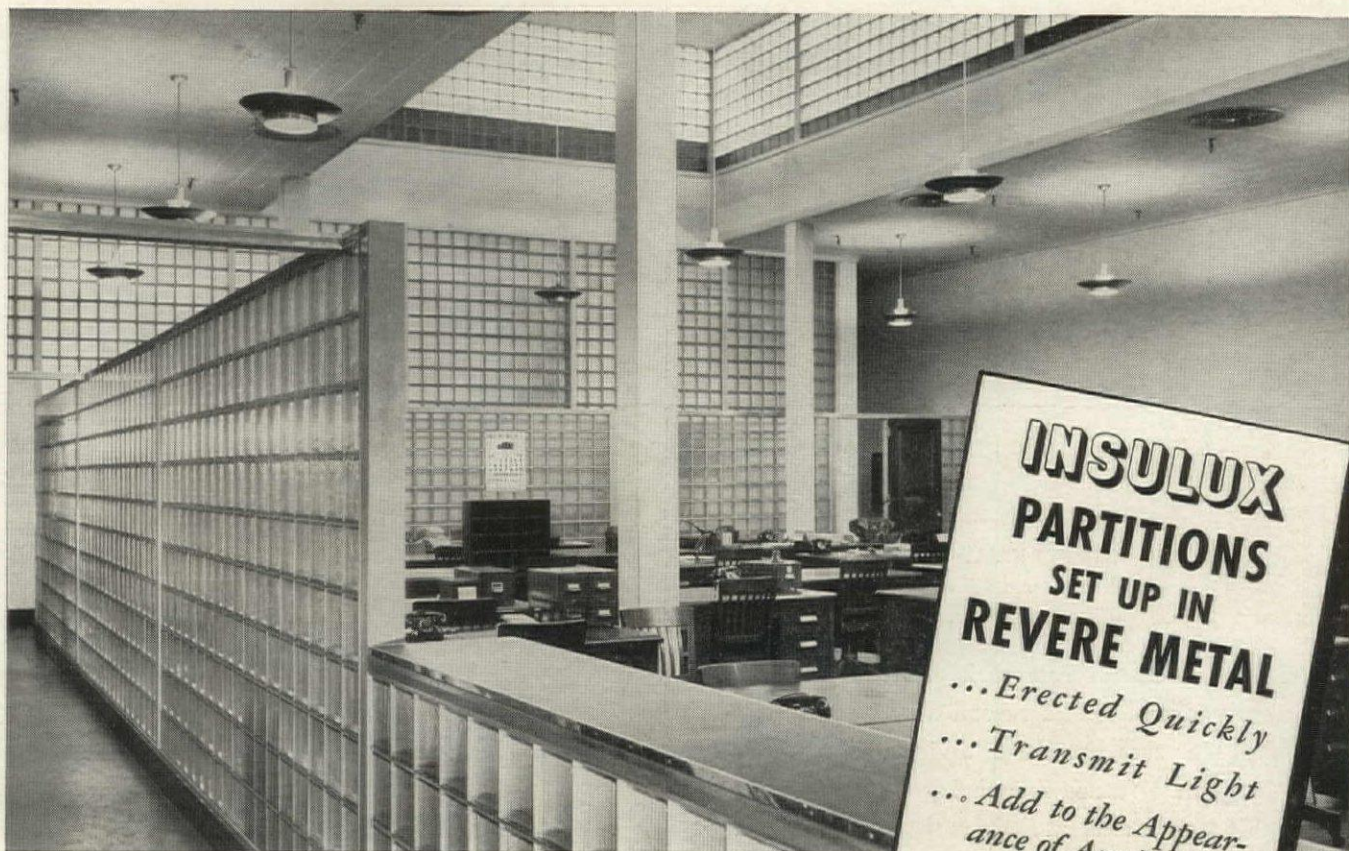
trim, neat and compact that they strike a new note in room heating units. Trane Convectors can be decorated to match the room in which they are installed.

No modernization program is complete without up to date heating equipment. Trane Convectors, the superior room heating units, are setting new standards in hospitals, schools, office and public buildings, apartment houses, stores and residences everywhere. They operate efficiently on every type of steam or hot water heating system and are low in first cost, installation and maintenance.

Trane recommends to the public: "Buy heating and air conditioning through your—ARCHITECT—ENGINEER — CONTRACTOR."



TRANE
 THE TRANE COMPANY  **LA CROSSE, WISCONSIN**
 Also TRANE COMPANY OF CANADA LTD., TORONTO, ONTARIO
 Heating...Cooling... Air Conditioning Equipment from 85 Offices
 Unit Heaters · Specialties · Convectors · Cooling Coils · Blast Coils · Unit Ventilators · Compressors · Air Conditioners · Low Pressure Refrigeration



**INSULUX
PARTITIONS
SET UP IN
REVERE METAL**

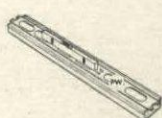
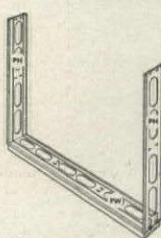
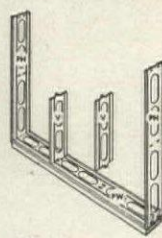

*...Erected Quickly
...Transmit Light
...Add to the Appearance of Any Interior
...Easy to Dismantle and Re-erect*

BOTH PHOTOS: Offices of Griesedieck Bros. Brewery Company, St. Louis



Insulux Glass Block set up in Revere Metal members offer a quick, easy, economical way to partition offices, stores and factories. The prefabricated metal members—architectural bronze or aluminum alloy—fit securely, hold glass block in uniform alignment. Erection is rapid, with minimum disturbance of activities. Partitions permit concealed floor raceways for wiring, and members are available for doors, windows and cased openings. Insulux Glass Block transmit light, are easily cleaned. Block and members can be dismantled and re-erected with 100% salvage. Mail coupon for full information. Owens-Illinois Glass Company, Insulux Division, Toledo, Ohio.

SEE HOW EASILY INSULUX GLASS BLOCK CAN BE SET UP IN METAL

 <p>1. Lay base "PW" member on leveled structural channel or continuous wood floor runner.</p>	 <p>2. Place "PH" side members temporarily supported.</p>	 <p>3. Place intermediate "V" (Vertical) members.</p>	 <p>4. Place glass blocks. Lay "W" member, spreading "PH" members only sufficiently to allow insertion of tenons in mortice slots in "PH" members. Slide "W" member to engage hooks on "V" members. Insert wedge keys.</p>
--	---	---	--

OWENS-ILLINOIS
INSULUX
Glass Block

Owens-Illinois Glass Company
Insulux Division, Toledo, Ohio
Gentlemen: Please send me construction data and full information on Insulux set up in Revere Metal.

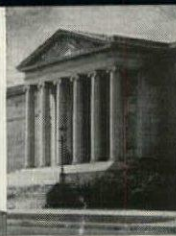
NAME _____
ADDRESS _____
CITY _____ STATE _____



WINSLOW AMES, Director
Lyman Allyn Museum
New London, Connecticut

A selective review of the last ten years in American design will have interest for every reader. If "Design Decade" can "serve to differentiate between good and mediocre design," it will have taken a progressive step in editorial policy, and you will have done much to close a gap in the field of American art publications.

Winslow Ames



LESLIE CHEEK, JR., Director
Baltimore Museum of Art
Baltimore, Maryland

The exciting new consistency of contemporary sign must be pointed out to Americans everywhere to help their interpretation of a changing world, and to emphasize the growing responsibility of each citizen as a purchaser. THE ARCHITECTURAL FORUM, devoting a special issue to the important decade just closing, is doing America a service.

Leslie Cheek



CHARLES H. SAWYER, Director
Worcester Art Museum
Worcester, Massachusetts

The DESIGN DECADE program is of real significance not only as a historical record of the products of the past ten years, but also as an indication of what the immediate future may bring. It is especially valuable for the student and for the young designer to have, at this time, an opportunity to see these developments in perspective.

Charles H. Sawyer



MRS. RUTH LAWRENCE, Director
University of Minnesota Gallery
Minneapolis, Minnesota

It is hoped that the DESIGN DECADE will do much to clarify the fact that we are living in an age in which new cultural and artistic concepts are being formulated. In this program there is a splendid opportunity to evaluate our age and to appraise our values.

Ruth Lawrence



HUGH S. MORRISON, Chairman
Dartmouth College
Department of Art & Archaeology
Hanover, New Hampshire

In this past decade, FORUM leadership in recognizing significant work, in assembling data and interpreting trends, has been a major factor in the progress of modern design. It is fitting that you should celebrate achievement in which you have so much contributed, and at the same time forecast another decade.

Hugh S. Morrison



BLAKE-MORE GODWIN, Director
The Toledo Museum of Art
Toledo, Ohio

FORUM's DESIGN DECADE program recognizes the most significant contribution which America has made to the progress of art: design for industry. THE ARCHITECTURAL FORUM is making a distinct contribution by focusing attention upon this progress, and its comprehensive survey should give it further impetus.

Blake-More Godwin



JAMES CHILLMAN, JR., Director
The Museum of Fine Arts of Houston
Houston, Texas

One of the chief values of an effort such as the DESIGN DECADE OF THE ARCHITECTURAL FORUM lies in the emphasis given to the unity of the arts. DESIGN DECADE should do much to emphasize the fact that the design of a good garage is of a kind with that of a stained glass window and in its way just as much a means of expression.

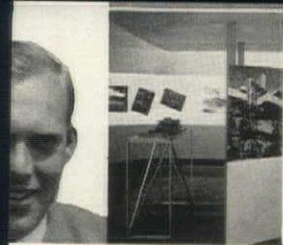
James Chillman, Jr.



DONALD B. GOODALL, Director
Utah State Art Center
Salt Lake City, Utah

Articles of use tend to represent the truest creative elements consistent with a time and people, and the well designed artifacts of the past decade represent the soundest elements of contemporary expression. That THE ARCHITECTURAL FORUM sees fit to bring to general attention a visual survey of design developments is important.

Donald B. Goodall



JAMES S. PLAUT, Director
The Institute of Modern Art
 Boston, Massachusetts

THE FORUM's projected "Design Decade" issue will be of inestimable value to countless Americans who have become eager to appraise an integral aspect of our country's growth as a civilized nation. THE FORUM's innovation will be applauded by every museum official who is investigating the educational potentialities of his institution.

James S. Plaut



KEITH MARTIN, Director
The Kansas City Art Institute
 Kansas City, Missouri

DESIGN DECADE is indeed an appropriate title, not only for the series of exhibitions contemplated, but also for the decade just closing in history. The program is an important step in recapitulation, necessary in order that we may see the direction of our efforts and evaluate them.

Keith Martin



ROBERT TYLER DAVIS, Director
Portland Art Museum
 Portland, Oregon

The DESIGN DECADE program promises to be an important step in the development of public awareness of good design. Appreciation must be more widespread before our best architects and designers can create a vital, coherent contemporary style. THE ARCHITECTURAL FORUM is to be congratulated for its active efforts in this direction.

Robert Tyler Davis



A. G. PELIKAN, Director
Milwaukee Art Institute
 Milwaukee, Wisconsin

THE FORUM's DESIGN DECADE program represents the most comprehensive plan attempted so far to bring to the attention of the public the astonishing progress made by our architects and designers. It indicates that America is destined to take the lead in the allied arts as applied to commerce and industry during the coming decade.

A. G. Pelikan

In October THE ARCHITECTURAL FORUM goes beyond the pages of the magazine with the story of ten years of American design and designers, to meet a wide public in nationwide Exhibits by outstanding museums. The Editors salute their collaborators in the DESIGN DECADE program

design decade

1930

31

32

33

34

35

36

38

39

1940

FORUM OF EVENTS

(Continued from page 14)

AWARDS

To W. H. ANSELL, presidency of the Royal Institute of British Architects, to fill the unexpired term of the late E. Stanley Hall.

To PALMER & LAMBIN, award in Baltimore's selection of its best buildings erected in 1939, in one of seven classifications—Apartments and Group Houses.

To LAWRENCE A. MENEFEE, in the classification Row Houses.

To JESSE M. SHELTON, Atlanta, Ga., in Factories.

To ARMAND CARROLL, Philadelphia, in Retail Commercial Buildings and Theaters.

To CRISP & EDMUNDS and EDWARD H. GLIDDEN, associated architects, for Other Outstanding Structures not including Private Residences.

In two classifications—Non-retail Commercial Buildings, including Garages, and in Altered Facades, no awards were made.

To DAVID A. WALLACE and ARTHUR B. WHITE, both of Philadelphia, and J. LEE THORNE, graduate of Pennsylvania State College, the Theophilus Parsons Chandler Fellowships in Architecture for the year 1940-41, awarded by the School of Fine Arts, University of Pennsylvania.

To HENRY L. MIKOLAJCZYK, graduate of Armour Institute of Technology, the Joseph V. Horn Fellowship, awarded by the School of Fine Arts, University of Pennsylvania.

To JOHN C. WHEELER, Murfreesboro, Tenn., graduate of Georgia School of Technology, and to JOSEPH GELGISSEY, Staten Island, N. Y., graduate of New York University, Graduate Scholarships by the School of Fine Arts, University of Pennsylvania.

To the following mural painters selected as a result of a national competition, commissions for decorating the *S.S. President Garfield*: ESTHER BRUTON, Alameda, Calif.; R. PHILLIPS SANDERSON, Scottsdale, Ariz.; EDMUND LEWANDOWSKI, Milwaukee; MAXINE SEELBINDER, Yonkers, N. Y.; HENRY SIMON, Chicago.

For decorating the *SS. President Adams*: PHILIP GUSTON, New York; JEAN SWIGGETT, Long Beach, Calif.; JAMES L. MCCREERY, Brooklyn, N. Y.; CLEVELAND BISELL, New York; MUSA MCKIM, New York.

For decorating the *S.S. President Van Buren*: TOM DIETRICH, Appleton, Wis.; R. P. SANDERSON, Scottsdale, Ariz.; EDMUND LEWANDOWSKI, Milwaukee; PHILIP GUSTON, New York; MUSA MCKIM, New York.

COMPETITIONS

AUGUSTUS D. CURTIS AWARD. Annual competition conducted by Edison Electric Institute, in lighting by fluorescent lamps of a commercial interior made during the twelve months' period ending March 1, 1941. First and second awards consist of a certificate to the utility company and cash prizes of \$200 and \$100 respectively to the individuals responsible; third and fourth cash prizes of \$50 and \$25 respectively will be awarded to individuals. Completed presentations must be filed at Edison Electric Institute, 420 Lexington Ave., New York on or before April 1, 1941. Further details may be had from the Institute.

INDUSTRIAL DESIGN. The Museum of Modern Art, New York, will conduct a competition open to anyone in the U. S., Cuba, Mexico, Central or South America, covering such fields as furniture, fabrics and lighting. Judgment early in December. Exhibition of the designs submitted

(Continued on page 52)



Beautiful...Modern...Adaptable...Durable—AZROCK Tile easily claims these qualifications. And these pictures of the AZROCK installation in a modern tourist court amply illustrate what we mean. Here is beauty in a modern setting; adaptability too, for AZROCK is at home here as everywhere—in offices, homes, restaurants, stores and public buildings of

all types. As for durability, the many installations still in use after years of service attest to AZROCK's ability "to take it" under constant and hard traffic.

AZROCK has two important, exclusive features: It is micro-cut, assuring a close, sanitary, easy-to-clean floor; an integral wax finish applied to AZROCK during manufacture simplifies polishing, adds to life of tile. And AZROCK's gentle resiliency means a floor comfortable to walk on, quiet. A variety of colors and sizes for any pattern or design.

AZROCK

(TRADE MARK)
REG. U.S. PAT. OFF.

Manufactured by

Uvalde Rock Asphalt Co.

(In Business Since 1912)

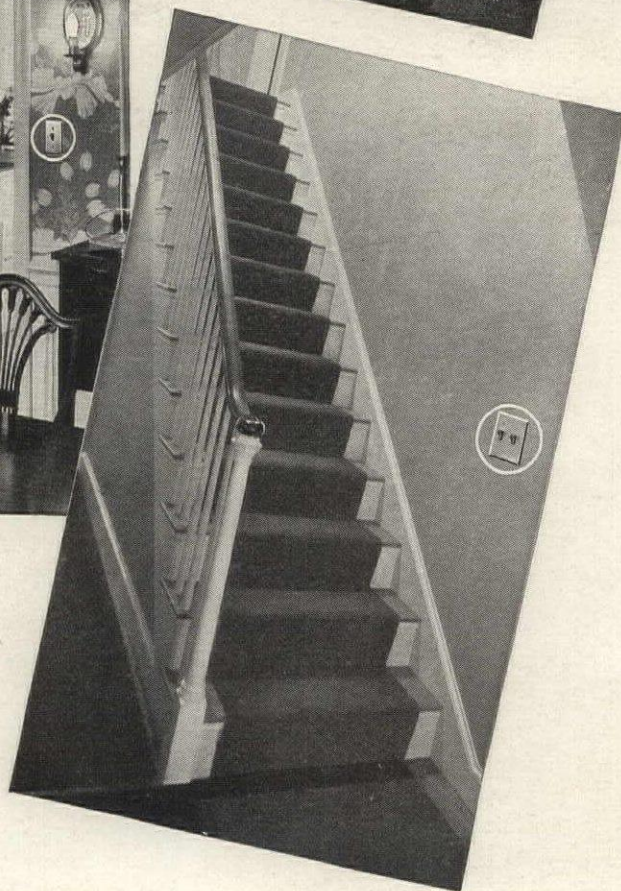
General Offices: San Antonio, Texas;
Mines: Blewett, Texas; AZROCK
Plant: Houston, Texas; Distributing
Contractors: principal cities of U.S.A.



Wire for the H&H Path of Light all through the house

Plan to put SWITCHES at all room entrances, so a person walks in a PATH OF LIGHT from one room to another! Eliminate stumbling in the dark when passing *anywhere* through the house, or up and down stairs. Install THREE-WAY switches at *both* entrances of a large room, to turn lights on or off at either doorway. This is the new idea of CONVENIENCE — which helps

make owners "see the light" in the matter of adequate wiring...Number 8601 Single-Pole Switch; Number 8603 Three-Way, execute the idea!



HART & HEGEMAN DIVISION
THE ARROW-HART & HEGEMAN ELECTRIC CO. HARTFORD, CONN.



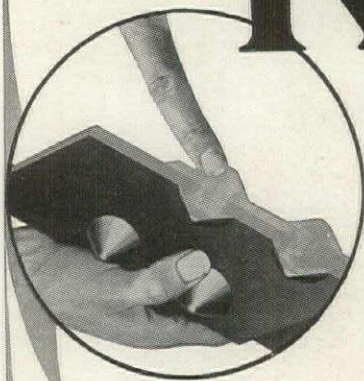
3 KEWANEE STEEL BOILERS for
100 lbs. working pressure on the
job in the LaCrosse, Wis., Plant
ALLIS CHALMERS MANUFACTURING COMPANY

Extra Strength . . . for Heavy Duty

KEWANEE

STEEL-Riveted BOILERS

Where heavy duty demands extra strength, Kewanee Steel Riveted Boilers get the "Call." For the known strength provided by steel + rivets supplemented by extra stout stays and braces in the boiler shell, insure that stamina which adds many years of life.



