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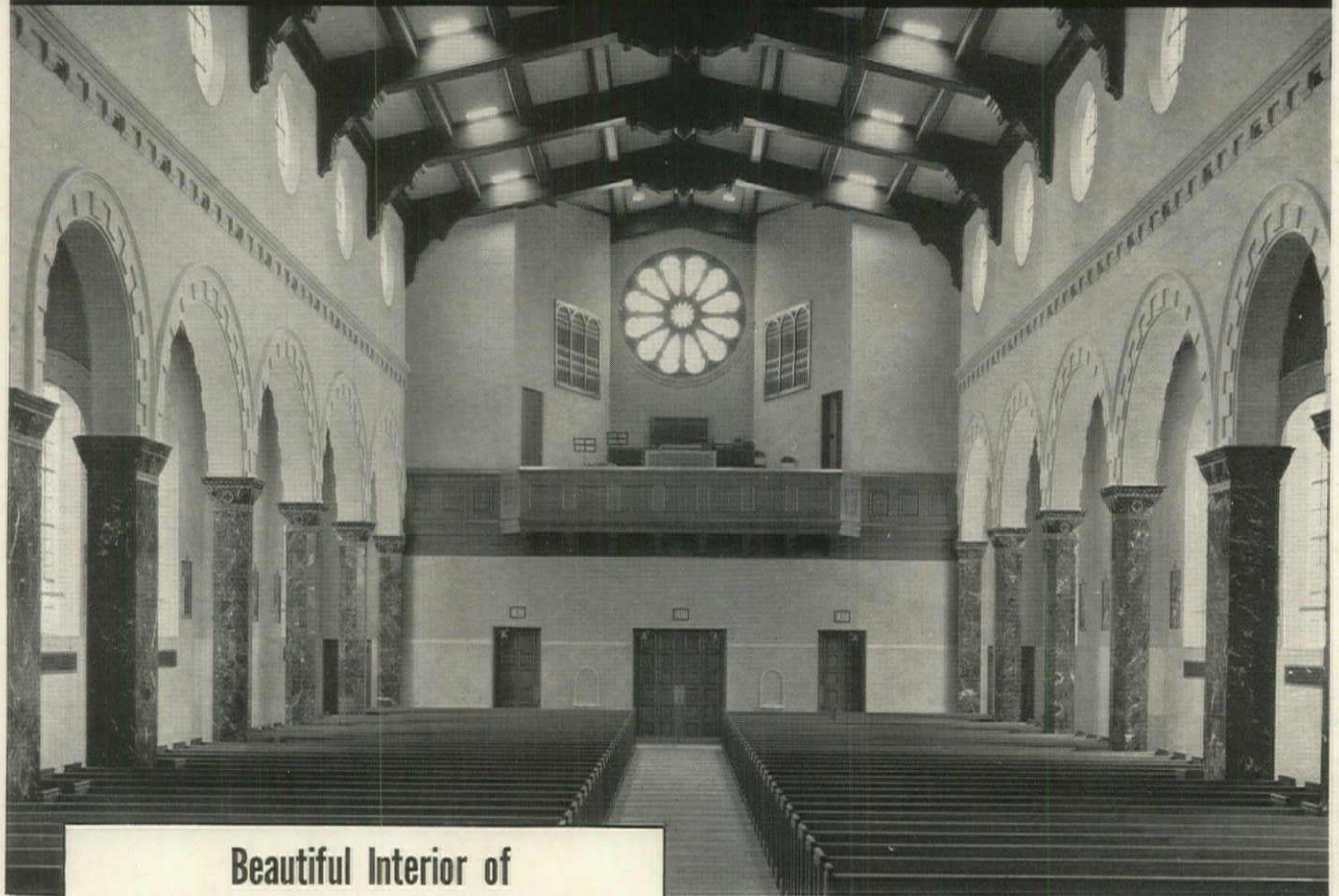
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THE ARCHITECTURAL FORUM

MARCH 1940

THE AGELESS *Beauty* OF STONE...

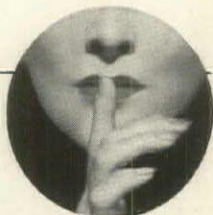
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Editor, Howard Myers; Managing Editor, Ruth Goodhue; Associates, Paul Grotz, Joseph C. Hazen, Jr., George Nelson, Henry H. Saylor, Henry Wright; Assistants, John Belnert, Anna De Cormis, Richard E. Saunders, Madeline Thatcher, Nadia Williams. THE ARCHITECTURAL FORUM is published by Time Inc., Henry R. Luce, Chairman; Roy E. Larsen, President; Allen Grover, Eric Hodgins, P. I. Prentice, Vice Presidents; Charles L. Stillman, Vice President and Treasurer; David W. Brumbaugh, Secretary. Publication and Subscription Office, Erie Ave., F & G Streets, Philadelphia, Pa. Subscriptions may also be sent to 330 East 22nd Street, Chicago, Illinois. Executive, Editorial and Advertising Offices, Time & Life Building, Rockefeller Center, New York. Business Manager, H. A. Richter. Advertising Manager, George P. Shutt. Address all editorial correspondence to Time & Life Building, Rockefeller Center, New York. Yearly subscription, Payable in advance, U. S. and Possessions, Canada, Cuba, Mexico, South America, \$4.00. Elsewhere \$6.00. Single issues, including Reference Numbers, \$1.00. All copies Mailed Flat. Copyright under International Copyright Convention. All rights reserved under Pan American Copyright Convention. Copyright, 1940, by Time Inc. Printed in U. S. A.

THE MONTH IN BUILDING

BUILDING TRENDS. Although the December volume of residential building permits dipped below the November level, it registered a 40 per cent increase over December 1938—see tabulation right. Trend of non-residential permits continued to sag miserably. As shown on page 210, most other building statistics marked time during the latest months for which figures are available. Chief exceptions: mortgages selected by FHA for appraisal increased in volume; FHA insurance of rental housing project mortgages approached zero; factory payrolls and bond and stock prices advanced.

PERMITS

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

	Monthly Data			Twelve months	
	Dec. 1939 (millions)	Comparison with Nov. '39	Dec. '38	1939 (millions)	Comparison with 1938
Residential	\$ 94.2	-11.1%	+40.0%	\$1,146.5	+33.4%
Non-residential	35.9	-17.3	-51.1	585.6	+ 4.8
Additions, repairs.....	18.9	-17.5	- 3.0	334.6	+ 7.1
TOTAL	149.0	-13.5	+ 2.0	2,066.7	+19.4

HIGH FINANCE. In January 1939, the Federal Home Loan Bank Board began compiling for the first time in history a complete monthly record of the number and value of home mortgages recorded in the entire U. S. Covering all non-farm property loans of \$20,000 and less, the year-end total released last month provides another means of measuring Building's vast annual business.

During 1939 a total of 1,362,794 mortgages amounting to \$3,765,595,000, were recorded.* The country's 8,000 savings and loan associations wrote \$1,168 million worth, accounted for about one-third of both the numerical and dollar totals. Balance was divided among banks and trust companies (\$924 million), individuals (\$648 million), insurance companies (\$331 million), mutual savings banks (\$141 million) and other lenders (\$552 million). For the month-to-month trend of these mortgage recordings, see page 210.

When compared with the year-end statistics for other branches of high finance, the volume of these recordings underlines the important, but underestimated, role played by home mortgages in the nation's banking economy. Thus, the \$3.8 billion total of home mortgages recorded last year is about twice as big as the total capital raised during the same period by all domestic corporations via both new and refunding bond and stock issues (\$2.1 billion of which \$1.8 billion was for refunding purposes). Furthermore, this mortgage volume is slightly larger than the total funds raised through the sale of these corporate securities plus those sold by the nation's States, counties, towns, and other municipal agencies (\$3.2 billion, of which \$2.0 billion was for refunding purposes).

WHAT'S WRONG HERE? Practically every newspaper in the country has at one time or another headlined the complaint of taxpayers against the high val-

uations which city assessors slap on real estate. A few newspapers have taken up the cry themselves.

To the delight of local property owners, one of these few is the *New York Sun*. Each day in identical wording it presents on its real estate page under the bold-faced question, "What's Wrong Here?," a case history like this:

"There is a five-story residence at 991 Fifth Avenue, near 80th Street, which is assessed by the Tax Department at \$145,000 for taxation. When this property was sold recently it brought only \$20,000. If, as the Tax Department says, this property is worth \$145,000, why does it command a price of only \$20,000 in the open market? And if it brings a price of only \$20,000 in the open market, why must the owner pay taxes on an imaginary value of \$145,000? The law reads: 'Assessments shall in no case exceed full value.' What's wrong here?"

Case histories are apparently plentiful. The *Sun* has run one each day for a month, and the end is not yet in sight.

SMALL SCALE. Long recommended by many as the most economical, practical remedy for slum sores, large scale rehabilitation of sub-standard dwellings has been practiced in comparatively few cases.* Reason: like everything else, a rehabilitation program costs money, and lenders who will accept revamped slum buildings as collateral are few and far between. More than anything else, the case for slum rehabilitation has needed Federal mortgage insurance. Last week it got it.

Effective March 1, the Federal Housing Administration added to its far-flung mortgage insurance program a new set of rules and regulations pertaining to rehabilitation rental projects and small new construction rental projects. Taking the place of the National Housing Act's late Section 210 (defunct since July 1, 1939), this new program will be carried on as a part of Section 207 which is administered by FHA's Large Scale Housing Division.

* Notably Philadelphia's Arthur W. Binns (*ARCH. FORUM*, Sept. 1939, p. 149) and Benjamin Mason (*ARCH. FORUM*, Feb. 1940, p. 4).

But, it will be known as the "small scale" housing program. Reason: maximum insurable mortgage will be \$100,000 whether it covers rehabilitation or new construction. (Maximum for large scale projects: \$10 million.)

To be eligible for FHA insurance under the small scale housing program, a mortgage must:

- ▶ Not exceed \$1,350 per room.
- ▶ Not exceed 80 per cent of the FHA-appraised value of the completed project including land.
- ▶ Not exceed, in any event, the estimated cost of the proposed improvements including, in the case of rehabilitation projects, the estimated depreciated reproduction cost of salvageable existing improvements.
- ▶ Bear interest at $4\frac{1}{2}$ per cent or less. (Large scale maximum: 4 per cent.)
- ▶ Be amortized, like all other FHA-insured mortgages, on a level annuity basis with fixed monthly payments.
- ▶ Cover a project consisting of at least sixteen rentable dwelling units on one site, "preferably but not necessarily contiguous."

Applying solely to rehabilitation projects are two other provisions:

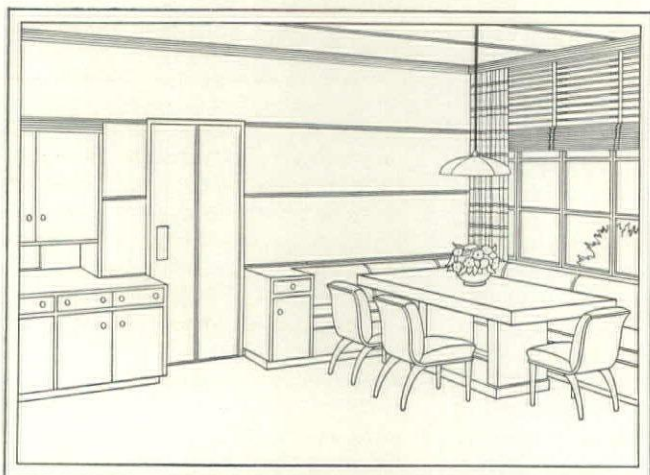
- ▶ The estimated cost of the proposed modernization must be equivalent to at least half of the amount of the mortgage.
- ▶ Amount of the mortgage may not exceed 80 per cent of FHA's estimate of the cost of the improvements plus the fair market price of the entire property prior to the modernization (or the purchase price, if the property was acquired within a year prior to the application for mortgage insurance) plus carrying charges and incidental expenses during construction.

Eligible mortgagors are private corporations, associations, cooperative societies, trusts and all Federal, State and municipal agencies. In other words, city housing authorities may participate in FHA's small scale housing program, in much the same way as Fort Wayne is participating in the large scale program (*ARCH. FORUM*, Oct. 1939, p. 299). Also eligible are limited dividend corporations incorporated under Federal or State laws. All mortgagors must submit themselves to

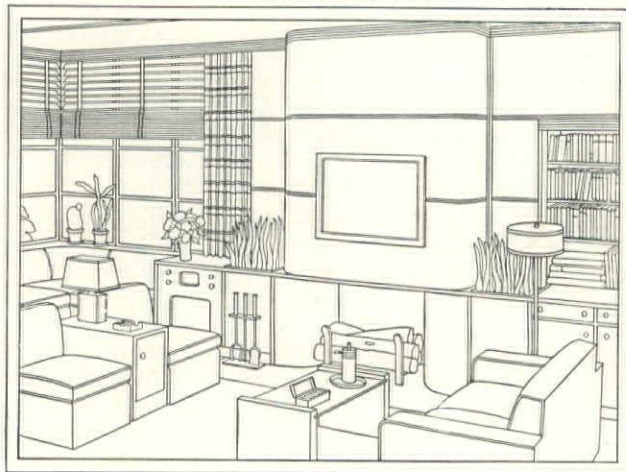
* In addition to those covered in FHLBB's compilation, it is estimated that a total of \$750 million in over-\$20,000 mortgages were made last year on real properties.

Interesting uses of Masonite Tempered Presdwood in the small modern house

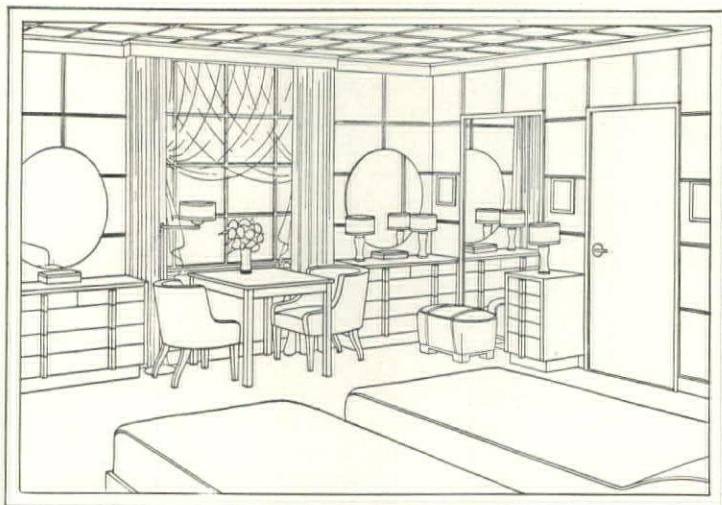
Unusual wall and ceiling effects, as well as built-in furniture, are identified with virtually every modern house. Here are some of the many ways in which Masonite Tempered Presdwood can be used for their execution.



In the "dining" end of this combined living room-dining room, built-in cabinets and sideboard are Tempered Presdwood. The china cabinet is loaded with clean dishes from the kitchen side. Dishes, removed from the table, are passed into the kitchen through a Tempered Presdwood door in the recess below.



In this, the "living" end of the same room, the Tempered Presdwood walls are grooved horizontally. Containers for flowers on each side of the fireplace are Tempered Presdwood lined with copper. Built-in radio, bookcases, wall seat, lamp table and private cabinet are all made of Tempered Presdwood.



A modern bedroom with walls and ceiling made of Tempered Presdwood applied over structural insulation and grooved in a block pattern. Both dressing-tables are of Tempered Presdwood—excellent for this purpose because it will not warp, chip, split or crack when properly applied.



Outlined on this page are the new-home and remodeling ideas which Masonite is carrying to millions of home-owners in the advertisement at the left, appearing in national magazines during April. If you would care to examine Masonite Tempered Presdwood yourself, we'll be glad to mail a free sample and full details. For convenience, use the coupon below.



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THE ARCHITECTURAL
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VOLUME 72
Number 3

THE MONTH IN BUILDING

FHA regulation and supervision with respect to capital structure, payment of dividends, establishment of reserves, the charging of rents, etc.

Two factors will be considered by FHA in approving rents in small scale projects: 1) the income necessary to maintain the economic soundness of the project and 2) the rents being paid in the community by families for whom this type of housing is intended. Dividends on the equity investment will be limited to 6 per cent, except that, after provision for required reserves, another 2 per cent may be paid out of earned surplus.

Having worked out the small scale housing program's details with the cooperation of the officers of the National Assn. of Real Estate Boards (rehabilitation's biggest backer) and leading lending institutions, FHA anticipates a flood of applications for this type of mortgage insurance. First wave will probably come from the lending institutions themselves who now own through foreclosure some \$4 billion of real estate—most of which is residential. They may set up subsidiary companies to handle the modernization and management of properties, then take back FHA-insured mortgages on their own rehabilitated projects.

Wide-awake lending institutions and realtors who have campaigned long and loud against the U. S. Housing Authority's public housing program may now do more than talk. Through rehabilitation of run-down dwellings, they may supply a large part of the low rent housing market, may decrease the need for USHA.

TRUST BUSTED, CONT. Last month in these columns, it was noted that construction bids on Pittsburgh's public housing construction had been 19 per cent *over* the architect's estimates on the first project, 8 per cent *under* on the second, and 19 per cent *under* on the third. Since the Justice Department's Thurman Arnold had fired his first anti-trust shot at Pittsburgh between the first and second bids, local conclusion was that an alleged building trust had become thoroughly gun-shy if it had not been shot through the heart.

Just as last month's FORUM rolled off the press, a building trust in Pittsburgh did fall dead—but not from one of Marksman Arnold's shots. Accused of milking the Government to tune of \$500,000 via a bid-rigging conspiracy affecting the construction of Federal projects over a five-year period, 57 Pittsburgh electrical contractors, union leaders and corporations were fined a total of \$54,150 by the U. S. District Court of the Western District of Pennsylvania. Heaviest penalty, \$7,000, was levied against Business Agent Michael P. Gordon of AFL's International Brotherhood of Electrical Workers, Local No. 5.

Since this case was prosecuted to protect the Government and not to curtail practices considered harmful to the general public, it fell just outside Arnold's anti-restraint-of-trade program. It was not a case involving the Sherman Act; hence Labor conceded nothing in its loudly voiced contention that the Act does not apply to unions. However, the case was important on two counts:

First—It exposed one form of shenanigans in the building industry which perhaps is not confined to any one branch of the business or any one city. The fined Pittsburghers were charged specifically with operating an illegal combine centering around the Electrical Contractors Assn. Government's claim was that members' bids were averaged, that the bidder closest to the average was selected for the job and that the others then changed their bids accordingly. Government also contended that the electrical union by threatening to strike discouraged non-association members from submitting bids.

Second—It proved that convictions in these cases are not impossible, that, as in Pittsburgh, they may be easily obtained. Thus, all 57 defendants pleaded "nola contendere" which in simple language means "no defense."

An important test case, the Pittsburgh ruling will no doubt have bearing on Trust-Buster Arnold's industry-wide investigation which month ago had resulted in 25 indictments involving 463 defendants on charges of restraint of trade and conspiracy. On the mat were 33 labor unions, 89 union members or representatives including three international union heads, 234 non-union individuals, 102 corporations, five associations. Fined or jailed: none.

CIO BUILDS. Scooping the newsmongers, members of New York City's Building Trades Employers Assn. month ago uncovered the first concrete evidence of CIO's entry in the local building business. Through its monthly publication, *News and Opinion*, the Association reported that the United Construction Workers Organizing Committee is approaching New York City contractors, is promising them the immediate availability of thousands of men in every trade, is offering them contracts that make their eyes stick out.

In addition to an apparent willingness to alter contracts to meet employers' objections, UCWOC's eye-popping provisions include: 1) eight-hour day at \$9 for all skilled mechanics—most local AFL mechanics now get \$12 to \$14 for six or seven hours work, 2) privilege of using a mechanic on any work, 3) guarantee against jurisdiction troubles, and 4) authorization of shift work. Aimed more at the union's benefit than the employers' is another provision: stipulation of a check-

off of union dues and assessments by the employer.

To date UCWOC's contract peddling has been limited largely to the unorganized house building field, and *News and Opinion* could find signed contracts only in the sub-trades. It remains to be seen whether or not the same provisions will entice the city's AFL-organized commercial, industrial and apartment building workers. Chances are that few will look kindly on the longer hours and shorter dollars, that UCWOC will have a different contract for New York City's large scale builders.

Summing up his three-month drive to organize Building's unorganized, UCWOC's President Alma Denny Lewis (John L.'s brother) at a mid-January contractors' meeting in Newark, N. J., stated that 80 local unions in 26 States had been formed, that many had already negotiated closed shop contracts with check-off provisions. Called typical, the Washington, D. C., contract gives mechanics in most trades a wage of \$1.25 per hour; all helpers, 62½ cents; all laborers, 50 cents. Exceptions: iron workers and boiler makers, \$1.50; elevator constructors, \$1.25; and all workers on public projects where the prevailing wage is required.

REALTY POLLED. Digesting the returns from its 34th semiannual survey of the U. S. real estate market, the National Assn. of Real Estate Boards month ago measured the effect of Federal Housing Administration policies on home mortgage interest rates. For the first time in the survey's history, the most common interest rate on first mortgages in the 261 reporting cities is 5 per cent. Heretofore the dominant rate has always been 6 per cent. Pulling the national figure down were reports from one-fifth of the cities which pointed to 4½ per cent as the going rate.

Other trends documented by NAREB's poll are equally optimistic:

► Despite the expected inflationary effects of World War II, interest rates in 41 per cent of the cities are still falling. A steady trend is noted by 56 per cent; a rising trend, by only 3 per cent.

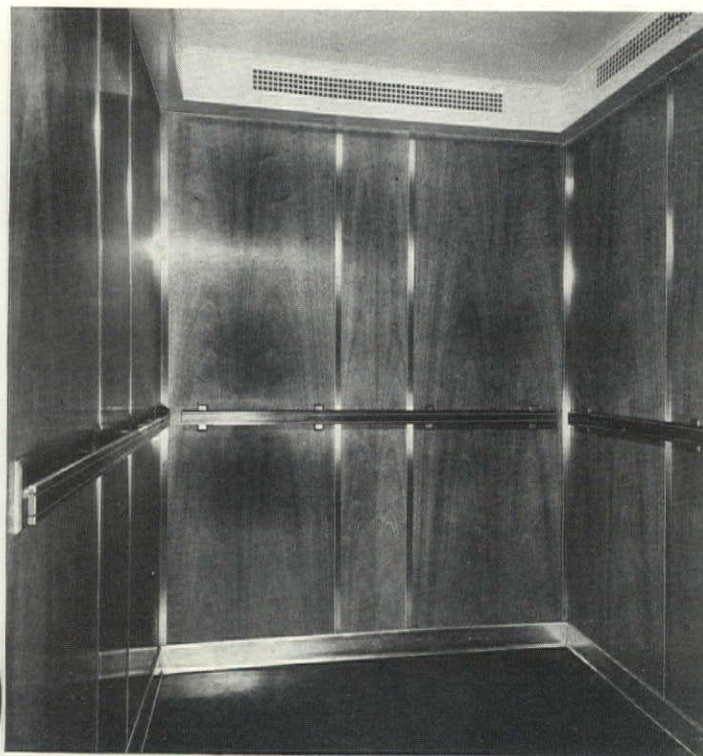
► The subdivision market is more active than a year ago in more than half the cities, while in most of the others no appreciable change is noted. Last year in the surveyed cities, sixteen home sites (vacant lots for future building) were purchased and twelve single-family houses were built per 1,000 families. In other words, one-and-one-third lots are being purchased for every house built.

► Real estate prices are higher than they were year ago in 23 per cent of the cities, lower in 13 per cent, unchanged in 64 per cent.

► Trend of rents in all types of buildings has been steady-to-upward, and the outlook is for a continuation of this course.

► About 45 per cent of the cities report a shortage of single-family dwellings. In last year's survey only 34 per cent reported an under-supply.

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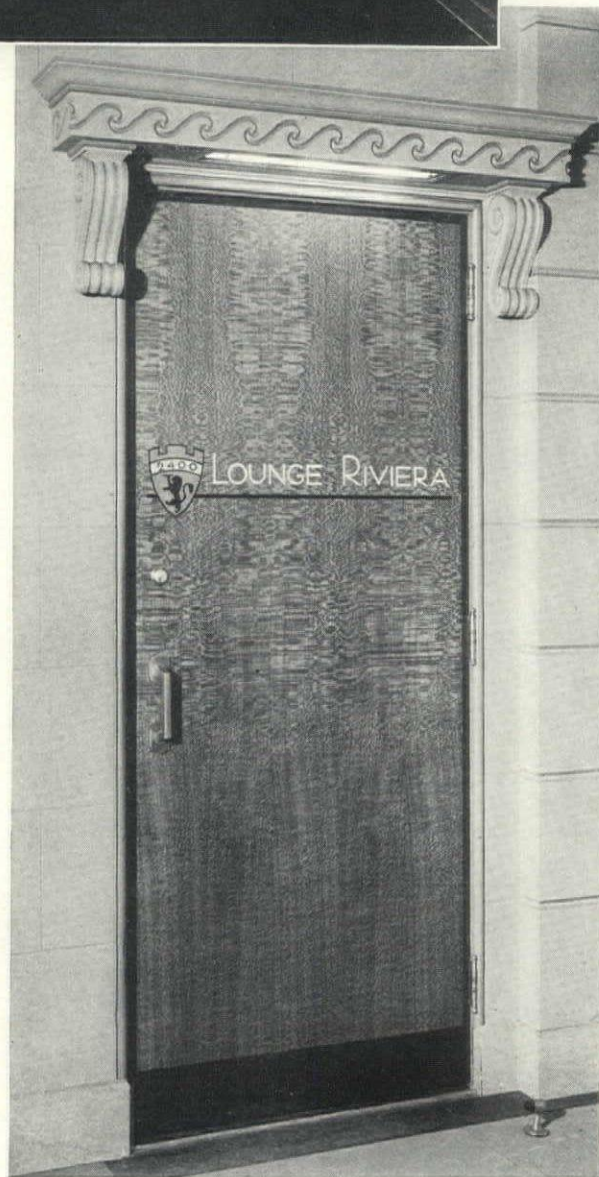
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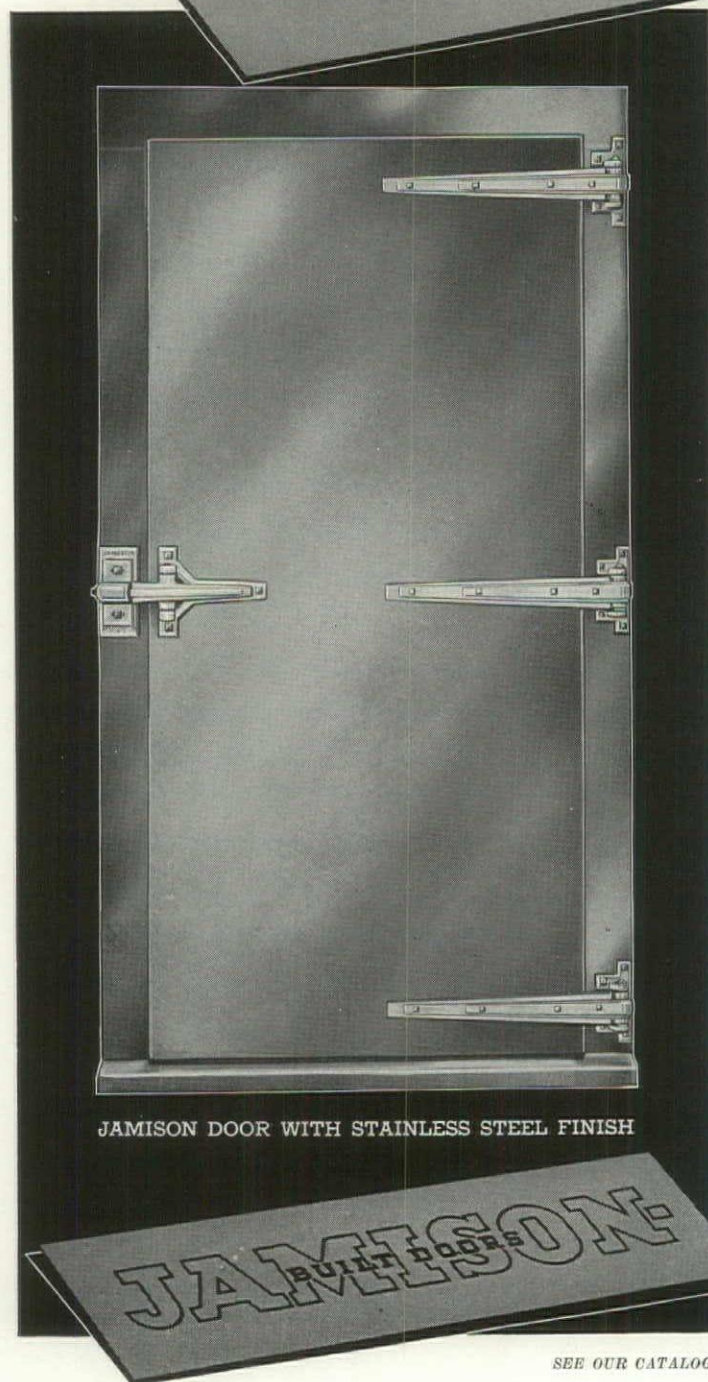
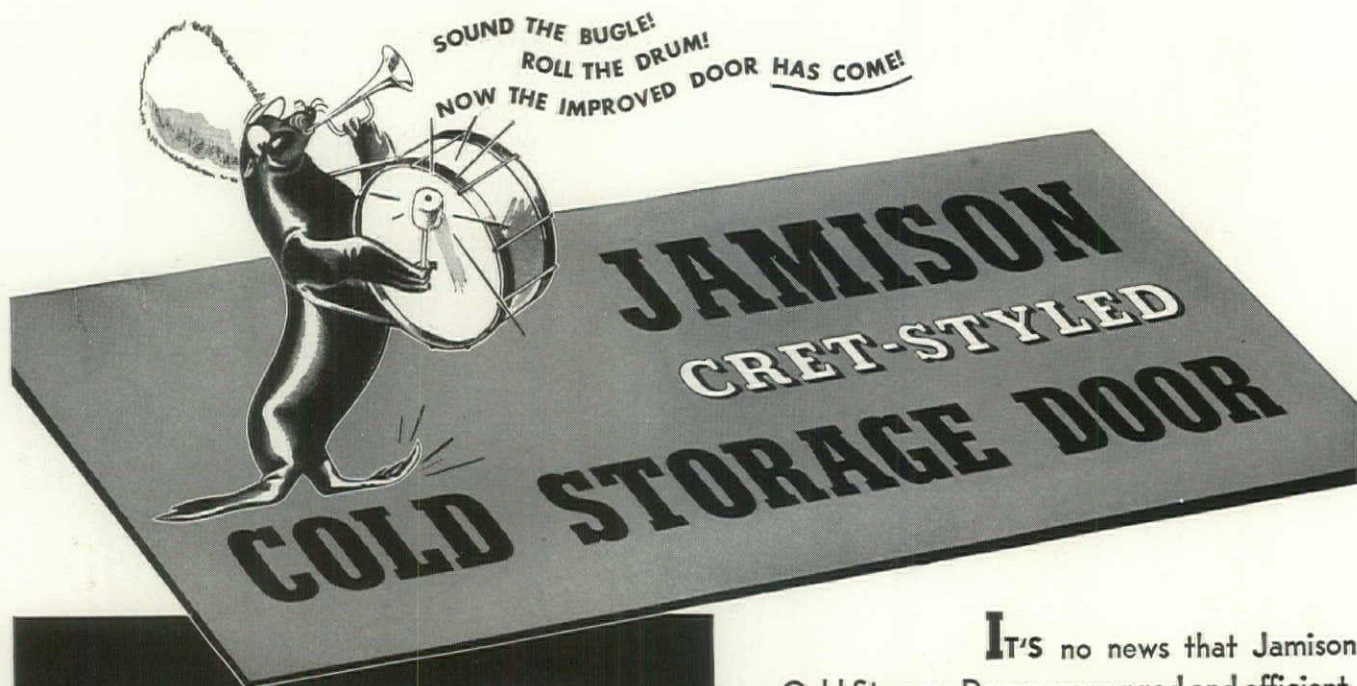
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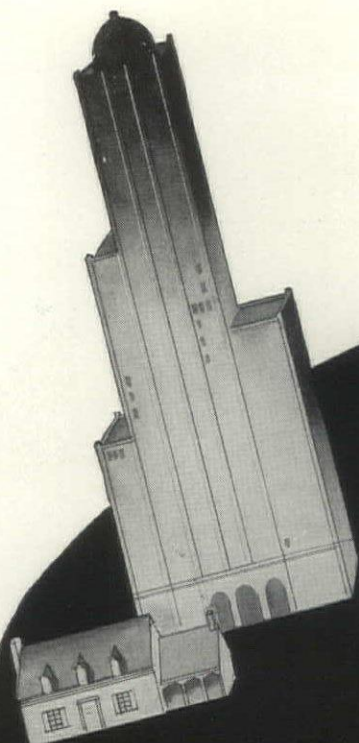
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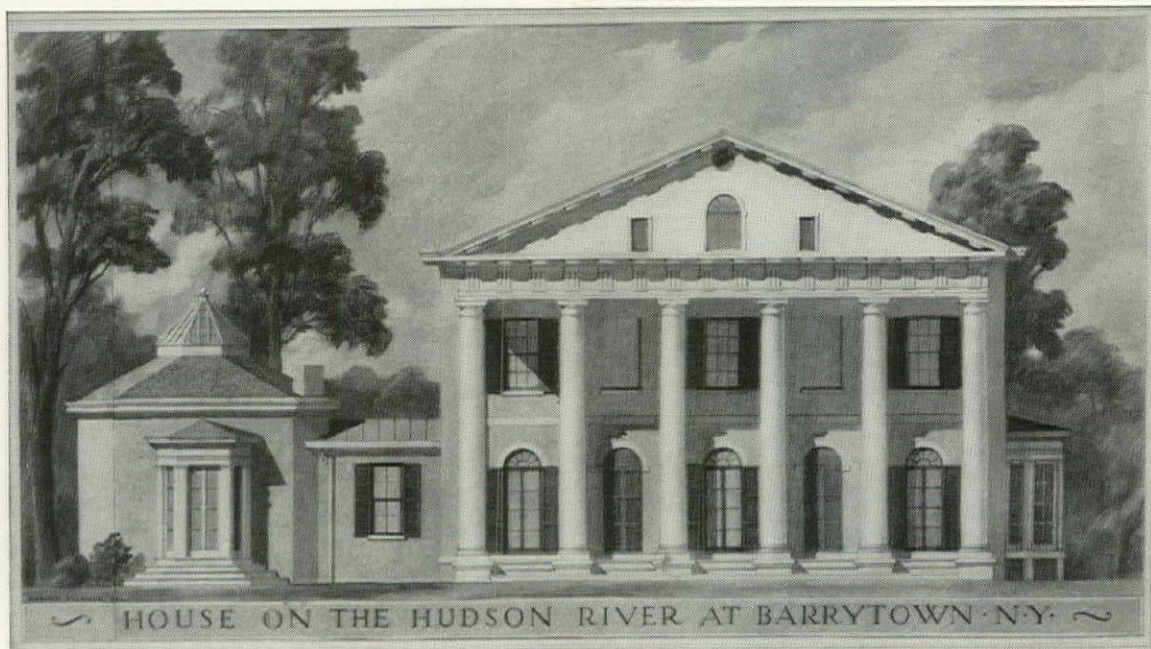
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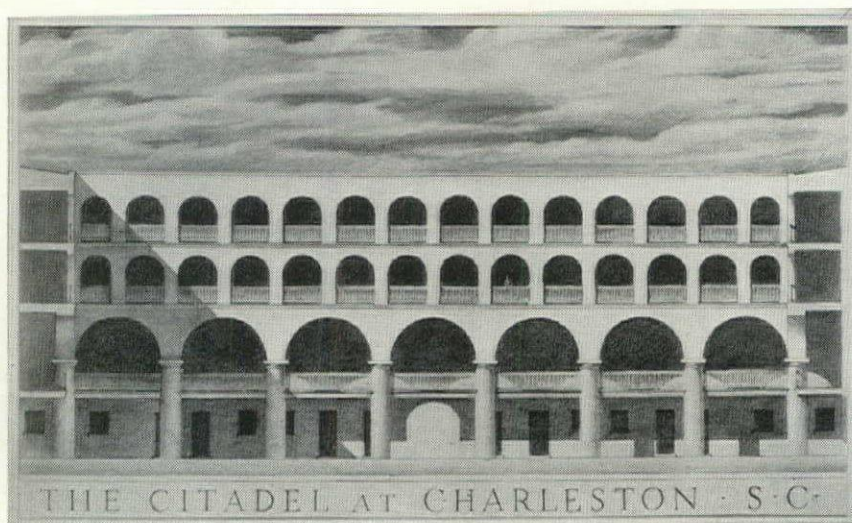
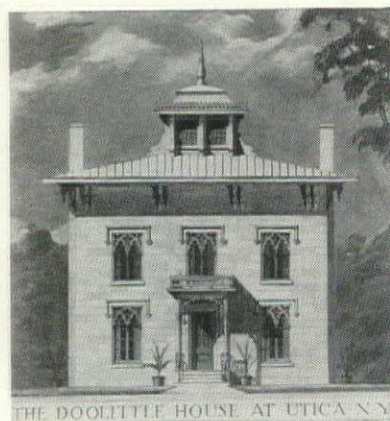
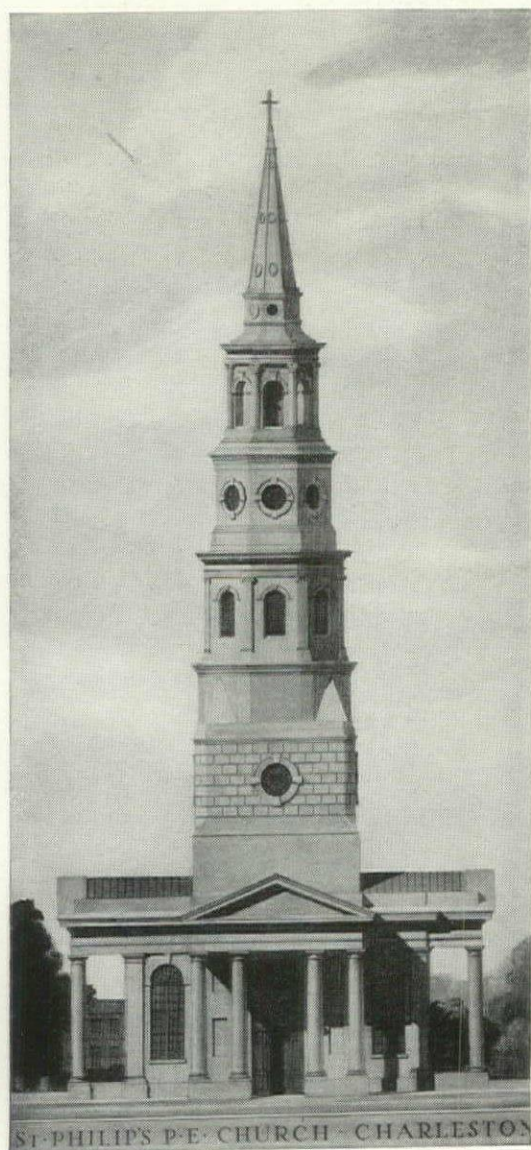
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FORUM OF EVENTS



ARCHITECT HAROLD STERNER revolts,

in a one man show, against both the conventional measured drawing and the free rendering. The former, usually in line, records facts but not the spirit. The latter essays an effect of drama and falls short of being a true record. Architectural engravings and lithographs of a century or more ago, combining the two purposes, prompted his efforts to record for future generations certain examples of American architecture which for one reason or another have been overlooked. This neglect is particularly marked in the work of 1800-1850, little of which is hallowed by time or historical significance. Harold Sterner was graduated from M. I. T. in 1917, worked in the offices of Delano & Aldrich; McKim, Mead & White; and Pennington & Lewis, and for the last eight years has practiced under his own name.





You are looking along the front, toward the entrance of MGM's large new studios in Culver City, Cal. Stucco, made with Atlas White cement, was used on entire exterior. Stucco supplied by California Stucco Co. Architect, Claude Beelman; General Contractor, George A. Fuller Co.; Plastering Contractor, Ed. Westberg—all of Los Angeles.



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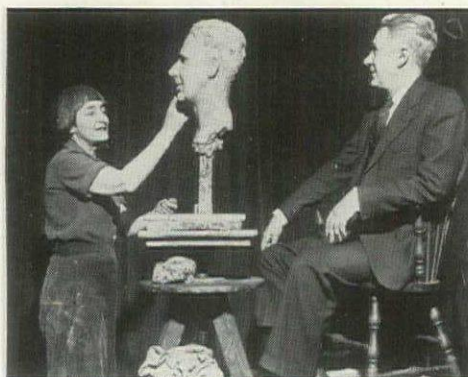
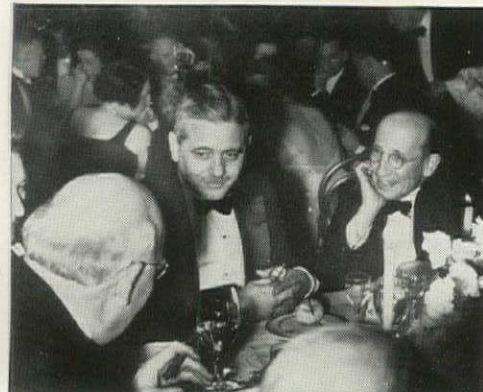
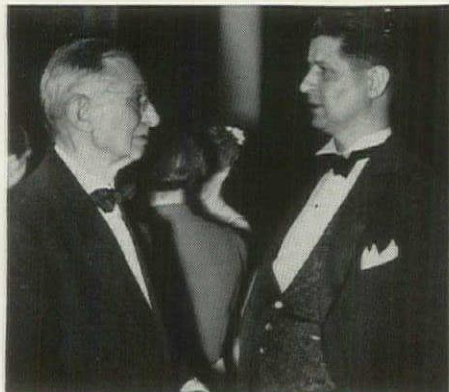
STUCCO
MADE WITH

Atlas White

PORTLAND
CEMENT

PITTSBURGH CHAPTER'S FIFTIETH ANNIVERSARY

On January 25 last the Pittsburgh Chapter, A.I.A. threw a party in honor of attaining the first and hardest fifty years. Below, l. to r., Edward Stotz, sole founding member present, and his son Charles M., the Chapter's incoming president. At table, Lawrence Wolf—outgoing president—Edwin Bergstrom, Mrs. C. M. Stotz, Charles T. Ingham. Visiting celebrities Frederick W. Garber of Cincinnati and C. Dana Loomis of Baltimore with Frederick Bigger. At right, a divertissement in tableau and song by Robert Schmertz featuring an approximation of Frank Lloyd Wright inviting all to Falling Water to be purified.



Wide World

Sculptor turns model. Before a freely commenting audience of her peers and peeresses at The Architectural League, Brenda Putnam modeled the head of Sculptor John Gregory. In 45 minutes the spectators called a halt, afraid that one more pat might spoil the perfect likeness.



John L. Coborn

Detroit's Hydeaway—The Michigan Society of Architects picked Hyde & Williams to design this 1940 edition of the model house given away at the annual Builders' Show; 50,000 Detroiters inspected it in January. Local industrialists collaborated to say the last word.

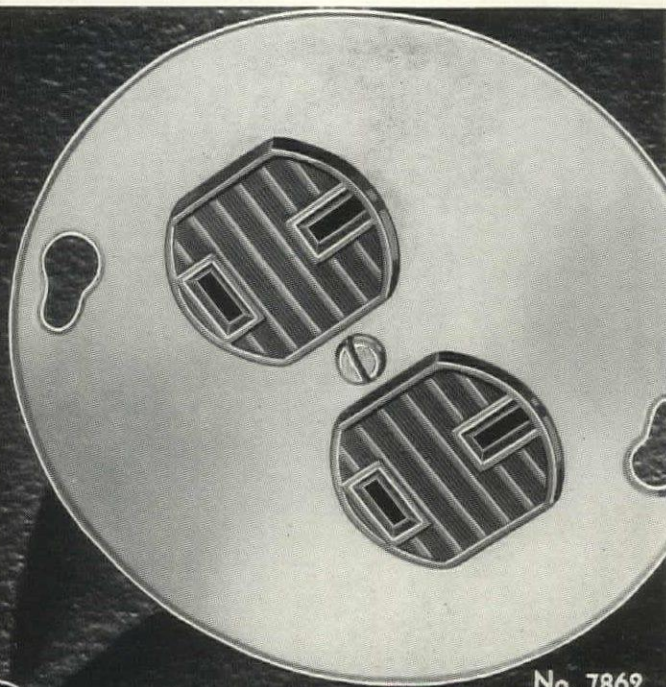


Sculpture in Steel—Robert Foster's unorthodox submission in a recent competition for an entrance bas-relief suited to the Associated Press Building in Rockefeller Center. See Foster's philosophy of contemporary sculpture on page 190.

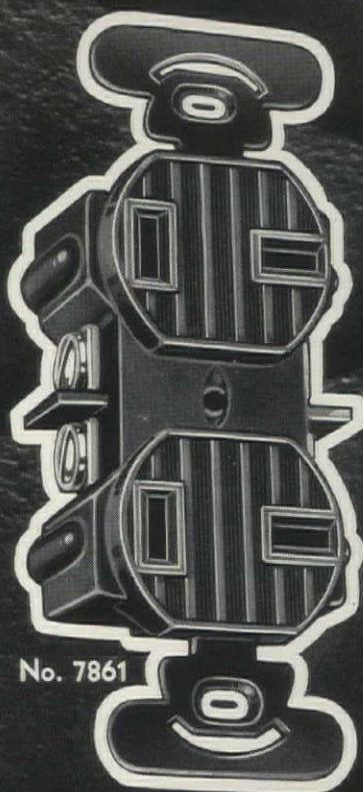
(Forum of Events continued on page 54)

New H & H

2 - Circuit RECEPTACLE



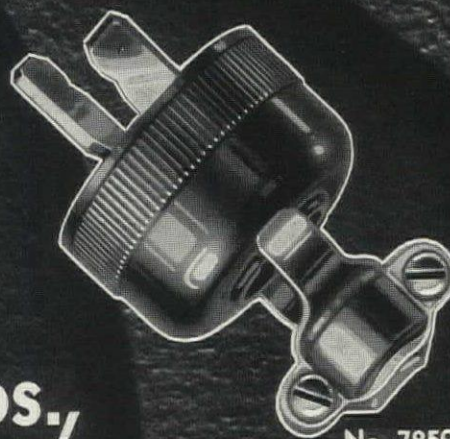
No. 7862



No. 7861



20 Amps.,
2-wire; 250 V.



No. 7859

Polarized DUPLEX RECEPTACLE

ARCHITECTS realize the demand for these new additions to the popular 20 Amp., 250 Volt Receptacle line. . . These 2-circuit types *divide* the load that may overload wires in single-circuit jobs under heavy duty.

Note divider plate in illustration above, which isolates and insulates the two halves of the Receptacle, giving 2-circuit connections to each. This type is now available both for flush and surface wiring. 4" Outlet Box Cover comes fitted to either the 2-circuit or single-circuit Receptacle. . . Specify as listed in table opposite.

Cat. No.	NEW 2-CIRCUIT RECEPTACLES	Std. Pkg.	Carton
7861	Duplex, brown Bakelite	30	10
7862	Duplex, 4" Outlet Box Cover	30	10
SINGLE-CIRCUIT RECEPTACLES			
7858	Duplex, brown Bakelite	30	10
7860	Duplex, 4" Outlet Box Cover	30	10
BAKELITE CAPS for above			
7859	Cord Grip, $\frac{9}{16}$ " (.562)	30	10

HART & HEGEMAN DIVISION
THE ARROW-HART & HEGEMAN ELECTRIC CO. HARTFORD, CONN.

There's a SERMON on PAINT in this HISTORIC CHURCH

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

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

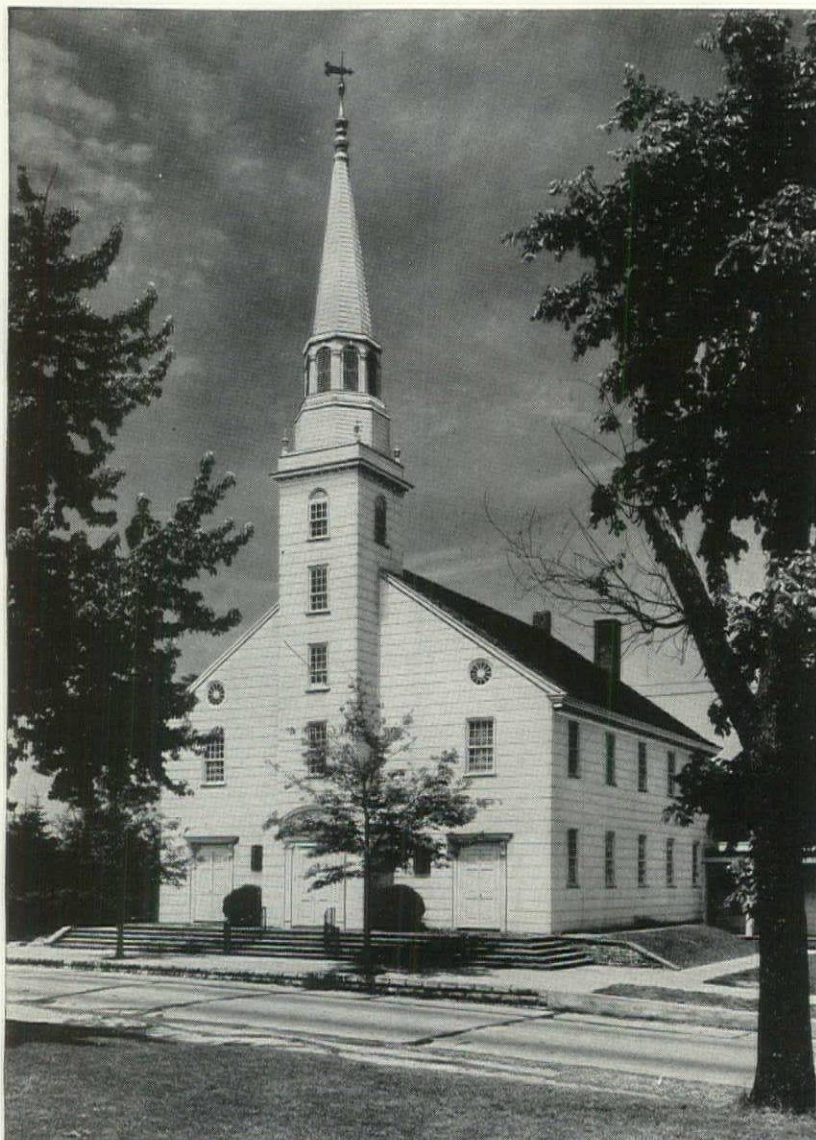
It's worth remembering that white lead — *made from the metal lead* — gives paint an elasticity and toughness which enables it to last for years without cracking and scaling.

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

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

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

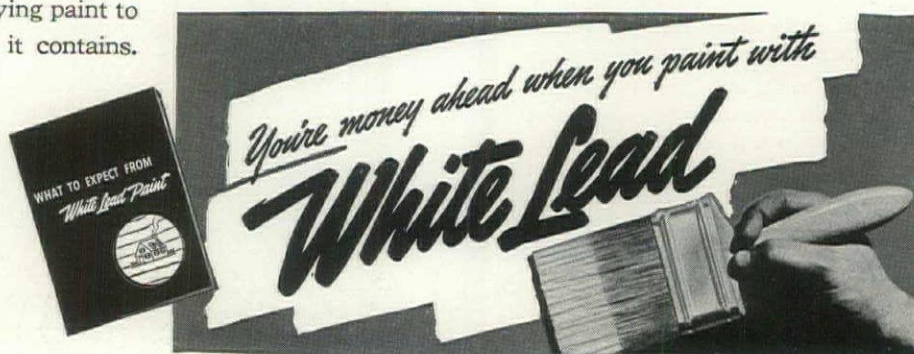
WHAT RANGE OF COLORS CAN YOU GET WITH WHITE LEAD? This is only one of many important paint questions you'll find fully answered in the valuable booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT." Send for your free copy today.

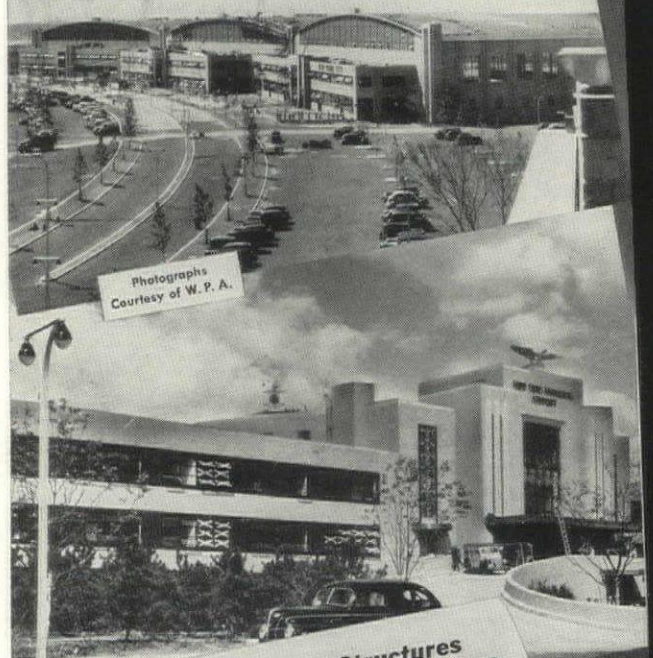
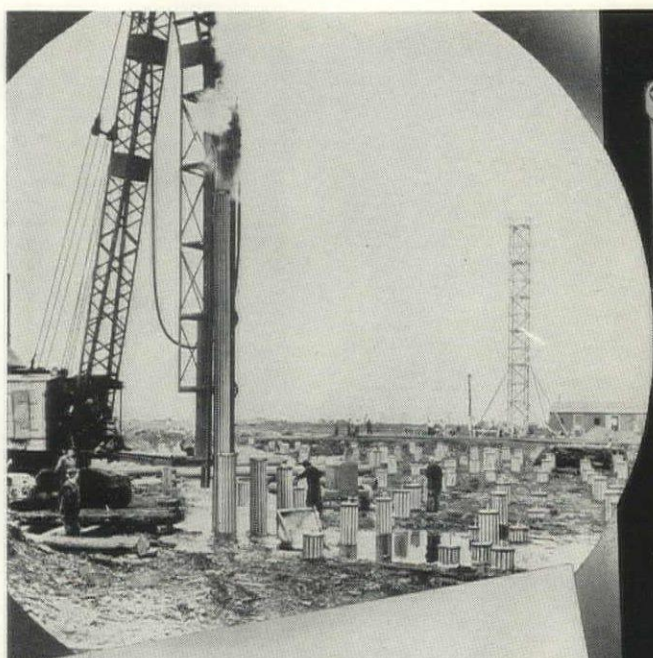


156 YEARS YOUNG—First Presbyterian Church, Huntington, Long Island, built in 1784 and protected since its erection by pure white lead paint.

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

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



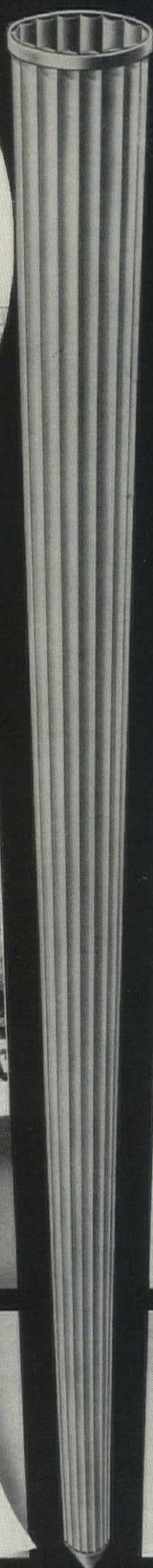


Photographs
Courtesy of W.P.A.

**Partial List of Structures
for which Tapered Monotubes
Were Specified in 1939**

Hangars and Administration Building,
North Beach Airport, New York City.
Municipal Auditorium, Zanesville, Ohio.
Sewage Disposal Plant, New Haven, Conn.
U. S. Navy Aeronautical Laboratory,
Philadelphia, Pa.
Incinerator, City of Pittsburgh, Pa.
State College Building, Lansing, Mich.
Paper Mill (Hollingsworth & Whitney),
Mobile, Ala.
Charity Hospital, Monroe, La.
Retail and Wholesale Market Bldgs.,
Kansas City, Mo.
National Orange Show Stadium,
San Bernardino, Calif.
Calvin Coolidge High School,
Washington, D. C.
Steam Plant (Northern States Power
Co.), La Crosse, Wis.
Federal Housing Project, Brooklyn, N.Y.

**UNION
METAL**



Speed Up FOUNDATION WORK WITH Safety

● Nothing goes up until the piling goes down. That's why Tapered Monotubes are used on jobs where a saving of hours and days mean much to owner, engineer and contractor.

Monotubes are time-savers because their light weight makes for easy handling; can be driven speedily without core or mandrel; are installed by any competent piling contractor using an ordinary crawler crane equipped with leads and standard steam hammer.

But with all these time-saving advantages, you are assured of a quality substructure that meets engineering requirements. Monotubes are readily inspected from top to toe after driving—give you steel-encased concrete piles possessing high load-supporting values.

There's a Monotube of a gauge, taper and length for every piling need. Competent engineers are available to help you. Write for Catalog No. 68A.

**THE
UNION METAL
MANUFACTURING CO.**
CANTON, OHIO

No need to swelter in sun-exposure rooms!

KOOLSHADE
screens out the Sun Heat
and keeps rooms
many degrees cooler!

Burning rays of Solar Heat go right through glass, making rooms into heat-traps—often unbearable to live or work in. KOOLSHADE remedies this by keeping the heat *outside*. It is a metal fabric that stops direct Sun-rays, reducing the Solar Load as much as 80% to 85%... kills glare... admits ample light with clear vision. KOOLSHADE Sun Screen works without adjustment; protects when you need it; doesn't work when sun warmth is welcome.

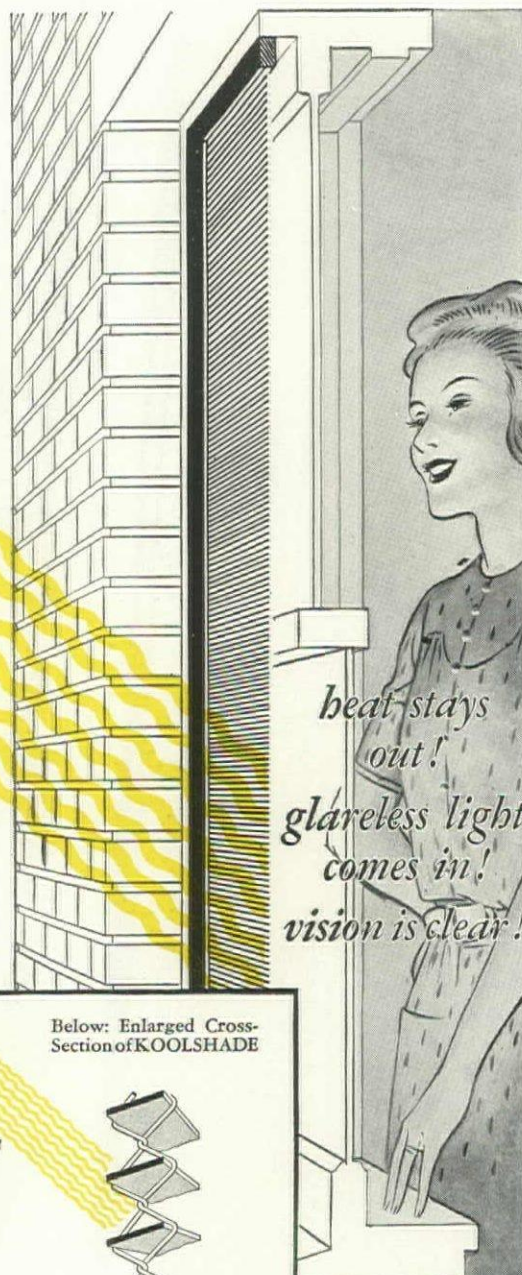
For Air Conditioned buildings, KOOLSHADE cuts operating costs and provides automatic shade that is safe to depend on. And for rooms that are not air-cooled, it gives the new summer comfort of SUN CONDITIONING at a cost so low it is easily available to all.



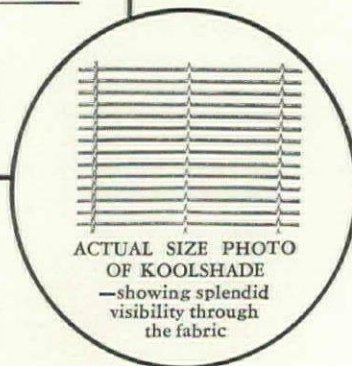
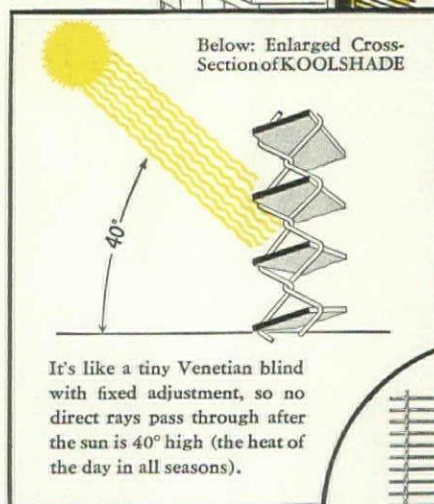
Framed and installed like screens—and keeps out insects too.

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Please send your SUN HEAT DEMONSTRATION KIT (without charge) and also complete KOOLSHADE Literature.

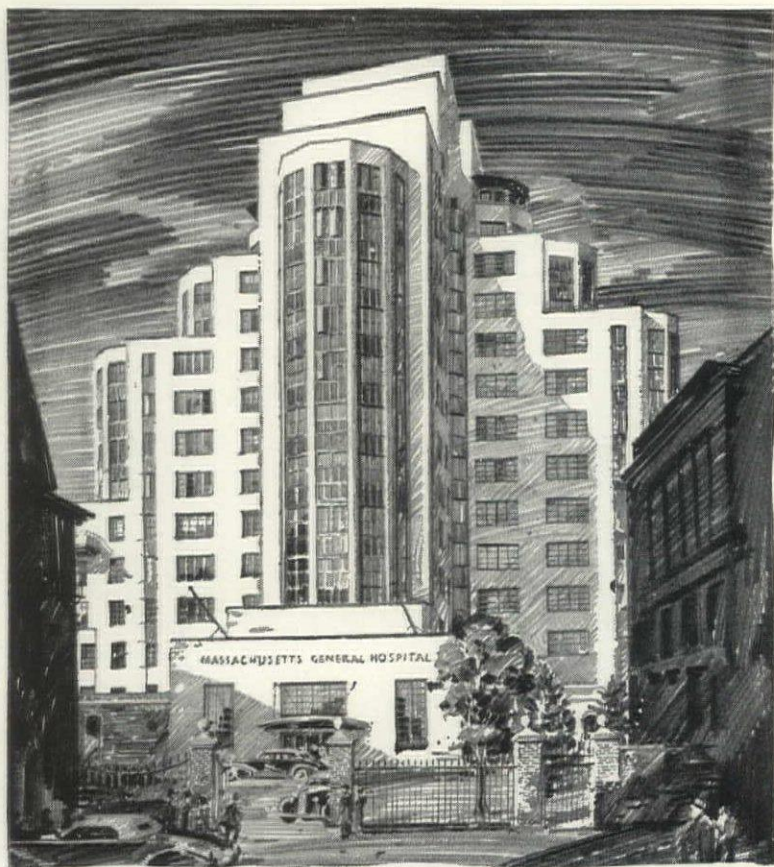
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For the Nation's Finest Buildings



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Extensive research facilities and a capable engineering staff were required to develop, test and perfect the design and advanced features of Herman Nelson Equipment.

The superior performance obtainable with these quality heating, ventilating and air conditioning products is the result of more than 30 years of able research and patient pioneering.

The same painstaking work that has resulted in so many major contributions to the heating, ventilating and air conditioning industry also makes possible the additional comfort, convenience and operating economy which can be obtained with Herman Nelson Products.

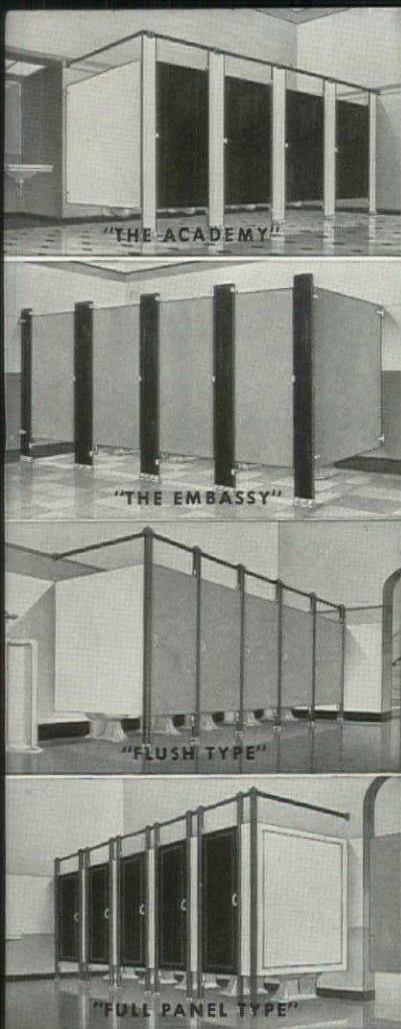


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MANUFACTURERS OF QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS

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Porcena
(porcelain enamel finish)
TOILET PARTITIONS

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

Sanymetal
OFFERS 5 TYPES OF
TOILET PARTITIONS
TO CHOOSE FROM

Dated Toilet Room Environments are a Negative Factor Wherever They Exist

Indirectly, they are a menace to health. They foster resentment, ill-will, critical comment. They are no advantage to anyone, and the temptation to delay in bringing these facilities up to present day standards for better living is contrary to the trend for effecting improvements in other conveniences.

Avoid *dated* toilet room environments as you would any other outmoded design or material. The influence of toilet partitions upon a toilet room environment can be so effectual that the primary function of toilet partitions often becomes secondary to the type, finish, and other features which help to emphasize the modernity and convenience of toilet facilities. Sanymetal offers five types of toilet partitions, each one particularly suitable for creating an appropriate environment in each type of building.

Each of these five types of Sanymetal Toilet Partitions embody sound, simple, and exclusive construction features that make for easier installation and assure faultless sanitary service throughout the years to come. These features represent 24 years of research and experience in making over 46,000 installations.

An installation of Sanymetal Toilet Partitions guards against obsolescence of toilet room environments. They encourage the modernization of present toilet rooms. An installation of Sanymetal Toilet Partitions promotes a higher standard of sanitation on the part of all classes who use the toilet facilities. The radiant cleanliness of these partitions inclines the most slovenly to the practice of orderliness and neatness. The "Porcena" (porcelain enamel) Finish available in the Normandie, Embassy and Academy Types provides a flint-hard, glass-smooth surface that is non-porous, absorbs no odors, resists the effects of ordinary acids, and is moisture-proof and rust-proof. "Porcena" (porcelain enamel) is but one of these finishes that are available. Each finish is described in Catalog No. 77.

Architects who are particularly sensitive to the need for improvements in toilet facilities have profited by suggesting to clients the modernization of such facilities. A talk with a Sanymetal representative will bring out many helpful suggestions for new toilet room environments and modernization of old ones. Consult him. Write for new Catalog No. 77.

THE SANYMETAL PRODUCTS COMPANY, INC. • 1687 URBANA ROAD • CLEVELAND, OHIO

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

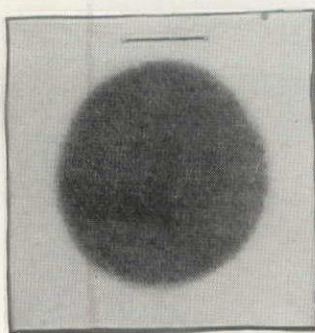
Craftsmanship
in Metal



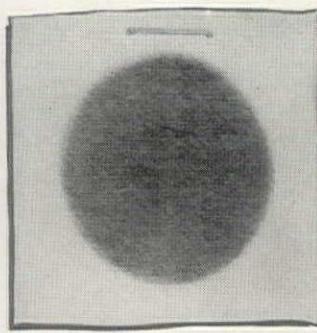
Sanymetal TOILET AND OFFICE PARTITIONS

PRECIPITRON*

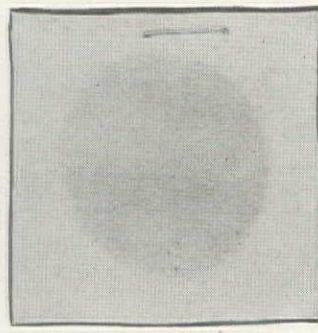
ELIMINATES THE DUST AND DIRT NUISANCE



Uncleaned air



Mechanically cleaned air



Precipitron cleaned air

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

REMOVES IMPURITIES AS SMALL AS 1/250,000 INCHES IN DIAMETER

Packed neatly and invisibly in the heating and ventilating ducts of scores of modern buildings, Westinghouse electrostatic air cleaner—"The Precipitron"—is now a valued Silent Servant protecting building interiors.

IN OFFICE BUILDINGS—it is protecting valuable documents and records . . . reducing cleaning and redecorating costs . . . providing more healthful working conditions;

IN HOSPITALS—Precipitron is delivering dirt-free air to operating rooms . . . purifying air in recovery wards;

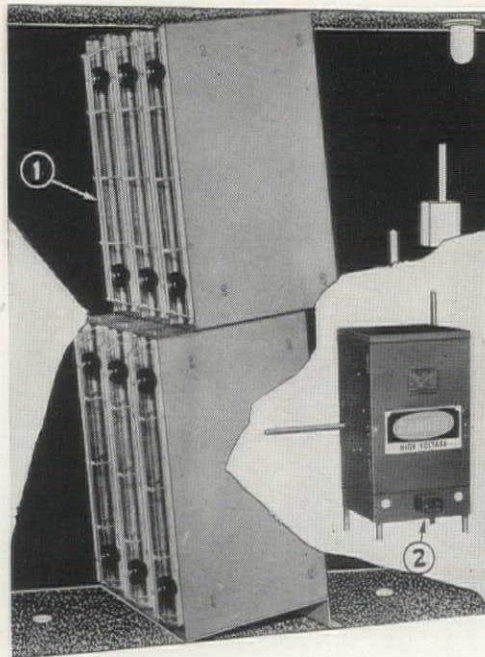
IN STORES—Precipitron is protecting counter merchandise and specialty items from dirt and dust soilage;

IN TEXTILE MILLS—It is cleaning the air and eliminating lint and dust in spinning rooms;

IN STEEL MILLS—it is safeguarding main drive motors and motor generator sets by providing cleaned air . . . and eliminating the smoke nuisance in scarfing operations.

These are but a few typical examples of where Precipitron is now being used to successfully solve air-borne dust and dirt problems. If you have such a DIRT problem, if air-borne impurities constitute a nuisance in your buildings or those you are planning, by all means find out the extra protection Precipitron provides.

*Trade Mark Registered in U. S. A.



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

Westinghouse Electric & Mfg. Co.
Precipitron Department
Edgewater Park Cleveland, Ohio

Westinghouse Precipitron





In factory
production April
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New Freedom WITH . . .

Development of Andersen's New Horizontal Sliding Window has been under way for the past five years. One actual residential installation has been in use for four years with highly satisfactory results. The Andersen Horizontal Sliding Window is covered by U. S. Patent No. 2,144,782, Jan. 24th, 1939. Other patents are pending.

ANSWERS YOUR DEMAND FOR MODERATE COST LARGE WINDOWS OF TRADITIONAL ANDERSEN QUALITY

Here's our answer to your demand for larger window openings . . . a Horizontal Sliding Window that takes the lid right off of sizes and gives a freedom in fenestration never before known in the design of complete wood window units. No longer must windows be confined to sizes that can be counterbalanced or hung on hinges. With Andersen's Horizontal Sliding Window you can give free rein to window design for here is a window unit with openings up to 5 feet 8 inches wide and 5 feet 6 inches high.

Some of the nation's leading architects, called in consultation by our engineering department, acclaimed the Horizontal Sliding Window as the ideal answer to fenestration in modern homes. But this New Horizontal Sliding Window is ideal for homes of con-

ventional architecture, too, for it is available in a wide range of sizes and styles. It affords the beauty of a casement and the practicality of a double hung.

And best of all, the cost in conventional sizes is about the same as a good weatherstripped double hung window. In the larger openings where a single pair of these sash replace conventional mullions and multiple units, the saving with this new unit is very substantial. You'll like the versatility of this Horizontal Sliding Window. You'll like to work with it. You'll like the traditional Andersen quality of design and construction that means a LIFETIME of window comfort for your clients. Available in horizontal divisions or conventional divisions.

THE NEW ANDERSEN

For **APRIL**

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

THE ARCHITECTURAL
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APRIL 1940

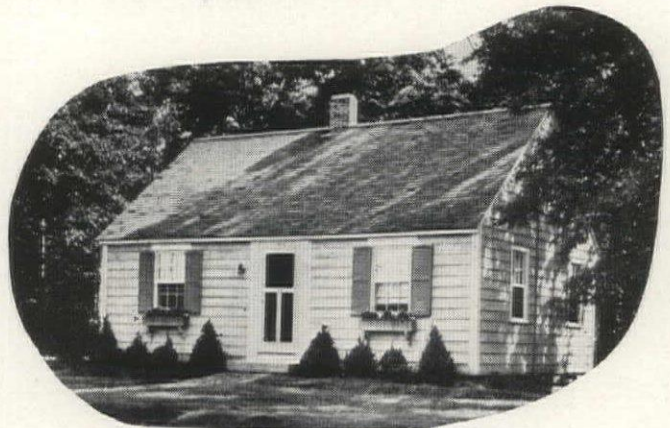
announces its

11th

REFERENCE NUMBER

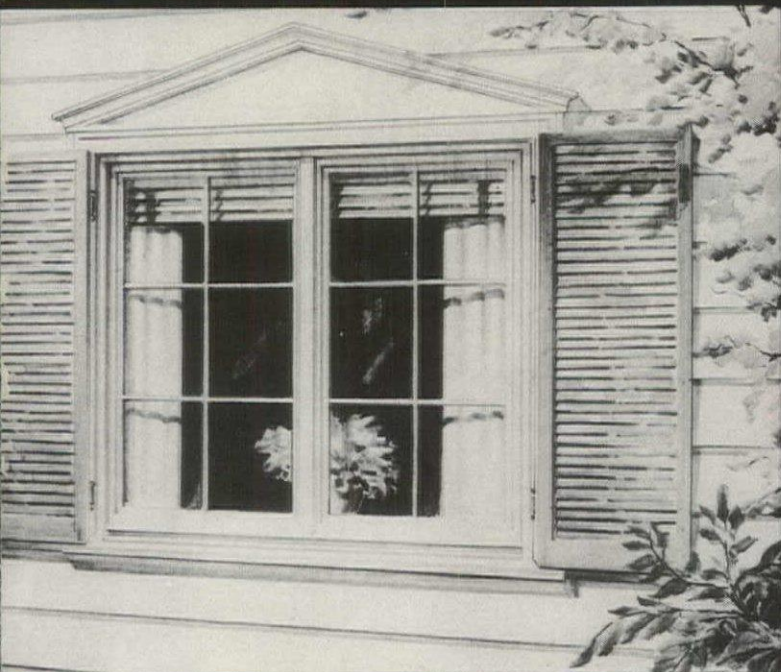
on today's
most challenging
problem and opportunity

... the **SMALL HOUSE**



Installation

SLIDING WINDOW



PLAN DETAIL—CLOSED



PLAN DETAIL—OPEN



FOOLPROOF OPERATING SIMPLICITY

Simple foolproof operation—nothing like it. Closed: sash and frame in the same plane. Open: sash slides into an inner track so that the sash pass each other simply ride on two steel tracks and are guided by two rollers in the head track. Not a thing to worry about. The Andersen Horizontal Sliding Window includes frame, sash and double "A" glass bedded in putty, weatherstripping, outside wood frame and mesh bronze wire, inside

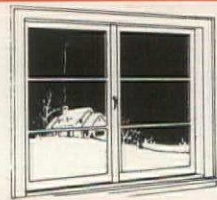
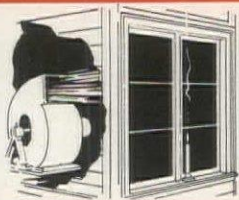
stops, outside double glazing and complete hardware. All wood parts treated against termites and decay, according to the highest industry standards. Frame has wide blind stop construction head and sill windbreaks, and famous Andersen Leakproof Locked Sill Joint. The three-way operating handle and lock not only locks the sash at head, sill and center, but also completely closes the sash so that the efficient Metalane Weatherstripping makes positive and complete contact between sash and frame when closed.



INSTALLED IN A JIFFY LIKE THIS
Nail wide blind stop and wind breaks to studs and plates. Screw head and sill tracks in place.



Set sash in head and sill tracks. Apply inside stops—you're through. So simple, it's unbelievable.



LABORATORY TESTS PROVE WEATHERTIGHTNESS

Tests made by a well known laboratory show less air infiltration than a good weatherstripped double hung.

Tests in still air—20° below outside, 70° above inside—humidity 30%, showed no condensation between glass.



SASH COME OUT LIKE THIS

Open right hand sash. Grasp it at side rails. Lift up and take out. So simple it's unbelievable.

Open left hand sash. Grasp it at side rails. Lift up and take out. Makes cleaning extra easy.



OUTSIDE DOUBLE GLAZING COMES OFF LIKE THIS

Lift out sash as above. Give fasteners on double glazing a half turn with screw driver.

Lift outside double glazing off. So simple it's unbelievable. We recommend leaving double glazing on year around.

DETAILS FOR YOUR A.I.A. FILE

Andersen Corporation
Dept. 30-PF
Bayport, Minnesota

Please send, without obligation, details of your new Horizontal Sliding Window for our A. I. A. files.

Name.....

Address.....

