

THE ARCHITECTURAL FORUM

MARCH 1941

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MARCH 1941

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VOLUME 74—NUMBER THREE

THE MONTH IN BUILDING

TRENDS. A rising volume of December permits put total 1940 building activity 23 per cent ahead of 1939 (right), and more quickly reported contract statistics show that the trend has carried over into 1941. Thus, contracts awarded during January totaled \$305.2 million, up 55 per cent from 1940 to the highest level for any January since 1930. Industrial building contracts were up 250 per cent; commercial buildings, up 70 per cent; one- and two-family houses, up 75 per cent, despite a December advance in house building costs from 110.6 to 112.5 per cent of the 1936 national average.

DEMAND. Latest statistic to emerge from Washington—via a National Resources Planning Board report—indicates a need for more than 2,500,000 dwellings to make good the existing U. S. shortage, not counting rural or defense housing needs. Building's headway in cracking the housing problem is evident in the fact that in 1937 the figure was set at 4,000,000 dwellings.

CENSUS. Ever since the nation took inventory of its housing facilities last year, tabulating machines have been churning the raw figures into statistical conclusions. Latest release is a summary of revised figures which shows that 1,884,016, or 5 per cent, of the country's 37,336,890 dwelling units were vacant last April and on the market for rent or sale. Slightly less than half of these were in urban areas, and good guess is that 15 per cent of the total vacancies were unfit for habitation.

Another juicy tidbit for housing economists is fact that the average U. S. family totaled 3.8 persons in 1940, as compared with 4.1 persons whose noses were counted in 1930's average family. Thus, it becomes evident that more than half of the decade's increase in dwelling units is traceable to a decrease in family size and less than half to an increase in the nation's population.

HOUSER. Repeatedly thwarted in USHA's assaults on Capitol Hill, the Administration last month moved in a pacifier. No public houser of long standing but an expert on legislative maneuvers, newly appointed ex-Representative Claude V. Parsons is now heavily seated in USHA's No. 2 chair as First Assistant Administrator.

Born and educated in Illinois, Houser Parsons was successively a country newspaper owner and editor, a school teacher, Pope County's superintendent of schools, before being elected to fill a vacancy in the House of Representatives in 1930. Since then he has served five terms in Congress, pushed the passage of social security legislation, functioned as chairman of the Enrolled Bills Committee and as a member of the Rivers & Harbors, Territories, and Coinage & Weights Committees. More recently he did a turn as vice chairman of

PERMITS

(Source: U. S. Department of Commerce)

	Monthly Data			Twelve Month	
	Dec. 1940 (millions)	Comparison with Nov. '40	Dec. '39	1940 (millions)	Comp with
Residential	\$ 94.9	- 3%	- 1%	\$1268.9	+12
Non-residential	156.6	+12	+333	940.5	+60
Additions, repairs	20.9	- 8	+ 9	336.2	0
Total	272.4	+ 4	+ 80	2545.6	+23



Rent

Assistant USHA Administrator Claude V. Parsons

the Special Committee Investigating Interstate Migration and as a member of the Special Committee on Conservation of Wildlife Resources.

USHA rates better standing on the Hill than it has enjoyed. And, its performance has been better than its pleading. Question is: will ex-Congressman Claude V. Parsons be cheered or jeered.

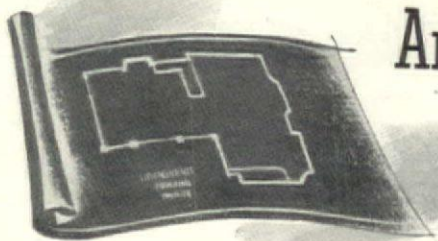
SCHISM. Until last fall the operative builders had no national organization to voice their professional interests except the easy-going Land Developers' Home Builders Division of the National Assn. of Real Estate Boards. This division, however, has always been more representative of the top-notchers who handle a fancy, made-to-order type of business than of the rank-and-file builders whose interest has been turning to low cost housing with increasing vigor. And, while it has been sleeping through the depression years, new builders' associations have sprung up locally, notably in Long Island, Philadelphia, Pittsburgh, Detroit and San Francisco. Significantly, most of these local groups have expressed animosity to local real estate boards and their member

brokers. Reason: in contrast with brokers of swank subdivisions who operate a profit margin sufficient to allow real commissions and who need every possible aid in disposing of their merchandise, newer type builders, recognizing the fact that low cost housing means economical marketing as well as in construction, insist on exclusive control and refuse to fork out any brokerage fees.

At NAREB's sessions in Philadelphia last fall, Chicago's George Nixon was asked to call a meeting to wake up and re-ignite the Home Builders Division before the looming split between builders and brokers became complete. Miffed and muttering, the low cost builders seized control of the meeting, elected Nixon temporary chairman, named some of the old guard to directorships, but unimpressably refused to sanction any sign of control by the realty brokers.

Alarmed by this swing toward complete independence, NAREB bigwigs at the New Orleans meeting in January have created a new Home Builders Institute of the remnants of the old Home Builders Division, set up an organizational structure with little if any more autonomy than before, and named a redhot insurgent, Francisco's able David D. Bohannon, president in a peace gesture. On the Institute's docket for immediate action: 1) conference with manufacturers to determine if appropriate equipment for small houses can be produced at lower cost; 2) licensing of house builders to prevent incompetent and irresponsible operations. Until January 15, representative builders throughout the country will be invited to become charter members of the new Institute. Thereafter all prospective members will be required to take formal examinations on their professional knowledge and ability.

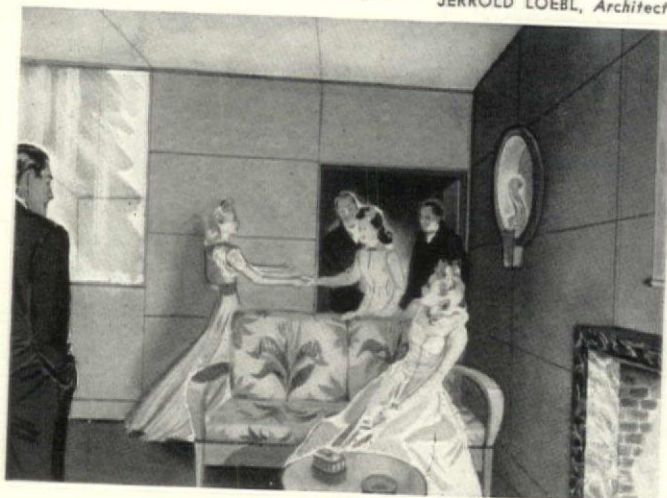
Last month HBI President Bohannon was sent on to Washington to conduct peace negotiations, offered the secessionists the parent group's prestige and experienced leadership, plus a cash gift for organizational purposes, as bait. The hope of unification evaporated at the meeting, however. The builders stood on their objection to brokers, where



An Architect Designs Two Masonite Rooms

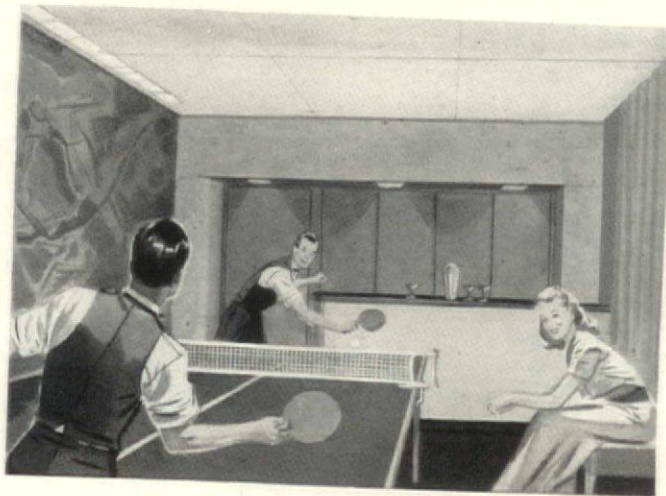
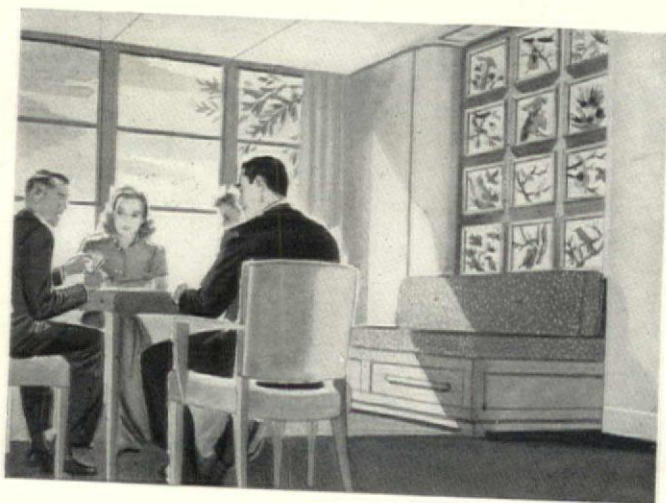
... TO DO THE WORK OF FOUR!

JERROLD LOEBL, Architect, Loeb & Schlossman, Chicago



When Jerrold Loeb, President of the A. I. A. Chicago Chapter, designed these two rooms, he took advantage of the unusual versatility of Tempered Presdwood,* the Masonite* wood-fibre hard-board. Walls, ceilings and built-in furniture are fashioned from this remarkable material. Above is a view of the living room with walls of Tempered Presdwood cut into panels with edges beveled.

About-face, and the living room becomes a den that invites long leisure hours. Warmth of the hearth is enhanced by Tempered Presdwood walls which have been left natural and waxed to a dull sheen. Notice the unusual decorative wall niches that are cut out of Tempered Presdwood and lighted from within. A draw-curtain separates the living room from the dining room.



The second room is a dining room . . . bright . . . cheerful and ever so practical. Tempered Presdwood walls are painted a cool pastel green and curved to frame a panel of the same material upon which prints are mounted. Tempered Presdwood is a permanent board . . . grainless . . . with a marble-smooth surface. It can be cut or sawed to any size or shape with ordinary tools.

Presto! The dining room is a game room, complete with bar. On one wall is a photo-mural mounted on De Luxe Quartboard,* another Masonite product. These boards are moisture-resisting. Properly applied, they will not warp, chip, split or crack. The bar is entirely Tempered Presdwood, its curved front painted. Folding waxed Tempered Presdwood doors conceal the back bar.

*TRADE-MARK REG. U. S. PAT. OFF. "MASONITE" IDENTIFIES ALL PRODUCTS MARKED BY MASONITE CORPORATION. COPYRIGHT 1941, MASONITE CORP.

MASONITE
TEMPERED
PRESWOOD



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

THE ARCHITECTURAL
FORUM

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MARCH 1941

THE MONTH IN BUILDING

Nixon and most of the old guard withdrew from active participation, and the new organization was set up on a permanent basis as the Associated Home Builders. Reasons for the appeasement flop: insufficient grant of autonomy, insufficient recognition of the local builders' associations from which the new organization derives its greatest strength. AHB's immediate program is to push demands on FHA for 95 per cent mortgages and appraisals which will take reckoning of the current hikes in material prices.

Thus, the hitherto inarticulate house-building industry now has two organizations—both NAREB offshoots—competing for the privilege of promoting its welfare but neither being able to speak for the industry as a whole. With practically no part in the defense housing program and their technique and experience lost to the Government, the builders' schism is poorly timed. Today, more than anything else, the industry needs strong, experienced and unified leadership, capable of making itself heard in Washington.

TRAILERS. A report just issued by the Commerce Department's Census Bureau on the manufacture of house trailers comes as a statistical epitaph of a busted boom. Frequent about five years ago were the predictions that the American people would soon be living on wheels, moving hither and yon wherever fancy listed to the consternation of all real estate interests. Trailer production did shoot up in promising style, but so too did the obstacles to carefree vagabonding. Town fathers frowned on the wretched sanitary facilities which were typical of most trailer camps, began to raise prohibitive restrictions. Yearners after mobile adventure also began to lose their early enthusiasm. The dry Census figures show what happened then as a bear market hit the burgeoning trailer industry: from a total of 18,130 units in 1937, the output dropped to a total of 11,782 units in 1939—a slump of about 35 per cent. (Dollar value of production was off about 22 per cent in this same period to \$7.5 million.) Figures for 1940 are not available, but output admittedly fell still further. In recent months, however, the industry has acquired a new lease on life, thanks to the stimulus of Government orders for trailers to house defense workers, and the statistical curve is heading siddily upward once again.

cision which bars prosecution of labor unions under the Sherman Act for striking in jurisdictional disputes, immediately quashed the Government's case against the International Longshoremen, their \$20,000-a-year President Joseph Patrick Ryan, ten other union officials, two of their locals and a local of the Building Material Teamsters Union. This formidable combination of defendants was accused of attempting to force certain retail lumber dealers to coerce their employees into leaving their CIO-chartered union to become AFL members. In the course of the conspiracy—so the indictment charged—the defendants forcibly prevented the retail lumber dealers from coming on New York docks to transport lumber to any yard employing CIO labor, thereby tying up more than \$2 million worth of business during the last three months of 1939. Boycotts and blacklists were also alleged.

In dismissing this case, Arnold conceded that the Supreme Court decision would oblige the Justice Department's Anti-Trust Division to discontinue certain types of prosecution. Basis of the Court's ukase is the Huteson case, which revolved about a jurisdictional dispute between the carpenters' union and the machinists' union, both AFL affiliates. Arbitration was refused by the carpenters, and the employer was faced with a strike no matter which way he turned.

Appearing later in the month before the TNEC, Arnold testified that his division intends to take vigorous action in cases where labor unions, either alone or in combination with other groups, force price rises on consumers, try to keep more efficient methods or techniques out of the market, exclude from a particular locality materials made elsewhere, or restrain trade in order to destroy an established and legitimate system of collective bargaining. Price kiting, he stated, is restricted so far to a small number of unions in the construction and trucking industries.

Meanwhile, chieftains of powerful AFL building and construction trades unions conclave in Florida, decided to offset a mounting flood of criticism by reducing the requirement of double-time pay to time-and-a-half for all over-time on defense projects. The national Carpenters Union suspended a new ceiling of \$50 on initiation fees to be charged to defense workers by its locals, some of which have been hit by a boom in new work as \$300. The union also fixed for bricklayers. In discussions, the war labor between em- defense jobs. ers with a in Con-

gress which would impose compulsory arbitration: "Opponents of organized labor see in this emergency an opportunity to tear down rights acquired by organized labor in struggles over the years and which have now become the established policy of the nation."

TAX FACTS. Highly illuminating is a study of 1940 tax rates in 301 cities prepared by Statistician Rosina K. Mohaupt of the Detroit Bureau of Governmental Research and published recently in the *National Municipal Review*. No sedative for over-wrought taxpayers, it is nevertheless an excellent portrayal and analysis of the chaotic variations in taxing practices throughout the country for the past decade. Principal findings:

► Cities with dwindling populations tend to up tax rates and lower valuations far more than do growing cities. A third of the cities averaged a drop of 2 per cent in population, reported an increase of 24 per cent in tax rates and a decrease of 26 per cent in values over the decade. The other cities in contrast grew an average 7 per cent, but raised their tax rates only 12 per cent and lowered their values only 19 per cent.

► Although the rise in tax rates continues generally over the country, it is slowing down and taxes are becoming stationary. Since 1939 such increases have averaged 2.4 per cent for declining cities, 0.3 per cent for growing cities, while values dropped 1.9 and 1.4 per cent respectively. Prime explanations: 1) population growth is rapidly approaching a leveling-off point; 2) taxation of real property may also be approaching a point where any further increase in tax rates will set off potent political reverberations.

► Cities vary widely in their assessments. Actual tax rates (unadjusted) range from \$14.69 in Lorain, O. to \$116.38 in Tampa. If adjustments are made for local differences in assessing practice,* the range runs from \$10.80 in Birmingham to \$60.46 in Atlantic City. Both highs, it should be noted, cover resort cities with seasonably high populations.

► Average actual tax rate in 253 U. S. cities jumped 41 cents per \$1,000 of assessed value during 1940 to \$40.08. Adjusted rates averaged \$28.01, up 29 cents during the year. In 131 cities for which comparable statistics are available, the adjusted rate rose \$3.91 during the past decade.

► Most serious tax problems are to be found in the larger cities. These show the greatest boosts in rates and relatively large decreases in values. The cost of government continues to rise despite fact that rates cannot be pushed up and values pulled down indefinitely. As Statistician Mohaupt observes, each year the potentialities of getting more revenue from the general property tax become slimmer.

*Principally the difference between assessed values and actual values.



Formica in Colorful Inlays is Genuinely Decorative

Panel Designed by
JOHN and DREW EBERSON
For Times Theater, Cincinnati

hundreds of theatres designed by
the well-known theatre architects,
Formica has been used for entrance
doors, ticket office paneling, lobby wall
covering, decorative panels behind
water fountains, and similar uses. Its
colors lend themselves to either highly
dramatic or restrained effects.

COLOR in all degrees and combinations
is available in Formica and many archi-
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decorative medium. The color is embedded
in a hard, dense, durable plastic surface. It
does not fade or change with time and it
never requires refinishing.

Inlays of one color over another or of metal over
color make an endless variety of simple designs
possible so that individuality is easily attained.

The material is suggested especially for wall
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theatres, ships and trains, and has been
widely used for all of these purposes.

In addition to its decorative value it has
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by ordinary liquids; for horizontal surfaces
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The range of colors, pictures of typical uses,
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are available in literature that is yours for
the asking. Send for it.

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

FORMICA

FOR BUILDING PURPOSES

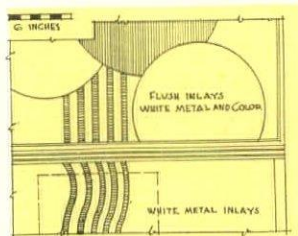


FORMICA DOORS The colorful doors were produced complete by Formica except for glazing and attaching the hardware. Cores are carefully built and reinforced with hardwood where hardware is attached.

Details of Formica Application

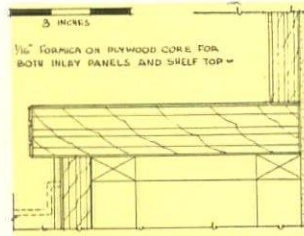
FORMICA is available in three fundamental forms. It may be had as 1/16 of an inch thick veneer, which is veneered to plywood to form doors, table tops, counter tops, counter paneling, or wall paneling. It may be had as wall board

5/32 or 5/16 of an inch thick, which may be applied to vertical surfaces with the use of moldings. It may come fully veneered from the Formica factory in the form of doors, counter tops, table tops ready to install.



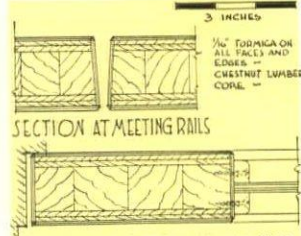
PART ELEVATION OF DRINKING FOUNTAIN

• The inlaid panel behind the water fountain is made with 1/16 inch inlaid Formica sheet veneered to plywood. The back of the panel is covered with a sealing ply of Formica to prevent warping. Screws at edges covered with molding.



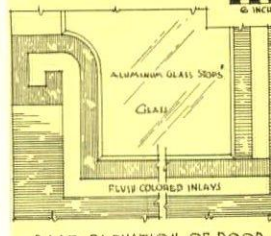
SECTION AT DRINKING FOUNTAIN

• Sketch shows the black Formica ledge over the drinking fountain. It is 1-1/4 inches thick made of black Formica veneered on plywood with metal covered Formica edges that have been routed out to show alternate lines of black and silver.



SECTION AT DOOR JAMB AND HEAD

• The doors are 1-3/4 inches thick. A solid door without cutouts weighs 4 pounds per square foot. Doors must be covered with Formica on both sides to balance the assembly. Door edges are beveled at the factory.



PART ELEVATION OF DOOR

• Cutouts in the doors are made at the factory and aluminum glass strips as shown in the detail may be provided with the doors or chased separately by the contractor. The hardware is usually attached on the job by carpenters.

FORMICA

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

FOR BUILDING PURPOSES

We take our text from another specialist...



RUSSELL shines shoes in the Rand Building in Buffalo, and the boys admit he does a swell job. Funny thing about Russell is that he sticks to shining shoes. He avoids sidelines, such as selling policy slips and candy bars. Figures if he branches out he wouldn't have time to give that super-shine which keeps 'em coming back!

Too few people in this day and age are content to stick to a line and become expert in it. Instead, they've got to get you coming and going.

Of course, you can argue that a "general store" business makes more money. But there is plenty of evidence to prove that a specialist gives his customers better service, and National is a shining example. Aggressive *specialized* research, and the courage to put research findings into immediate production, have made National the pace-setter for the wall and ceiling industry. The first contribution was a revolutionary light-weight gypsum wallboard. It set new quality standards for wallboard processing to the benefit of all dealers and carpenters.

Recently, with the introduction of

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For large housing projects National has developed a unique 2" solid partition system that saves floor space, cost and time. These are but a few of National's contributions. There are many more.

The result is there's a Gold Bond product for every wall and ceiling job. The complete line includes every kind of gypsum plaster, wall-

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Remember this when it comes to wall and ceiling materials—it costs *no more to use the specialist*, and you get the full value of National's research and product improvements, and you get it first! *Write for the 1941 Gold Bond Handbook describing new methods of wall and ceiling construction.* National Gypsum Company, Buffalo, N. Y.