Everlasting known strength is squeezed into the Steel Plate Seams of these boilers by gigantic hydraulic riveters, at Kewanee's well equipped factory.

All Kewanee Products may be purchased under FHA terms through our Finance Corporation. Write . . . or ask our nearest office.

KEWANEE BOILER CORPORATION

KEWANEE, ILLINOIS — division American Radiator & Standard Sanitary Corporation
Branches in 64 Cities — Eastern District Office: 37 West 39th Street, New York City

7

Money-Saving Reasons

The basic unit of the Wheeling Long Span Steel Joist System is a channel shaped joist whose top flange is considerably wider than the bottom flange. These joists are available in depths of 5", 6" and 8" and are 12, 14 or 16 gauge COP-R-LOY. Architects and builders should write today for complete data and specifications.



1 *Speeds up Construction.* Six men can erect and complete approximately 1,000 sq. ft. of floor or roof in an hour.

2 *Saves on Scaffolding.* All exterior masonry work can be done directly from the floor deck.



3 *Reduces Material Costs.* Its light weight permits a lighter, lower-cost steel superstructure.

4 *Is Adaptable to Many Uses.* The pre-fabricated joists simplify the building of spiral ramps, circular roofs and other "out-of-the-ordinary" construction.

5 *Takes Any Type of Finish.* Tile, wood or concrete floors or any type of flat roofing construction can be applied directly to its flat surface.

6 *Protects Plaster from Cracking.* Welded to the superstructure, the composite floor or roof unit assures rigidity that is so essential in preventing plaster cracking.

7 *Is Durable and Fireproof.* Made of Wheeling COP-R-LOY—the famous tough, rust-resisting copper alloy.

1890  **GOLDEN ANNIVERSARY**  1940

for Specifying

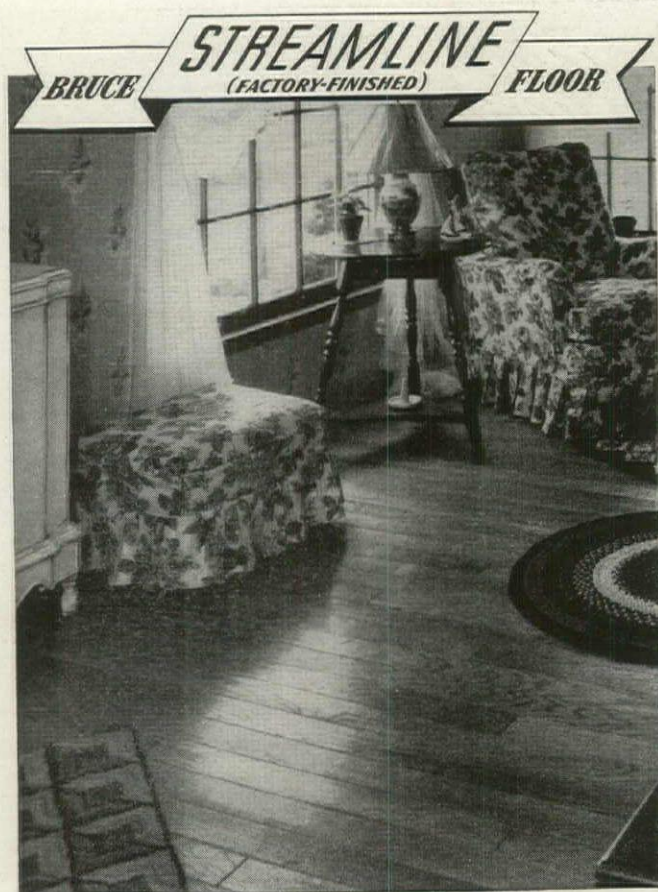


**LONG-
SPAN
STEEL FLOOR
AND
ROOF SYSTEM**

WHEELING CORRUGATING CO.

General Offices: WHEELING, WEST VIRGINIA

OFFICES AND WAREHOUSES IN PRINCIPAL CITIES



New Low-Cost Oak Flooring GIVES COSTLY PLANK-FLOOR EFFECT

HERE'S a new idea in hardwood floors! It's the new *factory-finished* Streamline Flooring created by Bruce. This genuine, full-thickness hardwood flooring has a smart new width (3 1/4") and beveled edges and ends that give the "pattered" appearance of costly plank floors. Its striking new beauty wins praises everywhere.

The factory-applied "Bruce-Way" finish on Streamline Flooring amazes home owners. For it won't scratch, chip or peel like ordinary surface finishes. That's because the finish is *part of the wood*. Its lustrous sheen *stays* beautiful for years.

What's more, this factory-finished flooring saves time and labor. When it's laid ... it's finished. There's no sanding or finishing to do. It's a sensationally superior floor, yet costs no more—often less than ordinary flooring finished on the job. Streamline Flooring comes in Red and White Oak, Maple and Beech. Send coupon for free "Scratch Test" panel.



E. L. BRUCE CO.
1464 THOMAS STREET
MEMPHIS, TENN.

Hardwood Floorings • Floor Finishes • Terminix

MAKE THIS SCRATCH TEST



Send for this "Scratch Test" Panel. Half is finished the new "Bruce-Way" used on STREAMLINE Flooring ... other half finished the ordinary surface way. Scrape a coin across both finishes. See how the ordinary surface finish scratches and chips away ... while the "Bruce-Way" finish is unharmed.

E. L. BRUCE CO., 1464 Thomas Street, Memphis, Tenn.

Gentlemen: Please send me free "Scratch Test" Panel and new illustrated literature on Bruce Streamline Flooring.

Name.....

Address.....

City.....State.....

FORUM OF EVENTS

(Continued from page 48)

and of the pieces produced from them is scheduled for early fall of 1941. Programs will be ready in the early fall, for copies of which apply to The Museum of Modern Art, 11 West 53rd St., New York.

EDUCATIONAL

NEW YORK UNIVERSITY. A comprehensive conference course for the benefit of laymen who plan to build, buy or remodel small homes and apartments. Monday evenings beginning in September at the School of Architecture. Members of the faculty, DeWitt Clinton Pond, Edward D. Stone, Simon B. Zelnik and Albert C. Schweizer, will be assisted by guest lecturers including Aymar Embury II and George Licht.

NEW YORK UNIVERSITY. A course in the making of working drawings designed for students of architecture, engineering draftsmen, contractors, builders, estimators, realty operators and dealers in building materials and mechanical equipment. Saturday mornings beginning with the fall semester.

NEW YORK UNIVERSITY. A course in the application and interpretation of building laws in New York City, with Samuel L. Becker, professional engineer and lawyer, as lecturer. Wednesday evenings beginning with the fall semester.

NEW YORK UNIVERSITY. A new advanced course in housing and site planning of large scale projects. William F. R. Ballard and Carol Aronovici will conduct the program. Monday and Thursday evenings beginning in September.

NEW YORK UNIVERSITY. Two courses in plan reading and estimating: elementary course Saturday afternoons; advanced course Tuesday evenings, beginning with the fall term under the direction of A. Benton Greene.

NEW YORK UNIVERSITY. Series of Thursday evening lectures on modern industrial design by the following lecturers among others: Gilbert Rohde, Raymond Loewy, Donald Deskey, Henry Dreyfuss, George Sakier, Walter Dorwin Teague, Russell Wright, Herbert Bayer, Martin Ullman, Eleanor Le Maire.

SCHOOL OF DESIGN, CHICAGO. After its summer session in combination with Mills College, Calif., the School of Design returns to 247 East Ontario St., Chicago, for its winter work under the direction of L. Moholy-Nagy.

CALIFORNIA GRADUATE SCHOOL OF DESIGN, PASADENA, supplementing on a graduate basis the undergraduate work in design done in colleges and design training schools. Walter Baermann, director and chairman of the faculty.

STUART SCHOOL and the associated Child-Walker School of Design have been combined at 102 The Fenway, Boston, to offer for private school and high school graduates a comprehensive education in the creative arts.

SYRACUSE UNIVERSITY. The Department of Architecture announces the appointment of Melvin L. King of Syracuse, William Kaelber of Rochester, and L. Andrew Reinhard of New York as new members of the Cooperating Committee of Architects.

(Continued on page 56)



... and so are **BARRETT ROOFS!**

NATURE gave the humble tortoise a tough shell for protection.

The gravel or slag wearing surface of a Barrett Specification Roof has much the same purpose . . . it is an armor to the waterproofing. It not only guards the building against fire and mechanical damage to the roof, or damage by hail, but it also provides positive protection against the actinic rays of the sun, and permits the use of greater quantities of coal-tar pitch—the world's greatest

waterproofing compound.

These are just some of the reasons which explain the superiority of Barrett Specification Roofs. Add the fact that when these roofs are applied by Barrett Approved Roofers according to time-proved Barrett specifications they are bonded against maintenance expense for periods up to 20 years.

The result is a degree of certainty in performance that finds few equals in the building industry.

THE BARRETT COMPANY
40 Rector Street, New York, N. Y.

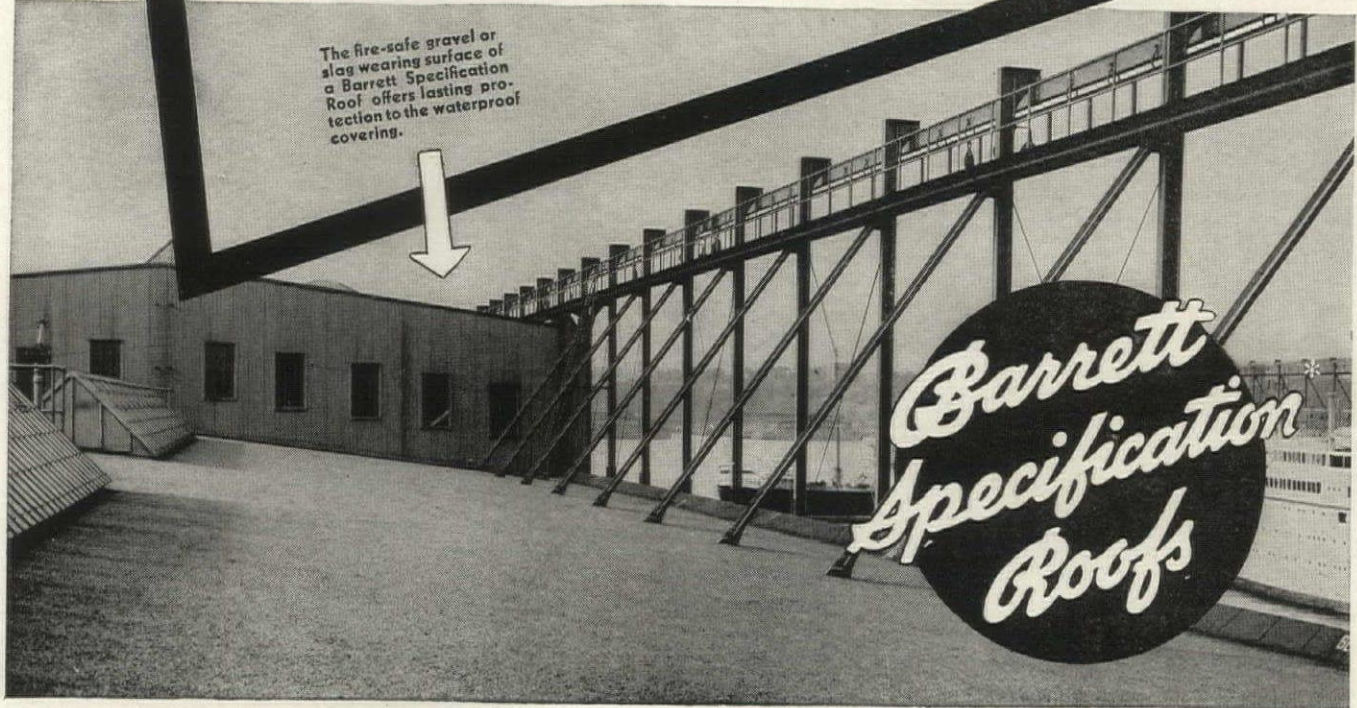
2800 So. Sacramento Avenue, Chicago, Illinois

Birmingham, Alabama

... One of America's great basic businesses

*Trade-mark of The Barrett Co. Reg. U. S. Pat. Off.

The fire-safe gravel or slag wearing surface of a Barrett Specification Roof offers lasting protection to the waterproof covering.



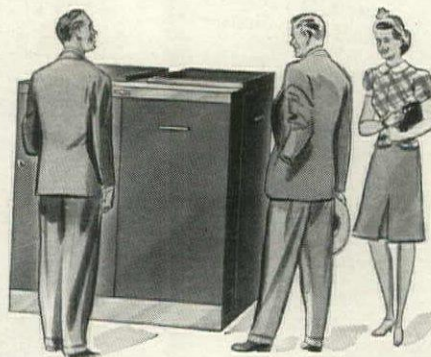


"Shucks! If we had one of them new-fangled G-E gas furnaces, Marv wouldn't have to git up all winter t'keep a fire goin'."

Have you seen this new G-E line of gas furnaces?



You owe it to yourself and to your clients to look into these new General Electric gas furnaces for steam, hot water, vapor and warm air before specifying your next gas job. Clean, efficient, entirely automatic, they are the last word for carefree heating comfort! See, especially, the new Gas Winter Air Conditioner which gives the double benefits of automatic warm air heat plus winter air conditioning! Send for literature.



...TURN TO



For full details on the G-E complete line, see Sweet's Catalog—26, or write to
GENERAL ELECTRIC
Div. 199-913, Bloomfield, N. J.

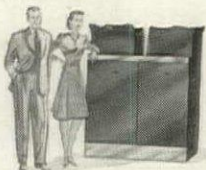
Whatever your heating or air conditioning problem may be ...General Electric's complete lines will solve it for you!



G-E Oil Furnaces (for steam, hot water or vapor); compact; high heat transfer rate and low water content offer quick steaming . . . unusually economical in operation.

Year 'round domestic hot water coil optional.

G-E Oil Winter Air Conditioners circulate warm, clean, moistened air from one compact unit. Highly efficient in operation. Adding a single switch offers the advantages of air circulation in summer. Cooling equipment can be added at any time desired.



G-E Unit Air Conditioners for low-cost air conditioning in shops, restaurants, offices, etc. Available in a complete range of sizes. Low in cost.

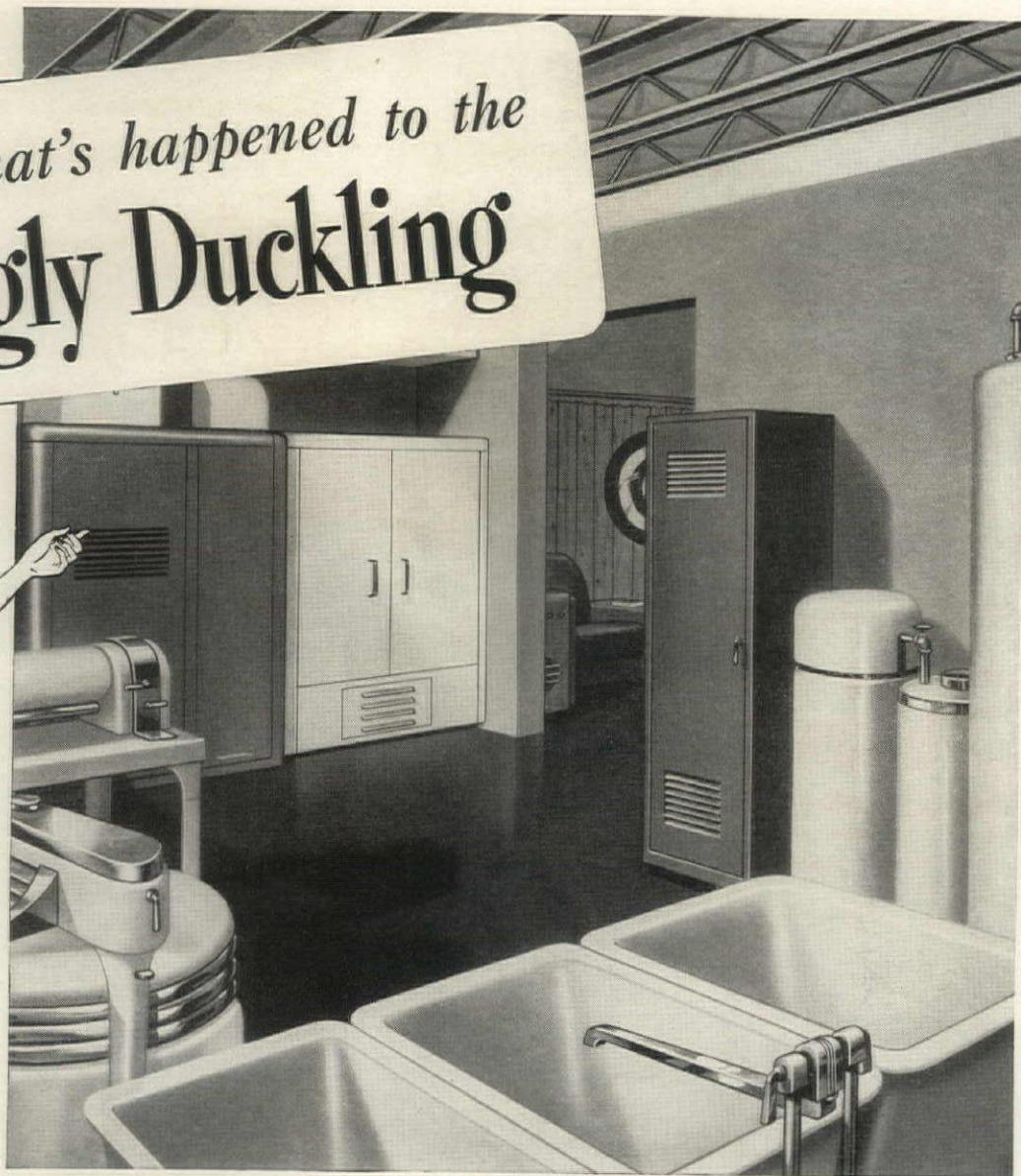
Easily installed, little or no duct work needed.

There is a **G-E Water Cooler** for every commercial and industrial need. G-E Condensing Units are available in a wide range of beverage coolers, food display cases, storage refrigerators, ice cube makers, walk-in refrigerators and locker storage plants.



HEATING . . . AIR CONDITIONING . . . COMMERCIAL REFRIGERATION

Look what's happened to the Ugly Duckling



THE basement laundry, once the ugly duckling of the household, now performs its function not only more efficiently but in happier surroundings. Streamlining and beautifying home equipment has had its inevitable effect on architectural treatment. Now light, color, beauty and convenience are demanded. And steel has played a large part in this transformation. For instance:

Look what has happened to the heavy, dingy laundry tubs. Now you can provide them pressed from a U·S·S VITRENAMEL steel sheet, surfaced with gleaming porcelain enamel. Water softeners and hot water

heaters also are covered with porcelain enamel inside and out. None of these articles will rust, and they are as easy to clean as a china plate. Ever-brilliant faucets and equipment trim are made from U·S·S Stainless Steel. Galvanized U·S·S Copper Steel sheathes furnace and clothes dryer, and provides air-conditioning ducts which effectively resist humidity.