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

WINDOW

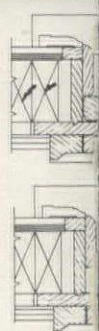
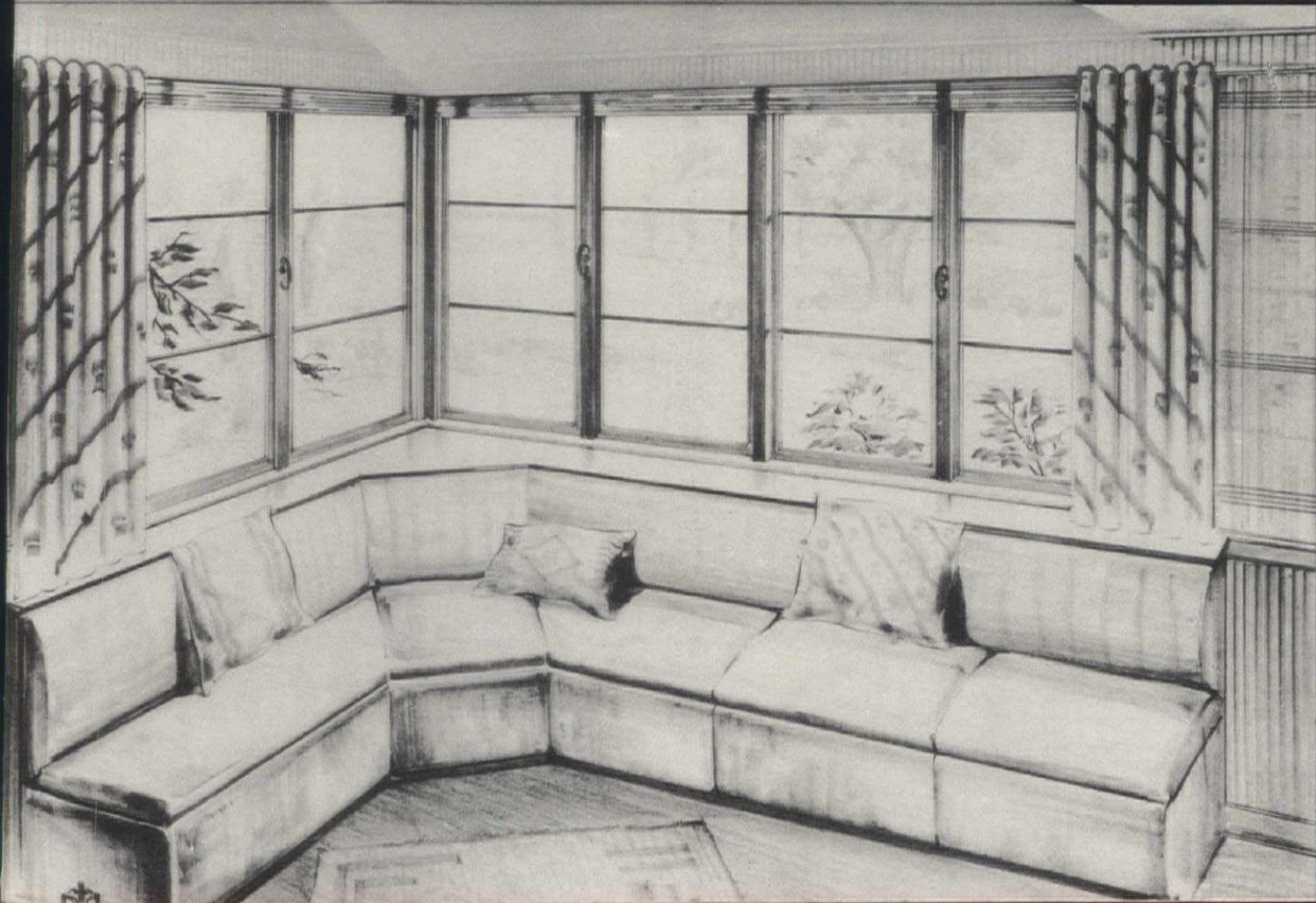
ANDERSEN CORPORATION
BAYPORT, MINNESOTA

NEVER BEFORE
...a Window like this!

in Modern Fe **ANDERSEN'S HORIZONTAL**

So Simple IT'S
UNBELIEVABLE

Revolutionary IN
DESIGN AND PRINCIPLE



FOO

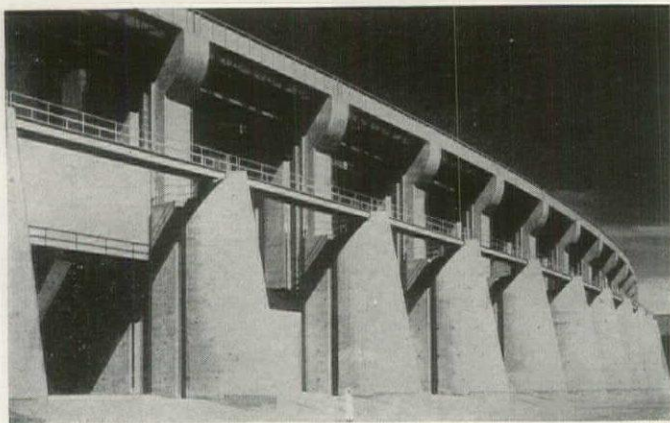
Talk about simple
you've never seen
the sash are in line
the right-hand
head and sill track
other. The sash
glides in the sill
steel guides in the
that can wear
zontal Sliding Window
glazed with Graceland
complete weatherstripping
screen with 18

HORIZONTAL SLIDING W

BOOKS

Public Buildings. . . . A comprehensive housing survey. . . .

Painting. . . . New York landmarks. . . . City planning. . . . Materials. . . . Structural design.



Fort Peck Dam

PUBLIC BUILDINGS, by C. W. Short and R. Stanley-Brown. U. S. Government Printing Office, 688 pp., illustrated. 9 x 12. \$2.50.

To date the Public Works Administration can show some 26,000 structures of one kind or another, all built between 1933 and 1939. Of these this book presents 620, selected by the authors as the best examples of the many types of buildings constructed. Almost every kind of public building is included: courthouses, jails, dams, hangars, post offices and a host of others. Each example is briefly but quite adequately illustrated with photographs and plans, and the main features are noted in the accompanying text. There is probably no book in existence which covers the full range of American public building in a remotely comparable manner.

It has already been noted that PWA put its best foot forward in the selection of material for publication, and with this in mind the reader of this valuable document should be prepared for a shock. Here, on page after page, are the buildings that graced the pages of the magazines twenty years ago: public libraries straight out of the golden age of Carrere and Hastings; Spanish Colonial that even the jerry-builders now hesitate to foist upon their customers; the indecisive "English" confections once considered appropriate for anything from sewage plants to college dormitories; the tired ghost of early Modernistic, now revived for jails and air terminals.

Interlarded with this "architecture" there are some really excellent buildings. The dams and bridges are superb; the post offices as a whole are well designed; there are a half dozen splendid schools and some very good work is to be found in the other categories as well.

The depressing lack of quality evidenced in this book can hardly be laid at the door of PWA, as a similar compendium of private work would undoubtedly show up no better. The trouble seems to lie in the low standards of design which prevail all over the country. It is not a question at all of modern versus traditional, as competent design is quite as apparent in one idiom as the other. The situation seems unnecessary as well as unfortunate, since our best work will bear comparison with that done anywhere.

For some reason the authors have not included the names of the architects or engineers responsible for the projects, and we have one of the largest collections of anonymous architecture ever published, as a result. Whatever the cause, the omission is inexcusable in an otherwise useful document.

AMERICA BUILDS, by The Public Works Administration. U. S. Government Printing Office. 298 pp., illustrated. 6½ x 9½. 70 cents.

This is the complete account of PWA's activities, and as such it forms a companion volume to the book reviewed above. It covers the entire list of projects, and the expenditure of about six billion dollars. There are two main sections, the first dealing with PWA's legal and historical background and operating framework, the second with actual projects arranged according to type. Many of the case histories, such as the story of Brownsville, a Texas prairie town turned into a port for ocean-going ships, make excellent reading. There is an appendix with maps showing the distribution of various types of projects, and about twenty statistical summaries.

HOMES—Front line of Defense for American Life, a special number of *Survey Graphic*, edited by Albert Mayer. Survey Associates, Inc., New York, N. Y. 90 pp., illustrated. 9 x 12. 40 cents.

As a magazine devoted to interpretation of the social arts and sciences, *Survey Graphic* has concerned itself with housing longer than any other non-technical publication. Its current issue is a worthy addition to a series of special housing numbers dating back as far as the May, 1925 issue on regional planning. And, as evidence of the depth and breadth which the housing "movement" has acquired in the interim, it is called not Housing but Homes. For the social worker, sociologist, and teacher who are regular *Survey Graphic* readers, it is a broad-gauge introduction to the complex of economics, technology, and politics which makes up the housing problem. For the architect, planner, or real estate man, it should prove a valuable working manual—not only for the job of meeting the needs of the ill-housed third of the population, but for other income groups as well.

Included are a host of articles of exceptional scope. Beginning with data on the cost of slums, taxes, the need for homes, and present and future housing standards, the reader is led through the maze of prefabrication, Thurman Arnold's trust-busting campaign, housing politics and law, onto the broad plateau of the back-to-the-land movement, conservation, regional and national planning, by such able guides as Raymond V. Parsons, Edith Elmer Wood, Ira S. Robbins, and Lewis Mumford. The approach throughout is general—each of the writers refuses to be confined by what are commonly thought of as the proper boundaries of housing thought, refuses to think only in terms of the underprivileged. It is to this approach to housing as a whole that the issue owes its chief significance. Its importance is shown by Catherine Bauer's and Jacob Crane's comment on the contention that government low rent housing is "too good." Contrasting the typical USHA project with the adjoining product of private enterprise—slum or middle class—and pointing out the better planning, sunlight, ventilation, outlook, and even equipment likely to be found in the former, they conclude:

"What is the answer? Is it simply that one is extravagant and the other economical? It would certainly not be difficult to believe so. And yet, if true, it is probably the other way around: the new project is generally more economical than the dreary speculative area adjacent, designed and built on the pitifully small scale of the 25 or 40 ft. lot rather than a whole community of living. . . . It isn't that public housing is too good; most private housing just isn't good enough."

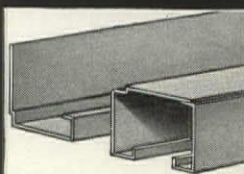
(Continued on page 66)

Brandt Motor Company
Steubenville, Ohio
Architect:
Fred B. Clark
Steubenville, Ohio



Economical to Build AS WELL AS TO MAINTAIN

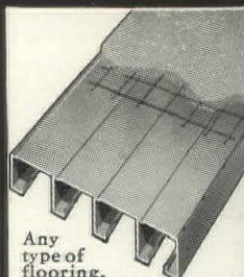
Substantial savings in construction costs result when architects specify Wheeling Long-Span Steel Floor and Roof System. The pre-fabricated Long Span steel joists can be welded quickly into a rigid fireproof deck that is immediately available for the storage of supplies of steamfitters, masons, electricians and other trades. Six men can erect and complete approximately 1000 square feet of Long-Span Steel Floor and Roof System in an hour. Combining great strength with light weight and available in any length up to 22 feet, Wheeling Long-Span joists require no bridging, no intermediate reinforcement between girders, and permit a lighter, lower cost steel superstructure. Write for literature today.



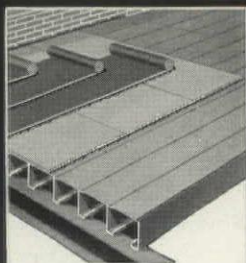
Wheeling LONG-SPAN joists are pre-fabricated for the job, from 12, 14 or 16 gauge Cop-R-Loy, and are 4 inches, 5 inches, 6 inches, or 8 inches deep and up to 22 feet long.



Each Wheeling LONG-SPAN joist has on its top flange a shelf 1½ inches wide, to which the top flange of the adjoining joist is welded to form a rigid fireproof deck.



Any type of flooring, wood, tile, block or concrete as shown here can be easily applied to the surface of a Long-Span deck.



The finished Long-Span roof deck provides a perfect fireproof, warp-proof base for any type of built-up roofing.

WHEELING CORRUGATING COMPANY

General Offices: WHEELING, WEST VIRGINIA

OFFICES IN PRINCIPAL CITIES

Listen to the Mill Whistle! Every Sunday, 5 PM—EST—the Musical Steelmakers—coast to coast Mutual Broadcasting System.



LONG-SPAN

STEEL FLOOR AND ROOF SYSTEM

Interiors are both *Beautiful* and Puncture-Proof when you specify **PLYWALL** DOUGLAS FIR PLYWOOD WALLBOARD



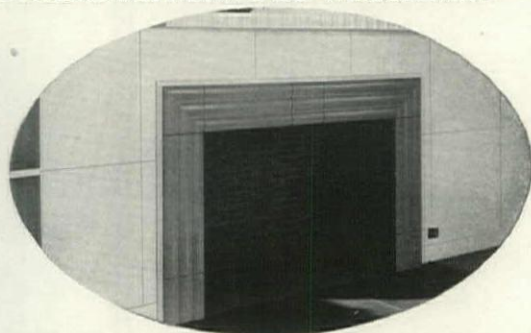
NATURAL OR STAIN Plywall is particularly suited to finishes that tend to subdue rather than emphasize the grain contrast. This bedroom designed by Schweiker and Lamb, Chicago, is a very good example of natural finishing.

Plywall insulates, acts as a vapor barrier, adds rigidity and absorbs sound!

●Plywall is one of the most popular grades of Douglas Fir Plywood. It is *real-lumber* wallboard with advantages of large size, satin smoothness and natural wood grain. It builds air-tight, dust-proof walls and ceilings. It deadens and absorbs sound. With 2 coats of asphalt paint on the back, it becomes one of the most effective vapor barriers known. It adds strength and rigidity to any structure—is *puncture-proof*. It eliminates the bother and mess of plaster—yet can be finished any way desired—natural, stain, paint, enamel, wallpaper.

Plywall is made in strict accordance with U. S. Commercial Standard CS45-38 in one standard width, 48"; in lengths of 60", 72", 84" and 96"; and in thicknesses of 1/4", 3/8" and 1/2". Dealers everywhere handle it.

For further information, consult Sweet's Catalog or write for any of this free literature: Suggested Specifications for Douglas Fir Plywood, Commercial Standard CS45-38, the new DFP Dri-Bilt Manual or Finishing Booklet. Douglas Fir Plywood Association, Tacoma Building, Tacoma, Washington.



PAINT This interesting wall treatment by Glenn Stanton, Portland, Ore., shows how very receptive Plywall is to paint. When a smooth, jointless wall is desired, apply canvas or muslin over the Plywall before painting or enameling.



WALLPAPER A perfect wallpaper job is easy over Plywall because Plywall doesn't crack. Apply 3/4-lb. deadening felt over Plywall before papering.



GRADE-MARKED

The square stamp at left appears on the back of every genuine Plywall panel. It simplifies specification and identification. Look for it. Insist on it.



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

PLYWALL D.F.P.A.

EXT.-D.F.P.A.





Home of R. R. Curry, Butler, Pa. Complete roof-drainage system of ARMCO Stainless Steel. Architect, M. R. McMillen, Butler.

5 FACTS YOU SHOULD KNOW ABOUT "STAINLESS" ROOF DRAINAGE

1. It is at least twice as strong as other metals used in roof-drainage systems.
2. It is rustless and highly resistant to abrasion.
3. It is neutral and attractive in tone and will blend with any color scheme; it also can be easily painted if desired.
4. It is easily workable. Any sheet metal contractor can readily shape the recommended 28-gage ARMCO Stainless Steel.
5. The material cost of stainless steel compares favorably with other high-grade metals; the labor cost is no more.

FOR NEW HOMES— A NEW METAL!

• More than anything else, you want the house you design to be permanent. You have made it livable and attractive, and naturally you want to give its owners lifetime satisfaction and low up-keep costs.

This is why you will be interested in ARMCO Stainless Steel for roof drainage. Here is a new and better metal for an old use, good to look at, amply strong, and a permanent part of the house. . . . One architect writes, "I am very much pleased with the effect accomplished with stainless steel gutters and downspouts, and I will use them again whenever the design permits."

Read the condensed facts about ARMCO Stainless Steel for roof drainage at the left. Then write us for information on costs and distribution sources. We shall be glad to work with you toward installations that you and your clients will be proud of. The American Rolling Mill Company, 551 Curtis Street, Middletown, Ohio.



ARMCO

STAINLESS STEEL

A New Metal for an Old Use



**ASK YOUR
ARCHITECT OR
CONTRACTOR ABOUT
this Marvelous New
COMFORT HEATING**

If you are building a home here is exciting news! Never before has there been available a genuine remedy for ups-and-downs in room temperature. Now Hoffman Hot Water Controlled Heat, a marvelously accurate new control system, positively ends over and under heating.

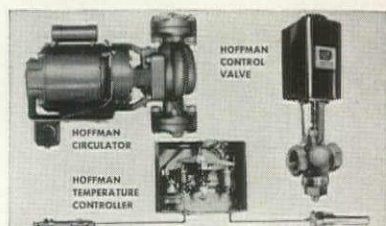


**STOP
ALTERNATE
FREEZING AND
ROASTING
WITH
AMAZING NEW
CONTROLS**

This system maintains a continuous circulation of heated water to the radiators. Balanced, Dual Controls, actuated by outdoor as well as circulating water temperatures, measure out hot water from the boiler so accurately that radiators are always just hot enough! Your home is thus kept at an even, constant temperature throughout the heating season.

**CHEAPER DOMESTIC
HOT WATER**

A Hoffman-controlled heating system is ideal for the addition of an Indirect Water Heater, which furnishes year 'round hot water at unbelievably low cost.



ADAPTABLE TO NEW OR OLD SYSTEMS
Any type of oil, gas or stoker-fired hot water system can be equipped with Hoffman Controls. So whether you are building or modernizing send the coupon for full information.

**HOFFMAN
Hot Water
CONTROLLED HEAT**

Shown above are two National ads from Hoffman's 1940 program in American Home, Better Homes & Gardens, House and Garden, The Saturday Evening Post, etc.

To 1940 Builders

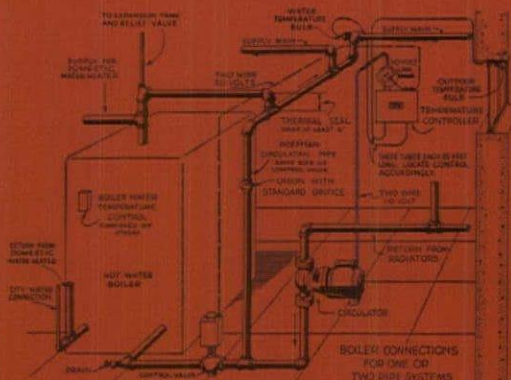
**HOFFMAN ADVERTISING
BRINGS THIS GOOD NEWS-**

*"uneven heating is now a
relic of the past!"*

Hoffman Hot Water Controlled Heat is the heating system with sensational appeal to the home builder's urge for comfort...and economy. It offers Radiant Heat with a control of temperature never before available! It is the obvious selection for the more pretentious house, yet the small home is not barred by cost.

This dual-controlled system permits zoning of apartments, institutions, residences and factories, thereby assuring a distribution of heat in direct relation to either personal temperature preference or to the functional activities of the building. Economy of operation is thus a foregone conclusion.

By all means consider the advantages of this new method of heat control before you specify or install another system. Complete design data sent on request. Hoffman Specialty Co., Inc., Dept. AF-3, Waterbury, Conn.



Equipment consists of a Hoffman Circulator, Hoffman Control Valve and Hoffman Temperature Controller. Water is continuously circulated through the system, with its temperature kept in constant balance with the need for heat.

**HOFFMAN
Hot Water
CONTROLLED HEAT**

*By the makers of Hoffman Valves,
Traps and Pumps... sold everywhere
by leading Wholesalers of Heating
and Plumbing Equipment.*



THIS UTTERLY DIFFERENT KIND
OF HOT WATER SYSTEM
GIVES UNIFORM HEAT
... MARVELOUS COMFORT



**FOR YOUR NEW HOME
*ask your Architect or
Contractor about this*
DUAL-CONTROLLED
HEATING SYSTEM**



Hot Water Heating can now be a source of more comfort than you ever dreamed possible. A revolutionary new kind of control system, called Hoffman Hot Water Controlled Heat, positively assures you of an even, comfortable home temperature from Fall to Spring.



Temperature just right
for comfort

The operating units of this system maintain a continuous circulation of hot water to the radiators. Temperature of the circulating water is regulated by a set of dual controls to the exact degree required to keep your home at a constant temperature in any kind of weather. Radiators are never too hot—never too cold.

Any type of oil, gas or stoker-fired hot water system can be equipped with Hoffman Controls. Whether you are building or modernizing, get all the facts first on this comfort-economy system.

Low Cost Domestic Hot Water

Including an Indirect Water Heater with Hoffman Hot Water Controlled Heat Equipment will give you year around domestic hot water, at unbelievably low cost.



ALL THE HOT
WATER YOU
WANT...SUMMER
AND WINTER

**HOFFMAN
Hot Water
CONTROLLED HEAT**

BRUCE *STREAMLINE* **FLOOR**
 (FACTORY-FINISHED)

JUST THINK, JIM, THIS
 NEW BRUCE STREAMLINE
 FLOOR WON'T SCRATCH
 LIKE ORDINARY FLOORS!

YES, WHEN THE
 ARCHITECT TOLD ME THE
 FINISH WAS IN THE WOOD TO
 STAY, THAT SOLD ME!

New Flooring Idea

THE FINISH IS PART OF THE WOOD
STAYS BEAUTIFUL...RESISTS SCRATCHES!

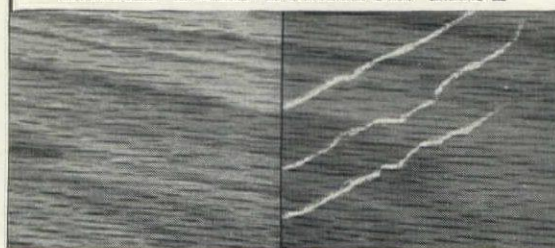
● Now, you can specify a beautiful new kind of flooring . . . factory-finished an amazing new way that penetrates the pores of the wood. Forms a tough lustrous, wear-resisting finish that won't scratch, chip or peel like flooring finished on the job by ordinary methods. Yet it usually costs less than ordinary flooring.

And just think, this new floor is ready for use the instant it's laid, because there's no sanding, finishing or polishing to do. This means

the anxious owner can move into his new home several days earlier.

This beautiful new flooring is called "STREAMLINE" because of the distinctive "patterned" effect of the gracefully beveled ends and edges. Available in Oak, Maple and Beech in several shades and grades: 25/32 inch thick with 3/4 inch face. Installed exactly like ordinary strip flooring. Mail the coupon today for complete details of the greatest flooring improvement of a decade!

MAKE THIS SCRATCH TEST



"BRUCE-WAY"

SURFACE FINISH

Send for this scratch test panel. Half is finished the new "Bruce-Way" used on STREAMLINE flooring—other half finished the ordinary surface way. Scrape a coin across both finishes. See how the ordinary surface finish scratches and chips away, while the "Bruce-Way" finish is unharmed.

E. L. BRUCE CO.

1540 Thomas Street, Memphis, Tenn.

Gentlemen: Please send fully illustrated literature telling about the new Bruce factory-finished STREAMLINE flooring, and a Scratch Test Panel.

Name.....

Street.....

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



E. L. BRUCE CO.

1540 THOMAS STREET

MEMPHIS, TENN.

WORLD'S LARGEST MAKERS OF HARDWOOD FLOORINGS

LETTERS

To Socialism

Forum:

... Of the projects completed to date, how many are serving the people they were intended to serve? For example, a part of one Atlanta project is occupied as a dormitory by Georgia Tech students. Another part houses young married couples who never did live in slums. The income limitation is so easily evaded or avoided and the decision rests with a local administrator, politically appointed. ...

... You admit that USHA cannot conceivably solve the whole housing project. In fact, even with the proposed plan, only \$73 million out of a possible \$1.5 billion will be covered, or about 5 per cent. You say on page 5 that "USHA can point the way." Setting up an impossible standard is not only not "pointing the way" but it is putting a handicap on private industry by the same "yardstick" methods used by TVA. Tenants of private landlords will be disgruntled because they cannot have the same low rents offered by USHA. "If the government does it, you ought to be able to do it." One more step toward Socialism. ...

... Over the radio the other day I heard a government employee lauding these USHA projects because of their high rating as to crime, etc. Of course, they will have high rating for the administrator will naturally pick the best, and the criminally inclined will continue to live in the 95 per cent of slums remaining, still further lowering their rating.

Am afraid I shall have to put you down as one more agent of a pressure group. Instead of looking for ways to cut government expenses and avoid bankruptcy, all you do is ask for more on the grounds that it isn't as much as someone else is asking for. ...

C. S. REED, *Engineer*

Atlanta Housing Authority Chairman Palmer states: "When PWA built the 33 buildings of Techwood in 1934, the one adjoining the campus was designed as a dormitory and houses approximately 300 Tech students exclusively. It is an entirely separate entity leased and managed by the university itself. The balance of the project houses approximately 2,000 people and is the only part which the Atlanta Housing Authority will take over from USHA because the dormitory will continue under lease to Georgia Tech. This is the only instance in which Tech students are housed in USHA housing projects, and the present law prohibits such accommodations." There is something in Reader Reed's

From a deluge of letters commenting on THE FORUM's January feature—Public Housing and the USHA—the editors have selected those presenting many different viewpoints. More will appear in subsequent issues. On a subject as controversial as this, the postman rings more than twice.

explanation of crime ratings in public housing projects.—Ed.

Human Research

Forum:

... I agree with almost every one of your findings ... I don't agree with you that the cost of the program is not too high.

The answer to whether subsidies are too high or not apparently evades you just as it does me. I agree that USHA is not clearing slums, but I agree even more that slum clearance and rehousing are not necessarily the same thing. I don't know that it is important to clear slums if by that we mean the demolition of buildings. What we ought to do is keep people from getting back into the buildings.

... I agree with you on land valuations. In some cases the Authority has not paid enough for land ... I am in agreement about research and experimentation. There is another form of research I think they ought to undertake, and that is sociological, but not in the sense of creating new ammunition for promotion of more housing. At the present time we have statistical correlations between bad health and crime and bad housing, but there are a good many other correlations also. I doubt if any of us believes that bad housing has nothing to do with bad health and crime, but how much it has to do with them has not been stated, and how much therefore clearing it up would do to solve these problems is not known. I have long believed that it would be a reasonable concession for people who are being subsidized to expect themselves to be made the subject of inquiries which should lead in a period of years to some more scientific conclusions.

Small-scale experiments such as the Peckham Health Center in London have shown such inquiries can be conducted

in a way which involves no loss of dignity or human value to those who are the subject of research.

JOHN E. BURCHARD

*Albert Farwell Bemis Foundation,
Massachusetts Institute of Technology,
Cambridge, Mass.*

Burned Cotton ... Dead Pigs

Forum:

... As evidenced in the January 1940 issue, we see page after page of cleverly written propaganda on behalf of Federal experiments. The Editor says "THE ARCHITECTURAL FORUM is for Public Housing." He then proceeds to sell with honeyed words and concealed economic facts a program which must eventually fall of its own weight when the economic fallacies are fully felt.

I have always considered THE FORUM to be a news journal and not a Federal New Deal propaganda organ. If such is the case, particularly as a technical journal, it should be brutally clear on facts and figures. ...

Buried deeply in the publication is the editor's admission that USHA costs have been too high. Are not the costs of any reform a critical point in a determination of the worthiness of a wide extension and expansion of that particular reform? Pages devoted to various projects give construction costs of less than \$3,000 per family, although total costs exceeded \$5,000 per family.

Your editor is most inconsistent in his analysis of land costs. He justifies on one hand the program of slum clearance by reason of tax delinquency and then strangely gives justification for the purchase of land at \$1.50 per sq. ft. As a matter of fact the fabulous land prices paid by USHA would never stand the scrutiny of a Dies committee, nor would they make sense to one having either real estate or economic training. ...

The housing project completed in Minneapolis at a cost of nearly \$7,000 per family is of construction and planning far below those minimum standards prescribed by existing city and State laws.

We look to THE FORUM to give us such data and facts as will help us plan a better America. Its pages should be free from propaganda and if your editor will but examine the cold figures, he too must come to the realization that those experiments which have covered the pages of THE FORUM during the past two years must take their place with the burned

(Continued on page 42)

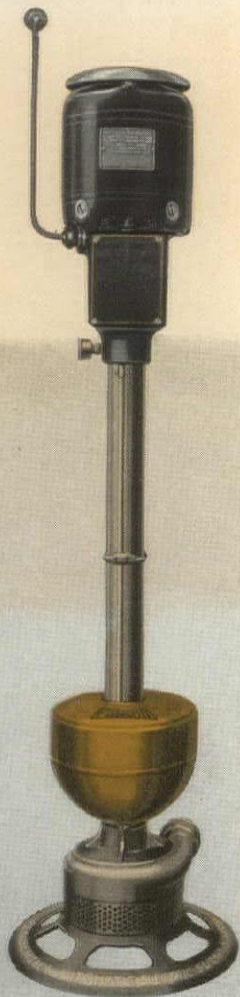
OUTSTANDING PERFORMANCE

*for removing
seepage water*

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

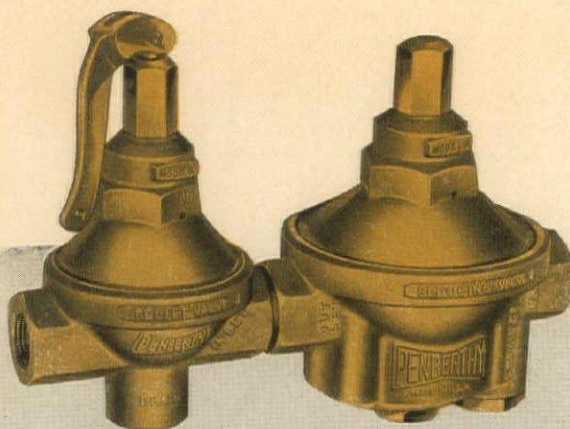


**PENBERTHY AUTOMATIC
ELECTRIC SUMP PUMP**
Made in 6 sizes



Advanced and rugged design, copper and bronze construction throughout, and careful workmanship are responsible for the demonstrated superiority of these Penberthy pumps wherever seepage water accumulates. Leading jobbers stock Penberthy products.

*for modernizing
hot water heating systems*



PENBERTHY PRESSURE AND RELIEF CONTROL
Made in 3 Models



PENBERTHY RELIEF VALVE
Made in 14 Models
including Dead End Type

**PENBERTHY REDUCING
VALVE**
Made in 9 Models



Penberthy Hot Water Heating Specialties are constructed of high grade steam bronze. Their design and workmanship are also of exceptional quality throughout. Your jobber will gladly give you complete information and supply your needs.



PENBERTHY INJECTOR COMPANY

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



This minute, thousands of families are thinking seriously of building, or buying, or fixing up their homes. . .

. . . Their thoughts have been turned towards your business by the stirring appeal contained in the "Look Homeward, America" message—shown on the opposite page.

This month, over 35,000,000 pairs of eyes will see and read it in the leading national magazines and newspapers of the country.

We think you'll agree that it's a great human document—destined to make the best families in your city think about you and your business.

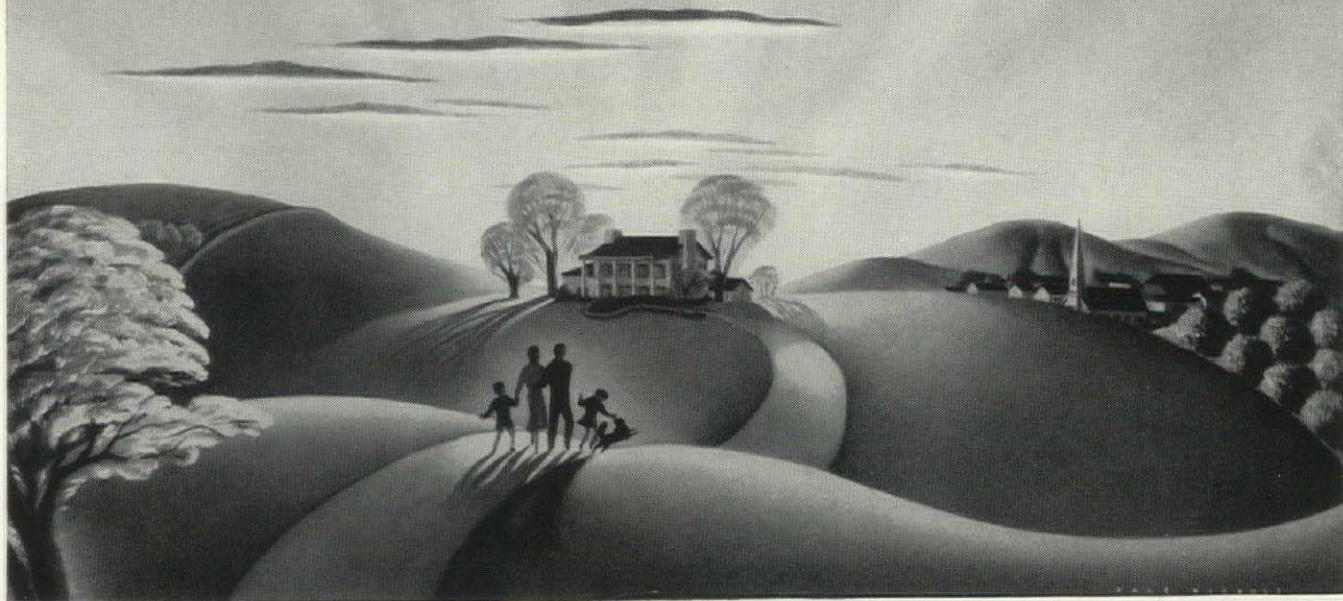
Throughout the "Lucky Forties" Certain-teed will continue to sell your business with the largest advertising campaign in a decade.

CERTAIN-TEED PRODUCTS CORPORATION

One of the World's Largest Makers of Asphalt Roofing, Shingles and Siding
. . . Structural Insulation . . . Wallboards . . . Gypsum Board and Plaster Products

If you would like a handsome print of "Look Homeward, America", enlarged, for display in your place of business, send us a postcard.

Look Homeward, America



For a full color reproduction of the original painting by Dale Nichols (16x12) without advertising, send 25¢.

by *An American Father*

MAYBE it was the way he told it... or the look of peace in his eyes... but when he finished his story you could have heard a pin drop.

Somehow he made us feel we were standing on the threshold of a new age; that historians will call the decade we are now entering "the good Forties" . . . the years when America looked homeward.

Was he some great economist, banker or statesman? No, he was just an average American father with a job, a family and a home. Average in every respect but one. But that's *his* story . . .

*

"You know," he said with a smile, "I sort of hate to see the Thirties go. They were hard years but they taught me the greatest lesson of my life.

"Back in the Twenties, like everyone else, I thought the world was my oyster. Made money easy, spent it fast. On paper I was somebody! But that was just the trouble . . . Actually I didn't own a thing.

"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%.

"And then it happened . . . happened to me as it did to many men. We lost everything!

"That was the day my wife said to me . . . 'the best is yet to be.' And she was right.

"For while we entered the Thirties broke, 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.

"Today, we have something for every penny we've spent. We've put our roots down. We've won security. And we've found a new kind of happiness—that deep-down, solid happiness you never know until you own a piece of earth, a hearth—a home you can call your very own."

*

That was his story—the saga of an American Father. Isn't there a lesson in it for all of us—right now? Business is better. The tough Thirties are behind us. We are entering a new decade—ten years that hold the promise of good years. What shall we do with them?

Shall we repeat the follies of the Twenties or shall we invest in the real things of life?

Today, many of us are thinking about building and bettering our homes. We are beginning to find out the best way to insure our happiness is to build, buy, remodel or even "fix up" a home we can truly call our own.

Whichever you do, this year you can have a far better home, and for less money, than you could have owned ten years ago.

For in the past ten years, the Building Industry of America has not been idle. While Government and the banks have been making it easier for you to buy or improve your home, this great industry has found way to make better homes—by creating new products, improving old ones and reducing costs.

Today, when we look abroad, we may feel the world is going backward. But when we look homeward into "the good Forties," we feel a surge of new life—a life in which freedom and democracy will give our people new blessings.

So when we say: "Look Homeward, America!" it is just another way of saying, "Look forward, America!"

*

As the Building Industry Prospers so does the Nation

The personal benefits of owning or improving your home are of first importance to you. But the money you invest also benefits millions of others who prosper only when America is building its way to prosperity.

Every dollar you spend in re-roofing, remodeling or building creates a solid hour of work for one of the 6,000,000 craftsmen who depend on the Building Industry for a livelihood.

This year, over one billion seven hundred million hours of work will be created for good Americans by building and bettering our homes.

As one of the largest manufacturers of Roofing and other Building Materials in the world, Certain-teed Products Corporation believes that the future of America lies in her homes—that as we build we prosper.

CERTAIN-TEED PRODUCTS CORPORATION

100 EAST 42ND STREET, NEW YORK

ASPHALT ROOFING, SHINGLES AND SIDING • STRUCTURAL INSULATION • WALL BOARDS • GYPSUM BOARD, LATH AND PLASTER PRODUCTS

KOHLER CO. FURNISHING FIXTURES FOR WORLD'S LARGEST PLUMBING CONTRACT

Big Order for
New Parkchester
Development in N. Y.

More Than 50,000
Fixtures with Fittings

Metropolitan Lauded for
Master Housing Move

Kohler Co., Kohler, Wis., is now furnishing the plumbing fixtures and fittings for the Metropolitan Life Insurance Company's vast Parkchester Housing Development.

Largest in the history of the plumbing business, the order includes 12,275 bathroom sets and kitchen sinks, plus more fixtures for garages, stores, and a theater. It is expected that well over 50,000 Kohler fixtures will be installed at Parkchester by the time the \$50,000,000 development is completed.

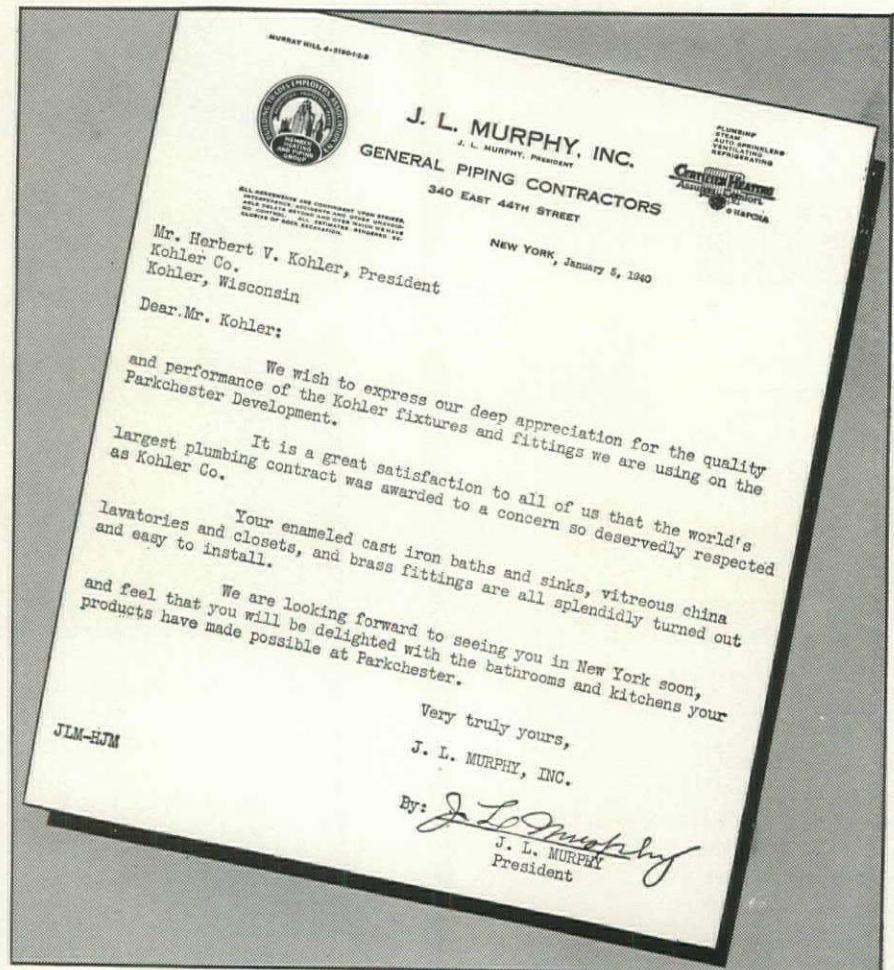
A WALL 32 MILES LONG

Some idea of the magnitude of this single order may be obtained from the fact that 334 freight cars will be required to transport it to New York!

If all the fixtures were fastened to a wall, with only the minimum permissible space between each, the wall would be 32 miles long!

A CITY WITHIN A CITY

Parkchester, itself, is the largest housing project ever undertaken. With no help from the U. S. Government whatsoever, the Metropolitan is creating a spacious, healthful, beautiful community. Stores, restaurants, garages, parks, playgrounds, and a theater seating 2000 people will make Parkchester truly a city within a city. The Development



Letter to Herbert V. Kohler, President of Kohler Co., from J. L. Murphy, of J. L. Murphy, Inc., Plumbing Contractors for the Parkchester Housing Development, Bronx, New York.

will house approximately 42,000 members of moderate-income families.

BATHROOMS AND KITCHENS

Bathroom fixtures include safe, flat-bottomed, wide-rimmed Cosmopolitan baths with showers . . . Vitreous-china Jamestown pedestal lavatories with compact, Centra mixer fitting . . . quiet Penryn closets . . . all blending into Tuscan-hued, matched Kohler bathrooms.

The new 42-inch Kohler combination sink-laundry tray of top-quality cast iron and hard, crystal-white, acid-resisting enamel is the heart of bright, cheerful Parkchester kitchens. The long spout of the mixer fitting reaches both compartments.

TRIBUTE TO KOHLER CO.

Parkchester is to be divided into four sections, and as the first quadrant nears

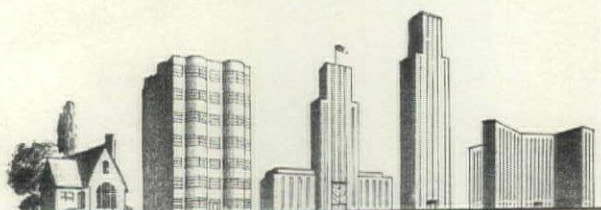
completion, the Metropolitan Life Insurance Co. is being congratulated on all sides for conceiving, building and putting into operation a housing development of such soundness and high quality throughout.

Kohler Co. feels that its association with this great project is a real tribute to Kohler quality, and wishes to point out that equally fine Kohler products are available to Master Plumbers everywhere. . . . Kohler Co. Founded 1873. Kohler, Wisconsin.

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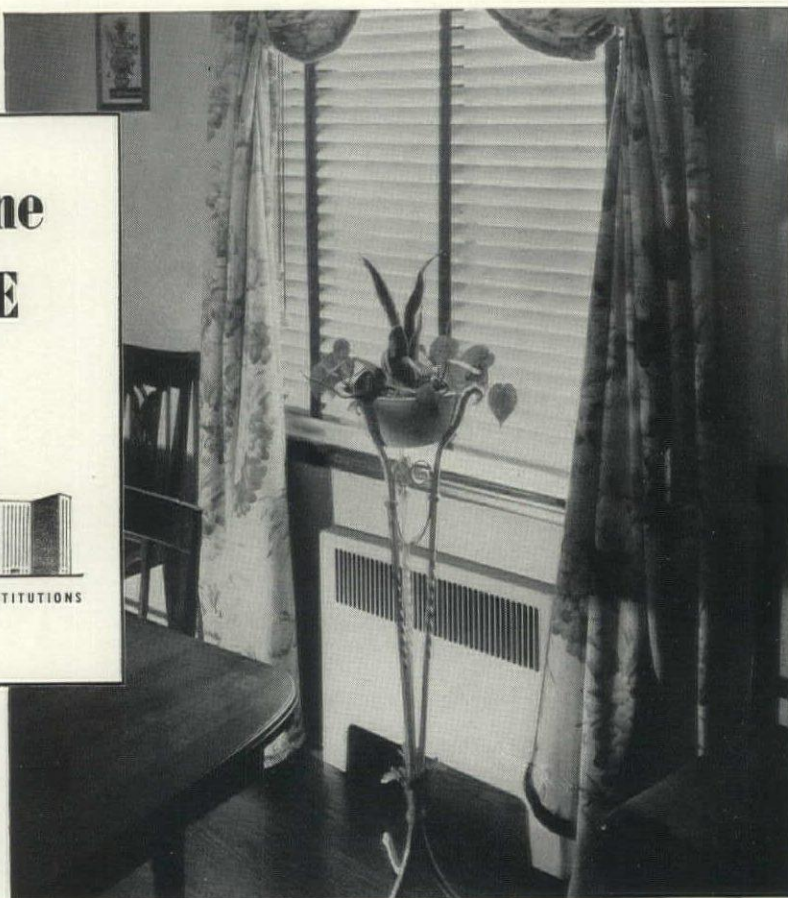


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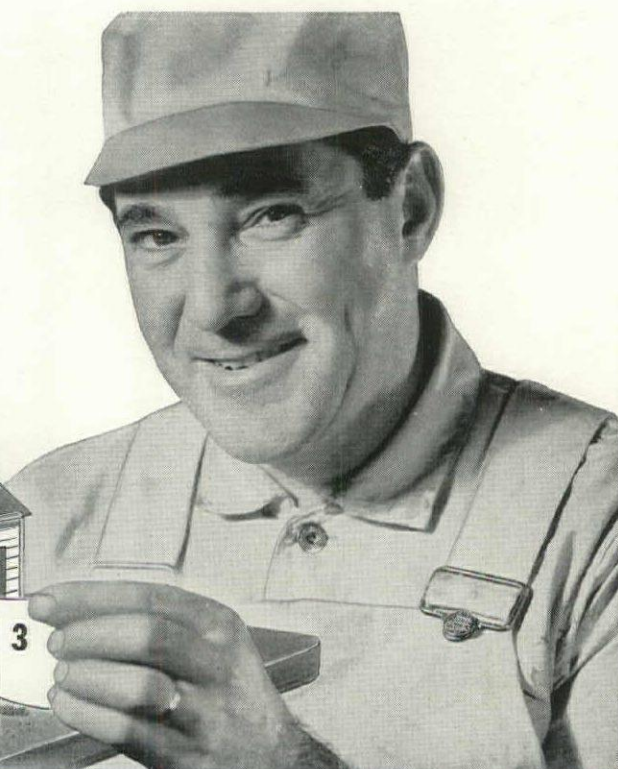
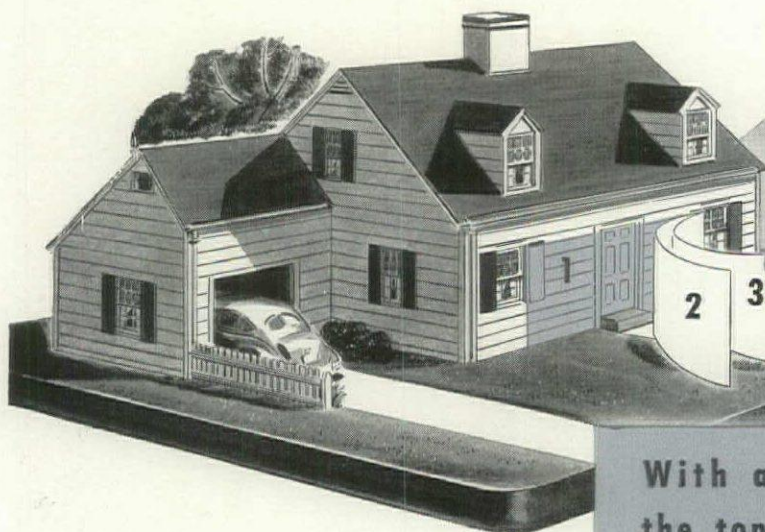


**NO BOLTS, NO SCREWS
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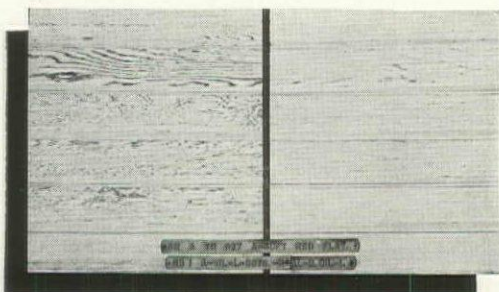
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What a difference! Test panels of Douglas fir siding after 6 years outdoors facing sun, rain, and snow at U. S. Forest Products Laboratory, Madison, Wisconsin. *Left*, painted with ordinary type first coat and two white topcoats. *Right*, with Aluminum first coater and same two white topcoats.

By greatly lengthening paint life, a first coater of Aluminum House Paint saves new home owners a lot of money on upkeep.

Longer life is the result of the exceptional impermeability of the Aluminum first coater. Instead of soaking through it into the wood, most of the oil in the topcoats remains in the paint film, keeping it elastic and durable. Also, less moisture penetrates into the wood. Hence there is less swelling and shrinking. The paint film weathers away slowly and evenly.

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In the photograph above, the walls are Nairn Wall Linoleum, "Black Onyx"—No. 7959. On the door, "White" Nairn Linoleum provides attractive contrast. Note, too, how Nairn Wall Linoleum provides smooth, rounded edges at corners. The Nairn Linoleum Floor is "Century"—Adhesive Sealex Pattern No. A7514.

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Zouri Store Front in bronze for Chicago Department Store

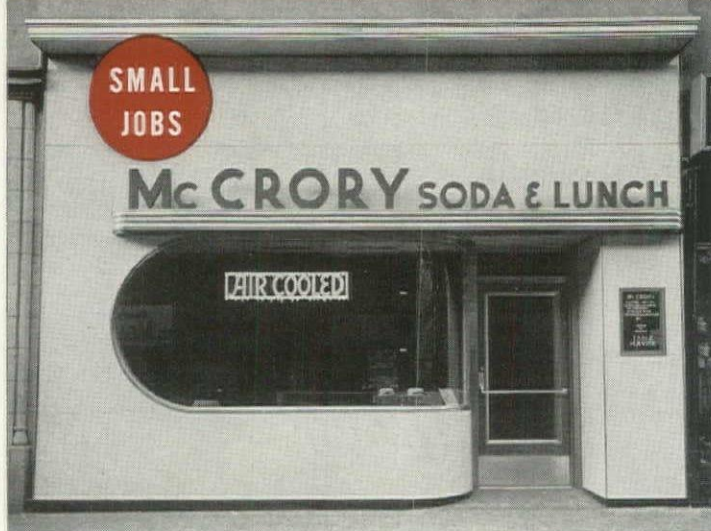
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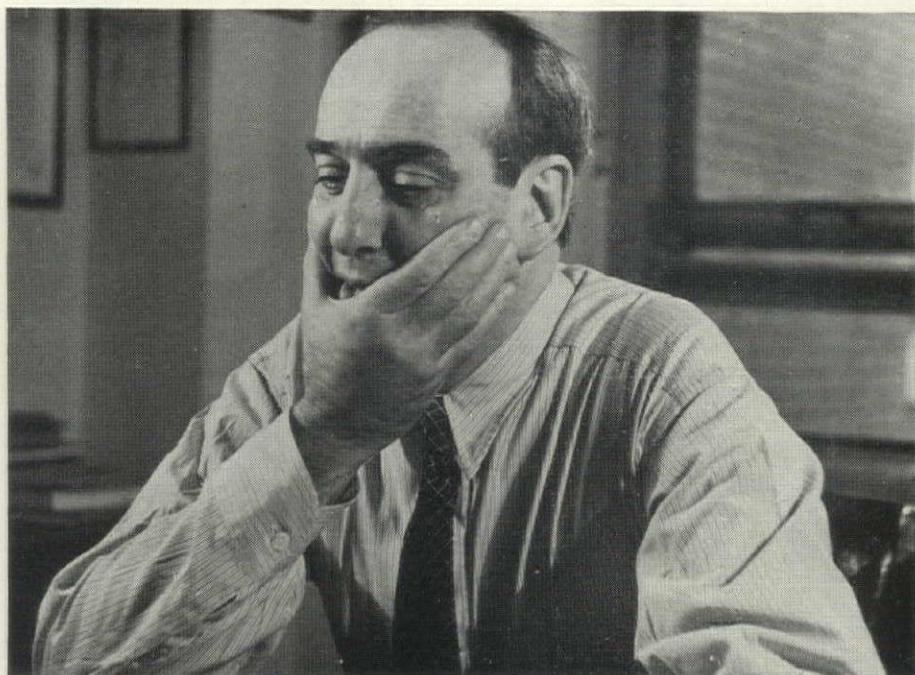
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Zouri Store Front for attractive shop in Brooklyn, New York

ZOURI STORE FRONTS



Bernard Hoffman

ROBERT MOSES

It is preposterous to call Bob Moses "Man of the Month." What month? It is a lean thirty days on the Commissioner's calendar when he doesn't pop up with a new bridge or a flock of playgrounds or forty miles of parkways or a zoo or a proposed tunnel from New York to Brooklyn* or a plan to reshape the Atlantic Ocean.

Years ago old Daniel Burnham said, "Make no little plans." The echo of that dictum has carried over four decades and from Chicago to New York as no little music to the Moses ears. Big plans are precisely in the Moses manner.

Moses, who doesn't give two hoots in the Adirondacks about titles, probably holds as many important jobs as any other living American. But whether as Commissioner of this or Chairman of that the Moses method remains the same—plan carefully and after you believe it's right, work hard, talk loud, appear to listen and get it built.

The Commissioner's opinions are virtually Mosaic Law and who are we to go around breaking commandments. Nevertheless, we long for the day when Mr. Moses and his able and trusted lieutenant, Mr. Embury, decide that modern architecture is here to stay.

Now we present Mr. Moses in the unusual role of author, and in the equally unusual position of hedging his bet. Says he . . .

"I warned the Editor that this would be a rambling discourse—one of those stream-of-consciousness things which tell what goes on in the mind of an administrator who, if the truth be told, has very little time for thought."

Commissioner/Chairman/Administrator/Planner of No Little Plans Robert Moses is more interested in works than words, and rare is the occasion when he takes time out for reminiscing on paper. For all we know, and we tried to find out, this is the first piece he has written in which he uncovers the technique which has given New York in recent years more public works to be proud of than any other world metropolis. Here then is no stuffy opus that seeks to impress with strange and involved phrases but a revealing, human document that tells much, invites reading the rest between the lines. Anyone who hopes to have a hand or even a little finger in the drastic changes which all of our cities face today can start now by turning to the article which follows.—The Editors.

* Beg your pardon, Commissioner.



Commissioner
Department of Parks
New York City



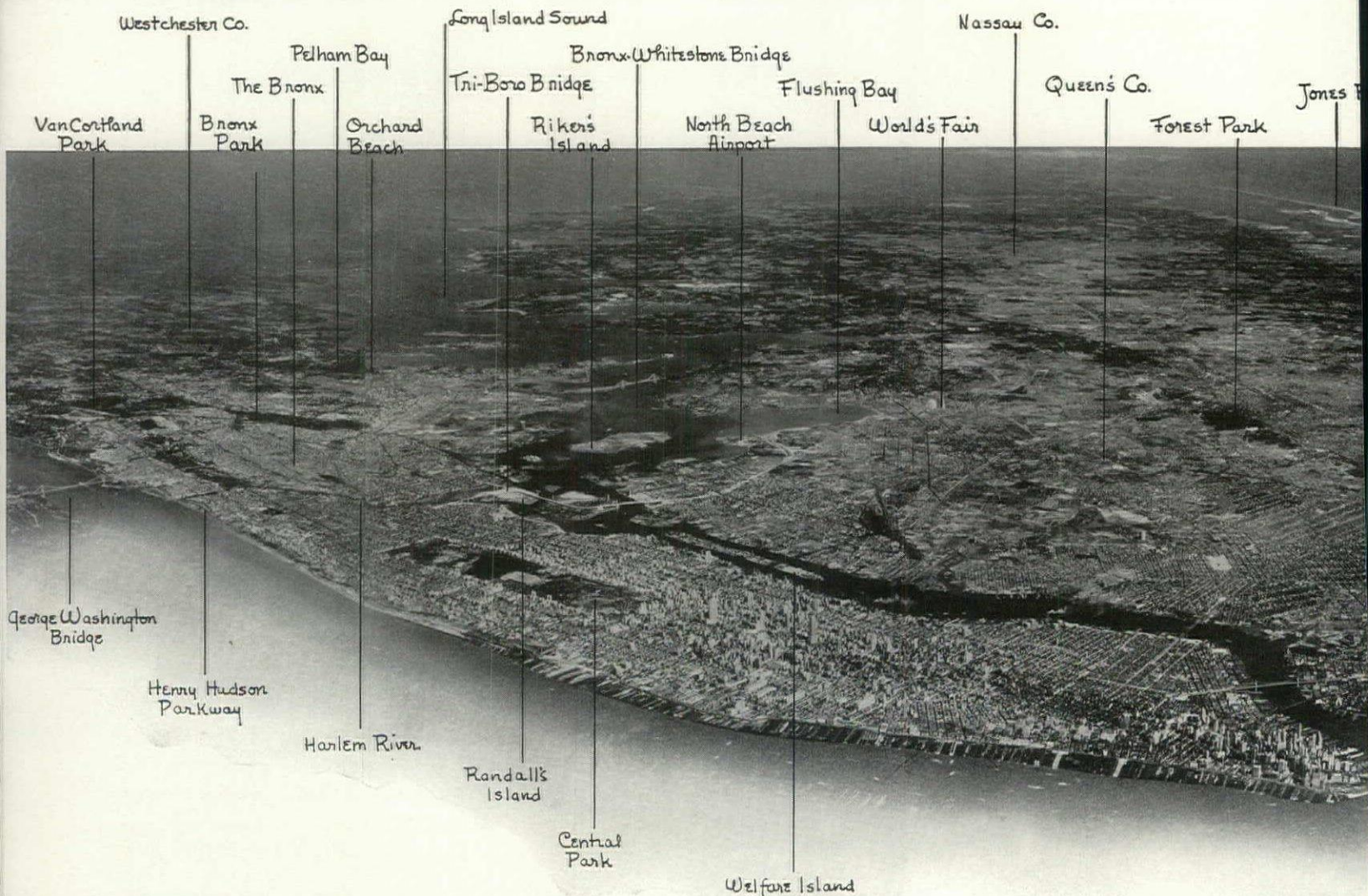
Chairman
N. Y. State Council of Parks
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Long Island State Park Commission
Bethpage Park Authority
Jones Beach State Parkway Authority



Chairman
Triborough Bridge Authority



Sole Member
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THE CHANGING CITY

by Robert Moses

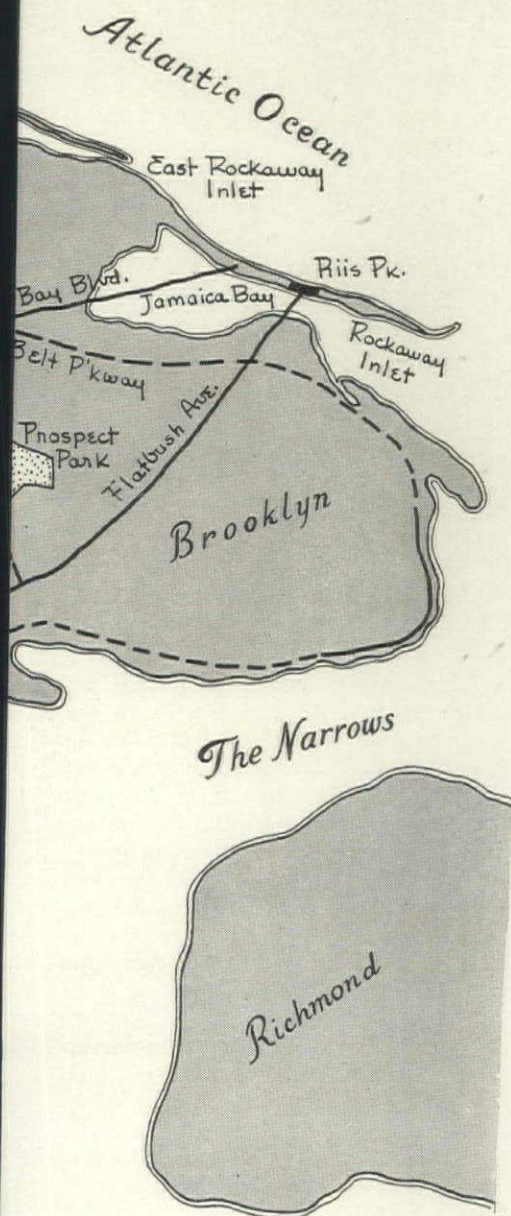
Fairchild Aerial Sur.

We are told from time to time, both by those who seem to approve and profess to admire and by those who are shocked and apprehensive, that some of us are changing the face of the metropolis and have designs on its character and personality as well. There is something in this, but neither the boosters nor the critics are quite right about it.

We are the apostles of change but not of revolution. We do not advocate change as a philosophy. We are not iconoclasts by profession nor breakers of tradition by temperament nor, on the other hand, have we any predilection for keeping things as they are because they have been so for a long time. Least of all are we the slaves of any dogmatic new regional planning theories.

What we are aiming at in New York and its suburbs is a series of reasonable nearby objectives to make this community livable and convenient according to modern standards, arresting and beautiful as measured by tried and ancient principles of design, and commercially and industrially attractive because when such attraction weakens or is gone the reason for the existence of the metropolis is gone with it.

The fundamental premise on which all change must be predicated is, of course, growth and distribution of population. This is just guess-work. The validity of the guess and the respect accorded to it must depend upon the character and reputation of the fellow who makes it. Not long ago our new City Planning Commission asked all sorts of people for their estimates. It was, as might have been expected, a field day for sensible people and crackpots. In such a situation I would rather have the opinion of the New York Telephone Company than that of scientists using elaborate formulas consisting largely of unknown quantities. The all-time absurdity in such calculations was reached a few years ago when



the Regional Plan of New York printed with apparent approval, a study of population growth in the metropolitan area based upon an analogy with the breeding of bluebottle fruit flies.

My own opinion, for what it is worth, is that Manhattan will continue to decline in population, but not as rapidly as it has been decreasing; that Brooklyn will increase slowly but steadily as the presently undeveloped areas, especially those north of Jamaica Bay, are developed; that the Bronx population will also increase slowly and steadily as the areas in the east and north central sections fill up; that Queens will grow somewhat more rapidly than the Bronx, and that Richmond will have no great increase until it is made more accessible.

I think it is silly to give any figures beyond 1960. In that year my guess is that the population of Manhattan will be about 1,500,000; that of Brooklyn 3,250,000; that of the Bronx 2,250,000 and that of Queens also 2,250,000; and that of Richmond 250,000. This makes a total population in 1960 of 9,500,000 inhabitants. After 1960 I believe that the city's growth will be slow. You may, however, have a hearty laugh at my expense in 1960.

In a recent speech before a child welfare group in the White House the President enunciated a conclusion about New York's population which is neither new nor illuminating, if indeed it is true. He said that New York would be much better off if its population were six million instead of seven million, and he added that the Mayor had told him it ought to be five million. In the same speech the President quoted with approval the remark of a French scientist to the effect that every third generation of city-bred people require good healthy country blood to keep it from anaemia and disintegration. This is no doubt flattering to our rural neighbors and emphasizes a comparatively recent decision of the President to be regarded as a simple Hudson Valley farmer as sharply distinguished from a New York City boy. Such statements, of course, in spite of their high source, are just political hokum.

New York, like a good many other cities, may have too large a population. Even this is debatable. Nothing, however, would be accomplished by merely cutting down the population, if such a crazy thing were possible, unless there were a redistribution on the basis of entirely new zoning and housing ordinances and regulations. We have plenty of vacant and thinly populated land in New York City. There are large areas more open and rural than the suburbs, just as there are others in which too many people are huddled together. Incidentally, there are some areas in the city of Washington, D. C., in which there are slums more depressing than any I have seen in New York and where some magnificent experiments could be conducted by a paternalistic government. Similarly all over this fair land of ours there are rundown rural communities of no great population in which decent living must be much more difficult than in our larger cities. Somehow or other the itch of planners to take the big cities apart and reconstruct them nearer to the heart's desire is stronger than the itch to reorganize smaller communities. Perhaps it is because the planners can't find an audience and a living in the great open spaces.

Those who would drastically decentralize the metropolis, break it up into satellite towns, rebuild it in its entirety, make sheer logic prevail in the relocation of trade, residence, art and recreation, may continue to live in Ivory Towers, paint pictures and deliver homilies to long-haired listeners. This town is too tough for them and they had better keep out of the rough and tumble of the market place.

You can make a lot of changes in New York with public support, but the limitations are quite definite and any one who goes beyond them is going to be very lonely. It all gets down to the matter of judgment. Judgment must be predicated

	1939 POPULATION	1960 MOSESTIMATE
MANHATTAN	1,662,195	1,500,000
BROOKLYN	2,827,160	3,250,000
BRONX	1,527,685	2,250,000
QUEENS	1,379,374	2,250,000
RICHMOND	178,925	250,000
TOTAL	7,575,339	9,500,000

on knowledge of the physical aspects of the community, acquaintance with its many people and neighborhoods, sympathy with its folk-ways, a not too slavish respect for its past and a not too exaggerated and roseate vision of its future, and finally, a balanced conception of the place of this metropolis in the State and nation, and of its advantages and disadvantages in competition with other great centers.

This is a pretty elaborate formula demanding quite a little talent, but if there is to continue to be a New York, and if this city and the suburbs which depend upon it are not to be buried before long under tons of dust, just such talent must be available among its leaders.

THE FUTURE OF JAMAICA BAY

Let me be a little more specific. We have in New York an area known as Jamaica Bay. It includes most of the south shore of Long Island within the city limits, consisting of a flat apron of land representing the glacial run-off below the terminal moraine in the center of the island. There are vast stretches of meadow land, hardly changed since the time of the Indians, running to an enormous bay, contained by the barrier beach known as Rockaway.

Rockaway Inlet, the funnel from bay to ocean, gave industrial planners of a generation ago the notion of a great harbor with deep waterways, immense piers and waterfront manufacturing plants approached by railroad spurs, including the bulkheading and filling of the islands in the bay itself and their connection with the mainland by numerous causeways and bridges. There was little or nothing in the history or prospects of the port of New York to justify the so-called Jamaica Bay Improvement, and in all of this mapping, planning and ballyhoo there was just a little too much evidence of the slick real estate promoter who raises the value of a piece of property from acreage to front footage, and from waste to teeming industry, by the simple device of publishing an elaborate and persuasive prospectus.

In any event, the Jamaica Bay lads, with the help of senators, congressmen and others, sold their idea to the city, State and Federal governments and brought about an agreement under which the Army Engineers would do an immense amount of dredging in return for vague and grandiose industrial improvements to be made by the city, the railroads, the manufacturers, the shippers, the developers and other unnamed John Does and Richard Roes.

Nothing of any consequence happened for a number of years and then some of us came along with plans for various improvements, all looking toward better traffic conditions, parkways, parks and public beaches—all spelling residence and recreation, rather than industry, as the future of Jamaica Bay.

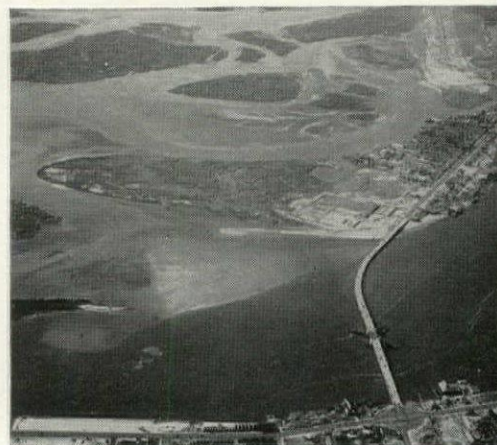
My first thought was to take the problem on cold by publicly advocating the complete abandonment of the Jamaica Bay Improvement as indicated on city maps and plans, and as reflected in zoning and other ordinances and regulations. In spite of warnings from some of my

staff and associates and from shrewd and friendly observers, I took the responsibility for issuing a pamphlet on "The Future of Jamaica Bay." Let me make it clear that many tides had run over the meadows and marshes and had ebbed and flowed through Rockaway Inlet since anything active had been done about this particular port development, and that we had already made great strides toward the recreational and residential substitute. We had built the Marine Parkway from the end of Flatbush Avenue in Brooklyn to the Rockaways (see cut) and had completely reconstructed Jacob Riis Park. We had acquired the right-of-way for the Belt Parkway which was to encircle the whole city and include a great part of the shore front on Jamaica Bay. We were working on the reconstruction of Cross Bay Boulevard (see cut), the only other passage across the bay in addition to the new Marine Parkway, and not only the immense undeveloped area in Marine Park, Brooklyn, but other large tracts of meadow land were in process of acquisition for future recreation purposes. The great Rockaway shore front improvement was about to begin, including the elevation of the railroad tracks as part of the new State grade crossing program.

Nevertheless, I could not get the Mayor and the other necessary city officials completely to abandon the Jamaica Bay Improvement. It was just too much corned beef and cabbage to feed a public brought up for many years on promises of a *pâté de foie gras* and terrapin diet of port development. Matters were further complicated by an announcement by the Sanitation Commissioner that the ideal plan for Jamaica Bay should be centered around bulkheading and filling up the islands with refuse, ashes and garbage,



MARINE PARKWAY BRIDGE Keale



CROSS BAY BOULEVARD Keale

a comparatively inoffensive process, according to this official, which in the end would produce exactly what the Jamaica port developers wanted. The public did not take kindly to this scheme to create another noisome and offensive Riker's Island or Flushing Meadows dump.

Under these conditions it was necessary to advance the park and conservation program for Jamaica Bay piecemeal by completing the acquisition of park and parkway land, rezoning the adjacent frontage for residence, adjusting the dredging program, defeating the Sanitation dump plan and by other steps, too detailed to mention. There remain today, for all practical purposes, only two recognized industrial areas on the north side of Jamaica Bay—at Mill Basin and at Head of Bay.

The Jamaica Bay episode affords a good illustration of what can and can't be done in New York by way of change, and the method by which a controversial program can be carried through with public support. Even though the old Jamaica Bay industrial plan was a practical impossibility, the whole-hog-or-none policy as applied to the new program would not have worked. The park and parkway program won its way gradually, step by step, and any other procedure would merely have resulted in another ambitious report to gather dust on the shelves of municipal reference libraries.

The timing of great municipal improvements is of the utmost importance. A thing can be done today after the proper groundwork has been laid, which could not have been done a month earlier and would be quite impossible a month hence. This may sound fantastic, but it is true. Government at best is a pretty freakish business and there are more factors, per-



sonalities and situations to be considered than control business and other enterprises.

The fifty million dollar railroad grade crossing program which will eliminate all remaining surface intersections had its psychological moment at the 1938 State Constitutional Convention. Two previous amendments had been duds, and this third

effort succeeded at the polls. I saw it through the convention and later, as Mayor LaGuardia's representative, through to actual construction. If advantage had not been taken of just these opportunities, the great Atlantic Avenue, Rockaway and other railroad improvements in the City would have slumbered for another generation.

THE FIRST CITY PARKWAYS

The acquisition of the rights-of-way for the first State and Federal parkway construction in New York City in 1929, that is, the Grand Central Parkway in Queens, could not have been accomplished at any other time than at the precise moment it was put through when we happened to have Federal funds available, and when Mayor Walker was willing to leave condemnation to Comptroller Berry. I was representing the State at the time and General Berry was a former State official and a friend of mine. Even then it was impossible to acquire an adequate width. The Grand Central Parkway had been mapped many years before at a width of one hundred and fifty feet. The meaning of "parkway" was not known then. What the word connoted then was merely a wide boulevard with private property fronting on it and having access to it everywhere. In one section it would have been necessary to take hundreds of houses to get the proper width. Since then scores of people have criticized our failure to provide a separating strip between the two streams of traffic traveling in opposite directions, space for six lanes instead of four, and retaining walls and slopes so steep that erosion presents serious problems no matter what kind of ground cover is used. There are plenty of ex post facto critics who are ready to confound the pioneers, but the critics did not have to live through the early days. What was crazy in 1930, was progressive in 1935, is universally accepted today, and may be outmoded tomorrow. Therefore, don't blame General Berry for refusing to go along on an adequate right of way for the Grand Central Parkway.

Practically the same condition arose a little later when we decided to push the Grand Central Parkway on into Brooklyn. We had to use the so-called Interboro



Photos, N. Y. C. Park Dept.

Grand Central Parkway is narrow along most of its length. Inadequacy of the right-of-way originally acquired prevented separation of two-way traffic such as is provided for in more recent parkway construction.

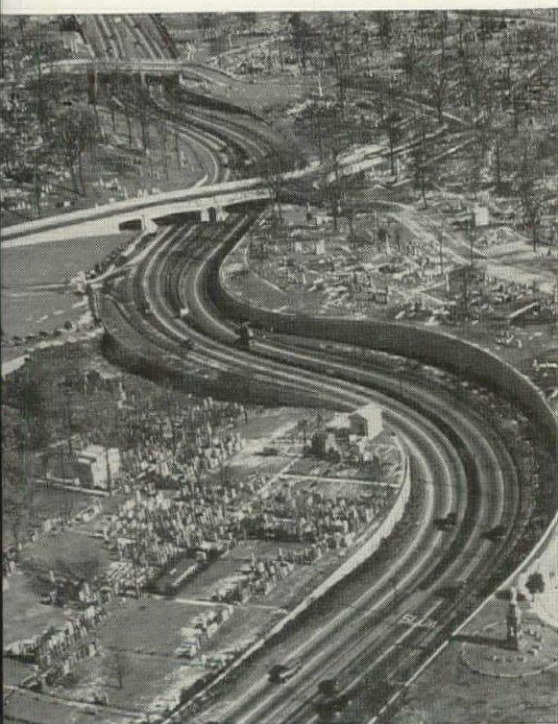
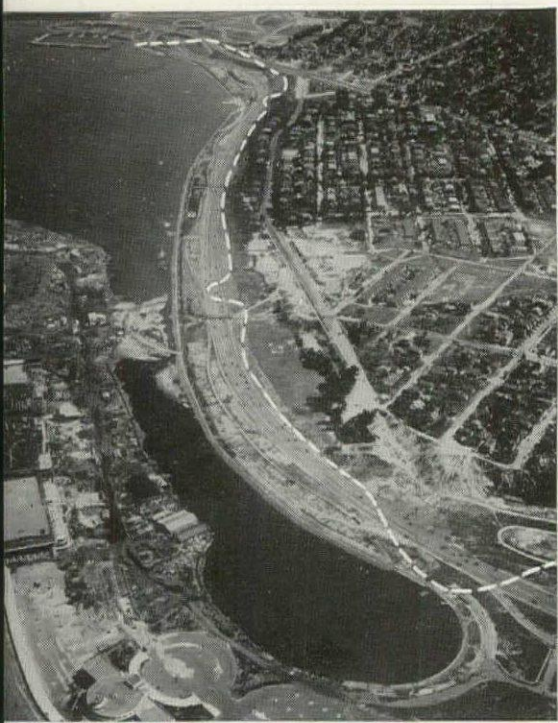


Photo: N. Y. C. Police Dept.

There are ten separate burial grounds on New York's Cemetery Ridge in Queens. The Interboro Parkway, shown winding through them, was built on a right-of-way picked out to dodge graves and satisfy all denominational groups.



Keale

The Grand Central Parkway, along the right-hand side of the picture, was built on fill dredged from the lower harbor by the Triborough Bridge Authority and placed hydraulically. Flushing Meadow Park boat basin at upper left, Jackson Creek boat basin in lower center and Administration Building, LaGuardia Field, at lower left. All land on bay side of white dotted line represents reclamation.

Parkway, part of the land for which had been acquired a few years before. This consisted of a tortuous ribbon winding its way along the cemetery ridge in the form of not one but a series of letter "S" curves. All religious denominations were represented in the condemnation proceedings, and the wailing, cries of anguish and gnashing of teeth at the Board of Estimate hearings could be heard blocks away. No doubt this was due in part to the very natural objection to moving even a few graves, but the net result was that the land cost the city an average of \$130,000 an acre, which would seem to represent considerable balm for the living as well as the dead. Interestingly, when the five Borough park departments were consolidated and responsibility fell upon the new administration, we succeeded in buying additional cemetery land for \$35,000 an acre. Even the new administration could not straighten out very much the original snake run in the cemetery section. We built adequate approaches on each side, flattened slopes, rebuilt walls, planted ivy, added a tremendous timber guardrail in the center mall, put up warning signs to slow down traffic, but we could not entirely undo the mistakes of former officials. We were up against too much sentiment to go further. Nevertheless, the smart alecks of today scoff at what they are pleased to call the bad planning and poor workmanship of those who built the Interboro Parkway. They know nothing of its history. They have no idea what our troubles were, and probably would not themselves have done half as well. This kind of thing is tough on those of us who hate compromise anyway, but we learned not to waste time on explanations and post mortems, and to go on to the next thing, always hoping that it will be a fresh, new project, without unfortunate inheritances.

The extension of the Grand Central Parkway through Flushing Meadow and along Flushing Bay into the Triborough Bridge has an even more interesting history. Here we had a very bitter fight with some of my upstate Republican friends in the Legislature, who insisted that there must be an end to parkway construction with State funds in New York City, and arbitrarily fixed the terminus of the Grand Central Parkway at Northern Boulevard. The fact that New York City contributes to the State a very substantial part of all license plate and gasoline tax revenues has never made much of an impression on some upstaters who feel that no city ought to get any State or Federal highway moneys. There is no logic in it, but it is part of a good, healthy, well nourished prejudice and dies a hard death. We took what we could get and had the rest of this parkway built by the Triborough Bridge Authority.

FROM DUMP TO GLORY

Construction through the Flushing Meadows was a bold adventure. This was no unspoiled tidal marsh. On half of it a huge ash dump, with plenty of garbage and refuse, had been reared foot by foot over many years. The accumulated clinkers, dust, offscourings, waste and junk of hundreds of thousands of Brooklyn families had their monument in this horrendous mountain. It was necessary to drive the parkway right through the center of it after acquiring the dump itself and the land adjacent to it, and settling all sorts of incidental quarrels between the city and the Brooklyn Ash Removal Co., and then to flatten and plant the hills or to remove them entirely as part of a gigantic reclamation project.

