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MAY 23 1940

# THE ARCHITECTURAL FORUM

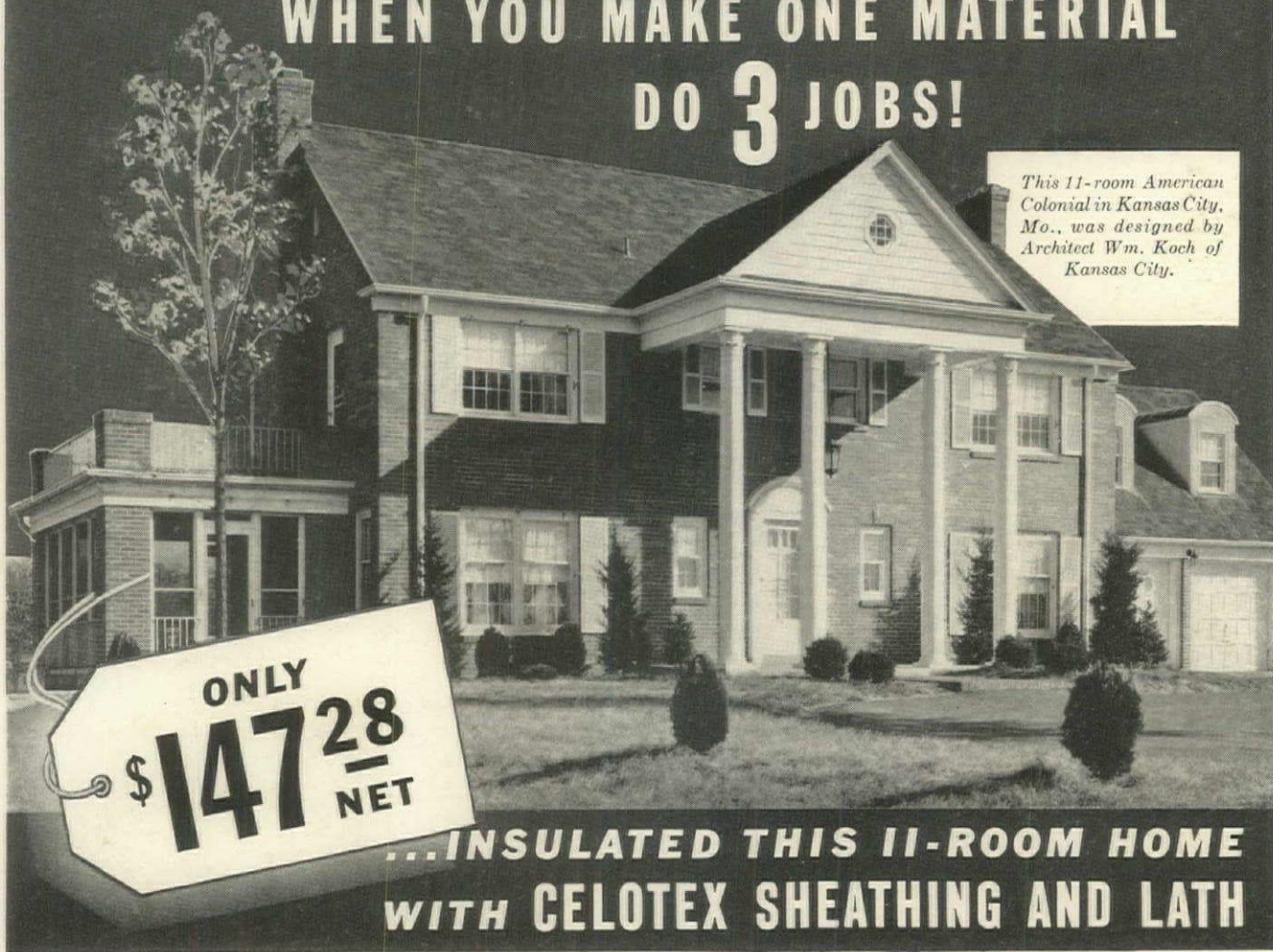
MAY 1940



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VOLUME 72—NUMBER FIVE



# THE MONTH IN BUILDING

**BUILDING TRENDS.** Volume of building permits issued during February increased seasonally but failed to lift 1940's cumulative totals above last year's levels (right). Building contracts statistics show that total private construction during March was  $2\frac{1}{2}$  per cent ahead of March 1939. And, while public construction is tapering off, private construction during the first quarter was moderately above 1939's \$1.1 billion. Residential contracts during the first three months fell \$10 million below last year's \$284 million. Home building costs have marked time during 1940's first quarter (see p. 376).

## PERMITS

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

	Monthly Data			Two Months	
	Feb. 1940 (millions)	Comparison with Jan. '40	Feb. '39	1940 (millions)	Comparison with 1939
Residential .....	\$79.0	+26.4%	— 8.9%	\$141.6	—10.6%
Non-residential ....	37.5	+12.6	+ 3.6	70.9	—25.4
Additions, repairs ...	23.7	+18.2	— 7.4	43.9	—13.2
TOTAL .....	140.2	+20.8	— 5.6	256.4	—15.4

**CONTINUED FAIR.** Last year 28 million visitors to the World of Tomorrow were awed by its wonders, bored by its amusements. This year, beginning May 11, visitors will gawk at much the same wonders but, if Harvey Dow Gibson is right, will be much amused.

Elevated last fall from the Fair's finance and executive committees to the omnipotency of Chairman of the Board, 58-year-old Banker-Sportsman Gibson has signed up most 1939 exhibitors for return engagements by lowering rents, hopes to attract visitors by lowering the admission cost from 75 to 50 cents and by revitalizing the amusement area. The respected president of New York's big Manufacturers Trust Co., Gibson is also a passive jitterbug who has long felt that the Fair boasted too much popular science, too little carnival spirit, for its own good—if not the public's. First Gibson-engineered change from this all-work-and-no-play policy was conversion of the symphonically planned Music Hall into a stronghold of swingers.

Similar changes will be noted by 1940 Fair visitors: Music Hall will bill "Streets of Paris" with burlesquer Gypsy Rose Lee. Parachute Jump will descend on Children's World. Old New York will be Gay New Orleans.

Despite a 30 per cent markdown in its ground rents, Town of Tomorrow will have the same roll call—fifteen houses—but some different sponsors.

Major changes in general exhibit areas: General Motors will animate its Futurama; Chrysler will add two theaters; Firestone, a life-size Liberian rubber plantation; General Electric will expand its television display. Reassigned will be the Aviation, Distilled Spirits and Industrial Science buildings.

Fortnight after New York's Fair opens, San Francisco's will follow suit (May 25). Thanks to Miracle-worker President Marshall Dill, local Chamber of Commerce head, Treasure Island at mid-April had outgrown financial uncertainties, had sold 75 per cent of its exhibit space, all but 20 ft. of its Gayway. Principal changes: new faces in the amusement zone, a \$322,000 refurbishing of the Federal building, last year's No. 1 serious attraction.

**HOW TO HOUSE.** Last month while Congressmen were wondering how much to expand the U. S. Housing Authority program (page 4), representatives of the nation's biggest body of businessmen went on record as being opposed to any expansion. This blow at USHA was dealt by the U. S. Chamber of Commerce's Special Committee on Public Housing which has sent to press a fat pamphlet, "Improvement of Housing in Cities," analyzing the national housing problem, the Government's attempts to solve it and the Committee's convictions as to the real solution. The combined opinion of nine recognized experts in banking, building, architecture, city planning and real estate, the Committee's report is heavy with facts and recommendations worth pondering. A preview of the highspots:

"The present USHA program should be discontinued, with the completion of projects now under construction." While supporting USHA's objective to eliminate substandard housing, the Committee holds that its 163 large scale projects will "at best" demonstrate but one method of approach and may "at worst" check the mobilization of local interests which are essential to a comprehensive attack on the problem. Also behind this recommendation are the Committee's questions as

to whether it is more economical to subsidize the cost of Government financed dwellings or to subsidize the rents of low income families living in privately financed projects and whether or not it is healthy for a nation to have a large share of its citizens living in Government owned houses.

"The most urgent immediate need and opportunity to improve the housing of the lowest income families is the enforcement by city governments of sanitary and housing legislation which will compel the repair of dwellings below minimum standards and the demolition of those which are unfit and are beyond repair.

"Both the government and private industry should encourage research and engineering to lower costs of well designed and durable dwellings." In brief, the Committee feels that research is mightier than subsidy as far as housing improvement is concerned and, incidentally, that it makes for happier taxpayers.

"There is a very great need to encourage private enterprise to undertake the rehabilitation and reconstruction of obsolete and deteriorated downtown areas in cities." As a pattern for action, the Chamber of Commerce's committee points to New York State's proposed Urban Redevelopment Corporations Bill which the Governor's signature may shortly make law. Under it, organization of private corporations would be authorized for the broad purpose of clearing, replanning, rehabilitating and reconstructing substandard and unsanitary areas. More important, since it is difficult to acquire enough property to make large scale redevelopment feasible, the law would permit corporations, which have acquired 60 per cent of a site for an approved project, to gain control of the balance through condemnation. To the same end and under similar conditions, cities would also be authorized to condemn the necessary property and sell it to corporations. As a still further inducement to the formation of these corporations, the bill provides that local tax assessments on a property would not be boosted during a ten-year period after acquisition. In return for this favor, the corporations at the end of the decade would pay taxes on the full as-

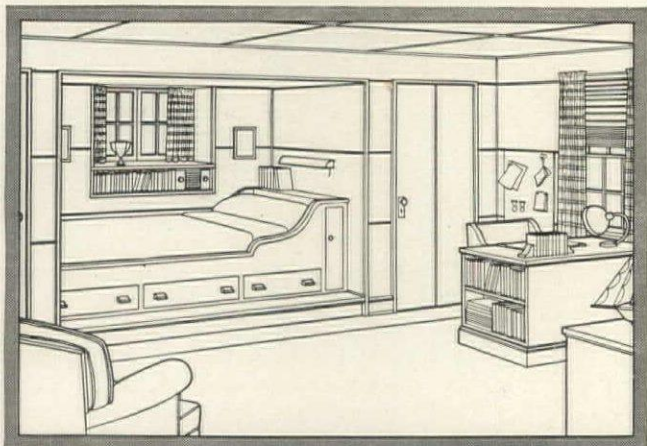


THOMAS STEELE HOLDEN

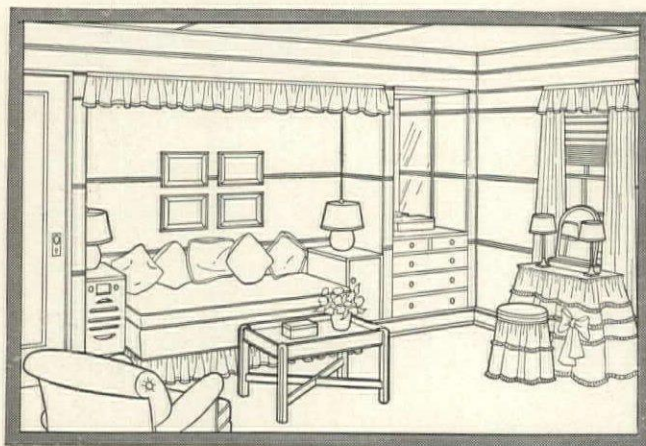
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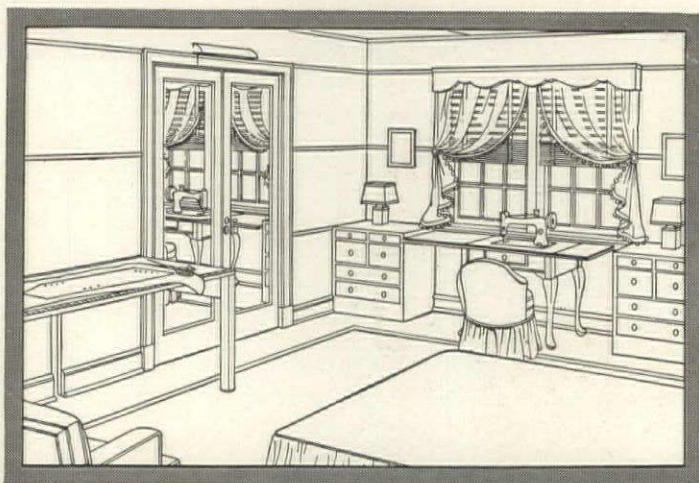
## Interesting solutions to three bedroom problems



*Youth must be served* in the modern home, and this boy's bedroom offers many practical ideas. Masonite Tempered Presdwood is tough and durable for wall, ceiling and door surfaces and will resist scuffing and hard usage. Built-in bed and desk are executed easily with Tempered Presdwood because this grainless board can be cut or sawed to any size or shape with ordinary tools.



*This girl's bedroom* has built-in bed, radio and chest of drawers, all made with Masonite Tempered Presdwood. Walls and ceiling particularly should be Tempered Presdwood because they can be painted any color, and repainted whenever the young lady's whim demands. The horizontal grooving in the Tempered Presdwood adds an interesting and modern decorative touch.



*A dual-purpose room*—sewing-room by day—guest-room by night. Tempered Presdwood is used for the walls because it will not warp, chip, split or crack when properly applied. In this case the board is grooved with a modern horizontal pattern and can be painted any color that will suit the client's taste. The built-in cutting-table is made of Masonite Tempered Presdwood and folds flush with the wall.

● New materials mean new applications — and new results. Masonite Tempered Presdwood is finding favor everywhere because it is a dry material, easy and inexpensive to install. One major advantage is that it permits the achievement of expensive-looking effects at low cost. These suggestions for its use are offered in a helpful spirit of co-operation. If you would like to examine Masonite Tempered Presdwood at close range, we'll gladly send a sample. The coupon at the bottom of the page is for your convenience.



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THE ARCHITECTURAL  
FORUM

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VOLUME 72  
Number 5



# THE MONTH IN BUILDING

sessed value plus an extra tax equal to half of any disbursements, over 5 per cent of the equity base, made to the corporation's stock or debenture holders. Judicially operated, corporations with these powers and privileges should go far toward rebuilding blighted urban areas.

Looming large behind these four pointed recommendations is the 200-pound figure and keen thinking of Thomas Steele Holden, private building's No. 1 statistician. As Building's representative on the Chamber of Commerce's Special Committee on Public Housing, he helped build up its platform for "Improvement of Housing in Cities." And, as chairman of the Special Committee on Housing of the Merchants Association of New York City, he sponsored the State's Urban Redevelopment Corporation Bill which, as shown above, has become one of the staunchest planks in the Commerce Committee's platform.

Educated at University of Texas (A.B. and M.A.) and at Massachusetts Institute of Technology (B.S. in Architecture), 54-year-old Holden has for thirteen years been vice president of the F. W. Dodge Corporation in charge of statistics and research in the building industry's biggest figure factory. Besides taking statistically each month Construction's pulse, Researcher Holden editorially directs the monthly publication of Dodge's *Architectural Record*, keeps a watchful eye on its other periodicals: *Real Estate Record*, *Sweet's Catalog* and *Construction Reports*. But, it is Holden's broad extracurricular activity that has made him one of the best known, best liked men in building circles. Actively engaged in neither building nor architecture, he has led the leaders in both fields as president of the New York Building Congress for five terms. And, while he neither designs nor builds housing, Thomas Steele Holden's ideas and energy have long been counted important whenever the building industry has had a tough problem to solve.

**BUILDING PLUGGED.** Most advertisements of building material manufacturers are aimed at the building fraternity and promote one particular product. They sell door bells, bricks, boilers, and the countless other parts of a house, but no effort is made to sell the house per se. Noteworthy therefore is the current advertising program of Certain-teed Products Corporation—apparently one of the few manufacturers that realize that the sale of its house parts depends upon the sale of houses.

In the program's introductory ad, under a peaceful, uncluttered landscape in which Artist Dale Nichols centered an attractive Colonial residence, Certain-teed expanded its "Look Homeward, America" theme, only incidentally mentioned that the corporation is one of the world's largest

manufacturers of roofing and other building materials. Excerpts from the convincing copy: "... Back in the Twenties ... everything we had was 'on paper.' Even our home—three mortgages on it we never bothered to pay off, with interest and charges over 14 per cent. ... We entered the Thirties broke, (but) we ended the Thirties rich—rich in the sense that we now have a home we really own. Own it because we've been buying it steadily, every month—just like paying rent."

Read by some 35 million laymen (as well as building industry factors) in several general magazines and newspapers, this unusual advertisement is one of the biggest plugs that has come Building's way in many a month. Since subsequent ads in the program will sell the building industry and its services first and Certain-teed products last, Building is in for a long line of boosts. And, Certain-teed is in line for bouquets.

**USHAPPEASEMENT.** Good bet, say Washington insiders, is that Congress, after keeping USHA officials in a lather of anxiety for many months, will shortly vote more funds for public housing. The new bill will be squeezed through the House, however, only after its supporters have consented to amendments that will probably 1) cut the requested \$800 million practically in half, 2) reduce the period for amortizing loans and subsidizing rents, 3) whittle down USHA's profit as a money lender by giving local authorities a lower interest rate, 4) require heavier local contributions with cash on the line, 5) generally present administrative headaches.

Much more to public housers' liking is the bill which was approved by the Senate but killed by the House last session, and has been in cold storage ever since. This original version would double USHA's present \$800 million borrowing and lending power, boost the annual Federal subsidies to \$73 million.

The bill need not go before the Senate again, but before the House it must. To bring the legislation to vote before the House adjourns, public housers have agreed to bend before the anticipated storm, have decided not to risk defeat by resisting even crippling amendments. Hope is that the worst of the damage may be repaired later in conference when differences between the Senate and House versions of the bill will be ironed out.

Dickerings between USHA officials and key men in the House have already made fairly clear the pattern of appeasement: ► The new lending fund will probably be trimmed to either \$500 or \$400 million. Housers, of course, are hoping for the higher figure.

► Yearly subsidies would be correspondingly trimmed to fit the smaller lending program. Individual project subsidy rates would remain the same as before.

► Period for amortization of loans to local authorities and for annual subsidies may be reduced from 60 to 45 years. This speeding up of amortization would mean increased annual debt service and higher rents, unless construction costs were correspondingly reduced. Shorter subsidy period would mean less aid to local authorities.

► As partial compensation for abbreviating the economic life span of housing projects, ½ per cent would be lopped off the interest rate paid by local authorities on USHA loans. But this nicks the tidy profit USHA has been making. By a quirk in the present law which stipulates that the interest rate must not be less than the going Federal rate plus ½ per cent, USHA has been lending to local authorities at about 3 per cent the money it has borrowed (much on a short term basis) from the public at about 1⅜ per cent.

► Heavier local participation in the form of direct capital grants will probably be required. At present local authorities may borrow up to 90 per cent of development costs from USHA, must raise the remaining 10 per cent by selling bonds against the projects or by contributing land. And, since money used to retire the bonds comes from the annual Federal subsidies, they do not need to put up their own cash. The House Banking Committee year ago berated this maneuver as a violation of Congressional intentions, forthwith wrote an amendment to the new bill requiring an outright contribution in land or cash. The expected compromise version would go still further; would step up local contributions to 20 per cent of the development cost. Convinced that no locality would or could scrape together the necessary cash, housers insist that even a 10 per cent cash requirement would scuttle the whole USHA program.

## EARNINGS.

Year Ended Dec. 31	1939	1938
Air Reduction	\$ 5,076,826	\$ 3,769,337
Allis-Chalmers		
Mfg.	3,719,546	2,553,946
Aluminum Co. of		
America	36,633,389	15,563,145
American Radiator—Standard		
Sanitary	3,712,193	424,077*
Armstrong Cork	4,485,000	1,150,796
Certain-teed	348,099	171,010
Crucible Steel	2,803,596	2,237,026*
Holland Furnace	1,453,185	1,233,382
Lone Star Cement	3,561,094	2,901,784
Masonite†	695,931	442,923
Mueller Brass‡	183,733	120,045
Otis Elevator	2,751,026	1,912,730
Otis Steel	214,965	1,230,297*
Pittsburgh Steel	564,870	488,423*
Revere Copper &		
Brass	1,615,058	2,125,407*
Starrett Corp.	235,429*	460,712*
Wheeling Steel	5,560,753	493,138
Yale & Towne	1,024,150	68,958

\*—Net loss; †—28 wks. to March 16;

‡—Quarter ending Feb. 29.





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Literature with architects' details and color suggestions on request.

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**FORMICA** FOR BUILDING PURPOSES





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### Heavy demand for these books

Thousands of prospective homeowners have asked for "How to Have the Home You Want." Other thousands of homeowners who want to remodel have written for "How to Modernize and Make It Pay." And we've already learned, from hundreds

of USG Dealers, that these people are excellent prospects! From coast to coast come reports of sales—not just future interest but *actual, immediate sales.*

People like you are cashing in on USG advertising. They are seeing that it pays to tie in with their USG Dealer. *For he has business for them!*

Check in with *your* USG Dealer this week. See these amazing, valuable books which are inspiring building action because they furnish so much helpful information. For copies of the books, send 10 cents in coin or stamps for each book, to USG, Department 50, 300 W. Adams St., Chicago, Ill.

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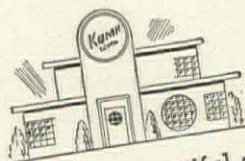
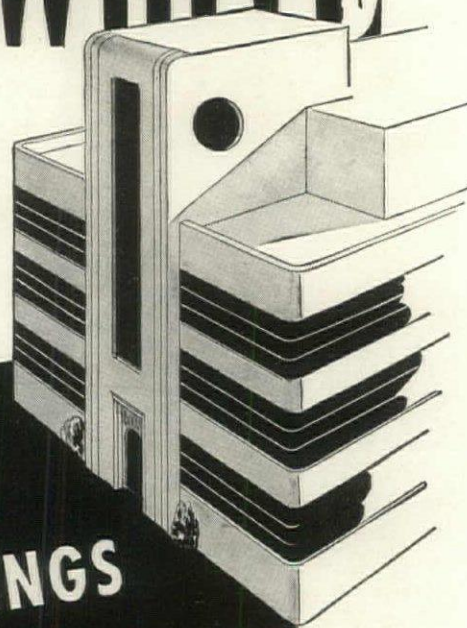
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**I**T HAS always been good business to specify, recommend or buy Frigidaire. But today it is better business than ever...because Frigidaire offers all-time high quality at an all-time low cost.

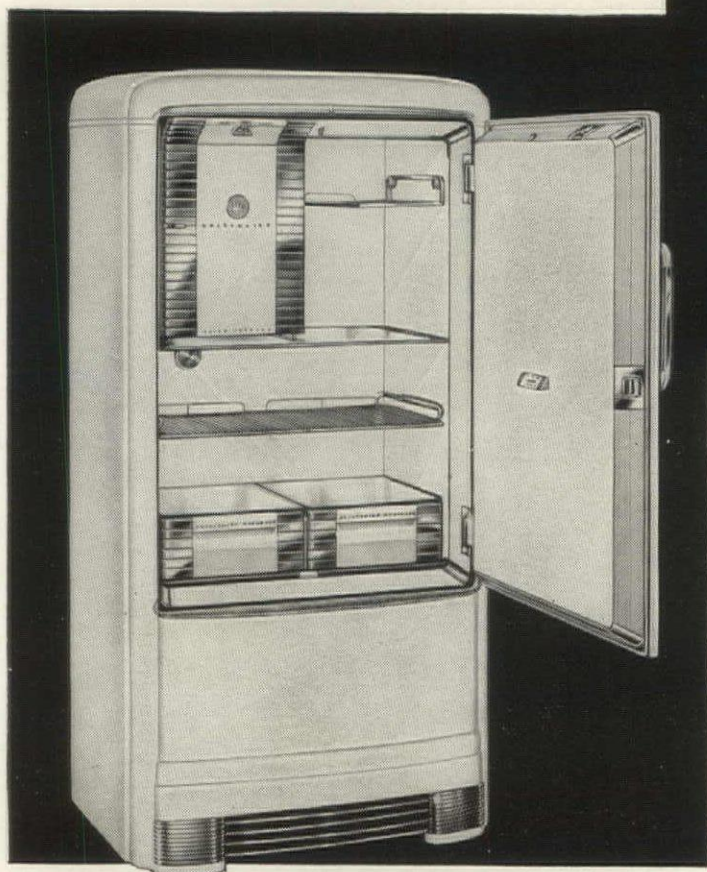
Frigidaire's new low prices make it easier than ever to satisfy the proved preference of tenants and clients for Frigidaire. And you also gain in other ways. For with Frigidaire equipment, you enjoy a freedom from service worries and costly maintenance expense.

Both Frigidaire Refrigerators and Ranges are offered in a complete variety of models to meet all needs either in apartment houses or homes. You can have exactly what you wish whether for a luxurious or a modest establishment.

*May we send to you full-color pictures and detailed specifications of Frigidaire Refrigerators, Ranges and Water Heaters?*

**FRIGIDAIRE DIVISION**

General Motors Sales Corporation, Dayton, Ohio • Toronto, Canada



**FRIGIDAIRE**, America's No. 1 Refrigerator, is now available at new low prices for every model. Retail installed prices in Dayton start at \$112.75 for standard models, and \$167 for the revolutionary Frigidaire "Cold-Wall" that saves foods' natural moisture from drying out. The 17 new Frigidaire Refrigerators provide a choice to fit every use and every building budget.



**FRIGIDAIRE ELECTRIC RANGES** are already among the fastest selling in America. Now every one of ten new, handsome models is priced to fit building budgets. Retail prices of compact apartment, and full-sized cabinet models start at around \$100. And even the lowest-priced models have the same 1-piece porcelain-on-steel cabinet, 5-speed enclosed surface units, big "Even-Heat" Oven, and many other quality features of the highest-priced Frigidaire Ranges.

*Specify the Favorite  
Specify  
Frigidaire*





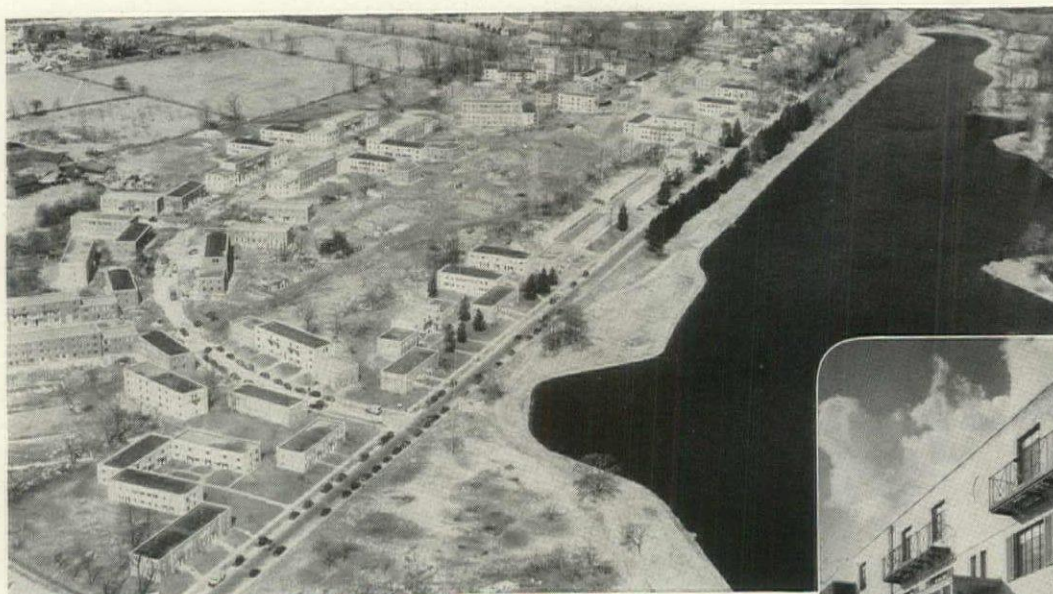


Photo: Fairchild Aerial Surveys, Inc.

Aerial view and representative apartment: Interlaken Gardens, Westchester County, New York. Builder: Fred F. French Investing Co. Architect: de Young & Moscovitz. Plumbing Contractor: Tully Plumbing & Heating Co. Briggs Wholesaler: Sam S. Glauber, Inc.



Photo: Wurts Bros., New York

## ... and WESTCHESTER'S INTERLAKEN GARDENS APARTMENTS

FRED F. FRENCH INVESTING CO. says: "We are pleased to tell you of our satisfaction with the Briggs Beautyware Plumbing Fixtures now installed in our Interlaken Gardens Apartments . . . Insofar as Interlaken Gardens has followed an advanced scheme of functional design, this company has been particularly anxious for all built-in features to fit the part. We like the non-slip property of the bath as well as other modern details which reflect engineering alertness. In other respects, also — smartness, workmanship, strength, and so on — the Briggs line has qualified very satisfactorily for the job."

Interlaken Gardens is one of hundreds of modern housing developments throughout the country in which Briggs Beautyware Plumbing Fixtures have been installed. These include Westmont, Washington, D. C.; West Side Village, Los Angeles; Park Terrace Gardens, New York City; Sunset Apartments, Flint, Michigan; Alexandrine Courts, Shreveport, Louisiana.

BRIGGS BEAUTYWARE, DETROIT





EDWARD D. STONE  
*Architect*

VIRGINIA CONNER  
*A. I. D., Interior Designer*

ARTHUR LOOMIS HARMON  
*A. I. A., Architect*

RAYMOND LOEWY  
*Industrial Designer*

WILLIAM A. KIMBEL  
*A. I. D., Interior Designer  
Chairman*

# New Emphasis on Overhead Lighting

... For More Beauty and Better  
Illumination in the Home

## ALEA MEMBER MANUFACTURERS

Artcraft Metal & Electric Products, Brooklyn, N. Y.  
The Art Metal Company, Cleveland, Ohio  
Centre Lighting Fixture Mfg. Co., New York, N. Y.  
Chase Brass & Copper Company, Waterbury, Conn.  
Ecolite Company, Trenton, N. J.  
Gill Glass & Fixture Company, Philadelphia, Pa.  
Glasolier Company, Pittsburgh, Pa.  
Globe Lighting Fixture Mfg. Co., Brooklyn, N. Y.  
Grahling Bros. Company, Cleveland, Ohio  
Gruber Brothers, New York, N. Y.  
Halcolite Company, Brooklyn, N. Y.  
Imperial Lighting Products Co., Greensburg, Pa.  
Levolite Company, Inc., New York, N. Y.  
Lightolier Company, New York, N. Y.  
Lincoln Mfg. Company, Detroit, Mich.  
Majestic Metal Spin & Stamping Co., Brooklyn, N. Y.  
Markel Electric Products, Inc., Buffalo, N. Y.  
Mid-West Chandelier Co., North Kansas City, Mo.  
Moe-Bridges Corporation, Sheboygan, Wis.  
Moe Brothers Mfg. Company, Ft. Atkinson, Wis.  
Progress Manufacturing Company, Philadelphia, Pa.  
Radiant Lighting Fixture Co., Inc., New York, N. Y.  
John C. Virden Company, Cleveland, Ohio

These manufacturers will be glad to  
consult with you on any and all of  
your lighting fixture problems.

FIVE recognized leaders in the allied fields of architecture, industrial and interior design compose the Advisory Board of Design of the American Lighting Equipment Association. They are undertaking an intensive study of residential illumination to determine how overhead lighting may best keep in step with contemporary engineering and design practice.

The support of this distinguished group is part of a coordinated ALEA program to give you improved designs, and to help you give your customers lighting fixtures that will be better to look at, and better to see by.

Today, more and more leading architects and interior designers are recognizing the value of overhead lighting as a versatile medium of expression. And more and more, far-sighted operative builders are finding that well-designed overhead lighting fixtures enhance the sales value of their houses.

The wisest builders allow at least 1½ to 2 per cent of the cost of the dwelling for lighting fixtures that are decoratively pleasing and engineeringly efficient.

These builders are careful to provide adequate wiring, with sufficient floor and ceiling outlets . . . to avoid rapid obsolescence of their houses . . . and to assure their customers of the right facilities for balanced lighting. American Lighting Equipment Association, Inc., 19 West 44th Street, New York, N. Y.

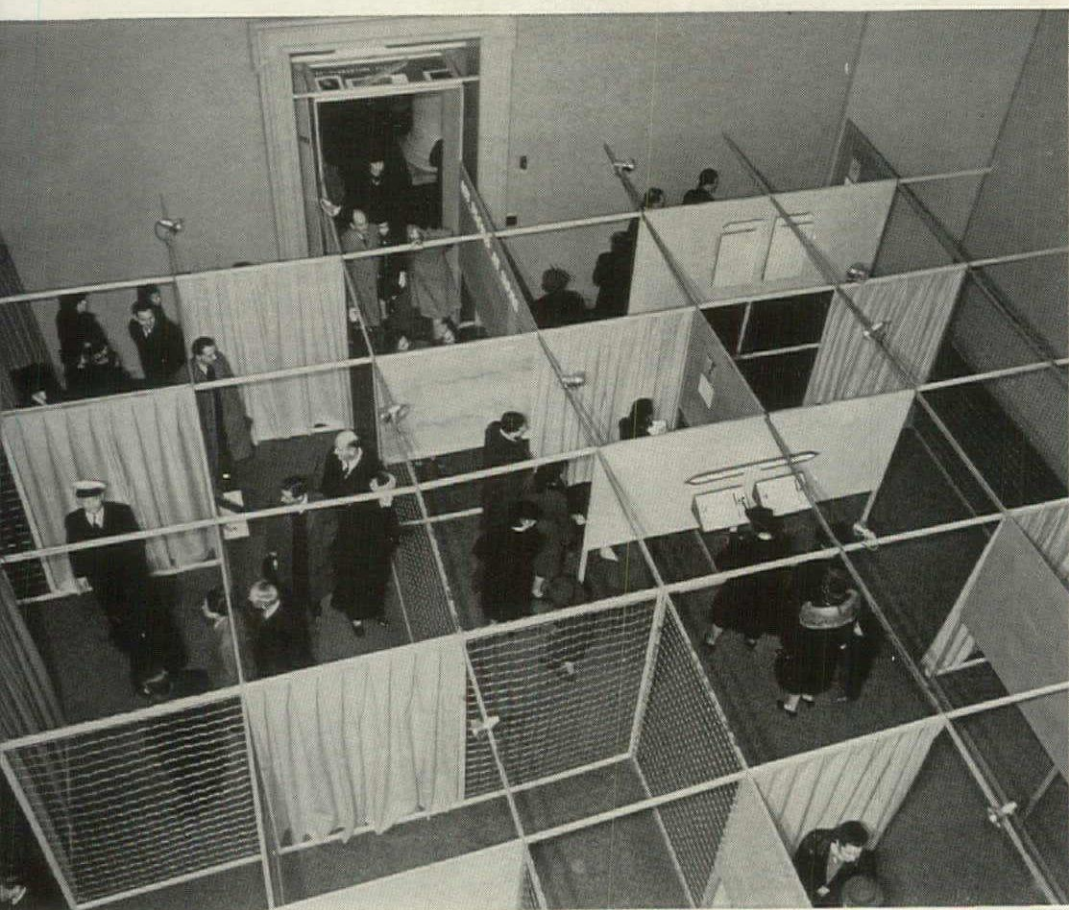
AMERICAN LIGHTING

EQUIPMENT ASSOCIATION, INC.





# FORUM OF EVENTS

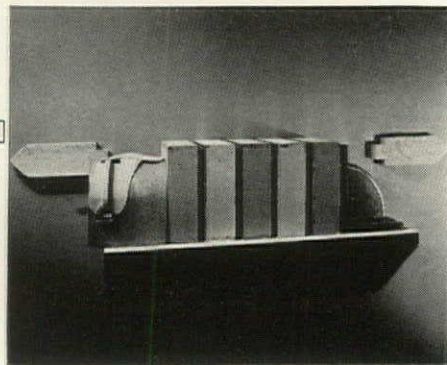


Schnoll Photos

## THE MAZE OF ART

Leslie Cheek, Jr., new-broom Director of Baltimore's Museum of Art, put on a February show—Art Begins at Home—in which good and bad examples of household art formed direction signs in a maze. Choosing good design brought the visitor through; a bad choice brought him to a dead-end barrier on which his misjudgment was tactfully explained. Every item shown was purchasable in Baltimore at the time, and by those of moderate income. Clocks, wallpaper, silverware, kitchen utensils, book-ends, ashtrays, radios, picture frames, vases, china, glassware, lamps good and bad—had been selected by a committee including consumer, decorator, architect, designer, manufacturer, dealer, craftsman. Try your own I. Q. of Taste: check right or left squares below and verify your infallibility on page 14.

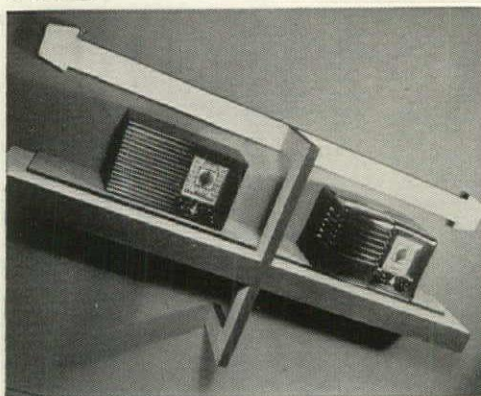
### 1. Book-ends



### 2. Lamps



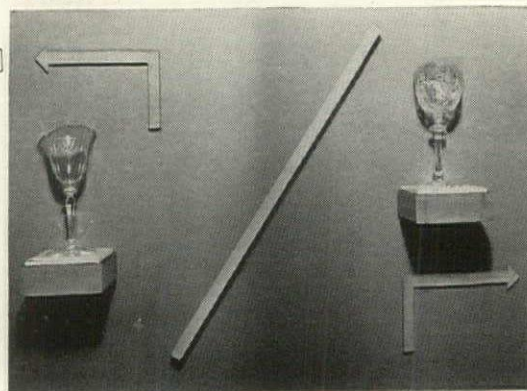
### 3. Radios



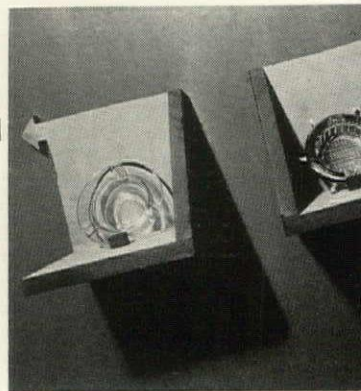
### 4. Coffeepots



### 5. Goblets



### 6. Ashtrays







• Stucco houses built by H. W. Cheel are easy to sell. When properly applied as in Cheelcroft, stucco made with Atlas White will stand up in the severest weather, and needs practically no upkeep. Architect for house at extreme right, Royal Barry Wills, Boston; Architect for others in row, Harvey E. Mather, Ridgewood, N. J.

## FOR GOOD LOOKS AND LOW COST— SPECIFY *Stucco*

H. W. CHEEL has built over 250 houses in "Cheelcroft," Hohokus, and in Ridgewood, ranging in price from \$8,500 to \$45,000. The architects for these houses in New Jersey designed many of them to take advantage of portland cement stucco—either wholly or in combination with brick, stone, or wood.

There are many reasons for this: Stucco offers freedom in design. Since Stucco can be applied in an almost unlimited range of colors and textures, it blends effectively with practically any type of architecture.

In addition, Stucco, made with Atlas White cement, combines strength with low cost. For instance, Mr. Cheel, speaking of these steel-and-concrete overcoats on his houses,



**One of the many houses** Mr. Cheel has built in the past 15 years with exterior walls of stucco. Prices range from \$8,500 to \$45,000. Mr. Cheel finds stucco, made with Atlas White, creates the appearance and economy that ring up sales. Architect for above, J. Norman Hunter, Teaneck, N. J. Stucco made by Artstone Rocor Corp., Brooklyn, N. Y.

says portland cement stucco made with Atlas White cement is the most economical type of masonry both in first cost and over a period of years.

Figure on using Stucco, made with Atlas White cement, on your next job. See how it makes possible a low-

cost exterior that will please your clients. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

A FACTORY-PREPARED STUCCO IS PREFERABLE

AF-S-15

# ATLAS WHITE CEMENT

A UNIVERSAL ATLAS PRODUCT





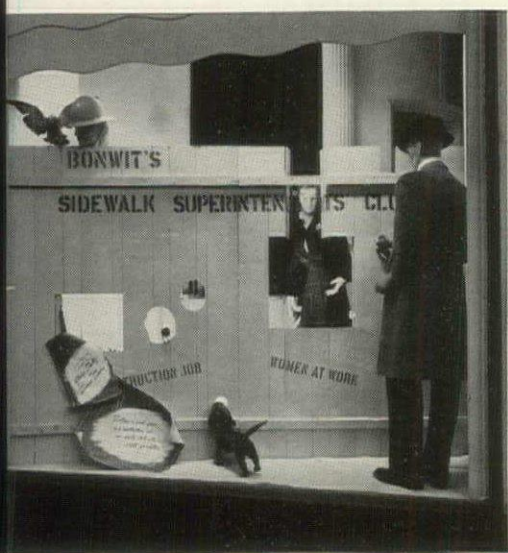
# FORUM OF EVENTS

(Continued from page 12)



## FOR BETTER ILLUMINATION AND DESIGN

American Lighting Equipment Association has selected a group of leaders in the fields of architecture, interior design, and industrial design for membership on its Advisory Board of Design: At left; William A. Kimbel (chairman) head of A. Kimbel & Son, interior designers; Virginia Conner, president of Virginia Conner, Inc., interior designers; Edward D. Stone, architect; Arthur Loomis Harmon, architect, of Shreve, Lamb & Harmon; and Raymond Loewy, industrial designer.



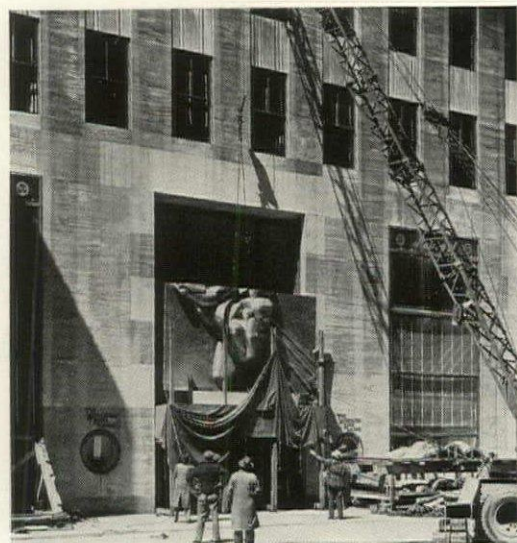
Worsinger

**Stop, look and peek.** A New York department store borrows one of the building industry's lately appreciated devices for satisfying public's curiosity. It stops, but does it sell?



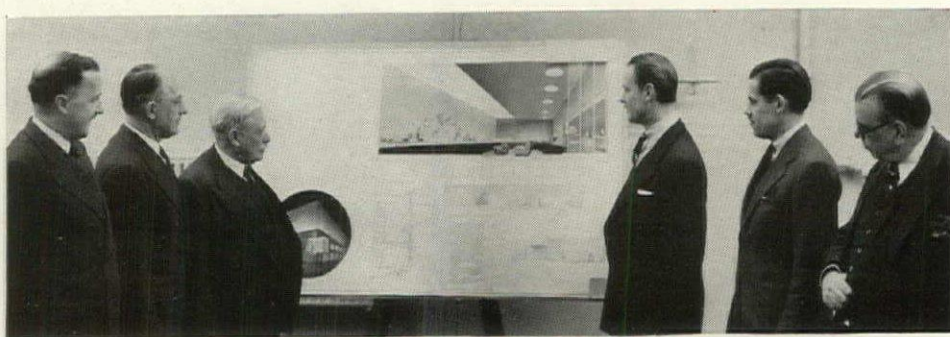
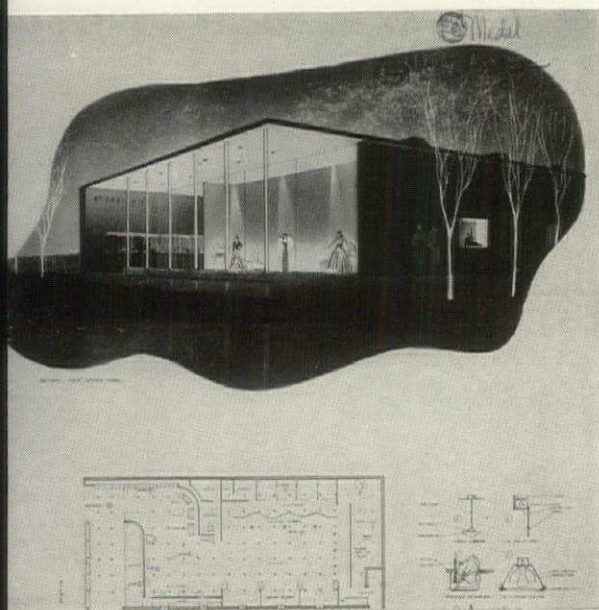
Public Bldgs. Adm.

**Demolition by dynamite.** Washington's War Department site being cleared. Engineers so placed charges that the pile dropped almost within its foundations.



Newsictures

**Sculpture in stainless steel.** Noguchi's ten-ton plaque, "Freedom of the Press," being placed in Associated Press Building, Rockefeller Center. It is one of man's largest areas in bright metal.



**Illuminating Engineering Society's Prize Winner.** Ninth annual competition, won by Joseph Gilgisser (\$300 and Medal), New York University. Runners-up: D. P. Stevens (\$200 and Medal), University of Illinois; S. R. Joseph (\$100 and Medal), also of New York University. The problem: a fashionable women's wear shop in a suburban residential center, correlating

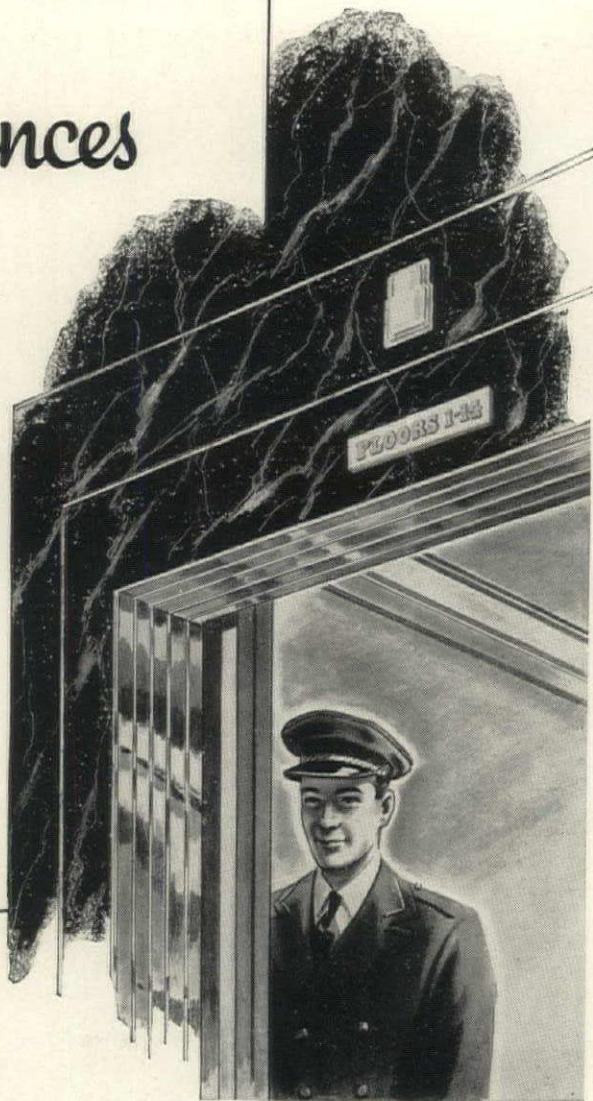
the architecture and lighting. The Jury: (above, l. to r.) Walter W. Kantack, J. F. McCabe, Prof. F. C. Caldwell, Otto Teegen of Beaux-Arts Institute of Design, Carl F. Guenther (chairman), and F. R. Walker.

**Answers to page 12.** 1, Book-ends, right. 2, Lamps, right. 3, Radios, left. 4, Coffee-pots, left. 5, Goblets, left. 6, Ashtrays, left.

(Forum of Events continued on page 16)



# Bethlehem Announces **A NEW ELEVATOR ROPE**



The announcement of the New Bethlehem Elevator Rope marks the completion of the second year of a program of intensive development work assigned to Bethlehem engineers.

In attacking the problem of producing a better, more uniform elevator wire rope, Bethlehem engineers made a thorough study of every factor entering into wire-rope manufacture, including not only the actual making of the rope but the steel-making and wire-drawing processes. In this study metallurgists and millmen cooperated; every facility of the Bethlehem organization was available, as needed.

Steel-making departments formulated closer controls over analysis and steel quality. Wire-mill practices were improved and standardized. The lubrication of the rope was improved. The core was given exhaustive study, that maximum density and uniformity might be provided to support the strands properly. A million dollars worth of new equipment and improvements have been pro-

vided, making it possible to build all ropes more closely to theoretically correct designs.

Now, after two years of continuous development and search for improvement, Bethlehem announces a new elevator rope—new in quality, new in uniformity, new in the service it will bring you.

Users of elevator wire rope who have tested the New Bethlehem Elevator Rope are as enthusiastic about it as we are. One of the largest elevator manufacturing and maintenance companies has approved it for their new installations and replacements. Bethlehem's rope mill has been building up stocks so as to make this improved elevator rope quickly available to elevator companies and building operators everywhere.

There is now a warehouse near you that carries Bethlehem's New Elevator Wire Rope. We invite you to try it, and see for yourself the improved car mileage that really fine elevator rope can deliver.

## BETHLEHEM STEEL COMPANY

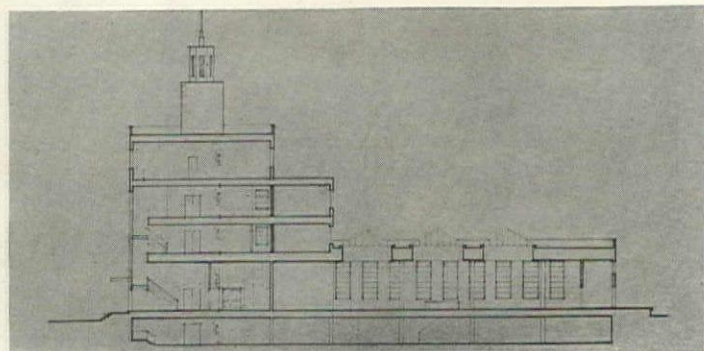
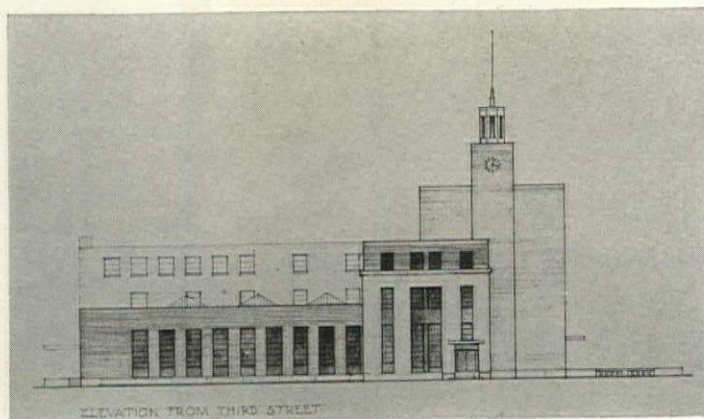
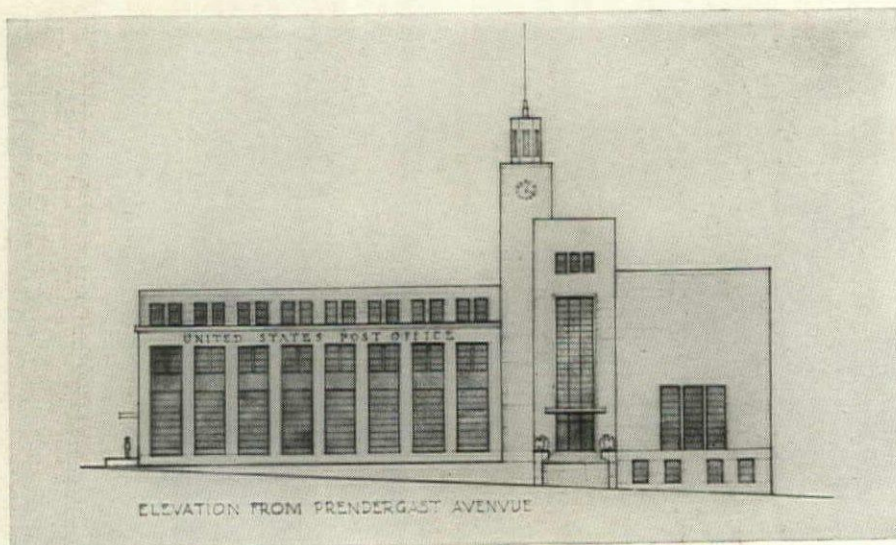
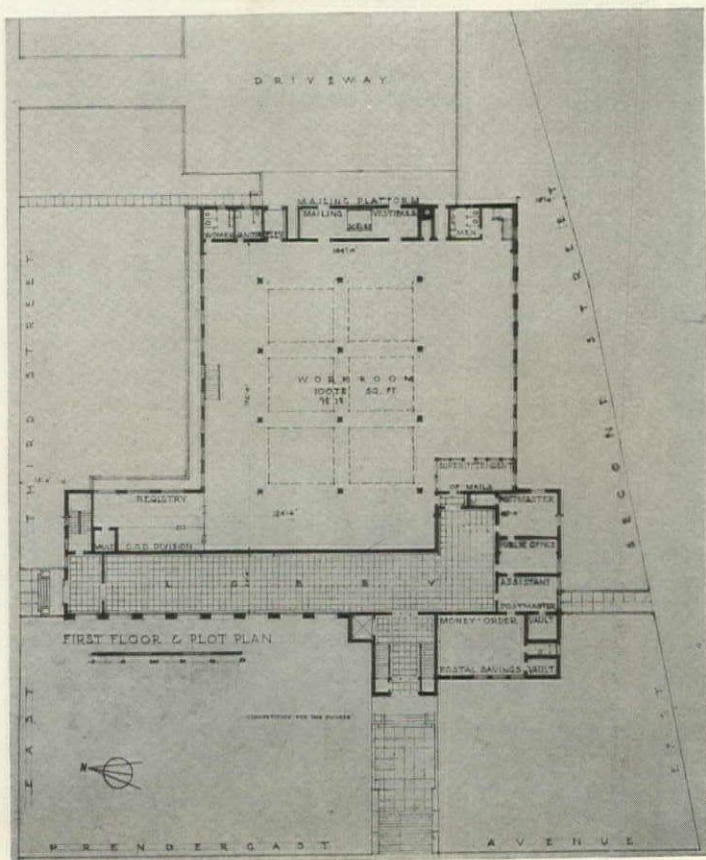
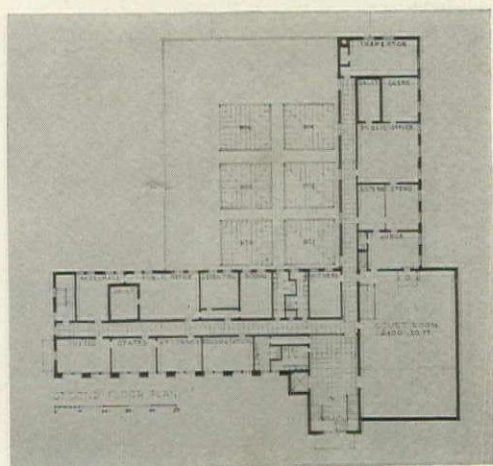
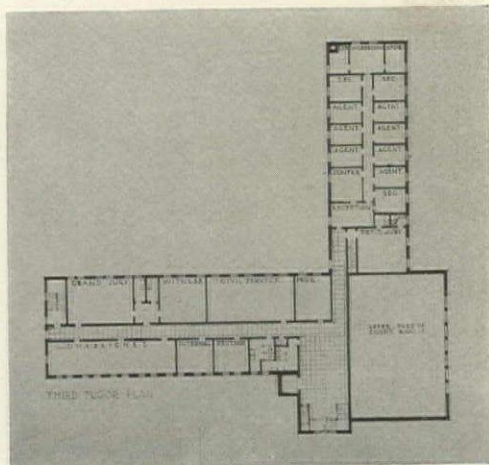




## U. S. REGIONAL COMPETITION—JAMESTOWN, N. Y.

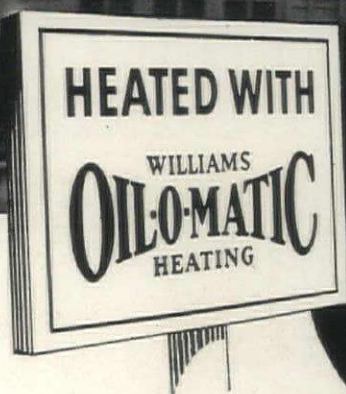
WON BY HENRY B. MARSH, BLUFF POINT, N. Y.

Fifth in the Government's series of Regional Competitions called for a Post Office and Court House for Jamestown, N. Y., to cost approximately \$500,000. Sponsored by the Public Buildings Administration, with Louis A. Simon as Professional Adviser, these competitions are held for the purpose of enlisting the talents of private practitioners in the design of our public buildings. Eligible for the Jamestown competition were registered architects who are U. S. citizens and whose home offices are in Region No. 3, comprising the greater part of New York State but not New York City. The 71 designs entered were judged by a jury of architects in private practice drawn from neighboring Regions: Wilson C. Ely of Newark, G. Corner Fenhagen of Baltimore, Philip L. Goodwin of New York City, Douglas Orr of New Haven, and C. C. Zantzing of Philadelphia. Honorable Mentions on page 18.



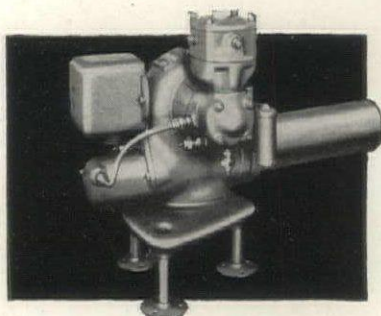
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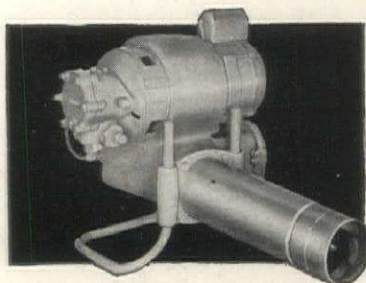
A name home buyers  
know and respect

WILLIAMS  
**OIL-O-MATIC**  
HEATING



**WILLIAMS OIL-O-MATIC  
LOW PRESSURE OIL BURNER**

World's finest oil heat. Patented "Thrift Meter" gives money-saving "Measured Heat."



**NEW LOW PRICE WILLIAMS  
HI-PRESSURE OIL BURNER**

Best engineered, best built high pressure oil burner ever offered at such a low price.

WILLIAMS OIL-O-MATIC is heating many of the most famous buildings in the world, such as Westminster Abbey, Reims Cathedral as well as many others. Yet Williams Oil-O-Matic heats far more homes than any other oil burner.

Much of this preference for Williams Oil-O-Matic is due to the great respect architects have for Williams Oil-O-Matic products. Close study of the Williams Oil-O-Matic oil burner and years of experience with it has convinced thousands of architects that it is the best oil burner to specify.

You will find that the Williams Oil-O-Matic name is a definite asset to any specifications. It is universally known and accepted by the great majority of home owners.

There is a Williams Oil-O-Matic oil burner to fit any building you plan. Various sizes and prices. Williams Oil-O-Matic engineers are always available to help you with your heating problems.

Send for the "Architects' Handbook" which contains data for writing complete specifications.

**WILLIAMS OIL-O-MATIC HEATING CORPORATION**

Manufacturers of Oil-O-Matic • Ice-O-Matic • Air-O-Matic  
BLOOMINGTON, ILLINOIS



# 3 cheers FOR MODERN WALLS!

THE architect specifies it, the builder installs it, the client enjoys it. All agree . . . Nairn Wall Linoleum is the most modern and ideal material for walls. It combines *lasting beauty* with *every practical advantage*.

**IT IS PERMANENT.** Correctly installed, it requires no refinishing. **UNUSUAL DECORATIVE TREATMENTS.** No other wall material offers such a wide range of distinctive designs—mottled and striated—in deep and pastel tones.

**FLEXIBILITY.** Easily adaptable to any structural design. Illustration below shows how smartly rounded effects at corners and openings may be obtained. It also demonstrates the desirable use of Nairn Wall Linoleum for ceilings.

**EASE OF MAINTENANCE.** Washed with mild soap and water, Nairn Wall Linoleum will keep its original beauty year after year.

Installed by authorized contractors, Nairn Wall Linoleum is guaranteed for the full value of workmanship and materials. Write for *free booklet*, "If Walls Had Ears."

CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

In this interesting "Nairn Kitchen"—Nairn Wall Linoleum "Parian Red" No. 7992 harmonizes perfectly with a Personal-ized\* Floor of Nairn Adhesive Sealex Linoleum No. A7202, with claret-red border, No. A7208, and white feature strips.

\*Trademark Registered U. S. Pat. Off. by Congoleum-Nairn Inc.



architects

builders

clients

## NAIRN

TRADEMARK REGISTERED

## WALL LINOLEUM

SANITARY  
WASHABLE

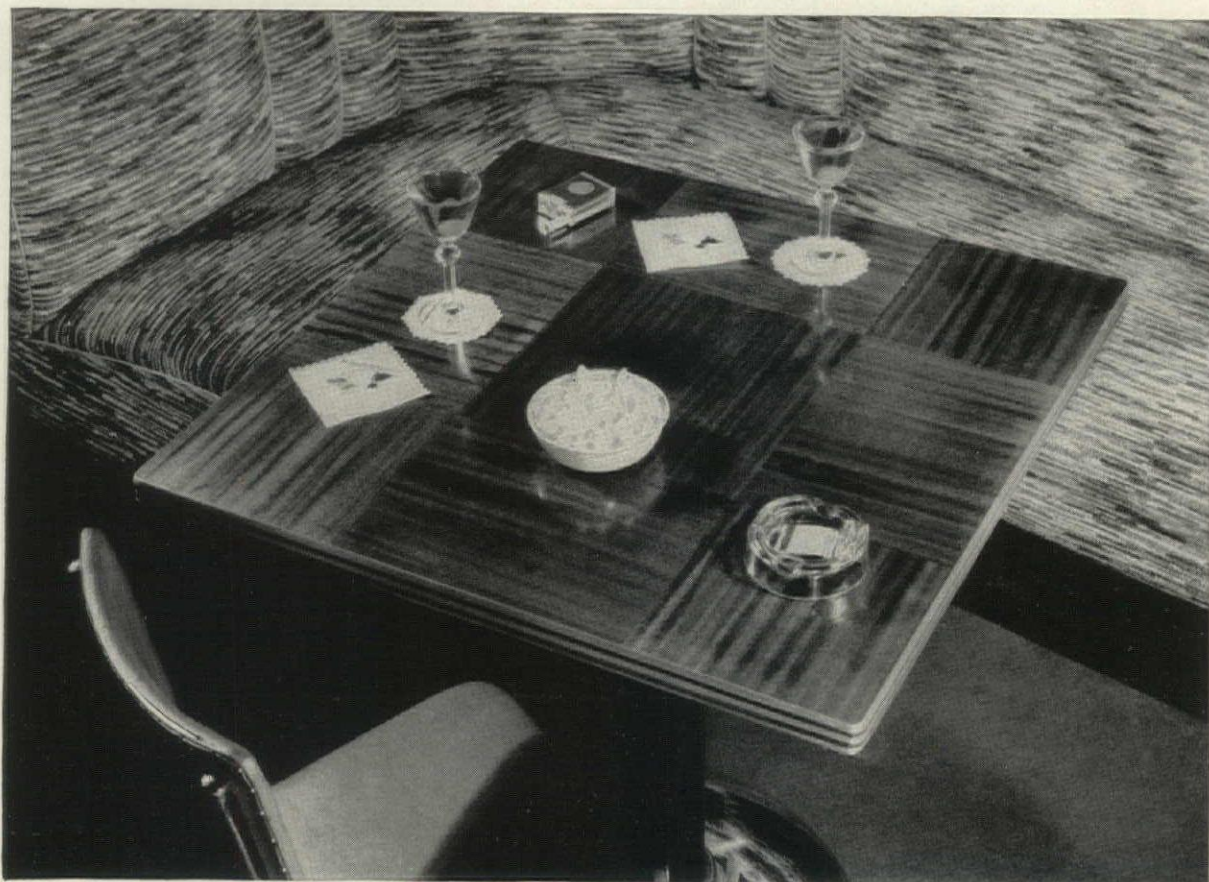


PERMANENT  
ECONOMICAL





# GENERAL ELECTRIC ANNOUNCES PARKWOOD TEXTOLITE



## A NEW PERMANENTLY FINISHED DECORATIVE MATERIAL

The development of Parkwood Textolite provides for your use a material in which beauty and the genuine wood graining are permanently preserved. No matter what type of wood is used—Mahogany, Avodire, Birch, Maple, or Walnut—the satin-finished surface is hard and durable.

Parkwood Textolite not only provides the rich,

soft texture achieved so beautifully by the wood craftsmen but it is also impervious to moisture, alcohol, fingernail polish, and most acids and alkalis. These advantages plus the fact that Parkwood Textolite is highly resistant to cigarette heat and very easy to keep clean, make it truly a practical modern material.

**FOR PANELING**—Public buildings, homes, airplanes, trains, restaurants, elevators, offices, and the like.

**FOR INTEGRAL PARTS OF PRODUCTS**—Such as tables, counters, trays, luggage, desks, display cabinets, decorative screens, bars, air conditioning units, etc.

You can find complete data as to uses, types of materials, wood finishes, size, and thickness, special designs, and samples in your 1940 Sweet's Catalogue, or if you wish, write Section W-10, Plastics Department, General Electric Company, One Plastics Avenue, Pittsfield, Massachusetts.

**GENERAL  ELECTRIC**

PD-108

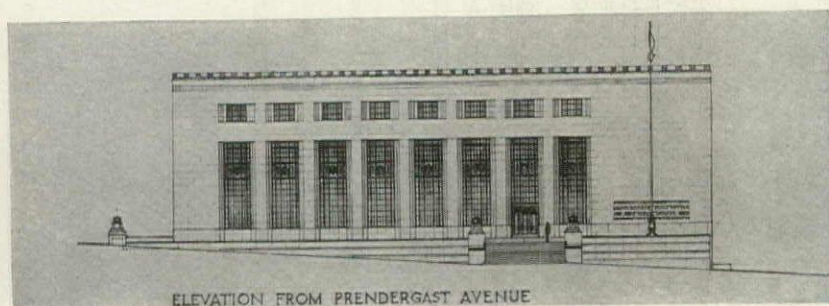


# FORUM OF EVENTS

(Continued from page 16)

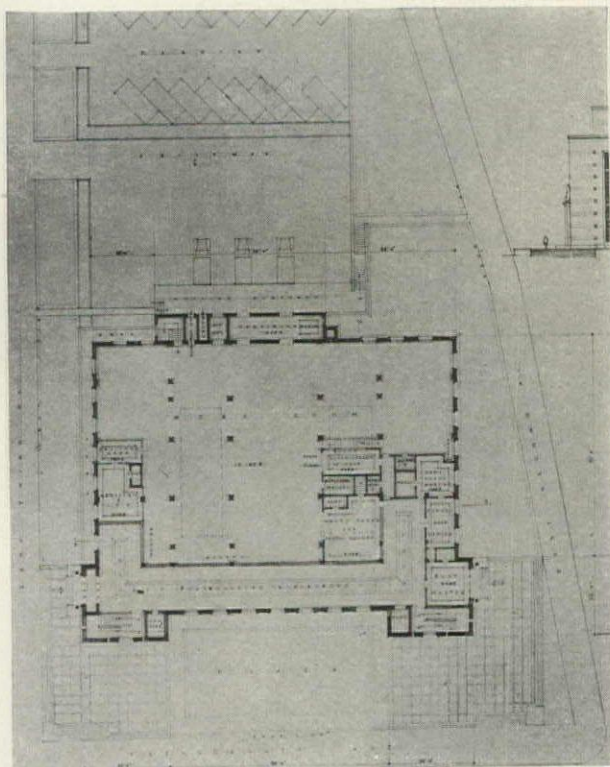
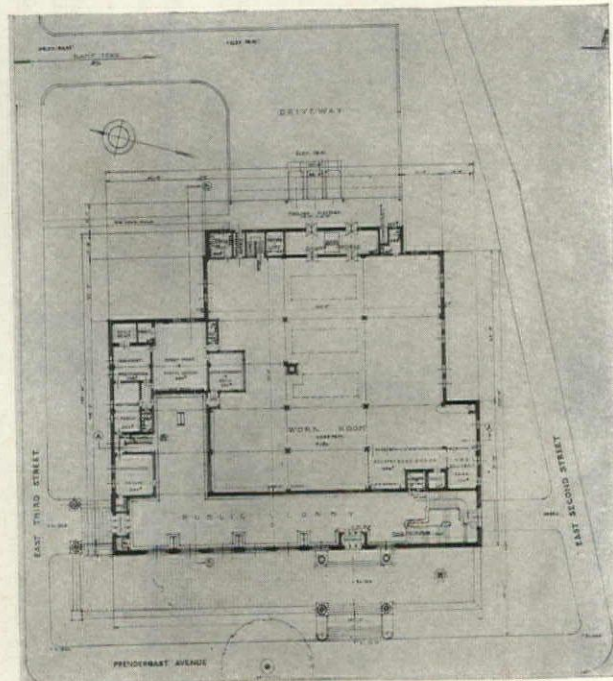
## HONORABLE MENTIONS

### U. S. REGIONAL COMPETITION FOR JAMESTOWN, N. Y., POST OFFICE AND COURT HOUSE

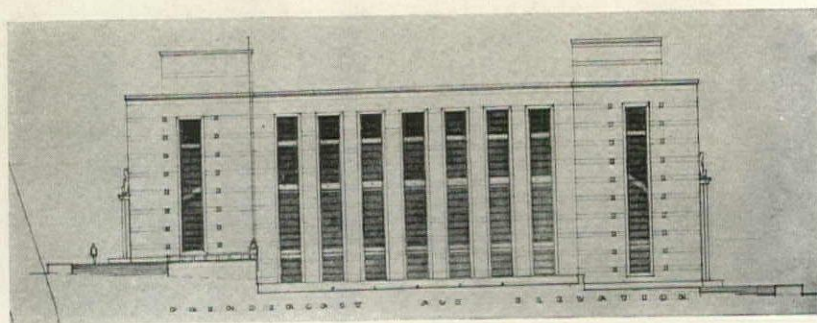


ELEVATION FROM PRENDERGAST AVENUE

DESIGN BY  
HASKELL & CONSIDINE.  
ELMIRA, N. Y.

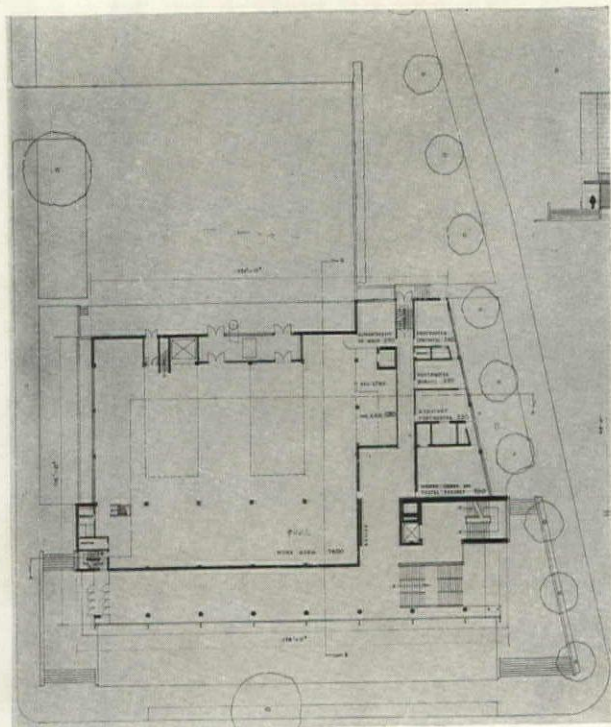
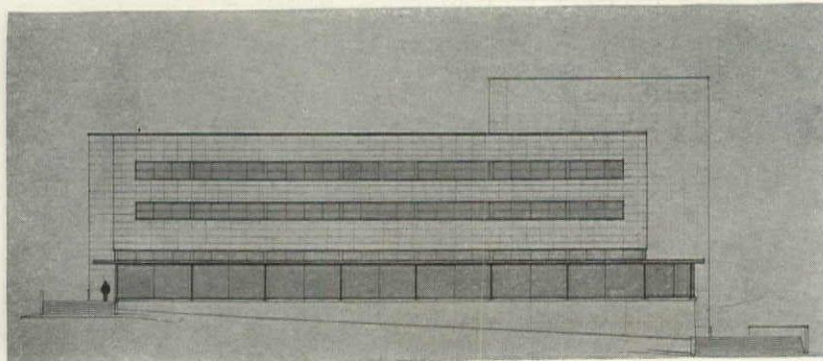


DESIGN BY WILLIAM P. CRANE, JR. SYRACUSE, N. Y.



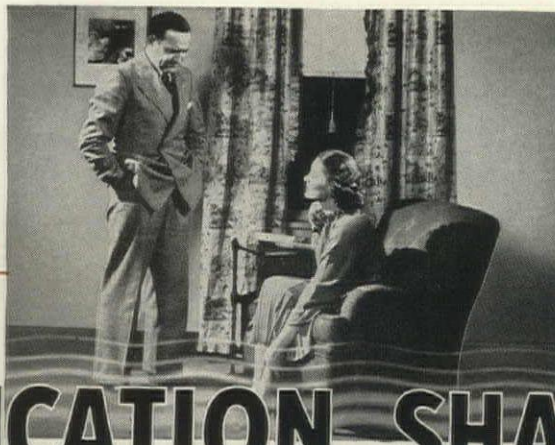
PRENDERGAST AVE. ELEVATION

DESIGN BY  
JAMES J. O'SHAUGHNESSY.  
ALBANY, N. Y.



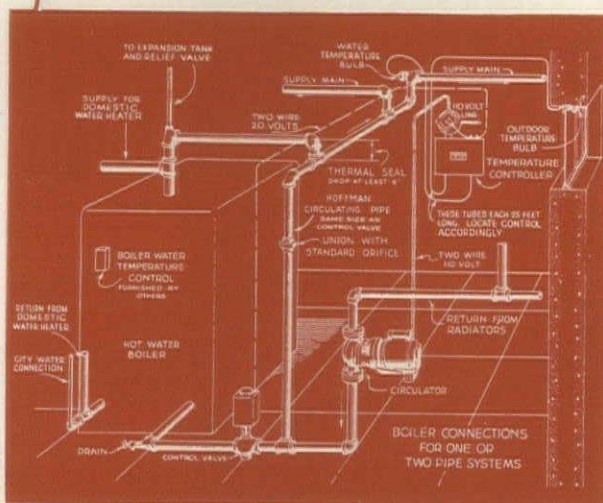
(Forum of Events continued on page 44)





# STRATIFICATION SHATTERED!

CONTINUOUSLY CIRCULATED HOT WATER PUTS AN END TO ICY FLOORS



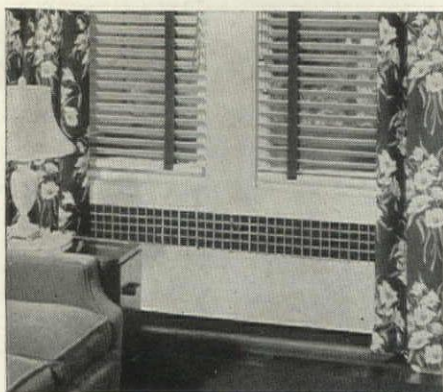
Illustrating the piping arrangement and position of Hoffman Hot Water Control Units. The water circulates continuously through the system but is by-passed around the boiler, except when decreasing water temperature requires the addition of hot water from the boiler. The Hoffman Temperature Controller, with its Outdoor and Water Temperature Bulbs, maintains an accurate balance between heat loss and heat supply.

Hoffman Hot Water Controlled Heat definitely eliminates "cold 70" complaints because of its basically different method of circulating and controlling the heating medium... positively smoothing out variations in room temperature previously beyond control.

This revolutionary improvement in comfort is made possible by a dual temperature control of the hot water *continuously circulated* through the radiators. The circulating water is automatically and accurately regulated to the degree which *exactly* compensates for the heat loss of the building. Any temperature desired will be maintained to a hair's breadth.

Obviously, the continuous emission of the correct degree of heat prevents stratification of air in the room.

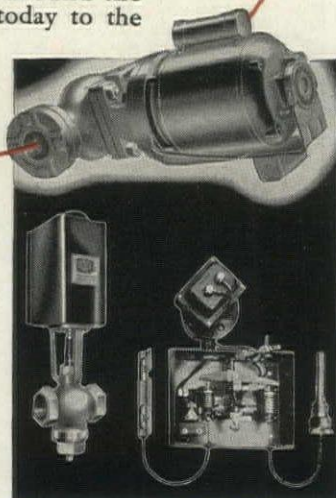
The three basic units of Hoffman Hot Water Controlled Heat are adaptable to any type of automatically-fired hot water boiler. Old installations can easily be converted by a simple re-arrangement of the piping around the boiler. For design data, write today to the Hoffman Specialty Co., Inc., Dept. AF5, Waterbury, Conn.



DESIGNING ON A 240 BTU BASIS PERMITS SMALL, EASILY CONCEALED RADIATORS



YEAR-AROUND HOT WATER BY SIMPLY ADDING AN INDIRECT HEATER



The Hoffman Circulator, Control Valve and Temperature Controller are the three operating units of Hoffman Hot Water Controlled Heat.

# HOFFMAN

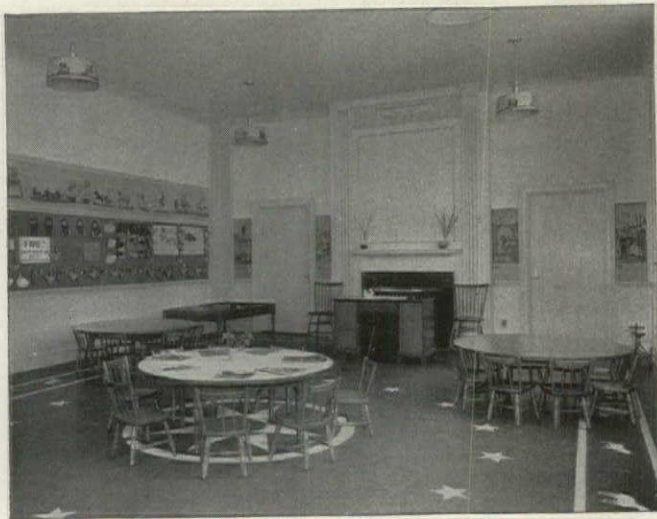
Hoffman Valves, Traps, Pumps and Hot Water Specialties are sold everywhere by leading wholesalers of Heating and Plumbing equipment.