Note especially the steel floor joists. Strong, light, fireproof, they may be had in various patterns. Attractive when exposed and painted, they may be covered with steel sheeting if desired.

Specifying these advantages as-

ures a delighted home owner. And you don't have to be a steel expert. Simply require that products be marked with the U·S·S symbol of quality. If source information is wanted we will gladly supply it.

LOOK FOR THE U·S·S MARK

The U·S·S Symbol placed by the manufacturer on any finished steel product is your assurance of the care he has taken to use the best steel for the purpose.



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 Export Company, New York

UNITED STATES STEEL

IMPROVED MECHANISMS *In* BUILDERS' HARDWARE



LAKE COUNTY TUBERCULOSIS SANITARIUM
Waukegan, Illinois.

Associated offices of W. L. Pereira, architect, Chicago,
and Wm. A. Canster, architect, Waukegan.

● The functions of Builders' Hardware in structures like the monumental Lake County Tuberculosis Sanitarium, Waukegan, Illinois, are many and varied. Because every item in the extensive line of Rixson Improved Mechanism in Builders' Hardware is outstanding for functional efficiency as well as for high grade material and workmanship, Rixson products have gained the preference of men who design, build and operate buildings that house large projects of every type.

Rixson products used in the Lake County Tuberculosis Sanitarium—widely proclaimed an achievement in impressive and effective architecture—include Rixson Single and Double Acting Checking Floor Hinges with Architectural Thresholds, each an outstanding example of Rixson advanced engineering and manufacture.

If your files do not contain full information on the complete line of Rixson Builders' Hardware, write for complete catalog.

THE OSCAR C. RIXSON COMPANY
4444 Carroll Ave., Chicago, Ill.

—RIXSON REPRESENTATIVES AT:—

New York: 2034 Webster Avenue • Philadelphia: 211 Greenwood Avenue, Wyncote (Pa.) • Atlanta: 152 Nassau Street • New Orleans: 2630 Jefferson Ave. • San Francisco: 116 New Montgomery Street • Seattle: 414—17th Ave., No. • Los Angeles: 909 Santa Fe Avenue • London, Ontario, Canada: Richards-Wilcox, Ltd.

RIXSON
Builders' Hardware

FORUM OF EVENTS

(Continued from page 52)

COLUMBIA UNIVERSITY, NEW YORK. The School of Architecture has made changes concerning entrance requirements to be effective September, 1940. A minimum of one year (30 credits) of academic studies instead of two years (60 credits) is now required as entrance to the four-year professional course.

There is also offered a combined professional course: students who remain in Columbia College for three years and then transfer to the School of Architecture may receive their A.B. degree from college after passing the first year subjects in architecture. They receive the Bachelor of Architecture three years later.

Columbia University will offer the degree of Master of Science in Planning and Housing beginning with the academic year 1940-41. Candidates must be graduates in architecture, landscape architecture or civil engineering. Depending upon their previous experience and training, they will be required to follow a one or a two-year graduate course in Planning and Housing.

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO. Merger of Armour Institute of Technology and Lewis Institute has been completed. H. T. Heald, for two years president of Armour, is to be president of the new institute. All upper class engineering subjects will be given at what will be called Armour College of Engineering, the present site of Armour Institute. The liberal arts courses will be offered on the old Lewis campus in what is to be called Lewis Institute of Arts and Sciences of Illinois, Institute of Technology.

VIRGINIA MUSEUM OF FINE ARTS, RICHMOND, announces the availability of Fellowships for Virginia Artists. A patron of the Museum has provided the sum of \$10,000 for grants in aid to three Virginia artists under 38 years, the grants being made annually for five years beginning October, 1940. Application forms and further details may be obtained from the Museum.

CALENDAR

July 18-October 20. Fiftieth anniversary exhibition of The Auditorium and the work of Louis Sullivan and Dankmar Adler, Art Institute, Chicago.

September 26-28. Third Annual Convention, New York State Association of Architects, Hotel Seneca, Rochester.

September 26-28. First Annual Convention, Texas Society of Architects, Driskill Hotel, Austin. Preliminary plans are in the hands of George R. Johnson, chairman of Publicity Committee.

October 16-18. Porcelain Enamel Institute's Annual Forum, University of Illinois, Urbana.

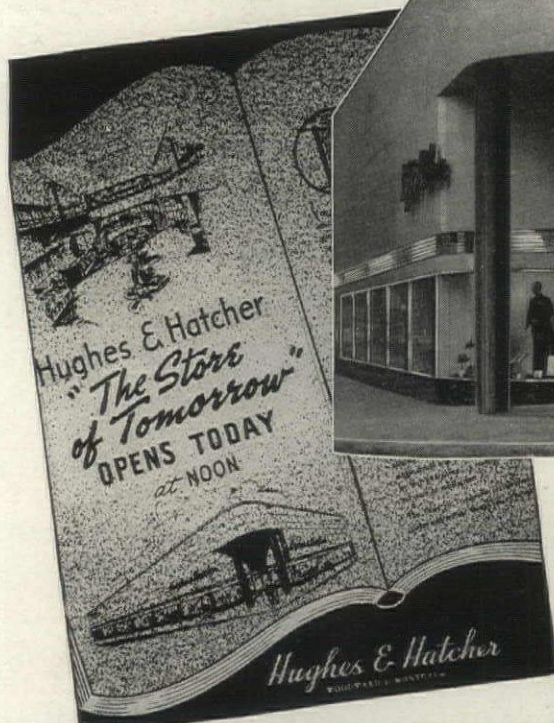
October 29. Exhibition covering 50 years of Frank Lloyd Wright's work. The Museum of Modern Art, New York.

MISCELLANEOUS

SCHOOL ARCHITECTS. *The American School and University* will again publish its annual list of architects now at work on educational buildings or who have designed a number of schools and college buildings in recent years. There is no charge for the listing of architects' names, and those

(Continued on page 60)

Hughes & Hatcher, enhanced by Brasco Alumilited Aluminum Store Front Construction. Architect, C. Howard Crane & Associates, Inc., Detroit.



"Stores of Tomorrow" feature their Modern, Brilliant BRASCO STORE FRONTS



Peabody Hotel Drug Store, modernized by Brasco Extruded Store Front Construction. Harker & Heyer, Architects, Memphis.

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

"STORES of Tomorrow" such as these, "sell" the public first and always on the up-to-date brilliant design and appearance of the store itself—the inviting eye appeal of the modern Brasco Front.

Your own ideas, faithfully interpreted in every detail through the complete Brasco line, provide means for the merchant to establish the outward beauty and sales power upon which the success of his store so largely depends.

For this purpose Brasco offers an unusually comprehensive line of proven store front construction, both Rolled and Extruded—embodying sash,

bars, mouldings and every essential complementary item, from sidewalk to coping, in modern design, completely unified and harmonious. Patented features provide girder-like strength and glass safety—heavy-gauged metals assure permanent beauty. Available in all modern metals—to suit any appropriation.

BRASCO MANUFACTURING CO.
HARVEY (Suburb of Chicago) — ILLINOIS
National Distribution Assures Effective Installation

30 Years' Experience
Brasco
MODERN
STORE FRONTS

BRASCO MFG. CO., Harvey, Ill.

Send Samples and Details of Brasco Modern Store Front Construction.

Firm.....

Address.....

Individual.....

F940



*For
Concrete
Floors*

*Tests Have Proved There Is
No Substitute for*

LAPIDOLITH LIQUID*

Hardens and penetrates concrete deeper than ordinary floor treatments. No other floor hardener contains the ingredient which enables LAPIDOLITH LIQUID to penetrate even the smallest pores of concrete; chemically welding it into a dense, flint-hard wearproof mass.

It is a permanent, positive method of wearproofing and dustproofing concrete floors—new or old. LAPIDOLITH LIQUID goes on a concrete floor as easily as scrub water. LAPIDOLITH LIQUID is merely flushed on finished concrete—safely, simply, economically.

Among the leaders of industry who are using LAPIDOLITH LIQUID for years:

FORD MOTOR COMPANY, Detroit, Michigan
BETHLEHEM STEEL COMPANY, South Bethlehem, Pa.
GULF REFINING COMPANY, New Orleans, La.

FOR WOOD FLOORS

Specify LIGNOPHOL

**THE ONE APPLICATION
PENETRATING WOOD FINISH**

that preserves, beautifies and leaves nothing to wear off.

*U. S. Patent Office

Dept. F. 9

L. SONNEBORN SONS, INC.

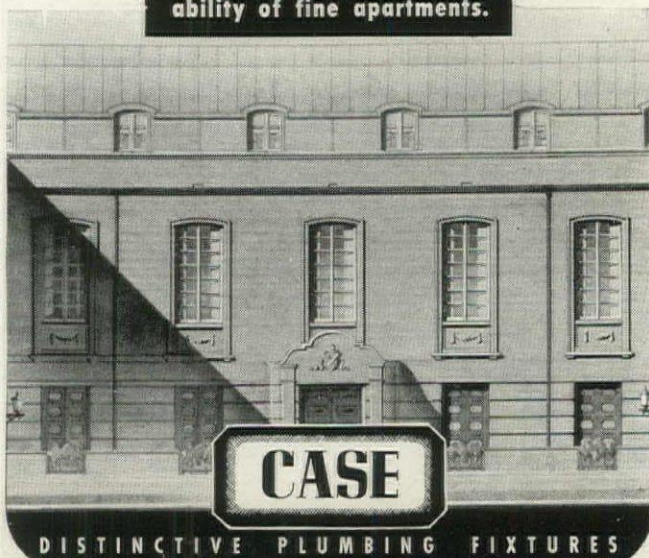
88 Lexington Ave.

New York City

The Public's Health and **PUBLIC FAVOR**

Providing Case fixtures for public health offers a two-way route to public favor. To select Case plumbing fixtures is, first, to assure the favor that welcomes the promise of cleanliness and sanitation. And, this favor is doubled by the pure attractiveness of Case fixtures, their beauty of design, and range of colors. CASE twice-fired vitreous china is unequalled in cleanliness and in resistance to acids and discoloration, while the mechanical excellence of Case fixtures is positive assurance of life-time, dependable performance. On display in distributors' showrooms everywhere. Write to Dept. E-90, W. A. Case & Son Mfg. Co., Buffalo, N. Y.

**CASE fixtures have proven
to be a wise designation in
enhancing the continued rent-
ability of fine apartments.**





THEY ALL VOTE "YES" FOR THE NEW GENERAL ELECTRIC "PACKAGE" KITCHENS



YES
X

1. Architect: Years ahead of anything I've seen, and they fit my plans to a "T." I never dreamed a five-foot kitchen could be so complete, so beautifully designed, so chock-full of practical features, so low in cost!



YES
X

2. Contractor: We can put these in with our eyes closed. Whoever worked out your installation details sure knew what he was doing. It's a perfect match and a perfect fit from end to end. We've installed three today already.



YES
X

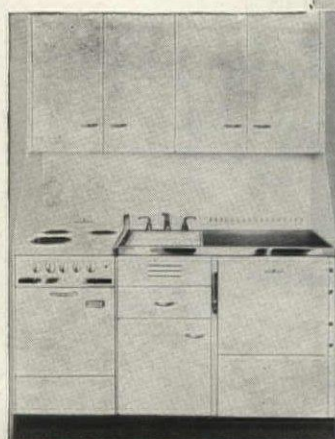
3. Building Owner: I'm an old hand at this game—that's why I insisted on General Electric kitchen equipment. I know I can depend on it to *keep on* giving good service year after year. Quality is cheapest in the long run.



YES
X

4. Tenant: We rented this suite because of the kitchen. It's a General Electric, you know, and what a honey for looks and efficiency! I bet it saves me a thousand steps a day.

The new General Electric "Package" Kitchens represent years of study on the drafting board and in the field. They introduce revolutionary new features of vital importance to architects who plan the kitchen; to contractors who install it; to building owners who must maintain it; and to tenants who enjoy it.



Illustrated is the G-E 62-in. "Package" Kitchen. Six other packages ranging in size from 42 in. to 116 in. are available. Complete with General Electric Refrigerator, Range, All-steel Cabinets and accessories, sink, work surfaces, etc. All in a package, complete from ONE source, your General Electric Distributor.

General Electric Co., Appliance & Mdse. Dept. S-0359
Bridgeport, Conn.

Send full particulars on new General Electric "Package" Kitchens. No obligation.

Name

Firm

Address

GENERAL ELECTRIC



The LADIES BUY the BOILERS

They may not know steel from cast iron, but they know exactly what services they want from the heating plant in their new house or apartment. One service is adequate heat, and the other is automatic, year-round domestic hot water regardless of the fuel used.

So Spencer Boilers (for every fuel), are especially designed with that in mind. There's the Beauty Jacketed "K" or "C" Steel Tubular with a range from 400 ft. to 1950 ft. (steam). Then the "A" Steel Tubular up to 42,500 ft. And for the most economical operation—the famous Spencer Magazine Feed Heater burning small sized, low cost anthracite or coke. All automatically supply year-round hot water by means of storage or instantaneous type coils.

Illustrated: The Beauty Jacketed C Series Steel Tubular Boiler. Ratings from 600 to 1950 feet steam with standard or extended jacket. Three-way fire travel. Quick, easy installations. Low first cost. Automatic domestic hot water, instantaneous or storage type.



Write for complete Catalogue.

SPENCER HEATERS, Williamsport, Pa.
A Division of Aviation Manufacturing Corporation.

SPENCER HEATERS

FOR EVERY HEATING NEED

FORUM OF EVENTS

(Continued from page 56)

wishing to change their addresses or have their names added to the directory may write to *The American School and University*, 470 Fourth Ave., New York.

NEW YORK STATE ARCHITECTS. The Third Annual Convention meets in Rochester, September 26 through 28, with headquarters at Hotel Seneca. The preliminary draft of the program provides for the following: Thursday, Sept. 26, registration; opening of Material Exhibit; Sectional Meeting A—"Hospitals," Charles A. Butler, chairman; Sectional Meeting B—"Schools," Wesley S. Bessell, chairman; luncheon; opening ceremonies; informal dinner; radio broadcast.

Friday, Sept. 27. Sectional Meetings A and B continued; Sectional Meeting D—"City Planning and the Architect's Opportunity," Ralph Walker, chairman; business session; discussion of Unification; Sectional Meeting F—"Large Scale Housing," Richmond H. Shreve, chairman; Sectional Meeting C—"Factories and Mercantile Buildings," G. Morton Wolfe, chairman; luncheon; discussion of Economic Status of the Architect, Registration Law, Publicity, "Industrial Design" by Albert Kahn; annual banquet.

Saturday, Sept. 28, discussion of Legislation, Opportunities, New Fields of Endeavor; final luncheon with Central New York Chapter, A.I.A.

TEXAS ARCHITECTS. The Texas Society of Architects is planning its First Annual Convention in Austin, September 26 through 28. Main purpose of the Convention is for a discussion of ways and means of promoting better public service among the profession's members in the State, and on a State-wide basis the architect's part in a national defense program. There will be a public exhibit of outstanding Texas architectural work, materials and methods. Architectural Departments of the University of Texas, A. & M. College, Rice Institute and Texas Tech are being asked to cooperate. Tours in the vicinity of Austin are being planned for the delegates, their wives and guests, of which some 400 are expected. George L. Dahl of Dallas, vice-president of the Society is chairman of the Convention Committee.

DIED

EDWYN A. BOWD, architect, 74, in Lansing, Mich. Born in Cheltenham, England, Mr. Bowd was graduated from Orset College, Dover, and came to Detroit in 1882 where he became associated with Gordon W. Lloyd, architect. He practiced for a time also in Saginaw before settling finally in Lansing in 1888 where he became associated with William P. Appleyard. In 1925 Orla Munson joined him, and the firm of Bowd & Munson was incorporated in 1929. During the 50 years of his practice in Lansing—the anniversary of which was celebrated by his friends and business associates in 1939—Mr. Bowd had designed many of the city's principal civic and business structures. He was a member of the A.I.A.

JOHN IRWIN BRIGHT, architect and artist, 71, at his home at Ardmore, Pa. Born in Pottsville, Mr. Bright was graduated from Princeton University and later attended the University of Pennsylvania and the Ecole Des Beaux Arts. He had served as secretary of the Philadelphia Chapter, A.I.A.

LOUIS RICHARD, sculptor, 71, in West Nyack, N. Y. Born
(Continued on page 64)



THINK OF CARPET...THINK OF BIGELOW

What kind of carpet belongs in your next blueprint? Are you looking for a new weave to stand heavy store traffic? A figured pattern suitable for a restaurant? A special design? An exotic color?

Then take advantage of Bigelow's Car-

pet Counsel. It is a *real* service—at no extra cost per yard—that offers you expert advice and consultation on all carpet planning and installing problems.

Why not consult your dealer *today* and let him bring you to us?

CARPET COUNSEL by BIGELOW

THE SERVICES OF CONTRACT SPECIALISTS ARE AVAILABLE IN BIGELOW OFFICES IN:

ALBANY, N. Y. • ATLANTA • BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • COLUMBUS • DALLAS
DENVER • DES MOINES • DETROIT • GRAND RAPIDS • HARTFORD • HIGH POINT, N. C. • INDIANAPOLIS • KANSAS CITY, MO. • LOS ANGELES
MEMPHIS • MILWAUKEE • MINNEAPOLIS • NEW YORK • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO • SEATTLE • ST. LOUIS

MOVING BUILDINGS

is only ONE type of
EICHLEAY SERVICE



Before
Moving



After
Moving

Eichleay moved this 10,000-ton, 327-foot long Central Square Garage 27 feet to a new foundation for a street widening project in Youngstown, Ohio.

Shops, mail and express offices located in the building were open for business as usual, while more than 400 automobiles used the garage throughout the operation. This is only one example of Eichleay service.

Call on Eichleay for moving buildings, machinery or other structures that require the specialized talents of experienced men.

MOVING • SHORING • RIGGING FOUNDATIONS AND UNDERPINNING

Rearranging industrial plants for modern, efficient operation is another Eichleay service. We invite industrialists to call upon us for surveys and quotations.

Eichleay ENGINEERING Corp.

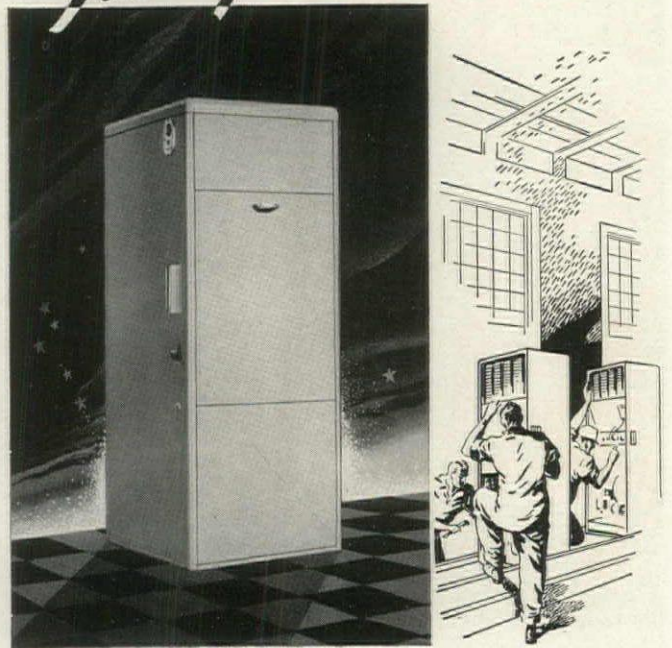


311 Ross Street Pittsburgh, Pa.

Branch Office, 1600 Arch Street, Philadelphia, Pa.