By the greatest stroke of luck, the progenitors of the World's Fair came along at just this time, and asked me to go into partnership with them in the location of the Fair in the Flushing Meadows. Nothing could have been more opportune. It was the beginning of the reclamation of this entire section of Queens, and our part of it was to level the dumps, straighten out the water courses and make all the permanent improvements, which ran to a total of some \$50,000,000.

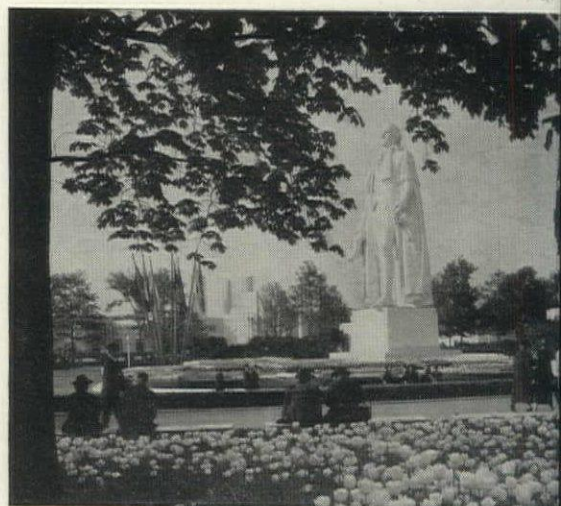
I have always said that the Fair meant nothing to us except as the answer to our prayer for allies in our reclamation program.

By way of further emphasizing the importance of timing in connection with projects of this sort, I might say that land for the Belt Parkway now under construction, and for the extension of the Westchester parkways southerly through the Bronx, could not have been acquired at any other moment excepting the one which we selected as psychological for this purpose. We just got under the wire, because a little later official opinion veered away from projects of this kind, and the competition for remaining Federal grants and city capital and assessment funds became so bitter that our solution of this arterial problem would have been impossible. We might have had odds and ends of parkways, but nothing like the connected system we are about to open to the public.

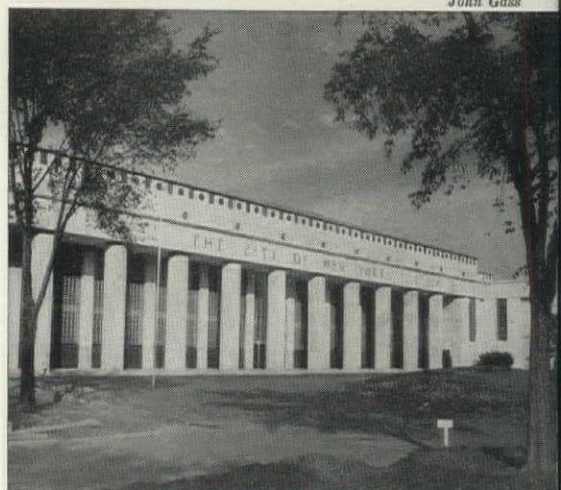
Obviously, the occasion for obtaining greater protection of parkways through zoning arises just after the rights-of-way have been acquired. This is the time to appear before the Planning Commission and Board of Estimate to urge that the adjacent areas be zoned for residence as distinguished from business and industry, and to obtain the maximum protection against disfiguring billboards and signs. If this process is delayed until construction is completed, the chances of jacking up the zoning requirements are much smaller because of the pressure of selfish local owners to cash in on the public improvements.

We have made it a universal practice to insist on the establishment of protective zones adjacent to parkways and, so far as possible, on the borders of parks. The advertising sign and billboard nuisance must also be attacked independently through rigid enforcement of existing and additional new ordinances.

We have also obtained protection of parkways built with State and Federal funds within the city limits through a special State law. In all of these proceedings we have had the bitter and unrelenting opposition of stupid representatives and undercover agents of the billboard companies, who cannot realize that public opinion is massing against them and the products they advertise. It may be added that the normal pressure for private gas stations adjacent to parkways has been met by providing publicly owned stations of appropriate design at intervals along the parkways.



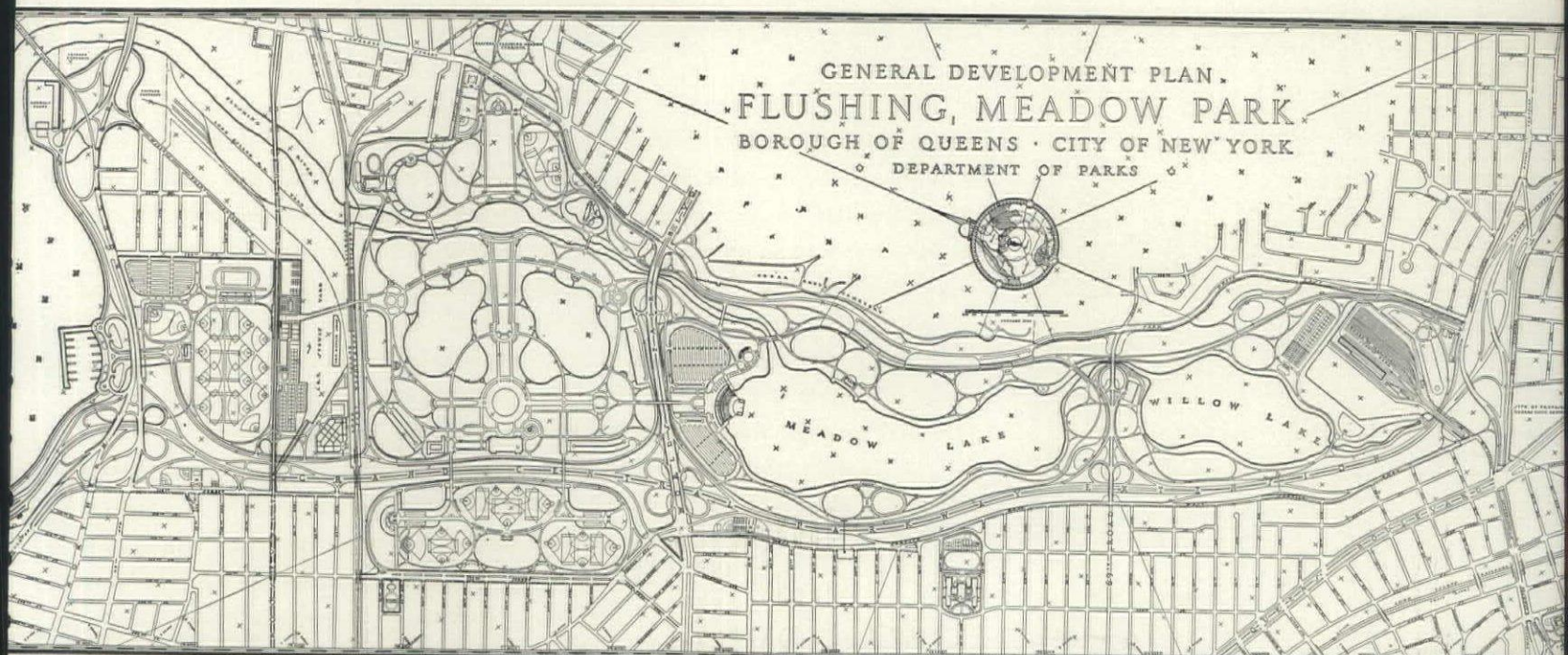
John Gass



Henri H. Davis

The 65-foot Washington by James Fraser at the Fair. Private funds are being sought to cast or carve this and other pieces of World's Fair statuary in permanent materials.

The New York City Building, Aymar Embury, II, Architect, houses an exhibit of the functioning of City Departments during the Fair. Afterwards it will become the indoor recreational center of the Park, containing an ice-skating rink larger than that at Madison Square Garden.

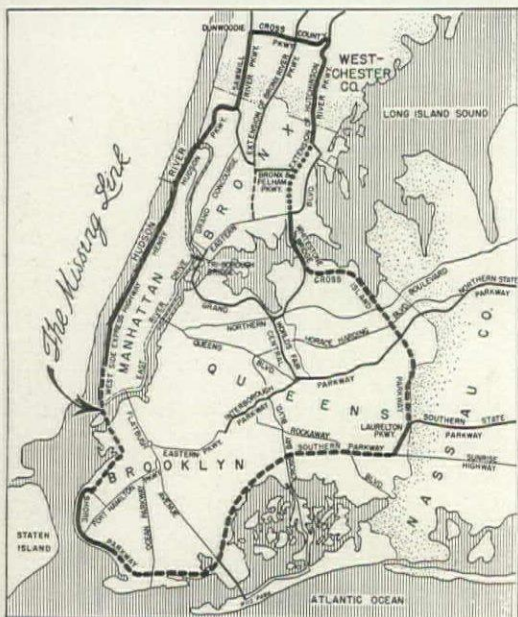


The formal design of the World's Fair will be adopted for the park which follows. The basic permanent improvements on and around the site cost \$50,000,000 and include five buildings, miles of pavements and subsurface utilities and thousands of trees. Gilmore D. Clarke, Consulting Landscape Architect.

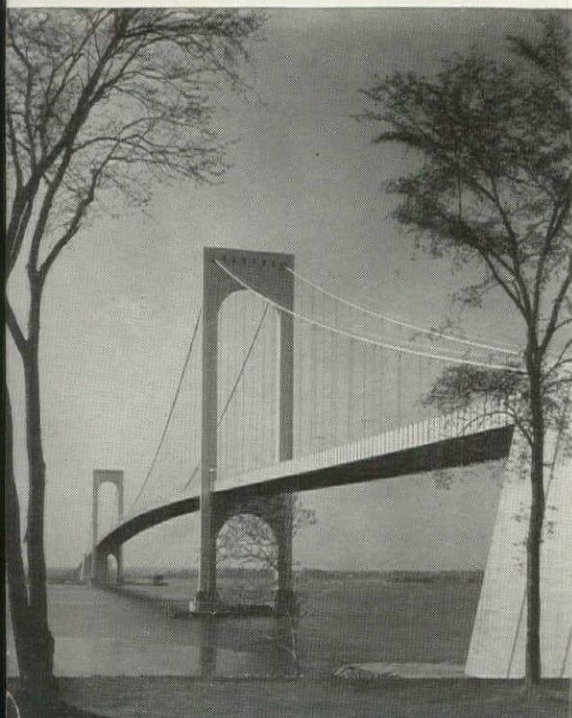
N. Y. C. Park Dept.



Out of the photo at the extreme right lies the Brooklyn Navy Yard with the Manhattan and Brooklyn Bridges between it and the proposed Brooklyn-Battery Bridge. Commissioner Moses deplores the substitution of a tunnel for this bridge but realistically accepts his half a loaf.



The Brooklyn-Battery crossing forms an essential link in the system of express highways and parkways through and around Manhattan, Brooklyn, Queens and the Bronx. It will connect Manhattan traffic facilities with the Belt Parkway which begins at Owl's Head Park in Brooklyn. Below: Bronx-Whitestone Bridge, Aymar Embury II, Architect; O. H. Ammann, Engineer.



THE MISSING LINK

I do not intend to create the impression that our group of executives and technicians win all the battles and get everything we go out for. As a matter of fact we have our setbacks and our apparent defeats. The Brooklyn-Battery Bridge is an illustration. Almost every one agreed that there must be a crossing between the Battery and Hamilton Avenue, Brooklyn, as part of the Belt system, and in order to give access to the piers and industries of South Brooklyn. The first attempt to finance a tunnel by Federal loan and grant failed. Some of us then suggested a bridge, or rather two bridges. Immediately there were howls of disapproval from various sources.

One source was the real estate, financial and industrial interests in Manhattan who don't want to see that borough go back any farther in population or influence, and who hate to see anything done to improve access to Brooklyn. Another group consisted of misguided artists, architects, sculptors and the supporters they could drum up, who insisted that we were going to destroy Battery Park and the skyline of Manhattan by so hideous a structure as a bridge. The fact that the planners of this bridge had just completed the Bronx-Whitestone crossing, one of the simplest and most beautiful steel structures in the world, made no impression on these people, most of whom, I am sure, never saw the Bronx-Whitestone Bridge. Similarly, none of these critics had previously evidenced the slightest interest in Battery Park, and one of them had proposed a huge and hideous obelisk in the center of this park, much higher than the bridge towers. Still another group consisted of military people who claimed that this bridge could be bombed in the case of an aerial attack and that the channels leading into the East River and to the Navy Yard would be blocked. These people carefully refrained from emphasizing the fact that there were two other bridges seaward of the Navy Yard.

The pressure of these groups on official Washington resulted in the refusal of a permit to construct the bridge on the ground of war danger. It was therefore necessary to come back to a tunnel, which will cost twice as much to build and three times as much to maintain, will take twice as long to finish and will accommodate only half as many vehicles. I felt, however, as did my associates, that it

was our duty to help put through the tunnel and to construct adequate approaches, if we could not get a bridge which we still believed represented the most intelligent, economical and esthetic solution of the problem.

THE TRIBOROUGH BRIDGE

We also took a licking on other occasions. For example, we did a pretty drastic job of reorganization when we took over the old Triborough Bridge Authority. The old set-up was fantastic. The chief engineer had planned a sixteen-lane bridge with two levels. There was no conceivable need of sixteen lanes and there would have been no possible way of getting the number of vehicles he had visualized on and off the approaches. As a matter of fact, approaches did not concern him. On the other hand, vast quantities of ornamental granite seemed to be of first-rate importance. I found out where this granite was to come from, but that is another story. When I sent for the chief engineer and asked him which he thought was more important—adequate approaches or ornamental granite, he unhesitatingly replied, "granite." This ended the conference, and I told him to resign and get his pension.

A reorganization of this kind did not require any superlative courage, nor did the scrapping of the plans. When it came, however, to a complete relocation of the Manhattan crossing we ran into real trouble.

Anyone who looks at the great Triborough crossing, with all of its approaches and ramifications, from the air or on a map and figures the distance he travels in a car, will see that the Manhattan arm should have gone across Ward's and not Randall's Island, a mile or more south of its present location. This was one of the first things we took up when the Authority was reorganized, but we found that the same Harlem real estate and business interests which had brought about the acquisition of land at 125th Street for the Manhattan arm would undoubtedly have blocked a shift to the south. Certainly there would have been a protracted debate into which the PWA would inevitably have been drawn, not to speak of the city administration. We therefore concluded to leave the Manhattan arm of the bridge where it had originally been placed, and not to start a controversy which might have jeopardized the entire undertaking. We did, however, insist on something by way of compromise and this was the building of the first link in the East River Drive from 125th Street to 92nd Street as part of the Triborough approach, and as a way of making up some of the loss in time in traveling up to Harlem.

There were two public institutions on Randall's Island when it was turned over to the Park Department and Triborough Bridge Authority for the construction of the Triborough and incidental recreational facilities. One was an ancient barracks some eighty years old, with a variety of inmates, known as the House of Refuge, operated by a self-perpetuating board, and drawing on the State for support. The other was the so-called Children's Hospital, an institution for feeble-minded, operated by the City of New York. There were endless difficulties in getting rid of these institutions and moving the inmates after all statutory and administrative requirements had been complied with.

Ward's Island, like Randall's, is owned by the City of New York. Curiously enough the land under water surrounding it was privately owned, and had to be condemned by the city at the instance of the Park Department. This island is occupied by a State hospital for the insane. Its buildings are almost all obsolete. Segments of the island have been turned over at various times to the connecting railroad for the Hell Gate Bridge, to the Triborough Bridge Authority for the Triborough Bridge, and to the Department of Public Works for a sewer



T. Kautsky, Del.

As Battery Park would look with bridge approach. The redesign featured a bosquet shoreward of a wide promenade. Gilmore D. Clarke, Consulting Landscape Architect.



Keele

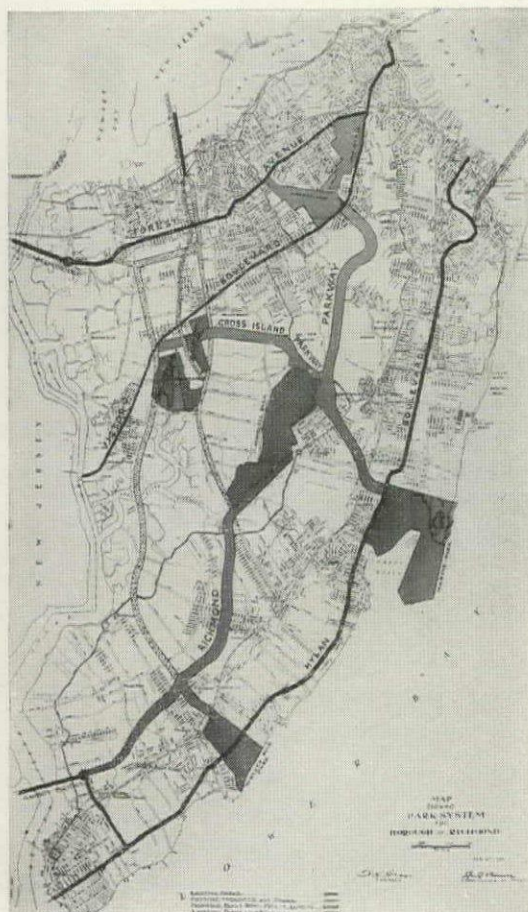
Ward's Island, in the middle of the picture, would have been the logical junction point for the three arms, Manhattan: left, Bronx: top, and Queens: right. The proper location of the arm to Manhattan is indicated by dotted line. Manhattan motorists now go to 125th Street and land back, in Queens, opposite 96th Street.



The left-hand picture shows Randall's Island (foreground) in 1930. The jumble of institutional buildings was razed to make way for the Triborough Bridge (opened in 1936) and other incidental improvements, including the Municipal Stadium, shown in right-hand photograph. The East River Drive, along the opposite bank of the River, has replaced a water-front slum and has recreated values.



Keale



In 1930 the Metropolitan Conference on Parks prepared a plan for city park and parkway expansion coordinated with the county and State systems in the metropolitan district. The above map shows the recommended plan for Staten Island. A portion of the Willowbrook Parkway, which will connect Goethals Bridge with Marine Park, is being built. Commissioner Moses believes the parkway problem should be faced now. When the inevitable Narrows crossing is built it will be too late.

plant. The remainder, under a special act of 1933, now incorporated in the Code of the City of New York, is to be vacated by the State Hospital and turned over to the city not later than 1943, when all of the inmates will have been moved off to new State institutions in the suburbs. Recently a piece of land between the two bridges was conveyed to the City Park Department by the State, and old civil war buildings razed as a start on the future city park. There is, of course, the same opposition on Ward's Island that developed on Randall's Island on the part of doctors, nurses, relatives of inmates, and minor hospital employees particularly, to moving out into the country from the heart of the city. Every year efforts are made in the State Legislature and City Council to scuttle the plan for a park on the island, and to keep the State institution there indefinitely. Incidentally, there are some votes on Ward's Island which election captains hate to lose.

In changing the face of the city, one of the first principles is not to be too far ahead of the procession. This may appear cowardly and unimaginative. Actually it gets down to leadership. The leaders should, of course, be at the front and not merely in safe dugouts in the rear, but if they are too far ahead the procession will turn up a side alley and disappear.

STATEN ISLAND

For example it is clear as crystal that Staten Island with its large and attractive acreage and small population constitutes the only remaining borough in New York where a really fine and enlightened job of planning can still be done. The borough is remote only because it is comparatively inaccessible from Manhattan and Brooklyn as distinguished from New Jersey. It has been said that it logically belongs to New Jersey and not to New York, but this point is not worth arguing. In colonial times the direct route from New England to Washington and the South was by way of Staten Island, and all that is needed today to populate this Island and put it on the main thoroughfare is a vehicular tunnel from Fort Wadsworth to Fort Hamilton connecting with the Belt Parkway system.

More than ten years ago I worked on a plan for parks and parkways on Staten Island. Some progress has been made in carrying out the program but it has been simply impossible to obtain funds even for surveys of the arterial and

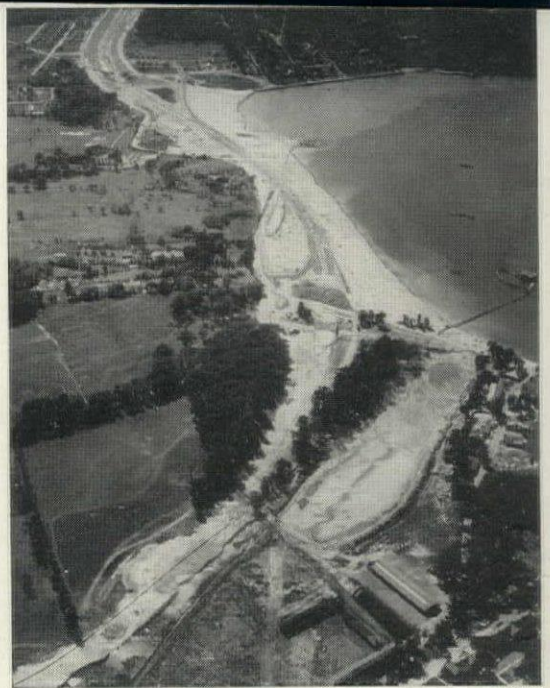
recreational system which will inevitably be needed on this Island. We did succeed recently, by good luck, in fixing definitely the location of the backbone of the future parkway system. The opportunity came when the State acquired land for a new hospital which necessitated cooperation between State and municipal officials in the exchange of lands and location of present and future roadways.

The trouble is that the appropriating bodies of the city will not spend much money now on a borough which has a thin population and less urgent immediate needs than other and more congested parts of the town. In the end, this neglect will be expensive and people will be asking why the conditions of 1960 were not anticipated twenty years earlier. I hope that the proposed Boston to Washington inter-regional highway project will put Staten Island back on the direct route of Revolutionary days, and establish the fork which will connect the Bay Ridge-Richmond tunnel with the Goethals and Outerbridge Crossings. Staten Island's opportunity is much more likely to come as the result of such a big arterial project than through public realization of the soundness of theories of advance planning.

The only land we have acquired without difficulty for the expansion of the park system is waterfront land we have actually made by pushing out bulkheads and filling, and property on which obsolete structures and eyesores are located, such as abandoned ferry terminals, old State barge canal terminals, reservoirs no longer required by the Department of Water Supply, Gas and Electricity, and swamps such as Juniper Valley in Queens and Soundview in the Bronx, which the public is glad to have us fill up and transform into play areas provided that the filling process is neither noisy, smelly nor otherwise objectionable.

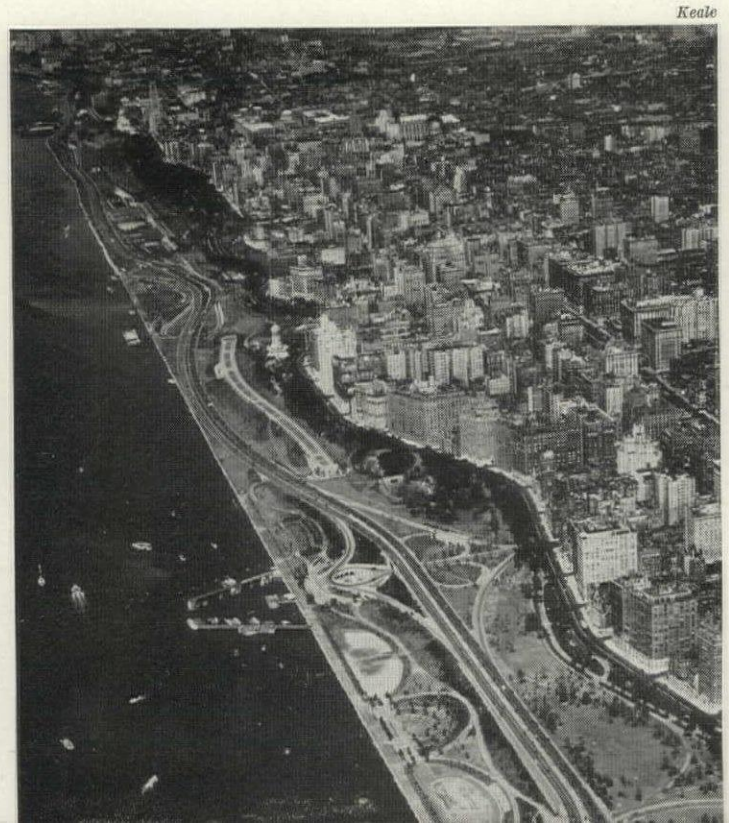
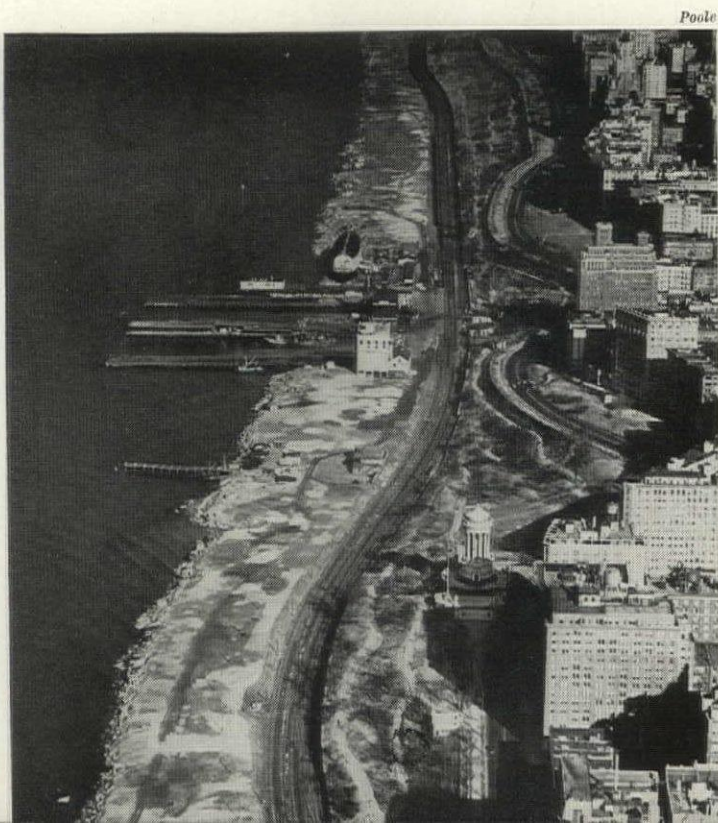
Public reaction to the removal of landmarks is a fascinating and astonishing study. It is possible to stir up sentiment for structures which mean nothing at all to the average citizen. We had quite a time combating the machinations of the Columbia Yacht Club, coal pockets and the U.S.S. Illinois which had the effrontery to attempt to hold up the entire West Side Improvement and Henry Hudson Parkway so as to remain at their old locations along the waterfront. Neither the Improvement nor the parkway could have been built with these structures in the way.

The Columbia Yacht Club was a private club in which, of course, the rank and



Reclamation is a by-product of the 33-mile Belt Parkway which is being built in 18 months to open on June 29, 1940. This section in Bayside, Queens, skirts Little Bay (upper right) where 350,000 cubic yards of hydraulic fill were placed for the parkway and to form the base for future beach development. Lower right—Fort Totten.

THE WEST SIDE IMPROVEMENT looking north toward Soldiers and Sailors Monument. This \$25,000,000 reclamation project, besides covering the New York Central tracks for 48 blocks and wiping out a shabby waterfront development, has added 132 acres of land, with an assessed valuation of approximately \$23,760,000 to the City's recreational plant. The picture at the left shows coal pockets, the Illinois, and commercial docks at the foot of 96th Street, the Columbia Yacht Club at the foot of 84th Street, and the New York Central tracks paralleling the shore. In the picture at the right the tracks are below the parkway drives in the lower portion and below the formal esplanade which makes an ogee curve west of the Soldiers and Sailors Monument. In this esplanade have been planted one million tulip bulbs, the gift of the Netherlands Government. Gilmore D. Clarke, Consulting Landscape Architect. Madigan-Hyland, Consulting Engineers.



file of our citizens never set foot. It had no architectural merit, paid little or no rent and occupied valuable city land on a permit obtained from complacent city officials. The coal pockets did not belong where they were on any theory. The U.S.S. Illinois was a sort of club for the State's Swiss Navy, and had a permanent berth in the very center of one of the most important grade eliminations. We moved this ancient hulk uptown to a place where the parkway is elevated and had the devil's own time with the land sailors in the process. From the hullabaloo in the press, an outsider would have thought that we were laying impious hands on the Liberty Bell or the Ark of the Covenant itself. The opposition of nature lovers to the location of the Henry Hudson Parkway in Inwood Hill Park was more understandable, although in the light of what has actually been done their fears and prophecies were quite groundless. It was amusing, however, to see this group joined by real estate interests in the Bronx who wanted the bridge approach to run through some ancient shacks formerly occupied by employees of the Johnson Iron Works, and regional planning experts who thought a low-level bridge on the route advocated by the real estate boys would be a fine solution of the problem in the face of the fact that no one could have sold a single bond for a lift bridge.

HISTORIC LANDMARKS

Nowhere is opposition to change so vociferous as in the rehabilitation and reconstruction of the older squares and historic mansions. We have had some fine rows over these places. I don't know yet how we got away with the Bryant Park reconstruction with so little difficulty. Perhaps it was because people were sick of the constant digging up and exploitation of this area, and because it was a shambles when the present administration took office. Most of these old squares require improvement because their original design no longer meets present day conditions, because the neighborhood has changed and because over-crowding, neglect and decay have made them little more than mud and dust bowls.

At Stuyvesant Square we ran into the bitter opposition of certain adjacent property owners, including hospitals of all denominations. They wanted quiet, and objected to our setting aside certain patches for active play. All this led to a lawsuit, in which the City never had a chance, but which did not necessitate much of a compromise.

We had similar arguments in a dozen other quarters, notably at Washington Square, where we simply struck the improvements off our list of work relief projects and left the field to local residents to battle over.

At Bowling Green we had little trouble. I have already referred to the argument over Battery Park. At Herald Square the removal of the Sixth Avenue elevated structure gave us an opportunity to restore the old clock and bell ringers which used to grace the front of the Herald Building, and to bring back a charming memory of Old New York. Even this was not without its difficulties, because of opposition from business interests who foresaw that their advertising signs would be less conspicuous under the new plan. At City Hall Park we had a grand debate over the restoration, in the course

of which we were accused of substituting for a lovely old village green a rigid, formal design resembling a bath mat or a pair of suspenders. At this writing final decision on the moving of the statue of Civic Virtue, more popularly known as

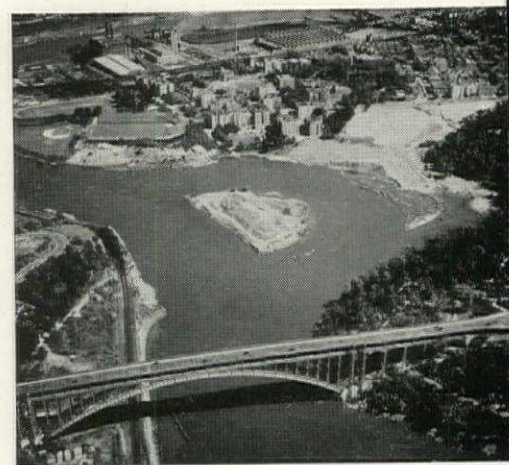


CIVIC VIRTUE

N. Y. C. Park Dept.

the Tough Guy, has not been made. Our plan is to store him at Randall's Island pending a decision as to his ultimate resting place. The symbolism in this statue is completely lost on most New Yorkers who regard the tough boy as nothing more than an athlete who has no place in City Hall Park. Of course the distinguished sculptor who made him his friends and defenders, who will not concede that Mr. MacMonnies, like Homer, nods occasionally.

Historic mansions have also given us trouble. Most citizens know little about



Kedle

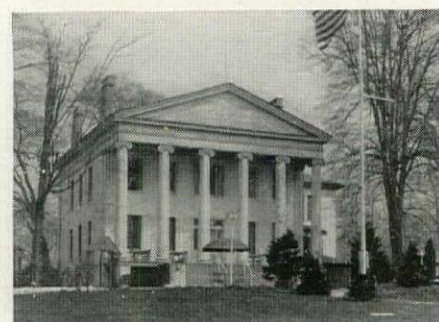
The Henry Hudson Bridge at Spuyten Duyvil, newly dredged Hudson River channel at left. Island will be connected to mainland to form boat basin utilizing old channel.



John Gass

BRYANT PARK rejuvenated

architecture and have no idea of the difficulties of restoring old buildings, providing authentic period furniture for them, and running them as museums. They are, however, easy prey for patriots, architects and antiquarians. I recall the fuss



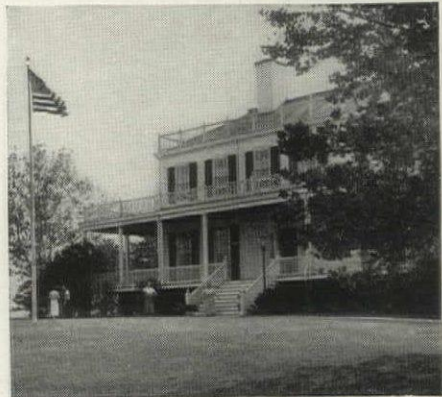
MARSHALL MANSION

N. Y. C. Park Dept.

that was made over the so-called Marshall Mansion in Pelham Bay Park. This was a box-like house built after the Civil War, to which an imposing Greek facade had been added. There was nothing in it. It had no history of consequence. It was just the roomy country home of a family of some means. It was of no earthly use for park purposes. There was no appropriate furniture for it. It leaked, peeled, settled and did everything else that neglected old buildings do. Nevertheless there was a great deal of moaning at the bar when, after vandals had broken in

and smashed up most of the interior, we finally took the building down and substituted park facilities. At no time could we get from our lyrical opponents a coherent statement as to what should be done with this mansion. Something about the old firetrap roused the deepest and wooziest statements of patriotism, home and auld lang syne.

The Chisholm House at College Point Park is another illustration. We fixed it up one year for the Mayor to use as a summer City Hall. It gave us endless trouble after that, and there proved to be no way within our means of making it either useful or ornamental, so we are tearing it down. We completely rebuilt the Gracie



N. Y. C. Park Dept.

GRACIE MANSION

Mansion at tremendous expense. It was a fine house, not as old as most people thought, because it was not the original mansion. Pretty nearly everything we used in the way of building material and hardware had to be made to order. This was a work relief job, so that the actual cost will never be known. When the restoration was completed we had to look around for exhibits and after an immense amount of searching, begging and arguing, we managed to get some appropriate pictures from the Metropolitan and City Museums. Mantelpieces and colonial furniture were supplied by the late Francis Garvin. We never did get either rugs or hangings, and we had the devil's own time getting a curator to show the mansion to the public.

We were lucky indeed to escape having the old Prince House in Flushing moved



N. Y. C. Park Dept.

PRINCE HOUSE

into Flushing Meadow Park. This building was a wreck and would have had to be moved in pieces. It had interesting associations, but there was no conceivable way of making it fit for modern use or

of providing a permanent exhibit in it which could constantly attract visitors. We dug up the stone out of which the old Gowanus House in Brooklyn was



N. Y. C. Park Dept.

GOWANUS HOUSE

made and built something on a smaller scale which was supposed to look like it. It should be noted that in most cases there are no plans, sketches, pictures or even contemporary descriptions to help establish what the building really looked like, and almost never anything to show how it was originally furnished. At the height of the Federal work relief program one of the white collar projects disclosed the existence of a shell of an old Dutch building in lower Manhattan. Nothing was left but the walls and a few timbers, and yet pressure was put on us to sponsor the restoration of this house. There was a little shack at Alley Pond in Queens,



Powell

ALLEY POND SHACK

a few feet away from the new Belt Parkway, which served half a century or more ago as a post office and storage place for an old mill. When I first saw it, a contractor was using it as an office and depository for minor construction materials. There was no conceivable way of restoring this structure or of incorporating it into the parkway design, no convenient way of reaching it, no data on which to base reconstruction, nothing to put in it and not the remotest chance of obtaining through the budget authorities a custodian or guard to take care of it. Nevertheless a movement was promptly started to keep and restore this valuable relic, and I have no doubt that this movement would have assumed considerable proportions if a large tractor had not got out of control and knocked the shack over. There were even unkind and, of course, wholly false accusations that some of my boys had ordered the tractor to run it down.

We also restored the Jumel Mansion. Mr. Embury and others who worked on it did a splendid job, but we still have an in-

ferior collection of furniture and other objects. The ultimate disposition of Hamilton Grange is still in doubt. Claremont was partially rebuilt to provide a suitable restaurant. It is not the original Claremont as most people suppose. This building burned down. The present building is brick veneered with wood, and while it has associations which should be preserved as long as possible, it is a pretty unsatisfactory structure.

As a State official I had considerable experience with historic mansions long before I became City Park Commissioner, and nothing gave me greater relief as head of the State park system, than divorcing them from the parks. They are now floating kidneys in the Conservation Department. I don't know why the good people who are vitally interested in such matters eat up so much time, have so vague an idea of what they want, and manage properties so badly. Perhaps it is because they have so much leisure, are out of tune with the time, and seek escape into the past. The anniversaries at historic places are something to write home about. Like powerful magnets, these occasions draw out of old clubs, Victorian mansions, and ancient cellars and attics a bizarre collection of stuffed shirts which would make Madame Tussaud's and the Eden Musée faint with envy. How these

N. Y. Historical and Scenic Preservation Society



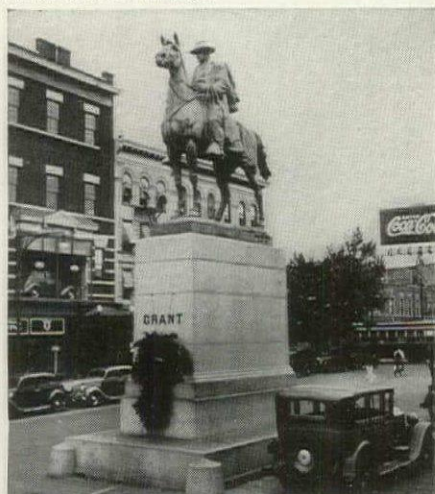
"... a bizarre collection"

people manage to hide between ceremonies is one of the world's greatest mysteries.

Not long ago we had a most impressive One Hundred and Fiftieth Anniversary ceremony at Stony Point Park. All the old boys came out in their high hats and the old ladies in their bombazine dresses. To make the occasion quite authentic half a dozen grenadiers from an old Philadelphia regiment with Revolutionary associations were brought on and dressed up in shakos and colonial uniforms. They were a trifle awkward in their manoeuvres and one of them, in lowering his sword from a gallant salute, cut a neat gash in the calf of the local congressman's right leg. One of the choice spirits of the park system, who wanted to see just how brave the congressman was, poured an entire bottle of iodine on the cut, which made the statesman dance around like a white truck horse which had been given ammonia to pep him up for the St. Patrick's Day Parade. This untoward event was the only human thing that happened in the course of the ceremony.

I made some mention of the Tough Guy in City Hall Park. His is not the only statue which has caused us grief. As a matter of fact New York has some of the most hideous and inexcusable statuary in the world, but he who touches a hair of green bronze head stands a good chance of dying like a dog, if I may paraphrase Barbara Frietchie. We tried, for instance, to move the equestrian statue of General Grant from Grant Square in Brooklyn,

Photos: N. Y. C. Park Dept.



GENERAL GRANT

which is just an island in the middle of traffic, to a position of prominence and honor in front of the reconstructed Grant's Tomb. At the first scream of rage from Brooklynites we gave up. It would have precipitated a civil war between the boroughs. Again we narrowly escaped the wrath of Brooklyn when a crew of relief workers, who were cleaning and restoring statuary under competent direction, got out of hand and proceeded to use some inventions of their own on the famous Henry Ward Beecher group in front of Borough Hall. This group includes Beecher and some colored folks who are admiring him. Apparently the relief clients



BEECHER GROUP

applied acid to the colored folks and made them white, and then put a coat of shellac on Henry Ward which gave him a distinctly African hue. Frantic telephone calls from the office of the Borough President led to quick action. We covered the group with a canvas tent which was not removed until the damage had been undone. Of course we have very little luck in getting rid of recent war memorials including incredible doughboys, cannon, tanks and other me-



WAR MEMORIAL

mentos, but with the help of the Art Commission we have at least succeeded in controlling new war memorials.

We had quite an experience with the so-called Monitor Monument. Funds for this monument were provided by the State. It was to commemorate the battle of the Monitor and Merrimac in Winthrop Park, Greenpoint, near the shipyard where the Monitor was built. The local assemblyman was, of course, chairman of the State Commission. He spent almost all

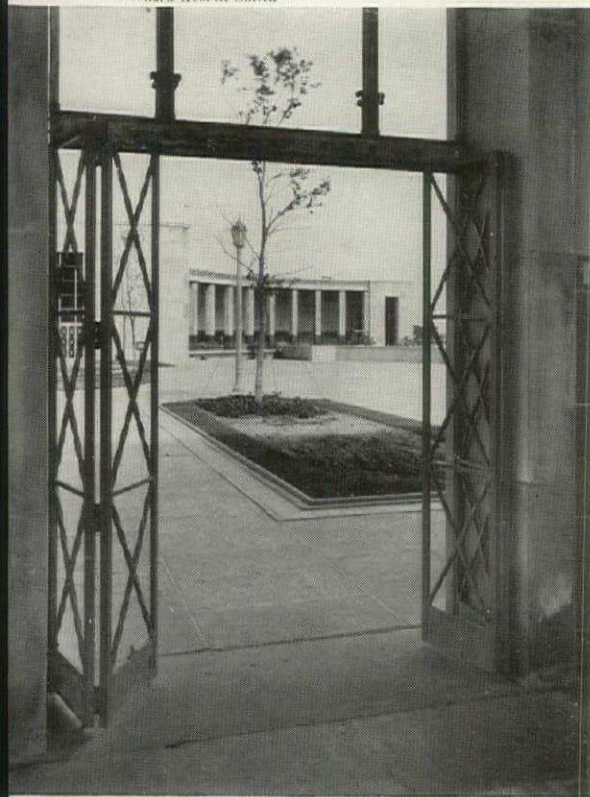
of the first appropriation on beer and skittles. As a result there wasn't much left for the memorial. The assemblyman then decided to plan it himself, and offered some terrible sketches. At our suggestion he finally employed a talented young WPA sculptor, Antonio Di Filippo, who made a sketch of a sailor straining at a rope which he was winding around a



MONITOR MONUMENT

capstan. The burghers of Greenpoint objected to this because the statue was apparently nude and we threatened to add bell bottom trousers and a jersey. It then turned out that the assemblyman had engaged a local tombstone cutter to do the monument. This in turn necessitated making a full size model because it was the only thing this marble cutter could work from. When it came to the inscription, the assemblyman substituted his name for that of Ericsson. There wasn't room for mention of both on the memorial, and the assemblyman naturally felt that his name was the more important. In the end, Ericsson won by a whisker. The assemblyman managed to get a second appropriation. The monument was dedicated with great ceremony, and is now the pride of what my friend, Peter McGuinness, Boss of Greenpoint, calls the Garden Spot of America. Pretty nearly as much time was spent by us on the Monitor Memorial as on the Henry Hudson Bridge and Parkway.

Richard Averill Smith



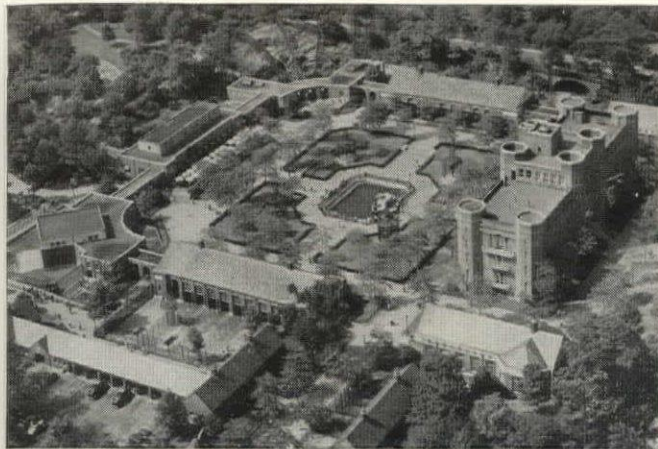
ARCHITECTURE

Few people seem to realize that there is a vast gap between private and public architecture. It is not merely a difference of scale, although this is an important factor. The landscaping of a private estate is one thing; that of a public park is quite another. A private estate is designed for the use of a comparatively few discriminating people. A public park is used by millions with conflicting needs and purposes. The same applies to structures. Not long ago an intelligent woman with a flair for gardening insisted that we use in our parkway work plants of Asiatic origin which are hardy, attractive and require little water. We could not make her understand that it was impossible to obtain public funds to buy enough of them to make an impression on miles of planting strips along a shoe-string park.

In my opinion public officials have no right to experiment beyond a reasonable point with new forms in architecture. I do not mean that they should merely imitate, try nothing new, or be hostile to all change. A public building has to last for a long time. It has to wear well not only physically but esthetically. It is not a thing which can be lightly torn down if in a comparatively short time



N. Y. Historical and Scenic Preservation Society
1.



2.

John Guss

1. The Arsenal: Built in 1854, successively military Civil War storehouse, Museum of Natural History and Park Department headquarters. 2. Central Park Zoo, Aymar Embury, II, Consulting Architect, Gilmore D. Clarke, Consulting Landscape Architect, built in 1934 by relief labor. 3. Jones Beach, East Bathhouse, Herbert Magoon, Architect. 4. Jones Beach, West Bathhouse, Herbert Magoon, Architect: accommodates 10,000 bathers; other facilities include swimming pool, second floor restaurant and food bars. 5. Astoria Bathhouse, John M. Hatton, Architect: largest of twelve municipal swimming pools accommodating 7,000, used in winter for indoor recreation.

it proves objectionable, clashes with surrounding buildings or does not continue to be useful.

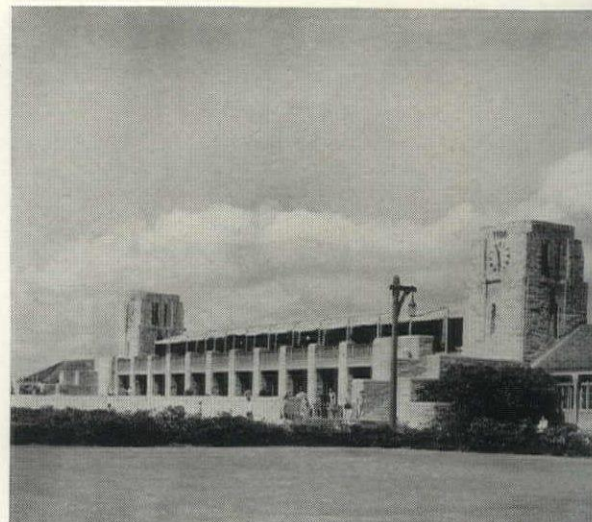
It was quite obvious in the rebuilding of the Central Park Zoo not only that the size of the plot was limited to the old area, but that the style had to be based on that of the restored Arsenal as the central key structure and motif. Mr. Embury began with this and the rest followed logically. On the other hand he had a wider opportunity in the case of the Brooklyn Zoo, but here again size of the plot, the setting and other factors spelled conservatism.

Conservatism, however, means nothing to some people. A distinguished architect, employed by the Brooklyn Museum, proposed to add to the present somewhat massive pseudo-classical building an ultra-modern addition in the form of a wing. The same architect proposed a new Children's Museum of the most streamlined horizontal character in an old residential section of Brooklyn. The plan for the Museum wing was rejected and that of the Children's Museum was toned down.

It has been said that we went modern in the design of our new bathhouse play centers. I think they represent a reasonable compromise between modernists and traditionalists. The most interesting of these structures are those at Tompkinsville, Colonial and Astoria Parks. If an illustration is needed of the limits of ultra-modern design as applied to structures of this kind, it is only necessary to compare the original East Bathhouse at Jones Beach with the later West Bathhouse. The West Bathhouse presented a somewhat different problem because it was built around swimming pools, but no discriminating person will fail to see that it lacks the dignity, simplicity and beauty of the original East Bathhouse. The architect was just a little too gay and playful with the West Bathhouse, especially with the facade toward the ocean. It is interesting but not first rate, and it would have been better to have followed the severer lines of the earlier structure than to try to do something entirely new and different. Similarly, at Orchard Beach, in striving for an effect of height as seen from the water, we ran up a building which is just a little absurd from other vantages and wasteful from the point of view of space and cost.

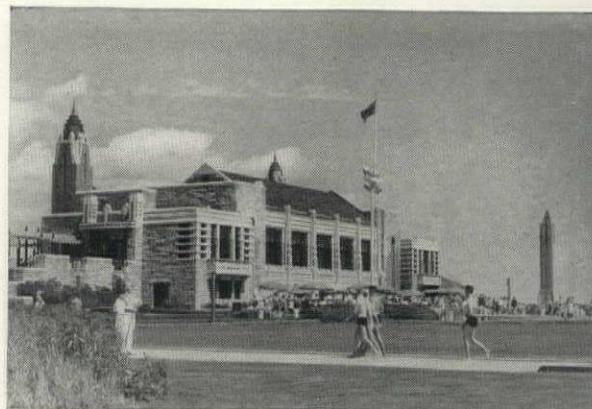
The most futile thing a public official can do is to be drawn into arguments over naturalism and functionalism. These are two of the most over-worked words in the lexicon. Planting of native material is often the best solution of a landscape problem, but naturalism pushed to extremes may result in something which cannot be maintained in the face of pressure of population and hard usage. Rejection of silly ornamentation is the first negative standard of good taste, but all architecture, even that of bridges where bare steel is used, requires a more or less sophisticated form which, if we look at it honestly, involves some kind of structural ornament. There is no such thing as pure functionalism.

3.



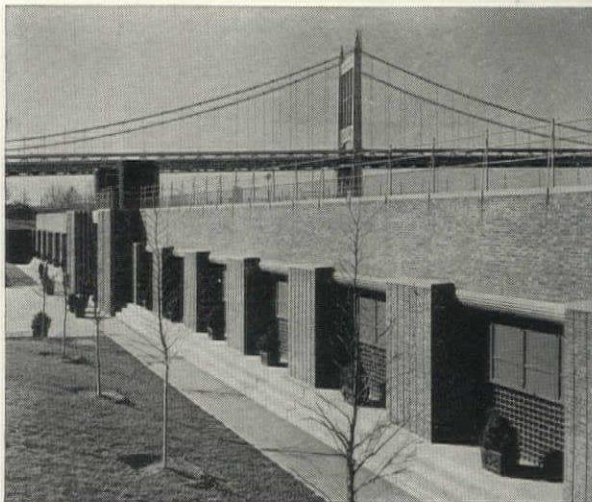
Poole

4.



Poole

5.



Gottsche



N. Y. Public Library



NYWF 1940

It is part of the modern cant not to acknowledge the sources of our architectural inspiration, just as we do not admit those of our vocabulary. Many of the apt phrases that stick in our crops, if we speak English and have any pretensions to education, came straight from the Bible and Shakespeare. It is so also with the arts, and here again we quote and plagiarize the best of the ancients. The architect and engineer invent something quite new, and it turns out to be nothing more than the sub-conscious remembrance of a Roman viaduct.

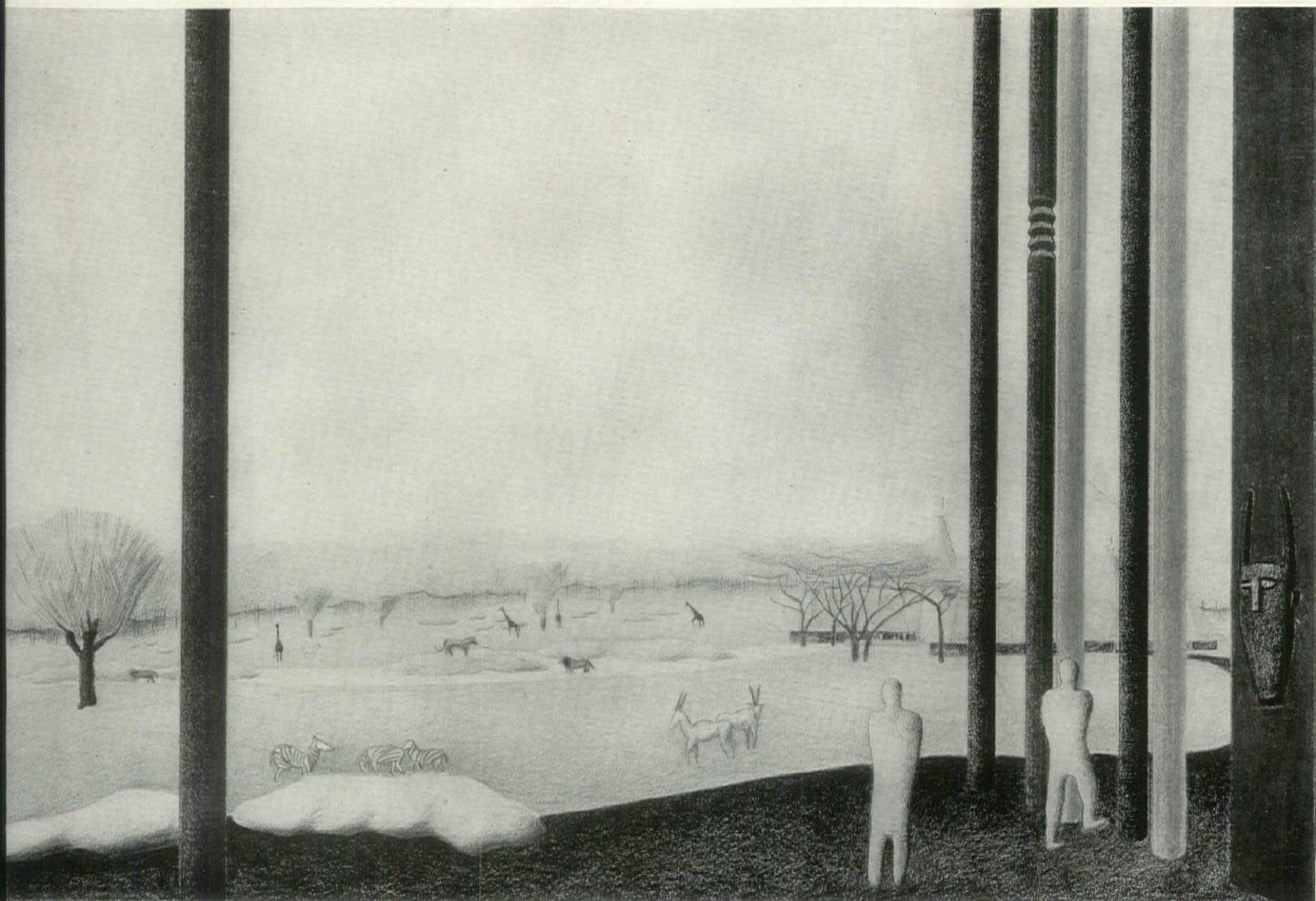
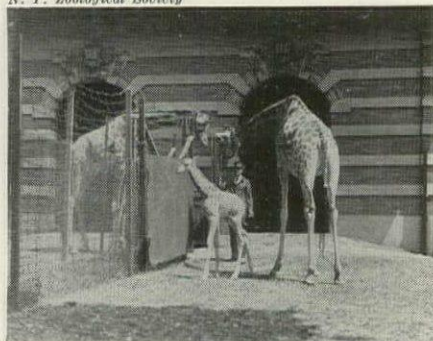
The Striding Russian on top of the Soviet World's Fair buildings at Paris and New York was a feeble imitation of the Colossus of Rhodes, and other supposedly ultra modern exhibits at these Fairs were on show when the Cook's tourists of the third century B.C. bought their commutation tickets for the Mediterranean winter cruises to the Seven Wonders of the World. As for the notion that ornamentation and disguise are the property of the ancients, and simplicity and functionalism the mark of our time, the poet exposed the shallowness of this generalization when he said:

"We shift and bedeck and bedrape us.
Thou art noble and nude and antique."

I warned the editor that this would be a rambling discourse—one of those stream-of-consciousness things which tell what goes on in the mind of an administrator who, if the truth be told, has very little time for thought.

Plans for the zoological park of the future offer fascinating possibilities. The New York Zoological Society, with Harrison & Foulhoux as architects, have prepared plans for the exhibit of African mammals and birds in the Bronx Zoological Park. The buildings are designed to complement the animals rather than dominate them. Left—one of the existing enclosures at the Zoological Park; below—the proposed plans which will be installed provided the necessary funds become available.

N. Y. Zoological Society



Oscar Nitzschke, Del.



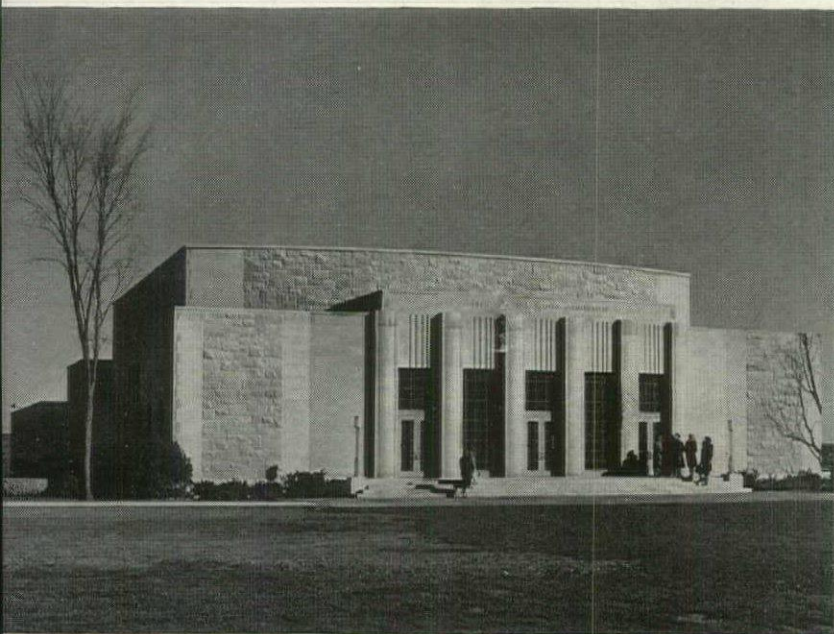
Photographs by Gottscho

CONNECTICUT COLLEGE AUDITORIUM NEW LONDON, CONN.

SHREVE, LAMB & HARMON, ARCHITECTS

As in many auditorium buildings, the purpose outlined for the architects was rather complex, the needs somewhat conflicting in space requirements. College needs: a seating capacity of 1,200 in the audience, 140 on the stage; a theater with adequate stage equipment; a concert hall that would at times require stage space for a chorus of 200 with an orchestra pit for 40 pieces. New London, a residential community of about 25,000, also needed an auditorium, and a \$400,000 endowment from Miss Virginia Palmer contemplated a joint use of the building as a cultural center. Typical of the way in which these two viewpoints were reconciled is the admission of the students from the campus without having to cross traffic, the public from a lower roadway.

CONNECTICUT COLLEGE AUDITORIUM

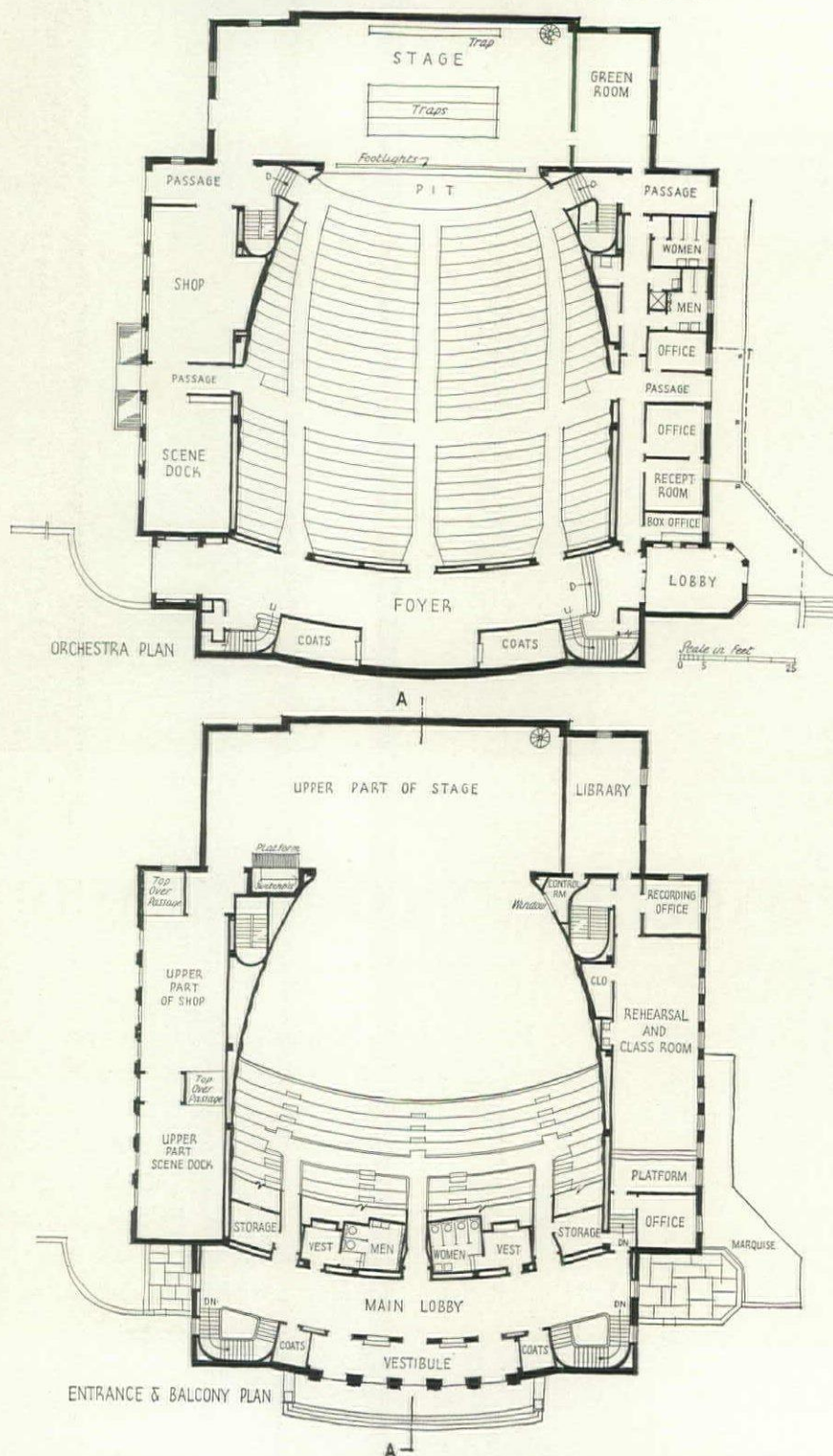


WEST FRONT facing the campus.

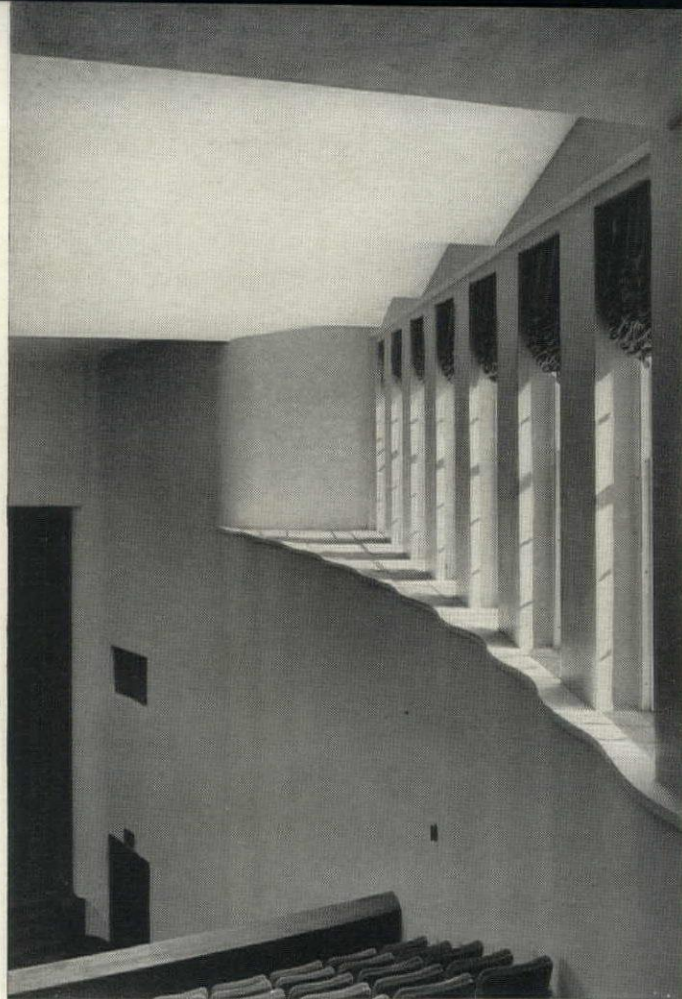
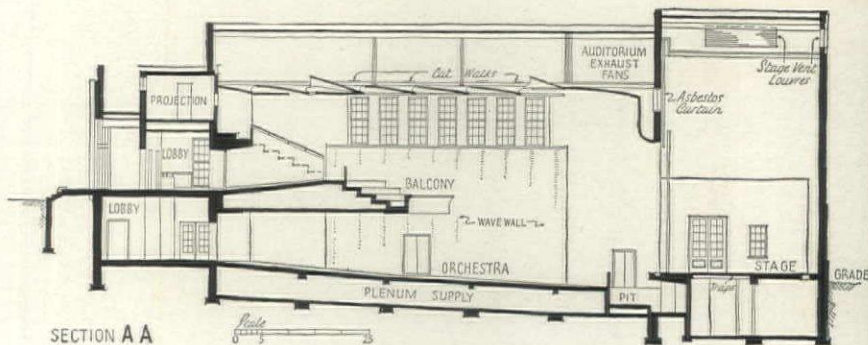


SOUTH FRONT with motor entrance and parking space.

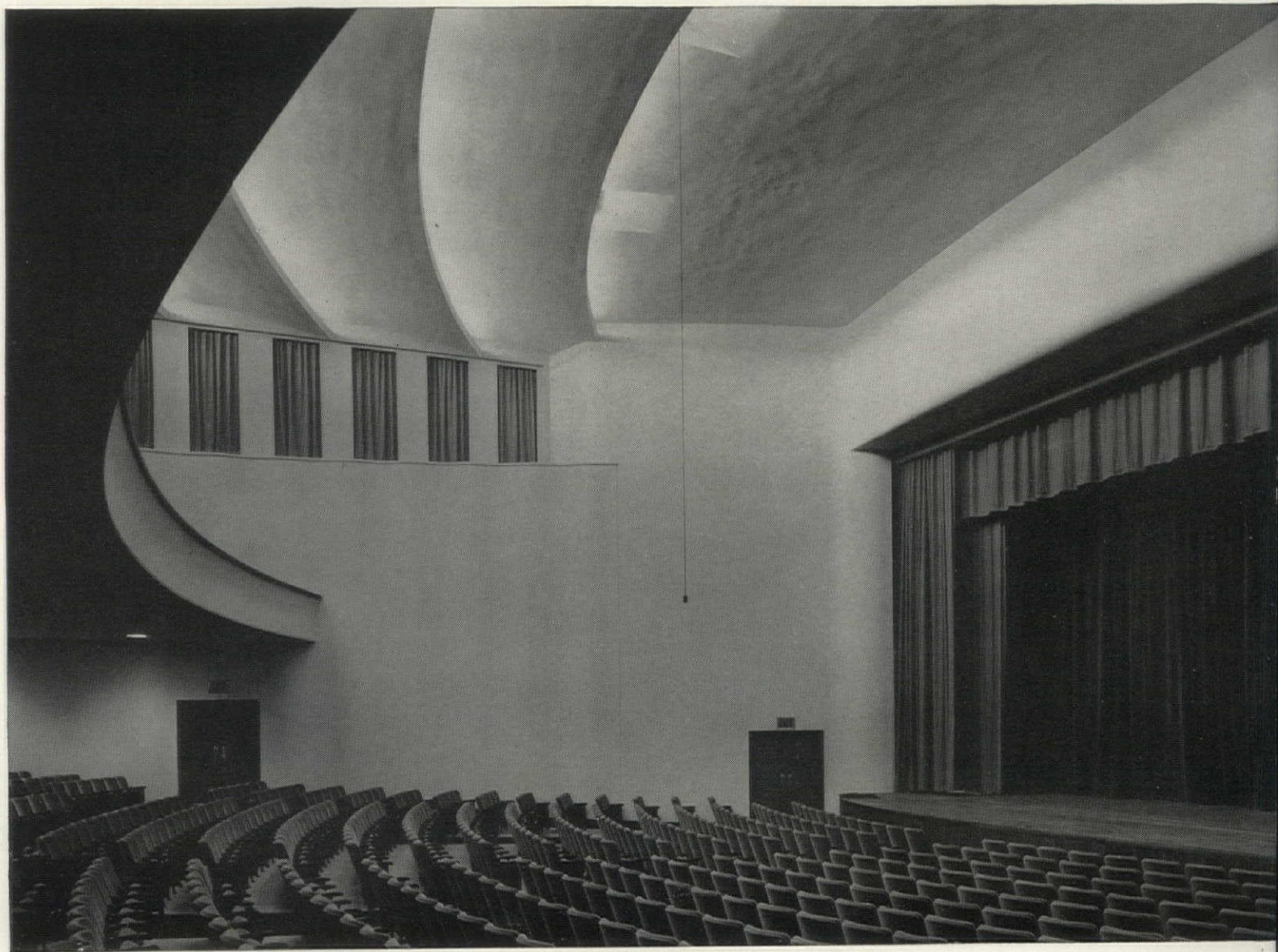
To satisfy the demands upon an auditorium that must be used for various purposes, the ratio of audience space to stage space should also be variable. Stage needs of the college at commencement time and of the community for a symphony concert may call for one ratio; student dramatics call for another. For community use, seating capacity should be as large as possible; for college use, less is desirable. The ideal could be met by building two or more halls. Efforts were made to devise one room which could be both large and small, but the final answer was a hall having a seating capacity to fit the minimum city requirements and the maximum for college use. The orchestra pit is always a stumbling-block; if too large it greatly handicaps intimate drama; if too small it limits the use of the building as a concert hall. Lacking budgetary provision for a mechanically raised and lowered pit, the solution here was to provide the full orchestra pit and a sectional floor, manually removable, which could be set at either auditorium or stage level. Proscenium opening was governed by occasions such as commencements, symphonies or chorals, requiring the maximum of 46 ft. in width, and a height of 24 ft. The exit provisions, it will be noticed, are decidedly more ample than the usual practice—the three sets of exits on each side resulting from statutory requirements of Connecticut. The budget limited the stage equipment to basic elements, and these were provided to permit other desirable equipment to be added later without expensive revamping of the original framework. It is interesting to note that the expenditure for the stage switchboard with its cross connecting panel—the heart of any stage—was approximately 35 per cent of the total cost of all stage equipment, exclusive of outlets, outlet wiring, house lights and dimmers.



Windows at the balcony level, the sill of which indicates the vertical wave treatment of the side walls—an aid in acoustical correction. Light proof curtains are electrically operated.



AUDITORIUM. Six breaks in the ceiling follow the curved lines of the seating and provide concealed trough lighting. Color scheme: warm gray walls deepening to soft peach in the rear; blue carpet and seats; raisin-color curtains.





LOBBY at balcony level

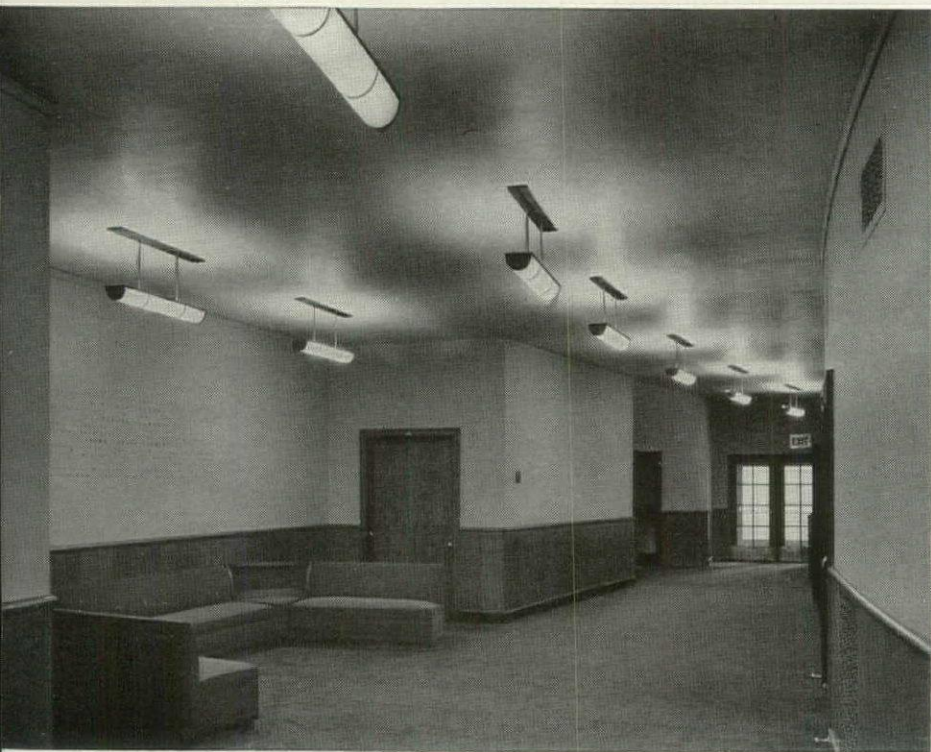
CONSULTANTS:

In the formative period of the design STANLEY McCANDLESS served as consultant for the stage requirements.

Engineers for mechanical, ventilating and lighting equipment, MEYER, STRONG & JONES.

Engineer for acoustics, VESPER SCHLENKER.

FOYER at orchestra level

**CONSTRUCTION OUTLINE**

FOUNDATIONS: Stone concrete. Waterproofing—cement coat, R. B. Holtz Co.

STRUCTURE: Exterior walls—granite and Indiana limestone, Indiana Limestone Co., brick backing and hollow tile furring; inside plaster. Structural steel—Haarmann Steel Co. Floor construction—Mac-Mar steel joists, Bethlehem Steel Co., and reinforced concrete arches.

ROOF: Concrete slab, 1 in. Johns-Manville Corp. insulation board, covered with Barrett Co. Bonded membrane roofing, slag finish.

SHEET METAL WORK: Flashing—copper, Revere Copper & Brass Co. Ducts—galvanized iron.

WINDOWS: Sash—double hung, wood. Glass—polished plate and double strength.

STAIRS: Steel, cement treads; some carpet finish.

FLOOR COVERINGS: Aisles, lobbies—carpet, Persian Rug Manufactory; remainder—cement and Johns-Manville Corp. asphalt tile.

WOODWORK: Trim and interior doors—teakwood. Exterior doors—white pine.

HARDWARE: By Russell & Erwin Mfg. Co.

ELECTRICAL INSTALLATION: Wiring system—conduit. Stage switchboard, panels and dimmers—Trumbull Electric Co.

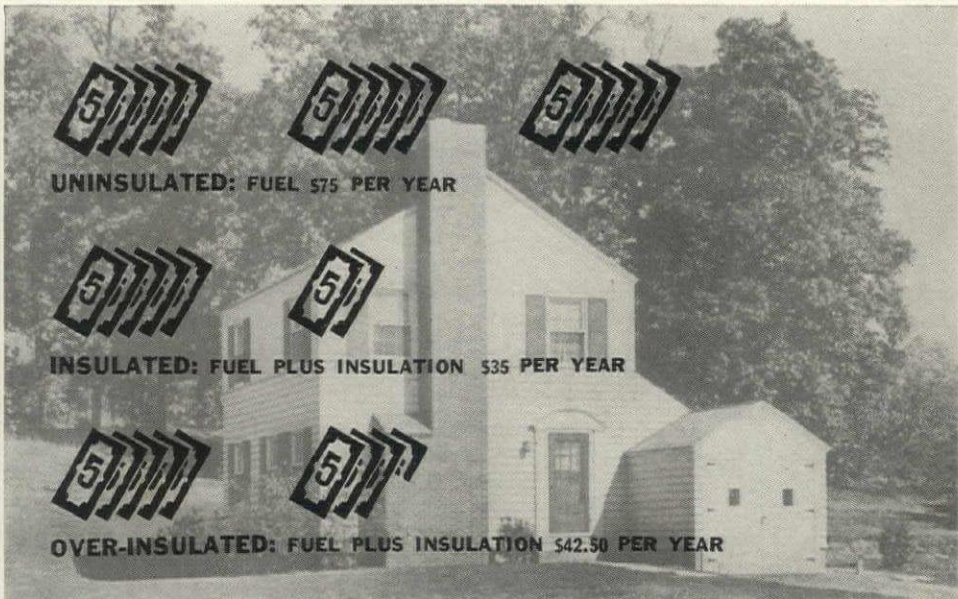
PLUMBING: Soil pipes—cast iron and steel. Hot and cold water pipes—brass. Toilet fixtures—American Radiator and Standard Sanitary Mfg. Co. Accessories—Charles Parker Co.

HEATING: Vapor system and thermostats, Webster-Talmadge Co. Water heater—Whitlock Coil Pipe Co.

PRODUCTS AND PRACTICE

If someone broke a window in your house, you would replace it as quickly as possible. One reason for this is that the heat which would escape through the broken pane in the winter would soon cost you more than to replace the glass. The heat which escapes through an uninsulated wall is not so obvious, but the same principle applies: it costs more than adequate insulation. What amount of insulation will be cheapest to own depends on the combined cost of heat and insulation; not until the insulation is paid for is the full fuel saving actually realized.

The article below, by E. J. Rodee, of the John B. Pierce Laboratory of Hygiene, New Haven, Conn., tells how to estimate this combined cost—within the limits of accuracy set by the factors now used to determine maximum heating load. Besides this important qualification, it should also be emphasized that the method ignores both the question of summer comfort and cooling cost savings as well as advantages incidental to insulation. With due allowance for these factors, however, it provides a good way to prove insulation's main sales point—economy.



COMBINED COSTS of heat and insulation during a 20-year amortization period for a small, 5-room house in Milwaukee, as estimated by the method described below. Adequate insulation, including storm sash, is shown to reduce this cost by more than half and even "over insulation"—including such items as double glazing and storm sash—saves 43 per cent. After the insulation is paid for, the annual savings, as shown by the detailed figures on page 166, total \$55. Miscellaneous heat losses, which would increase the total fuel bill, but are unaffected by insulation, are ignored.

INSULATION ECONOMICS

In many dwellings built today some form of insulation is included in the side walls and roof, and in nearly every case the problem of such insulation was at least considered when the structure was built.