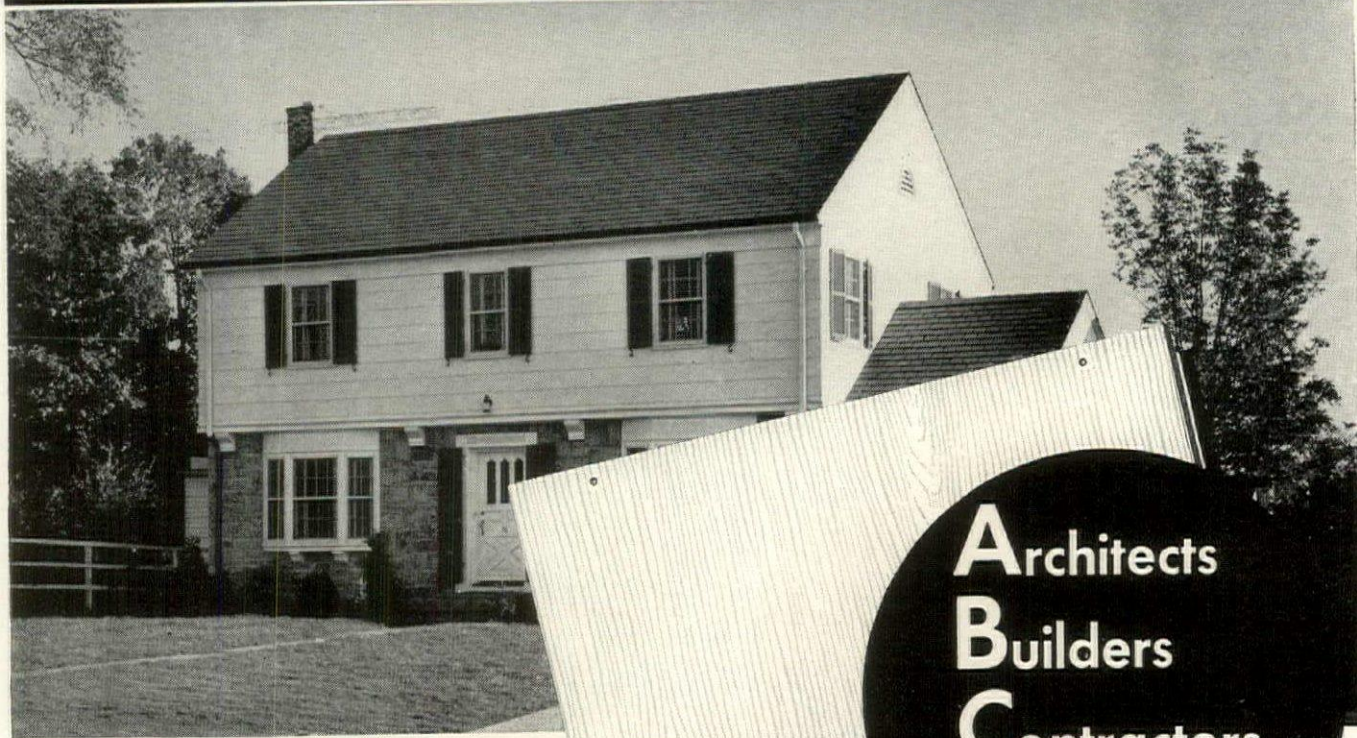
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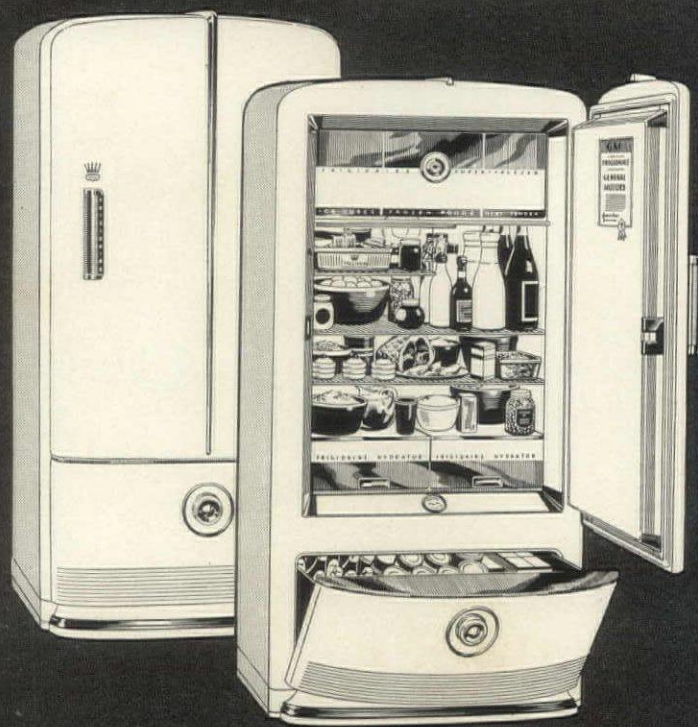
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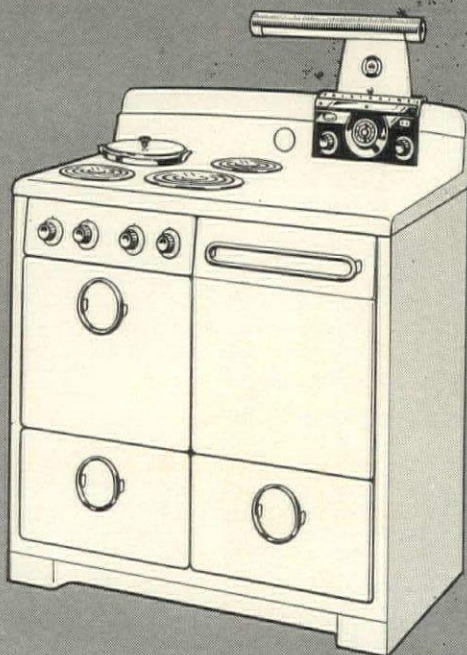
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A bargain-priced Frigidaire refrigerator for every need. Several models designed especially for apartment house use. Cold-Wall prices now lowest ever. (1941 De Luxe Cold-Wall CD-6 illustrated.)

Packed with convenient improvements from top lamp to base. Choose from 6 brilliant new Frigidaire Electric Ranges in 2 great new series! (1941 De Luxe Model B-60 illustrated.)



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A Cost Comparison

SQUARE D MULTI-BREAKER

VS SWITCH AND FUSES



Assume this cottage requires 2 branch circuits for lighting and appliances. Compare these costs.

Dead front switch with fuses \$290
□ MULTI-BREAKER \$280



This size house probably will require 6 circuits, 3 for lighting and 1 each for appliances, range and water heater. \$1600
 Cost of service distribution center with fuses

□ MULTI-BREAKER \$1350



A house of this size probably will require 5 lighting circuits, 1 appliance circuit, 1 range circuit and 1 separately metered water heater circuit.

Cost of service distribution center with fuses . . . \$1860
□ MULTI-BREAKERS \$2140

(Photo courtesy Wychwood Corp., Wychwood, Westfield, N. J.)

● Many architects have assumed that Square Multi-breakers cost much more than the fuse and switch equipment they replace. They don't. Sometimes they cost less—sometimes a little more—but the difference is always negligible.

Square D Multi-breakers bring modern convenience and protection which clients are quick to appreciate. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the shock-proof circuit breaker lever restores the current after the cause of the overload has been removed. No annoying delays. No parts to replace.

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DETROIT - MILWAUKEE - LOS ANGELES
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for further information
 see our catalog in *SWEET'S* ²³/₁₁

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... mean more satisfied clients for the architect!



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See Sweet's Catalog

For complete information and addresses of all Pittsburgh Branches, see Sweet's Catalog. Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pa.

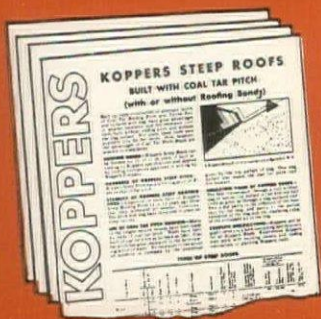
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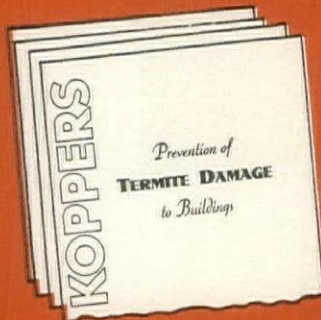
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WITH COAL TAR



HOW TO PREVENT
LEAKY FOUNDATIONS



HOW TO PROTECT NEW BUILDINGS
FROM TERMITES



HOW TO GET A PAINT THAT IS
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Underwriters Laboratories Awards Class A Rating to Koppers Steep Roofs

Koppers Steep Built-up Roofs constructed of Steep Coal Tar Pitch and Tarred Rag Felt with slag surfaces have been awarded the Class A Rating by the Underwriters Laboratories, Inc.

Koppers Flat Roofs of Coal Tar Pitch and Tarred Rag Felt have had the Class A rating for fire resistance for more than 20 years. Koppers Steep Roofs provide for steep slopes the same long life, the same resistance to water, weather, and fire that have made coal tar pitch and tarred felt the outstanding materials for flat built-up roofs.

Four and five ply Tarred Rag Felt roofs with slag surfaces embedded in Steep Pitch, applied in accordance with the specifications of the Koppers Company, now take a Class A rating on both combustible and non-combustible roof decks.

Koppers Steep Roofs have been constructed in many sections of the country over a considerable period of years. These roofs have been

inspected by the Underwriters' Laboratories for their performance under actual conditions and the completed roofing has been subjected to all the laboratory tests for resistance to fire and to spread of fire.

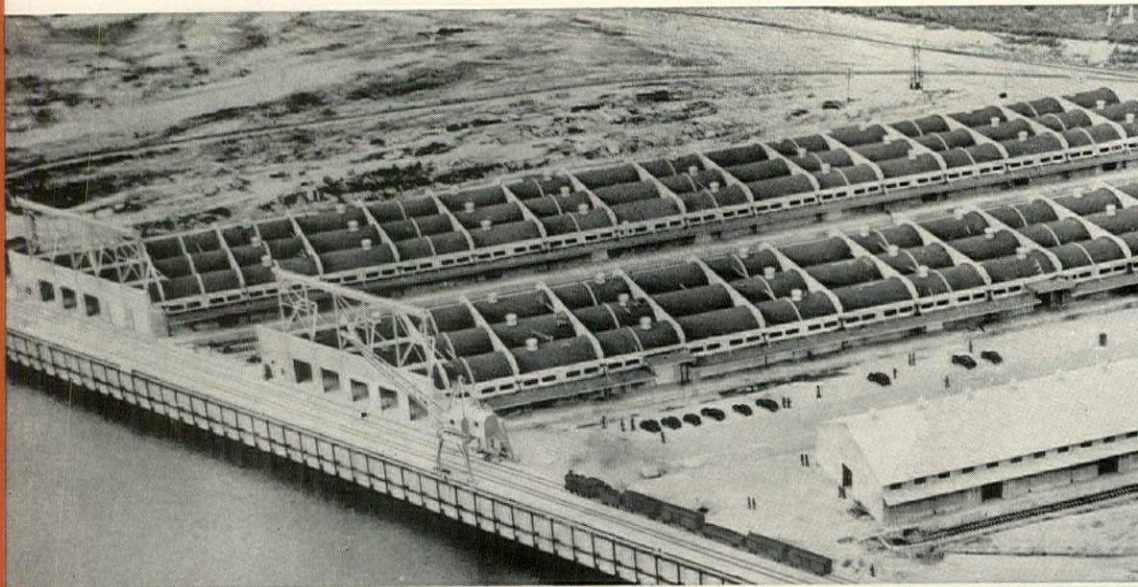
Koppers Steep Roofs are firmly and mechanically anchored in place. They can be applied to 10, 15 or 20 years. On buildings where both flat and steep roof surfaces are required, the same area can now be bonded, when Koppers Steep Roofing is specified.

See specifications for Koppers Steep Roofs in Sweet's, or send for a copy of the Koppers Roofing Book.

Specify that all roofing materials carry the Underwriters' Labels.

KOPPERS COMPANY
Tar and Chemical Division
KOPPERS BUILDING • PITTSBURGH

262,000 sq. ft. of Koppers Steep Roofing was used on the Deepwater Terminal, Richmond, Va.



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| <input type="checkbox"/> "Steep Roofs of Coal Tar Pitch" | <input type="checkbox"/> "Waterproofing and Gas-proofing Sewage Plants" | <input type="checkbox"/> "Tar-base Paints" |
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WHEN HEATING AND AIR
CONDITIONING DUCTS
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**GALVANIZED-
BONDERIZED
SHEETS!**



AIR DUCTS INSTALLED IN A DEPARTMENT STORE
WITH MINIMUM BUSINESS INTERFERENCE

WHEN INSTALLATIONS or repairs are made in duct work "Business as Usual" can be more than a slogan. When Galvanized-Bonderized sheets are used business can go on with a minimum of interruption. The completed duct work can be painted immediately. No second interference with regular routine for finishing.

This feature is of equal importance for installations in new buildings. In many cases the same scaffolding and the same ladder equipment can be used for painting as for erection, saving time and lost motion.

Bonderizing over Galvanizing provides an ideal painting surface. No aging or chemical treatment necessary to give paint perfect adhesion. Bonderizing neutralizes the chemical action between paint and zinc that destroys toughness and flexibility. Galvanizing and Bonderizing assure rust-proofing and add years to paint life. This combination provides maximum of protection and assures a minimum of reconditioning.

PARKER RUST PROOF COMPANY
2180 E. Milwaukee Ave. • Detroit, Michigan



PAINTING IMMEDIATELY AFTER INSTALLATION

Proving the Greater Efficiency of Paint over BONDERIZING

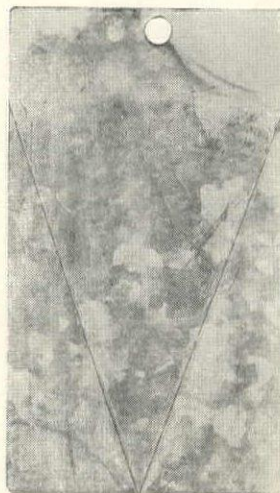


Figure No. 1. A Galvanized section finished with two coats of paint. Exposed in Florida 18 months. Paint peeled from most of the surface.

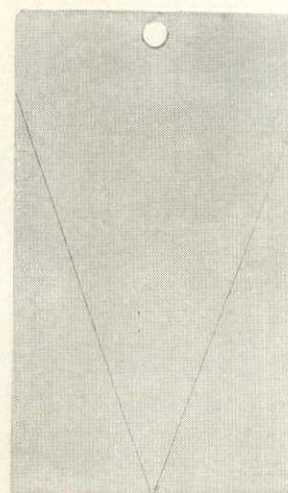


Figure No. 2. A Galvanized and Bonderized section. Finished same as section at left. Exposed in Florida 18 months. Surface O.K. Adhesion good.

PARKER
Processes **CONQUER RUST**
BONDERIZING • PARKERIZING

Paint, too, needs a good foundation

START from the bottom to build good paint, just as you do a good house. Use a "foundation" coat that supports and holds the topcoats.

Aluminum House Paint, used as a first coater, supports topcoats two ways. First, it prevents the wood from robbing them of oil. That extra oil they retain makes the topcoats more elastic and durable.

Second, Aluminum House Paint is a most effective moisture barrier. Less moisture gets into the wood to swell the grain and strain the paint film.

You add years to paint life, but little or nothing to paint cost, when you use Aluminum House Paint for the first coat on wood. The owner saves money on paint maintenance.



SPECIFY... "Aluminum House Paint", made specially for priming wood. Sold by many well-known paint companies and labeled with this Aluminum disc and wood background. Names on request.



Reg. U. S. Pat. Off.

ALBRON
Pigments
for

Get a Sample — Discover for yourself how easy it is to apply Aluminum House Paint. Write for a free pint can and for literature giving full proof of the value of Aluminum House Paint first coater. ALUMINUM COMPANY OF AMERICA, 1947 Gulf Building, Pittsburgh, Pennsylvania.



DEFENSE COMES FIRST

To meet the needs of the National Defense Program, plus the normal demands of peace, a vast expansion of our already greatly increased production capacity is being speeded. When the emergency is

past, there will be more Aluminum available than ever before.

Meanwhile, if you can't get all the Aluminum you want when you want it, remember Aluminum is helping you by helping to meet the National emergency.

ALUMINUM HOUSE PAINT

FIRST COATER FOR WOOD

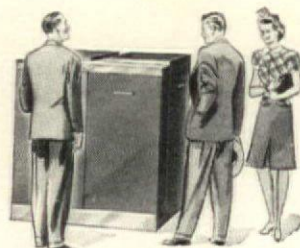
"TRY THIS ONE FOR SIZE ONLY"



Turn to G-E for complete line of heating and air-conditioning



G-E Oil Furnaces (steam, hot water, vapor) seven different sizes. Year 'round domestic hot water coil optional. Also a complete line of G-E Gas Furnaces.



G-E Winter Air Conditioners (oil or gas fired) circulate warm, clean, moistened air. A single switch provides circulation in summer. Cooling equipment can be added.

TURN TO



There are seven OIL furnaces for various heating capacities

75,000 Btu per hr. to 450,000 . . . there's a G-E furnace (oil or gas) that's specially designed to give your client maximum comfort at lowest cost. In addition, there's a G-E attachment type burner for the conversion of new or used heating systems.

Compare these comfort advantages of the G-E Oil Furnace: G-E steam within

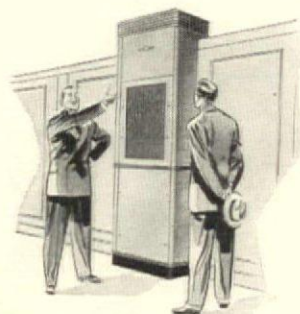
in event of flame failure. Fine atomization breaks each drop of oil into 100 million particles to insure complete combustion. These and many other features of the G-E furnace combine to give real heating efficiency—reducing fuel bills 25 to 50% according to enthusiastic testimonials!

Turn to G-E for all your heating and air conditioning equipment. Consult Sweet's $\frac{26}{11}$, or write to General Electric, Division 313, Bloomfield, N. J.

ELECTRIC



Compact G-E Units for cooling a single room, a group of rooms, for conditioning the whole house . . . or commercial buildings. Unusually quiet. Also a line of Air Circulators.



G-E Unit Air Conditioners for low-cost air conditioning in shops, restaurants, offices. Complete range of sizes. Low in cost. Easily installed, little or no duct work needed.

Instead of 4½ Tons...

originally figured with bare windows...

A 3-TON UNIT WITH KOOLSHADE* SUN SCREEN COOLED THIS OFFICE PERFECTLY!



• A typical KOOLSHADE case history . . . showing lowered cost of Air-Conditioning equipment . . . less operating expense

Problem: to maintain cool temperatures in the top-floor offices of the Pioneer Linen Supply Co., having moderate areas of bare glass windows exposed to both south and west sun.

Engineering Calculations: figured with bare glass, the cooling load was found by the engineers to be about 4½ tons. But by figuring the job with KOOLSHADE Sun Screen, the design load was actually cut to 3 tons, because KOOLSHADE kept out sun heat.

Actual savings and performance with KOOLSHADE: a 3-ton air-cooling unit was therefore installed and not only proved ample even during the hottest weather but maintained temperature within a 2 deg. range in all offices without special zoning control. Naturally daily operating costs were sharply reduced, for it is much cheaper to keep the heat out than to cool it! At the same time office workers enjoyed improved light conditions due to relief from harsh sun glare.

• Most important: KOOLSHADE provides *AUTOMATIC* sun protection . . . always in position when needed . . . requiring no adjustment or setting . . . not subject to the uncertainties of the human element. Consequently engineers may feel assurance that with KOOLSHADE Sun Screen, one more troublesome condition is brought under control.

**STOPS SUN HEAT—
KILLS SUN GLARE**

• Once KOOLSHADE Sun Screen is installed on the window it is so inconspicuous you scarcely realize it is there at all . . . yet this fine-mesh bronze fabric cuts solar load through windows as much as 80% to 85%—with highest efficiency at the times of peak cooling load.

• There are KOOLSHADE Sun Screen Distributors in all principal cities. (In Eastern Canada, Distributed by Creswell-Pomeroy, Ltd., Montreal.)

Ingersoll **KOOLSHADE***
SUN SCREEN

It's cooler in the shade!

*Trade Mark . . . Property of Ingersoll Steel & Disc Division, Borg-Warner Corporation

Friendly



Living Rooms

In *Genuine White Pine* nature has provided a lumber which has earned its imperishable place in the high esteem of architects since the days of Christopher Wren.

For creating that *friendly* atmosphere, in the home, office and store, *Genuine White Pine* is unsurpassed with its beautiful light color, softness and straight grain.

For paneling, oiled, waxed or stained, the tremendous versatility of this famous wood gives that gracious touch which makes a house a home. Equally important for exterior finish, siding, sheathing, etc., *Genuine White Pine* stands supreme in its weather resisting qualities, which time has attested through the centuries.

There are ample supplies of superior *Genuine White Pine* timber gracing the slopes of Idaho and Montana to serve the building needs of America permanently. Contrary to the belief that exists in some quarters, *Genuine White Pine Lumber* is neither scarce nor expensive.

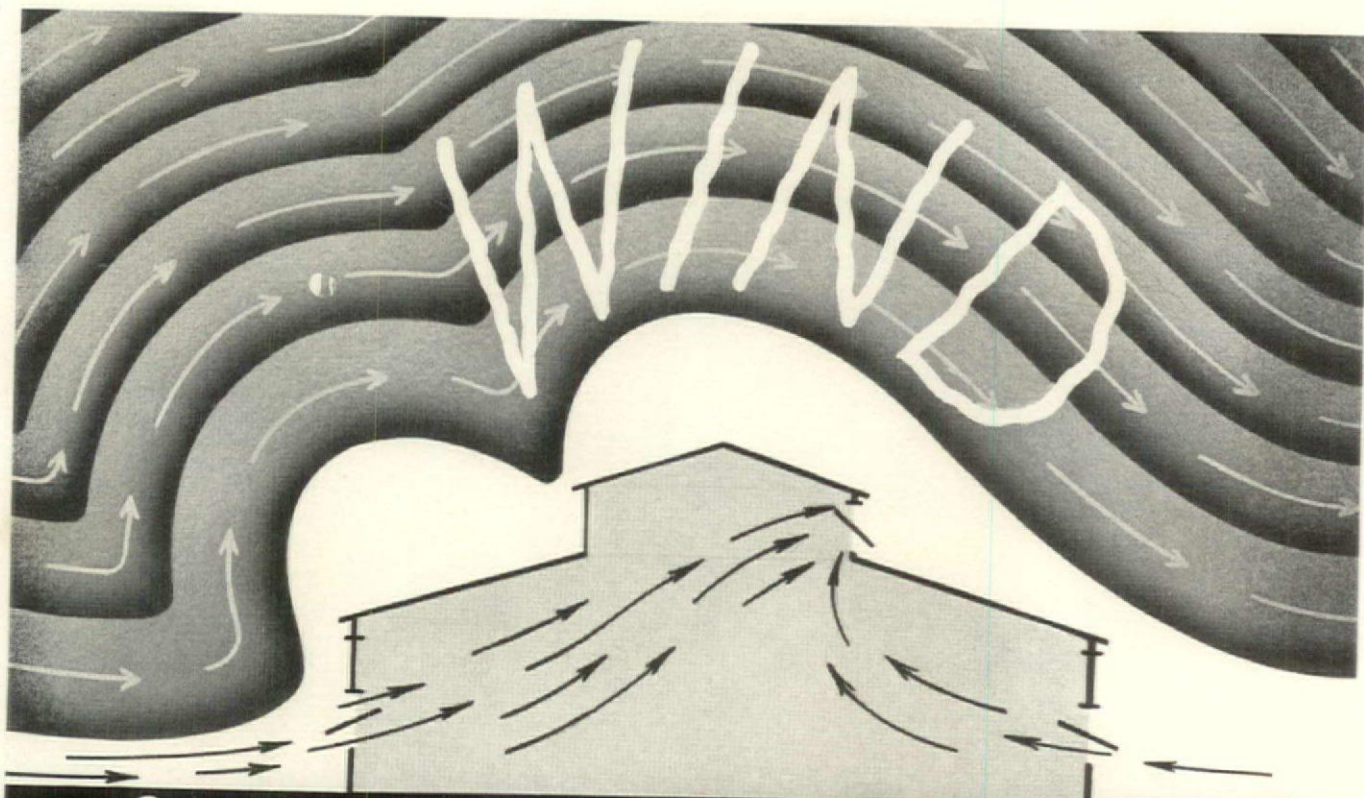


FOR THE ARCHITECT'S BENEFIT

Each board is double endmarked "*Genuine White Pine*" on one end and on the other "*Weyerhaeuser 4-SQUARE*," and has those added features of all 4-SQUARE lumber, namely, square, smooth ends, exact lengths and proper seasoning. This makes for sounder construction and effects time and labor saving.