JANITROL IS

** Factory Assembled!*



All Janitrol Winter Air Conditioners, in popular sizes, are shipped to your clients as complete, ready-to-install units. * This means trouble-free operation. These units are thoroughly inspected before shipment... Tested at the factory where modern facilities are available for such work.

SURFACE COMBUSTION CORPORATION • TOLEDO, OHIO

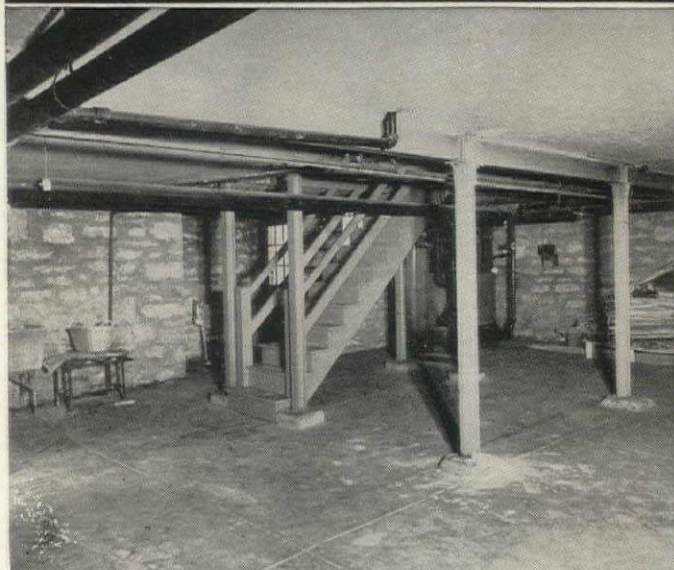
Janitrol factory men are located in principal cities... a gratis service of experienced heating engineers which relieves you of many heating responsibilities.

JANITROL

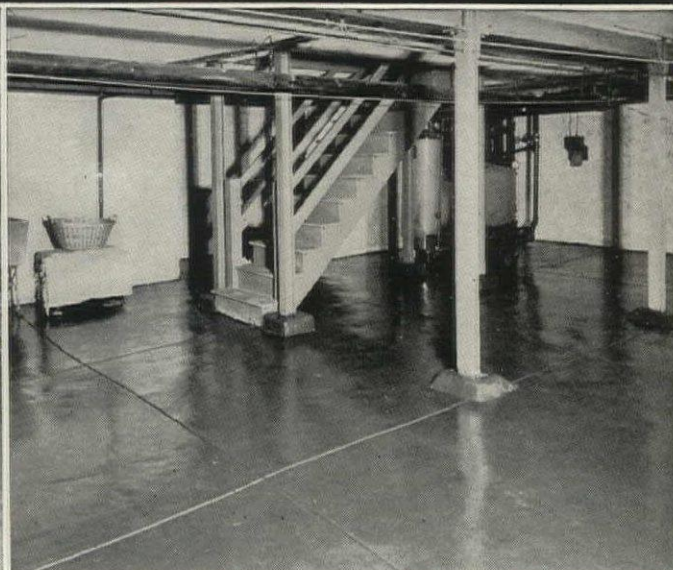
SC

WINTER AIR CONDITIONERS • GRAVITY HEATERS • UNIT HEATERS • BOILERS

DRY BASEMENTS REIGN ...Where BONDEX is Used!

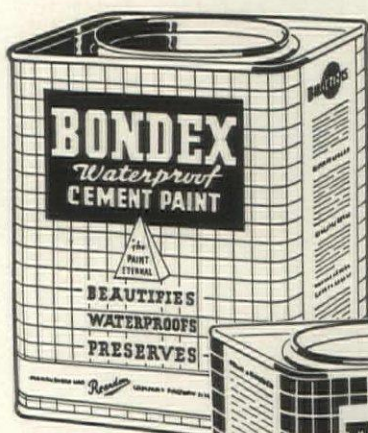


BEFORE—Here's a typical basement, damp and unhealthy, because hard rains seep right through the walls.



AFTER—Treated with Bondex Waterproof Cement Paint, the same basement is bone-dry and ideal for laundry work.

Fall Rains make Homeowners say ...



BONDEX
is Nationally
Advertised in
**THE
SATURDAY
EVENING
POST**



**Use This
Coupon
Today!**

THE REARDON COMPANY-
2200 N. 2nd St., St. Louis, Mo.

177

Please send illustrated folder on Bondex
Waterproof Cement Paint for basement use.

Name _____

Address _____

City _____ State _____

"Let's Do Something About Dampness"

The rainy season brings a crop of leaky basements and rouses the anger of Mrs. Housewife against the rivulets that trickle across the laundry or play-room floor. That's where Bondex Waterproof Cement Paint comes in! Suggest a treatment of this world-famous finish that beautifies as it waterproofs basement walls.

**For Non-Porous and Painted Surfaces
Use the New BONDEX-PRIMER**

For painted and integrally-waterproofed surfaces, use one coat of the new Bondex-Primer followed by a finish coat of Bondex. For porous and non-painted surfaces use two coats of Bondex in a choice of 16 colors. Folder giving complete instructions will be gladly sent on request—use coupon.

THE REARDON COMPANY
ST. LOUIS • CHICAGO • LOS ANGELES • MONTREAL

THE LADIES

will love you..



WHEN YOU INSTALL ILG KITCHEN VENTILATORS

"K.O.'s"
KITCHEN ODORS

★
WHISKS AWAY
SMOKE, FUMES

★
FLUSHES OUT
HEAT

★
ENDS GREASY
GRIME



WITH AMAZING, SELF-COOLED MIRACLE MOTOR THAT "Breathes"—NEVER "GUMS-UP"



Completely enclosed motor is self-cooled by fresh outside air... stays clean... never reached by grease or smoke to interrupt service, shorten life! Low operating cost, no radio interference.

... and your popularity will be well-deserved! For ILG makes these nationally-advertised kitchen ventilators which lighten housekeeping tasks and save on decorating bills—an appliance in the kitchen which every home-or-apartment hunter looks for and wants. To ease-up your selling job on original plans or finished home, specify the ventilator which is trouble-free, weatherproof, supremely quiet, adjustable for different width walls, lives up to certified ratings and bears the famous ILG "ONE-NAME-PLATE GUARANTEE". Call in your nearest ILG sales engineer today, or write now for Bulletin H511.

ILG ELECTRIC VENTILATING CO.
2899 N. CRAWFORD AVE., CHICAGO, ILL.
OFFICES IN 42 PRINCIPAL CITIES



*Vitalized**
VENTILATION
AND AIR CONDITIONING

* AIR CHANGE...NOT JUST AIR MOVEMENT!

FORUM OF EVENTS

(Continued from page 60)

in Tours, France, Mr. Richards came to this country when he was 22 years old, and served in the office of the late Horace Trumbauer, architect of Philadelphia. Many of the great mansions of the east show evidence of his skill—the residences of Henry C. Frick, William K. Vanderbilt, Henry Spiers, Charles M. Schwab, John Jacob Astor and H. H. Rogers. Probably the sculpture of his that is most frequently seen is the pair of lions flanking the entrance to the New York Public Library, and the sculptured pediment of the Grand Central Terminal.

CHARLES E. WELLS, engineer, 82, at North Adams, Mass. Mr. Wells was formerly division engineer of the New York City Water Supply, having charge of the construction of the Hillview section, Catskill Aqueduct. He also helped build the Pathfinder Dam in Wyoming for the U. S. Reclamation Service. During the World War he was resident engineer for the building of Camp Merritt, N. J., and supervising plant engineer under the U. S. Shipping Board for the construction of concrete ships at San Diego. Mr. Wells was a member of the American Society of Civil Engineers and of the Boston Society of Civil Engineers.

PERSONAL

Irving M. Addis, architect, announces the opening of an office at 3817 South Kedzie Ave., Chicago, where he would appreciate manufacturers' samples and catalogues.

Austin & Shambleau, architects of South Bend, Ind., have dissolved partnership. Ennis R. Austin, F.A.I.A., and N. Roy Shambleau will continue independent practice at the same location, 625 J. M. S. Building.

Carl H. Faltermayer, architect, has opened an office at 41 Zane St., Glassboro, N. J., where he would be glad to receive manufacturers' catalogues and file data.

Hedrick & Lindsley, Inc., architects and engineers, announce the removal of their offices to 711 Main St., Houston, Tex.

The firm of **Mellor & Meigs**, architects of Philadelphia, has been dissolved following the death of the late Walter Mellor. Arthur I. Meigs continues independent practice at Radnor, Pa.

Maynard Lyndon and Eberle Smith announce that with Otis Winn, they have formed a professional group to be known as Lyndon, Smith & Winn, architects and engineers, with offices at 500 Murphy Building, 13700 Woodward Ave., Detroit, Mich.

Lauren Parrott and Clarence A. Smith II, associated architects, announce that they have opened a new office in the Bowen Building, Fitzgerald, Ga. Mr. Parrott has practiced in South Georgia for twelve years; Mr. Smith was formerly associated with Massena & duPont, Wilmington, Del., and with L. Phillips Clark, West Palm Beach, Fla.

Mayers, Murray & Phillip, architects, New York, have dissolved partnership. F. L. S. Mayers will maintain an office at 2 West 47th St., New York; O. H. Murray will practice in Rhinebeck, N. Y.; and Hardie Phillip will continue practice at 28 West 44th St., New York.

Perry, Shaw & Hepburn, architects, Boston, announce that as of July 1, last, Robert Charles Dean was admitted to the firm.



SPECIFY "PENNVERNON" . . . NOT JUST "WINDOW GLASS"

THE distinctive Pennvernon label is your assurance of quality window glass. It identifies a glass genuinely worthy of good windows. For Pennvernon is clear. It is brilliantly finished on both sides of the sheet. It possesses a quality of reflectivity and freedom from distortion exceptional in a sheet glass. It affords good vision. And each light is paper packed to protect the glass during shipment. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.

AT THE NEW YORK WORLD'S FAIR, VISIT THE GLASS CENTER BUILDING AND THE PITTSBURGH HOUSE OF GLASS

PENNVERNON WINDOW GLASS
PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass



FOR \$25
WALLS

Air-Sealed



with *Brownskin*

Insulation needs no defense. Pity it is—but 'tis true—that in low-cost construction the POCKETBOOK cries out in self-defense.

Many architects have solved the budget-battle on "Insulation" by specifying that the walls (22% of normal heat loss occurs here) be AIR-SEALED with Brownskin.

Brownskin Air-Sealing is permanent. Built in. Prevents the passage of wind, water, moisture, vapor. Keeps cold air out—heated air inside. Saves money every year on repair and fuel bills. It's the answer to Mr. Limited Pocketbook's prayer for a warm, dry, tight house.

ANGIER CORPORATION
76 WIDELL STREET, FRAMINGHAM
MASSACHUSETTS

Send for "Sam-the-Brownskin-Man"
SAMPLE BOOK.





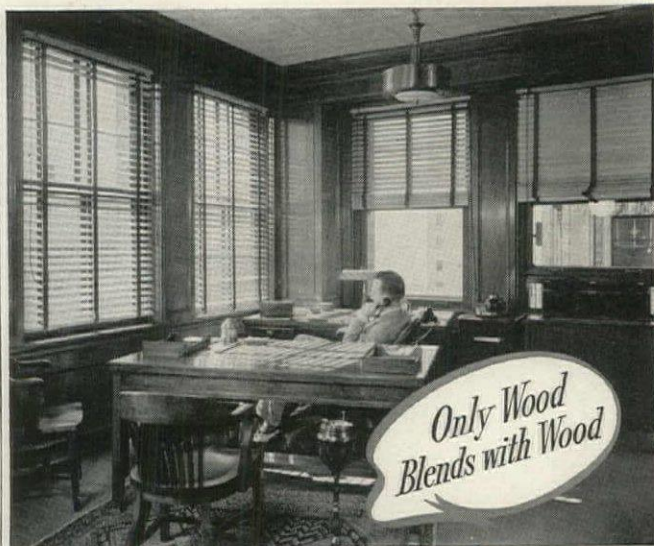

Angier

Brownskin

Far superior to ordinary sheathing papers because (1) Resilient with a stretch of 15%; (2) Specially treated to resist deterioration and highly Waterproof; (3) Extremely tough; (4) Windproof; (5) Dustproof; (6) Most effective economical Vapor-Seal.

Copperskin

Pure copper bonded to s-l-r-e-t-c-h-a-b-l-e Brownskin. Vapor-Seals and dampproofs 100%. Easily shaped by hand. Has the advantages of heavy copper at 1/5 the cost.



Combine Beauty, Convenience and Economy.

This is the architect's primary aim in planning an office building. When it comes to the matter of blinds, the question is easily settled. Wood Venetians suit the tenant because they harmonize with his wood furniture—"only wood blends with wood." They please the owners of the building because of their unusual economy. Here is a statement from the management of the Dierks Building, Kansas City, Mo.:



At the time the Dierks Building was constructed, the windows throughout were equipped with wood-slat Venetian blinds. Every year since, we have been more appreciative of the beauty and economy of this window treatment. Venetians have enabled us to eliminate awnings, with their ever-present fire hazard. Actually, our total bill for Venetians is less than we would spend for the installation, annual storage and replacement of awnings. Accurate cost-accounting shows we spend an average of only 2.16 cents per square foot of window area each year for complete maintenance of Wood Venetian blinds. This includes annual washing, as

well as painting, re-taping and re-cording at necessary intervals.

Of course, Wood Venetians have many other advantages. You'll find them in the booklet, "Only Wood Blends with Wood," a Venetian Blind primer offered free of charge by the Wood-for-Venetians Association. Write for it! You save money for your client when you specify Wood Venetians.

Wood Venetians

WOOD-FOR-VENETIANS ASSOCIATION
939 RUSS BUILDING
SAN FRANCISCO, CALIF.

Problem —

Solution —

to design a monumental Temple for
a commanding site — at limited cost

CONCRETE

Concrete helped the designers of Holy Blossom Temple, Toronto, create a church of great beauty and significance—at a saving in first cost. Walls of pleasing board-marked texture were cast in place along with most of the ornament; even the window tracery is concrete, precast to facilitate construction.

Ask your architect or engineer how concrete helps build beauty, firesafety, durability and economy into *your* building, be it a church or a factory. Booklet, "*The NEW Beauty in Walls of Architectural Concrete*," picturing many examples will be sent on request (free in the U. S. or Canada). Or a representative will call. See Sweet's 4/48.

PORTLAND CEMENT ASSOCIATION

Dept. 9-7, 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

● Holy Blossom Temple, Toronto, Canada. Chapman & Oxley, architects and engineers; M. D. Klein, associate architect; Dickie Construction Co., Ltd., contractors.



LETTERS

(Continued from page 24)

Linden's London

Forum:

Linden's London shopping center (ARCH. FORUM, August 1940, p. 133) may be a good story from the real estate standpoint, but as architecture it is considerably below average, and it seems to me up to a leading architectural journal to point this out.

When a frankly speculative builder puts up a row of jerry-built shops with a miscellaneous collection of urns and pediments as "decoration," one is inclined to take it for granted. But when this practice is modified merely by adding a whole false floor, it is high time to register strenuous objection, not implied commendation. Certainly many a taxpayer which has appeared between THE FORUM's covers has accomplished in one story a good deal more than this ambitious and no doubt well-intentioned effort achieves in two.

GEORGE WILLIS

Newark, New Jersey

Forum:

... Who doesn't agree that good design must be sincere and straight to the point? Orchids then for the intelligent analysis and criticism of airports, plus a gilded lily

for showing how a super-stratoliner might look if plane designers operated on the same basis as the air terminal designers. And, while we're handing out bouquets, add some scallions for not showing how designers who want to do functionally honest architecture can afford this luxury in practice.

Before moralizing again, take another look at the Building Money section of the same issue, wherein a formula for designing *successful* shopping centers is featured. At first glance, an impressive group of two-story buildings with stores on the ground floor and apartments above, transplanted all the way from London, England, to Linden, New Jersey. But no—these are all one-story buildings, according to the text. Street walls go 17 ft. above the roof line, have dummy windows with Venetian blinds: "... a brazen fake which has deceived most observers."

How does one get around the hardboiled fact that, commercially, this ersatz architecture is successful? The stores are fully rented, the project thrives, the owner pockets his profits, no doubt dreams of new undertakings with more false fronts, and all is well—except in the realm of esthetics.

HENRY MARSHALL

Cleveland, Ohio

Refreshing

Forum:

The remodeled town house—August

FORUM—is the most refreshing and ingenious solution of this tough problem I have encountered. This example in many of its features (notably the fenestration) sets a new high. I doff my traditional straw to the architects. This job should give ideas to real estate people and banks....

HOWARD ABBOTT

New York, N. Y.

Objects of Reader Abbott's admiration, the Architects Sanders and Breck; Smith-Miller, Associate.—Ed.

Forum:

Having visited "The Terrace House" at Rockefeller Home Center, I was pleased to see it featured in your August number. It synthesizes almost every desirable feature of contemporary domestic work. Fully as impressive as Mr. Stone's architecture to my mind, are the furnishings. Am I to assume you do not agree, because I fail to find in THE FORUM any credit to Dan Cooper, who I understand collaborated with Architect Stone on the interior design? It is unusual to find such a sympathetic team of designers—unfortunate that THE FORUM has failed to give both the recognition each deserves.

GERALD WARD

New York, N. Y.

THE FORUM defers to no one in its regard for Mr. Cooper, offers abject apology for an inexcusable omission.—Ed.



How to achieve that
**UNUSUAL
FINISH
ON WOOD**

ON FLOORS: the combination of Franklin's CHEKIT PENETRATING WOOD SEAL and CHEKIT WOOD WAX produces an antique finish that is both rich-looking and durable.

ON PANELING: the secret is two coats of CHEKIT PENETRATING WOOD SEAL, and CHEKIT WOOD WAX.

Pictured is the Southern Cypress Association's exhibit in Tampa, treated with CHEKIT FINISH.