# Hot Water

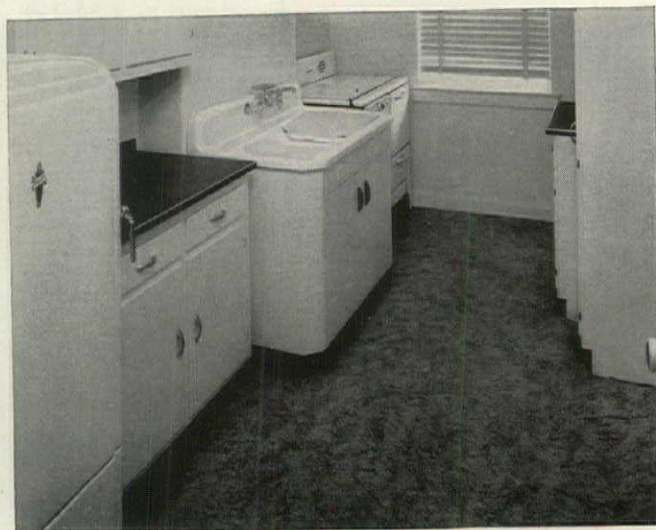
CONTROLLED HEAT



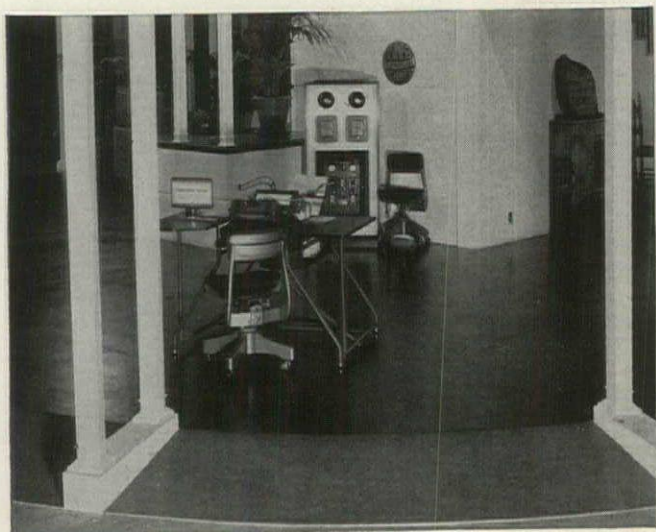
# A Sloane-Blabon Linoleum Whatever the Need — Wherever the Job



*Kindergarten in the Pulaski Academy and Central School, Pulaski, N.Y. Clear White Insets in a Sloane-Blabon Marblitone Linoleum field.*



*One of the 568 kitchens in the newly completed Castle Village Apartments, New York, all equipped with Sloane-Blabon Inlaid Linoleum.*



*Exhibit at the San Francisco Fair. A harmonizing combination of Regal Blue Sloane-Blabon Linoleum with a wide border of Burgundy Red.*



*Sales floor of Klee Bros. Co., Chicago. Sloane-Blabon Marblitone Linoleum was specified, with strip borders in White and Antique Mahogany.*

North, South, East and West architects are turning to Sloane-Blabon Linoleum as the floor covering that most completely fills their requirements for utility, durability, ease and economy of maintenance, as well as for the creative freedom that Linoleum offers in planning residential, institutional and commercial interiors.

Sloane-Blabon has anticipated every design and decorative trend in its 1940 line. We offer a complete color and pattern range in Battleship, Plain, Inlaid, Marblitone and Jaspé effects. And, today, complete stocks to service your particular needs are carried by Sloane-Blabon distributors everywhere.

An exclusive advantage of specifying Sloane-Blabon Linoleum is the fact that they are all mill-waxed—which means an automatic saving to the owner in installation expense.

*Have you a copy of the new Sloane-Blabon pattern catalogue? If not, we will be glad to send one upon request. Architects are also invited to use our Architects Service Department for help on any special floor covering problems. If you have a job that may require custom made linoleum, or something in a special design or inset, write to us.*

## 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





"I Want  
Radiator Heat!"

"Make Mine  
Air Conditioning!"



# CARRIER HAS *Everything*



1. For the small home of modest price — The Carrier Home Weathermaker using either gas or oil. Requires only 23"x30" of floor space.



2. For the larger home this larger Carrier Home Weathermaker provides complete Winter air conditioning. Summer cooling can be added.



3. For air conditioning in living rooms and radiator heat in service rooms this Carrier dual system — Summer cooling can be added at any time.

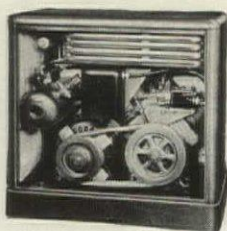


BY specifying Carrier equipment you can meet every clients' requirements. You can satisfy the man who prefers radiator heat—even though he may change his mind later and want air conditioning. You can satisfy the man building a modest home, or remodeling an old home, whether he wants automatic heating or air conditioning. And when you come to fuels, you can meet any requirement—whether it be oil, or gas or coal.

If you are not familiar with the complete line of Carrier Automatic Heating and air conditioning and the ease with which true air conditioning can be provided in a simple step-by-step plan, we urge you to send for complete details today.



4. The Carrier Automatic Furnace for gas, oil or coal—for the new home or replacement of the old heating plant in present home.



5. The Carrier Matched Cooling Unit installed with a Carrier Home Weathermaker completes the system for year 'round air conditioning.



6. The Carrier Oil Burner is available for conversion installations. Scientific air control assures definitely better performance and economy.



• THIS SUMMER, plan to visit the Carrier Igloo of Tomorrow at the New York World's Fair, 1940 is the 50th Anniversary of what is now Carrier Refrigeration, and the 25th Anniversary of the incorporation of Carrier.

CARRIER CORPORATION, Syracuse, N. Y., Desk 8E

"Weather Makers to the World"

(In Canada, 30 Bloor St., West, Toronto, Ontario)

Without obligation, send me complete information on the new Carrier Self-Contained Weathermakers in various sizes.

Name.....Company.....

Address.....

## Carrier

### Air Conditioning



# MODERNIZE EXISTING BUILDINGS ELECTRICALLY

## WITH SMALL DIAMETER

# FLAMENOL BUILDING WIRE

(For Rewiring Existing Raceways)

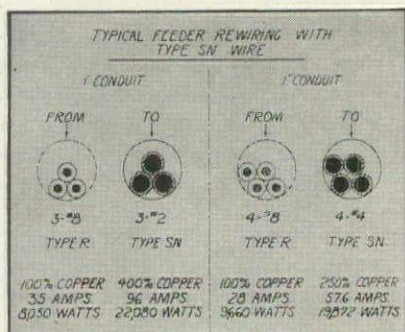
How many times in planning the modernization of old buildings have you been handicapped by the high cost of rewiring? If wattage was to be increased to anything like modern standards new conduit had to be installed causing delay, mess and expense.

### INCREASED WATTAGE

Now wattages can be increased inexpensively by rewiring existing raceways with small diameter General Electric Flamenol Building Wire. The small diameter of this wire permits an increase in effective copper of as much as 400 per cent. And this increase is obtained simply by replacing the present Type R wires in existing conduit with larger size small diameter Flamenol Building Wire, Type SN. As an example, it is possible to increase wattage from 2760 watts to 10,368 watts by using 8 Flamenol Building Wires in place of 4 Type R wires and changing the system from 2-wire, single-phase to 4-wire, three-phase.

### AVAILABLE SIZES 14 TO 4/0

Flamenol Building Wire is available in sizes 14 to 4/0 inclusive. It is insulated with a plasticized polyvinyl chloride compound. This insulation is tough, long aging and flame retarding. It has high dielectric and mechanical strength and resists oil, acids, alkalis and moisture. It serves both as an insulation and as a finish. Flamenol Building Wire is available in a variety of bright permanent colors. Color goes all through the insulation. It has a hard glossy wax finish which makes wire pulling easy.



### FOR FURTHER INFORMATION

Clip and mail the coupon below for samples of Flamenol Building Wire — the wire that brings new life to old buildings.

General Electric Company  
Section WF-0355  
Appliance and Merchandise Department  
Bridgeport, Connecticut

Sirs: Please send me samples of Flamenol Building Wire.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

### COMPARISON OF DIAMETERS

Size AWG	Approximate Overall Diameter (In.)		Size AWG	Approximate Overall Diameter (In.)	
	Rubber Covered Types R, RP, RH	Flamenol Type SN		Rubber Covered Types R, RP, RH	Flamenol Type SN
14 Sol.	.19	.130	1 Strd.	.56	.496
12 Sol.	.21	.147	1/0 Strd.	.60	.537
10 Sol.	.23	.168	2/0 Strd.	.65	.583
8 Strd.	.32	.246	3/0 Strd.	.70	.634
6 Strd.	.40	.314	4/0 Strd.	.76	.692
4 Strd.	.45	.363	up to 2,000,000 CM		
2 Strd.	.51	.423			

# GENERAL ELECTRIC



TRANE CONVECTORS HEAT

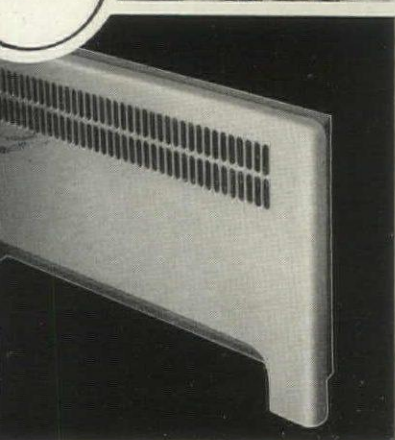
# World's Largest Hospital



*Inspecting one of over 2,400 Trane Convectors in New Orleans' Charity Hospital are: Mr. F. H. Chisholm (kneeling—with hand on Convector access door), Consulting Engineer and Representative of the Architects, Weiss, Dreyfous & Seifert; Mr. N. J. Helwick (standing—left), Secretary of the American Heating & Plumbing Company, Inc., the Contractors; Mr. H. J. Calongne (standing—right), Chief Engineer and Maintenance Superintendent of the Charity Hospital; and Mr. W. H. Dudley, Jr., Trane New Orleans Representative. A heating and air conditioning system designed and installed by local architect — engineer—contractor!*



AIR<sup>®</sup>



*Hundreds of thousands of Trane Convectors serving millions of Americans in every type building. Cleanliness, neat appearance and easy control features, coupled with surprisingly low cost, make Trane Convectors a natural choice for hospitals. Wide range of sizes and models. (Shown above is a Semi-recessed Convector)*

## Practical demonstration of TRANE slogan

**TEAMWORK with ARCHITECTS • ENGINEERS • CONTRACTORS**

**B**UILDING progress and heating, cooling and air conditioning progress go hand in hand. New Orleans' huge new Charity Hospital represents a high point in construction in that important field. Architect, engineer, contractor and manufacturer cooperated to produce an outstanding structure which would meet the needs for which it was designed.

Serving the heating, cooling and air conditioning requirements of so vast a hospital are a number of Trane products. Over 2,400 Trane Convectors maintain comfort throughout rooms, wards, sun porches and doctors' recreation quarters. Trane Product Coolers serve the morgue and the meat cold storage rooms. There are

a total of 47 air conditioned operating rooms. Trane Climate Changers take care of these important areas, as well as accident and emergency wards, dining rooms, and administrative offices. Auxiliary buildings, such as the ambulance and laundry quarters, are heated with Trane Unit Heaters.

The broad and inclusive Trane line is designed to be in constant step with the forward march of building and industry. Complementing the local architect, engineer and contractor with up-to-date equipment is a primary function of Trane teamwork — the teamwork which 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

Unit Heaters - Specialties - Convectors - Cooling Coils - Blast Coils - Unit Ventilators - Compressors - Air Conditioners - Low Pressure Refrigeration





# BRUCE CREATES NEW STREAMLINE FLOORING!

*The Finish is Part of  
the Wood*

- ★ RESISTS SCRATCHES!
- ★ HAS NEW BEAUTY!
- ★ YET LOW COST!

Now, a *factory-finished* flooring that gives home owners amazing advantages over old-style flooring! Sensational Bruce STREAMLINE Flooring is finished a revolutionary new way that penetrates the very pores of the wood. Its tough wear-resisting finish, that gleams like satin, can't scratch, chip or peel like ordinary brittle surface finishes. Saves time and labor, no costly messy sanding or finishing on the job . . . lets the anxious owner move in several days earlier.

Home owners like the stylish "patterned" appearance of the beveled edges and the new wider (3¼") strips. Two selected grades of Oak, Maple, and Beech. Yet with all its superior advantages, the installed cost is usually *less* than ordinary flooring finished on the job. Why not investigate Bruce STREAMLINE Flooring today!

## 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.

## FREE OFFER! MAIL COUPON!

E. L. BRUCE CO.  
1594 Thomas Street, Memphis, Tenn.  
Gentlemen: Please send me the new illustrated literature on Bruce STREAMLINE Flooring, and a "Scratch Test" Panel!

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

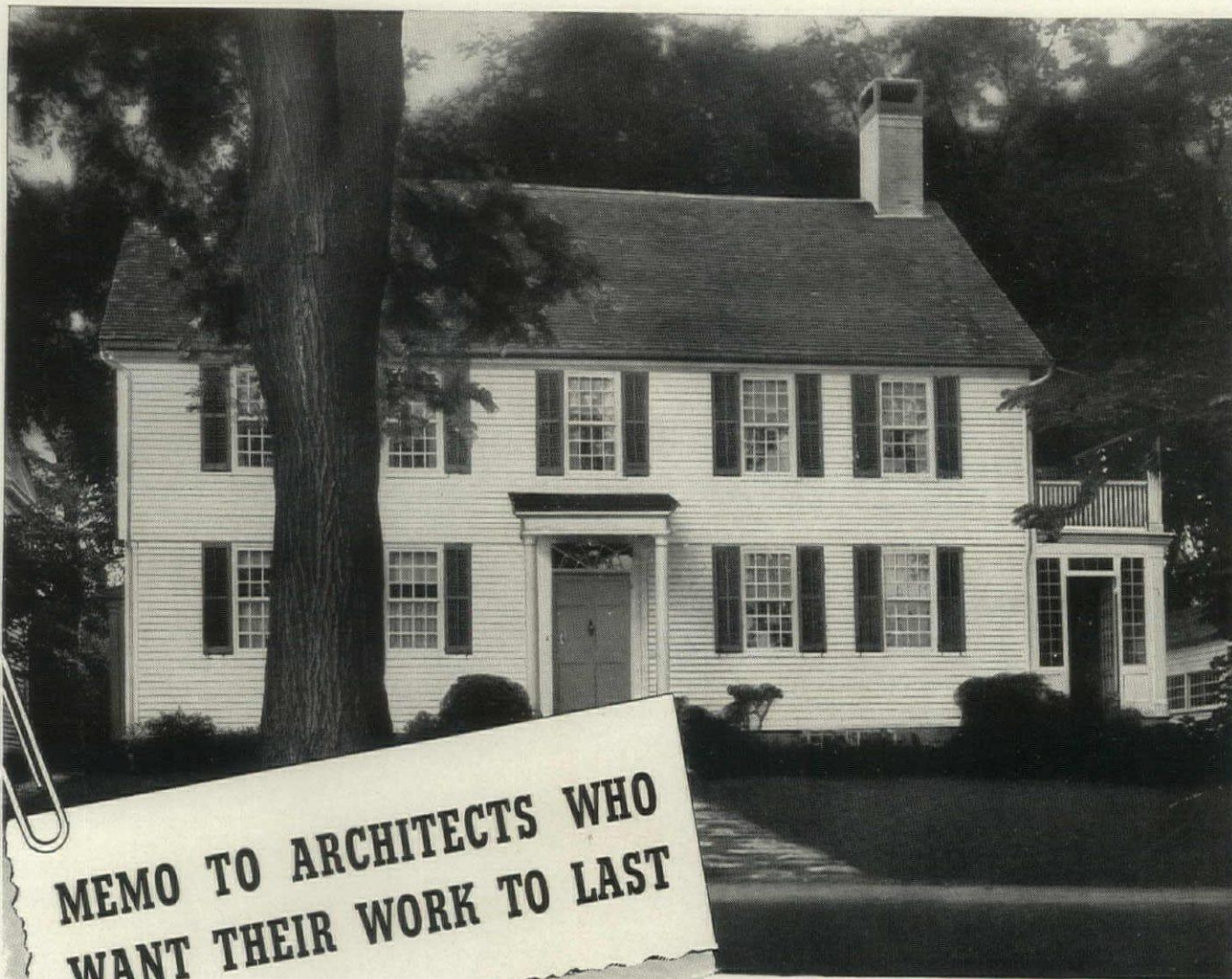


# E. L. BRUCE CO.

1594 Thomas Street, Memphis, Tenn.

HARDWOOD FLOORINGS—FLOOR FINISHES—TERMINIX





## MEMO TO ARCHITECTS WHO WANT THEIR WORK TO LAST

BUILT IN 1782, this sturdy Connecticut home is far from looking its age. Pure white lead paint protects it from weather's ravages.

**I**SN'T it significant that so many of the early colonial buildings that still stand staunch and sound today have been painted through the years with pure white lead paint?

Isn't that the best proof that white lead paint forms an enduring weatherproof seal that better safeguards construction?

White lead of course is made from lead, one of the most enduring of metals. And like the metal, white lead also has high weather-resisting qualities.

That's why white lead paint lasts longer — why it looks better. Moreover this time-proven paint does not crack and scale but wears away slowly and evenly.

Yet white lead paint costs no more than others when you consider its economical, high spreading-rate, ease of application and longer life. And its

### HOW MANY COATS DO YOU NEED WITH WHITE LEAD?

You'll find the answer to this and many other valuable painting tips in informative booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT." Send postcard for your free copy.



velvet-smooth finish sets off your work to best advantage.

That's why most architects say it's a good idea in specifying paint to make sure how much white lead it contains. 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 a hundred per cent white lead. This is the kind good painters mix from lead-in-oil. It can also be bought in many places today in prepared, ready-to-use form — in white and colors.

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





# LETTERS

## Eggs and Darts

Forum:

... I like the phrase "shot many an egg and dart" in FORUM's own advertisement February issue (p. 79).<sup>\*</sup> If such shots, or even use of actual violence will prevent such horrors as the chair illustrated on the left, or the innards of King Carol's palace as illustrated in a recent LIFE, let's have more. Buckingham Palace has a reputation of being bad, and it probably is. But whoever built that Rumanian atrocity needed a course with a good psychoanalyst to get his subconscious laundered.

Much of the modern is excellent. But I think it is modern largely by courtesy. It is preoccupied with form and proportion plus grouping of masses. The Greeks seem to have known a lot about the former, and the Egyptians worked some on the latter. No doubt that has been said before, and better. I do not mean to accuse the moderns of a lack of originality—just that their originality is in making better use of fundamentals which were well understood when Rome built its aqueducts. In their escape from masonry styles to those which give validity to modern materials, such as steel, concrete, etc., they are, of course, entirely original, if inevitable.

I wonder how a decorator could go about doing over that Rumanian palace.

GEORGE APPEL

Detroit, Mich.

<sup>\*</sup> "At eclecticism THE FORUM has fired many an egg and dart."

## Architect's Share

Forum:

... I have just read with great interest in your November issue your reprint of Mr. John Summerson's article which appeared in the London *Listener* on April 20. It seems to me a remarkably able and interesting diagnosis of the state of affairs in the architectural profession in this country, but there is just one small point which I should like to correct.

Mr. Summerson says: "It is certain that professional architects are responsible for a very small percentage of the buildings erected in this country." At the time when the article was written that was the opinion which had been held for many years, though no one had ever produced any statistics to justify it. A few months ago we arranged for a statistical survey which proved conclusively that there was no foundation whatever for the idea. The

true figures have been published in the R.I.B.A. JOURNAL.

IAN MACALISTER

Royal Institute of British Architects  
London, England

According to careful estimates by the R.I.B.A. Public Relations Committee, as published in the JOURNAL for July 17, 1939, the architect is responsible for 50 per cent of all new building; apart from small type housing, he is unquestionably responsible for not less than 85 per cent; in housing of all kinds he controls only 25 per cent of the total.—ED.

## Debut

Forum:

I enclose a photograph of my first executed work—a tennis court shelter for a country place in Alabama.



The problem—one room protected from late afternoon gnats where those not playing tennis may relax in comfort.

The materials—natural wood, copper screen, translucent viophane. The shelter is supported on the stumps of three trees which had to be cut down beside the court, with entrance from the rear by a ramp and sliding door. Inside a low built-in seat accommodates six people. The dogs enjoy the space underneath.

BENJAMIN BALDWIN

Verbena, Ala.

## Modern Gargoyle

Forum:

A medievalist by training, with 25 years' adherence to the Gothic is it any wonder that this modern trend, which THE FORUM so persistently exemplifies and rhetorically skyrockets, should continue to interest me and the minds of the good old school.

Do your editors *really* feel that this modern style, most of which is ill conceived by the young generation of opportunists who with their inexperience have

never been lost in the glories of *real* architecture and consequently have given little or no study to the classical or medieval styles, is here to stay? Has this modern style power to comfort the tired eyes of the factory worker, give pleasure to the year in, year out commuter, or extol veneration from the scavenger in the street? The well designed Classical and Gothic styles do all of that. Is it conceivable that romance could ever linger in the shadow of a modern gargoyle, albeit the modern gargoyle is the building itself.

Maybe practical in plan, yes, but why should the millions in a large city have their pleasure marred by the influence of a money-grubbing hound who demands a building erected for 100 per cent efficiency and practicability, plunk in the middle of a beautiful city with whatever comes after to its outside appearance.

The beauty of a city is, to every one born there, a legal heritage and it seems about time that courts were set up in all cities to pass judgment on all proposed buildings, large and small, as to plan, artistic exterior merit and suitability to the sight in relation to adjoining buildings. This method has worked out well in England.

And what has become of the great architects who have created the unanimously accepted buildings of stylistic beauty? What of the cathedrals which have been built through this modern period—Liverpool—St. John the Divine, —Washington,—Westminster,—I include Westminster, yes, if the modern school could only be influenced by that creation. I feel sure that even you Modernists are pretty confident that buildings such as these mentioned shall exist in ever increasing splendor five hundred years from now.

It is little wonder that the Londoner and the Parisian are considered the happiest people on earth. It isn't their personal riches which make them so, but their heritage of wealth in their great architectural possessions and the romanticism surrounding them.

America can be proud of Cass Gilbert, the man with courage and genius to create the Woolworth Building, acceded the first of the great skyscrapers and incorporating efficiency and practicability, yet the design of which has never been equaled (in a skyscraper) for beauty of line and artistic treatment.

... This adopted country of mine, however, encourages freedom of speech.

JAMES CLARK

Jamaica Plain, Mass.



# Penberthy

**A DISTINGUISHED NAME . . .**

**A DISTINGUISHED PRODUCT**

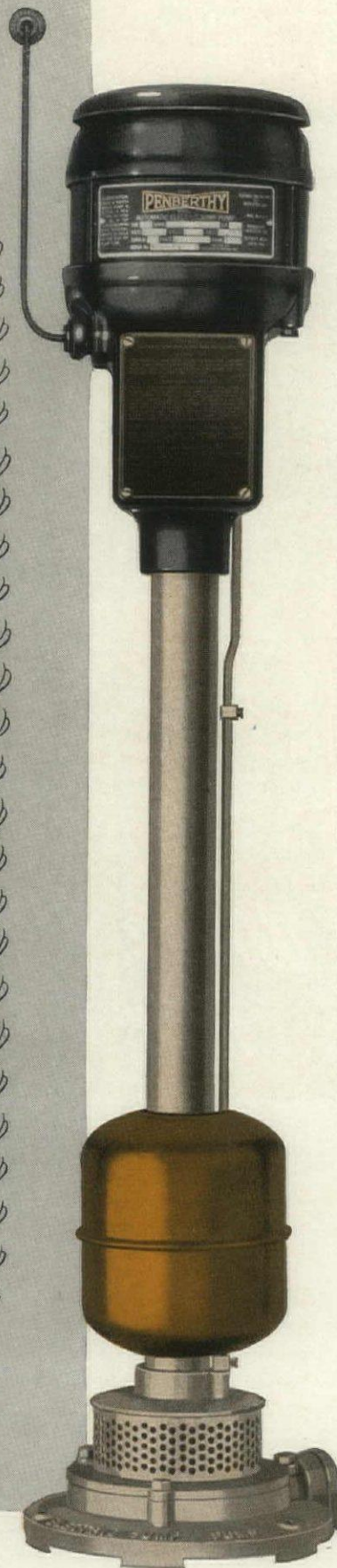
*Constructed of Copper  
and Bronze Throughout*

**T**HE name "Penberthy" has been distinguished for fifty-two years as representative of highest quality products.

Penberthy Automatic Electric Sump Pumps are distinguished for their dependability and long life wherever seepage water accumulates.

Penberthy Automatic Electric Sump Pumps are available in six sizes.

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PENBERTHY PRODUCTS IN STOCK**



**PENBERTHY INJECTOR COMPANY**

*Manufacturers of Quality Products Since 1886*

*Canadian Plant, WINDSOR, ONTARIO*

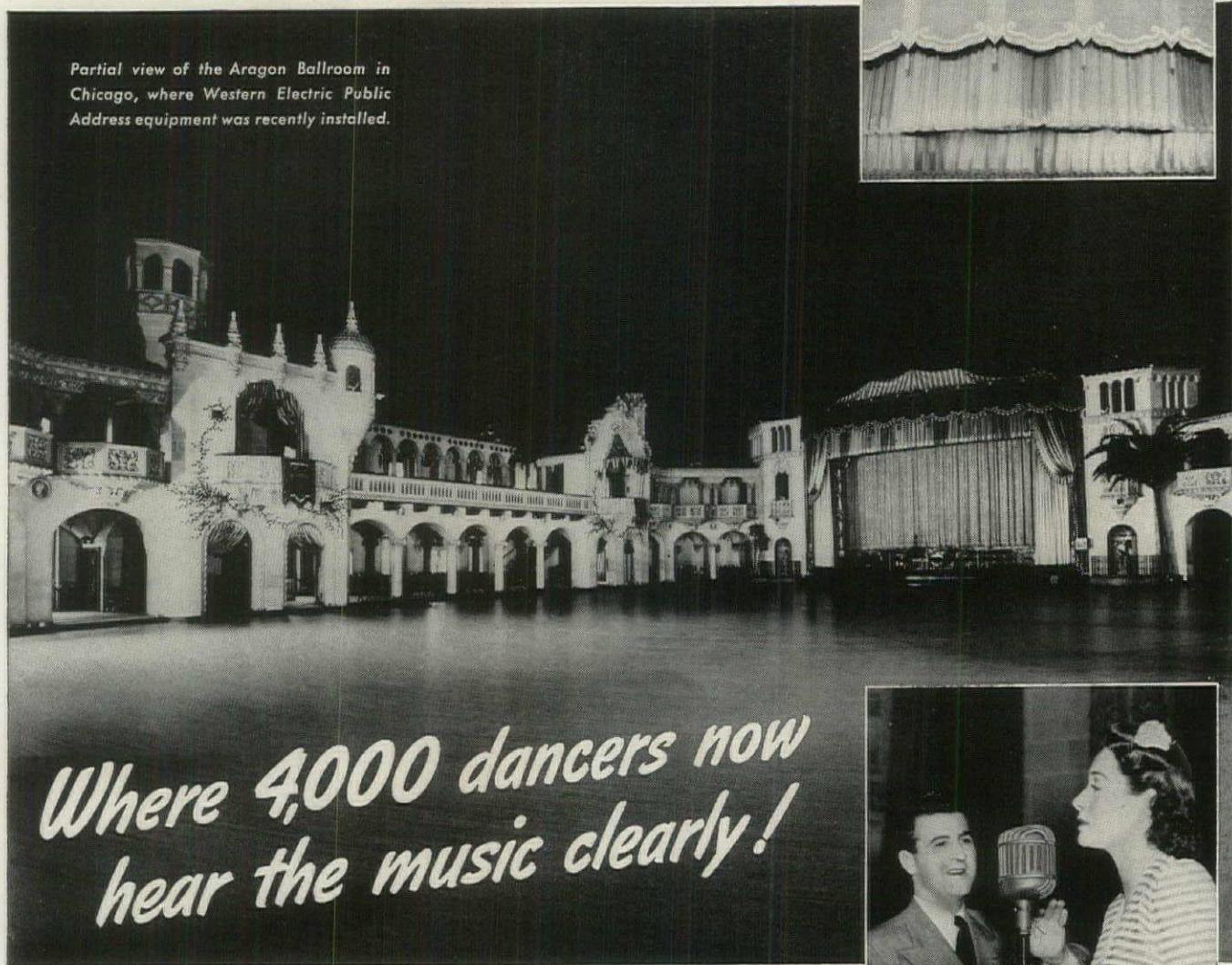
**DETROIT, MICHIGAN**



High above the stage are these horns which distribute music equally throughout the huge dance floor.



Partial view of the Aragon Ballroom in Chicago, where Western Electric Public Address equipment was recently installed.



*Where 4,000 dancers now hear the music clearly!*

... thanks to NEW

## Western Electric Public Address System

Big name bands drew dancers by the thousands to Chicago's Aragon Ballroom. But it was never possible to "cover" the huge floor with music until Western Electric P. A. equipment was installed.

Now dancers hear clearly in the farthest corner. And popular band leader Dick Jurgens says, "The most natural sound reproduction I have ever

heard over a Public Address System."

The success of this installation is due to equipment of advanced design—new mikes, amplifiers and loud speakers that give results heretofore impossible.

When you have a P. A. problem, ask Graybar to help you solve it. Just write to Graybar Electric Co., Graybar Building, New York.



Dick Jurgens and Gloria Gilbert do a number before one of three new Cardioid mikes.



The control panel of the Public Address System.

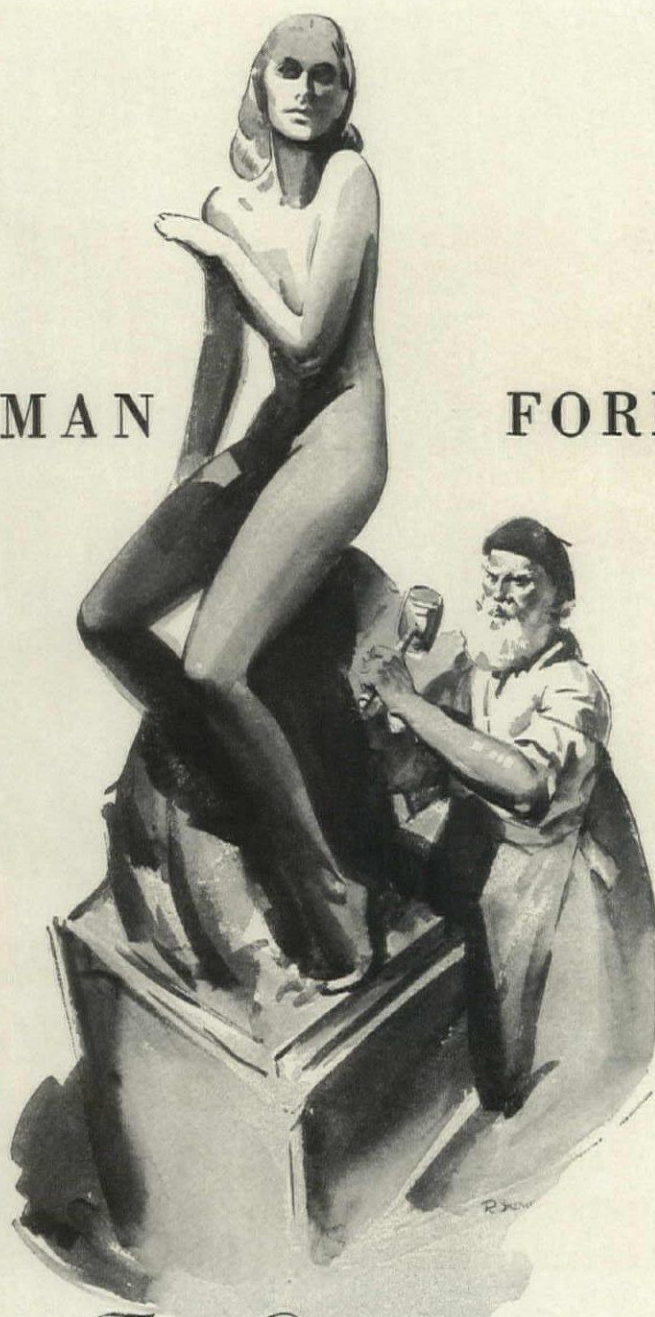
# Western Electric

LEADERS IN SOUND-TRANSMISSION APPARATUS



THE HUMAN

FORM DIVINE



*The Human Form Divine* has been a favorite medium of creative expression of sculptors since time immemorial. Styles change. Fashion's finest of today may excite the mirth of tomorrow. But the human form itself is unchanging in its beauty. Architects, for years, have expressed enduring beauty in homes, using Genuine White Pine, a lumber that has so many qualities to recommend it, that it will never be the choice of passing fancy, but will go on thru centuries earning its place in popular esteem.



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





# 2 Essentials

**A GOOD DOOR  
EXPERT INSTALLATION**

Twenty years of experience have taught us to make the finest quality door. Expert installation is the other important half of our service; we take full responsibility.

Specify the "OVERHEAD DOOR" with the MIRACLE WEDGE and rest assured that one part of your work will be easy, economical and SATISFACTORY.

Standard Model or  
Master Model with  
"Power-Tubes"

The

**"OVERHEAD DOOR"**  
TRADE MARK

WITH THE

**MIRACLE WEDGE**

BACKED BY A NATION-WIDE  
SALES-INSTALLATION SERVICE

Please send information and free literature  
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**OVERHEAD DOOR CORPORATION,  
Hartford City, Ind., U.S.A.**

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# ILLINOIS GLASS BLOCK COMPETITIONS



## THE JURIES

### Competition No. 1 Judged in Chicago

GEORGE WALLACE CARE\*, C. HERRICK HAMMOND,  
GEORGE FRED KECK, WILLIAM PEREIRA, JOHN  
WELLBORN ROOT, PAUL SCHWEIKHER, ALFRED  
SHAW.

### Competition No. 2 Judged in San Francisco

WALTER E. CHURCH, STILES O. CLEMENTS, GARD-  
NER A. DAILEY, GORDON B. KAUFMANN, DONALD  
B. PARKINSON, TIMOTHY L. PELUEGER, GEORGE  
W. STODDARD, WILLIAM W. WUERSTER.

### Competition No. 3 Judged in Detroit

ALFRED A. HAHN, ALVIN E. HARLEY, J. BYERS  
HAYS, ARTHUR K. HYDE, CHARLES T. INGHAM,  
ALBERT KAHN\*, ROBERT H. MACDONALD\*,  
WALTER R. MCCORNACK, EELI SAARINEN\*.

### Competition No. 4 Judged in New York

FREDERICK L. ACKERMAN, WALLACE K. HARRI-  
SON, GEORGE HOWE, ELY JACQUES KAHN, WILLIAM  
F. LAMB, HENRY R. SHEPLEY, EDWARD D. STONE,  
RALPH WALKER.

\* Unable to serve because of illness or other reasons

OWENS-ILLINOIS GLASS COMPANY extends hearty thanks to the many eminent architects who have graciously served on these juries and to more than fifteen hundred competitors who gave of their time and energy to study a new and pressing problem in the field of building. The prizes distributed, in the amount of \$17,500, can at best be a wholly inadequate recompense for the countless hours devoted by the profession during the past year in attempting to find the most logical and effective uses for a material of great versatility. The evidences of this collaborative effort are by no means limited to the prize-winning drawings, nor even to all the drawings submitted; the net results are to be found in the minds of the competitors, a product of study, competitive effort and observation. This gain on the part of each individual, rather than the prize money, must be regarded as the material rewards in this series, and we believe they will be thought well worth the time and energy they have cost.

## The Grand Prizes

In accordance with a scoring system established at the start of the series of quarterly competitions, entirely independent of the \$2,500 in prizes awarded to the winners of each competition, a first place award brought 100 points; second, 80; third, 63; fourth, 49; fifth, 38; sixth, 30; seventh, 25; and eighth, 23 points. When the awards for all four competitions had been tabulated, it was found that no competitor had won more than two awards, but three of them had achieved that distinction. So keen was the competitive effort, however, and so widely distributed the awards, that there were three ties for the Third Grand Prize, and two individuals also tied for Fifth Grand Prize. Duplicate prizes totaling \$2,500 have therefore been added to the original Grand Prize total of \$5,000. The awards follow:

### FIRST GRAND PRIZE—\$1,500—To Harris A.

Kemp, an architect associated with the office of the Wisconsin State Architect at Madison. Mr. Kemp won first place in Competition No. 1 and second place in Competition No. 3—a total of 180 points; total awards, \$3,250.

### SECOND GRAND PRIZE—\$1,250—to Robert A.

Deshon and M. Wayne Stoffle, graduate students seeking their Master's degrees at Massachusetts Tech., Cambridge. They won third place in Competition No. 3 and second place in Competition No. 4—143 points; total awards, \$2,250.

**THIRD GRAND PRIZE—\$1,000.** Three tied for this Prize, each with 100 points: **James A. Mitchell and Dahlen K. Ritchey**, of Pittsburgh, who won Competition No. 2; total awards, \$2,000; **Ernest A. Grunsfeld, Jr., W. F. Yerkes and W. F. Koenig**, of Chicago, who won Competition No. 3; total awards, \$2,000; and **Charles W. Lorenz**, of St. Louis, winner of Competition No. 4; total awards, \$2,000.

**FOURTH GRAND PRIZE—\$750—to Francis R. Meisch and Keith I. Hibner**, two more graduate students at Massachusetts Tech. They won sixth place in Competition No. 3 and third place in Competition No. 4—93 points; total awards, \$1,100.

**FIFTH GRAND PRIZE—\$500.** Two men tied for this Prize, each with 80 points: **Laurence A. Schwall**, of Champaign, Ill., a senior at the University of Illinois; and **Simon Schmiderer**, of New York, employed in the office of Cross & Cross. Total awards to each, \$1,250.



# PRIZE WINNING DESIGNS IN INSULUX COMPETITION 4.



**THE JURY**, meeting in PEDAC, l. to r.—GEORGE HOWE, Chairman  
FREDERICK L. ACKERMAN  
WILLIAM F. LAMB  
ELY JACQUES KAHN  
HENRY R. SHEPLEY  
EDWARD D. STONE  
RALPH WALKER  
WALLACE K. HARRISON

**MEETING** in New York City, April 2 and 3, the Jury selected eight prize-winning designs from the 404 submitted and made a report as given below. Under each of the drawings reproduced in the following pages will be found specific comment representing the opinion of one or more of the Jurors, in which all concurred.

**THE PROBLEM:** To design a newspaper plant for a city of 100,000 on a level corner site 100 x 128 ft. facing southwest, the building to proclaim the importance of the paper in the life of the community with some feature that would arrest attention day or night. In this as in previous competitions of the series, logical and proper uses of Insulux Glass Block are sought.

**REPORT OF THE JURY:** The Jury confesses to some disappointment in the lack of a character in the designs which would express unmistakably the home of a newspaper in a city of 100,000 population. A proper feeling for scale was also a conspicuous lack—many drawings indicating buildings that seemed to be at least 300 feet long, and others combining as many as three kinds of building on this restricted plot.

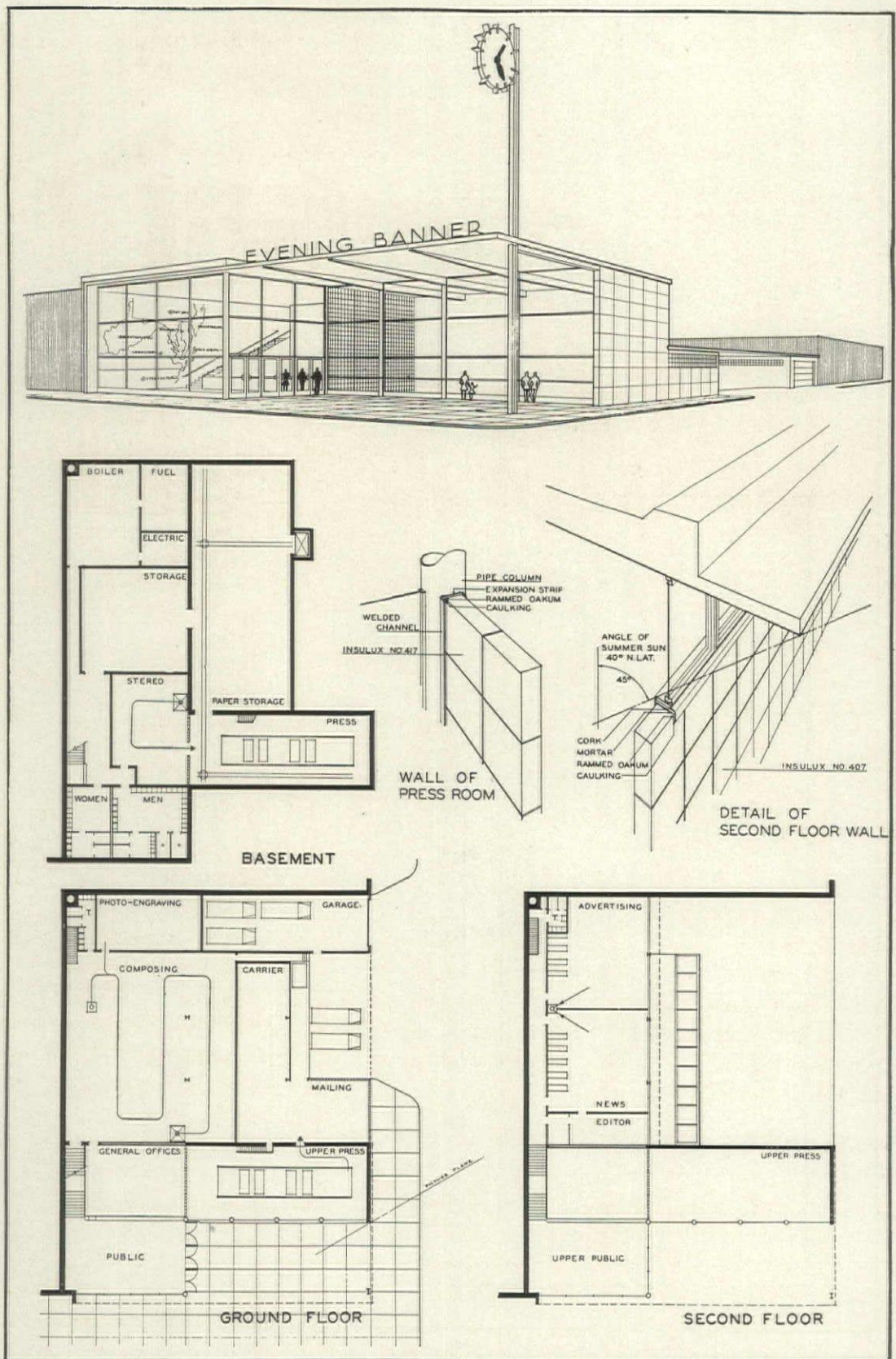
Plans in most cases were intelligently developed and with few exceptions the sequence of operations had been pro-

vided for in a practicable manner. The matter of trucks apparently was something of a stumbling block. A plant of this size would seem to be adequately served with trucking on the grade level without the expense and other difficulties of storing trucks in the basement. The device of the ramp, in addition to being unnecessary, had in most cases been introduced without sufficient thought for workable grades and adequate headroom.

Frequently dissatisfaction was expressed because of the lack of readability of many of the designs, not only as to plan, but also in the clear expression of materials used. The use of great masses of black, which indicated shadows and wall materials without differentiation, was a fairly common fault. In some designs where the glass in the windows looking into the press room had been shown tilted, the Jury questioned whether this practice, with its attendant reflections from sky and street, had been adequately studied.

In a number of plans there was no indication of a stack or provision for boiler room and space for mechanical equipment. In judging the workability of the building as a press, the Jury considered the areas of use and their interrelationships as prime elements rather than insisting upon an indication of the technical details, including ventilation and heating.





CHARLES W. LORENZ: Attended Washington University; B. Arch. '35; M. Arch. '36. Winner Frederick Widman Prize '31, '32. Awarded A.I.A. Medal and Book '35. Won James Harrison Steedman Traveling Fellowship '37 and traveled abroad '37-'38. Working with Murphy & Wischmeyer, architects, St. Louis.



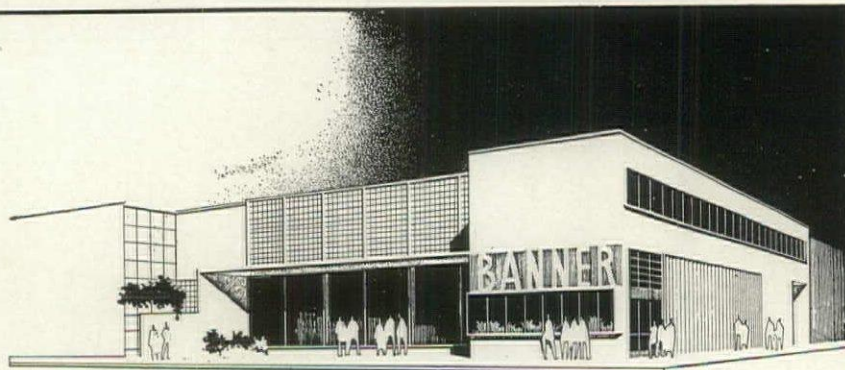
JURY COMMENT—"The plan appears to be excellently conceived from the point of view of the production of the newspaper as well as service to the public. The advertising value of the entrance, with a clear view from the street both of the general offices and the press room, is noteworthy. Glass block has been used logically without forcing the note, and with due regard for structural feasibility. The Jury is particularly well pleased with the clarity with which the designer has expressed his building, without the aid even of cast shadows."

**FIRST PRIZE—\$1,000**

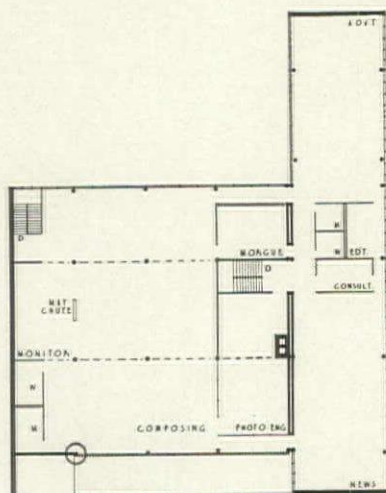
**CHARLES W. LORENZ**

St. Louis, Mo.

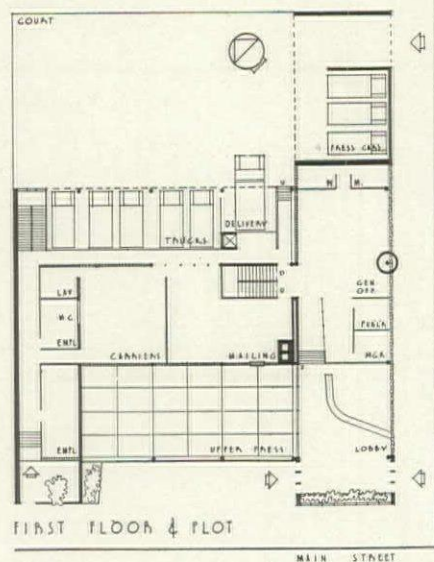




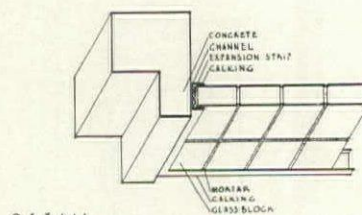
PERSPECTIVE



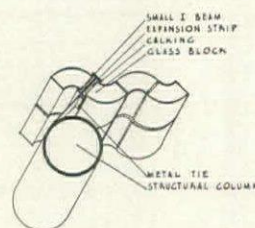
SECOND FLOOR



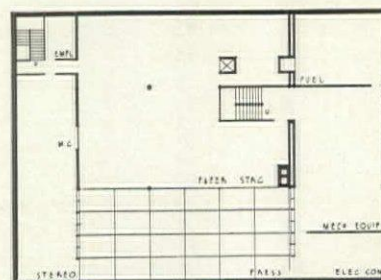
FIRST FLOOR & PLOT



DETAIL



DETAIL



BASEMENT

M. WAYNE STOFFLE: B. of Arch., Cornell '37. Now at M.I.T. working for Master's degree on a Graduate Scholarship. Worked in offices of Malcolm Moore, Oklahoma City, and of Glen H. Huntington, Boulder, Colo. Insulux Competition No. 3 was his first national competitive effort, in which he and Deshon won Third Prize.

ROBERT A. DESHON: B. S. in Arch., Univ. of Cincinnati '39; held Rollman Scholarship '38-'39. Received a Mention in Ryerson Traveling Fellowship '39. Now at M.I.T. working for Master's degree. Worked in offices of Finley C. Brooke, of Edward J. Schulte and of Daniel M. Reese, Cincinnati.



Deshon

Stoffle

## SECOND PRIZE—\$750

ROBERT A. DESHON  
and M. WAYNE STOFFLE

Cambridge, Mass.

JURY COMMENT—"This design has the merit, rather uncommon in the more than 400 drawings submitted, of expressing most adequately of all, the fact that this is a building on a comparatively restricted lot in a town of 100,000 population. The designers' use of glass block is natural and effective; the plan, compact and well organized, with a commendable separation of the business and mechanical functions."



**DON E. HATCH:** Attended Graduate School of Arch., Univ. of Kansas '30. Worked in offices of Tilton & Githens and of Hood & Foulhoux, New York until '35. Since then in practice. Won First Prize G. E. House Competition with André Foulhoux; won Second Prize Portland Cement House Competition with Carl Landefeld; won Second Prize Remodeling Competition sponsored by The Forum.

**JOHN THOMPSON RIDLEY:** Attended Univ. of Toronto. Awarded scholarship by Ontario Association of Architects; Silver Medal in Design by Architectural Guild. Worked in London two years; in Sweden four months with Nils Olsson. Now employed with Kimball & Husted, New York.

**JEDD S. REISNER:** B.S. in Arch., Univ. of Illinois '34. Worked in Atelier Gnerre, New York, '35-'37. Plym Fellowship for travel abroad from Univ. of Ill. '38-'39. Six months in Atelier Bigot, Paris, '38. Now in office of Don E. Hatch.



Reisner Hatch Ridley

### THIRD PRIZE—\$250

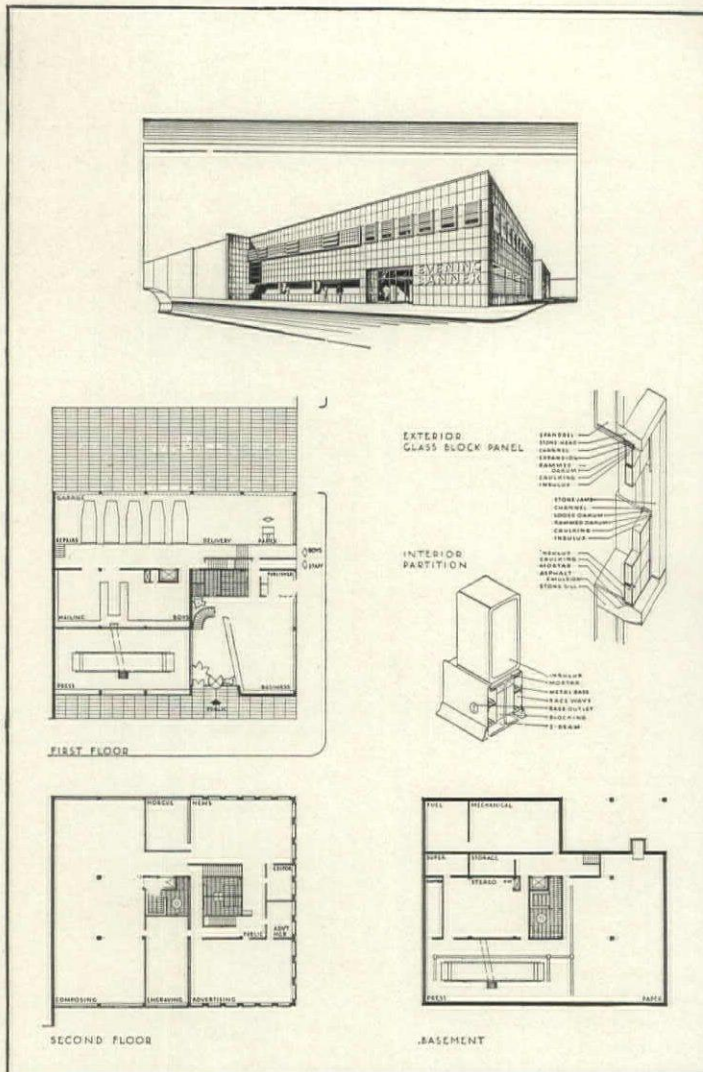
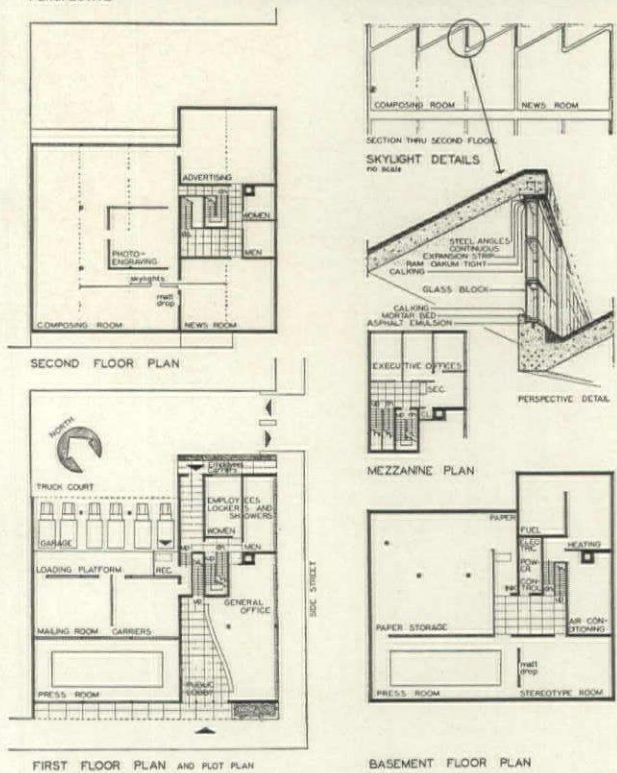
**FRANCIS R. MEISCH and KEITH I. HIBNER**

Cambridge, Mass.

**JURY COMMENT**—"There is here much of the same quality of suitability to purpose and community as was found in the second prize design. There is perhaps something of a false note in the combination of entrance doors and the press room windows—a structural combination of elements with widely different functions. There was some question also as to whether adequate study had been given the saw-tooth skylight."



PERSPECTIVE



### FOURTH PRIZE—\$100

**DON E. HATCH, JOHN T. RIDLEY and JEDD S. REISNER**

New York

**JURY COMMENT**—"As contrasting with the first, second and third prize designs, this one is obviously somewhat lacking in dramatic announcement of purpose as called for by the program. Nevertheless, the plan is so well organized, the elements so simply combined, and the composition so much of a straightforward and simple unit as to deserve premiation."

**FRANCIS R. MEISCH:** B. of Arch., Univ. of Minnesota '39; awarded Horton Art Scholarship '37-'38. A.I.A. School Medal '39. Now at M.I.T. on Graduate Scholarship. Free-lanced in design and rendering; worked in offices of Dr. L. G. Straub, engineer, Univ. of Minn., and of Edwin H. Berg, architect, Eveleth, Minn. With Hibner, won Sixth Prize in Insulux Competition No. 3.



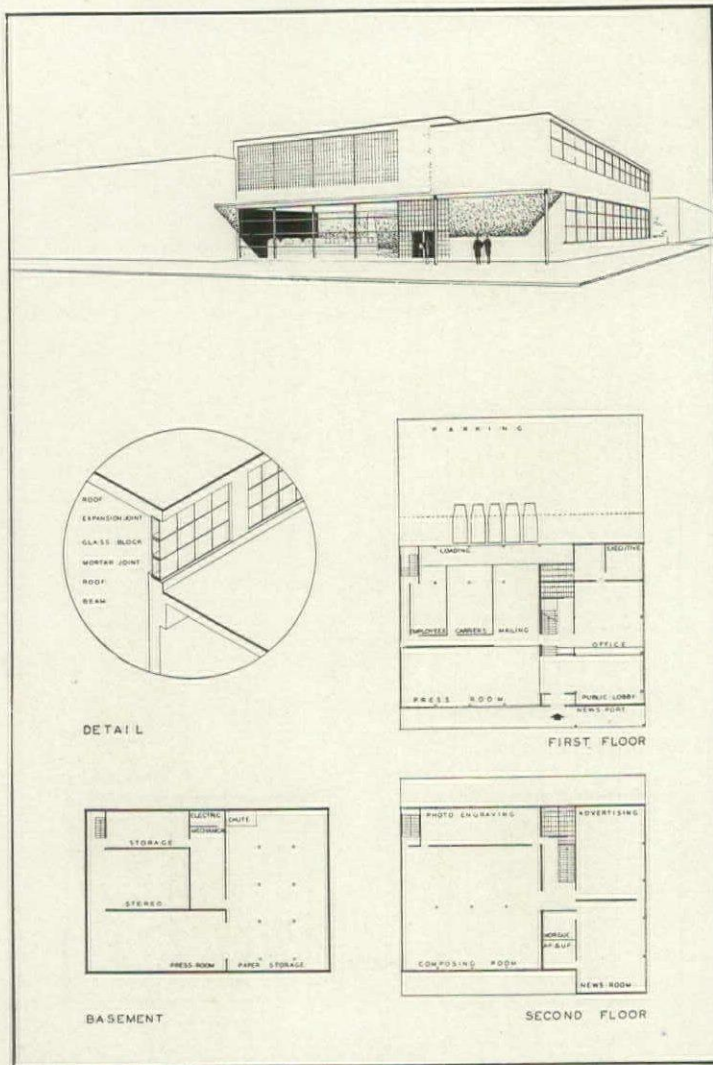
Meisch



Hibner

**KEITH I. HIBNER:** B.S. in Architectural Engineering '39 and B. in Arch. '39, Univ. of Oklahoma. Has free-lanced and served as Government architect for relief projects in summer of '39. Now on Graduate Scholarship at M.I.T.





## SIXTH PRIZE—\$100 MOORE & HUTCHINS

New York

JURY COMMENT—"One of the best of the premiated drawings as regards plan and the organization of the production process and service to the public. Somewhat less successful than the plan, however, seems the building erected upon it, particularly in its incorporation of the tower form. Glass block has been used with excellent judgment."

## FIFTH PRIZE—\$100

### B. LEONARD KRAUSE

Cambridge, Mass.

JURY COMMENT—"Here again the plan is admirably organized in a simple and straightforward manner. The exterior is perhaps somewhat lacking in interest, although it indicates possibilities of further development. As in the case of other designs, the Jury lays some stress on the fact that the designer inspired, through his design, a feeling that he could be selected with confidence as an architect to carry the project to completion. This is one example of many in the competition in which the designer provided space for mechanical equipment but no stack."

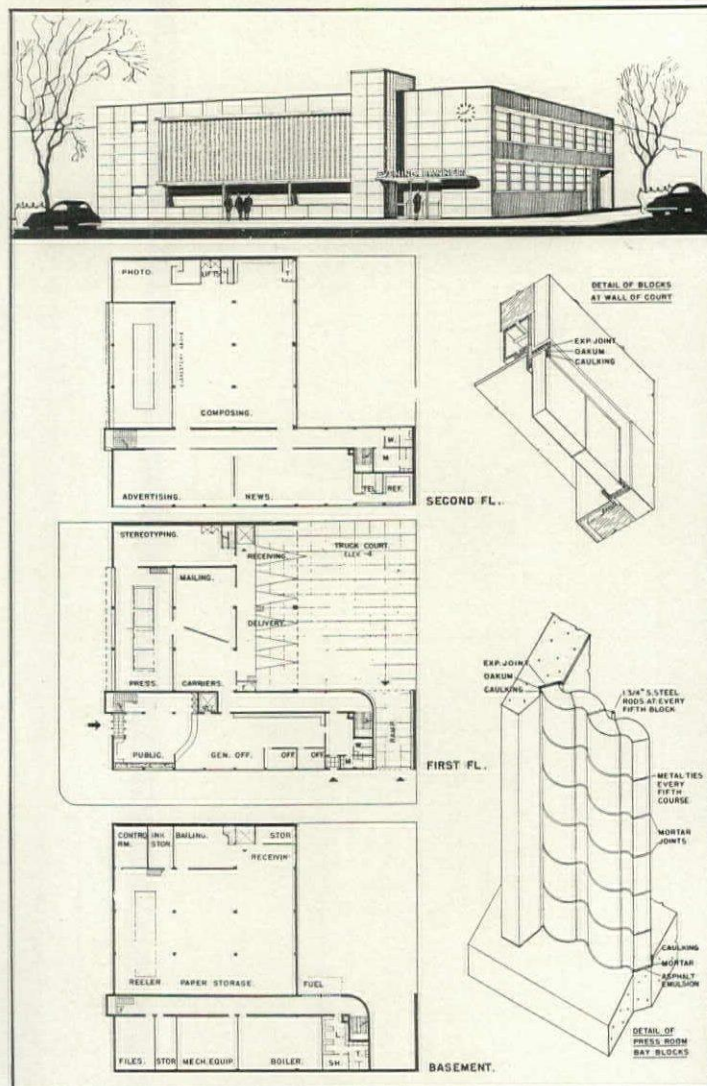
JOHN C. B. MOORE: A.B., Harvard '18; Ecole des Beaux Arts Diploma '27. With Delano & Aldrich, New York '21-'23 and '27-'29. In practice since '29. Part-time critic in advanced design, Columbia School of Architecture since '26. Moore & Hutchins won First Prize in Goucher College Competition '38.

ROBERT S. HUTCHINS: A.B., Univ. of California '28; B. of Arch., Univ. of Pennsylvania '29, M. of Arch. '30; Graduate Fellowship '28-'29. Five years with Delano & Aldrich and others, New York. In practice since '32. Critic in architectural design at Cooper Union '31-'37.



Moore

Hutchins





WILLIAM C. SUITE: Catholic University '30-'37. Placed second in Le Brun Traveling Scholarship Competition '38. Registered architect in D. C. Associate Member A.I.A. Traveled in Mexico '36. Worked for Upman & Adams, Walcott Clarke Waggaman, Alfred Kastner, all of Washington; for Navy Dept., Quantico, Va. Now with War Dept., Washington.



JOHN J. BRADY: B.S. in Arch., Manhattan College '34; M. of Arch., Catholic University '35, Graduate Fellowship '35-'37.

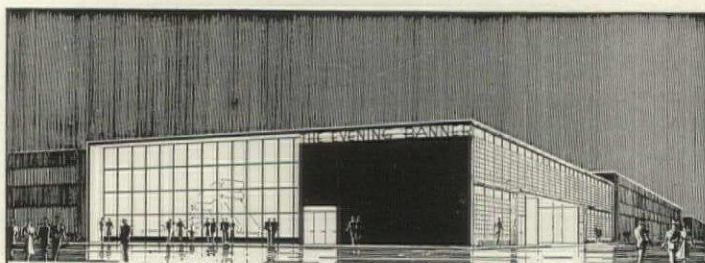
Honorable Mention in Rome Prize Competition '37; placed fourth in Paris Prize Competition '38. First prize in West Side Assoc. of Commerce Competition for Housing '36. Now an architect with War Dept., Washington.

## SEVENTH PRIZE—\$100

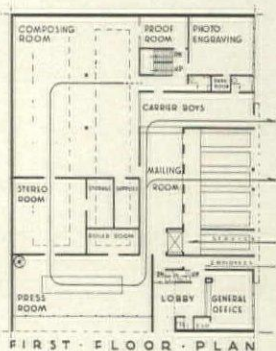
M. RIGHTON SWICEGOOD

New York

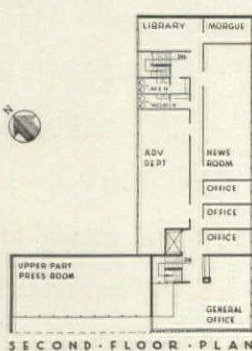
JURY COMMENT—"Another excellent plan and a dramatic quality for the exterior that is in keeping with the program requirements, although the Jury feels that here, as in many other designs, the area of solid black in the perspective raises unanswerable questions as to a proper use of materials."



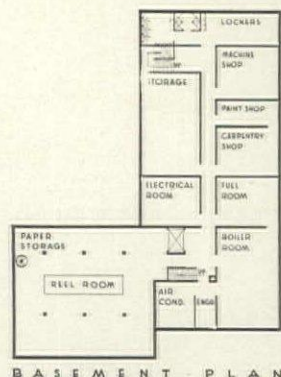
PERSPECTIVE FROM STREET INTERSECTION



FIRST FLOOR PLAN



SECOND FLOOR PLAN



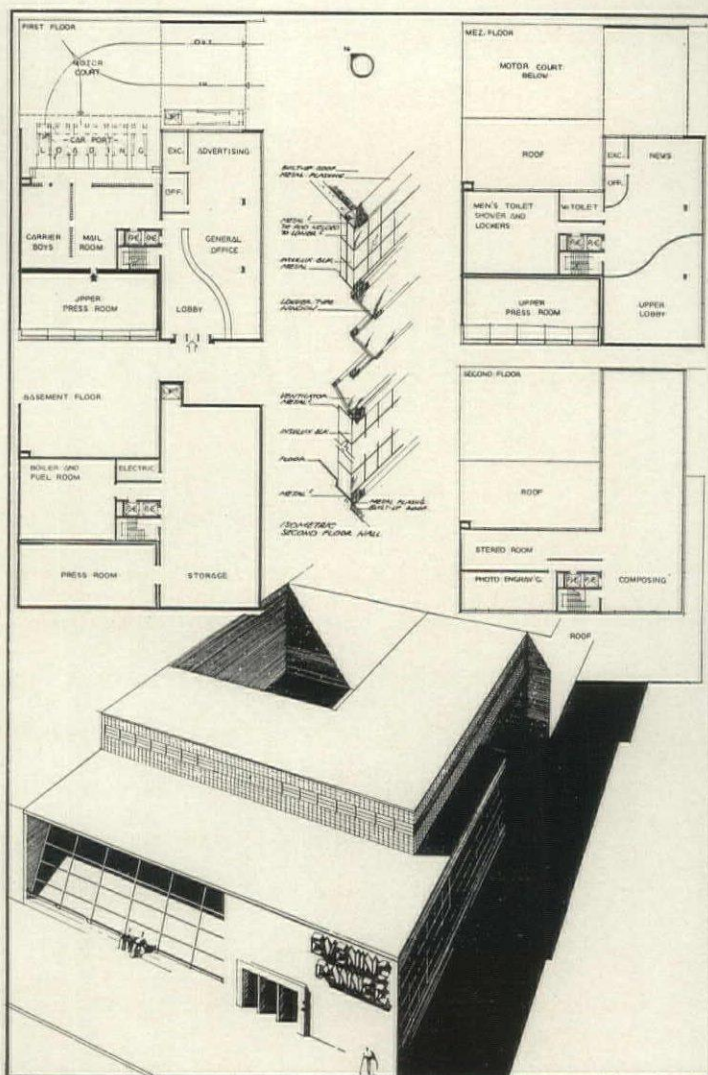
BASEMENT PLAN



SECTION DETAIL THROUGH FRONT WALL



ENTRANCE LOBBY



## EIGHTH PRIZE—\$100

WILLIAM C. SUITE and JOHN J. BRADY

Washington, D. C.

JURY COMMENT—"An interesting composition, but felt to be somewhat less satisfactory in the development of its plan. A close working connection between the stereotyping room and the press room has apparently not been achieved. The lack of any entrance to the press room excepting through the storage area is open to criticism."



M. RIGHTON SWICEGOOD: B.S. in Arch., Georgia Tech.; M.S. in Arch. M.I.T. Won First Prize in Brunswick-Balke-Collender Bar Competition '34; First Prize in Modernize Main Street Competition (drugstore) '35; Second Prize in *Ladies Home Journal* Small House Competition '38; and Fourth Prize in Insulux Competition No. 2.



## *Finally, but not in conclusion . . .*

This series of competitions was instituted with a purpose. Twentieth century invention put into the hands of America's designers a new material of vast potentialities. To welcome it with enthusiasm, such as the public has done, is not enough. Any building material reaches the zenith of successful use only in the hands of those who understand both its capabilities and its limitations, those who use it intelligently, ingeniously and sympathetically. To the competitors in these four competitions we gave the technical data assembled to date regarding Insulux Glass Block, and on the basis of that knowledge their efforts in design presumably were based. This technical data is not static; it is growing, almost daily, as a result of our constant research and experimentation with new forms to satisfy functions both old and new.

The onward march of America's genius for building is the result of collaboration—the joint efforts of architects, engineers, manufacturers and builders, in the production of materials, the design of buildings and the integration of these two in enduring construction. There is a particularly close collaboration necessary between those who produce materials and those who incorporate these materials in their designs for the building itself. Neither can make real progress without the other. It is this collaboration that we would foster. We ask the architect to tell us what he would like to have glass block do; we share with him our discoveries as to how these purposes may be satisfied. Through our opportunities of gathering ideas and experience in glass block use throughout the world, we are able and glad to serve as a central clearing house for the interchange of knowledge concerning the material and its many uses. Our technical staff is always at your service. Please make use of it.

The Insulux Glass Block Competitions, then, were not an end in themselves. It is our hope that they have served merely as the first steps in a collaboration that will continue and intensify—a collaboration that has as its foremost aim the constant betterment of American architecture.

# OWENS-ILLINOIS GLASS COMPANY



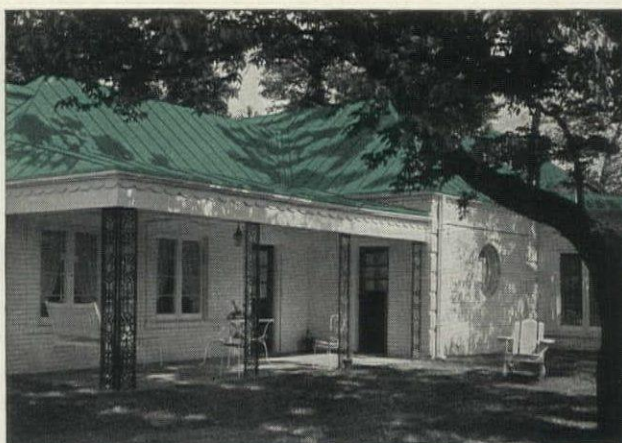


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Home of CARL F. BOESTER, St. Louis, Mo.  
Architects, Reither and Steinberg, St. Louis

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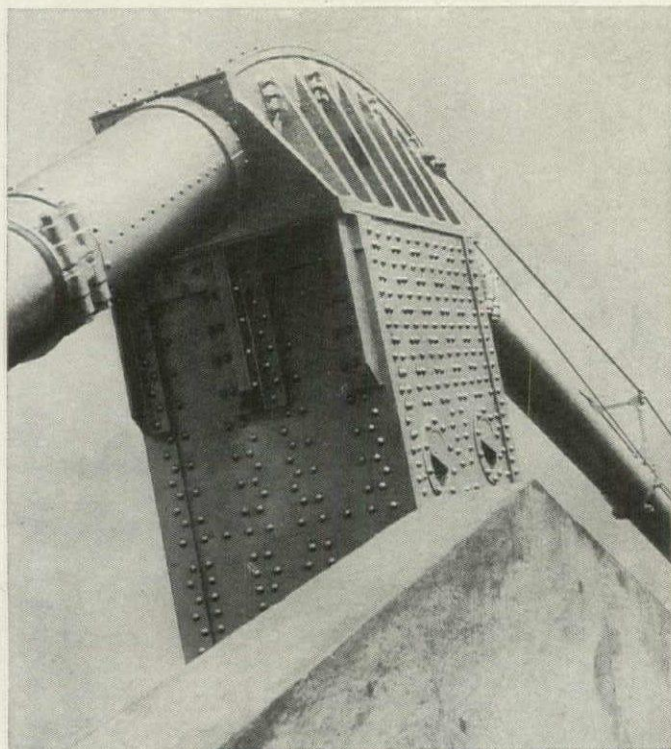
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# BOOKS

## Design and the modern world . . . Architectural

specifications . . . Houses in Natchez . . . A book on furniture . . . Planning . . . Technical publications.



**DESIGN THIS DAY**, by Walter Dorwin Teague. Harcourt, Brace and Company, New York. 291 pp., illustrated. 7½ x 9½. \$6.00.

The industrial designer is a curious figure among contemporary artists; his profession has only come into its own within the past ten years, and there are as yet no apparent limits to the scope of his activities. He designs pickle jars, streamliners, newspapers and buildings impartially; at the New York World's Fair there are two imposing essays in regional planning, and both are by industrial designers. Oddly enough, the industrial designer as a distinct figure exists only in America. In other highly developed industrial countries, notably Germany, where the implications of modern design were grasped much earlier than here, architects went into this field as a logical extension of their own activities. Fritz August Breuhaus, for example, is a successful architect who has designed zeppelins, ocean liners and railroad cars as well as many smaller objects of everyday use. The same was true of the men in the Bauhaus, and to a lesser degree in England and Scandinavia. But whether the man who designs for machine production began as stage designer, typographer or architect is immaterial in face of the very significant fact that here, for the first time since the Renaissance, the idea of art as a unified activity, completely free from artificial barriers, is again emerging. This fact is clearly stated in "Design This Day": "There were a number of masters (during the Renaissance) presiding over shops where they would undertake to execute any commission brought to them; they would build you a palace, paint you an altarpiece, beat out a silver service for your table, or invent an intricate little machine that would do strange things for your amusement. . . . Nothing has ever existed so like these

ateliers as the shops of certain industrial designers of today." The same statement is made by implication in almost every page of the book, and in this respect the illustration (left) is typical: a minute fragment of an enormous suspension bridge, this picture was considered as worthy of a full page as many more impressive buildings and machines. This approach and the basic idea behind it are entirely comprehensible to the modern architect, who, like the industrial designer, has come a realization that "there is, in reality, no compartmentalism in design."

The book covers a broad field, and most important, probably, is its revelation of what the industrial designer is driving at, which is nothing less than a complete integration of all planning and design into a single correlated activity. To the architect who fears that this means poaching on his hitherto private preserves, it might well be pointed out that competition can work both ways, and that what is operating here is a trend that will not be stopped by resolutions.

There is much in this book that is familiar: the many chapters on fitness to materials and techniques, unity, simplicity, proportion, line, etc., deal with matter previously handled in any number of treatises on esthetics. The difference lies chiefly in the fresh approach to an old problem, and the casual way in which the author will discuss the south tower of Chartres and the tail of a Douglas transport in the same breath is stimulating in the extreme. While some may find such juxtapositions highly irreverent, the attitude is a healthy one. "Our effort today," says Mr. Teague, "is continuous with the effort of the past. . . . There is no time and we are not big enough to treat design as if we had invented it."

Like all creative workers, the author is disturbed by the glaring contradiction between the world he knows can be built and the world we live in. But there are no blueprints here for the transition: "God help me if I had tried to solve the world's problems. Too many people are attempting that with words, as well as guns, already. What I have tried to do is to outline with reasonable clarity the technique that must be applied to the solution of any problem of design, whether it be a new motor car or a new environment. If this technique is sound for one it will be sound for the others."

**ARCHITECTURAL SPECIFICATIONS**, by Harold Reeve Sleeper. John Wiley & Sons, Inc., New York. 822 pp. 10 x 12. \$10.00.

"A study of specifications from some sixty well-established offices," states the author, "reveals that the majority of them prepare new specifications by reference to their old ones. A few have their own standards which, they admit, are not kept up to date; others have started standards which they have never completed; all acknowledge the danger of following specifications for work previously completed." There is little doubt that in almost any architect's office specifications are the major headache and a considerable expense. Mr. Sleeper's book comes as a really valuable aid, comparable to "Architectural Graphic Standards" in its usefulness to the architect. The various divisions have been set up for convenient reference, and the material is so arranged that it may be used in the preparation of office standards, for reference, or in the writing of a single job specification.