WEYERHAEUSER SALES CO., Saint Paul, Minn.



**OUT GO THE FUMES AND SMOKE
IN COME FRESH AIR AND DAYLIGHT!**

HERE'S HOW Steel Sash CAN SAVE YOU MONEY

**READY-MADE
FOR DEFENSE BUILDINGS**

For 4-way service use Fenestra Prefabricated Steel Windows (Pivoted, Security and Residence types), Industrial Doors, Holorib Roof Deck:

- 1 Get rush delivery from near-by factories or warehouses.
- 2 Save installation time, labor, materials.
- 3 Have top quality—approved by U. S. Army and Navy.
- 4 Secure maximum savings, resulting from low cost by America's oldest and largest manufacturer of solid section steel windows.

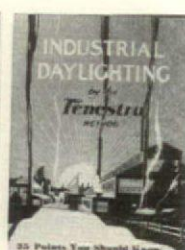
See Fenestra in SWEET'S CATALOGS (32nd consecutive year), call a local Fenestra Engineer, or phone Detroit—Madison 7680.

By a tested, practical method of using the forces of nature, and temperature differences, you can ventilate your buildings, and provide ample amounts of daylight—both can be *determined before the building is built*, and at tremendous savings over other methods. You no longer need guess about airtation and daylight—you know!

You get greater production through adequate daylight, ample fresh air ventilation, improved working conditions. And your original cost is but a fraction of the cost with other methods. Even your maintenance cost is substantially less.

How to determine the daylighting and natural ventilation needs of a building *in advance of its construction* are problems solved with

proved success by Fenestra Research Engineers in co-operation with the Department of Engineering Research at the University of Michigan. Results secured by scientific methods, in interesting form, well illustrated, are offered in the two books illustrated below—supplied **FREE** to those concerned with increasing efficiency and saving money. The coupon will bring your copies by return mail.



Fenestra

STANDARD PREFABRICATED

STEEL WINDOWS • DOORS • ROOF DECK

How often do you ask yourself:

"WHAT WILL THIS HOUSE BE LIKE 20 YEARS FROM NOW?"

You will find a house Dri-Bilt with Douglas Fir Plywood more durable, more rigid, more comfort giving than the same house built conventionally!

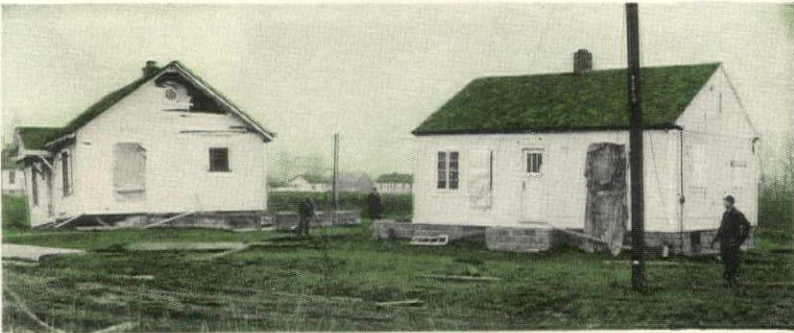
Dri-Bilt with Douglas Fir Plywood houses are superior houses that will still be sound when their mortgages are paid off. Their walls are nearly 6 times as rigid as walls with horizontal board sheathing. Their interior walls are mar-proof and crack-proof, yet receptive to any finish. Dri-Bilt houses are warmer, dust-proof, wind-proof. They sell easily because they can be financed through F.H.A. They are approved by the Uniform Building Code.

What Dri-Bilt with Plywood means

Dri-Bilt with Douglas Fir Plywood means better, faster, more durable building construction through the use of this "modern miracle in wood." It means using the proper grades of these big, strong, lightweight panels for concrete forms, sub-flooring, wall and roof sheathing, interior walls and ceilings, built-ins and exterior finish.

The result is a substantial saving in time and labor, and a better house for the same money. Many builders are reducing building time as much as 6 weeks by using the standard Dri-Bilt method, because handling, fitting, cutting and nailing are minimized . . . because there is no waiting for plaster to dry. The DFP Dri-Bilt method enables multiple-unit builders to have standard 4 and 5 room houses ready for occupancy 2 weeks after starting.

Consult Sweet's Catalog or write for free Dri-Bilt Manual; Sweet's Reprint; U. S. Commercial Standard CS45-40; new Finishing Folder. Douglas Fir Plywood Assn., 1500 Tacoma Bldg., Tacoma, Wn.



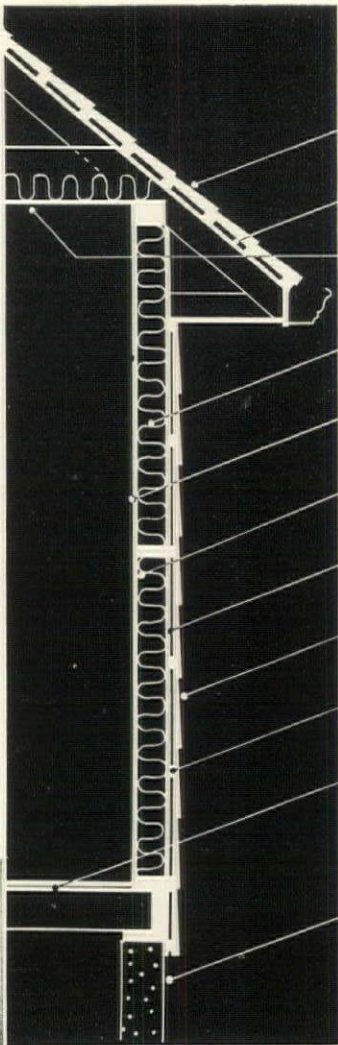
GLUED PLYWOOD HOUSES RESIST TORNADO!

A 200-mile-an-hour tornado swept through Evansville, Ind., last summer. In the storm's center were 2 rows of new houses built under F.H.A. specifications by Modern Builders, Inc., nationally known contractors. Among them were some Dri-Bilt with Plywood or all-plywood homes, whose construction differed from standard Dri-Bilt construction only in that panels were glued to studding instead of being nailed.

These plywood houses were the only ones the insurance adjusters did not write off as total losses. The cost of rehabilitating the plywood houses was only 10% of their value. \$5 went for re-

pairing damage to shingles; the rest for replacing glass, cleaning out dirt and scrubbing the interior. In the other houses the plaster was knocked off the walls. The plywood interior walls and ceilings needed only washing.

The principal damage to the conventionally built houses was due to their having been blown off their foundations. In the opinion of experts, "the plywood house could have been blown off its foundation with very little damage, due to its extreme rigidity. And had it blown off, it would have remained square and could have been rehabilitated at small expense."



How to use
Douglas Fir
Plywood in
Home
Construction

Finish roofing

5/16" Plyscord
sheathing

1/4" Plywall
ceiling

Insulation

3/8" Plywall

Asphalt paint
vapor barrier

5/16" Plyscord
sheathing

EXT-DFPA exterior
finish

Furring strip

1/2" Plyscord
sub-floor

Concrete formed
with 1/2" Ply-
scord, which is
then used for sub-
floor.



Large homes
can also be
Dri-Bilt to very
good advan-
tage. The in-
terior walls of
this handsome
Portland, Ore.,
home are for-
ever mar and
crack-proof.

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



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

PLYPANEL D.F.P.A.

EXT.-D.F.P.A.



FORUM OF EVENT

MR. HEARST GOES TO GIMBEL'S

The mania for collecting anything—from scalps to paper match covers, has unquestionably reached its all-time high in the U. S. It began in a big way in the skyrocketing post-Civil War days, when it was discovered by socially ambitious new millionaires that owning Art was a definite help in making the grade. The millions siphoned across the Atlantic into the pockets of impecunious aristocrats, art merchants and the antique factories had an equally salutary effect. Some twenty-five or fifty millions are reputed to have been contributed by William Randolph Hearst, many of whose acquisitions now occupy a floor of Gimbel's huge New York store. The great collections were built up for a variety of reasons. Frequently it was to acquire "culture" and social standing with no more trouble than hiring Duveen or Knoedler to scrape together a suitable assortment of Old Masters. There was the pleasure of owning something unique, or of having beautiful surroundings. Hearst fits into no one of these categories. He bought art the way a dipsomaniac buys liquor. He bought armour, Swiss furniture, choir stalls, Egyptian mummies, a Spanish monastery, Benjamin Franklin's spectacles, tapestries (\$7,000,000 worth), the cheesiest kind of barroom paintings and clocks. Some of this fantastic assort-

ment found its way to those twin mansions to the Hearst legend, San Simeon and Wyndoon. But most of it just sat in crates in four warehouses in California and one in New York. By 1937 the L of San Simeon needed cash. Liquidation began with private sales that made scarcely a dent on the five warehouses. Last year a selling agreement was made with Gimbel Brothers. Dr. Arm Hammer, noted for his success in selling quantities of tasteless relics of the Imperial Russian Court and its friends, was hired to price the wares. Museum curators were found who would murmur sweet nothings about bringing art to the people. And swarms of shoppers descended last month on Gimbel's bargain counter, gawped at price tags, wondered how prices as \$199,894 had been arrived at, brought souvenirs from 35 cents. So begins the end of the most fabulous collection of all time, scattered to a thousand dealers, museums and apartment houses in the Bronx. For Hearst it represented a staggering loss, the end of his life's attempt to buy everything. And so in the vast agglomeration on the top floor of Gimbel's, dark with paneling, furniture and heavy tapestries, there is a suggestion of nostalgia. It just looks like another floor of Gimbel's.



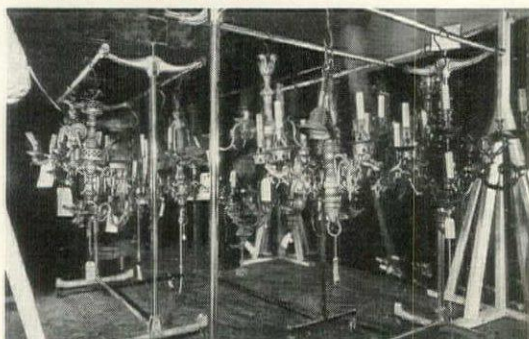
\$28

Otto Hagel



HEARST HARDWARE

Otto Hagel



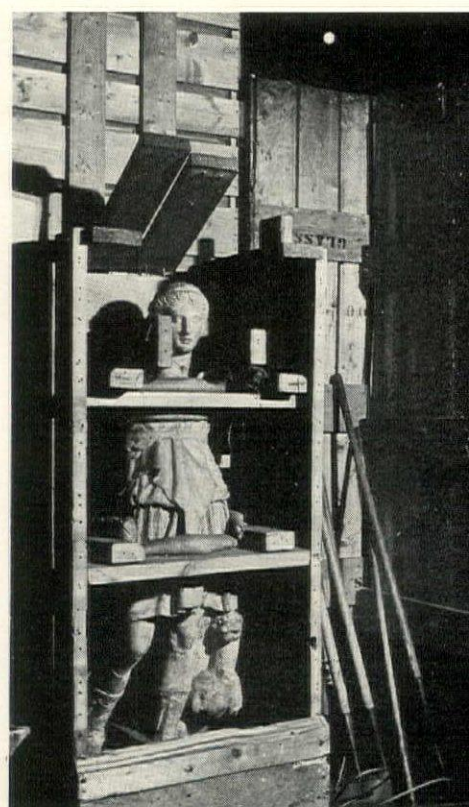
CHANDELIERS

Andreas Feininger



SHIP MODELS

Otto Hagel



WAREHOUSE DIANA

Andreas Feininger

(Forum of Events continued on page



HOW TO MINIMIZE CHANCES OF GLASS BREAKAGE

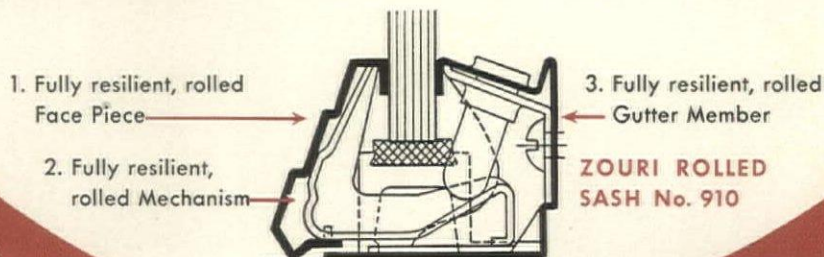
EVERY MERCHANT knows the importance of proper protection against breakage of show window glass. Every architect and contractor knows also that without this vital protection no store front can be a success or leave a favorable impression with the man who pays the bills.

Zouri Store Front Construction has featured its famous CUSHION GRIP ON GLASS for many, many years. The fully resilient, rolled sash detailed below shows how every part that touches glass will yield under pressure or vibration.

That's the only possible way to prevent glass breakage. When you specify or order store front construction, remember that ZOURI has a complete, up-to-the-minute line—including rolled sash with the famous and dependable CUSHION GRIP. Write Zouri Store Fronts, Niles, Michigan, for full information and details.

ZOURI STORE FRONTS

PROTECTION FOR SHOW WINDOW GLASS ASSURED BY FULL CUSHION GRIP:



FORUM OF EVENTS

(Continued from page 18)

INDUSTRIAL DESIGN COMPETITION

Last March New York's Museum of Modern Art established a Department of Industrial Design, appointed young and energetic Architect Eliot Noyes as Director. Soon word began to trickle around that the Museum was seriously interested in practical schemes to make quality designs in home furnishings available to consumers through regular trade channels. First nibble came from a large store, which asked for a list of good designers. Noyes countered with a proposal for a competition to find the talent, and lined up a dozen top-ranking stores who agreed to have the winning designs manufactured for sale. South America was included in the competition, the winners to get \$1,000 and a round trip to the U. S. instead of a guarantee of manufacture.

Early next fall the Museum will open a show of manufactured pieces by U. S. winners, and at the same time the furniture will go on sale in the stores. Due to the difficulty of patenting design ideas, and to the consequently light-fingered attitude of many otherwise reputable manufacturers, the winning drawings are being kept under lock and key until the finished pieces are shown.

Most startling result of the competition was the virtually clean sweep made by the architects, who took six out of the eight prizes awarded to U. S. designers. Considering that the subject matter dealt not with buildings, but with furniture, lighting fixtures, printed and woven fabrics, it would appear that architects have little to fear from the much-touted competition of industrial designers—provided that a certain amount of common sense selling is combined with the obvious abundance of other talent.

(For complete list of awards see page 66).

Architects Eero Saarinen and Charles Eames, two prizes for living room seating and other living room furniture.



THE JURY. Seated (left to right): Edward Stone, Marcel Breuer, Catherine Bauer Wood, Edgar Kaufmann, Jr. Standing: Frank Parrish (technical adviser on furniture), Alfred Barr, Jr., Eliot F. Noyes (Director, Department of Industrial Design).



Architect Peter Pfisterer, prize for movable lighting equipment.

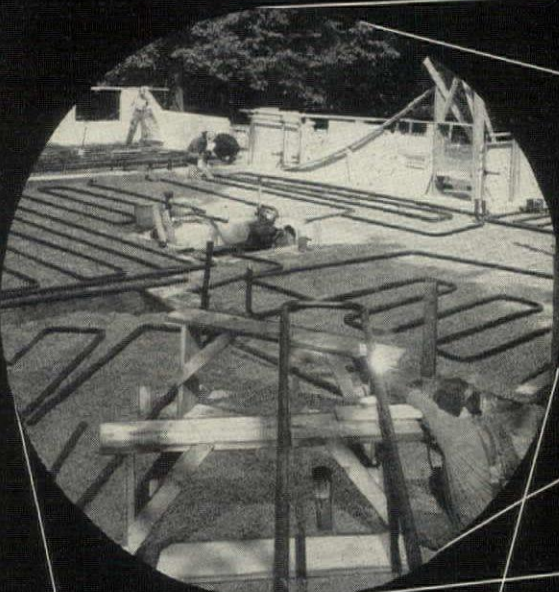

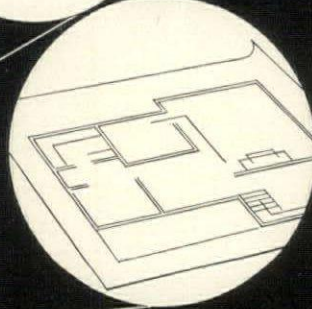
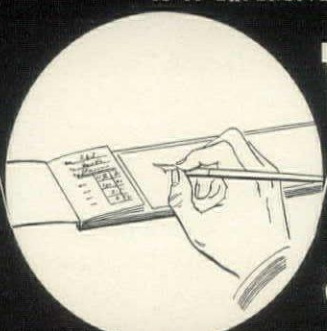


Decorator Ann Hatfield, Designer Martin Craig, prize for furniture for a one-room apartment.



Left to right: Architect Antonin Raymond, prize for fabrics. Designer Marli Ehrman, prize for woven fabrics. Architects Harry Weese and Benjamin Baldwin, prize for outdoor furniture.

(Forum of Events continued on page 66)

IS IT EXPENSIVE?

WHAT IS IT?

CAN WE USE IT?

What do you tell inquiring clients about Radiant Heating?

Radiant heating has launched a quiz program of its own, with clients everywhere trying to "stump the experts." Because we have acted as an unofficial clearing house for Radiant Heating information, hundreds of questions have come to us from architects, engineers, and heating contractors. When your clients question you, these answers to some of the most frequent queries may be helpful.

WHAT IS RADIANT HEATING, ANYWAY? It is a type of heating where the floor, ceiling or walls are warmed by embedded pipe coils, and act as radiators. It maintains comfort conditions by limiting the heat dissipated by the body through radiation, and increasing the heat dissipated by convection. Lower air temperatures can thus be maintained.

CAN WE USE IT IN OUR HOME? The variety of homes in which Radiant Heating has been installed indicates that the type and design of the house imposes no restrictions. Both floor and ceiling coils have been successfully utilized.

IS IT EXPENSIVE? Because of the variation in labor costs, installation costs vary . . . but in general installations cost the same or less than good conventional systems. Comments on operating costs indicate that definite savings are realized . . . in some cases, as high as 30%.

A NEW BULLETIN. The keen interest in our bul-

letin, "Byers Wrought Iron for Radiant Heating Installations," has led us to completely rewrite and greatly expand the original edition. The new book is now ready. There is a comprehensive section on Design, another presenting a number of up-to-date case histories of actual installations, and a third containing a new "Question and Answer" symposium made up from the queries secured from the field. Ask for a complimentary copy.