Write for Bulletin 9-A for complete information

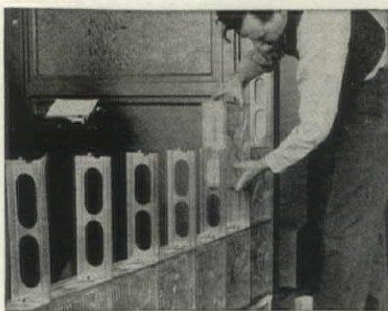
FRANKLIN RESEARCH COMPANY, Philadelphia
DISTRIBUTORS AND WAREHOUSES IN PRINCIPAL CITIES

**SEE OUR AD IN
SWEET'S CATALOG**

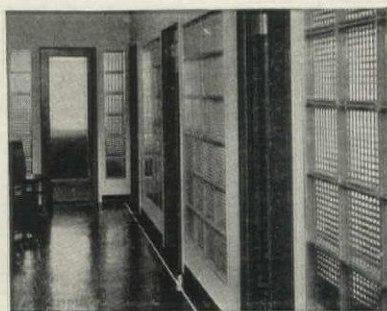
JUST TO SHOW YOU HOW EASY IT IS . . .



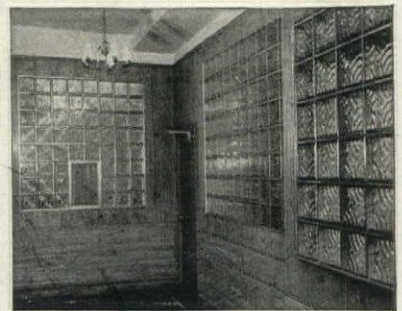
TO ERECT GLASS BLOCK PARTITIONS LIKE THESE



Offices at 230 Park Avenue, New York City.
Installation made without interruption
to business.



Offices in Postum Building, 250 Park Avenue,
New York City.
Pittsburgh-Corning P-C blocks.



Office in Terminal Building, 50 Court Street,
Brooklyn, New York.
Owens-Illinois Insulux blocks.

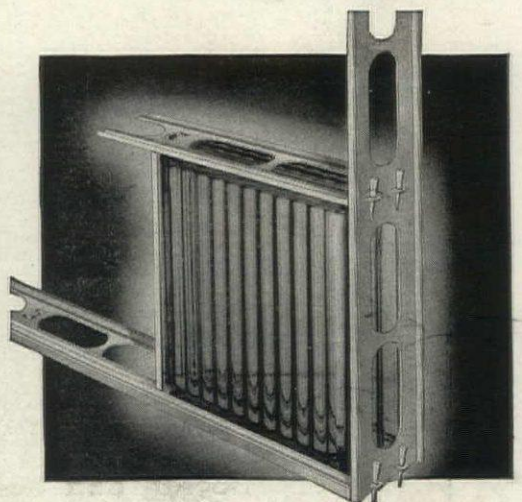
REVERE

INTER-LOCKING METAL MEMBERS

FOR DRY-SET INTERIOR GLASS BLOCK CONSTRUCTION

• REVERE COPPER AND BRASS INCORPORATED •

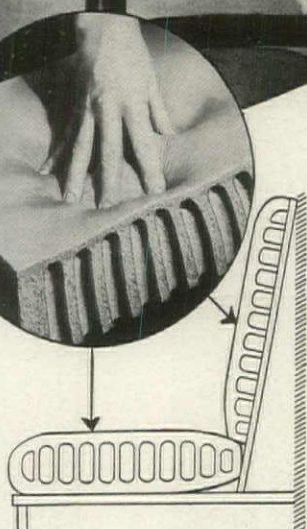
Executive Offices: 230 Park Avenue, New York, New York



Write for illustrated folder on Revere pre-fabricated
interlocking Metal Members for Glass Block Assembly.



Those "adorable"
breakfast nooks
simply, beautifully
built-in with



U. S. ROYAL FOAM MOLDED CUSHIONING



REG. U. S. PAT. OFF.

SMOOTH molded lines, perfectly amazing comfort—that's what intrigues the prospective owner. What should "get" you is the ABC simplicity of U. S. Royal Foam. Pre-formed in a wide variety of shapes—it is applied direct to any foundation. And there's your entire cushioning job!

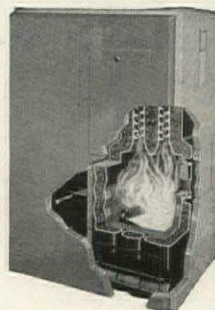
U. S. Royal Foam is pure, odorless whipped-latex—honeycombed with buoyant air cushions that change sitting to effortless "floating." Keeps the friends it makes because its sag-proof resiliency is nearly indestructible.

Promptly available through local distributors. See how easily it can be applied to your designs. Write



UNITED STATES RUBBER COMPANY
MISHAWAKA, INDIANA

You have asked Are Unit Oil Boilers More Economical?



Yes and no.

This DeLuxe Burnham made a wonderful showing before we brought out our all-fuel Yello-Jacket.

Now it comes close to being an even break.

If your client can be sure of always burning oil, by all means let it be the Burnham DeLuxe Unit boiler. But most folks nowadays don't like the idea of being tied tight to one fuel. For such the all fuel Yello-Jacket "stings the fuel bill."

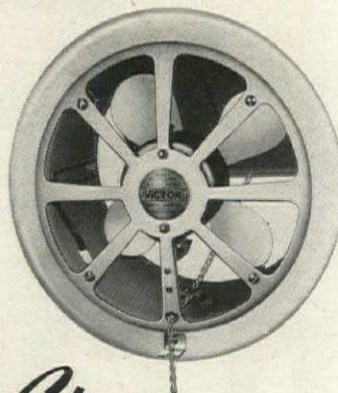
BURNHAM BOILER CORPORATION
Irvington, N. Y. Zanesville, Ohio
Dept. J Dept. J

Burnham Boiler

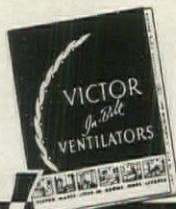
VICTOR VENTILATION for LOW COST HOMES!

now available...

The new popular priced Victor Challenger In-Bilt Ventilator is a Victor quality Ventilator, designed and priced for low cost homes. Like all Victor models, the Challenger is automatic in operation, powered by the famous Victor Motor, with ornamental grille finished in ivory—silchrome fan blades and weather-tight shutters.



the NEW VICTOR Challenger

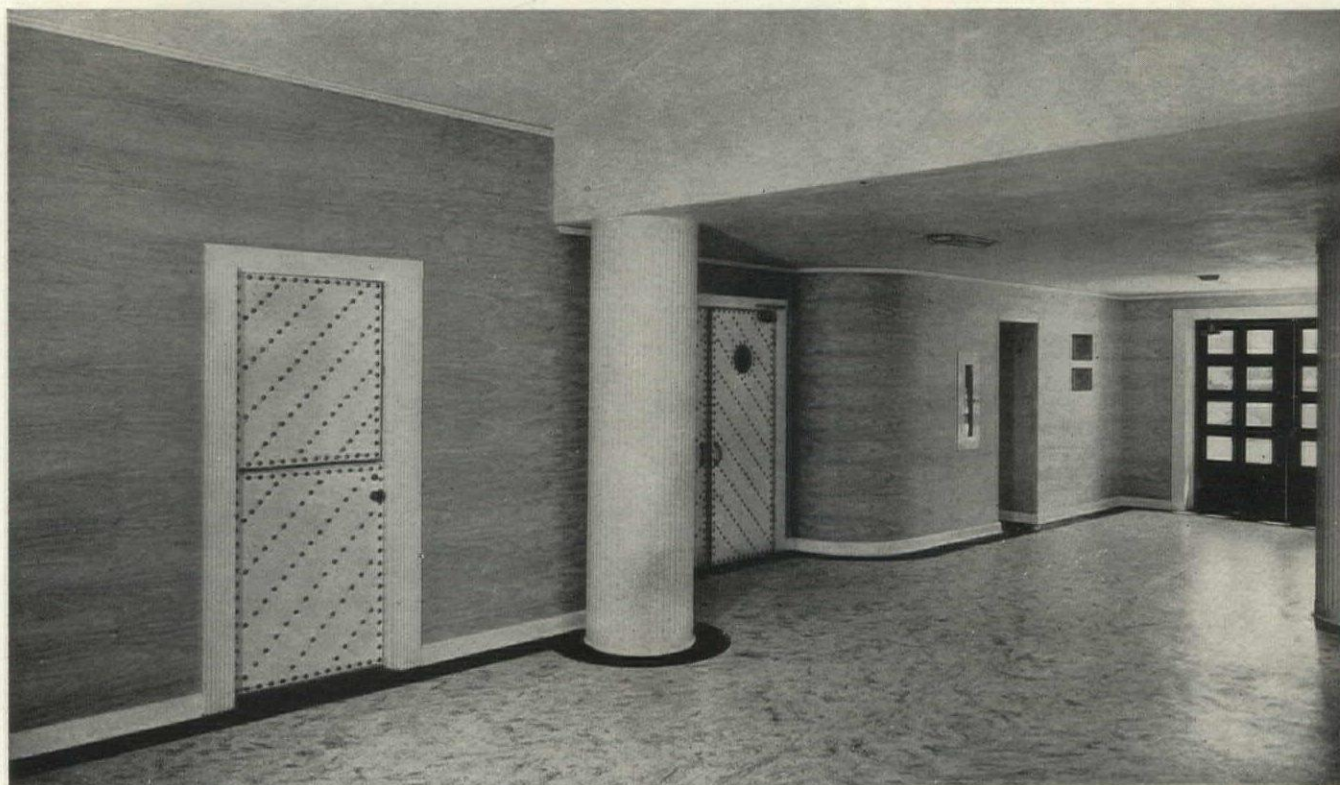


VICTOR ELECTRIC PRODUCTS, Inc.—Dept. IB-15
2950 Robertson Road, Cincinnati, Ohio

FREE! Write for illustrated Victor In-Bilt Catalog giving full details of the new Challenger; also the complete line of VICTOR In-Bilt Ventilators.

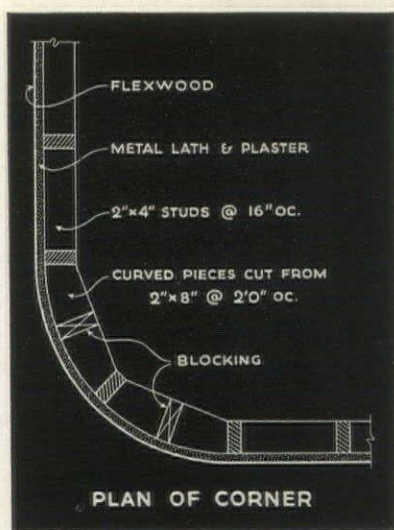
VICTOR In-Bilt VENTILATORS

The art of modern wood treatment



*Foyer, Sacramento Sr. High School Auditorium, Sacramento, Cal., Chas. Dean, Architect.
2,700 sq. ft. of Flat Cut Prima Vera and Mahogany Flexwood used.*

RARE PRIMA VERA ENHANCES THE BEAUTY OF NEW SACRAMENTO SCHOOL BUILDING



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.

Beauty and design are as important in today's schools as are improved lighting, ventilation, recreational facilities and general equipment. The ingenuity of the profession in creating the streamlined, mechanically-perfect educational plants seen on every hand is commendable. Typical of the modern treatment of school interiors is the foyer shown above. During 1939, alone, architects and designers chose Flexwood for offices, auditoriums, recreation rooms, dormitories, or classrooms in twenty-nine schools and universities. There is ample leeway in the average school decorating budget for the finishing of rooms in exotic woods, and the completed installations will belie their moderate cost. More than forty rare woods are available in Flexwood, and the ease and speed with which it is applied make it a logical choice when the luxury of real wood is desired.

flexwood

[WOOD IN FACILE FORM]

UNITED STATES PLYWOOD CORPORATION, 103 PARK AVE., NEW YORK
Manufacturers of Flexglass

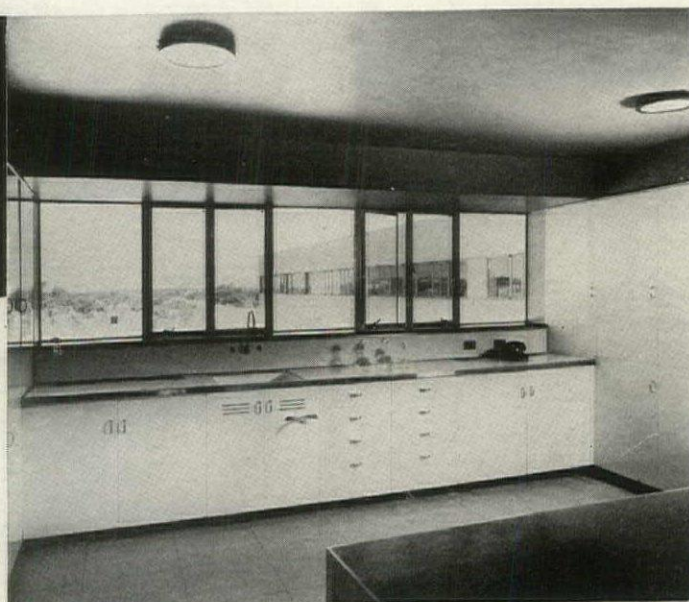
Flexwood is manufactured and marketed jointly by The Mengel Co., Louisville, Ky., and the United States Plywood Corp., New York

St. Charles Steel Kitchens **CHOSEN** FOR LAKE COUNTY TUBERCULOSIS SANATORIUM WAUKEGAN, ILLINOIS

THIS great institution, modern to the minute, efficient in the highest degree, has recognized the superior craftsmanship in St. Charles Steel Kitchens—the sanitary perfection of fine baked enamel finish; the continuous, unbroken sink and counter tops; the absence of cracks and crevices; doors and drawers that never swell, shrink, sag or stick, welded joints that assure extra strength and rigidity. This is but one of many institutional installations made by St. Charles in all parts of the United States.

FREE PLANNING SERVICE—We welcome the opportunity to submit layouts for kitchen requirements in homes, apartments, hospitals, schools, churches, home economics departments—anywhere that great beauty and high efficiency will be appreciated.

Send for free bulletins and Specifications Bulletin on two complete St. Charles lines. Ask for File A.F.4. Address St. Charles Manufacturing Co., St. Charles, Illinois.



ENTIRE INSTITUTION EQUIPPED WITH ST. CHARLES CABINETS

St. Charles Steel Cabinets are in all the wards, doctor's residence, nurses' home, doctors' and nurses' locker rooms, occupational therapy room, medicine room, housekeeper's room, bedrooms, isolation rooms, morgue, sterilizing room, anesthesia room, storage room, nurses' work room, dental laboratory, dark room, linen room, diet kitchen, pharmacy room, nurses' utility room and laboratory. Cabinets were furnished in ivory and coral shade with a trim moulding of dark rose. Continuous Linoleum counters.

St. Charles Steel Kitchen Cabinets

FOR THE ARCHITECT DESIRING ...

L.C.S. in heating equipment means its ability to serve year after year — reliably, efficiently and economically. PAYNE'S advanced engineering, relentless testing, and ceaseless inspection assure you of gas-fired furnaces with L.C.S. ☆ Popular the nation over, the compact PAYNE ZONEAIR offers circulating warmth in winter, c-o-o-l ventilation in summer, to one room, a wing, or the whole house, under automatic or manual control. ☆ For any heating problem—cottage or mansion—PAYNEHEAT is first choice among many leading Architects.

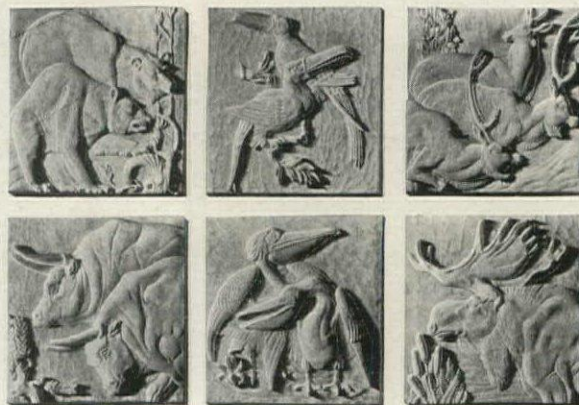


* Lasting Client Satisfaction

- Floor Furnaces
- Forced Air Units
- Duplex Furnaces
- Gravity Furnaces
- Console Heaters
- Zoneair Units

See your PAYNE Dealer or Gas Company. Or write for a convenient file of information.

PAYNEHEAT Payne FURNACE & SUPPLY CO., INC.
BEVERLY HILLS • CALIFORNIA



New Translucent CAST PLASTIC PLAQUES

Size: 11½" x 11½" x ¾" thick

Original designs by Robert Reinhardt Von Liski.

New White Meerschaum-type plastic ... can be painted any color ...

Use with or without lighting.



For Architectural Use

12 for \$36.00
2 of each design
or \$3.50 each
IN STOCK



For Modernizing Doors

Yes ... for a hundred uses ... they are beautiful for lighting fixtures ... special designs easily made.

ORDER TODAY

W. L. STENSGAARD & ASSOCIATES, Inc.
346 N. Justine Ave., Chicago, Ill. • RCA Bldg., New York, N. Y.



(Above) "LIFE House" — Cross Gates, Madison, N. J., 1939. Royal Barry Wills and Marcel Villaneuva, architects; General Properties, Inc., East Orange, N. J., builders; P. Moran, Chatham, N. J., painting contractor.

Photo by George B. Biggs, Inc.



(Left-right group) "LIFE House" — LaGrange Park, Ill., 1939. Royal Barry Wills, architect, Boston; Wm. Joern & Son, builders (and painting) Chicago, Ill.

Photos by Highlights Studio



(Above, left, right) "LIFE House" No. 3, Massapequa, L. I., 1940. Holabird & Root, architects, Chicago;



Harmon Organization, builders, New York; John Hoegel, West Hempstead, L. I., painting contractor.

Photo by Gottsche



(Above, left, right) "LIFE House" No. 3, LaGrange Park, Ill., 1940. Shaw, Naess & Murphy, architects, Chicago; Wm. Joern & Son, builders (and painting).

Photos by Hedrich-Blessing Studio



THE scope and importance of the "LIFE House" building program are too well known to require extended comment here. And, likewise, many architects, from coast to coast, know the outstanding qualities of

Pratt & Lambert Paint and Varnish

It is, however, both gratifying and significant that Pratt & Lambert materials have been and are being used in various "LIFE Houses," a few of which are shown above.

Whenever there is need for prompt, practical co-operation regarding any finishing problem, the Pratt & Lambert Architectural Service Department nearest you will render that aid upon request.



PRATT & LAMBERT-INC., Paint & Varnish Makers
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONTARIO

**STABILITY
STRENGTH
SIMPLICITY**

HEAVY ASPHALT SHELL IS OUTSIDE OF AND SUPPORTED BY STRONG ARMCO CONDUIT

COUPLER POSITIVELY SLIP-SEALED NO GUESSWORK INVOLVED

CROSS SECTION

**DURABLE
WATERTIGHT
ENGINEERING**

RIC-WIL INSULATED PIPE UNITS

REAL PIPE SUPPORT AND GUIDE SCREW INTO CONDUIT — REMOVABLE
PIPE AND ITS COVERING FREE FROM ANY LOAD ON THE CONDUIT

REGISTERED

For Underground ^{or} Overhead Steam Lines

Armco Iron Conduit is the foundation supporting heavy asphalt shell of any desired thickness—a permanent housing, with ample structural strength, lightweight and watertight. Furnished in any lengths, with any kind of pipe or insulation, for underground or overhead steam lines. Welded couplings used if preferred. A complete, self-contained, streamlined system—**MADE POSSIBLE ONLY BY MODERN ENGINEERING. Only one thing to buy!**

Write for Bulletin No. 4003

The RIC-WIL CO.