House insulation is important from two angles; for added comfort, by reducing the surface temperature difference between the body and the exposed walls, and from an economical viewpoint, by reducing the size of the heating equipment and the seasonal cost of fuel. While the added comfort is very important, only the economy will be discussed in this article.

It is a well known fact that in localities with cold climates and far removed from sources of fuel, greater dividends will be returned on the money invested for insulation than in a warm climate, especially if the latter locality is near some source of cheap fuel. Just how much insulation is to be used in a building is very often determined by the advertising the owner or builder has read or by the insulation salesman who has contacted him. Insulation should be regarded as an investment, and it should be carefully selected in order to obtain the greatest return per dollar invested.

The architect, in selecting the insulation, usually considers it from its structural characteristics only, whether it is fireproof, vermin-proof, moistureproof, and its heat transmission coefficient. He will specify the same amount of insulation whether the owner will be paying \$6 a ton for coal or \$12 a ton. If the climate is severe, he will specify more than if the climate is mild, but seldom will he take into consideration all the factors which govern the most economical selection.

The optimum amount of insulation can be selected quite readily if the following factors are known or can be accurately estimated:

A. OPERATING EXPENSES

- 1. Average number of degree days per heating season
- 2. Over-all heat transmission coefficient of a unit area of side wall or roof
- 3. Over-all seasonal efficiency of the heating plant
- 4. Average unit cost of fuel used

B. CONSTRUCTION COST

- 5. Cost of a unit area of insulation installed
- 6. Interest rate of money invested
- 7. Period of amortization

The problem resolves itself into two components, first, the cost of the heat lost through a unit area of wall for a heating season or per year, which is determined by the first four above named factors, and second, the yearly cost of a unit area of side wall which is determined by the last three factors. When the sum of these two values, the cost of the heat lost through a unit area of wall and the yearly cost of a unit area of insulation, is a minimum, then that will be the most economical insulation.

The first value, the annual cost of producing the heat lost through a unit wall area, can be calculated by means of a formula and a constant. A different constant is necessary for each type of fuel because fuel is purchased on a weight or volumetric basis and not on a heat content basis. The formula is as follows:

C x { (Coef. of Heat Transmission x Degree Days x Unit Cost of Fuel) / (Btu. Content of Fuel x Seasonal Efficiency) } = Cost of Heat Lost Through 100 sq. ft. Exposed Area per year

The following table gives the constants to be used with the various types of fuels:

Fuel	Unit Cost of Fuel Expressed in	Btu. Content of Fuel Expressed in	Constant (C) for formula
COAL OR COKE	Dollars/ton	Btu./lb	1.22
OIL	Dollars/gallon	Btu./gallon	2,410.
GAS	Dollars/100 cu. ft.	Btu./ cu. ft.	2.42
ELECTRICITY	Dollars/kw. hr.	Btu./kw. hr.	2,420.

The example shown illustrates the use of the above formula and constants:

No. 2 Fuel Oil	0.06 per gallon
Number of Degree Days	6,000 degree days
Heat transmission coefficient of wall	.25
Efficiency of heating plant	.65 per cent
Btu. per gallon, No. 2 Fuel Oil	138,500

2,410 x (.25 x 6,000 x .06) / (138,500 x .65) = \$2.41

\$2.41 is the net cost of fuel required to supply the heat lost through 100 sq. ft. of wall area per heating season. This value

plus the interest and amortization of the money invested in 100 sq. ft. of insulation, should equal a minimum.

In order to facilitate the calculation necessary to arrive at the most economical amount of insulation, graphs have been drawn with the above variables combined in various ways so that the answer can be obtained with a minimum of calculation. While it has been shown that the cost of fuel required to supply the heat lost through 100 sq. ft. of wall area can be found by use of a formula, graphs A to D inclusive have been prepared to obtain this value for any heat transmission coefficient, any number of degree days, and for any kind of fuel used. These graphs give a much simpler and clearer method of obtaining this value and show instantly how any one of the variables affects the final answer.

Graph A is a series of curves plotted with transmission coefficient "U" as abscissa and steam corresponding to heat lost per 100 sq. ft. of exposed area per heating season as the ordinate (logarithmic scales). The diagonal lines are degree days per heating season. Knowing the transmission coefficient of a wall and the degree days in the locality, the amount of heat in equivalent pounds of steam which will be lost through 100 sq. ft. of wall area per heating season can be obtained. For example, if a certain uninsulated wall has an over-all heat transmission coefficient (Btu. per sq. ft. per hour per degree F temperature difference) of 0.25 and the number of degree days per heating season is 6,000, then the pounds of steam required to compensate for this heat loss will be 3.73 thousand.

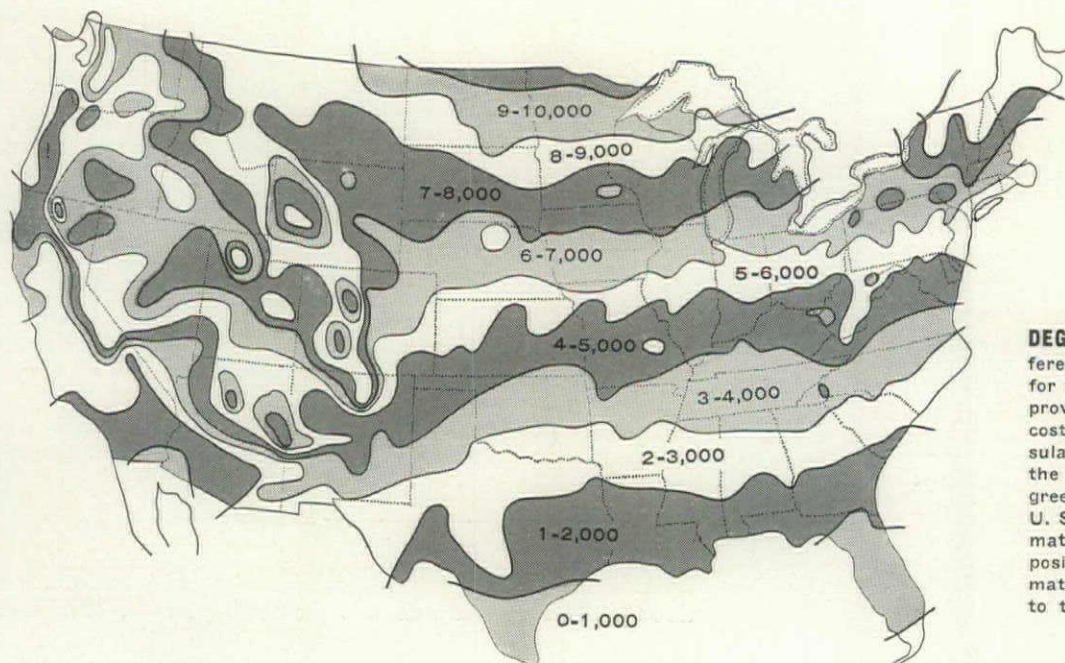
Graphs B1 to B3 inclusive, are conversion graphs for three different kinds of fuel; Coal, Oil, and Gas. These graphs are used to convert the unit cost of fuel, such as dollars per ton of coal, cents per gallon of oil, or cents per 1,000 cu. ft. of gas, to a heat equivalent cost such as cents per 100,000 Btu. This value represents the actual cost of the heat available in the fuel. In order to convert this cost, 100,000 Btu. of heat available in fuel, to the useful heat which is obtained from combustion, the seasonal efficiency of the heating plant must be known. Graph C1 is used to convert the cost of the available heat in the fuel to the cost of the heat actually given up to the building by the fuel resulting from combustion. This is shown on the ordinate of this graph as cost of steam in dollars per 1,000 pounds. This term, 1,000 pounds of steam, has been used instead of a certain number of Btu. to eliminate confusion by showing that the heat now is in a form 100 per cent useful and the efficiency of the boiler and furnace has been accounted for. Also, there are many data published on cost of producing steam in terms of this unit, so that if the cost per 1,000 pounds of steam is known, it will not be necessary to use the Fuel and Heating Plant Efficiency Graphs B1 to C1, inclusive. This will apply more to large structures such as office

buildings and apartment houses rather than to one- and two-family houses. This term, as used here, will apply regardless of the heating medium, whether it is steam, hot water, or warm air. It is used only to express the cost of so many useful heat units delivered to the building.

Graph C2 is for use with electric heating. Inasmuch as electric power, when used for heating, may be converted into heat with 100 per cent efficiency, the cost per kilowatt hour can be converted directly into an equivalent cost per 1,000 pounds of steam, merely making allowance for incidental losses in the case of systems employing storage tanks for the use of off-peak power. Graph D is used to ascertain the yearly cost of the money invested in insulation installed. From this graph can be found the yearly cost of \$1 invested in the building, provided the yearly interest rate is known and the useful life of the building is assumed. The number of years for amortization may be taken as the useful life of the building if the building is treated in the same manner as a piece of mechanical equipment, that is, it is amortized over the period of its useful life. Many one-family houses continue to be useful dwellings for a period of at least 60 to 80 years. There are some, however, who will say that 20 years should be the maximum period of amortization for any equipment or building, and if the original investment plus interest cannot be returned in that length of time, it is a poor investment. Where houses or apartments are built for rent this is, no doubt, the case, especially in localities where land values are continually increasing.

No differentiation has been made between roofs and side walls in the use of these graphs when calculating insulation. A differentiation should be made because the temperature of the air at the ceiling level is usually higher than the average air temperature at the side walls. This temperature gradient between floor and ceiling is governed primarily by the type of heating plant (whether steam, hot water, gravity warm air, or forced warm air), the height of ceiling, and the temperature difference between inside and outside. The difference between the air temperature near the ceiling and outside air temperature will be 5 per cent to 15 per cent higher than the average air temperature in the room which governs the heat loss from the side walls. Therefore, under the same outside temperature conditions and the same type of construction, a unit area of roof or exposed ceiling loses approximately 10 per cent more heat than the same unit area of side wall. In order to use Figure A for determining the seasonal heat loss per unit area of roof, 5 to 15 per cent should be added to the actual number of degree days. For example, if the average number of degree days was 6,000 per heating season for a certain locality, then, when making roof calculations, 6,000 plus $(.10 \times 6,000) = 6,600$ degree days should be used.

It has been stated previously that the seasonal efficiency of the



DEGREE DAYS, based upon temperature difference and time (one degree below 65° F. for a 24-hour period equals one degree day), provide the best basis for figuring heating costs, which must be estimated before insulation savings can be computed. Map at the left shows the average number of degree days per year in different parts of the U. S., by zones of 1,000. To find the approximate number for your locality, spot its position in relation to State lines, then estimate degree days in hundreds in proportion to the distance between zone boundaries.

heating plant should be used rather than the efficiency as found by laboratory tests. The efficiency of a boiler and burner is usually based on the temperature and analysis of the flue gases at the smoke hood with the radiation losses subtracted. This is not the true efficiency of the heating plant because, in the case of an inside chimney, useful heat is extracted from the flue gases up to the point where the chimney leaves the building and the radiation loss from the boiler is not a total loss because some of this heat is used to heat the lower floor of the building. Against this increase in efficiency there is a loss caused by soot formation on the boiler through the heating system, and variation in efficiency caused by varying loads, especially with a coal-fired boiler. It is usually not advisable to use a seasonal efficiency greater than 70 per cent for gas or oil fired heating systems, and for coal-fired, they should be lower. Fifty-five to 65 per cent is the maximum for a stoker-fired heating plant or a gas or oil conversation heating unit, and for a hand-fired residential heating plant, 50 per cent is a reasonable figure to use for the over-all seasonal efficiency. The savings resulting from a smaller heating plant should be subtracted from the cost of the insulation to arrive at a net cost of insulation. Example: if a building had 10,000 sq. ft. of insulated side wall with insulation costing \$12 per 100 sq. ft. and the saving resulting from a smaller heating system was \$200, then for each 100 sq. ft. of side wall the net cost of the insulation would be

$$\$12 - (\$200 \text{ divided by } \frac{10,000}{100}) = \$12 - \$2, \text{ or } \$10$$

Degree days have been used instead of length and mean temperature of the heating season. Degree days are published in nearly every heating handbook as well as being published by the U. S. Weather Bureau for nearly every city in the United States and Canada. It is difficult to find, in some instances, the length of heating seasons in some localities, and if the mean temperature is given it is not always stated whether it is for the actual heating season or for 210 days, from October 1 to May 1. Degree days do have the disadvantage that the data are based on buildings

which are assumed to require no heat when the mean daily outside air temperature is 65° F. This is true of most buildings except warehouses and buildings requiring a temperature other than 70° F. for certain commercial purposes.

The following examples are used to show how the various factors influence the amount of insulation to be selected.

Example 1:

Average number of degree days per heating season.....	6,000
Cost of fuel (No. 2 fuel oil)	6 cents per gallon
Seasonal efficiency of heating plant.....	65 per cent
Interest rate of money.....	5 per cent
Period of amortization.....	50 years
Heat transmission coefficient, uninsulated wall.....	0.25
Heat transmission coefficient, wall insulated with	
Type "A" insulation	0.10
Heat transmission coefficient, wall insulated with	
Type "B" insulation	0.15
Cost of 100 sq. ft. of Type "A" insulation installed.....	\$12
Cost of 100 sq. ft. of Type "B" insulation installed.....	\$6.50

To find which type of wall will be the most profitable investment:

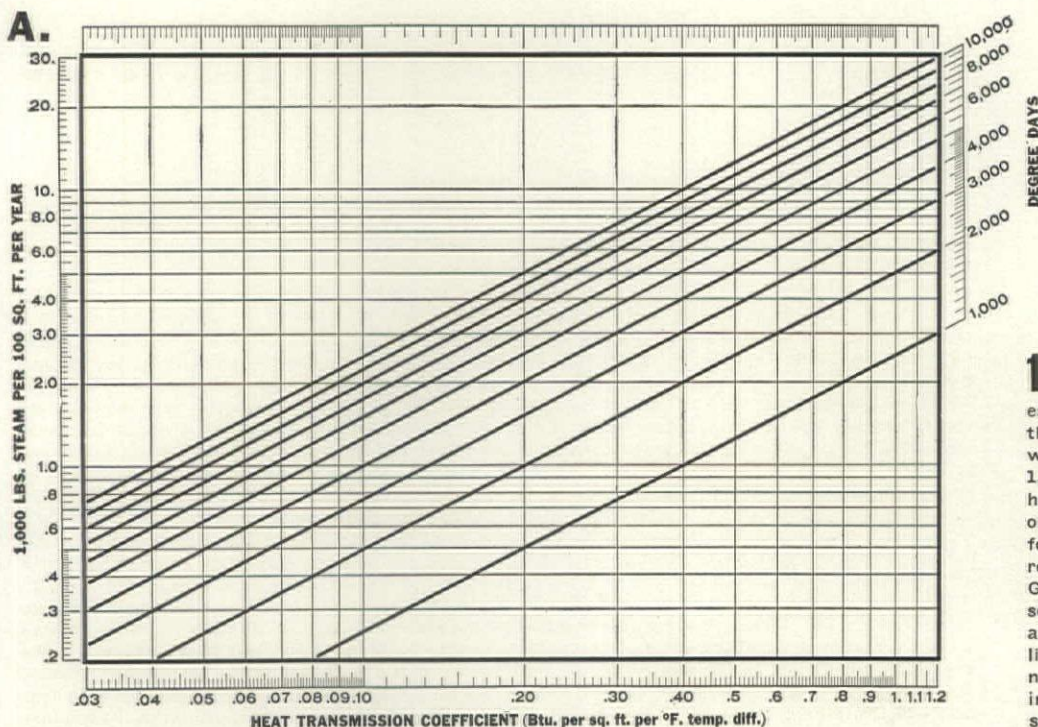
WALL	Coef. of heat transmission	Degree days	1,000 lbs. steam per 100 sq. ft. wall area	Cost in dollars per 1,000 lbs. steam	Fuel cost in dollars per season per 100 sq. ft. wall area
Uninsulated	0.25	6000	3.73	0.645	2.40
Type "A" insulation. 0.10	0.10	6000	1.50	0.645	0.97
Type "B" insulation. 0.15	0.15	6000	2.24	0.645	1.445
Step	1	2	3		

From Graph B2 for fuel oil at 6 cents per gallon, 100,000 Btu. available heat will cost 4.33 cents. Using this value just obtained on the efficiency graph (C1) and 65 per cent seasonal efficiency,

SEVEN STEPS

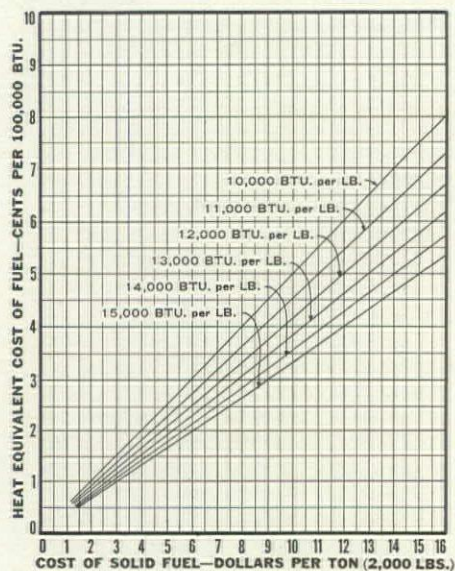
are required to estimate the combined cost of heat loss plus insulation cost needed for a valid comparison of the savings due to varying amounts of insulation. These have been made simple and easy in the method outlined below. Steps 3 and 6 are multiplication, step 7 addition, and the rest—with the exception

of estimating insulation cost—may be solved graphically with the charts on this and the following two pages. For convenience in following the method, captions are numbered from 1 to 7, and the examples on page 166 bear the same numerals to identify each line in the computation.

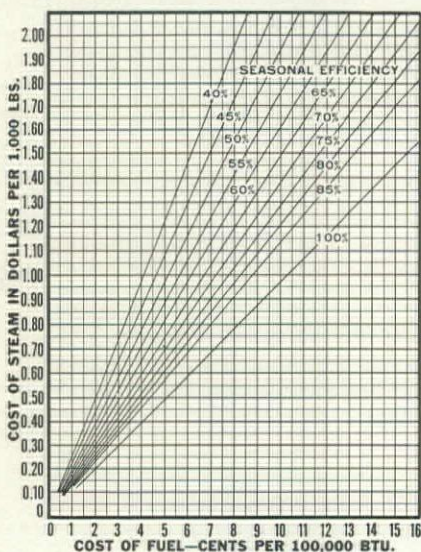


1. HEAT LOSS. Chart A (left) is used to estimate the amount of heat escaping through a given area of roof, sidewall, or window per average season—measured in 1,000 lbs. steam regardless of the type of heating actually used. To use the chart, obtain the coefficient of heat transmission for the construction contemplated from a reference work such as the A. S. H. V. E. GUIDE, locate this point on the horizontal scale, draw a vertical line through this point, and read answer at the height at which your line crosses the diagonal representing the number of degree days for your locality. For infiltration, use coefficient for crack corresponding to average wind velocity in your area.

B1: COAL



C1: SEASONAL EFFICIENCY



AVERAGE HEAT CONTENT OF FUELS

Kind of Fuel	Heat Content
--------------	--------------

COAL	
Anthracite	13,300 Btu. per lb.
Semi-bituminous	14,000 Btu. per lb.
Bituminous, high grade..	13,500 Btu. per lb.
Bituminous, medium grade	12,000 Btu. per lb.
Bituminous, low grade...	10,500 Btu. per lb.

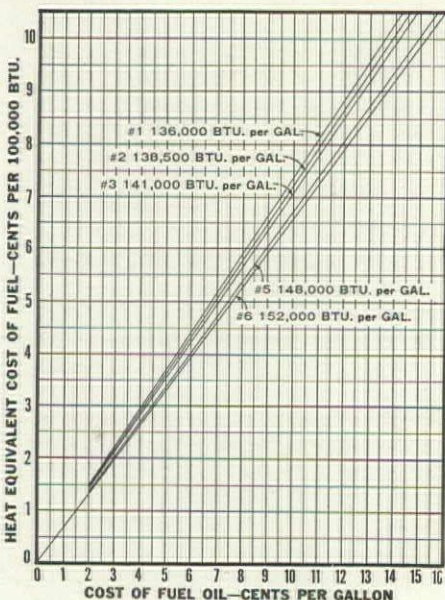
COKE	11,500 Btu. per lb.
-------------	---------------------

FUEL OIL	
No. 1, or range oil.....	136,000 Btu. per gal.
No. 2, domestic burner...	138,500 Btu. per gal.
No. 3, domestic burner...	141,000 Btu. per gal.
No. 4, power burner.....	144,500 Btu. per gal.
No. 5, power burner.....	148,000 Btu. per gal.
No. 6, ("Bunker C" oil) ..	152,000 Btu. per gal.

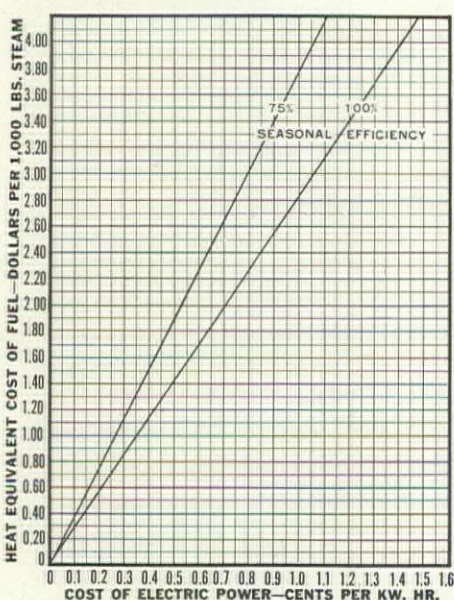
GAS	
Manufactured.....	535 Btu. per cu. ft.
Natural (California).....	1,087 Btu. per cu. ft.
Natural (Mid-continent) ..	837 Btu. per cu. ft.
Natural (Ohio).....	1,025 Btu. per cu. ft.
Natural (Pennsylvania)...	1,120 Btu. per cu. ft.
Mixed (Mfg. and nat.) ...	750 Btu. per cu. ft.

ELECTRICITY	3,415 Btu. per kw. hr.
--------------------	------------------------

B2: OIL



C2: ELECTRICITY

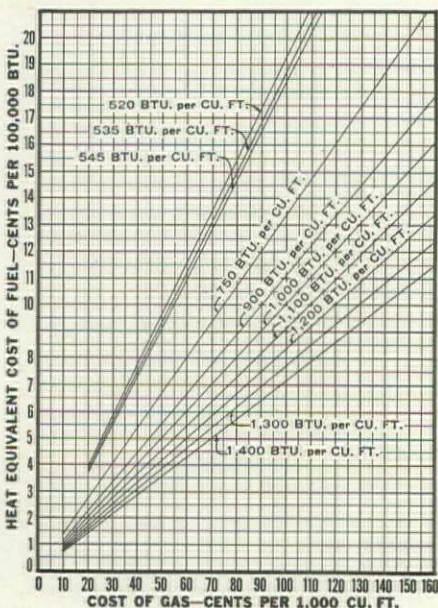


SEASONAL EFFICIENCY OF HEATING PLANTS*

Kind of Furnace	Efficiency, per cent
Hand-fired anthracite.....	50 to 55
Hand-fired bituminous.....	40 to 50
Stoker fired coal.....	55 to 65
Oil conversion.....	60 to 65
Oil furnace.....	65 to 70
Gas.....	65 to 70
Electricity	
Space heaters, thermostatically controlled	100
Off-peak storage boiler.....	75

* These are average efficiencies for the entire heating season for domestic plants; taking into account furnace losses and average handling. In the case of large boilers with expert attention, both hand-fired and stoker-fired furnaces would be more efficient.

B3: GAS



2. HEATING COST. This step is the most complicated, since it involves several variables. Except where the fuel is electricity, it requires two stages: determination of the cost of heat in the fuel, and the cost of heat actually utilized in heating—the latter depending on the seasonal efficiency of the heating system. For the first, locate on the proper chart in the left hand row (B1, B2, or B3) the average price in your locality. Draw a vertical line through this point and read cost of heat at the boiler (measured in 100,000 Btu. units) at the height where it intersects the diagonal line representing the heat content of the fuel. Second, transfer this result to the horizontal scale of Chart C2 and by a similar process determine the seasonal cost of heat (measured in units of 1,000 lbs. steam), using the diagonal representing the proper seasonal efficiency. For electric heat, follow the same procedure in a single stage on Chart C2. To illustrate this process for oil fuel: Number 2 fuel oil, at 6 cents a gallon and with a heat content of 138,500 Btu. per gallon, gives (Chart B2) a heat cost at-the-boiler of about 4.3 cents per 100,000 Btu. This figure, when converted on Chart C1 for a seasonal efficiency of 65 per cent, works out to \$0.68 per 1,000 lbs. steam per season.

3. HEAT LOSS COST. Having determined the amount of heat lost through a given area in 1,000 lb. steam units (Step 1), and the cost of supplying heat in the same unit (Step 2), the cost of the heat lost is figured by simply multiplying result 1 by result 2. To illustrate, using the cost just obtained for No. 2 fuel oil and a typical uninsulated frame wall with a heat loss of 2,500 lbs. steam per season, the cost is 2.5 x .68 or \$1.70 per 100 sq. ft. of wall area per season—or, for a house having 2,000 sq. ft. of exposed wall, \$34 per year.

the fuel cost of 1,000 pounds of steam will be \$0.645. This value, 0.645, multiplied by the number of pounds of steam required to be supplied per heating season to compensate for the heat lost through 100 sq. ft. of exposed wall area, will give the cost as shown in Step 3. This, of course, shows that the wall with the lowest heat transmission coefficient is the most economical to heat, but now it is necessary to determine whether it shows the greatest over-all economy when the cost of insulation is considered. From Graph D, using an amortization period of 50 years and 5 per cent interest rate, the cost per year of \$1 invested will be \$0.0557. A second table can now be constructed using this value (\$0.0557 per year per dollar invested) and the unit fuel cost per year to find the total cost.

WALL	Cost of insulation per 100 sq. ft., in dollars	Yearly cost of insulation per dollar invested, in dollars	Annual cost of insulation (Col. 1 x Col. 2), in dollars	Fuel cost per 100 sq. ft. wall area, in dollars	Total annual cost per 100 sq. ft. wall area (Col. 4 + 5), in dollars
Uninsulated	0	0.0557	0	2.40	2.40
Type "A" Insulation. 12.00	12.00	0.0557	0.668	0.97	1.638
Type "B" insulation. 6.50	6.50	0.0557	0.361	1.445	1.806
Step	4	5	6	3	7

The results from this example show that the wall with Type "A" insulation will be the most economical.

Example II: To show the influence of climate or number of degree days. All values are the same as in Example I, except the number of degree days is 3,500 instead of 6,000.

WALL	Cost of Fuel per 100 sq. ft. wall area per heating season, in dollars	Annual cost of insulation, in dollars	Total annual cost (Col. 3 + Col. 6), in dollars
Uninsulated	1.40	0	1.40
Type "A" Insulation	0.565	0.668	1.233
Type "B" Insulation	0.842	0.361	1.203
Step	3	6	7

In this example, Type "B" insulation is the more economical investment, although its insulation properties are not as good as Type "A."

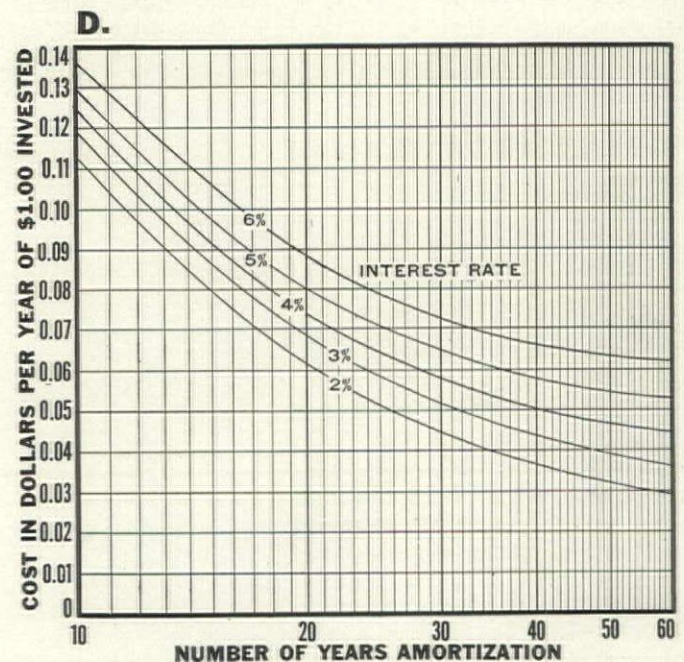
Example III: To show how the number of years for amortization affects the problem.

All values are the same as in Example I, except the period of amortization is 20 years instead of 50 years.

WALL	Cost of Fuel per 100 sq. ft. of wall area per heating season, in dollars	Annual cost of insulation, in dollars	Total annual cost per 100 sq. ft. wall area, in dollars
Uninsulated	2.40	0	2.40
Type "A" insulation	0.97	0.962	1.932
Type "B" insulation	1.445	0.521	1.966
Step	3	6	7

This example again shows that under the above conditions, insulation is desirable and that the more expensive insulation with the lower heat transmission coefficient is the more economical. This same set of graphs can be used in computing economies obtained by using storm sash or multiple glazed windows.

4. INSULATION INVESTMENT. The fourth step is to estimate the net cost of the installed insulation. Wherever possible, this figure should be an actual bid for the work under consideration, since even slight variations in the assumed unit cost have a considerable effect on results. Similarly, savings in the initial cost of the heating plant, which are deductible from insulation cost in new work, should also be figured from bids. Where costs must be estimated, it is important to remember that additional thickness of insulation seldom costs as much per inch as the original amount, since the labor of installing it is little more, but that the reverse is true of heating plant savings; also, that insulation sometimes replaces other materials the cost of which should be deducted from that of the insulation. Conservative rule-of-thumb for figuring heating plant savings in small house work, useful for early stages of the computation when several types of insulation are still under consideration, is to allow \$1.50 for every reduction of 1,000 Btu. in the maximum heat load at design outdoor temperature. This will give some idea of what the heating plant savings use to insulation will amount to, in a particular part of the construction, and can be checked later by a comparison in which the maximum heat loss for the entire house is considered.



5. AMORTIZATION. Next, use Chart D (above) to determine the annual cost per dollar invested. This depends on the interest rate, fixed by the financing available, and the amortization period you wish to consider, which is largely a matter of judgment. Thus while most insulation becomes a permanent part of the building and may therefore have a useful life of 60, 70, or even 100 years, it is usually paid for over a considerably shorter period, and this may be the primary consideration in deciding how much to use. Best basis would seem to be the actual amortization period of the mortgage, since it is on this that costs-to-the-owner will depend during the period of the loan, but it should always be remembered that the savings due to insulation will not cease when the loan has been retired, but, on the contrary, will increase—since insulation costs need no longer be subtracted from fuel savings.

6. ANNUAL INSULATION COST. Having decided upon the amortization period and determined the annual cost per dollar invested, multiply the estimated net insulation investment by this factor to obtain the annual cost of insulation during the amortization period, (result 4 by result 5). This figure is comparable and complimentary to that previously obtained as the annual cost of heat loss (Step 3).

7. COMBINED COSTS. Finally, add results 3 and 6 to obtain the combined annual cost of heat loss and insulation. This figure may then be compared with results of similar computations for varying amounts of insulation to discover the economic quantity, as in the examples on the following page. As indicated by the examples, succeeding computations are simplified by the fact that items 2 and 5 are constant, and, beyond multiplication and addition, all that is required to repeat the process for a series of walls are the varying coefficients of transmission and net cost estimates. In addition to its use in such comparisons, architects and others will no doubt find the method helpful in estimating overall heating costs with different fuels, and in comparing these for various contemplated schemes having more or less roof and window area, etc., although in the latter case it must be remembered that no allowance is made for solar heat-gain.

EXAMPLES. In presenting illustrations* of the use of the method explained on the preceding pages, THE FORUM is well aware of the danger that undue significance may be attached to the results of the purely arbitrary calculations given below. Therefore, several and important words of caution are necessary:

1. The examples are not intended to form the basis for any broad generalizations, such as the comparative value of various types of insulation, since it is the essence of the method illustrated that such comparisons be made only in terms of a particular installation at an actual time and place.
2. The estimated heat saving naturally does not consider special factors of exposure, wind velocity, etc., present in almost every instance, nor does the estimated heat-cost saving take into account local variations in fuel cost (in all cases, cost of heat is figured at 50 cents per 1,000 lbs. steam—which corresponds approximately with stoker-burned buckwheat at \$7.75 per ton). Since the figured fuel cost is low, most actual calculations should show results more favorable to insulation than those given. Moreover, no particular kind of wall and roof insulation has been designated, but rather the general classifications "1 in.," "2 in.," "4 in.," etc., so that exact savings for particular types must be computed, for reliable results, using coefficients from the A.S.H.V.E. Guide or other standard sources.
3. Most important, the figure "Net Insulation Investment" is merely an estimate, which undoubtedly would vary widely in particular cases. An

*Prepared by The Architectural Forum

effort has been made to figure a deduction for savings in the initial cost of the heating plant resulting from the use of insulation, but the size of such savings, and the question of whether or not they would actually be realized in practice, would depend largely on the size of the heating plant in a particular instance, and whether a smaller furnace or boiler, etc., could be used as a result of the insulation.

4. Finally, the 20 year amortization period used in the calculations may or may not correspond with actual conditions. Thus, while the useful life of most buildings certainly exceeds this figure, and many mortgages are now written for longer periods, some architects will no doubt wish to figure insulation-amortization for a more limited period. The main advantage of the method is that it leaves this entirely up to the owner and his architect, since any and all amortization periods can be figured with equal facility.

In order to show roughly the actual amount of money involved in this kind of calculation, the examples are based on the whole amount of wall, roof, etc., in a small, five-room detached house, rather than on 100 sq. ft. of area as suggested in the text. Thus, with the above reservations, the examples provide an index of the amount of money which may be saved by determining the economic amount of insulation, expressed in terms of annual cost, as well as an indication of how much work is involved in making this determination in the case of a typical house.

20 YEAR AMORTIZATION

CEILING—512 Sq. Ft.

	None	Insulation			None	Insulation		
		1"	2"	4"		4"	6"	8"
1. HEAT LOSS PER SEASON—1,000 lbs. steam.....	22.0	8.2	4.2	3.1	48.6	6.7	4.8	3.7
2. HEAT COST PER SEASON—\$ per 1,000 lbs. steam.....	.50	.50	.50	.50	.50	.50	.50	.50
3. HEAT LOSS COST PER SEASON.....	\$11.00	\$4.10	\$2.10	\$1.55	\$24.30	\$3.35	\$2.40	\$1.85
Estimated Heating Plant Saving.....		\$13.65	\$17.40	\$18.30	....	\$25.20	\$26.40	\$27.15
4. NET INSULATION INVESTMENT.....		\$13.50	\$26.00	\$36.00	....	\$29.00	\$41.50	\$54.25
5. AMORTIZATION COST—\$ per \$ per year.....		.076	.076	.076	....	.076	.076	.076
6. ANNUAL INSULATION COST.....		\$1.03	\$1.98	\$2.74	....	\$2.20	\$3.15	\$4.12
7. COMBINED ANNUAL COSTS.....	\$11.00	\$5.13	\$4.08	\$4.29	\$24.30	\$5.55	\$5.55	\$5.97
ANNUAL SAVING DURING AMORTIZATION.....		\$5.87	\$6.92	\$6.71	....	\$18.75	\$18.75	\$18.33
ANNUAL SAVING AFTER AMORTIZATION.....		\$6.90	\$8.90	\$9.45	....	\$20.95	\$21.90	\$22.45

WALLS—1,258 Sq. Ft.

	None	Insulation			None	Insulation		
		1"	2"	4"		2"	4"	6"
1. HEAT LOSS PER SEASON—1,000 lbs. steam.....	26.4	20.1	9.3	6.3	56.6	20.1	13.8	9.1
2. HEAT COST PER SEASON—\$ per 1,000 lbs. steam.....	.50	.50	.50	.50	.50	.50	.50	.50
3. HEAT LOSS COST PER SEASON.....	\$13.20	\$10.05	\$4.65	\$3.15	\$28.30	\$10.05	\$6.90	\$4.55
Estimated Heating Plant Saving.....		\$6.45	\$17.10	\$20.40	....	\$24.15	\$28.80	\$31.80
4. NET INSULATION INVESTMENT.....		\$13.10*	\$87.25	\$110.00	....	\$80.00	\$101.50	\$199.75**
5. AMORTIZATION COST—\$ per \$ per year.....		.076	.076	.076	....	.076	.076	.076
6. ANNUAL INSULATION COST.....		\$1.00	\$6.63	\$8.36	....	\$6.08	\$7.71	\$15.18
7. COMBINED ANNUAL COSTS.....	\$13.20	\$11.05	\$11.28	\$11.51	\$28.30	\$16.13	\$14.61	\$19.73
ANNUAL SAVING DURING AMORTIZATION.....		\$2.15	\$1.92	\$1.69	....	\$12.17	\$13.69	\$8.57
ANNUAL SAVING AFTER AMORTIZATION.....		\$3.15	\$8.55	\$10.05	....	\$18.25	\$21.40	\$23.75

* Cost difference between insulating sheathing and wood sheathing.

** Includes extra cost of construction for 6 in. studs.

WINDOWS—148 Sq. Ft., Crack—296 ÷ 2 = 148 lin. ft.

	None	Insulation			None	Insulation		
		Double * Glazing	Storm * Sash	Triple * Glass		Double * Glazing	Storm * Sash	Triple * Glass
1. HEAT LOSS PER SEASON—1,000 lbs. steam.....	20.1	11.2	10.0	8.0	43.5	24.2	21.7	17.1
2. HEAT COST PER SEASON—\$ per 1,000 lbs. steam.....	.50	.50	.50	.50	.50	.50	.50	.50
3. HEAT LOSS COST PER SEASON.....	\$10.05	\$5.60	\$5.00	\$4.00	\$21.75	\$12.10	\$10.85	\$8.55
Estimated Heating Plant Saving.....		\$8.55	\$9.75	\$11.85	....	\$12.00	\$13.65	\$16.65
4. NET INSULATION INVESTMENT.....		\$45.50	\$57.25	\$109.25	....	\$42.00	\$53.25	\$104.25
5. AMORTIZATION COST—\$ per \$ per year.....		.076	.076	.076	....	.076	.076	.076
6. ANNUAL INSULATION COST.....		\$3.46	\$4.35**	\$8.30**	....	\$3.19	\$4.05**	\$7.92**
7. COMBINED ANNUAL COSTS.....	\$10.05	\$9.06	\$9.35	\$12.30	\$21.75	\$15.29	\$14.90	\$16.47
ANNUAL SAVING DURING AMORTIZATION.....		\$.99	\$.70	....	....	\$6.46	\$6.85	\$5.28
ANNUAL SAVING AFTER AMORTIZATION.....		\$4.45	\$5.05	\$6.05	....	\$9.65	\$10.90	\$13.20

* Double glazing and storm sash (Double glazing means two panes of glass in same sash, does not affect infiltration).

** Does not include storm sash maintenance.

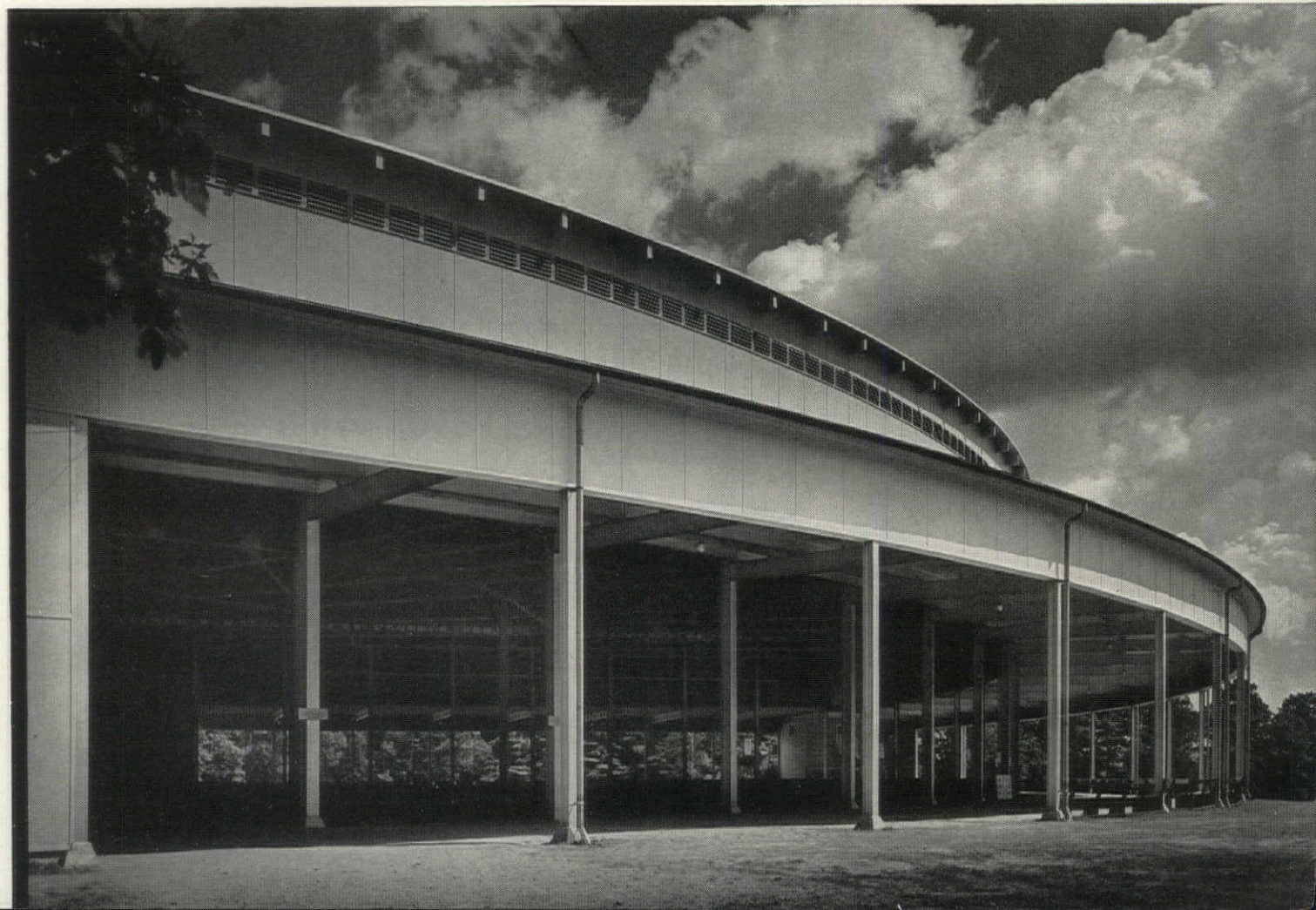


All photos, Ezra Stoller

BERKSHIRE SYMPHONIC MUSIC SHED

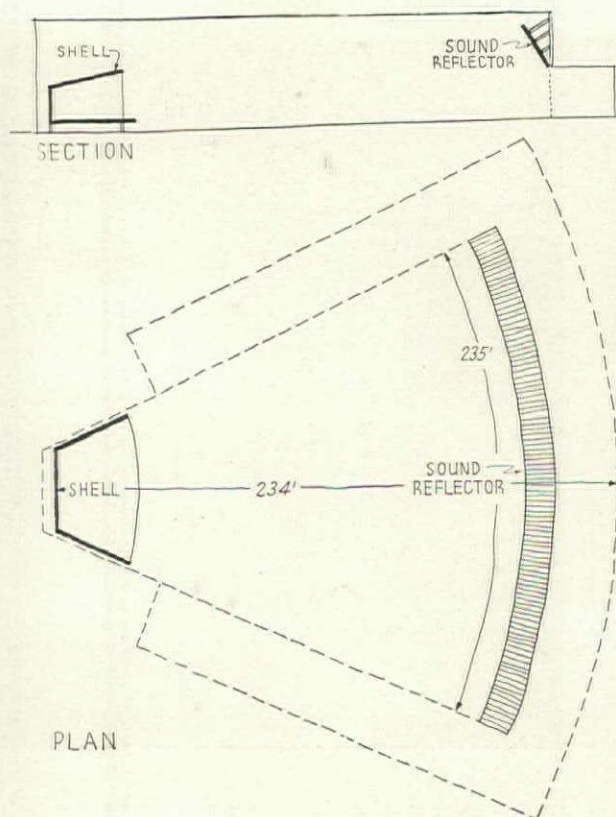
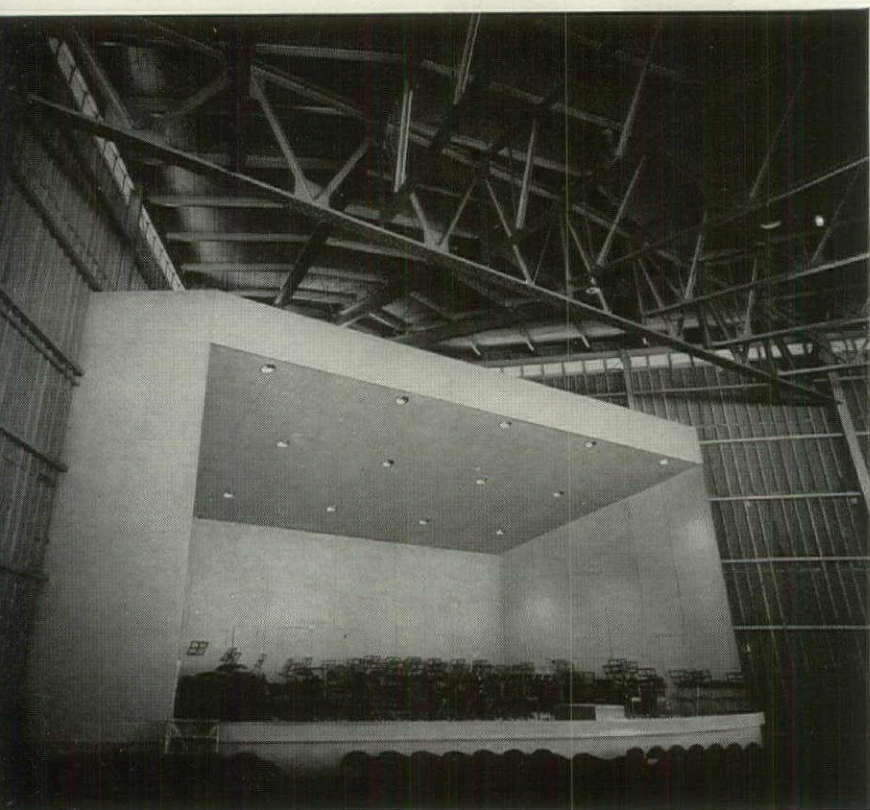
JOSEPH FRANZ, ENGINEER

TANGLEWOOD, STOCKBRIDGE, MASS.

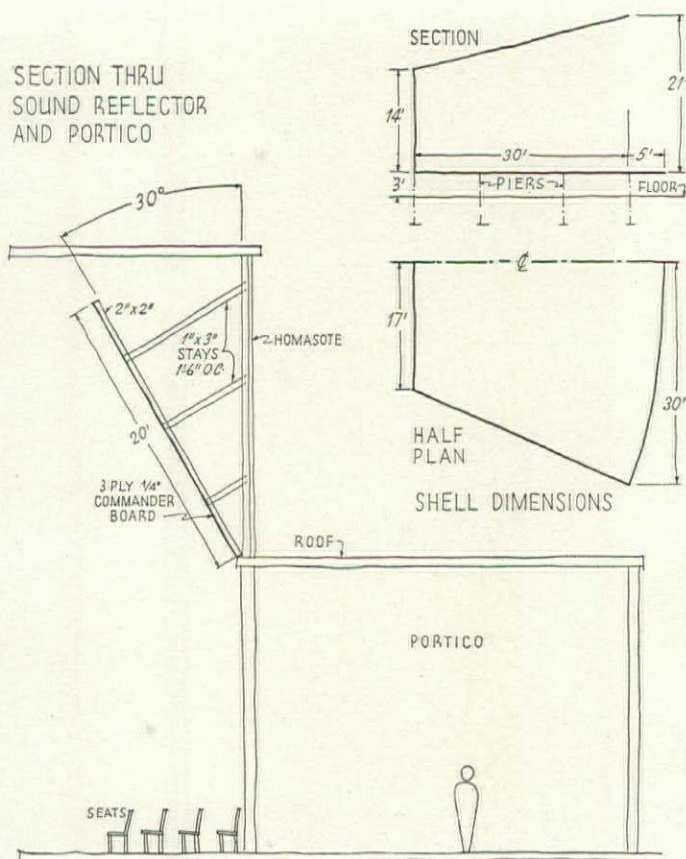


BERKSHIRE SYMPHONIC MUSIC SHED

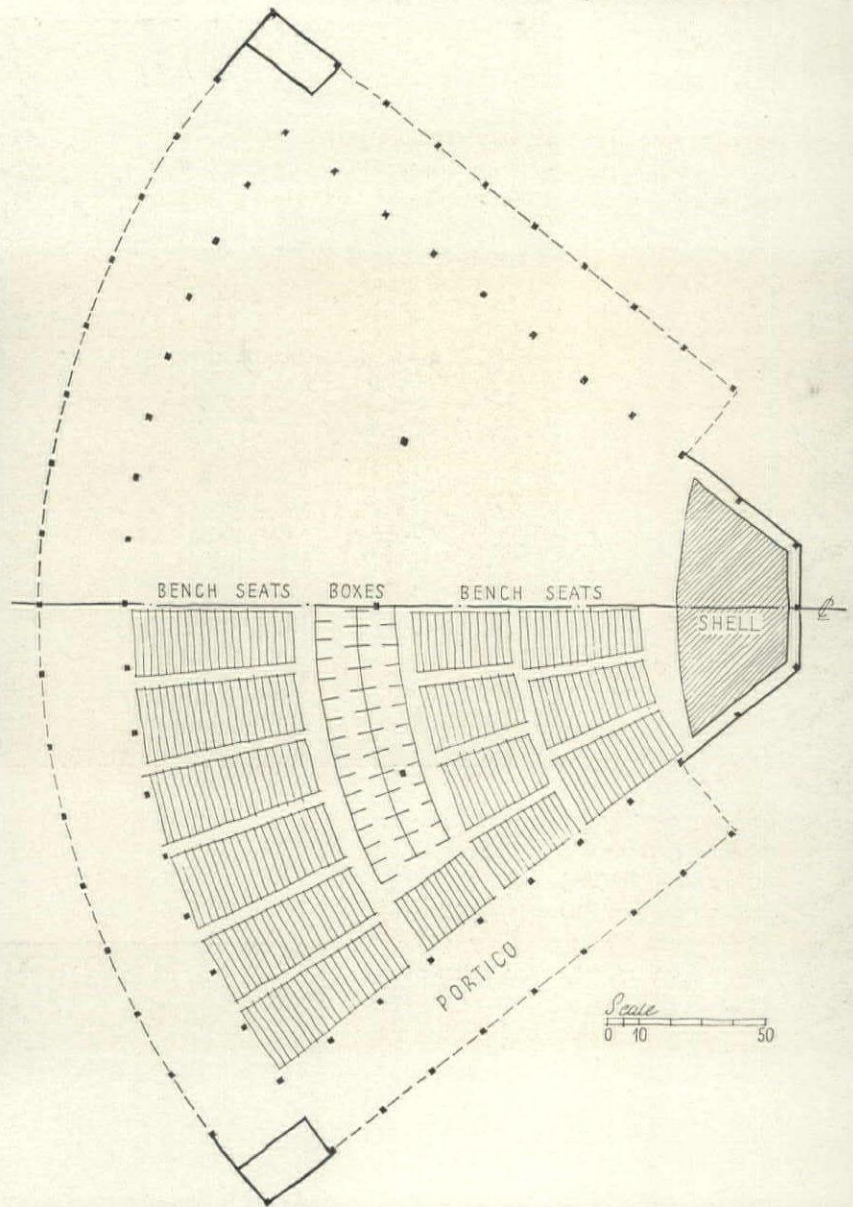
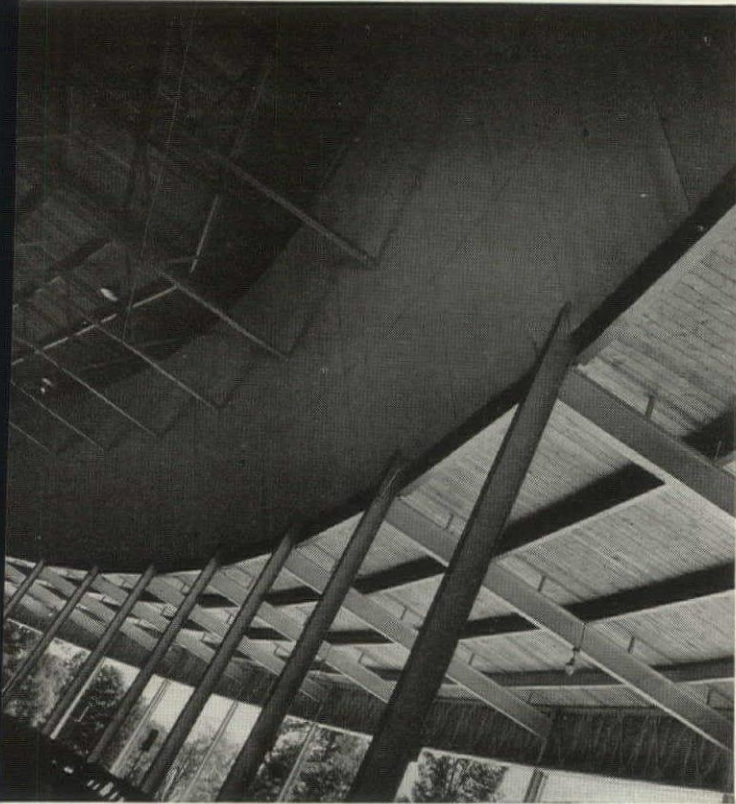
As compared with the elaborate provisions usually made for acoustic correction, from a sounding-board stage shell the music is launched into a maze of light steel trusses—



To meet the needs of the Berkshire summer colonists for symphonic music festivals, Architect Eliel Saarinen was asked to design a proper setting. Working in collaboration with Serge Koussevitzky, conductor of the Boston Symphony Orchestra, he produced a design and made a model. The scheme was magnificent, the available money insufficient. Rather than risk a necessary compromise with his vision, Saarinen withdrew. The hunger of the colonists for symphonic music persisted, and Joseph Franz, member of the board of directors and an engineer, undertook to supply the half a loaf warranted by the \$80,000 in sight. The Berkshires now have their Music Shed, as they modestly call it, in place of a Symphonic Pavilion. The shed suggests again that esthetics and economy need not be strange bedfellows. The floor is of dirt, oiled; the enclosure of wallboard on studs bolted to a steel frame. When and if funds are available, wood roller doors will be added to enclose the shed. The orchestra shell is built of plywood on a wood frame, and its supports are entirely independent of the main structure.



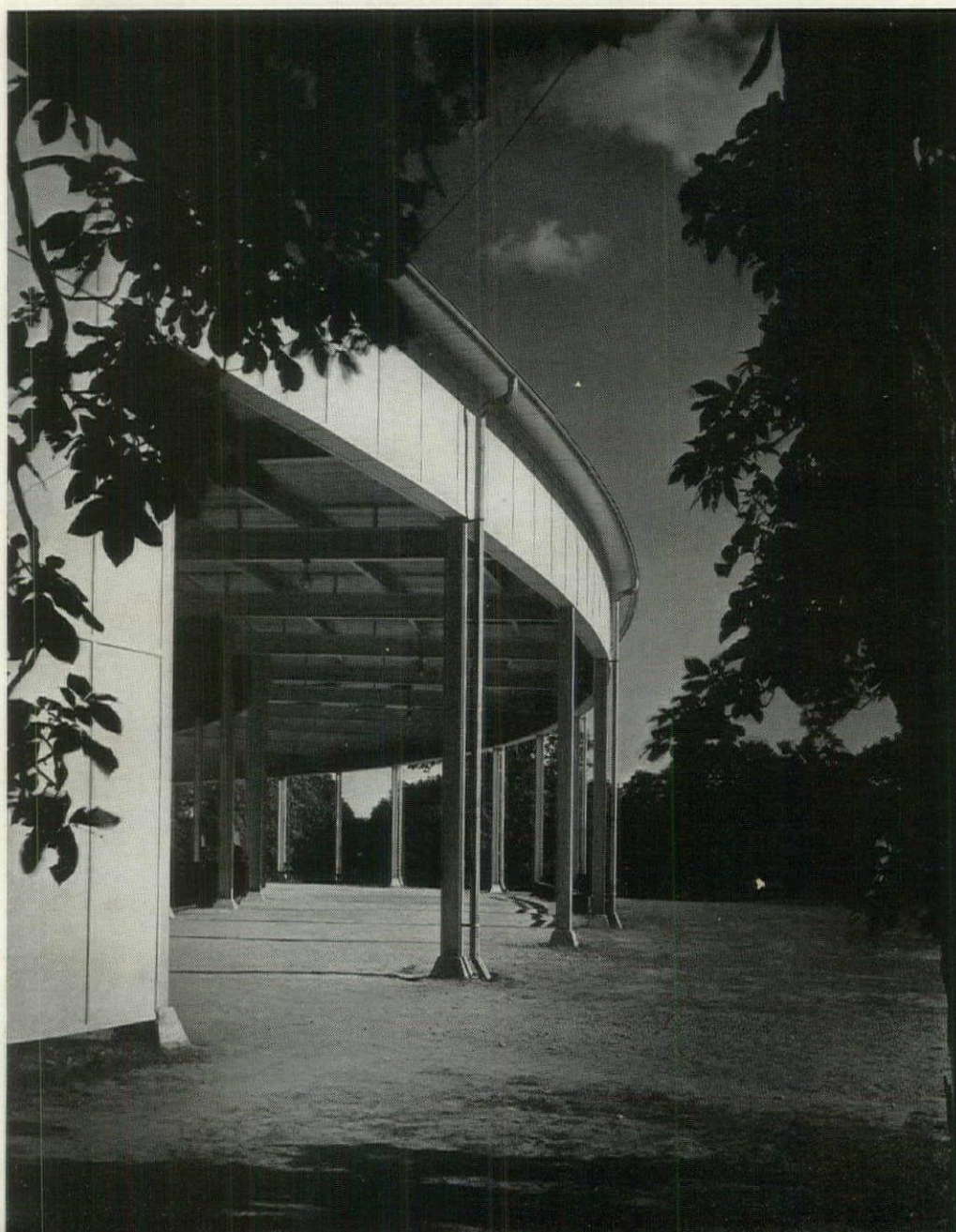
to be directed back to the audience by a sound reflector extending around the outer arc of the plan and above the colonnade. The reflector is 20 feet wide, built of quarter-inch wall board on wood frame.





Looking across the arc of the colonnade, from within (above) and without (below).

Present seating capacity—6,025 inside, with the possibility of adding 3,000 more in the colonnade.



CONSTRUCTION OUTLINE

STRUCTURE: Steel frame—Bethlehem Steel Co. Exterior facing—Homasote board, Agasote Co., nailed to 2 x 4 in. studs, bolted to steel frame. All lumber by Weyerhaeuser Lumber Co.

ROOF: Covered with 3-ply felt and asphalt, 10 year guarantee. Flashing and gutters—galvanized iron.

SHELL: Wood structure on separate foundation faced with 3-ply plywood.

SOUND REFLECTOR: Commander board, 1/4 in., Upson Co., nailed to studs.

LIGHTING FIXTURES: By General Electric Co.

HOUSES BY HARWELL HAMILTON HARRIS

In October, 1935, THE FORUM published Harwell Hamilton Harris' first house—an unusual scheme for an inside lot. The editors thought it one of the best houses they had ever seen. They are still of this opinion. For it is one of the characteristics of Mr. Harris' work that it wears well; by avoiding the clichés of the moment—whether “modern” or “traditional”—he has succeeded in establishing an idiom of his own that is as fresh today as it was five years ago. Another is its low cost, convincing testimony of a straightforward approach to current problems of building and living. Since that time he has had the opportunity to apply his talent to a score of houses—all for moderate-income families. Several of these have appeared in these pages.* Herewith, five of the best and most recent. Concerning his approach to design, Mr. Harris makes this rather wry comment:

“When I left school, building was at a low ebb and there were no jobs for beginning draftsmen. After a year-and-a-half's work on design projects, I found a friend who wanted to build. To my mind at that time the decline of the West had already reached an advanced stage and I doubted that I would ever build another building. This would be my first and my last executed project. I set about its design with solemn resolve: it must be a summation of all I had ever thought or felt about life and architecture. The client interfered very seriously with my summation. But when the house was finished, at a total cost of thirty-seven hundred dollars, I still liked it in spots. The house won a mention in a national competition and I was cheered at the thought that the West's decline had been pushed back a year or two.

“No new jobs turned up and no architectural offices opened their doors, so I went back to imaginary problems. Then something even more discouraging than the state of civilization struck me. I discovered that I was a ‘one-house’ designer: every plan that I drew was a replica of my one executed building. “Exactly a year from the beginning of what now appeared to be my building-to-end-building, a second client appeared. He began by buying a queer-shaped lot. He next produced a set of requirements that differed radically from those of my imaginary clients. Soon the first house was but a dim memory, and I found myself making a new summation and liking it more than the first. So did the client. Each of the clients since then, even the unruly ones, have been approached with pleasure, for I have come to look at a client as at a key to a new and unexplored territory in the realm of architecture.

“As one of the preliminaries to architecture I spent two-and-a-half years at sculpture. By way of sculpture I learned some things that I learned again by way of architecture. I now feel that architecture and sculpture—and I should probably include the other arts as well if only I knew them—are structurally alike. Each is a rhythmic organization into which one projects himself. The fact that the elements of architecture include traffic patterns and mechanical systems as well as plastic shapes adds only to the intricacy and richness of the structure. “Unfortunately we consider inoffensiveness a virtue in building. Only the positive has virtue, and until one has found a building that is every inch alive and into whose arms he surrenders himself as to a partner in a dance, he has yet to discover architecture.”

Concerning the houses in this issue, he adds:

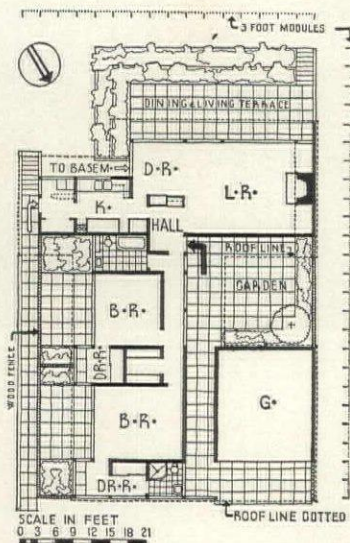
“The five houses range in cost from five thousand to seventy-five hundred dollars. All are for relatively young people. In five out of six cases the wife works. Three of the families have children. All came to me because they saw my houses and liked them. In all but one case I was consulted about furniture and color.

“Over half of the houses have provision for some special work or hobby. All have terraces, and the hillside houses have large balconies.”

*Previously published work by Harwell Harris: Oct., 1935 pp 316-17 and 360-61; April, '37 pp 278-81; Sept., '38 pp 213-16; July, '39 pp 16-18.



Kollett-Imandt



“This would be my first and my last executed project. . . .”

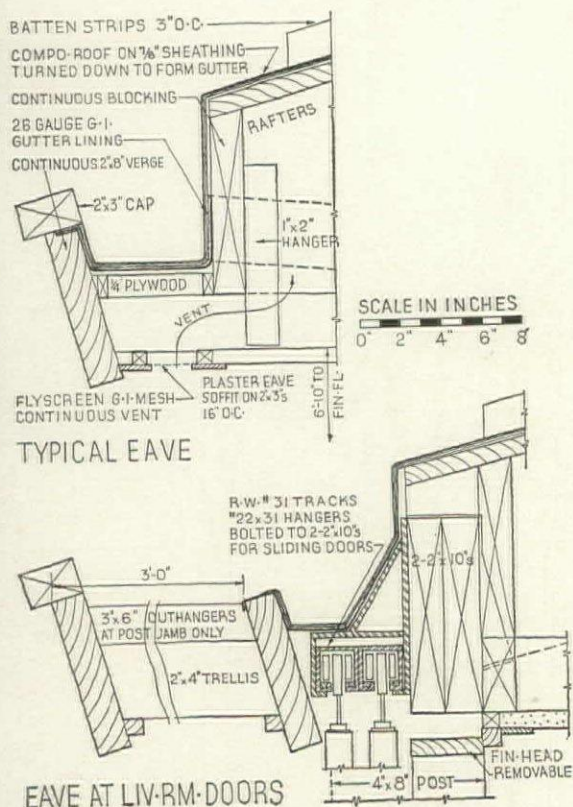
“. . . it must be a summation of all I had ever thought or felt about life and architecture.”



Fred R. Dapprich

HOUSE FOR MISS GRETA GRANSTEDT, HOLLYWOOD, CALIF.

HARWELL HAMILTON HARRIS, DESIGNER

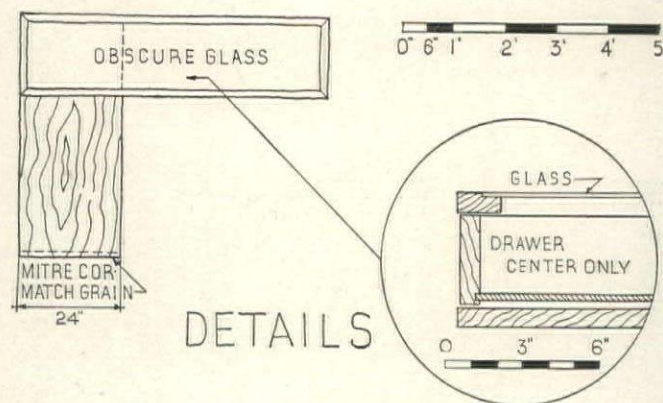
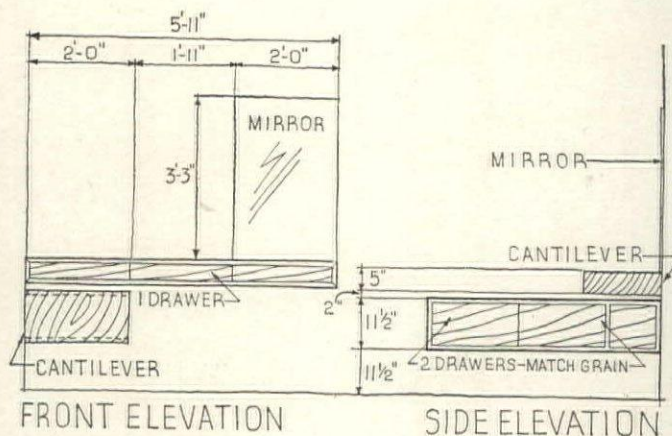


Occupying a magnificent mountain site with a view to the south, this house has a simple one-floor plan worked out for maximum outlook, convenience, and flexibility. All of the rooms except the kitchen and bathrooms are on the view side with direct access to the terrace, which extends across the whole front. Circulation between the rooms is accomplished through a straight-line corridor divided into two parts between the living and sleeping areas. Living space may be increased at will by throwing open the folding doors to the studio, which may also be used as a bedroom. The drive-through garage obviates the need for a turn-around on a hill-side where level space is at a premium. The clerestory windows provide north-light for the bedroom corridor, bathrooms, entrance foyer, and living room.





Edward LaValle Photos



Top left, clerestory window in foyer, from living room. Above, dressing table in end bedroom. Left, sliding door in living-dining room.

HOUSE FOR EDWARD DE STEIGUER, PASADENA, CALIF.



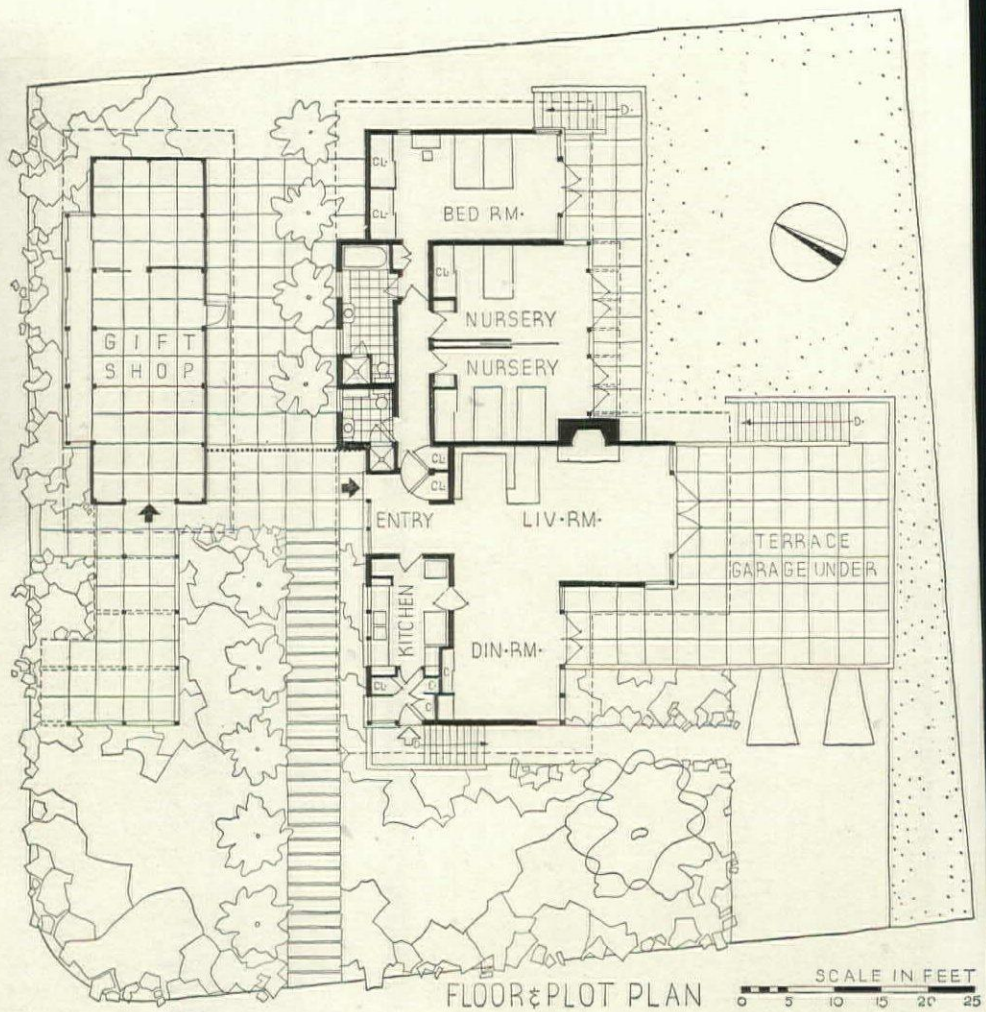
All photos, Fred R. Dapprich



DE STEIGUER HOUSE



COURT between house and gift shop



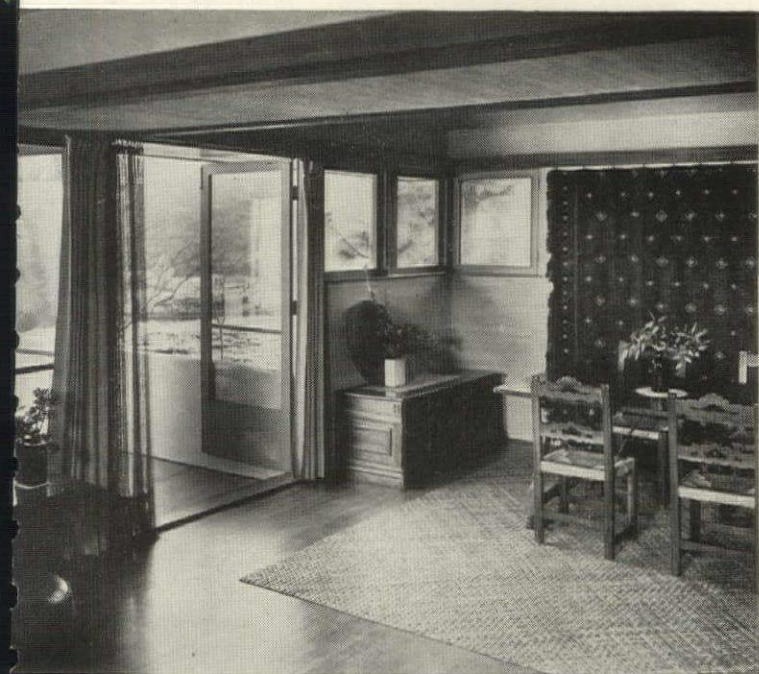
LIVING ROOM





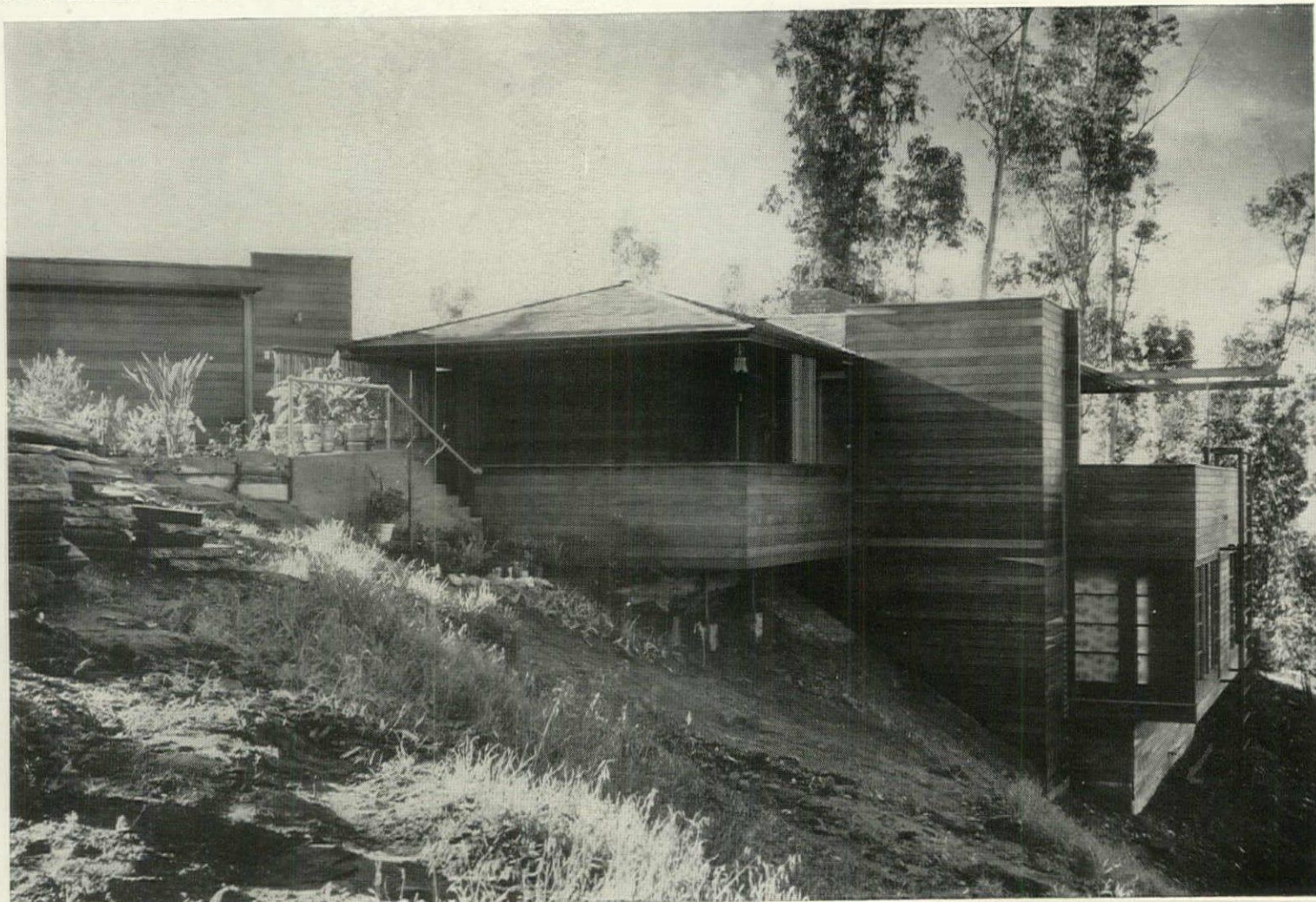
NURSERIES

DINING ROOM

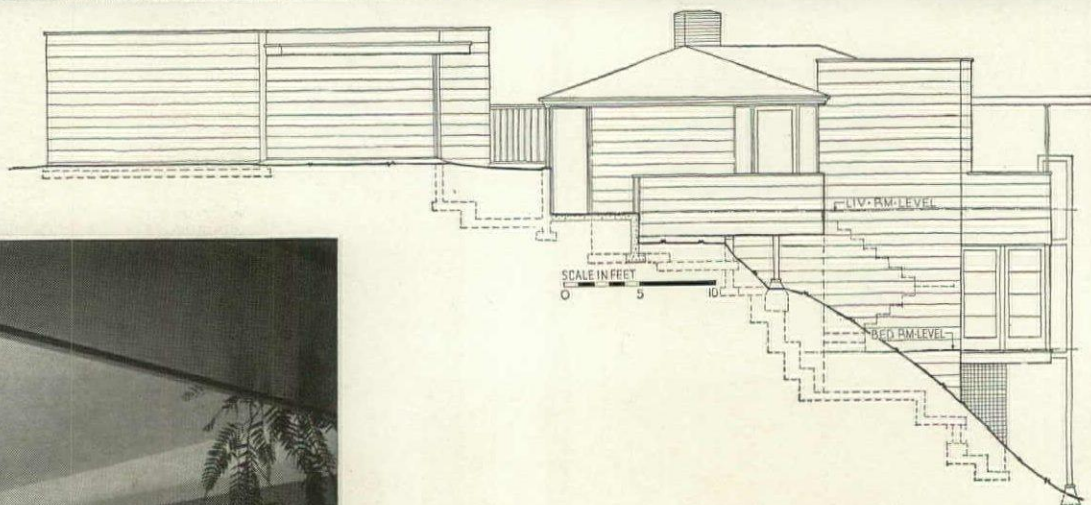


Perhaps more clearly than any other, this house shows the influence of Frank Lloyd Wright—an influence which Mr. Harris freely acknowledges. The plan is a variation on the theme of the Granstedt house, adapted to different site and to differing needs. While the fundamental organization of the space remains the same, advantage has been taken of access from the low side of the plot in the location of the garage beneath the terrace, and the bedroom portion shut off entirely from the living dining area. A sliding partition is provided between the children's bedrooms, thus creating a spacious nursery. An unusual feature is the gift shop, with its own access directly from the street.