(Books continued on page 84)



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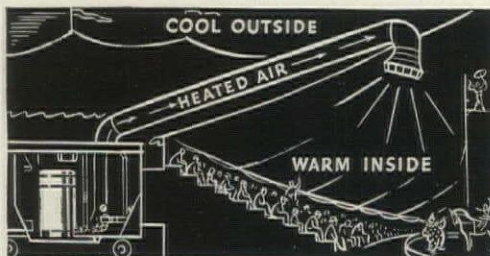
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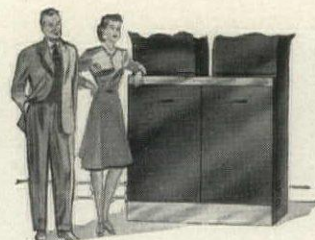
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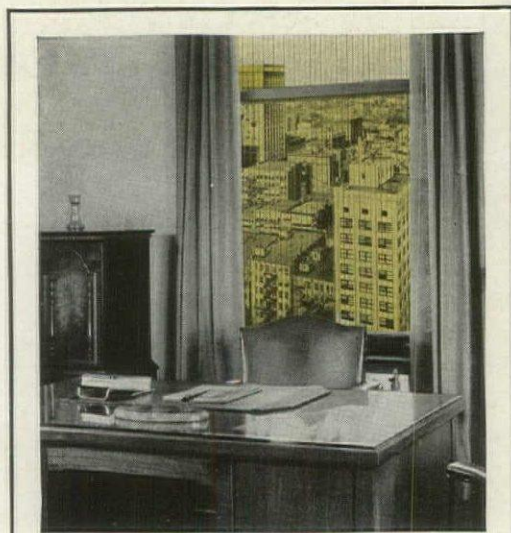
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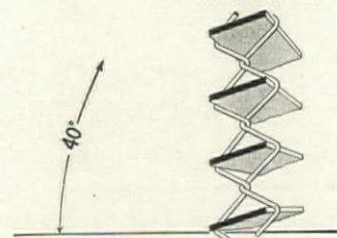
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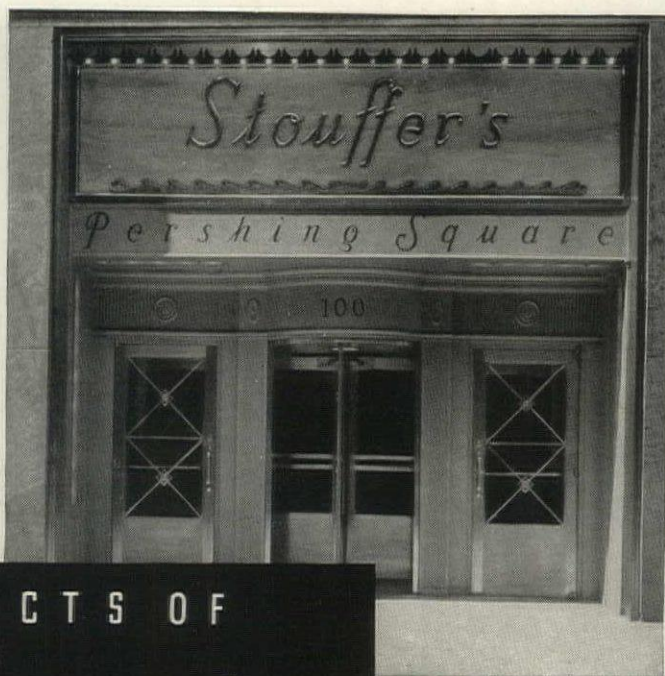
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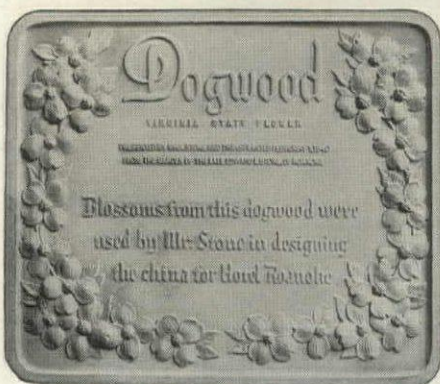
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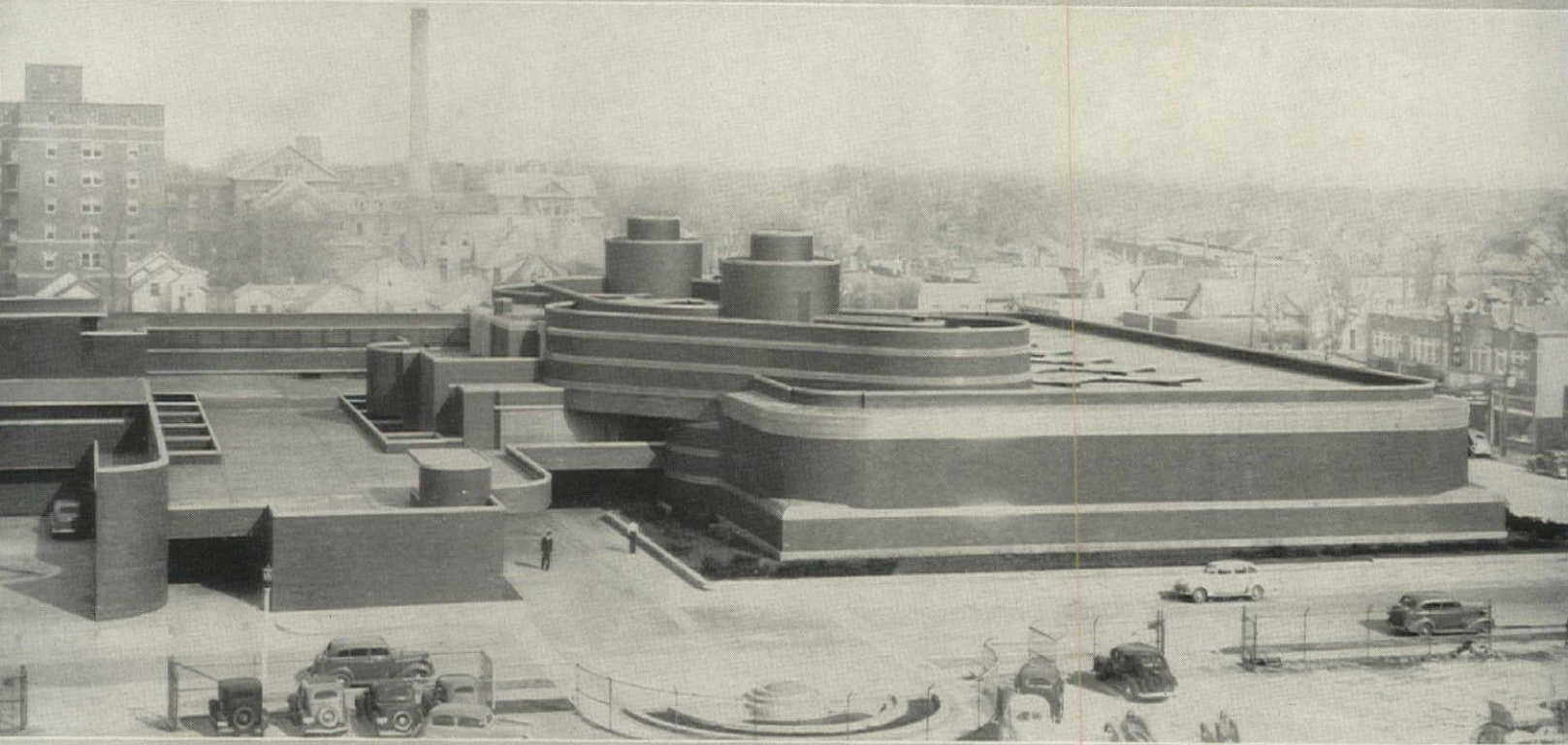
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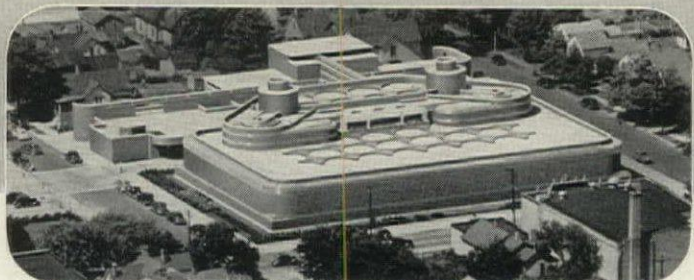
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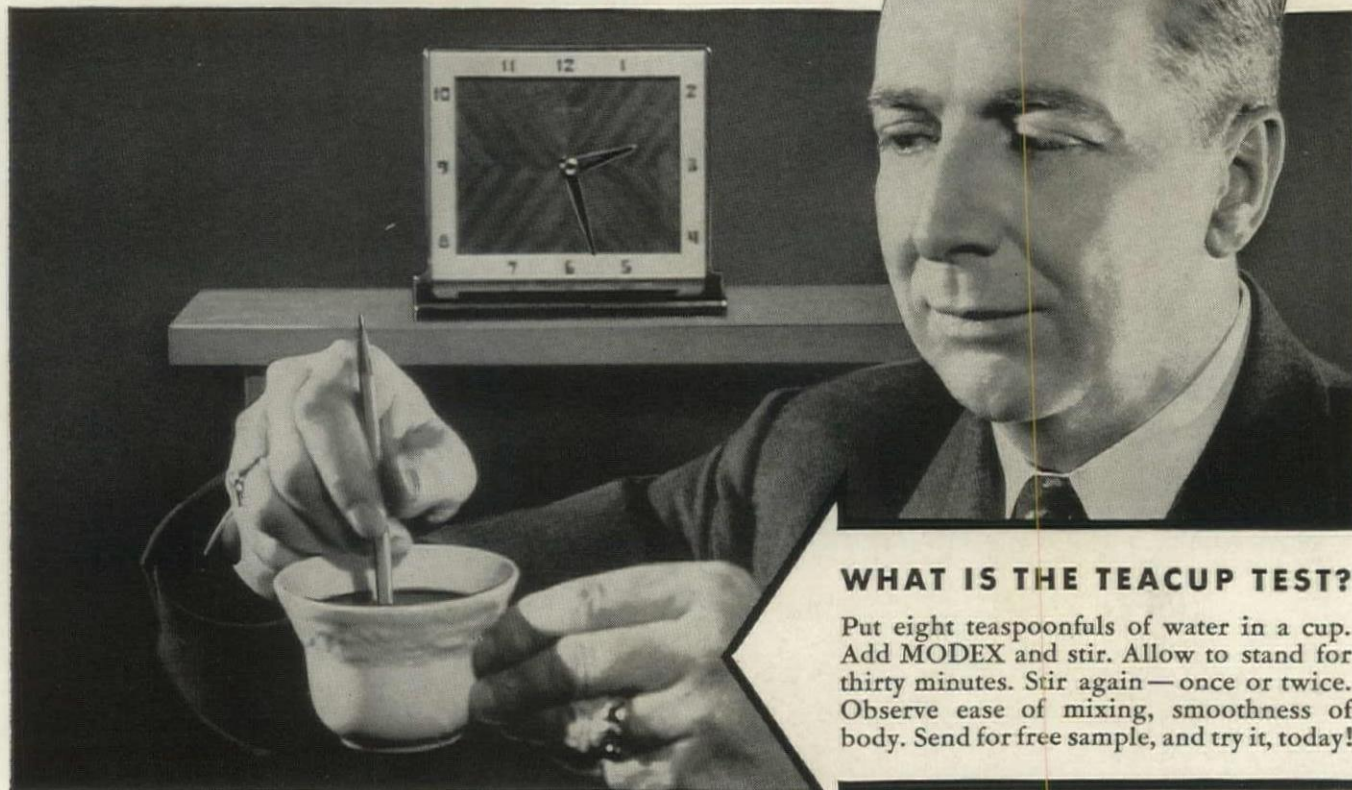
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# TRY THE TEACUP TEST

DISCOVER AMAZING FACTS  
ABOUT CASEIN PAINTS!



## WHAT IS THE TEACUP TEST?

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## MODEX POWDER Casein Paint MIXES FASTER—EASIER!

Who said that all casein paints are hard to mix? Agreed, *paste* casein paints do require strenuous stirring that takes time and runs up labor cost. But MODEX, the modern casein paint that comes in concentrated *powder* form, is practically self-mixing. Just a slight rotation after adding water is all that's needed.

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City  State

**Modex**  
THE POWDER CASEIN PAINT

217

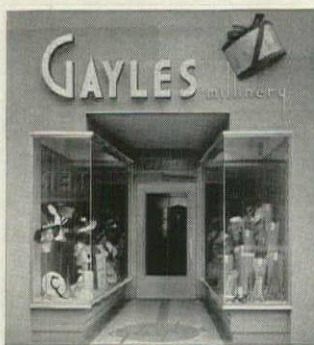




## *Get Maximum Glass Protection*

WITH

**Kawneer** RESILIENT STORE FRONT SASH



IMPORTANT TO OWNERS, as well as to designers, is efficiency, as well as the beauty, of store front construction.

YOU CAN DEPEND on Kawneer Resilient Sash and Bar hold show window glass with a firm, evenly distributed, yielding grip—an almost human grip, designed to cushion inevitable shocks, vibration, and pressure. This RESILIENT and consequent protection against glass breakage is a v. Kawneer principle of 35 years' standing.

Use Kawneer construction—for this feature, and for large store front developments, such as Doors, Concealed Awnings, Bars, Aluminum and Porcelain Enamel Facing, trim mouldings. WRITE THE KAWNEER COMPANY, NILES, MICHIGAN

Illustrated: May Co., Los Angeles, Cal. Albert Martin, Arch.  
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ALUMINUM, BRONZE AND OTHER NON-FERROUS METAL—

# **Kawneer**

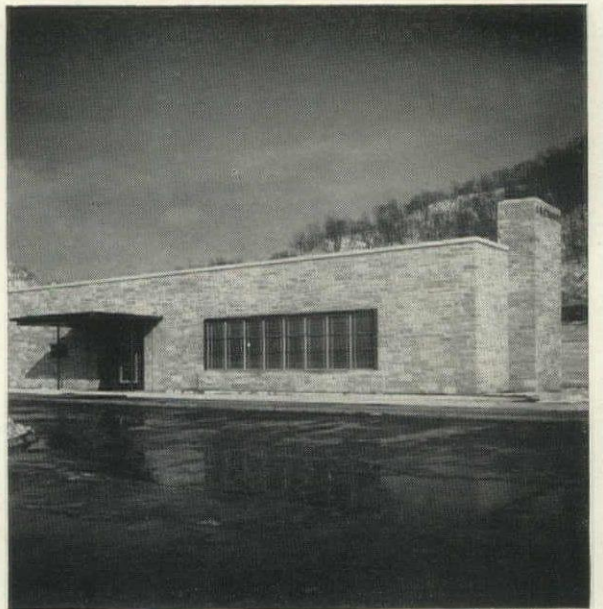
STORE FRONTS • DOORS • WINDOWS • ARCHITECTURAL METAL WORK





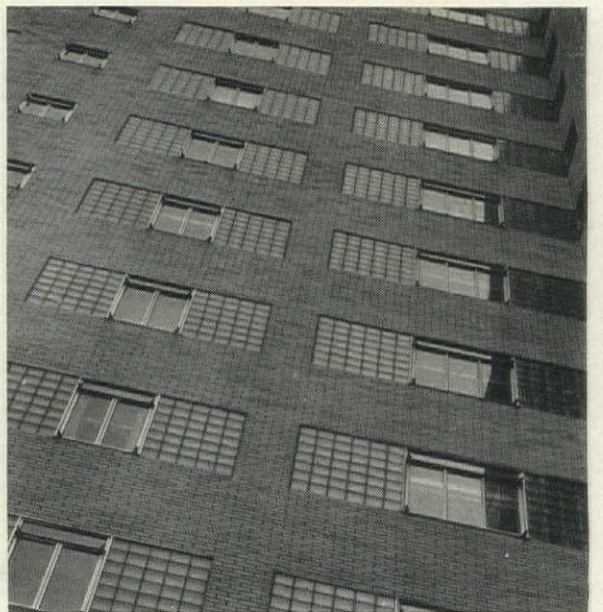
Wide World

**MAN OF THE MONTH . . .** he makes Elmer proud (page 2)



Hedrich-Blessing

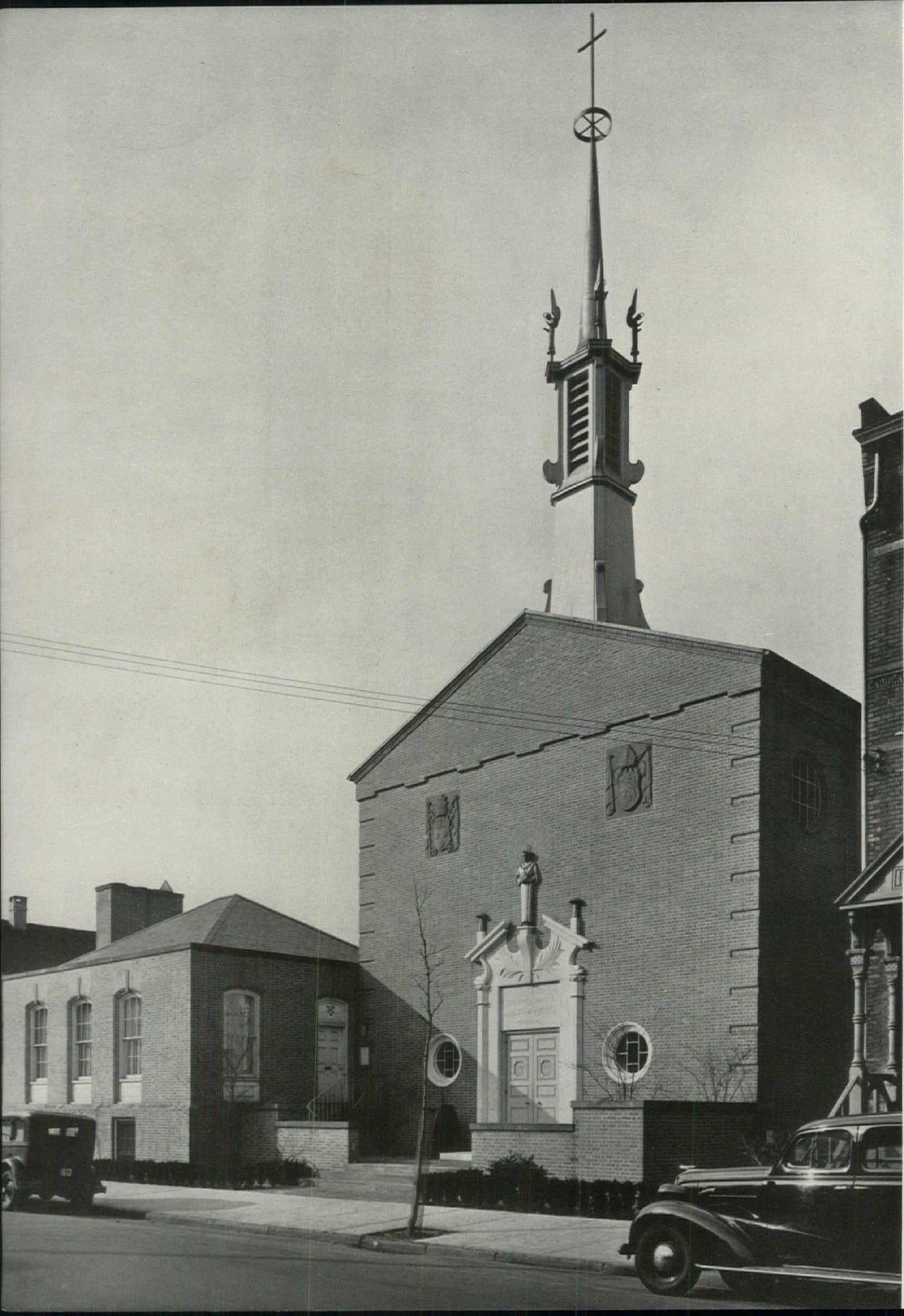
**BUILDING OF THE MONTH . . .** a stopper for streamliners (page 323)



Robert M. Damora

**PRODUCT OF THE MONTH . . .** the glass of fashion (page 327)



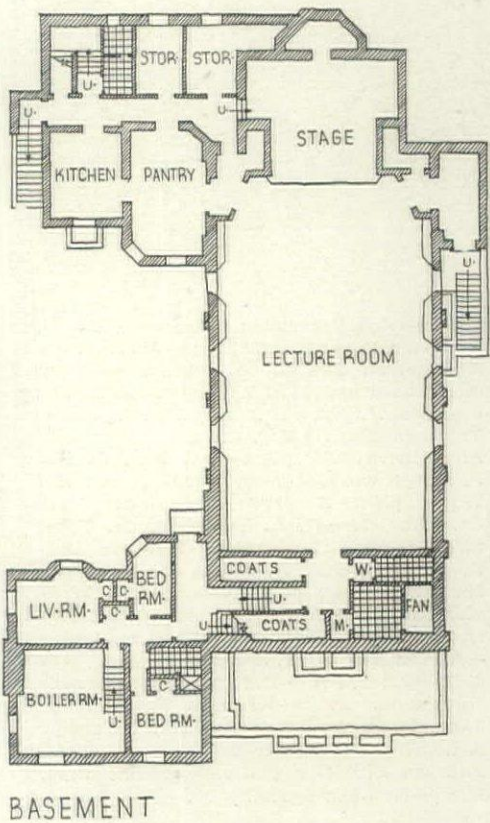
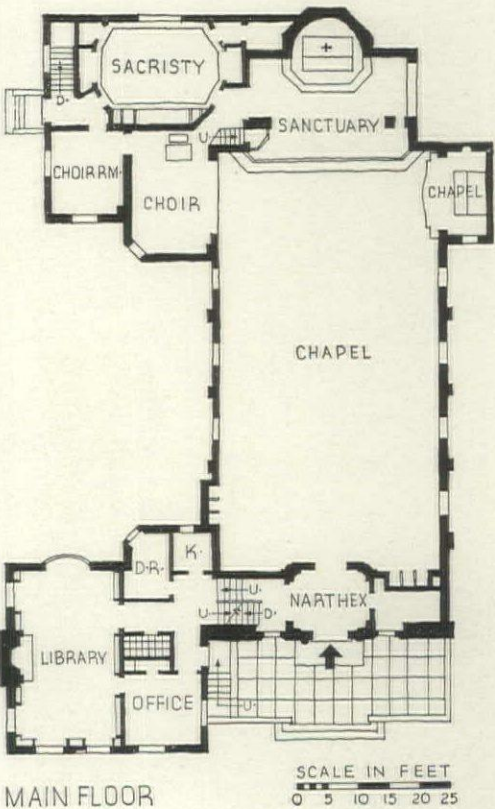




# CHAPEL OF SAINT THOMAS MORE NEW HAVEN, CONN.

WILLIAM DOUGLAS AND OFFICE OF DOUGLAS ORR, ARCHITECTS

The present-day trend in architecture includes not only the abandonment of stylistic precedents but also attempts to modify them. This chapel is an interesting example of the latter approach. Located in the section of New Haven occupied by Yale University, it conforms in material and color with the Georgian dormitories which face it, but not in detail. Such decorative elements as there are, chiefly the steeple, main entrance and lighting fixtures, have been handled with considerable imagination and freedom. Enrichment has been confined with good effect to a few important areas, and the exterior shows a pleasing balance of decoration and plain wall areas. The combination of numerous requirements over and above those of the chapel proper, including the use of a restricted site, presented a planning problem of some difficulty. In addition to a lecture room and stage there are many services including kitchens, an apartment, coatrooms, a library and an office. A number of these rooms were placed in the basement. The plan shows an interesting arrangement of half-levels to give the lower floor adequate light and ventilation. Cost: \$150,500. Cubage: 245,000.







SIDE CHAPEL



ENTRANCE

## CONSTRUCTION OUTLINE

**STRUCTURE:** Main chapel—solid 12 in. brick. Library and sacristy wings—12 in. brick, 2 in. furring metal lath, plastered for wood panel or finish plaster. Interior partitions—hollow tile, National Fireproofing Co. Structural steel—Bethlehem Steel Co. Floor construction—reinforced stone concrete slab. Ceilings—metal lath and plaster.

**ROOF:** Covered with Featherweight precast concrete insulating roof slabs, Federal American Cement Tile Co. Spire and statues—cast aluminum, Ellison Bronze Co.

**SHEET METAL WORK:** Flashing and gutters—16 oz. copper. Ducts—American Rolling Mill Co.

**INSULATION:** Roofs—rock wool. Sound insulation (main chapel)—Acousti-Celotex, Celotex Corp.

**WINDOWS:** Sash—(wood) C. H. Dresser &

Son, Inc.; (steel) Campbell Metal Window Div., Truscon Steel Co. Glass—Double strength, quality A, Libbey-Owens-Ford Glass Co. Glass blocks—Pittsburgh-Corning Corp.

**STAIR:** Steel. Treads—terrazzo, Earle B. Warner, Inc.

**FLOOR COVERINGS:** Air-Pad linoleum, Voorhees Rubber Mfg. Co. Asphalt tile, Armstrong Cork Co. Terrazzo, Earle B. Warner, Inc.

**FURNISHINGS:** Chapel chairs—C. H. Dresser & Son, Inc. Organ—Aeolian-American Corp. Kitchen equipment—Wrought Iron Kitchen Equipment Co.

**WOODWORK:** All materials by C. H. Dresser & Son, Inc. Metal Doors—Jamestown Metal Corp. Kalamein doors—H. Dumelin & Sons.

**HARDWARE:** By Sargent & Co.

**PAINTING:** Main chapel—Reardon Co.

**ELECTRICAL INSTALLATION:** Wiring

system—rigid conduit; Anaconda wire, American Brass Co. Switches—Arrow, Hart & Hegeman Electric Co. Fixtures—Bradley & Hubbard and Cecil White Co. Panels and conduits for future loud-speaker system—Trumbull Electric Mfg. Co.

**PLUMBING:** Soil pipes—cast iron, Central Foundry; wrought iron, Reading Iron Co. Water pipes—Anaconda, American Brass Co. Circulator—H. A. Thrush & Co. Toilet fixtures—American Radiator-Standard Sanitary Corp. and W. A. Case & Son Mfg. Co.

**HEATING:** Two pipe steam system, Webster Tallmadge & Co., Inc. temperature control system. Grilles, radiators and convectors—Aerofin Corp., U. S. Radiator Co. and Tuttle & Bailey, Inc. Fans—B. F. Sturtevant Co. and Hirschman. Boiler—Kewanee Boiler Corp. Regulators and controls—Webster Tallmadge & Co., Inc. and Barber-Colman Co. Valves—Hoffman Specialty Co. and Jenkins Bros. Pump—Hoffman Specialty Co.



# GARDEN APARTMENTS

come of age, come low in rent—  
but not low enough. Analysis of a big market for private capital and simple floor plans with  
which to tap it.

Until some persuasive champion of home ownership alters the habitual 50-50 balance between renters and owners, construction of rental housing will always be a large part of the residential building business. During the past two decades about 30 per cent of each year's crop of dwelling units in non-farm communities has been built for rent, and on the average about 23 per cent of annual production has been concentrated in multi-family or apartment buildings. The late Thirties have been no exceptions, but they have wrought a fundamental change in new multi-family housing. Thus, in the past five years the garden apartment has come of age.

Fostered by the Federal Housing Administration's Large Scale Rental Housing Division, and its recently resigned director, Miles Lanier Colean, the garden apartment has acquired its name by lying low (it is

usually limited to two stories, seldom goes higher than three) to capitalize on light, ventilation and the views afforded by a well landscaped suburban site. And, since its dwelling units are usually of the duplex variety, this type of project offers renters the nearest thing to "home" that can be found in apartment buildings—private entrances, front yards, few overhead neighbors and, occasionally, full private basements. A glorified variation of the straight row house, the garden apartment is also an attractive development from the builder's point of view; it is the most economical rental project for a site of low or moderate value.

Since FHA hung out its shingle in June 1934, it has insured mortgages on 240 rental projects valued at \$150 million and housing some 29,000 families. About 200 of these are garden apartment projects, and their success has fostered the construction of at least 100 more which have been financed without benefit of FHA insurance.

Representative of these recent developments in the apartment building field are the five projects on the following pages.\* They range in geographical location from New York City to Seattle, in size from 124 to 1,102 dwelling units. But, while they also range in average rent from \$8.75 to \$18.50 per room per month, most of them are definitely aimed at the upper income groups, a fact which may now change the course of garden apartment construction, at least as far as FHA-insured projects are concerned.

With the average rent per room in all its projects standing uncomfortably high at \$15.50 per room per month, FHA's Large Scale Rental Housing Division will henceforth concentrate its attention on low cost, low rent construction. Reasons: 1) The market is thin at \$15 per room and above; only about 10 per cent of all U. S. rent-

ing 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. In many sections of the country the new garden apartments are creating more vacancies by drawing their tenants from older "vertical" buildings, are causing landlord headaches right and left. 3) Any high rent apartment project is a comparatively risky undertaking for the investor and, in turn, for FHA. Tenants who can afford to spend \$15 and more per room on rent are by nature transitory tenants. They will move down to lower rent quarters during economic depression, will move up into new buildings as they are completed, and eventually will probably move out to buy or build a house.

The converse of each of these three factors characterizes the low rent housing market. Projects which rent at \$7 to \$15 per room per month—about \$25 to \$50 per dwelling unit and a range in which unassisted private enterprise can comfortably operate—will be within easy reach of about 50 per cent of all U. S. renters. In both quality and quantity this market is under-supplied; vacancies are few and far between. Finally, the \$7 to \$15 rental market is invulnerable to fluctuations in general business conditions, is comparatively stable like the number of families in the great middle income group.

Here then lies a big, under-supplied stable market for private enterprise rental housing. It has not been tapped by new construction because builders and building investors habitually aim at the highest possible rents in hope of making a quick financial killing, overlook the cold forbidding facts revealed by rental experience. Thus, the financial structure of many a high rent project built in 1920 (or even in 1930) has been shot full of holes either by a decreasing occupancy ratio or by a series of forced rent reductions. The low rent housing market will be tapped as soon as Building realizes that the net profit—not the rent scale—is the yard stick for measuring a project's success. Well planned low rent projects, eco-

\* Forum presentations of other garden apartment projects: Falkland Properties, Inc., Dec. 1937, p. 507; Cottage Court Garden Apartments, Teaneck, N. J., Aug. 1938, p. 164; North Boulevard Manor, Houston, Texas, Dec. 1938, p. 483; Lambert project, Dec. 1938, p. 486; Beech Spring Gardens and Kent Court, Summit, N. J., Mar. 1939, p. 227; Olentangy Village, Columbus, Ohio, May 1939, p. 371; Arlington Village, Arlington, Va., Aug. 1939, p. 135; Suntop Homes, Ardmore, Penna., Aug. 1939, p. 142; Raleigh Apartments, Raleigh, N. C., Sept. 1939, p. 214; Wellington Town Houses, Chicago, Ill., Feb. 1940, p. 84.



nominally constructed and operated, offer unlimited opportunities for investors seeking a steady, long term net income.

Established for the benefit of both the renting and investing public, FHA's Large Scale Rental Housing Division is interested in seeing this low rent housing market cracked wide open. It has already lowered unit costs and rents by crusading for the economical garden apartment. Now that this type of building has become universally accepted, FHA is encouraging the construction of lower rent projects along similar basic principles by lowering its minimum construction, design and property requirements. It is axiomatic that low cost, low rent projects cannot have all the amenities of their high cost, high rent sisters. Sacrifices must be made all along the line—from land costs to room sizes. Noteworthy are these random suggestions, approved and recommended by FHA as aids to lower costs and low rents in garden apartment projects:

- Service walks, entrances and stairs may be omitted. The front entrance may be used for all purposes including deliveries and removal of refuse.

- Walking distances—street to dwelling units—may be longer in low rent projects, thus permitting development of a property to greater depth and on a narrower frontage.

- Roadways within the site may be minimized by use of long cul-de-sacs.

- Garages may be eliminated but should be replaced by ample off-street parking areas.

- Longer buildings—more dwelling units in a row—will cut utility and construction costs.

- Landscaped areas in front and in back of individual dwelling units may be assigned to tenants for maintenance.

- Public halls which involve additional lighting, heating, maintenance and redecorating costs, are not even to be considered.

- Basements, except those required for heating and laundry equipment, may be omitted.

- Dwelling units in many cases may be individually heated at an appreciable saving in operating expenses.

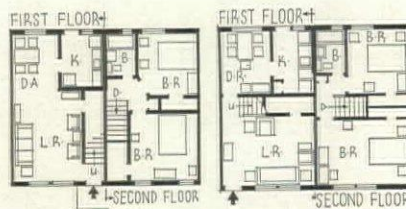
- Domestic hot water may also be produced in individual dwelling units to eliminate the waste inherent in a central supply system.

- Tenants may be required to bring all garbage and other refuse to centrally located collection points.

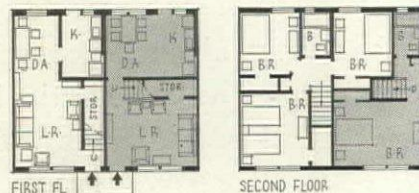
- While no minima have yet been established, FHA will approve smaller room dimensions than heretofore authorized.

- Major economies may be effected in the planning of dwelling units, which may be smaller, more compact than those demanded for higher rent projects.

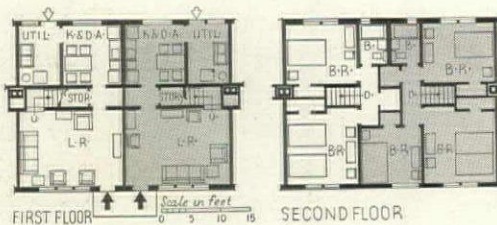
To show what architects can do to shave construction and operating costs in low rent garden apartments, THE FORUM presents on this page a series of FHA-developed dwelling unit floor plans which are adaptable with modification to varying site and market conditions.



Narrow frontage duplex plans for two-story buildings. Example, right, features simpler framing, better use of frontage, poorer ventilation.



Interlocking duplex providing one- and three-bedroom units. First floor layouts are similar to those illustrated directly above.



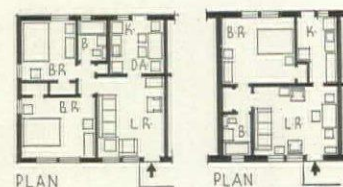
Interlocking broad frontage duplex with provision for individual heating and utility room. Note kitchen-dining rooms in many of these plans.



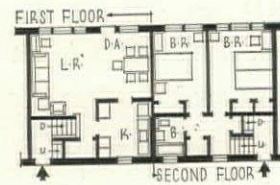
Broad frontage duplex with main entrance beside kitchen; also treatment of unit at end of a building. Garden or view on living room side.



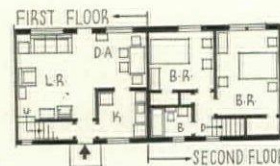
One-bedroom interlocking flats, each with a private entrance. Six apartments contained within parallel walls comprise a building unit.



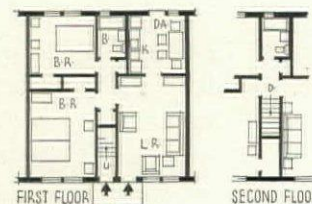
One- and two-bedroom plans adaptable to one-story construction. Example at left (a sound plan for a low cost detached house) is for building end.



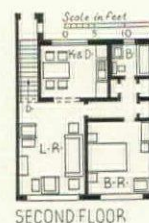
Duplex for sloping site. Entrance level midway between first and second floors. View down hill.



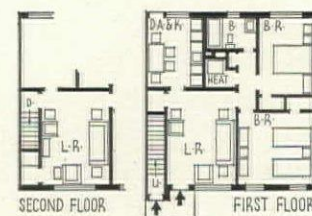
Broad frontage duplex offers better exposures at greater exterior wall cost. Economical for sloping site.



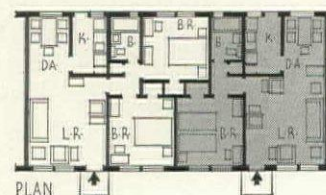
Flats with two bedrooms. Note concentration of plumbing and absence of public space.



Second floor flat. Entrance to first floor unit is under living room on opposite side from second floor entry.



Flat with individual heating unit off central hall. Detail shows plan variation on second floor.



Interlocking one-story plan with provision for one- and two-bedroom units. Note compact halls.



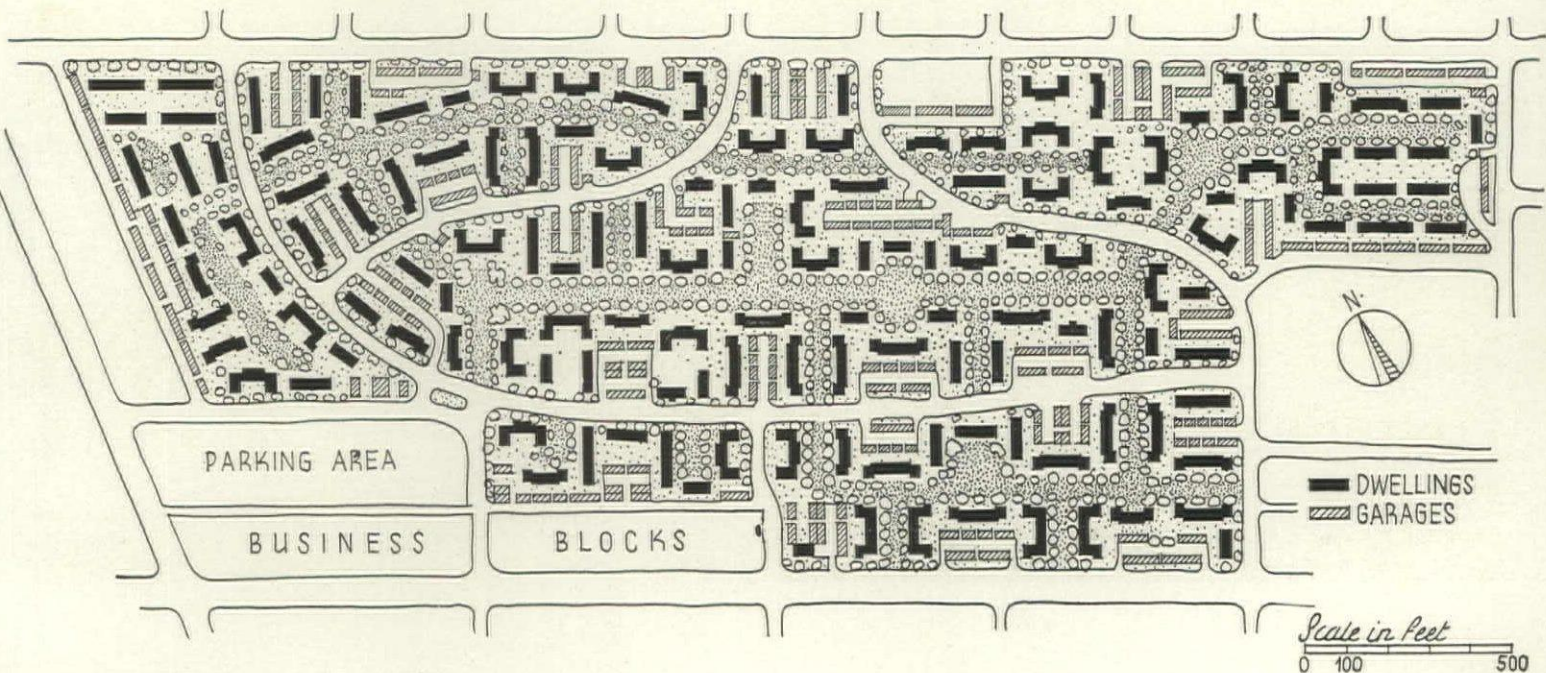


Spence Air Photo

# “WYVERNWOOD” GARDEN APARTMENTS, LOS ANGELES, CALIF.

DAVID J. WITMER AND LOYALL F. WATSON, ARCHITECTS

HAMMOND SADLER, LANDSCAPE ARCHITECT





## GARDEN APARTMENTS IN LOS ANGELES, CALIF.



*George D. Haight*

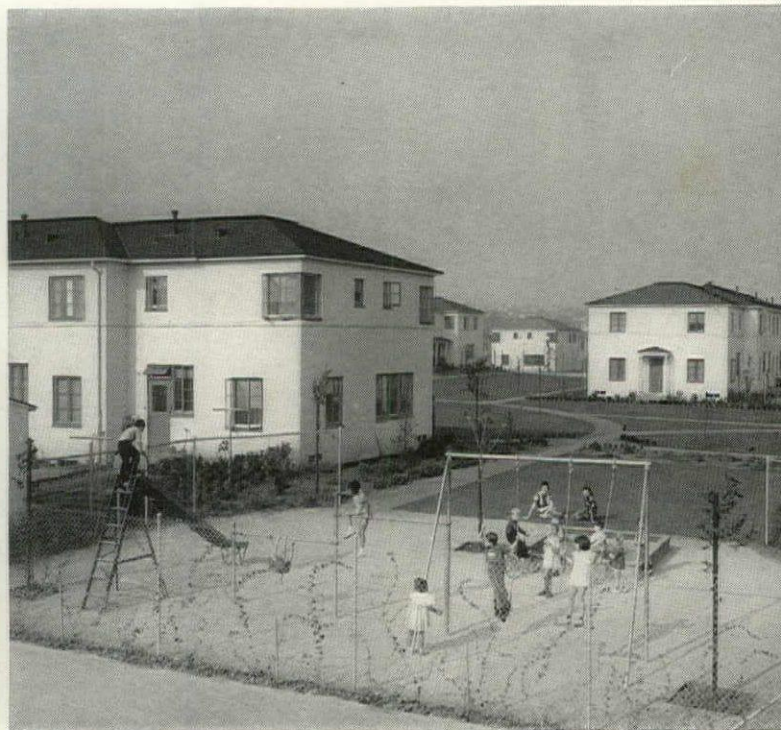
Largest-sized and lowest-cost FHA rental project built to date, Wyvernwood, in Los Angeles, houses 1,102 families on 72 acres at rentals ranging from \$30 to \$50 per month. A self-contained residential community, it is bounded by traffic arteries and surrounded by commercial and industrial areas, establishing its own neighborhood character. The location, high on a plateau above the river, is open to prevailing southwest breezes and has an unobstructed view of the Sierra Madre Mountains.

Originally platted on the gridiron pattern for free-standing single-family homes, the tract has been replanned in accordance with the most advanced principles with a minimum of curving streets following the topography, with garden strips separating the backs of the houses and garages grouped in compact compounds. Houses and apartments are joined together in units of four to six dwellings, ranging in size from 3 to 6 rooms.

A great deal of study was given to prefabrication and rationalized building techniques, in order to take full advantage of the economies which the huge size of the project made possible. Low rents are attributed to the savings thus effected. Ready-mixed concrete for foundations; standardized, demountable, steel-and-plywood forms which were used over and over again; exceptionally accurate installation of rough framing to receive millwork with a minimum of fitting; prefitted, premortised windows and doors; and shop fabricated roof trusses were all employed for their small unit savings which added up to huge totals when applied to the project as a whole. Even the unusual character of the planting, suggested by the picture at the left, was dictated by the same desire for maximum economy.

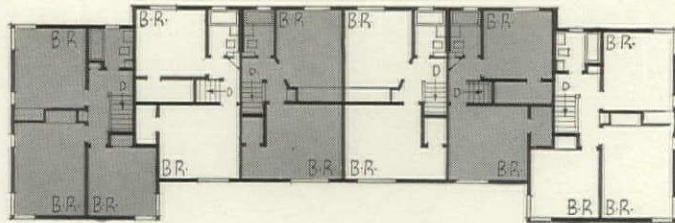


*Whittington Photos*

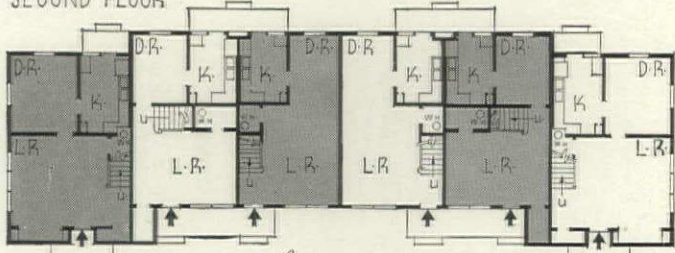




LINDGREN AND SWINERTON, INC. GENERAL CONTRACTORS

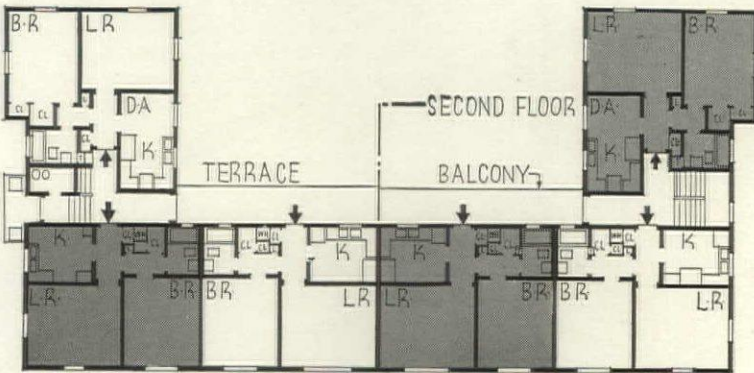


SECOND FLOOR

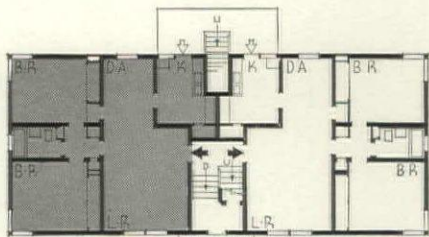


FIRST FLOOR

Scale  
0 5 25



FIRST FLOOR

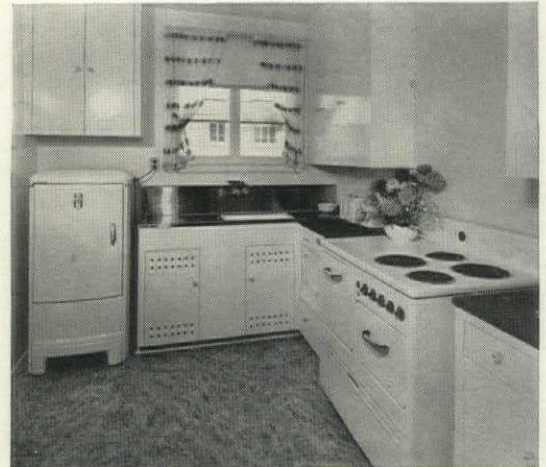


FIRST & SECOND FLS

Scale  
0 5 20



2<sup>ND</sup> FL ENTRANCES



TYPICAL KITCHEN

Whittington

## CONSTRUCTION OUTLINE

**STRUCTURE:** Douglas fir platform type frame, timbers below sub-floor treated with zinc chromate salts. All exterior and interior partitions braced diagonally. Fire stopping at mid-point of all stud walls. Exterior finish—horizontal wires, Sisalkraft Co. paper, galvanized Weldweave reinforcing mesh, Edwards Co., and 3 coat cement plaster. Interior finish—gypsum lath, hardwall plaster, U. S. Gypsum Co., integral coloring. Floor construction—sub-floor and oak finish, E. L. Bruce Co. Ceilings—gypsum lath and plaster, U. S. Gypsum Co.

**ROOF:** Covered with cedar shingles.

**SOUND INSULATION:** Palco Wool redwood bark, Pacific Lumber Co.; spring metal clips by U. S. Gypsum Co.

**WINDOWS:** Sash—sugar pine, casement and double hung. Glass—single strength, quality B, Libbey-Owens-Ford Glass Co.

**FLOOR COVERINGS:** Kitchens and bathrooms—linoleum over 5-ply fir, Armstrong Cork Co.

**WOODWORK:** Trim and doors—Douglas fir. Combination sash and screen doors by Arcadia Sash & Door Co. Garage doors—Wread Overhead Door Co.

**HARDWARE:** By P. & F. Corbin, Sylvester Sash Operators, Inc. and Stanley Works.

**PAINTING:** Materials by W. P. Fuller Co., Pratt & Lambert and Samuel Cabot, Inc.

**ELECTRICAL INSTALLATION:** Wiring system, switches and plates—General Electric Co. Circuit breaker—Square D. Co. Fixtures—B. B. Bell & Co. Street lighting standards—Union Metal Co. Ranges and bathroom heaters—Thermador Electric Heating & Mfg. Co. and Westinghouse Electric & Mfg. Co. Refrigerators—Frigidaire Div., General Motors Corp.

**PLUMBING:** All fixtures by American Radiator-Standard Sanitary Mfg. Co. Hot water pipes—copper tubing, Revere Copper & Brass Co. Cold water pipes—galvanized steel, Bethlehem Steel Co. Flush valves—Sloan Co. Drainboards—stainless steel, Tile Seal Co.

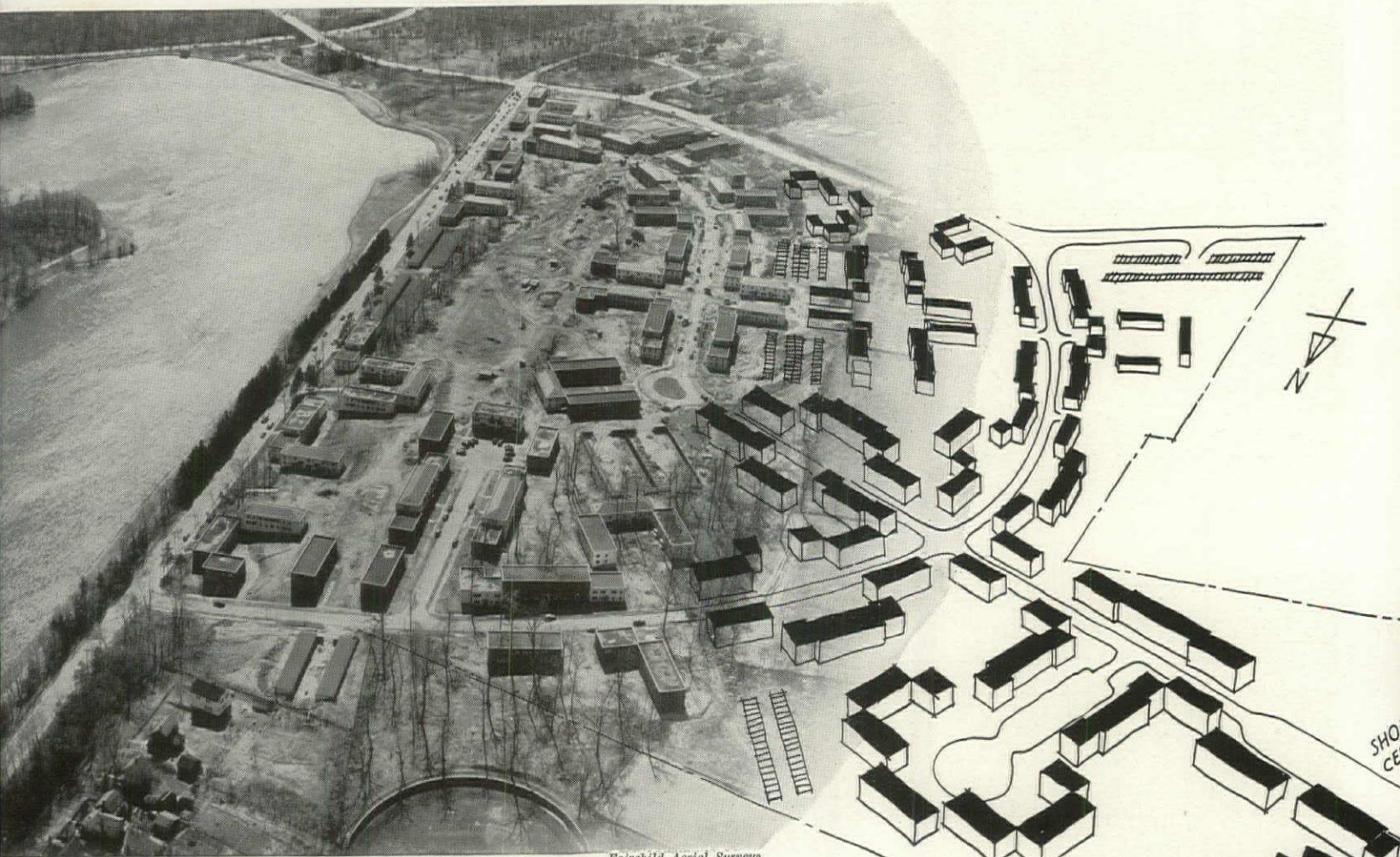
**HEATING:** Gas fired hot air floor furnaces, Payne Furnace & Supply Co. Water heaters—Thermador Electric Heating & Mfg. Co.



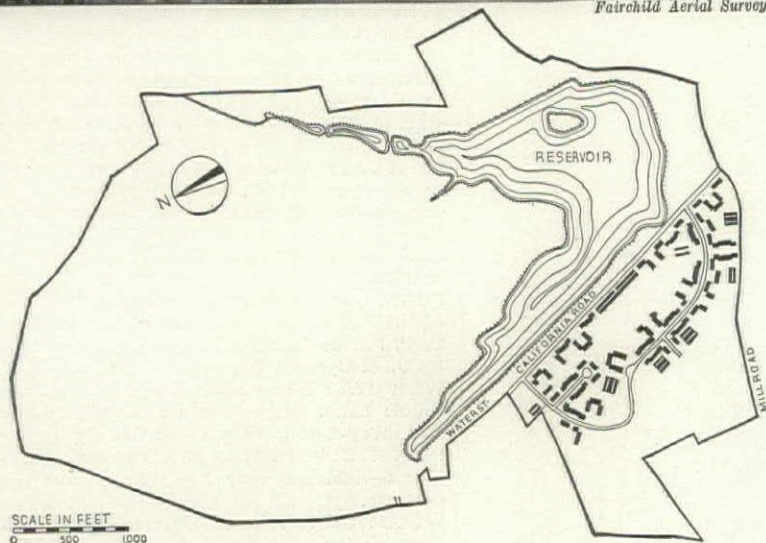
George D. Haight



# "INTERLAKEN" GARDEN APARTMENTS, EASTCHESTER, N. Y.



Fairchild Aerial Surveys



First unit of a proposed 3,500 family development, the completed buildings in the airview above comprise 525 apartments in two- and three-story units covering but 14 per cent of a rolling, wooded, 40-acre site. Wholly surrounding a 67-acre lake, and but 16 miles from the heart of New York City, the entire property includes 441 acres. Shown in drawing form is the second unit, about equal in size to the first, which is planned for development this year. A shopping center at the entrance and a theater building are included in immediate plans.

Keyed to the private lake, formerly a water-supply reservoir but now used for recreation, the site plan employs the "super-block" principle to keep street-length to a minimum, with garages grouped together in compounds scattered throughout the property. Children's playgrounds are so spotted that it is unnecessary for any child to cross a street to reach the playground nearest his home; all utilities are underground.

Unit plans (shown on the second page following) are served by public stairways, but in no case are there more than four dwellings to a stair hall. Ranging in size from  $2\frac{1}{2}$  to 6 rooms, most are on a single floor, except for the 5-room duplex units which occupy the second and third floors of the three-story buildings. Rents average \$17 per room per month. A \$2,200,000 FHA-insured mortgage partially covers the first unit, balance of financing is private.





Wurts Bros. Photos

**GENERAL CONTRACTORS:**

FRED F. FRENCH INVESTING CO. INC.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—brick veneer, cinder Uni-back block, Hud-Cin Building Products, Inc., Lehigh mortar cement, Lehigh Portland Cement Co., mastic waterproofing, Hetson-Sommers Co., and plaster. Interior partitions—studs, U. S. Gypsum Co. rock lath and plaster, cement, hydrated lime, Tiger Lime Co. and metal lath, Truscon Steel Co. Structural steel—Bethlehem Steel Co. Floor construction—pine sub-floor and oak finish floor. Ceilings—rock lath and plaster, U. S. Gypsum Co.

**ROOF:** Sloping—slate, Bangor Slate Co. Flat—5-ply gravel, Barrett Co.

**SHEET METAL WORK:** Flashing and gutters—copper, Chase Brass & Copper Co.

**INSULATION:** Roofs—rock wool, Johns-Manville Corp. and Celotex, Celotex Corp. Sound insulation—Balsam wool, Wood Conversion Co.

**WINDOWS:** Sash—casement, steel, Detroit Steel Products Co. Glass—double strength, quality A, Pittsburgh Plate Glass Co.

**STAIRS:** Steel, Carnegie Illinois Steel Co. and Bethlehem Steel Co.

**FLOOR COVERINGS:** Kitchens—linoleum; public halls—asphalt tile, Armstrong Cork Co. and David E. Kennedy.

**WALL COVERINGS:** Bathrooms—tile, Mosaic Tile Co.

**WOOD AND METAL TRIM:** Trim—metal, Superior Fire-proof Door & Safe Co. Doors—"Sturdibilt," M. & M. Woodworking Co. Garage doors—Better Built Door Co.

**HARDWARE:** By P. & F. Corbin Co.

**ELECTRICAL INSTALLATION:** Wiring system—BX and conduit, Triangle Conduit & Cable Co., Inc. Switches—Metropolitan Device Corp. Fixtures—Harvey Hubbell, Inc. Special equipment—Auth Electric Specialty Co., Van Brunt Electric Mfg. Co. and Frank Adams Electric Co.

**PLUMBING:** Fixtures by Briggs Mfg. Co. Soil pipes—cast iron, Central Foundry Co. Hot and cold water pipes—copper, Bridgeport Brass Co.

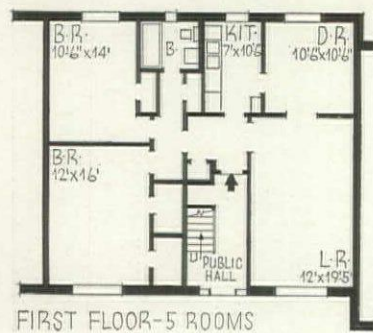
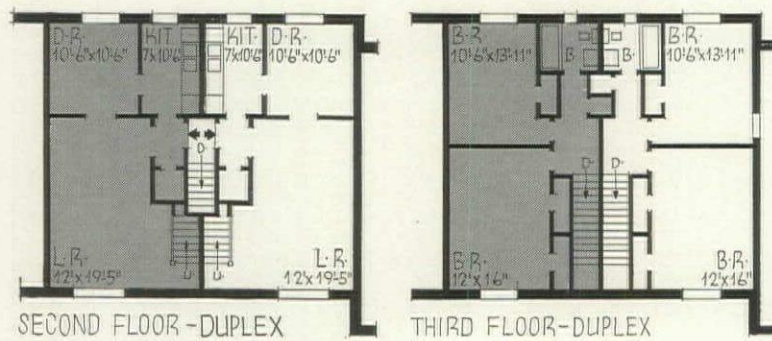
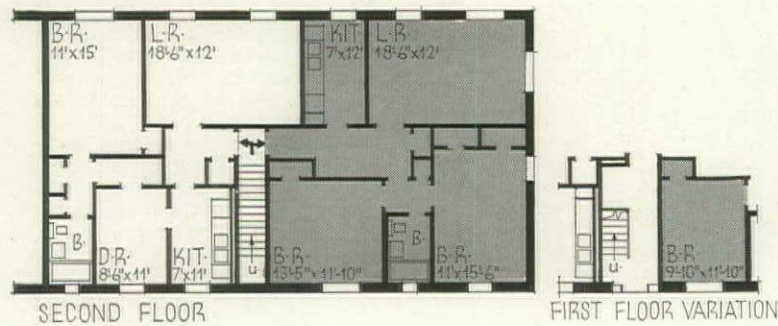
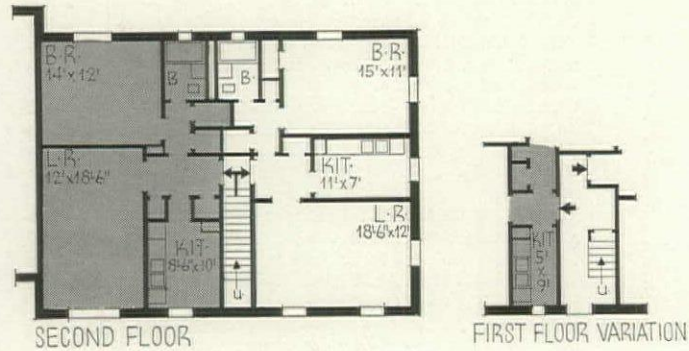
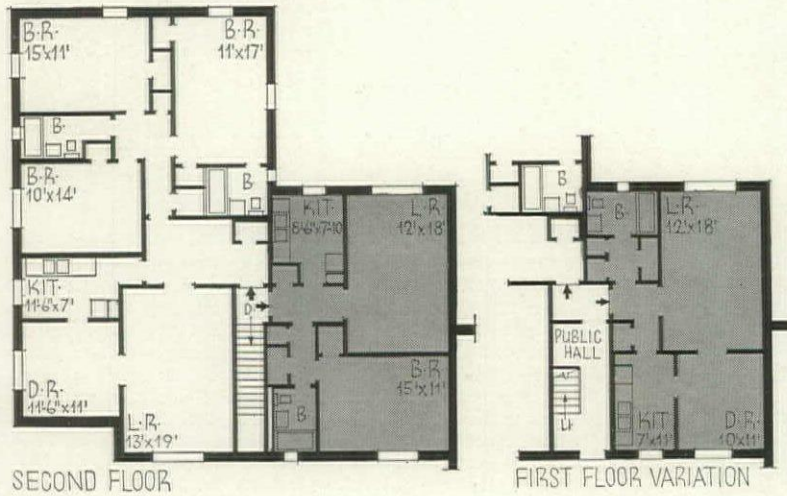
**HEATING:** Forced hot water heating system. Boiler—Titusville Iron Works. Oil burner—York Oil Burner Co. Radiators—American Radiator-Standard Sanitary Corp. Thermostats—Minneapolis-Honeywell Regulator Co. Pumps—Chicago Pump Co. and Worthington Pump & Machinery Co.



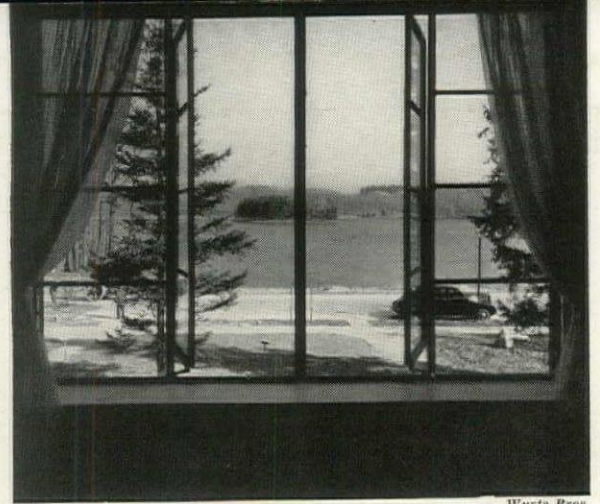


# GARDEN APARTMENTS IN EASTCHESTER, N. Y.

DE YOUNG & MOSCOWITZ, ARCHITECTS



SCALE IN FEET  
0 5 10 15



Wurts Bros.

VIEW OVER LAKE



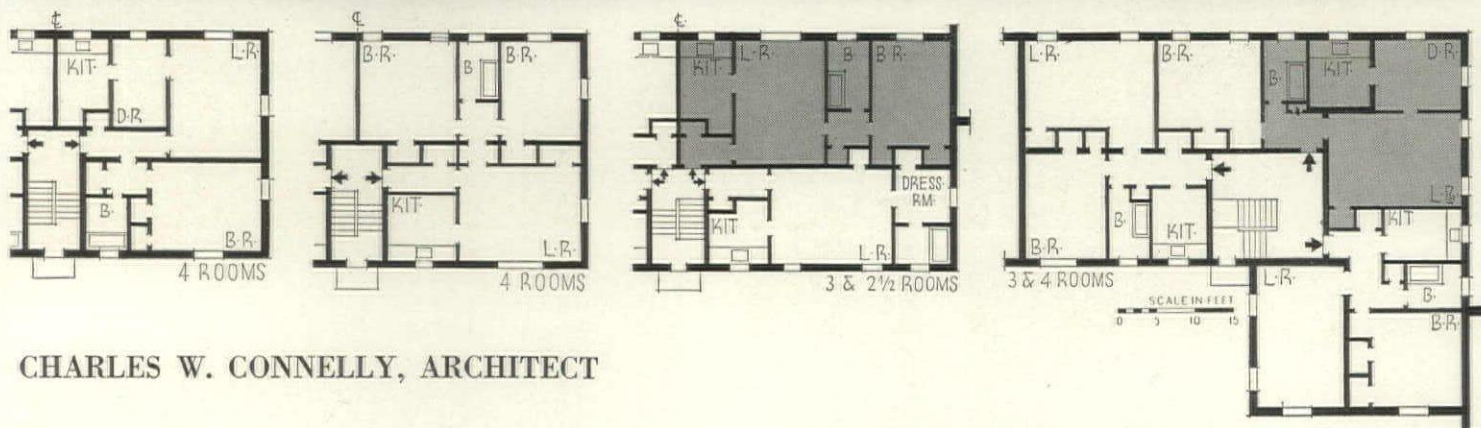
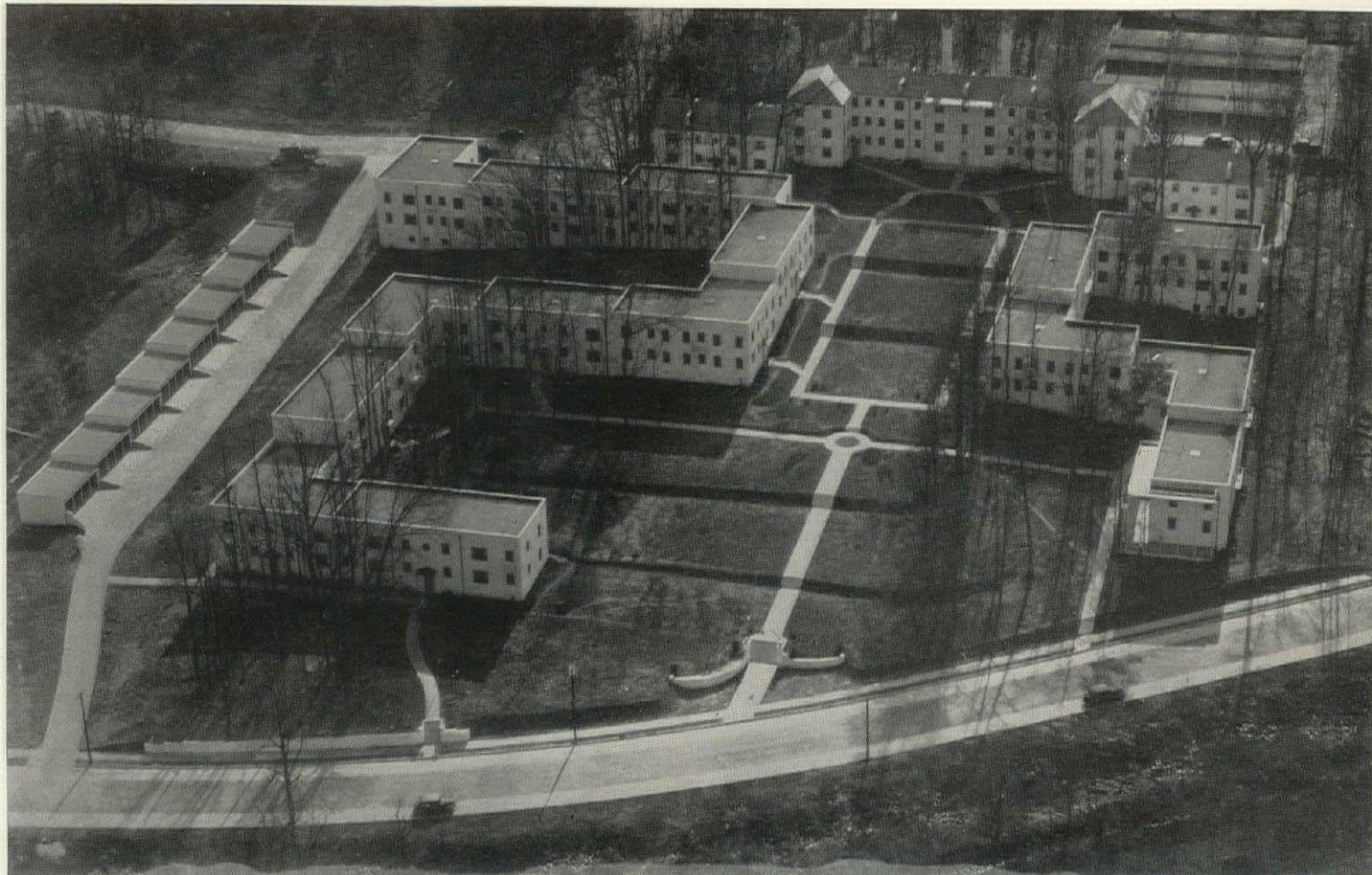
TYPICAL KITCHEN

DINING ROOM

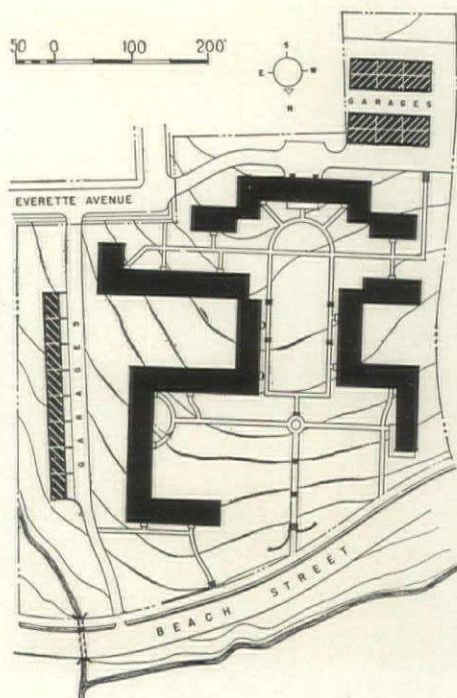




# "TWIN CASTLES" GARDEN APARTMENTS, WINSTON-SALEM, N. C.



CHARLES W. CONNELLY, ARCHITECT

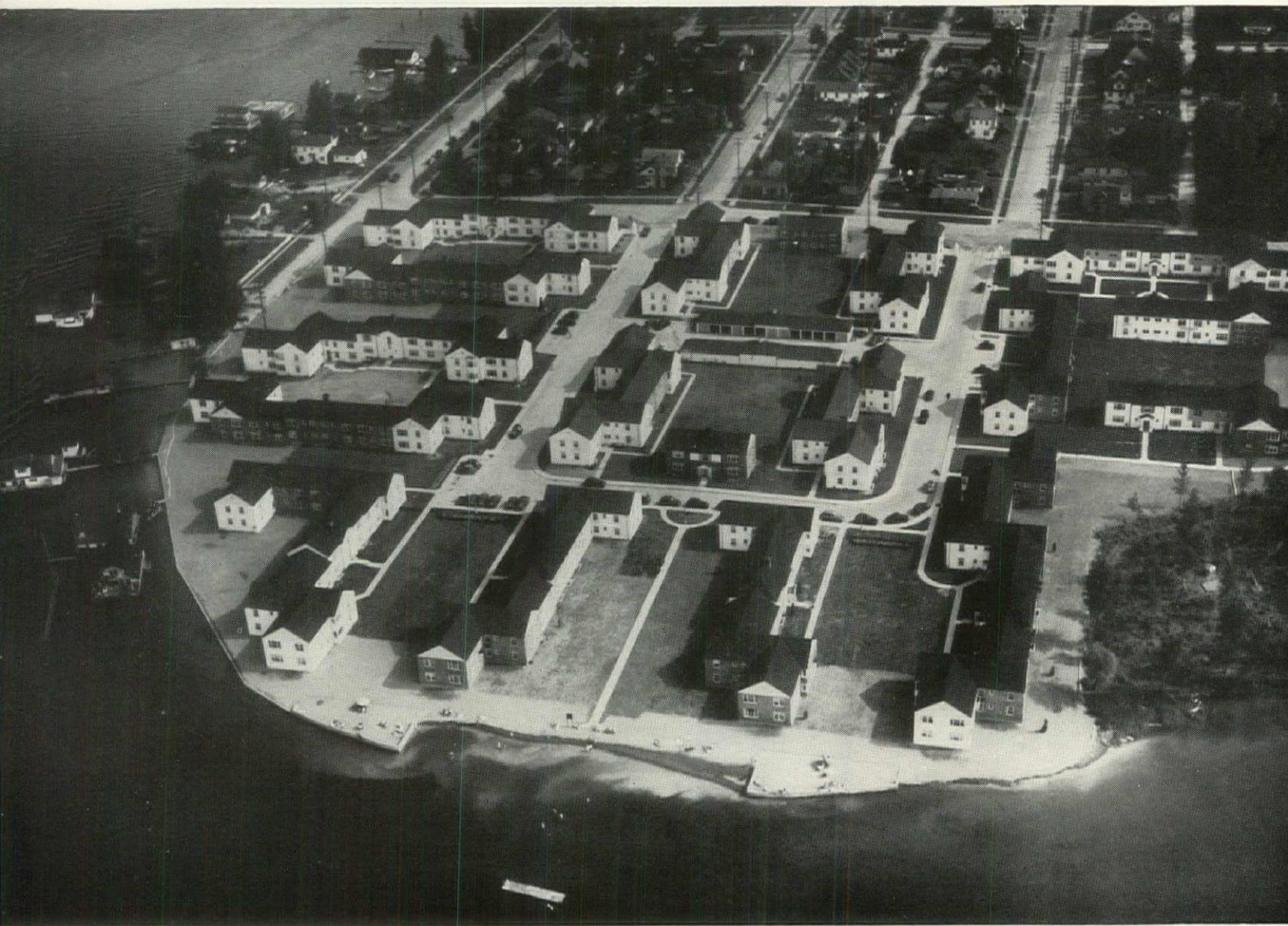


More applicable to the average community than Wyvernwood or Interlaken is this 124-family, 6.4 acre rental development in North Carolina. Grouped on a steeply sloping, wooded site, the buildings cover about 20 per cent of the available land. Garages for two-thirds of the families are placed to the side and at one corner of the plot. Buildings are two and three stories in height, with public stair halls serving two and three families to a floor. A wide variety of units is provided to meet differing family needs, ranging from two to five rooms. Generous foyers and closets are included in all cases, and the unit plans emphasize bedroom-bath privacy. Rents average \$15 per room per month; total capitalization \$550,000; mortgage \$400,000.

## CONSTRUCTION OUTLINE

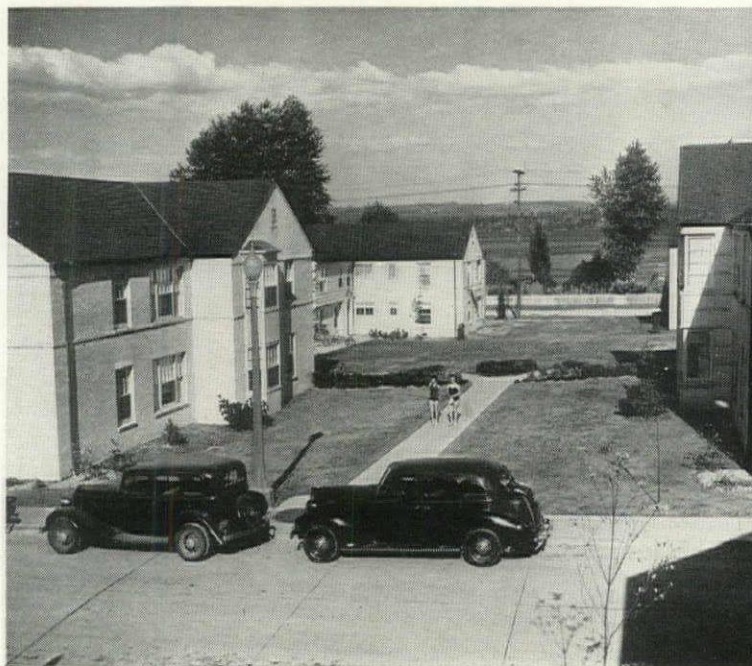
**FOUNDATIONS:** Footings, concrete; walls, 17 in. brick; metallic waterproofing and cement plaster coat in excavated portions.  
**EXTERIOR WALLS:** 4 in. brick backed with 8 in. hollow tile.  
**ROOF:** Flat, asphalt felt; pitched, slate.  
**FLOOR CONSTRUCTION:** First floors, reinforced concrete slab, steel bar joists; others, 2 x 10 in. joists, wood subflooring.  
**INSULATION:** Top floor ceilings, rock wool.  
**STAIRS:** Metal, terrazzo treads.  
**WINDOWS:** Standard steel casement; screens, galvanized steel frame, bronze mesh.  
**WALLS & CEILINGS:** Plaster, painted 2-coats flat wall paint; stair halls, exposed concrete block; bathrooms, tile wainscot.  
**FLOORS:** Stair halls, terrazzo; living space, first floor, oak blocks in mastic, others, oak strip; kitchens, linoleum; bathrooms, tile.  
**PLUMBING:** Water supply pipes, copper; fixtures, bath tubs, enameled iron, lavatories and closets, vitreous china.  
**HEATING:** Steam, stoker-fired boiler, automatic temperature control.  
**EQUIPMENT:** Range and refrigerator, electric; kitchen cabinets, wood, enamel finish, linoleum tops; roller shades.



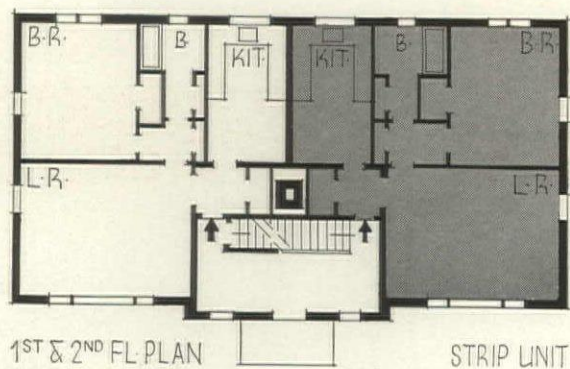
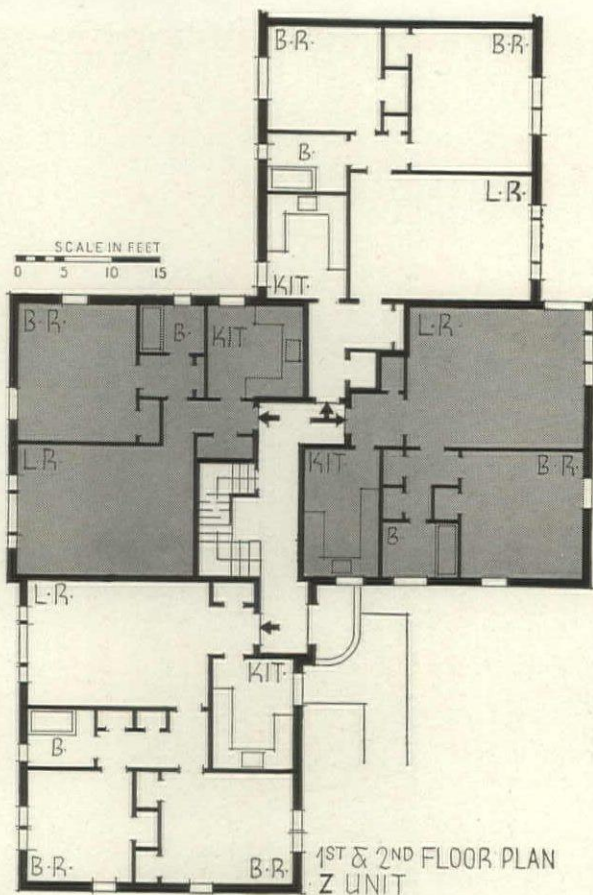


© Charles R. Laidl

A simple U-shaped street here provides access to a 305-unit development located on a point of land jutting out into Lake Washington, near Seattle. All the buildings are two stories high, all apartments are on a single level, over one another, reached by public stair halls. The efficient offset cross, used as a terminal unit for all of the rows, groups four families to a floor around a single stair hall in 3- and 4-room dwellings; the typical strip unit includes four 3-room apartments. Parking strips are provided for visitors' cars and an enclosed-garage compound for those who wish to keep their cars indoors. Average rent per room is \$14; mortgage \$1,080,000.







GENERAL CONTRACTORS:

HENRIKSON-ALSTROM CONSTRUCTION CO.

### CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—brick veneer, Sisalkraft Co. paper, sheathing, studs, U. S. Gypsum Co. wallboard. Interior partitions—wallboard, U. S. Gypsum Co. Floor construction—Douglas fir joists, shiplap, felt paper and oak finish flooring.

**ROOF:** Covered with shingles, Creo-Dipt Co., Inc.

**SHEET METAL WORK:** American Brass Co.

**INSULATION:** Walls—Cabot's Quilt, Samuel Cabot, Inc. Ground floor—4 in. rock wool over boilers.

**WINDOWS:** Sash—double hung, wood. Glass—double strength, quality B, Libbey-Owens-Ford Glass Co.

**STAIRS:** Douglas fir frame, oak treads and railings.

**FLOOR COVERINGS:** Corridors—asphalt tile, Thomas Moulding Co. Kitchens—linoleum, Armstrong Cork Co. Bathrooms—ceramic tile.

**WALL COVERINGS:** Rock lath and plaster or wallboard, U. S. Gypsum Co.

**WOODWORK:** Fir or plywood used throughout.

**HARDWARE:** By P. & F. Corbin.

**PAINTING:** Material by W. P. Fuller & Co.

**ELECTRICAL INSTALLATION:** Wiring system—knob and tube. Switches—Westinghouse Electric & Mfg. Co. Fixtures—Levelite Lighting Fixtures Mfg. Co.

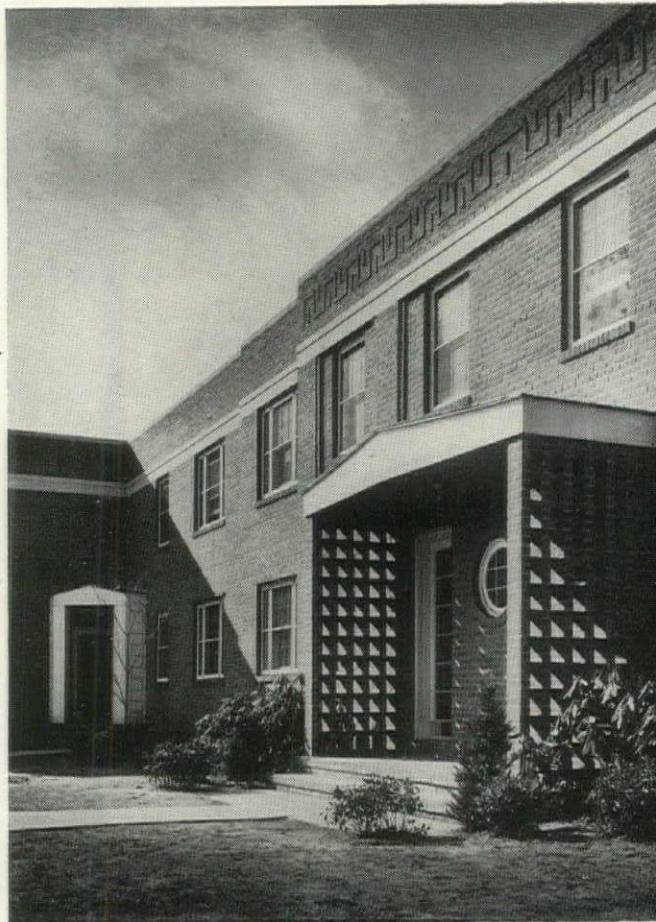
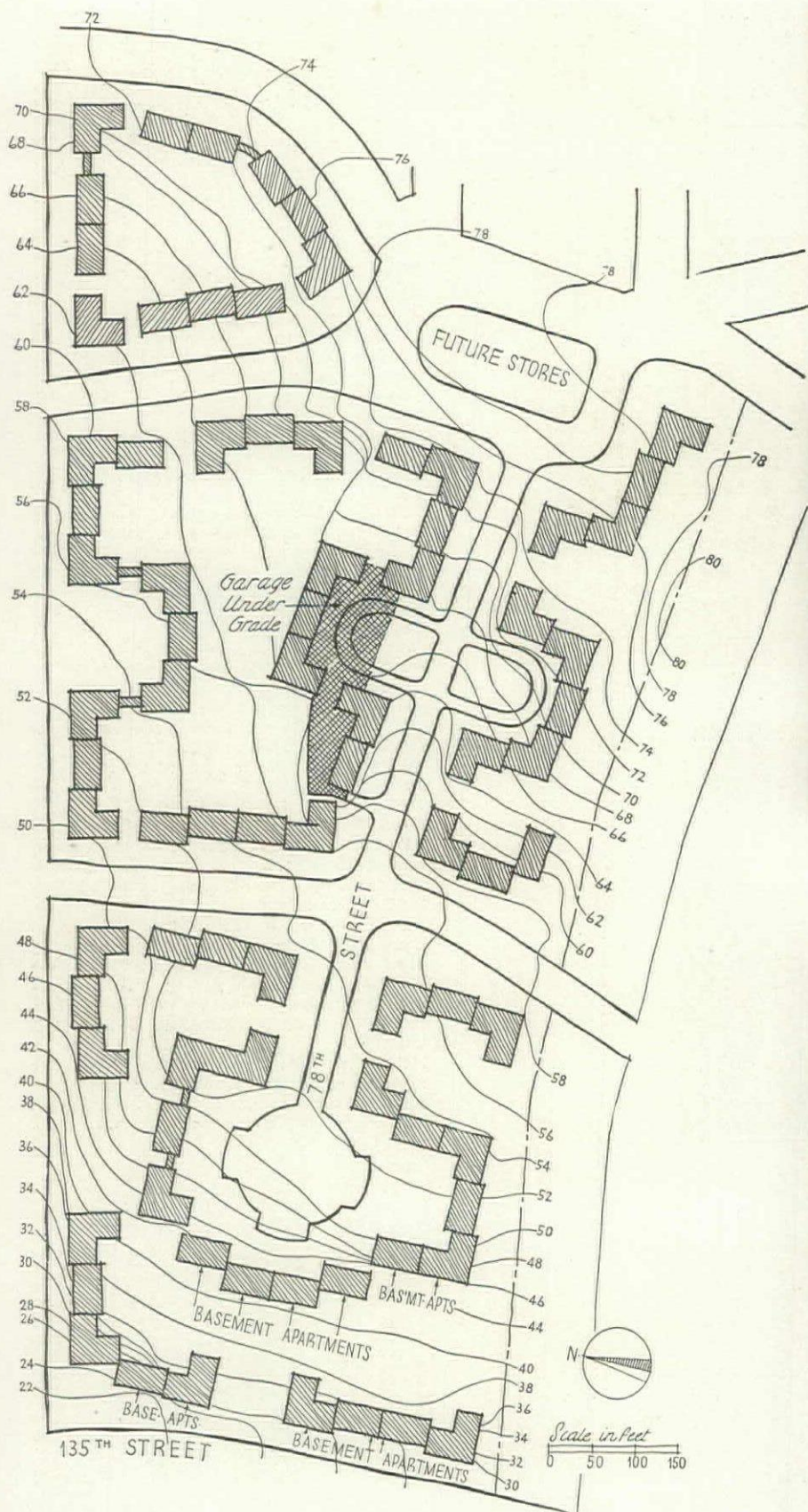
**PLUMBING:** Fixtures by American Radiator-Standard Sanitary Corp. Pipes—Wheeling Steel Corp. Kitchen equipment: Ranges—Westinghouse Electric & Mfg. Co. Refrigerators—Norge Corp. Washing machines—Thor, Hurley Machine Div., Electric Household & Utilities Corp.