Union Commerce Bldg.
Cleveland, Ohio

Agents in Principal Cities

REG. U. S. PAT. OFF.

Ric-wil

CONDUIT SYSTEMS FOR
UNDERGROUND STEAM PIPES

**Hang Windows
This Way
and They Stay
Hung**

The simple way, the sure way—the quiet, long lasting, economical way is with Samson Spot Cord, weights and pulleys.

Mechanically right, positive in action, permanent without adjustments. Samson Spot Sash Cord is made for running over pulleys. Firm, smooth and uniform with no excessive stretch. Lasts a life time—needs no attention.

Specify Samson Spot Sash Cord—identified by the colored spots, our trademark (Reg. U. S. Pat. Off.)

SAMSON CORDAGE WORKS
BOSTON, MASS.

**SAMSON
SPOT**
sash cord



The New Youngstown Pressed Steel Kitchen Book for Architects



EVERYTHING the architect needs to save planning time is included in our new Architects' Book which is yours for the asking.

Youngstown Pressed Steel
Div. Mullins Mfg. Corp.
Warren, Ohio

Please send my copy of the Architects' Book.

Name _____

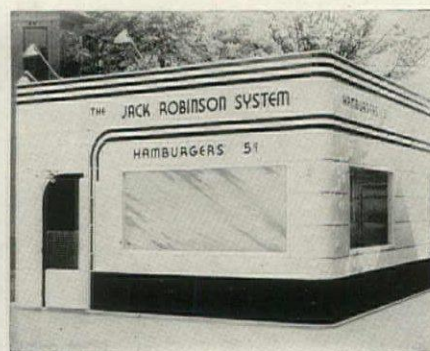
Firm _____

Street _____

City _____ State _____

AF940

**WHERE
THE
APPEARANCE
OF
CLEANLINESS
IS
ALL-IMPORTANT**



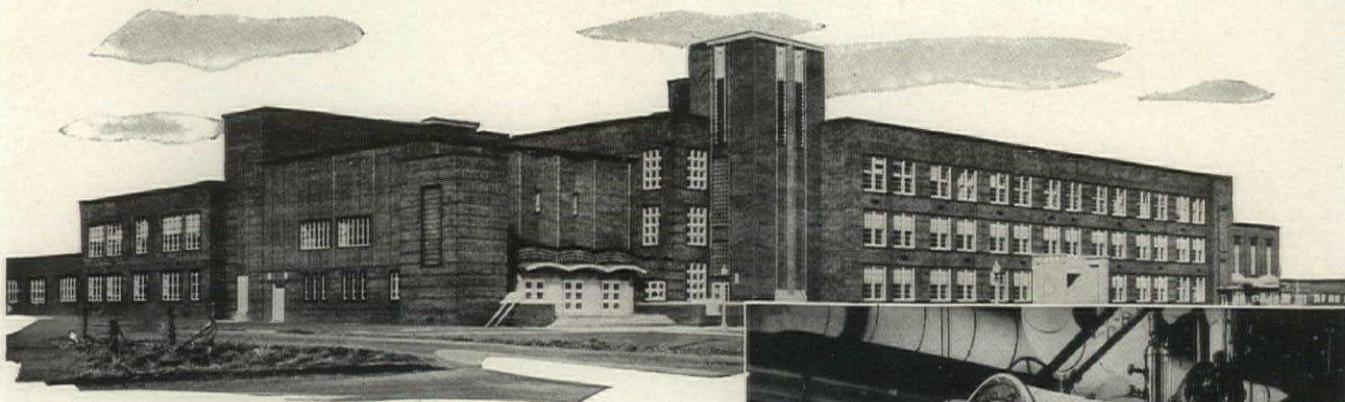
use **DAVIDSON**
OF LIMA
PORCELAIN ENAMEL

- Equally adaptable to old or new buildings.
- Wide range of finishes (lustre, satin, ripple, etc.)
- Retains new appearance indefinitely.
- Unlimited color range.
- High light reflection.
- High attention value.
- No maintenance cost.
- Waterproof joints.
- Easily cleaned.
- Moderate cost.
- Easily applied.
- Fireproof.

Write today for free booklet.
No obligation.

DAVIDSON ENAMEL PRODUCTS, Inc.
600 E. KIBBY ST. • LIMA, OHIO

BILLINGS, MONTANA, BUILDS A FINE NEW HIGH SCHOOL



... AND ASSURES ECONOMICAL HEAT WITH **FITZGIBBONS STEEL BOILERS**

The character of a community is shown in its schools—and the quality of its schools is manifested in their appointments. Billings, Montana makes top rating on both counts, with its attractive new Senior High School, heated by three Fitzgibbons R-Z-U steel boilers arranged for gas firing.

This type of Fitzgibbons boiler is particularly favored in the heating of school buildings and similar institutions, because of its especially rapid water circulation and high efficiency of heat transfer, which combine with various other Fitzgibbons features to keep fuel costs remarkably low.

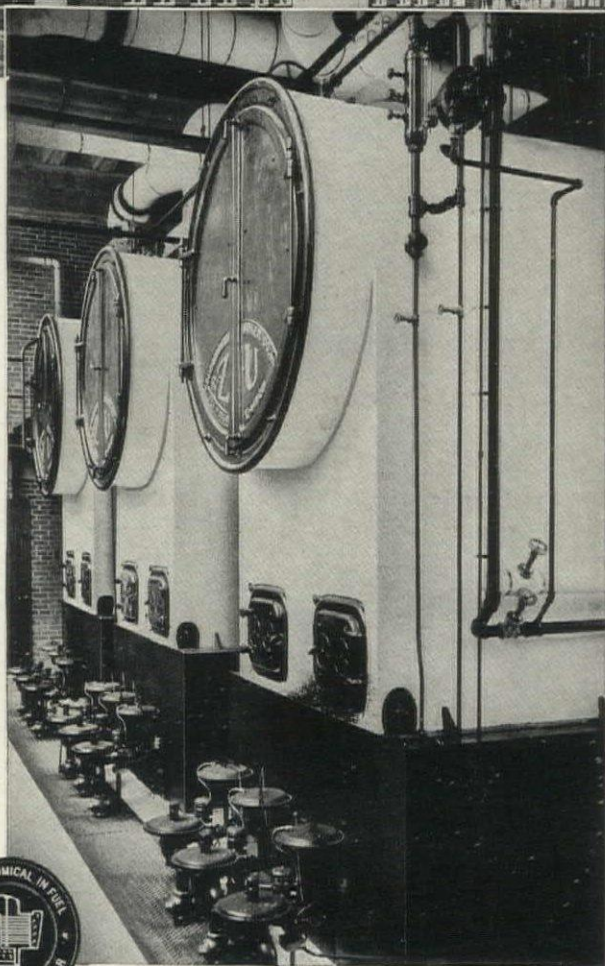
Architects and engineers who specify Fitzgibbons steel boilers, will find Fitzgibbons Service to Architects a valuable aid in developing a heating system of assured performance. A word from you puts you in touch with the nearest Fitzgibbons engineer-representative, and brings the Fitzgibbons R-Z-U Boiler Catalog. Write us for R-Z-U-4.

Fitzgibbons Boiler Company, Inc.

General Offices: 101 PARK AVE., NEW YORK, N. Y.

Works: Oswego, N. Y.

Offices in Principal Cities



The three husky Fitzgibbons R-Z-U steel boilers which grace the attractive boiler-room of the equally attractive Billings Senior High School. These boilers were selected by Wm. B. Ittner, Inc., Architects and Engineers located in the Board of Education Building, St. Louis, Missouri, and installed by C. O. Christensen, Plumbing and Heating Contractor, Billings, Montana.

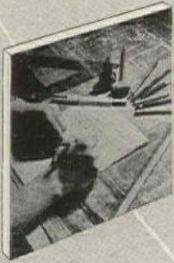




ENGINEERING



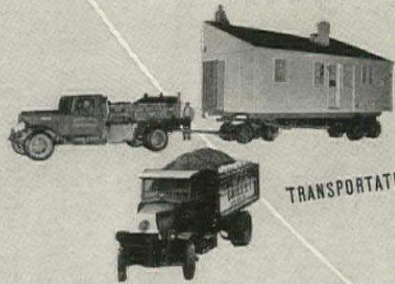
LABOR



DESIGN



BUILDINGS



TRANSPORTATION



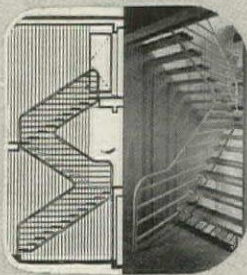
FINANCE



EDUCATION



DISTRIBUTION

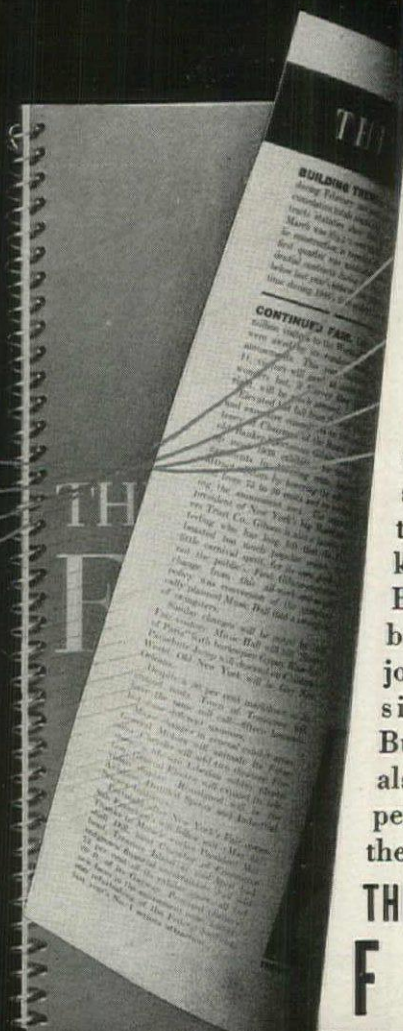


INTERIORS



HOUSES

NEWS



News of Building rarely travels at blitz speed. However, there is lots of it these days and much of it important. As a member of the Time Inc. group of publications, THE FORUM's staff is trained to anticipate news and to know how to write it. Because THE FORUM believes news is a major function of professional journalism, Building's professionals have come to depend on THE FORUM as their major news source.

**THE ARCHITECTURAL
FORUM**

Acme Steel Co.
 Ajax Flexible Coupling Co.
 Allis-Chalmers Mfg. Co.
 American Can Co.
 American Chain & Cable Co.
 American Gas Furnace Co.
 American Laundry Mach. Co.
 American Locomotive Co.
 Anaconda Copper Mining Co.
 Anchor Post & Fence Co.
 Appleton Electric Co.
 Armstrong Machine Works
 Atlas Lumnite Cement Co.
 Atlas Powder Co.
 Bakelite Corp.
 Baldwin Belting & Leather Co.
 Baldwin-Duckworth Div.
 Baldwin-Southwark Corp.
 W. F. & John Barnes Co.
 Bethlehem Steel Co.
 Black & Decker Mfg. Co.
 Blaw-Knox Co.
 Brown & Sharpe Mfg. Co.
 Bucyrus Erie Co.
 Bullard Co.
 Butler Mfg. Co.
 Byers Machine Co.
 Calco Chemical Co.
 Canadian Ingersoll-Rand Co.
 Canadian Westinghouse Co.,
 Ltd.
 Carboloy Co., Inc.
 Carrier Corp.
 Carter Carburetor Co.
 Celluloid Corp.
 Century Electric Co.
 A. B. Chance Co.
 Chicago Bridge & Iron Co.
 Chicago Molded Products Co.
 Cincinnati Bickford Tool Co.
 Cincinnati Milling Machine Co.
 Cincinnati Shaper Co.
 Clark Controller Co.
 Cling Surface Co.
 Colgate-Palmolive-Peet Co.
 A. M. Collins Mfg. Co.
 Columbia Alkali Corp.
 Combustion Engineering Co.
 Continental-Diamond Fibre
 Co.
 Copperweld Steel Co.
 Cornell-Dubilier Elec. Corp.
 Crown Cork & Seal Co.
 Cuno Engineering Corp.
 Cutler-Hammer Inc.
 Detroit Rex Products Co.
 Diehl Mfg. Co.
 Ditzler Color Co.
 Dodge Mfg. Corp.
 Dole Valve Co.
 Domestic Engineering Co.
 Duff-Norton Mfg. Co.
 DuPont Co.
 Durez Plastics & Chemicals
 Thomas A. Edison Co.
 Ex-Cell-O Corp.

Fafnir Bearing Co.
 Fairbanks Morse & Co.
 Farrel-Birmingham Co., Inc.
 Ferranti Electric, Ltd.
 Flintkote Co.
 Foote-Burt Co.
 J. B. Ford Sales Co.
 Foster Wheeler Corp.
 Foxboro Co.
 Frick Co.
 Frontier Roller Bearing Co.
 Fulton Syphon Co.
 General Electric Co.
 General Railway Signal Co.
 Gisholt Machine Co.
 Globe Steel Tubes Co.
 B. F. Goodrich Co.
 Gould Pumps, Inc.
 Graver Tank & Mfg. Co.
 Graybar Electric Co.
 A. P. Green Fire Brick Co.
 Guardian Electric Mfg. Co.
 Hamilton Mfg. Co.
 Hays Corp.
 Heald Machine Co.
 Hinde & Dauch Paper Co.
 Hercules Powder Co.
 Hevi Duty Electric Co.
 Hilo Varnish Corp.
 Hotstream Heater Co.
 Hyatt Bearings Div.
 Hygrade Sylvania Corp.
 Independent Pneumatic Tool
 Co.
 Ingersoll-Rand Co.
 Insley Mfg. Corp.

Johns-Manville Co.
 Joy Mfg. Co.
 Keasby & Mattison Co.
 Koehring Co.
 Lamson & Sessions Co.
 Landis Tool Co.
 R. K. LeBlond Machine Tool
 Co.
 R. G. LeTourneau, Inc.
 Lignum-Vitae Products Corp.
 Lindberg Engineering Co.
 Link-Belt Co.
 Locke Insulator Co.
 Magnus Chemical Co.
 Manhattan Rubber Mfg. Div.
 Mason-Neilan Regulator Co.
 Mattheson Alkali Works
 Mattison Machine Works
 Milcor Steel Co.
 Mono Service Co.
 Monsanto Chemical Co.
 Morganite Brush Co.
 Morse Chain Co.
 National Automatic Tool Co.
 National Carbon Co., Inc.
 National Process Co.
 Nation Vulcanized Fibre Co.
 Neptune Meter Co.
 New England Coke Co.
 New Jersey Zinc Co.
 N. Y. Belting & Packing Co.
 Nicholson File Co.
 Northern Electric Co., Ltd.
 Norton Co.
 Novo Engine Co.
 Ohio Brass Co.

Owens-Corning Fiberglas
 Corp.
 Owens-Illinois Glass Co.
 Pangborn Corp.
 Pennsylvania Salt Mfg. Co.
 Permutit Co.
 Philadelphia Quartz Co.
 Pittsburgh Equitable Meter Co.
 Pittsburgh Reflector Co.
 Pneumatic Scale Corp., Ltd.
 Read Machinery Co., Inc.
 Reeves Pulley Co.
 Reliance Elec. & Eng.
 Republic Bank Note Co.
 Republic Flow Meters Co.
 Republic Steel Corp.
 Resmans Prod. & Chem. Co.
 R. W. Rhoades Metaline Co.,
 Inc.
 Robins Conveying Belt Co.
 Rockbestos Products Corp.
 John A. Roebling's Sons Co.
 Rotor Tool Co.
 Joseph T. Ryerson & Son, Inc.
 S K F Industries, Inc.
 Sangamo Electric Co.
 Scott Paper Co.
 Shepard Mills Crane & Hoist
 Simonds Saw & Steel Co.
 Sloan Valve Co.
 W. W. Sly Mfg. Co.
 Stanley Works
 Superheater Co.
 Surface Combustion Corp.
 Taylor Instrument Co.
 Thermoid Co.
 Thew Shovel Co.
 Timken-Detroit Axle Co.
 Timken Roller Bearing Co.
 Truscon Steel Co.
 Union Carbide Co.
 Union Steel Products Co.
 Unitcast Corp.
 U. S. Pipe & Foundry Co.
 U. S. Rubber Co.
 U. S. Steel Corp.
 Edward Valve & Mfg. Co.
 Vickers, Inc.
 Edward W. Voss Machinery Co.
 Wagner Electric Corp.
 Walton Truck Co.
 Warner & Swasey Co.
 Waukesha Motor Co.
 West Disinfecting Co.
 West. Elec. Instrument Corp.
 West Penn Power Co.
 Western Precipitation Corp.
 Westinghouse Elec. & Mfg. Co.
 Weyerhaeuser Sales Co.
 Wheeler Reflector Co.
 Wickwire Spencer Steel Co.
 Edwin L. Wiegand Co.
 Wilson Mechanical Instr. Co.
 Wiremold Co.
 Wolverine Tube Co.
 York Ice Machinery Corp.

Who finds it pays?

These are some of the 845 companies that sent representatives to the national N. I. A. A. Conference last year . . . to take part in group discussions of marketing problems . . . present case studies . . . and study the advertising methods of industrial leaders.

You are invited to the 18th annual Conference of industrial sales promotion and advertising executives in Detroit next September . . . to get new ideas and information that will make your 1941 program more effective, more profitable. Write now for details.

International Nickel Co.
 Irvington Varnish & Res. Co.
 Johnston & Johnston, Inc.

Okonite Co.
 Osburn Mfg. Co.
 Otis Elevator Co.

18th Annual CONFERENCE and Exposition
 National INDUSTRIAL ADVERTISERS Association
 SEPT. 18, 19, 20 . . . DETROIT . . . HOTEL STATLER

A MODERN BATH? . . . SURELY

it's tiled with time-proven **Tile**



Photo . . . Courtesy Crane Co., Chicago



New designs . . . 24 pages
of facts . . . rooms in full
color. May we send you a
copy?

Simple, direct, modern planning goes hand in hand with the use of materials that take the drudgery out of house-keeping and house-cleaning . . . with products that give permanent trouble-free service. From the standpoint of utility that explains why TILE is the logical choice for today's homes. In terms of design, ceramic TILE, as old almost as architecture itself, is as modern in feeling and in treatment as the latest dream of the designers of fixtures and appliances. The rounded corners of the tilework carry out the curved motif of the cupboard and the fixtures. Note the effectiveness of the two-tone treatment of the tub enclosure. A smart, tiled room insures a lifetime of satisfaction, and its cost is surprisingly moderate. The use of TILE in entrance halls and sun-rooms, for window-sills and stools, and fireplaces, as well as kitchens and baths, is true economy.

THE TILE MANUFACTURERS' ASSOCIATION, INC.