Proper operation and long service demands that the pipe used in radiant heating installations have a high degree of corrosion resistance, plus certain important thermal properties. Byers Wrought Iron pipe meets these special requirements in every respect. If you are considering an installation, remember that Byers Wrought Iron offers the *proven* serviceability that this responsible job demands.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

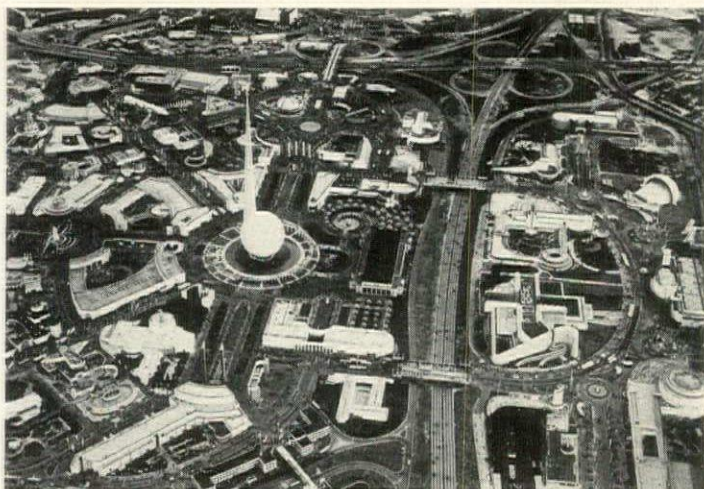
BYERS WROUGHT IRON

FOR EXTRA SERVICE
IN CORROSIVE APPLICATIONS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

FORUM OF EVENTS

(Continued from page 20)



1939

International News



1935

PARK OF TOMORROW

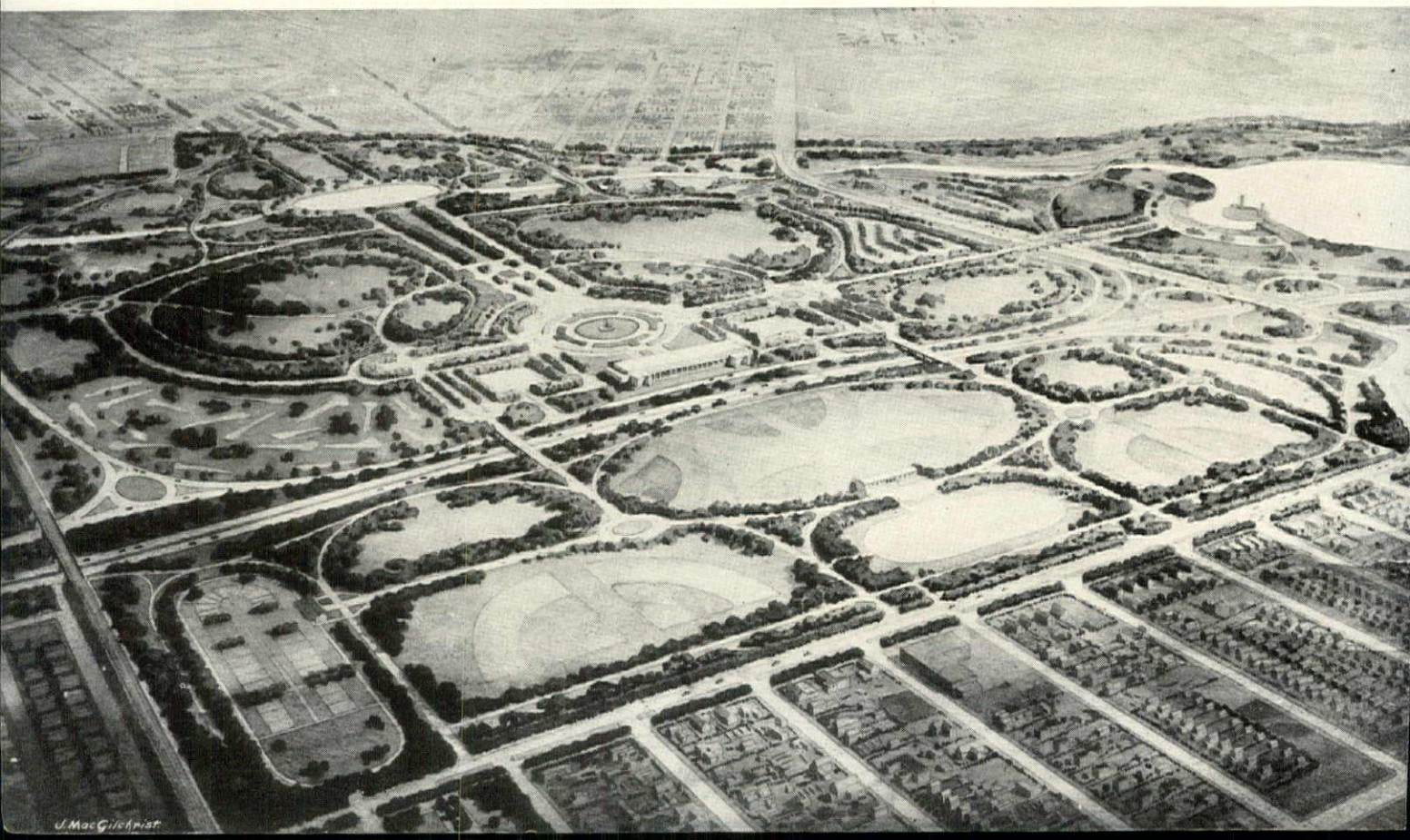
The New York World's Fair cost \$155,000,000 to build, with almost sixty of these millions paid by City, State and Federal agencies for basic land improvements and permanent buildings. After two seasons of playing to far from capacity audiences the Fair closed chalked up a loss to its bondholders of fifteen to twenty millions. More fortunate are the citizens, who, after the last rubbish has been carted off to the dumps, and the last scrap has gone to the steel mills will look forward to a park with few equals. Among the facilities: an indoor ice and roller skating rink, six miles of bicycle paths, 3 miles of walks, a stadium seating 12,000, a bird sanctuary, twelve baseball diamonds, 40 handball courts, 50 tennis courts. To do the job, Park Commissioner Robert Moses has asked for \$4,000,000 and three years. If past Moses performances are any criterion he will probably get both.

(Forum of Events continued on page 62)



1941

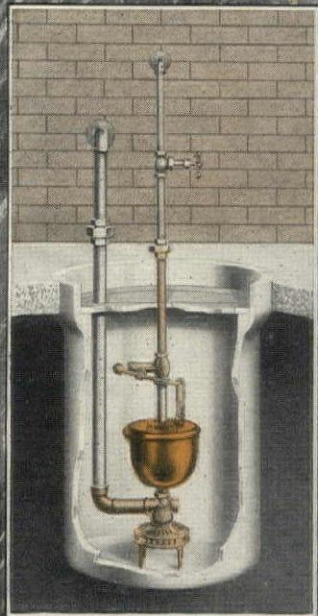
McLaughlin Aerial Surveys from Wide World



J. MacGillivray

1941

Eliminate the Danger of Basement Seepage



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Automatic
Cellar Drainer
or Electric
Sump Pump**

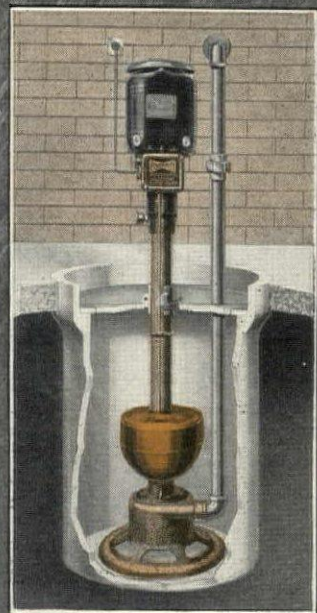


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DETROIT

**ESTABLISHED
IN 1886**

**CANADIAN PLANT
WINDSOR, ONT.**





House heating is a simple
problem when you specify
MUELLER
... fits every job ...
pleases every client

That's a rather large order —

but **MUELLER** actually does it
Here's how:

Fits every job because you have the industry's most complete line to choose from — steel furnaces, cast-iron furnaces — gravity furnaces, forced air furnaces — gas, oil or coal furnaces — almost any type or size of furnace you ever need to specify.

Pleases every client because Mueller gives home owners the things they want in a modern heating plant — the comfort, cleanliness, and healthfulness of winter air conditioning ... the convenience of carefree automatic heat ... smart appearance that helps to make the basement a showplace ... engineering that brings heating luxury within the budget range of your client.

Your choice and arrangement of the heating plant is important to your reputation for designing houses that are economical to live in. Mueller furnaces simplify this problem, because each furnace is designed for a specific fuel (coal, oil or gas) — resulting in unusual fuel economy.

You can safely specify Mueller regularly — Mueller performance never lets you down. 84 years of specialization in heating equipment manufacture exclusively. Factory engineering service available.

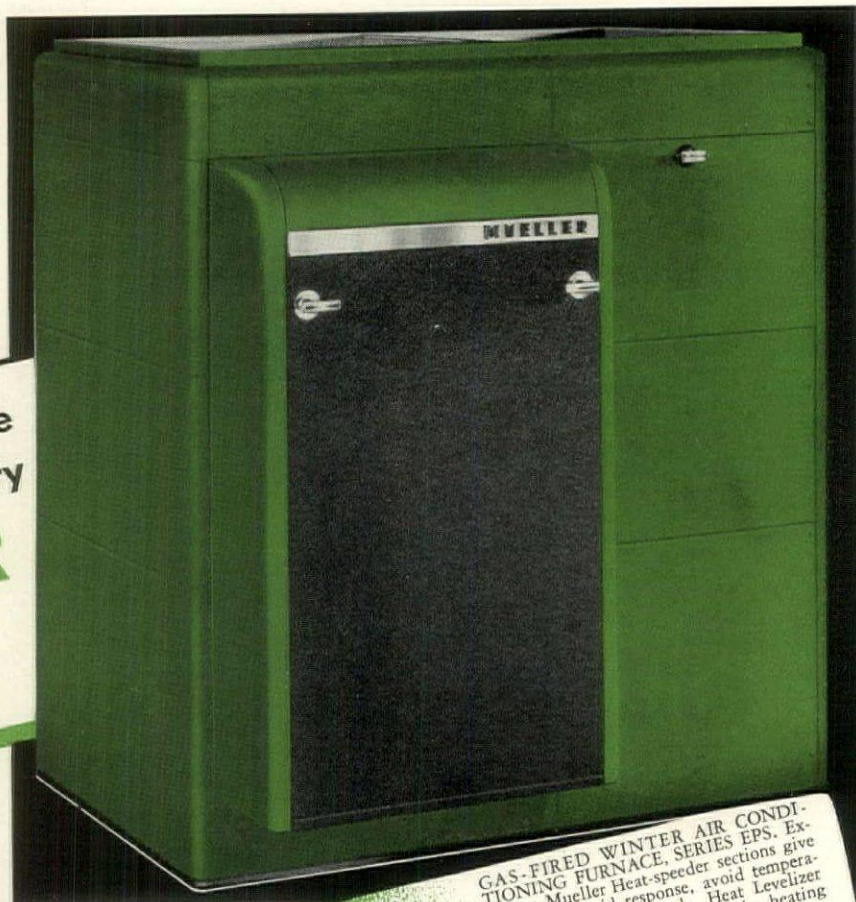
Send for Mueller's illustrated literature.

FOR FURTHER
INFORMATION

B-3



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GAS-FIRED WINTER AIR CONDITIONING FURNACE, SERIES EPS. Exclusive Mueller Heat-speeder sections give amazingly rapid response, avoid temperature over-run, save fuel. Heat Levelizer for more uniform, comfortable heating also available.



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It's MUELLER for all 3 fuels
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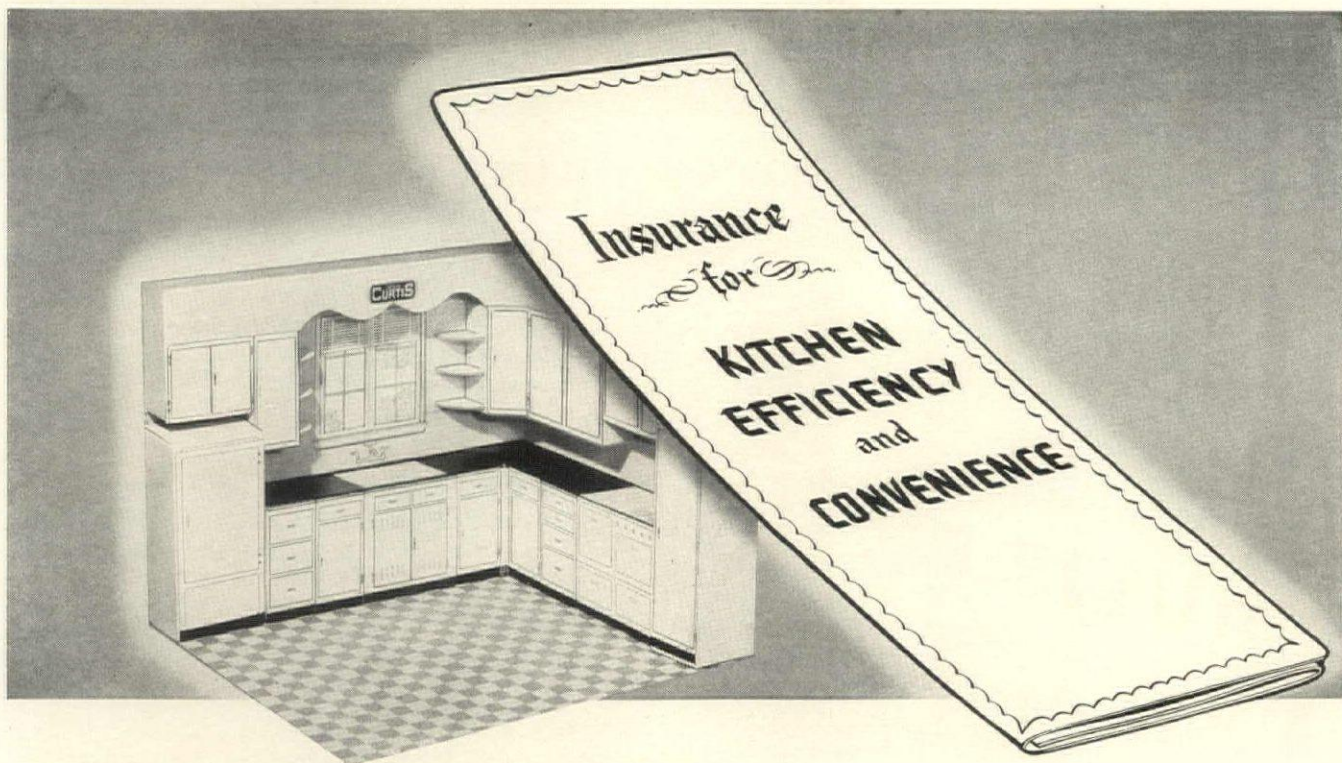
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to fit every practical space—all easily and quickly installed. Besides this "balance," Curtis dealers provide a Kitchen Planning Service for you. This service has *proved* success behind it—nearly 60,000 satisfied owners. And Curtis-planned kitchens have proved themselves to be lastingly economical.

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BOOKS

Chinese houses and gardens . . . Home planning and decoration

. . . Pencil sketching . . . Planning . . . Plastics catalog.



PUBLIC GARDEN, HANGCHOW

CHINESE HOUSES & GARDENS. By Henry Inn. Edited by Shao Chang Lee. Fong Inn's Limited, Honolulu, 140 pp. 9 x 12. \$5.00.

Publication of such a book as this a generation ago might have started a vogue as widespread as those impelling the building of Swiss chalets, Spanish haciendas or Japanese gardens. It is a collection of photographs and detail drawings by a keen observer—not the better known temple and palace architecture but the environment of everyday family life. Today we have little need of these source books as aids to authenticity in copying, but the book will serve a far higher purpose in helping us to understand a philosophy of design that creates beauty out of the very humblest materials, and that glorifies the sufficiency of simplicity. The book is one that should bring us of the West farther along a path long since trod by the Chinese, to a realization that house and garden are not two things, but only one.

HOUSE PLANNING, by Wooster Bard Field. McGraw-Hill Book Company. 271 pp., illustrated, 8½ x 11. \$3.00.

The object of this book, the author states, is "to enable the layman to communicate intelligently with the architect or to look at a ready-built house understandingly." An explanation of the draftsman's tools, scale, perspective, and architectural symbols should make it possible for the home builder or student to read blueprints and elevations intelligently; planning problems of individual rooms and the chapters on fenestration, orientation, insulation, cost estimation, etc., amply illustrated by floor plans and detail drawings, are sufficiently simple and factual to be useful. Of only questionable value are the interior elevations and exterior designs, almost exclusively limited to traditional styles.

DO IT YOURSELF, by Willella de Campi. Frederick A. Stokes Company, New York. 162 pp., illustrated. 5 x 7½. \$1.00.

A practical book for the home decorator, with a chapter by chapter discussion of the different rooms in a house and such special problems as windows, floor coverings, book cases and color schemes. The author, Home Decorations Editor of a New York newspaper, has based her book largely on questions which she has been asked by readers of her column. Consequently, it differs from most books on interior decoration by its considera-

tion of modest budgets, its directions for reconditioning of furniture and making accessories at home, and its emphasis on durable, mass-produced products. Numerous sketches of modern as well as traditional rooms illustrate the text.

WHO'S WHO IN AMERICAN ART, Volume III. The American Federation of Arts, Washington, D. C. 790 pp. 6 x 9. \$8.00.

The 1940-1941 issue of this biennial directory of contemporary American artists. Some 10,000 names are listed, covering practically all of the arts; data on each person listed includes the present address, place and date of birth, outstanding work. Few of the important architects are included although the book presumably includes this profession along with the other.

PENCIL BROADSIDES, by Theodore Kautzky. Reinhold Publishing Corp., New York. Illustrated. 9 x 12. \$2.00.

A portfolio of sketches by the well-known delineator, handsome bound and reproduced. The material is presented in twelve lessons, with supplementary sketches and text describing Mr. Kautzky's broad-stroke technique.

PLANNING FOR PRODUCTIVITY, by K. Lonberg-Holm and C. Theodore Larson. The International Industrial Relations Institute, New York. 43 pp., 7½ x 10. \$1.00.

It is difficult to describe this book, which in the conventional sense is not so much a book as an extremely condensed synopsis of a larger work that might easily run to a thousand pages. Published by the International Industrial Relations Institute, an organization formerly located in Holland, it is the first of a series of technical reports designed to aid progress in research and production. The purpose of this study is to develop "a tool in the constructive task of increasing productivity for higher standards of living," with specific emphasis on the problems of the building industry. In line with the general trend toward greater integration of science and industry, the authors have prepared the charts, check lists and questionnaires to cover every possible factor that has any relation to building. The result is an outline so all-inclusive that it might cover the entire field of industry as well.

The report falls into three sections: "the problem of a backward building industry," "a reference frame for increasing productivity," and "information for use in building production." The last consists of sample questionnaires, designed for use in the search for all available data on any given building type. The questionnaires are extremely comprehensive, dealing with social and technical factors in the production of a given building, and with trends. Discussion of problems confronting the industry is also in terse outline form, with brief paragraphs indicating the relative backwardness of building, economic influences tending to slow down its development, and the need for integrating specialized activities in the various fields of production.

There is no panacea here for the frustrated manufacturer, architect or financier. Nor are there examples to liven the brief text or any of the devices that make for easy reading. For the student of the larger aspects of building, however, there is a wealth of material to indicate possible directions and to aid analysis. Their thoroughly competent survey the authors have added layout notable for its typographical excellence.

(Continued on page 82)

Durable Beauty

— 2,000 SQUARE YARDS OF IT!



*Wingfoot Rubber Flooring adds to the beauty of the reception room at Devoe & Raynolds Co., Inc.
Architects: Francisco & Jacobus; Contractors: Laurance C. Roberts, Inc.*

THE officials of Devoe & Raynolds, paint manufacturers, are experts on materials that produce lasting beauty—so it is significant that they chose Goodyear Wingfoot Rubber Flooring for their New York offices.

Sheet flooring of a special brown—2,000 square yards of it—has been installed in their main office areas and private offices. The company trade-mark is reproduced in a seven-color insert on the floor of the reception room.

The selection of Wingfoot Rubber Flooring was a wise one. The beauty of this flooring is matched only by its durability. Its resilient surface is quiet and comfortable underfoot. It does not stretch or buckle.

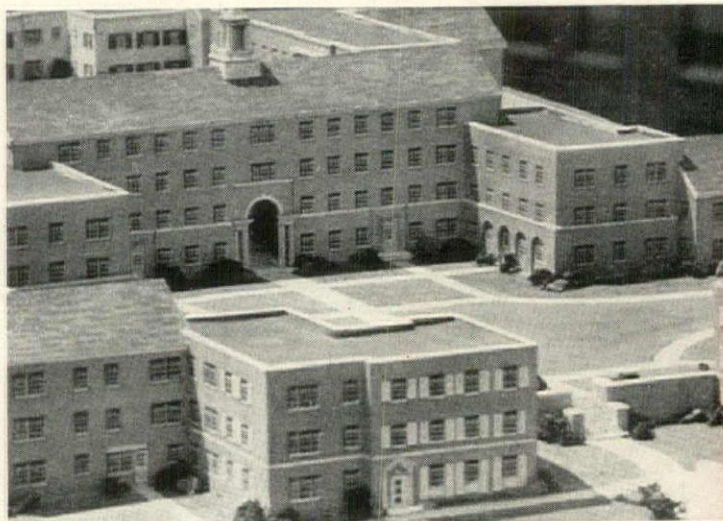
Then too, it offers such a wide variety of colors that it can be made to blend with any surroundings, and it can be installed in either sheet or tile form.

For complete specifications, see Sweet's Catalog or write to Goodyear, Akron, Ohio—or Los Angeles, California.

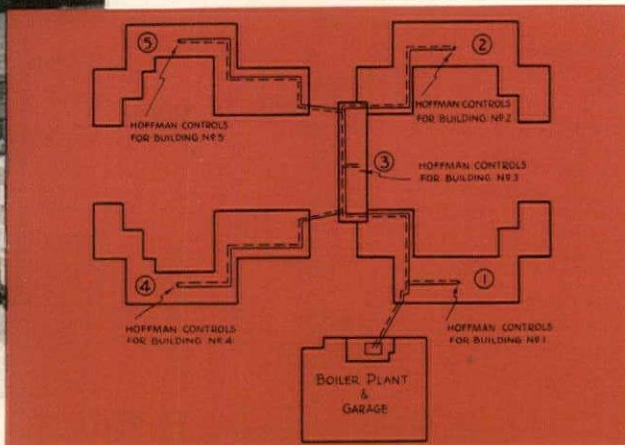
Wingfoot—T.M. The Goodyear Tire & Rubber Company

THE GREATEST NAME IN RUBBER
GOODYEAR
Wingfoot Rubber Flooring

AN UTTERLY NEW STANDARD OF HEATING COMFORT



For every type of building



FOR APARTMENT BUILDINGS

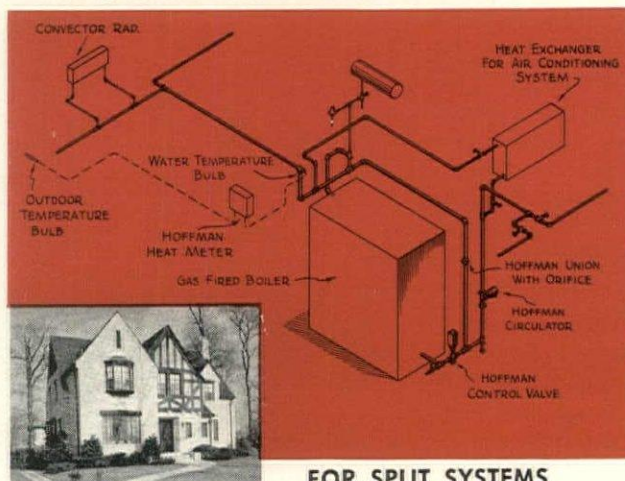
Completely Automatic Zone Temperature Control for each building without need for thermostats.

Hoffman Dual-Controlled Continuous Circulation regulates Radiator Temperatures to Exactly Offset Building Heat Loss

In buildings of every conceivable character, Hoffman Hot Water Controlled Heat is delivering comfort never before attainable. This system improves standard forced hot water heat in four ways:

1. It *continuously circulates* the water to avoid intermittent bursts of heat to the radiators and to permit gradual changes in the temperature of the circulating water.
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4. It employs smaller size, easily concealed radiators.

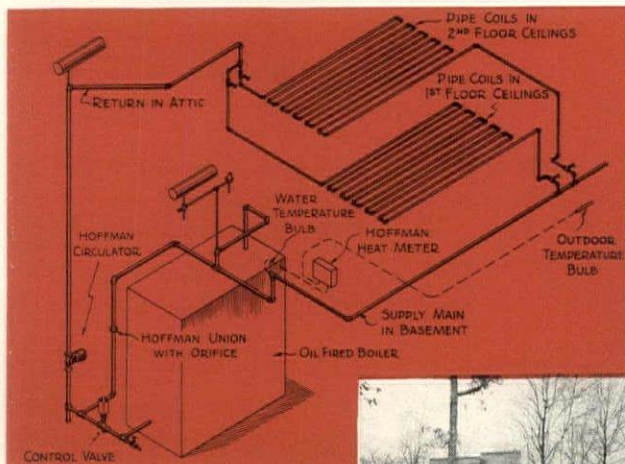
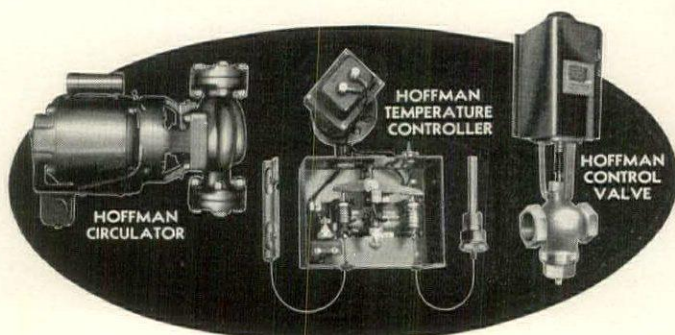
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You will find Toncan* Iron protecting the plumbing and heating systems of many of the country's major buildings—fighting rust and saving money and trouble for building owners. And you'll find, as so many other architects and engineers have, that its cost—higher than that of ordinary pipe—is low in the light of the many additional trouble-free years of service it delivers.