**HEATING:** Two pipe circulating hot water system. Radiators—Trane Co. Regulators—Lawler Automatic Controls, Inc. Pumps—H. A. Thrush Co. Blowers—B. F. Sturtevant Co.





# "KEW GARDEN HILLS" FLUSHING, LONG ISLAND, N. Y.

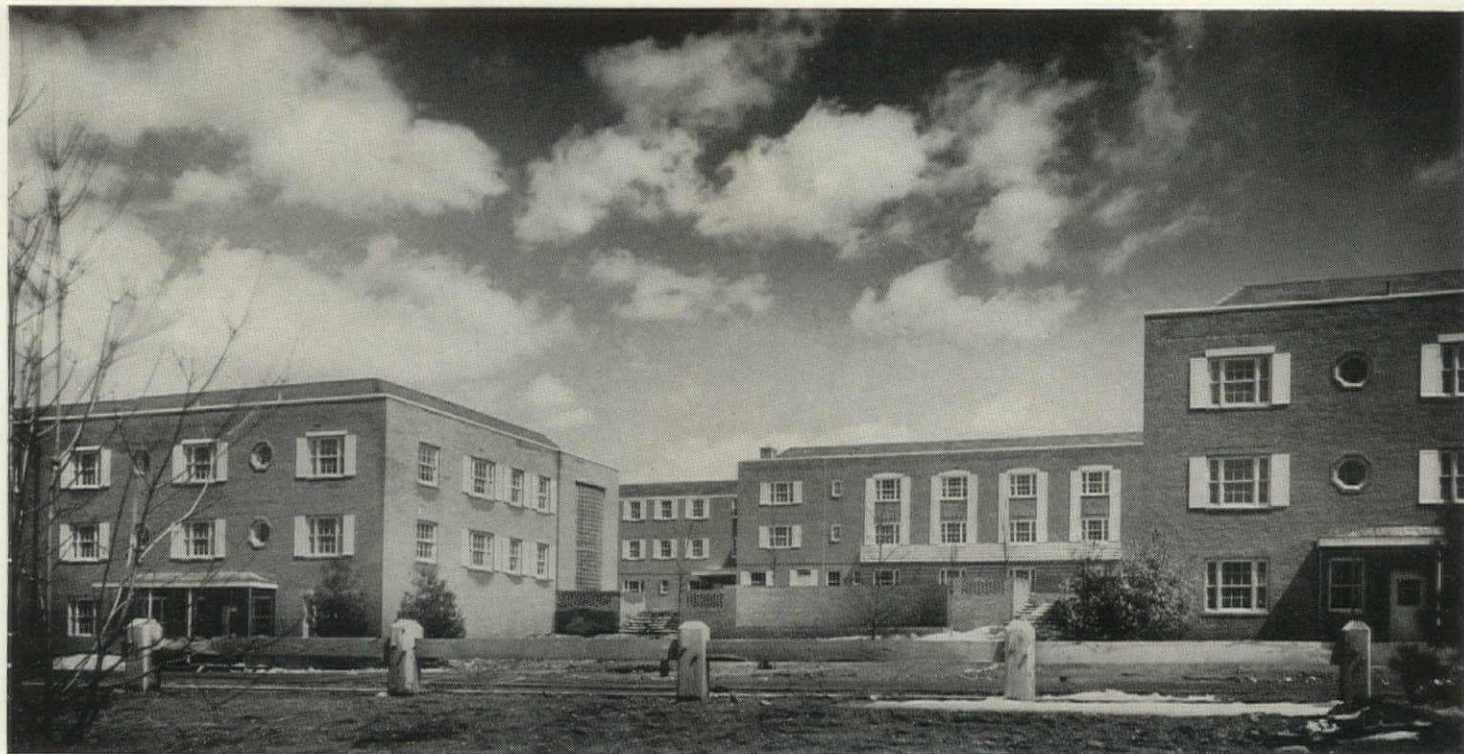


All photos, Richard Garri



Occupying a sloping, 20-acre site within the limits of metropolitan New York, this 423-family garden apartment development is in no sense low cost housing. Renting at an average of \$18.50 per room per month—which is about typical for suburban New York apartments—it is rather an effort to provide middle-bracket families with most of the advantages of home ownership and none of its responsibilities; to combine plenty of landscaped open space, attractive outlook and light and air





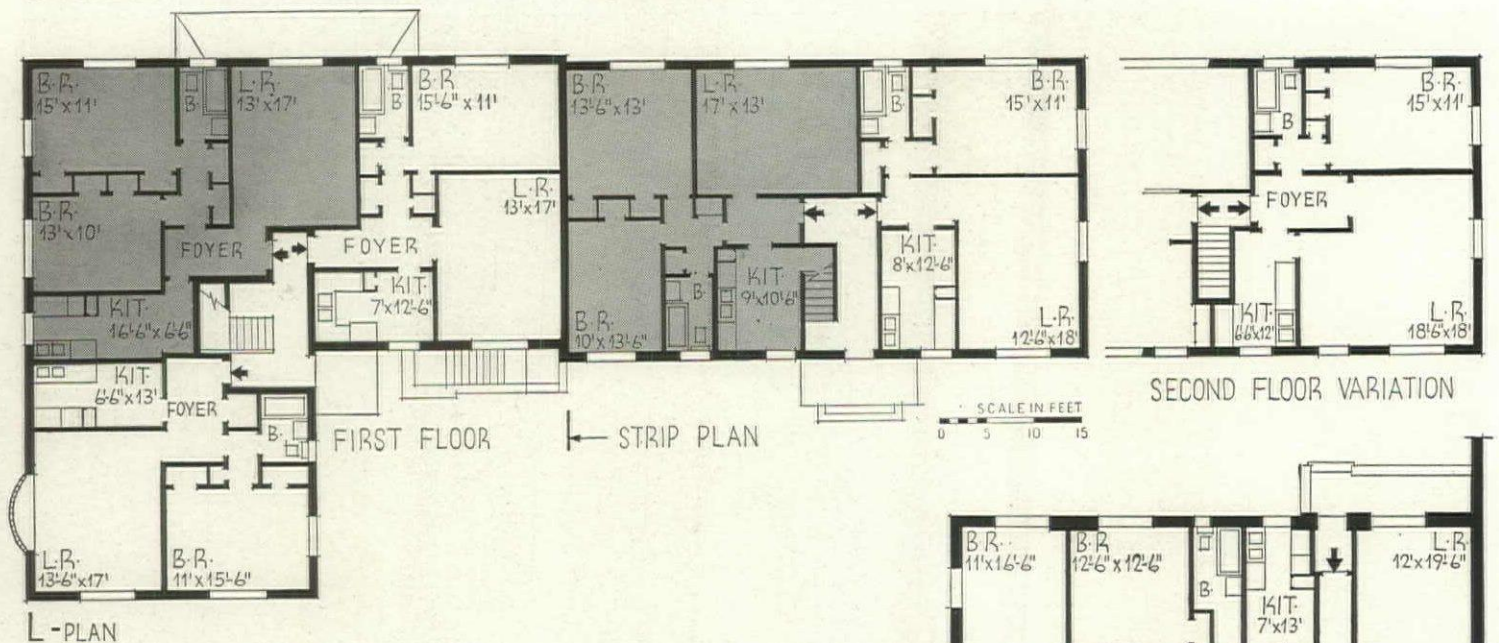
for all rooms, and other advantages of this type of dwelling, with the conveniences and services common to apartment life. The tract, which adjoins a portion of the grounds of the New York World's Fair later to be developed as a city park, has been divided by a central, dead-end street to discourage through traffic. Near the middle of the project, an underground garage is built into the slope for tenants' cars, leaving the 17 acres unoccupied by the buildings for landscaping and play-

grounds. Terracing and retaining walls help to break up the various planted areas and contribute to the intimate, domestic character of the architecture.

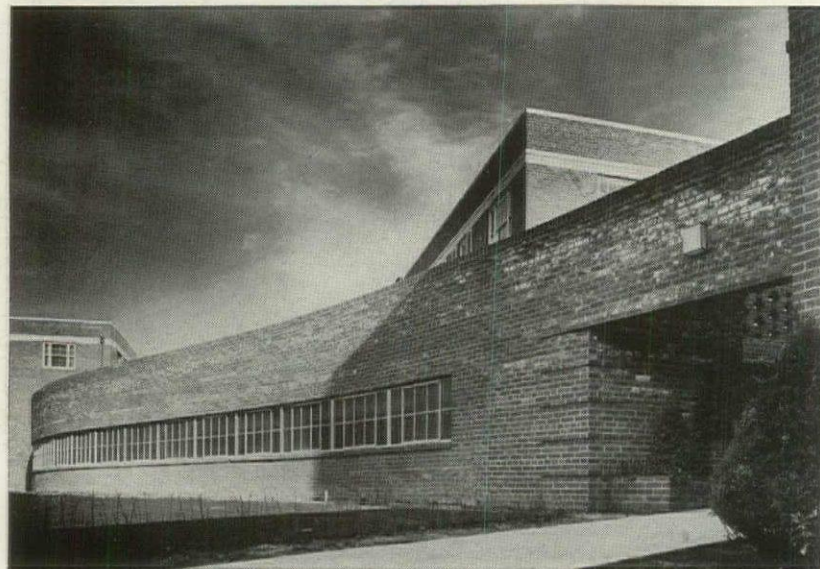
Taking advantage of the slope of the ground, a special unit was devised which is three stories high on one side, two stories high on the other. On the lowest floor, "terrace" apartments with separate entrances are provided which have proven especially popular. Unit plans are shown on the next page. Mortgage \$1,750,000.



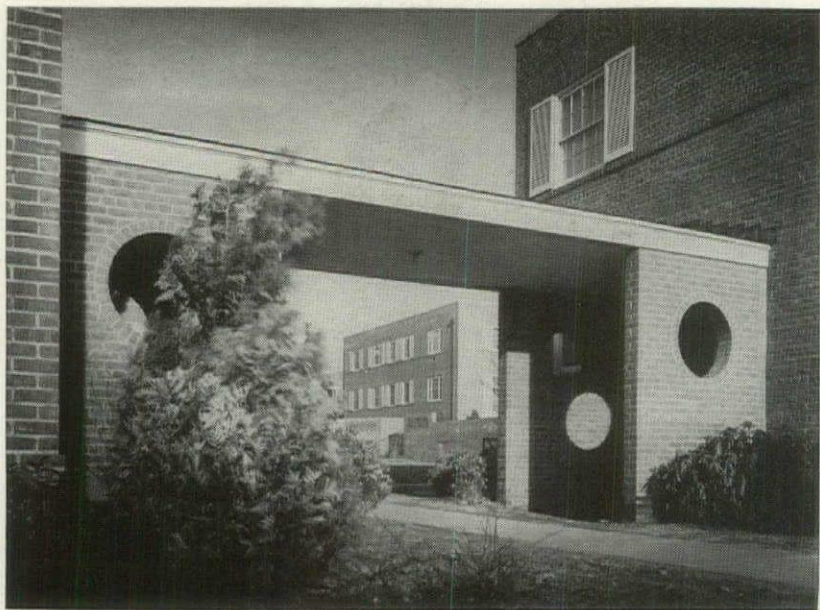
## GARDEN APARTMENTS IN FLUSHING, N. Y.



EMPIRE STATE BUILDING CORP. GENERAL CONTRACTORS



GARAGE



PASSAGE

### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Poured concrete; fluted steel piles, Union Metal Mfg. Co. Waterproofing—3-ply felt over Durex, Metropolitan Roofing Supplies, Inc.

**STRUCTURE:** Exterior walls—brick, hollow cinder block backup, furring and plaster over gypsum lath. Old Newark Plaster Co. and Ebsary Gypsum Co. products used equally in finish work. Structural steel—Bethlehem Steel Co. Floor construction—E. L. Bruce Co. mastic floors over cinder slabs in thirteen units; remainder—Harris Flooring Co. select oak strip blocks. Ceilings—gypsum lath and plaster.

**ROOF:** Covered with flat 5-ply slag mastic.

**SHEET METAL WORK:** Flashing and gutters—16 oz. copper.

**INSULATION:** Roofs—rock wool, Ludowici-Celadon Co. Sound insulation between apartments—Balsam Wool, Wood Conversion Co.

**WINDOWS:** Sash—pine, double hung; balances—Unique Window Balance Co. Glass—single strength, quality B, Pennvernon, Pittsburgh Plate Glass Co. Glass blocks—Insulux, Owens-Illinois Glass Co.

**STAIRS:** Metal by Ment Bros. Iron Works. Treads—cement covered with asphalt tile.

**FLOOR COVERING:** Kitchens—Linoleum, Congoleum-Nairn, Inc.

**WOOD AND METAL TRIM:** Exterior doors—M. Bloomberg Sons, Inc. Garage doors—Overhead Door Co. Metal bucks—Williamsburg Fireproof Door Co.

**HARDWARE:** By Harvard Lock Co.

**PAINTING MATERIALS:** By Banner Paint Co. and Minwax Co.

**ELECTRICAL INSTALLATION:** Switches—General Electric Co. Fixtures—Standard Lighting Fixture Co.

**PLUMBING:** All toilet fixtures by Kohler Co., except lavatories by Fords Porcelain Works. Cabinet—National Metal Art Mfg. Co. Soil pipes—F & W., Central Foundry Co. Water pipes—Cohoes Rolling Mill. Kitchen equipment: Ranges—Rose Co. Refrigerators—Crosley Co.

**HEATING:** One pipe steam system. Boiler—Titusville Iron Works. Oil burners—Petroleum Heat & Power Co. Radiators—American Radiator-Standard Sanitary Corp. Regulators—Minneapolis-Honeywell Regulator Co. Valves—James P. Marsh Corp. and Sarco Co., Inc. Air vents—National Metal Products Co. Water circulator—Atlantic Valve & Pump Co.



# RAILROAD STATION, LA CROSSE, WIS.

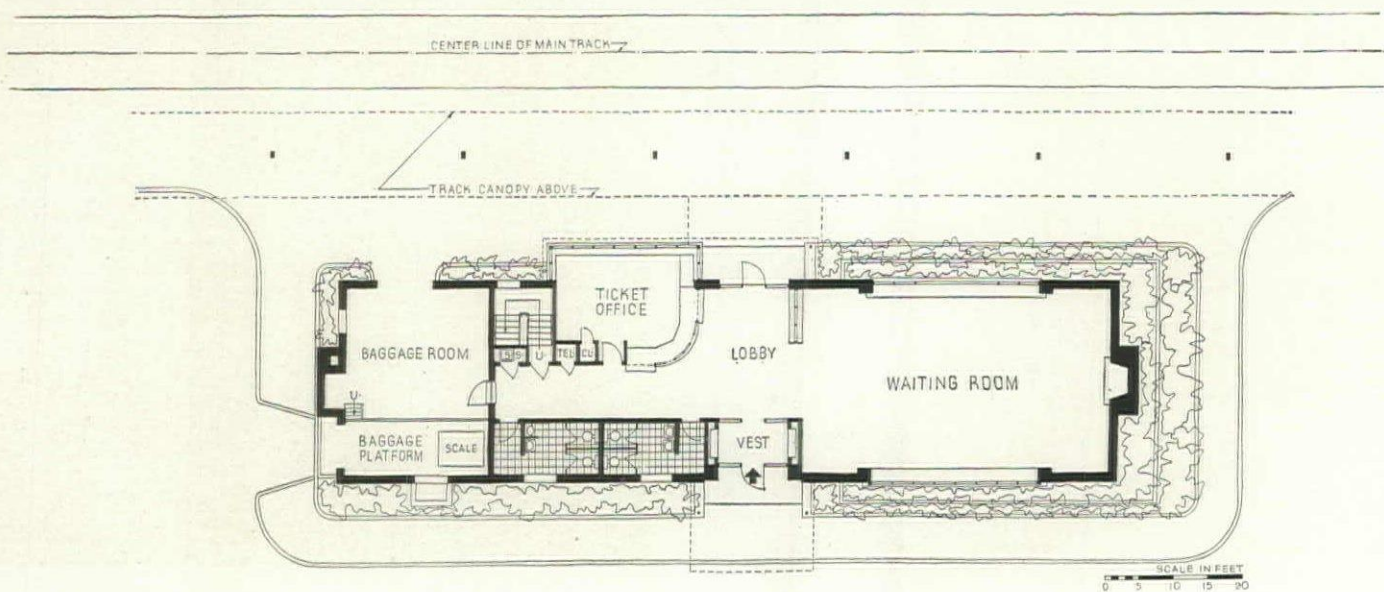


All photos, Hedrich-Blessing

HOLABIRD & ROOT, ARCHITECTS







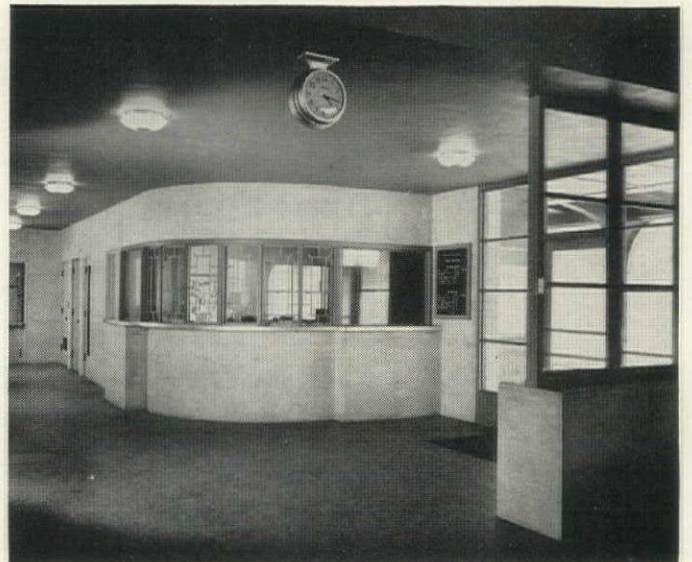




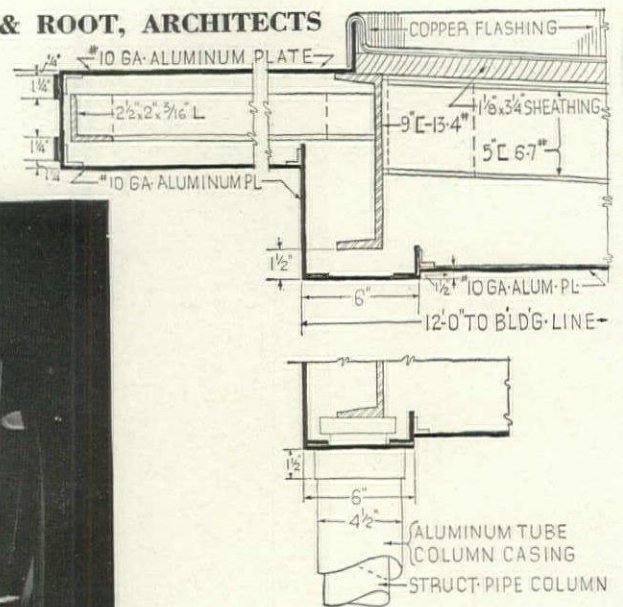
WAITING ROOM

The Burlington Road station at La Crosse marks what is perhaps the first attempt in this country to design a station that has some relationship to the streamliners which pass through it daily. Located in the best residential section of La Crosse, it shows a consideration for the community rarely found in such structures. The waiting room is another manifestation of a new approach; this comfortable lounge is a far cry from the usual barren interior. Designed as an uncompromising rectangular box, enriched only by the texture of its stone walls, the building has already provided an answer to the question of public acceptance. After its completion a group of La Crosse women applied for permission to hold teas in the waiting room, and the station now serves as a sort of clubhouse. Cubage: 70,300 (excluding pavement and track canopy). Cost: \$59,350.

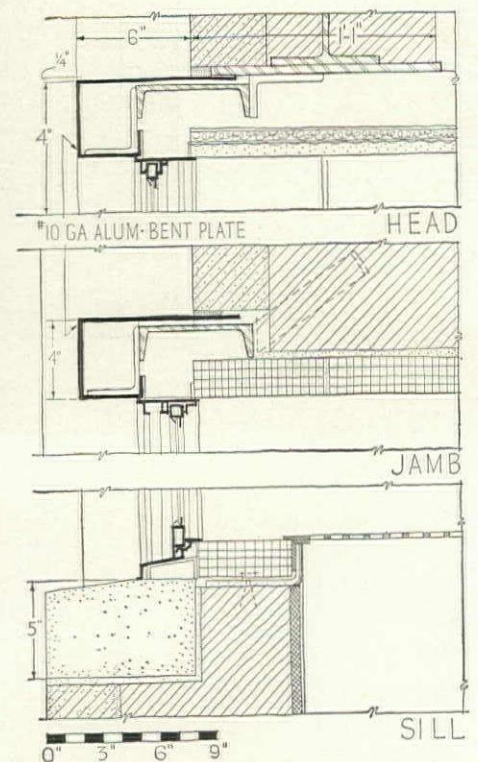
TICKET OFFICE







CANOPY DETAIL

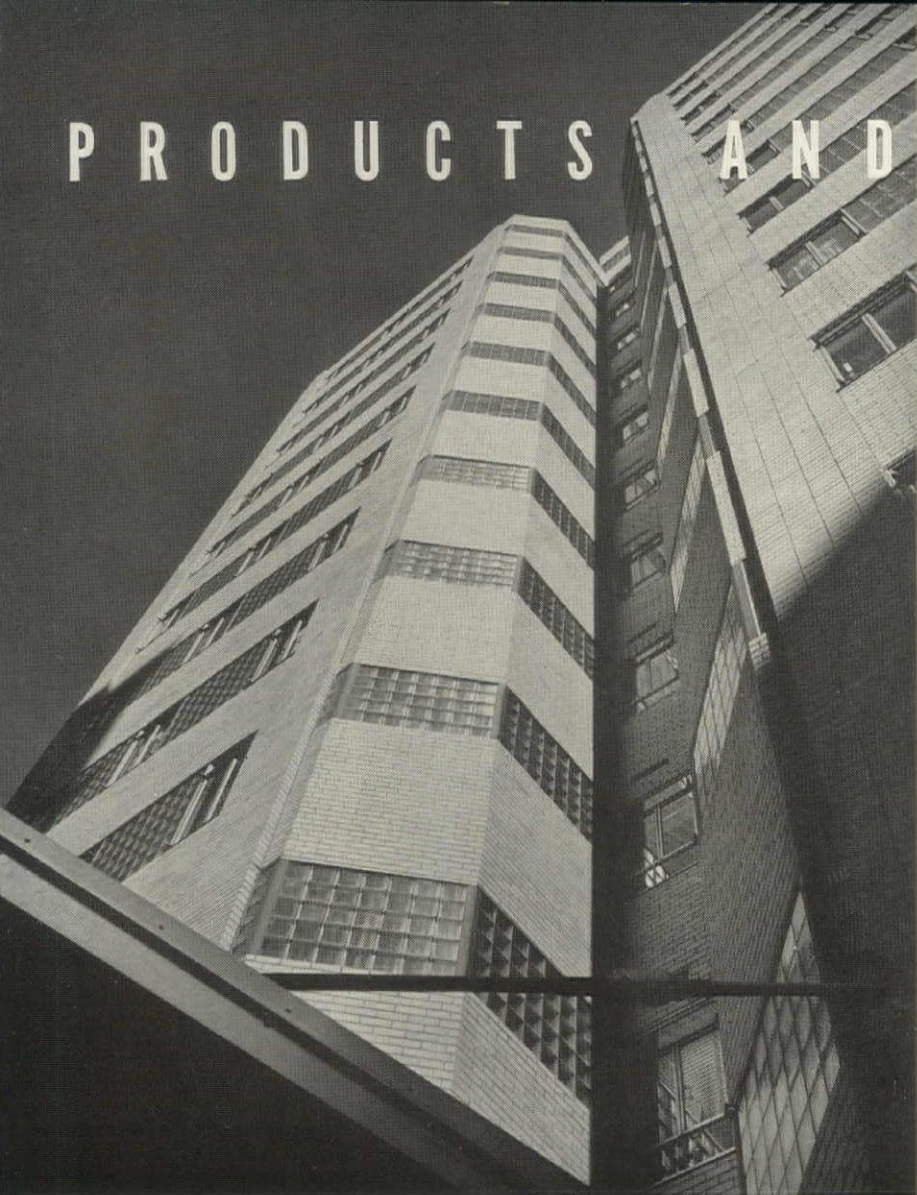


DETAIL WEST WINDOW-WAITING ROOM

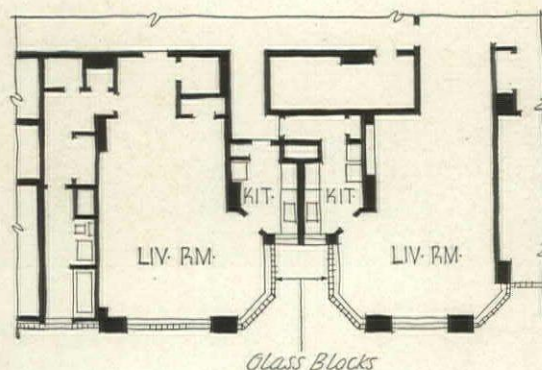
**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—Wisconsin Lannon stone facing, common brick back-up; inside—Montana Travertine, Carthage marble or plaster finish. Floor—reinforced concrete slab. Ceilings—plaster; waiting room—Acousti-Celotex, Celotex Corp. **ROOF:** Felt, pitch and gravel roofing. **INSULATION:** Roofs—loose mineral wool. **WINDOWS:** Sash—double hung, aluminum, Kawneer Co. Glass—plate. **FLOOR COVERINGS:** Office—rubber tile. Waiting room—terrazzo. **PAINTING:** Walls and ceilings—2 coats lead and oil. **ELECTRICAL INSTALLATION:** Wiring system—rigid conduit. Fixtures—Beardslee Chandelier Co. **HEATING:** Forced hot water system. Boiler—Kewanee Boiler Co. Oil burner—Ray Oil Burner Co. Radiators—Trane Co.





Robert M. Damora



**APARTMENT.** Maximum light and privacy are assured the tenants of this air conditioned New York apartment through the use of glass block, while heating and cooling costs are kept to a minimum. Frederick L. Ackerman, Architect, Ramsey & Sleeper, Associates. Insulux 8 x 8 in. glass block, Owens-Illinois Glass Co.

## GLASS BLOCK

The story of glass block is Building's Success Story No. 1. More than any other, the glass industry has kept pace with architectural progress by an extensive research program aimed at developing new and better products for building. This research and product development is nowhere better exemplified than in glass block. In a trifle over five years of commercial production more than twenty million glass block have been manufactured and sold. Never has a new building product caught on so quickly.

Part of this success has, of course, been due to the sheer novelty value of the product. Glass block have been used for book-ends, barfronts, and bathtubs—and, in all too many cases, misused. But that this is not the major influence in glass block sales is proved by the fact that more than 40 per cent of the block used have gone into the industrial and institutional fields where novelty could not possibly have determined their selection. The real reason for their popularity goes back to function: glass block do a long-needed job in an entirely new way. They couple one of the functions of the window—its light-giving function—with all of the non-structural functions of the wall—heat and noise insulation, privacy, and security.

Glass block construction therefore creates what amounts

to an entirely new architectural element: a *light-giving wall*. There is little precedent for such an element in the architecture of the past. The uses to which it can be put, for interior as well as exterior construction, are almost countless, and they have only begun to be explored. Five years of widespread use, however, has established the broader outlines of the pattern—a body of practice is gradually being built up which should serve as a valuable guide and suggest other, and still better uses.

To provide a convenient, compact source of data on this practice, recent outstanding examples are shown on the following pages. Representative of the best current work, their variety indicates that this versatile new material is finding widespread use in all classes of construction and all types of design. Grouped under three main headings—Residential, Institutional-Commercial, and Industrial—they show how much has been done to make the block an integral part of our design and building technique. Much of this work was done "cold," by architects who had almost no opportunity to examine similar uses of the material. That other and better applications are still to be found, goes without saying. But for these future improvements, pioneering has already provided a more than adequate foundation.

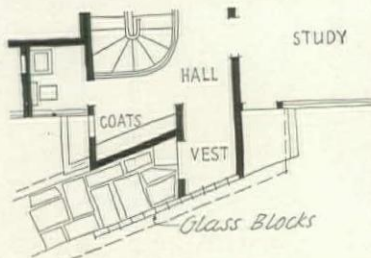


**RESIDENTIAL.** Today's trend in house design, regardless of questions of styling, is definitely toward bigger glass areas and better natural lighting. Glass block are well suited to this trend. Because they afford heat and noise insulation comparable to solid walls, provide evenly diffused light and complete privacy, they permit the maximum extension of translucent areas without adding to

fuel bills, creating difficult problems of curtaining, or sacrificing the feeling of seclusion many regard as essential to the home. They are ideal for inaccessible windows otherwise difficult to clean, and for incidental lighting, such as that required in vestibules, ground-floor lavatories, bathrooms, etc., which so often poses awkward design problems.



Paul Davis

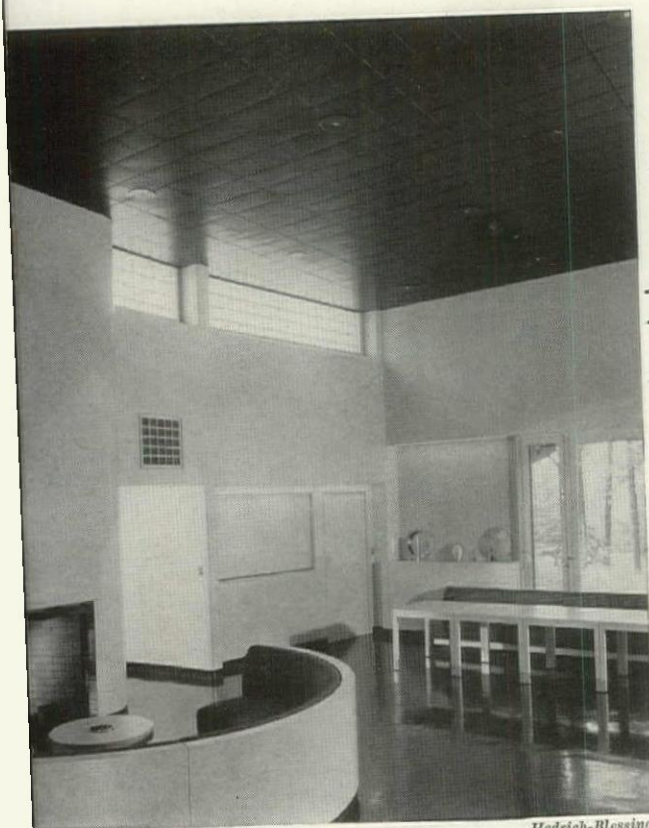


**VESTIBULE** light and shelter for the entrance door are provided by this decorative wall, which extends beyond the enclosed portion of the house. Walter Gropius & Marcel Breuer, Associated Architects. P-C Glass Block, Pittsburgh Corning Corp.



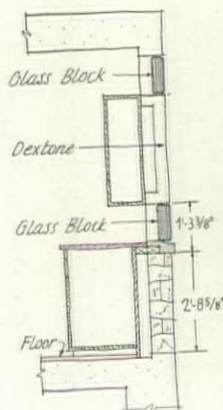
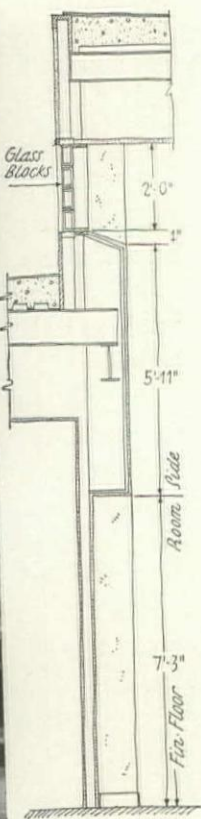
Gabriel Moulin

**BALCONIES** are screened from one another by free-standing glass block panels in this San Francisco apartment house, thus assuring maximum privacy without obstruction to light. W. H. Ellison, Designer and Structural Engineer. Insulux glass block, Owens-Illinois Glass Co.



Hedrich-Blessing

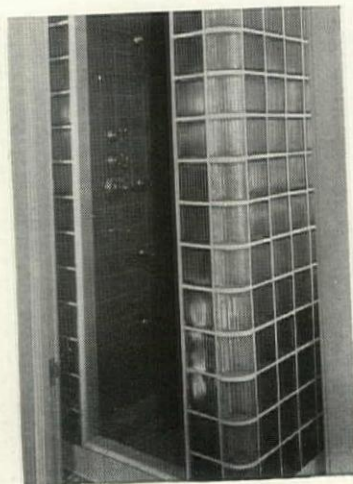
**CLERESTORY** window for better daylighting in a large living room. Glass block are particularly adapted to this purpose since they need not be frequently cleaned and require no operating mechanism. George Fred Keck, Architect; Insulux glass block.



**KITCHEN** illumination is complicated by the fact that most of the wall space is needed for cupboards. Here glass block has been used to solve the problem in an interesting way. Fordyce & Hamby and George Nelson, Architects; Insulux block.

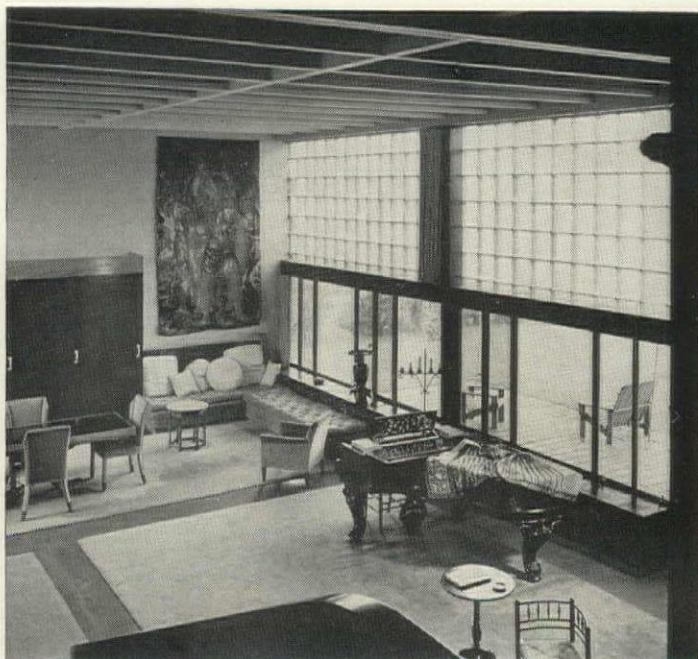


**SHOWER** enclosure built from glass block, with tile trim and floor. Hooton & Timpson, Architects; Insulux glass block.





**LIVING AND DINING ROOMS.** Glass block used for interior as well as exterior walls. Right, upper part of living room window executed in P-C glass block, showing how glass block may be combined with clear sheet glass to develop the advantages of both. Pittsburgh Corning Corp. Kenneth Day, Architect. Below, partition between living and dining rooms, Michael Goodman, Architect; P-C glass block.



Robert M. Damora

**INSTITUTIONAL AND COMMERCIAL.** Commercial and institutional buildings have been big consumers of glass block both as a new and attractive decorative element and for functional purposes. In this field, better lighting is directly reflected in the rent dollar, and light-giving walls which shut out noise and keep heating and cooling costs to a minimum are doubly appre-

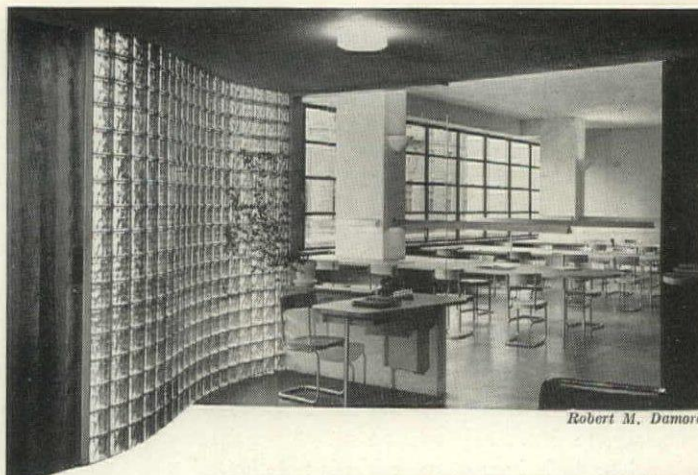
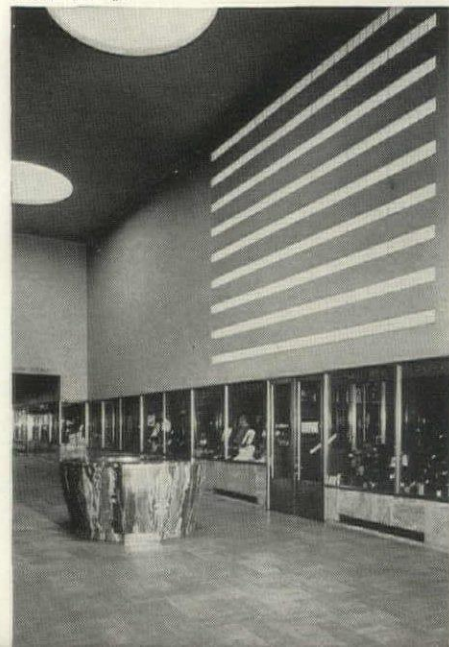
ciated. Interior partitions, too, are an especially appropriate application. With the introduction of panels dry-set in metal frames, it is probable that the use of glass block for office partitions and similar purposes will receive a new impetus, because of the flexibility, salvage, and privacy they afford.



1.

Edward Ratcliffe

2.

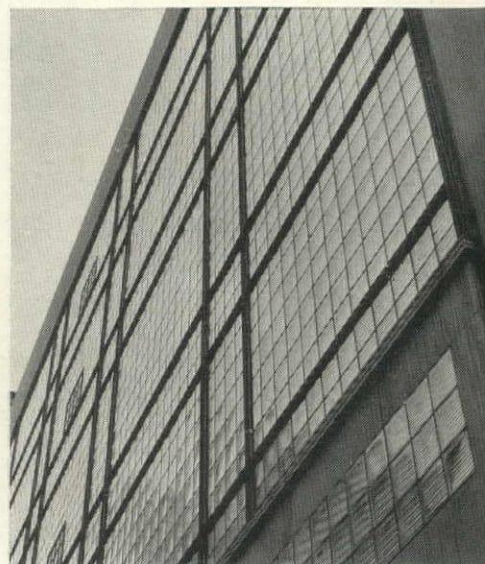


Robert M. Damora

3.

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**OUTSTANDING** institutional and commercial applications of glass block. 1. Offices of the Standard Register Co., Dayton, Ohio, The Austin Co., Engineers and Builders; Insulux block, Owens-Illinois Glass Co. 2. Lobby, Time & Life Building, New York, N. Y., Reinhard & Hofmeister, Corbett & MacMurray, Harrison & Foulhoux, Architects; Pittsburgh Corning Corp., block. 3. Offices, Museum of Modern Art, New York, N. Y., Philip L. Goodwin and Edward D. Stone, Architects; P-C glass block. 4. Steuben Building, New York, N. Y., William and Geoffrey Platt, Architects; P-C glass block.

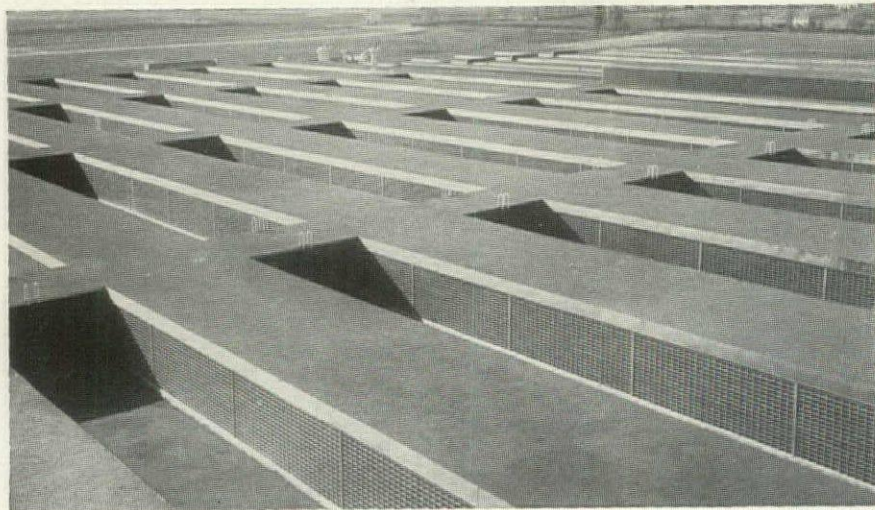


Samuel H. Gottscho

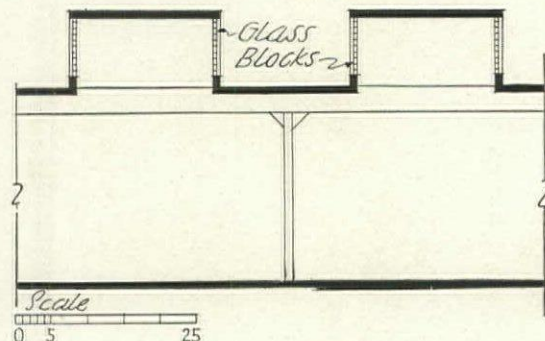


**INDUSTRIAL.** More than seven million glass block have been employed by the industrial field alone. This overwhelming endorsement of the practical value of the new material, unprecedented in Building, is more than adequate proof of its utility. Freedom from condensation on the inside surface of the glass, even where abnormally high humidities must be maintained within the building,

and controlled diffusion of light with no exposed dirt-catching surfaces, are particular virtues which have recommended its use in this type of work. In plants where sanitary conditions must be strictly maintained, the non-porous surface of the block has recommended their use for partitions as well as exterior walls.



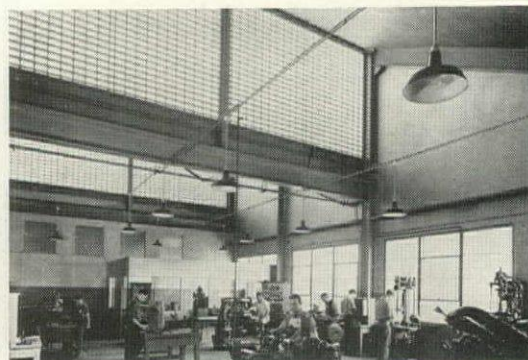
John Adams Davis



**MONITOR** roof, which took 371,000 glass block, the largest installation in the world. Industrial Rayon Corporation, Painesville, Ohio. Wilbur Watson and Associates, Engineers; Insulux glass block, Owens-Illinois Glass Co.

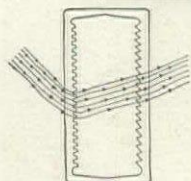
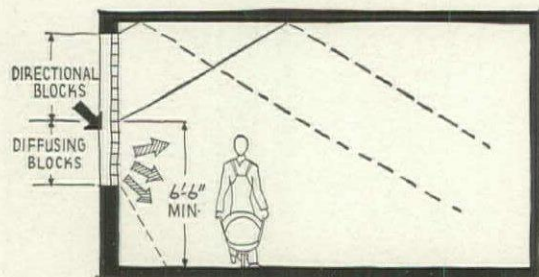


**FACTORIES** use glass block for both monitor and sawtooth type roofs. The plant at the left is a press room of Standard Register Co., The Austin Co., Engineers and Builders; Insulux block. The one on the right is a laboratory for the American Rolling Mill Co., The Austin Co., Engineers and Builders; Insulux block.



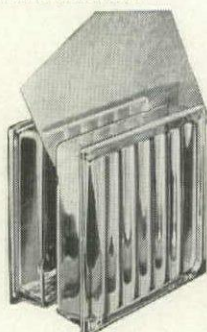
**NEW PRODUCTS.** Like the uses to which it is put, the form and method of application of the new material refuses to stand still. Light-controlling properties of the block can be varied almost endlessly, to serve any specific set of requirements as the need arises. The technique of assembly is not limited to mortar joints,

and may be accomplished in a host of ways for differing purposes and decorative effect, including metal dividers, wood grids, and reinforced concrete. Through the use of these new methods, transparent and ventilating elements may be added at will, further broadening the field of glass block use.



**DIRECTIONAL** glass block are used in the upper part of the wall to throw light up against the ceiling, deeper into the room. (Right) Diffusing glass block with inner membrane of glass threads.

**PREFABRICATED** metal member (right) for dry construction of demountable, interior glass block walls, made by Revere Copper and Brass Inc., and distributed through glass block manufacturers.



Norman A. Schuele



# HOUSE IN ORRVILLE, OHIO

JAMES H. GRADY,

RALPH MARLOWE LINE, DESIGNERS



This house was designed for a family of two, and it was a requirement that their living quarters be placed on the ground floor, the second floor bedrooms being reserved for the use of guests. A servant's room was not requisite. The site is heavily wooded, and the plan was arranged so that none of the larger trees was disturbed. Since it was an owner's requirement that a traditional design be used, the designers followed the Greek Revival type of the Western Reserve, a style as firmly rooted in the locality as Colonial in New England. Cost: about 37 cents per cu. ft.

## CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—cedar siding, and/or white pine flash siding, Insulite Co. sheathing and lath, studs and plaster.

**INSULATION:** Outside walls—Insulite Co. Attic floor and bathroom walls—Balsam woo., Wood Conversion Co. Weatherstripping—Chamberlin Metal Weather Strip Co.

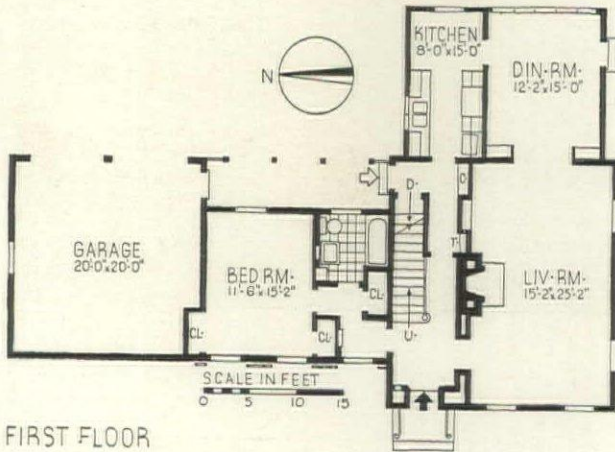
**WINDOWS:** Sash—double hung and casement, Andersen Corp. Glass—single strength, quality A, American Window Glass Co.

**WALL COVERINGS:** Main rooms—wall-paper. Bathrooms—(1st) Vitrolite, Vitrolite Div., Libbey-Owens-Ford Glass Co., (2) Linowall, Armstrong Cork Co.

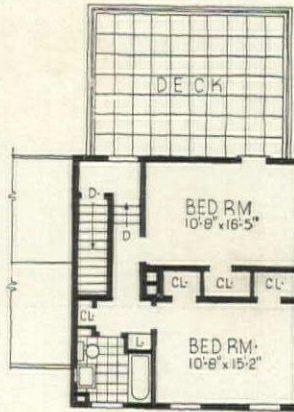
**KITCHEN EQUIPMENT:** Range—Tappan Stove Co. Refrigerator—General Electric Co. Sink—Kohler Co.

**BATHROOM EQUIPMENT:** All fixtures by American Radiator-Standard Sanitary Corp. Cabinets—F. H. Lawson Co. and Hallenscheid & McDonald.

**HEATING:** Sunbeam gas fired unit for winter conditioning, Fox Furnace Co. Grilles—Waterloo Register Co. Thermostat—Minneapolis-Honeywell Regulator Co.



FIRST FLOOR



SECOND FLOOR

## LIVING ROOM

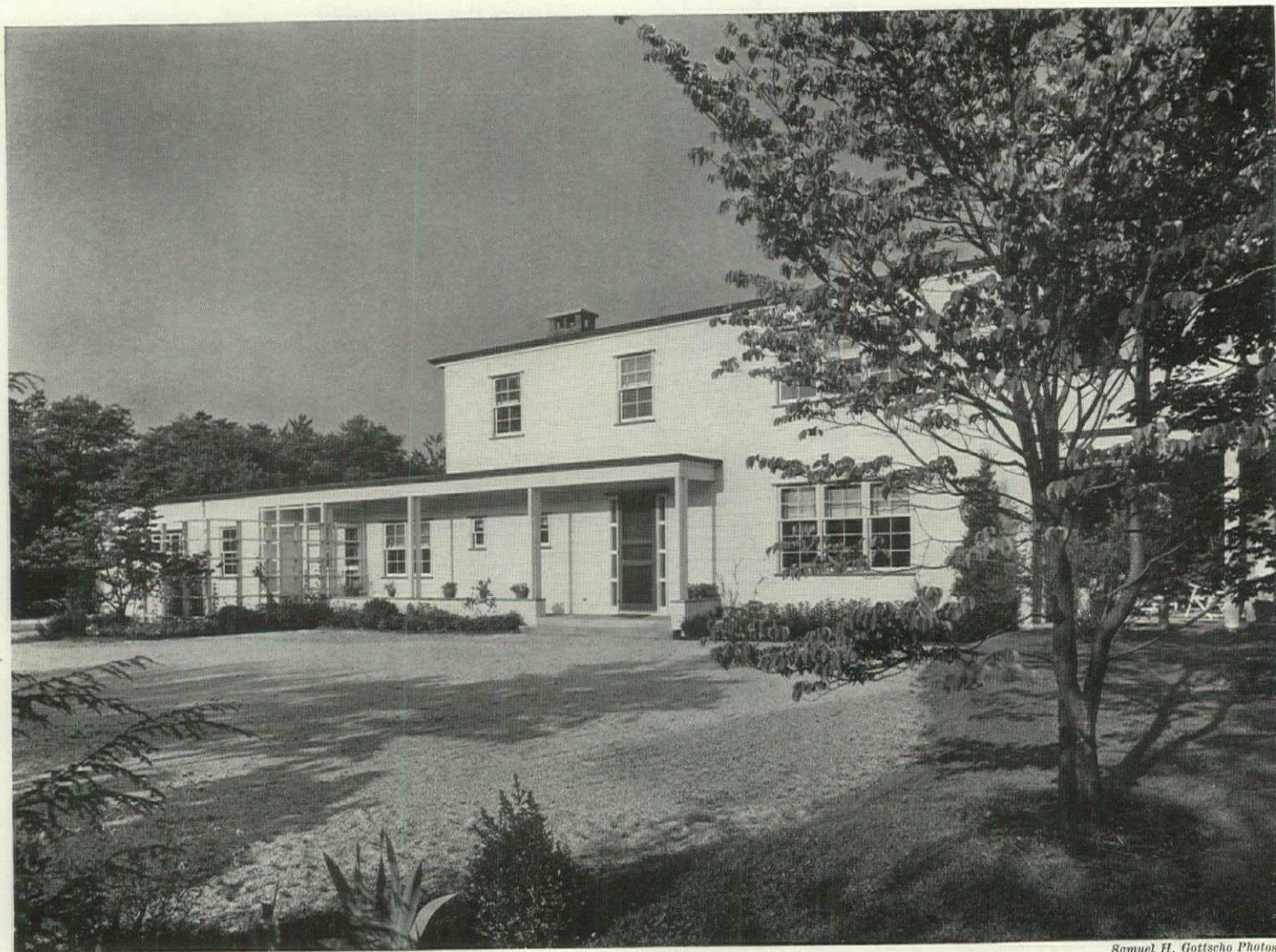


## DINING ROOM



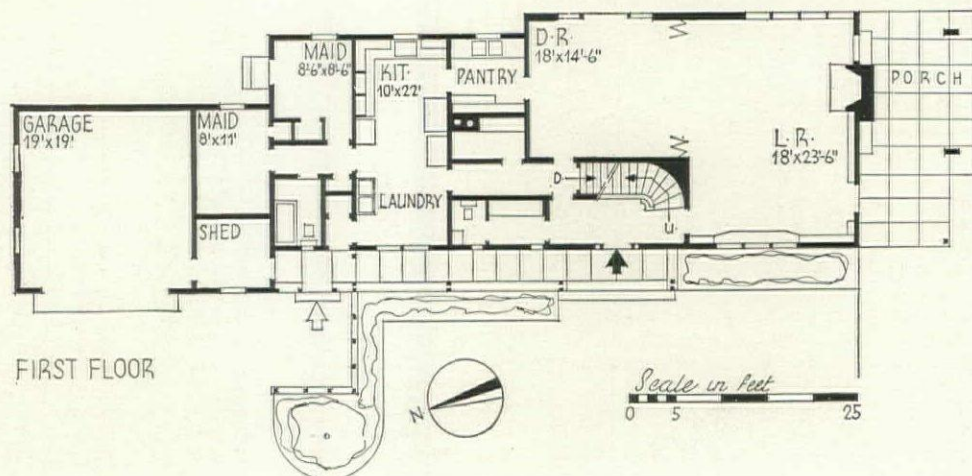
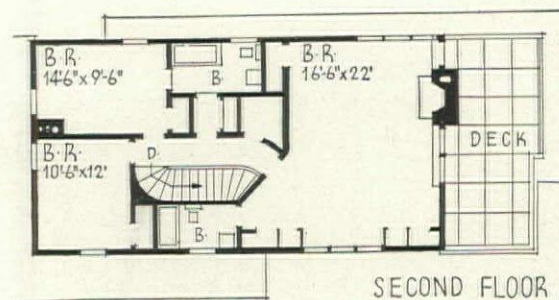


# HOUSE IN HUNTINGTON, LONG ISLAND, N. Y.

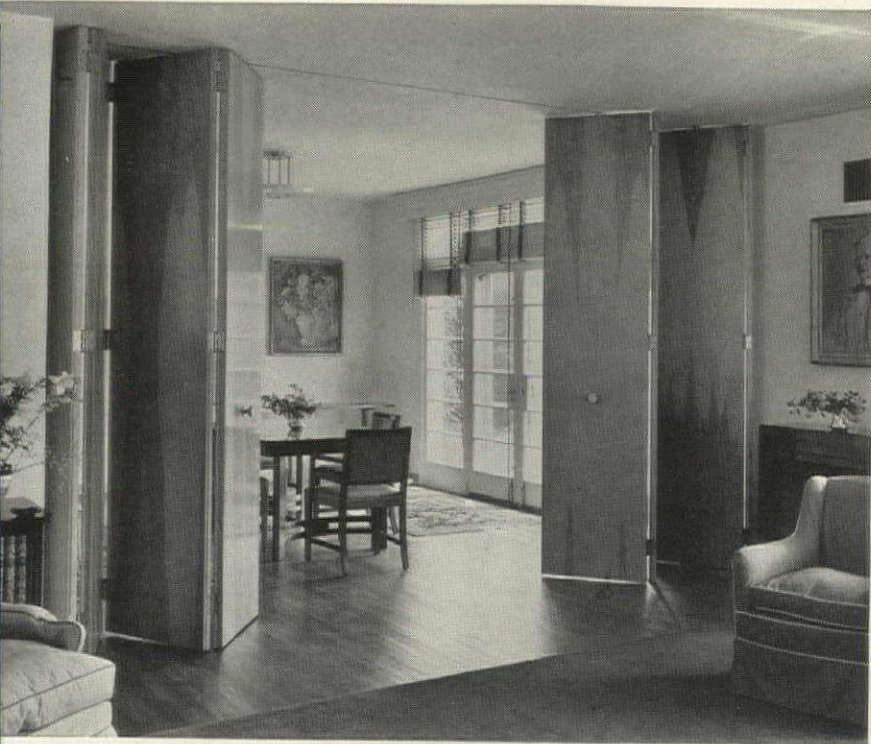


Samuel H. Gottscho Photos

This house built for summer use is located on a high point of land which has a view of Long Island Sound on the north and the ocean on the south. To conform with the requirement of double views from the main rooms a long, narrow plan was used, but kept as compact as possible. The problem of obtaining large glass areas was inexpensively solved by the use of banks of stock double-hung windows in most of the rooms. An absence of any pronounced style treatment is in good character with the desired informality of the house. Cost: about 58 cents per cu. ft.







LIVING-DINING

BEDROOM

## CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—shiplap cypress, asphalt coated paper and matched N. C. roofers. Interior partitions—Douglas fir studs, metal lath and plaster. Floor construction—Douglas fir joists, N. C. pine sub-floor, felt and oak finish flooring. Ceilings—metal lath and plaster.

**ROOF:** Covered with 5-ply tar and felt, slag finish, Barrett Co. Deck—covered with canvas.

**FIREPLACE:** Damper—H. W. Covert Co.

**SHEET METAL WORK:** Ducts—galvanized iron; remainder—16 oz. copper.

**INSULATION:** Outside walls, roof and sound insulation—rock wool.

**WINDOWS:** Sash—double and triple hung, white

pine. Glass—double strength, quality B, Libbey-Owens-Ford Glass Co. Glass blocks—Pittsburgh Corning Corp.

**STAIR:** Risers and treads—oak. Stringers and rails—walnut.

**FLOOR COVERINGS:** Main rooms—oak. Kitchen, pantry and bathrooms—linoleum, Congoleum-Nairn, Inc.

**WALL COVERINGS:** Bedrooms—wallpaper. **WOODWORK:** Doors—Roddiss Lumber & Veneer Co. Garage doors—Overhead Door Co.

**HARDWARE:** By P. & F. Corbin and Richard Wilcox Mfg. Co.

**PAINTING:** Materials by Wilbur & Williams, Samuel Cabot, Inc. and Minwax Co.

**ELECTRICAL INSTALLATION:** Wiring system

—BX. Switches—toggle, Pass & Seymour. Fixtures—designed by architects, manufactured by A. Ward Hendrickson.

**KITCHEN EQUIPMENT:** Range and refrigerator—General Electric Co.

**BATHROOM EQUIPMENT:** All fixtures by American Radiator-Standard Sanitary Corp. Seat—C. F. Church Mfg. Co. Cabinet—Charles Parker Co.

**PLUMBING:** Soil pipes—cast iron. Waste and vent pipes—galvanized iron. Water pipes—brass.

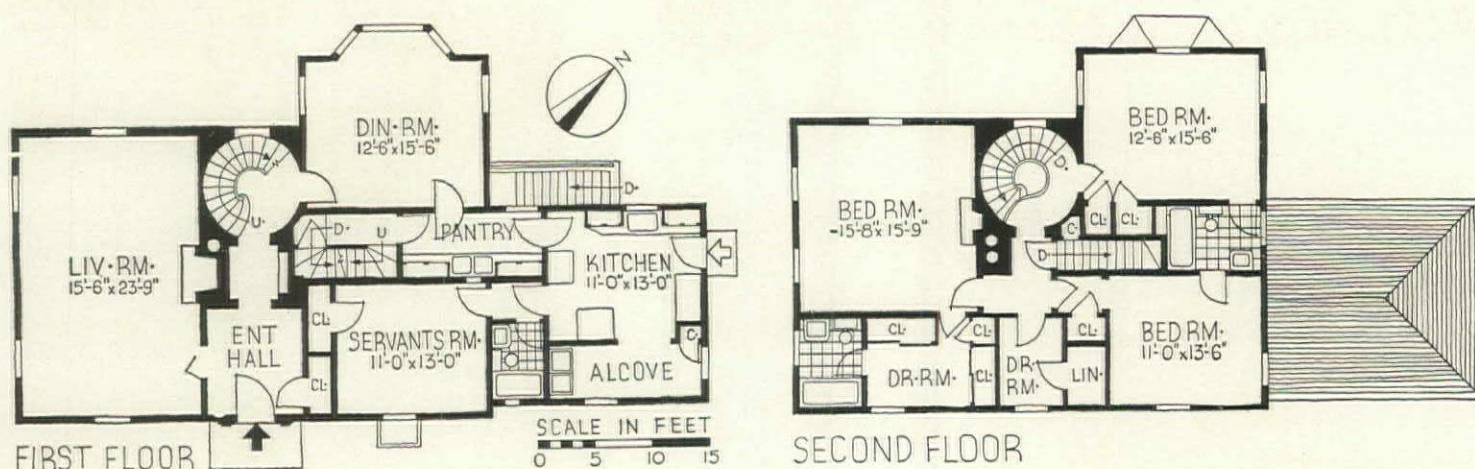
**HEATING:** Direct fired warm air system, filtering and humidifying; including boiler, Delco Appliance Div., General Motors Corp. Grilles—Tuttle & Bailey Mfg. Co. Thermostat—Minneapolis-Honeywell Regulator Co. Oil burner—Timken Silent Automatic Div., Detroit Axle Co.



# HOUSE IN MT. KISCO, NEW YORK



C. V. D. Hubbard Photos



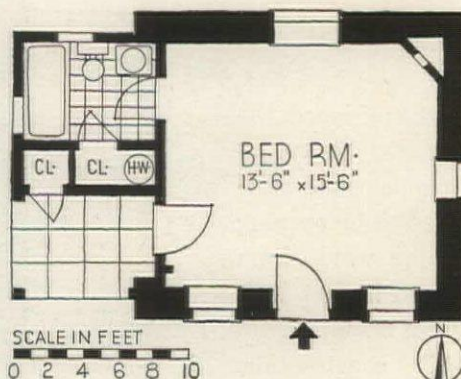
A formal plan, based on the traditional rectangular scheme with a central hall and stair. The latter, a handsome spiral design, is illustrated on the opposite page. The main section of the house is a compact two-story unit with three bedrooms of good size on the second floor; the service quarters extend out in a one-story wing. The guest house, a remodeled structure, contains one bedroom, bath and storage space. Cost (not including guest house): about 42 cents per cu. ft.





## CONSTRUCTION OUTLINE

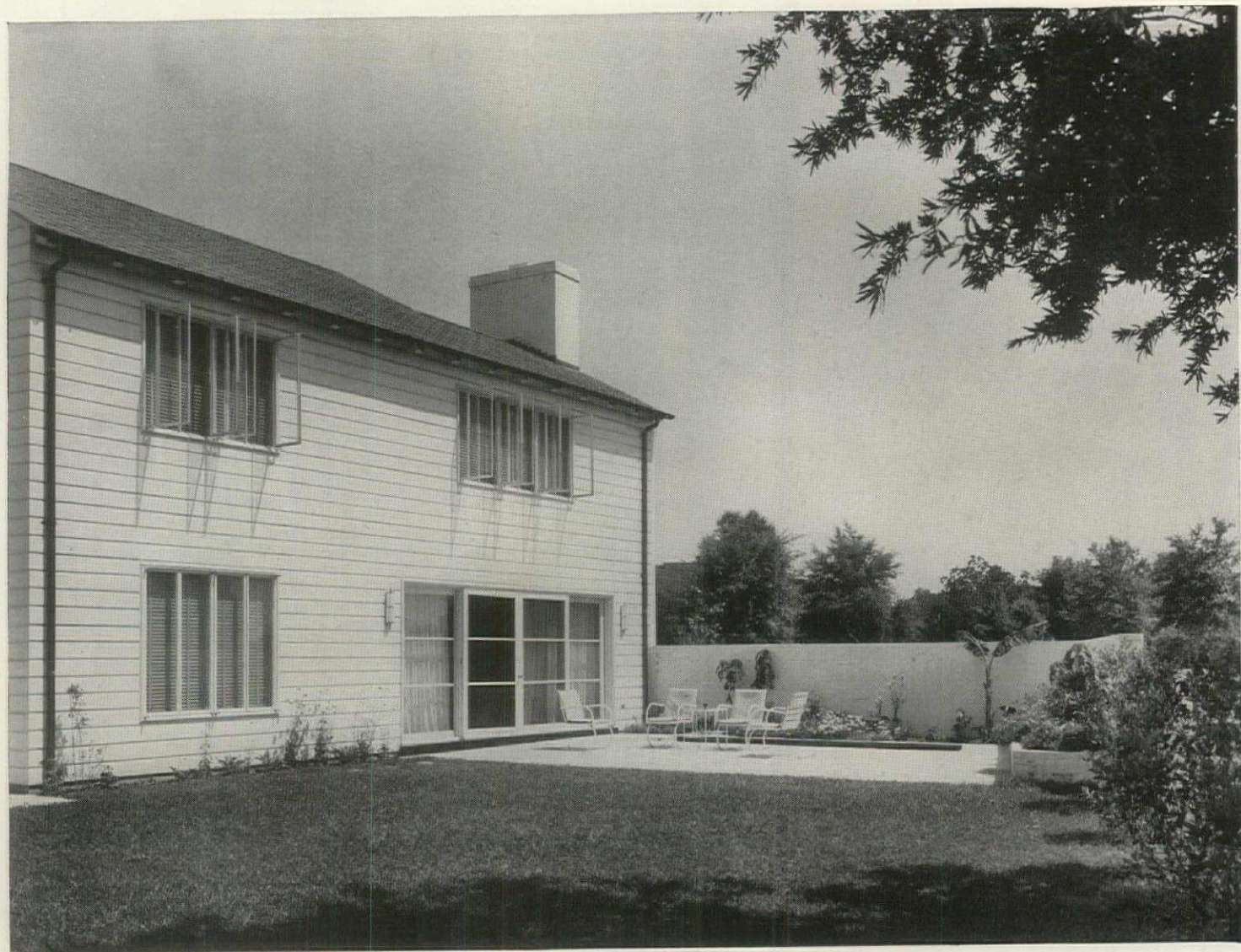
**FOUNDATION:** Concrete blocks.  
**STRUCTURE:** Exterior walls—shiplap, felt building paper, pine sheathing, studs, metal lath and plaster. Interior partitions—studs, lath and plaster. Floor construction—wood joists, pine sub-floor and oak and pine finish flooring. Ceilings—plaster.  
**ROOF:** Covered with 30 lb. felt and slate. Deck—covered with slag roofing.  
**FIREPLACE:** Damper—H. W. Covert Co.  
**SHEET METAL WORK:** Copper throughout.  
**INSULATION:** Outside walls—Eagle Picher Sales Co. Attic floor and sound insulation—rock wool. Weatherstripping—Curtis Companies and Chamberlin Metal Weather Strip Co.  
**WINDOWS:** Sash—double and triple hung, Curtis Companies. Glass—single strength, Libbey-Owens-Ford Glass Co.  
**STAIRS:** Main: Treads—oak. Risers and balusters—white wood. Stringers—plywood. Attic—Bessler Disappearing Stairway Co.  
**FLOOR COVERINGS:** Main rooms—red oak. Kitchen and bathrooms—linoleum over pine.  
**HARDWARE:** By Yale & Towne Mfg. Co.  
**PAINTING:** By Pratt & Lambert, Inc., National Lead Co. and U. S. Gutta Percha Paint Co.  
**ELECTRICAL INSTALLATION:** Wiring system—BX and rigid conduit. Switches—Bryant Electric Co. Fixtures—Kantack Co., Sims Co., Chase Brass & Copper Co., Cassidy Co., Lightolier Co. and Dale.  
**KITCHEN EQUIPMENT:** Range—gas. Refrigerator—electric. Cabinets—Morgan Sash & Door Co.  
**BATHROOM EQUIPMENT:** All fixtures by American Radiator-Standard Sanitary Mfg. Co. Shower—Speakman Co.  
**PLUMBING:** Soil pipes—cast iron. Waste, vent and cold water pipes—galvanized wrought iron. Hot water pipes—brass, Bridgeport Brass Co.  
**HEATING AND AIR CONDITIONING:** Warm air winter air conditioning, filtering, humidifying and summer circulation. Boiler—Gar Wood Industries. Thermostat—Minneapolis-Honeywell Regulator Co.



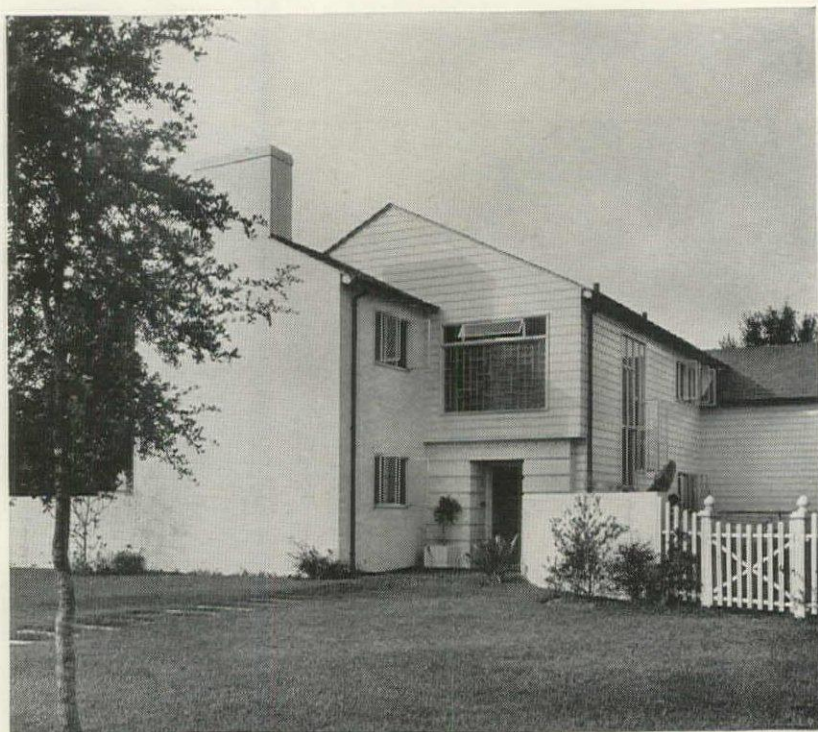
GUEST HOUSE



## HOUSE IN HOUSTON, TEXAS



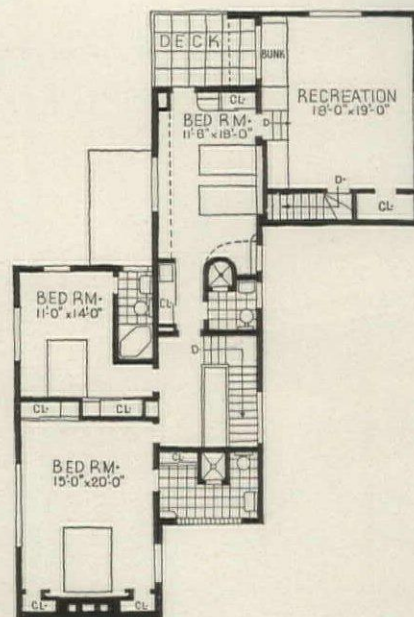
Two main problems conditioned the design of this house: the difficulties presented by an irregular site, combined with the necessity of opening the house to prevailing winds from the southeast. A limited budget indicated the desirability of a simple plan and straightforward construction. The plan makes excellent use of the site, and the relation of the living room to the walled terrace seems especially successful. An interesting feature is the glass block wall in the bathroom, combined with a ventilator unit. Cost: 45 cents per cu. ft.



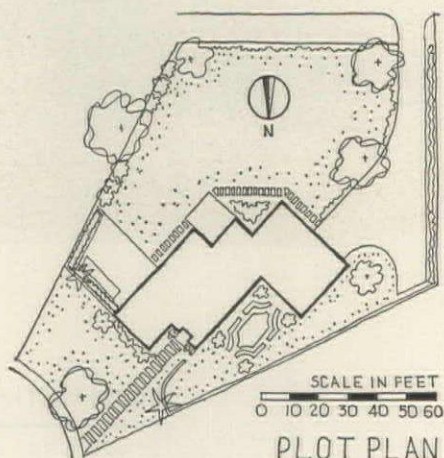




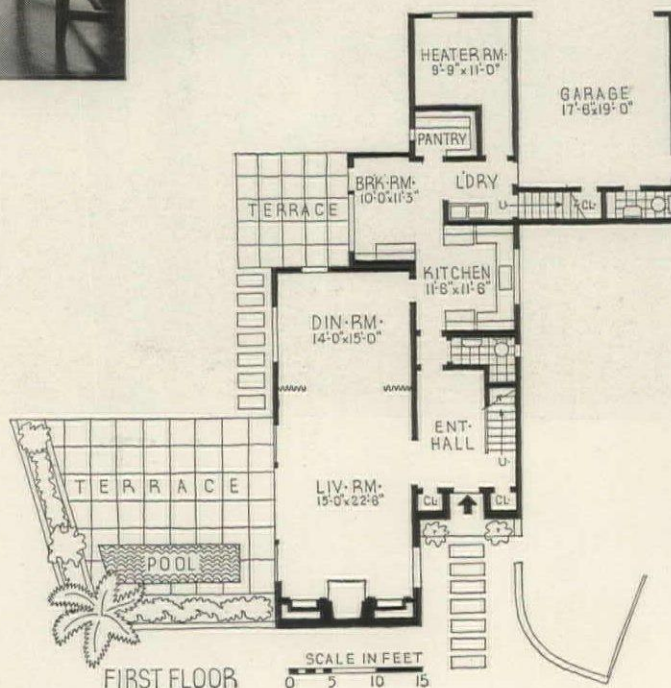
LIVING ROOM



SECOND FLOOR

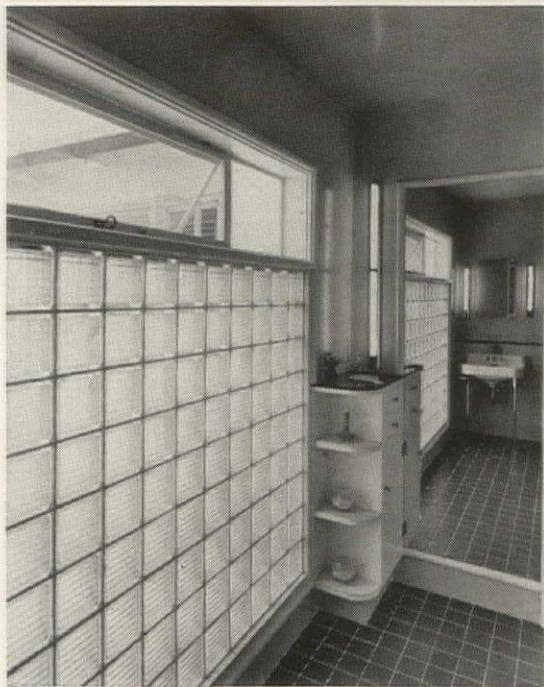


PLOT PLAN



FIRST FLOOR

BATH



### CONSTRUCTION OUTLINE

**FOUNDATION:** Reinforced concrete slab.  
**STRUCTURE:** Exterior walls—balloon frame, studs, yellow pine sheathing, felt and siding. Interior partitions—canvas and paper on shiplap; some Steeltex lath plastered, Johns-Manville Corp. Floor construction—joists, sub-floor and oak finish floors. Ceilings—canvas and paper on shiplap; some plastered.  
**ROOF:** Covered with asbestos shingles, Johns-Manville Corp.  
**FIREPLACE:** Damper—H. W. Covert Co.  
**INSULATION:** Recreation rooms—Balsam wool, Wood Conversion Co.  
**SHEET METAL WORK:** Copper, 16 oz., throughout.  
**WINDOWS:** Sash—steel casement, Soule Steel Co. Glass—Pittsburgh Plate Glass Co.; Vulcatex calking, A. C. Horn Co.  
**STAIR:** Treads—oak. Risers—pine. Rail—gum.  
**FLOOR COVERINGS:** Main rooms—sheet rubber, Hamilton Rubber Mfg. Co. Bathrooms—glazed tile, Robertson Art Tile Co. Bedrooms—oak.

**WALL COVERINGS:** Main rooms—wall-paper. Kitchen and bathrooms—plaster.  
**WOODWORK:** Doors—"Sturdibilt," M. & M. Woodworking Co.; remainder—yellow pine.  
**HARDWARE:** By Schlage Lock Co.  
**PAINTING:** By A. C. Horn Co.  
**ELECTRICAL INSTALLATION:** Wiring system—metallic tubing. Circuit equipment—Square D Co. Switches—Harvey Hubbell, Inc. Light strips—Curtis Lighting Co.  
**KITCHEN EQUIPMENT:** Range, refrigerator and dishwasher—Westinghouse Electric & Mfg. Co. Sink, drainboards and cabinets—Monel Metal, Whitehead Metal Products Co.  
**BATHROOM EQUIPMENT:** All fixtures by Kohler Co. and American Radiator—Standard Sanitary Mfg. Corp.  
**PLUMBING:** Soil pipes—cast iron. Water pipes—copper, Wolverine Mfg. Co. Fittings—Nibco wrought brass, Northern Indiana Brass Co.  
**HEATING:** Hot air furnace with blower and filters, American Gas Products Corp. Chronotherm — Minneapolis-Honeywell Regulator Co.



# HOUSE IN SANTA FE, NEW MEXICO



Ernest Klee Photos

Adobe is used throughout for the construction of this house, and save for the kitchen and bathroom walls all surfaces have been finished in adobe plaster. The roof also follows local practice in the use of exposed round beams; the cantilevered overhangs, however, represent a departure from the customary exposed parapet, and serve the practical purpose of protecting the walls below. The plan is arranged around a large porch, the three sleeping rooms forming a more or less self-contained unit. Cost: about 25 cents per cu. ft.

## CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—adobe with adobe plaster. Interior partitions—studs, metal lath and plaster. Floor construction—oak and pine finish flooring.