HOUSE FOR EDWIN S. HAWK, JR. LOS ANGELES, CALIF.



All photos, Fred R. Dapprich

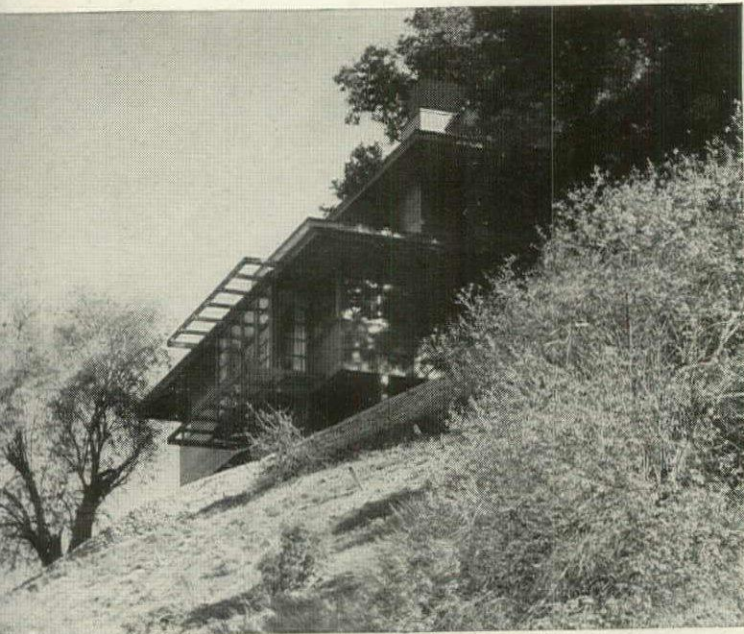


LIVING ROOM

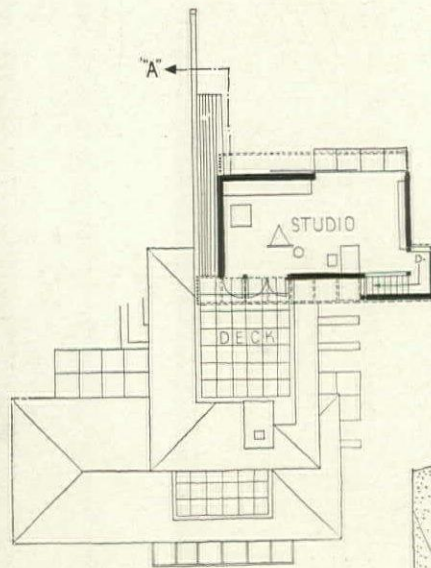


A compact solution for a constricted site, this scheme is the reverse of the typical two-story house: access and living rooms are on the second floor, bedrooms on the first. Dictated by the steep slope of the lot, it has the advantage of providing rare outlook for the living room terrace, without sacrifice of direct connection to the ground. This is effected through the dining room terrace at the rear. The exterior shows a highly successful use of redwood siding, and frank treatment of a difficult foundation problem.

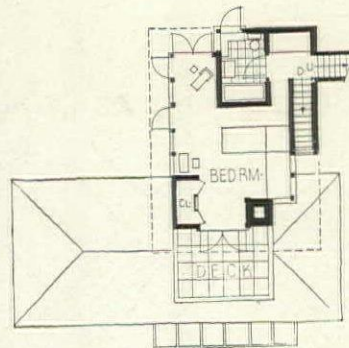
HOUSE FOR LEE BLAIR, HOLLYWOOD, CALIF.



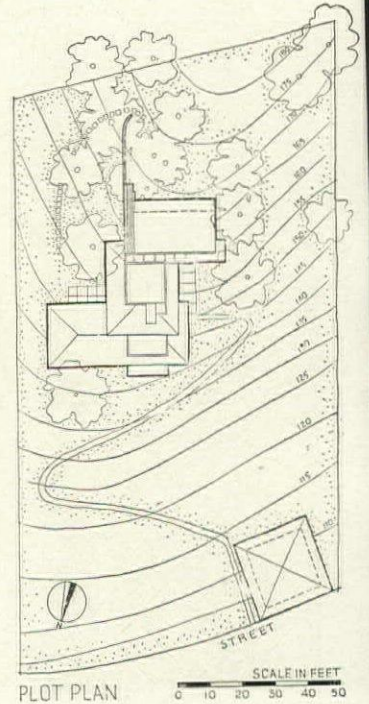
Edward LaValle, Fred R. Dapprich Photos



THIRD FLOOR

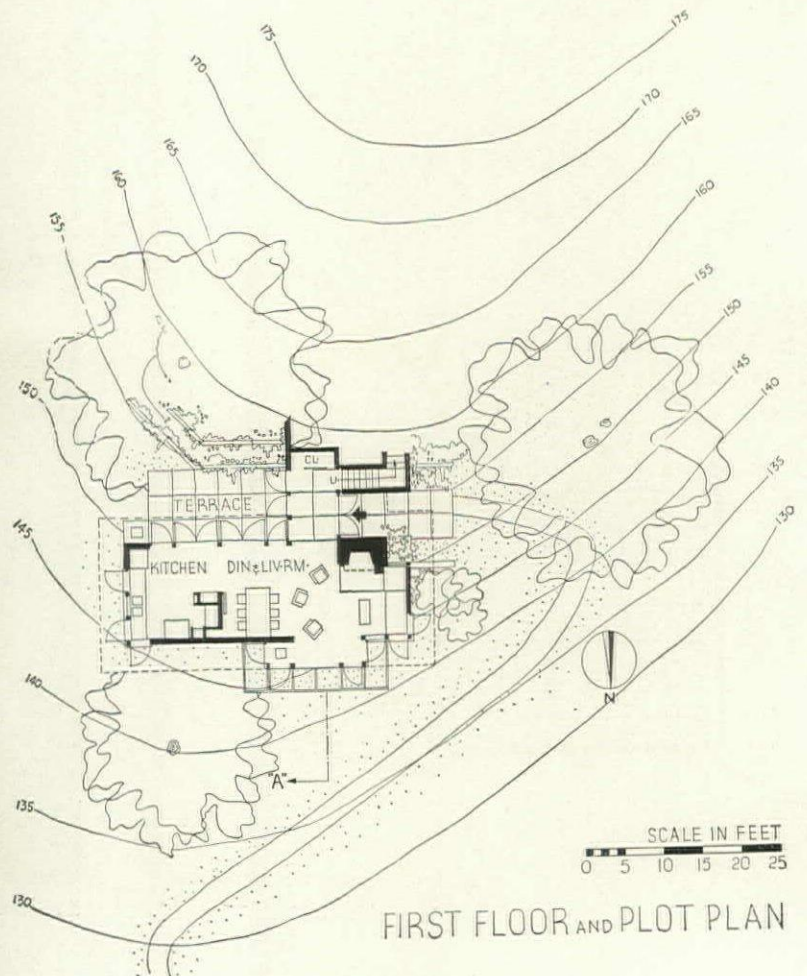


SECOND FLOOR



PLOT PLAN

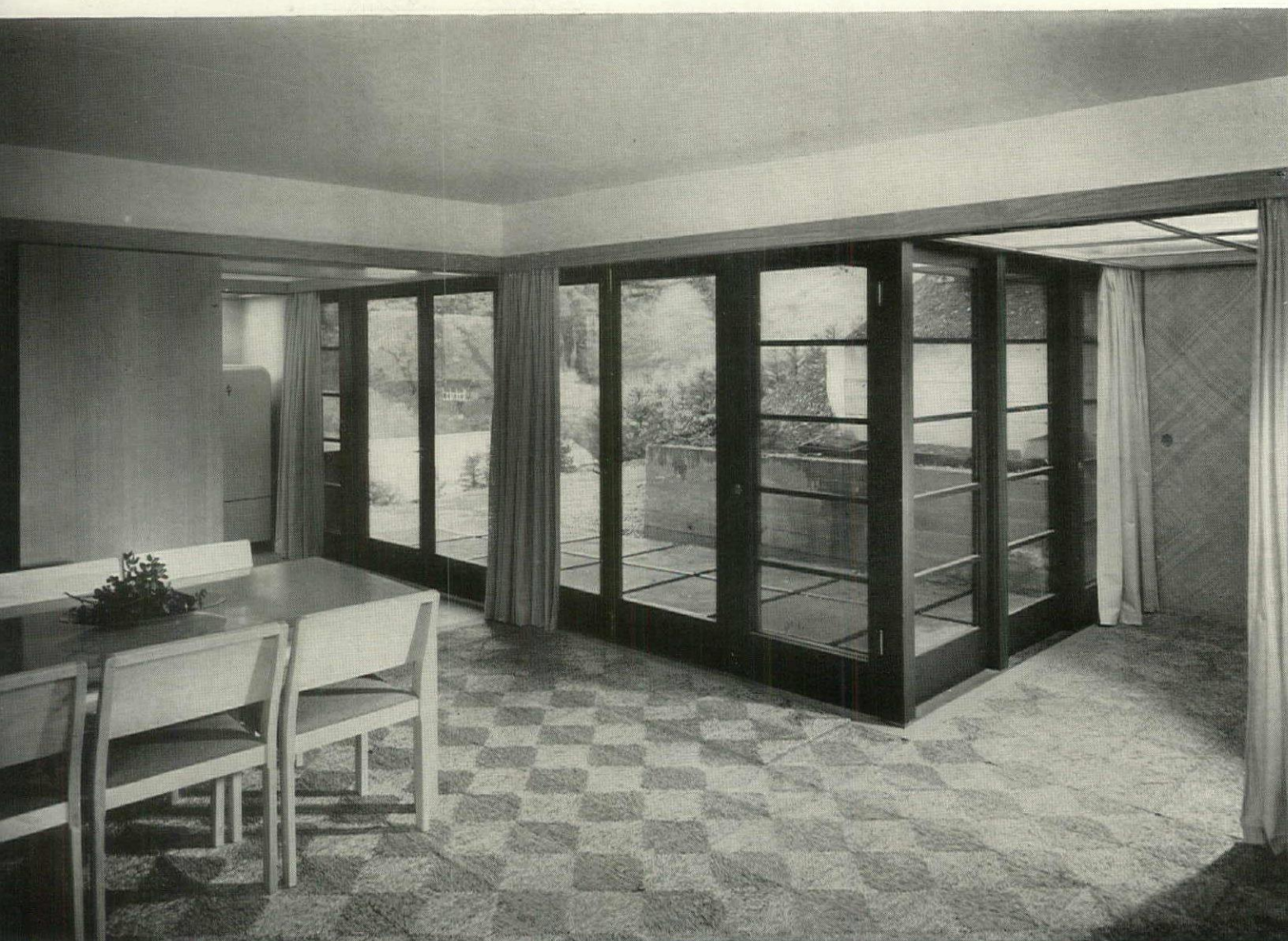
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FIRST FLOOR AND PLOT PLAN

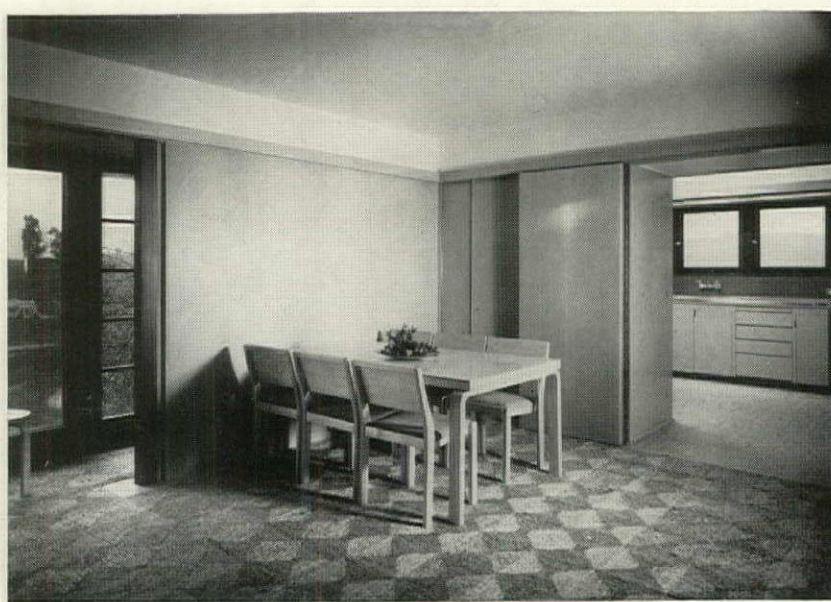
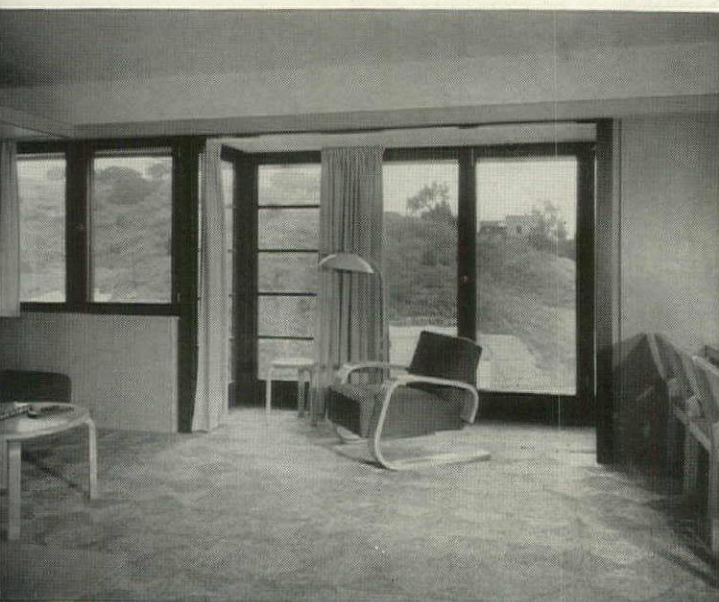
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BLAIR HOUSE



LIVING-DINING

Fred R. Dapprich Photos





Fred R. Dapprich

BED ROOM



Fred R. Dapprich

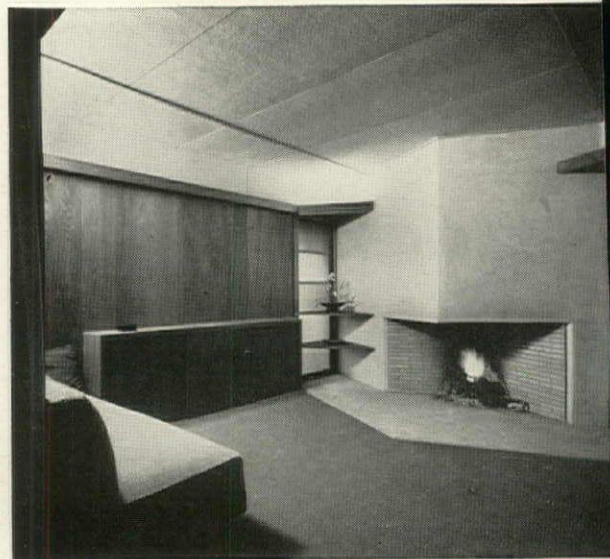
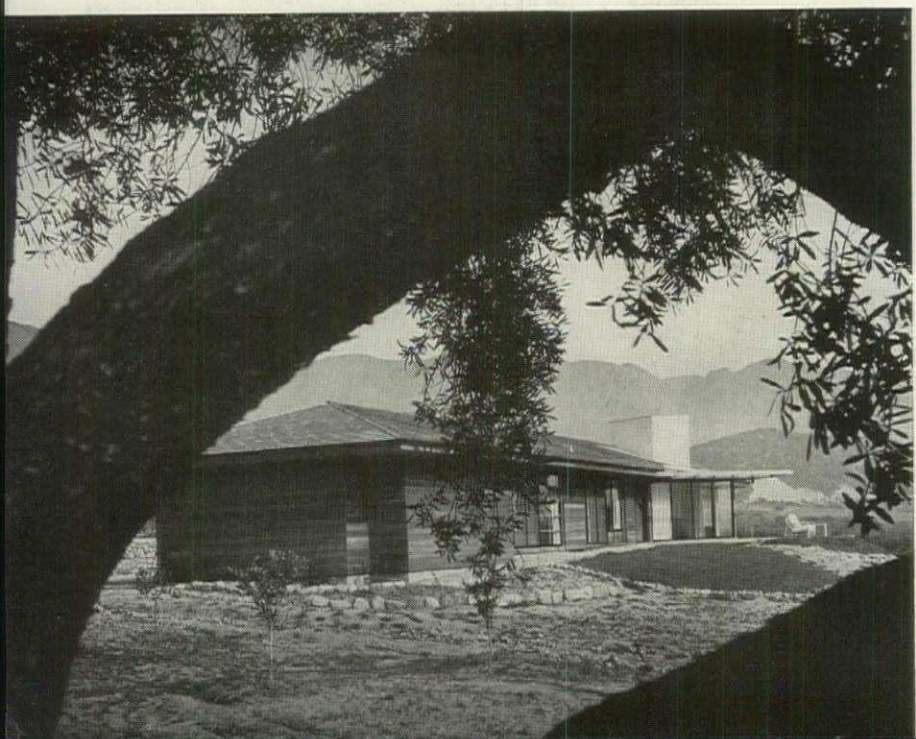
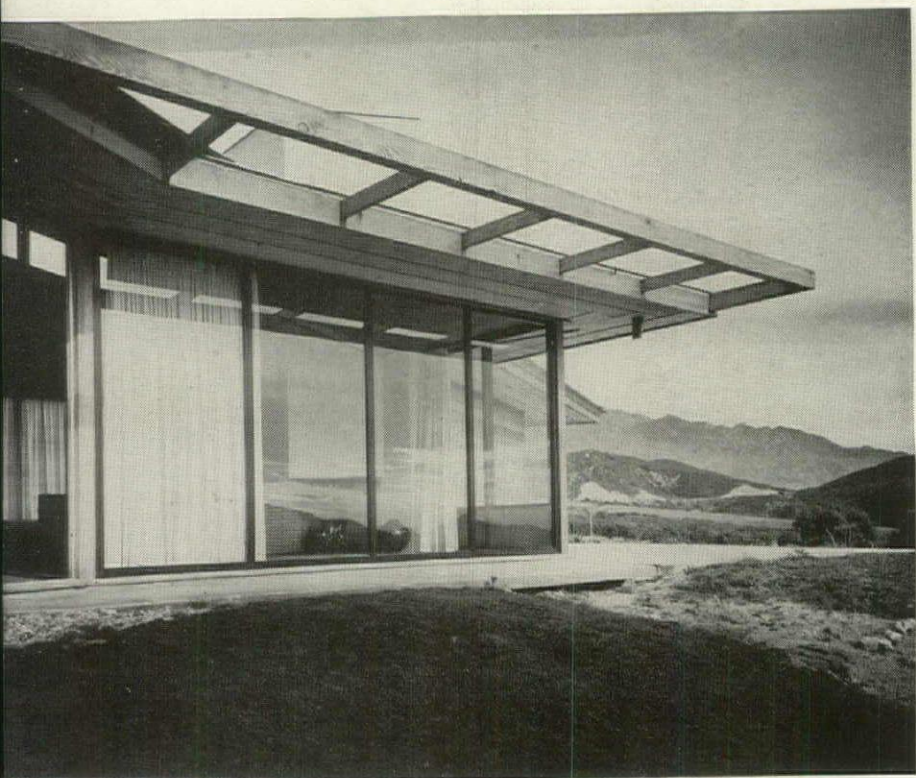
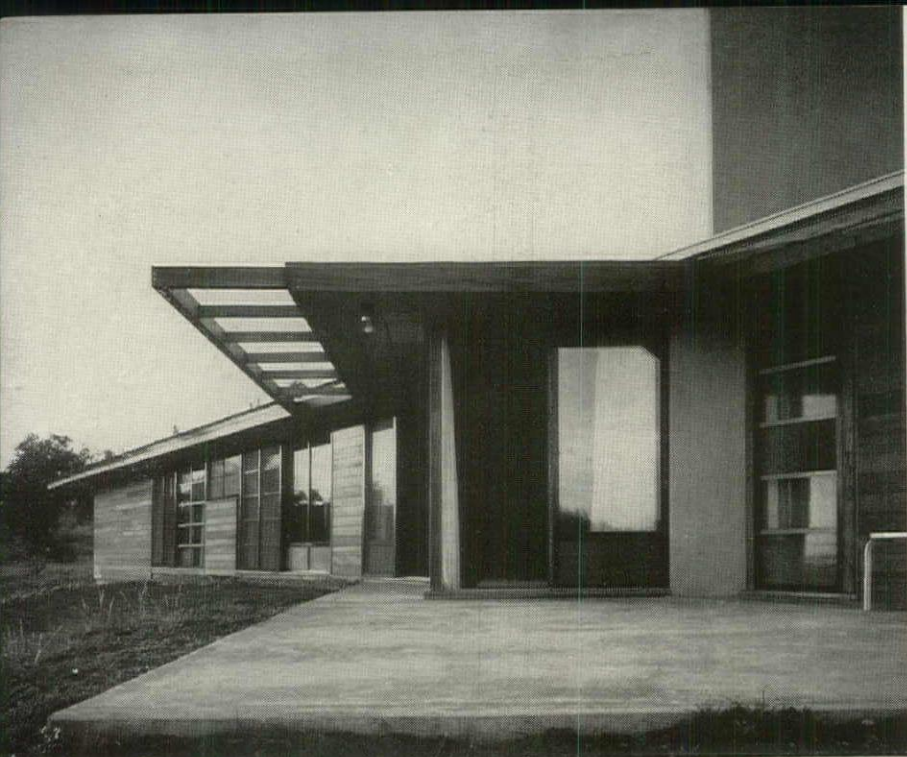
STUDIO

Eduard LaValle



The interiors set a new standard of excellence for a small house. Without the use of expensive materials, and with waste space reduced to the minimum, a charming effect has been produced which may well be the envy of many whose houses cost several times as much.

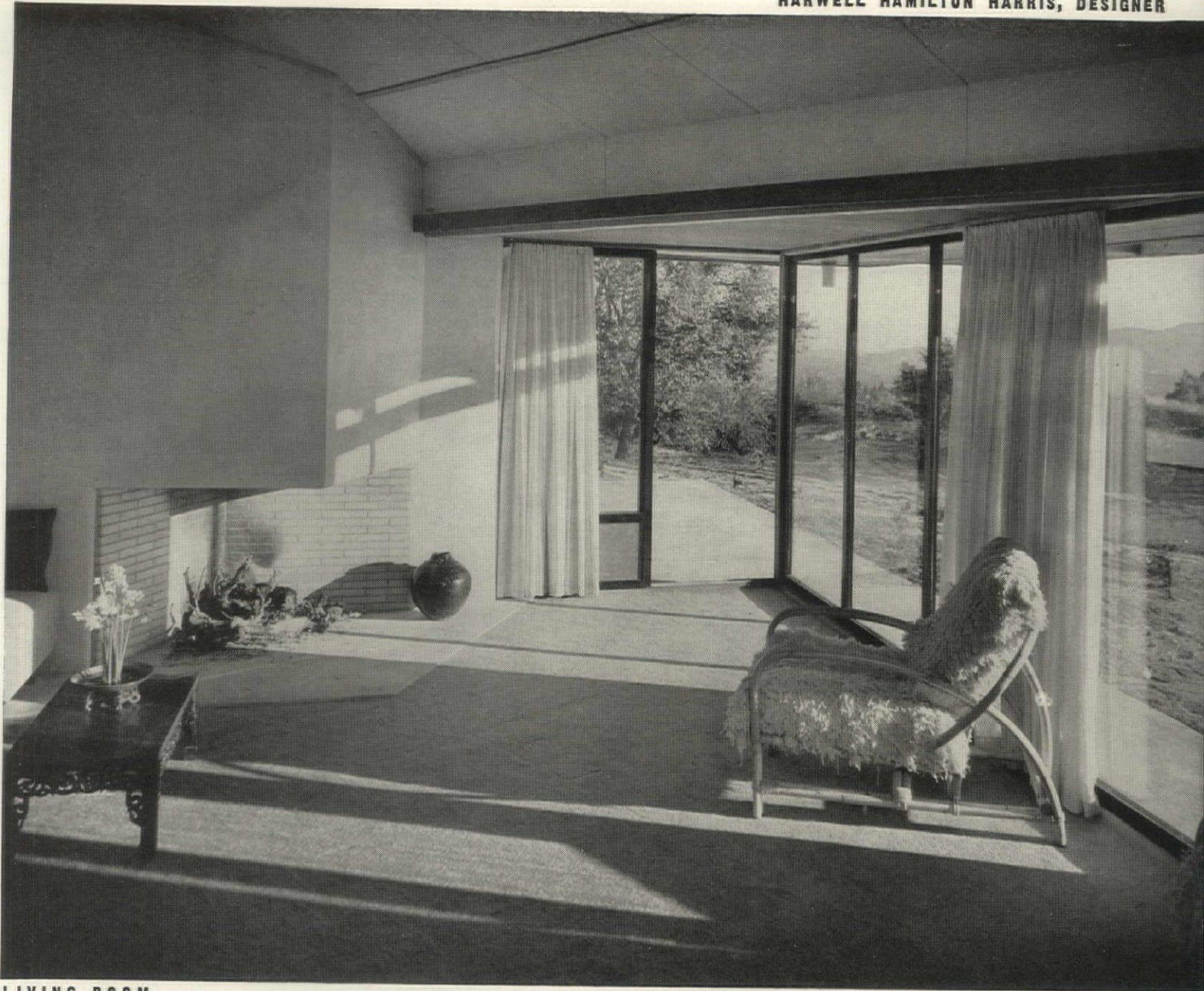
HOUSE IN LA CAÑADA, CALIF



LIBRARY

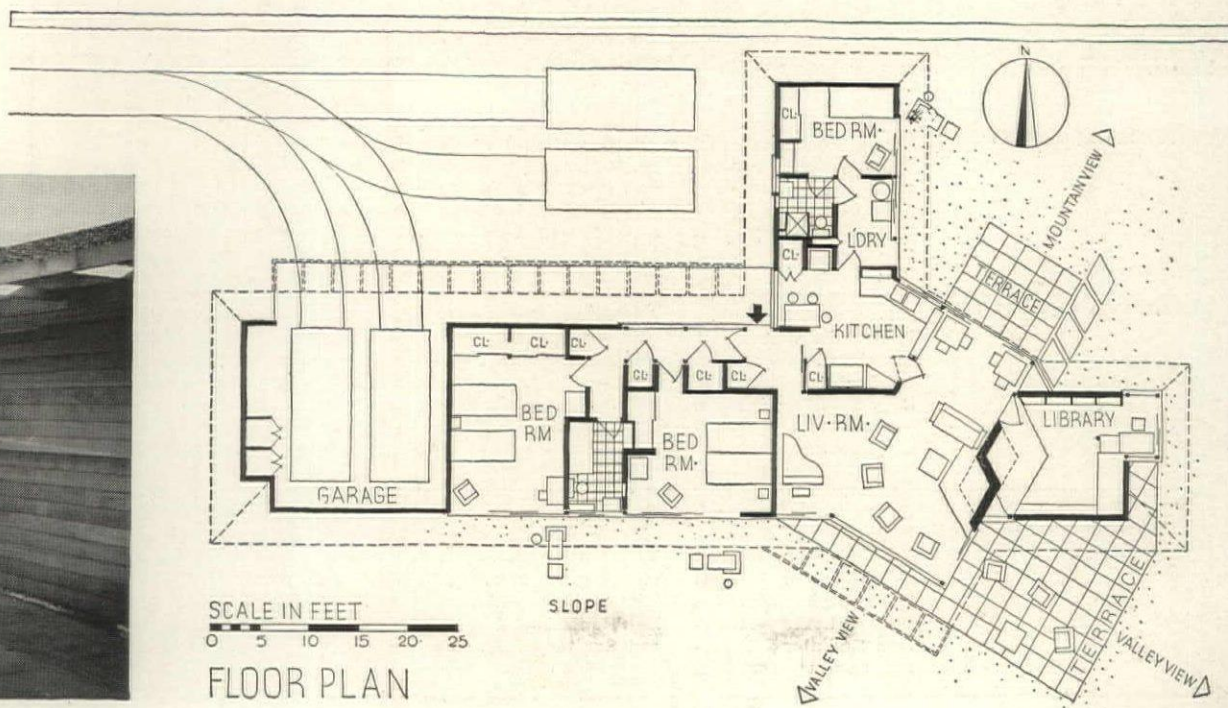
All photos, Fred R. Dapprich

Somewhat larger than any of the others in this portfolio, this house presents a correspondingly more complex plan. Living quarters have been opened up to enjoy a three-way view, and set at an angle to the main mass of the building, while the service portion occupies a separate wing. The angular position of the wall separating living room and library has suggested the interesting arrangement of the twin fireplaces. Clerestory windows are again employed to provide north-light in the living room. The use of translucent, rather than transparent glass in the windows of the bedroom corridor and west wall of the kitchen, shown in the picture, lower right, affords necessary privacy despite their location flanking the principal entrance.



LIVING ROOM

ENTRANCE



	GRANSTEDT	DE STEIGUER	HAWK, JR.	BLAIR	LA CANADA
STRUCTURE	Exterior walls—stucco, 15 lb. waterproofed felt, 2 x 4 in. studs; inside—interior stucco over gypsum board lath. Floor construction—Douglas fir joists and girders; plywood finish in kitchen and bathrooms; remainder—Bagac, Caldwell-Gibson, Inc.	Exterior walls—stucco, 15 lb. felt, studs; inside—stucco over gypsum board lath. Nursery—Celotex finish, Celotex Corp.	Exterior walls—redwood shiplap, 15 lb. felt, studs; inside—stucco over gypsum lath.	Exterior walls—T. & G. redwood siding, 15 lb. waterproofed felt, studs; inside—Bayot and white plywood. Floor construction—T. & G. Douglas fir finish. Ceilings—Masonite insulation board, Masonite Corp.	Exterior walls—redwood shiplap, 15 lb. felt, studs; inside—stucco on gypsum board, except in living room and library redwood plywood. Floor construction—Douglas fir. Ceilings—Insulite, Insulite Co. and plaster.
ROOF	Covered with 15 lb. felt and 85 lb. mineral surface cap sheet.	Covered with redwood shingles. Garage—cement slab over wood joists.	Covered with redwood shingles. Garage—Pabco built-up asphalt and felt, Paraffine Co.'s, Inc. and mineral surfaced cap sheet.	Covered with redwood shingles. Deck—built-up felt and asphalt and Laycold topping, American Bitumuls Co.	Covered with redwood shingles; galvanized iron over flat roof bays.
CHIMNEY	(For all houses) Reenforced brick. Dampers—Superior Fireplace Co.				
SHEET METAL WORK	(For all houses) Armco galvanized iron used throughout, American Rolling Mill Co.				
INSULATION		Roof—Gypsum Red Top, U. S. Gypsum Co. Ceiling (gift shop)—Celotex Corp.	Roof—Aluminum foil and two membranes of paper providing four air spaces.	Ceilings—Masonite Masonite Corp.	Aluminum foil and two membranes of paper providing 4 air spaces. Ceilings—Insulite Co.
WINDOWS	Sash—pine casements. Glass—Libbey-Owens-Ford Glass Co.	(For remainder of houses) Sash—pine casements. Glass—Pennvernon, Pittsburgh Plate Glass Co.			
FLOOR COVERINGS	Main rooms—carpet. Kitchen and bathrooms—linoleum, Armstrong Cork Co.	Main rooms—carpets. Kitchen and bathrooms—linoleum, Armstrong Cork Co.	Main rooms—oak, carpet covered. Bathrooms—linoleum, Armstrong Cork Co.	Main rooms—1/2 in. Chinese grass matting. Kitchen and bathrooms—linoleum, Armstrong Cork Co.	Main rooms—Amhaco broadfelt, American Hair and Felt Co. Kitchen, laundry and bath—linoleum, Armstrong Cork Co.
WALL COVERINGS	Bathroom—wallpaper. Shower—Boardtile, Gibbs Boardtile Co.	Main rooms—grass cloth. Kitchen, bathrooms and service porch—Sanitas, Standard Coated Products Co.		Bathrooms—Linowall, Armstrong Cork Co.	
WOODWORK	Paneling—redwood plywood. Shelving, cabinets and garage doors—Douglas fir and redwood	Trim—redwood. Shelving and cabinets—pine.	Trim, shelving and cabinets—Douglas fir.	Trim and cabinets—Douglas fir. Paneling—Bayot and white pine plywood.	Trim and paneling—redwood. Shelving and cabinets—Douglas fir and redwood.
HARDWARE	By Schlage Lock Co., Stanley Works and Win-Dor Casement Hardware Co.	By Schlage Lock Co., Stanley Works, Vincent Whitney Co., Payson Mfg. Co.	By Schlage Lock Co. and Stanley Works.	By Schlage Lock Co., Stanley Works and Vincent Whitney Co.	By Schlage Lock Co., Stanley Works, Payson Mfg. Co. and Chamberlain Metal Weather Strip Co.
PAINTING	All materials by Sherwin-Williams Co.	All materials by Sherwin-Williams Co.	Exterior—lead and oil, W. P. Fuller & Co., Remainder—J. E. Bauer Co.	All materials by W. P. Fuller & Co.	Sash—varnish and stain. Kitchen, laundry and bath—enamel.
ELECTRICAL INSTALLATION	Wiring system—BX. Switches—toggle.	Wiring system—knob and tube. Switches—tumbler.	Wiring system—BX conduit. Switches—toggle.	Wiring system—BX conduit. Switches—toggle.	Wiring system—BX conduit. Switches—toggle.
KITCHEN EQUIPMENT	Range—Universal gas, Cribben & Sexton. Refrigerator—Electrolux, Servel, Inc. Counter tops—Formica Insulation Co.	Range—Estate Stove Co. Refrigerator—General Electric Co. Sinks—American Radiator & Standard Sanitary Mfg. Co.	Range—Thermador Electric Heating & Mfg. Co. Sinks—American Radiator & Standard Sanitary Mfg. Co. Refrigerator—Norge Corp.	Range—Wedgewood, James Graham Mfg. Co. Refrigerator—Electrolux, Servel, Inc. Sinks—American Radiator & Standard Sanitary Mfg. Co.	Range—Hot Point, Edison-General Electric Appliance Co. Sinks—Crane Co. Cabinet tops—Formica Insulation Co. Linoleum tops—Armstrong Cork Co.
BATHROOM EQUIPMENT	All fixtures by American Radiator & Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co. Shower basin—Hermosa tile, Gladding, McBean & Co.	All fixtures by American Radiator & Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co. Shower—Modern Shower Door Co.	All fixtures by American Radiator & Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co. Cabinets—Hallensheid & McDonald Co.	All fixtures by American Radiator & Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co. Shower doors—Modern Shower Door Co. Cabinets—Hallensheid & McDonald Co.	All fixtures by Crane Co. Shower—Fiat Metal Mfg. Co. Cabinets—Hallensheid & McDonald Co.
HEATING	Furnaces—Monarch Engineering & Mfg. Co. Bathroom heaters—Thermador Electric Heating & Mfg. Co. Water heater—American Radiator & Standard Sanitary Mfg. Co.	Furnaces—Ward Heater Co. Heaters—Thermador Electric Heating & Mfg. Co. Water heater—American Radiator & Standard Sanitary Mfg. Co.	All portable electric heaters, Thermador Electric Heating & Mfg. Co.	Furnace—Monarch Engineering & Mfg. Co. Bathroom heater—Thermador Electric Heating & Mfg. Co.	Furnaces—Dorwill gas fired, Gibraltar Engineering Co. Water heater—Mission Water Heater Co.

THE ARCHITECT'S WORLD

COORDINATION IN DESIGN

Excerpts from a conference held at the University of Michigan, February 2 and 3, 1940.

Roy Childs Jones, Professor, School of Architecture, University of Minnesota, presided over the first meeting, and opened the discussion.

PROFESSOR JONES: Nine-tenths of the architecture in the U. S. is just plain bunk. In spite of training in design since the founding of M.I.T. in 1865, the average practicing architect is most inept in building. There seems to be no clarity of intention on the part of the architect. . . . Is there any common approach to all of the skills which we classify as landscape design, industrial design, architecture, and various other types of design?

DR. WALTER BAERMANN, Director, California Graduate School of Design: I sincerely believe that it is up to the designer, if we have the correct definition of industrial design, to be the one who establishes the relationship between the ones who use and the ones who produce. We certainly can make industry produce those things which fit into our economic and cultural pattern.

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PETER MÜLLER-MUNK, Professor in the College of Fine Arts, Carnegie Institute of Technology: I am not quite sure whether industrial design is as yet a full topic by itself. Perhaps industrial design does belong under architecture. What do the architects think? Does industrial design belong to architecture or does architecture belong to industrial design?

ALDEN B. DOW: Is there anything fundamentally different in the design of music, sculpture, a carpet sweeper, a train, or a building?

DONALD R. DOHNER, Pratt Institute: I am convinced that industrial design definitely does not belong in architecture. To me architecture is a tailor-made job—it still has a lot of the handicraft. Industrial design is based on the machine and what the machine can do.

DEAN JOSEPH HUDNUT, Graduate School of Design, Harvard University: We should distinguish between information giving, techniques, and training. We cannot hope to give our students the equipment and information for industrial design, because we would have to have special technical facilities for teaching the technique of working with glass, wood, metal and plastics. If we can establish a way of seeing, a habit of attack, and then give students an awareness of the designer's position in the

scheme of things, economically and socially, then we have done all we can do.

DR. WALTER GROPIUS, Graduate School of Design, Harvard University: When we talk about design we mean optical arts. There is the same background for the industrial designer and the architect or the painter or sculptor. We have to be trained in the same phenomena. The problem is, how? . . . The point of manual training is the center point of the whole problem.

DEAN LEOPOLD ARNAUD, School of Architecture, Columbia University: The number of subjects to be covered and the amount to be covered is already worrying most of us. Manual training should come at an earlier age. It belongs in high school. We cannot prolong the university curriculum. . . . From the architect's point of view, supervision and knowledge of coordination are perhaps more important than the facility of working with one's own hands. The architect may be compared with the orchestra director. He need not know how to play every instrument, but he must know their range and how to use them for the purpose of harmony.

GEORGE F. KECK, Professor, School of Design, Chicago: How about the first twelve years that a young man or woman goes to school! Something quite important happens in those first twelve years.

FREDERICK J. KIESLER, Columbia University: I disagree with one-half of what Dr. Gropius said. Techniques dealing with materials are entirely premature. The study of man is more important than the study of materials and techniques. We need a criterion to design. The criterion is man's habits.

JEAN LABATUT, Professor, School of Architecture, Princeton University: It is possible to develop the mind of the student not so much in a profession, but in the principles of the profession. The only way to create with the specialization is to draw, by visual expression. Visual design consists of space, structure and expression. It is possible to train specialists without teaching specialization.

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In the second session Dean Arnaud presided.

DEAN ARNAUD: Now let us consider the curriculum for the architect with regard to the design phase. What should be the length of time and the sequence of courses in the design program for the architect?

DR. BAERMANN: Industrial design and architectural curricula can go together for three or four years, and in graduate work they can be separated.

DEAN ARNAUD: It was agreed yesterday that the curriculum in the beginning would be pretty much the same whether it be industrial design or architecture.

WALLACE S. HAYDEN, Professor, School of Architecture and Allied Arts, University of Oregon: Only about five out of 50 undergraduate students go on to graduate and become architects. Forty-five will go into society outside of the profession. During the first year we should use the opportunity to introduce these 45 students to architecture as a social function.

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DEAN HUDNUT: Is there a fundamental distinction between industrial design and architecture? They are becoming more and more alike.

PROFESSOR JONES: Might we not just accept the fact that architecture is design applied to buildings?—but how are we to start people out to design buildings?

DEAN GEORGE S. KOYL, School of Fine Arts, University of Pennsylvania: We want to teach students first to design. The quickest way is perhaps to teach abstract design. . . . You can't teach an architect architecture without giving him some sense of economics, but that can be added later on. In the beginning we should eliminate all unnecessary factors that do not contribute to the man's mind in the way of design.

PROFESSOR JONES: We find in our own school that the so-called abstract elements of design are not so easily gotten across to beginning students. Our work begins immediately with actual problems in architecture. Space and material and their expression are dealt with.

PROFESSOR MÜLLER-MUNK: Students can be bogged down by the tradition of today; they tend to create revisions of the things they have seen rather than creating something new. They try to add to the old.

JEAN HEBBRARD, Professor, College of Architecture and Design, University of Michigan: It was suggested by Mr. Dow that it would be desirable to agree on a definition of the aims and tendencies of contemporary architecture. The question might have been put in another form, by asking what the architect of today has to

do in actual practice. He has to deal with the site, with the materials to be found on the market, and with the financial means put at his disposal. What are the faculties of the mind that would be most useful in the solution of these problems? My answer is that a successful architect must be endowed with a sound judgment, a keen power of observation, and above all with that active faculty of the mind which is called imagination. Until now the teaching in architectural design, in most schools, was done with the problem method. . . . The introduction in the curriculum of studies of manual training, courses in abstract design, in theory of color, etc., may be found desirable, but should not, in my opinion, be adopted without a careful study of their implications.

MR. DOHNER: If you are going to train a man who is going to be an accountant, a metallurgist, a chemist, and an economist you are going to encounter a little difficulty in getting the design in.

DR. GROPIUS: An architect cannot also be trained as a perfect builder, but he must have some connection with building. When is the best time to send students on a building job?—at the end of the first year, the second, or the third or fourth?

DEAN WELLS BENNETT, College of Architecture and Design, University of Michigan: We allow them to get the experience as soon as possible.

DR. GROPIUS: There is a difference between being in an office and being on a job. He should be on a job, and the smaller the job is the better, because then he can follow it through.



In a later session Dean Hudnut presided and summed up: I find one general trend in the discussions—that of accepting processes as our central interest. We ask what processes of thought or action should be taught to train a successful architect or industrial designer. . . . The designer of airplanes arrives at the design through certain processes of thought, and if he arrives at beauty through thought, why can't we architects do the same thing? . . .

The present run-of-the-mine architect is just hopeless. But we can do plenty with the new generation of architects, who are our responsibility. . . .

The traditional education of architecture has been only indirectly concerned with the handling of materials and tools. The Conference was almost unanimous in the approval of introducing such methods into our schools. The question was at what point should such processes be introduced? . . . I was for a long time persuaded that only through the making of useful objects could we have a genuine training for the architect, but now I am on the other side.

The student must take up the specialty after being orientated with the fundamentals. At a certain point the student

begins to be an architect, a landscape architect, or an industrial designer—so you can call one school undergraduate and the other graduate for the sake of convenience, but they are not different in degree.

A resolution, of which the following is the gist, presented by Dr. Royal B. Farnum, Rhode Island School of Design, was discussed, amended and finally unanimously adopted.

Resolved that this representative group strongly urges:—

That art, manual arts, and industrial arts education in our public and private schools shall be so planned as to give our children abundant opportunity to build, model, draw and paint in very free form at the earliest possible stage of the child's development. . . .

PROFESSOR JONES: I wish to add one thing to your summary, Mr. Hudnut. In 1930 and 1931 I visited 52 schools. Architectural training at that time was a pretty narrow sort of thing which dealt only with the machinery of design. I see in our own school and in other schools I have visited in recent years a tremendous clarification of ideas in the time since then. I don't know whether we have done it as teachers. I am inclined to think that it is largely students themselves who have done it.

PORTRAIT OF AN ARCHITECT

By Charles D. Maginnis

An incidental passage in the opening remarks of the then president of the A.I.A. at the Dinner of the Seventy-first Convention, Washington, D. C., September 27, 1939.

Humor is a very illusive, and very difficult, and even dangerous element—difficult to capture. Architecture occasionally achieves it.

Something of the tragedy of humor came early to the spirit of my own youth. In the far reaches of my youth, I was a junior draftsman in the office of an ecclesiastical architect. As the figure of the gentleman is not biographically identifiable, I am free to say that he was not a very good architect. He was justified in holding an equally qualified opinion of myself.

I say I was a junior draftsman. I want to qualify that. I was senior draftsman. And I was also head draftsman by virtue of the fact that I was the only draftsman! And upon that hangs the story.

He was what you might call a Victorian functionalist, if you could possibly know what I mean! I don't want to intimate by that that I have any disposition to recreate the society of the '90's in order to illustrate the sort of things he was doing the drawing for. He was quite satisfied with society as it was. I don't want to imply that he had any extraordinary gift, but rather to indicate on the other hand that there was something missing. If the

ELIEL SAARINEN, Cranbrook Academy of Art: I remember when I was in Ann Arbor in this school I found in one of the books a picture of a competition in designing an airplane. The winner got the prize because he had discovered wind currents. We should learn to understand that everything is design. Every thought and every action has to be understood as a matter of design.

The following statement framed by Mr. Kiesler was unanimously adopted.

The private office work of architects, as well as the community, State and Federal planning, and consequently education of designers, can only be based on the elimination of the *Perennial Crisis in Architecture*.

The Perennial Crisis in Architecture being the continued incapacity of society to provide and sustain a healthful and healthy shelter for each of its members; hence the inability of the designer and builder to deal adequately with this demand for all income levels.

The goal of such elimination can only be found in establishing a scientific scale for the approach to design problems; a scale which cannot grow out of studies of architectural styles of the past or present, but can only be found in the light of studying life processes.

modernists will keep to their seats, I will go a little further. And I say quite frankly that when Nature fashioned him she intended him for a particularly ingenious competitor. Now this is the place to say, if I do consider an apology, the negativity of that time becomes obviously the positiveness of today.

Now, he was a very nice fellow, a man of tranquil and perfectly respectable affections, and the only weakness in his character was that he had a persuasion of having a sense of humor; a pretension which I found painfully difficult to accept. And I thought it was not one of the loyalties that can be exacted from any honest draftsman. His was not a reasonably or adequately provoking humor, having in mind those reasonable standards that you are accustomed to apply to the humor of your friends. It consisted largely of a certain clownishness.

I responded smilingly for quite a time after I became employed, but I was conscious that it palled after a while. In the loneliness of my position, mine was the only countenance that could register the fortunes of his wit. When I would not respond, he would say, "Charlie, is there

something the matter?" I took refuge in this but I could not always be indisposed. It was particularly aggravating at those times when he had found a new client. I know since all the exuberance of that moment. But in my inferior relations to the fortunes of the firm, it reached me in a

rather diluted emotion. We were developing a very distinct incompatibility when he got particularly ill. I have always looked back with happiness at the thought that nothing that I did interrupted the illusion as he went through Heaven that he was still the humorist.

HOUSE-BUILDING

By John Burroughs

Excerpts from an article in *Scribner's Magazine*, in the year 1876, from the T. F. Healy collection

If one's house existed for its own sake, if it were an end in and of itself, there might be some fitness in the attempt to give it positive beauty. But as the matter stands, only that human habitation satisfies my eye in which the aim of beauty or art as such is entirely swallowed up and lost sight of in the suggestion of comfort, warmth, stability, and I do not think that the house is beautiful, but inviting and home-like. If the builder has added any extrinsic ornaments, anything not in keeping with the necessities of the construction (of course I would not confine him to the bare bones of the case); if he has clapped on an abominable French roof, which, in our climate, answers so poorly the purposes of a roof, and suggests no shelter or hospitality; if he has thrust up a tower where there is no view to command; or if he has painted his structure one of those light, delicate tints, that is like nothing out of doors, and makes one feel as if the house ought to be taken in out of the wet and the weather, I see he has made a bid for the admiration of the public, and that he had no deep want in his heart to satisfy. . . .

The domestic spirit is quiet, informal, unceremonious, loves ease, privacy, low tones; loves the chimney corner, the old arm-chair, the undress garb, homely cares, children, simple pleasure, etc.; and why should it, when it seeks to house itself from the weather, aim at the formal, the showy, the architectural, the external, the superfluous? Let State edifices look stately, but the private dwelling should express privacy and coziness.

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But every man's house is in some sort an effigy of himself. It is not the snails and shell-fish alone that excrete their tenelements, but man as well. When you seriously build a house, you make public proclamation of your taste and manners, or your want of these. If the domestic instinct is strong in you, and if you have humility and simplicity, they will show very plainly in your dwelling; if you have the opposite of these, false pride or a petty ambition, or coldness and exclusiveness, they will also show. A man seldom builds better than he knows, when he assumes to know anything about it. . . .

Our rural and suburban houses look smart, airy, wide-awake, but they also look thin, cold, flat, brazen, shoppy. You shall travel days and hardly see one that gives the impression of dignity, stability, coziness, or homeliness. They are, no doubt, in the main comfortable, but they have bad manners; they stare at you, they advertise themselves, they crowd up on the highway, they vie with each other, they are affected, proud, scornful. . . .

No people ever before so much needed to cultivate neutral tints, deep shadows, broken surfaces, flowing outlines, sheltered exposures, partial views—in fact, general inconspicuousness in their domestic architecture, as do the people in this country. Our climate is perhaps the most merciless under the sun; it exposes everything. The atmosphere is telescopic. In fact, there is no atmosphere, but hard naked space. Surfaces glare, lines are sharp, objects are near, distance is foreshortened, perspective is killed. The eye does not get the sense of depth and mellowness it does in most humid climes. There is no tone, no age, no universal presence, touching, subduing, harmonizing, as under transatlantic skies. And because we live amid such publicity shall we take especial pains to make ourselves seen? Because the climate glares shall our house glare also? . . .

After all our failure, I regard the problem of how to build a house that shall not, at least, offend the eye as a very simple one. For the most part, one has only to avoid doing what his neighbor has gone about with so much pains to do: avoid light colors, leave off the cornice, the stuck-on ornaments, build low and rambling, and, in general, adhere rigidly to the laws of construction, and let beauty take care of itself. The architect certainly cannot add this part; he cannot thrust beauty upon your house; it must come of itself; it must be born of the design, and of bold and simple treatment. Do not so much seek to please the eye as not to displease it. Let one remember that his house is to stand in the open air, and not in a showcase; that it is to fraternize with rocks, stones, and trees, and rude nature. If it does not look at home where it stands, how are you going to feel at home in it? . . .

I think that, on examination, it will be

found that the main secret of the picturesqueness of more simple structures, like fences, bridges, sheds, log huts, etc., is that the *motive*, the principle of construction, is so open and obvious. No doubt, much might be done to relieve the flatness of our pine-box houses by more frankness and boldness in this respect. If the eye could see more fully the necessities of the case, how the thing stood up and was held together, that it was not paste-board, that it did not need to be anchored against the wind, etc., it would be a relief. Hence the lively pleasure we feel in what are called "timber-houses," and in every architectural device by which the anatomy, the real framework of the structure, inside or out, is allowed to show, or made to serve as ornament. The eye craves lines of strength, evidence of weight and stability. But in the wooden house, as usually treated, these lines are nearly all concealed, the ties and supports are carefully suppressed, and the eye must feed on the small, fine lines of the finish.

FRANCIS H. BACON, 1857-1940

An Appreciation
by Claude Bragdon

The news of the death of Francis H. Bacon at the age of 83, on February 5, at Chanakkale, Turkey, is bound to stir affectionate memories of him in large numbers of the older generation of architects, for his relation to the profession was unique. His culture, his taste, his talent as a designer, his integrity as a manufacturer of fine furniture and cabinet work, and the fact that he had himself been an architect, made him their adviser and collaborator in matters pertaining to the insides of buildings—their furnishing, decoration, and equipment. They came to depend on him for a great many things about which they felt themselves uncertain, and he never let them down. On this account and by reason of qualities of character which endeared him both to the architects he worked for and to their clients, there was a time when he had a practical monopoly of what used to be called "the carriage trade." He furnished the New York University Club—still the last word in architectural dignity and opulence—he designed the present seats in the house of Representatives in Washington; also the shrine which is the repository of the Declaration of Independence.

When a young man Mr. Bacon spent three years in Asia Minor, excavating the ancient site of the Greek Doric city of Assos, sent there by the Academy of Arts and Sciences. Many years later he recorded his findings in a three-part monograph illustrated by his unique line drawings, which combined esthetic feeling and disciplined imagination with great clarity and accuracy.

He was one of the founders of the famous Tavern Club in Boston, which aimed to assuage the nostalgia of its original members for that artist life in the great European capitals of which most of them had had a taste, by fostering a sense of fellowship and providing an atmosphere of intimacy with the aid of open fires, a common table, a piano, a cat, and a parrot—a safe refuge from the bleakness of Beacon Hill. He was also one of the charter members of The Architectural League of New York, an organization which continues to play an important part in the cultural life not of that city alone, but of the country at large.

Mr. Bacon forsook the practice of architecture to take up that of furniture designing and interior decoration and in this field he became the first great American emancipator from mid-Victorian stuffiness, insisting on simplicity and good workmanship, to achieve which he established a factory in Boston, pervaded by his own enlightened and humanitarian spirit. But, following the Great Depression, his business suffered first curtailment, then disaster. Reluctant to cheapen his product to conform to lowered standards, or to enter into that keen competition brought about by that tighter squeezing of the dry udders of the Sacred Cow, handicapped also by weight of years and failing health, he retired to his wife's ancestral home, the former English Consulate at Chanakkale, and from there watched the gradual crumbling of that enterprise to the building of which he had given the best years of his life.

But let it be here recorded that he accepted his losses and afflictions without

bitterness, and that those later years were doubtless the richest and happiest of his life—for he was rich in friends, in children and grandchildren, in garnered memories and a sense of beauty and nobility whether in ancient or in modern guise. But best of all he cherished a philosophy and view of life, drawn not from books but from some deep well of wisdom in the heart, by reason of which, in the face of every adverse manifestation, he was still able to say, with Robert Browning:

God's in his heaven:

All's right with the world.

STRUCTURAL SCULPTURE

By Robert Foster

Robert Foster's sculpture, very much in evidence at The New York World's Fair, is not the result of a mere attempt to shock the eye with a new combination of form and medium. There is a tenable philosophy and a clear purpose back of his figures standing before the Textile Exhibit and the Ford Building, and the great eagles topping the Ford flagpoles. See a new form of bas-relief on page 10. Here is his apologia.—Ed.

Men's first architecture—the cave—was caused by erosion, and likewise his first sculpture—the smooth stone which resembled a man—was the result of running water or the grinding glacier.

The architecture of today, with its steel vertebrae and sharp right angles, no longer bears much relation to this "rounded off"

concept of form, but most of our architectural sculpture still sentimentally clings to ideas and forms originally conceived in clay or wood. Both of these materials, for structural reasons, have to be executed in rounded massive shapes, and even if these forms are later translated into stone or bronze, the original concept still remains. The old classic test, which demanded that sculptured form be capable of being rolled down hill, is still being applied.

At the New York World's Fair we have developed a new concept of sculpture—Structural Sculpture—forms made of bent steel, electrically welded, with fins which jut out into space and become one with it. A sculpture with strongly accentuated lights and shadows, which give it a greater visual carrying power than is possible with rounded form. Not only does this Structural Sculpture have in its construction an affinity with our present day architecture, but it also has modern architecture's directness of approach: the structural elements are at the same time the elements which give it its form.

Due to the greater strength of the sheet metal as against the short fiber of the cast metal, structural effects heretofore never attempted are now possible, and extraneous architectural supports are no longer required for structural strength.

Massive sweeps of form do not need to be simulated in clay and then translated into bronze, they now can be executed directly in the metal, with obvious advantage.

The sculptor has taken over from the engineer, the structure of his conception and made it one with the external form.

WHITHER CONTEMPORARY DESIGN?

Excerpts from a symposium in *Interior Decorator* for January 1940

By Donald Deskey

The design of houses seems at last to have taken its proper direction. Jolted in the Twenties from the stultifying influence of classic architect and romantic decorator, it has shaken off, first, "modernistic" decoration, hurdled the unsuccessful imitators of Frank Lloyd Wright and the Bauhaus School, and is in the process of discarding transient style and chi-chi tricks. Design at last has taken root and the coming years should see it grow and flower.

How will the rooms of today look tomorrow? Are yesterday's modern rooms now out-moded, "modernistic" or shop-worn? The modern room of 1929 should have aged gracefully during the past ten years. The furniture and furnishings should have mellowed and taken on a certain patina. We should not be particularly conscious of its modernness. If it had to shout for attention it has probably lost its

voice. Four out of five of the innovations of yesterday are probably glaringly bad today.

By Lurelle Guild

The styled, synthetic world of tomorrow will bring with it the greatest single step forward in bringing quality and distinction of appearance together, at a popular price. . . .

Of course, there will be no limit in the uses of plastic in refrigerators, automobiles and furniture when new large presses will make it possible to fabricate these now unattainable pieces. Plastics will be blown into shapes for bottles, lamp shades, lowly kitchen canisters and countless other uses. The beauty of plastics will be blended with the fluorescent light which will be in use in every home. . . .

Oh, yes. And the Home of Tomorrow will be in period style.

By Paul MacAlister

The epitome of the average businessman's feeling toward office design is this anachronism: a golden oak roll-top desk being wheeled into Rockefeller Center. It's as incongruous as a pot-bellied stove in the Yankee Clipper—but until recently, otherwise up-to-the-minute men could see nothing wrong. Overcoming these antediluvian ideas has been the modern designers' toughest assignment. . . .

In his home, the executive can have the relaxing elements of leisurely disorder. In the office, clean-cut efficiency is a prerequisite. His eight-hour home must be as modern as tomorrow's automobile. And today, the office interior employs, in fact, many of the designs, materials, and functional elements of the modern automobile—steel, streamlining, ball-bearings, leather. . . .

The executive may not need air conditioning at home, but in his office it is

indispensable if he would maintain a year-round comfort and health. . . .

Tomorrow's office? It will follow the formula of today, chemically proved and improved as any good formula is. The addition of more points of efficiency, such as televised telephone conversations that will bring the executive to the factory at the turn of a dial. The inclusion of more attention to the business man's health—light conditioned with ultra-violet rays so that Vitamin D will be part of the office equipment. . . . These and the many more that will grow from the ever-increasing need of the business man for a smooth-running, healthy, comfortable atmosphere for the major part of his life.

By Gilbert Rohde

The trend in the design of modern furniture and interiors for the home now definitely indicates that the revolution is over and that the art is maturing.

It was only about ten years ago that the first severe straight-lined furnishings, eschewing all decoration and making much ado about "functionalism," appeared on the American scene. This style was born of an intellectual need, and the field could not have been cleared of the degenerate styles of the past without this revolutionary step.

That this style did not satisfy the needs of human beings is manifest in the many attempts to find something with more emotional content. The abortive attempts that came under the head of neo-classic, or modern classic, were gropings in this direction; in the latest of these efforts, euphemistically called Swedish Modern, we at least find a solution more nearly suited to our American way of life.

But now for the first time we see a maturing that can be called all our own. It is no mere accident that so many of the designers, who ten years ago began with the pure "international" style, are now designing in a "humanistic" manner that admits a place to the past as well as the present, and to the emotions as well as the mind. We are losing our self-consciousness about modern design. The distinctions between the present and the past are becoming less sharp. We can use old forms and old materials together with new forms and new materials each in their proper place. That this is happening in so many places is the mark of the age and the culture of a nation.

By Russel Wright

It was through accessories that Modern Design was first introduced to the American home furnishing market some fifteen years ago. Since then all changes and trends have started and spread from the accessory field. Therefore, it seems to me of particular significance to examine what has been the outcome of the war between Modern and Traditional in this field.

Consider glassware, pottery, metalware, table linens, and woodenware. Compare

these markets today with 1925. It is evident that Contemporary Design has quite conclusively conquered the morbid interest in the period resurrection. Modern Design need have no fears in these fields and is developing along healthy lines.

It is true that the first Modernistic School, and then the cold Geometric School, as well as the sincere Functional School, have all suffered defeats and are dying slow deaths. But, it is also true that the numerous sporadic attempts of Traditional Design to enter the field of battle under various disguises ("neo" and "classic" Modern, Baroque, Modern Empire, etc.) have all died with ridiculous rapidity. . . .

COORDINATION OF DIMENSIONS

By Myron W. Adams

SECRETARY, AMERICAN STANDARDS ASSOCIATION COMMITTEE ON COORDINATION OF DIMENSIONS OF BUILDING MATERIALS AND EQUIPMENT

Excerpts from an article in *Industrial Standardization*, December 1939.

In November, 1938, a cooperative enterprise in the building field was launched under the procedure of the American Standards Association. The purpose of this work is to coordinate the dimensions of building materials and equipment in the interests of efficiency and economy. Enough standardization has already been done in the building field to indicate the possibilities of a very much enlarged standardization project which will apply also to building parts and building materials, and even to methods of assembly.

Bemis Industries, now the Modular Service Association, originally proposed that the American Standards Association undertake this work. The American Standards Association then, in accordance with its usual custom, called an open meeting of the building industries at which architects, builders, government bureaus interested in standardization or housing problems, prefabricators, and other groups representing manufacturers or users of building materials, had an opportunity to discuss the project. When this meeting endorsed the idea, the American Standards Association definitely authorized a standardization project to coordinate the dimensions of building materials and equipment, sponsored jointly by the American Institute of Architects and the Producers' Council, Inc.

The committee, organized to take charge of the job, includes representatives of more than 40 different trade associations, engineering societies, and other organizations connected with the building industry.

Its first meeting was held in New York on July 13, 1939.

Since that time four special research committees have been organized to start on the detailed work. One of these is dealing with masonry materials made of struc-

Interest now seems to be in the direction of softer, less geometric shapes, less contrasting texture combinations, decorative use of form and texture, hand-made effects, and simplified use of decoration.

If only all those involved—designers, stylists, decorators, buyers, and press—will learn from what has happened (briefly, that America does not want Geometric Modern, Functionalism, Period Reproduction, or any form of Period "Swing"—but wants practical, pleasant Contemporary Design) and will proceed on this basis, we will find design in this market getting down to refinements that will eventually evolve an important phase of American home furnishing arts.

tural clay products. A second is working on wood doors and windows. A third committee is at work on masonry made of concrete and cast stone, and a fourth on metal windows. Two more committees are in prospect: one to cover natural stones including marble, granite, and limestone; and one for structural wood. Additional research work will, of course, be necessary; and more committees will be set up as the whole project develops.

In connection with the research work, arrangements have been made to cooperate with the architects for one of the Washington Alley Projects. Thus, it will be possible to test the details as they are developed by applying them to actual building problems.

Our objective is to make building parts available to the industry in standard sizes and dimensions that are coordinated. By "building parts" we mean the building materials, accessories, and equipment items in the form in which they are delivered to the building site for erection. They include the building structure, a variety of collateral materials, and all accessory and equipment items that are permanently fitted to the building.

The coordination of the sizes and dimensions of these parts is our immediate problem and specific task. What is coordination? It is a relationship between the sizes and dimensions of the parts that will assure their proper interfitting within the building structure. Our plan is that these coordinated sizes will be predetermined and listed as standards suitable for coordination. They will be established in varieties sufficient to meet the general requirements of utility and design.

Since coordination is a question of the interfitting of parts in the structure, this work is first concerned with the develop-

ment of sound assembly details. A uniformity of assembly details is an essential requirement for any workable coordination of sizes. For example, consider the installation of a wood window in a tile wall. The committee plans to develop suitable assembly details for jambs, head, and sill-details that will apply to any standard size of that type of window. The necessity for this uniformity of assembly details is fully recognized by the industry today and is used in present practice. In the example cited, such uniformity is generally maintained, but it is accomplished only by the field cutting of some of the parts. . . . The industry does develop uniform details but is not able to create them out of the present standard sizes of parts because present standards are not coordinated.



The essential basis for a practical coordination follows from this necessity of maintaining a uniformity of assembly details. Suppose that we have erected a wall of a building using only parts of the standard sizes recommended for coordination, and that the wall includes a window of one standard width. An architect wishes to build a similar wall, using a wider window of the next standard width. He will have to select standard sizes for other parts that will fit with the new window. If the window is 4 in. wider, certain parts, such as sill, lintel, and finish panel under the window, will have to be exactly 4 in. longer to maintain the original assembly details. If the wall length and space on one side of the window are unchanged, the wall space on the other side will be reduced by 4 in. and will require a reduction of exactly 4 in. in some of the parts in it, and also in items fitted to it: for example, a bathtub or a kitchen cabinet. Thus, we find that the uniformity of assembly details can be maintained only if the size changes are all numerically equal, even though some are increases and some are decreases.

For want of a better term we have called this variation in the size of similar parts a "size increment." To carry out this coordination program this uniform size increment must apply to all building parts. It must also apply to the dimensions of the building which are determined by the sizes of the parts. In other words, coordination includes the dimensions and layout of the building and the size increment becomes also a layout unit. It should be emphasized, however, that the sizes of the individual parts are not necessarily or usually exact multiples of this unit.

Our task of developing a basis for coordination thus amounts to finding a practical method of applying a uniform size increment to all building dimensions and to the sizes of its component parts. Our committee is at present testing a simple drawing-board method of obtaining this coordination.

This work has possibilities which cannot even be estimated as yet. I shall make no

attempt to speculate upon them, but rather confine myself to some of the obvious and immediate benefits of the project.

The first and most apparent economy that coordination offers is a reduction in the field erection costs. This includes both labor and materials, with consequent economy in freight and handling. For certain building materials and types of construction, these economies are very substantial. For one type of masonry it has been estimated that 75 per cent of the total field erection cost may be charged to the field cutting of the masonry units. Most of this could be eliminated by the work now under way. Even in the case of such an easily cut material as wood, the builder may find it more economical to transfer the cutting operations from the field to the shop. Furthermore, if a building boom does develop in this country, a serious shortage of skilled field labor will undoubtedly result. This condition would make a transfer of erection problems from the field to the factory or mill increasingly important and urgent.



For certain types of building materials these field problems have already been transferred to drafting room and factory. For example, such materials as steel must of necessity be delivered to the site in sizes and shapes that will fit together. At the present time most of these parts are manufactured on a strictly custom basis. However, the development of coordinated standard sizes and standard assembly details would make it possible to manufac-

Under the title of "The Integrated House" an exploratory article on standardization possibilities appeared in THE ARCHITECTURAL FORUM, Apr. 1937; Dec. 1938, p. 475; Mar. 1939, p. 219.

THEY SAY—

"Tradition is that part of the past which still lives."—TALBOT HAMLIN.

"I cannot see that architecture, properly speaking, has anything to do with the building of a house."—JOHN BURROUGHS in 1876.

"Termites annually damage woodwork in homes in this country to an extent of \$40,000,000."—DR. THOMAS E. SNYDER, Government entomologist.

"Art appreciation is nothing else than the lay mind stepping out of the driver's seat of daily life, stretching his arms and taking a walk."—WILLIAM H. HEKKING.

"After all, when all is said and done, the fine art of architecture is an art of appearances. I do not mean by this that it is an art of deceit, an art of fictitious appearances. True appearances are usually more desirable than false ones, but the relation of appearances to reality is governed by considerations not strictly architectural. A building to be a good one must

be convenient and strong—fit and firm; and it may be that its convenience and its strength will make it beautiful, or, in Wotton's word, delightful. It also may be that its convenience and its strength will make it nothing of the kind."—H. S. GOODHART-RENDEL.

It is interesting to note that one manufacturer, probably the only one already using completely standardized assembly details, reports another important advantage of standardization. In the housing industry, carpenter builders are often prone to skimp and cut corners to save an immediate penny, and the faults which develop from this practice are charged wrongly to the building material. Many a material of merit has consequently suffered serious discredit because of faulty application. This manufacturer reports that standardization has made it easier and cheaper for the carpenter builders to follow the standard details furnished them than to skimp and cut corners as formerly. To many manufacturers this method of control of the product in the hands of the users would prove invaluable. . . .

So far I have said little about the position of the architect in this work. It is obvious that whatever we do in the way of standardization must be backed by architect and building designer, for coordination will be used by the industry only insofar as the individual architect adopts it. We definitely expect to help the architect, and to make it profitable for him to play a greater part in the building of small homes. One of the prime reasons for undertaking this coordination work at all is to simplify the work of laying out buildings and of specifying sizes and parts that will fit together properly.

be convenient and strong—fit and firm; and it may be that its convenience and its strength will make it beautiful, or, in Wotton's word, delightful. It also may be that its convenience and its strength will make it nothing of the kind."—H. S. GOODHART-RENDEL.

"It is my belief that the building codes are responsible for about 20 per cent more cost than is necessary to provide buildings which are safe and sanitary for the intended use."—Dean WALTER R. McCORNACK of M.I.T.

"A modern building will be erected in the midst of Washington's petrified forest of classic columns if the prize-winning design for a new Smithsonian Gallery becomes a reality. This would be a gratifying contrast to the Jefferson Memorial, an imitation Pantheon now being built in Washington to honor one of our greatest Presidents and architects."—JOHN MCANDREW, Curator of the Department of Architecture of the Museum of Modern Art, New York.

THE DIARY

Henry S. Saylor

Tuesday, January 16.—New York's A.I.A. Chapter has awakened to the desirability of clarifying the relationship between the employer architect and his staff. That relationship has behind it a tradition quite unlike many other fields in which one man hires another. With the aim of preserving that tradition, "The architect will consider his staff as an extension of his professional capacities, with the responsibilities and the prerogatives commensurate therein. The scale of remuneration of the members of the staff shall be based upon the relation of their work to the work of the organization, in preference to any arbitrary classification derived by any other means."

These statements preface a form of application for employment which specifies the individual office's practice with regard to hours, vacations, overtime pay, sick leave, holidays, jury duty, etc. The applicant fills in a section representing his own dossier—name, address, phone, education, former employers, type of work done, salary, etc. His signature at the end follows a statement to the effect that if he shall become a member of the staff his employment shall be subject to the conditions outlined. In a word, this printed form would replace the architect's usual notations on the back of an old envelope, and post the draftsman on the office rules at the outset rather than having him surprised or irked by them as they take effect or are changed.

Thursday, January 18.—A dependable formula for entertaining a group of fine arts professionals is to have one of them display his technique. Tonight it worked again, as it always does. Brenda Putnam, at The Architectural League, modeled before our eyes a life size head of John Gregory. With an assistant to keep turning the model stand, the sculptress slapped clay upon the mandrel, building up to a constantly changing silhouette with never a pause for detail. Miss Putnam, perhaps under five feet in height, prefers to look up to her work rather than have it at normal eye level—an idiosyncrasy that accents her diminutive stature and induces a vicarious weariness of the arms and shoulder muscles in the comfortably seated spectator. John Gregory, sculptor turned model, kept up a running fire of banter with "his public," arguing as to the merits of this or that expression of his hands or feet. When his talk seemed about to interfere with the pose, Miss

Putnam would merely signal another half turn of the stand and have him present his back to the audience. In 45 minutes of work, her capable hands rarely aided by other tools, Miss Putnam brought the head to the end of the roughing-in stage, and begged off from the more tedious and less spectacular work of refining it. And the audience, its proprietary interest in the head now highly developed, and fearing that one more touch might be fatal, gladly called for the damp cloths. (See page 10.)

Saturday, January 20.—These traveling scholars furnish an unexpected source of information as to what is going on abroad behind the censorship walls. William E. Hartmann, 54th Rotch Scholar, from whom last month we learned something of Soviet architectural practice, writes of the elaborate courtesy with which he was treated in Germany. A request for a week's visa brought an insistence that his stay be lengthened to a month. Coming into Germany at Warnemunde, a great air base, the words "American student" proved an open sesame. No red tape, no questions, no examination of baggage, though others—nearly all Germans—were put through a rigorous inspection. A month's rationing was pressed upon him, when only two weeks' was asked. Welcomed with open arms and immediately subjected to a never ending barrage of propaganda—that was the measure of Germany's hunger for the world's goodwill. Summing up his observations, which include the impression that Third Reich architecture is not very good, Hartmann believes the morale of the people is high, the food adequate and likely to remain so for two or three years, and the most likely source of international dissension the seizing of government by the military.



Tuesday, January 23.—The interior decorators—or at least that portion of their number belonging in the American Institute of Decorators—are dead set on attaining professional status. Today at the Waldorf an Educational Round Table brought together an impressive array of educators to tell them how: Arnaud of Columbia, Bennett of Michigan, Schweizer of N. Y. U., Boudreau of Pratt, Clark of Cooper Union, Metheny of U. of P.—to mention but a few of those representing their respective institutions.

The weight of opinion seemed to be

that the professional decorator does not differ widely from the architect; that a proper training for the former would be the regular architectural course in which less emphasis were put on the engineering side of structure and more on the materials and methods for achieving the proper environment for a way of living.

Dean Arnaud suggested that one obvious way for the decorators to achieve professional standing was to qualify for registration as architects—an opportunity for which the decorators failed to show any enthusiasm, and I could hardly blame them. Registration for doctors, engineers and architects represents an effort in behalf of society to safeguard its life and health. While the products of some interior decorators might, and occasionally do, induce a certain queasiness in the pit of my stomach, I would not go so far as to charge them with a serious threat to life itself.

Virginia Hamill, from the floor, tried to offer a practical suggestion, but it was ruled out of order as being off the agenda. I gathered that she had in mind the difficulties of attaining professional standing by decorators who continue to derive their fees in the form of commissions on merchandise sold to the client.

Washington, Wednesday, January 24.—Someone volunteered what he thought was startling news here today—that the new National Gallery, or Mellon Gallery as it perhaps will always be better known, is longer than the Capitol and its wings. I hadn't thought of comparing the buildings in terms of length, anymore than I had of dragging the Department of Commerce Building in, but it dwarfs both of the former. The Capitol measures 750 ft. over all, the National Gallery a little over 800 ft., and Commerce, 1,050 ft. One recalls Will Rogers' description of the latter building: "Take the State of Texas; put walls around it punched full of windows, and you have the Commerce Building."

Pittsburgh, Thursday, January 25.—Mt. Washington, with the thermometer hovering about zero and a 30 mile wind caressing its bald knob, was perhaps not the most salubrious spot from which to observe housing. Charles Stotz and Ralph Griswold chose it as a vantage point to show Gilmore Clarke the city's large scale projects this afternoon, with me as the congealed bystander. Pittsburgh, in

settling itself in a nest of hills, built in the valleys. To find new housing sites of sufficient area, she is now scooping off the tops of the hills and dumping a few million cubic yards of earth into the afore-said valleys. It doesn't quite make sense to me, but probably the human perceptions come nearly to a standstill at zero in a 30 mile wind—particularly when one is told that abandoned coal mines honeycomb these hills to complicate the foundation engineers' job, and the outcropping seams of coal are formidable fire hazards. We could have used one of these latter this afternoon.

Tonight the scene changes to the ballroom of the Pittsburgh Club, where the Chapter celebrated with impressive pomp and circumstance its fiftieth birthday. Lawrence Wolfe and Charles M. Stotz, outgoing and incoming presidents respectively, had evidently joined hands in pulling a party that should be worthy of a golden anniversary. The Institute was represented by President Bergstrom and Secretary Ingham, the city by its Mayor and other dignitaries, neighboring Chapters by their presidents. Soothed by a stringed orchestra, clear green turtle soup, breast of guinea hen, sauterne, bombes glacé and benedictine, the company was diverted by a skit in which an approximation of Frank Lloyd Wright invited the assembly up to Falling Water to be purified, and dismissed Pittsburgh with the advice: "Abandon it, for the A. I. A. had a hand in it!" Gilmore D. Clarke made the principal address of the evening, suggesting with becoming modesty that Pittsburgh could do with a few really good motor parkways. (see page 10)

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Saturday, January 27.—Until today I had thought that the modern American kitchen was pretty good. Kitchens and baths seemed a good long stride or two ahead of other elements of the houses we are building. Ethel B. Power, former editor of *House Beautiful* and now a specialist in kitchen design, tells me that we are all too smugly complacent about our kitchens. The women are being told continually about the straight-line production principles and what a paragon of virtue they have made of this workroom, but the women, according to Miss Power, know that it is nothing of the kind. As filtered through the inept male mind, here are some of the more glaring faults: work space lacking about the refrigerator where, rather than at the sink, most food is prepared; height of 36 in. is proper for sink counter but too high for other work areas, therefore the straight-line counter is a concession to simplified planning and to looks rather than to utility; wall cabinets 18 in. over the countershelf are too high to reach; moreover wall cabinets 13 in. deep are too deep for this work area; right for china storage, they are all wrong for supplies, mixing-bowls.

How could all these domestic science researchers have allowed us to go so far astray? We seem to have established a modern tradition for the laboratory-kitchen that will be hard to kill, particularly that straight-line counter level. Perhaps its better appearance will continue to gloss over its scientific shortcomings. Eye appeal in the kitchen sells a lot of houses.

Tuesday, January 30.—The present era of simplification, with its aversion to all ornament and its worship of the austere, has not yet reached the end of the pendulum's swing. "Strip architecture" will undoubtedly be still more in evidence before it melts into the next arc of the inevitable cycle. Nevertheless, unless the planetary system comes to a full stop and goes into reverse, some of us now living will, I believe, see the fruits of a period that will out-baroque rococo.

★

Thursday, February 1.—The traditions of a hundred years may have a decreasing significance for some architects; for most builders the really important traditions are probably their clients' respective credit ratings. Nevertheless, it should be recorded that today at The Architectural League numerous representatives of the building industry gathered to honor William L. Crow Construction Co. on its one-hundredth birthday. Since 1840 the organization has helped to make building history under an unbroken family leadership of four generations: Langstaff N. Crow, 1840-92; William L. Crow, 1892-1909; Ralph L. Crow, 1909-36; and William L. Crow, carrying on from 1936. Among those who paid homage to the Crow tradition was Francis Donaldson, vice-president of Mason & Hanger Company, Inc., engineering contractors since 1827; also Hobart Upjohn, whose architectural practice has its roots in the work of his father and of his grandfather, Richard Upjohn, who started practice in 1839.

★

Saturday, February 3.—Talked with three men today who have had the interesting job of fitting tenants into their living quarters in the Williamsburg and Red Hook housing projects. With all the study and social research we have put into the design of these units, they cannot be made to fit the infinite variations of the human element and his way of living. We build a two-bedroom unit and make one of the rooms larger than the other for a fancied need of the parents. A family moves in and soon finds that the larger room is far better suited to the child, for in it he may then also play and keep his toys; the parents have their living room for their own recreational impedimenta. Another planning theory exploded. These unaccustomed adaptations of living to rigid space divisions are seldom the result

of the tenants' reasoning; almost invariably they follow suggestions of a sympathetic consultant. Cumbersome and inadequate furniture must be abandoned; heavy, dust catching draperies must not be allowed to nullify a healthful provision for better light and air; tactful counsel is needed to prevent the acquisition of expensive imitation fireplaces and the latest thing in "parlor suites." Keeping up with the Joneses is no whit less common in Red Hook than on Park Avenue. Storage space is still an almost unsolved problem; the traditional closet is hopelessly wasteful in this respect.