Read all about this alloy iron pipe in Bulletin 333—how it is made—why it saves money—installations where it has been in service for years. Ask for a copy or see Sweet's 27/3.

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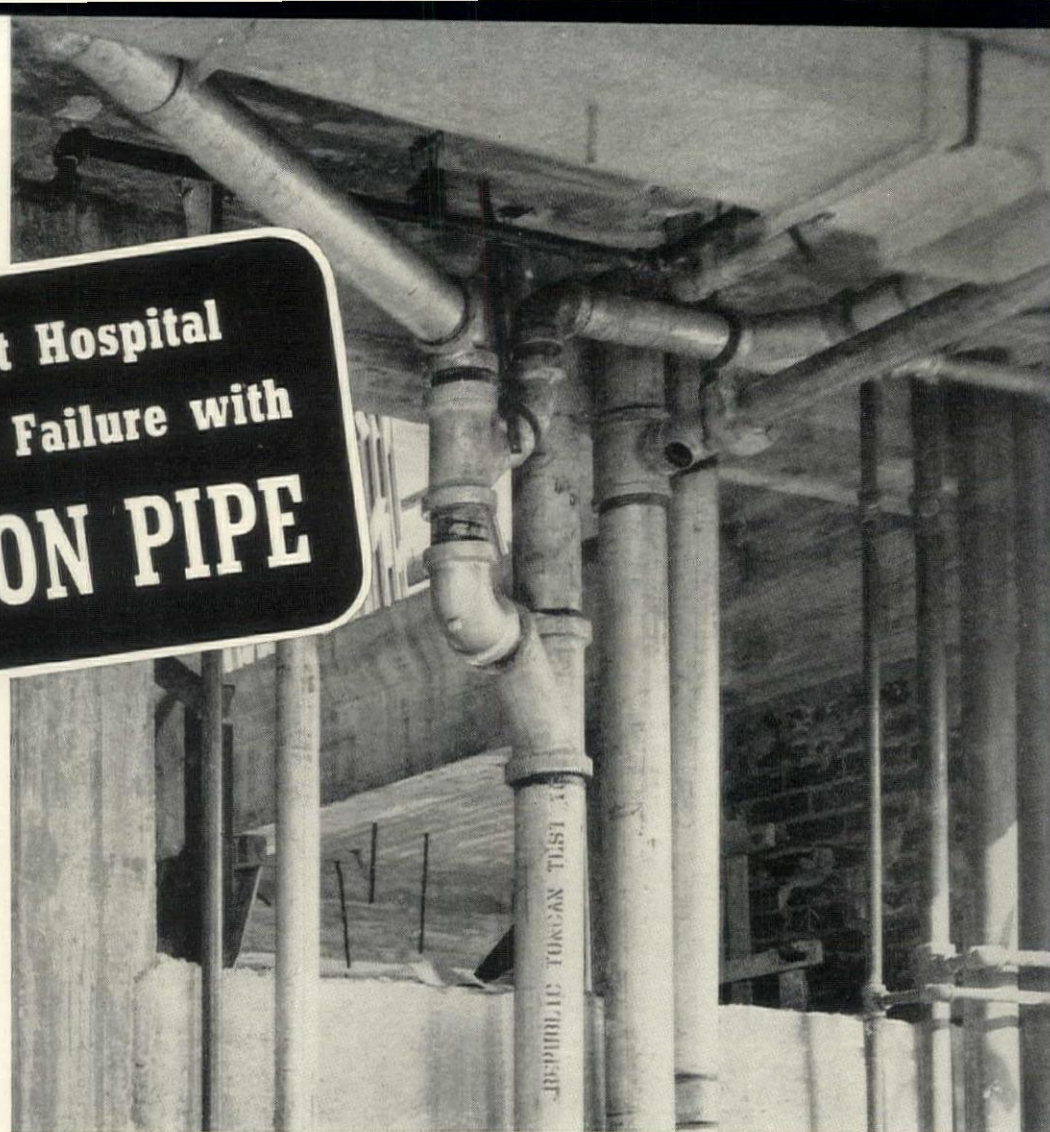
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An alloy of refined open-hearth iron, copper and molybdenum—that grows old slowly



LETTERS

DEFENSE HOUSING

Departing from custom, we present below an exchange of correspondence between Defense Housing Coordinator Palmer, FWA Administrator Carmody and THE FORUM's Editor. Correspondence from FORUM readers which will throw additional light on defense housing or any other aspect of the defense building program is invited. Attention is called to the editorial reprinted from the FEDERAL ARCHITECT in the adjoining column.—Ed.

Hon. Chas. F. Palmer:

The news in Monday's New York Times reporting the creation of a Division of Defense Housing Coordination and your appointment by the President as Coordinator was read in this office with high satisfaction.

For a period of months, THE FORUM has pointed out the necessity of integrating all defense housing under one control and most recently proposed that all defense construction, including housing, be coordinated in a newly created Government Construction Department to be headed by its own Cabinet member. The new policy is a long step in that direction and we shall continue to work toward the larger objective.

Any appraisal of the defense housing program to date must recognize not only its several major accomplishments but also its major weakness. We refer, of course, to the placing of Army housing in the hands of the Public Buildings Administration.

Taking at face value the published figures, it would seem a reasonable assumption to place the blame for the lag in Army housing to a great degree on this policy. Granting the availability of a considerable staff in Washington, the reason why this particular agency, completely inexperienced in housing, should be charged with this responsibility remains obscure—as obscure as the housing it was asked to create.

Even if PBA had functioned more effectively than it has, there would still be compelling reasons why consideration should be given to placing the design and supervision of as much as possible of the defense housing in the hands of private practice architects:

1. There are not less than 400, and more likely 500, architectural firms throughout the country qualified by experience to do this work.
2. These firms not only are experienced

REPRINTED FROM THE JANUARY 1941 ISSUE OF THE FEDERAL ARCHITECT

THE ARCHITECTURAL FORUM in the current issue talks about defense housing, beginning something like this: "Elaborate buck-passing is now developing between PBA and the Army as to responsibility for delays." While it is always good circulation-getting thus to start a fight and then sit back and watch, it is to be remembered that we are in the midst of a national emergency, in which all persons and all organizations should strive to promote unity of effort rather than to ferment dissension.

In a drive like this defense housing, where the top limit of cost, wisely restricted by legislation, is below that for which a fully equipped house has customarily been built, it is obvious that many discussions must be held. THE FORUM endeavors to fan these discussions into dissension. The helpful FORUM also, in a more supercilious than analytical frame of mind, refers to "the very uninteresting exterior design" of the housing projects.

This magazine doubtless has men of architectural training on its staff. These could have explained that anyone who designs any fully equipped house to cost approximately twenty-five hundred dollars per unit, built under a union labor wage scale, has done an outstanding job. They could have explained that the effort would require study and changes of mind; and that the result, at that price, would obviously have to be somewhat humble and homespun in appearance.

In an emergency, such as the present, when the architectural profession has a chance to help, it is our opinion that the printed word should be used to help, which, whatever else may be said, THE FORUM's words do not.

The official organ of the Association of Federal Architects takes the position in the above editorial that it is unpatriotic to criticize Government agencies. The editors of THE FORUM believe that defense housing is badly delayed, that immediate and drastic steps are imperative to correct that vital weakness in national defense. THE FORUM does not believe that sugar-coating such facts will get the needed thousands of houses built in the available time. Whatever dissension exists among the Washington housing agencies was merely reported by THE FORUM; it was created elsewhere. Without dissension if possible, but with it if not, the needed housing should be built well and quickly.—Ed.

in the field of multi-family housing but are thoroughly conversant with local requirements, material markets, etc. Among these firms are those which have designed USHA projects, FHA rental projects and numerous other multi-family projects in which the Government has not participated.

3. The Army is notorious for changing its mind. With planning handled locally, the Army can change its mind as often as necessary with the minimum of delay.

4. In our judgment, placing these jobs with as many of these firms as needed would expedite the work, improve its quality and assure the maximum life of the projects in those cases where the housing can be expected to serve after the emergency period.

During the past decade most architects have lived chiefly by courage and self-denial. In this period many an architect has had to turn permanently from the practice of his profession to other activities. Those who have managed to pull through are for the most part the best men, men who regardless of adversity have held to their profession hoping that their talents and experience would again find a market. Defense housing can save many of these firms for further useful service to their communities and to the nation. It would permit several hundred offices to remain open and to keep their staffs intact and going.

Considered in terms of the present emergency and of the problems this country will face in the post-war period, we cannot believe that the course of wisdom lies in the destruction of this important national resource. Your own long experience in the building field I am sure will confirm the validity of these statements and I trust this matter will be among the first to have your consideration.

HOWARD MYER
Editor

Forum:

Thank you for your letter of January 1 in which you state your feelings concerning the use of architects in the housing program.

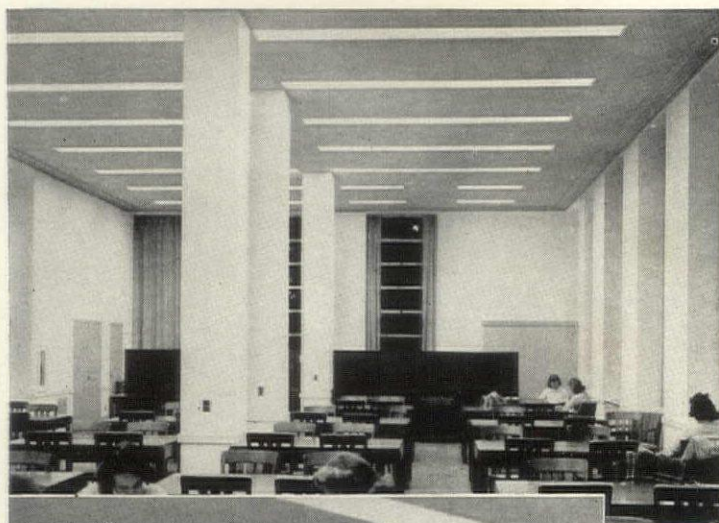
I want you to know that we appreciate your communicating this to us and that it is good to have such a well informed statement of the case.

As you know, the Lanham Act (Public Act No. 849) places the responsibility for

(Continued on page 54)



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architect. Gardner & Howe, structural
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Kimbrough Towers apartments is a better investment because of its imaginative design in concrete ... and because of concrete's economy, firesafety and low maintenance. Concrete walls as you see them here were cast integrally with frame, floors and roof. It's the time- and money-saving way to construct your rental building, store, factory or industrial plant; ask your architect or engineer or see Sweet's Catalog 4/49. Literature on request.

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



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- CHASE LEATHERWOVE expresses economical good-taste in a high-quality coated-fabric for wall covering, table tops, bar fronts, decorative screens, furniture upholstery and slip-type or padded seats and benches. Wide range of modern colors and grained effects with coatings suitable for indoor and outdoor use.

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How to Design Beautiful Floors and save your clients money!

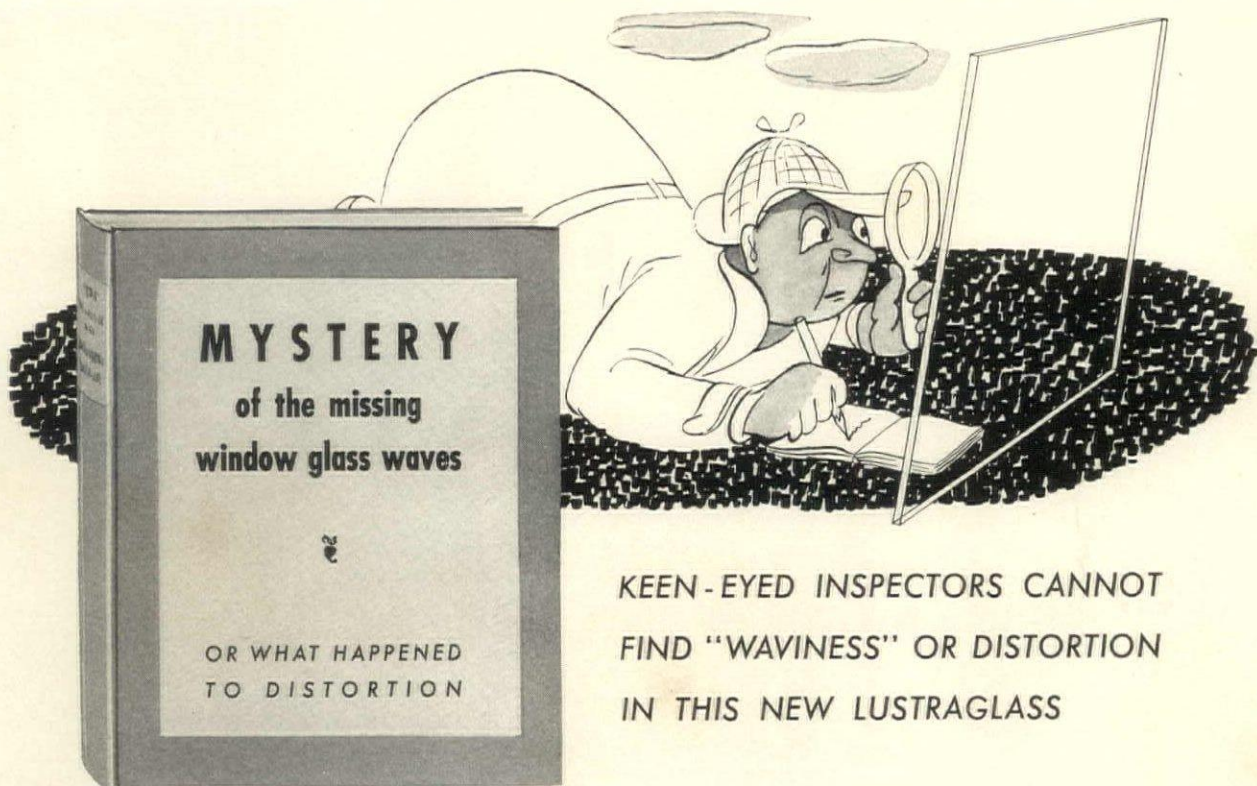
IT ISN'T OFTEN YOU CAN "KILL TWO BIRDS WITH ONE STONE" as easily as with J-M Asphalt Tile. For this modern resilient flooring combines the beautiful with the practical as few floor coverings do. It allows free play for expression of design, yet it provides economies that are sure to please your clients. They will find J-M Asphalt Tile easy to clean . . . easier still to maintain. They will like the way it resists hard wear . . . retains its original luster even after years of service. And it goes without saying that they'll always have a good word for the architect who specified a floor of such outstanding beauty and value!

You'll find plenty of ideas to stimulate your originality as a floor stylist in the new J-M Asphalt Tile Flooring brochure, "Ideas for Decorative Floors." For your copy, write Johns-Manville, 22 East 40th Street, New York, N. Y.



● This modern office floor was created from the three marbled colors shown above: No. 126 (top), No. 121 (center), No. 104 (bottom).

Johns-Manville ASPHALT TILE FLOORING



KEEN-EYED INSPECTORS CANNOT
FIND "WAVINESS" OR DISTORTION
IN THIS NEW LUSTRAGLASS

*Baffling new product looks like plate glass but
sells at window glass prices*

WHAT IS IT?

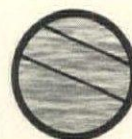
Who ever saw a window glass without an obvious distorting waviness? Who ever heard of a plate-like product selling at window glass prices? Well, now it's happened. This amazing new Lustraglass just defies ordinary classification. The uniformity of its perfection has definitely set a new and infinitely higher standard of quality. The ultra-violet rays of sunlight it transmits and the great tensile strength it displays make it the world's most efficient glass for windows. Lustraglass is lighter in color (freer from that greenish cast characteristic of both window and plate glass) than any other glass used for regular glazing.

Add to these advantages its jewel-like luster and you have a product that architects and builders agree is really a new species . . . That's today's Lustraglass and if it isn't window glass and it isn't plate glass—what is it?

THE SHADOWGRAPH TELLS THE STORY
by amplifying distortion and defects 20 times



(1) This is high quality cylinder drawn window glass. The bent and twisted lines shown by the shadowgraph testing device indicate the presence of considerable distortion. This glass became obsolete in 1928.



(2) Here is what most manufacturers offer today as top quality window glass . . . Made by the sheet drawn process, it shows a characteristic distortion in the waviness of the black lines.

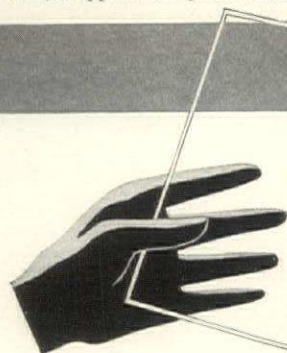


(3) Now look at this "shadowgraphed" sample of the new Lustraglass. Obviously an important improvement. The lines are straight, showing relatively perfect vision—relative freedom from distortion.

★ Write for the new Windowgraph Slide Rule Chart and a sample of the new Lustraglass. Examine both—then tell us what you think.


AMERICAN WINDOW GLASS CO., PITTSBURGH, PA.

*Manufacturers of Plexite, the safer safety glass; Lustrabl and Lustragold for ornamental uses;
Crystal Sheet, Chipped and Special Glass for industrial purposes.*



THIS NEW TYPE OF
LUSTRAGLASS
The Ultra-Violet Ray Sheet Glass

LOOKS LIKE PLATE GLASS—SELLS AT WINDOW GLASS PRICES



FOR MODERN BUILDERS... A RIVER OF STEEL IS ROLLING

Speeding deliveries of Stran Steel to modern builders throughout the nation are the tremendous production facilities of the Great Lakes Steel Corporation. From these huge, efficient mills—the last word in modern mass production—Stran Steel draws its supply of high-quality copper bearing steel for the studs, plates and joists that are today making building history.

In homes, apartments and group housing projects, both privately-financed and for military purposes, Stran Steel framing is leading the way to faster building schedules, simplified building operations and lower over-all costs.

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Working PARTNERS with leading Architects everywhere



PROVISIONS for seating must of necessity fit into the very first draft of plans for such buildings as churches, theatres, school and auditoriums. This calls for a specialized knowledge beyond the experience of most architects.

That is why a friendly partnership has developed between architects and the American Seating Company. It's a partnership that has been invaluable to thousands of leading architects. For it puts at their command the results of many years of research, testing and engineering devoted exclusively to public seating problems.

Partnership makes no demands. Neither does it entail the... our part. Our services begin immediately upon

American Seating Company

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World's leader in public seating • Manufacturers of Theatre, School, Auditorium, Stadium and Transportation Seating
Branch Offices and Distributors in Principal Cities





*The Door
that has
"MOVED UP
FRONT"!*

When most residence garages were on the back of the lot, and their doors faced the alley, it wasn't so important that they have "good looks" to match the home.

In those days, car owners were accustomed also to the annoyances of hard-starting, hand-cranked cars. So the trouble-free operation of garage doors wasn't so important then.

**Today the Public Demands BOTH
Architectural and Mechanical Refinements!**

The year 'round advantages of Overhead Type Doors is quite generally accepted. So it becomes a matter of selecting a door of this type which embodies not only style to conform to the architectural design of the building in which it is used, but which also provides every refinement in mechanical operation.

Rō-Way OVERHEAD TYPE DOORS

—are finding wide acceptance with both architects and the car-buying public. They set the pace with five sound mechanical improvements and refinements, without adding a penny of cost to the job.

When You Write Your Specifications

—add the word "Rō-Way" to "Doors of Overhead Type", and assure your clients of these five extra values: "Crow's Foot" Outer Bearing Support . . . "Rō-To Live" Spring . . . "Zip-Lock" Adjustment . . . "Tailor Made" Springs . . . and Parkerized and Painted Hardware. Write for 72-page "Time-saving Specification Book."

Authorized Rō-Way Overhead Type Door Representatives in all principal cities are prepared to render prompt cooperation and service on all Residence, Commercial and Industrial installations.

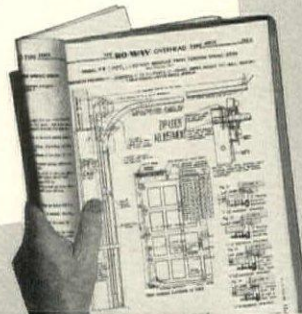
ROWE MANUFACTURING CO.
917 Holton St., Galesburg, Ill., U. S. A.