**ROOF:** Covered with 5-ply built-up, Barber Asphalt Corp. Deck—pine covered with Thermax planks, Celotex Corp.

**SHEET METAL WORK:** Gutters—Armco Iron, American Rolling Mill Co.

**INSULATION:** Roof—Thermax, Celotex Corp. Weatherstripping—Curtis Cos.

**WINDOWS:** Sash—Silentite, Curtis Cos. Glass—Libbey-Owens-Ford Glass Co.

**FLOOR COVERINGS:** Kitchen and bathrooms—linoleum, Sloane-Blabon Corp.

**WOODWORK:** Clear white pine. Doors—"Sturdibilt," M. & M. Woodworking Co.

**ELECTRICAL INSTALLATION:** Wiring—3-wire. Switches—General Electric Co.

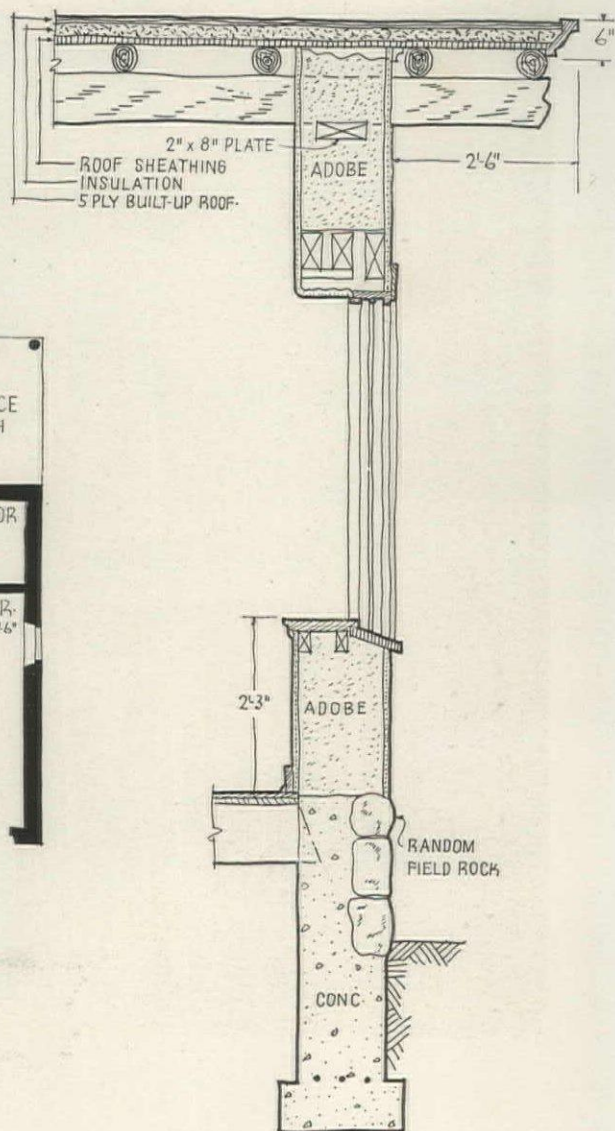
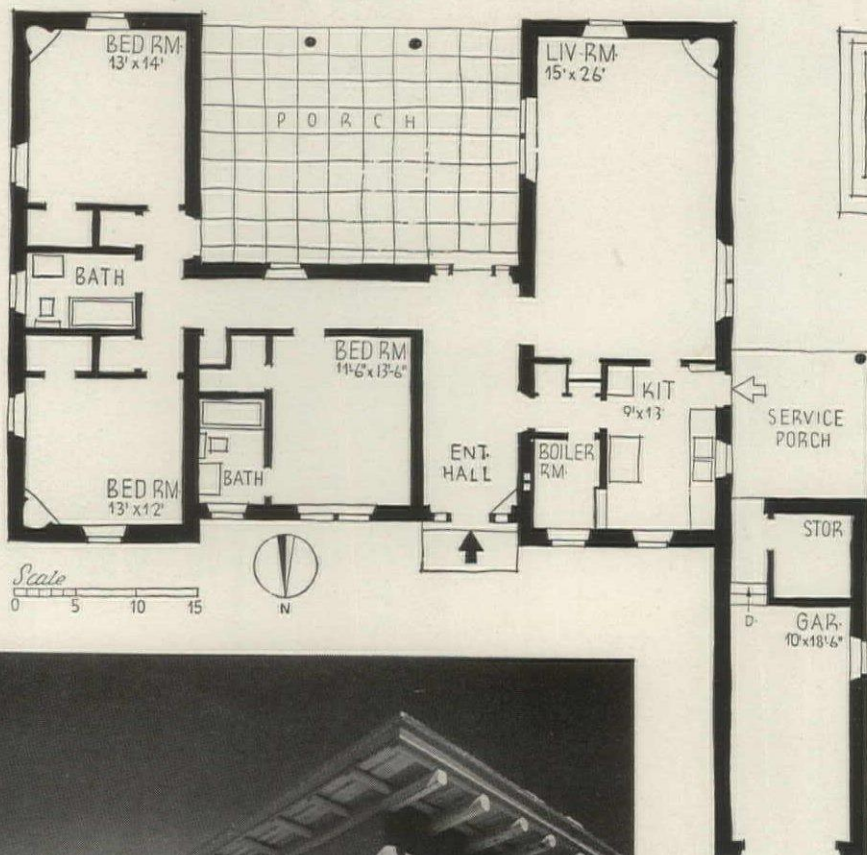
**KITCHEN EQUIPMENT:** Range—Chambers. Refrigerator—Electrolux, Servel, Inc. Sink—Monel Metal, International Nickel Co.

**BATHROOM EQUIPMENT:** All fixtures by Kohler Co.

**PLUMBING:** Cold water pipes—galvanized iron, Youngstown Sheet & Tube Co. Hot water—copper, Revere Copper & Brass Co.

**HEATING:** Hot water forced circulation system. Boiler—General Electric Co.; equipment by H. A. Thrush & Co. Radiators—U. S. Radiator Corp. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—General Electric Co. Fan—Pyrne & Co.



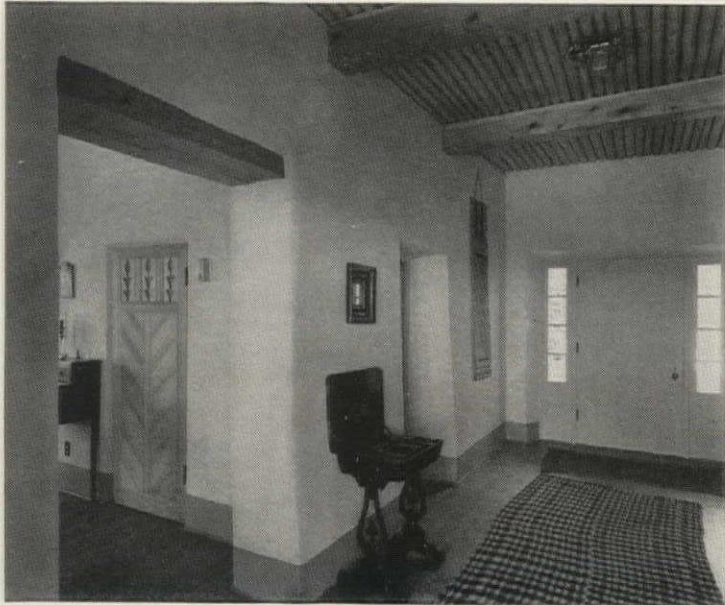


SOUTHEAST CORNER

BEDROOM



ENTRANCE HALL





# HOUSE IN HUNTINGTON, LONG ISLAND, N. Y.



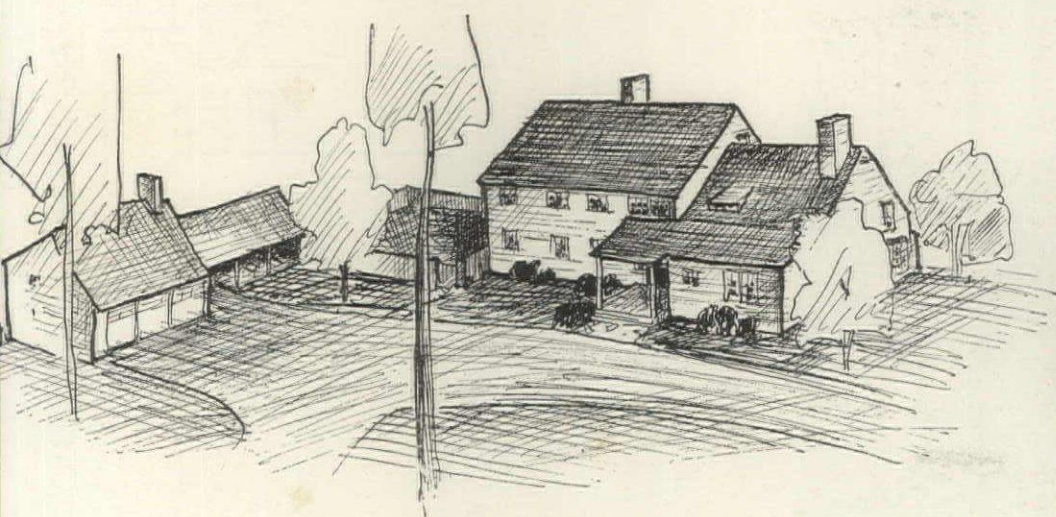
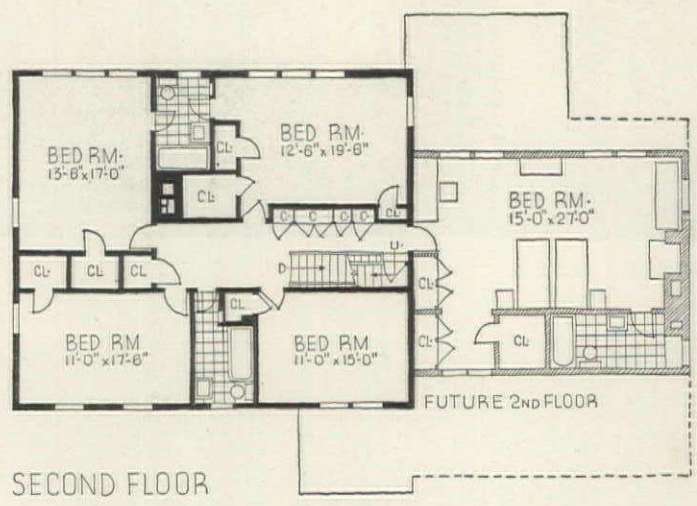
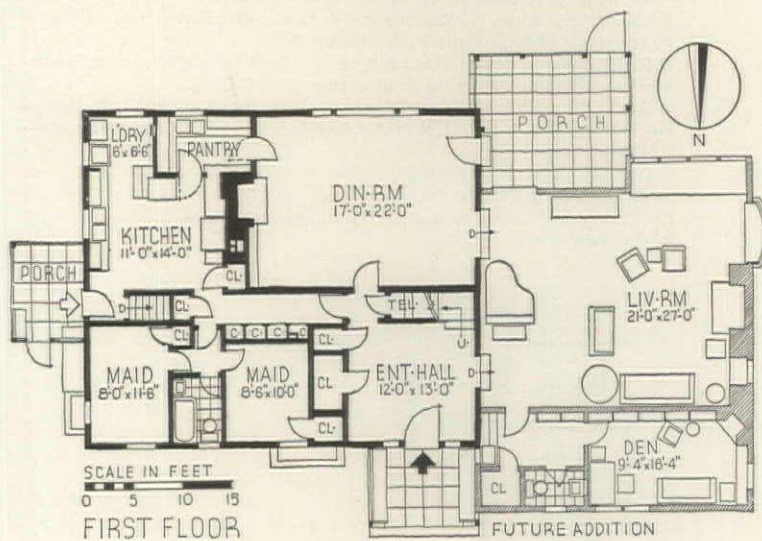
Samuel H. Gottscho Photos

## CONSTRUCTION OUTLINE

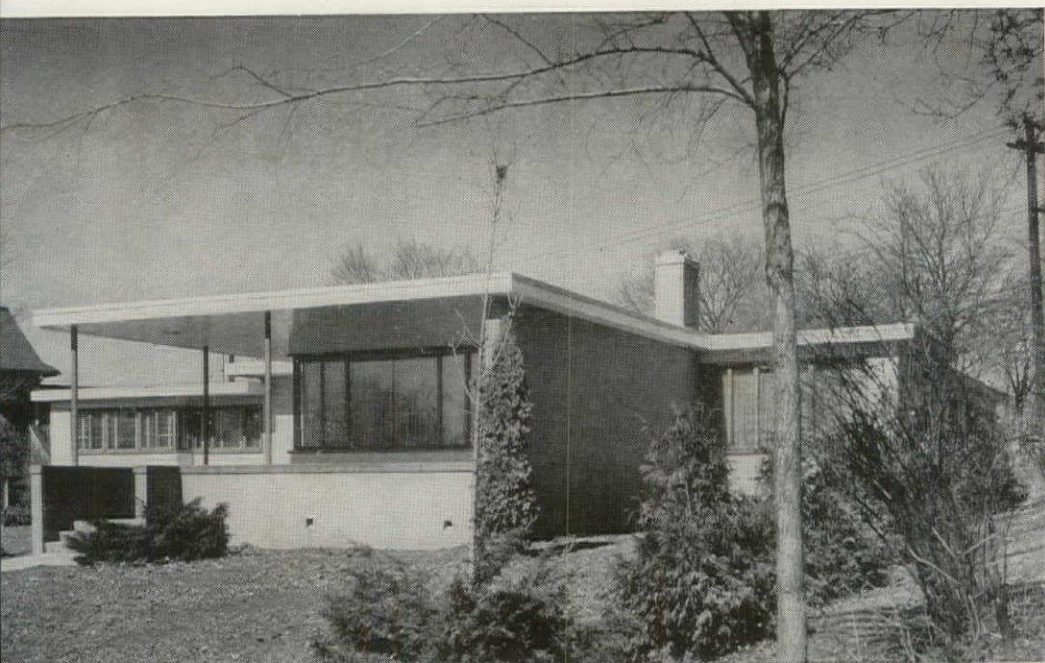
**FOUNDATION:** Cement block.  
**STRUCTURE:** Exterior walls—hand-split shingles, Colonial Lumber Specialties, Inc., Sisalkraft Co. paper, wood sheathing and studs; inside—perforated plaster board and plaster. Floor construction—oak and pine finish flooring. Ceiling—plaster.  
**ROOF:** Covered with asbestos shingles, Johns-Manville Corp.  
**FIREPLACE:** Damper—H. W. Covert Co.  
**INSULATION:** Outside walls, ground and attic floors—Balsam wool, Wood Conversion Co. Roof—rock wool.  
**WINDOWS:** Sash—Narroline, Andersen Corp.  
**STAIR:** By Morgan Sash & Door Co.  
**FLOOR COVERINGS:** Kitchen and bathrooms—linoleum, Armstrong Cork Co.  
**WOODWORK:** Trim and shelving—pine. Doors—Morgan Sash & Door Co.  
**HARDWARE:** By Schlage Lock Co. and H. S. Getty Co.  
**PAINTING:** By Continental Car-Na-Var Corp. and Samuel Cabot, Inc.  
**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—Despard, Pass & Seymour. Fixtures—Lightolier Co. and Kurt Versen.  
**KITCHEN EQUIPMENT:** Range—Aga, A. G. A. Stove Co. Refrigerator—Frigidaire Corp. Sink—Crane Co.  
**BATHROOM EQUIPMENT:** All fixtures by Crane Co. Cabinets—G. M. Ketcham Mfg. Co. and Hilco Co.  
**HEATING AND AIR CONDITIONING:** Hot air heating, filtering, humidifying and circulation of outside air for summer use, Gilbert & Barker Mfg. Co. Grilles—Tuttle & Bailey, Inc. Thermostat—Minneapolis-Honeywell Regulator Co.

The problem of the house planned for expansion is one which comes up frequently in architectural practice; the solution shown here is based upon the very simple expedient of using the present living room as the future dining room. Most of the space to be added is to be concentrated in a new wing on the west which will contain the new living room, a study, lavatory, bedroom and bath. The sketch also shows a future garage, joined to the house by an L-shaped wing. Cost: about 38 cents per cu. ft.



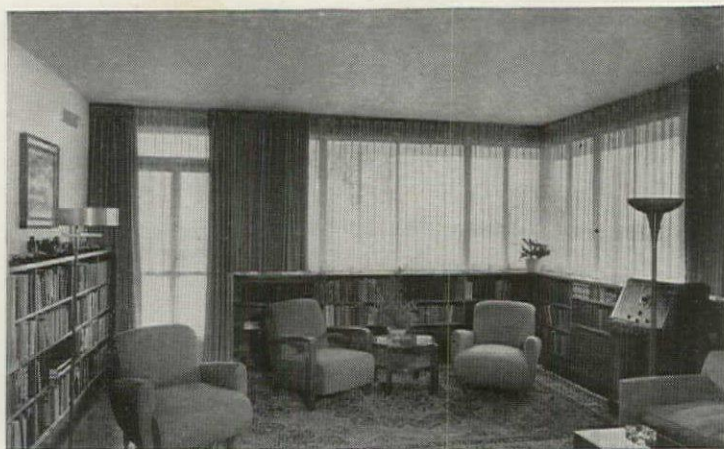






*Fromader Photos*

The organization of this plan is worth study. The house is divided into three zones for living, sleeping and service, with each unit self-contained but well related to the others. Built on a city lot, the house is flanked by others, and it will be noted that except in the service quarters there are no side windows. Of interest is the modern version of the front porch, a simple slab supported by lally columns, with a masonry wall at one side as a screen. Cost: 45 cents per cu. ft.

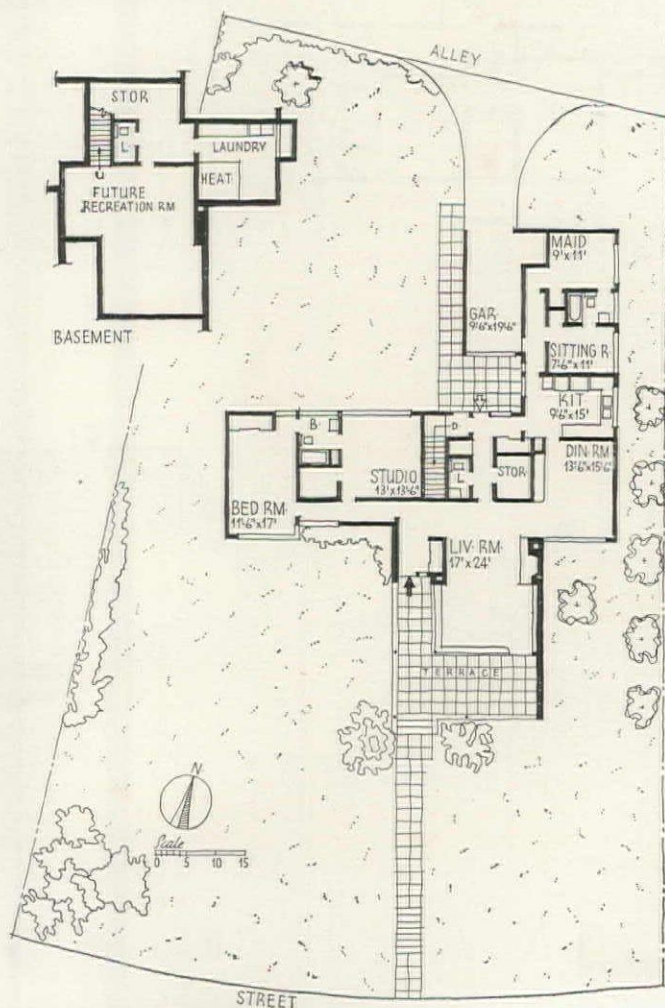


## LIVING ROOM



## CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—Hytex brick, some walls asbestos clapboards, Johns-Manville Corp. Sisalkraft Co. paper, yellow pine sheathing and studs; inside—U. S. Gypsum Co. rock lath and plaster. Floors—8 in. precast concrete joists, 2½ in. cast in place slab. **ROOF:** Covered with 4-ply tar and gravel, Barrett Co. **INSULATION:** Outside walls and roof—rock wool. **WINDOWS:** Sash and screens—Hope's Windows, Inc. Glass—Pennvernion, Pittsburgh Plate Glass Co. **FLOOR COVERINGS:** Main rooms—asphalt tile; kitchen and bathrooms—linoleum; both by Armstrong Cork Co. **LIGHTING FIXTURES:** Holophane Co. and Edwin F. Guth Co. **BATHROOM EQUIPMENT:** All fixtures by Kohler Co. Cabinets—Charles Parker. **HEATING AND AIR CONDITIONING:** Warm air system, filtering, humidifying, provision for future cooling. Boiler—General Electric Co. Grilles—Tuttle & Bailey, Inc. Thermostat—Barber-Colman. Water heater—Crane Co.





# THE ARCHITECT'S WORLD

## AFTER THE INTERNATIONAL STYLE—WHAT?

By Hugh Morrison

PROFESSOR OF ART, DARTMOUTH COLLEGE

Excerpts from a lecture before the New Hampshire Society of Architects, Concord, N. H., March 5, 1940

My theme is Modernism. Being an historian, perhaps I should trace the history of its development and end up with the International Style, but being rash, I am going to begin with the International Style and give my guesses as to what comes next. I am going to concentrate my attention on the American architecture of the future, . . . and I am going to present the thesis that the International Style in this country is on its way out and that our future American architecture will be one of various regional modernisms. . . . Remember that whatever I say should be prefaced by the phrase "In my opinion" or "So far as I can see—"

★

You all know what the International Style looks like. . . . Its essential characteristics: the loose plan vs. the formal plan; the open space vs. the closed space; volume vs. mass; and a general horizontality and abstention from ornament. The details of the picture you can fill out for yourselves. This style was developed in France and Germany during the decade of the Twenties. It was appropriate to the Twenties, and it was appropriate to the highly civilized and industrialized countries of the Continent which were undergoing profound social changes. Although by no means unheralded, it was in quantity and effect a revolutionary movement at the time. It represented not only new planning, new materials, and new methods of construction, but new thinking and new feeling. It became self-conscious and in time doctrinaire.

However, it was the most vital thing happening in architecture, and as has happened before with architectural styles, it proved itself an international influence: Holland, Scandinavia, Russia, Czechoslovakia, Switzerland, Italy, Spain, England, Turkey, Japan, America. During the decade from 1922 to 1932 it seemed to become apparent that it *was* a style and that it was international—and we had a name for it.

Leaving out of account earlier American modernism, which was not quantitatively important, the first large scale phase of American modernism has been dominated by this International Style,

and this phase has lasted through the decade of the Thirties and is still going strong. Perhaps as in Europe it blossomed in an era of social change. . . . From 1934, when the admen took it up, "functionalism" became the magic word, and it sold everything from teapots to evening dresses, as well as architecture.

Now, is this style the future of American modernism? To me it has grave lacks:

1) It is not as "functional" as is often alleged.

2) It does not suit the American topography and landscape—or if it does in some one region it cannot in all the others.

3) Its forms are too harsh, its details too tricky, and its use of materials too consciously esthetic.

4) It is not American, because of the foregoing facts, and because it in no way expresses the American tradition in architecture.

Because it is revolutionary it is self-conscious, doctrinaire, and artificial. But also because of this, it is far more vital, far more pregnant, than any or all of our eclectic imitations of historic styles. I state, and I insist, that much of what has gone into it must also go into our future architecture. Specifically:

1) Its planning for use rather than for axes.

2) Its insistence on orienting to the sun and to the view rather than to street and lot lines.

3) Its free and extensive fenestration.

4) Its attention to new materials, new methods of construction, and new mechanical gadgets—though the latter can easily go too far.

5) Its liberating effect on design. While it has not in general resulted in a great style, it has freed architects to such an extent that they may create one in the future.

What may this future be? Let me cite a parallel in the development of Gothic. Gothic, a style dominated by an elaborate new method of construction first developed in Normandy and the Ile de France, was the "Modern" style of its day and also the most vital. . . . This style drove into Germany in the mid-thirteenth century . . . At first the French

Gothic style was adopted almost verbatim. But see what happens. . . . Within a few generations the style begins to coalesce with the earlier style tradition, to develop along new lines in accordance with different conditions and needs and in expression of the German temperament, and it ends up not as French Gothic at all but as German Gothic—and regional German Gothic at that. Similarly in Spain. Leon follows St. Dennis, but by the time of Barcelona and Seville the style is Spanish Gothic, not French Gothic. Italy's first Gothic, the Abbey of San Galgano near Siena, is strongly French, but a little later no one will confuse Arnolfo's work with that of Pierre de Montereau.

In short, for a space of time French Gothic was the International Style of its day, but as time passed and its seeds were spread abroad, they grew up in new soils and produced new plants: national, regional, Gothic styles. They were all Gothic, which is to say that they were all modern and creative expressions of their lands and their cultures, but they were not, praise God, all the same kind of Gothic.

Much the same story might be told of the Renaissance, except that philosophic notions of style come in to befog the issue.

★

What might we expect, accordingly, in the development of modernism in America?

1) The first phase might be the verbatim adoption of the French and German "International Style."

2) The second phase might be a longer process of mingling with existing architectural traditions, adaptation to national and regional conditions, and the evolution of American regional modernisms.

3) The third phase might be the development of an ornamental vocabulary expressive of the national and local viewpoints and temperaments.

During a trip to Europe in 1937 I noted distinct signs of a trend away from International Style Modern toward national modern styles in Sweden, Germany (the real or proscribed modern, I mean),



and Holland. To a lesser extent in England. Not at all in Russia, which has turned away from modernism altogether.

A trip across this country in 1939 leads me to think that the same thing is beginning to happen here. Our great size and the great range of climate, materials, topography, and past architectural traditions lead me to believe that American architecture will develop into Regional Modernisms. What signs of this are there?

The most distinct evidences of such a regional style to date are to be found in California. California Modern seems to be composed of the following ingredients, varying in individual buildings and places:

- 1) International Style—a strong influence throughout.
- 2) "Monterey Colonial"—i.e. Spanish Colonial domestic architecture.
- 3) The "ranch house" tradition.
- 4) The adobe houses of the Indian pueblos.

Note that the most highly developed style, the provincial Spanish Renaissance of the big missions, has had little influence. It has of course been *imitated* in modern houses, stores, and movie theaters, where it is awful, but I do not mean that. As material for modern, I suspect that even in the clumsy work of the missions it is as a style too highly developed, too explicit, with too fixed a decorative vocabulary and too formal a layout. I think it will be found in the development of regional modernisms that those styles which had a highly developed esthetic will be least useful; those which approach most nearly to plain common ordinary peasant building will be most useful. In other words, vernacular styles rather than literary styles.

In California the various ingredients of local tradition are extremely well blended, and it is to be emphasized that the result is not a mere imitation of any one of these past styles, but a recreation of the qualities and spirit of all of them. The result is Modern. California Modern is the most highly developed regional style we have to date, and I believe the general average of California building is today the highest in the country. I do not mean the occasional works of genius—though there are these. I mean the average small house of the average untutored citizen or real estate developer.



The great Midwest is a region; a region with a distinctive geographic, economic, and social character. I should expect it ultimately to have a regional architectural style. But here we have an unusual historical circumstance, and one which makes prophecy about a future style hazardous. The Midwest has no native, genuine, long-time architectural tradition: nothing comparable to the Colonial tradition in other regions, for example. The

region was settled, in general, after even the Greek Revival—the last gasp of what might be called a real tradition—had run its course. Its building from 1850 on was in the spurious fashions of the late nineteenth century. There was *no style*.

Nonetheless, in traveling through the Midwest, looking at the mass of buildings done during the past several years, one senses a dominant trend, a community of feeling in all the better work, and that feeling is, more than any other one thing, Frank Lloyd Wright. . . .

This Wright tradition is based on his work of a generation ago—the "prairie style" houses of 1900-1910. It takes a generation or so for the quality and feel of a style to permeate a sufficiently large number of people to become evident in mass building. Wright himself has continued in this same tradition in the Willey and Jacobs houses of recent years, but his more dramatic recent achievements such as "Falling Water" and the Johnson Wax Company Building do not enter, I think, into this particular picture. But it seems likely that Wright's earlier work may have established a tradition in a region which had no tradition. If this guess turns out to be correct, it will be an almost unique historical instance of the social force of a single individual in architecture.

There are other regions of the country which have strong and genuine architectural traditions, local peculiarities of climate, people, and materials which we would expect to result in other regional modernisms. I have not found a sufficient number of examples of recent work to indicate certainly that these exist at present, and would not have time to discuss them if I had. But I have a hunch that the next regional tendencies to become evident will be:

- 1) The South—based on Spanish, French, and Modern.
- 2) Pennsylvania—based on Pennsylvania Colonial and Modern.
- 3) New England—based on New England Colonial and Modern.
- 4) Virginia and the Atlantic seaboard—based on the Colonial of this region and Modern.

And I would guess that they might develop in that order: Virginia last because its early Colonial is more or less obscured by the highly developed style and expert restoration of its eighteenth century, the charm of which will be a hindrance rather than a help toward the development of a real Modern Virginia—and partly because the inherent conservatism of Virginia society makes the phrase "Modern Virginia" seem at the present time a little laughable. . . .

I believe we face a difficult situation in New England. It is going to be hard work to create a distinctively New England and distinctively modern style. I think there are three reasons for this difficulty:

1) The region and its people are naturally conservative.

2) As in Virginia, we have a highly developed, sophisticated, and elegant eighteenth century style, the dignity and graces of which are only too likely to beguile us away from the simpler realities of our vernacular tradition.

3) The International Style is much less applicable to New England than it is to some other regions and we will have to abandon many of its characteristic features.



Specifically, it seems to me that the New England climate calls for:

- 1) A fairly compact plan and form.
- 2) Controlled fenestration—at least until better and cheaper insulating windows are devised.
- 3) Short driveways and walks on account of snow.
- 4) I have a feeling that the New England climate, plants, and foliage call for textured surfaces and a sparing use of color, though this may be an esthetic prejudice and not a climatic condition.

In any event, it is certain that the International Style is a much less useful jumping-off point here than it is in California, where the climate calls out loud for open planning, wings, projections, large glass areas, and all the rest.

But because there are difficulties does not mean that we should evade them. Conservatism and climate do not mean that we cannot have a modern architecture. They only mean that it will be a different kind of modern. And that kind, when we have it, will be our own.

I think that the dominant architectural traditions contributing to New England Modern will be the seventeenth century Colonial and that last phase of the Greek Revival when it had forgotten most of its classic orders, simplified itself to the point of abstraction, and become a widespread vernacular style used by farmers and carpenters all over the hinterland.

It will *not* be Georgian. I am convinced that eighteenth century Georgian is too highly developed a style, too explicit in detail, too formal in layout, too consciously esthetic, to be useful in the development of that free, unconscious, flexible manner of plain building which must be the basis of a real modern style. If you try to "adapt" Georgian by leaving off its classic detail, you will still have a stiff formal facade pattern; and if you try to loosen up the facade pattern you will have to revolutionize the Georgian plan—and by that time it won't be Georgian at all.

By the same token, it will not, of course, be Dutch Colonial or Pennsylvania Colonial because these are not our own traditions.

Neither will it be "Cap Cod." This style has been used with such insidious success by some of our leading eclectics that it bids fair to become a regional rash of neat little, sweet little, picket-fence and spin-



ning-wheel numbers, good because they are simple, but dangerous because they represent no work, no thinking, no creation. When I say "New England Colonial tradition" I mean a whole congeries of local styles evolved in the seventeenth and early eighteenth centuries—Massachusetts Bay Colonial, Rhode Island Colonial, Connecticut Colonial, Cape Cod Colonial, Maine Coast fishing-village Colonial, and many other local variations. It will be no use to try to "adapt" any one of them. If you do, you will be explicit and imitative. But if you look at them all, and get their feel for materials and mass, adaptation to site, simplicity, informality, and all their other great qualities, you will have a sound basis for being creatively modern.

You will note that in my guesses as to tradition in future regional modernisms, I have almost always skipped the early twentieth and nineteenth centuries and gone back to the earlier traditions.

This is not a natural or normal situation. I believe that in all great styles of the past there was a continuous evolution of modernism out of tradition. The strength of medieval modernism, for instance, was due to the fact that it evolved slowly and steadily, building plainly and patiently, and yet progressively. Son followed father, and son kept up with the times, making this change here and that improvement there. Architecture was always traditional, yet always modern. The development of style was slow, to be sure, because the development of the civilization and culture of the Middle Ages was slow; but it was also solid, because it was natural and unselfconscious and genuine. The normal evolution of an architectural style is based

on tradition, but the tradition followed is that of the *immediately preceding generation*, not that of two or three generations—or two or three centuries—ago. This keeps it alive.

We find ourselves in a different and abnormal situation. For several generations there has been no real architectural tradition. The nineteenth century produced a blank, a hiatus, in architectural evolution. We find ourselves in a difficult architectural vacuum; we want to be creative but we have no roots on which to grow, and if we merely try, deliberately and consciously, to "go modern" we produce artificial results, or at the best, revolutionary results. I see no other way out but to seek a living tradition by reverting to that point in our architectural history at which style was genuine, and to build on that. This point was in general, I believe, the Colonial.

This may explain my conception of tradition.



It may not explain my conception of the use of tradition. A thesis such as I am presenting is a dangerous one to hand to an architect who calls himself a traditionalist and who is in reality an out-and-out eclecticist. He will delight in my attack on the International Style and my defense of tradition in architecture, and will beam with complacent pride. "I was right all along," he will say, "I knew they'd get over these hare-brained modernistic notions and get back to solid stuff. And anyway, I never imitate a past style, I always adapt it to modern conditions."

This is an unthinking attitude. Includ-

ing a bathroom and an oil-burner is not adapting a *style* to modern conditions, it is merely changing the building without changing its expression. Beware of that word "adapt." It is so easy to take a Cape Cod house and by making a few changes in it delude ourselves into thinking we are "adapting it to modern conditions" when in reality we are making none but superficial changes. Do not adapt a past style; create a new one.

The conception of Tradition which I am trying to convey is one which is so thoroughly grounded in the architectural *feel* of our genuine past that it can forget its specific forms and details. It is a conception which calls for constant change and progress, even if this is slow. It is a conception which calls for as rigid and exacting a study of modern needs and methods of fulfilling them as the International Stylists, to their everlasting credit, have attempted. It is not a substitute for new thinking and new creation, it is a demand for it. "Tradition," as Walter Curt Behrendt has said, "is of value only when it is behind us, pushing forward."

Gentlemen, it is brash for anyone to make prophecies, and more than brash for a layman to tell architects what to do in their own field. I know that what I have said sounds dogmatic and positive, when it is really more the music than the words that I feel sure of. Most of all I know that it is easier to criticize than to create, and that stringing words together is one thing and creating new forms is another. I only wish that I could do what I feel, but I wish more that you could feel what you do, for you are the men who must create a modern architecture for New England.

## THE SCHOOL AUDITORIUM AS A THEATER

By Lee Simonson

Excerpts from a Bulletin of the same title by Alice Barrows and Lee Simonson, Issued by the Office of Education, U. S. Department of the Interior

Unfortunately, although school theaters are becoming as essential as gymnasiums and science laboratories, they are rarely planned or equipped with any sound knowledge of their technical requirements. Architects and school boards very rarely call in anyone trained in the professional theater as a consultant. The layout of most stages is determined by a guess, usually the wrong guess, with the result that almost all of them are cramped, wrong in their essential proportions, technically inefficient, and obsolete almost as soon as they are built. . . .

The common mistake is to make the auditorium far too big, the proscenium opening ridiculously wide and the stage itself impossibly shallow, because on a few occasions a year it may be traditional to have the entire school meet in a body for

general assembly or graduation exercises. The resulting seating capacity of 1,500 and often 2,000 seats, besides adding an unnecessary amount of building cube cost to the total cost of the building, puts an almost impossible handicap on the use of the auditorium as a theater. Most professional theaters in New York have a capacity of 1,000 seats or slightly less. The larger houses, seating 1,200 to 1,500, are invariably reserved for musical shows. Most managers avoid them for presenting plays—the plays invariably "get lost," don't "get over." Very few professional actors can project their trained voices or "get across the footlights" in a 1,500-seat auditorium.

In order to get sight lines from a spread of so many seats, the proscenium is spread in turn often to 80 ft., as in one school

auditorium of which I have seen a photograph. This is again the height, or rather the breadth, of the ridiculous. . . . The average professional production plays in a proscenium 32 to 34 ft. wide. For a school auditorium a proscenium width of 30 to 32 ft. is an ample maximum, 24 ft. a minimum. The auditorium capacity should range from 500 or less to 750 in order to give the intimacy necessary to an effective theater where amateurs perform. If for any essential reason the auditorium serves as a community center as well, and visiting soloists, lecturers, or moving pictures can fill its 1,200 or 1,500 seats often enough to warrant their being installed, provision should be made in the original architectural plan (as in the Wisconsin Union Theater) for partitioning the auditorium with curtains or movable partitions so



that it can be scaled down to one-half its seating capacity or less for regular use. . . .

The acting area of any stage should never be much more than one third of its total area. The stage space which the public does not see when the curtain is up is as essential as the space which it does see. Even where elaborate scenery is not used, and simpler or more stylized productions are done, stacking and storage space must be provided. However abstract staging may have occasionally become, no one has yet devised an abstract substitute for the tables, benches, couches, or chairs which players act on, in addition to all the other solid objects they handle, or act against, called properties, such as walls, statues, altars, platforms, trees, shrubs, etc. Furniture bulks large and requires ample stacking space, particularly as a piano, off stage if not on, is usually needed, and a succession of one-act plays often forms part of a program.

There must be enough room not only to give acting space to the backdrop or cyclorama but enough space to light this from above and below—borders cannot be hung or set nearer than 4 ft. if they are to light effectively—and there must be space besides for actors to cross freely in back of the backdrop without colliding with stacked scenery or properties. There must be space as well for actors to wait out of sight before making their entrances. Their exits right and left must not be blocked. Ample off-stage space is essential space on school stages where chorus groups are so often involved. People in little theaters are no smaller than elsewhere. . . .

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A safe rule is that the total stage space from sidewall to sidewall should never be less than twice the width of the proscenium, or one half the width of proscenium stage right and stage left. For a proscenium opening of 30 ft. the stage width will be 60. Every foot that can be added to this off-stage space up to 70 ft. will increase the technical and mechanical efficiency. As to depth, 20 ft. from the curtain is a minimum for the acting area, particularly on stages where dances and dance pageants are performed. Allowing 4 ft. of space for lighting to the backdrop or cyclorama, this places the rear setting line at 24 ft. Allowing 5 to 6 ft. back of this for stacking and passageway, the rear wall is 30 ft. back of the curtain line. The total depth of a stage should never be less than 25 ft., as the acting area then becomes too shallow.

The height of the stage above the floor at the first row of seats should be 2 ft. 8 in. Under certain conditions it may be reduced to 2 ft. 6 in. or 2 ft. It should never be higher than 3 ft.

In front of the curtain line an "apron" of 30 in. in depth should be provided to house footlights. These should be of the disappearing type, now standard with all leading manufacturers, so that the apron can be used as a forestage when so needed. It is highly desirable to provide more

forespace than this, semicircular in shape, 8 to 12 ft. deep at its widest point, for use in formal productions and revivals staged in the Greek or Elizabethan manner. Such a forestage is best made portable, a series of parallels (collapsible trestles) and wooden platforms, in unit lengths, that can be installed when needed and afterwards removed when realistic plays are given, and when so much blank space of unused stage between the audience and the actors within the set is a handicap in projecting the play.

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A valuable and almost essential adjunct to a forestage is a pair of portals, right and left, through which a chorus or players in an interlude can enter without coming through the proscenium curtain. Where funds permit and the auditorium is intensively used, an electric elevator forestage should be considered, which can be raised up 3 ft. above auditorium level, brought to the floor level and used for additional seats, sunk below the stage floor to serve as an orchestra pit. . . .

As to the stage floor itself, the commonest mistake is to increase its cost by making it of hardwood and thereby making it almost useless as far as stage setting is concerned. Stage settings have to be propped at regular intervals by stage braces which are quickly screwed into the floor when the scene is set and unscrewed as quickly when the set is struck. They cannot be screwed into hardwood; long-grained softwood should be used. The long grain will reduce splintering to a minimum. But in order to protect the feet of barefoot dance groups, the stage floor can be covered with linoleum which stage screws can take hold of.

An area equal to the acting area of the stage, supported on adjustable sleepers, should be left free, over a cellar space of 9 to 10 ft., for trap space and exits and entrances from below stage level. These traps should be incorporated in the stage floor as removable sections in units of 4 x 4 ft. or 4 x 5 ft. as a maximum, as longer

sections are too heavy for easy handling. Circular iron stairways leading to the cellar space right and left at the extreme corners of the stage are essential to provide cross-overs often required by the action of a performance, also to provide access, without cluttering the stage floor, for large chorus groups which can assemble in the cellar awaiting their cue. . . .

The height of a proscenium opening 30 ft. wide need never be more than 20 ft. high. This is an agreeable proportion. The curtain will rarely be raised more than 15 to 17 ft. . . .

The height of the stage proper, back-stage, or the stage house as it is called, is a combined problem of sightlines and the method used to strike and set scenery. Scenery is built in small units and has to be lashed together when set, and unlashed when struck. Smaller units can be stacked against the back wall or side walls. Large units cannot be handled in this way. The traditional method and the simplest one mechanically is to haul them up out of sight with ropes or wire cable working through sheaves attached to a slotted metal gridiron overhead. But a large proportion of the audience is not only looking at the stage but up into it. Therefore the gridiron must be high enough to haul the large units of scenery out of sight when not in use.

If it cannot be hoisted out of sight, there is no sense in hoisting it at all. Fifty-five feet above the stage floor (with head room above it to the roof) is a minimum height for the gridiron. Every 5 ft. that can be added increases the efficiency of the stage in an almost geometrical ratio. Sixty to 65 ft. is eventually worth every dollar of added building cost. Seventy feet is a maximum. Eighty feet would be the gridiron height in a well-planned professional theater.

*These excerpts represent only a small part of Bulletin 1939, No. 4, illustrated with plans and diagrams, and obtainable from the Superintendent of Documents, Washington, D. C., at 10 cents.—Ed.*

## C. F. A. VOYSEY

By John Betjeman

Excerpts from *The Architects' Journal*, London, February 29, 1940

*The Royal Gold Medal for this year—top architectural honor conferred by the Royal Institute of British Architects—has been awarded to C. F. A. Voysey. To the older generation of architects in America the name is rich in significance—a symbol of progressive thought in a time when such thought was expressed by very few beacon minds. But Mr. Voysey is now eighty-three years of age. Perhaps there are many of the younger architects and students who know little of his contribution to*

*architecture. Mr. Betjeman's brief review may rouse a desire for further knowledge.*  
—Ed.

Mr. Voysey's father was a Church of England clergyman, the Rev. Charles Voysey (1828-1912) who was deprived of his living for unorthodox preaching and writing in 1871. His beliefs were somewhat Unitarian and Liberal, and I imagine that his unorthodoxy differed little from that of the present Bishop of Birmingham. . . .



Charles Francis Annesley (b. 1857), the subject of this review, holds his father's beliefs, and built Annesley Lodge for his father in Platt's Lane, Hampstead, early in the present century.

I mention so much about Mr. Voysey's ancestry because it explains his own individualism and because Mr. Voysey is proud of the asceticism and spiritual sincerity of his forbears.

It is impossible to open a book on modern architecture today without seeing a reference to C. F. A. Voysey. "In England, Voysey and Mackintosh were the pioneers of the modern movement." "William Morris and Voysey led the way to the simplicity of the modern style." "Voysey, Morris, Walton and Mackintosh." "Voysey and Baillie Scott and Mackintosh," etc., etc. There is no doubt that Voysey's influence on domestic architecture has been greater than that of any other architect; for Voysey produced a type of small house covered with white rough-cast, with sloping buttresses, widely projecting eaves, prominent chimneys, and little external decoration beyond the disposition of horizontal rows of small oblong windows close under the eaves and in level rows only a few feet above ground level on the ground floor. The prevailing color was white, often with a broad band of tar around the top of the chimney, contrasting with brick red pots. Curtains, covered with gay trees and birds, designed by Voysey, fluttered from the windows; ironwork cut into humorous shapes acted as hinge and latch to doors of unstained oaks; oak chairs had stalwart vertical lines and a pierced heart in the center of the back, and plain rush or fabric-covered seats; generally, a green fabric contrasted with the oak. Spoons, forks, toast racks, rugs, cupboards, wallpapers and wall coverings (in a house on Chelsea Embankment the walls of the drawing room are covered with beautiful slabs of dark green Westmoreland slate, carried up as far as the broad white frieze)—all these were designed by Voysey. He makes himself acquainted with everything connected in a house from the foundations to the spoons and forks—wherever possible, he designs them all. Conscious Voysey influence may be seen in the early work of Lutyens, Baillie Scott, the Tugwells, and scores of other late nineteenth century architects.

But people are wrong to associate him with Mackintosh and George Walton and the art nouveau. He was never creating shapes out of his own mind, nor even out of the roots of the water lily: he would prefer the flower. He refers to the art nouveau architects as "The Spook School." Again, he has his delight in thorough and varied craftsmanship in common with Morris, but Morris's outlook and political views are not Voysey's. "Morris was too much of an atheist for me."

Voysey's architecture is based on first

principles of Gothic building. The disposition of his windows is determined by the plan of the house, not by its external appearance. He is a keen Gothic revivalist, sees no merit in any classic buildings in England—which he calls "Pagan,"—honors the work of Pugin, Bodley and Comper among architects. . . . He reverences the past, and desires not to rebel but to grow. In a letter to me of last year he says: "Architecture to me is a manner of growth. The traditional way of using material has taken generations to develop. Rather than think of doing anything new, I have only applied old traditions to new conditions. There is nothing new in any of my architecture, but new thought and feeling, which, after all, is only living development of what I have inherited from my ancestors coupled with the spirit of my time." One can understand, therefore, how puzzled he must be to find himself associated with steel and glass and concrete buildings, he, the domestic architect of the last phase of the nineteenth century Gothic Revival. Yet Voysey's simple solid houses have more in common with straightforward engineering than the work of Wren or the latest modernistic church.



Voysey has influenced contemporary architecture as much by his personality as by his buildings. One sees, in his houses, the thought, the sincerity and the aims of the architect. Voysey houses helped other architects to see and feel by their transparent honesty. . . . Today, architects talk of pandering to their clients,

they live in fear of the sack, they are harassed by worldly considerations, making money, paying subscriptions, having enough to eat. Their buildings are timid and full of doubt. Am I being too modern? Not modern enough? These problems have never bothered Voysey. He goes his own way and gives himself the sack, when his conscience is opposed by a patron. There is an apocryphal story that he refused to do any work for a rich person because she chose her own curtains for one of his rooms. He is not concerned with money, but with his work. That is why his work, although it is so personal, lacks ostentation of any sort. And his reverence for eternal truths saves him from mere eccentricity.

Mr. Voysey himself is as individualistic as his work—his coat made without a lapel because it is a needless appendage, his specially made pipes adapted from matured clays dug up in London building sites, his blue collars and ties, his bold clear handwriting, the practical tidiness of his personal furniture. Above all, there is his refreshing conversation, humorous and didactic, and through much of it runs a sense of the importance of spiritual values above all others.

Two years ago I made a reference to him in an article which he happened to see, and he wrote: "In my eighty-second year it is very gratifying to find oneself still remembered." The Royal Gold Medal is a far more satisfactory form of remembrance. But neither medals nor articles are needed to remind us of one of the most famous and influential architects of the last fifty years.

## THE ARCHITECTURAL SOCIETY

By H. S. Goodhart-Rendel

From his last address as President of the R.I.B.A., June, 1939

Until recently an architectural society has been regarded both from within and from without as a group of like-minded people associated together in pursuit of objects that all had in common. Persons who wished to pursue objects as to which the society as a whole could not be in agreement were considered both by the society and themselves to be better outside. But now things are not so simple. For various reasons the societies need all the members they can get, provided those members are honorable and accomplished in their profession. The necessary protection of that profession, also, has made it somewhat disadvantageous for its practitioners to remain what is called "unattached." Now members, therefore, whose agreement with a society's policy may be only partial, have to be allowed to come and bring their hatchets on the strict understanding that those hatchets are buried beneath the

council table. There the hatchets generally remain, to the credit of all concerned, but in an imperfect world it is obvious that occasionally they will be snatched up and brandished. A combat follows which probably everybody rather enjoys, a compromise is reached, and the work of the society is resumed after the interruption.

In parliament and in some of the councils of local government the procedure is inevitably different from this. In those bodies each member is provided with a hatchet by those whom he represents, and is given strict instructions never to let it out of his hands. It is not for him to listen to arguments with an open hand, it is for him to gloss over flaws in some, and to pounce upon flaws in others, as the agreed policy of his party may dictate. His approval of that policy in general is no doubt sincere; in particular matters it is not sincerity that is asked of him but obedience.



I am quite prepared to believe that experience has proved this cancelling out of rival interests, presented by delegates, to be the best way yet discovered of governing a country. I do not think it is a good way of governing a profession. Whether I and others think it a good way or not can probably have little effect upon events, which will be shaped by larger and blinder forces than personal opinions. I would, however, ask those who are pressing for the sectional representation of the architectural profession upon the Institute council to ponder very seriously the questions following. Would a point of view acknowledged as that of a party ever receive the dispassionate consideration that the same point of view would meet with if presented by an indi-

vidual? Would not organization for the redress of grievances, imaginary or real, produce a counter-organization of resistance that might lead to almost continual deadlock? Would an institute hampered with all the machinery that party strife necessitates, with a division lobby perhaps, and whips—would that institute ever get through any business? The Institute, with all its faults, now gets through quite a lot. Parliament, as we know, gets through very little indeed, except when they are thoroughly frightened. I sincerely hope the Institute is not going to remodel itself on the pattern of those most inferior and relatively ineffective assemblies. It began in a room above the "Cave of Harmony" in Covent Garden. I pray that it may never end in being itself a Cave of Discord.

railroads and of the building industry, aviation and the automobile, all of these mobile sculpture. Add the highway system and all the thousands of utensils, tools, instruments and appliances that are the common equipment of the farmer, craftsman and housewife. The pictorial form is supplied in vast quantity by the high-speed press, by the motion picture, and the amateur cameraman. These phenomena have been evolving in both quantity and quality for the last 40 years and with widespread appreciation by the vulgar. (That they have not been digested sociologically is another matter.)

It is submitted that the structures mentioned possess the physical elements of which any work of art is composed, namely: line, plane, and volume (prime producers of special sensations), color and texture; that these elements are, in the main, coherently disposed. The majority of these forms involve a drama of dynamic movement and continual flux of pattern. One could have all this and still have a dead thing through lack of purpose, but these objects owe their existence to motivations as vital as those of the cave painters.

It is submitted that the vast majority of these structures are genuine, earnest and obviously vulgar (common); that they possess an honest dignity, are democratic, constructive, experimental, generally more involved with earthy profit than with "humanity," developed out of life (popular "longings") and supported by popular approval.

All this is the answer to our critic's prayer. A stronger awareness of its origin, extent and influence might make him more tolerant of the "freakish." The effects of this vulgar art are twofold; on layman and on artist. Both are exposed to visual sensation which is without precedent in either form or quantity. The timid and the confused are miserable for the lack of a comfortable stabilized tradition. The creative are meeting the necessity for and the opportunity of forming its traditions. These traditions cannot achieve form without the conscious presumptions of men who have the courage to pursue their own beliefs regardless of the judgments of their contemporaries.

Sheer quantity of sensation in daily life crowds the field once that of the painter and sculptor, and has forced them to seek a restatement of their rights to exist at all. It has at the same time given the artist many new media which have hardly been explored as yet, let alone exploited. If some should seem spectacular and freakish, what of it? The artist, far from shirking his duty to society by turning out the safe, has, perhaps, some obligation to push beyond familiar frontiers. And while some of these are pushing beyond we can rest assured that the picture of a disdained and forsaken mankind is ill-drawn and unsubstantiated.

## THEY SAY—

"Structures may come and go, become outmoded and be replaced, but natural beauty, once thoroughly violated, cannot be so replaced."—A. D. TAYLOR.

"Hollywood has missed its chance. It had the opportunity to create a new art form, possibly the best of the arts. The inventions were there, the machine was there, but the artist wasn't."—FRANK LLOYD WRIGHT.

"The reality of building does not consist of walls and roof, but in the space within to be lived in."—LAO TZE.

To which *The Builder* (London) replies: "... an obvious half-truth, for without walls and roof of some kind there can be no structural reality and no space to live in, except the open air. And if walls and roofs are so unimportant it is odd that so much fuss should be made about them."

"The modern trend must come, and seem at variance with the classical style established (for Washington). It is up to us, however, to see that the transition is gradual. There should not be a sharp break in the architectural design of the capital."—GILMORE D. CLARKE.

## COMMENTS ON A VULGAR ART

By Robert L. Lepper

ASSISTANT PROFESSOR, DEPARTMENT OF PAINTING AND DESIGN, CARNEGIE INSTITUTE OF TECHNOLOGY

An impassioned appeal for a vulgar art appeared in these pages in September.\* We were told that the arts are attacking our democracy through "spectacular and freakish" works which, as the "sophisticated vanity of a few egotists," have "disdained and forgotten" mankind.

The picture is one of a miserable and forsaken society crying for bread and handed a stone. We are advised to seek an art which is "genuine and earnest . . . which neither pampers nor shames democracy . . . an art which is as much the property of every man as life, liberty and the pursuit of happiness . . . which serves life . . . for the people . . . of great beauty, which is commonly understood by them."

We have it! Perhaps it has escaped our critic's notice because he looked for it in wrong places, and in seeking expected it

to look quite different than it does. In seeking vulgar art one will do well to look for it among the vulgar, in the street, shop, field and kitchen, and to avoid the mystic dens of surrealism. In expecting art to be interpretation and to forego expression the critic is seeking to strip it of the very quality which makes it art. For that which is *commonly* understood must be so effective an *expression* that it needs no interpretation.

Our common art is really common . . . indeed so much a part of life that the scholarly critic might easily miss it. It is composed of works which are our parallel to the handsome commonplaces of the Greeks and Medieval Europeans—now the treasures of the antiquarians. . . . The source: power converted into rotary motion becoming the rolling and sheet mill, the cement mill and the stamping press. The product: the paraphernalia of the



# THE DIARY

Henry W. Saylor

*Thursday, February 15.*—If I could sit at the feet of John Sloan for a month or two I believe I should come to a clearer perception of what the painters are trying to do. Sloan, who has taught in the Art Students League since 1914 (except in 1930-31 when he was its president), talked at an Architectural League luncheon today and shared with us a few unorthodox thoughts. He rates the human eye as a minor instrument among our sensorial tentacles, the sense of touch our principal means of building mental concepts of our environment. Photography is far superior to the brush in recording what the eye sees; when Daguerre invented it the painters should have started recording mental concepts rather than mere visual images. All art of the last 125 years—not painting alone—Sloan rates at the lowest ebb in the 4,000 years we know anything about.

The thing that still puzzles me is how one can, with paint and canvas, share a mental concept; mankind has become accustomed through countless generations to regard a visual representation as a sharing of what the artist saw or imagined he could see, rather than something he dug out from under a flat stone among his brain cells.

*Saturday, February 17.*—Louis Rosenberg has a superb show of his drawings and etchings in the Grand Central Art Galleries. Samuel Homsey is showing his masterly water colors in the Associated American Artists' Galleries—which galleries, incidentally, he designed a year or so back. Both shows are full of things that one would tuck under an arm and hurry home to bring new life to the living room—if one had the fifty or seventy-five dollars. Here and there is a Sold card, but it must be rather discouraging business to turn out what both these men are producing in a time when the bare necessities use up so many incomes. Paraphrasing Oswald Crawford with "If thou hast two shirts, sell one and feed thy soul," much of its force is lost when thou hast only one shirt.

★

*Tuesday, February 27.*—A deeply poignant note was struck for many of us at the New York Chapter's annual dinner tonight—the posthumous award of the Medal of Honor to Raymond M. Hood. Mrs. Hood and her son, Raymond M. Hood, Jr., came to receive it. In presenting the Medal to the son, Chapter president Frederick G. Frost said: "This Medal is for your safe keeping, and may it ever be a reminder to

you of your father's short but brilliant career in his chosen profession, and of his unstinted service and inspiration to the architectural students and draftsmen of his day. As you have now chosen as your life work the profession of architecture, may this Medal be to you an urge and stimulation to emulate your father through your whole student and professional career." (Ray Hood is a sophomore at Princeton.) This is the second time the Chapter has honored a man with its Medal after his passing. In 1925 it was awarded posthumously to Bertram G. Goodhue.

★

*Saturday, March 16.*—One might infer, from a joint resolution introduced in the House a few days ago that Congress had suddenly become architecture-conscious. Problems of the nation and of the world having for the moment appeared to be all solved, Congressman Hobbs of Alabama asks the Representatives to vote aye on the following:

"RESOLVED by the Senate and House of Representatives of the U. S. of America in Congress assembled, that, any other provision of law, decision of governmental agency or agencies, or contract to the contrary notwithstanding, that area in the District of Columbia bounded on the north and northeast by F Street Northwest and Virginia Avenue Northwest, on the south by Constitution Avenue Northwest, and on the west by the Potomac River—in which area it is proposed to erect the public buildings for the use of the War and Navy Departments—be, and the same is hereby, reserved and set apart, insofar as any Federal public buildings program is concerned, as a marble area; in which all public buildings which may be erected shall be completely faced on their exteriors with marble in a sand-rubbed finish."

Now all that is needed to inaugurate a jolly little charette, with the Supervising Architect's Office writing specifications from dictation, is the introduction of similar resolutions requiring respectively granite, limestone, sandstone, concrete, terra cotta and panels of enamelled steel. To the next session might be left a decision as to the interior finish. Incidentally, a contract had already been let for the first unit of the War Department, specifying exterior walls chiefly of limestone.

*Saturday, March 23.*—D. Knickerbacker Boyd has shouldered the job of making articulate the architectural profession in

justification of its existence. Boyd believes, with many other opponents of the shrinking violet attitude, that to have the people understand the what, why and when of architectural practice, they must be told about it, not once, in one way, but again and again in many ways. He has lately been elaborating his convictions, with exhibits, before the Philadelphia and Brooklyn Chapters, A.I.A., and the West New Jersey Society, and doubtless will be found crusading up and down the land as long as he finds sympathetic ears. The word "job" that I have used, however, is a mere euphemism. It is at the moment all work and no pay, and the limits of such activities are fairly rigidly imposed by the length of time the performer can live off his own fat. Dave Boyd starts out rather well in this respect, but I imagine his tailor cannot for long be cheated out of the job of moving in some buttons unless the profession soon awakes to a realization that Dave is carrying a load that belongs to all of us.

★

*Tuesday, March 26.*—The dinner hour and evening found the New York Chapter, A.I.A., gathered to discuss "Vs," the architectural show of Ye Olde vs the Nude (Apr. FORUM, p. 15). A brilliant display of oratorical fireworks had been anticipated, but it failed to explode. Hugh Ferriss, organizer of the show, made a speech which served practically to end all speeches on both sides of the question. He pointed out that with the main purpose of interesting the public, the extreme right and the extreme left had been dramatized, ignoring the middle-of-the-road architecture which constitutes the main body of today's building. Quoting Keats in the familiar coupling of truth and beauty, Ferriss coined the epigram of the evening in suggesting that while the old work frequently achieved beauty though sometimes at the expense of truth, the new work aimed so single-mindedly at truth that it failed to capture beauty.

Harrie T. Lindeberg delighted the gathering with an account of his visit to the widely publicized house at Poissy by Le Corbusier. Having discovered the entrance with some difficulty, Lindeberg and his little dog were admitted by a caretaker. The family was away, escaping the summer heat; in the winter they sought a summer climate to escape the cold. "And you?" asked Lindeberg. "I have to live here—I am paid to do so," said the caretaker,



inviting him in. Ascending a ramp to the second floor, the great openness of the plan and the abundance of glass at once proclaimed the modern manner—so much so that the dog, not really knowing whether he was indoors or out, and finding plenty of free-standing lally columns about him, was obviously misled.

Harvey Corbett recalled a previous cleavage in the profession as between the right and the left wings. It was just after the turn of the century, when Corbett and his contemporaries returned from Paris to find themselves the extreme modernists of the day. In the right wing it was considered good practice to dig up from the past a good facade and construct a plan to go back of it. The Beaux-Arts Boys came back with the radical idea that the plan should be devised first and a facade made to fit it.

★

*Wednesday, March 27.*—Edward L. Bernays, counsel on public relations, today told a big luncheon meeting of the New York Building Congress that the industry itself had better do something to lift itself and the nation to a normal activity. Bernays' preliminary investigations were methodical and extensive. He collects a barrel of facts, analyzes them and builds thereon. His recommendations add up to no panacea, no camp-meeting slogan, but rather to a program of six steps—all but the last one easy going.

1) Give the job to an existing or a new committee representing the Congress' diversified membership.

2) Committee brings together the best statisticians and economists to decide upon tangible goals.

3) Committee adds to itself national leaders from the public, the industry, real estate, finance, representing divergent viewpoints.

4) Enlarged committee finds areas of agreement—problems and their solutions—as a basis for program of action.

5) Make a survey through professional technicians to find present public attitudes towards the goal and the extent to which these may be modified to bring results.

6) Launch a campaign of public education based on the survey.

★

*Tuesday, April 2.*—Four hundred four drawings, submitted in the fourth and last in a series of Insulux Glass Block Competitions, awaited today the verdict of eight eminent architects. Aside from the customary small percentage placed *hors concours* by reason of size, the use of paper instead of illustration board, and other failures to conform to the mandatory conditions, the drawings maintained a fairly even level of merit.

Specific criticism of the lot and of the premiated designs belongs rightfully in the Jury's report (page 32). Rather more frequently than in former competitions

was noted the use of a solid black sky—a reaching for Jury attention that probably fell short of its mark; when too many voices shout aloud, it is the whisper that carries emphasis. Whatever the problem may be, and whatever the jury, two elements rarely fail to win at least a careful consideration, if not an award: 1) clear, simple, unmistakable delineation, with areas fully named, not designated by letters or numbers; 2) a plan that in simplicity and unity offers the most direct road to its goal. Loading the drawing with finicky detail, no matter how pertinent, sets up a barrier to quick recognition of merit.

*Wednesday, April 3.*—Three awards out of the eight made tonight by the Insulux Competition Jury went to graduate students of Massachusetts Tech. Just what this may signify in the realm of architectural education will probably be a subject for argument in the scholastic circles for some weeks to come. The clean sweep of youth, however—to win, place and show—lends weight to the recent dictum of Lorimer Rich, that “art is largely a matter of the arteries.”

Alvar Aalto was a particularly welcome guest at our final dinner of the Jury tonight. He shed his uniform in Finland upon being ordered here to refurbish his design for the Finnish exhibit in the New York World's Fair. Looming more importantly in his mind, however, is his next job of helping to rebuild his ravaged homeland.

★

*Monday, April 8.*—Edward Pearce Casey, architect of the Congressional Library among other works, who died in January, left an interesting will. After Mrs. Casey's death, the Casey farm in Rhode Island, including a house built in 1745, goes to The Society for the Preservation of New England Antiquities, with a \$70,000 endowment. Endowments of \$50,000 each are established for: Metropolitan Museum of Art for architectural collections; Museum of Natural History; National Society of Audubon Societies for the preservation of species of flora or fauna; the Century Association for the improvement of its library in architecture, archaeology, painting and sculpture; Columbia University for the improvement of its grounds; the University Club for the purchase of American paintings, especially by Gardner Symons and Frederick Waugh; the Cathedral of St. John the Divine; and the New York Zoological Society.

*Friday, April 12.*—A favorite indoor sport of the day consists of telling the architect that he knows too little about color, followed by an injection of optics, physics and “styling.” Today's injection penetrated a group at the Beaux-Arts Institute of Design and was made painless by Julian Garnsey, color consultant to the New York World's Fair. The architects took it gladly

and probably with profit. On April first the Council for Paint Styling had held a clinic at the Waldorf, where the injection was anesthetized by the presence of some more or less glamorous models clad in black slips. Dean Cornwell, Stephen Frank Voorhees, Lucian Smith and Commissioner William Wilson (of Public Buildings and Housing) were given fabrics, pins, scissors, decorative miscellany and a passive model upon which they were to create in ten minutes a harmony of draping and color. Results: nothing to write home about. A talk, with color slides, followed, picturing habits and tastes in American house painting, and the Council for Paint Styling efforts to better them. If the architects in the audience resented the appropriation by other technicians of what was once a design function of their own, they could blame only their continued neglect of the small house field.

★

*Saturday, April 13.*—Cecil C. Briggs who has been made supervisor of Pratt Institute's Department of Architecture, is trying out a new sort of architectural clinic. He has the idea of helping to bridge over the registration law requirements of three years' practical experience between graduation and registration. The gaining of that experience has become a difficult matter in these days when even the registered architects are not too busy. Nevertheless, we have no lack of poorly designed homes and alterations which are designed by builders and real estate men. The clinic will be patterned somewhat along the lines of medical clinics, with the hope of dispensing advice and information without profit. Only such services will be attempted as would be unprofitable to established practitioners. Committees from the local A.I.A. Chapters are consulting with Mr. Briggs on this point. Work in the clinic is to be performed by advanced students until next September, when four Fellowships will be provided by the Institute for graduates who will remain as clinical internes.

★

*Monday, April 15.*—Lewis Mumford, speaking recently to a group of educators in Chicago, urged the development among us of regional culture. Over-accenting our dependence politically upon Washington, financially upon New York, educationally upon the East, spreads an inferiority complex. “America has overvalued its natural resources and undervalued its culture. It has neglected American literature, science, philosophy and painting, and particularly in their regional manifestations.” And in any effort to understand, emulate and further develop the cultural achievements of our varied regions, let's not forget their indigenous architecture. Copying of past forms and details will not do; carrying forward their evolution in the light of new knowledge is a job worth the doing. Professor Hugh Morrison's article on page 345 develops this thought.

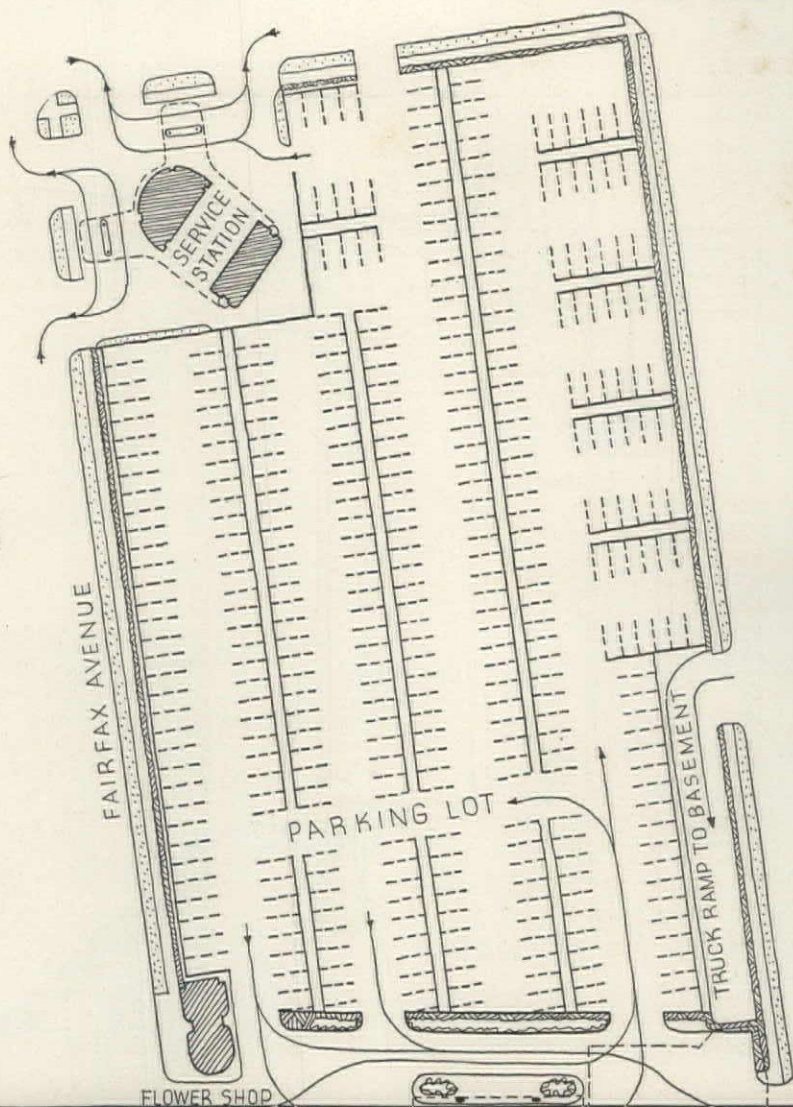


# DEPARTMENT STORE

FOR THE MAY DEPARTMENT STORES CO.  
LOS ANGELES, CALIF.

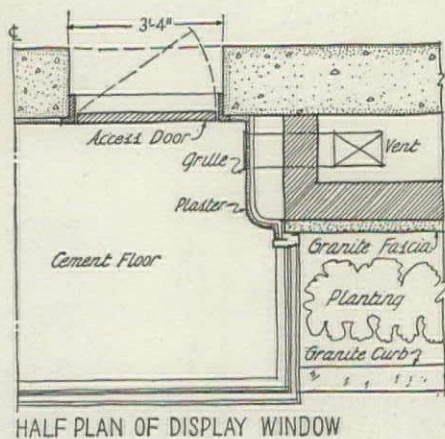
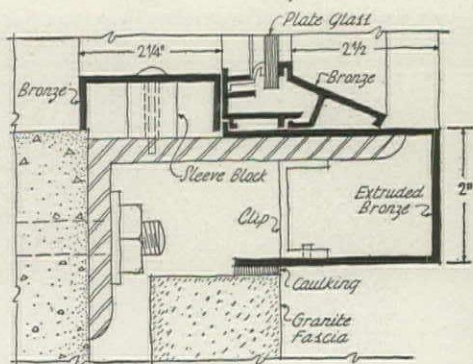
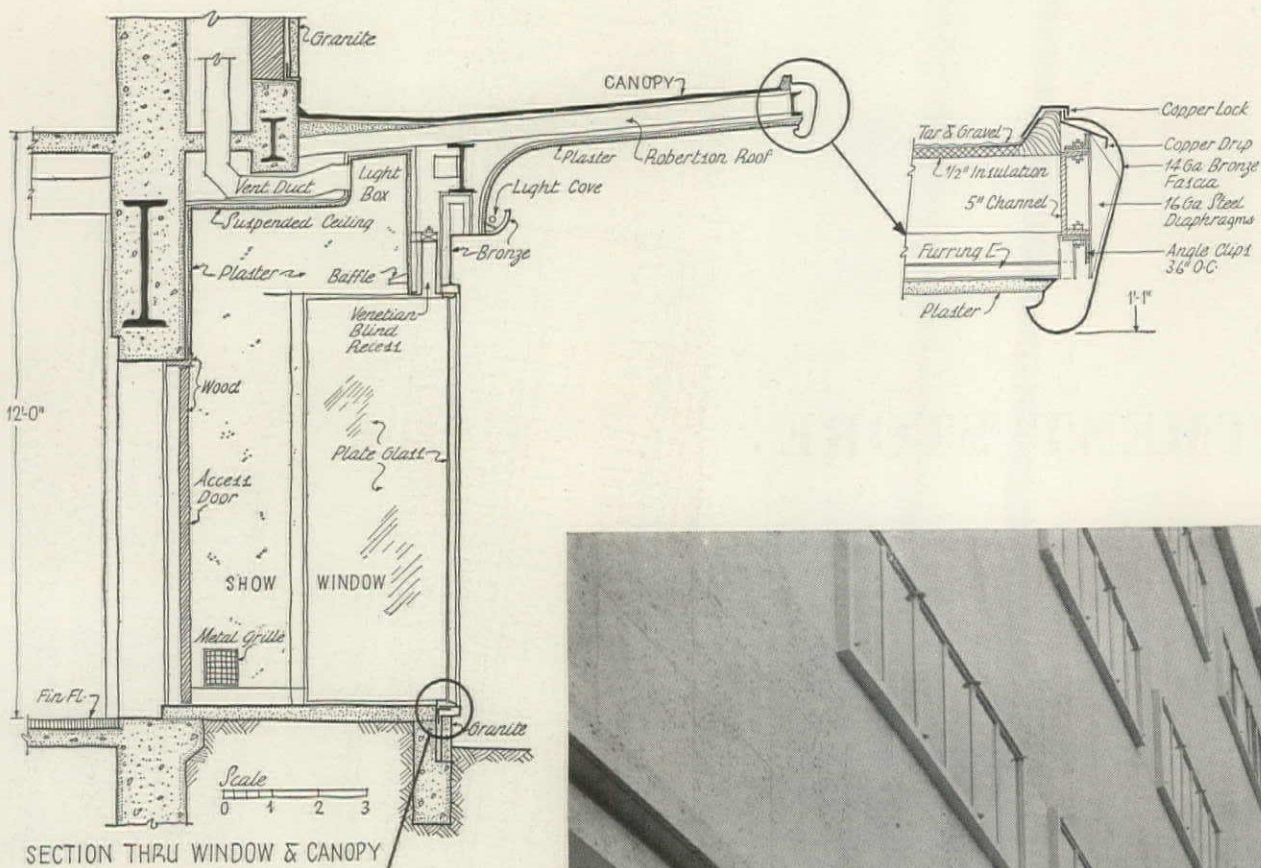
ALBERT C. MARTIN, ARCHITECT

SAMUEL A. MARX, ASSOCIATE ARCHITECT



Fred R. Dapprich



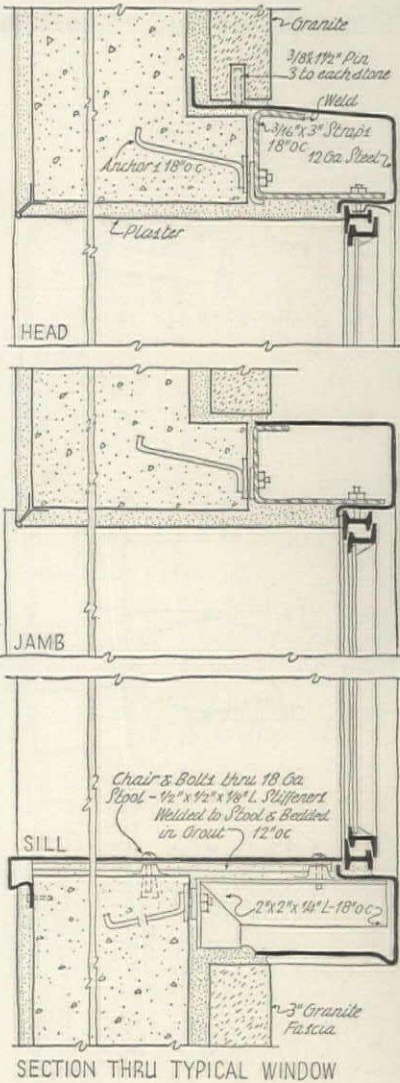


All photos, Imandt



The impressive progress in design made by large merchandising establishments in the past few years is amply in evidence here. The exterior has been reduced to a simple composition of walls, windows and signs, and the show windows, always a vital point in department store advertising, have been handled with effectiveness and ingenuity. The controversy over daylighted versus windowless stores is apparently far from over, as the

fenestration in this example was obviously designed to admit a maximum of natural light. Car parking is accepted as a problem to be solved, and the illustration below shows the car entrance to the building, which directly adjoins a large parking field. The interiors represent an extension of the current trend toward the emphasis of merchandise by a subordination of structural elements. Cubage: 3,629,000. Cost: \$1,610,000.



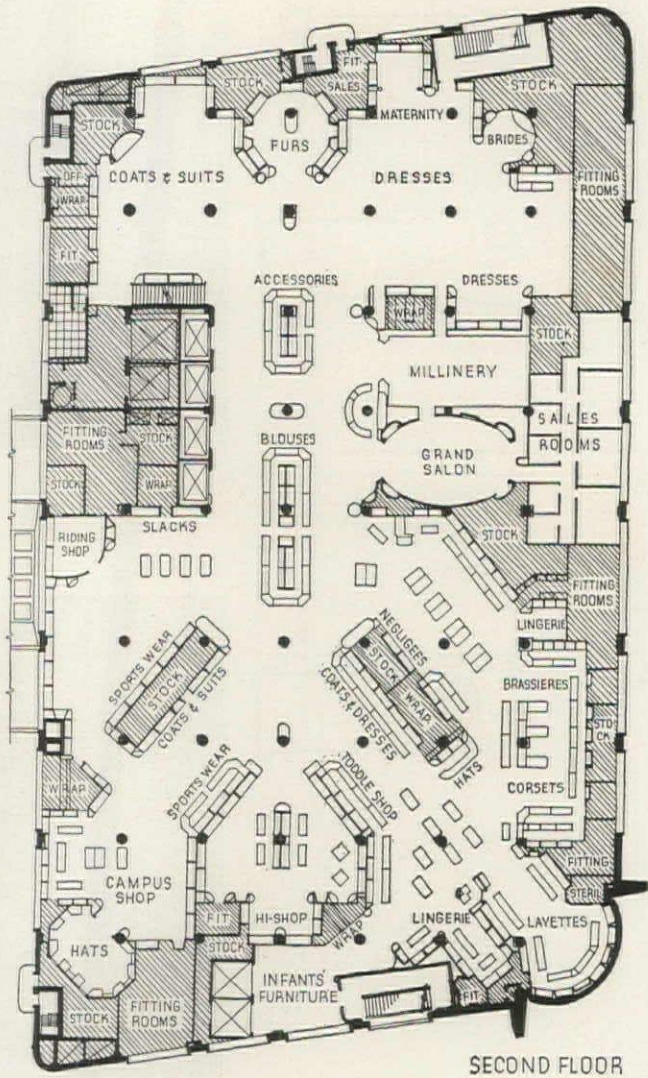
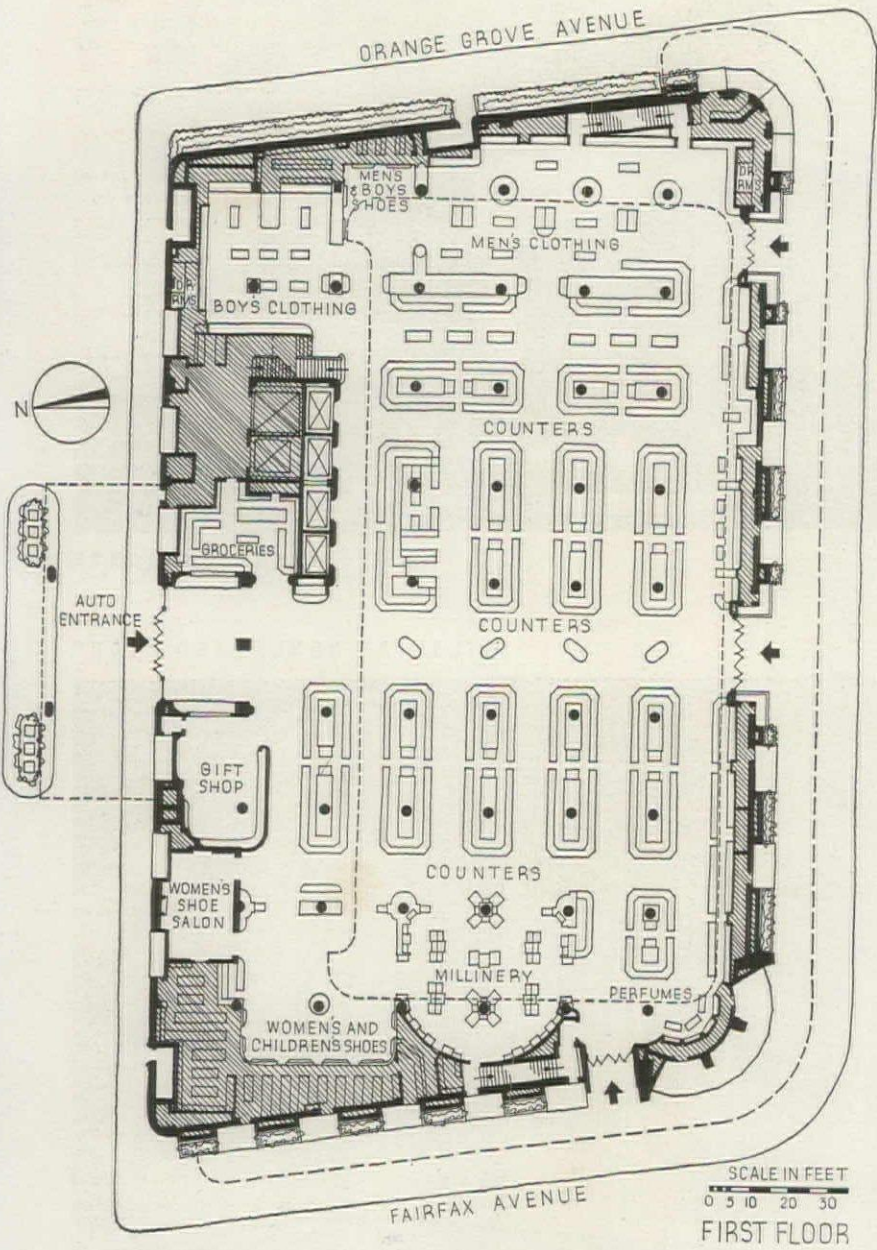
NORTH ENTRANCE



WILSHIRE BOULEVARD FRONT



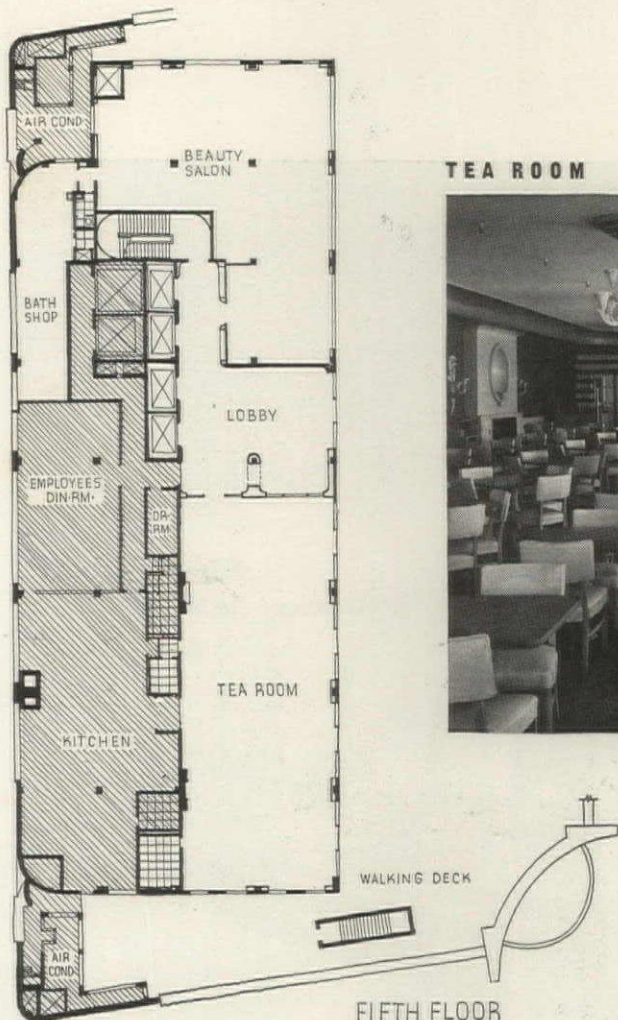
DEPARTMENT STORE, LOS ANGELES, CALIF.