As has been said before, and apparently must be said again and again, USHA will never do its full job until it correlates and disseminates a knowledge of how to live in these housing projects; how to finance and amortize them is not enough. We shall not even learn how to build them until we know more about how life may be comfortably lived within their walls.

Friday, February 9.—Columbia School of Architecture broke new ground today in holding the first of a series of Discussions on Contemporary Materials. Plywood was the subject, and we learned about its manufacture, its properties, its limitations, and its uses. We talked not only of what the architect might do with it but also of what it might do to architecture. Morning and afternoon sessions were split by a luncheon at the Faculty Club. Questions, answers, experiences, prophecies ricocheted between students, producers, faculty members, practicing architects, researchers, in an atmosphere permeated chiefly by a real desire to know. If the students got as much out of the day as did the invited representatives of the profession, the industry and the press, the series is likely to prove itself an essential part of the curriculum.

★

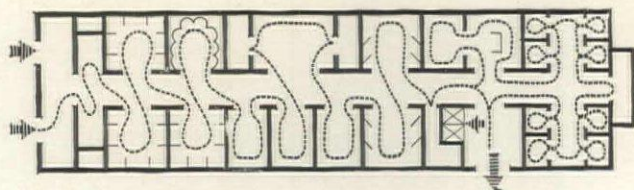
Monday, February 12.—Forty-nine years of continuous service as secretary of a professional committee must not be allowed to terminate without at least a profound salaam from this quarter. Charles H. Blackall, F.A.I.A., was the first holder of the Rotch Traveling Scholarship, 1884-86. In 1891 he was made Secretary of the Boston Society of Architects' Committee for the Rotch, and has given devoted service and friendly counsel to each of the 54 holders that succeeded him in the past 54 years. Upon his retirement on January 10, the Boston Chapter presented him with an engrossed resolution of appreciation. Incidentally, Mr. Blackall was the first secretary of The Architectural League of New York, the first president of the Boston Architectural Club, secretary of the Cambridge Municipal Art Society, and was made a Fellow of the A.I.A. at the age of 34. In 1892 he designed and erected the first steel-frame building in Boston.

NOTES ON EXHIBIT TECHNIQUES

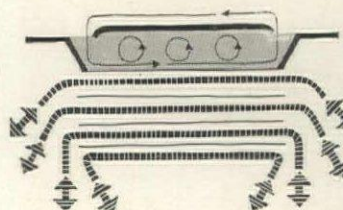
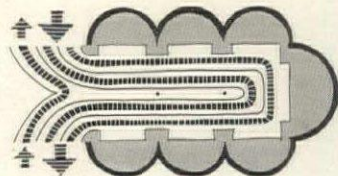
Based on observations at the New York World's Fair 1939.* by ANTONIN AND CHARLOTTA HEYTHUM

PLAN AND EXHIBIT VERSUS VISITOR . . . Exhibits are meant to be seen—and to observe properly the onlooker must be in a receptive mood. To maintain this mood, he must be seduced rather than directed; forced circulation creates a psychological resistance which may defeat the purpose of the exhibit. Light, color, sound, smell, movement, and touch may all be utilized

to attract the observer and lead him in the proper direction. The best plan is one in which he feels free to choose his way, while he is actually responding to forces of which he is unaware. Below are a number of more or less typical, more or less successful examples of exhibit layout which indicate the possibilities and limitations of various solutions of this problem.

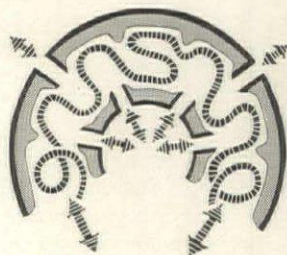
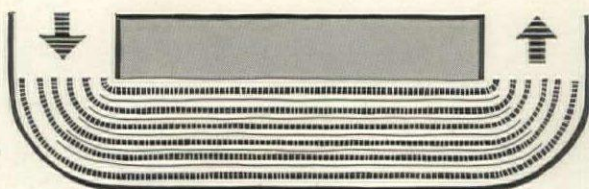


← The plan of the Italian pavilion leaves the visitor free to choose any direction, run straight through or cross from side to side. Large-scale dioramas in the Florida pavilion face a stepped passage divided by railings. Traffic is one-way, the uppermost level being reserved for the counter direction.



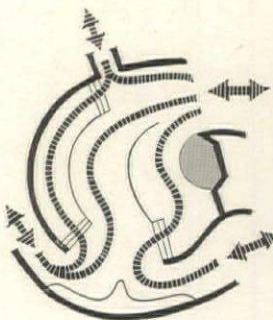
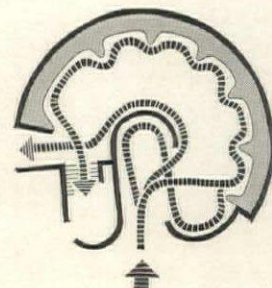
← Visitor-flow in the Beech-Nut building comes to a stop for the time required to complete a cycle of the mechanical performance on the stage-like platform. Stepped passages divided by railings may be entered from either direction.

Firestone employs a similar arrangement, except that traffic is one-way and visitors are drawn along the front of the stage by successive phases of a manufacturing process.



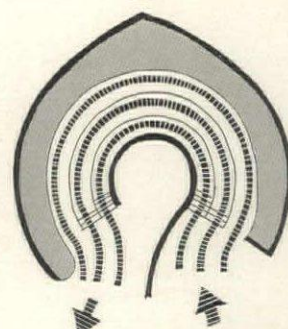
← The horseshoe-shaped Federal Building, with displays on both sides of the passage and multiple entrance-exits, allows free circulation in every direction.

Dioramas in the Steel Building, grouped on the outer side of the passage, are explained by attendants drawing spectators with them from one to the other. It is possible to ignore the explanations and take a short way out of the building.



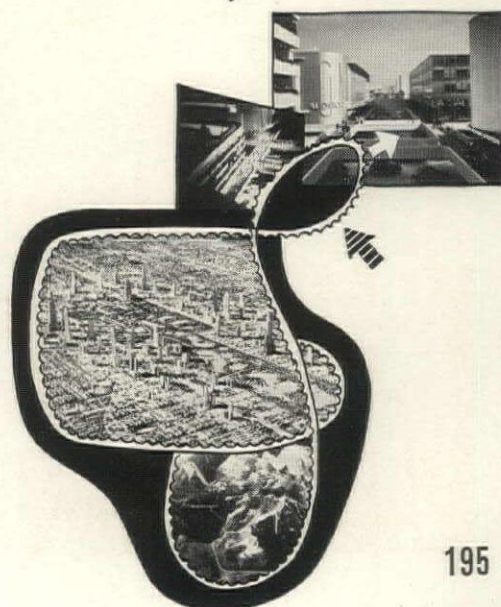
← A performance of glass blowing takes place on a stage in the center of a half-circle in the Glass Building. For the time of the performance visitor-flow is arrested in the gallery passages overlooking the stage. Afterward they may inspect the fixed exhibits in the balance of the building or exit directly at several points.

In the Wonder Bakery successive phases of the manufacturing process take place along the outer curve of a circle. Gallery passages are entered from one side and spectators are drawn along by the sequence of operations, seeing only one stage at a time.



← Revolving balconies on two levels lead around the Democracy in the Perisphere, providing more or less the same view during the whole of the trip, which is varied by lighting effects from day to night. The dreamlike quality of this exhibit would be enhanced if the EXIT sign to which the moving belt inexorably leads were not so obvious, and if the hope of a second view from the other level were not too soon dispelled.

In General Motors one is also carried into a model world the end of which cannot be sighted from the entrance. It is presented bit by bit from various aspects, giving the exciting feeling of air travel, an effect which is heightened by the icy air which blows against one's cheeks when the trip enters the mountains. The illusion is carried on from a last look at a model street intersection to the trip's end in its full-size realization.



*Excerpts from a forthcoming book on exhibition techniques by the architects of the Czechoslovak Pavilion at the Brussels Universal Exposition 1935, and designers of the Czechoslovak exhibit at the San Francisco Golden Gate Exposition 1939.

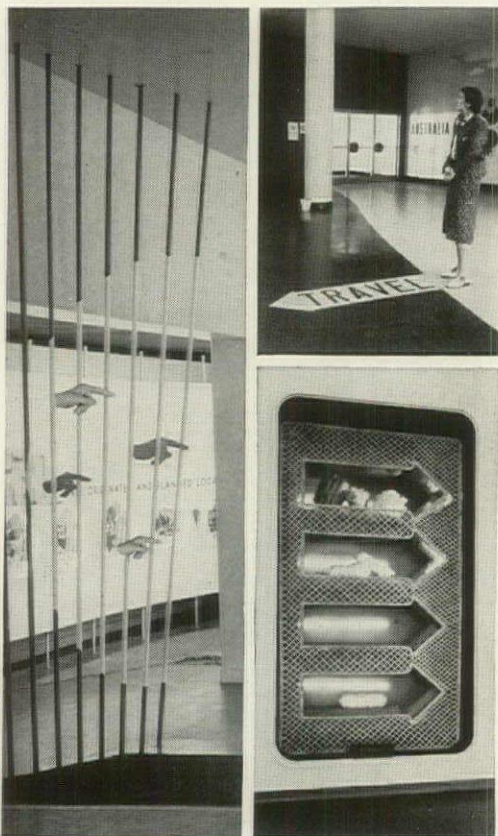


LANDSCAPING

From the Fair guide book:

"... the planners of the Fair have devised a physical layout that enables you to see the many hundreds of features with a maximum of enjoyment and a minimum of fatigue." perhaps it should have been added: "... but please keep off the grass even if the ways are not the shortest and most direct. The grass and flowers are intended to rest your eyes and not your feet."

A better scheme would have been to arrange communication links between the exit of one building and the entrance of the next, using bio-kinetic curves rather than geometrical shapes. More protection against heat and rain, like that provided for the approaches to the Aviation Building, above right, would also have been desirable.

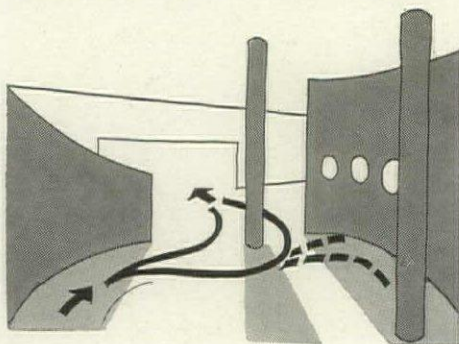
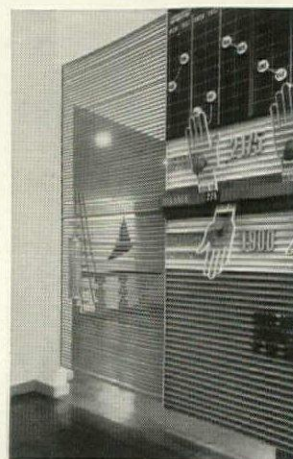


CIRCULATION

Arrows, whether used in the primitive direct way or in the more appealing form of a playful feature in display design, prove often of less practical value than one would expect. Indirect guidance is more willingly accepted.

← (WPA AND AUSTRALIA)

One way to help people find their way through complicated interiors is the use of semi-transparent partition walls. These not only allow easy orientation, but also add the quality of veiled beauty to things appearing behind them or show just enough to keep the curiosity alert. (PORTUGAL AND BRAZIL) →

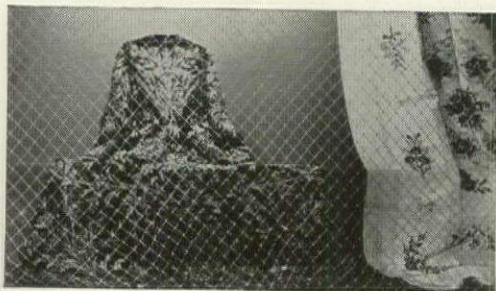
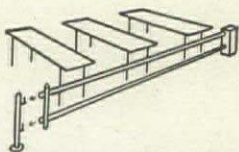
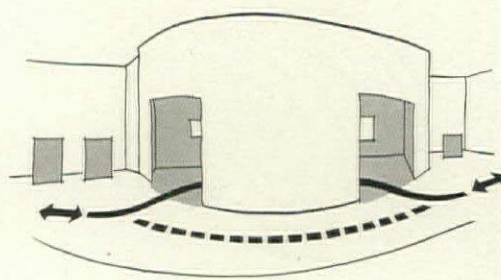


LIGHT

Light conditions have a definite effect on traffic flow. Tests at the exhibit illustrated on the left showed the effects of the competition of bright light in the neighborhood of an exhibit which appeared to be in more or less accidental twilight.

In another instance entrances to darkened rooms proved more attractive than a bright passage straight ahead. In this case visitors came from light places while in the first they had arrived through a dark passage from a dark interior.

Light and darkness become very alluring when brought into direct contrast.



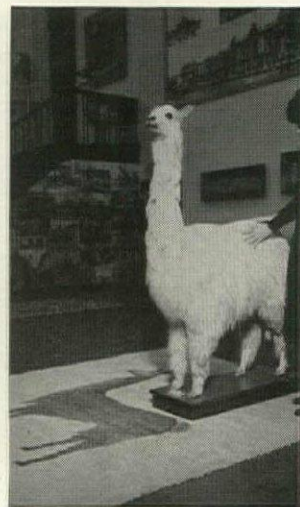
DON'T TOUCH

Rope barriers on reels (like those which protect the silver display in the Danish exhibit) are quickly drawn and withdrawn as desired. Objects which require protection should be guarded by physical means rather than by DON'T TOUCH signs, since for many the latter are an unavoidable temptation. Nets often allow a more direct enjoyment of the object which they protect than glass.

The friendly animal on the right likes to be touched. Everyone seemed grateful for this allowance and it was not misused. An attitude of friendliness toward the visitor, rather than treating him as necessarily destructive, adds greatly to the success of an exhibit.

← LEBANON

PERU →





←ENTRANCE to the Swiss exhibit: a successful substitute for a direction sign which borrows something of the significance of that most magic device to awaken curiosity—a line of people waiting to enter.

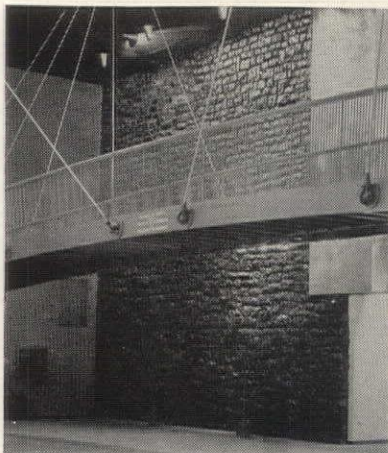


At the right a polite figure bids you a grand "hope you enjoyed yourself" at the Florida pavilion EXIT.→

Indirect means of guidance as well as indirect means of control are more successful than direct appeals which awaken conscious or unconscious protest leading often to negative results. Among the mightiest factors for influencing visitor-flow are new or unusual effects and features.

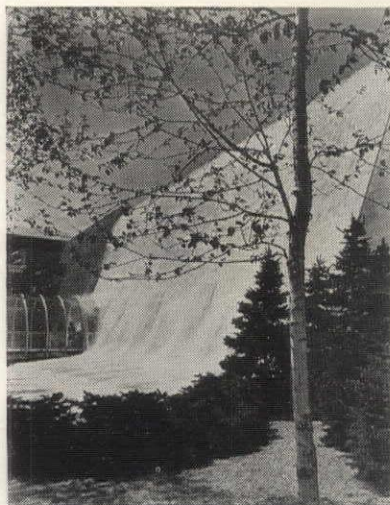
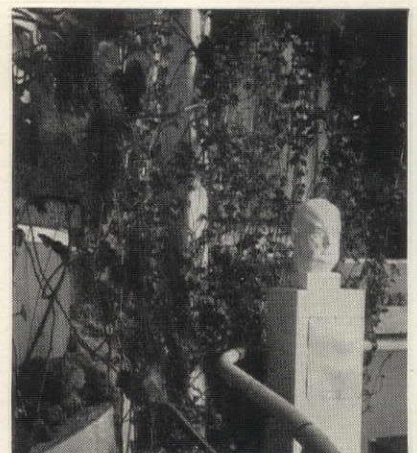
EXHIBITION MATERIALS . . . Materials which have no place in everyday building may be functional and constructive as a part of exhibition technique. Almost any, and even abstract material becomes a logical and practicable part of the great spectacle of the Fair—a spectacle that at its best has much in common with the theater. In the theater everything is built up for a short time; the time the audience stays in the auditorium. In the case of the Fair this means building for the time the fair-goer spends with the exhibit. This suggests not the old technique of using substitutes and imitations for stage effects—the modern theater designer has largely abandoned this—but rather the use of material derived from the exhibit itself.

Exhibit material in this sense includes more than the physical structure. Think, for example, of material in the sense of the actors in the "Old Street" of the Electric Utilities Exhibit, where a policeman of the Nineties warns you, "Watch out, don't let the horses step on you," or of the traffic light in the "Street of Tomorrow," or of the detour barrier used to warn visitors away from the mirror which gave such a perfect illusion of this street's continuation that people walked into it. All such materials become logical and constructive elements which contribute to the effect of the exhibit, along with color, light, sound, music, movement, and the smell of perfume or coffee being freshly roasted.



One may build
with blocks of anthracite . . .

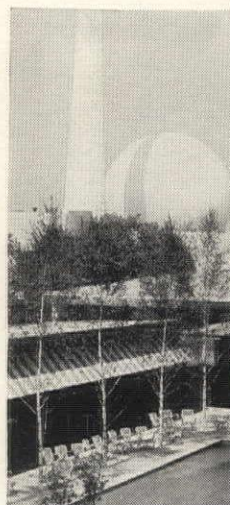
. . . or with frail climbing plants



3.

. . . with falling water,
... with slender birches,
... with mounting fountains
or with glass columns filled with light.

1. Pennsylvania Exhibit 2. Finland
3. Electric Utilities 4. Sweden 5. Lagoon
of Nations 6. Netherlands



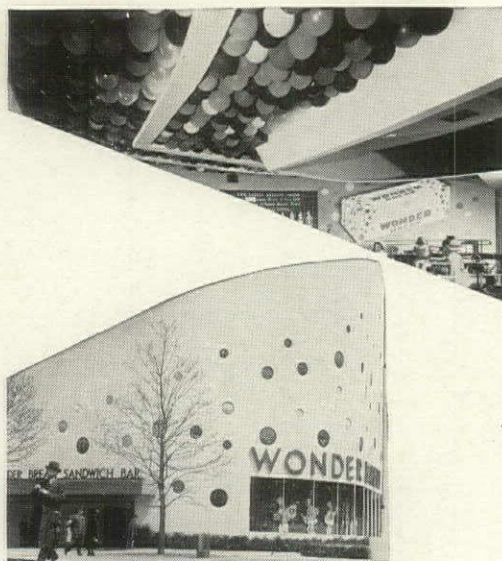
4.



5. Underwood and Underwood

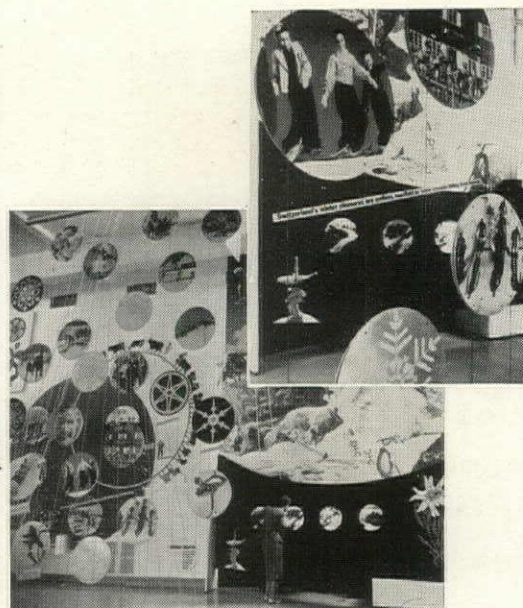


6.



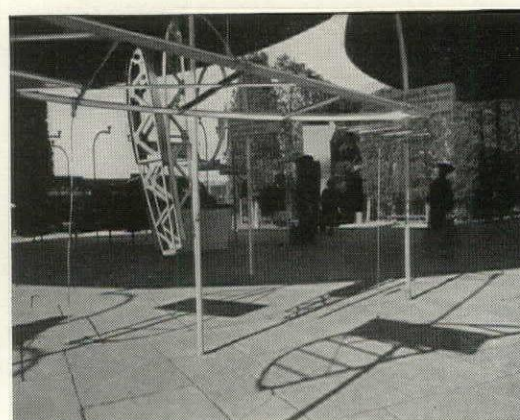
And one may build with materials developed in a process of associations: from the design of a wrapping paper for bread, transforming colorful spots into shining balloons and colored circular windows. Or from a snowfall in mountains, shedding from a ceiling-sky right into the middle of the exhibition—interior microscopic enlargements of snow-crystals and round cut-outs of photographs picturing winter sports. "Switzerland's winter pleasures are endless, manifold as snow-crystals falling from heaven," says an inscription.

← WONDER BAKERY SWITZERLAND →



Or one may build with exhibit-objects which become in their very specific function a lively and colorful, integral part of a building. Or with segments or sections of technical objects which, suspended in the open air, create by themselves a peculiar kind of exhibition space filled with the play of light and shadow of structures slightly swinging in the wind, enchanting even the spectator whose interest would not be caught by the object alone.

← FORD BUDD →



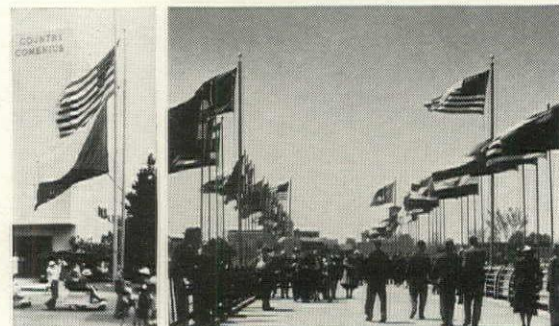
One may also build with replicas of nature or man-made things: Missouri exhibits its forest with such dear primitive objectiveness that the effect comes near to surrealism—although unintentionally—while Yugoslavia very purposely and sensitively combines with details of historical architecture a presentation of national costumes, thus dispensing with dioramas and showcase shells.

← MISSOURI

YUGOSLAVIA →



One of the best and most traditional exhibition materials is the flag. Flags at the Fair often took on an accidental symbolic quality, as in the League of Nations Pavilion, where they waved poorly behind the barrier of heavy columns, protected but rather sick looking. And other flags were at half-mast, purposely telling tragic facts. But mostly the flags—like the water and the visitors—were among the Fair's gayest and most lively features.



Wurts

Designers of the 1939 Fair have experienced all this and have been able to judge actual public reactions—foreseen and unforeseen. They are now given the rare chance to take advantage of their still-fresh experience in creating new attractions, pushing forward the standard of exhibition design and technique in the coming New York World's Fair 1940.

BUILDING MONEY

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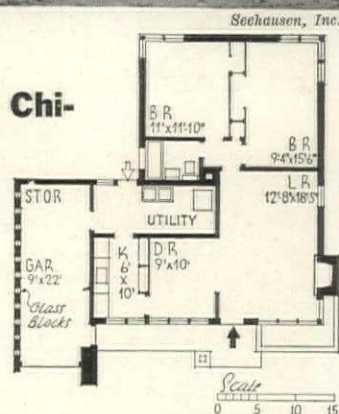
MODERN HOUSES SELLS a subdivision on Chicago's North Shore, feature three-level planning and built-in sales appeal.

Every successful subdivision has at least one good sales gag. It may be a grove of shady maples, fireproof construction, uncommonly low price tags or any one of a hundred features ranging from mountain views to basement bars. Lincolnwood is a successful subdivision in suburban Chicago but features a new kind of sales appeal—it is as modern as 1940. Its land planning typifies the current school of thought; its architecture has but few traditional earmarks; its construction boasts several new departures; and its sales promotion is pleasantly different from the cut-and-dried chant of the average subdivision salesman. In fact, Lincolnwood is so unlike any other subdivision that most observers would question its success were not the first chapter already written in the record—seventeen houses built, twenty sold, all at prices between \$6,000 and \$9,500.

That prices include everything from land and landscaping to screens and storm doors is indicated by the name of the sponsoring corporation—The Compleat House, Inc. At its head is Modern Builder Arthur Bohnen who, prior to the development of Lincolnwood, had built two dozen \$3,500 brick houses in Chicago (ARCH. FORUM, Sept. 1938, p. 240), had then given up because unrealistic mortgage lenders turned toward houses with fancier trim-

mings and higher costs and because available land was either unsuitable, reserved for other purposes or far too dear. Logical then was Builder Bohnen's next turn—to higher priced houses in a suburban community where he could prove his faith in modern architecture and draw more freely from his wealth of housing knowledge. (At 40, he is or has been an officer of NAREB, NAHO and the Chicago Real Estate Board, a consultant to the Chicago Housing Authority and PWA's defunct Housing Division and a teacher of housing at Northwestern University Evening School.)

In January 1936 THE FORUM presented graphically the fundamentals of "small houses for civilized Americans" as seen by Architects Allmon Fordyce and William Hamby, then outlined several solutions aimed at the requirements of architects, builders, realtors and mortgage lenders. Today in one of Chicago's northern suburbs, Subdivider Arthur Bohnen is developing 104 lots with what he describes as "small houses for civilized Americans"—an approach and a phrase he cheerfully credits to THE FORUM. Herewith an examination of his subdivision and claim that its houses fit the pattern cut by THE FORUM's 1936 feature.



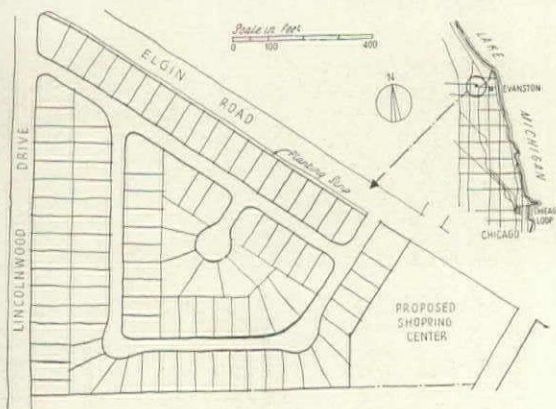
PRICE: \$6,750 WITH LOT

Land & Platting. Lincolnwood's success is not wholly the result of Arthur Bohnen's unusual land development. A heaping measure has come from the land itself. First of all, it is situated just over the west boundary of Evanston, Ill. (1930 pop.: 63,378), a residential suburb on Chicago's swank North Shore. As its Chamber of Commerce will readily attest, Evanston has many characteristics which invite residential developments: it is easily accessible to the center of Chicago via steam surface trains, electric "elevateds" and high speed highways—the Loop is only 13 miles, 20 train (or 45 elevated) minutes distant.

Despite these inviting facilities, low cost house developers have neglected this area. No one in the past has conceived of new housing anywhere on the North Shore except in terms of \$10,000 and more—usually much more. Arthur Bohnen is an excep-



LINCOLNWOOD DRIVE, LOOKING SOUTH



tion. He has for some time seen clear evidence of a market for moderately priced houses in the continual trek of second generation, young families back to the apartment house sections of downtown Evanston and Chicago's north side where housing comes cheaper. Last year he decided to serve this market.

Bohnen's survey of suitable subdivision sites did not take long—the eighteen-acre cabbage patch which he finally purchased in June was one of the few large tracts still available in unencumbered single ownership. More attractive than its cost was the site's favorable location. Legally, it is a remote part of the Village of Niles Center (pop. 7,500). In all other respects—social, physical and economical—Lincolnwood is an integral part of Evanston. The property's north boundary is also Evanston's boundary; its post office address is Evanston; it is in the Evanston School District which has three buildings within a mile of the site; and within the same radius is the Evanston station of the Chicago elevated line.

Enhancing these existing amenities, Subdivider Bohnen platted his property with an eye to making each individual lot as attractive and economical as possible. Instead of slapping a traditional gridiron street pattern across the eighteen acres (which would have produced a minimum of lots and a maximum of streets and in-

tersections), he heeded modern land planning precepts, opened the development to existing streets at only two points. This discouraged through traffic, created a private "park" for his prospective purchasers. Aside from the eighteen facing Lincolnwood Drive (see plot plan left), all lots front the two quiet 40 ft. interior streets. Three additional acres at the site's eastern extremity were set aside for a shopping center and parking facilities.

While only justifiable criticism of Lincolnwood is that its houses are close together, its lots cannot be classed as small. Most of them measure 50 x 110 ft.—a far cry from the typical 30 x 125 ft. Chicago lot. And, Lincolnwood's density of six families per gross acre fits FHA's recommended ratio.

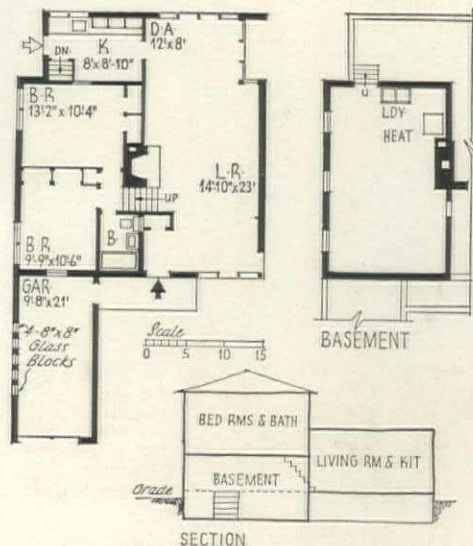
Since Subdivider Bohnen has decided to develop the whole tract himself, he will sell no lots. This will permit him to control the architectural character of the houses and preserve the subdivision's general environment. It also means that lot prices, as such, are non-existent. Interesting, nevertheless, is an analysis of the costs which preceded actual construction. Including the cost of gravel-surfaced streets, total bill for utilities came to approximately \$35,000 or about \$350 per lot. Including the land cost per unit, each of Lincolnwood's houses started out with an average cost close to \$1,100.

Planning & Design. A complete subdividing and home building organization, Compleat House, Inc. designed its own houses while Lincolnwood's modern site planning was under way. They too are modern, and largely because their designers were tied by only one traditional string—costs. From the very beginning, Bohnen aimed his subdivision at young three- and four-person families who pay \$60 to \$75 per month for Evanston apartments. This meant that he had to tag the houses and lots with \$6,000 to \$10,000 prices—prop-

erty valuations which would permit combinations of 80 per cent and 90 per cent FHA-insured mortgages entailing monthly payments of \$36 to \$56. And, since land and utility costs ran about \$1,100 per lot, actual house costs had to be kept down in the \$5,000-\$8,000 range, including profit, overhead, etc.

These costs determined to a considerable extent the size of the houses. But, from there on Compleat House, Inc.'s design department followed no preconceived ideas. Bohnen obtained the design counsel of two experienced outsiders, Architects Philip Maher and Ernst Benkert, and the suggestions of two young-bloods, Ray Stuermer and Warren Richardson, recent graduates of the University of Illinois. Finally, he obtained the full-time services of Architect Leonard Wayman, one-time winner of an American Gas Association small house competition. His assignment was to perfect Bohnen's general design decisions, translate them into working drawings.

Since they reflect the thinking of this six-man "board of design," Lincolnwood's four basic houses merit detailed analysis. Fundamentally different from the average house, all but one of them are built on three or four floor levels (see sections, pages 201, 202 and 203). Thus, to shave the cost of excavation, waterproofing, etc., and to permit better lighting, the floors of the half-basements were set a mere 3 ft. below grade. Only the living quarters of these houses are at grade; bedrooms and baths are raised seven steps from the living room floor to a position above the basement. Result: bedroom windows are well above the reach and sight of passers-by—a common complaint against bungalows—and, being but one-and-one-half stories high, the houses do not have the top-heavy appearance presented by many a small two-story unit. Important from a cost standpoint, this three-level arrangement facilitated the installation of



Sold for \$7,500, including land and landscaping, this residence ranks third in popularity among Subdivider Bohnen's four stock models. (Most popular, page 202; least popular, page 199.) Like other Compleat Houses, it features three-level planning, combined dining-living space, abundant fenestration and division of bedrooms



by a row of three space-saving plywood closets. Despite proximity of one house to another, Lincolnwood's over-all appearance (opposite) is not forbidding. Variety is introduced through orientation, staggered building lines and use of different materials—brick, concrete block, cedar clapboards and asphalt shingles.

plumbing; both the lower half of the bathroom and the upper half of the basement laundry may be backed up against the kitchen as in the houses shown on pages 202 and 203.

Construction & Economies. While they are of unusual design, Lincolnwood's houses present no particular problem for the construction force. Reason: Compleat House Inc.'s construction superintendent, Edward B. Hawkins, sat with the "board of design," vetoed any details which would have been beyond the talents of his mechanics. And, while some of the requirements might stump the average contractor, Bohnen farms out the work to a group of small but enterprising subcontractors who had built all of his preceding houses, are familiar with his requirements. In fact, prior to construction, their suggestions were solicited and incorporated in the house designs.

In conjunction with this organization efficiency, the building of houses in groups contributes to cost reduction. The first group of seventeen houses was begun September 1, completed fortnight ago. Another group, twice as large, will get under way as soon as weather permits. By group building, Bohnen capitalizes on quantity material and equipment purchases; by staggering construction within the groups he requires a minimum of labor and promotes its efficiency. Standardization—four basic plans for 104 houses—also facilitates purchasing, increases labor efficiency.

Major factor behind Bohnen's cost reduction, however, is the purchase of most of his materials and equipment directly from manufacturers.

Promotion & Purchasers. Somewhat to the surprise of skeptical FHA officials and local builders, Bohnen's modern houses have lived up to his predictions, have sold well. More important, they have

sold themselves. To date Compleat House, Inc. has not spent a nickel on newspaper advertising, yet all of its houses have sold prior to completion—many of them sold prior to the beginning of construction. Some of these buyers and hundreds of Sunday sight-seers have been attracted to the development by feature articles in local newspapers heralding the subdivision's modern aspects. Others were attracted via the Evanston grapevine.

Once prospects visit the site they are impressed not by the usual high pressure salesmanship but by the presence of modest signs in the windows of all sold houses announcing that Mr. and Mrs. John Doe and their son Junior "cordially invite you to inspect this Compleat House during its very interesting construction and prior to its becoming their own home and fireside." The names on these signs indicate to the readers the general character of the purchasers—the type of neighbors they will have should they decide to purchase. And the very presence of the signs shows that all houses are sold prior to completion, convinces readers that demand is great. Additional signs in alternate front yards bear other unpretentious sales messages. Example: "The Compleat House is more than an excellent house. It is a technic of planning, financing, and building homes for civilized American families."

Bohnen originally planned to present a model house, but under-estimated his sales velocity. However, experience has convinced him that inspection of a partially completed house as the owner's guest is more effective, and certainly more economical, than a model house.

Month ago Bohnen's inexpensive but effective promotion had sold twenty houses to families whose occupations run from poster painting to banking, whose annual incomes run from \$2,200 to \$6,000. With but one exception, all purchases are being financed with maximum 4½ per



LIVING-DINING ROOM





PRICE: \$7,500 WITH LOT

cent 20-year FHA-insured mortgages written by the Midwestern Mortgage Co. as agent for the Prudential Insurance Co.

Prices & Costs. Lincolnwood's first twenty sales brought anywhere from \$6,000 to \$9,500 apiece, depending upon the house's design, lot size and location. This price range might have been considerably higher had not Subdivider Bohnen decided early to sacrifice potentially larger profits for volume sales. Thus, on the basis of FHA's original appraisals, Bohnen could have sold one of his stock models for \$8,200 with a \$7,200 insured mortgage. While he believed that the property would sell at that figure, the market was so limited that heavy selling and carrying expenses would have eaten deep into profits. Therefore, to ensure sales volume he shaved this price to \$7,500, and FHA lowered its appraisal.

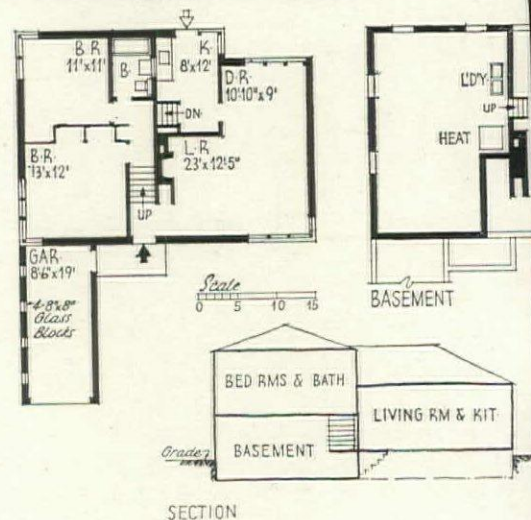
Even if Bohnen's costs were not guarded secrets, margin between them and sales prices could not now be calculated, for his cost accounting varies from that of the average subdivider. Net profit will be determined only after the 104th house has been sold and Lincolnwood's total expenses and gross income have been counted. Cost of and profit in the houses already sold will be favorably affected by the development of the remaining lots where Bohnen looks for still greater savings via increased production efficiency. Good guess is that Bohnen will wind up Lincolnwood with a 10 per cent profit.

Future & Significance. Another good guess is that Lincolnwood's last group of houses will be somewhat different in design from the first group. Several purchasers and active prospects (Bohnen counts at least 50 visitors in the latter classification) have suggested that Compleat House, Inc. veer still further from tradition, devote half-basements to kitchen and dining facilities and expand ground floor living facilities. Further to test public reaction, Bohnen plans to build such a house for himself and, if the public reacts favorably, build similar houses for sale.

Other forthcoming changes: Since the house shown above has proved most popular, it will be duplicated more frequently in the next group of buildings. And, since the bungalow (page 199) is least popular and relatively most expensive, its production will be discontinued.

Even in its present unfinished state, Lincolnwood has produced significant results:

- It is teaching local competitors several new construction tricks. Since a different batch of builders visits the site each week, Bohnen's construction crew has boastfully suggested the erection of a sign: "School for Builders."
- Designs of its houses are already being mirrored in the plans of others. The local FHA office reports a minor epidemic of proposed three-level houses for Chicago.
- While aimed at moderate-to-high income families, the houses are providing funds for a renewed sally into the real



low cost house market. Says Arthur Bohnen: "We are still working on the great opportunities afforded in the low cost house field, but we will have to devise new mechanics before we can receive the endorsement of the local vested lethargy in public office, Government service and institutions of financing. They much prefer the typical ski-jump type of architecture at altogether too high prices for straightforward shelter at prices people can pay. I, for one, have had to cease being a Don Quixote shattering lances on immobile local 'haves,' at least until our more orthodox Lincolnwood can provide funds for a new attack."

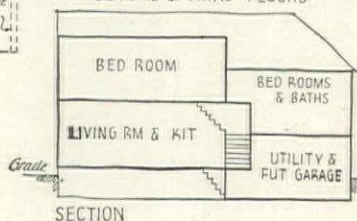
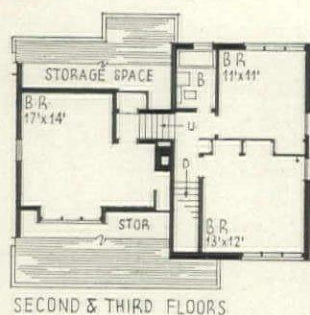
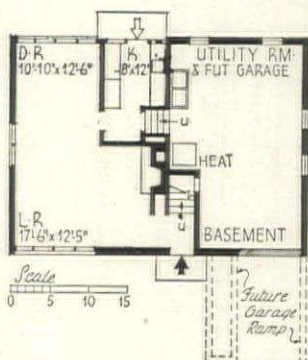
► Most important, Lincolnwood's "small houses for civilized Americans" have proved that modern architecture sells.



All photos, Sechusen, Inc.

Priced at \$8,300, complete, this six-room unit varies from its basic plans which make room for a garage in the basement. Provision of this garage, its ramp and retaining walls would have jacked the price up to the \$9,000 standard. Note that, except for the extra bedroom above the living space, the plans are identical with those for Lincolnwood's most popular house (opposite). Used throughout all houses is a new louver-type aluminum window

(below) developed by Construction Superintendent Hawkins and produced by a company which Subdivider Bohnen organized. The windows harmonize with the horizontal character of the houses, permit 100 per cent ventilation, may be completely screened on the inside without hampering operation of the movable sections and, claims Bohnen, are competitive in cost with other quality windows when installed and painted. Aluminum requires no paint.



TYPICAL BASEMENT ROOM



CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete.

STRUCTURE: Exterior walls—4 in. brick, 4 in. Waylite insulating concrete blocks, Waylite Co., 1 in. furring, lath and U. S. Gypsum Co. plaster. Alternate—8 in. Waylite concrete insulating block, voids filled with dry Waylite aggregate; furring and plaster as above. Interior partitions—wood studs, rock lath and plaster. Floor construction—red oak finish flooring. Ceilings—rock lath and plaster. **ROOF:** Covered with asphalt roofing, Celotex Corp. Decks—covered with 4-ply built-up asphalt.

CHIMNEY: Damper—Colonial Fireplace Co. **SHEET METAL WORK:** Armco copper throughout, American Rolling Mill Co.

INSULATION: Outside walls—Foil back Celotex, Celotex Corp. Attic floor and roof—4 in. rockwool.

WINDOWS: Sash and screens—aluminum, Building Products Mfg. Co. Glass—double

strength, quality B, Libbey-Owens-Ford Glass Co. Glass Blocks—Pittsburgh-Corning Corp.

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

HARDWARE: By P. & F. Corbin.

PAINTING: Walls and ceilings—casein, Muraltone, Mural Co. Floors—fill, shellac and varnish.

ELECTRICAL INSTALLATION: Wiring system and switches—Westinghouse Electric & Mfg. Co.

KITCHEN EQUIPMENT: Sink and cabinets—Mullins Mfg. Co.

BATHROOM EQUIPMENT: All fixtures by Eljer Mfg. Co.

HEATING AND AIR CONDITIONING: Forced warm air system, filtering and humidifying. Furnace—The Lennox Furnace Co., Inc. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—Sandy Mac, Everhot Mfg. Co.

TYPICAL KITCHEN



FORUM BUILDING COST INDEX*

CURRENT TREND IS UP IN 53 OF 81 CITIES, HIGHER THAN YEAR AGO IN 43.

* 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. ²	Birmingham	93.8	93.1	102.5	NEV. ³	Reno	121.1	118.8	118.7
ARIZ. ³	Phoenix	112.5	110.8	116.9	N. H. ²	Manchester	97.3	96.4	100.4
ARK. ³	Little Rock	93.7	94.4	94.0	N. J. ¹	Atlantic City	113.2	113.4	104.7
CALIF. ³	Los Angeles	95.9	94.6	98.9		Camden	107.4	105.4	100.9
	San Diego	98.9	101.3	105.2		Newark	103.1	102.2	100.1
	San Francisco	113.9	114.1	115.1	N. M. ³	Albuquerque	114.2	115.7	118.2
COLO. ²	Denver	112.5	113.4	116.2	N. Y. ¹	Albany	101.6	101.3	98.9
CONN. ²	Hartford	106.7	105.5	106.2		Buffalo	102.7	106.9	104.2
	New Haven	104.7	102.5	101.5		Utica	105.5	104.6	103.5
DEL. ³	Wilmington	97.4	97.9	106.6		White Plains	101.2	100.1	100.1
D. C. ²	Washington	103.7	103.7	105.8	N. C. ²	Asheville	92.5	87.8	91.7
FLA. ²	Tampa	103.2	100.8	99.7		Raleigh	93.6	87.7	95.3
	West Palm Beach	103.8	103.1	105.5		Salisbury	88.2	84.0	85.7
GA. ²	Atlanta	89.0	86.6	90.5	N. D. ¹	Fargo	106.0	105.8	102.3
IDAHO ¹	Boise	112.4	110.5	109.9	OHIO ³	Cincinnati	105.0	103.8	105.5
ILL. ²	Chicago	122.7	122.3	123.6		Cleveland	123.5	117.3	116.0
	Peoria	124.9	120.0	116.4		Columbus	104.4	101.6	103.5
	Springfield	127.9	122.5	123.1	OKLA. ²	Oklahoma City	108.5	106.5	106.2
IND. ¹	Evansville	110.6	110.2	105.8	ORE. ¹	Portland	96.6	95.5	95.9
	Indianapolis	100.9	103.5	105.4	PENNA. ³	Harrisburg	110.4	103.5	102.7
	South Bend	104.9	105.7	98.0		Philadelphia	100.9	99.1	97.2
IOWA ¹	Des Moines	114.6	113.9	113.5		Pittsburgh	115.7	116.4	115.8
KAN. ²	Wichita	106.8	109.6	107.8	R. I. ²	Providence	108.6	107.5	106.5
KY. ³	Lexington	106.9	100.4	98.9	S. C. ²	Columbia	84.5	85.3	88.4
	Louisville	97.6	94.5	94.7	S. D. ¹	Sioux Falls	110.2	109.4	113.4
LA. ³	New Orleans	105.9	102.0	104.9	TENN. ³	Memphis	97.9	95.2	97.0
ME. ²	Portland	94.8	94.9	95.1		Nashville	90.8	89.6	92.5
MD. ²	Baltimore	91.7	89.8	89.0	TEXAS ³	Dallas	96.4	98.2	103.9
	Cumberland	99.0	99.0	98.4		Houston	106.0	106.3	106.9
MASS. ²	Boston	116.2	114.5	115.4		San Antonio	102.8	106.1	107.2
	Worcester	....	102.6	....	UTAH ¹	Salt Lake City	109.1	108.4	106.3
MICH. ¹	Detroit	105.1	107.3	111.7	VT. ²	Rutland	95.3	96.8	98.9
	Grand Rapids	99.2	102.5	106.6	VA. ²	Richmond	89.5	90.1	91.8
MINN. ¹	Duluth	112.0	109.2	108.0		Roanoke	97.7	97.0	95.9
	St. Paul	117.9	118.4	118.0	WASH. ¹	Seattle	114.1	114.1	113.4
MISS. ³	Jackson	108.7	106.5	109.6		Spokane	114.1	113.6	108.5
MO. ¹	Kansas City	108.9	107.7	105.0	W. VA. ³	Charleston	105.6	105.1	106.4
	St. Louis	111.3	109.4	109.9		Wheeling	114.7	114.1	108.5
MONT. ¹	Great Falls	125.7	124.5	126.5	WIS. ²	Milwaukee	109.2	107.4	104.0
NEB. ²	Omaha	109.9	107.4	103.3		Oshkosh	104.3	106.7	106.6
					WYO. ¹	Casper	116.3	119.2	116.7

1. Latest report—January; preceding report—October; year ago—January 1939.
2. Latest report—December; preceding report—September; year ago—December 1938.
3. Latest report—November; preceding report—August; year ago—November 1938.

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.

REMODELING IN GLASS attracts

attention and dollars

One of Pittsburgh's most convincing cases for modernization is Architect Joseph Hoover's conversion of a 75-year-old rococo derelict into modern premises for a jewelry business. It cost only \$18,250, served the company's purpose to the square foot and has attracted valuable attention as one of the "seven wonders" of the city.

Originally the home of the Duquesne National Bank and then the haven of a long line of unsuccessful cut-rate clothiers, the building in 1937 became one of the few vacant structures in the downtown shopping district. For this reason, Pugh Brothers snapped up the old building, commissioned Architect Hoover to re-vamp it. Being one of a large chain, the store had different requirements than those of the average jewelry merchant. Architect Hoover had to provide space for the company's Pittsburgh offices in addition to display space for jewelry, watches, optical goods and such unallied items as radios and electrical appliances. Another and universal requirement was that the building attract attention from a distance and hold the attention of passers-by.

Solution of these problems entailed first the reenforcing of all floors—the first floor for the display of small jewelry items, the second for radios, electrical and optical equipment, the third and fourth for business offices and stockrooms. To provide additional storage space the basement was cleared and a new concrete slab poured over the existing floor.

While all the walls were structurally sound, the facade was beyond repair architecturally. Up in its place went an 8 in. hollow tile wall veneered on the exterior with panels of black and white glass. Interestingly, this exterior treatment and the use of a three-story (27 ft.) window, which was to become the design's predominant feature, were both new to Pittsburgh and outlawed by the local building code. After considerable agitation this obstacle was surmounted.

Other important phases of remodeling which upped the total cost to \$18,250 were: 1) installation of air conditioning and heating equipment which draws on the city's steam system, 2) replacing of all plumbing and electrical lines and equipment, 3) provision of new lath and plaster or natural wood paneling throughout, 4) refinishing of floors with linoleum and 5) purchase of new indirect lighting fixtures, display counters, etc.

After two complete years in their modernized premises, Pugh Brothers are satisfied with their decision to pioneer the field of glass-veneered facades. They attribute a large part of their increasing business to its attraction, a small part of operating costs to its easy maintenance.



CONSTRUCTION OUTLINE

STRUCTURE: Front—Carrara glass, Pittsburgh Plate Glass Co. 8 in. hollow tile.

WINDOWS: Sash—Fenestra steel, Detroit Steel Products Co. Glass—1/4 in. plate, Pittsburgh Plate Glass Co.

FLOOR COVERINGS: First floor—linoleum, Armstrong Cork Co. Second—carpet, Bigelow-Sanford Carpet Co. Toilet room and ladies' rest room—

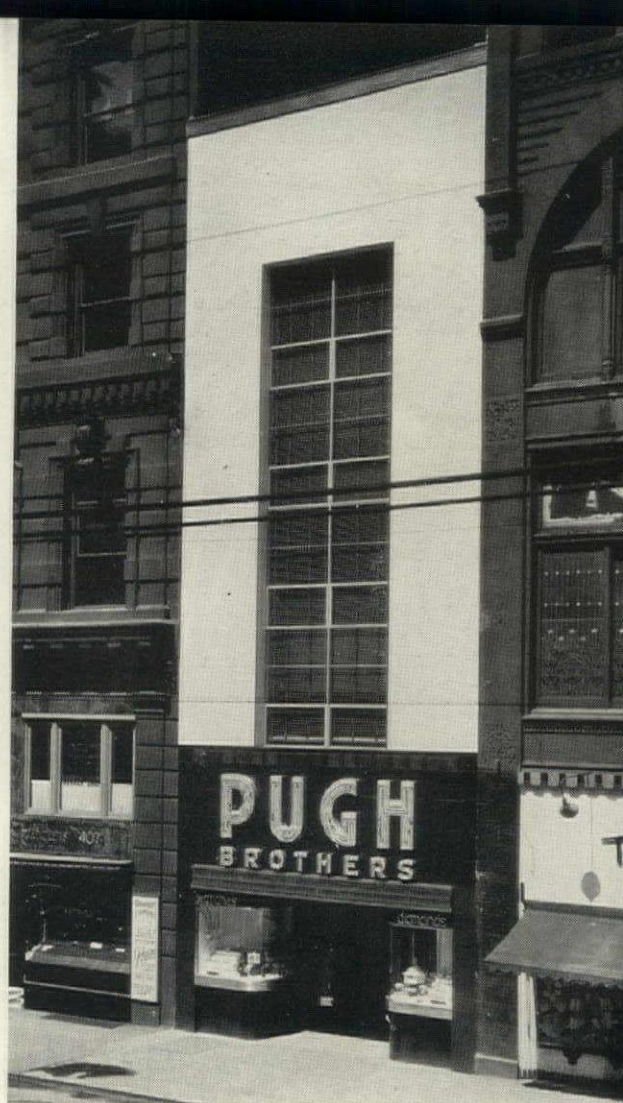
asphalt tile, Hachmeister, Inc. **WOODWORK:** Exterior doors—bronze. Overly Mfg. Co.

PAINTING: All materials by Pittsburgh Plate Glass Co.

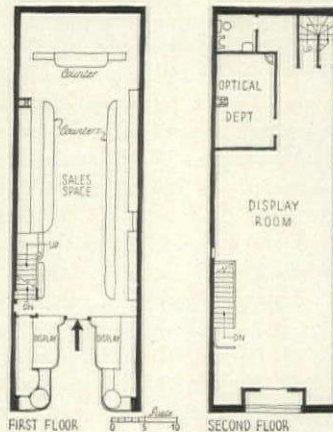
ELECTRICAL INSTALLATION: Wiring system—BX conduit. Switches—toggle, Pass & Seymour. Fixtures—Curtis Lighting Co. Neon sign—Flex-lume Sign Co.

PLUMBING: All fixtures by American Radiator & Standard Sanitary Mfg. Co. Hot and cold water pipes—copper. **HEATING AND AIR CONDITIONING:** By York Ice Machinery Co. Thermostats—Minneapolis-Honeywell Regulator Co.

SPECIAL EQUIPMENT: Dumbwaiter—McKenna Brass Co. Venetian blinds—Patterson Co. Show cases—Claus Mfg. Co.



E. A. Dubas Photos



HOUSING RARITY

solves a Montana problem,
pays Architect Fox's rent.

In between the increasing demand for large scale garden apartment projects and the steady need for one-family dwellings lies an unexploited market for the four-family rental house. A misfit in the eyes of most builders, the four-family house is actually the answer to many a tough real estate problem.* It is the largest building whose mortgage may be insured under FHA's Title II Section 203 program (as opposed to the large scale rental housing program). It may be designed to harmonize in size and appearance with surrounding residences in the upper cost brackets. It is an economical structure for a site which is too big for a large apartment building, too small for a group of single-family detached units. Despite its many commending features, however, the four-family house is seldom built. Production averages only 500 per year in the entire urban U. S.**

Last year the small town (pop. 18,000) of Missoula, Mont., claimed one of these 500. And Architect William J. Fox, Jr., the designer and owner, claims that the project's success has influenced construction of a second, has prompted him to plan still another.

Unlike the background of most apartment projects, *raison d'être* of the Fox four-family house was tied up in a personal problem. A graduate of the University of Washington's Architectural School and for six years an architect in the Agriculture Department's Forest Service, 31-year-old Fox in 1938 planned marriage, set out in search of a suitable apartment. Finding none, he designed for himself a small house, then changed his mind when several married friends voiced similar housing problems. Result: decision to build a four-family house—one unit for the Foxes, three for rent.

For \$900 he purchased three 30 x 130 ft. lots on a street corner in Missoula's residential district—a few minutes' walk from the city center, the State University and from school. All city-financed utilities, including sidewalks and streets, were already provided and paid for.

In spare time from his official capacity as designer of all administrative and recreational buildings for the Forest Service's Region No. 1 (Montana and sizable parts of Idaho and Washington), Fox produced his four-family house. New England Colonial architecture was chosen because: 1) Montana has no architectural tradition but in climate is similar to Northern New England, 2) Missoula is a lumber industry town, and Colonial

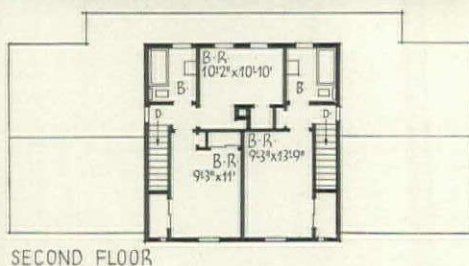
(Continued on page 40)

*For Frank Lloyd Wright's modern four-family solution to an Ardmore, Pa. realty problem, see ARCH. FORUM, Aug. 1939, p. 142.

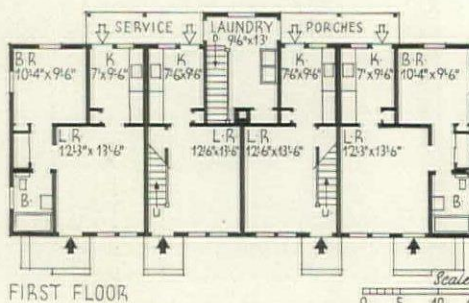
**Basis: building permits in 286 of the 377 U. S. cities of 25,000 population or more.



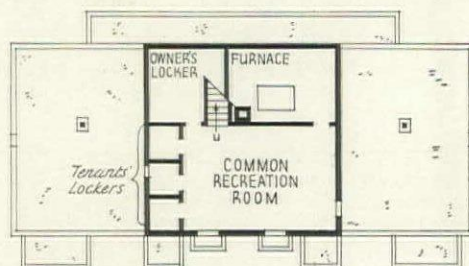
Leo Nichols Photos



SECOND FLOOR



FIRST FLOOR



BASEMENT

CONSTRUCTION OUTLINE

FOUNDATION: Walls and footings—8 in. concrete. Cellar floor—4 in. concrete.
STRUCTURE: Exterior walls—studs, sheathing, building paper, lap siding, Masonite Corp. lath and National Gypsum Co. plaster.
ROOF: Covered with cedar shingles.
SHEET METAL WORK: All galvanized metal, 28 gauge, Wheeling Steel Corp.
INSULATION: Roof and sound insulation—balsam wool batts, Wood Conversion Co. Weatherstripping—Chamberlin Metal Weather Strip Co.
WINDOWS: Sash—double hung, Hightower Millwork Co. Glass—single strength, quality A, Libbey-Owens-Ford Glass Co.
FLOOR COVERINGS: Living room and bedrooms—oak, Holt Hardwood Co. Kitchen and bathrooms—linoleum, Congoleum-Nairn, Inc.
WOODWORK: Doors—Spokane Sash & Door Co. Garage doors—Rowe Mfg. Co.
HARDWARE: By P. & F. Corbin Co. and Stanley Works.

PAINTING: Materials by National Lead Co., E. L. Bruce Co. and Sherwin-Williams Co.
ELECTRICAL INSTALLATION: Wiring system—Romex, Rome Wire & Cable Co. Switches—Harvey Hubbell Co. and Hart & Hegeman Electric Co.
KITCHEN EQUIPMENT: Range and refrigerator—Nash-Kelvinator Corp. Sink—American Radiator & Standard Sanitary Mfg. Co. Washing machine—Bendix Home Appliances, Inc.
BATHROOM EQUIPMENT: All fixtures by American Radiator & Standard Sanitary Mfg. Co. Cabinets—National Metal Prod.
PLUMBING: Soil and waste pipes—cast iron. Vents—galvanized steel. Hot and cold water pipes—galvanized mild steel.
HEATING: Low pressure steam system. Boiler—Fitzgibbons Boiler Co., Inc. Oil burner—Norge Corp. Radiators and grilles—Trane Co. Thermostat—Minneapolis-Honeywell Regulator Co.

COST BREAKDOWN

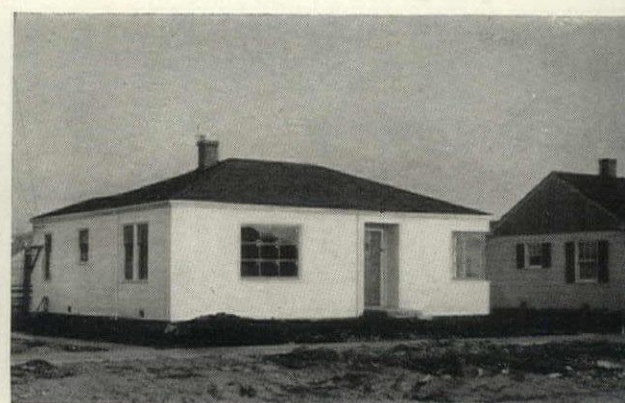
General contract	\$7,150
Plumbing	1,750
Heating	1,444
Finish hardware	112
Linoleum	95
Architect's fee	700
Land	900
Furnishings	1,100
Landscaping and walks	450
Four-car garage	1,150
TOTAL	\$14,851



MASSAPEQUA, L. I., N. Y.



DETROIT, MICH.



ENUMCLAW, WASH.

BOOMLET IN UNDER \$2500 HOUSES touched off by FHA's new program. A Forum survey spotlights national trend to lower prices.

The Federal Housing Administration's year-end revision of property and construction standards for all one-story detached dwellings coupled with the Reconstruction Finance Corporation's agreement to discount all FHA-insured loans will boom the nation's production of really low cost houses. This year's volume of houses selling for \$2,500 and less will exceed 1939's estimated 60,000 total by at least 60 per cent.

This positive indication that Building is now awakening to the possibilities of the vast low cost housing market is the result of a February survey of 60 leading low cost house builders and financiers conducted by THE ARCHITECTURAL FORUM. Representing 39 communities coast to coast (from Massapequa, Long Island, N. Y., to Enumclaw, Wash.), the surveyed companies last year built or financed 3,875 houses valued at \$12.4 million—2,335 of them in the \$2,500-and-

under bracket. What these big producers of little houses do and what they think are facts and fancies worth examination by the entire industry.

What they do. More widely associated with FHA's modernization program, Title I of the National Housing Act also authorizes Government to insure Class 3 loans of \$2,500 or less on new residential construction. On September 1 FHAdmin-istrator Stewart McDonald upped the amortization period of these loans from ten to fifteen years, decreed that a purchaser's equity in cash or land need be only 5 per cent of the completed property's appraised value. By thus trimming required down payments and monthly costs, FHA boosted the financial appeal of Title I mortgages for both builders and buyers. Result: of the 2,335 houses selling for less than \$2,500 which were built or financed last year by participants in THE

FORUM survey, 1,505 or 64 per cent were financed with Title I Class 3 loans. Only 6 per cent came under FHA's Title II program where loans may run 25 years and be insured up to 90 per cent of value (10 per cent down payment). The remaining 30 per cent, 688 houses, were financed without benefit of FHA insurance.

Contrary to general assumptions, vast majority of the nation's \$2,500-and-under houses are built for owners; the owner-built-speculatively-built ratio is 89 to 11. Another equally startling statistic revealed in THE FORUM survey is that 66 per cent of all these houses spring from the plans and specifications of architects. This, of course, does not mean that two out of every three houses receive the individual attention of an architect; but rather that these houses, if not individually treated, are built in large groups from a few basic plans and specifications prepared by architects.

COMMENTS

MANASQUAN, N. J.—"FHA regulations effective January 1, 1940, practically eliminate this form of financing in our (seashore) development. Demands for 8 ft. side yards on 40 ft. lot will prevent our carrying out plans for 26 to 28 ft. front houses. We are informed that this restriction can be waived in our case, but, as we must take up each case individually, it increases our work in preparing applications."—Brielle Engineering Corp., contractors.

LAKE STOCKHOLM, N. J.—"Give us back our seven or ten-year finance plan and let us build a substantial seasonal cabin or bungalow on piers with only cold water plumbing and typical 'seasonal' walls and floor construction."—C. D. Amann, lake developer.

NEW ORLEANS, LA.—"... during 1939 we financed the erection of approximately 400 new dwellings under Class 3, Title I, the average loan being \$1,700. ... Most of the loans were made in small towns located in Louisiana and Mississippi."—Name withheld on request.

CLEVELAND, OHIO—"The revised FHA regulations have made low cost homes much harder to build. ... For example, footings are too heavy and costly. ... metal interior corners. ... anchor bolts and corner braces are not absolute necessities. ... They add up to \$250 or \$300. ...

Likewise the 20 per cent holdback on payment until final approval forces the builder to do all the work and ties up the builder's cash too long. ..."—McCall Homes, Inc., builders.

LANSING, MICH.—"... should greatly accelerate the construction of small homes during the coming year."—Ellis Van Sickle, assistant cashier, American State Savings Bank.

CHICAGO, ILL.—"Last year this institution serviced approximately 370 applications under Title I, Class 3. ... This office recognized at an early date the need for certain restrictions, and as a result we prepared certain minimum building requirements. ... We have found that practically all of the homes financed under Title I have been designed by architects employed by the various developers. ... With reference to the new regulations, we believe that they will result in greatly improving the new Title I program, both in volume and in satisfaction to all parties concerned."—Edward L. Johnson, secretary, Bell Savings, Building and Loan Association.

SEATTLE, WASH.—"Under the new schedule of regulations with unnecessarily high standards of minimum requirements, three inspections, full detail plans and specifications, etc., and the fifteen-year maximum period of payment, the FHA Title I, Class 3 loan is rendered of little value,

if any—particularly with the elimination of 'secondary financing.' We were in hopes that the bank objections to Title I, Class 3 loans would be removed by FNMA or RFC discounting them and that the original requirements would remain. However, with RFC program of discount comes the new regulations and in my opinion all hope of great volume of low cost home construction ... is lost. ..."—Stanley F. Barker, president, Own Your Home Association.

ONTARIO, CALIF.—"We already have on file applications for twenty houses costing \$2,500; consequently, we are of the opinion that our volume will be considerably larger than last year's."—First National Bank of Ontario.

SAN BERNARDINO, CALIF.—"We believe that the latest change made by the FHA relative to Title I houses to be very helpful toward an increase in this type of construction."—Southwest Lumber Company, builders.

BEVERLY HILLS, CALIF.—"I believe the greatest drawback and danger to building small houses at present is unpredictable changes in FHA Title I financing rules, which change without notice. ... I am so firmly convinced that this branch of building is sound financially ... that I am planning to build a total of 5,000 of these houses."—George E. Read, Read & Wright, realtors.



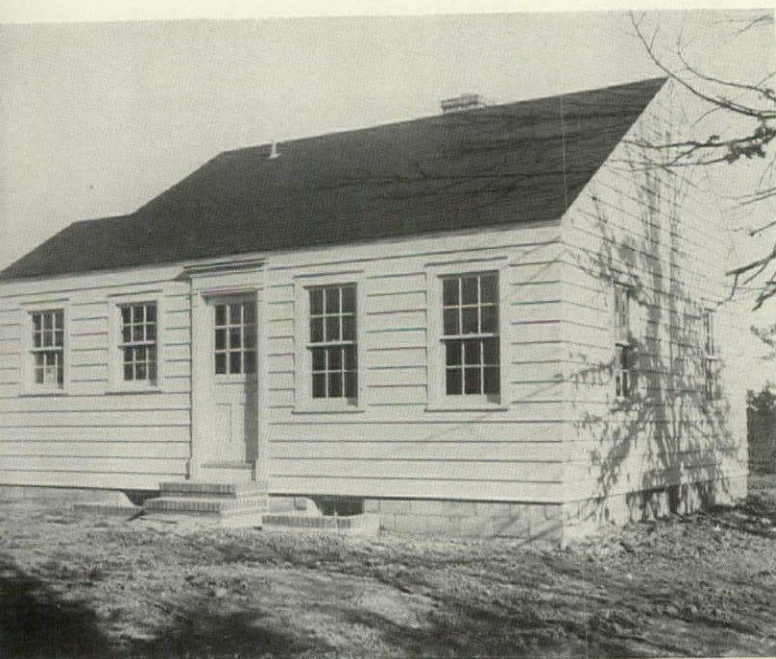
STATEN ISLAND, N. Y.; \$2,500 EX. LOT.



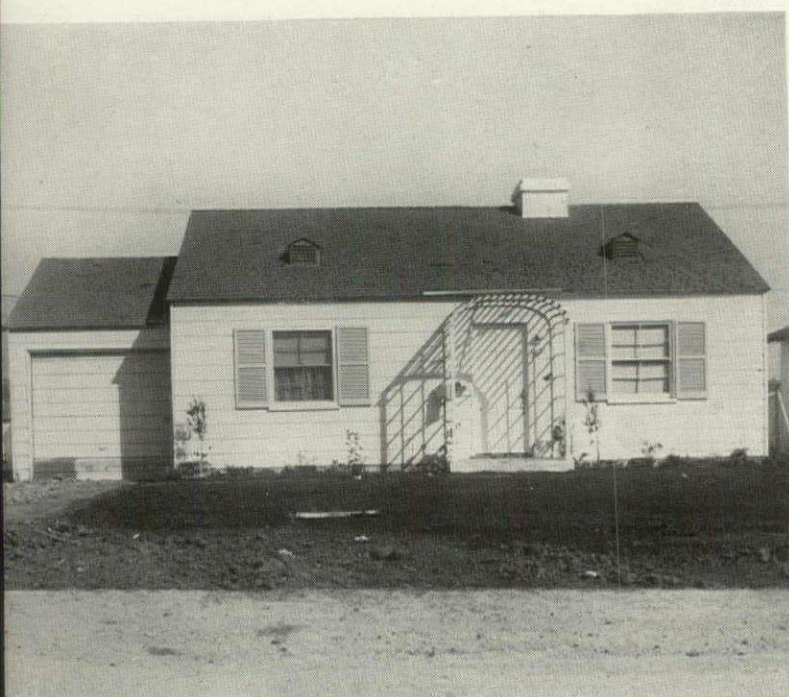
LAVALLETTE, N. J.; \$2,800 INC. LOT.



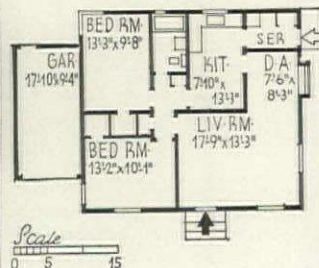
MIAMI, FLA.; \$3,056 EX. LOT.



BRENTWOOD, L. I., N. Y.; \$2,500 INC. LOT.



LOS ANGELES, CALIF.; \$2,990 INC. LOT.



To THE FORUM's question, "what were the most important features contributing to the low cost of these \$2,500-and-under houses," most builders and financiers replied: "Mass production and quantity purchase of materials and equipment."* Though far behind in frequency of mention, three other factors stood out in the field of seventeen: 1) elimination of basement, 2) standardization and 3) construction simplicity. Noteworthy among the "also-rans": 1) owner assistance in construction, 2) substitution of piers for foundation walls, 3) elimination of central heating equipment and 4) competition.

What they think. To make the low cost house more attractive—particularly to lender and buyer—FHA at year-end again tinkered with its mortgage insurance machinery, inveigled the Reconstruction Finance Corp.'s Mortgage Company to purchase Title I Class 3 loans from all lenders and thus inject helpful liquidity into this part of the mortgage market. To seal the deal, FHA made three salient changes in its Title I Class 3 loan insurance program: 1) authorization of interest-bearing loans ($4\frac{1}{2}$ per cent plus $\frac{1}{2}$ per cent insurance premium plus $\frac{1}{2}$ per cent service charge) to supplement the long-standing discount loans (\$3.50 per \$100)**; 2) outlawing of second mortgages through which many purchasers formerly raised funds for the necessary cash down payment; 3) requirement that all houses be FHA inspected during construction#; and, most important, 4) creation of a new set of minimum property and construction standards. Theretofore, acceptability of properties was in the hands of lending institutions.

Effective January 1, Title I properties must meet FHA's land and construction requirements for all one-story, one-family, detached houses—more liberal requirements than those which once applied to

*Fifteen of THE FORUM's respondents built more than 75 houses each last year. On top production-wise was Burbank, Calif. Builder Arthur B. Weber whose 400 houses all sold for less than \$4,500.

**RFC will discount only interest-bearing loans.

#Now, 20 per cent of a builder's loan will be withheld pending final FHA inspection and approval of the completed property.



TOLEDO, O.; \$2,400 EX. LOT.



CHICAGO, ILL.; \$1,600 EX. LOT; OWNER BUILT.



WEST LOS ANGELES, CALIF.; \$2,990 INC. LOT.

all properties whose mortgages were insured under Title II. In effect, therefore, FHA has clamped down on all Title I houses, but has eased up on all low cost Title II houses.

While FHA's clamping has pinched the fingers of many (see below), most low cost builders and financiers believe that the recent FHA changes will boost the production of \$2,500-and-under houses. Thus, 49 per cent of the respondents in THE FORUM survey look for a "large increase" in national volume, and another 19 per cent foresee at least a "small increase." Only 5 per cent would not hazard an opinion.

National outlook voiced by many in the 27 per cent minority who anticipate "no increase" must be discounted. It is in this group that the finger-pinching has occurred. They are builders of low cost houses for summer and week-end occupancy at Eastern seashore resorts and in lakeside colonies surrounding many U. S. metropolitan centers. Heretofore with the aid of FHA's Title I loan insurance they have sold quantities of lightly constructed frame dwellings or log cabins with piers as foundations, on lots narrower than 30 ft., without hot water, etc. At present, these houses are ineligible for loan insurance, and their builders may search long for institutions that will lend on them without Federal guarantee. In New York, for instance, pier foundations are now taboo, lots must contain at least 4,000 sq. ft. with at least 5 ft. side yards and hot water is an essential.

Acting for New Jersey's vast resort house building industry, Chairman Samuel D. Walker of the Special Committee of Builders of the New Jersey Association of Real Estate Boards last month dispatched a lengthy complaint to FHA's Washington office. Conclusion: "The FHA regulations under which we were operating up to the first of the year were practical and satisfactory and it is difficult to understand why they should have been changed." Recommendations: "A procedure should be established which permits the State Administrator to make a commitment on these (summer) buildings built out of season until a suitable purchaser can be found. The regulation requiring complete sets of plans with

elevations, floor plans, etc., should be modified. . . . For seasonal use any plot containing not less than 4,000 sq. ft. (should be) acceptable where there is no running water or sewer. . . . Where there is either running water or sewer or both, a minimum of 2,500 sq. ft. (should be) required. . . . Summer bungalows . . . do not require sheathing, the heavy foundations, wind bracing and other construction regulations that are (now) required; nor is it necessary in a bungalow used for three months in the summer to require that chimneys and fireplaces be constructed. . . ."

Despite the fact that FHA apparently is more interested in promoting year-round housing than resort cottages and cabins, it will attempt appeasement of these summer house builders by making "special cases" of their loan insurance applications. But it will be only an attempt; builders will answer that "special cases" are usually strangled with red tape, are costly in both time and money. More equitable, perhaps would be FHA's acceptance of a "double standard"—one set of requirements for summer houses, another for those designed for year-round use.

So much for the minority. Its stagnant or decreased volume of low cost housing will be more than offset by the anticipated advances of the majority. Thus, the 60 builders and financiers surveyed by THE FORUM will build 3,765 homes in 1940 to sell for less than \$2,500—1,430 or 60 per cent more than in 1939. About 53 per cent of the 1940 total will be financed under Title I; 17 per cent, under Title II, the remaining 30 per cent, without FHA insurance.

Only a small part of these 1940 houses will be built inside cities and towns—16 per cent—and then only in small towns, in California and in Southern cities where land comes comparatively cheap. About 55 per cent of the respondents designated the "outskirts" of cities as the low cost house arena; 29 per cent named the "country."

Going beyond the realm of past and current operations, THE FORUM asked its respondents to "list in the order of importance the three greatest obstacles to the production of these low cost houses," then weighted the replies with three points

for the first-mentioned obstacle, two points for the second, one for the third. Result: the high cost of labor, with 44 points, is low cost housing's No. 1 bugaboo. Co-partners in this dubious honor are the level of material costs—42 points—and the lack of reasonably priced land—40 points. Bolstered to 38 points by the complaints of builders of seasonally occupied houses (see above), FHA property and construction requirements comprise the fourth biggest obstacle. Tied for fifth place with 14 points each are high taxes and the inability of prospective purchasers to make the required down payments. Other noteworthy runners in the field of 22: FHA red tape, 13 points; carrying charges, 9 points; low profit on house or low yield on loan, 8 points; inability to get loans, 8 points.

Of particular significance for the entire building industry are the answers to four other FORUM questions on the low cost housing problem and market:

► Question: "How would you classify the national market for \$2,500-and-under houses?" Answers: Large—87 per cent; Small—11 per cent; No opinion—2 per cent.

► Question: "Do you believe that production of these houses is essential to the prosperity of the home building business?" Answers: Yes—77 per cent; No—21 per cent; No opinion—2 per cent.

► Question: "Do you notice a marked local tendency toward low cost houses?" Answers: Yes—89 per cent; No—6 per cent; No opinion—5 per cent.

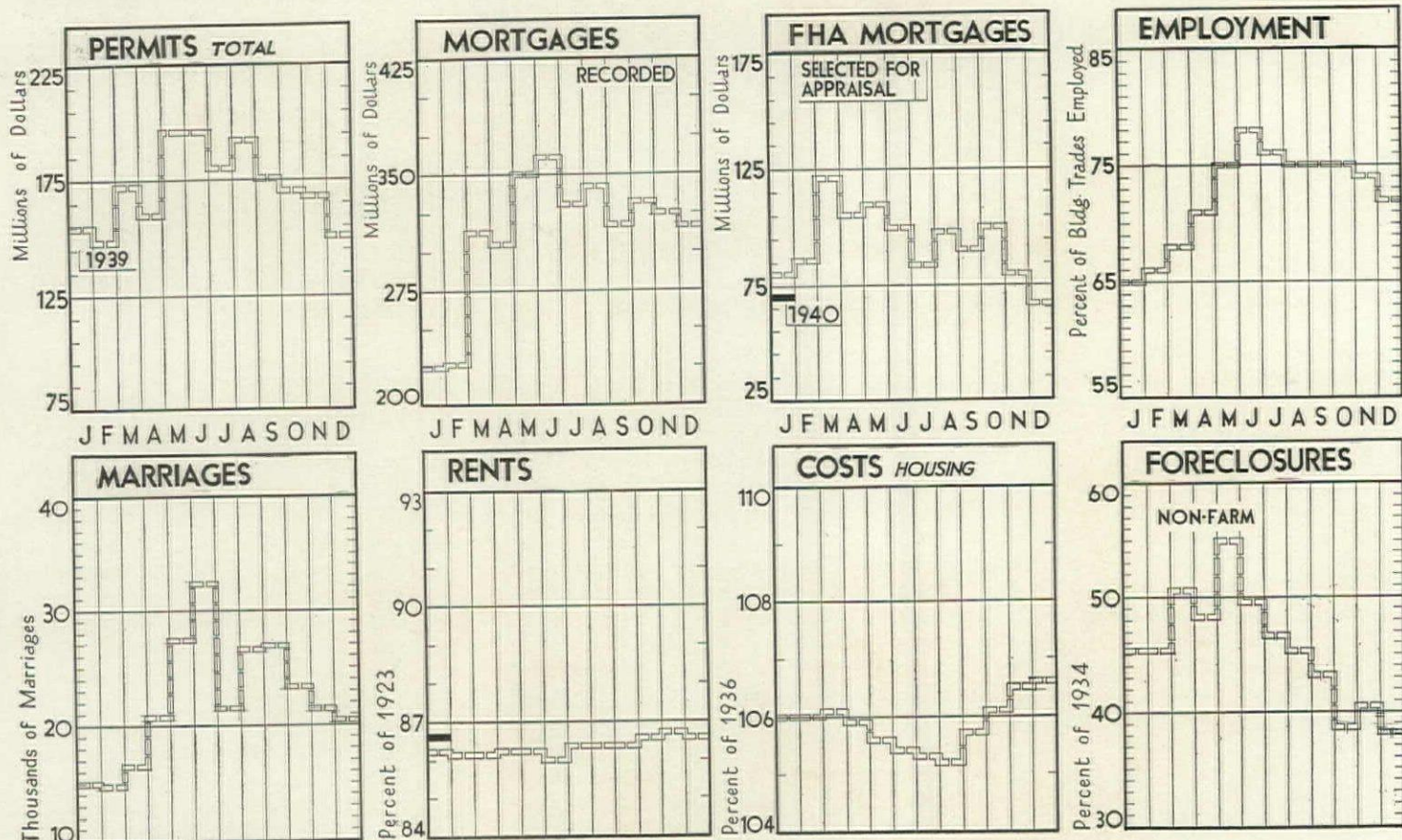
► Question: "At what price level (house alone) do you believe demand to be greatest?" Average answer: \$2,820. Median answer: \$2,675. Safe guess is that, had this question been posed several years ago, the answers would have been at least \$2,000 higher.