50 East 42d Street



New York, N. Y.

MAKE SMALL CLOSETS BIG

WITH
**K-VENIENCE
CLOTHES CLOSET
FIXTURES**



PHOTO COURTESY OF
ARCHITECTURAL FORUM

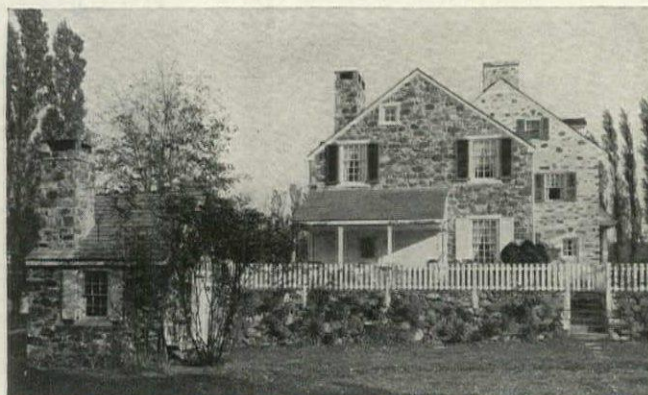
Small or awkwardly shaped closets are sometimes hard to avoid but have always been a source of irritation in the home. Now you can double the hanging space with no increase in cubage—and provide a neat handy place for wearing apparel simply by installing K-Veniences. More than 40 modern, practical fixtures to choose from. Attach easily to door or wall. Inexpensive. Nationally advertised. Used extensively by leading Long Island and other important developers.

FREE CATALOG—See your Builders' Hardware dealer or write today. Includes many installation ideas—shows complete line.

(A) Clothing Carriers • (B) Hat Holders • (C) Tie Racks • (D) Shoe Racks • (E) Wishbone Hangers Closet Rods • Towel Racks Skirt Hangers • Trouser Hangers Garment Brackets.

**KNAPE & VOGT
MANUFACTURING CO.**
Dept. F-9. Grand Rapids, Michigan

Prevent Harmful Moisture Condensation



"Quilt" insulated house at Wynnwood, Pa.
Architect: R. Brognard Okie, Philadelphia

Use Cabot's "Quilt"

Air space on each side of the "Quilt" permits air circulation and prevents harmful moisture condensation in the walls. Cabot's "Quilt" is rot-proof, vermin-proof, stays permanently in place and does not settle. Write for free booklet "Build Warm Houses." Samuel Cabot, Inc., 1277 Oliver Building, Boston, Mass.

Investigate This New Kind of KITCHEN CABINETRY



BUILT OF WOOD, METAL AND NEWEST COMPOSITIONS

BE SURE to learn all about Kitchen Maid, for it is the outstanding cabinetry of today...combining the advantages of the best available materials, each used where it serves best. Available in two price ranges, it is adaptable to homes of any size. Write for your copy of new color catalog today.

The Kitchen Maid Corp., 609 Snowden Street, Andrews, Indiana.
Send new catalog and details on Standard Unit Kitchen Cabinetry.


Name _____

Address _____

☐ Architect
☐ Builder

KITCHEN MAID
STANDARD UNIT
CABINETRY

☐ Dealer
☐ Owner



**315
"Overhead
Doors!"**

one Industrial Job!

Chosen for the new Kansas City Food Terminal—The "OVERHEAD DOOR" with the MIRACLE WEDGE, built at Hartford City, Indiana. Three hundred and fifteen doors... yet this multiple installation was a simple job for "OVERHEAD DOOR" engineers.

One door or many—outside or intercommunicating—manually or electrically operated—modern production and distribution demand The "OVERHEAD DOOR" in every type of factory and warehouse. Our local representative will make a complete survey without obligation. Phone him today.

LARGE HOMES OR SMALL.
Give every client a good garage door—The "OVERHEAD DOOR". Stock designs are well within the smallest budgets. Sold installed.



THE
"OVERHEAD DOOR"
TRADE MARK
WITH THE
MIRACLE WEDGE
BACKED BY A NATION-WIDE SALES-INSTALLATION SERVICE

OVERHEAD DOOR CORPORATION, Hartford City, Ind., U.S.A.

Pigments Ground Finer Than Cake Flour!



That's Why Pittsburgh Paints Will Always Flow Smoothly and Easily — Will Always Do A Satisfactory Job!

Great, precision-built grinding mills of various ultra modern designs reduce the raw pigment used in Pittsburgh's sturdy finishes to a consistency *actually finer than cake flour*. This is one of the most important operations in the manufacture of these fine paints. It insures Pittsburgh Paints flowing evenly and smoothly, leaving no sharp brush marks, and drying to a hard, elastic surface.

Every step in the production of Wallhide, Waterspar Enamels and Varnishes, Florhide, Sun-Proof and other of the company's nationally known products is scientifically controlled. Nothing can be left to guesswork in obtaining the highest quality known.

See Sweet's Catalog

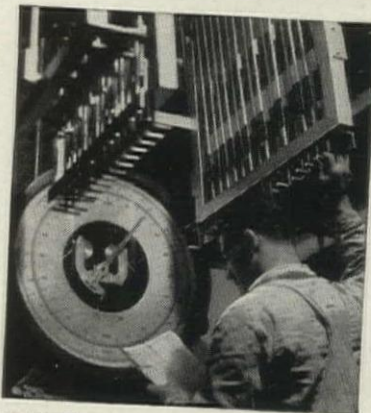
For names and addresses of all Pittsburgh Branches and for more complete information concerning our many universally used products, see Sweet's Catalog—or write direct to Pittsburgh Plate Glass Company, Paint Division, Grant Building, Pittsburgh, Pa.

Copr. 1940 Pittsburgh Plate Glass Co.

PITTSBURGH PAINTS

Smooth as Glass

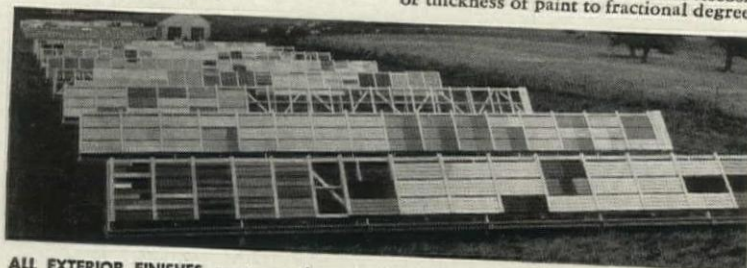
WALLHIDE FLORHIDE WATERSPAR SUN-PROOF



TO INSURE exact quantities of every ingredient used in various Pittsburgh Paints, these error-proof automatic scales and measures are used. The amounts weighed out are specified in printed formulas.

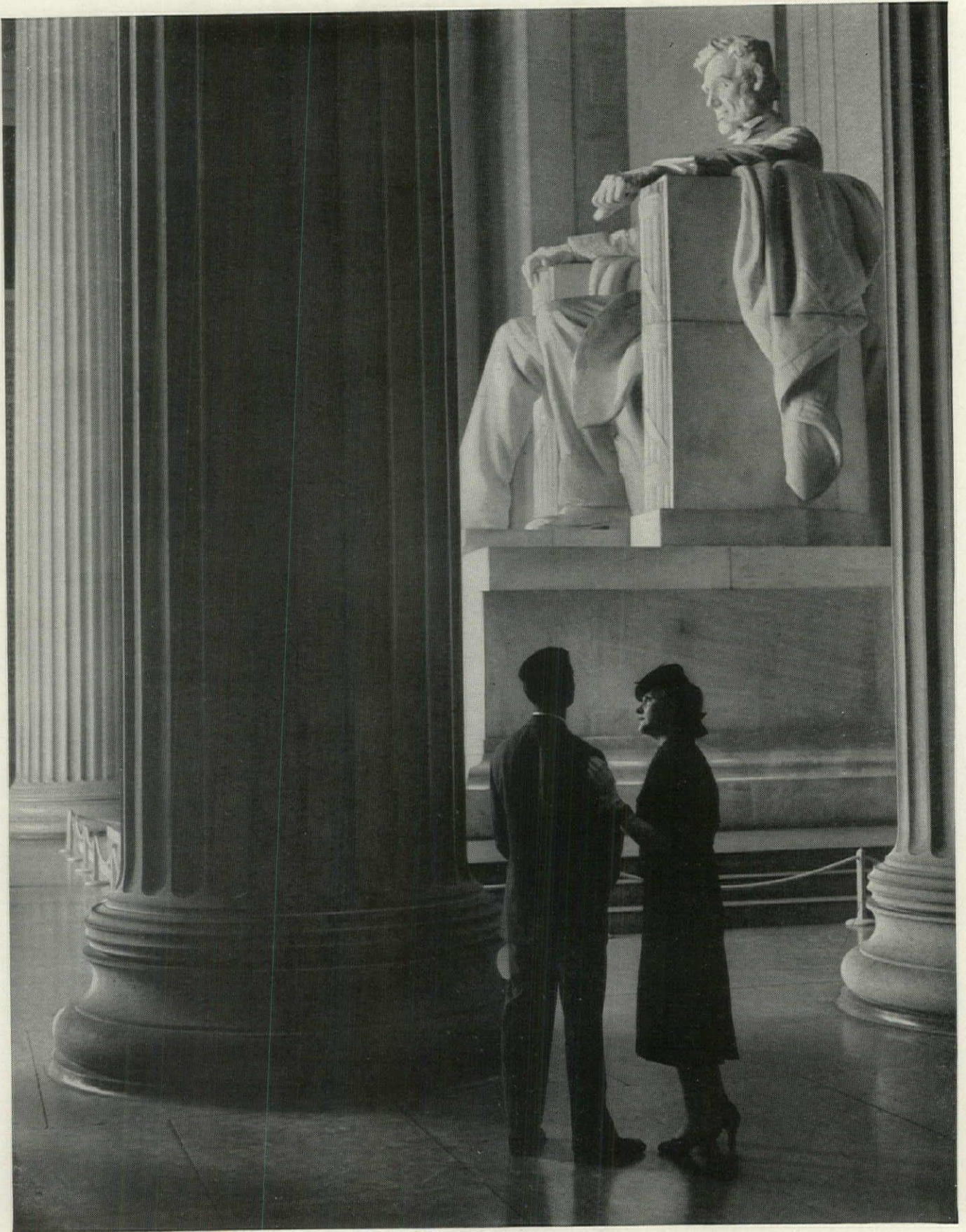


MANY DELICATE measuring devices are used constantly to check and recheck the superior qualities of Pittsburgh Finishes. The above instrument measures the viscosity or thickness of paint to fractional degrees.



ALL EXTERIOR FINISHES must go through these Pittsburgh torture racks set up in various parts of the country to determine their resistance to every kind of climatic extreme. In one Proving Ground panels expose Pittsburgh Paints to the ravages of concentrated industrial fumes and gases; in another, to broiling tropical sun and salt spray; in still another, to high winds and rains and wide extremes of temperature. Every Pittsburgh Paint must prove its ability to "take it."

"It is for us,



the living..."

AROUND THIS GIANT, brooding figure of Lincoln, in the month of August, 1940, the men and women who have inherited his great Republic stand in silence as deep and meaningful as his own.

For the Lincoln Memorial is America's most moving shrine. And here, under the spell of a personality so great that its living presence can almost be felt, Americans are re-reading words as luminous today as in that other day when the nation was so gravely endangered.

"It is for us, the living, rather, to be here dedicated to that unfinished work... to the great task remaining before us... that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth."

► It is a touchstone... that marble wall with its inscription. It reveals character, purpose, and attitude in everyone who stands before it.

You catch a fragment of talk between a young man and an older woman...

"Gee, Mother, a fellow should be glad to do something at a time like this!"

"Just the same—I can't bear to think of you as a soldier! Our only son."

Yet six months from now, if her boy goes into training, that mother will have forgotten that she ever grudged his service to her country.

The boy will come home from camp a man... with the self-reliance, the responsibility, the understanding of his fellows that make a man, and a leader of men.

She herself will have found a way to give service of her own. And she will discover, as a great American philosopher long ago pointed out, that what the human soul wants most in this world is the opportunity for loyalty.

► What will bring about this change of attitude—this victory of strength over weakness, of the greater loyalty over the lesser? Events? The example of others? The acts and words of great public men?... Partly.

But high among the list of influences that are turning passive patriot-

ism into active loyalty are the country's more farsighted newspapers.

Consider this question of military training in peacetime. Public opinion polls show that a majority of Americans believes it necessary. But no other part of our defense program quite so urgently needs universal support—needs a speed-up of the usual democratic process by which the minority is converted to the viewpoint of the majority.

This is where most newspapers are doing, and will continue to do, a great job. Not by editorials primarily—nor by any "coloring" of the news. Simply by digging out the facts and telling them...

► Reporting the extent and immediacy of the national peril—and so dispelling the complacency which has been the ruin of so many other free nations...

Reporting the number of trained men needed to make, service, and operate the war machines we have ordered—and thus getting rid of the dangerous notion that we can defend ourselves with machines alone...

Reporting the government's projects for housing, feeding, training, and doctoring its new soldiers.

"With us," wrote Lincoln to a friendly Frenchman in 1862, "every soldier is a man of character, and must be

treated with more consideration than is customary in Europe."

It is still true today. The three-fold task before the press is to show us that Uncle Sam will take care of the boys the best he knows how; that their talents and abilities will be used with as little disruption as possible of normal civilian lives and careers; that if war comes, they will be far safer trained than untrained.

► To the Weekly Newsmagazine, the man power element in defense seems of the most crucial and urgent importance. And whether recruiting is on a volunteer or conscription basis, as soon as it begins in earnest, TIME will present to the nation an organized week-by-week report on progress.

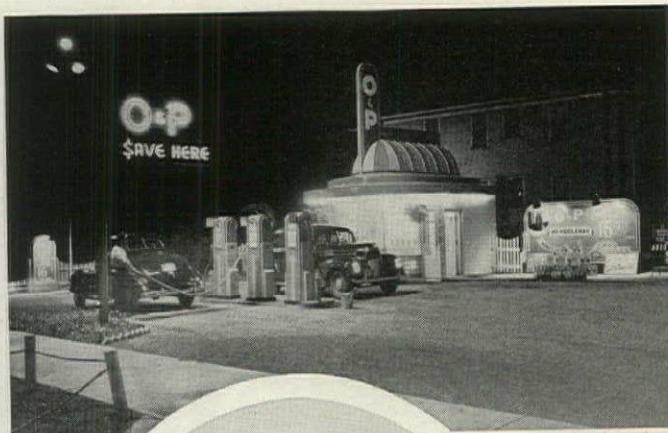
In TIME's new department—National Defense—the conversion of civilians into soldiers will be examined, checked, and totalled as often as it is practical to do so. Nor will TIME's report stop with mere numbers. It will probe, impartially and thoroughly, the calibre of their training—and pass its conclusions along to you.

► Men and machines, machines and men. In a modern war, one is useless without the other. TIME will keep an eye on both... will, as always, tell the truths gathered by the world's best reporters about this issue which is so vital to the lives and liberties of all of us.

In these days of crisis, the free press is more than ever a vital force in making our democracy a living, working success. Therefore, TIME is seeking, in this series of advertisements, to give all the readers of ARCHITECTURAL FORUM a clearer picture of what the press in general, and TIME in particular, is doing to keep the people of this nation safe, strong, free, and united.



NO ONE REFLECTOR CAN BE A *"Jack of all trades"*



But **ALZAK** *REG. U. S. PAT. & TM. OFF. ALUMINUM COMPANY OF AMERICA **ALUMINUM REFLECTORS** **are a versatile family**



You must have a reflecting surface that puts the *kind* of light you want just where you want it. That means a diffuse reflector for one job, a specular surface for another, and various combinations of the two for many others.

With Alzak Aluminum Reflectors, you can get exactly what you need for highest lighting efficiency; the right reflecting surfaces and shapes.

High reflectivity is obtained in Alzak Aluminum Reflectors by a special electro-

lytic treatment of Aluminum sheet. The smooth, oxide surface of glass-like hardness will not chip, doesn't scratch easily and can be readily cleaned with soap and water. Long life and ease of maintenance make annual costs low.

We do not manufacture reflectors. Those companies who are licensed under Aluminum Company of America patents to produce Alzak Reflectors can advise you on the correct finishes to use for each application.



You can identify a genuine Alzak Reflector by a label affixed to it by the manufacturer. This lists the patents protecting the processes that assure uniform, high quality workmanship. Look for that label when you are buying reflectors.

ALUMINUM COMPANY OF AMERICA
1944 GULF BUILDING • PITTSBURGH, PA.

150 HOUSES AT \$5,350 COMPLETELY G-E EQUIPPED



Leo P. McManus, President of Aronimink Corp., is convinced that people like to live in good homes that are G-E equipped. You'll be interested in some of his reasons given in this unsolicited letter.

The G-E Home Bureau offers you the same 3-fold House Merchandising Plan that Mr. McManus has used so successfully.

1. **A Tested House Merchandising Plan** — an aid in selling which builders everywhere are using successfully.
2. **An Architectural Engineering Service** — The G-E Home Bureau does not furnish plans, but its staff of experts will check yours and make suggestions — wiring, heating, air conditioning, lighting, kitchens and laundries.
3. **An Advertising Service** — Tested advertising campaigns, layouts and copy adaptable to your use.

GENERAL ELECTRIC

ARONIMINK CORPORATION

TOWNSHIP LINE AT TREATY ROAD
DREXEL HILL, PA.

DEVELOPERS OF
ARONIMINK ESTATES

SUNSET 5600-1

DEVELOPERS
BUILDERS
REAL ESTATE

July 11, 1940

Mr. C. W. Stuart, Mgr.
General Electric Home Bureau
Bridgeport, Connecticut

Dear Mr. Stuart:

We have decided to install General Electric equipment in the next 150 houses to be built immediately. We will include as regular equipment, General Electric kitchens, General Electric furnaces, General Electric wiring in these houses located in the Aronimink Estates.

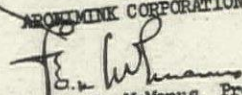
As you are well aware, our feeling has always been for G-E equipment but due to price we thought it impossible to use it as standard equipment in houses selling for \$5,350.00. However, it has been proven very definitely in the last ten months to us that the public wants good equipment and is willing to pay for it, and the quality of General Electric equipment removes many obstacles that are encountered when selling.

Together with the untiring efforts of the Home Bureau, with its fine merchandising program, architectural engineering service, advertising and suggestions, General Electric adds up to just what a builder needs to answer so many of his problems.

My sincere wish for your continued success.

Cordially yours,

ARONIMINK CORPORATION

(Signed)  Leo P. McManus, Pres.

McM:M

Send in the coupon today.
General Electric Home Bureau Dept.
AF-408, 1285 Boston Ave., Bridgeport, Conn.
Please send me information on your House Merchandising Plan.

.....I am an Architect.
.....I am building for resale.
.....I am building my own home.

Name.....
Address.....
City.....State.....County.....