Rō-Way Doors in plant of Air
Reduction Co., Baltimore, Maryland



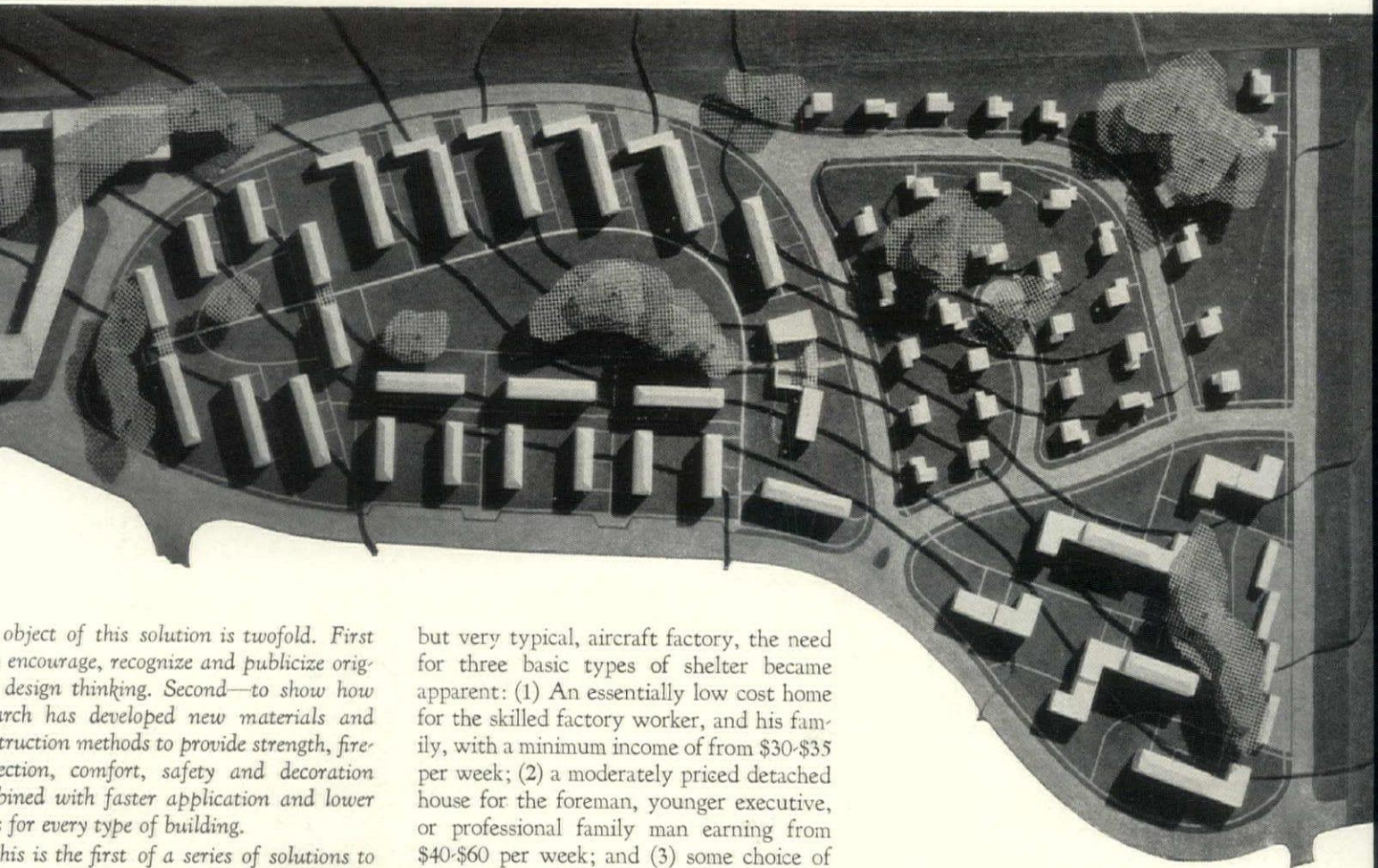
American Oil Station, Waltham, Mass.
Equipped with Rō-Way Overhead
Type Doors.



There's a Rō-Way for every Door way!

Solution TO A DEFENSE HOUSING PROBLEM

By RICHARD BORING SNOW *for the United States Gypsum Company*



object of this solution is twofold. First to encourage, recognize and publicize original design thinking. Second—to show how research has developed new materials and construction methods to provide strength, fire-resistance, comfort, safety and decoration combined with faster application and lower cost for every type of building.

This is the first of a series of solutions to specific building problems. During 1941 the United States Gypsum Company will submit solutions to timely problems by well-known architects.

USG solicits your comments on this and the solutions to come.

* * * *

I approached the study of this project for the United States Gypsum Company with genuine anticipation which has grown into deep interest as events have highlighted its timeliness. In order to make our problem as specific as possible, we selected for study the Industrial Housing Project in connection with a plant for the manufacture of aircraft. It is important, however, to emphasize that our solution has been planned not only for this year or the next, but for many years to come. Defense needs may rise and fall with changing world factors; well planned, well constructed decentralized housing is here to stay. In building for today's emergency we must take care not to build tomorrow's regret. It is in the hope of contributing suggestions of timely and practical value in this field that the United States Gypsum Company is presenting this study, which I have had the pleasure of making for them. In analyzing, on the basis of the most recently available data, the housing requirements for the personnel of our hypothetical,

but very typical, aircraft factory, the need for three basic types of shelter became apparent: (1) An essentially low cost home for the skilled factory worker, and his family, with a minimum income of from \$30-\$35 per week; (2) a moderately priced detached house for the foreman, younger executive, or professional family man earning from \$40-\$60 per week; and (3) some choice of smaller apartment accommodations for those members of the staff in varying income brackets who may not want or need the responsibilities of a complete house.

As a basis for developing a section of our group of homes, in which I was so fortunate as to have the collaboration of Richard M. Bennett of New York, we took an actual site near a new aircraft factory in one of the Eastern States. The shape and contours of this site are shown in the model above, which presents the Plot Plan. The location of a shopping center near the main highway, the community house in the center of our development, the circulation, and the arrangement of our three basic building types with their dependencies can be seen.

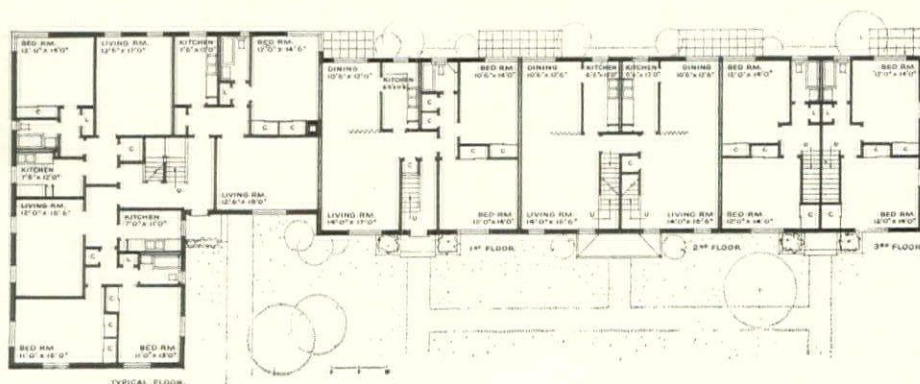
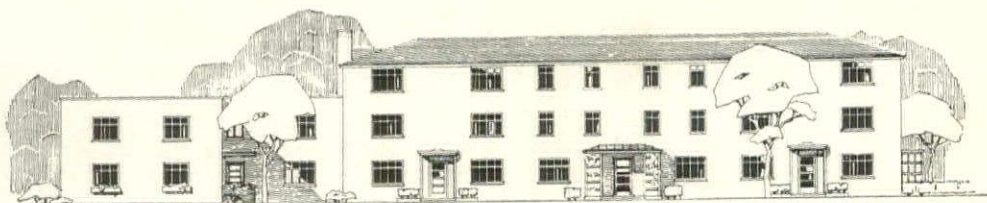
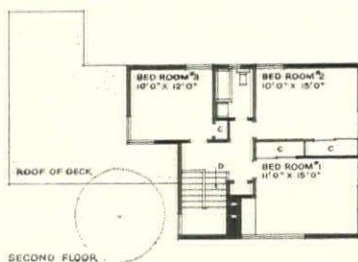
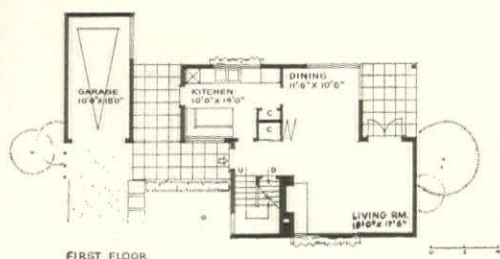
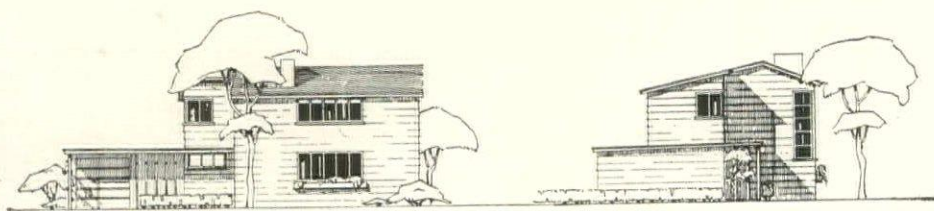
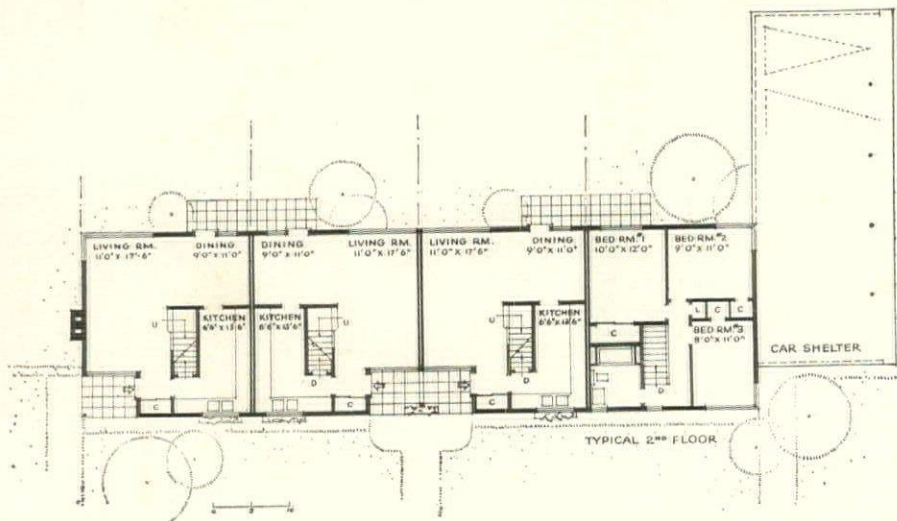
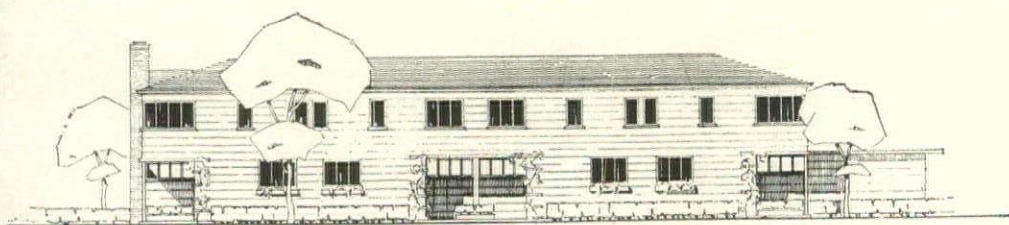
No attempt has been made to indicate the actual numbers of each building type that might be required. We are eager to indicate, however, the general character of the planning and grouping of the elements. We are convinced they would make of this area an attractive, sound investment, and a nucleus for expansion, which would be an asset rather than a liability to the community.

There is a need for certain basic qualities in the materials which go into work of this sort. Speed of construction, simplicity in the relationships of the various trades on the job, for example, are both of immediate

importance. Over a long period of time, strength and resistance to fire and deterioration become more and more necessary. In conducting the present study I had the United States Gypsum Company not only as a client, but as a consultant. I worked with their engineers. I had conferences with their excellent research laboratory (which has the function, I discovered, not only of developing new materials but of testing continually the standards of the products as they come from USG mills), studying the variety of their materials. As an architect, I was struck with their ability to produce sound, practical answers to construction and decorative problems which present themselves in working out such a project as the one illustrated here. They helped us find answers which fulfilled qualifications of convenience and durability, answers which are applicable over a wide price range. The pages which follow present a detailed analysis of the design and construction of the individual units which make up the little community in the Plot Plan. Producing them was to me an absorbing architectural study. I hope they will prove of real interest to those whose work lies in the same field.

RICHARD BORING SNOW
Architect

(Continued on next page)



● In this part of the problem, I have tried to combine the features of a modern domestic dwelling with the advantages in economy and compactness that the Row House idea makes possible. Savings in materials, labor and land should make these units available occupants of these units to enjoy the extra single bedroom, which so many need and often cannot afford. Although some two-bedroom units can be provided in the larger dwellings, I have decided to illustrate here the three-bedroom units.

The kitchens have been kept at the front of the dwellings, eliminating the necessity for long ice paths. This allows the families to make use of what once would have been regarded as a "Back Yard."



means of attractive terraces, flower beds and lawn areas between the units.

● In a development such as this, it is possible to vary our Detached Houses with at least two or three plan types and exterior treatments. We have chosen to show one of six rooms large enough to live on two stories, which, while modest as to dimensions, is sufficiently individual to interest a home owner and keep him interested.



The relationship between the garage, front porch, and service door is planned that on a combined walk and drive is required to see three. On a moderate sized plot this is a very important. A lattice separates a service porch from front entry; the low roof protects not only the service and the main door, but the front door as well. The living room counts for a lot more room than it really is by giving it access to a covered screened (or glazed) porch. A



● Based on data from the experience of the research of the Federal Housing Administration has made available to architects and builders, our Multiple Dwelling represents a type of moderately priced apartment planning which has proved itself. It is felt that the need was for well laid out units with fewer rooms than elsewhere provided. The range is from two to five room units, with the greatest emphasis on three and four room units.

Designed exclusively for rental, it is in the owner's best interests to produce these buildings in masonry materials, which indeed many local codes would require.

The Multiple Dwelling units are a combination of two and three story units, of standard

Interesting Features of the GROUPED HOUSES

Grouped Dwellings can be kept open or divided into separate units, planting beds, etc.

By keeping the number of partitions on the first floor to a minimum reduces costs, and gives openness to what are really rather small units. I have subdivided spaces, not by partitions, but by wall treatments.

Thus the function of an area is suggested, but it is not necessarily shut off from adjoining areas.

The stairway is not "packaged," yet does not create undesirable traffic through the quiet areas of the room. It is easily accessible from all parts of the house.

The bedrooms on the second floor are designed

around a core of closets. Every square foot of bedroom area is usable space, an effectual method of increasing their size beyond their actual area.



Attached to some of the Grouped Houses are single car shelters for the use of such tenants (and their numbers are dwindling) as are not content to park in the areas provided here and there throughout the Plot Plan.

The extremely simple exteriors have been accented with little trellises at the entrances.

Of special interest to builders is the successful concentration of plumbing and drainage facilities; all four kitchens and all four baths being served by two stacks.

Characteristics of the DETACHED HOUSES

tion gives the owner his choice of one large dining room, or a compact dining room apart. The little dining space in a kitchen pleases most. So I have provided it in this one, sized it with some varying wall treatments and a built-in bench.

In the Grouped Houses, the location of closets upstairs was given first consideration. Their full width is made accessible with light sliding doors. The built-in dressing table near the window is a simple job. It frees space in the bedroom which otherwise

could be occupied by a piece of furniture. The attractive possibility of making a deck of the garage roof some day is always avail-

able. The construction of a railing, and a door from the stair-hall are the two simple steps required. And, incidentally, is not this stair-hall one in which the owner of even such a modest house would take pride?

The exterior treatment of the house is as straightforward as I could make it. Simple—a direct growth out of the plan—its roof lines are uncomplicated as a roof can be.

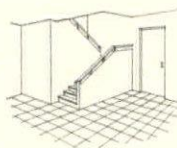
It is worked out in durable weatherproof materials and seems to express the close tie between industry and home, which is the very basis of this problem.



Details of the MULTIPLE DWELLING UNITS

and ells. With this variety in the basic plan it is possible to avoid any trace of monotony, for there is constant change in the sizes and shapes of the little garden courts which low coverage provides for the enjoyment of all tenants.

The rather distinguished stair-halls give into units, which efficiently subdivide the apartments. Bathrooms and bedrooms open off their separate halls, which gives each apartment full flexibility. The two-story units are so arranged that no tenant need walk up more than one flight to his door. The top two



are arranged with kitchens, dining rooms, living rooms on the second floor and all

bedrooms above. In the basements, storage space and recreation rooms are provided.

Again the exterior treatment is simple, depending on the natural texture of brick. Generous windows are carefully spaced. Accents are chiefly confined to entrance motives and occasional gay window boxes. The alternation of pitched with flat roofs is an important factor in the appearance of this group. The pitched roofs provide an additional amount of insulation.

Again the builder will reap the benefit of concentrated plumbing. All baths and kitchens are adjacent. The controlled landscaping of the entire area occupied by the Multiple Dwellings will be enjoyed not only by tenants, but by all the community.



RICHARD BORING SNOW—Born Palo Alto, California, 1905: Graduate School of Architecture, Columbia University, 1931. A. B. Columbia, 1926. Consulting Architect, New York Museum of Science and Industry; Associate Architect, Focal Food Building and other N. Y. World's Fair projects; visiting critic in Architectural Design at Cooper Union, New York City.

Construction and Specification Outline

(See next page for analysis)

GROUPED HOUSES

FRAME: Wood Studs and Joists.

SHEATHING: USG Gyplap.

SIDING: USG Glatex Asbestos Cement.

ROOF: USG Asbestos Cement Shingles, Dutch Lap method.

WALLS AND CEILINGS: Sheetrock top floor walls, wood mouldings over joints. Knotty Pine Sheetrock in dining alcove and stairway. 4" 0" Tile Sheetrock wainscot in bath and kitchen. All ceilings and walls Perf-A-Taped except bedroom walls and Knotty Pine areas.

INSULATION: All exterior walls and top floor ceilings to be made of Insulating Sheetrock in types previously specified. Sheetrock on basement ceiling unfinished, joints without treatment.

PAINT: Texolite on all walls and ceilings except bath and kitchen (enamel), dining room and stairway walls (self-decorating).

DETACHED HOUSES

FRAME: Wood Studs and Joists.

SHEATHING: USG Weatherwood Asphalt Coated Sheathing.

SIDING: USG Asbestos, plain or Glatex.

ROOF: USG Thick Butt Asphalt Shingles on pitches; built-up roofs on garage and entrance.

WALLS, CEILINGS AND INSULATION: Weatherwood Insulating Lath on exterior walls and top floor ceiling. All other walls and ceilings Perforated Rocklath, Red Top Plaster and Finish except bath and kitchen where Keenes Cement Finish, scored to imitate tile, is used. Bridjoint System of application for Rocklath throughout, except living room ceiling, which is to have the Resilient Plastering System. Rocklath on basement ceiling to receive two coats of plaster—no finish.

PAINT: 1 coat K-Cemo Primer, 1 coat Texolite on all plastered surfaces, except 2 coats enamel on tile areas in bath and kitchen.

MULTIPLE DWELLING UNITS

FRAME: Common brick walls; lime cement mortar (see Sweet's 4/27).

WALLS, CEILINGS AND INSULATION: Exterior walls furred on inner face with USG steel furring runners, holding 1" Red Top Wool Blanket and 3.4 Red Top Diamond Mesh Metal Lath, Red Top Plaster, prepared Red Top Trowel Finish. Steel Joist floors, concrete slab with Red Top 3/4" Rib Metal Lath and plaster ceiling.

2" solid 3.4 Red Top Metal Lath and plaster partitions with 3/4" channels, spaced 12" on centers throughout, except stair hall, where 3" Pyrobar Gypsum Partition Tile, plastered both sides, is used. Stair railings to be made of Red Top Metal Lath, furring channels and plaster with finish, as before, with wood hand rail.

Ceramic tile wainscot in bath on 3.4 Red Top Diamond Mesh Metal Lath with Portland Cement Plaster. Soffit of entrance hoods: Oriental Exterior Stucco.

ROOF INSULATION AND ROOFING: Flat roofs 2" Weatherwood Roof Insulation; built-up roofing. Pitched roofs: full thick Red Top Insulating Wool Blankets between rafters, use Dubl Butt Shingles.

PAINT: One coat Texolite Paint on all plaster surfaces except kitchen and bathroom over a single coat of K-Cemo Primer. Masonry walls in basement recreation room to be brightened with Cementico in gay colors. Plastered areas in kitchen and bath to be given two coats of enamel. Exterior brick walls, white Cementico.

ANALYSIS AND ALTERNATES

In the three designs the constructions chosen represent three standard methods of constructing buildings. The first two are wood frames, one with fireproof wallboard and the other with fireproof lath and plaster. The third design is thoroughly fire resistant, with structural floors, in a brick, wall bearing, design, and non-bearing 2" solid metal lath and plaster partitions. Any of the three designs could be built with the general specifications and structural features of any of the others. The cost per cubic foot would probably be least for the grouped houses and most for the multiple dwelling units, although on a major operation involving many units the difference would be small.

On the next page there is a complete analysis of the specification and construction features of these houses, with reasons for the selection of the various materials and references to the pages in 1941 Sweet's Catalog where more complete details about each material can be found.

See Sweet's 1941 Catalog File for further details on materials. Table on next page shows location of each material in Sweet's Catalog File.

(Continued on next page)

Construction and Specification Outline . .