FIRST FLOOR



TEA ROOM



FIFTH FLOOR

ALBERT C. MARTIN  
Architect-General Construction

SAMUEL A. MARX  
Associate Architect-General Construction, Interiors, Store Fixtures and Furnishings

FORD J. TWAITS CO.  
General Contractors

### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Reinforced concrete. Waterproofing—Masters Builders Co. and Super Concrete Emulsion Co., Ltd. **STRUCTURE:** Exterior walls (street fronts) black granite and Texas shell limestone; remainder—poured concrete painted with Cemolith, Super Concrete Emulsion Co., Ltd. Entire building frame of structural steel. Corner treatment—gold mosaic. Interior partitions—some clay tile and plaster; remainder—hollow steel studs, metal lath and plaster. Floor construction—reinforced concrete covered with light-weight concrete or marble. **ROOF:** Covered with quarry tile, heavy composition or gravel roofing. **SHEET METAL WORK:** Flashing—copper. Ducts—galvanized iron. **INSULATION:** Ceilings—mineral wool. **WINDOWS:** Sash and screens—Detroit Steel Products Co. Glass—Pennvernion and plate, Pittsburgh Plate Glass Co. **ELEVATORS:** By Otis Elevator Co. **DOORS:** Main entrances—Herculite, Pittsburgh Plate Glass Co. Garage—J. G. Wilson Corp. **HARDWARE:** By P. & F. Corbin Co. **PAINTING:** By O'Brien Varnish Co., Bauer's Paint Co., Mathews Paint Co., Pittsburgh Plate Glass Co. and Super Concrete Emulsion Co., Ltd. **ELECTRICAL INSTALLATION:** Wiring system and switches—General Electric Co. Circuit breakers—Square D Co. and Kehlman Electric Mfg. Co. Fixtures—Solar Lighting Fixture Co. **PLUMBING:** Soil pipes—Arco cast iron, American Radiator - Standard Sanitary Corp. Water pipes—Mueller Brass Co. Pumps—Nash Engineering Works; Permutit Co. water softener. Toilet fixtures—Washington Eljer Co. Kitchen equipment—Dohrmann Hotel Supply Co. **HEATING AND AIR CONDITIONING:** Heating—indirect steam system. Air conditioning—(5th floor) Worthington Pump & Machinery Co.; balance—Carrier Corp. Fans—B. F. Sturtevant Co. Oil burners—Ray Oil Burner Co. Thermostats—Johnson Service Co. Valves—Pratt & Cady Co. and Kennedy Valve Co. Water heater—National Radiator Corp. **SPECIAL EQUIPMENT:** Spiral chute and tube system—Lamson Co. Incinerator—Smith Engineering Co.

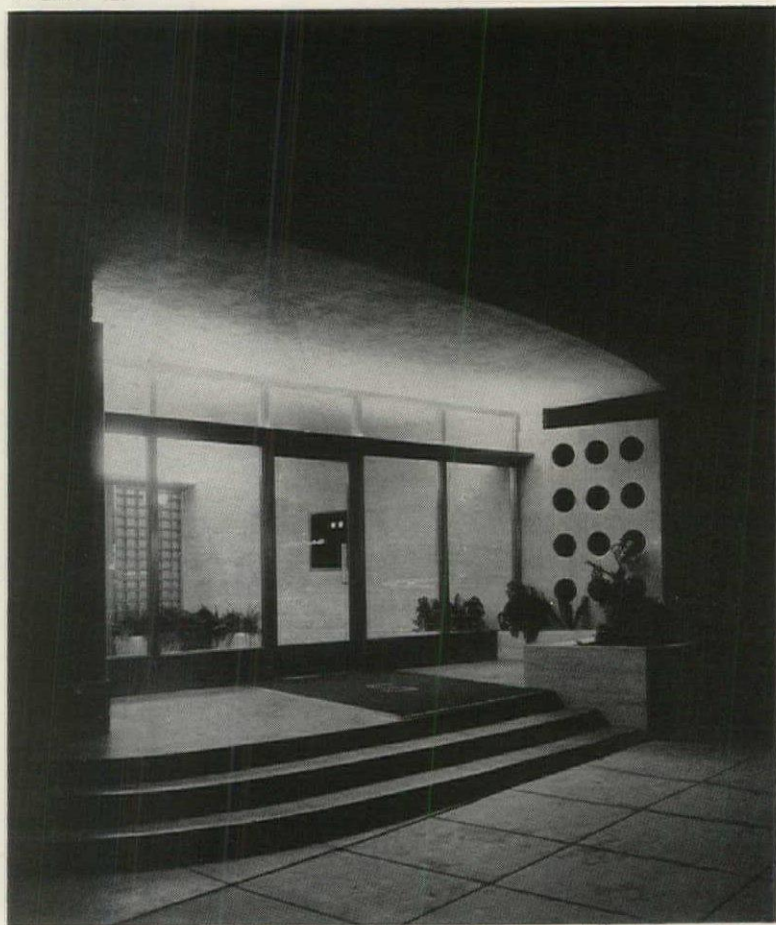


## OFFICE BUILDING FOR MYRON SELZNICK, BEVERLY HILLS, CALIF.



W. P. Woodcock Photos

### VIEW 1.



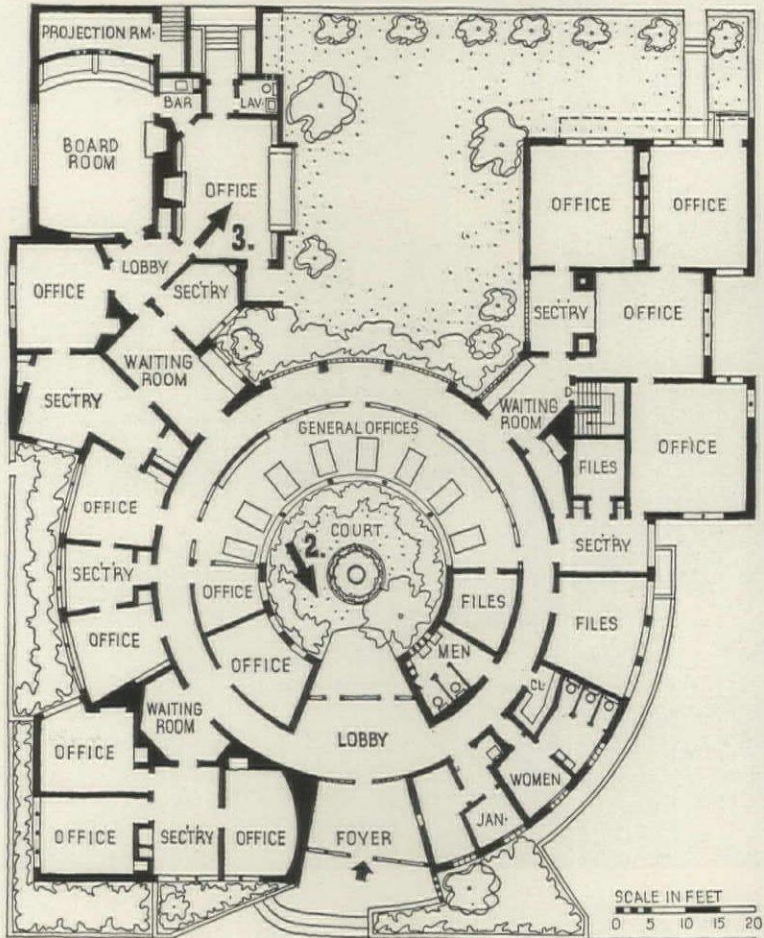
A small office, designed to house the personnel of one of Hollywood's leading agents. As described by the architect, "the circular plan, definitely expressed in elevation, provides for ready communication within the organization as well as to avail the stars of easy access to any one of a number of equally important offices. With all of this, the privacy so desirable in an office of this kind is well maintained by the double vestibule arrangement, divided by a glass partition with an electrically operated door." The character of the building is clearly indicated by the exterior, which shows a restrained and skillful handling of mass and texture. In addition to the office space and other services, there is a board room which can be converted quickly into a small theater for the showing of screen tests and "rushes" of recent films.





VIEW 2.

F. Block



VIEW 3.

W. P. Woodcock



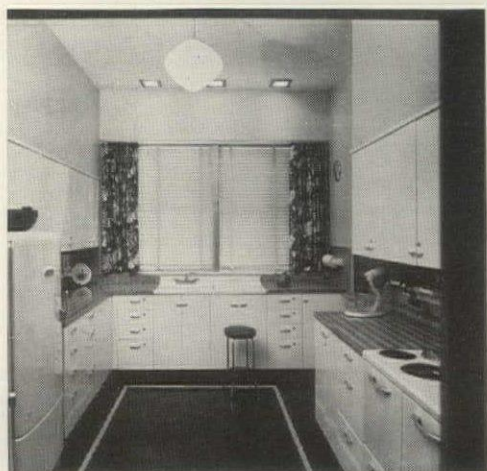
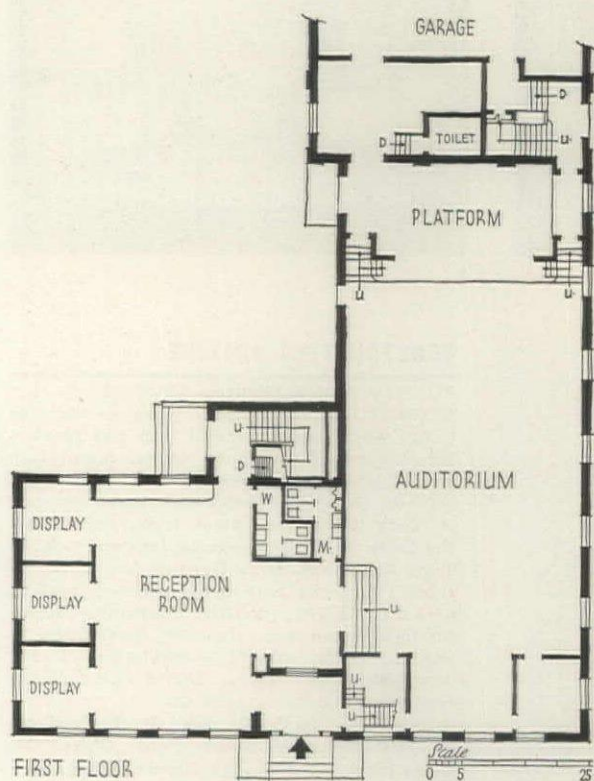
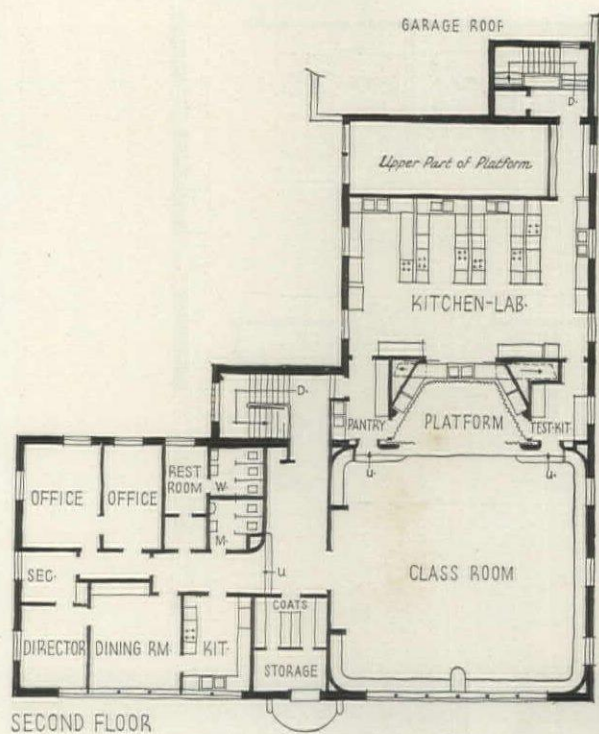


*All photos, Robert M. Damora*

An existing one-story building formed the basis for the present structure. Provision has been made for the future addition of another floor. Intended primarily for the use of visitors to the company's plant, it houses a variety of functions: a reception room, an auditorium seating 400, a home economics institute with classroom

facilities, and a laboratory kitchen used for both instruction and testing. The first floor contains a large exhibit area where model kitchens and new equipment are shown. Entertainment of visitors is also provided for; the dining room on the opposite page is one of the rooms furnished for this purpose. The building is of unusual





RECEPTION ROOM



KITCHEN AND DINING ROOM

interest as a reflection of merchandising policy. The exterior design, with its suggestion of industrial character, is particularly successful.

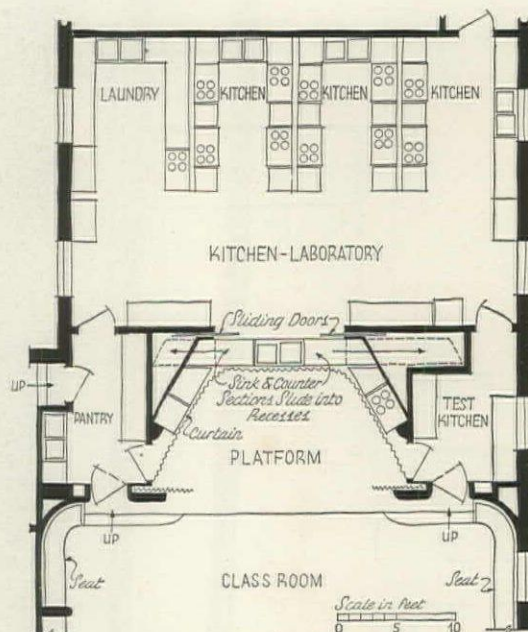




1.

### CLASSROOM

These illustrations show the stage of the second floor classroom. View 1 shows the stage with a complete kitchen. The rear cabinets can be moved aside (2) without disturbing the wiring or plumbing to reveal the laboratory (3) in the rear.



2.



3.

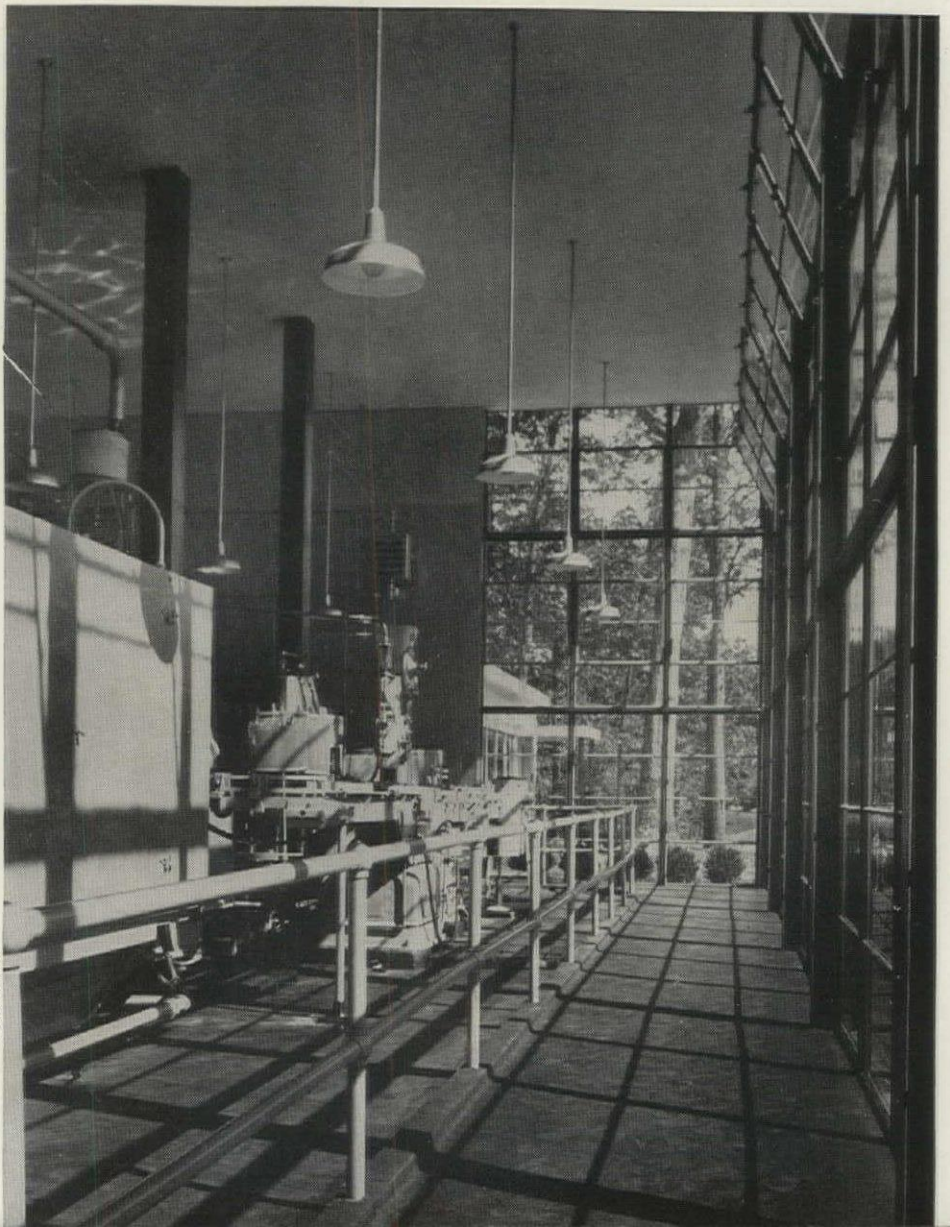
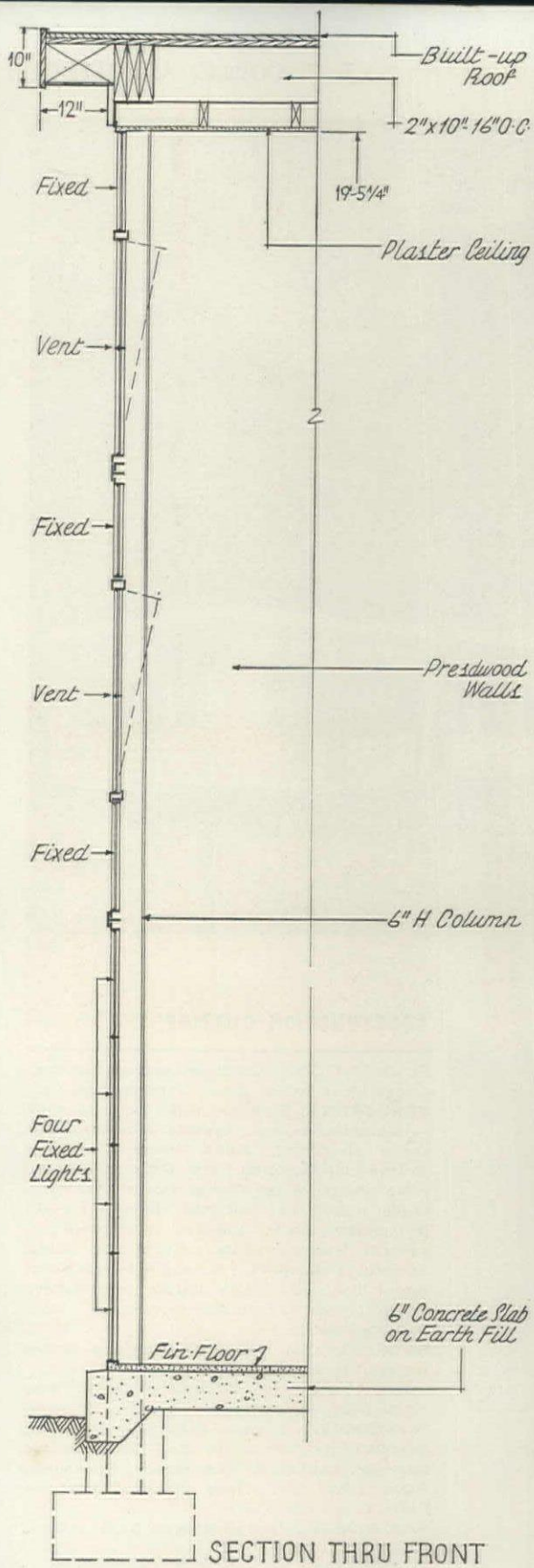
### AUDITORIUM



### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Poured concrete.  
**STRUCTURE:** Exterior walls — common brick, wood furring, metal lath and plaster. Interior partitions—wood studs, metal lath and plaster; some hollow tile. Columns—steel H, Bethlehem Steel Co. Structural steel — Ceco clear-span steel joist, Ceco Steel Products Co. Ceilings—metal lath and plaster; some Acoustone, U. S. Gypsum Co.  
**ROOF:** Covered with 5-ply built-up roofing.  
**SHEET METAL WORK:** Flashing—copper. Ducts—Toncan iron, Republic Steel Corp.  
**INSULATION:** Roofs — Insulating board, Johns-Manville Corp. Sound insulation—Acoustone, U. S. Gypsum Co.  
**WINDOWS:** Sash—Detroit Steel Products Co. Glass—Libbey-Owens-Ford Glass Co. Glass blocks—Pittsburgh Corning Corp.  
**FLOOR COVERINGS:** (1st)—asphalt tile, linoleum, carpet and cork.  
**WALL COVERINGS:** Parkwood by Parkwood Corp., General Electric Plastic Dept.; Linowall, Armstrong Cork Co.; Sanitas, Standard Textile Products Co., Inc. and Ludlite, Allegheny Steel Co.  
**FURNISHINGS:** Modern Age Furnishing Co.  
**WOOD AND METAL TRIM:** Trim—Milcor Steel Co. Interior doors—flush birch. Exterior doors—aluminum, Kawneer Co.  
**HARDWARE:** By Yale & Towne Mfg. Co. and Oscar C. Rixson Co.  
**PAINTING:** By Sherwin-Williams Co.  
**LIGHTING FIXTURES:** Miller Co. and Curtis Lighting, Inc.  
**PLUMBING:** Water pipes—brass. Toilet fixtures—Crane Co.  
**HEATING AND AIR CONDITIONING:** All year conditioning; several conditioning units for various zones. Heated from central plant. Heating is principally by warm air from the conditioners. Grilles—Tuttle & Bailey.





Flynt Photos

# BOTTLING PLANT

GREENSBORO, N. C.

J. P. COBLE, ARCHITECT

W. M. CORY, ENGINEER



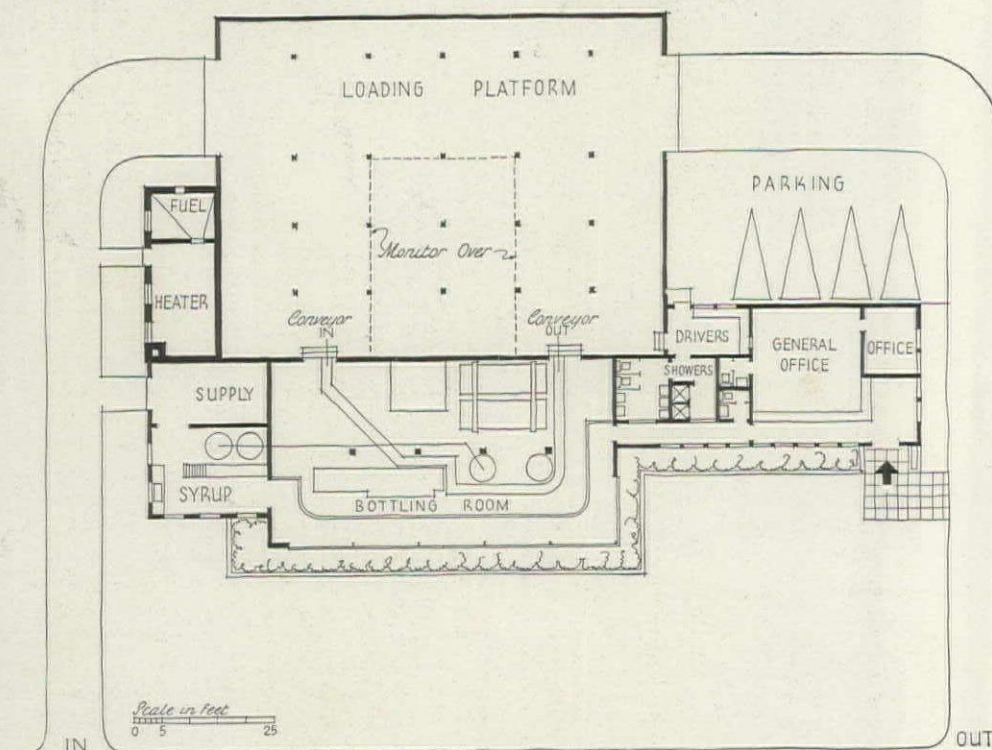


Flynt

The architect comments: "The building is located on a main boulevard just outside the city, and the prominence of the site suggested use of the bottling process as an advertising feature. Construction costs had to be kept as low as possible, and a light frame structure, finished in wood and metal siding and sheet materials, was designed. A bright color scheme was used to further the effectiveness of the building as a display unit; the machinery is green, interior walls are aluminum-color and columns are bright red. The exterior is white, with blue-gray sash and a sign in white and red." Cost: \$25,258. Cubage: 152,190.

#### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Concrete spread footings, cinder block walls, Grey Concrete Pipe Co.  
**STRUCTURE:** Exterior walls: Bottling room—Homasote siding, Agasote Millboard Co., storm sheathing, studs; inside—Tempered Presdwood, Masonite Corp. Office and syrup room wings—wood siding, storm sheathing, studs, plaster on rock lath. Boiler room—12 in. cinder block. Loading platform—galvanized iron corrugated siding and studs. Structural steel—6 in. H. and 4 in. cast iron round columns, angle lintels in masonry walls. Floor construction—concrete slab. Ceilings—plaster.  
**ROOF:** Covered with 5-ply tar and gravel roofing, Johns-Manville Corp.  
**SHEET METAL WORK:** Toncan iron throughout, Republic Steel Corp.  
**WINDOWS:** Sash—Fenestra, projected, Detroit Steel Products Co. Glass—double strength, quality B, Pennvernon, Pittsburgh Plate Glass Co. Glass blocks—Pittsburgh Plate Glass Co.  
**WOODWORK:** Doors—Morgan Sash & Door Co.  
**HARDWARE:** By Yale & Towne Mfg. Co.  
**PAINTING:** Materials by Pittsburgh Plate Glass Co. Detroit Graphite Co. and Master Builders Co.  
**ELECTRICAL INSTALLATION:** Wiring system—galvanized iron conduit. Switches—Bryant Electric Co. Fixtures—E. F. Guth Co.  
**PLUMBING:** Waste and soil pipes—cast iron. Vent and water pipes—galvanized steel. Toilet fixtures—Kohler Co.  
**HEATING:** Vapor system, filtering and humidifying, Modine unit heater, Modine Mfg. Co. Boiler—Kewanee Boiler Corp. Stoker—Fairbanks-Morse Co. Thermostats—Mercoid Co. Valves—Crane Co.  
**SPECIAL EQUIPMENT:** Bottling machinery by Liquid Carbonic Co., Geo. Meyer Co., Frigidaire Corp., Westinghouse Electric & Mfg. Co., General Electric Co.  
**GENERAL CONTRACTOR:** John H. Bonitz.





# BUILDING MONEY

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Horizontal design, horizontal construction, \$2,600 cost.

Eric J. Baker Photos

## RESEARCH DEVELOPS A \$2,600 HOUSE

**in sixteen years, builds it in ten days. Newest quirk: horizontal construction.**

"To promote research for the increase of knowledge to the end that the general hygiene and comfort of human beings and their habitations may be advanced." Pursuing this wordy but noble purpose, the John B. Pierce Foundation for sixteen years has pondered the problem of low cost housing with the conviction that prefabrication held the key. During the course of its studies, several new building materials and techniques have been developed as partial solutions—some right, some wrong. Two months ago, having perfected its successes and profited by its mistakes, the Foundation was convinced that it had developed a really workable solution, forthwith built it of pre-assembled plywood panels in a central New Jersey farmyard, announced that local builders may soon be licensed to duplicate the patented house the country over. Right or wrong, this \$2,600, five-room answer to the low cost housing problem—with its unique horizontal construction, its compact plumbing assembly, its unusual heating system, its new electrical equipment and its rows of built-in furniture—holds much that is significant for the building industry.

Unlike the 500,000 other dwelling units that will be built in the U. S. during 1940,

this house is not a money-maker. The Foundation is a non-profit corporation created in 1924 by the will of the late John B. Pierce, founder and one-time vice president of American Radiator Co. With the income from his sizable legacy and under the trusteeship of Ex-chairman Clarence Mott Woolley of American Radiator-Standard Sanitary Corp. and two extant A.R.-S.S. officials, the foundation conducts its research on three broad fronts: hygiene in New Haven, Conn., silicosis and housing in New York City.\*

**Sixteen years.** During the Twenties the Foundation's research activities were unimportant and unsung. But, in 1930 it began to make a name for itself, first, by the adoption of Robert L. Davison as di-

\* Use hereafter of the word "Foundation" refers solely to the housing division of the John B. Pierce Foundation.

*In its April issue (p. 226) THE FORUM presented pictorially the John B. Pierce Foundation's Experimental House No. 2. This month THE FORUM goes inside the house, examines in detail its newsworthy design, construction, equipment and cost.*

rector, then by the development of a long string of prefabricated houses and house parts. Director Davison had long been interested in low cost housing and prefabrication, had studied these subjects for two years at Harvard, had built cheap houses in Florida and California and had assisted the Research Institute for Economic Housing in New York. He brought action to the Foundation and by 1933 had spent some \$80,000 on research, had produced a house whose basic design principles and equipment have been carried through successive developments to the 1940 model.

Perched atop the 20-story Starrett-Lehigh Building in central Manhattan, this original house was built up horizontally of insulating board panels on a steel lattice truss. Because the bond between these two structural elements proved unsatisfactory, the experiment was shelved, the house knocked down. However, the ideas behind its compact arrangement of bathroom equipment were rescued and further developed in the Foundation's next (1935) field operation—a twelve-family project in Mt. Vernon, N. Y. whose \$10 per room rents made more news than its conventional brick construction. (ARCH. FORUM, July, 1935, p. 21)





8:10 AM, columns on piers . . .



9:50, joists inside lower girders . . .



11:20, panels between windows . . .

Having spent the intervening time researching new materials and a new system of prefabricated plywood construction, the Foundation in July 1939 again went out doors, erected a one-story, five-room unit on the Lebanon, N. J. farm of J. F. O'Brien, collaborator with Director Davison in housing developments and supervisor of the Foundation's electrical research. (ARCH. FORUM, Sept. 1939, p. 44) With the exception of the wall construction (which is a mere  $\frac{5}{8}$  in. of plywood) and the floor plan (in which closets are differently placed), this uninsulated, \$1,750 house, now called "Experiment House No. 1," served as a pattern for its double-walled, \$2,600 sister erected about 200 yards away during February.

**Design.** Most outstanding exterior feature of the Foundation's Experimental House No. 2 is the emphasis on horizontality. While this is a direct result of the construction method, the construction, in turn, is a result of the Foundation's original ideas on the design of prefabricated houses. Long ago Researcher Davison noted that residential architecture was going horizontal and that most prefabricators were bucking the trend by building their houses of vertical wall panels whose junctures are either undisguised or accentuated with covering battens. Result, claims Davison, is that the average prefabricated house looks prefabricated, is therefore difficult to sell. It is frankly admitted that one reason behind the Foundation's development of horizontal construction is to eliminate this sales resistance. (A similar argument is advanced for the use of a gable roof instead of a less expensive flat deck.) The other reason: installation of windows is considerably easier than in the vertical panel construction system—an important factor since fenestration accounts for about 40 per cent of the house's 112 ft. perimeter.

**Prefabrication.** With plan and design all adherence to tradition ceases. Construction is unique in practically every detail, and about 30 per cent of it took place in the Foundation's \$500 shop on the O'Brien farm. Principal units in the construction system are twenty wooden girders which encircle the house above and below the

windows. Each of the lower units is comprised of a sheet of  $\frac{5}{8}$  in. plywood 4 ft. deep which acts as the girder's "webbing," a continuous window sill rabbetted, glued and nailed to the top as the upper "flange" and a pair of 2 x 4's glued and nailed (one above the other) to the lower inside surface to reinforce the webbing and support the floor joists. (See section, right.) Also of  $\frac{5}{8}$  in. plywood, the upper girders are 1½ ft. deep with a continuous window head as the lower "flange," a 2 x 6 in. plate as the upper "flange."

Further to strengthen the lower girders and to facilitate the future installation of insulation, a 1 x 2 in. furring strip is applied horizontally to the inside of the plywood webbing midway between floor level and window sill. Since, as will be seen later, these girders will help distribute the floor and roof loads, they must be strong. To prove that they can take it, the Foundation put sample girders through the U. S. Forest Products Laboratory at Madison, Wis., found that, when loaded at the joist positions, they withstood six times more pressure than the estimated maximum under actual conditions.

Aside from the assembly of these girders, most of the shop prefabrication involves only simple cutting and trimming. Exterior panels to fit between the two layers of girders and, horizontally, between windows are cut from sheets of  $\frac{5}{8}$  in. plywood and are reinforced with 1 x 2 in. furring strips. Like the girders, they are built of phenol impregnated plywood and shop coated with paint on the exterior. Interior panels of  $\frac{1}{4}$  in. plywood, and all framing members (columns, joists, beams, rafters, etc.) are also precut to the exact dimensions specified on detailed working drawings prepared by Consulting Architects Skidmore, Owings and Merrill. Finally, many of these framing members are fitted with metal clips to facilitate alignment of parts during assembly.

**Site preparation.** During the course of prefabrication, which requires about 350 man-hours of labor, foundation for the house is laid. It is comprised of a dozen concrete piers set 3 ft. below grade and poured in plywood forms. Since it is essential that piers be level and that the columns they are to support be properly spaced to a

## COST BREAKDOWN

SITE PREPARATION	LABOR	MAT'L	TOTAL
Excavation and piers	\$ 50	\$ 25	\$ 75
Grading and backfill	10	—	10
Planting	5	7	12
Miscellaneous	3	2	5
<b>TOTAL</b>	<b>\$ 68</b>	<b>\$ 34</b>	<b>\$ 102</b>

PREFABRICATION	LABOR	MAT'L	TOTAL
Firziting	\$ 5	\$ 10	\$ 15
Exterior panels	50	175	225
Rafters	3	18	21
Joists & columns	6	21	27
Girders	5	21	26
Kitchen cabinets	70	35	105
Rough hardware	4	7	11
Milling, cutting	72	—	72
Paint—int. & ext.	15	15	30
Roof sheathing	3	61	64
Ceiling	5	30	35
Partitions	20	115	135
Porch	6	8	14
Nails & screws	—	20	20
<b>TOTAL</b>	<b>\$ 264</b>	<b>\$ 536</b>	<b>\$ 800</b>

ERECTION	LABOR	MAT'L	TOTAL
Rough enclosure	\$ 36	\$ 25	\$ 61
Roofing	12	47	59
Flooring	10	88	98
Ceiling	9	—	9
Porch	18	17	35
Plenum & registers	9	25	34
Fireproofing	5	25	30
Metal—pl. & angles	—	9	9
Moisture barrier	3	10	13
Insulation	20	40	60
<b>TOTAL</b>	<b>\$ 122</b>	<b>\$ 286</b>	<b>\$ 408</b>

FINISHING	LABOR	MAT'L	TOTAL
Partitions	\$ 36	\$ 4	\$ 40
Sash & weatherstrip	20	50	70
Doors & hardware	18	41	59
Built-in furniture	12	1	13
Kitchen equipment	18	—	18
Hardware	—	22	22
Trim	30	23	53
Linoleum	14	22	36
Sanding floors	9	2	11
Cleaning	8	—	8
Waxing floors	6	2	8
Painting—int. & ext.	86	55	141
<b>TOTAL</b>	<b>\$ 257</b>	<b>\$ 222</b>	<b>\$ 479</b>

INDIVIDUAL CONTRACTS	TOTAL
Plumbing & sewerage	\$ 285
Heating	175
Elec. service & util.	75
Elec. equip.	100
Built-in furniture	130
Screens & storm sash	75
<b>TOTAL</b>	<b>\$ 840</b>

<b>TOTAL COST</b>	<b>\$2,629</b>
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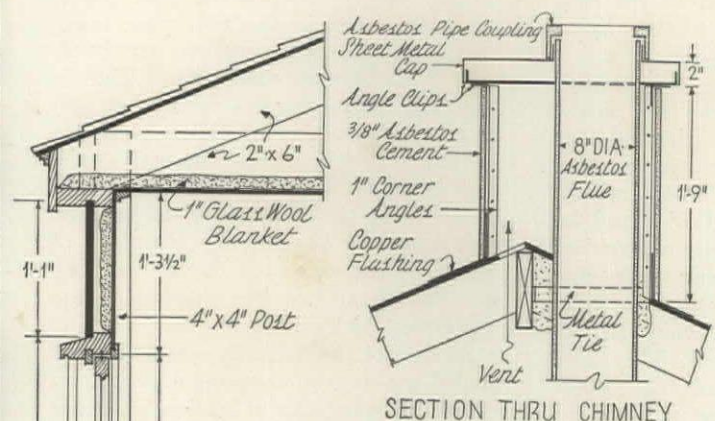
... 1:20 PM, beam with joist clips ...



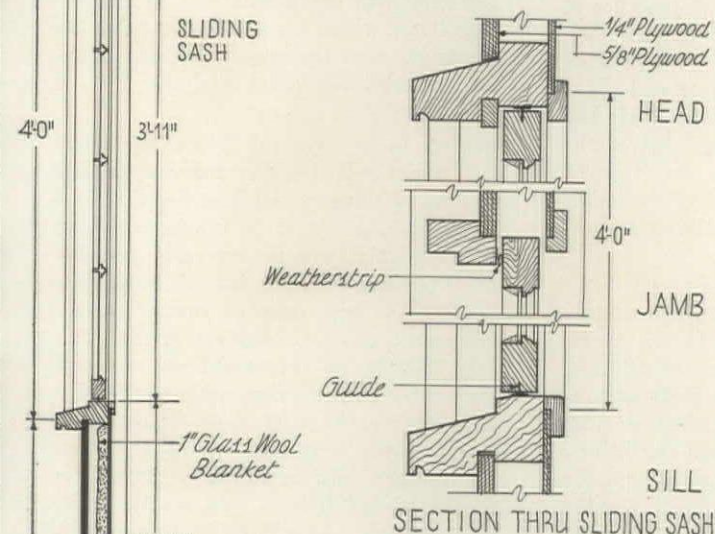
2:45, rafters atop upper girders ...



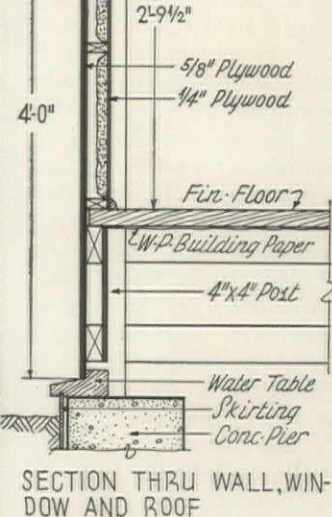
4:55, house enclosed, partly roofed.



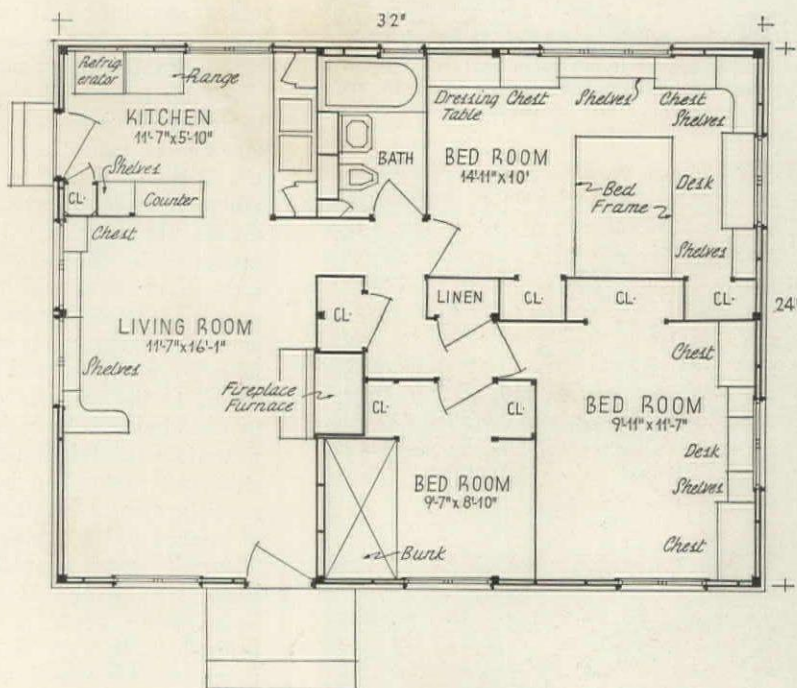
SECTION THRU CHIMNEY



SECTION THRU SLIDING SASH



SECTION THRU WALL, WINDOW AND ROOF



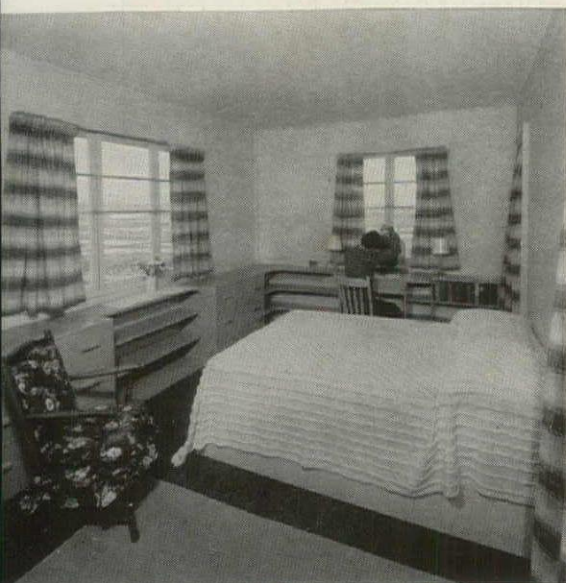
**Erection** of the house (pictured above) was completed in one work day by a crew of six men. Note the extent of built-in furniture in the plan; also the provision of eight closets—particularly commendable since the house has neither basement nor accessible attic. Chimney is also an attic ventilator; windows are completely weatherstripped, are fitted with storm sash and screens which are included in the house's \$2,629 cost. Wall section (left) illustrates the horizontal construction, shows cement board skirting which conceals the piers and permits grading up to the water-table. Below: installation of insulation, sash and interior panels; and furnished living-dining room with fireplace-furnace to right, built-in shelves to left.







Dining end of living room features electrical chair-rail with outlets at 6 in. intervals, heat register above hall entrance, lighting fixture with switch to the right.



Master bedroom is provided with bulk of the built-in furniture. Low income families would use shelves for storage of miscellaneous articles, not for books. Bed frame is built-in.



Smallest bedroom requires purchase of only one piece of furniture—a chair. Note plywood panel wall finish. Horizontal window mullions emphasize horizontal construction and design.

fraction of an inch, the forms and anchor bolts are aligned with a demountable steel template before the concrete is poured.

**Erection.** After removal of the template, the site is ready to receive the prefabricated house parts which fit together as accurately as (but more easily than) the pieces of a jig-saw puzzle. To assist the workmen each part is numbered and keyed to the detailed drawings. No. 1 phase of assembly is the erection of the twelve 4 x 4 in. columns whose angle irons fit snugly over the anchor bolts. Also atop the piers goes a continuous water-table or sill which has been previously notched to make way for the bases of the columns. Then come the deep plywood girders which are glued and spiked to the columns, fencing in the house to the height of the continuous window sill.

At this point wall erection temporarily ceases while workmen frame the floor. One end of each 2 x 10 in. joist rests on the bottom "flange" of the girder, the other end on an inverted "T" beam which divides the floor plan lengthwise and is supported by the central row of interior piers. Next step is the placing of the reinforced plywood panels atop the wall girders, leaving voids eventually to be filled by windows and doors. They are spiked to the columns, glued and spiked to the window sill which also serves as a water-table at this important juncture of structural parts. Top layer in this horizontal system of construction is the series of smaller girders whose upper and lower "flanges" serve as plates and window heads, respectively. At either end of the house, these upper girders are tailored before-hand to fit in the base of the gable. Later, another panel containing louvers completes the triangle.

Roof assembly is quite traditional. Joists drop into metal spacing clips previously attached to the plate and to the beams which connect the central row of columns. Rafters are aligned by the joists and, as usual, butt their heads against a ridge pole. About 4 ft. longer than the others, five of them are cantilevered beyond the plate to form an economical hood over the front entrance. The roof is sheathed with  $\frac{3}{8}$  in. plywood, covered with building paper and asphalt shingles rapidly stapled in place with a self-feeding hammer.

With the house completely enclosed at the end of the first day, the laborers move inside on the second. Insulating paper is tacked to the floor joists, covered with tongue and groove flooring—2 x 6 in. fir planks.

Spun glass insulation was delivered to the job in long rolls, wide enough to fit between the furring strips on the inside of all girders and exterior wall panels. By simply stapling the tar paper backing to these strips, the 1 in. blanket of glass is held 1 in. away from the exterior plywood, creating an insulating air space. Insulation is omitted at either side of the window openings, leaving an unobstructed wall recess into which the 2 x 4 ft. sash disap-

pear when opened. Metal weather stripping at head and sill guides the movement of the sash, and vertical weather stripping assures a complete air seal when they are closed. (See details, p. 367.)

After windows are installed and wiring has been run, the walls and ceiling are covered with precut, prepainted  $\frac{1}{4}$  in. plywood panels. No effort is made to conceal the junctures of these panels; on the contrary, they are emphasized by the fact that the edges of all interior panels are beveled. At this stage in the assembly—about 20 work hours after the columns were erected—the house is one room.

**Finishing.** After pre-assembled door frames have been set in place, the house is subdivided with  $\frac{1}{2}$  in. plywood panel partitions. As shown in the floor plan (page 367), many of these partitions are, in effect, of double wall construction. Thus, a plumbing stack separates the kitchen and bathroom; a battery of closets separates the two largest bedrooms; the back of the built-in double bunk reinforces the partition between the living room and smallest bedroom, and the heating chamber, of course, is enclosed in a double wall. To save money, all bedroom closet doors are supplanted by curtains.

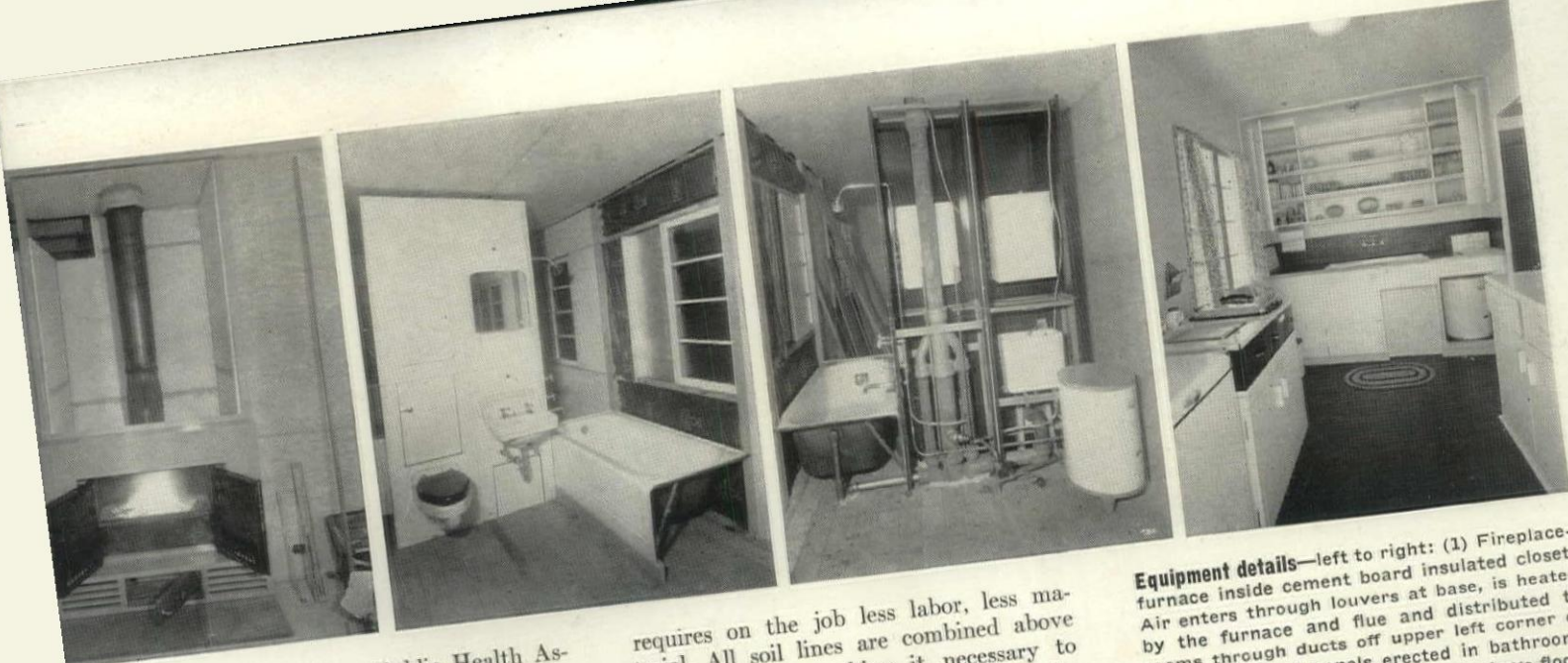
Balance of the finishing operation, concluded ten days after erection begins, includes the installation of heating, plumbing and electrical equipment and furniture—four items which are as significant as the construction of the house itself and therefore deserve individual analysis.

**Heating.** In the eyes of Researcher Davison, a pot-bellied living room stove is a symbol of poverty, while a fireplace is a sign of prestige. And, in a low cost house it is undeniably a potent sales gag. For these reasons the Foundation's research in heating has been directed toward the development of a combination fireplace-furnace. Set in an asbestos lined closet in the center of the living room partition is a small coal burning grate housed in a steel jacket. Two large doors transform the furnace into a fireplace, permit the fire to be fed from a coal scuttle which rests on a slate hearth. Filled from outside the house, a bin under the kitchen counter to the left of the sink stores a ten-days' supply of egg coal. Estimated annual coal consumption: four tons.

Heated by the furnace and the uninsulated stove pipe which carries fumes up to an asbestos cement flue in the attic, air rises in the "closet," enters two ducts which deliver it through high wall registers to each of the rooms except the kitchen. Return circulation follows a natural course through open doors or under closed ones, enters the heating "closet" via louvers at the bottom of the fireplace jacket. While the living room has its own register (over the hall entrance) it is also heated radiantly by an asbestos cement panel over the fireplace.

At the request of the Foundation, the field secretary of the Committee on Hy-





giene of the American Public Health Association has conducted thermal tests within the house at regular intervals. Results speak well for both the heating and construction systems. Thus, one test proved that, despite sub-freezing outdoor temperatures, the indoor temperature could be raised in short order to almost 90°F., that the rise throughout the house was fairly uniform. During this experiment the circulation of air through the heating system was measured at about 300 cu. ft. per minute, and the temperature gradient floor-to-ceiling at about 20°—higher figures than are recorded under normal operation. While tests have not as yet been conducted over a sufficient period to yield reliable statistical data, several general conclusions have been drawn from the preliminary findings: "One of the most significant features of the plywood house is the tightness of the structure with respect to infiltration of outdoor air. The rate of air movement in the various rooms is generally low even when high winds are prevailing out-of-doors. As a result . . . there is some stratification of heated air but the temperature gradient is probably not higher than would result from this general type of heating system." The researcher has also noted "an improvement in thermal conditions" and "greater uniformity of heat distribution" when comparing his initial tests in Experimental House No. 2 with those conducted in its uninsulated, single-wall predecessor. (During sub-freezing weather failures developed in House No. 1: condensation on the inside of exterior walls and a cold air down draft near these walls.)

**Plumbing.** Behind the plumbing assembly in the Foundation's latest Lebanon house are years of evolution, each stage of which

requires on the job less labor, less material. All soil lines are combined above the floor level, making it necessary to cut but one hole in the floor. This labor-saving development was made possible by raising the bathtub and by the Foundation's development of a wall-hung water closet which operates efficiently without the extreme water pressure that has always been required for such fixtures. Hung on a porcelain enamel steel panel which shields the tank and contains a small linen cabinet above, the water closet is set at a comparatively low, more hygienic level and, being off the floor, permits easier cleaning of the bathroom. Directly beside this unit is another steel panel which supports a small lavatory and medicine cabinet on the front and, around the corner, the bathtub faucet, shower head and attendant valves. Inside the "locker" are the cast iron vents, soil lines and copper tubing which supply the kitchen sink as well as the bathroom fixtures.

**Electrical equipment.** Since the house's heating system does not generate hot water, a 10 gal. electrical unit is provided for that purpose under the kitchen counter and directly behind the water closet where it is handily connected to the plumbing system. This heater is large enough to supply hot water for clothes washing, bathing, etc., and would be turned on only when required. Water for such "off-peak" requirements as dish washing would be heated in a tea kettle equipped with an electrical heating unit. Water for floor washing would be heated in a galvanized pail similarly equipped. Result: no waste hot water, a lower electrical bill.

In addition to a small range, the all-

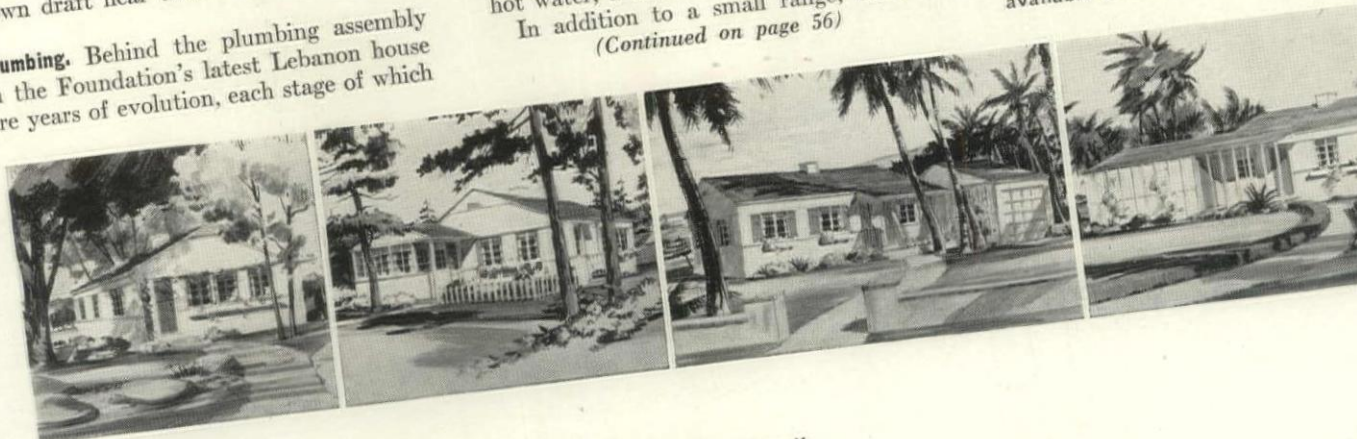
(Continued on page 56)

**Equipment details—left to right:** (1) Fireplace-furnace inside cement board insulated closet. Air enters through louvers at base, is heated by the furnace and flue and distributed to rooms through ducts off upper left corner of closet. (2) Steel panels erected in bathroom. Tub is jacked up to raise soil trap above floor. (3) Rear view of same from kitchen with 10 gal. electric water heater in foreground. (4) Finished kitchen with electric refrigerator and range at left. Coal bin at left of sink, water heater at right seen through open door.

#### MATERIAL AND EQUIPMENT MANUFACTURERS

PLYWOOD—Harboard Plywood Corp.  
SHINGLES—Ruberoid Co.  
INSULATION—Owens-Illinois Fiberglas Co.  
ASBESTOS CEMENT BOARD—Johns-Manville Corp.  
INSULATING PAPER—Sisalkraft Co.  
GLASS—Pittsburgh Plate Glass Co.  
WEATHERSTRIPPING—Accurate Metal Weatherstripping Co.  
BATHROOM FIXTURES: Water closet—Universal Sanitary Manufacturing Co. A other fixtures—American Radiator-Standard Sanitary Corp.  
PORCELAIN ENAMEL STEEL PANELS—Cincinnati Manufacturing Co.  
KITCHEN FIXTURES: Electric range—Electromaster Inc. Electric food storage—Universal Cooler Corp. Sink—American Radiator-Standard Sanitary Corp. Electric hot water heater—Hynes & Cox Electric Corp.  
VALVES, FAUCETS, ETC.—American Radiator-Standard Sanitary Corp.  
CAST IRON PIPE—Crown Pipe & Foundry Co.  
LIGHTING FIXTURES, SWITCHES—Hardware—Sears, Roebuck & Co.  
FUSE BOX—Square D Co.  
REGISTERS—Tuttle & Bailey, Inc.  
PAINT—Pittsburgh Plate Glass Co.

**Renderings** by Architects Skidmore, and Merrill show what a different orientation to the basic house. The Foundation will build ten houses with these exterior variations as an experimental subdivision prior to plans and the patented construction available to builders throughout the







## ASSETS UP WITH MEMBERS in new saving & loan building.



### CONSTRUCTION OUTLINE

**STRUCTURE:** Steel frame. Exterior walls—limestone facing; cinder block backing, tar waterproofing, wire lath and plaster. Partitions—cinder block. **ROOF:** Barrett Co. Roofing.

**WINDOWS:** Sash—wood, double hung, fixed and casements. Glass—plate and double strength quality A, Libbey-Owens-Ford Glass Co.

**FLOOR COVERINGS:** Public space—rubber. Office (architects')—asphalt tile, Johns-Manville, Inc.; corridor—carpet, Alexander Smith & Sons Carpet Co. Remainder—linoleum, Armstrong Cork Co.

**WOODWORK:** Trim—White pine and walnut. Interior doors—birch veneer and paneled white pine. Exterior doors—Kalamein bronze, Pioneer Fireproof Door Co.

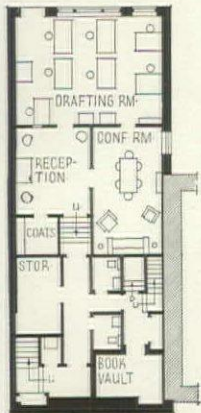
**HARDWARE:** By Yale & Towne Mfg. Co. and Oscar C. Rixson Co.

**PAINTING:** By Pratt & Lambert.

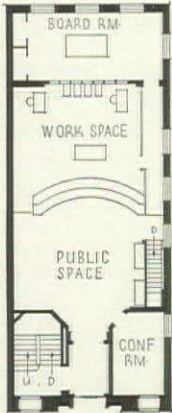
**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—General Electric Co. Fixtures—Cassidy & Co.

**PLUMBING:** Soil pipes—iron. Water pipes—Anaconda brass, American Brass Co. Toilet fixtures—Kohler Co.

**HEATING:** One pipe steam system. Radiators and valves—American Radiator-Standard Sanitary Corp. Grilles—Tuttle & Bailey, Inc. Thermostats—Minneapolis-Honeywell Regulator Co. Water heater—Taco Heaters, Inc.



BASEMENT



FIRST FLOOR



SECOND FLOOR

Scale  
0 25 50



Most important among the real estate investments of any local financial institution is its investment in plant and equipment. A run-down office is a forbidding symbol of slipshod business, but an attractive new building is an advertisement of accomplishment, security and progress which has a tendency to attract new business. A sound investment and an effective advertisement is the new \$55,000 home of the Bronxville Federal Savings and Loan Assn., one of the most enterprising co-operative savings and lending institutions in New York's swank Westchester County. As an investment, it provides modern quarters for the efficient transaction of business plus ample expansion room which, meanwhile, is rented to three tenants. As an advertisement, it has attracted new members, boosted assets by \$600,000.

Since establishment in 1922, the Bronxville Federal has grown steadily and by 1938 had become pinched for space in its old rented quarters. To relieve the pressure, the association purchased for \$25,000 a 27 x 70 ft. site one block away on Bronxville's most heavily trafficked thoroughfare, commissioned Architects George F. Root III and Frederick J. Hartwig to design a bank-like building that would not be outgrown for many a year.

Despite the small lot size and the proximity of existing buildings, the banking floor appears spacious and is abundantly lighted. Public and working areas, which might otherwise be two small rooms, are divided by only a waist-high banking counter. And, supplementing three large windows in one wall, a high ribbon window in the rear partition borrows light from the isolated board room.

Since the site slopes sharply to the rear, the architects converted what would ordinarily be a dark basement into habitable space, thus helped meet the association's requirement for extra elbow room. At the same time, Architect Root helped solve the association's renting problem by signing a lease for this north-lighted space which he transformed into a drafting room and offices for himself.

Second floor rooms, now occupied by a dentist and an attorney, provide the association with additional expansion space and an income which, together with Architect Root's rent, will meet \$2,460 of the building's annual operating expenses.

Including the architects' fees but excluding the cost of movable furniture and equipment, Bronxville Federal spent \$30,000 on its building (about 47 cents for each of the 63,000 cu. ft.). Upon completion, this investment began immediately to pay for itself. Within 60 days assets had jumped \$100,000; membership, from 983 to 1,083—greater gains than ever recorded in a two-month period. Today, assets stand at \$1.6 million, and business activity is twice that handled in the association's former offices.



# MORTGAGEES PROBE AND IMPROVE

New York construction, cease lending in the dark.

► In the summer of 1934 a group of New York City's leading mortgage lenders decided that they should know more about metropolitan real estate and building, forthwith set up the Mortgage Conference to research both fields for the benefit of member institutions.

► In the summer of 1936, three days after its formal topping-out ceremony, the center wing of a New York apartment house collapsed, crashed six stories to the ground, crushed eighteen workmen to death and left some financier holding the bag.

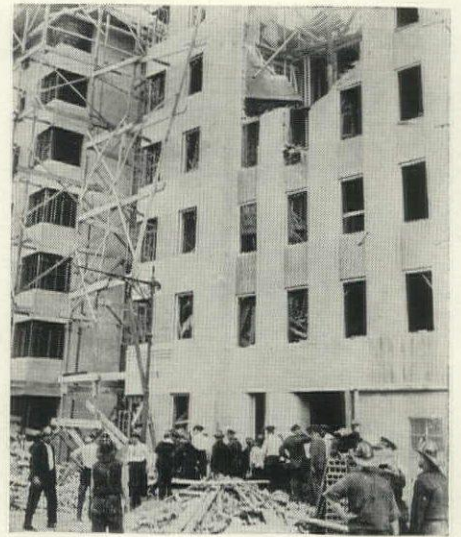
Apparently unrelated, these two incidents in New York's building history actually combined to produce a system of rating new buildings and, in turn, a trio of significant results: 1) Local apartment house construction has improved markedly since 1936's scandalous object lesson. 2) Local financial institutions no longer unwittingly lend on lemons. 3) Many another large U. S. city with problems similar to New York's now has a workable solution to study and ape.

From the day it was born, the Mortgage Conference and, particularly, its Executive Secretary John F. McKean had been toying with the idea of rating the construction of buildings as part of its service to the local savings banks, trust companies and life insurance companies which finance its activities. But it took the 1936 apartment house collapse to spur the organization to action. Tailoring its plan of attack to the lending pattern of its members, the Conference decided to

limit its rating activities to new buildings within New York City and only to apartment structures. The field was further narrowed because about one-third of all these apartment houses are financed on a permanent basis from the start and enjoy periodic inspection and supervision by the financier's architect.

Two out of three New York apartments, however, go up in an entirely different fashion. Having obtained a temporary construction loan from an individual or company specializing in this field, the owner-builder buys a set of plans from a local architect—another specialized field in which one office accounts for about half the business. Little of this construction is controlled by detailed specifications and little is subject to professional inspection and supervision. (Because the local building code requires that all 75 ft. and higher structures be completely fireproofed, bulk of these apartments are six-story elevator buildings of cheaper, non-fireproof construction.)

It was into this "jerry-built" apartment field that the Mortgage Conference moved in the spring of 1937. At that time, construction was generally substandard and, since permanent financing is not obtained until these buildings are completed, lending institutions had no idea of the quality of the collateral behind their long term mortgages. During the last three years, however, the Conference has kept a watchful eye on the erection of some 200 buildings (including 50 now under



Motivator of the Mortgage Conference's building rating system was this new apartment house which in 1936 came down before the scaffolding. Diagnosis: shoddy construction, inadequate inspection.

construction), has rated each on the quality of its construction and equipment and has sent to every interested member institution two sheets summarizing the findings (see example, below). Thanks to this service, institutions may now adjust their mortgages in line with the known quality of buildings—a building with a high rating will get a longer term loan covering a higher percentage of value than will its lower grade sister.

Adopting the symbols used by Moody's Investors Service to grade stocks and bonds for Wall Street security dealers, the Conference runs its ratings from a high of AAA down through AA, A, BAA, etc. to a low of C. Responsible for these alphabetical answers to a tough mortgage

## CONSTRUCTION REPORT — APARTMENT HOUSE

Location of building:	221-227 E. 201 St., N/S, 125' W. of Valentine Ave., Bronx
Owner:	Bywood Realty Co., Inc., Arthur J. McConnell, Secy.
Type of building:	6-story elevator non-fireproof
Rentable Apts:	29; Rentable Rooms: 524; Stores: None; Other Space: None
Layout:	5-12's, 6-2 1/2's, 12-3's, 6-4's and 1 Janitor's Apt.
Cube of bldg:	326,366
Cu. ft. of building per room:	3,956
Sq. ft. of building per room:	348
SOIL CONDITIONS (subgrade):	Solid Rock
FOOTINGS:	Poured stone concrete
FOUNDATIONS:	Brick
BEARING WALLS:	New common brick; face brick on street front
ROOFING:	Built up
STRUCTURAL STEEL:	New or used: New; Shop connections: Riveted; Field connections: Bolted & Riveted
CONCRETE FLOOR ARCHES:	Reinforced cinder concrete
CONCRETE FLOOR FILL:	Cinder concrete
FLOOR FRAMING:	3" x 9"
STUD PARTITIONS:	Apartment dividing partitions: Seven inch partitions; Soundproofing: Cabots Quilt
FINISH CARPENTRY:	Rating: BAA
WOOD FLOORS:	Material: Clear plain white oak; Flooring felt: No
LATHING:	Apartment walls: 3.4# Galv. metal; Apartment dividing partitions: 3.4# Galv. metal

PLASTERING:	Material: Prepared Patent Plaster, scratch and brown coats; lime putty and gauging plaster, white coat
CELLAR FLOOR:	Type: Two course cinder concrete
SIDEWALKS:	Type: Two course gravel concrete
TILE:	Location: Bathroom floors & wainscotings and upper public hall floors
MARBLE FLOORS:	Location: Lobby - first floor public hall
PLUMBING:	Water lines: All brass; Separate flushometer risers: Yes
HEATING:	Boiler: Pacific Steel #8474 - 11,680 sq.ft. of steam radiation
ELECTRICAL:	Pipe conduit: Risers, first floor and public hall distribution
PAINTING:	Apartment walls: Painted & stippled
ELEVATORS:	One, Otis, automatic, powered car and shaft doors
INCINERATORS:	One, Sargent, expansion chamber on roof
ROOF VENTILATORS:	4-12" copper turbines and copper louvers



problem is Civil Engineer Tom H. Rankin, retained by the Conference as a one-man department in charge of building rating. Each day he visits seven or eight sites, critically eyes and notes on paper the quality of work that has been done since his previous inspection. Depending upon the speed with which an apartment house is built, he will appear on the scene from fifteen to twenty times during construction.

Back in the Conference's office at each week's end, Engineer Rankin reviews his notes, enters on the master report for each building a summary of his findings and a sub-rating for the current phase of construction. If this rating is substantially different from those assigned to earlier construction details, it may alter his preliminary overall rating of the building. (While only tentative, this rating gives lending institutions a preview of what the building will be like when finished, permits them to make their financing plans accordingly.) Upon completion of the building, Rankin weighs and averages the ratings for each classification of construction, arrives at a "general rating" for the structure as a whole.

More readily apparent than the assistance rendered lending institutions by this building rating system is the improvement it has effected in local apartment house construction. Builders are vitally interested in the permanent financing terms their buildings will receive—with but two exceptions they have welcomed Rankin's inspections, and most of them have followed at least some of his suggestions in subsequent construction. Proof of this improvement is seen in the number of completed buildings receiving the various ratings during each year of the system's operation:

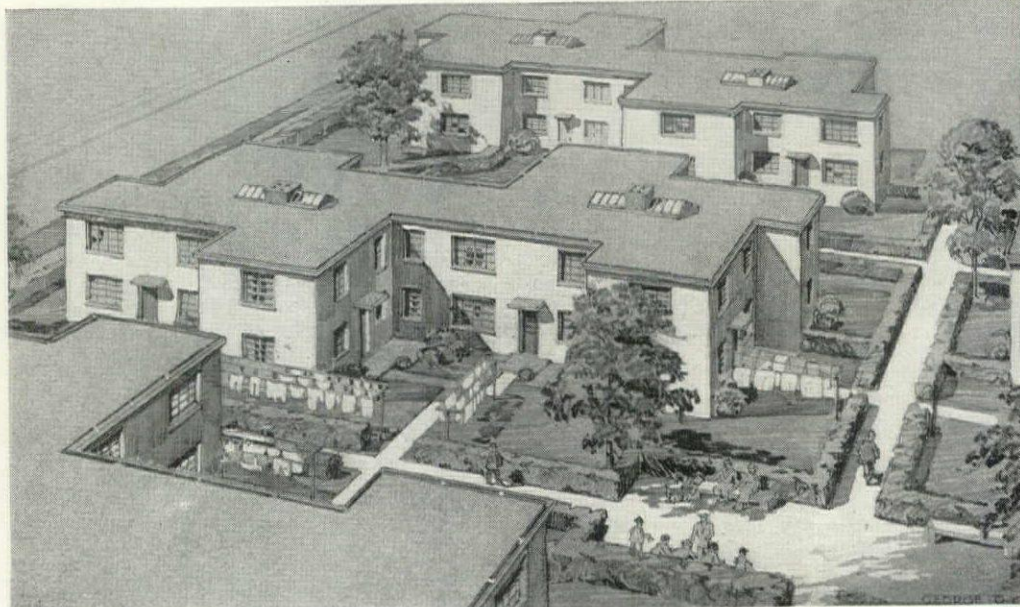
Rating	1st yr.	2nd yr.	3rd yr.
AAA	1	—	—
AA	—	2	—
A	2	8	5
BAA	8	14	22
BA	14	19	33
B	4	7	11
CAA	3	3	1
CA	1	—	—
C	—	—	—

While this tabulation shows an encouraging upward trend in ratings (76 per cent of the buildings were rated BA or better in the first year; 83 per cent in the third year\*), it also shows that there is ample room for improvement. As in the past, this improvement will result from a more widespread correction of construction faults on a dozen fronts:

**Foundations.** Since most builders must blast their way through solid rock to make room for a basement, rubble foundation walls are a New York norm. However,

(Continued on page 50)

\* Since the introduction of a more stringent building code prompted Rater Rankin to become more hard-boiled during the third year, the improvement in construction has been even greater than these statistics indicate.



## USHA'S RESEARCH PRODUCES a plan for dressing up the row house—public and private.

Among the many brickbats heaved at the U. S. Housing Authority has been the frequent charge of inadequate research in new housing designs and techniques. Welcome by its critics, therefore, would be the first sign of a USHA counter-barrage of research recommendations. Last month it came—a newsworthy scheme intended to make row houses more attractive and livable. Known officially as the quatrefoil plan, it derives its moniker from the four-leaf clover pattern formed by a cluster of four dwelling units. Any number of these standardized clusters can be combined to form a building costing only slightly more than the customary straight-front row house but housing more families to the acre—a net economy where land prices are high. Most important, each dwelling unit enjoys a greater share of the amenities—light, air and privacy.

Prime reason for developing the quatrefoil plan, however, was to dodge another brand of critical brickbats. More than half the USHA-sponsored projects have been using row houses of the straight-front type. When lined up in long ranks, they give a stiff barrack-like look that is considered objectionable by many. Skillful site planning can overcome such visual monotony, but the task of the site planner is obviously simplified if the buildings can also be varied in shape.

At first glance this new USHA plan unit looks like a kid-brother to Architect Frank Lloyd Wright's Suptop Homes at Ardmore, Penna. (ARCH. FORUM, Aug. 1939, p. 142) But, according to USHA officials work was started on the quatrefoil idea before Wright's project was publicized.

In size and relation of rooms the quatrefoil dwelling units are similar to those in the straight-front row houses. The new advantages come entirely from the trick

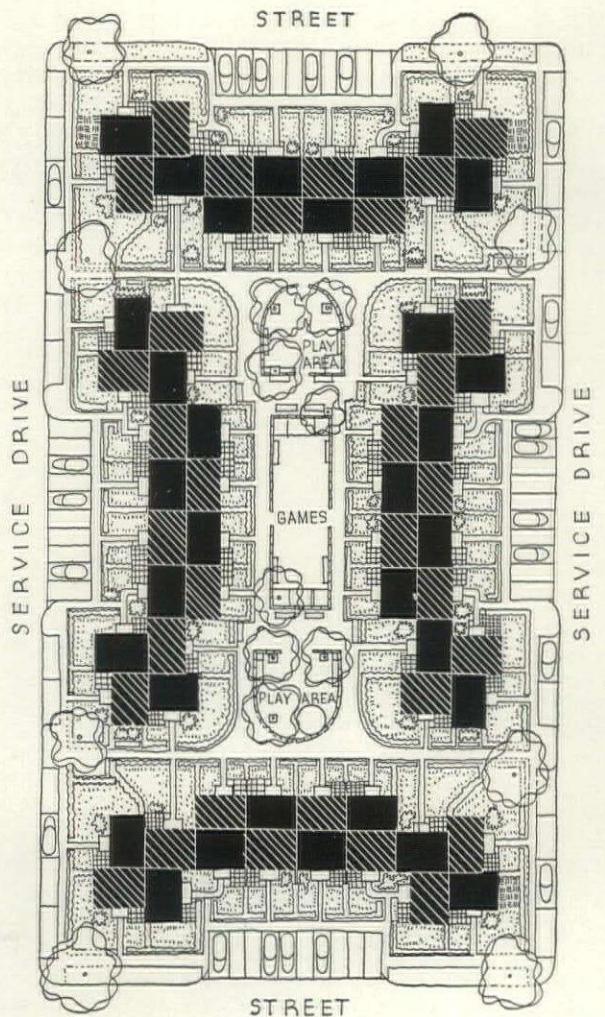
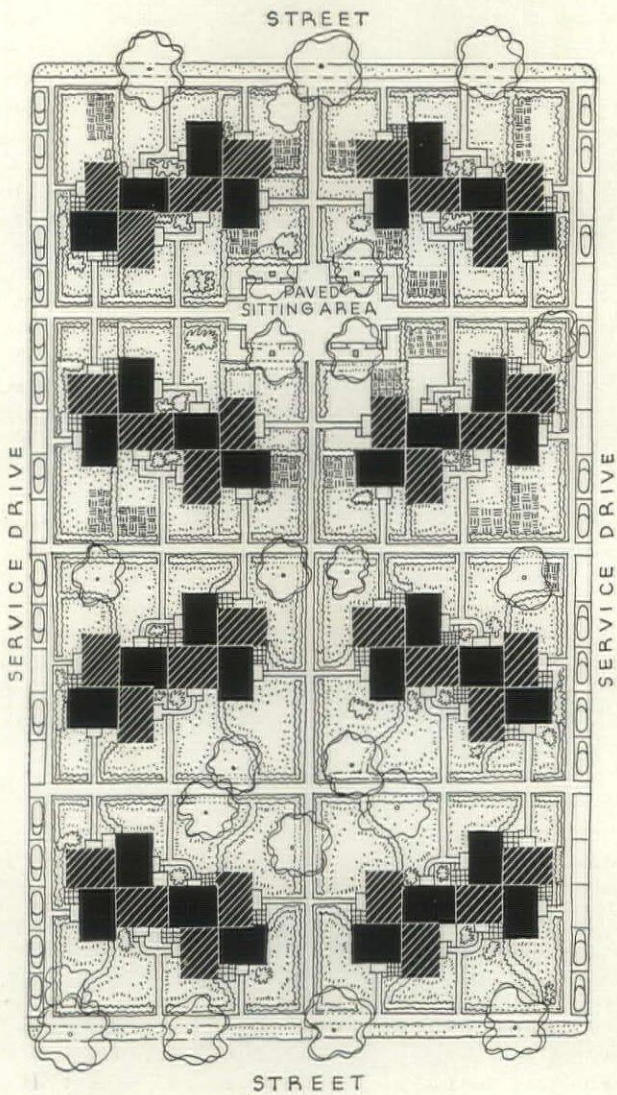
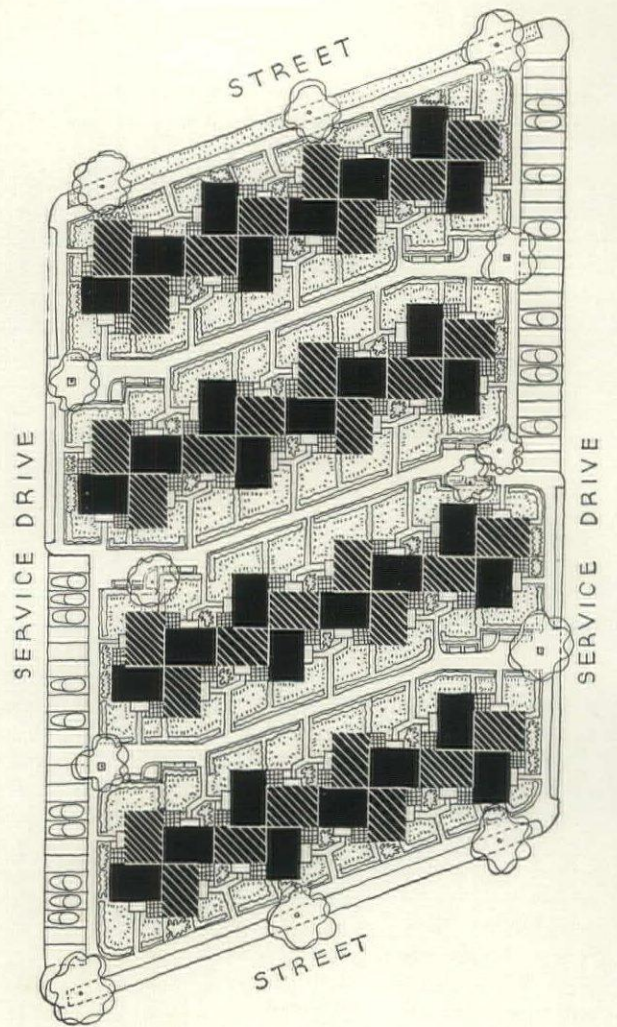
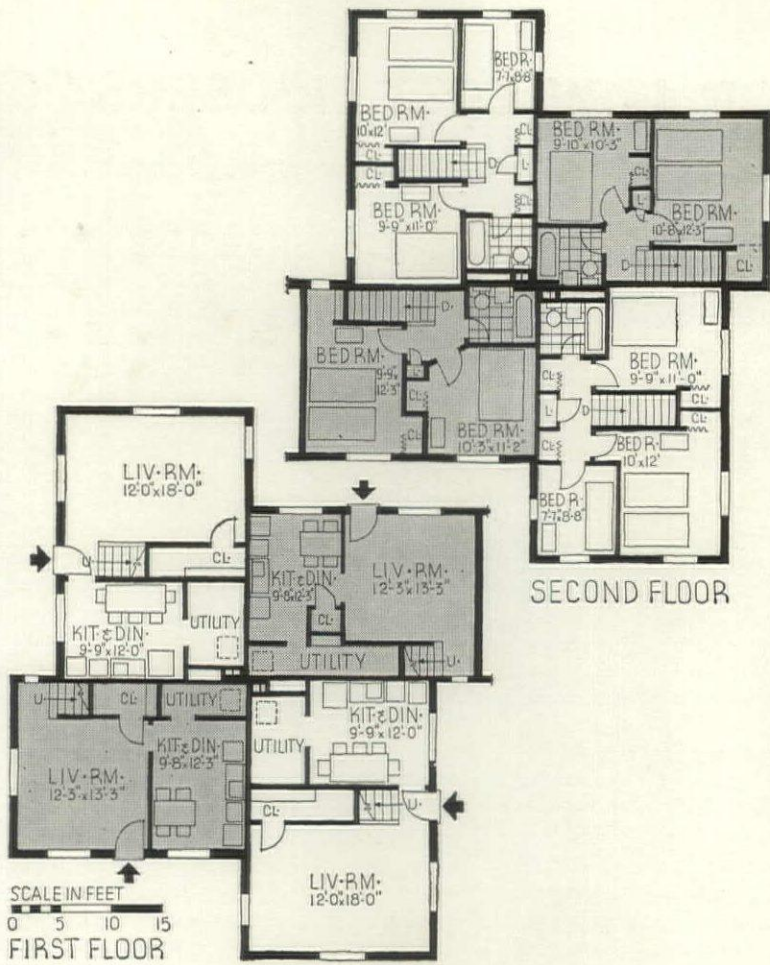
of combining the dwellings in four-petal clusters: 1) each living room has three exposures (except where one quatrefoil hooks up with another), thus commands better light and more views; 2) master bedrooms as well as living rooms are cross-ventilated; 3) concentration of baths, kitchens and utility closets at the core simplifies utility connections—an economy which is partially offset by the need for skylight ventilation in the bathrooms.