SPECIFICATION AND BUYING INDEX

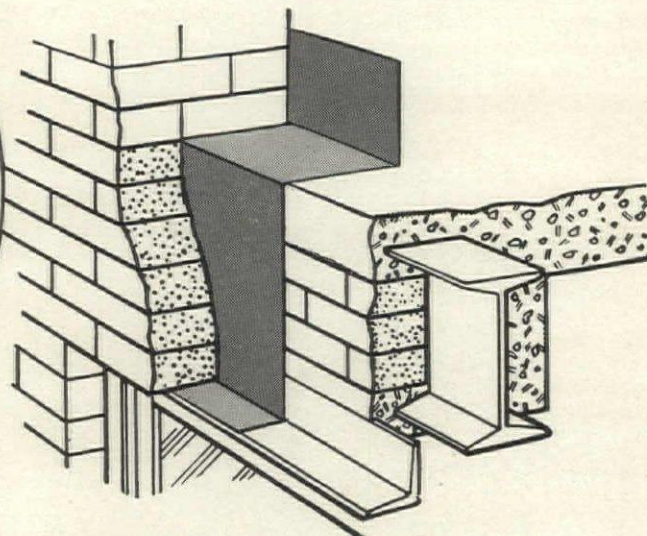
The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built 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.

Aluminum Company of America	84	Minneapolis-Honeywell Regulator Co.	29
American Brass Company, The	87	Mullins Mfg. Corp.	74
American Lumber & Treating Co.	42	(Youngstown Pressed Steel Division)	
American Rolling Mill Company, The	Cover IV	National Lead Company	35
Anchor Post Fence Company	36	Overhead Door Corporation	80
Angier Corporation	66	Owens-Illinois Glass Company	45
Armstrong Cork Company	34	Payne Furnace & Supply Co., Inc.	72
Arrow-Hart & Hegeman Electric Co., The.....	49	Penberthy Injector Company	25
Barrett Company, The	53	Pittsburgh Plate Glass Company	33, 65
Bethlehem Steel Company	6	Pittsburgh Plate Glass Company, Paint Division.....	81
Bigelow-Sanford Carpet Co., Inc.	61	Portland Cement Association	67
Brasco Manufacturing Company	57	Pratt & Lambert, Inc.	73
Bruce Co., E. L.	52	Reardon Company, The	63
Burnham Boiler Corporation	70	Revere Copper and Brass, Incorporated	69
Cabot, Samuel, Inc.	80	Rie-Wil Co., The	74
Carey, Philip Company, The	8	Rixson, Oscar C. Company, The	56
Carnegie-Illinois Steel Corporation	55	Rowe Manufacturing Co.	15
(United States Steel Corporation Subsidiary)		St. Charles Manufacturing Co.	72
Case & Son, W. A. Manufacturing Co.	58	Samson Cordage Works	74
Celotex Corporation, The	Cover II	Sanymetal Products Co., Inc., The	19
Chase Brass & Copper Company	40, 41	Shellac Information Bureau	36
Columbia Steel Company	55	Sloane-Blabon Corporation	37
(United States Steel Corporation Subsidiary)		Sonneborn Sons Inc., L.	58
Consolidated Expanded Metal Companies, The	43	Spencer Heaters	60
Davidson Enamel Products Inc.	74	Square D Company	17
Detroit Steel Products Co.	28	Stensgaard, W. L., & Associates, Inc.	72
Eichleay Engineering Corp.	62	Stran-Steel Division	21
Electro Metallurgical Company	23	(Great Lakes Steel Corporation)	
Fitzgibbons Boiler Company, Inc.	75	Surface Combustion Company	62
Formica Insulation Company, The	5	Tennessee Coal, Iron & Railroad Company	55
Franklin Research Company	68	(United States Steel Corporation Subsidiary)	
General Electric Company	54, 59, 85	Tile Manufacturers Association	79
Great Lakes Steel Corporation	21	Trane Company, The	44
(Stran-Steel Division)		Truscon Laboratories	13
Hoffman Specialty Co., Inc.	31	Truscon Steel Company	Cover III
Ilg Electric Ventilating Co.	64	United States Plywood Corporation	71
Johns-Manville	39, 88	United States Rubber Company	70
Kawneer Company, The	32	United States Steel Corporation.....	11, opp. p. 216, 55
Kewanee Boiler Corporation	50	Universal Atlas Cement Co.	11, opp. p. 216
Kimberly-Clark Corporation	16	(United States Steel Corporation Subsidiary)	
Kitchen Maid Corporation, The	80	Uvalde Rock Asphalt Company	48
Knappe & Vogt Manufacturing Co.	80	Van Range, John, Co., The	38
Koppers Company	26	Victor Electric Products, Inc.	70
Lead Industries Association	30	Westinghouse Electric & Manufacturing Co.	22
Louisville Cement Co.	7	Weyerhaeuser Sales Company	18
Masonite Corporation	3	Wheeling Corrugating Company	51
Medusa Portland Cement Co.	27	Wood for Venetians Association	66
Miami Cabinet Division	9	Youngstown Pressed Steel Division	74
(The Philip Carey Company)		(Mullins Mfg. Corp.)	
		Youngstown Sheet and Tube Company	Opp. p. 33

Flexible as Paper...

DURABLE REINFORCED "ELECTRO-SHEET" COPPER

**A Low-Cost
Concealed Flashing
that's Impervious
to Air and
Water!**



Spandrel Beam Flashed with Reinforced "Electro-Sheet" Copper

The economy of Reinforced "Electro-Sheet" makes it ideal for use in solving many varied problems in water and damp-proofing. It affords a new way to achieve the positive and durable protection of copper at low cost.

Anaconda "Electro-Sheet" Copper, bonded to building papers, fabric or asphaltic compounds, is extremely flexible and easy to install. It is available in rolls of various lengths, and in widths up to 60"—with the copper

in thicknesses of .0013", .0027" and .004" (1 oz., 2 oz. and 3 oz. per square foot).

Recent tests on sheathing papers showed that metallic products, including four Reinforced "Electro-Sheet" types, were the only materials impervious to water and water vapor both before and after accelerated aging!

Examine Reinforced "Electro-Sheet" products for yourself. Ask for free samples and names of manufacturers.



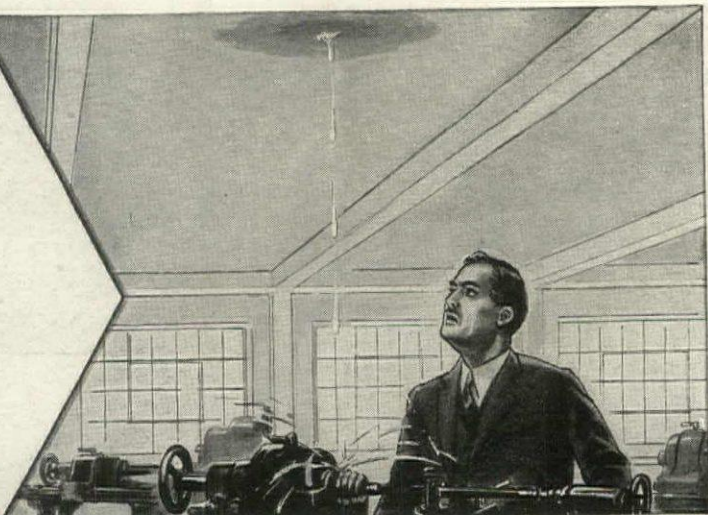
4083

**"ELECTRO-SHEET"
Anaconda Copper**

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
In Canada: Anaconda American Brass Ltd., New Toronto, Ont.
Subsidiary of Anaconda Copper Mining Company

No Roofing Bond Protects Your Clients Against This:

The best roofing bond goes only half way in protecting your clients against unnecessary expense. It's true that if the roof fails at any point, the bond covers repairs. But only those needed to the roof. *No bond pays for the damage that such failures can cause to the building or to the costly equipment underneath!*



That's why we say: SPECIFY A ROOF WITH A SAFETY FACTOR



HERBST & KUENZLI, architects, Milwaukee, Wis., specified a Smooth-Surfaced Asbestos Roof for the Wauwatosa Senior and Junior H.S., to protect their client's building and equipment. Like all J-M Asbestos Roofs, it is built with a safety factor that is far more important than any bond.

WHEN you specify a J-M Smooth-Surfaced Asbestos Built-Up Roof, you don't need to worry about the shortcomings of roofing bonds. For these roofs are engineered with a "safety factor," exactly like steelwork or foundations. At flashings, drains, copings, skylights and angle supports, where 75% of all roof leaks start, J-M specifications call for a generous margin of safety, anticipating unusual punishment at these critical points. Such careful engineering is far more important than any bond, because it gives your client full and real protection to *both* building and equipment.

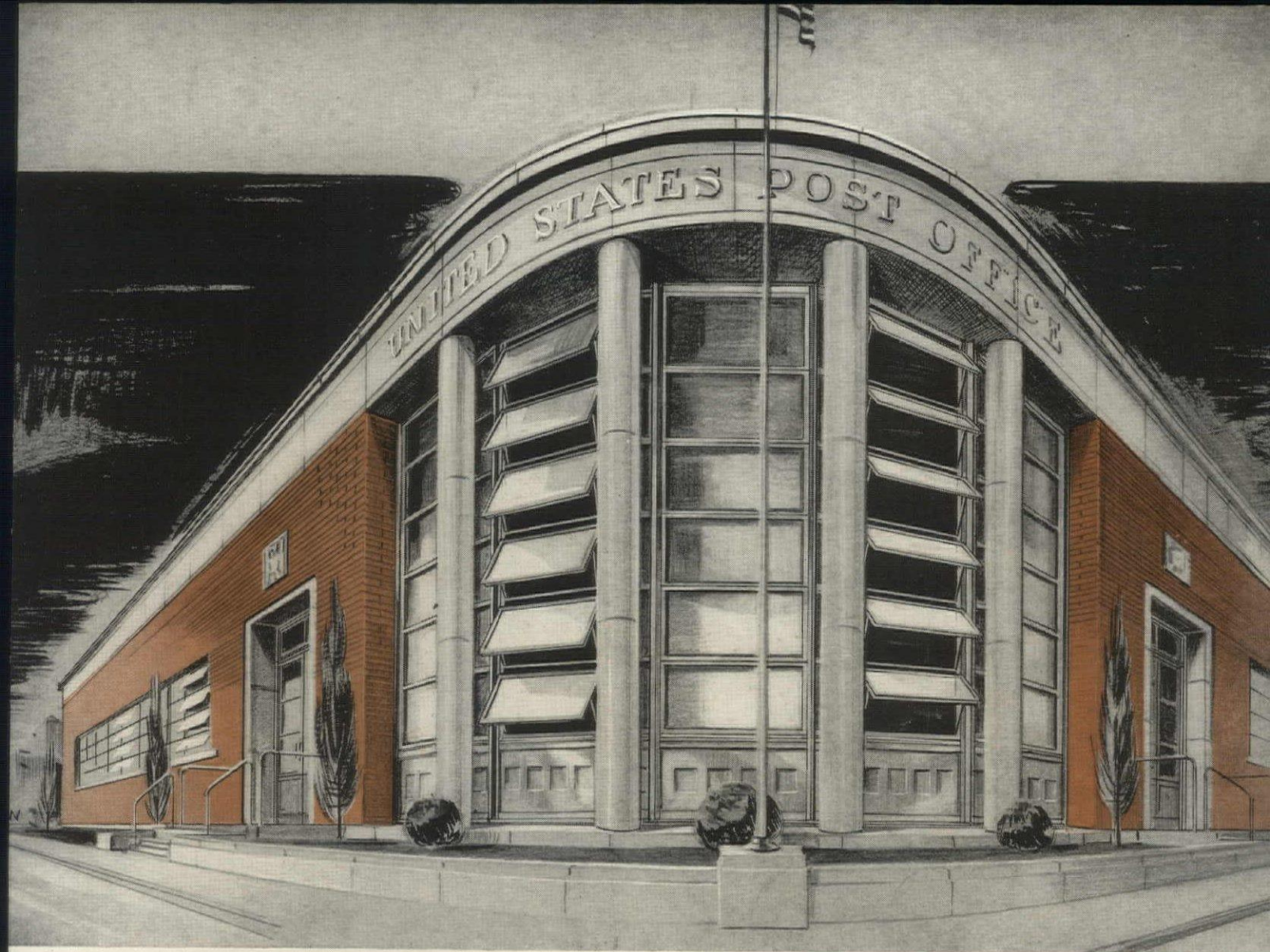
And this sound construction is backed by the finest materials that more than 60 years of research and roofing experience can produce. The felts used in J-M Smooth-Surfaced Roofs are made of *asbestos* . . . fire-proof and rotproof, impervious to the intense drying-out action of the sun.

Check the facts yourself . . . and you'll see why J-M Asbestos Built-Up Roofs consistently outlast their bonds . . . give 25, 30 and more years of service with little upkeep. For details and specifications, write Johns-Manville, 22 East 40th St., New York, N. Y.



JOHNS-MANVILLE
Smooth-Surfaced **ASBESTOS**
BUILT-UP ROOFS

**THE ROOF
WITH THE SAFETY
FACTOR**



Modern Public Building . . . MODEL OF EFFICIENCY

A Logical Location For Truscon Donovan Awning Type Steel Windows

● Planners and builders of public and private buildings of the monumental type are attaining, through the use of Truscon Donovan Windows, the combined objectives of efficient daylighting and natural, draftless ventilation at minimum costs.

The Donovan design eliminates all unsightly exposed connecting arms, shafts, racks, etc., which often interfere seriously with screens, venetian blinds or draperies. The awning principle of the open ventilators permits admission of air in inclement weather and when fully opened, 100% ventilation

is possible. The ventilators operate in unison, either by manual control or by completely concealed mechanism.

Other advantages of design, construction and operation of Truscon Donovan Windows are completely illustrated and explained in a new 20-page catalog now ready for distribution. Write for your copy today. Or, refer to "Sweet's" for basic data, sizes and complete specifications.

TRUSCON

Steel company

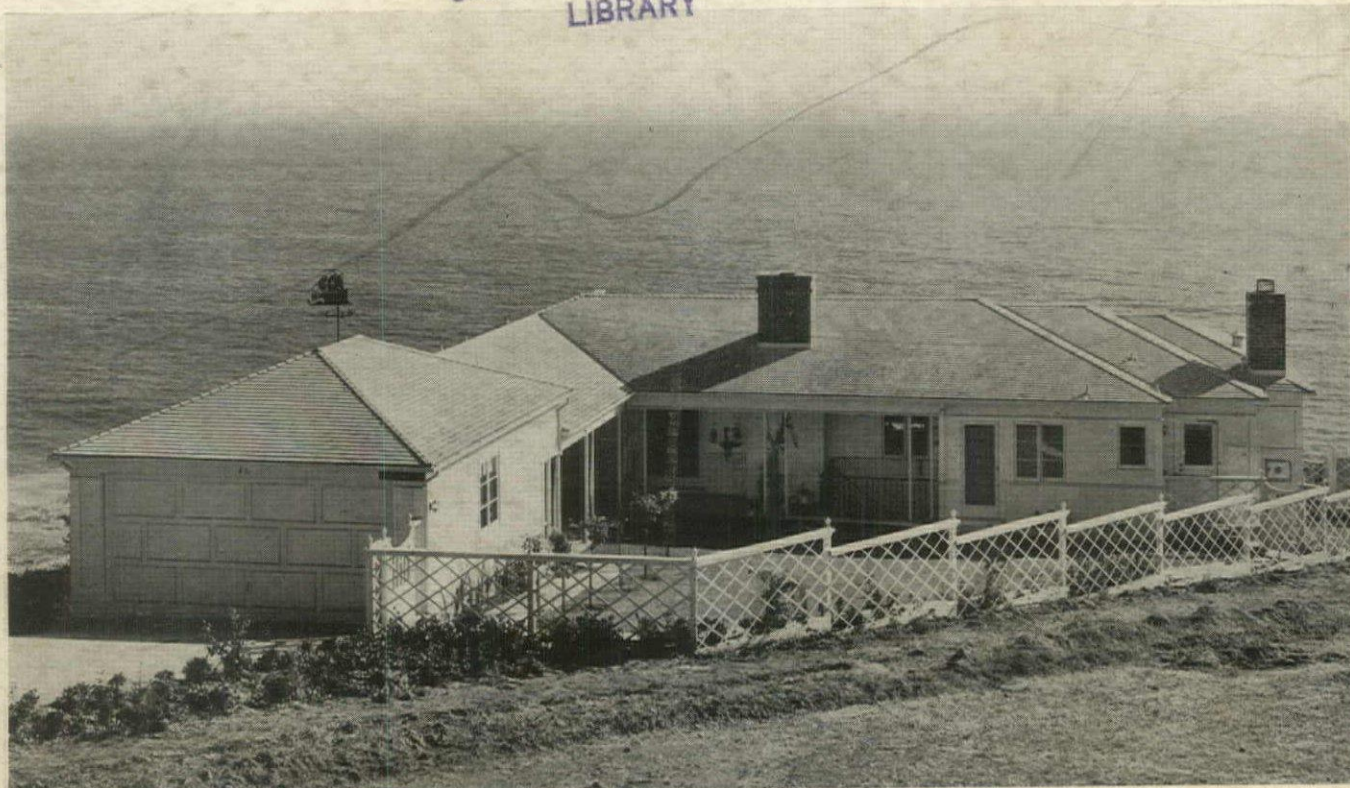


61 SALES ENGINEERING OFFICES • 29 WAREHOUSES
YOUNGSTOWN • • • OHIO
SUBSIDIARY: REPUBLIC STEEL CORPORATION

May 12 '44
Sep 21 '44

Filed in Stacks

UNIVERSITY OF HAWAII
LIBRARY



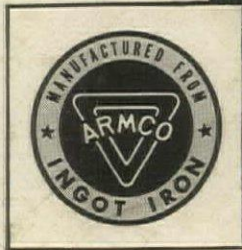
1939: *Laguna Beach, California:* The owner of this prize-winning house (AGA and Architectural Forum 101 Small House Competitions) can be confident of long, low-cost service from this roof-drainage system of extra-durable ARMCO Ingot Iron. The menace of corrosive salt air was an influencing factor. *Architect, Aubrey St. Clair.*

Two houses on Two oceans *defy time and salt air with one sheet metal*

Styles may change, but the need for a lasting low-cost roof-drainage metal goes on. Satisfied owners from coast to coast attest to the long life of galvanized ARMCO Ingot Iron.

When the architect specified galvanized ARMCO Ingot Iron for flashing, gutters and downspouts on the California house shown above, he did it with the knowledge that this iron has the longest record of actual service of all the durable, low-cost sheet metals. Thousands of successful installations in all climates have proved its durability.

For long, low-cost roof-drainage service on your next house, specify this uniform, highly refined sheet metal. ARMCO Ingot Iron is readily available from convenient warehouse stocks, and you'll find a ready acceptance of it among your clients. . . . The American Rolling Mill Company, 2341 Curtis Street, Middletown, Ohio.



1914: *Daytona Beach, Florida:* Twenty-six years of service in salt air has had little effect on these ARMCO Ingot Iron gutters and downspouts. Owner reports in 1940: "All original metal work in perfect condition; never has been replaced or repaired."

ARMCO INGOT IRON
"THE ARCHITECT'S STANDARD"