GROUPED HOUSES	MATERIAL AND DESIGN	REASONS FOR SELECTION	POSSIBLE LOWER COST ALTERNATE	SECTION, NU IN 1941
Frame	Wood Studs & Joists 16" Centers	Low cost, speed of construction, simplicity.	20" centers	
Sheathing	U S G Gyplap	Fireproof; strong. Costs less to buy and erect than wood.	None	Gyplap 9/17 p. 25
Walls & Ceilings (Except as noted below)	3/8" Sheetrock. Joints Perf-A-Taped	Maximum fire protection available in wallboards. Unlimited decoration. Reduces completion time, amply strong, sound insulating and permanent. Exterior walls and second floor ceilings to be Insulating Sheetrock in type specified.	Weatherwood Building Bd.	Sheetrock 9/17 p. 24
Bedrooms	Sheetrock Walls. Paneled with Stock Mouldings	Reduces cost, looks well.	Weatherwood Building Bd. Saves Paint Cost	Weatherw 11/44 p. 5
Dining Room & Stair Hall	Knotty Pine Sheetrock Walls—No Joint Treatment	Predecorated wall with distinctive wood grain yet fireproof.	Weatherwood Plank and Blendtex	Knotty P Sheetrock 11/44 p. 4
Bath & Kitchen	4'-0" dado of Sheetrock Tile Board, enameled 2 coats	Low cost simulation of ceramic tile. No joints in dado.	None	Sheetrock Board 11/44 p. 3
Basement Ceiling	Sheetrock without joint treatment or painting	Excellent fire protection for basement joists. Low cost, may be decorated in future for any purpose.	None	Sheetrock 9/17 p. 24
Wall & Ceiling Paint	1 coat K-Cemo Primer 1 coat Texolite	Wide color selection in modern and conventional tones, flat, fadeless, low cost, lasting. Retinting does not require wash-off job. One coat usually covers. Usually dries in 1 hour.	Textone and Texolite. See next line	U S G Pa 17/29
Wall & Ceiling Paint Alternate	First a light coat of Textone, followed by single color coat of Texolite	Light brush stipple permits cheaper joint treatment, as stipple conceals joints. Paint costs about same as treatment immediately above, but cost of installing joint treatment is lower.	None	U S G Pa 17/29
Siding	Glatex Asbestos-Cement Siding	Wood grain (relief) asbestos-cement siding with permanent glaze finish. Non-absorbent, stays clean, does not require painting. Four pleasing shades available.	Wood siding but higher maintenance	Glatex Si 6/21
Roofing	U S G Asbestos-Cement Shingles, Dutch Lap method	Good texture, color. Lasting, lifetime performance.	U S G Asphalt Strip Shingles	Asbestos 6/21
DETACHED HOUSES				
Frame	Wood Studs & Joists 16" on centers	Low cost, speed of construction, simplicity of erection.	None	
Sheathing	Weatherwood Asphalt Coated Sheathing	Combines strength with weather-tightness and effective heat insulation.	Gyplap	Weatherw Sheathing Gyplap 9/17 p. 25
Walls & Ceilings	Weatherwood Insulating Lath (exterior walls and top floor ceilings). Perforated Rocklath Bridjoint System of application except living room ceiling where U S G Resilient System is used. Red Top Plaster with Red Top Prepared Trowel Finish except bathroom and kitchen to have Keenes Cement Finish scored to imitate ceramic tiling.	Insulation at points of heat loss—high fire resistance on interior partitions and ceilings. Sturdy walls, decorable in any manner. Standard, proved construction, obtainable anywhere. Semi-resilient attachment of board reduces crack possibilities due to frame movement. Full resiliency in large living room ceiling desirable, because of length of span. Also provides effective sound insulation where it is most needed.	Sheetrock	Weatherw Lath 10/2 Rocklath 9/17 p. 12 Bridjoint 9/17 p. 13 Resilient 9/17 p. 16 Plaster 9/17 p. 20
Siding	Plain or Glatex Asbestos Cement Siding	See "Grouped Houses."	Wood siding, wood shingles	Asbestos 6/21
Roofing	U S G Thick Butt Asphalt Shingles on pitched areas, built-up asphalt roofing on flat or deck areas.	Colorful roof treatment. Heavy shadow line due to thick butt design, which provides extra resistance to weather at all exposed areas without increasing cost.	None	Write for phone ne U S G Of
MULTIPLE DWELLING UNITS				
Frame	Common brick walls, lime-cement mortar	Fireproof construction at low cost per occupancy unit, yet standard, proved construction, requiring no special instructions for rapid and proper completion.	Frame construction	Mortar 4
Exterior Paint	Cementico	Money-saving paint for masonry. Retinting rarely requires more than 1 coat.	Oriental Stucco on exterior walls in place of Cementico. (Less maintenance—higher first costs) Lowest cost: Whitewash	Paint 17/ Oriental 9/17 p. 2
Insulation	Interior face furred with U S G Steel Furring Runners. 1" Red Top Insulating Blanket. 3.4 Red Top Diamond Mesh Metal Lath. Red Top Gypsum Plaster and prepared finish.	Furring runners support insulation, lath and plaster with one quickly installed device, saving erection cost and later heating cost.		Write for phone ne U S G Of furring r
Floors & Ceilings	Steel joist floors, concrete slab, Red Top 3/8" Rib Metal and Plaster Ceiling.	Low cost. Fire resistance.	Concrete joists and slabs. Ceilings painted—no plaster	Metal La 9/17 p. 14
2" Solid Partitions	2" solid 3.4 diamond mesh metal lath and plaster interior partitions with channel studs on 12" centers	2" solid partitions save floor space, are fully fireproof and have unusually high resistance to sound transmission, light in weight, imposing no additional burden on structural frame.	Frame construction	2" Solid Partition 9/17 p. 5 Metal La 9/17 p. 14
Gypsum Tile	Stair hall 3" Pyrobar Gypsum Partitions, plastered. Stair rails, metal lath furring channels and plaster with wood hand rails.	Pyrobar Gypsum Tile, chosen for increased fire protection in stair halls.	2" metal lath and plaster partitions	Pyrobar 4
Ceramic Tile	Ceramic tile wainscot in bath and kitchen on 3.4 diamond mesh lath and Portland Cement Plaster.		Keenes Cement Finish scored to imitate tile. 2 coats enamel	Keenes C 9/17 p. 21
Interior Paint	Texolite Paint over K-Cemo Primer on all plaster surfaces except kitchen and bath, which are enameled. Masonry walls in basement recreation room to be painted with Cementico in gay tints.	Texolite Paint permits low maintenance cost, as one coat per year costs less than two coats every three years for flat oil paint. First cost also less. The colors are clear, never muddy, and highly light reflective in the lighter shades.	None	U S G Pa 17/23
Entrance Hood Soffits	Oriental Stucco to be used in the soffits of entrance hoods.	Oriental Stucco is available in many pleasing shades.	None	Oriental 9/17 p. 22



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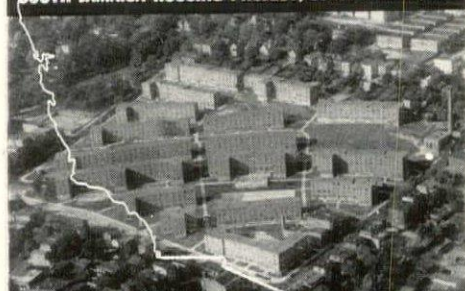
FOR *FINE TERRAZZO* SPECIFY



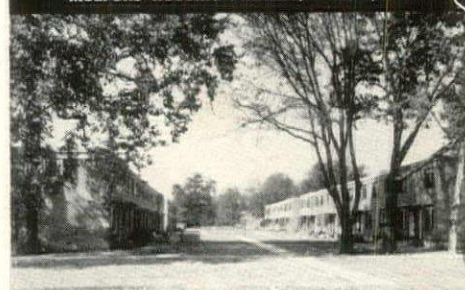
ATLAS WHITE PORTLAND CEMENT



SOUTH JAMAICA HOUSING PROJECT, South Jamaica, N. Y.



MULFORD HOUSING PROJECT, Yonkers, N. Y.



BOOKER T. WASHINGTON APARTMENTS, Columbus, Ga.



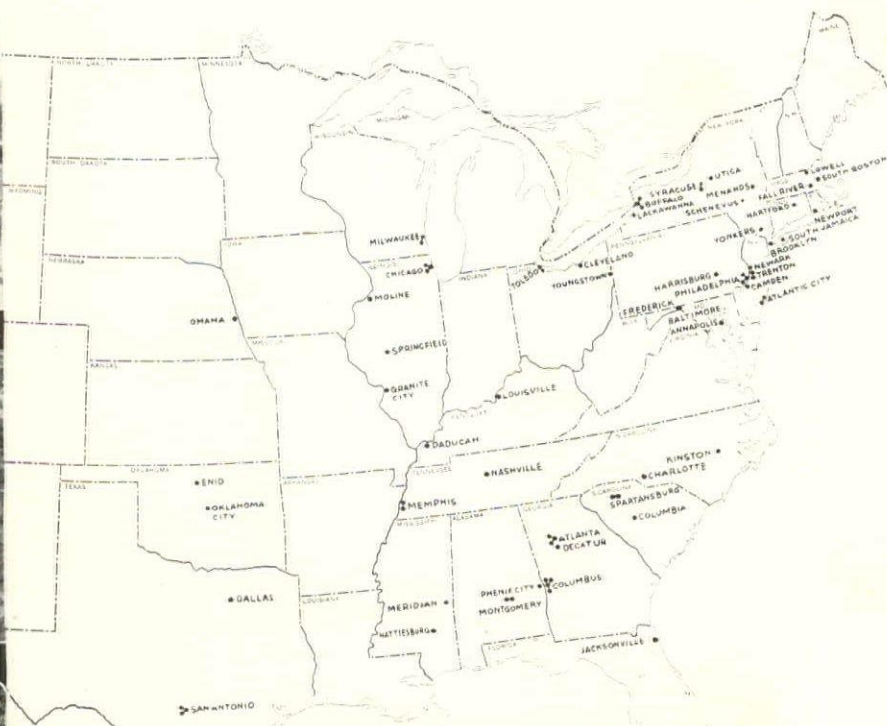
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BRENTWOOD PARK HOUSING PROJECT, Jacksonville, Fla.



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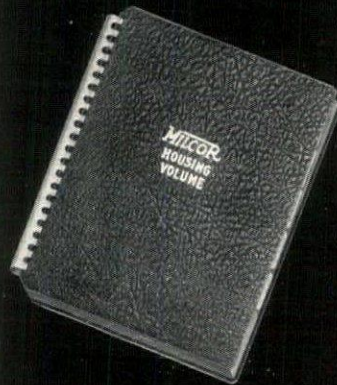
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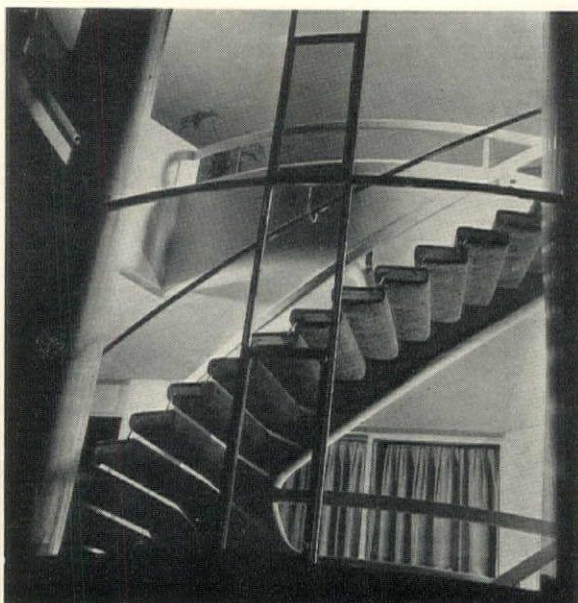
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Oklahoma City, Okla.
Apache Courts
San Antonio, Texas
Wheatley Courts
San Antonio, Texas
Lincoln Courts
San Antonio, Texas
Corpus Christi Project
Corpus Christi, Texas



Otto Hagel

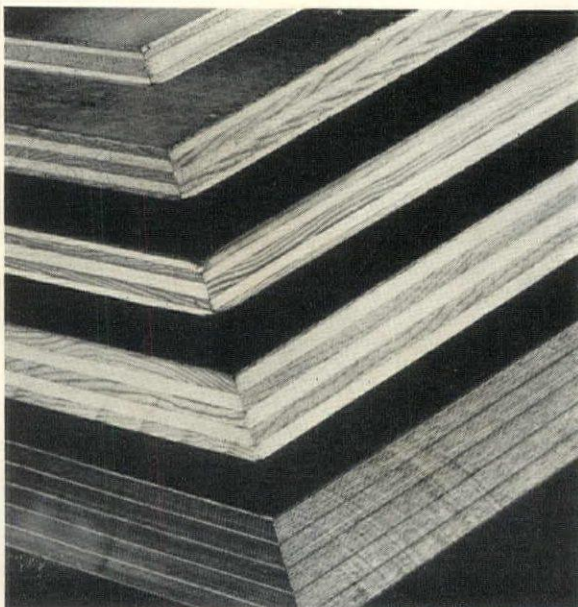
Care Mydans

MEN OF THE MONTH . . . from Bauhaus to Harvard to Pittsburgh (page 160)



Ezra Stoller

BUILDING OF THE MONTH . . . the steps that lead to space (page 160)



PRODUCT OF THE MONTH . . . from a sandwich to a National Institution (page 197)

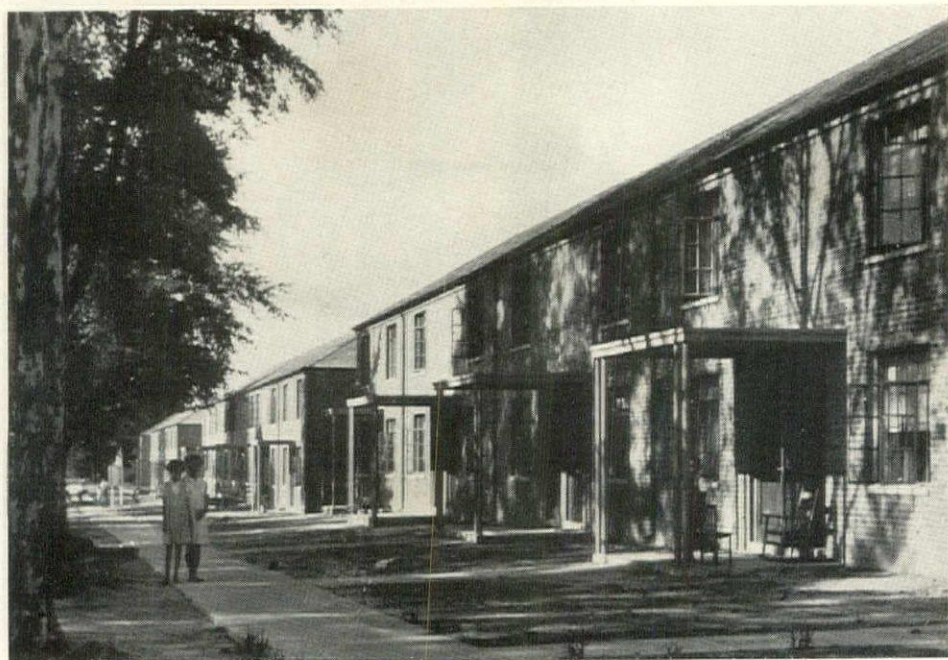
PUBLIC HOUSING IN THE SOUTHEASTERN STATES

By MICHAEL ROSENAUER, F.R.I.B.

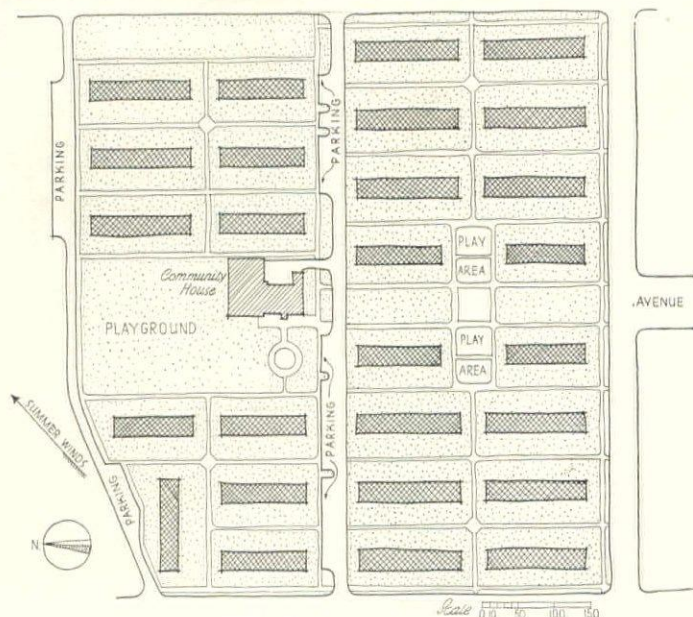
The material on the following pages is based on an inspection trip made last Fall by Michael Rosenauer, European architect and housing expert. A naturalized British subject, with 10 years' residence and practice in London and simultaneous experience in Paris, Mr. Rosenauer began his architectural career in Vienna, and played an active part in that city's early low rent housing movement. He is therefore qualified to dissect American public housing as a disinterested and informed critic. Despite this critical approach—or rather, as the basis of it—Mr. Rosenauer considers the level of architectural design and site-planning in this South-eastern public housing to be extraordinarily high; also,

he feels that American housing must be considered strictly on its own merits, without reference to European practice. Speaking generally of architecture and his trip through the South, he says, "The variety of architectural expression shown in these projects is admirable and the care taken in arriving at efficient solutions of planning, in achieving good and lasting construction, commendable. The evolution of a distinct style in contemporary architecture will have its roots in the same soil from which social evolution rises. The characteristics of this style will be the simplicity in expression and the straightforward design manifested in disciplined projects of housing."

NEW BROOKLYN HOMES, WILMINGTON, N. C.



Leslie N. Boney, Architect



SITE PLAN

This project, housing 248 Negro families, is a good example of planning on a site in an already developed district. With the exception of an avenue, the streets originally traversing the site were not maintained. This avenue is not continued as a traffic road but merely as an open space terminating at the community building and with it forming the natural center of the project. A service road, along which parking areas are arranged, bisects the project at right angles to the avenue and divides rows of houses. Front gardens and back yards are thus kept free from any traffic but are accessible from the service road and the surrounding streets. Ample space for playground is provided next to the community building and existing trees are carefully preserved. Garbage stations are accessible from the roads.



DESIGN

The architectural appearance of the houses is very pleasant. The porches arranged at front entrances are well spaced. The simple details of their canopies in reinforced concrete, and their steel columns are in keeping with the brickwork of the houses. The emphasis which is given to canopies covering two entrances by arranging double columns, proves that expressive design can be achieved with very simple means.

The plan of the community building is simple. In addition to the rooms for administration, workshop and stores on the first floor, a library and an assembly-room with adjoining kitchen are on the second floor. A spacious hall with exceptional dimensions is attached, which will be used for meetings of the community and the Negro population of the district.



DRUMMOND BOROUGH HOMES, CHARLESTON, S. C.

Douglas D. Ellington, Chief Architect; Firm of Simons & Lapham, Harold Tatum, David B. Hyer, Associated Architects.

THE PLAN

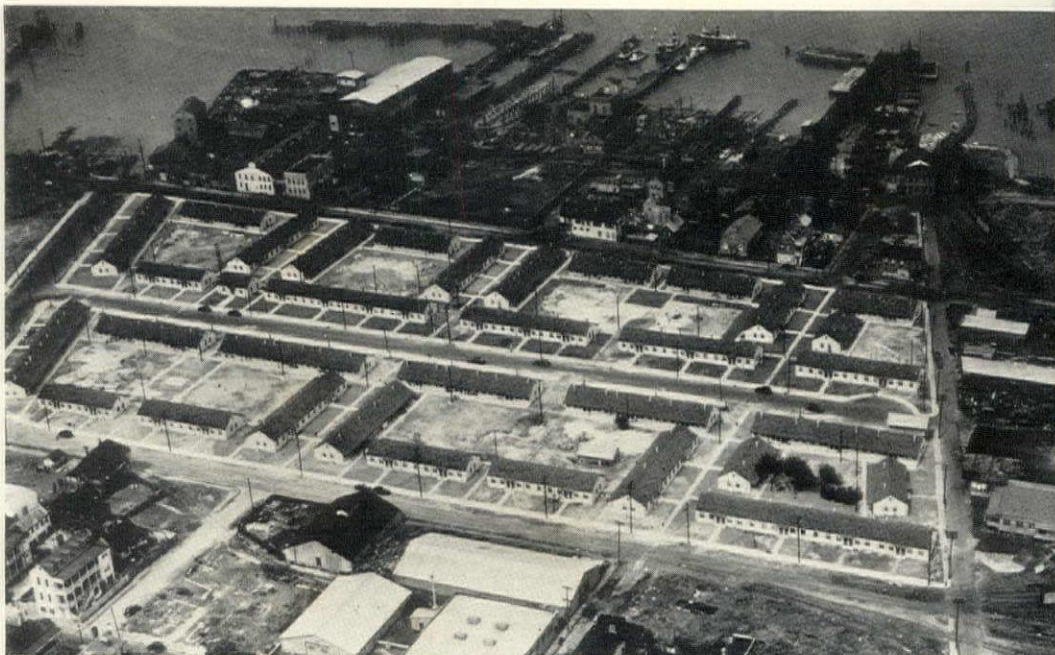
The site is divided into two oblong sections by a center road. The streets of the neighborhood are not continued as such, but as open spaces with walks only.

The one-story row houses, containing 162 units for Negro families, are grouped in blocks with their fronts facing the center road or the surrounding streets, their backs facing interior court yards. Privacy is achieved for these backyards, but not for the garden plots in front of the houses. The roofs at the rear of the houses project several feet; supported by columns, they give each house a full length porch toward the backyards. The roofs at the front have no projection except a small canopy above the entrance door.

The consequence of this arrangement is that the backyards with their facilities for hanging laundry represent the only recreation ground for the tenants.

CONSTRUCTION

The construction principle applied to the walls in this project is very interesting. The outside walls as well as the partitions are built of special matt-glazed hollow tile. The blocks used for the outside walls have two horizontal cavity holes and a channel on top of each block. As neither horizontal nor vertical cement joints are carried to the center of these blocks but are applied only to a depth of 1½ in., percolating water can run along these horizontal channels and drop down the open part of the walls. Drain pipes are installed to draw the accumulated water from the bottom of the wall.



The blocks used for the partitions have one horizontal cavity hole only, and they are of the same height as the wall blocks. A wood skirting and a wood cornice join the partitions with the floor and the plaster ceiling respectively.

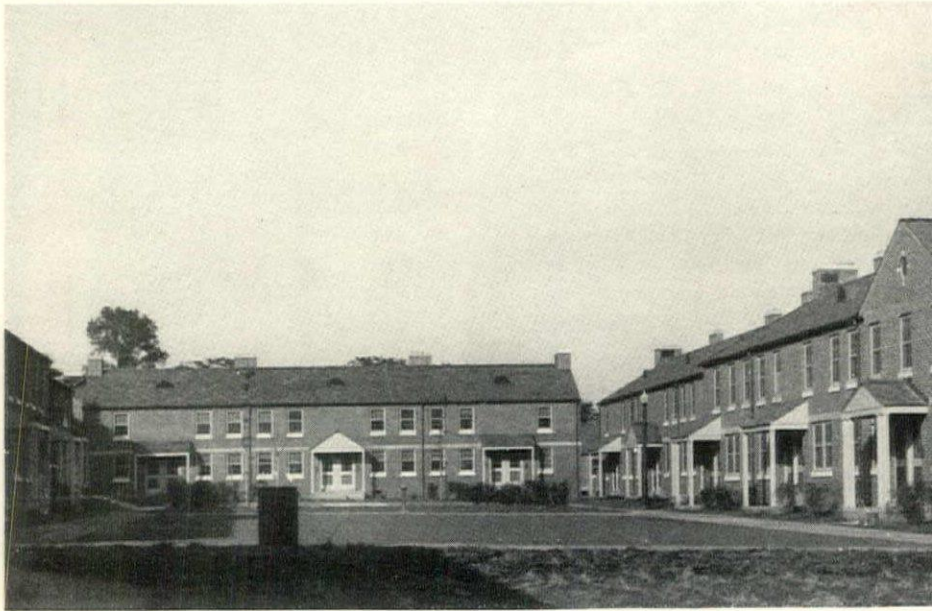
No plaster is used either on the outside or on the inside, and the maintenance of the houses seems to be reduced to a minimum. The shape of the blocks is handy for manipulation and allows for fast progress of building. The houses are only one story high, and the 8 in. walls support the light roof construction without special reinforcement.