As the plans (opposite) suggest, the quatrefoils may be combined in a variety of building shapes which may, in turn, produce an almost endless number of interesting site arrangements. Moreover, densities about 10 to 15 per cent greater than in a standard row house layout can be obtained with approximately the same livability. Thus, on favorable sites USHA will permit a gross density of 28 families to the acre. Since quatrefoil dwellings have no rear entrances, there are no rear walks and unsightly backyards.

USHA estimates that a layout made up exclusively of quatrefoils will result in costs from 1.8 to 3 per cent more than for comparable straight row units. But research efforts are now being directed at refinements that will reduce this differential. Latest idea (not shown on the plans) is to reverse the position of toilet and lavatory in each bathroom and to move kitchen equipment toward the core to capitalize on shorter runs and more economical roughing.

The quatrefoil plan has already stirred the interest of housing authorities in several cities where it will probably be guinea-pigged in conjunction with straight row units in projects now under consideration. Private housers will do well to watch these experiments with an eye to developing the plan still further for families not reached by USHA.







# CONSTRUCTION TRICKS FOR LOW COST HOUSERS

taught by a Pennsylvania lumber dealer. Above average houses at below average costs.

Convincing demonstration that the really low cost house need not be an ugly dwelling on a two-by-four lot is the model house unveiled last month at Croyden, Penna.—a small town (pop. 3,000) on the northern fringe of Philadelphia's industrial outskirts. Compact in plan, trim in exterior design, newsworthy in construction, it is the first of 150 similar dwellings which will soon dot the 25 acres of farm land being developed by Lumber Dealer Henry P. Palmer, Jr. and his enterprising Allied Housing Associates, Inc. Most important, since the basic house will sell for only \$2,650 including a 40 or 50 x 150 ft. lot, it will be within easy reach of the area's factory workers, most of whom now rent run-down dwellings a hair's breath above the "rural slum" category.

The house qualifies for mortgage insurance under FHA's Title I program, may thus be purchased with a \$150 down payment plus monthly installments of \$20.90 during the fifteen-year life of the \$2,500 loan. For those who require additional living space and have the necessary cash, Palmer offers a complete line of "accessories" for his basic unit (running from entrance hoods to attached garages), has also arranged for Title II financing.

With a sheaf of orders in hand, Allied Housing Associates, Inc. has gone promptly into production, has already purchased or optioned two other large tracts in Pennsylvania's Bucks County for extension of its low cost housing activities. Although thinking of housing in terms of standardization and quantity production, Allied Housing Associates, Inc. is moving cautiously into the low price market. The three tracts are being developed as large scale experiments to bring consumer wants into sharper focus and to test design and construction features already under study for the past four years.

**Service.** In 1935 Palmer, a Lehigh graduate in civil engineering, worked in the Philadelphia & Reading Coal & Iron Co.'s research sales department, studied the anthracite problem. Then the death of his father thrust on him the responsibility of managing the Henry Palmer Co., which had been selling lumber and building supplies in Langhorne, Penna. (pop. 1,147) since 1902. Taking over the business, he quickly decided that jerry-builders were risks to be avoided, that the best way to merchandise lumber was to make sure prospective buyers got houses properly designed and built. Year later Henry Palmer Co. began offering a complete house building service: design, construction, financing, and supervision.

Clients who come to the company for such servicing, as now perfected, are first questioned on resources and needs. A preliminary expense agreement is drawn up which serves to weed out those who are

just shopping for a bargain. Plans and working drawings are then started in the design department, headed by Howard A. Gutgesell, who is also responsible for supervision. Financing and construction routines are elastic, but Palmer insists on full control of operations, handles all loans and contracts.

On this basis, with a staff of sixteen, the company has an average of some fourteen custom-built jobs in the shop at a time. Production last year: 38 houses ranging from \$4,000 to \$28,000 with \$5,500 types predominant.

While his custom-built house business has been steadily increasing, Palmer's interest has turned more and more to the potentialities of low cost housing. Several years ago he began experimenting with designs for small dwellings that could be sold at rock bottom prices. Affectionately dubbed "baby houses," they were refined and standardized increasingly in successive models. Each promising new design was field-tested by building trial houses in widely separated areas, thus giving a check on cost estimates and time required for construction. Twenty such trial houses have been built during the past two years; each has been sold.

Meantime Palmer was making frequent trips to Washington to attend FHA-sponsored industry meetings relating to suburban and rural housing. Toward the end of 1939, with liberalized small house financing available through FHA, he decided to start active operations in the low cost field. Revamping the home service department into an operating subsidiary of the lumber company, primed to turn out low priced dwellings in large quantities as well as higher priced custom-built jobs,\* he christened it Allied Housing Associates, Inc.

**Houses.** Although the central design theme is a standardized 30 x 22 ft. floor plan, the houses going up on the three tracts in Bucks County will be tailored to fit individual family requirements so far as possible. Some will have garages, others will not. Positioning of garage to house

\* Currently being developed is a subdivision of custom-built houses at Morrisville. Called Arbor Lea, it already boasts nine houses in the \$6,500 class.

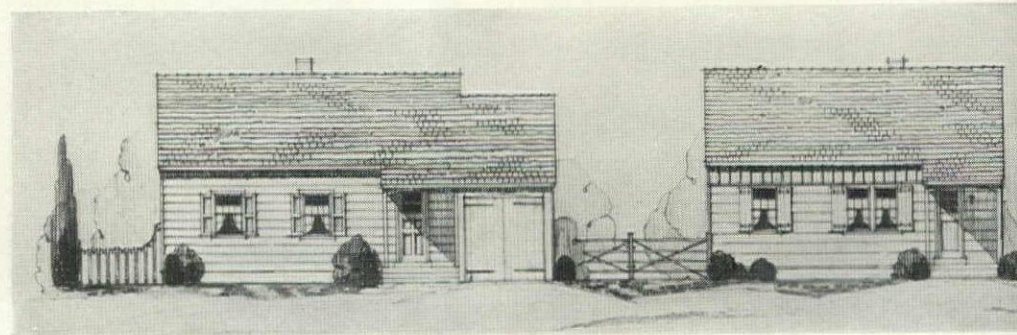
can be varied. A 10 x 10 ft. dining room unit can be added; placed between the house and garage, it forms a wing with a recess that can be utilized as an open porch. Entrance hood is an optional extra. So, too, is a living room stairway leading to storage space on the upper floor. While this space is left largely unfinished, the upper floor is considered a strong selling point; if the owner is handy with tools, he can easily complete it himself in leisure hours at no great expense. Result: an extra room for use as nursery, guest room, hobby room or for general storage. Early experimental models had snug low lines, but to gain usable space under the roof, exterior walls have since been increased in height, and extended 2 ft. in length to accommodate the living room stairway.

For esthetic reasons entrance doors will vary in location, depending on whether houses are put sidewise or endwise on the lots. A staggered arrangement of houses is contemplated, but no effort is being made to plan tract layouts in detail until more information is obtainable on buyer wants with regard to garages, porches, dining rooms and other features. Allied Housing Associates, Inc., frankly states that it is feeling its way along; the three tracts are viewed as market research and will be developed in experimental ten-house segments in pace with orders.

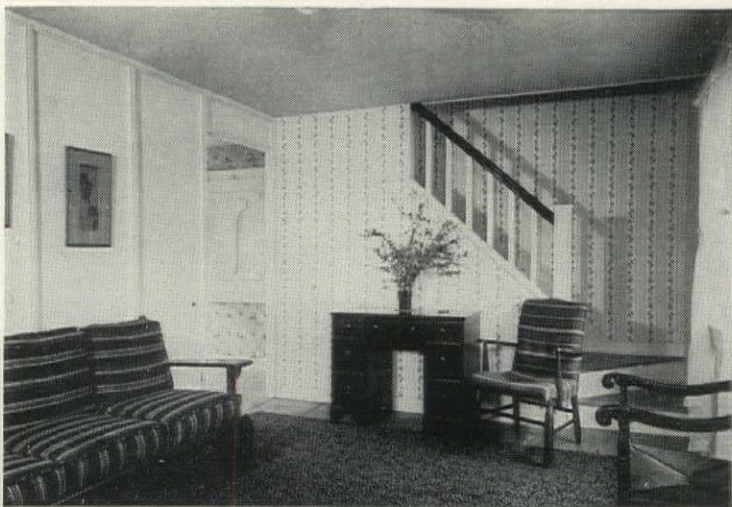
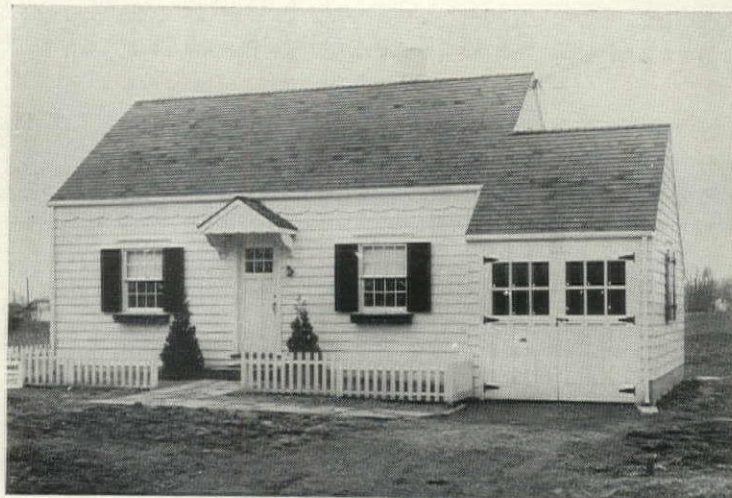
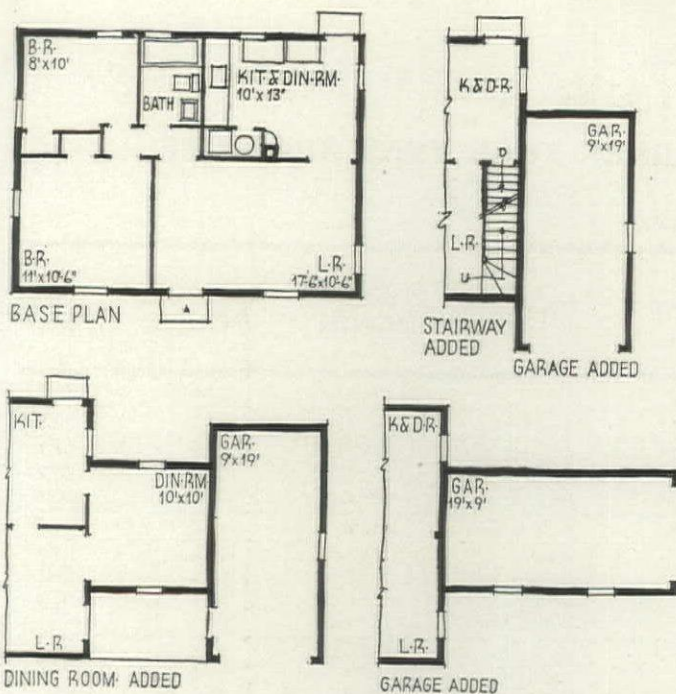
**Construction.** Shell of house—walls and roof—is erected first, then exterior is completely finished, making the structure a weather-tight enclosure in which work can proceed regardless of outside conditions. Interior remains one large unfinished space. Flooring next is laid over the entire inside area, eliminating any necessity of special cutting to fit individual room spaces. In similar fashion the interior is then ceilinged with sheetrock as one continuous area. After warm air heating equipment and ducts, electrical wiring, plumbing fixtures and lines are in place, shop-fabricated plywood panel partitions and sheetrock wall panels go up. Rooms are then ready to be painted or papered.

With this system of construction, efforts to crack costs through simplification of practice have been centered on four points of attack: 1) *Plumbing.* Soil stack and

(Continued on page 54)







## CONSTRUCTION OUTLINE

**FOUNDATION:** Cinder concrete blocks.  
**STRUCTURE:** Exterior walls—studs, 1/2 in. insulating board sheathing, building paper and red cedar siding; inside—Sheetrock, U. S. Gypsum Co. Interior partitions—studs and Douglas fir plywood panels. Floor construction—joist, yellow pine sub- and finish flooring. All lumber by Weyerhaeuser Sales Co. Ceilings—Sheetrock, U. S. Gypsum Co.  
**ROOF:** Covered with red cedar shingles.  
**SHEET METAL WORK:** Flashing—40 lb. tin. Leaders and ducts—galvanized. All metal by Milcor Steel Co. Gutters—wood.  
**INSULATION:** Outside walls—insulated board sheathing. Ground floor—30 lb. roofers felt, Johns-Manville, Inc.  
**WINDOWS:** Sash—double hung, white pine. Glass—single strength, quality A, Libbey-Owens-Ford Glass Co.  
**FLOOR COVERINGS:** Main rooms—pine. Kitchen and bathrooms—linoleum, Congoleum-Nairn, Inc.  
**WALL COVERINGS:** All rooms—wallpaper. Bathrooms—Flexboard, Johns-Manville, Inc.  
**HARDWARE:** By Skillman Hardware Co. and National Hardware Co.  
**PAINTING:** Material by Sherwin-Williams Co.  
**KITCHEN EQUIPMENT:** Range and refrigerator—Frigidaire Sales Corp.  
**LAUNDRY EQUIPMENT:** Washing machine—General Electric Co.  
**BATHROOM EQUIPMENT:** All fixtures by Kohler Co. Cabinets—Par-Metal Products Co.  
**PLUMBING:** Soil pipes—cast iron; lead waste, copper roof vent. Water pipes—copper, Chase Brass & Copper Co.  
**HEATING:** Warm air heat, Plan-aire system with Duo-therm oil burner, gravity flow. Boiler and water heater—Duo-therm, Motor Wheel Corp. Grilles—Hart & Cooley.

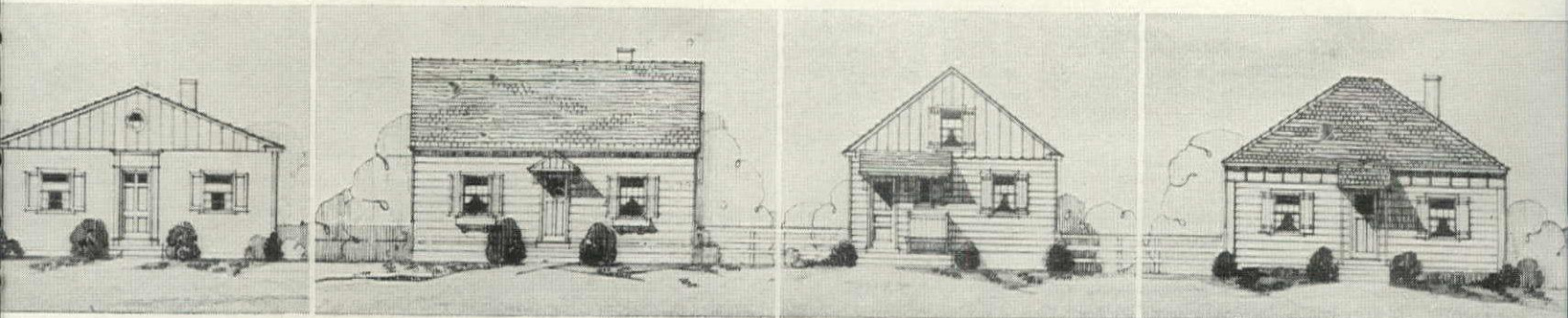
## COSTS

<b>BASE UNIT:</b>	
Materials .....	\$900
Labor (non-union) ..	447
Wiring & fixtures ...	70
Painting .....	140
Plumbing .....	275
Heating .....	150
Wall finish ...	30
Linoleum .....	33
Water service.	35
Misc. labor & materials	90
Outside improvements.	30
Overhead & profit .....	200
Land .....	250
<b>Total .....</b>	<b>\$2,650</b>
<b>EXTRAS:</b>	
Dining wing ..	\$180
Garage .....	240
Entrance hood & decoration	25
Stairway to upper floor..	75



Nichols Photos

**Demonstration house,** above, includes a stairway, a garage and an entrance hood—three extras which boost the price \$340 above the basic \$2,650 figure. Note plywood panel construction of living room wall and heater closet off kitchen. Below, a half-dozen exterior design variations of Lumber Dealer Palmer's basic house.





# FORUM BUILDING COST INDEX\*

**CURRENT TREND IS UP IN 43 OF 81 CITIES, HIGHER THAN YEAR AGO IN 47.**

\* Home Building Costs Expressed in Per Cent of the 1936 National Average.

STATE	CITY	LATEST MONTH	PRECEDING MONTH	YEAR AGO	STATE	CITY	LATEST MONTH	PRECEDING MONTH	YEAR AGO
ALA. <sup>1</sup>	Birmingham	95.2	93.8	102.4	NEV. <sup>2</sup>	Reno	121.9	121.1	118.8
ARIZ. <sup>2</sup>	Phoenix	112.1	112.5	111.3	N. H. <sup>1</sup>	Manchester	97.4	97.3	99.5
ARK. <sup>2</sup>	Little Rock	93.6	93.7	93.9	N. J. <sup>3</sup>	Atlantic City	113.2	113.4	104.7
CALIF. <sup>2</sup>	Los Angeles	95.0	95.9	97.8		Camden	107.4	105.4	100.9
	San Diego	98.0	98.9	104.5		Newark	103.1	102.2	100.1
	San Francisco	114.0	113.9	115.6	N. M. <sup>2</sup>	Abuquerque	113.2	114.2	117.8
COLO. <sup>1</sup>	Denver	112.5	112.5	114.8	N. Y. <sup>3</sup>	Albany	101.6	101.3	98.9
CONN. <sup>1</sup>	Hartford	107.3	106.7	106.0		Buffalo	102.7	106.9	104.2
	New Haven	105.7	104.7	101.7		Utica	105.5	104.6	103.5
DEL. <sup>2</sup>	Wilmington	97.4	97.4	104.2		White Plains	101.2	100.1	100.1
D. C. <sup>1</sup>	Washington	103.8	103.7	105.1	N. C. <sup>1</sup>	Asheville	90.3	92.5	91.9
FLA. <sup>1</sup>	Tampa	103.4	103.2	100.1		Raleigh	92.3	93.6	94.9
	West Palm Beach	....	103.8	....		Salisbury	87.9	88.2	85.3
GA. <sup>1</sup>	Atlanta	89.0	89.0	88.1	N. D. <sup>3</sup>	Fargo	106.0	105.8	102.3
IDAHO <sup>3</sup>	Boise	112.4	110.5	109.9	OHIO <sup>2</sup>	Cincinnati	99.9	105.0	103.9
ILL. <sup>1</sup>	Chicago	122.7	122.7	123.4		Cleveland	122.8	123.5	116.2
	Peoria	127.0	124.9	116.4		Columbus	104.8	104.4	102.7
	Springfield	127.8	127.9	123.1	OKLA. <sup>1</sup>	Oklahoma City	109.4	108.5	106.3
IND. <sup>3</sup>	Evansville	110.6	110.2	105.8	ORE. <sup>3</sup>	Portland	96.6	95.5	95.9
	Indianapolis	100.9	103.5	105.4	PENNA. <sup>2</sup>	Harrisburg	106.3	110.4	103.2
	South Bend	104.9	105.7	98.0		Philadelphia	101.1	100.9	97.5
IOWA <sup>3</sup>	Des Moines	114.6	113.9	113.5		Pittsburgh	113.0	115.7	116.7
KAN. <sup>1</sup>	Wichita	107.4	106.8	110.0	R. I. <sup>1</sup>	Providence	109.1	108.6	107.3
KY. <sup>2</sup>	Lexington	106.7	106.9	102.5	S. C. <sup>1</sup>	Columbia	85.5	84.5	87.5
	Louisville	97.8	97.6	94.7	S. D. <sup>3</sup>	Sioux Falls	110.2	109.4	113.4
LA. <sup>2</sup>	New Orleans	105.4	105.9	102.8	TENN. <sup>2</sup>	Memphis	97.6	97.9	98.5
ME. <sup>1</sup>	Portland	95.0	94.8	95.2		Nashville	90.0	90.8	91.8
MD. <sup>1</sup>	Baltimore	90.6	91.7	88.9	TEXAS <sup>2</sup>	Dallas	97.9	96.4	101.7
	Cumberland	101.8	99.0	99.9		Houston	107.1	106.0	106.7
MASS. <sup>1</sup>	Boston	117.3	116.2	115.3		San Antonio	101.0	102.8	106.3
	Worcester	103.3	103.3	....	UTAH <sup>3</sup>	Salt Lake City	109.1	108.4	106.3
MICH. <sup>3</sup>	Detroit	105.1	107.3	111.7	VT. <sup>1</sup>	Rutland	96.2	95.3	98.9
	Grand Rapids	99.2	102.5	106.6	VA. <sup>1</sup>	Richmond	87.6	89.5	91.8
MINN. <sup>3</sup>	Duluth	112.0	109.2	108.0		Roanoke	94.0	93.8	92.9
	St. Paul	117.9	118.4	118.0	WASH. <sup>3</sup>	Seattle	114.1	114.1	113.4
MISS. <sup>2</sup>	Jackson	109.1	108.7	108.8		Spokane	114.1	113.6	108.5
MO. <sup>3</sup>	Kansas City	108.9	107.7	105.0	W. VA. <sup>2</sup>	Charleston	105.6	105.6	106.0
	St. Louis	111.3	109.4	109.9		Wheeling	114.3	114.7	111.9
MONT. <sup>3</sup>	Great Falls	125.7	124.5	126.5	WIS. <sup>1</sup>	Milwaukee	109.6	109.2	108.0
NEB. <sup>1</sup>	Omaha	111.3	109.9	104.6		Oshkosh	106.7	104.9	106.2
					WYO. <sup>3</sup>	Casper	116.3	119.2	116.7

1. Latest report—March; preceding report—February; year ago—March 1939.
2. Latest report—February; preceding report—January; year ago—February 1939.
3. Latest report—January; preceding report—December; year ago—January 1939.

Based on Federal Home Loan Bank Board statistics covering the cost of building the same typical house in each city. This typical or **standard house** has six rooms, a total volume of 24,000 cu. ft. On the first floor are living and dining rooms, kitchen and lavatory; on the second floor, three bedrooms and bath. Exterior finish is wide-board siding with brick and stucco as features of design. Included in the cost of the standard house are all fundamental structural elements, an attached one-car garage, unfinished cellar and attic, fireplace, insulation, and all essential plumbing, heating and wiring. Only cost variables are materials and labor; compensation insurance, overhead and profit are included as constants. Excluded from the cost of the standard house are all items of finish and equipment such as wallpaper, lighting fixtures, refrigerator, window shades, etc. Costs do not include land, landscaping, walks and driveways, architect's fee, building permit, financing charges, etc. For a more detailed explanation, See ARCH. FORUM, Dec. 1939, Page 474.

## USE OF INDEX.

1. To show current local trends of building costs by means of three reports for each city, covering the most recent month, as well as three months and a year

previous. In addition, the index of each city provides a direct comparison with the 1936 national average, as it is given as a percentage of that average.

2. To report the wide variation in local cost levels, shown by the relative size of the index figures. As all local indexes are based on the 1936 national average, they are directly comparable.

3. To provide a ready means of **adjusting house costs between cities.**

Thus, to find the cost in City B of a house built in City A for \$5,000, first multiply the most recent City B index (90) by the cost of the house in City A (\$5,000). The result is 450,000. Second, divide that 450,000 by the latest City A index (110). Result: \$4,090—the approximate cost of the house in City B.

In using THE FORUM Building Cost Index to make such an adjustment of costs between cities, the basis of the index—the standard house, defined in the first column—should be kept in mind. The index applies to medium-to-small houses, not to large houses and those replete with gadgets. Neither does it apply to costs which include land. If land is included in the total cost, 20 per cent may be deducted to obtain a rough approximation of construction costs. For application in the South, the cost of cellar and heating plant may be eliminated from a Northern house by deducting 10 per cent.



TODAY'S LESSON:



# Terrazzo



Detail of floor (above). That clean-cut pattern will remain clean-cut—thanks to the use of a pure *white* portland cement—Atlas White. Take advantage of the varied design possibilities of terrazzo for all your floors!

THOUSANDS of students every year will walk back and forth across this terrazzo floor in the Administration Building of Boston University. Yet—in spite of all these years of hard wear—this same design . . . with all its fine detail and rich, delicate colors . . . will remain just as you see it now! That's because it's *Fine Terrazzo*, made with *white* portland cement—Atlas White.

Take this lesson to heart. Let *Fine Terrazzo* catch and hold permanently your finest floor designs in school, church, club, civic or office building. And when you use low-in-upkeep-cost *Fine Terrazzo*, specify Atlas White cement (plain or waterproofed).

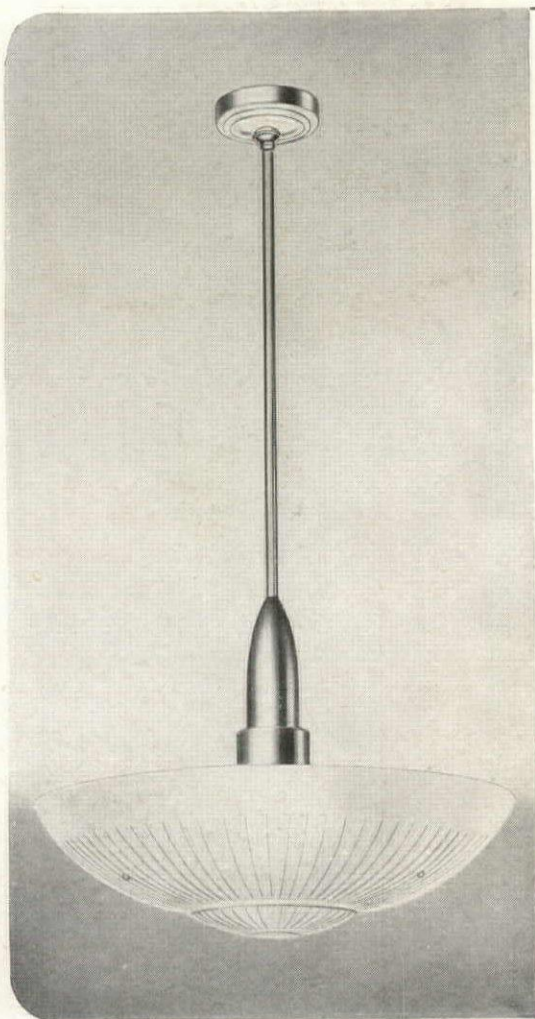
For more details see Sweet's Catalog, or write us for free book with 24 true-color specimens of *Fine Terrazzo*, made with Atlas White. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, N. Y.

Boston University's Administration Building. Note the fine detail of this wear-resistant *Fine Terrazzo* floor in the lobby, made with Atlas White Cement. Architects, Cram & Ferguson; Terrazzo Contractor, DePaoli Mosaic Co., both of Boston.



... FOR FINE TERRAZZO SPECIFY  
ATLAS WHITE PORTLAND CEMENT





# beauty

WITH EFFICIENCY



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In the GB Luminaire, Westinghouse design artists and engineers have created for architects and building management the highest standards of modern styling and lighting effectiveness.

Here is a luminous indirect lighting unit exclusively designed for incandescent Bipost lamps. The patented Hi Flec glass basin is neutral ivory when lighted and combines uniform low surface brightness with a high reflection factor. The soft glow of the lighted luminaire blends harmoniously with the ceiling brightness . . . providing desirable

high-intensity illumination without harsh shadows or glare.

The GB Luminaire answers your quest for a lighting fixture that provides quality illumination and enhances modern architectural interiors . . . creating indirect lighting at its best for either new construction or modernization.

Westinghouse Distributors, in cities from coast to coast, have complete information and specifications. Call your nearest Distributor today, or write Westinghouse Electric & Mfg. Co., Lighting Division, Edgewater Park, Cleveland, Ohio.

Tune in "Musical Americana", N. B. C. Blue Network, every Thursday evening.

# Westinghouse

Lighting  
Equipment







AND IT WON'T  
NEED A NEW  
PRIMING COAT  
EITHER!

## THAT'S WHAT I CALL TRADE-IN VALUE IN PAINT

"Now let's get this straight," you say. "Do you mean that a paint job can have a trade-in value like a car—or an electric refrigerator?"

"Yes sir," answers the Dutch Boy. "You 'turn in' your old paint when you repaint on top of it. Then, whatever it saves you on the cost of the new work is exactly the same as a trade-in allowance."

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 surfaces 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 old film is smooth and unbroken, it is not necessary to reprime the surface before applying the new Dutch Boy coats.

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 Street, Buffalo; 900 West 18th Street, Chicago; 659 Freeman Avenue, Cincinnati; 1213 West Third Street, Cleveland; 722 Chestnut Street, St. Louis; 2240 24th Street, San Francisco; National-Boston Lead Co., 300 Albany Street, Boston; National Lead & Oil Co. of Penna., 1376 River Avenue, 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.



# Now...a flooring created specifically for INDUSTRIAL SERVICE

**M**ANY factory and warehouse floorings in use today are modified road pavings that have been drafted into industrial service because nothing better has been available. Now, however, a new flooring in tile form—actually created for industrial use—is available. This new product is Armstrong's Industrial Asphalt Tile.

Here, at last, is a low-cost material that offers the *combination* of properties necessary to provide a serviceable industrial floor. Look at the following list of special features—compare them with the characteristics of any other industrial flooring in use today. Note the extra advantages.

Low initial cost	Non-spalling
Fast installation	Non-slip
Ready for use as soon as laid	Self-healing
Low-cost maintenance	Fast trucking
Non-dusting	Not damp
Non-sparking	Restful, resilient
High tensile strength	Quiet
Tough	Pleasing appearance
Resistant to denting	Odorless
	Verminproof
	Lightweight

These twenty desirable qualities make Armstrong's Industrial Asphalt Tile the logical choice for factory and warehouse floors. Next time your plans call for a heavy-duty trucking floor, use this modern material.

## Send for Data Sheet

You'll also find this flooring excellent for locker rooms, super-markets, and covered loading platforms. For full information about this new industrial floor, write now to Armstrong Cork Company, Building Materials Division, 1249 State Street, Lancaster, Pennsylvania.



# Armstrong's Floors

## INDUSTRIAL ASPHALT TILE

## BUILDING RATING

(Continued from page 372)

because the stones are of odd shapes, porous and difficult to bond, the Mortgage Conference rates rubble fourth behind poured concrete (use of which has recently increased), new brick and a combination of new and old brick.

**Brickwork.** Use of second-hand brick to save money has knocked down the rating of many a building. If, contrary to recommendations, old brick is used at all, Engineer Rankin suggests that it be limited to 30 per cent of any part of the building, only to walls 12 in. or more in thickness and only to whole clean, hard-burned units. Because it is likely to be more porous than new brick, second-hand brick should never be applied to the exterior face of below-grade foundation walls, to the inside face of parapet walls or to any bulkhead walls. Finally, painted or sooty chimney brick should not be used on the face of any wall that is to be plastered.

Equally important as masonry materials in a building's rating is the workmanship of masons.

**Mortar and concrete** should be mixed in batch mixers at the site or preferably in the trucks of "transit mix" delivery companies to insure a specified consistency throughout the job.

**Parging** of the inside of exterior brick courses with mortar was rarely practiced three years ago. Engineer Rankin now sees it applied to the top two stories of most buildings, hopes eventually to see it carried all the way down.

**Parapet walls** used to be only 8 in. thick and, in time, would lean dangerously in or out. Today, thanks to the Mortgage Conference's crusading, most of them are a sturdy 12 in. in thickness.

**Fire stops** of brick and mortar at the juncture of floors and exterior walls were hastily and loosely constructed until the Mortgage Conference began its probing. Many are now airtight, more effective.

**Floor joists** are following more closely Rankin's specifications for size, spacing and maximum span (Douglas Fir, No. 1 common):

Joist size	12" O. C.	14" O. C.	16" O. C.
3" x 8"	18'-3"	17'-4"	16'-7"
3" x 9"	20'-6"	19'-6"	18'-8"
3" x 10"	22'-10"	21'-8"	20'-9"

Moreover, since second-hand joists are rated down in the C's, their use has been discontinued except in the top floor ceilings where loads are lightest. Still largely unheeded, however, are Rankin's recommendations 1) that an extra joist be

(Continued on page 52)



# \$94 OIL BILL FOR 13-ROOM HOME NEARLY 200 YEARS OLD!



**"No Insulation," Says Owner . . . "Yet Our HOLLAND AUTOMATIC FURNACE AIR CONDITIONER Kept Every Room as Uniformly and Comfortably Warm as Could Be Desired Even at Extreme Ends of System."**



*Home of*  
WARD A. ROBINSON, Upton, Mass.

● While Mr. Robinson's case is unquestionably above average, there are many to equal it and thousands very nearly as extraordinary. This remarkably uniform record is only partly explained by revolutionary new features which have set new records in operating efficiency. Almost equally important is Holland's unique engineer-

ing service. Every system is worked out in detail from the architect's plans by Holland's own specially trained local engineers and checked by senior factory engineers. Then, installation is made by Holland's own mechanics under the local engineer's personal supervision. Holland then assumes full responsibility directly to the

owner—backs every installation with an iron-clad guarantee of perfect heat in every room. To specify Holland equipment is, therefore, to make doubly sure of a satisfied client. For full information about any phase of Holland service, mail the coupon or call the engineer in charge of any of Holland's more than 500 factory branches.

**HOLLAND FURNACE COMPANY**  
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*World's Largest Installers of Home Heating and Air Conditioning Systems*

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Please mail information on subjects checked below:  
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## Tenants Fall In Love With It

Labor-saving compactness of this complete all-steel Pureaire Kitchen always appeals strongly to the apartment housewife. . . . Pureaire's ability to cook without allowing odors or vapors to escape into the room is another highly prized benefit. . . . And when she closes the silent steel doors, the whole kitchen blends away into the wall. . . . So Pureaire-equipped apartments are always easier to rent—and for more money. . . . A large share of our growing business is today made up of re-orders from building owners already experienced in Pureaire equipment. . . . They know that Pureaire PAYS. It proves up. It saves room for them—cuts building investment, produces more income per dollar. . . . Plan Pureaire equipment into your next apartment, remodeling or small home project job. . . . Models for gas and electricity, all electricity, all gas. Write—today.

THE PARSONS COMPANY  
DETROIT

PARSONS

*Pureaire*  
KITCHEN

(Continued from page 50)

placed beside one that is cut to make way for a plumbing riser, 2) that every joist have full bearing at either end, 3) that, where joists abut a beam, they be hung in bridle irons or stirrups, not spiked in place, and 4) that all joists be set with knots on the upper side.

**Sub-flooring.** Builders are gradually making it a practice to double nail the end bearings of all sub-floor members and to lay down paper or felt before the finished flooring. Result: fewer floor squeaks, better sound insulation.

**Lathing** has improved considerably, now generally follows the Mortgage Conference specifications: fiber insulating lath for top floor ceilings where thermal insulation is essential, metal lath for other ceilings and metal lath (first choice) or fiber insulating lath for all walls.

**Stud partitions** still leave much to be desired in that most of them are weakly framed with 2 x 3's set with their longer sides to the lath.

**Plumbing.** The Mortgage Conference has almost won its battle for the universal use of brass instead of galvanized pipe in water systems, now hopes to swing the builders from yellow to red brass for still better protection against the chemicals in New York City's water. Other Conference recommendations which are now appearing in apartment house plumbing: 1) provision of air cushions on risers to eliminate water hammer, 2) installation of acid resisting fixtures in bathrooms and kitchens and 3) insertion of expansion joints in long risers.

**Heating** installations have been improved from bottom to top. Thus, Engineer Rankin drops the rating on a building which, among other things, does not boast 1) a boiler with a radiation capacity of at least 25 sq. ft. per 1,000 cu. ft. of building, 2) dirt pockets and clean-out plugs at the base of one-pipe system steam risers, and 3) insulation between convectors and exterior walls.

While, as indicated in the foregoing summary of major improvements and shortcomings, New York City apartment house construction is still far from the AAA level, the Mortgage Conference has done much to better it. Significantly, its attention has been concentrated on such basic construction faults as caused the 1936 apartment house collapse where the official diagnosis read: too much lime in the mortar, too rapid construction, use of dirty, second-hand brick and inadequate inspection. But most important, the Conference's building rating system is serving its prime purpose—to provide member institutions with a workable formula for relating the terms of mortgage lending to the quality of buildings.

## 10,000 TONS MOVED 27'

GARAGE IN YOUNGSTOWN, O.  
MOVED FOR WIDER STREET  
WITH BUSINESS AS USUAL



Before Moving



After Moving

The 327-foot by 65-foot Central Square Garage was moved 27 feet by Eichleay of Pittsburgh.

400 automobiles used the parking garage throughout the operation. Mail and express offices functioned normally. Two shops enjoyed uninterrupted business.

This is an example of how Eichleay service can move buildings and machinery for better investment and more efficient operation.

MOVING-SHORING-RIGGING



EICHLEAY ENGINEERING CORP.

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Branch Office, 1600 Arch Street, Philadelphia, Pa.





For Fluorescent Lighting,  
certainly —

**ALZAK**

REG. U. S. PAT. & TM. OFF. ALUMINUM COMPANY OF AMERICA

**ALUMINUM  
REFLECTORS**



Alzak Reflectors help you profit fully in using fluorescent lamps. You can get lighting approaching the quality and quantity of daylight illumination, at reasonable cost.

High reflectivity of Alzak Aluminum Reflectors gives maximum efficiency to your lighting system. Long life and ease of maintenance make annual

costs low. The surface is smooth, so dirt does not adhere to it. It will not chip, doesn't scratch easily, and can be readily cleaned with soap and water.

Aluminum is light in weight, so these reflectors place less burden on supports. They can be thick, making them rigid and sturdy.

Just as fluorescent lighting must be used correctly, for maximum efficiency and life, so too must care be used in selecting the right Alzak finish for each job. Any of the companies listed below will advise you. Or, write to us.

**ALZAK REFLECTORS ARE MADE BY:**

• Crouse-Hinds Co., Syracuse, N. Y. • Curtis Lighting, Inc., Chicago, Ill. • General Electric Co., Schenectady, N. Y. • Edwin F. Guth Co., St. Louis, Mo. • Kliegl Bros. Universal Elec. Stage Lighting Co., Inc., New York, N. Y. • Major Equipment Co., Chicago, Ill. • Miller Co., Meriden, Conn. • S & M Lamp Co., Los Angeles, Calif. • Thomas A. Edison, Inc., West Orange, N. J. • Westinghouse Elec. & Mfg. Co., Cleveland, Ohio.

*We do not manufacture reflectors. The companies listed above, licensed under Aluminum Company of America patents, are well able to take care of your requirements.*

**ALUMINUM COMPANY OF AMERICA**  
1944 GULF BUILDING • PITTSBURGH, PA.



Here's How  
to

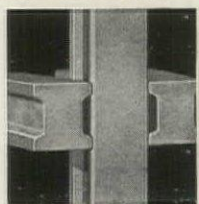
## COMPARE IRON FENCES!

Before specifying another iron fence, make this simple 1-2-3 construction comparison.

1. *Inseparably Welded Joints.* Check to see if rails and pickets are welded at every point of contact. This is necessary for permanency and to prevent sagging and loose pickets. In Anchor-Weld Fence, the use of electric pressure welding insures a permanent union between rails at every point of contact.

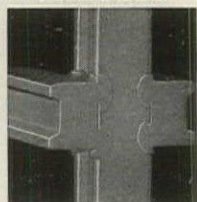
2. *Rails and Pickets of Same Weight.* Permanence of alignment and freedom from sagging is brought about by the use of the same size sections for both pickets and rails. Anchor-Weld Iron Fences use rails and pickets of identical metal, size and weight.

3. *No Center Supports.* A support in the center of an iron fence panel is an indication of structural weakness. In Anchor-Weld Iron Fences there are no center supports, but each panel will stand a ton of distributed load without showing permanent set.

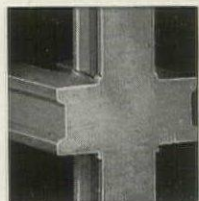


Picket and rails before being Electrically Welded.

### ANCHOR-WELD PROCESS



Picket and rails after welding has fused them permanently together at eight points.



Same picket and rails with ends of picket ground down to show perfect union of members.

So that architects and engineers may be fully familiar with Anchor-Weld, the Iron Fence that combines permanent structural strength with charming beauty, we will send a sample weld that will prove to you that Anchor-Weld is definitely superior. There is no obligation. Mail coupon for sample weld and catalog.

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

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

## CONSTRUCTION TRICKS

(Continued from page 374)

vent are assembled as single units in the shop, thus permitting the plumber to make a rapid installation in the field and to keep out of the way of other workers. This pre-assembled plumbing arrangement has been patented. 2) *Heating.* To reduce ductwork to a minimum, upper part of the hall connecting bedrooms and bathroom with the living room is used as a plenum chamber for an oil-fired heater placed immediately adjacent to the kitchen. Warm air is distributed to individual rooms through vents over each door, and a return duct runs under the kitchen floor back to the heater. This scheme has also been patented. 3) *Wiring.* Runs are cut down and incorporated in the partition panels wherever practical. 4) *Partitions.* Cut to size, panels are fitted with floor and ceiling plates before coming to the job. Studs serve to join panels together. Where different wall surfaces are desired in adjoining rooms, different materials can be combined in the panel assembly.

Operating set-up calls for two construction crews to work independently on the tract, each handling ten houses at a clip. According to this schedule, a new house can be started every four days, finished in about three weeks.

### FHA STATISTICS underline low cost trend, point to big building volume.

Definite proof that U. S. builders are paying stricter attention to their market came last month as FHAdministrator Stewart McDonald announced the average dollar dimensions of new houses whose mortgages were accepted for Government insurance in 1939. Thus, the median property value (house and lot) of all new single-family houses built under FHA's Title II came to \$5,245, about 9.5 per cent below the figure recorded for FHA's first full year of operation—1935. (If the 11,000 small houses constructed last year with loans of \$2,500 or less under FHA's Title I were included in this compilation, the 1939 median property valuation would be about \$5,000.) As statistics for prior years indicate, trend of median value has been continually downward: 1935, \$5,800; 1936, \$5,625; 1937, \$5,467; 1938, \$5,326.

About one-fifth of all Title II loans covered properties whose value was less than \$4,000, while 44.1 per cent were for houses and lots valued at less than \$5,000.

Property valuation was not, however, the only house dimension which was shaved last year. The median amount of mortgage principal dropped from \$4,491 in 1938 to \$4,450 in 1939. Since the steady decrease in property values has been largely offset by legislation permitting larger mortgages on new small houses, the med-

**Industrialization.** The emphasis on standardization and simplification makes it not at all surprising that Allied Housing Associates, Inc. is turning in the direction of prefabrication. If sales volume warrants, Palmer hopes to carry shop fabrication of parts for his "baby houses" still further. Current experiments with prefabricated houses elsewhere are being watched closely with this in mind. However, the biggest task he sees ahead, if the problem of providing better houses at lower cost is to be solved, is inter-industry cooperation in promoting home ownership and disseminating information on desirable housing standards.

In line with this conviction, Henry P. Palmer, Jr. has urged the lumber industry to start the ball rolling. Result: he is now chairman of the non-profit Middle Atlantic Homes Foundation, recent outgrowth and elaboration on a regional basis of the National Lumber Manufacturers Assn. National Small Homes Demonstration (ARCH. FORUM, July 1938, p. 77). Under Chairman Palmer's guidance, the local Foundation during 1940 will: 1) offer a home-building publicity service to newspapers, radio stations, and department stores, 2) distribute through lumber dealers a consumer booklet entitled "How to Acquire a New Home on Less Than a Dollar a Day," 3) sell plans and specifications for houses of the \$2,500 class at \$1 a set, 4) promote 500 houses.

ian amount of mortgage principal has changed but little since 1935.

Naturally enough, in light of these statistics, use of the FHA plan by families with small incomes has been considerably broadened. One out of every four families buying an FHA-inspected house last year had an annual income of less than \$2,000; more than two thirds had incomes of less than \$3,000. Median family income was \$2,457. This figure likewise caps a downward trend: \$2,814 in 1936, \$2,716 in 1937, \$2,603 in 1938.

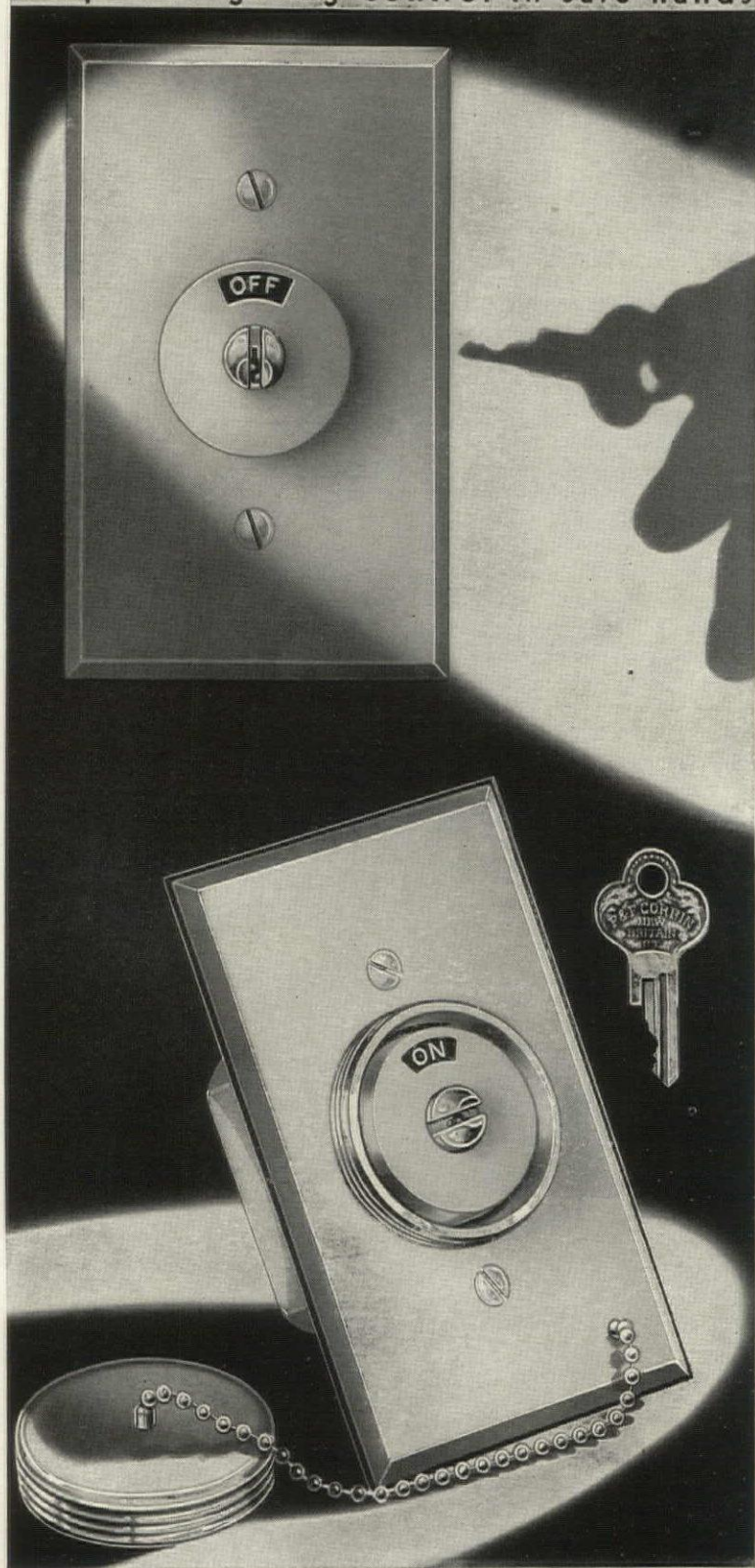
Also from FHA last month came news of new records. During the week ended March 30 FHA selected for appraisal 4,966 new construction mortgages—the largest weekly total yet reported. This volume compared with 4,434 in the preceding week, 4,268 in the corresponding week of 1939. At the end of March FHA's 1940 business, measured by mortgages selected for appraisal, was \$17 million ahead of last year's first quarter total of \$285 million.

In an effort to discount the meaning of FHA's currently increasing business, some observers will argue: 1) that severe winter weather in February restrained building operations, caused them to pile up in March or 2) that FHA is insuring a continually increasing percentage of all residential building loans. Others see increased house building as the answer. Chances are that all three circumstances contributed to FHA's March records.



# H & H LOCK SWITCHES

Keep the lighting control in safe hands



Upper illustration: Standard Flush type; No. 1281 Switch with No. 1285 Plate.

Lower illustration: Outdoor Weatherproof type with screw-on cover: No. 1281-WP.

## ROTARY TYPE with P. & F. CORBIN Pin Tumbler Locks

These switches stand for PROTECTION on the one hand and ECONOMY on the other.

Protection against the danger, say, of throwing into darkness a room full of people. Economy in preventing waste of current thru turning lights ON in a place *empty* of people.

The Corbin Pin Tumbler Locks securely bar "fooling with the lights." In theatres, auditoriums, schools, hospitals, institutions, these tamper-proof switches need no other recommendation than their obvious insurance-value against trouble and loss.

Not only is responsible control assured by the fool-proof locks, but *dependable* control is assured by the trouble-free mechanisms — mechanically and electrically perfected by a half-century of fine switchmaking.

These are not ordinary switches with a locking device, but are time-tested Rotary Snap Switches operated only by *turning key* in the integrally-designed Corbin lock. Available also with newly developed Master Key system. See *complete listing* of enlarged line on Page 35 of Catalog.



**HART & HEGEMAN DIVISION**  
THE ARROW-HART & HEGEMAN ELECTRIC CO. HARTFORD, CONN.



## \$2,600 HOUSE

(Continued from page 369)

electric kitchen boasts a food storage chest—a 4½ cubic foot mechanical refrigerator which makes no ice cubes and has a lid instead of a door. It is low enough to serve as an additional counter for the preparation of food. Consuming an estimated \$10 worth of electricity per month at average rates and under average operating conditions, all three major pieces of electrical equipment were designed particularly for use in low cost houses by the Foundation in cooperation with the Central Hudson Gas and Electric Co. and manufacturers' engineers. (The Foundation is currently pushing the development of three gas units designed to similar specifications.)

Also noteworthy among the house's equipment are electrically wired rubber base-moldings and plastic chair rails which provide electrical outlets at frequent intervals. Soon to be placed on the market, these Foundation-designed items should lower housing costs by making it unnecessary to run wiring within walls. Finally, with the exception of an overhead kitchen light, all electrical fixtures in the Lebanon house are hung on the walls near doors where they may be operated without separate switches—another indication of the John B. Pierce Foundation's thorough low cost planning.

**Furniture.** After they have made the down payment on a small house, few low incomers can afford to buy new furniture, and consequently most of their new houses are either under-furnished or cluttered with old out-of-scale pieces. In its Lebanon experiment, the Foundation neatly solved this double-barreled problem by building \$130 worth of furniture into the house, the cost of which would be covered by the mortgage and paid off during a 25-year period. Hugging the walls so as not to obstruct circulation, this furniture includes six chests of drawers, three desks, a dressing table, a double-deck bunk with ladder and about 24 ft. of triple shelving which, when curtained, may be used for the storage of china, linen, etc. To complete the picture the purchaser would furnish a dining table and chairs, two or three living room chairs, three bedroom chairs which could be used for dining purposes, a double bed, twin beds and a studio couch which would transform the living room into additional sleeping quarters at night. (Experimental House No. 1 was furnished in this manner and since completion last September has been occupied by a farm family of eight.)

**Significance.** Considered as a whole the Foundation's answer to the low cost housing problem is undeniably a lot of house for the money. While the \$2,629 total cost (see p. 366) excludes land and builder's overhead and profit, it is claimed that the

production of ten houses at a time would reduce the cost per unit by about \$300, or to a level where the home may be sold with profit for \$2,500. To prove it and to iron out any wrinkles that mass production may uncover, the Foundation has already begun the prefabrication of ten houses which will be erected in a planned subdivision, opened for public inspection.\* While their basic plans will be same as that of the Lebanon guinea pig, exteriors will follow a series of design variations prepared by Consulting Architects Skidmore, Owings and Merrill (see p. 369).

When this ten-house experiment is concluded, the Foundation will adjust the master blueprints in line with its findings. Then, according to present tentative plans, reputable builders throughout the country will be licensed to duplicate the patented houses with assistance and supervision of Foundation representatives. Thus, the John B. Pierce Foundation will offer to the building industry a house which has taken sixteen years to develop but which takes only ten days to build. And, while the industry is making up its mind as to whether or not this is the best answer yet offered to the low cost house problem, Researcher Robert L. Davison will seek a simpler solution in a thin wall panel fabricated of a single new material—one which combines insulating properties as well as structural strength.

\* Experimental houses at Lebanon are not open to the public.

## Why a "CHEKIT" floor doesn't scratch

Answer: for the same reason that it lasts longer, because CHEKIT PENETRATING WOOD SEAL not only seals the floor against traffic dirt and grime—it also hardens it, thus protecting it against chipping, scratching or wearing away. A CHEKIT floor is a better looking, safer floor, too.

For a rich antique finish, use it with CHEKIT WOOD FLOOR WAX, the new highly concentrated heavy duty emulsion. For future maintenance, use Franklin's RUBBER GLOSS WAX.

See our ad in Sweet's Catalog.

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Beautiful Southern Pine Floor in the Webster Avenue School, Lakeland, Florida, where 18,000 sq. ft. of flooring have been sealed with CHEKIT PENETRATING SEAL and are maintained with RUBBER GLOSS WAX.





## Our Best Reference...

### Architects use it in their own homes

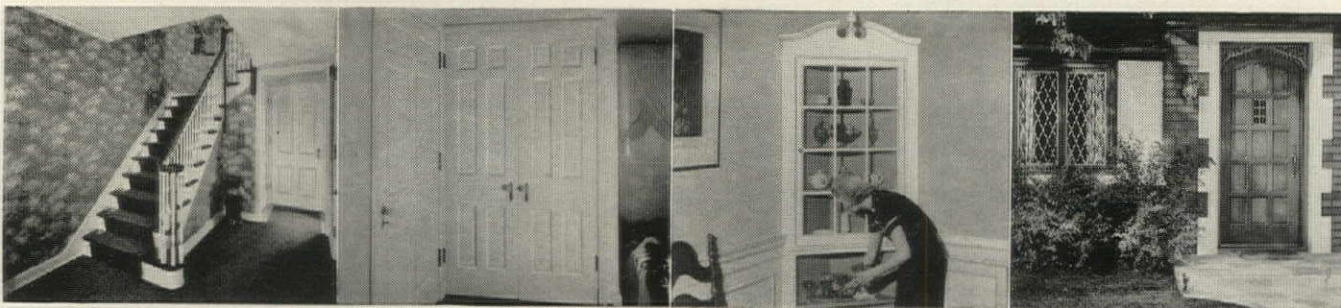
STOCK **WOODWORK** like the mantel in this room is architecturally correct. Yet its cost is low!

Prominent architects have designed the line of Curtis entrances, mantels, cabinets, etc. Famous names in architecture have designed Curtis Woodwork for many years. And all over America you'll find architects choosing Curtis stock Woodwork for their own homes. That's

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Curtis makes a complete line including doors, trim, kitchen cabinets and the famous SILENTITE "Insulated" Window family. Have your Curtis dealer get you the Curtis catalog and Architect's Details. Then you can take advantage of *stock* architectural woodwork. *Just mail the coupon.* If you live in Canada, write to Edwards Curtis Limited, 991 Somerset Street West, Ottawa, Canada.



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The Dunes Club, Narragansett, R. I. Winner of competition under auspices of A. I. A. Stained with Cabot's Shingle Stains. Architects: Purves, Cope and Stewart.



## Beauty that increases with exposure to the weather

Cabot's Creosote Shingle Stains—in weathering grays and browns—increase in beauty with the passing years. A vehicle of pure creosote, best wood preservative known, doubles the life of shingles, clapboards, or siding.

Only in Cabot's Stains can you get the advantages of our patented Collopping process. The pigments are divided into sub-microscopic fineness and *colloidally com-*

*bined* with the oil. Thus, the color penetrates further, giving a depth and richness not obtainable with other materials.

**Free Booklet—Stained Houses.** Shows pictures of many prize-winning Cabot-Stained houses. Contains full information about both the *Creosote* and the *Heavy-Bodied* Stains. Write Samuel Cabot, Inc., 1274 Oliver Bldg., Boston, Mass.

## Cabot's Shingle Stains

*Two Types—Creosote and Heavy-Bodied*

Victor two-piece construction assures easy installation.

### "SOLD!"—ONE HOUSE

What a thrill to see that sign replace "open for inspection." The Victor Master In-Bilt Ventilator will sell your houses faster. A small investment that pays big dividends in rapid turnover.

In a kitchen the Victor Master In-Bilt Ventilator effectively disposes of damaging and unpleasant cooking odors. Used in bathroom, bedroom, game room, den and laundry, it promotes continuous circulation of fresh, clean air. Super-powered motor. Weather-proof shutters. Telescopic wall sleeve facilitates rapid installation. Write today for free Victor In-Bilt Ventilator catalog.

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Dept. IB-13, 2950 Robertson Rd. Cincinnati, Ohio

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**NU-STYLE** Kitchen Cabinets afford unlimited arrangement possibilities—thus making your work easier. Client's wishes are easily fulfilled and you avoid having to make unsatisfactory compromises. Specify any BILT-WELL product with complete assurance that you are achieving both *quality* and *economy*.

**SAVE** time for yourself and money for your clients by specifying famous BILT-WELL NU-STYLE Kitchen Cabinets. Available in standardized stock units in graduated sizes to fit any kitchen. Ready to ship—no delays or inconvenience.

Precision built for easy installation—styled in the modern manner—quality materials and workmanship in every detail. Mass production makes low price possible. Adaptable and desirable for every class of home, whether new or remodeling. Gain priceless goodwill by giving housewives an attractive, convenient, modernized kitchen at low cost. Write for Free literature and full details today.

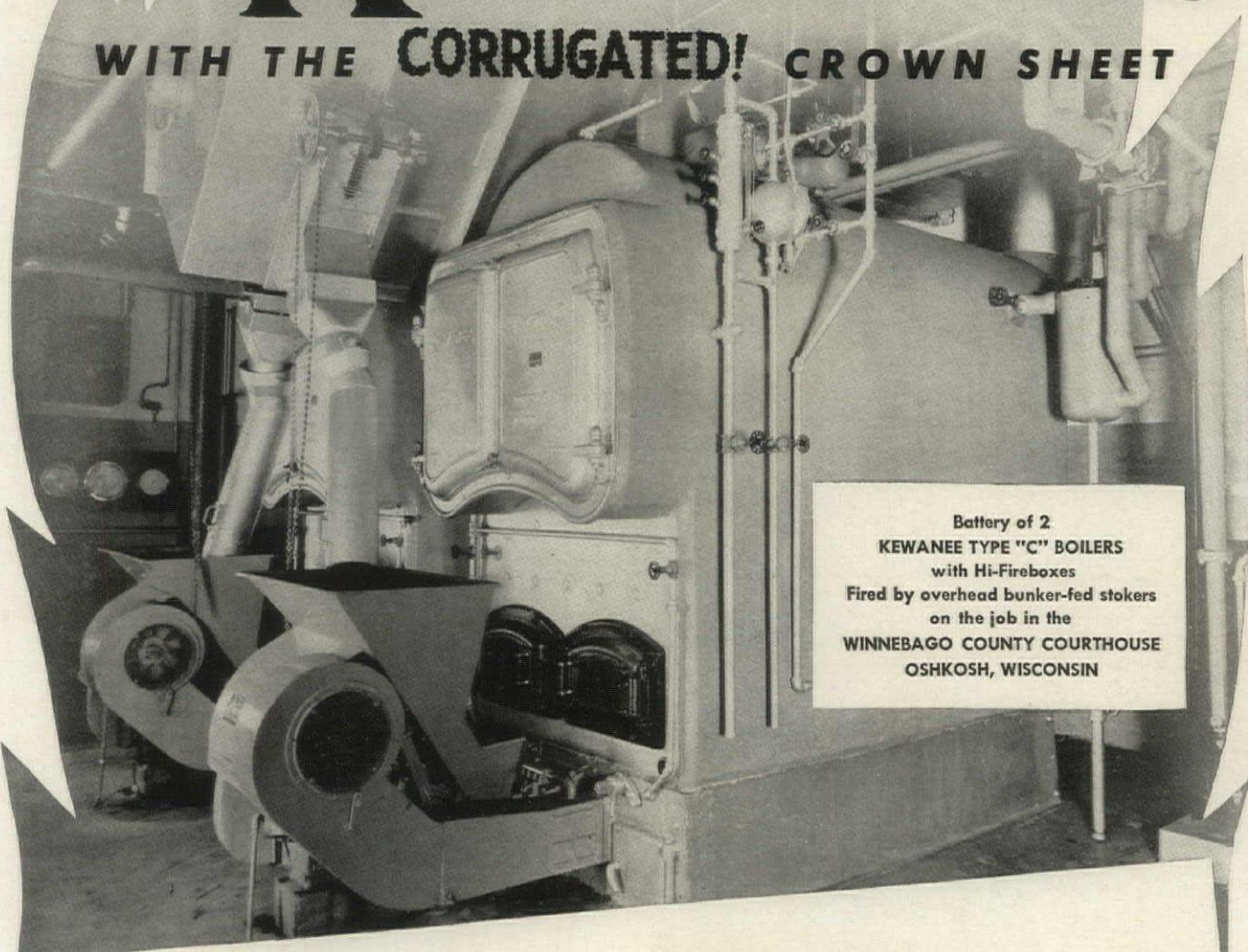
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Manufacturers of Famous BILT-WELL Millwork



**TAKES LESS SPACE... BUT  
WHAT A STEAM OUTPUT!**

# TYPE C KEWANEE

**WITH THE CORRUGATED! CROWN SHEET**



Battery of 2  
KEWANEE TYPE "C" BOILERS  
with Hi-Fireboxes  
Fired by overhead bunker-fed stokers  
on the job in the  
WINNEBAGO COUNTY COURTHOUSE  
OSHKOSH, WISCONSIN

Another reason why Kewanee Type "C" is the largest selling steel boiler for heating big buildings is because for its size and bulk it has an unusually large steam output... a compact boiler, yet so perfectly proportioned that heat is generated

with real economy.

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# FORUM OF EVENTS

(Continued from page 18)

## AWARDS

To DR. ARTHUR H. COMPTON, University of Chicago, and Nobel Prize Winner for Physics in 1927, and to Dr. Leo Hendrick Baekeland, chemist, the Franklin Medal, an award of highest rank in the field of pure science.

To GARDINER ANGELL, Scarsdale, N. Y., a graduate student, the 1940 prize in Illuminating Engineering Design, by Columbia University School of Architecture.

To DR. LILLIAN M. GILBRETH, consulting engineer, honorary life membership in the Engineering Woman's Club "for her scientific achievements in the field of industrial psychology. . . ."

To DR. EDITH ELMER WOOD, as first recipient, the Annual Award for Meritorious Housing Service by the Citywide Tenants Council of New York, in recognition of her nearly 30 years of indefatigable service to housing.

To THEODORE W. LAMB and B. J. HARRISON, JR., duplicate first awards in the architecture division on the occasion of the annual exhibit of sculpture, painting and architecture of the Beaux-Arts members of the Fontainebleau National Alumni Association.

To VINCENT G. KLING, East Orange, N. J., fourth year student, and to GORDON J. WISE, Brooklyn, N. Y., third year student, duplicate awards of the third Charles Peck Warren Medal, highest competitive prize in construction bestowed by Columbia University School of Architecture.

To L. LEE THORNE, Philadelphia, fourth year student, the Theophilus Parsons Chandler Fellowship carrying \$1,000 for a year of graduate study at the University of Pennsylvania, awarded by Pennsylvania State College.

To ROBERT BERNE, Bronx, N. Y., fourth year student, the Hamlin Prize, Columbia University School of Architecture's highest award for a decorative design.

To NICHOLAS B. VASSILIEVE and JOSHUA D. LOWENFISH, associated architects, New York, third prize in an international competition for a National Opera House in Belgrade, Yugoslavia. There were 74 entries of which 23 were from Yugoslavia. A team of six Italian architects won the competition, with two German architects awarded second prize. Third prize was in the amount of 37,000 dinar (at par about \$1,000).

## COMPETITIONS

SECTION OF FINE ARTS, Public Buildings Administration, Washington, D. C., invites competition for a series of mural paintings in the Social Security Building, Washington, D. C.: a) A three-panel mural on the screen of the stage in the auditorium; b) A group of four murals in the main corridor at the entrance to the auditorium. Jury: Marguerite Zorach, Edward Biberman, Kindred McLeary, and Franklin C. Watkins. Closing date, October 15, 1940. Further details of this and the following competitions may be had from the Section of Fine Arts.

Also open to competition are two free standing sculptures for the Social Security Building. This competition closes September 3, 1940. Jury: Chaim Gross, William McVey, and Ralph Stackpole.

Also open to competition is a series of mural paintings and sculpture reliefs for the decoration of the *President Andrew Jackson*, a cargo and passenger vessel now being built for the U. S. Maritime Com-

(Continued on page 64)

## FURNITURE FOR THE TWENTIETH CENTURY



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NEW YORK CITY





## WINDOW IDEAS BY ARCHITECTS

Institute of Music and Allied Arts,  
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Malcomson, Calder & Hammond, Inc.,  
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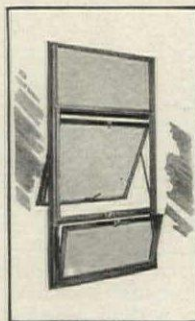
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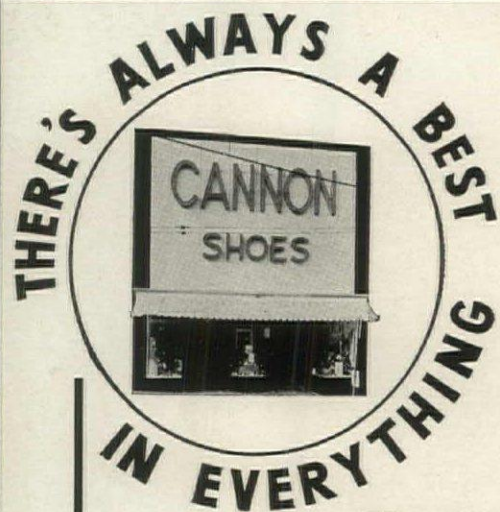
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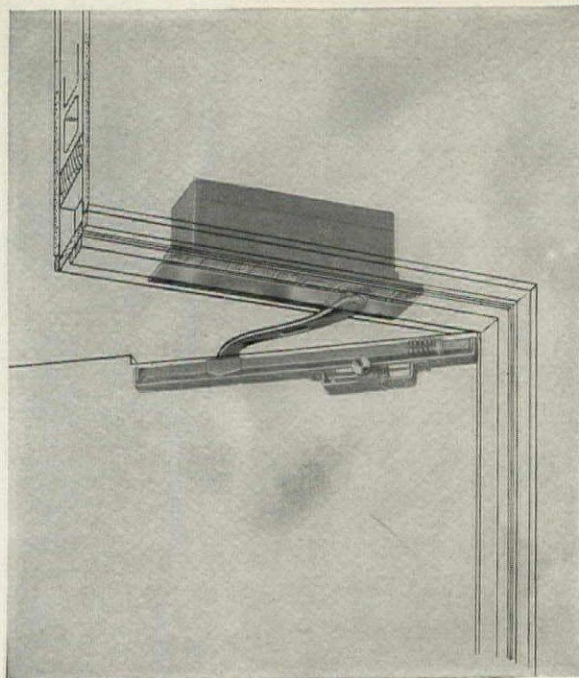
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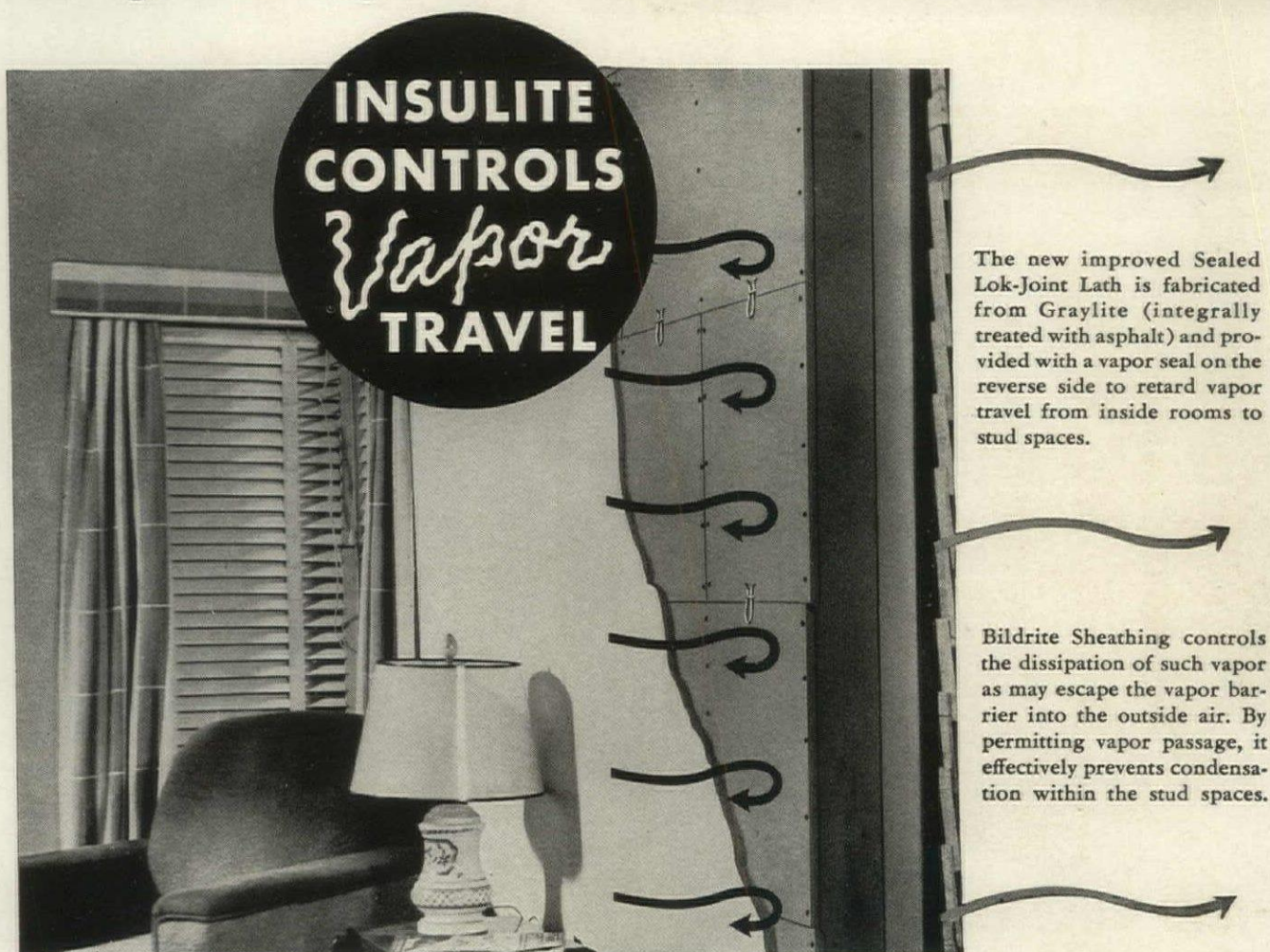


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CONTROLS  
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The new improved Sealed Lok-Joint Lath is fabricated from Graylite (integrally treated with asphalt) and provided with a vapor seal on the reverse side to retard vapor travel from inside rooms to stud spaces.

Bildrite Sheathing controls the dissipation of such vapor as may escape the vapor barrier into the outside air. By permitting vapor passage, it effectively prevents condensation within the stud spaces.

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Vapor is always prevalent in the air. It generally travels from warm to cold areas, quickly passing through unprotected inside walls into stud spaces and there condenses.

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# INSULITE



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**THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD**



## FORUM OF EVENTS

(Continued from page 60)

mission. Closing date, June 1, 1940. Jury: Alain de Bouthillier, George Harding, and Edward Bruce.

### EDUCATION

**AMERICAN ACADEMY IN ROME.** The twelve final competitors for the Rome Prize in architecture have been chosen from 72 in the first stage by a Jury of Henry R. Shepley, Thomas H. Ellett, William F. Lamb, Eero Saarinen, and Lawrence Grant White. The final competition

extends over a period of five weeks which began April 13. The finalists: Edgar C. Beery, Jr., Catholic Univ. of America; Walker O. Cain, Cleveland School of Architecture of Western Reserve Univ. and Princeton Univ.; Joseph H. Crammer III, Univ. of Ill. and Yale Univ.; James W. Fitzgibbon, Syracuse Univ. and Univ. of Penna.; John G. Hutchison, Univ. of Penna.; Roy S. Johnson, N. Y. U.; Seymour R. Joseph, N. Y. U.; Alexander Kouzmanoff, Univ. of Ill.; Daniel Me-

Goodwin, Yale Univ. and Univ. of Penna.; Francis R. Meisch, Univ. of Minn. and M. I. T.; Charles C. Taylor, Penna. State College and Princeton Univ.; Eugene Wasserman, Univ. of Ill.

**CRANBROOK ACADEMY OF ART,** Bloomfield Hills, Mich., will award a limited number of resident scholarships, on a competitive basis, for study in its advanced departments of architecture, sculpture, and painting during the school year 1940-1941. For further information address Richard P. Raseman, Executive Secretary, Bloomfield Hills, Mich. not later than June 1, 1940.

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY,** Cambridge. Under the joint sponsorship of the School of Architecture and the American Planning and Civic Association there is offered a short summer course in City and Regional Planning to be held at M. I. T. under the direction of Prof. Frederick J. Adams and Prof. Flavel Shurtleff. Further details and applications for participation should be sent to Prof. Adams not later than July 1, 1940.

### CALENDAR

May 4-12. National House and Garden Exposition in the Coliseum, Chicago.

May 19-24. American Institute of Architects' 72nd Convention, Louisville, Ky.

May 31-June 2. Fifth National Convention of the International Federation of Architects, Engineers, Chemists and Technicians, Hotel Pennsylvania, New York.

June 24-28. Forty-third Annual Meeting, American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

### MISCELLANEOUS

**ENGINEERING SOCIETIES LIBRARY.** A joint cooperative enterprise of the A.S.C.E., the A.I.M.M.E., the A.S.M.E., and the A.I.E.E. is broadening its service to the engineers of the world. Hereafter the Library (29 W. 39th St., New York, N. Y.) is making available at cost, photostats and microfilm copies of material contained in the 160,000 volumes and thousands of periodicals in its collection. Any engineer, library, or company may order 11 x 14 inch negative photostat prints at 30 cents each, which cost includes ordinary postage to any part of the world. Positive prints cost 30 cents additional. Microfilm copies on 35-mm film are available at a cost of four cents per exposure (usually one page)

(Continued on page 68)

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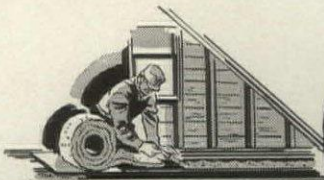
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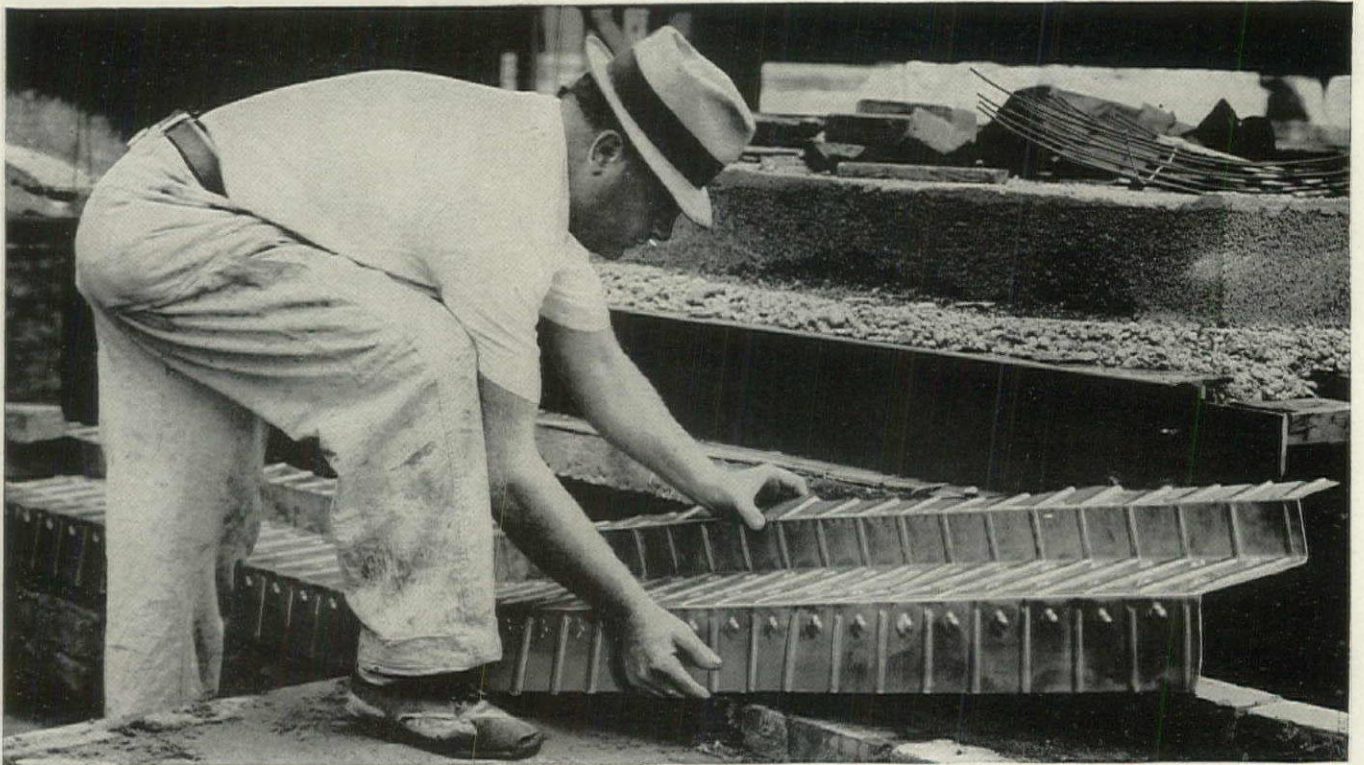
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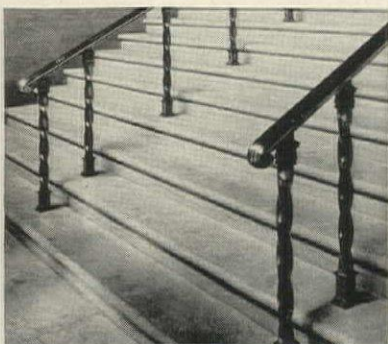
# can spoil the finest walls

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Water lines will not rust, and will resist corrosion if they are Chase Copper Tube and Sweat Fittings.