In sum, despite the fact that it covered only specialists in the low-priced field*, THE FORUM survey offers concrete evidence that Building at long last is beginning to recognize the importance and dimensions of the private low cost housing market and, more important, is beginning to capitalize on the market.

*The 60 respondents estimate that their total business this year will account for 5,361 houses (valued at \$18 million), 3,765 of which will sell for \$2,500 or less.

BUILDING'S CHARTS AND TABLES spotlight steady rents, rising costs,

lowest post-depression foreclosure volume.



	LATEST MONTH*	PRECED. MONTH	CORRES. MO. PREV. YR.	CUMULATIVE LATEST YR.	CUMULATIVE PREV. YR.		LATEST MONTH*	PRECED. MONTH	CORRES. MO. PREV. YR.
PERMITS—residential (000,000) ¹	\$ 94.2d	\$105.9	\$64.0	\$1146.5	\$859.8	INSURANCE CO.—real estate held (000,000) ¹⁰	\$1,753.0o	\$1,751.0	\$1,790.0
non-residential "	35.9	43.5	61.2	585.6	558.8	COSTS—wholesale materials (% of 1926) ¹¹	93.0d	93.0	89.4
alterations "	18.9	22.8	21.8	334.6	312.5	housing—labor (% of 1936) ¹²	110.8d	110.8	112.1
total	149.0	172.2	147.0	2066.7	1731.1	materials "	104.5	104.4	103.1
CONTRACTS—residential (000,000) ²	\$116.6n	\$118.3	\$95.3	\$1245.6	\$894.2	total	106.6	106.5	106.1
non-residential "	77.8	72.7	116.0	907.9	932.6	RENTS—new leases (% of 1923) ¹³	86.6j	86.6	86.2
engineering "	105.5	70.8	90.4	1043.0	980.6	FORECLOSURES—non-farm (% of 1934) ¹⁴	32.8d	40.3	46.9
total	299.9	261.8	301.7	3196.5	2807.4	metropolitan (% of 1926) ¹⁵	121.0	129.0	151.0
DWELLING UNITS—total (000) ³	27.0d	29.7	16.8	313.5	233.2	BOND PRICES—real estate ¹⁶	\$318.0j	\$314.0	\$332.0
FHA—mortgage selections (000,000) ⁴	\$ 70.9j	\$ 67.1	\$77.6	...	...	STOCK PRICES—bldg. materials (% of 1926) ¹⁷	84.2j	83.4	105.5
mortgage acceptances "	48.8	53.2	42.2	...	...	WAGE RATES—common bldg. labor (per hr.) ¹⁸	\$0.685f	\$0.688	\$0.680
rental housing mtgs. "	0.2	2.9	13.9	...	...	skilled bldg. labor (per hr.)	1.47	1.50	1.43
modernization loans "	20.5	21.3	15.6	...	...	EMPLOYMENT—bldg. unions (% of total) ¹⁹	72.0d	74.0	67.0
MORTGAGES—						COST OF LIVING—(% of 1923) ²⁰	85.4j	85.3	85.8
savings & loan assns. (000,000) ⁸	\$ 95.7d	\$ 98.9	...	\$1168.1	...	PAYROLLS—factory (% of 1923-25) ²¹	101.8n	101.6	84.4
insurance cos. "	29.0	28.3	...	331.5	...	PRODUCTION—industrial (% of 1923-25) ²²	120.0d	124.0	98.0
bank and trust cos. "	81.0	80.4	...	924.4	...				
mutual savings bks. "	13.6	14.6	...	140.8	...				
individuals "	49.7	52.2	...	648.4	...				
other mortgagees "	47.6	50.7	...	552.4	...				
total	316.6	325.1	...	3765.6	...				
MARRIAGES—34 cities (000) ⁹	20.3d	21.5	17.6	267.1	246.9				

FOOTNOTES:

- 1—Valuation of building permits in some 2,100 communities; source, U. S. Department of Labor.
- 2—Valuation of contracts awarded in 37 States; source, F. W. Dodge Corp. via U. S. Dept. of Commerce.
- 3—Number of dwelling units covered by permits. See footnote No. 1.
- 4—Home mortgages selected for FHA appraisal under Title II, Section 203; source, FHA.
- 5—Home mortgages accepted for insurance under Title II, Section 203; source, FHA.
- 6—Large scale rental housing mortgages becoming premium paying under Title II, Section 207; source, FHA.
- 7—Property improvement loans insured under Title I; source, FHA.

- 8—Non-farm mortgage recordings of \$20,000 or less based on 500 counties (48 States); source, FHLBB.
- 9—Number of marriages recorded in 34 largest U. S. cities; source, ARCHITECTURAL FORUM.
- 10—Total real estate holdings by member companies of the Assn. of Life Ins. Presidents.
- 11—Composite index of wholesale building material prices; source, U. S. Department of Labor.
- 12—National averages based on six-room house of 24,000 cu. ft. unfinished; source, FHLBB.
- 13—Rates at which new rental contracts are made; source, National Industrial Conference Board.
- 14—Foreclosures in some 1,500 non-farm communities; source, FHLBB.

- 15—Foreclosures in metropolitan communities with population in excess of 100,000; source, FHLBB.
- 16—Average price of 200 hotel, office building and theater bonds; source, Amott-Baker & Co.
- 17—Average price of twelve building material manufacturers' stocks; source, Standard Statistics Co.
- 18—Source, Engineering News-Record.
- 19—Trade Union members employed; source, American Federation of Labor.
- 20—Covers clothing, food, fuel and light, housing and sundries; source, NICB.
- 21—Source, U. S. Dept. of Labor.
- 22—Combined unadjusted index; source, Federal Reserve Board.

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AND CONCRETE'S PERMANENCE**



IN THIS modern reception room the terrazzo floor creates a feeling of warmth and friendliness. And its rich colors, its distinctive design, will be as glowing and as clear-cut years from now as they are today. For the beauty of *FINE TERRAZZO* is permanent under heaviest foot traffic.

Architects like to use terrazzo. There is no limit to the possibilities it offers in color combinations—in variety and originality of design. But to carry out your ideas exactly—to obtain true color values and pattern sharpness—use

white cement. Atlas White portland cement is pure *white* cement. Specify it (plain or waterproofed) for *FINE TERRAZZO* that is ideal for many types of buildings. The first cost is moderate and is almost the last cost. Upkeep is negligible.

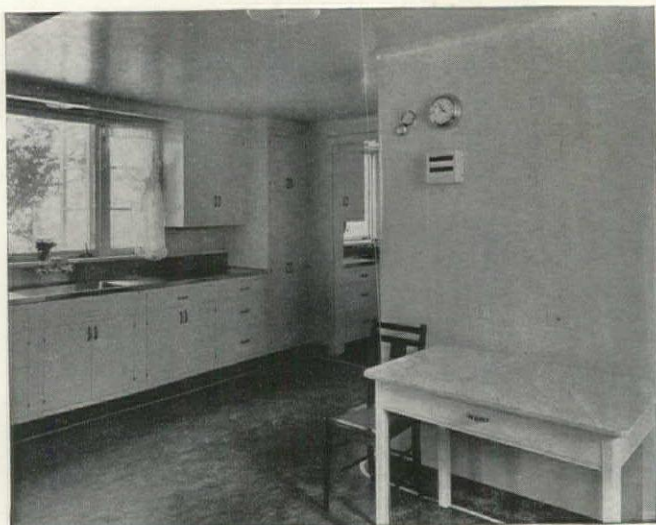
For details see Sweet's Catalog, or write us for free booklet showing 24 true color specimens of *FINE TERRAZZO*. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

TERRAZZO FLOOR in reception room, New York office of Universal Atlas Cement Co. Bruno De Paoli Co., Inc., Contractor, New York. The design in red, black and cream simulates the company's cement bag. Wall panels and fluted pilasters are Architectural Concrete Slabs (see Sweet's Catalog) made with welded reinforcing, exposed quartz aggregates and Atlas White cement by John J. Earley, Washington, D. C. Designed by Walter Dorwin Teague, New York.

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



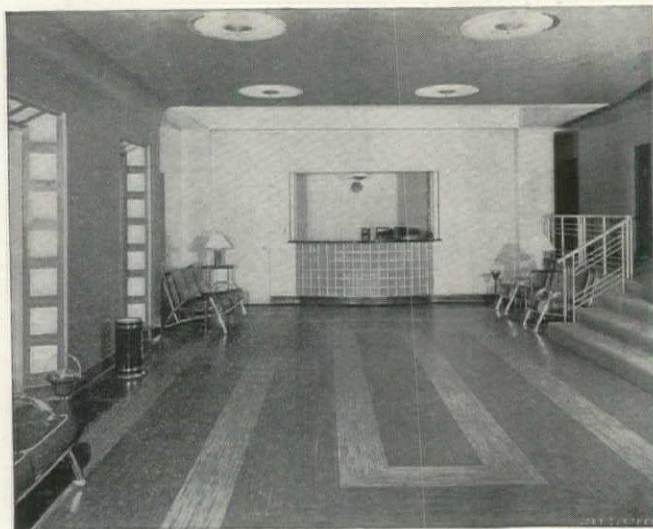
There's A Sloane-Blabon Linoleum To Meet Every Floor Covering Need



Kitchen in "The New House at Mead's Point", Greenwich, Conn. James C. MacKenzie, F.A.I.A. Architect. Sloane-Blabon Marbleized pattern.



Restaurant at entrance to Golden Gate Bridge, San Francisco, Cal. Vincent C. Raney, Architect. Sloane-Blabon Plain Linoleum.



Foyer of apartment house in Washington, D. C. An interesting use of Sloane-Blabon Jaspé Linoleum in contrasting colors.



The McClatchy Senior High School, Sacramento, Cal. Note special inset and effects achieved with Plain, Marbletone and Jaspé.

Things are happening underfoot—and in the trend to wider use of smooth-surface floor coverings for residential as well as commercial installations, Sloane-Blabon Battleship, Plain and Inlaid Linoleums are playing a large part. Long recognized as "the linoleum of craftsmen", you can depend upon them to measure up to any utility demands. The Sloane-Blabon line is a complete one with an assortment of well styled designs, colors and Marbletone and Jaspé effects so varied as to aid the architect in developing any decorative plan.

An exclusive advantage of specifying Sloane-Blabon Linoleums is their mill-waxed finish. That means that the surface is protected from the start and a substantial saving in installation cost made possible for the owner.

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

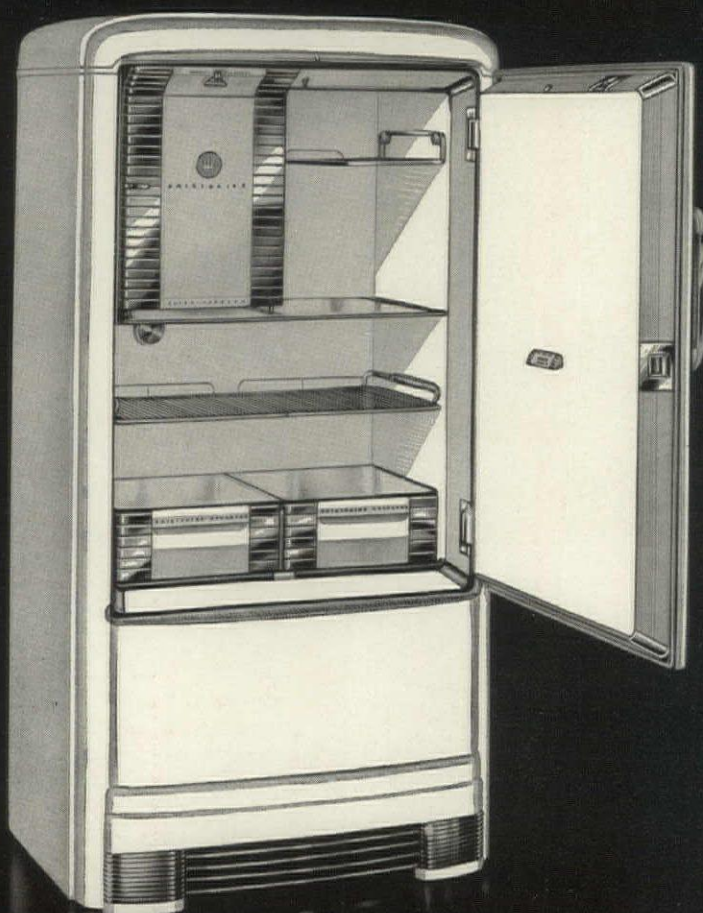
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AMERICA'S No. 1 REFRIGERATOR



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- Double-Easy Quickcube Trays
- Glass-Topped Food Hydrators
- Extra-Large Meat Tender
- F-114—the safe, low-pressure refrigerant

• And many other important features!



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MUFFLE LIBRARY FOOTSTEPS

WITH FLOORS OF
ARMSTRONG-STEDMAN RUBBER TILE



The Woodlawn Public Library, Chicago, is both quiet and attractive, thanks to its floor of white black Armstrong-Stedman Reinforced Rubber Tile. This floor is durable, restful, and easy to clean.

RESILIENT, restful floors of Armstrong-Stedman Rubber Tile reduce the noise of scuffing feet and scraping furniture. That's one reason why so many architects are specifying this flooring for libraries, schools, hospitals, churches, radio studios, and offices.

As Armstrong-Stedman Rubber Tile is available in 60 plain, marble, paisley, Granitone, and two-tone effects, you will find it easy to select colors that harmonize with any interior. The rich colorings and high gloss finish add greatly to the beauty and dignity of the rooms in which they are used.

Your clients will be glad to know that Armstrong-Stedman Rubber Tile is an economical floor. Tell them that it has a strong fibre reinforcement that stands up under constant traffic. Tell them that colors and patterns run right through each piece, so that they do not scuff or wear off. Point out that expensive refinishing is never necessary. And, also, tell them that the only attention this material requires is a routine dusting and an occasional washing and waxing.

For full information, see *Sweet's Architectural File*, 1940 edition, or send for free, color-illustrated booklet, *Quiet, Comfort, and Color in Floors*. Armstrong Cork Company, Building Materials Division, 1204 State Street, Lancaster, Pennsylvania.



ARMSTRONG'S FLOORS RUBBER TILE

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

(Continued from page 206)

design lends itself to comparatively inexpensive frame construction, 3) Fox wanted the building to look more like a one-family house than a multi-family apartment.

Floor planning features several commendable details. Common hallways, which are costly to build, heat and maintain and produce no revenue, are conspicuously absent. Instead, all four dwelling units have individual front and rear entrances. Thanks to the combination of one-story flats and two-story duplexes, the dwelling units do not overlap, and inter-apartment noise is minimized. (All party walls are sound-insulated.) Noteworthy is the economical back-to-back arrangement of kitchens with bathrooms directly above; also the space-saving sliding doors on all closets. Roofed back porches provide access to a "community" laundry which, in turn, leads to a "community" recreation room and tenant storage lockers in the basement. Second floor space above the laundry makes way for an additional bedroom in the duplex apartment now occupied by the Fox family.

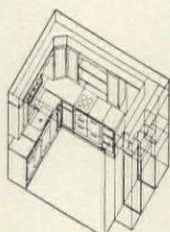
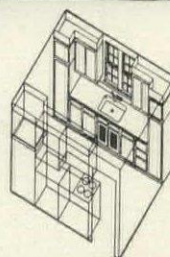
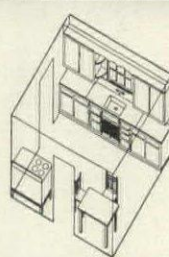
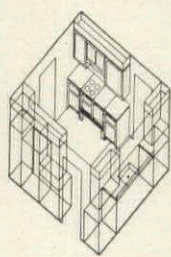
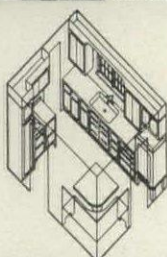
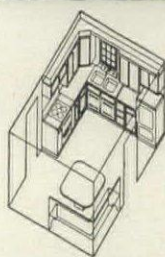
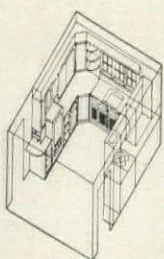
Including land, landscaping, the four-car garage facing the secondary street and allowance for a non-existent 5 per cent architect's fee, total cost of the Fox project came to \$14,851—\$3,713 per dwelling unit or \$1,061 per room (see cost breakdown, page 206). However, since Prudential Insurance Co. took a twenty-year \$9,500 mortgage on the property, Fox's total out-of-pocket cost was only about \$4,651. The loan carries a 5 per cent interest rate, is FHA-insured under Title II, Section 203.

In return for this housing investment, Fox grosses \$45 per month from each of his three tenants—an automobile salesman, newspaper circulation manager and post office inspector. Somewhat below the Missoula average for comparable quarters, these rents cover heat, water and laundry use, exclude light and power for the all-electric kitchens. Including the \$60 per month "rent" which Fox theoretically charges himself, the project's annual gross income is \$2,340, from which Fox must subtract these operating expenses:

Fuel oil @ 8 cents per gal.....	\$ 240
Water	64
Electricity	36
Mtge. int. and ppl.....	1,050
Mtge. insurance premium.....	45
Taxes	204
Fire insurance	48

TOTAL \$1,687

Thus, the project's net income before maintenance or depreciation is \$653 per year, about 5 per cent of the total investment—cash and mortgage. In other words, assuming 100 per cent occupancy which has thus far been maintained, Architect Fox will actually "pay" only \$67 rent per year for his own four-room duplex.



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THEY'RE ALL EASY TO PLAN THE CURTIS WAY

THOUSANDS of attractive kitchens like these have been planned for American housewives by Curtis. And they are all good—all step-saving, efficient, attractive and economical!

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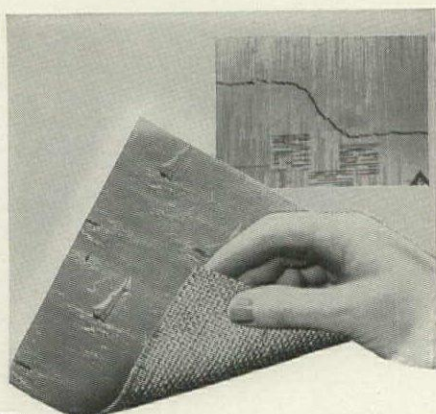
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LETTERS

(Continued from page 28)

cotton and the little pigs who died that the New Deal should have everlasting life.

Low cost housing can come through law enforcement, and through the genius of private industry in combination with those pioneers of social advancement who realize the social and economic advantage of better housing. Take the profit out of unfit housing and we will have taken the first long step toward low cost modern housing.

LARSON & McLAREN

Architects, Minneapolis, Minn.

Any over-simplification of a subject as complex as Housing leaves voids which neither FORUM editors nor its critics can cover. However, nowhere in THE FORUM will Readers Larson & McLaren find either statement or implication that THE FORUM endorses in toto the USHA program. Assessment of urban property is notoriously inflated; similarly, enforcement of laws, notoriously lax. Correction of these and other local deterrents to low cost housing appear beyond the Federal Government. Until local public opinion becomes sufficiently aroused to deal with these matters some such interim program as offered by USHA seems inevitable—if only as a prod to more positive community action.—Ed.

Master Plan

Forum:

... My main criticism of your appraisal derives from the absence of considerations pertaining to the relationship of the public housing program to general community development. I would be less disturbed over the disregard of these broader implications of the housing program if this were not the rule rather than the exception in literature on housing and if there were not a very real danger in this to a long-range public housing program. ...

... I submit that the desirability, stability, and, therefore, the long-term value and the ultimate cost of a housing project are principally dependent on the functional fitness of its location and its organic integration with the desirable development of the neighborhood and the community. In the long-range perspective the public housing program is nothing less than a major step in community development and redevelopment. Unless this is recognized not only in theory but in the actual carrying forward of the public housing program, unless the necessary time and effort are not begrudged to make as certain as humanly possible that no mistakes are made in this respect—the housing program will not make its due contribution to the much needed rebuild-

(Continued on page 44)

There is a Different IRON FENCE!



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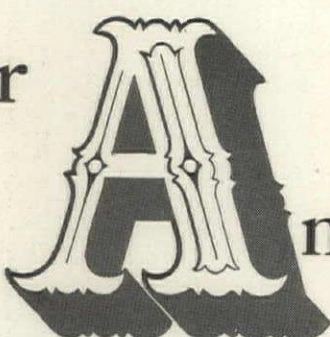
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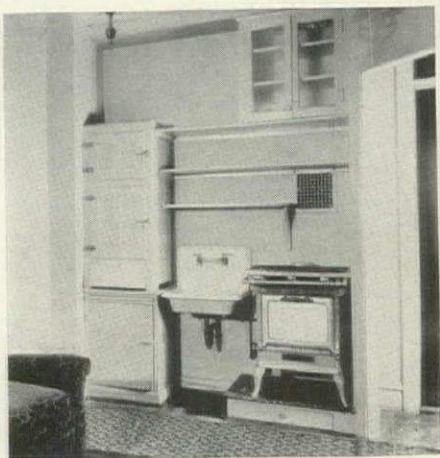
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LETTERS

(Continued from page 42)

ing of our communities and may prepare for its own premature end.

. . . The availability of an adequate community plan should be insisted upon before millions of public funds are spent for housing—even if this were to cause a delay of two to three years in some of the larger communities now without such plans. Having waited this many years for public housing, waiting for two or three years longer by some communities should seem a small matter considering what may be at stake. Considering, moreover, that the Federal Government is now definitely committed to a long term housing program and in view of the large Federal investments involved, it would seem reasonable that the Federal Government should assist by grants in aid and otherwise the local communities in the preparation of comprehensive plans for their future development. . . .

. . . I hope that before long you will devote a similar publication to the problem of what to do about our slums—urban and rural; residential, commercial and industrial—which, the *mésalliance* in the U. S. Housing Act notwithstanding, is most emphatically not identical with the housing problem. . . .

LADISLAS SEGOE

Engineer and City Planner
Cincinnati, Ohio

To City Planner Segoe, thanks for a thoughtful letter on one of the under-discussed phases of national improvement.—Ed.

Slums in No Time

Forum:

Your entire housing article in the January issue is based upon the false premise that these new and expensive buildings are justified because they eliminate slums and are slumproof. Put them in the hands of unscrupulous politicians and let them want for proper maintenance and supervision, and they will turn into slums in no time.

What makes slums here in New York is the continued failure to enforce the very effective provisions of the Multiple Dwelling Law, against congestion, against disrepair, against dirt, rubbish and slovenly housekeeping, all of which if properly attacked would clean up the slums forthwith.

And then public housing would have to come out in the open and stand on its own legs, not as a slum removal measure but simply as a semi-subsidy to a selected level of the low income group, whose income happens to fit in the artificial set-up.

(Continued on page 70)

5¢ A MONTH

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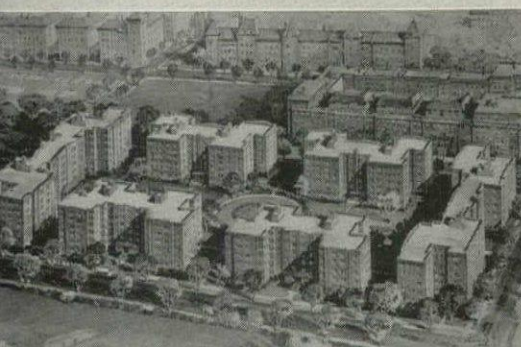
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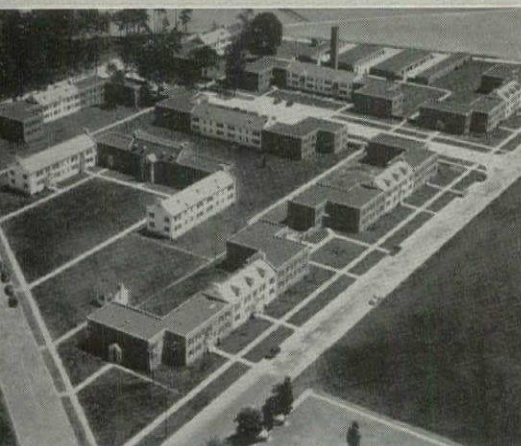
MIAMI Bathroom Cabinet and Accessories . . . First Choice in Multiple Housing Projects



Falkland Apartments, Silver Spring, Md.
Photo by J. J. Todd, Washington, D. C.



Dunnolly Gardens, Jackson Heights, N. Y.
Architect, A. J. Thomas
Builders, Geo. A. Fuller Co.



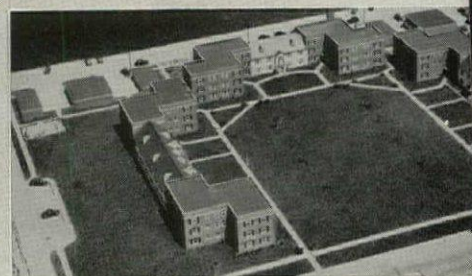
Larchmont Apartments, Norfolk, Va.
Photo by J. J. Todd, Washington, D. C.



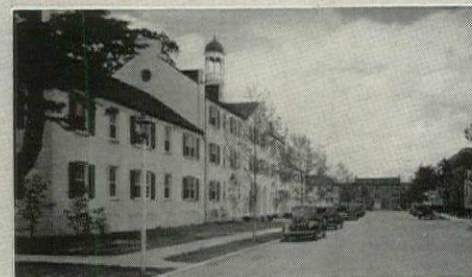
Gilmour Court Apartments, Richmond, Va.
Photo by J. J. Todd, Washington, D. C.

The choice of Miami Bathroom Cabinets for these and many other prominent public and private housing projects is continuing evidence of Miami's dominance in this large volume market.

Miami's leadership in the residential field is of equal significance in suggesting the most dependable source of new ideas and better values in bathroom cabinet ensembles. See the Miami Catalog in Sweets, or write Department AF, for your copy.



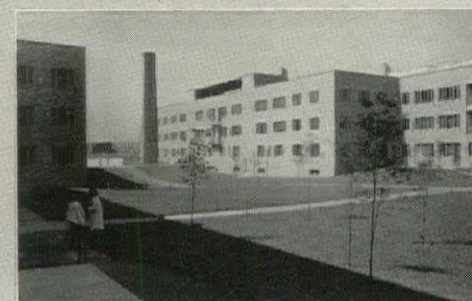
Kecoughtan Court, Newport News, Va.
Photo by J. J. Todd, Washington, D. C.



Olentangy Village, Columbus, Ohio
Developed by L. L. LeVeque Co.



Arlington Village, Washington, D. C.
Developed by Gustave Ring



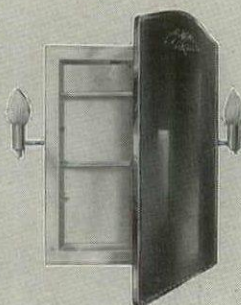
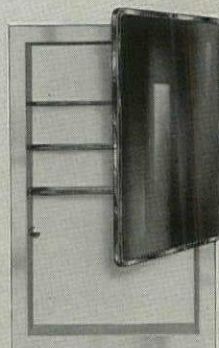
Juniata Park, Philadelphia, Pa.
Developed by Turner Construction Co.



Parkchester Apartments, Bronx, N. Y.
Housing Project of Metropolitan Life Insurance Company
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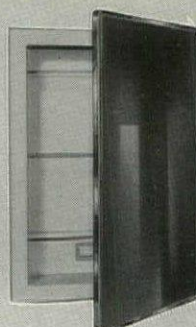


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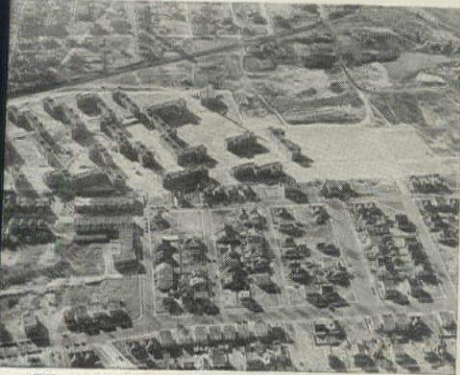
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*United States Housing Authority.



*Westfield Acres, Camden, N. J.



*College Court, Louisville, Ky.



*University Homes, Atlanta, Ga.



*Andrew Jackson Courts, Nashville, Tenn.



*Williamsburg Houses, New York



*Riverside Heights, Montgomery, Ala.



*Hill Creek, Philadelphia, Penna.



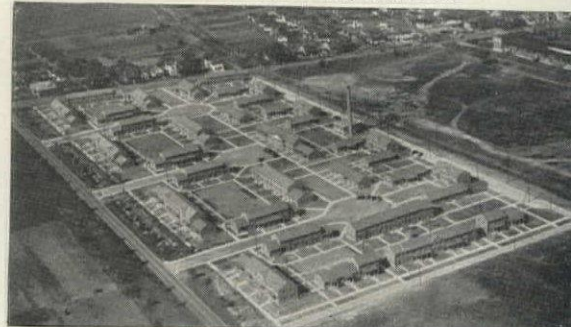
*Lakeview Terrace, Cleveland, Ohio



*Cheatham Place, Nashville, Tenn.



*Harlem River Houses, New York



*LaSalle Place, Louisville, Ky.



*Lauderdale Courts, Memphis, Tenn.

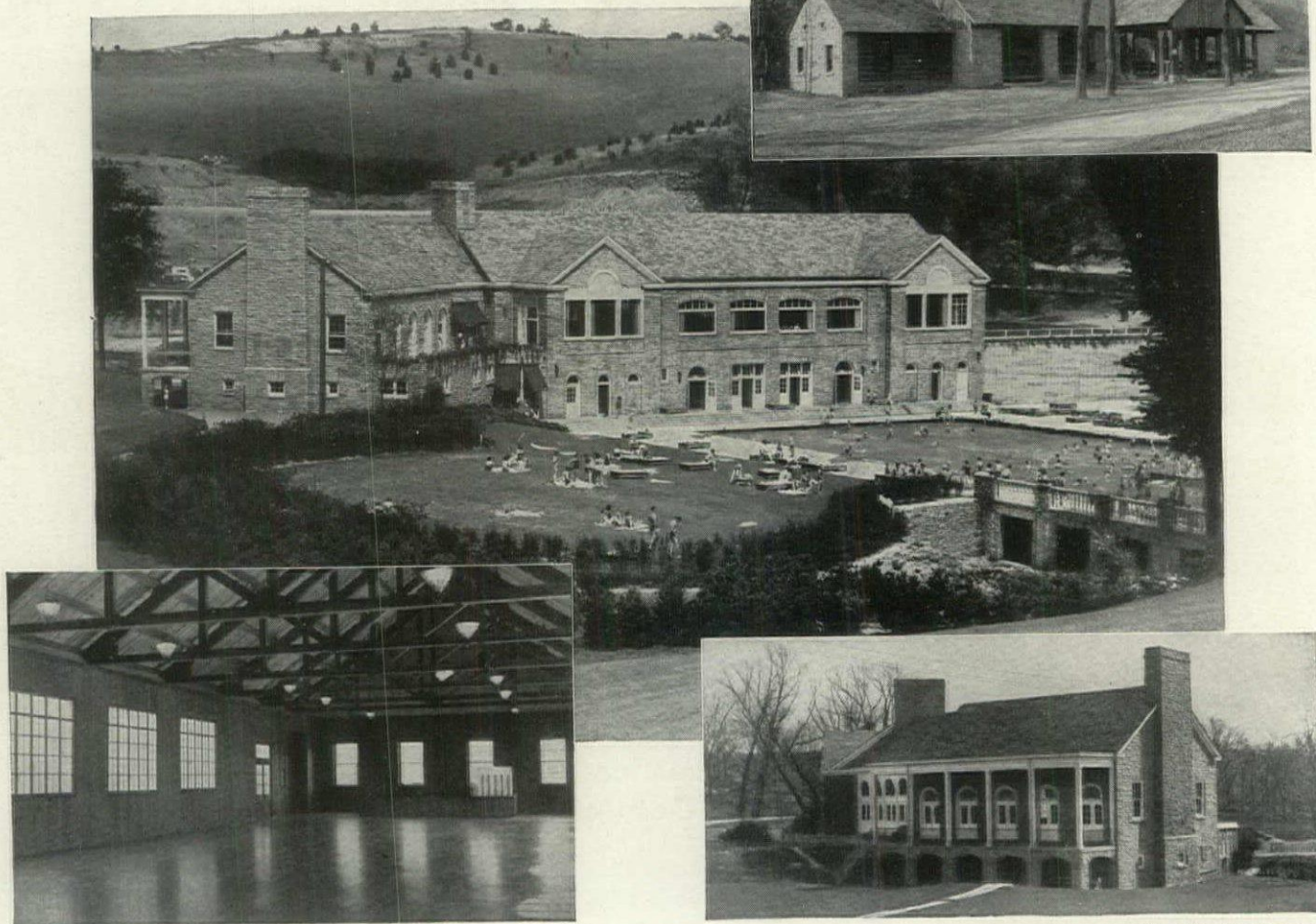


*Baker Homes, Lackawanna, N. Y.



*Stanley S. Homes Village, Atlantic City

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FREDERIC FARIS, ARCHITECT, WHEELING, WEST VIRGINIA



Photos by Photo Crofters

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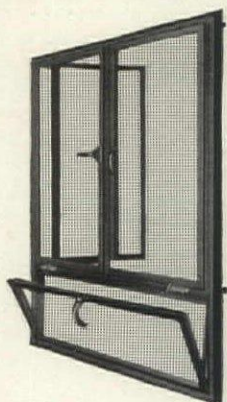


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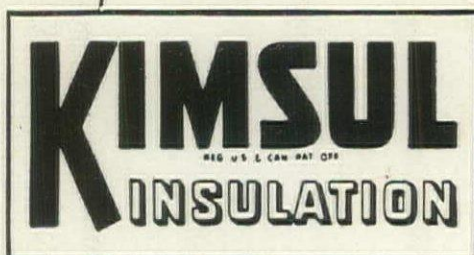
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Very truly yours,

CHARACTER HOMES, INC.

Ray S. Parsons
Pres.

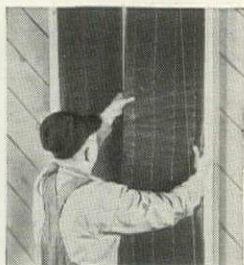
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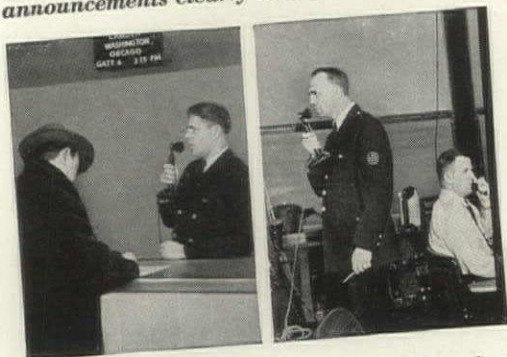
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AZROCK'S durability, year-in year-out ability to "take it", and inexpensive maintenance costs are a boon to the business man with a budget. Quiet and comfortable underfoot, AZROCK is appreciated not only by customers but by clerks as well. And the wise architect *knows* that AZROCK'S many beautiful all-the-way-thru colors . . . plain and marbled, varied thicknesses and sizes give him opportunity for individuality of expression.

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FORUM OF EVENTS

(Continued from page 10)

AWARDS

U. S. REGIONAL COMPETITION for the Jamestown, N. Y. Post Office and Court House Building resulted in the following awards. Winner: Henry B. Marsh, Bluff Point, N. Y.; Honorable Mentions: Haskell & Considine, Elmira, N. Y.; William P. Crane, Jr., Syracuse, N. Y.; James J. O'Shaughnessy, Albany, N. Y. (Winner to appear in April issue)

To WILLIAM ADAMS DELANO, New York, the Gold Medal Award of the National Institute of Arts and Letters "for distinguished achievement in architecture."

COMPETITIONS

U. S. REGIONAL. Sixth in the series of regional architecture competitions sponsored by the Public Buildings Administration calls for a design for a new Federal Office Building for Tacoma, Wash. The competition is open to all registered architects who are citizens of the U.S.A. and whose home offices are located in Region No. 10 which includes the following States: Colorado, Idaho, Montana, Oregon, Utah, Washington and Wyoming. Architects whose home offices are within the region, and in States having no registration law, and who are not registered in other States, are eligible to enter this competition upon the submission of qualifications satisfactory to the Public Buildings Administration of the Federal Works Agency. The building is to cost approximately \$300,000. The author of the winning design will receive \$3,000 for it, and an additional \$3,000 in his capacity as consultant to the PBA during the preparation of working drawings and specifications. The Jury: Roland E. Coate of Los Angeles, Henry F. Hoit of Kansas City, Mo., and Alfred Shaw of Chicago. Closing date, originally set for March 28, has been extended to April 20. Full program on application to the Commissioner of Public Buildings, Public Buildings Administration, Federal Works Agency, Washington, D. C.

ROTCH TRAVELING SCHOLARSHIP is offered this year for an indeterminate period of not more than eight months of travel and study in Mexico and the U. S. Stipend, \$1,000. Examination of candidates to be held early in April, but candidates are requested to register before March 15. Application blanks and further details on request to William Emerson, Secretary, 107 Massachusetts Ave., Boston.

CALENDAR

March 18. Insulux Glass Block Competition No. 4—A Newspaper Plant—closes.

April 3-May 3. Sculpture Festival, first exhibition since 1923 of the National Sculpture Society, at the Whitney Museum of Art, New York, N. Y.

May 1-3. 1940 Spring Meeting of the American Society of Mechanical Engineers, Hotel Bancroft, Worcester, Mass.

May 4-12. National House and Garden Exposition in the Coliseum, Chicago.

May 19-24. American Institute of Architects' 73rd Convention, Louisville, Ky.

June 24-28. 43rd Annual Meeting, American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

(Continued on page 58)

BLUE LABEL

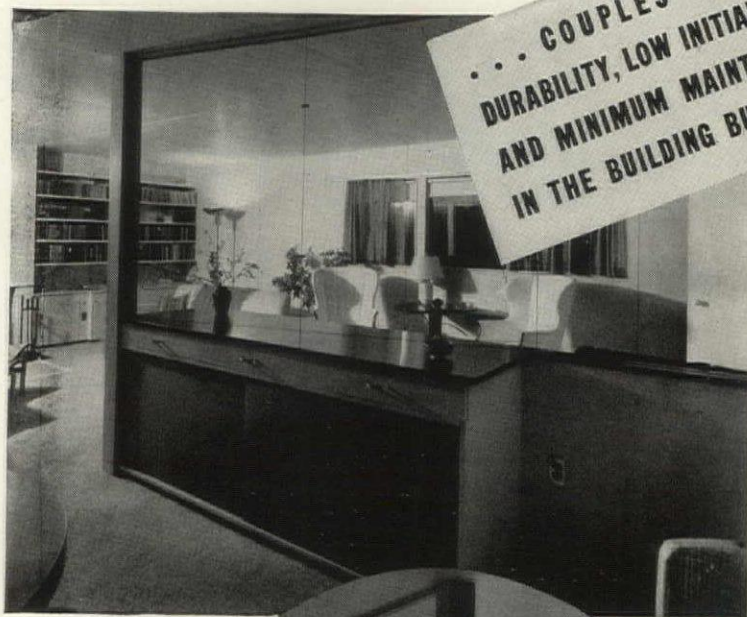
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WELDBORD

HOT-PRESS RESIN-BONDED

Hardwood PLYWOOD Paneling

... COUPLES BEAUTY,
DURABILITY, LOW INITIAL COST
AND MINIMUM MAINTENANCE
IN THE BUILDING BUDGET . .



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&
Marcel Breuer
Associated
Architects
—Photos by
Haskell



ARCHITECTS, DESIGNERS and BUILDERS have been quick to recognize the advantages provided by **WELDBORD**. Despite their low prices, these panels are fabricated by the most modern methods (hot-press-resin). Such strength and permanence are seldom found in conjunction with such lasting beauty. Even a superficial analysis of comparative costs will reveal the astonishing economy of their use.

BLUE LABEL WELDBORD—the Utility Panel—for walls to be painted or papered—a charming “bright-finish” panel in ultra-low-cost projects.

@ **7 1/2**¢ PER SQ. FT.

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DeLUXE WELDBORD—the Decorative Panel, with book-matched faces of American Walnut, African Mahogany or Plain Oak.

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DeLuxe is manufactured with long-grain faces for that extra beauty which makes hardwood so appealing. DeLuxe is available in standard plywood construction or over Masonite at the buyer's option, and mill-prefinished at a somewhat higher cost.

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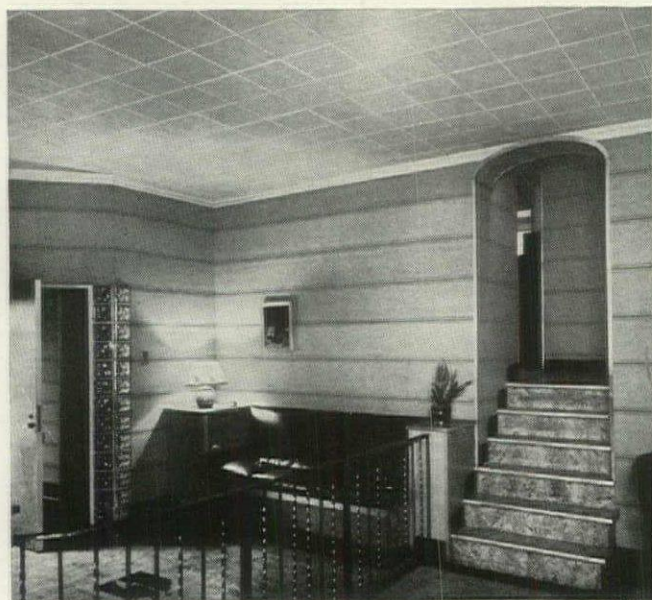
Walls already painted to harmonize and blend with any interior color scheme.

Four modern tints—gray, coral, buff and green. Sun-fast, clear smooth surfaces. Crack proof, yes, and check proof, too. And the famous V-W Joint fits tight, giving all 'round *insulation*. But most amazing of all, it likes to have its face washed. When it gets a spot of dirt, just wash it as you would tile. Think of your new opportunities and profits from Insulite's Satincote in these glowing fast colors.

Write for samples and literature. Insulite, Dept. AF30, Minneapolis.

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Here's a modern studio with walls of Satincote—Colored walls that harmonize with the decorative scheme. They decorate, insulate and beautify at the same time. A modern wall is a *washable* wall.



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WASH IT—Try this yourself. Just take soap and water—see how easily and quickly you can restore the original luster and beauty of these four new Satincote colors.



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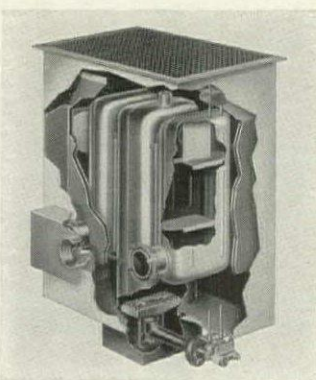


That's right—no basement. But thanks to the efficient Payne Floor Furnace, it isn't necessary to have a basement in order to keep comfortably warm—in any climate!

The Payne gas-fired Floor Furnace was especially designed for simple, economical installation in the small, non-basement home.

Yet its remarkable efficiency—the way it forces healthful, circulating warmth into every corner of the room—has made it a universal favorite for every type of dwelling.

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Approved by the American Gas Association for use with either natural or manufactured gas, the fully vented Payne Floor Furnace is the most efficient ever built.

EASY INSTALLATION

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The air you breathe never comes in contact with open flame. All products of combustion are eliminated.

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To buy—to install—to operate. Payne Floor Furnaces make friends for architects, builders and for gas heat.



Payne FURNACE & SUPPLY CO., INC.
BEVERLY HILLS • CALIFORNIA

FORUM OF EVENTS

(Continued from page 54)

EDUCATIONAL

AMERICAN INSTITUTE OF ARCHITECTS, New York Chapter. Establishment of a \$1,200 scholarship to be awarded annually for advanced research in architecture has been made possible through funds provided by a bequest of the late Emma B. Brunner in memory of her husband, Arnold W. Brunner, New York architect. The first award will be made in 1940 "for a comparative study of the influences of local conditions on regional architecture in the U. S., involving an analysis of the practical effects of geographic and social factors on past and present building." Applications will be received between February 1 and April 1, the award to be announced about June 1. Application blanks available from Secretary, New York Chapter, A.I.A., 115 East 40th St., New York, N. Y.

ST. PAUL GALLERY AND SCHOOL OF ART, St. Paul, Minn. Through the generosity of Mr. and Mrs. Roger Shepard, a mansion at 476 Summit Ave. has been presented to the school for its permanent home.

DEATHS

CLEMENT J. HEATON, painter of stained glass, 78, in New York. Mr. Heaton was born in Hartford, England, his father a painter of stained glass with whom the boy served his apprenticeship. In 1912 Mr. Heaton came to this country at the instigation of Ralph Adams Cram, and set up his own workshop and glass kilns in West Nyack, N. Y. Later his son, Maurice Heaton, representing the fourth generation in the family of craftsmen and designers, worked with him. Mr. Heaton's best known windows on this side of the water are those for the Church of the Blessed Sacrament, New York, Washington Cathedral, the Kent School, First Baptist Church at Montclair, and the Cleveland Art Museum.

CHARLES LEWIS PITKIN, architect and artist, 56, in Boston. Born in Boston, Mr. Pitkin was graduated from Harvard in 1906, then studied architecture for two years at Massachusetts Tech. After a year's office experience, he spent three years in Europe and attended the Ecole in Paris. In 1917-18 Mr. Pitkin was connected with the construction division of the War Department in Washington, after which he practiced in Boston, devoting himself chiefly to residential work.

THOMAS E. TALLMADGE, architect, 63, in a railroad accident near Arcola, Ill. Born in Washington, D. C., Mr. Tallmadge gained his architectural education at the Massachusetts Institute of Technology, being graduated in 1898. In 1905 he formed the firm of Tallmadge & Watson, practicing in Chicago, which firm was only recently dissolved. Mr. Tallmadge lectured for many years on architectural history at the Art Institute. He was professor of architectural history at the Armour Institute of Technology, and president of the Summer School of Painting at Saugatuck, Mich. Mr. Tallmadge was closely associated with the so-called "Chicago School" of a generation ago—Sullivan, Wright, Elmslie, Griffin, Purcell and others. In recent years he was widely known for his authorship of "The Story of Architecture in America" published in 1927, and his later book, "The Story of Architecture in England." Recently he had been working on a history of Chicago architecture. Mr. Tallmadge was a member of the Art Commission of Evanston where he lived, a former president of the Cliff Dwellers, and a Fellow of the A.I.A.

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**Inert to Moisture, Permanently Flat
and Beautiful—**

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This is the long awaited flooring that can be laid with complete success in mastic directly over concrete slabs in contact with or below the grade—with only a waterproof membrane in between . . . that can be laid over new concrete with safety long before any other wood floor . . . Flooring that needs no expansion joints, even when laid over the largest areas . . . Flooring that gives you all the natural beauty, warmth and charm of wood without the headaches.

In short, Haskelite offers you the "ideal" wood flooring—a material backed by installations in actual use two seasons without a single complaint, backed by Haskelite's 20 years' experience with compound lumber, and by this airtight guarantee of satisfaction:

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"Haskelite guarantees that it will refurnish any piece or pieces of Haskelite Compound Lumber Flooring showing separation due to glue failure caused by liquid or atmospheric moisture, hot or cold.

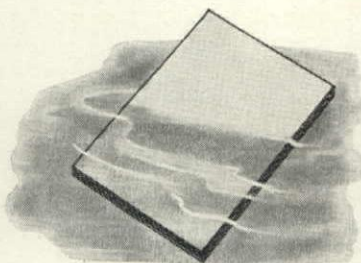
"Haskelite will refurnish any piece or pieces of Haskelite Compound Lumber Flooring that shows an expansion in excess of three tenths (3/10) of an inch per one hundred (100) inches.

"This guarantee covers two complete annual cycles of weather conditions following date of completion of installation."

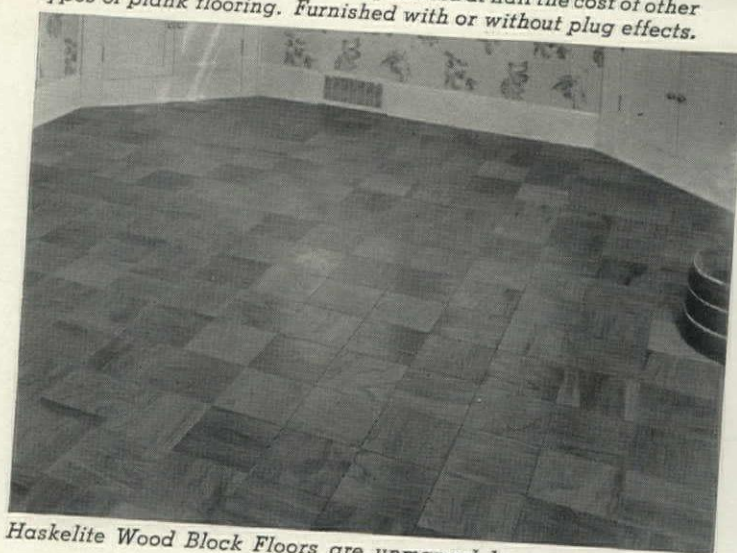
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Prove to yourself, simply and quickly, that Haskelite Wood Flooring does not expand, contract or separate at the plies with even greatly varying humidities. Immerse a piece in water as long as you wish. Then dry thoroughly and inspect the sample. It's a convincing test—try it!

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say Architects for Stouffer's
Fifth Avenue Restaurant,
New York City

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Photos by Samuel H. Gottscho



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Large or Small

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"Air conditioning in the modern restaurant is the natural and obvious thing to do. In Stouffer's Restaurant, which we designed, the control of temperature, air distribution and humidity gives the occupants the utmost comfort in all kinds of weather and, of course, attracts business to the restaurant. Owners and clients are entirely pleased, as the restaurant is operating to capacity in an area where competition is as great as can be found anywhere.

"Close cooperation and experienced assistance from the engineers and the Carrier organization during the planning and installation stages helped in estimating and laying out the job; and the high quality and

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ENHANCE BEAUTY

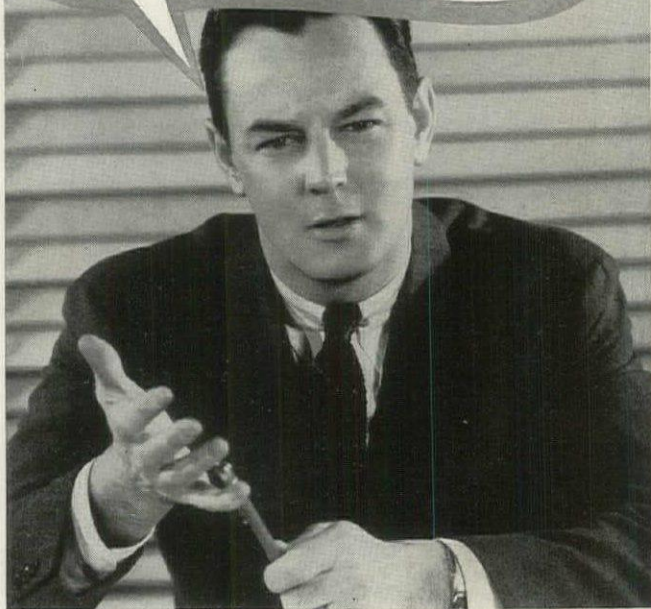
A Beautiful Woman expresses her personality through the medium of clothes, which enhance her beauty. Unlike the changing styles, fine architecture has for centuries consistently expressed itself in homes built of economical Genuine White Pine, "The Wood of Our Pioneer Ancestors." This famous lumber is always in vogue. Its matchless beauty and rugged qualities continue as ever to recommend it.



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INSULATING COSTS WITH
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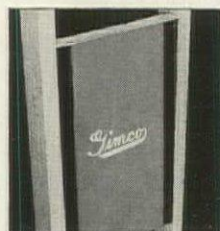


**Architects and owners agree on these advantages of the
GIMCO ROCK WOOL SEALAL BAT**

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- Self-supporting—costs less to install
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- Will not settle—lasts as long as the house
- Made under patented Gimco process

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Contractors and builders can now install better insulation more economically, too, with Gimco Bats. They are easy to cut into any desired size or shape to fit odd corners and rounded surfaces. Gimco Bats provide permanent insulation without voids or weak spots. Write for complete information on Gimco Sealal Bats, made by the world's largest exclusive manufacturers of Rock Wool products.



Illustrating the rigidity of Gimco Sealal Bats. Lower photo shows semi-thick bat supporting itself between studs.

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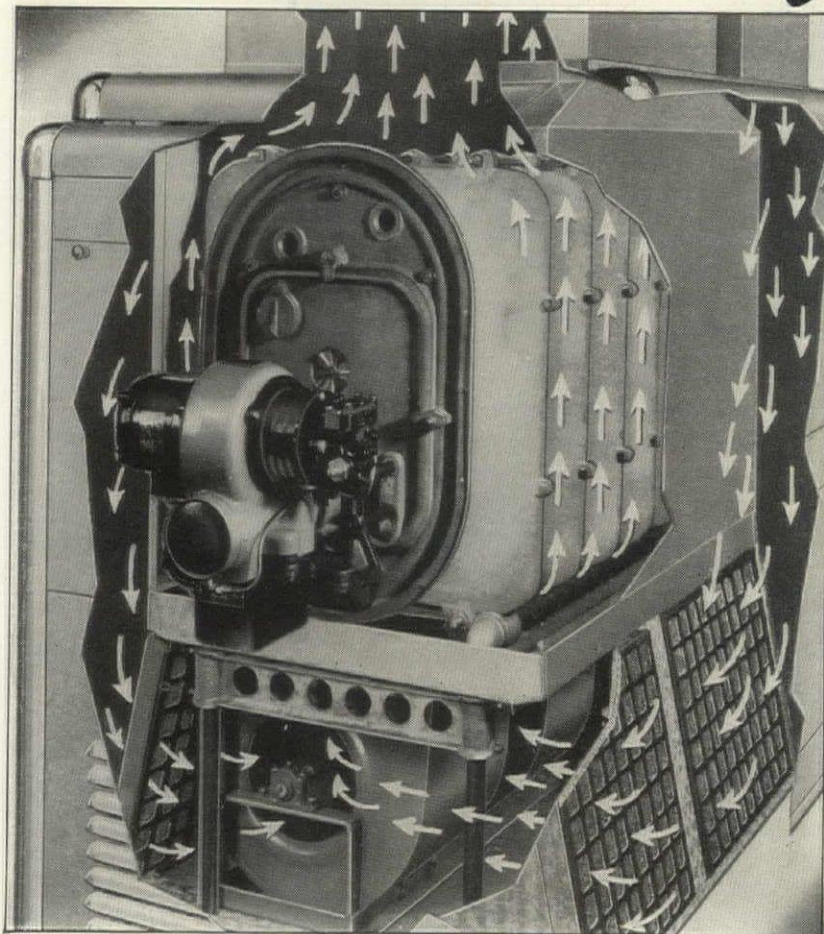
**= DAVIDSON =
ENAMEL PRODUCTS, INC.**

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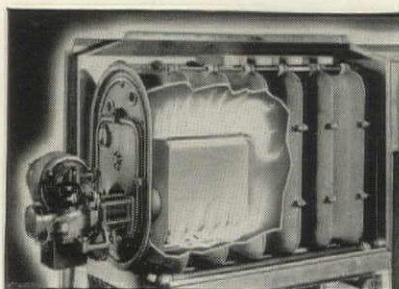
UNIQUE ENGINEERING IMPROVEMENTS

Cut Client's Comfort Costs!



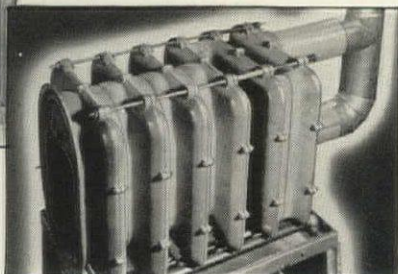
Holland's patented air flow control makes the unit self-insulating by means of a blanket of air continuously pre-heated through contact with the inner casing. No leakage of warm air into

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← Instant heating refractory chamber reaches maximum efficiency instantly—burns oil in suspension—spreads flame to all parts of combustion chamber, utilizing top, bottom and sides.



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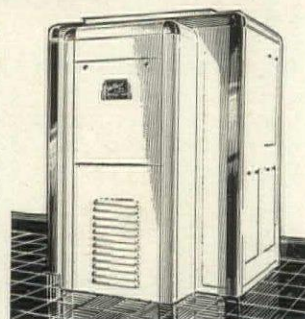
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By such innovations as those on the left, Holland not only gets the maximum heat from every gallon of oil or cubic foot of gas but also delivers a far greater proportion of that heat where it is needed.



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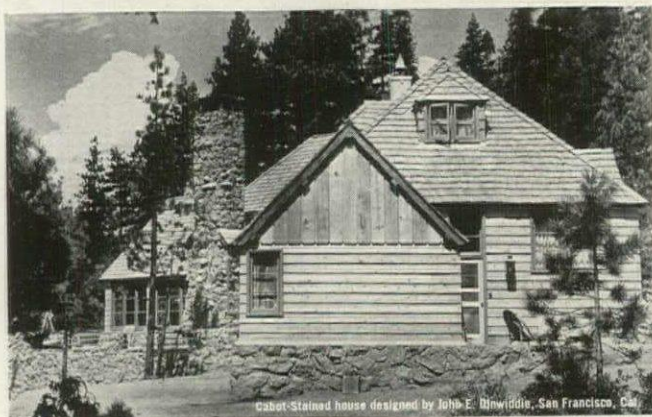
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For a more opaque, uniform finish than the creosote stains, specify the new Cabot's Heavy-Bodied Stains—also made by our patented Collopping process. Especially effective on old porous weather-beaten surfaces.

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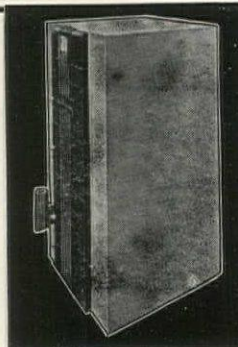
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Suppose you specify a complete unit oil burning boiler? It can never be changed to coal without buying a new boiler. Suppose you specify a coal burning boiler that's not adapted for oil; then the same holds true again.

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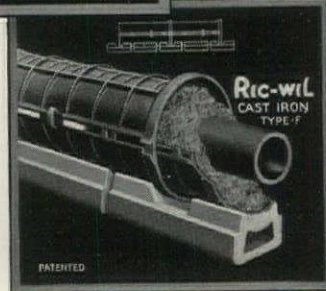
Zanesville, Ohio, Dept. -J

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Which
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STEEL SHEETS don't sound very cozy—but they keep a house snug and warm. Last year sheet steel insulation was installed in approximately 500 homes near Pittsburgh. This last winter was one of the coldest winters on record here. In spite of many below zero days, the houses were easy to keep warm. The cost of heating them was much lower than for homes of similar size built with ordinary insulation.

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Already steel insulation is being used by many well-known architects, builders, and industrial firms. It shows great promise because of its low cost and many desirable features. Complete facts, the name of the manufacturer and buying information will be sent on request.

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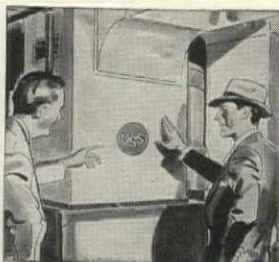
COLUMBIA STEEL COMPANY, *San Francisco*

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Steel takes the work out of mother's workshop. Steel cupboards, cabinets, sinks are so much easier to clean. Stay modern.



Longer lasting steel for heating systems. U-S-S Galvanized Copper Steel has double the rust resistance of plain steel—yet costs less than a dollar more in average homes.



Steel clothes closets. Complete units equipped with door, shelves, hooks, slip right into the wall. Easy to clean, never need refinishing.



Steel windows are becoming increasingly popular because they have proved entirely satisfactory — yet cost less to install — less to maintain.

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The U-S-S symbol placed by the manufacturer on any finished steel product is your assurance that he has used the best steel he can buy for its purpose.



UNITED STATES STEEL

The Problem:

TO PREVENT ACCUMULATION OF MOISTURE IN THE WALLS OF AIR-CONDITIONED HOUSES

The Solution:

INSULATE WITH CABOT'S "QUILT"



DOUBLE-WHITE house at Wilton, Connecticut.
Architects: Evans, Moore and Woodbridge, New York

The use of Cabot's "Quilt" is a simple and economical solution to the problem of moisture accumulation in the walls which causes so much trouble in air-conditioned houses.

Because of air circulation on each side of the "Quilt," moisture is quickly dried out or carried away. It does not collect in the walls to cause paint failure or other serious trouble later on.

The high insulating power of Cabot's "Quilt" is proved in government tests which we will be glad to have you examine. It is rot-proof, vermin-proof, stays permanently in place and does not settle. With a new convenient fastening strip on the 16-, 20- and 24-inch sizes, Cabot's "Quilt" is now easier than ever to install.

New lower prices, recently announced, make Cabot's "Quilt" even more economical than it has been before.



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CABOT'S "QUILT"
Heat Insulating • Sound Deadening

BOOKS

(Continued from page 22)

AMERICAN PAINTING TODAY, with an essay by Forbes Watson. The American Federation of Arts. 179 pp., 259 illustrations. 9 x 12½. \$4.50.

The recurrent flurries of controversy about the existence of a real American art have fortunately left both painters and publishers unconcerned. This is the second excellent book on American painting to appear within a few months, and is a very complete survey of the field. Illustrations are for the most part in black and white, with ten plates in color. Reproductions are uniformly good. There is an introduction by Forbes Watson and a list of artists whose work is included.

NEW YORK PAST AND PRESENT, Its History and Landmarks 1524-1939 by I. N. Phelps Stokes. The New York Historical Society. 96 pp., illustrated. 5½ x 8½. Paper, \$1, cloth, \$1.50.

A brief history of New York City, by the outstanding authority on the subject. It is beautifully illustrated, with a wealth of old prints and maps, and contains a complete chronology from the Dutch period to the present. The book is a model of conciseness and impeccable scholarship, and is recommended to those who wish to learn something of the city's development without going through the large standard histories.

MANUAL DE URBANISMO, by Karl H. Brunner. Concejo Municipal, Bogota, Colombia. 267 pp. 272 illustrations. 10 x 14. \$9.00.

An elaborate work on city planning, housing and slum clearance. There is a brief section on modern city planning and its historical background; the major part of the study is devoted to housing, with emphasis on European precedents. A feature of value is the material on work in South America; as head of the town planning department of Bogota and former consultant to the Chilean government, the author is thoroughly familiar with this field. Unfortunately the only edition is in Spanish.

BUILDERS' MATERIALS, by Bernard H. Knight and Rena G. Knight. Oxford University Press. 304 pp. 6 x 9½. \$4.00.

This study of present-day building materials has one disadvantage for the American reader in that it is based on English practice. It is nevertheless recommended, partly because it makes use of the excellent work done by the Building Research Station and also because most of its contents will be found useful to American technicians. Materials discussed are brick, timber, cements, concrete, stone, and miscellaneous building products. In each case the authors explain the nature of the materials, methods of manufacture, their uses and defects, and simple ways in which they can be tested.

ELEMENTARY DESIGN OF STRUCTURAL STEEL AND REINFORCED CONCRETE, by Charles Kandall, Federation of Architects, Engineers, Chemists & Technicians, 162 pp. 5½ x 8½. \$2.00.

A revised and enlarged edition, covering accepted methods in structural design. Suitable for general reference use, the book is primarily intended for the use of architects and engineers preparing for State license examinations. In addition to the usual descriptive matter it contains typical problems given in examinations, and their solutions.

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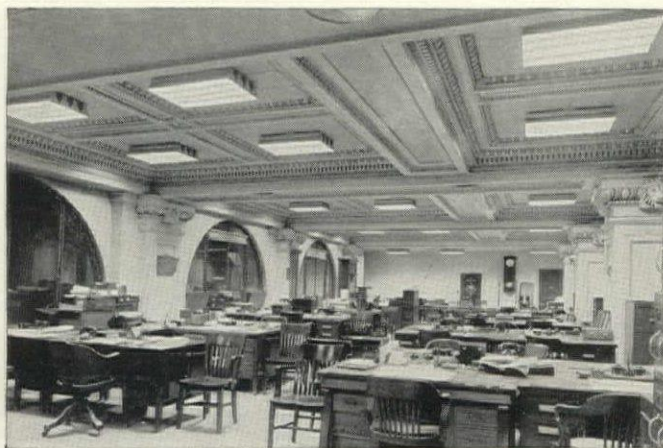
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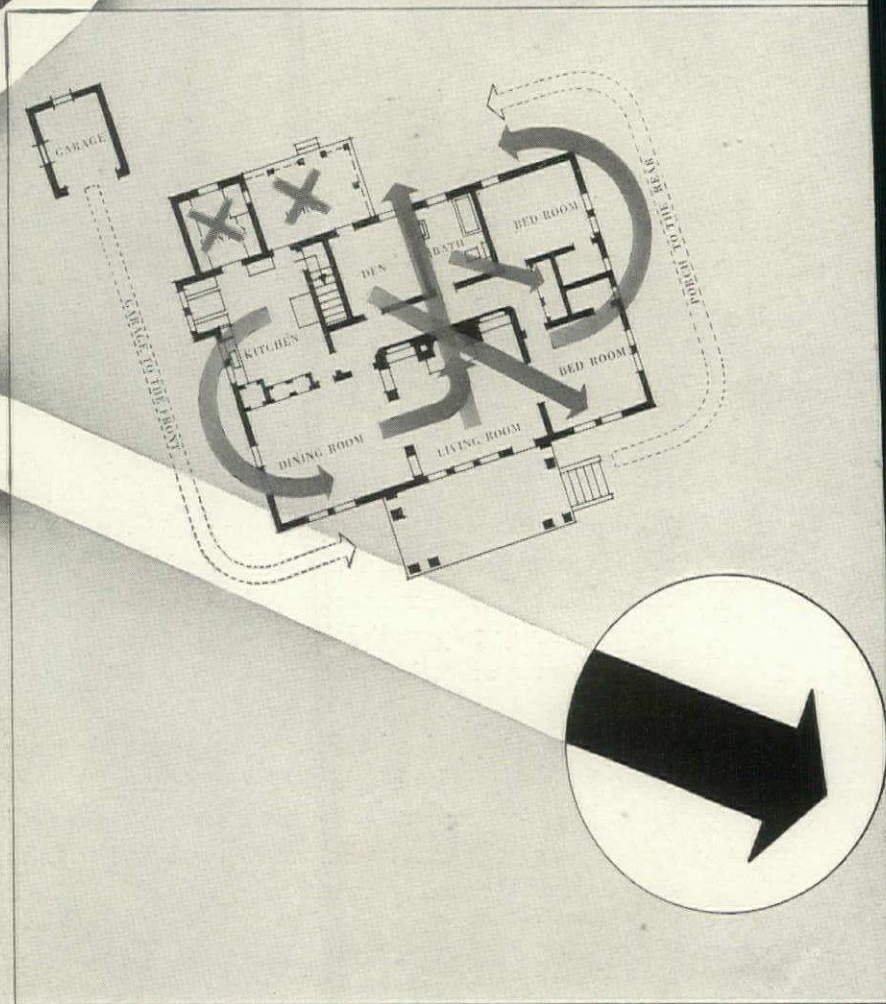
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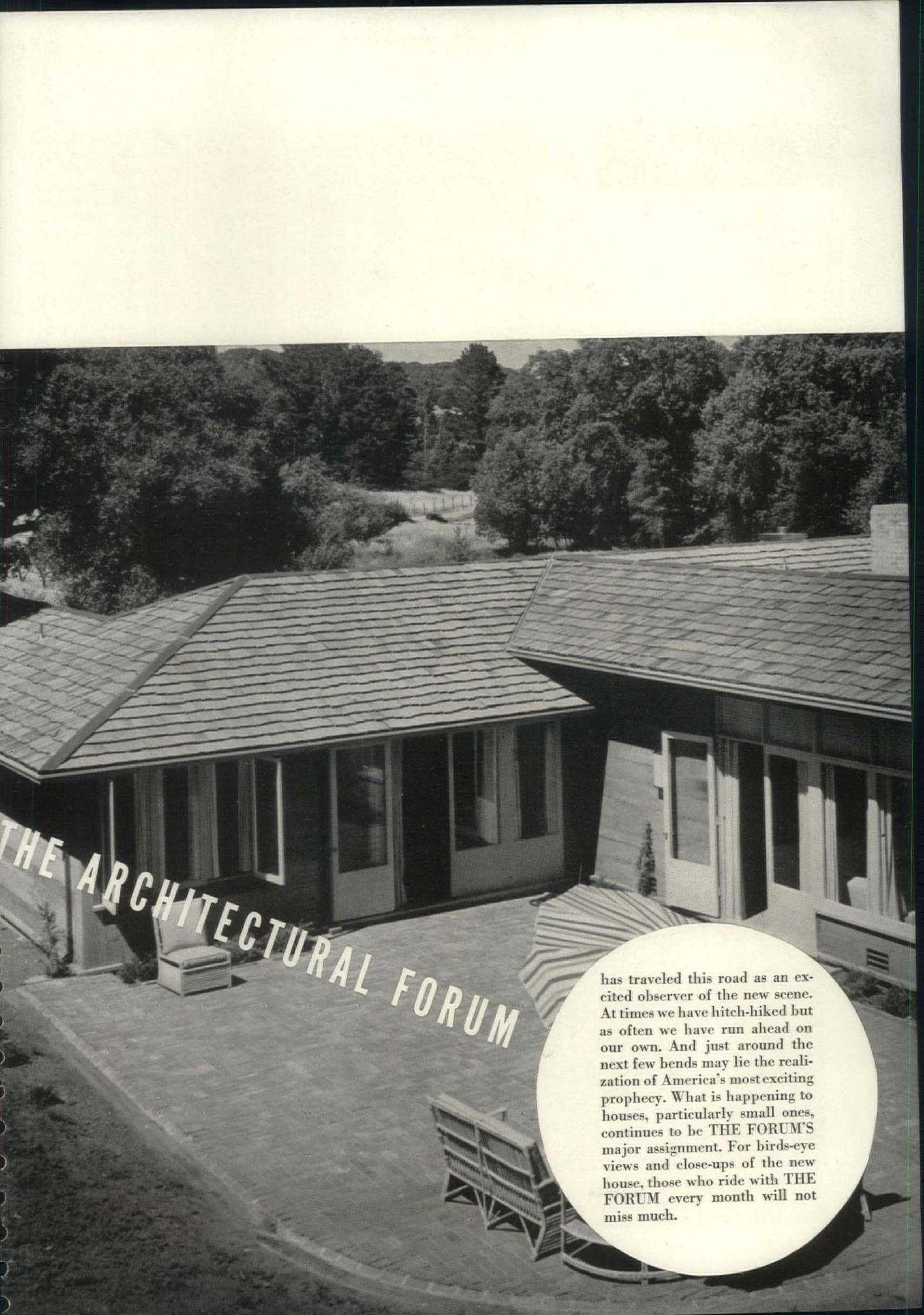


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LETTERS

(Continued from page 44)

This special subsidy however the country may or may not be able to afford in addition to the present enormous relief subsidies of all kinds. Contrary to your inference, the lowest level is already subsidized, in many cases 100 per cent, but they do not get the housing they should have. All they really ask for is immediate and decent maintenance and supervision of the quarters they are now using rather than a dubious promise that in 25 years they may eventually enjoy the present Utopia of their more favored neighbors in the elaborate public housing.

Let the Housing Authority take a model block, renovate it and supervise the occupants with the same care that they give to the new housing, and you will see the answer to the slums and, I fear, the end of public housing in its present form, so long as the general tax burden limits us to essential expenditures only.

It is not the age of the buildings that makes for slums, nor even the light and air, but neglect and congestion; and if you will go through some of these that are

properly managed, you will see some 60 and 70 years old that belie the stigma of slums. . . .

CHARLES C. PLATT, *Architect*
New York, N. Y.

Politicians notwithstanding, it is reasonable to assume that the 60-year amortization period of USHA loans will prompt USHA to keep a watchful financial eye on the operation of its projects, which will not, therefore, "turn into slums in no time." THE FORUM agrees with Reader Platt 1) that congestion and lack of maintenance cause slums, 2) that slum renovation should be a corollary to any public housing program and 3) that the USHA program is not clearing slums. Point No. 3 was amply demonstrated in the January article.—ED.

Major Misconception Forum:

Congratulations on the January FORUM article, "Public Housing and the USHA." This evaluation of one of our most important new governmental activities should do much to lend both friends and foes of public housing proper perspective in their views. . . .

I object to your deprecation of the sort of clearance that is achieved by the demolition of individual or small groups of buildings throughout the city. One of the major misconceptions hampering the housing movement in this country has arisen

from the assignment of almost the same meaning to "low rent housing and slum clearance." I know of no official authority you can cite to sustain your apparent preference for the word "slum clearance" as meaning the large scale demolition of slum areas. In fact, the uninformed reader for whom your article should have the greatest value might easily infer from your discussion of slum clearance that all of the large scale public housing projects should be built on slum sites. As you know, this is a rigid and harmful concept that is totally inapplicable in some communities.

One of the beneficial effects of the equivalent demolition requirements of the U. S. Housing Act that was overlooked by those who felt the requirement would make the Act almost unworkable has been the improvement of State and local legislation pertaining to police power demolition, and the inauguration of some genuine attempts to eliminate by these powers substandard housing. . . .

EDMOND H. HOBEN
*Assistant Director, National Assn. of
Housing Officials*
Chicago, Ill.

THE FORUM cannot control its readers' inferences, only its own statements. In many

(Continued on page 74)

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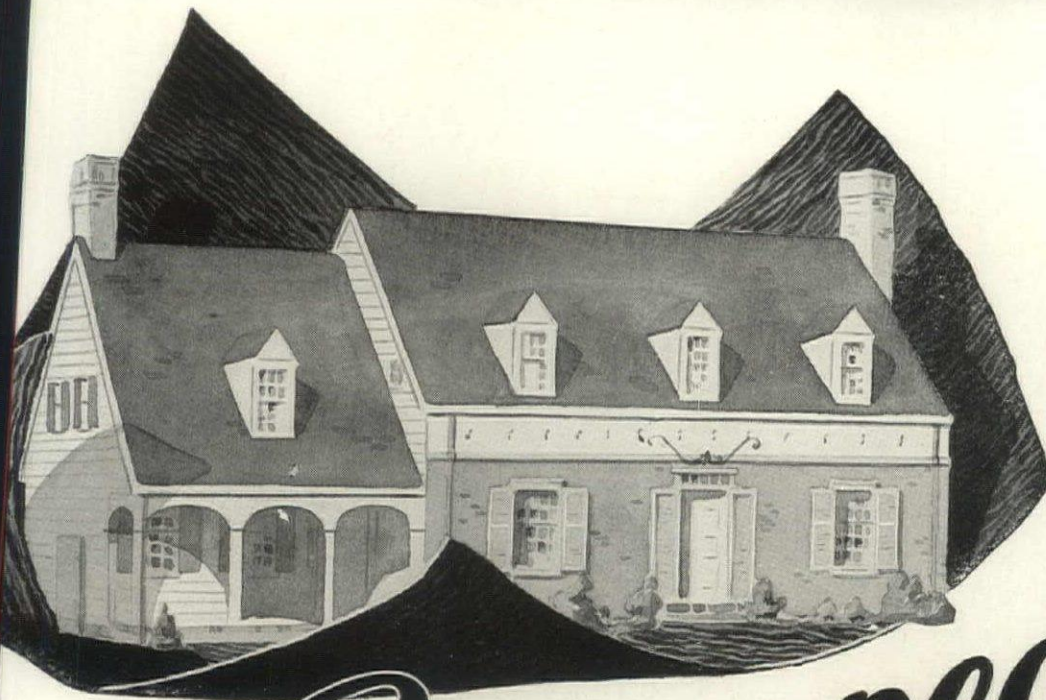
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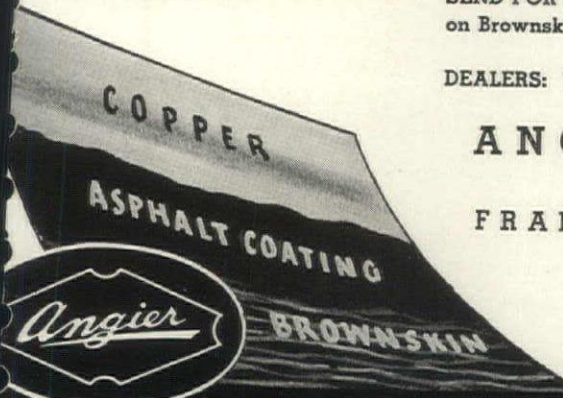
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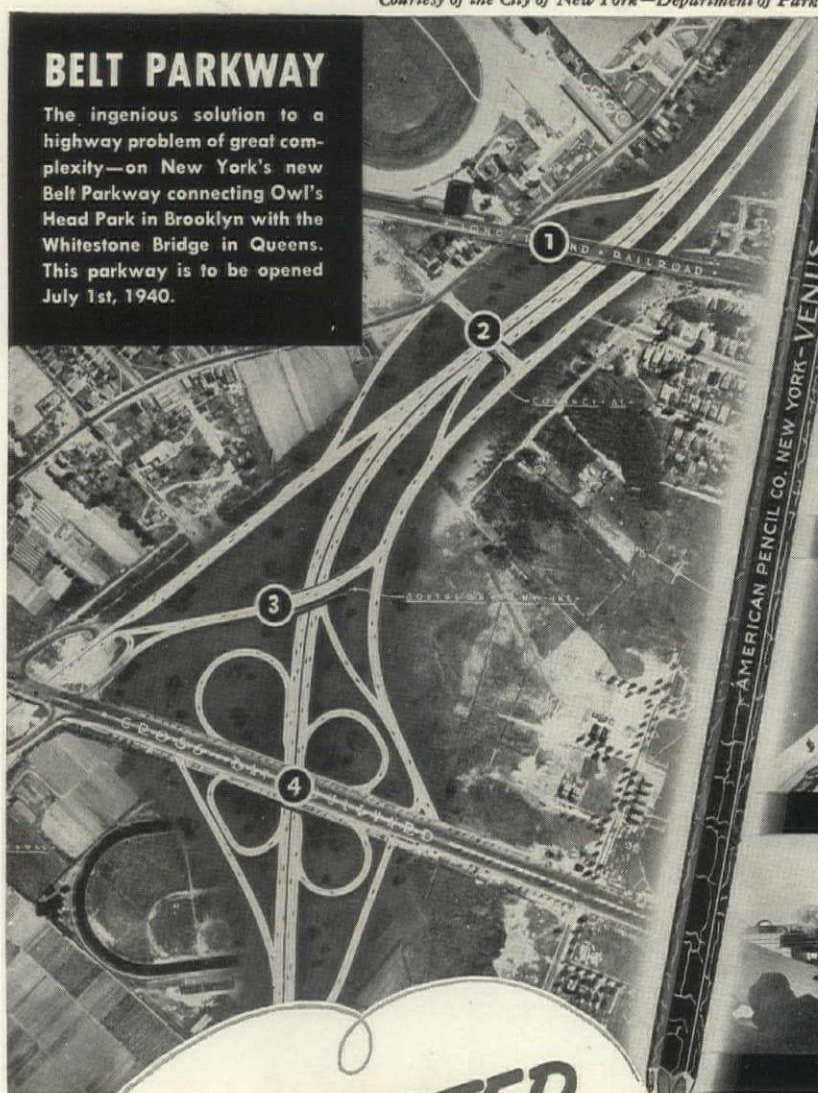
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LETTERS

(Continued from page 70)

communities existing laws are adequate, but existing enforcement, inadequate. Greatest need is not more laws but the installation of more clear-headed, firm-fisted officials.—Ed.

R. S. V. P.

Forum:

... Most informative and timely.

A continuation of your series on this subject with particular reference to the publication of technical data, new techniques, etc., as a result of national experiences on the part of architects by which construction costs could be still further reduced, would be most valuable.

MORRIS W. SCHEIBEL, *Architect*
Youngstown, Ohio

To help fulfill Reader Scheibel's request and many another, THE FORUM invites its readers to make known their housing experiences.—Ed.

Quartermaster General

Forum:

... Such frank inquiry into the accomplishments of the USHA should be help-

ful in developing future methods.

... The initial housing of most authorities has been limited to USHA aided projects; but there are outstanding exceptions: (a) the N. Y. Authority, beginning with PWA projects, followed by USHA, now engaging in projects aided by the State Authority, which in turn recognizes the place of cooperative and other types of private enterprise: (b) the Alley Dwelling Authority (District of Columbia) ... (c) The Fort Wayne Authority ... (d) The Baltimore Housing Authority. ... Since the local housing authorities have the potential autonomy under State legislation, the responsibility for a policy which will envision the whole housing problem in each community now lies with the municipalities and not with any one of the existing Federal agencies.

The creation of a strong central Housing Council to guide the national housing policy as a whole, both urban and rural, is now an imperative need in Washington. After decades of work and effort the British finally recognized this need and provided for it in the Act of 1935. The Council should be organized in time to take advantage immediately of the 1940 housing census returns. With all of the Federal urban housing agencies now under

the Federal Works Agency, this should be easy of accomplishment. ...

GEORGE HERBERT GRAY

Consultant in Architecture and Land Planning, New Haven, Conn.

Desirable is the coordination of all public housing agencies, but difficult of accomplishment as those (including the President) who have tried it know. Meanwhile petty inter-agency squabbling is wasting time, costing money, hurting results.—Ed.

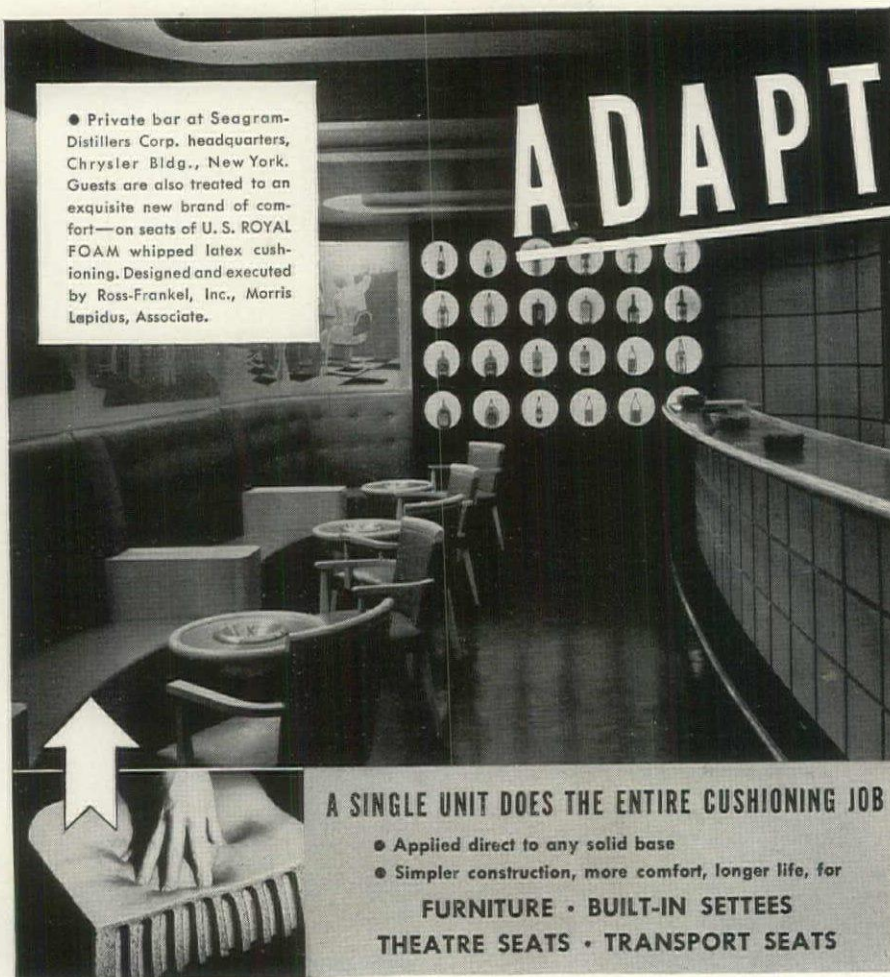
Sub- to Super-Standard

Forum:

... Your statement on page 5 that "solving the nation's entire slum clearance and low rent housing problem would involve an astronomical Federal expenditure of \$1.5 billion annually over a 60-year period" ought to suggest that no such annual expenditure is possible and that if any large proportion of slums is to be cleared the available money must be stretched farther, not only by reducing costs of construction but also by reducing impracticable standards. ...

The USHA standards include, among other provisions, the statements that for three-story buildings, densities of more than 50 families per acre are not gener-

(Continued on page 78)



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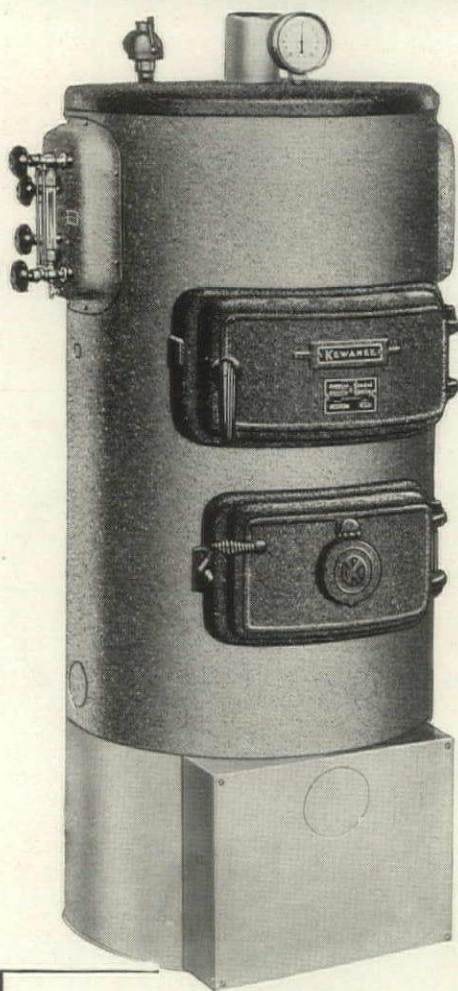
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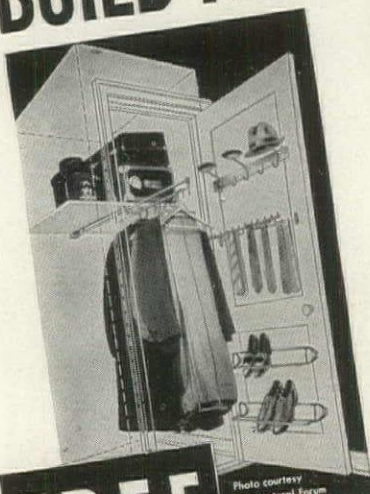


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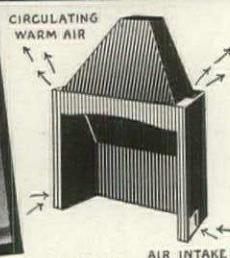
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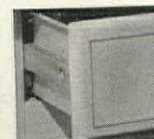
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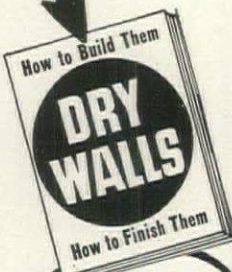
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LETTERS

(Continued from page 74)

ally acceptable, that three-story dwellings arranged in parallel rows should be not less than 60 ft. apart and that coverage of more than 35 per cent will not be approved. As a matter of fact the coverage is apparently being kept even less than 35 per cent.

As the most difficult problem in slum clearance is the high cost of near-in land, undue limitations on heights of buildings and land coverage will make slum clearance extravagantly expensive where it is most needed and thus will reduce the amount of slum clearance possible with any reasonable expenditure of Federal funds. Therefore no discussion of costs is complete without a consideration of standards. Your statement on page 5 that the last word in housing must ultimately be private enterprise and that USHA, if properly administered, can point the way, ignores the fact that USHA standards are so far out of line with private investment standards that they are utterly useless in pointing the way.

On page 10 the statement is made; "Shortsighted, this school of thought is

actually demanding that USHA projects be up-to-date editions of today's 50-year-old slum buildings, which would be headed for slums the day they were built." The "headed for slums" bromide is common among shortsighted people but should not be copied in a technical journal without discussion of standards less extravagant. Such discussions should also prove that coverage and heights, greater than USHA standards, in many buildings which have existed for years, are in fact "headed for slums." In most cases that cannot be proved. . . .

In fact, anybody who has studied housing matters for years and has watched developments in cities with many apartment houses, knows that hundreds of apartment houses, even though with coverage and heights up to two or three times the USHA limits, have not become slums. Other factors are more important in creating slums.

If low wage workers insist on living close to metropolitan centers they have no right to expect any more light, air and amenities than are provided for the privately owned apartment houses which support themselves and help to support the USHA projects through local tax exemption and annual contributions from Federal taxes. Play spaces for small children should be provided on roofs or in

basements. Play spaces for older children and amenities for adults should be provided by the municipality and should be open freely to the adjacent slums, not limited to the relatively small numbers who are lucky enough to live in a project. If the municipality refuses to provide these municipal needs the USHA should refuse to authorize a project.

CHARLES W. KILLAM

Professor of Architecture, Harvard University, Cambridge, Mass.

Professor Killam's contentions can perhaps best be resolved by a program of rehabilitation of existing properties. Certainly this less costly and frequently feasible method deserves the fullest study. New regulations not of USHA but of FHA point this way, may happily permit curtailment of housing 100 per cent publicly financed. (See page 2, col. 3).—Ed.

Second Hand Housing

Forum:

. . . I have become fairly well convinced that possibly the eventual solution will be to recognize the responsibility of property owners to the community. As a background for this idea I have read the records in regard to English property holding as early as 1650, when the government recognized that there was a duty of

(Continued on page 82)

A New Scientific Service for the TESTING OF INDUSTRIAL PRODUCTS AND CONSUMER GOODS



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Complete tests on sound and sound control.



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Complete tests on light and light problems.



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Measurement and analysis of electrical problems.



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Complete tests on vibration and vibration control.

Announcing the Merger of the Personnel and Facilities of the E. E. FREE LABORATORIES with the UNITED STATES TESTING COMPANY, INC.

The staff, associates, and location of the E. E. Free Laboratories will remain as heretofore. This new division of the United States Testing Company, Inc., will continue its scientific testing service in the fields of acoustics, optics, electronics, physics, and engineering. To this will be added the usual services of the United States Testing Company, Inc., in preparing tests, reports, and in the quality certification of industrial products and consumer goods.

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For every type of public building...
for every decorative scheme...there
is a J-M Asphalt Tile Floor that com-
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FOR SCHOOLS ... The flooring in a school is subjected to the hardest kind of service. Despite all the hard wear imposed on school floors, J-M Asphalt Tile Flooring gives years of freedom from high maintenance charges.



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... Where appearance is an asset to your client's business, specify J-M Asphalt Tile. It adds new beauty to interiors... makes them more attractive to patrons. Yet it stands hard use... keeps maintenance costs low.

If you haven't checked all the facts on J-M Asphalt Tile, send for the new J-M Asphalt Tile brochure. It's a helpful *idea* book that offers stimulating suggestions for attractive, durable floors for buildings of every type. It's packed with illustrations... shows the beauty of

J-M Asphalt Tile in a wide variety of natural color pictures. Use it to help clients visualize how their finished floors will look. For your free copy, together with specification data, write Johns-Manville, 22 E. 40th St., New York, N.Y.

Johns-Manville ASPHALT TILE FLOORING

YOU CAN KEEP "EXTRAS" WITHIN BUDGETS BY SPECIFYING

"half price"

HEATING COSTS

**L-O-F WINDOW
CONDITIONING PLUS A
GOOD CEILING OR ATTIC
INSULATION ASSURES
HEATING ECONOMY AND
CLIENT SATISFACTION
ALL YEAR 'ROUND**

HOW THIS 2-POINT INSULATION SAVES



1. Window Conditioning (storm sash) has proved in thousands of homes that it alone will cut fuel costs as much as 25%—in some places even more.

2. Attic (or Ceiling) Insulation, when

installed in homes already Window Conditioned, will bring additional savings. These two simple insulations together can save up to 50% of the annual fuel bill. Specify them in the houses you design.



● There is a way of keeping dreams within budgets—of satisfying clients' wants and wishes without running costs sky high. You can do it by specifying Window Conditioning and any good ceiling or attic insulation. Your clients get a better, more efficient home and *Half Price Heating Costs* besides. What they can save on heating costs will pay for that bay window, extra closet, or entrance hall.

The inclusion of Window Conditioning and a good ceiling insulation can often be accomplished without an additional dollar of expense because your Heating Engineer can, in many cases, specify a smaller, less costly heating unit as original equipment.

Look at it another way and you will find that the savings accruing year after year will amount to from 18 to 24 average payments on a 20-year F.H.A. mortgage—provide monies for painting, repairs, improvements.

With you, we agree that whatever pays in client satisfaction is well worth-while. We believe that insulation is excellent home insurance and that the combination of Window Conditioning and ceiling insulation is essential to home comfort and economy. Written in your specifications it means your client's dollar goes farther, with his heating costs often cut in half.

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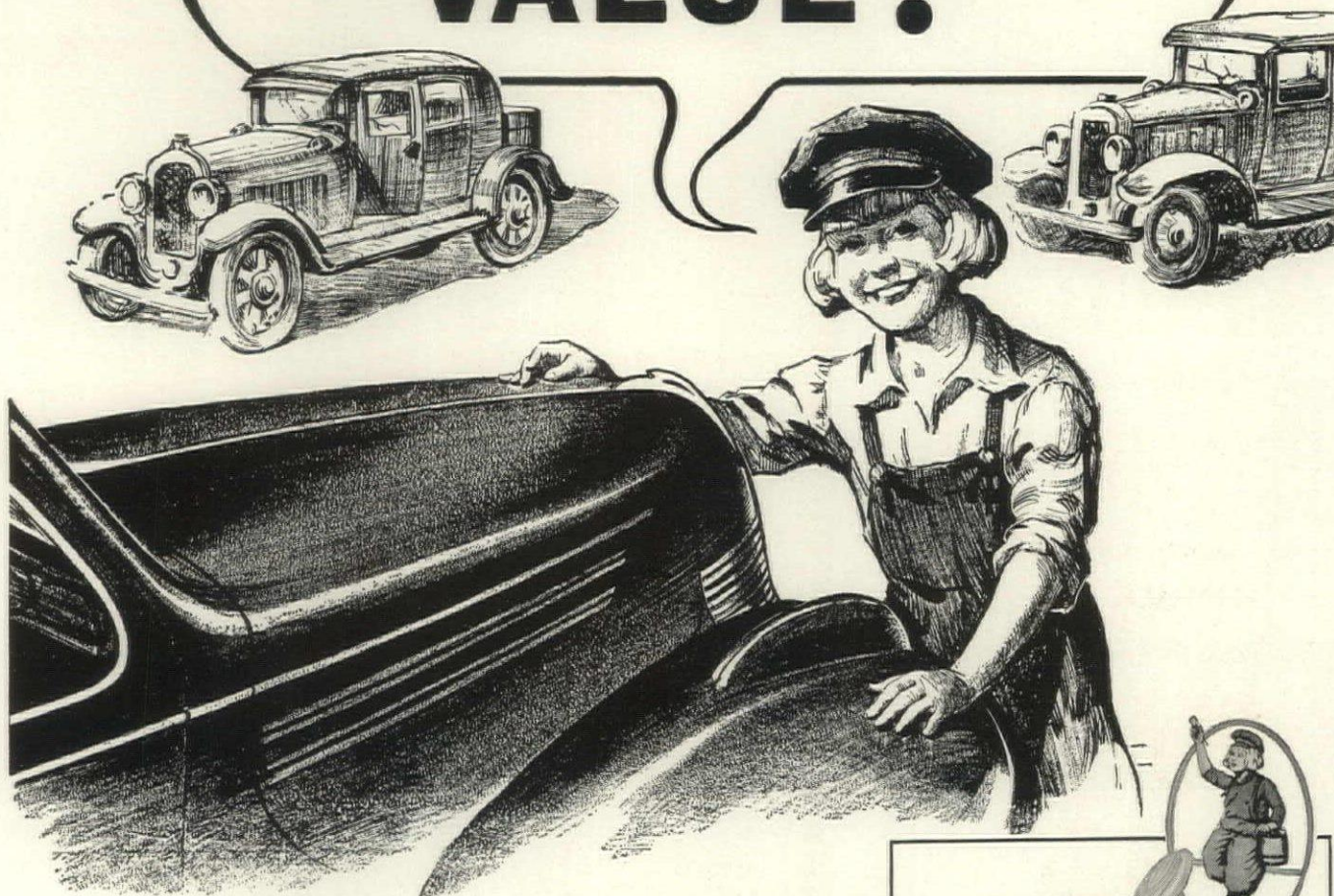
The Government, through the Federal Housing Administration is making it easier than ever before for America to build—and build better—an effort in which Libbey-Owens-Ford is glad to cooperate.

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LOOK FOR THE LABEL



EVER JUDGE PAINT BY ITS TRADE-IN VALUE?



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

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

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

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

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

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

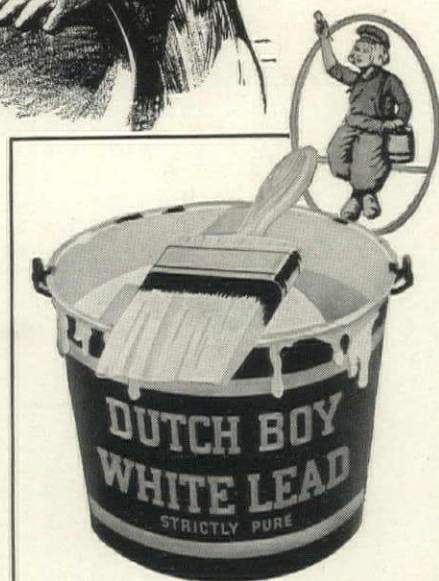
faces that have to be burned and scraped off (that's slow, costly work) before they can be repainted.

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

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

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111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 1376 River Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Building, Philadelphia.



This is the slogan of the national advertising campaign on white-lead now being conducted by the Lead Industries Association. The purpose of this campaign is to promote a wider understanding of the advantages of white-lead paint.

LETTERS

(Continued from page 78)

the property owner to the community and his neighbors which was over and above all other rights of the property owner. They provided at that time that the property which should be improved for the best interests of the community would have to be improved, or sold for the purpose, and the owner forced to take the proceeds of the sale and turn over his property to others. I understand that this condemnation possibility has been the whip used down to the present day in an attempt to solve the slum question of London and other English cities. I believe that with a careful legal approach to this problem from this point of view, even though amendments to the Constitution might be necessary, the fundamental point could be established that there is a duty of property holders to the State. A group of properties under the threat of condemnation would stand a much better chance of being kept up to the standard prescribed by the State, and those which are beyond hope could be handled by transfer in title, either willingly or by

process of law, if the necessary legislation existed.

I do not feel that politically controlled housing on a large scale is generally beneficial from many points of view and I further believe that the general custom of the past of lower income groups occupying the older and less up-to-date dwellings will have to continue, but it does not follow that these would not be wholesome and proper living accommodations.

ELMER C. ROBERTS, *Architect*

Chicago, Ill.

See comment to letter by Professor Killam, p. 78.—Ed.

Indirect Results

Forum:

... I would like to call your attention to the eighth question of the quiz which you used as a prologue to your article "Public Housing and the USHA." Either this question and answer are poorly worded, or the contracts which this authority has with the USHA and this city are not in conformity with your information. We also find the same objection contained in paragraph three in section "The Local Authorities," under "Definition," on page 4 of the reprint. Quoting from this para-

graph, "The city council agrees . . . to supply the remaining 10 per cent of development costs," etc. It has been our understanding here that this is the sole responsibility of our local housing authority.

... After reading your recapitulation, the suggestion arises that another illuminating article could be prepared which would emphasize the indirect results which are already becoming evident from the USHA program.

The simple fact that we are considering a housing project under the USHA plan in this city has stimulated the voluntary improvement of sub-standard structures by their owners.

The amazing reduction in the average cost per dwelling unit reflected by bids on our project, as compared with average building costs by individuals, is arousing wide spread interest in the possibility of prospective home builders pooling their requirements, thereby receiving the benefits of large scale construction. . . .

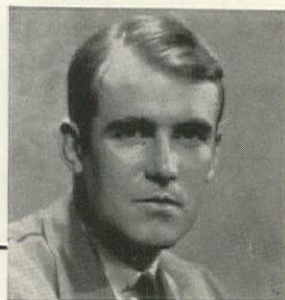
R. H. WILLCOMB

Great Falls Housing Authority,
Great Falls, Montana

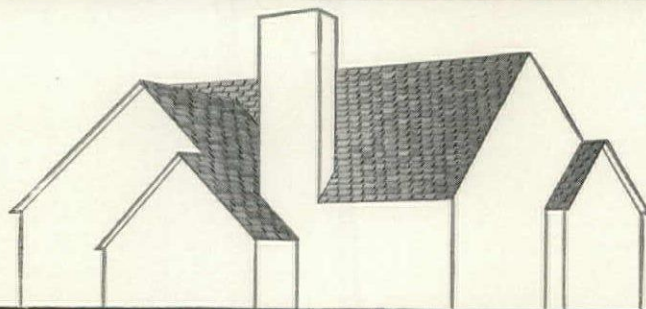
Reader Willcomb is right; the local housing authority is responsible for the 10 per cent of a project's development cost.—Ed.

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Noted color-stylist



Last year Barber commissioned Howard Ketcham to explore the possibilities of color in asphalt roofings. Barber now offers a complete line of asphalt roof colors that we believe will find enthusiastic reception among architects.

What do "color-styled" roofings mean to the architect? — For groups of homes, where variation between units is desirable, the careful selection of correct roof colors

can accomplish a marked distinction. For individual homes, the taste of both architect and home-owner can be more readily satisfied with "color-styled" roofings.

All this — plus "The Vital Element" of Trinidad Native Lake Asphalt — Barber is out in front with "color-styled" roofings, and the only roofing manufacturer to offer roofings with the added protection of *The Vital Element* — Trinidad Native Lake Asphalt.

Whenever questions regarding the uses or limitations of asphalt arise, Barber is

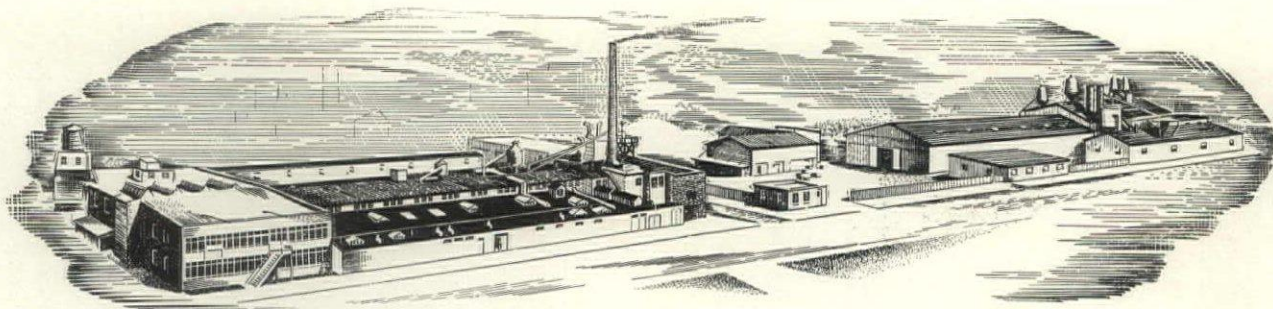
glad to offer the experience of its research laboratories in finding the answer—without cost or obligation. Address: Barber Asphalt Corporation, Barber, New Jersey.

Nationally advertised Barber Genasco Products, made with *The Vital Element*, include: Bonded and other types of Built-up Roofings, Shingles, Sidings, Roll Roofings. Other Barber Asphalt Products include: Waterproofing Asphalts and Fabrics, Resurfacer, Asphalt Protective Products (Plastics and Liquids), Spandrel Beam Waterproofing (Spandrel Cloth and Cement).



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Yes, advertising men have told us it's "old hat" to show a picture of our factory. But we're just old fashioned enough to think you might care to see what the Kennedy plant looks like. Because the material this plant produces and the work it does has been known to architects over 40 years. And today this plant is making more modern types of improved floor, wall and ceiling tiles than ever before. Last year, for instance, this plant began making greaseproof asphalt tile. And now this new Greaseproof Kentile is taken for granted wherever grease is a flooring problem. A few months ago we developed Flex-O-Base and now every progressive architect knows

it has every advantage of any flexible cove base, yet costs 25% to 30% less. Thus does this plant continue to be the pioneer in making better and better material. Perhaps it is this very combination of old fashioned allegiance to quality and ultra-modern technical progress that makes experienced builders always turn to Kennedy for the toughest problems. (Kennedy supplied more resilient tile at the N. Y. Worlds Fair than any other manufacturer—and these floors had to take *really* rough treatment). If, by chance, *your* office hasn't the file data about ALL of Kennedy's products, mail the coupon *now*.

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KENCORK is cork tile made by the firm that introduced cork flooring 41 years ago . . . comes in 3 shades, is baked and compressed to exactly the correct density and condition for maximum wear and resilience.

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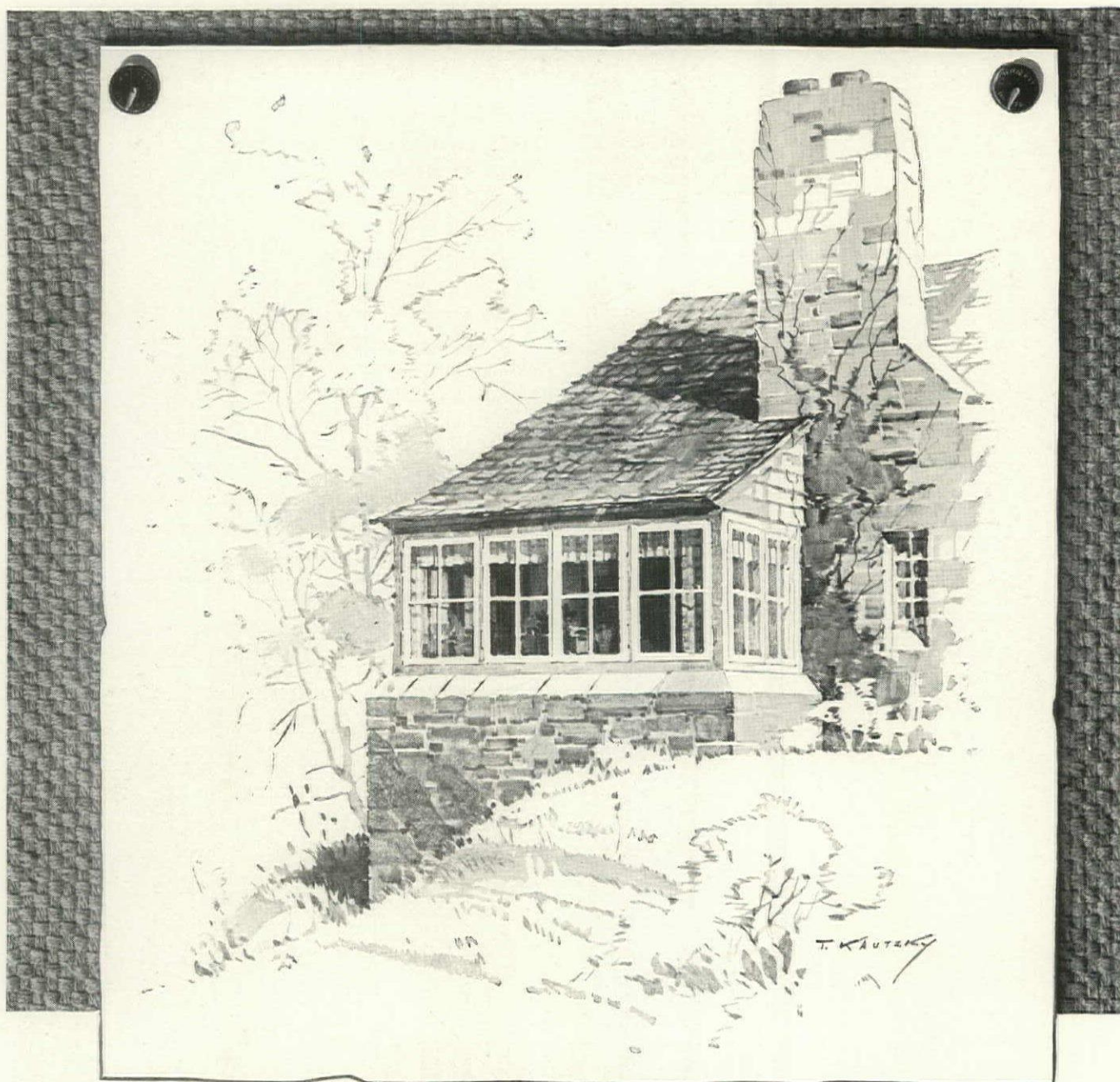
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SPECIFY "PENNVERNON"... NOT JUST "WINDOW GLASS"

A GOOD GLASS is essential to the creation of attractive windows. A glass like Pennvernion Window Glass. Pennvernion is clear and brilliantly finished. It is unusually reflective of surface, and exceptionally free from distortion for a sheet glass. It assures satisfactory vision. And both sides of the sheet are exactly alike, so that Pennvernion may be glazed either side out. Let the distinctive Pennvernion label be your guide to quality window glass. Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pennsylvania.

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THIS Community Gymnasium and Auditorium at Belvidere, Ill., demonstrates advantages leading to the selection of Architectural Concrete for all types of public, commercial and industrial buildings. Designed by Raymond A. Orput of Rockford, Ill., for the Belvidere Board of Education.

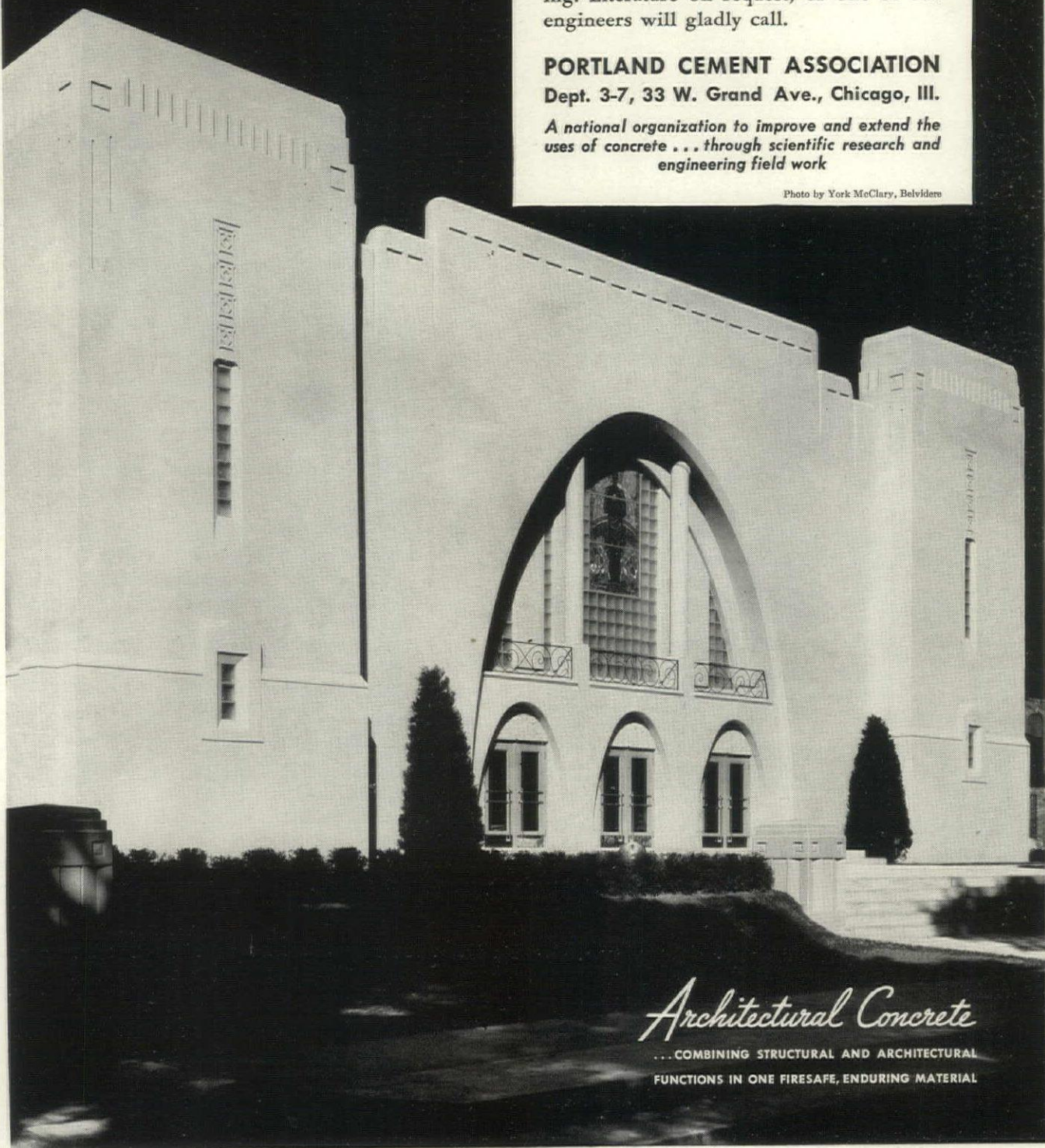
You are going to see more and more Architectural Concrete! Ask your architect or engineer about concrete for your building. Literature on request, or one of our engineers will gladly call.

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... COMBINING STRUCTURAL AND ARCHITECTURAL
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If all the cans
were **ONE**
BIG
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All tin plate manufactured each year in this country would make a single can large enough to hold New York City! That mammoth can would be approximately 7½ miles in diameter and 15 miles high! It takes that much tin plate to make all the cans for evaporated milk, soup, tomatoes, pineapple, fruits, beer, peas, corn, beans, dog food, paint, etc. that America uses every year.

This is only *one* use of steel. Our food, transportation, homes, clothing, amusements, national defense....everything depends on steel for its material or on steel machinery for its construction. Steel, in turn, depends on *men* to make it right. Here at Youngstown we have invested millions to keep our mills as modern as science can develop. However, all the equipment in the world can't equal *men* in the making of fine steels. What we're proudest of at Youngstown are the men who are spending their lives making the finest steel that skill and care can produce.



Cold Reduced Coke Tin Plate - Sheets - Plates - Tubular Products - Conduit - Bars - Rods - Wire - Nails - Tie Plates and Spikes.

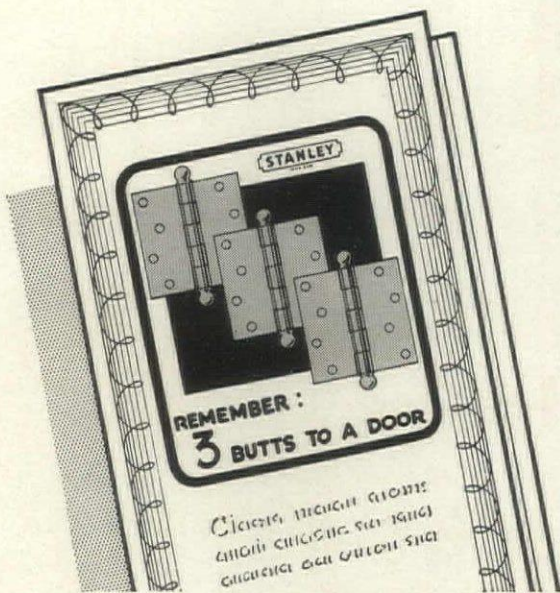
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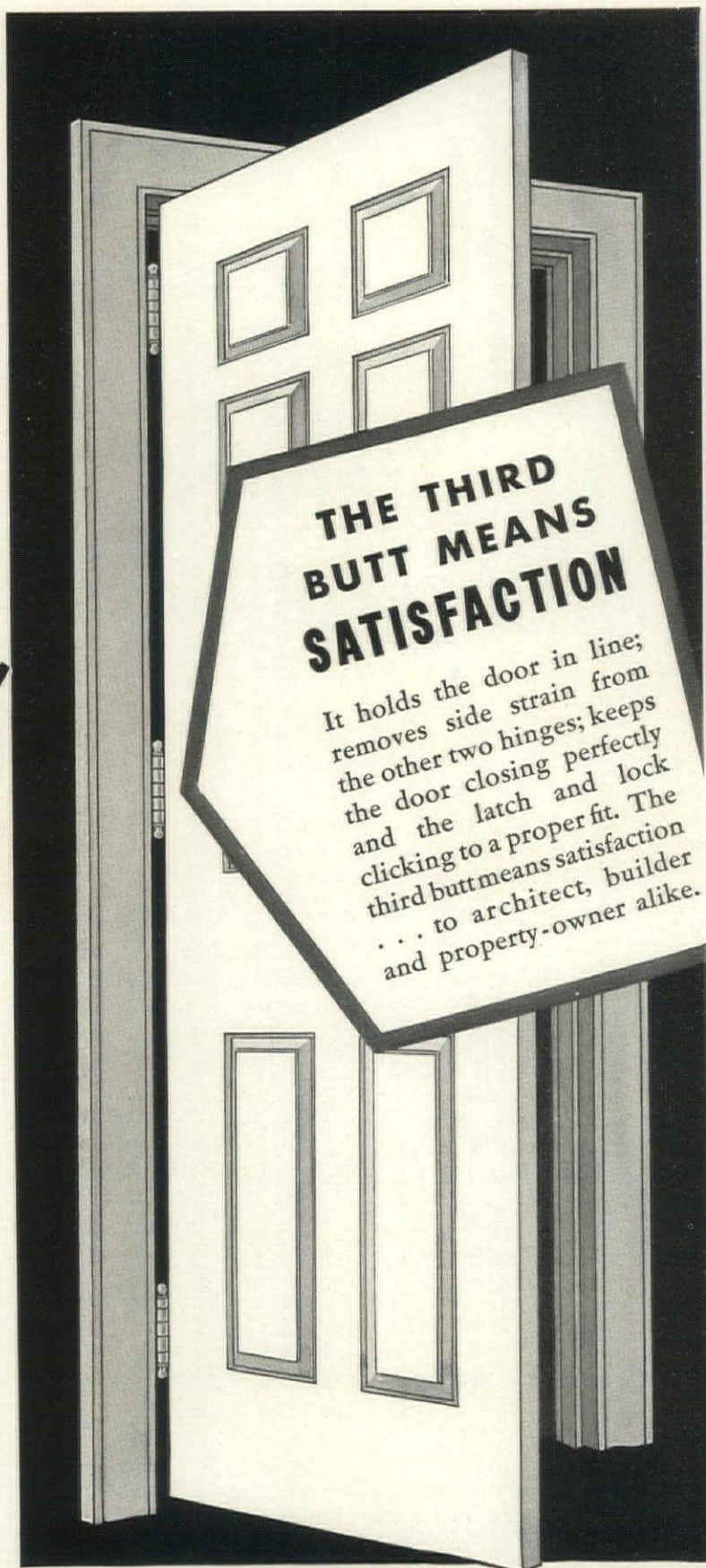
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"Anti-Warp" INSURANCE

WOOD will warp . . doors will bow out of line . . unless you supply the vital protection of the third butt on every door! This low cost "anti-warp insurance" . . three butts on every door in the house . . costs less than to repair a single warped door! Always specify "Three Butts to A Door". The Stanley Works, New Britain, Connecticut.



THE THIRD BUTT MEANS SATISFACTION

It holds the door in line; removes side strain from the other two hinges; keeps the door closing perfectly and the latch and lock clicking to a proper fit. The third butt means satisfaction . . . to architect, builder and property-owner alike.

STANLEY

Trade Mark

REMEMBER . . . THREE BUTTS TO A DOOR

The Clue that Trapped the Heirs of Huey Long

ON THE MORNING OF JUNE 7, 1939, a hot tip came in to the city desk of the New Orleans States, evening newspaper sister of the famous Times-Picayune.

When a truck drove up before a half-built house in the suburbs and began unloading window sash, the States' photographer was hiding behind a hedge. The picture he got touched off a string of giant firecrackers that blew hundreds of Louisiana politicians out of the public trough.

► For the license plate proved that the truck belonged to Louisiana State University—and the half-built house belonged to the wife of a colonel on the governor's staff. Just a drop in the bucket of graft that the political heirs of Huey Long had been passing around for years. But the first case that could be proved—libelproof, airtight.

That night 64-year-old Jim Crown, the States' fighting editor, sat down on his bed and sobbed—reaction from months without respite in the front-line editorial trenches. "At last we get a break!"

► With the fuse once lit, the firecrackers kept popping around the cowering Longsters. Three men committed suicide;

more than 200 faced federal and state indictments. It had been a great spree, but thanks to the battling Picayune papers, it was all over.

* * *

They're in the great American tradition, the dignified old Times-Picayune and the rip-roaring, rough-and-tumble New Orleans States. They have a line behind them that reaches back to Ben Franklin and Sam Adams and Tom Paine.

When Jim Crown strides around his office, dictating editorials at the top of his leather lungs, Greeley and Dana keep step with him. Pulitzer and Nast pound him on the back. And through him William Lloyd Garrison speaks again: "I am in earnest. I will not equivocate; I will not excuse; I will not retreat a single inch; and I will be heard!"

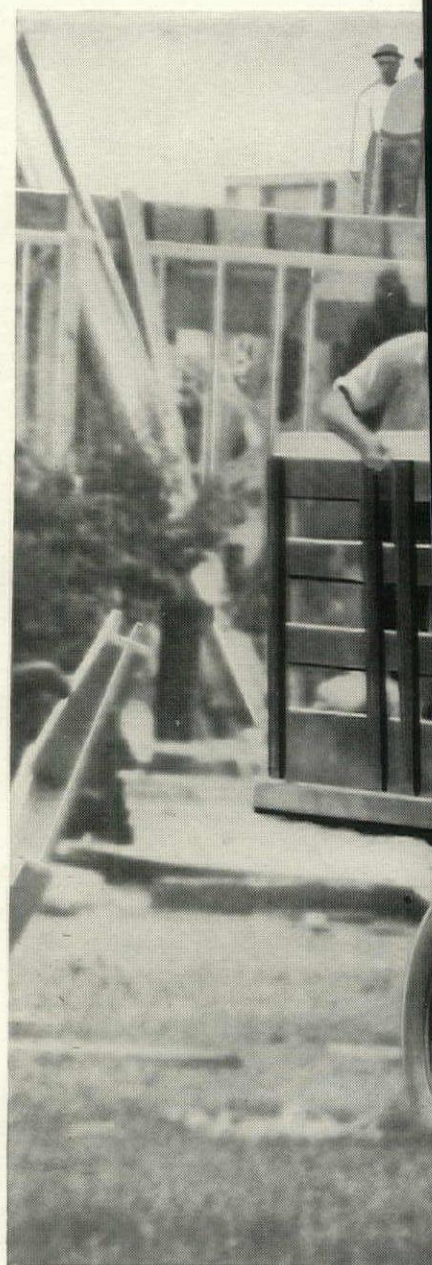
► Courage is probably, next to truth, the greatest quality that a newspaper can have. For the world abounds in forces, actions, events, and people before which neither man, nor newspaper, nor the Newsmagazine, can be coldly objective.

Silence, indifference, genteel or amiable omissions are not true impartiality—they are just what the forces of corrup-

tion or stupidity want, the broth in which they thrive.

► TIME has never believed that icy indifference or "pure objectivity" is either possible or desirable in news reporting. Any colorful, humanized story contains something of the mental attitudes and judgments of the men who wrote and edited it.

► But over and above this is the sense of heightened responsibility that characterizes these times, as it has other periods of crisis. These days are big with destiny for our country and the world. And the Newsmagazine in this era has a deep and peculiar responsibility. It is, in a sense, the national newspaper; it has the same obligation to all the people of the U. S. that the best dailies feel toward the people of their cities. That obligation means more than finding and condemning the things that are wrong. It also means finding and supporting the things that are right.





And sometimes when every possible scrap of fact, every line of expert and inexpert opinion is on the table, *TIME* editors still miss the last train home, trying to decide what's right, who's right, and how to let the people know it.

Judgments arrived at this way are not infallible, for nothing human is. But they are genuinely responsible. Essential to people who share *TIME*'s attitudes—stimulating to people who don't. And backed by the courage of conviction.

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.

It's not so easy as it sounds. The world of right and wrong dresses in shades of gray. The pepper-and-salt of ordinary human nature... the protective coloration of the rascal... the unprepossessing garments that can hide a clean white motive.

► Studying that gray crowd-picture, penetrating its disguises, throwing a searchlight here and an X-ray there, is part of *TIME*'s job. *TIME* queries its reporters and correspondents again and again: "What's behind this? *Who's* behind it? Give us the background." *TIME* listens to people—all kinds of people, with all kinds of causes and crusades—balances their ideas against events, against knowledge, horse sense, and plain old American morals.



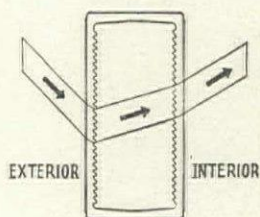
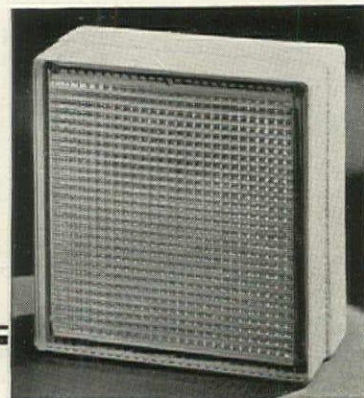
TIME

-- THE WEEKLY NEWSMAGAZINE

INSULUX brings you a New Method of Controlling Illumination of Interiors

NEW INSULUX PRISMATIC GLASS BLOCK

- are designed for use on severe exposures
- eliminate objectionable glare
- give better distribution of light



Light Is Bent Upward!

This cross section shows how interior faces of prismatic-type blocks refract light upward to the ceiling. Light is directed above eye level, eliminating glare.

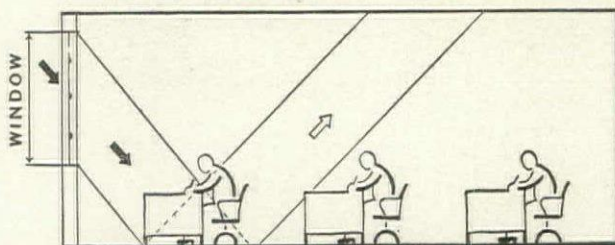


FIGURE 1—Much of the daylight passing through ordinary glass areas is absorbed by dark floors. The result is intense light near windows, inadequate light in rear of a deep interior.

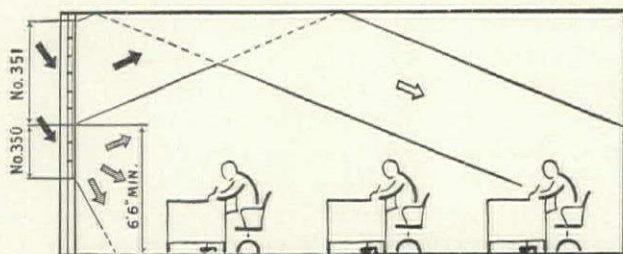


FIGURE 2—This room is lighted by an Insulux panel of Prismatic Block above eye-level and the special No Glare Block (harmonious in design) below eye-line. The Prismatic Block refract incident light to the ceiling, which reflects light evenly over the room. The No Glare Block gives adequate diffused light for the area near the panel but eliminates glare. The result is better distribution of daylight, plus the many other advantages of Insulux—high insulation value, privacy, less noise transmission, no air and dust infiltration and lower maintenance costs.

THERE ARE PLACES IN EVERY BUILDING THAT NEED INSULUX

WITH the introduction of three new glass block designs—Prismatic Blocks No. 351 and No. 352 and No Glare Block No. 350—Insulux brings architects a new solution to the problem of proper distribution of light in large interiors—without glare or excessive heat loss.

The Insulux Prismatic Blocks refract incident daylight upward to the ceiling. The light reflected from the ceiling gives better distribution to all parts of the interior.

Because these blocks throw the light up, it is necessary to use them above eye-line.

A special block—the No Glare—has been developed for use below eye-line in the same panel. This block harmonizes in design with the prismatic blocks, but transmits well-diffused light in a horizontal plane to nearby areas without glare or surface brightness.

These new Insulux Glass Blocks are designed for use on east, west and south exposures, subjected to direct sunlight. The special No Glare Block is ideal for use in lighting small interior areas in localities that normally have intense sunlight.

Full details in Sweet's Catalogue—or send coupon below for full information. Owens-Illinois Glass Company, Insulux Division, Toledo, Ohio.

OWENS-ILLINOIS
INSULUX
Glass Block

OWENS-ILLINOIS GLASS COMPANY,
Insulux Division, Toledo, Ohio.

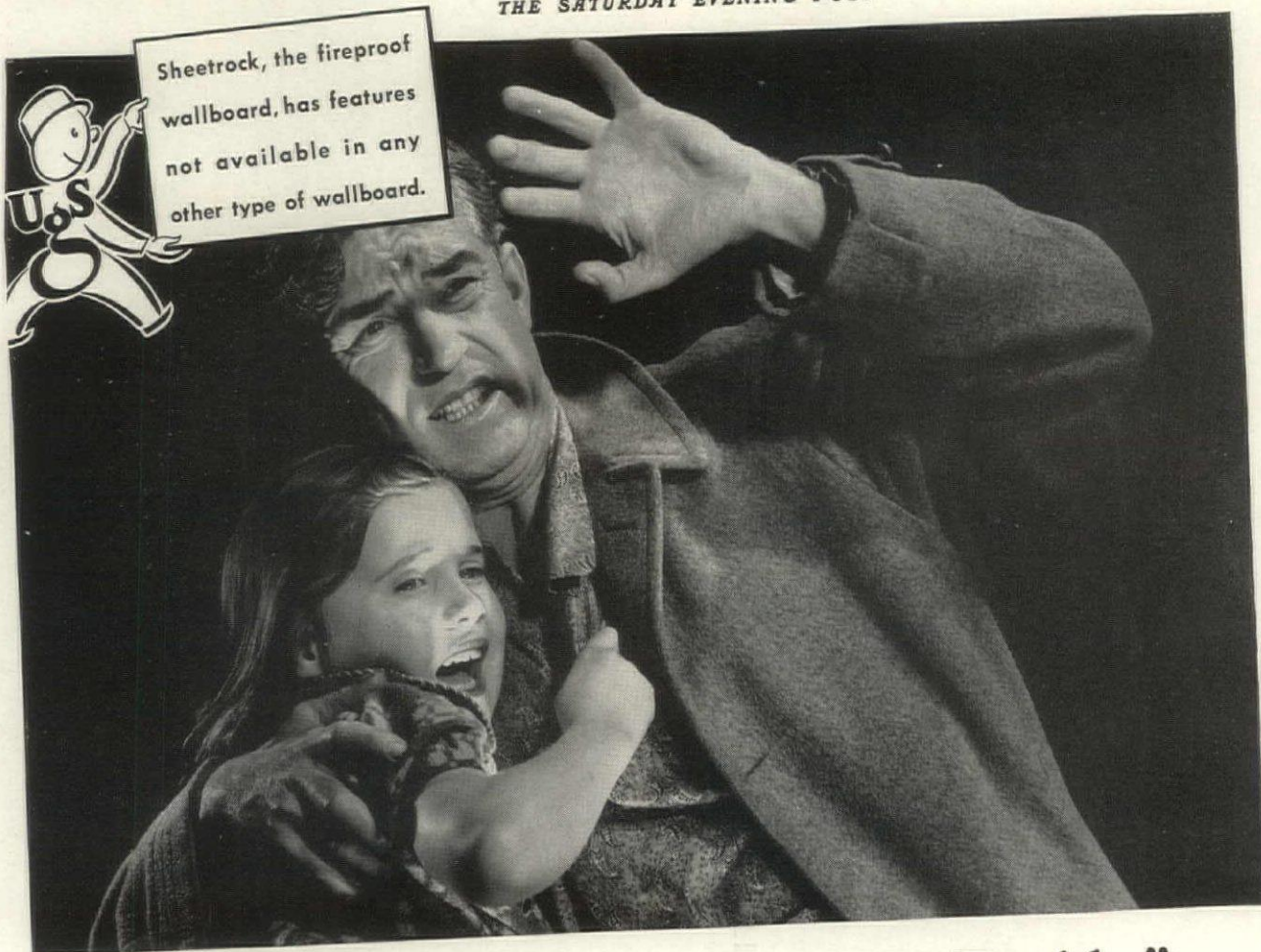
Gentlemen: Please send me, without obligation, information about Insulux Prismatic Glass Block and Insulux No Glare Glass Block.

NAME _____

ADDRESS _____

CITY _____ STATE _____

AF-3



"Don't let the fire get me again, Daddy"

DON'T wait until tragedy proves that you need protection against fire. Remember that insurance doesn't fully pay fire losses. It can't bring back life nor remove the scar of a terrifying experience . . . therefore, when you build or remodel, be sure to use fireproof materials. Though there is no positive guaranty against fire breaking out, great strides have been made in developing materials to control its spread. These materials protect life and property. In most cases they save you money!

For example, there is Sheetrock, the fireproof gypsum wallboard. *It won't burn.* Sheetrock walls and ceilings have held fire in check for a full half hour and more! In addition, Sheetrock

actually costs less than many combustible materials!

Sheetrock's superiority doesn't stop with fire protection. It won't warp, buckle or rot. Walls and ceilings built with Sheetrock stay smooth. And Sheetrock provides a superb base for decoration. A skilled workman will make Sheetrock joints vanish.* Then any decoration goes on easily and quickly . . . these exclusive and outstanding Sheetrock features are reasons why many contractors will tell you—"When you use wallboard, use *fireproof* Sheetrock."

USG research in home construction assures better, safer materials—helps provide comfort, security and economy when you build or remodel.

Valuable Guides to Better Home Building and Remodeling

What do you want to know about buying, building or remodeling a home? Practically every detail about planning; many new ideas for designing, decorating and furnishing rooms; financing; modern materials; all this and much more are included in two new USG books.

Get "How to Have the Home You Want"—116 pages of new home information; or "How to Modernize and Make It Pay"—84 pages of remodeling ideas. *The price is only 25c each*—but it may save you hundreds of dollars in costly mistakes. See your USG dealer or use the coupon.

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—where research develops better, safer building materials

AF-3

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Dept. 50
Chicago, Illinois

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It's time to FACE THE FACTS



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Women want metal cabinets. They harmonize with ranges and refrigerators, making an ensemble of lustrous sanitary surfaces.



2. Steel protects against early obsolescence

If you don't want the kitchen you design to be "dated" in a year or two, specify St. Charles steel cabinets. They withstand years of ordinary use, keep their smart new appearance, and their upkeep is easy and inexpensive.



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ST. CHARLES MANUFACTURING CO., ST. CHARLES, ILLINOIS

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is better protected this
old-fashioned way...



(Architect—R. P. Travelletti)

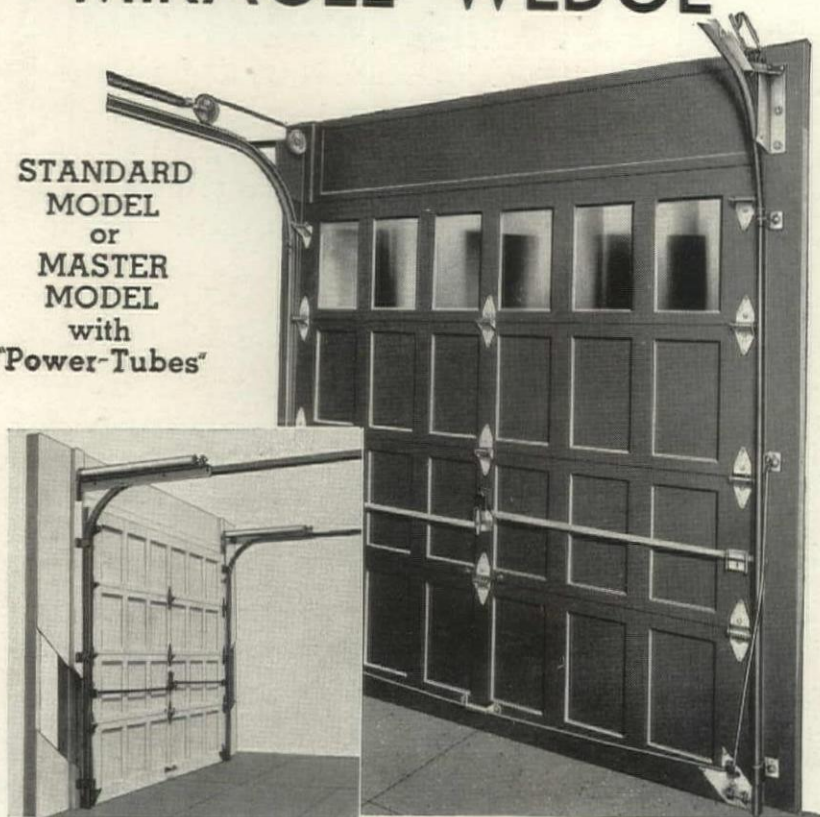
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Thick, Fireproof Mineral Wool)

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 WITH THE
MIRACLE WEDGE

STANDARD
 MODEL
 OR
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 with
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Use The "OVERHEAD DOOR" with the MIRACLE WEDGE for every job, low-cost homes as well as expensive ones. It wedges tightly YET opens easily. It is adaptable to any opening, blends with every type of construction, gives a lifetime of dependable service. Expertly installed by our nation-wide sales-installation service.

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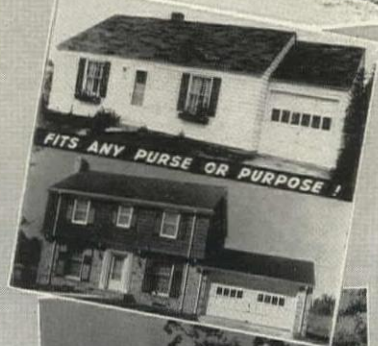
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City _____

State _____

- ☐ Private Garage
- ☐ Public Garage
- ☐ Warehouse
- ☐ Factory
- ☐ Greasing Station
- ☐ Other Buildings
- ☐ Wood Sections
- ☐ Steel Sections
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- ☐ Electric
- ☐ Standard Model
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 with every
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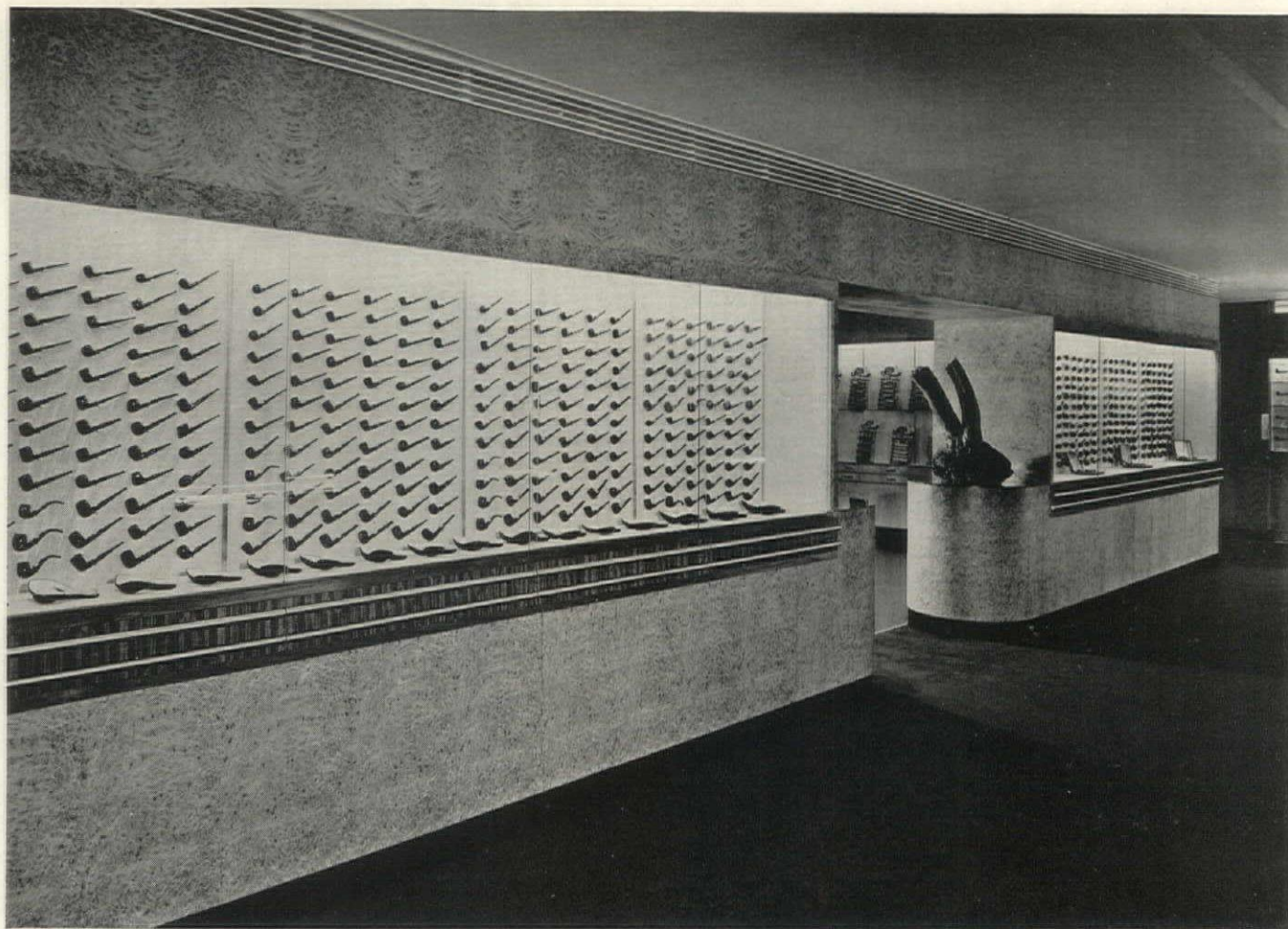
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SPECIFICATION AND BUYING INDEX

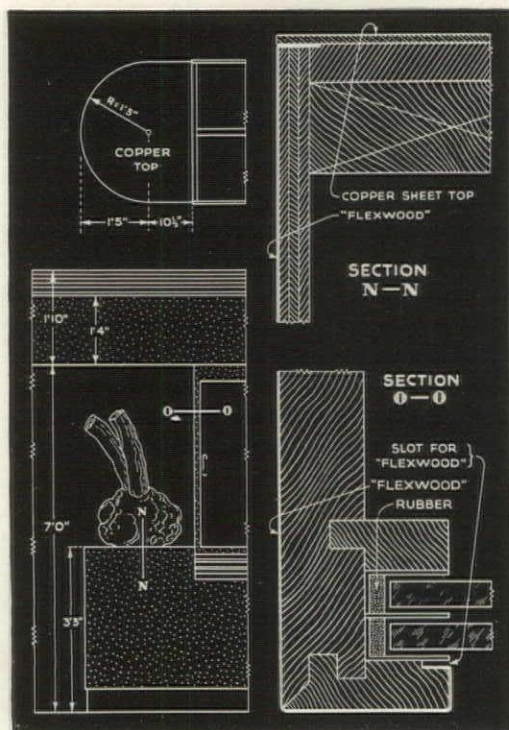
The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built 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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The art of modern wood treatment



Redwood Burl Flexwood treatment of walls, soffit and fixtures; Kaywoodie Company Headquarters, Rockefeller Center, New York, Irving Schwarcz, Inc., Designers. Photo: Robert M. Damora.



Construction details of end of showcases. Note: Flexwood grain runs the same direction as grain of lumber in Section O-O.

REDWOOD BURL FLEXWOOD

AS A DECORATIVE ADJUNCT TO ALERT MERCHANDISING

Redwood Burl exemplifies the "Flame Grain" beauty of the pipes for which Kaywoodie is famous. It was a "natural" for the decoration of the showrooms. However, inasmuch as both economy and speedy application were vital, the following statement by Irving Schwarcz, Inc., Designers, is important... "It would have been impossible to use wood in our scheme of wall decoration except for the availability of Flexwood." The stream-lined treatment of the curved ends of the showcases is shown in the construction details. Today, architects are using Flexwood because it offers all the natural beauty of wood ... saves time ... and fits moderate budgets.

flexwood

[WOOD IN FACILE FORM]

UNITED STATES PLYWOOD CORPORATION, 103 PARK AVE., NEW YORK
Manufacturers of Flexglass, Plywood, Armormply and Weldwood

Advertising
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for
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Exteriors and
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Basements



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Bondex Does All 3 Jobs At Once!
WATERPROOFS-BEAUTIFIES-PRESERVES

AT LOW COST, Bondex transforms a home or building. Brings new beauty. Waterproofs walls, adding many extra years of life to masonry, stucco, concrete.

BONDS WITH THE WALL. Bondex actually becomes part of the surface sealing out rain, snow, sun and dampness.

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**BONDEX WATERPROOF
CEMENT PAINT**

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Saturday Evening Post for
March 2, March 16, March
30, April 13, April 27, May 11

Millions Reading About These Famous Waterproofing Paints

America's best 3,000,000 families—readers of the Saturday Evening Post—will learn about Bondex and Bondex-Primer ten times this year. The interest aroused will make it desirable for you to know all about Bondex—the Paint eternal and Bondex-Primer—the amazing new primer which prepares those “hard-to-paint” surfaces. May we send you the complete story?



COUPON BRINGS FULL INFORMATION

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Please send me full information on Bondex-Primer and Bondex.

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THIS HEAVY CUSTOM-BUILT CASEMENT

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Truscon's heavy Custom-Built casement was designed to meet the window requirements of commercial, monumental and public buildings where large ventilator openings are necessary, and slightly increased costs are not a deterrent factor.

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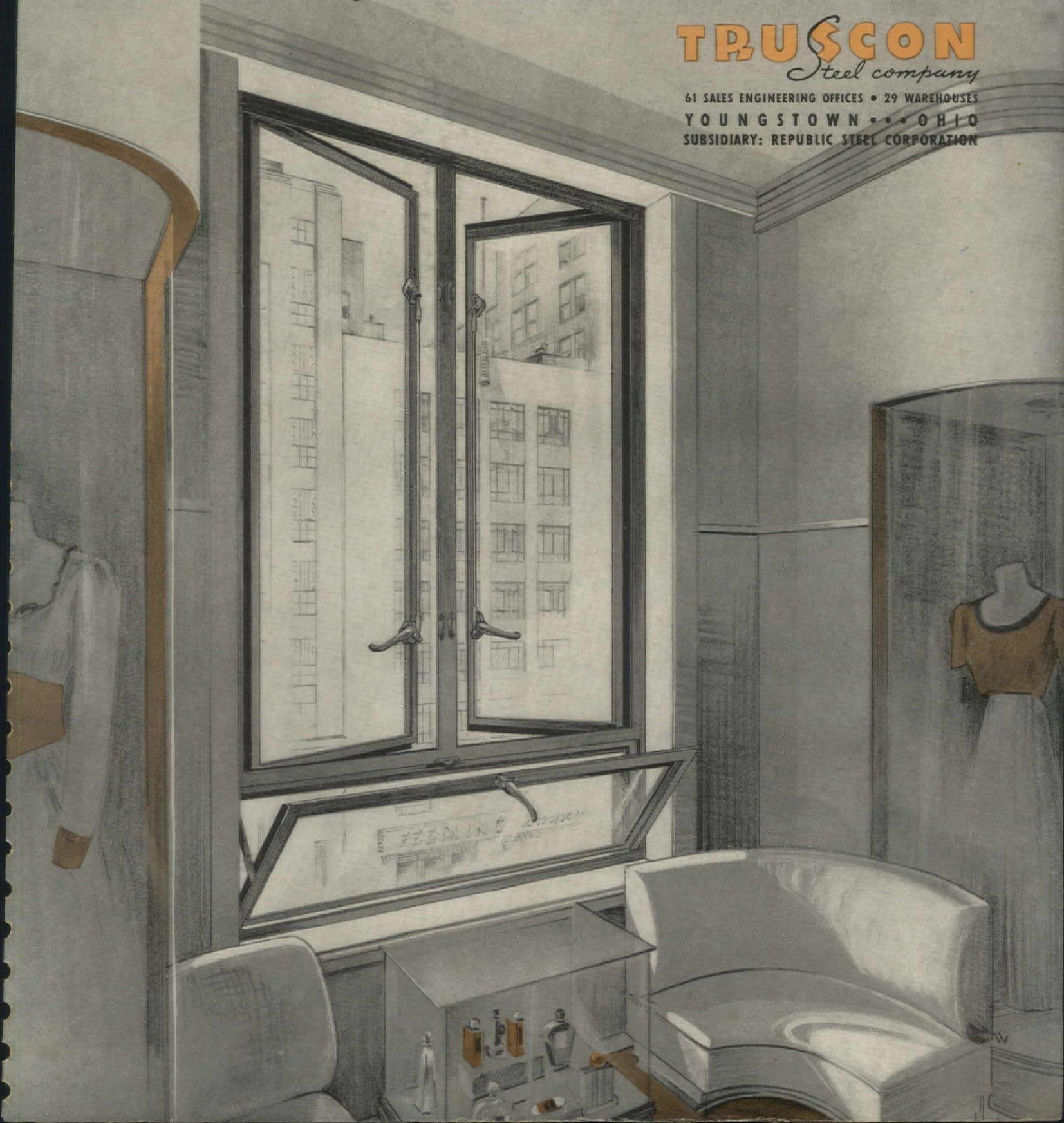
tion, to insure exact adherence to scheduled sizes. Electrically welded construction joints assure maximum resistance to ventilator distortion. Operating hardware, for this casement, is styled for harmonizing simplicity and strength.

Open-in sill vents and open-out casement leaves are built into the same frame without the use of applied or built-up weathering members. Freedom of application is provided by a full range of standard sizes and designs.

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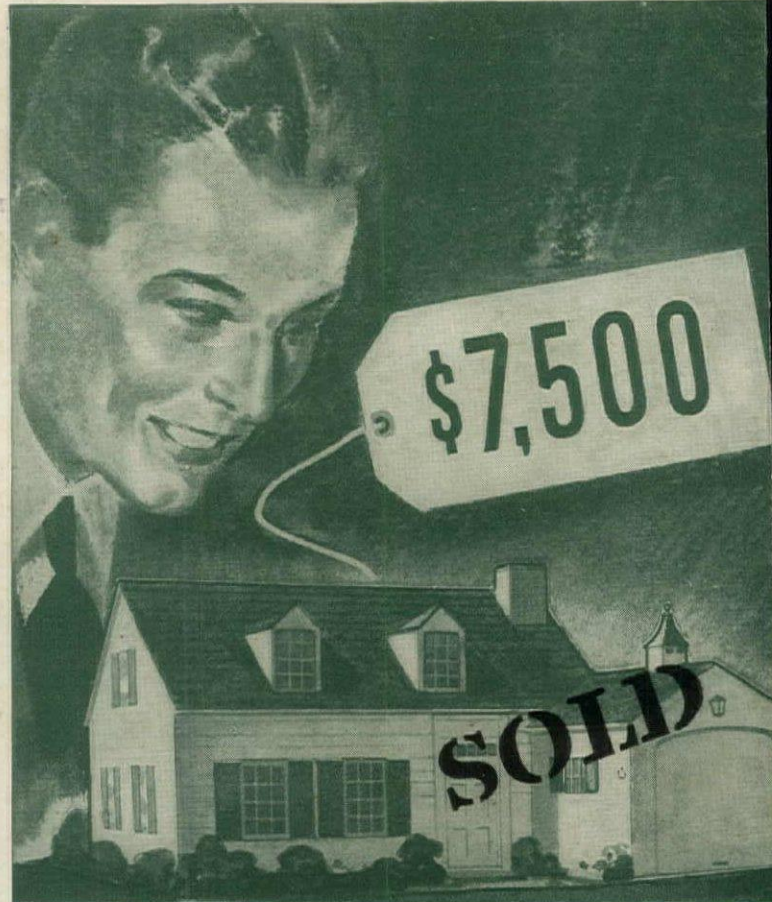
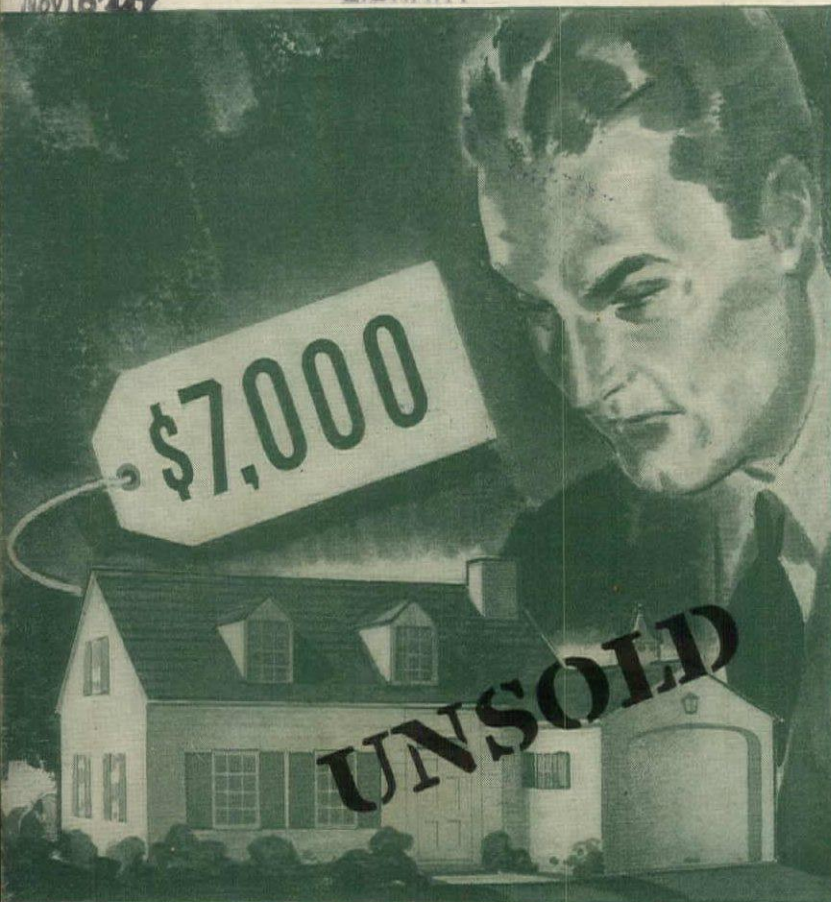
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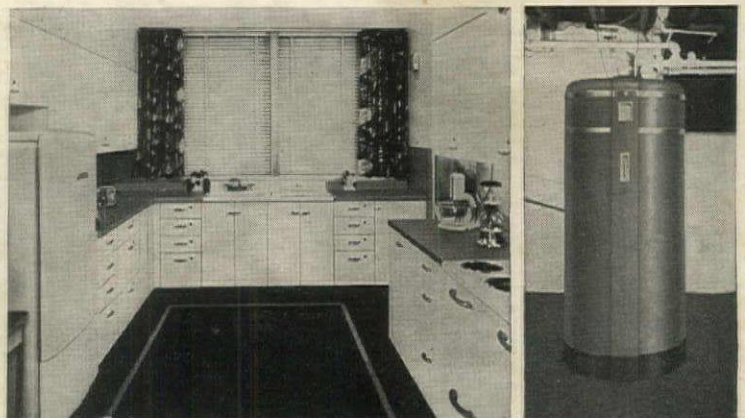
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