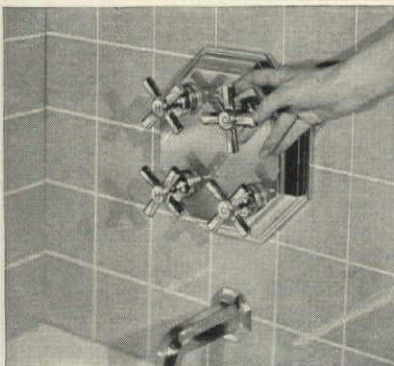
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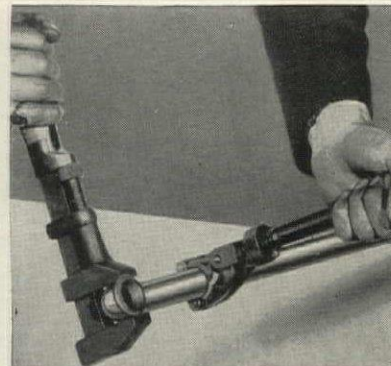
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## FORUM OF EVENTS

(Continued from page 64)

with a minimum charge of \$1.25 per volume. Each photostat print contains one or two pages of the original article, depending on its size. Reductions to approximately one-half size or enlargements to twice the original size can be made if desired without extra charge. Unless otherwise specified, prints are made the same size as the original.

### Finland

To the Editor:

The Architects of America are deeply in sympathy with the plight that has befallen Finland, and in particular our architect colleagues there. The following letter should appeal to every architect in America.

Any of your readers who read this appeal and wish to help alleviate the sufferings of their fellow architects of Finland may communicate with me at my office, 144 East 30th St. Contributions of whatever amount will be welcome and I will see that they are forwarded to Mr. Pedersen.

FREDERICK G. FROST, *President*  
*New York Chapter, A.I.A.*

The Fifteenth International Congress of Architects  
 Mr. President

Dear Mr. Maginnis

To help Finland, and, especially our architect colleagues and their families, allow me to ask if there could not possibly be arranged a subscription among American architects in aid of their Finnish colleagues.

Finland is suffering deeply during this war, which was forced upon it, with no fault of its own.

The Finnish civilization is very elevated, the Finnish people are extremely clever in the domains of technology, art, and social questions. Should this nation go down, Europe has to suffer a heavy and painful loss.

As the question is rather urgent, I hope that a subscription as proposed above will find a willing ear in your country, and that it will take place as soon as possible.

Yours truly,  
 (Signed) SVERRE PEDERSEN

### DIED

THOMAS ADAMS, architect and consultant on city planning, 68, at his home in Battle, Sussex, England. A native of Edinburgh, Dr. Adams passed his early life on a farm and attended Daniel Stewart's College, Edinburgh. His beginning in the work to which he devoted his life was as manager of the first garden city in England. In 1914 he founded and was the first president of the British Town Planning Institute. In 1923 Dr. Adams was called to New York for work upon the original Regional Plan of New York and Its Environs, a project financed by the Russell Sage Foundation. He spent eight years on this task, and regarded the Plan as his chief life work. He was associate professor of city planning at Harvard 1930-1936, returning to England to serve as consultant on planning for various boroughs. Dr. Adams was a Fellow of the Royal Institute of British Architects and the Chartered Surveyors' Institution. He served as president of the Institute of Landscape Architects 1937-1939.

CLINTON MACKENZIE, architect, 69, in Glen Cove, N. Y. Born in New York, Mr. Mackenzie studied at Stevens Institute, at Columbia University, and at the Beaux-Arts in Paris. During the last twenty years, Mr. Mackenzie was

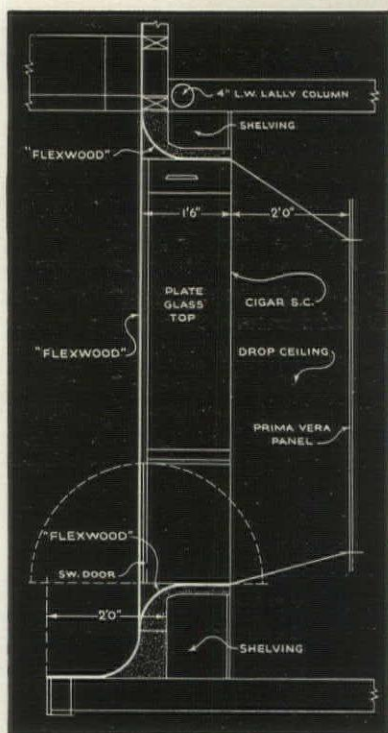
(Continued on page 72)



# The art of modern wood treatment



*Flexwood treatment, using Ribbon Prima Vera with 4" Zebrawood inlays; Chanticler Supper Club, Millburn, N. J., Sidney Schenker, Architect.*



*Detail of construction of Check-room showing Flexwood treatment of flush wall surfaces, flat and curved.*

## WALLS OF EXOTIC PRIMA VERA, WITH ZEBRAWOOD INLAYS, TRANSFORM FOYER OF SMART SUPPER CLUB

By using curves wherever possible, and contrasting horizontal wall inlays, Architect Sidney Schenker has given a graceful rhythm to the entrance hall, staircase, and foyers of The Chanticler Supper Club. The combination of two tropical woods, mellow Ribbon Prima Vera inlaid with Zebrawood, creates an exceptionally rich effect. An effect which is far out of proportion to its moderate cost. Modern wood treatments such as this are now economically possible because of Flexwood. Architects and designers may choose from more than 40 rare woods; easy and speedy application is assured. Flexwood is the logical choice when the luxury of real wood in modern treatment is wanted.

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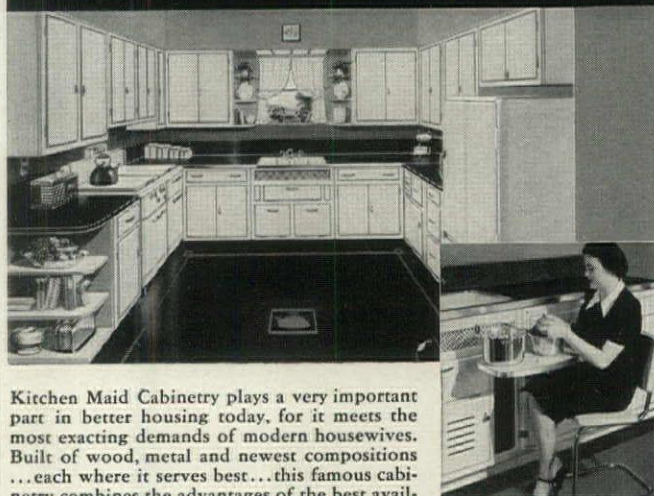
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## HOW TO MAKE A LADY HAPPY

# Give her a kitchen with CHARM!

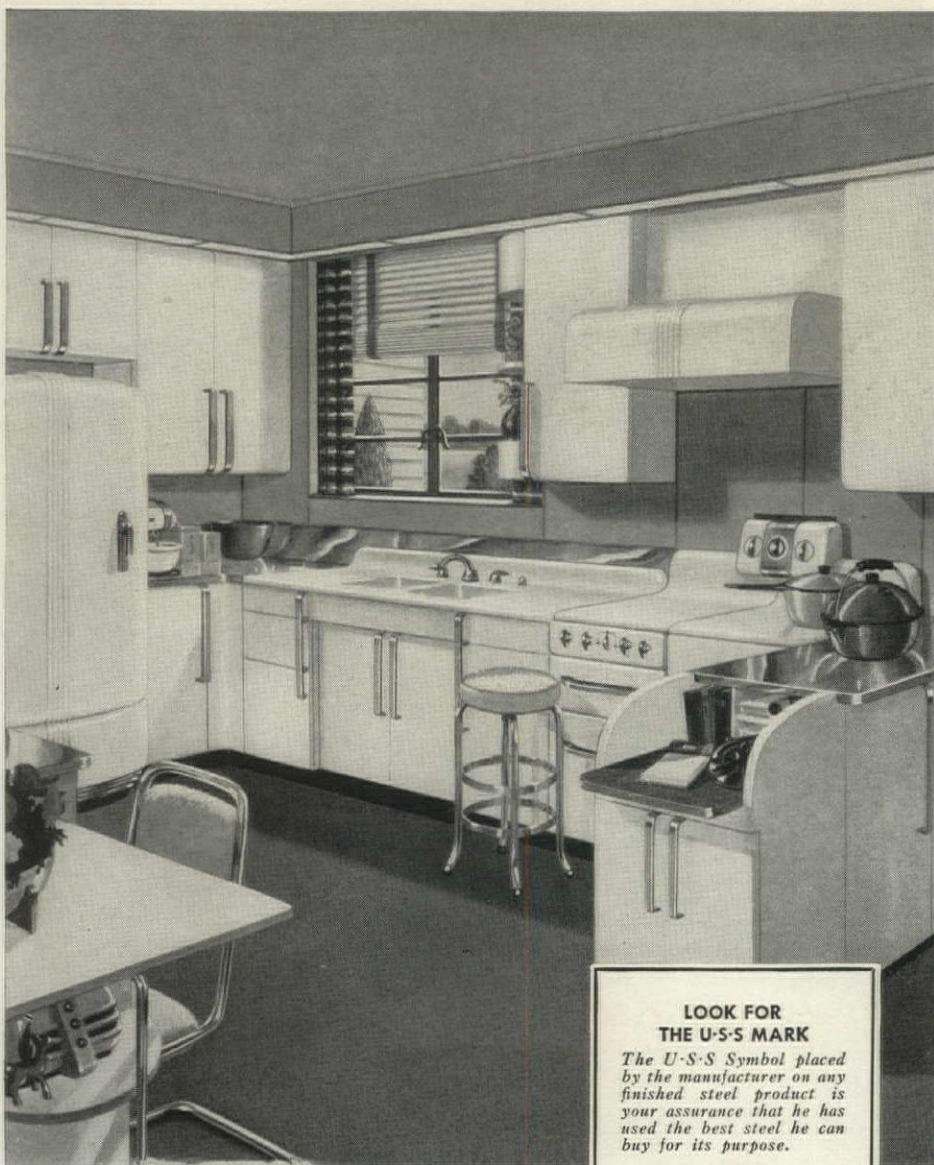
**W**OMEN expect the modern kitchen to be efficient and to have all the latest equipment. But it's up to you to give it the dash of charm that adds "heart appeal."

It's easy to do this with steel. The brilliant sparkle of stainless puts life into sinks and work surfaces. Colorful porcelain enamel lends a charm all its own to walls and tables. Cupboards of steel can be obtained in various hues to fit the color scheme. With a little attention to detail, you can produce a steel masterpiece in the modern kitchen.

What's more, steel is adaptable to kitchens of any size and shape. Standard units of different dimensions enable you to make pleasing layouts quickly.

Many types of steel are used in the modern kitchen, but you don't need to be a steel expert to choose wisely. Just specify U·S·S Steels. You'll recognize them by the U·S·S seal which manufacturers, who try to give you that "extra something" which only a fine steel can give, place on their finished products.

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# UNITED STATES STEEL

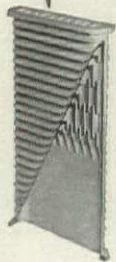


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TOMORROW'S GAS-FIRED  
WINTER AIR CONDITIONER  
WITH THE NEW, EFFICIENT  
"Multi-Thermex" TUBES



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Furthermore, the Janitrol organization has the ability, the willingness, and the facilities to see that your client receives the heating satisfaction to which he is entitled... the ability and the desire to relieve you of much of the details of your heating responsibilities. Write today for "FAC Specification Data."

SURFACE COMBUSTION CORPORATION, Toledo, O.

WINTER AIR CONDITIONERS  
CONVERSION BURNERS  
UNIT HEATERS



## FORUM OF EVENTS

(Continued from page 68)

associated with a group of architects and builders who planned and developed the model industrial city at Kingsport, Tenn. Although eminent in his profession, Clinton Mackenzie was perhaps even better known as a yachtsman. He was a former member of the race committee of the New York Yacht Club which ruled the races for America's Cup in 1934. Clinton Mackenzie was a member of the A.I.A.

JAMES A. WETMORE, retired Acting Supervising Architect, 76, in Coral Gables, Fla. Born in Bath, N. Y., he attended public schools in Hornell, and thereafter became a court stenographer. He entered the Federal Service in 1885 in that capacity, and in 1893 was transferred from the Interior Department to the Treasury Department as a clerk. While thus employed he studied law at Georgetown University, obtaining a degree in 1896. In the same year he was made Chief of the Law and Records Division, a position he held until 1911 when he was given the title of Executive Officer. Due to the ill health of the then Supervising Architect, Oscar Wenderoth, Mr. Wetmore took over many of his duties, and when at length Wenderoth resigned, "Judge" Wetmore in 1915 was given the title of Acting Supervising Architect, a post he held until 1933. It is a curious fact that although neither an architect nor an engineer, Mr. Wetmore's name, because of the period of intensive building activity which followed his appointment, appears on the cornerstone of more buildings than any other man's in history.

### PERSONAL

The firm name of William Briggs—designs for industry—has been changed to William Briggs & Associates, with offices at 314 Union Ave., Knoxville, Tenn.

George M. Croll, builder, announces the removal of his office to 680 Fifth Ave., New York.

*Interior Design and Decoration*, formerly *Decorators Digest*, Inc. have moved to their new offices at 521 Fifth Ave., New York.

Ely Jacques Kahn announces the admission of Robert Allan Jacobs to the firm which will hereafter be known as Ely Jacques Kahn, Robert Allan Jacobs, Architects. Mr. Jacobs is the son of Harry Allan Jacobs whose architectural record covered many years of practice.

R. G. Schneider & Co., Inc., architects and engineers of Houston, Tex., announce the opening of an additional office at Galveston. Pending remodeling of new downtown quarters, they will be located at 1227 Avenue D. William J. Kettle, formerly with the Jesse Jones interests of Houston, will be in charge of the Galveston office, and requests manufacturers' catalogues and file data.

LeRoy W. Thompson, architect, announces the transfer of his professional offices and residence to 355 Congdon Ave., Elgin, Ill.

Succeeding Herbert E. Winlock, who retired last April because of ill health, Francis Henry Taylor has been made director of the Metropolitan Museum of Art, New York, effective May 15. Mr. Taylor has made a name for himself as director of the Worcester (Mass.) Art Museum.

(Continued on page 76)



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FOR THAT



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FINISH PROTECTION  
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It is a guide to higher quality for the consumer, a sales aid to the manufacturer and dealer, as well as an indication of careful product selection on the part of the architect.

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*Processes* **CONQUER RUST**  
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*Quiet, attractive, durable  
... J-M Asphalt Tile  
Flooring provides a  
wide range of colors and  
patterns... permits you  
to design distinctive  
decorative floors for  
every type of service*



**S**HOWN here are only a few of the beautiful designs you can create with J-M Asphalt Tile. A more complete picture of its unlimited possibilities is given in the new J-M Asphalt Tile brochure—a stimulating *idea book* filled with suggestions for attractive, durable floors for every type of service. Dozens of photographs—many in full color—permit you and your clients to visualize the finished appearance of floors. For your copy, together with specification data, write Johns-Manville, 22 E. 40th St., N. Y. C.

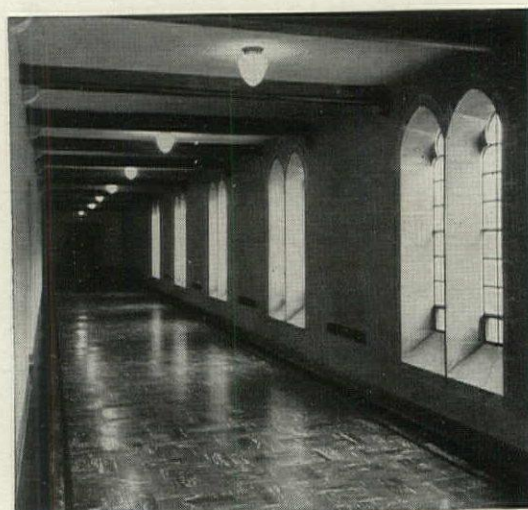


▲ **For Severe Service**, architects find Johns-Manville Asphalt Tile the ideal flooring. Heavy traffic only brings out the luster of this durable material. And its beauty matches its durability! From the many attractive colors available, hundreds of distinctive floor patterns are easily designed.

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◀ **For Institutional Service** where budgets are limited, you can give clients exactly what they want with J-M Asphalt Tile. It costs no more than ordinary resilient floorings. In the long run, it costs less. For J-M Asphalt Tile is tough, durable, rugged... stands hard wear with practically no attention except cleaning.



**Where Quiet is Essential** in churches, hospitals, schools, offices and similar locations... specify floors of Johns-Manville Asphalt Tile. Despite its unusual resistance to wear, this better flooring material is resilient and comfortable to walk on. And because it never wears slick or slippery, even under severe use, Johns-Manville Asphalt Tile remains safe underfoot.



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**26  
YEARS OLD**  
*and still going  
strong!*



**ONE OF SCORES OF** J-M Smooth-Surfaced Asbestos Roofs that have outlived their bond. This one protects the Bell Street Dock, Port of Seattle, Seattle, Wash.

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Figure roof construction the same way you figure steelwork or foundations . . . and you'll see why clients need the extra protection of J-M Smooth-Surfaced Asbestos Roofs. For details and specification data, write Johns-Manville, 22 East 40th Street, New York, N. Y.



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**BUILT-UP ROOFS**

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WITH THE SAFETY  
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Any other building purpose that calls for durability, toughness, waterproofing and endurance of shrinkage, settling or torques of the structure.

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**ECONOMY Brownskin**

A modification of BROWNSKIN combining most of the values of BROWNSKIN with the ECONOMIES of building papers of lesser qualities.

## FORUM OF EVENTS

(Continued from page 72)

### SUPERVISING ARCHITECT'S OFFICE

Judging from the frequency with which one still hears of the Treasury Department and its Procurement Division as the center of our Federal building activities, it is going to take some time before the profession will speak familiarly of the Public Buildings Administration, Federal Works Agency, which is the new title of this building arm. At the center of it still stands the Supervising Architect's Office, one name that has endured while administrations have come and gone.

President Andrew Jackson's appointment of Robert Mills as Federal Architect started it, July 6, 1836, when the designer of the Washington Monument was given direction of new Federal buildings, including the Treasury Building.

One of the important buildings falling under Mills' direction was the Boston Custom House. For the more efficient control of this distant work, Mills secured the appointment of Ammi B. Young, who was, in 1852, to follow Mills in the work of producing the Government's buildings, and to whom the title of Supervising Architect was first given.

Robert Mills, however, occupied the post of Federal Architect until 1842, during which time he designed in Washington not only the Treasury Building, but the Patent Office, and the old Post Office Building (later the General Land Office). On July 2, 1842, with a change of administration, he received a note from the Acting Secretary of the Treasury advising him that the room he occupied would be required for other use after three days.

From 1842 to 1852 the production of new public buildings was carried on under the personal direction of the Secretary of the Treasury.

Up to the middle of the last century the procedure for carrying out the Government's building program seems to have been variable. Federal buildings were often erected under the supervision of local commissions, and local architects and superintendents of construction were sometimes employed. The problem, however, had reached the point where the adoption of more uniform methods and centralized control seemed desirable.

In a report of the Secretary of the Treasury in 1853, it was indicated that the Secretary of War had been asked to detail an army engineer to take charge of the construction of Federal buildings. Capt. Alexander H. Bowman was named for that post, and he carried on the work through an organization known as the "Construction Branch of the Treasury Department." Capt. Bowman's activities continued until 1860 when he was relieved from duty, presumably because of the need for officers on active military service. S. M. Clark took over the duties of Capt. Bowman as Acting Engineer in Charge, continuing until 1862 when Isaiah Rogers came in as the next man to hold the title of Supervising Architect. The names and dates of his successors are: A. B. Mullett, 1866-1874; W. A. Potter, 1874-1877; James B. Hill, 1877-1883; M. E. Bell, 1884-1886; W. A. Freret, 1887-1888; James H. Windrim, 1889-1890; W. J. Edbrooke, 1891-1892; Jeremiah O'Rourke, 1893-1894; William Martin Aiken, 1895-1896; James Knox Taylor, 1897-1912; Oscar Wenderoth, 1913-1914; James A. Wetmore 1915-1933; Louis A. Simon, 1934-.

When Isaiah Rogers came in as Supervising Architect his organization was very small; even up to 1875 it consisted of only about 16 employees. In contrast, the Public Buildings Branch of the Procurement Division, successor of the former Supervising Architect's Office—the organization which

(Continued on page 80)

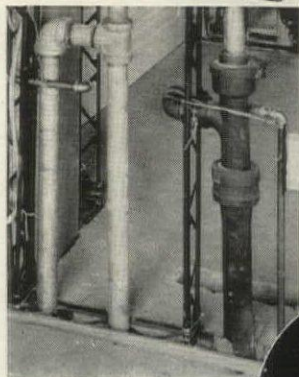
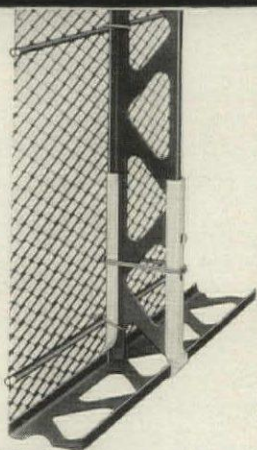




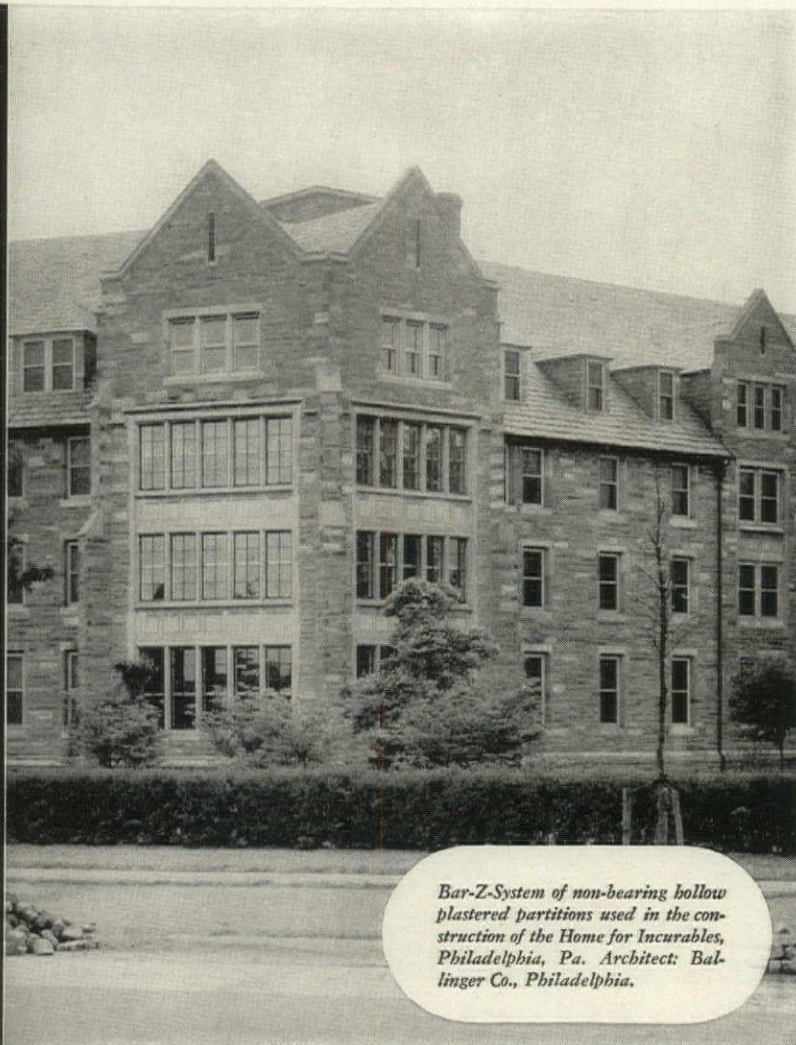
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*Provides  
Fire Safety  
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Note how Bar-Z-Partitions permit the placing of piping and electrical wiring conduits prior to plastering.



Bar-Z-System of non-bearing hollow plastered partitions used in the construction of the Home for Incurables, Philadelphia, Pa. Architect: Balingier Co., Philadelphia.

CONSISTING of Bar-Z-Studs and Bar-X-Lath, the Bar-Z-System of hollow plastered partitions has no elements to burn. Government tests prove that Bar-Z-Partitions, plastered with  $\frac{3}{4}$ " gypsum plaster, have a one hour fire rating. In addition to this vital protection, this construction offers sound deadening properties which are of great importance in homes for invalids and the aged, institutions and hospitals. Specify the Bar-Z-System and insure lasting protection for the beauty of your plastered interiors. Informative data upon request.

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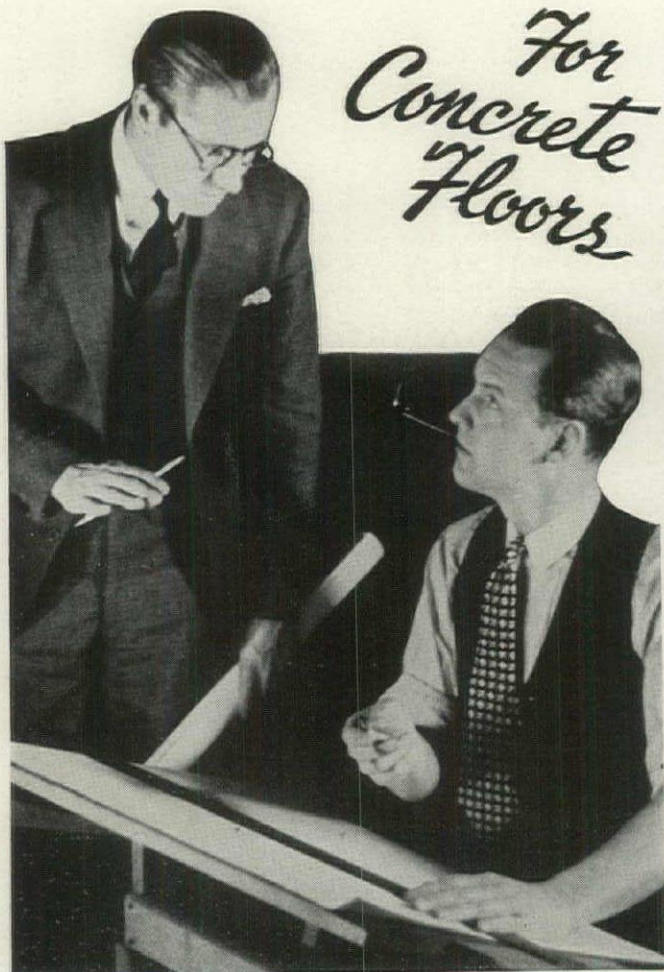
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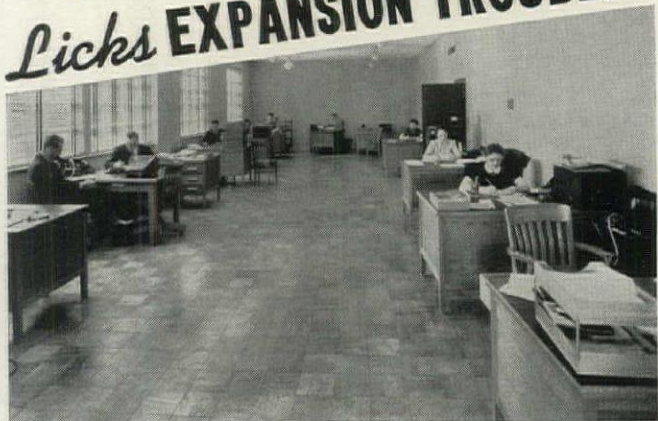
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REAL PIPE SUPPORT AND GUIDE SCREW INTO CONDUIT — REMOVABLE

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Kimberly-Clark Corporation  
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We are using Kimsul in our "Radrock Estates" development of 300 Colonial Homes at Fair Lawn, N. J. in side walls and ceiling and the results are just as satisfactory, using gas fired air conditioning units and we estimate the annual fuel bill will be around \$65.00.

In our opinion Kimsul gives economy and better insulation than any other type.

Yours very truly,  
*W. H. Whyte*  
W. H. Whyte Construction Company, Pres.



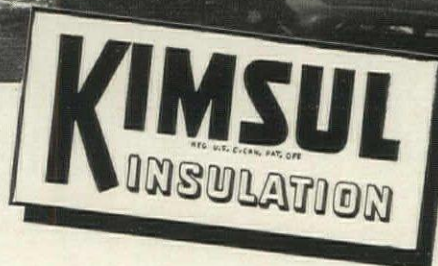
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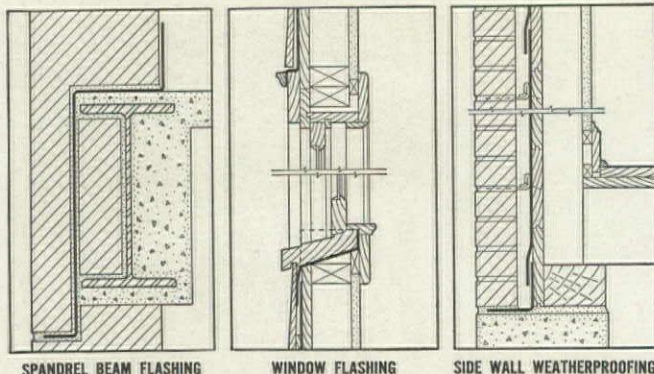
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THE availability of electro-deposited thin sheet copper in long lengths, and in widths up to 60", has made possible the production of the above materials for sealing buildings against heat and cold, wind and moisture.

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## FORUM OF EVENTS

(Continued from page 76)

now becomes the Public Buildings Administration—had of recent date an office personnel of 1,657 and a field personnel of 386—both figures now in process of being materially reduced.

In 1853 there were 23 public buildings in the custody of the Treasury Department, and 15 more had been authorized. By 1885 the number had risen to 185. This again, is in striking contrast to the present, when there are something over 3,000 buildings owned by the U.S. A large number of these are post offices, but many of them shelter two or more Government agencies. In recent years, under the pressure of an emergency building program, the Government has been designing and erecting some 350 new structures yearly—more than one each working day.

The World War abruptly interrupted the nation's building program with a lapse that was not broken until the passage of the Public Buildings Act of May 25, 1926. Then, for the first time, Congress established a definite and uniform method of selecting worthy projects, with a program and a budget system of authorizing the work. It provided, among other things, for employing outside professional services without competition. With the consultant guidance of eminent private architects, the Triangle was developed.

In 1933 the Supervising Architect's Office became a part of the Treasury Department's Procurement Division. The Public Buildings Branch of the Division had two principal subdivisions, the Supervising Architect's Office and the Supervising Engineer's Office, under the immediate direction of an Assistant Director of Procurement, and both of the offices have been continued in the present organization of the Public Buildings Administration. It thus became the function of the Supervising Architect's Office to carry a project through the various stages of development until the work is placed under contract; from that point the Supervising Engineer's Office carries on until the building is completed and turned over to the agency for which it was built. While most of the building consists of new post offices, built in collaboration with the Post Office Department, there is from time to time work being done for other Departments.

During the last few years when our greatly enlarged building program was launched in the effort to combat unemployment, the amount of building reached such proportions that the customary methods of procedure were inadequate. In the effort to complete designs for many buildings in the shortest possible time, on Secretary Morgenthau's direction a score or more of architects in private practice were called to Washington and employed in the Supervising Architect's Office on a yearly salary. This brought to our public architecture not only some additional skilled aid, but a knowledge of local traditions and local building methods in the North, East, South and West. At the same time there was created an Advisory Board on Architectural Design. Eminent practitioners from various parts of the country meet regularly in Washington to advise on the design of all buildings carried out by the Public Buildings Administration. The present membership of the Advisory Board is Aymar Embury II of New York, Philip B. Maher of Chicago, Henry R. Shepley of Boston, and George Howe of Philadelphia. The late Charles Z. Klauder was Chairman of the Board until his death in 1938. Alfred Geiffert, Jr. of New York is consultant in Landscape Architecture.

Heading the Federal Works Agency, which includes PWA, WPA, USHA, PRA and PBA, is Administrator John M. Carmody. Heading PBA is W. E. Reynolds, Commissioner of Public Buildings.



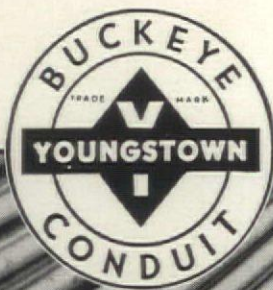
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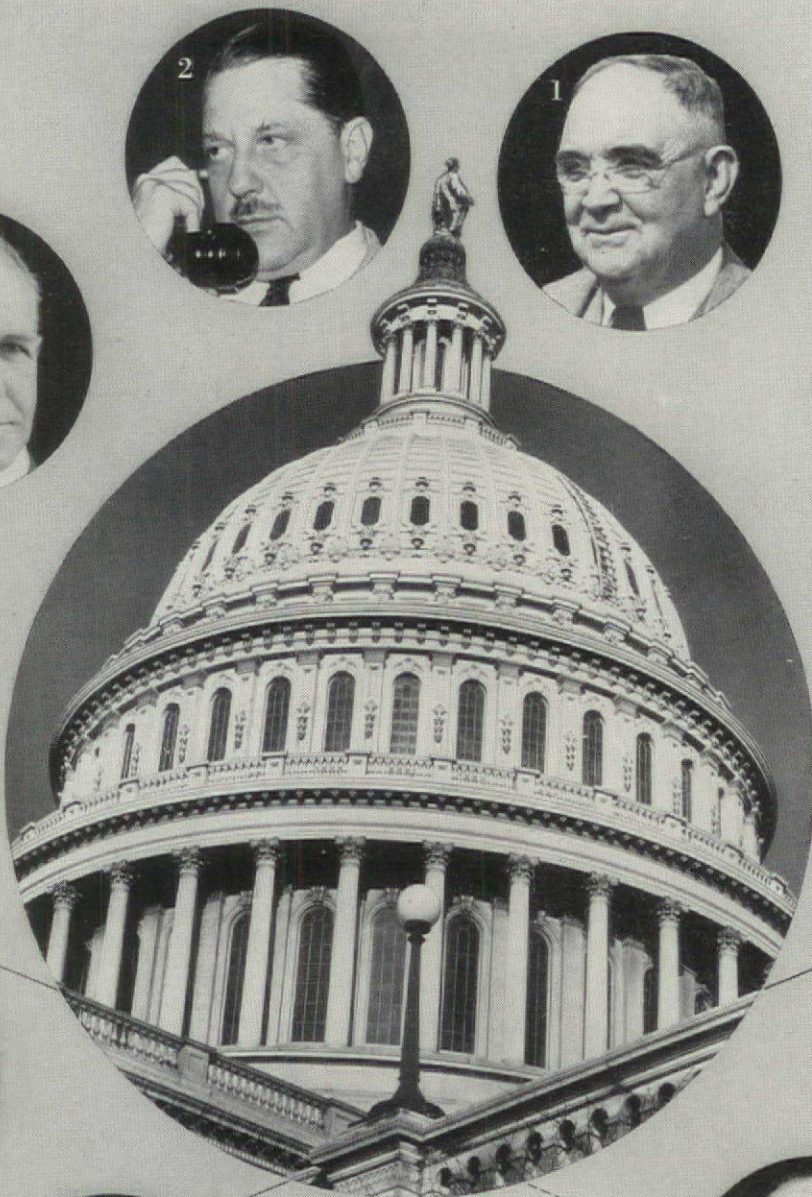


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10	Lubin	Labor
11	McDonald	FHA
12	Reynolds	Public Buildings PBA
13	Straus	USHA



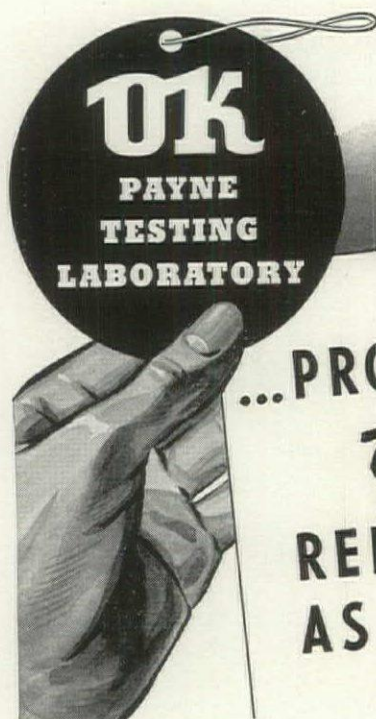


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the faces . . . and the laws . . . change with the votes. But always man-made laws are man-administered. Who the men are and how they interpret the legislation will continue to give Building plenty to think about. Just as long as Washington remains the Building capital of the U. S.—THE FORUM will be on the alert at both ends of Pennsylvania Avenue getting the facts, checking the hints, and giving FORUM readers a running start.

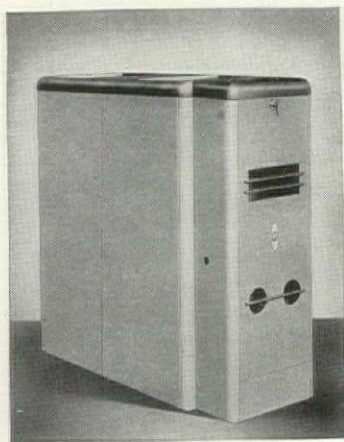
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## BOOKS

(Continued from page 40)

**THE GLUED LAMINATED WOOD ARCH**, by T. R. C. Wilson. U. S. Dept. of Agriculture, Washington. 123 pp., illustrated. 6 x 9. 20 cents.

The increasing use of glued laminated construction makes the appearance of this bulletin particularly timely. It provides a mass of valuable data on the properties of laminated wood arches, showing proper design procedures. Tables give the results of tests on typical arches and design data for the most commonly used types of wood. A most interesting feature of the book is the inclusion of photographs showing actual installations of laminated arches in American and foreign structures.

**MODERN IDEAL HOMES FOR INDIA**, by R. S. Deshpande, published by the author. 319 pp., illustrated. 7½ x 10. Rs. 8.

"To build a home," states the author, "is a primary instinct to be found throughout the whole animal kingdom." Following this time-hallowed opening the book deals with the various problems of house design, and shows 95 examples of completed and projected houses. The latter give an extremely interesting picture of upper and middle class contemporary dwellings in India, but they cannot be recommended on any other basis. General characteristics of the work illustrated are an exaggerated fondness for the forms of Modernistic mixed with a British suburban tastelessness that has blighted more of the Empire than India. The book is probably unique in the field and was prepared by a writer obviously familiar with the specific problems of building in India.

**THE AMERICAN SCHOOL AND UNIVERSITY, 1940.** American School Publishing Corporation, New York. 623 pp., illustrated. 8¾ x 11¼. \$2.50.

The twelfth edition of this useful annual. It contains articles on building costs, design, construction, building maintenance and operation, and landscape design. Other chapters deal with the planning of swimming pools, classrooms, laboratories and workshops. Advertisements are arranged in sections related to the articles for convenient reference. A number of directories are included, giving the names of architects for educational buildings, school superintendents, heads of private schools and presidents of colleges.

**NATIONAL CONFERENCE ON PLANNING 1939.** American Society of Planning Officials, Chicago. 166 pp. 6¼ x 9¼. \$2.00.

A publication of the papers delivered at the last Conference of the American Society of Planning Officials. Papers presented cover a wide range of present-day planning problems, and deal with community reclamation, industrial migration, obstacles to planning, rural problems and public works.

**STAIRBUILDING**, by Gilbert Townsend, S. B. American Technical Society, Chicago. 200 pp., illustrated. 5½ x 8½. \$2.00.

An important element of design and construction is covered in this book, and the information should be useful to architects and carpenters. There are full details on methods of layout of most conventional types of stairs, both straight and curved.

(Continued on page 88)



# Design and Build the MODERN Way

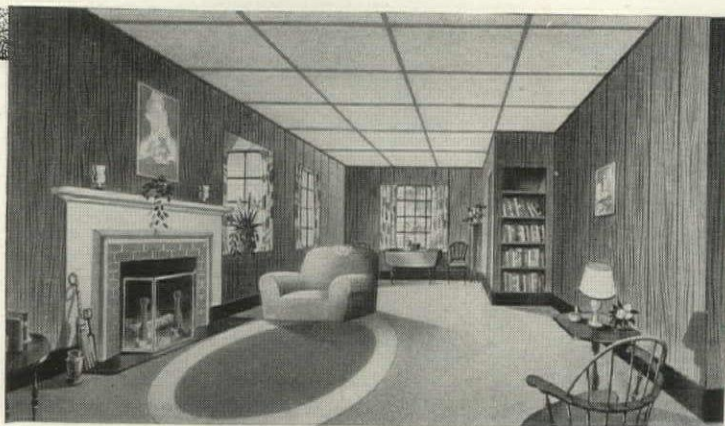
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on which paper or paint is to be applied—the only low-cost panel which may be tight-butted for invisible joints.

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**[** The "Plywood Handbook of Residential Construction" contains complete data on dry-wall technique—FREE to Architects and Builders—send for your copy. **]**



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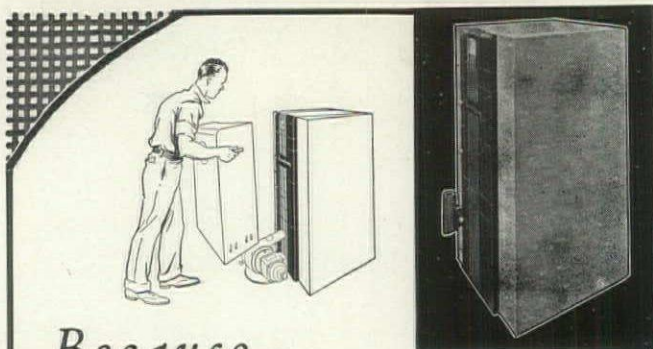
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Architect, New York, N. Y.

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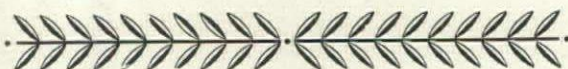
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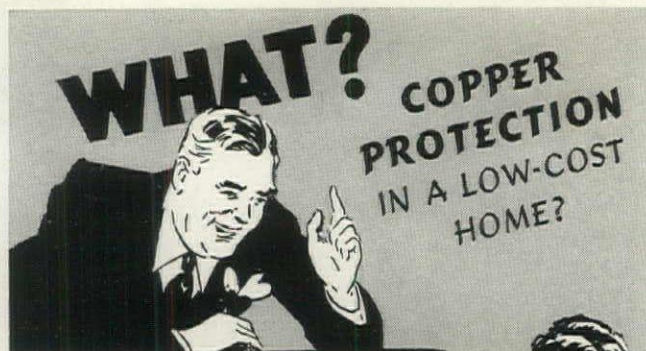
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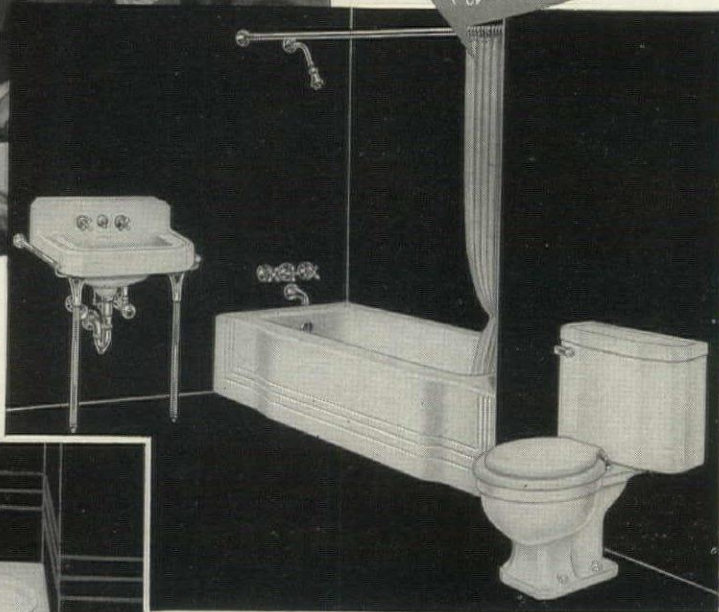
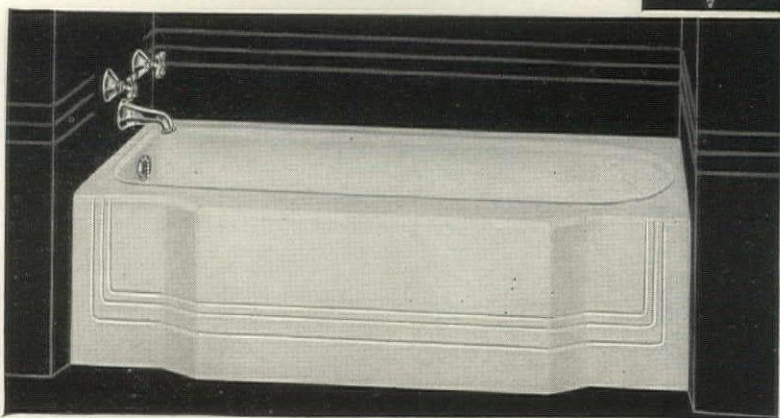
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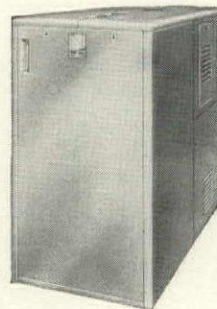
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#### **New Ideal Oil Boiler No. 6**

Low cost high quality cast iron boiler. Shipped completely assembled including built in steel combustion chamber. Fire-box surrounded entirely by water—top, sides and bottom. Many other features. Installed radiation: 375 sq. ft. steam—600 sq. ft. water.

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Smartly jacketed moderate priced boiler of improved design. Burns oil more efficiently. Saves fuel. Tight, iron-to-iron joints prevent infiltration of air and escape of odors. Installed radiation: 390 sq. ft. to 810 sq. ft. steam—625 sq. ft. to 1295 sq. ft. water.

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## B O O K S

(Continued from page 84)

**WHAT EVERY WOMAN SHOULD KNOW ABOUT FURNI-  
TURE**, by Jeanne Judson. Frederick A. Stokes Company, New  
York. 98 pp., illustrated. \$2.50.

A book on how to go about buying furniture. It is profusely  
illustrated with photographs of period and modern pieces.  
The author has based the book on the very sound idea that  
the illustrations be confined for the most part to furniture  
actually on the market. In practice this turns out to be  
something of a handicap since the design of the furniture is  
far from successful in many cases. This is particularly true  
of the modern section, which shows a minimum of work  
suitable for a well-designed house.

**NATCHEZ**, by Nola Nance Oliver. Hastings House, New York.  
101 pp., illustrated. 6¼ x 8¼. \$2.00.

Natchez has one of the most extraordinary collections of  
early domestic architecture in the country. Many of the  
plantation houses have been destroyed through neglect or  
decay, but there still remains a large group of extremely  
interesting Southern mansions which have been well pre-  
sented in this pocket size volume. Each house has a brief  
description of its history and architecture with accompany-  
ing illustrations; there is a foreword giving something of the  
history of the region.

**BRICK ENGINEERING**, by Harry C. Plummer and Leslie J.  
Reardon. Structural Clay Products Institute, Washington. 400  
pp. 6¼ x 9¼. \$4.00.

A complete manual on the uses and characteristics of the  
various types of brick available. It is particularly useful  
for the section on reinforced brick masonry, a type of con-  
struction whose advantages have been incompletely realized  
to date. There are numerous design tables arranged for  
convenient use, and brief but adequate instructions for the  
proper method of using brick in almost any type of struc-  
ture, including bridges, sewers, swimming pools, silos and  
storage bins. Information is also given on sand blasting  
and other methods of cleaning.

**MASTER SPECIFICATIONS FOR RECONDITIONING**. Home  
Owners' Loan Corporation, Washington. 228 pp. 5 x 7. 30 cents.

These specifications have been designed as a guide for the  
use of contractors and others engaged in the reconditioning  
of property on which HOLC loans are made. Its usefulness,  
however, extends beyond the original purpose, and it should  
be of value in any type of domestic reconditioning or re-  
modeling work. An interesting section of the book deals  
with "packaged" specifications, referring to operations most  
commonly performed. These materially simplify specifica-  
tion work and make it easier for architects to handle small  
jobs without burdensome cost.

As a service to interested readers, THE ARCHITECTURAL  
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# How many angles to a floor?

**SUPPOSING**, for instance, you were specifying the floor for a World's Fair exhibit. Just think of the flooring angles to consider.

To start with, and most important of all, you have a devilishly limited budget—for a building the owner will use only two years. You have to buy the *lowest cost* floor you know!

Yet, almost every other angle is of practically equal importance. Certainly this flooring has to be tough—as tough as flooring can be made—to stand the punishment it will get in an exhibit area. In two years here it will get more wear than floors in most buildings get in 20 years.

And, for a Fair building, you surely want dramatic, lively colors. Furthermore, these colors must *remain* fresh, no matter how much rubbed by feet and scrubbed by porters.



Also, you want the crowds to stay in *your* place—so the floor must be resilient and comfortable for weary feet. Likewise, this floor must absorb the *sound* of tramping crowds, must keep these barn-like rooms quiet.

Finally, remember that you have designed a simply wonderful building. You have pretty, pretty definite ideas of colors and pattern you want (you artists!)—and then you find you're weeks behind your deadline! You must have *immediate* delivery, you must have the installation done *at once* and correctly—the first time!

Well, faced with these problems, more architects and builders at the '39 N. Y. World's Fair had Kennedy supply their resilient tile flooring than any other manufacturer.

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acteristics of Kennedy's products, and Kennedy's ability to always supply material meeting every requirement at the lowest possible cost."

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That should tell the youngsters in our audience how important it is to always remember the name David E. Kennedy and to know **ALL** about the Kennedy products.

And, if your office by chance hasn't complete data on file about every one of Kennedy's products, you had better mail that coupon *now*.



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# The Man in the Slot





**N**INETEEN MINUTES before a big city newspaper's first edition goes to press. Page by page, a story starts coming across the city editor's desk.

The city editor reaches for his phone, calls the make-up editor in the composing room. "How we doing?" he asks. "This City Hall story looks pretty hot."

"We're going to be tight. Keep it down," warns the make-up editor. "We can't squeeze the Washington story another inch."

"Okay," responds the city editor. He looks at the penciled layout for Page One, scribbles some figures in the upper corner of the sheet of copy, and with an expert twist sends it sailing onto the big horseshoe desk next to his own.

"We're tight, Mac," he calls to the man in the slot. "Cut it a third."

► Seventeen minutes now to the deadline... only ten for cutting, editing, headline-writing. For those vital ten minutes, the responsibility rests on the shoulders of the man in the slot... newspaper parlance for the head of the copy desk.

A dozen considerations flash their chain lightning patterns across the slot man's mind. Tyler's story... Tyler the brilliant and touchy. He got it out of that certain municipal department which is giving off a faintly gamy odor. The boss will want it in all editions. This isn't the big break though, just another build-up to it. Damn good story... real stuff in every paragraph. Hard to cut. Needs a headline with sock. Who's to handle it? Ward's fooling around with that zoo story... Won't do, his cuts make Tyler sore. Colihan's a better bet.

"Colihan," says the man in the slot. One of the furious pencil-wielders around the rim of the horseshoe looks up. "Cut this a third and put a thirty-six head on it in time for the bulldog."

All this has used up fifteen seconds.

Colihan has nine and a half minutes to cut and edit and write a top headline and sub-headline. Every line of both headlines must count exactly so many characters and spaces, figur-

ing *i* as a half and *m* and *w* one and a half characters. Then the slot man will take just fifteen seconds more to review Colihan's work, change "banned" to "curbed," sniff the whole concoction for traces of libel, and shoot it to the news editor in the composing room. It is a shorter story than Tyler's original, and a better one—keener of edge, swifter of impact, yet complete in every essential detail.

► The slot is not a glamorous job. It hasn't been discovered by Shubert Alley or the fiction magazines. To the cub reporter, eager for by-lines and self-expression, the whole copy desk looks like a backwater. It takes maturity—grasp of the whole art of news presentation—to appreciate the little miracles that a good copy desk passes.

Watch what a copyreader is really doing—you'll see agility and speed to make an Olympic skier look muscle-bound. Clearing hurdles of phrases in one long broad jump of the pencil. Untying sloppy granny knots, retying the thought strands square—and always on the dead run. Swooping over a field of facts and leaning out to pick the tallest one. Doing the cross-word puzzles called headlines against a time limit and for high stakes.

Among the men who write and edit The Weekly Newsmagazine, the man in the slot and the men on the rim are held in greater respect, perhaps, than in their own city rooms. For more than any other newspapermen in the business, TIME men write with the

consciousness that they must cut, prune, hone, concentrate, and distil. The fight against the clock is not so desperate on a weekly, but the battle for each line of space is many times fiercer.

And the raw material for each issue is mountain-high... product of TIME's own 75 correspondents, 500 news scouts, and the 100,000 correspondents and reporters of all the nation's newspapers and wire services, throughout a whole week of the world's activities.

► Journalism in the U. S. A. pours out millions of words each week; TIME's limit is some thirty thousand. And when every word must do the work of a dozen, it needs to be a better word, and more economically joined to its fellows. Nouns must paint landscapes, adjectives must do portraits, verbs must shoot straight.

Each story in TIME must be direct, keen, complete; each story must earn its place as an essential link in understanding the world's news of the week.

► TIME has developed the art of news condensation, as practiced by the slot men and rim men of the dailies, to a new high. For every issue of TIME is "tight"—its limit that irreducible minimum of news every intelligent man and woman must know. Which is one reason why TIME has won the genuine devotion of 700,000 busy families—with their ranks growing deeper every week.

---

This is the first of a series of advertisements in which the Editors of TIME hope to give all the readers of Architectural Forum a clearer picture of the world of news-gathering, news-writing, and news-reading—and the part TIME plays in helping you to grasp, measure, and use the history of your lifetime as you live the story of your life.

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Learn the details of this new All-Metal Venetian Awning that is keeping pace with architectural demands as well as home comfort. It provides ventilated shade, eliminates fire hazard, never needs replacement, handling or storage. Inside finger-tip control of both light and ventilation instantly.

## Ideal For Homes, Apartments, Offices, Institutions

Adjustable vanes stop the heat outside—just as the leaves of a tree give ventilated shade. Praised by Air Conditioning engineers as a definite aid to summer air conditioning; effecting savings up to 25% of the cooling load. Enduringly made of ARMCO rust-resisting ingot iron. Finished in standard, two-tone and special colors to blend naturally with surroundings. Write today for completely illustrated descriptive literature.



PERMANENT INSTALLATION

YEAR 'ROUND SUN PROTECTION

FULL-VISIBILITY LIGHT CONTROL

GIVES VENTILATED SHADE

FIRST COST IS LAST COST

A Rusco Condition-aid ★ A Product of  
THE F. C. RUSSELL COMPANY • 6535 Euclid Avenue, CLEVELAND, O.

## WHEN YOU WANT QUIET

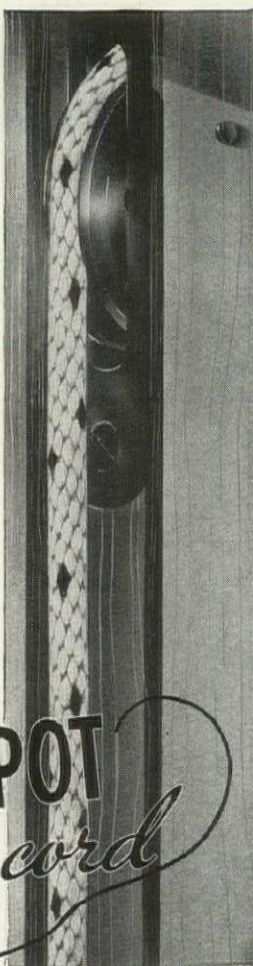


Specify double sash hung with Samson Spot Cord and you get *quiet, smooth* operation in the beginning and for years without adjustments or replacements. There is no quieter way — no better way. In service satisfaction Samson Spot Sash Cord is the most economical.

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*



● Operating the new Jamison "Model W Wedgetight" Fastener is child's play. Re-design and refinements make possible effortless action—yet it seals with the force of a sledge-driven wedge. Streamlined in appearance, too! "Model W Wedgetight" Fastener, with adjustable keeper, is standard equipment on all new JAMISON COLD STORAGE DOORS.

For details get Bulletin 122. Jamison Cold Storage Door Co., Hagerstown, Md. Branches in principal cities.

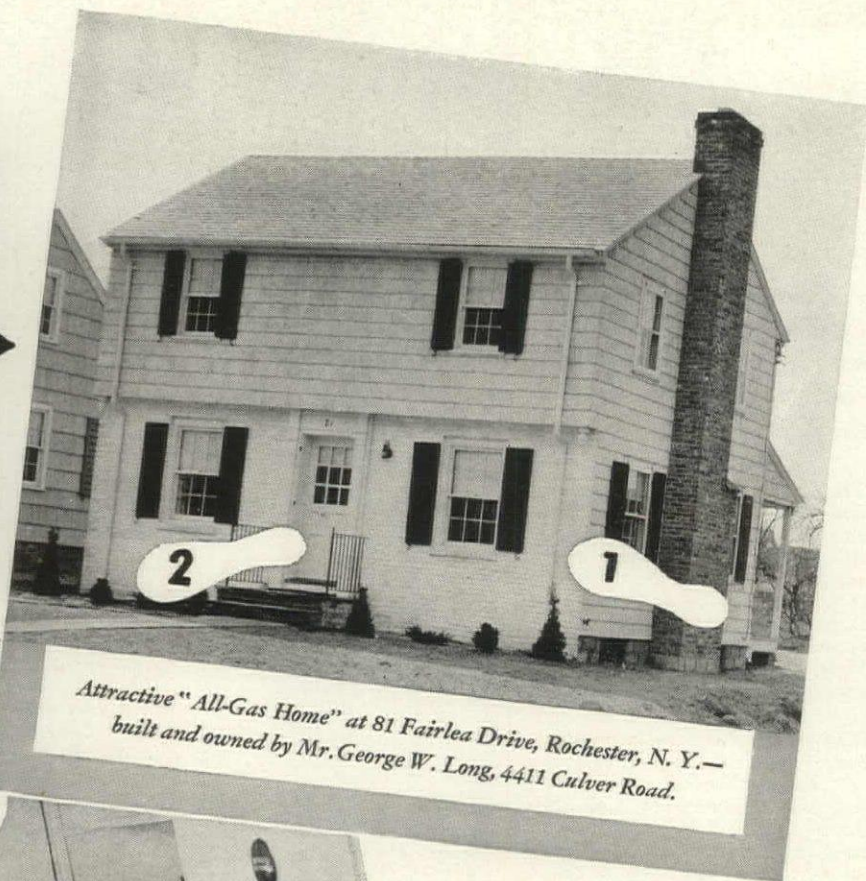
Jamison, Stevenson  
and Victor Doors.



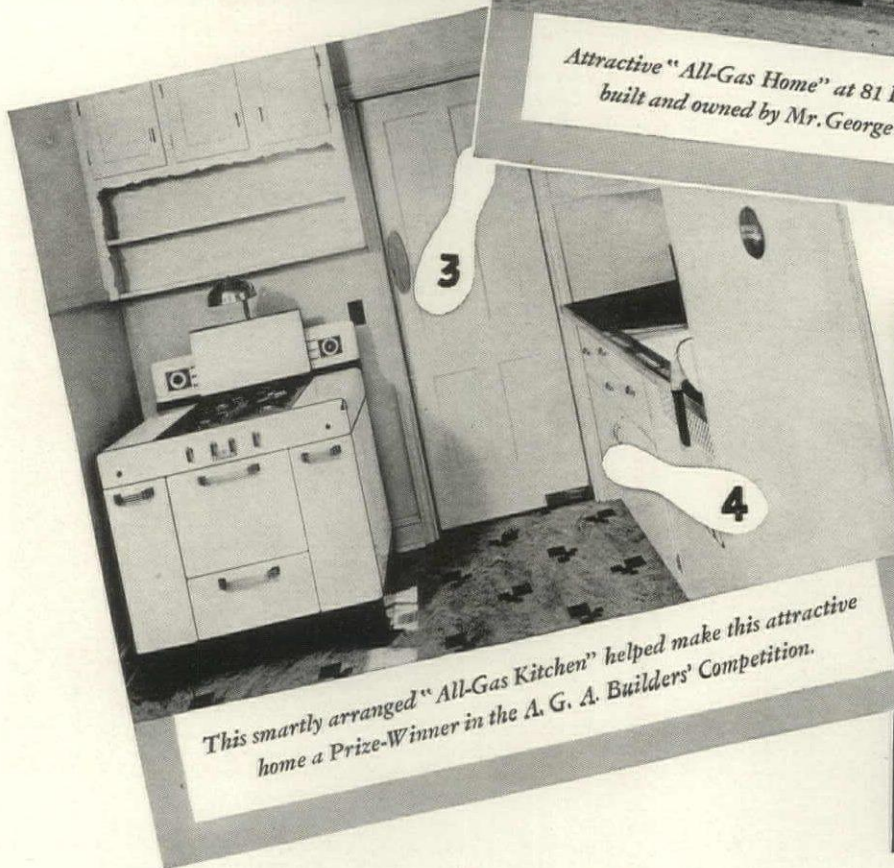
See our catalog in Sweet's Catalog File



# FOUR STEPS TO CLOSING A SALE



*Attractive "All-Gas Home" at 81 Fairlea Drive, Rochester, N. Y.—  
built and owned by Mr. George W. Long, 4411 Culver Road.*



*This smartly arranged "All-Gas Kitchen" helped make this attractive  
home a Prize-Winner in the A. G. A. Builders' Competition.*

- 1 A completely equipped house, including a well-planned gas heating system.
- 2 An automatic gas water heater that assures plenty of hot water at all times.
- 3 A modern gas range that provides perfect control of oven temperatures.
- 4 A "silent" gas refrigerator, with no moving parts to wear out or get noisy.

**B**UILDERS are discovering it is just about twice as easy to sell "ready-to-live-in" homes as bare, unequipped houses . . . especially when these homes are furnished with modern gas appliances to do "The 4 Big Jobs."

The reason is fairly obvious . . .

Modern Gas Ranges provide perfect temperature control for cooking—and women know it . . . Gas refrigerators are

the only silent kind . . . Gas water heaters provide hot water not only quickly, but also abundantly and economically . . . And for house-heating, gas is the only completely automatic fuel.

Gas appliances, by providing both looks and efficiency, doubly insure a speedy sale and a larger profit . . . Ask your local gas company for facts and figures!

## AMERICAN GAS ASSOCIATION

LET  
*Gas*  
DO THE 4 BIG JOBS  
COOKING  
WATER HEATING  
REFRIGERATION  
HOUSE HEATING



Be sure the gas appliances you specify bear the Approval Seal of the American Gas Association Testing Laboratories.



# 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.

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# *For the Nation's Finest Buildings*



**F**or more than 30 years, Herman Nelson Products have been subjected to the most exacting test which can be made—actual service in thousands of installations.

It is significant that so many Herman Nelson Products, installed shortly after the turn of the century, are still providing dependable, economical service in buildings of all types. This same satisfaction is reported by users of the latest Herman Nelson Heating,

Ventilating and Air Conditioning Equipment.

There are many reasons for this widespread owner satisfaction. However, most important is undoubtedly a policy established when The Herman Nelson Corporation was organized—never to lose sight of the old-fashioned ideals of quality. This policy continues to make possible the added dependability, convenience and comfort provided by Herman Nelson Products.



## **THE HERMAN NELSON CORPORATION**

**Manufacturers of Quality Heating, Ventilating and Air Conditioning Products**

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*Why let your Bathrooms let you down?*

# BUILD BATHROOMS **UP**

with

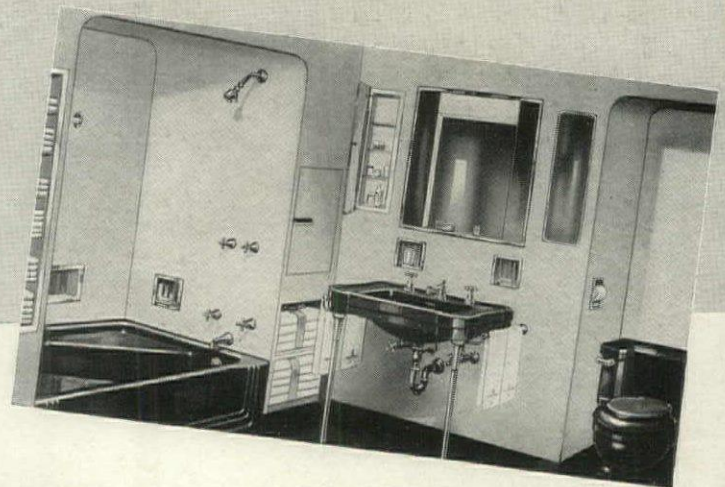
## Miami Cabinets and Accessories

● Thousands of bathrooms, beautiful in gleaming tile and porcelain, are marred by cheap cabinets not in keeping with the other fixtures and equipment. Why permit a cabinet to let any bathroom down?

MIAMI cabinets build bathrooms "UP". The originality of MIAMI designs has changed the cabinet from a mere detail to one of the most important items in the bathroom. The completeness of MIAMI Cabinet Ensembles broadens their usefulness—provides convenient space for individual belongings—promotes bathroom order and harmony. The fine mirrors, brilliant chrome frames, effective lighting and master craftsmanship, evident in every detail, make MIAMI Cabinets the center of interest—the focal point of bathroom beauty and luxury.

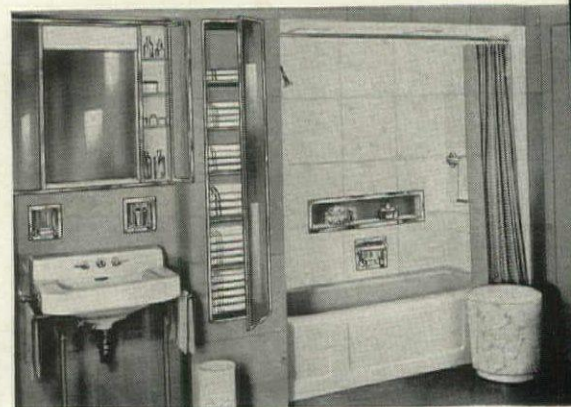
There is a big difference in the quality of bathroom cabinets; but for only a few dollars more than the cost of a cheap, tinny cabinet fitted with a shock mirror, you can equip any bathroom with a beautiful MIAMI Cabinet.

Build your bathrooms "Up". Make them the show-place of your homes by specifying MIAMI Cabinets. See our Catalog in Sweets.



(above) BATHROOM  
BY STANDARD

Towel Supply Cabinet No. 510-A—extreme left; Miami Louis XIV Cabinet Mirror ensemble—over lavatory; Recessed Accessories.



(right) BATHROOM  
BY KOHLER

Miami Imperial Cabinet—over lavatory; Towel Supply Cabinet No. 510-A—right side of lavatory; Recessed Accessories.

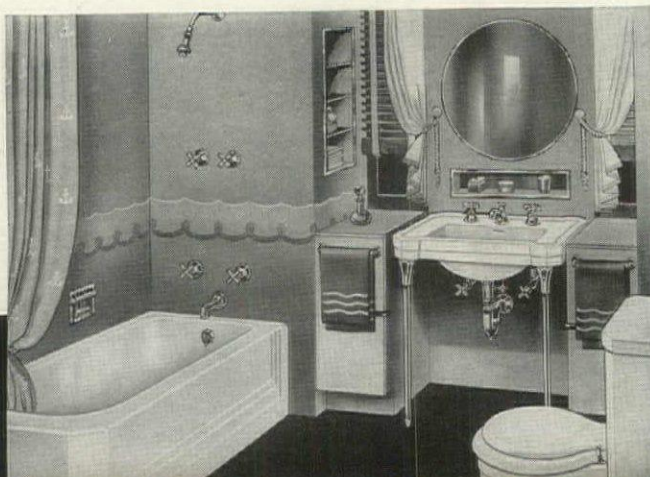


(left) BATHROOM  
BY STANDARD

Mirror Lined Recessed Shelf—side wall next to window; The Pompadour (circular mirror and recessed shelf)—above lavatory; Accessories.

(above) BATHROOM BY CRANE

Carey Towel Supply Cabinet No. 500—above toilet; Miami Cabinet No. 1100 equipped with No. 2 Tubular Lights—above lavatory; Recessed Accessories.



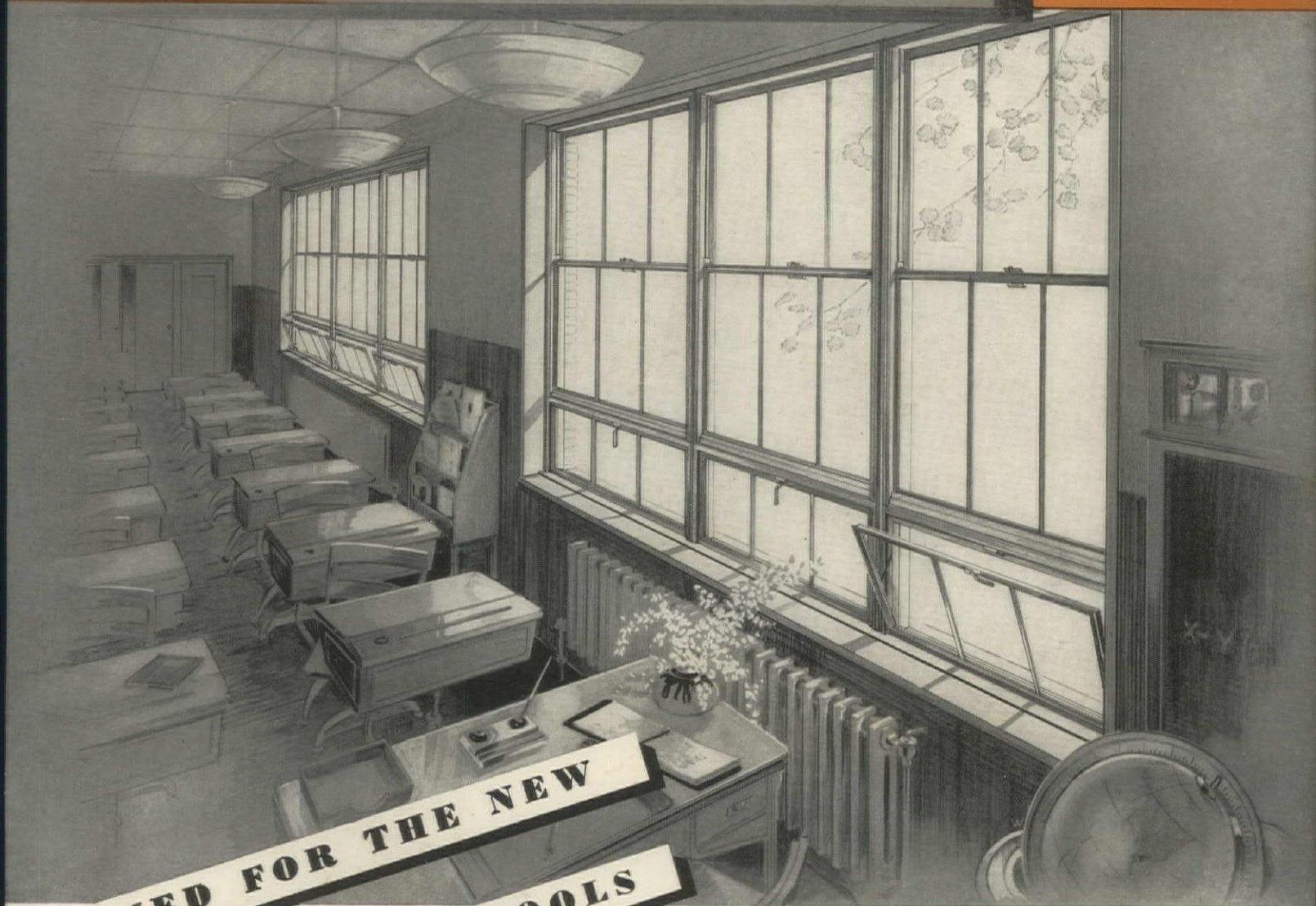
**THE MIAMI CABINET DIVISION**  
THE PHILIP CAREY COMPANY  
MIDDLETOWN, OHIO



# CAMPBELL

MODEL 101 DOUBLE-HUNG STEEL WINDOWS

*with Hopper Vent*



DESIGNED FOR THE NEW  
GENERATION OF SCHOOLS

## *Windows*

work wonders when properly planned to provide full use of natural lighting and ventilation. Cheerful, airy, draftless rooms induce and maintain mental alertness so essential to efficiency of faculty and students.

Truscon's CAMPBELL Model 101 Double-Hung Steel Windows with Hopper Vent permit maximum use of daylighting and natural, *but draftless*, ventilation. The Hopper Vent diverts drafts from occupants of a room and permits adequate ventilation under all weather conditions.

CAMPBELL Model 101 Steel Windows are of all metal construction; Bonderized with a baked-on priming coat of paint; weatherstripped at factory for complete weathertightness; and equipped with an exclusive adjustment which reduces friction to a minimum, thereby assuring easy operation.

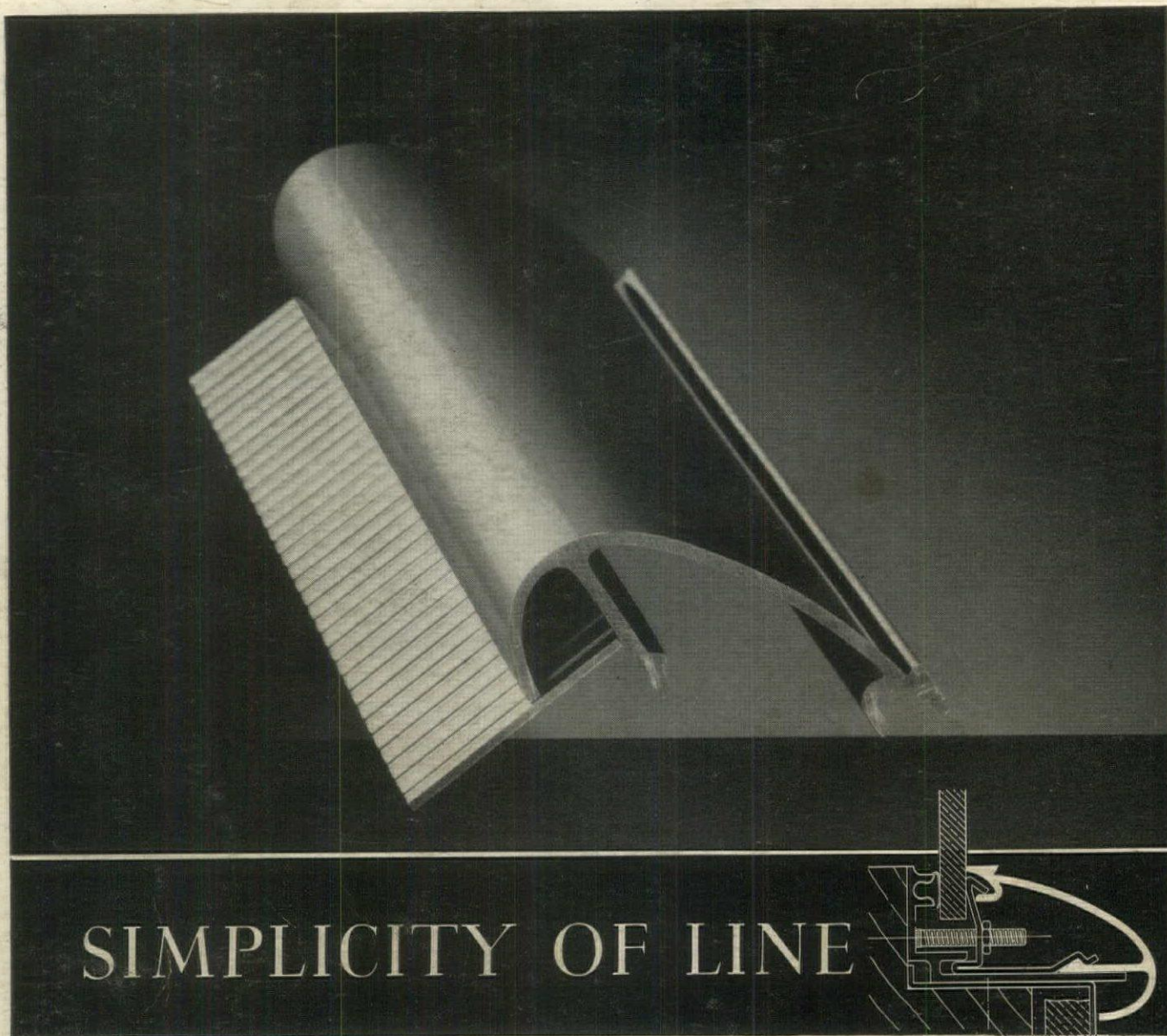
Complete assembly at factory reduces installation costs at job. (Twin and Triple Windows can be furnished as integral units.) Hardware is factory installed, requiring no field work. Screens, when required, are installed on the exterior side. Large scale production, made possible by the widespread demand for these windows, keeps costs at minimum levels.

See Truscon's 80-page catalog in "Sweet's" for complete information or write direct to us for literature.

**TRUSCON**  
*Steel company*

61 SALES ENGINEERING OFFICES • 29 WAREHOUSES  
YOUNGSTOWN • • • OHIO  
SUBSIDIARY: REPUBLIC STEEL CORPORATION





PITTCO Store Front Metal members are distinguished by an attractive simplicity and purity of line, expressed in flowing curves and sharp, clean contours. This classic simplicity of design enhances the beauty of Carrara Glass Store Fronts on which Pittco Metal construction is used. Each Pittco member is designed to bear a pleasing and harmonious relationship to every other member of the line, a fact which is reflected in the greater unity and balance of store fronts which embody this quality metal. Yet Pittco units are as sturdy and durable as they are beautiful. Available in a wide range of bars, mouldings and sash, Pittco Store Front Metal provides the architect with a suitable unit to meet any requirement which may be encountered in his store front work. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.

### DETAIL:

Cross-section of a graceful Pittco Store Front Metal moulding which is designed to unite uninteruptedly the plate glass and pilaster facing. The  $\frac{1}{2}$ " overlap assures a clean, true edge at head, jamb and sill.

**PITTCO STORE FRONT METAL**  
PITTSBURGH PLATE GLASS COMPANY

*"PITTSBURGH" stands for Quality Glass*

At the New York World's Fair, visit the Glass Center Building and the Pittsburgh House of Glass.