DESIGN

The treatment and details of some of the architectural features do not reach the high standard of the site plan. The architectural treatment of the porches, for instance, could have emphasized the beauty of the well-arranged garden squares if their design had been restrained to the nature of their construction. The roofs and gables arranged over these porches are less convincing than flat canopies would have been; the wood pilasters which envelop the steel columns are less graceful than the steel columns would have appeared if left without decoration.

The walls of the houses are constructed in multi-colored hollow bricks. The red roof tiles harmonize in color and texture with the walls.



SITE PLAN

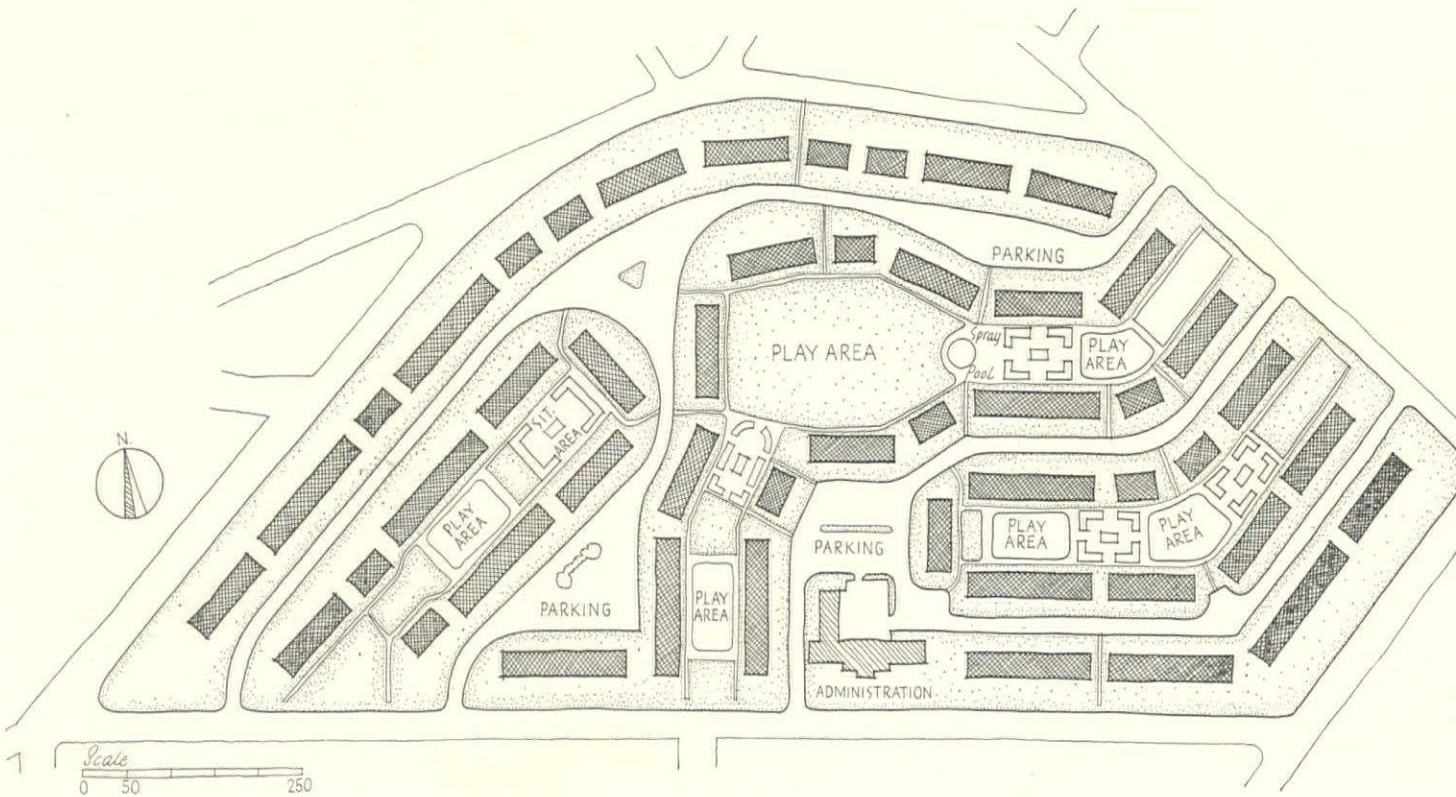
This project, containing 320 units for Negro families, shows an excellent site plan based on the principle of securing maximum privacy for the community. Ingeniously following the topography of the site, several garden courts are arranged in varied patterns, each surrounded by rows of two-story houses with their front porches directed toward them. No intersection of any public road occurs. Service lanes are laid out along the rear of the

house and connect the parking areas.

The community center, with two courtyards enclosed by brick walls, forms a distinctly marked central group facing onto the boundary streets.

The community building is well proportioned, and all interiors received carefully applied finishings.

The assembly hall, despite its open space and its elaborate decorative treatment, does not appear large enough for the capacity of the project.



LARK HOWELL HOMES, ATLANTA, GA.



Hentz, Adler & Shutze, Chief Architects;
J. Warren Armistead, Associate; A. Ten
Eyck Brown, Ivey & Crook, Francis P.
Smith, Associated Architects.

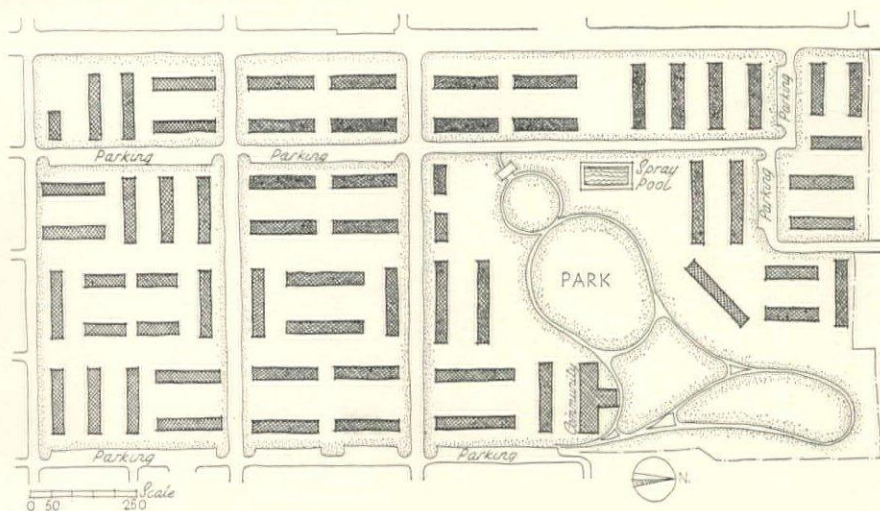
DESIGN

The houses are built in multi-colored brick with simple and carefully designed details for canopies projecting over the doors, and for cornices allowing a sufficient roof projection. The red roofing tiles are, in color and texture, harmonious with the brick walls.

SITE PLAN

The site of this nearly completed project with a capacity of 630 white families, is adjoining one section of Techwood Homes (PWA). The land is rectangular with a sharp gradient in the shorter dimension. Terraces along the groups of row houses are laid out to avoid separate platforms in front of the entrances. All efforts were successfully made to cope with the topography of the site and to preserve existing trees.

A large community building is equipped with abundant amenities such as a large meeting hall, craft and club rooms, pre-school playrooms and kitchen.



JOHN HOPE HOMES, ATLANTA, GA.



George & Stevens, Chief Architects; Henry J.
Hobbs, Smith & Daves, I. Moscovitz, Associates.



SITE PLAN

This project accommodates 248 Negro families. The site is sloping and of interesting topography. Good use is made of the gradient of the land even to the extent of an amphitheater looking over the playgrounds.

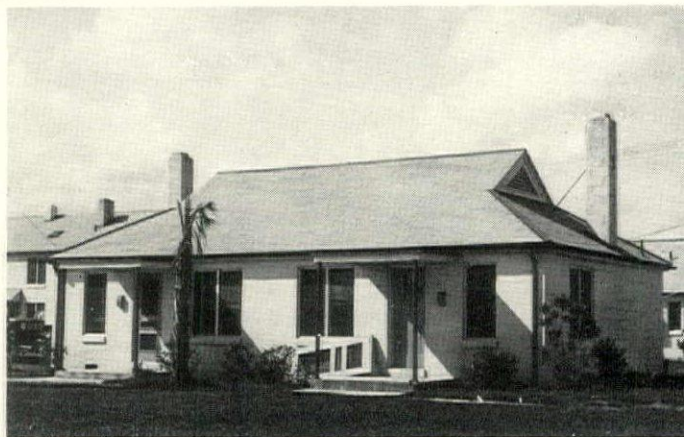
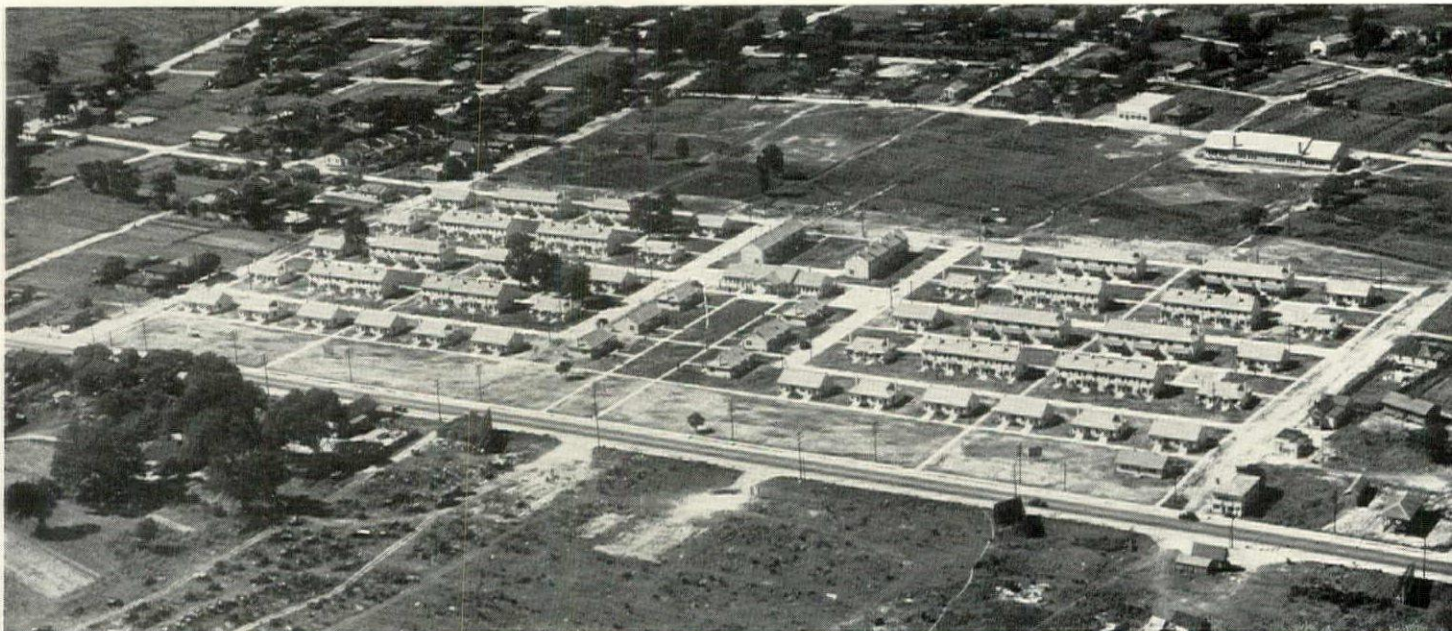
Community pavilions are original to this project. They are equipped with seats and placed in several prominent positions along the walks. The introduction of this feature does not seem quite justified when considering the extreme economy in all other architectural details of the houses and their accessories.

DESIGN

The two colors used for exterior walls together with the different roofs — some houses have pitched roofs, some have flat roofs — produce a rather disharmonious effect.

The flat-roofed units arranged at the ends of each group have their main entrances accessible from the same porch, and the doors opening outward clash against each other. An enclosing solid wall reaching up to the canopy, makes the small platform appear insufficiently lighted and not spacious enough for two apartments.

FELLWOOD HOMES, SAVANNAH, GA.



Cletus W. Bergen, Supervising Architect; Morton H. Levy, W. Clark, Walter P. Marshall, Associates.

SITE PLAN

The project provides for 176 dwellings for Negro families. Its rectangular site is situated in an undeveloped district and faces a main road. From each of the two parallel streets which form the side boundaries of the land, service drives lead to the community center, and the parking areas nearest to it, connecting them with the backyards of the houses. The grass plots between the house fronts are kept free of all vehicular traffic.

DESIGN

The porches in front of the houses are well-spaced and contribute to their pleasant appearance. They are supported by round steel columns and have flat concrete roof slabs in the case of the one-story houses. The houses are constructed of hollow blocks, painted white. The texture and color of the roof slates are in harmony with the walls.

Metal tanks for oil storage for each unit are placed at the rear of the houses, supplying by gravity-feed the stove, hot water boiler and cooker. Garbage receptacles are sunk into the ground in a position opposite the back doors next to the service drive.



RENTWOOD PARK, JACKSONVILLE, FLA.

Ellen C. Greeley, Chief Architect; Ivan Smith, W. Kenyon Drake, Olaf E. Gerberg, S. Ralph Fetner, Leeroy Sheffield, Associated Architects.

TE PLAN

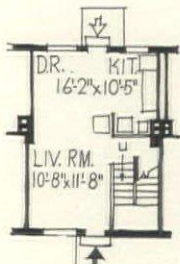
The excellent site plan of this project, containing 230 units for white families, arranges open courts of row houses on both sides of an existing avenue. The rows are accessible from service lanes leading to parking areas. The rear yards of the houses face onto these lanes.

The house fronts face gardens with beautiful groups of trees. The houses are a minimum distance of 90 ft. from each other. Complete privacy is secured for the garden grounds extending between the houses. Flagstone paths connect the house entrances with a central walk.

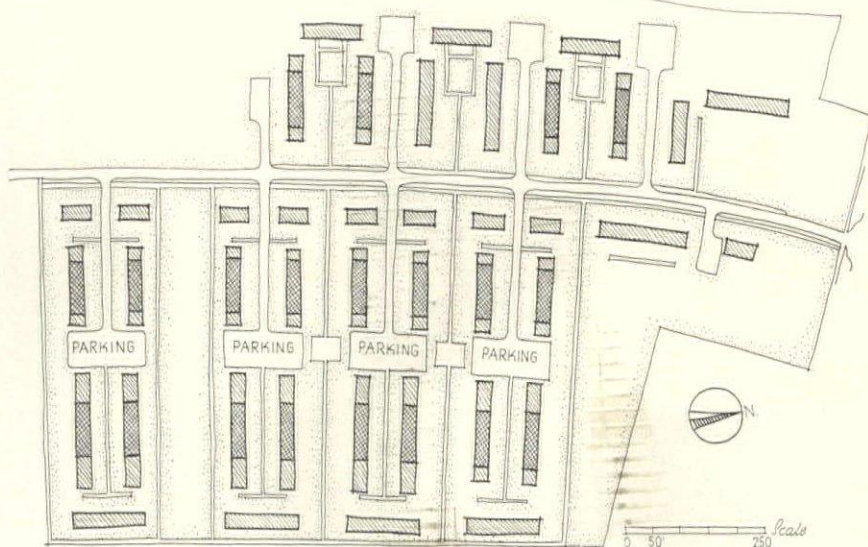
ESIGN

The porches in front of the entrance doors are wide enough to hang a hammock and provide a shady open air place. Their spaciousness contributes greatly to the quality of the project as a well-designed garden community.

The planning of the units follows an arrangement typical of Florida projects in omitting a division between living room and kitchen. The result is a large combined living room with kitchen and dining space, cross-ventilated by two window-fronts. The double flight staircase and landing, however, results in an unjustified waste of space.

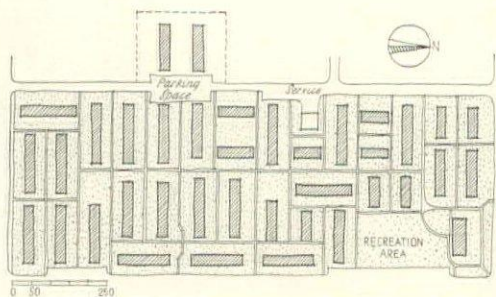


SERVICE LANE, GARDEN FRONT above



JORDAN PARK, ST. PETERSBURG, FLA.

Henry L. Taylor, Chief Architect; Archie G. Parish, Carl N. Atkinson, Elliot B. Hadley, Philip F. Kennard, Henry H. Dupont, C. W. Fullwood, Jr., Associated Architects.



The project has dwellings for 242 Negro families on land of rectangular shape. No road traverses the site. A system of conveniently laid out walks connects the houses and the community building.

An ample roof projection of 15 in. is provided. It offers protection not only against sun, but also shields the walls. A wire meshed grille in the soffit of the roof projection provides for adequate ventilation of the roof space. The walls are built of

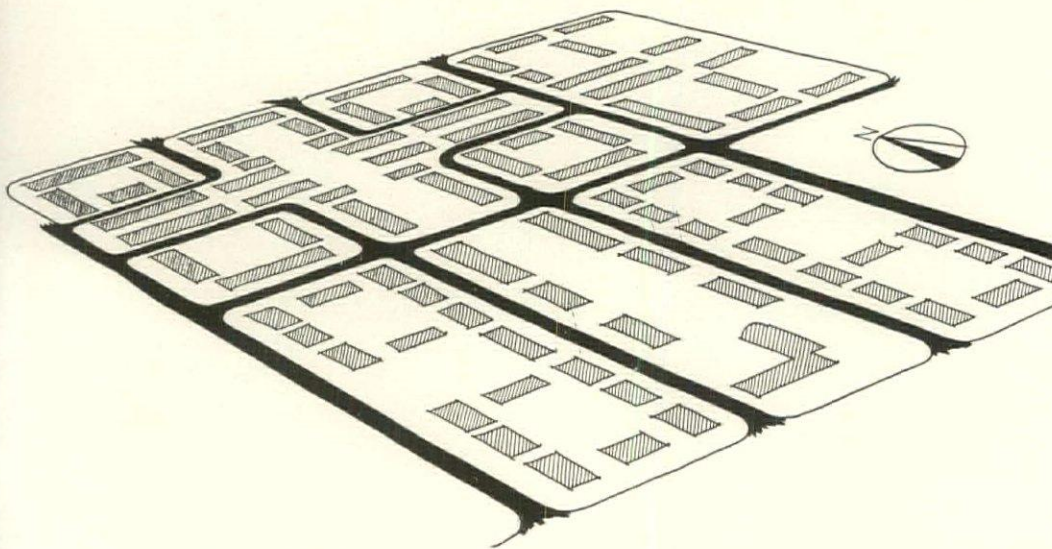
hollow blocks painted a light color, very pleasantly emphasizing the horizontal joints only.

The spirit of this small community stands out as one of the best examples of the moral evolution achieved through public housing. The joy of the tenants for their new environment, their attention and care for the upkeep of their homes, and their pride in furnishing them as nicely as possible, are strikingly apparent. The

happiness of the children when cool off in the spray pool provided for them is a most enjoyable sight.

The standard of living thus created seemed to exercise an influence even on neighboring speculative Negro housing. It can be observed that new habitations are being erected in the neighborhood with at least some sort of hygienic facilities, contrasting with the miserable shanties of old slums.

EDISON COURTS, MIAMI, FLA.



H. D. Stewart, Chief Architect; E. L. Robinson, V. E. Virrick, R. L. Weed, Associated Architects.



SITE PLAN

Here is a project which could be considered one of the best if the community were not interfered with by too many public roads unnecessarily intersecting the site. Seemingly the site plan had to compromise with the usual pattern of small rectangular blocks of the original city plan.

The frontage along 62nd Street is divided into three oblong blocks with the administration building in the center facing the street. The portion between 64th and 67th Street secures more privacy with in its central part by deviating the street



around the corner blocks and so discouraging through traffic.

The houses which provide 345 units for the families, are so grouped that their backs form a rectangular courtyard on each of the small blocks. Existing trees and newly planted palms adorn these rear yard plots. The garden plots on the street front are not wide enough to secure privacy.

SIGN

The open laundries, placed in the rear yard plots, appear as a pleasant architectural feature quite apart from their practical value. Solar heating is used for the supply of hot water to the laundries as well as to the houses. The insulated hot water tank enclosures on the roofs add a characteristic architectural note reminiscent of the chimney stacks.

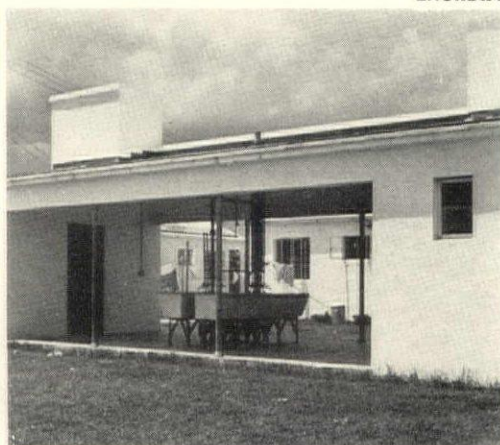
The continuous and spacious porches are arranged along the fronts. The white color of the exterior walls, the galvanized columns on the porches, the color and texture of the building material blend well together and produce, with the fine landscaping, pleasant and harmonious effects.

The graceful architecture of the administration building contributes to the pleasant impression of this project. The building contains the amenities general for a community center. The assembly room, used also as kindergarten, should be better and the management regrets the lack of an adjoining kitchen.



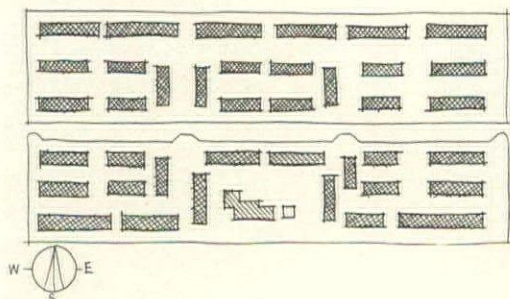
COMMUNITY CENTER

LAUNDRY



RIVERVIEW TERRACE, TAMPA, FLA.

Franklin O. Adams, Supervising Architect;
Frank A. Winn, Jr. and Norman F. Six,
Associated Architects.



SITE PLAN

The land is well selected from the point of view of its topography, and the layout of the buildings has offered interesting problems with regard to preservation of existing old trees.

The site is divided into two oblong sections by an internal driveway with a parking area along its entire length. The houses are grouped in rows with the larger units in two-story houses and the smaller units in one-story annexes at the end of each group. The houses along the two bordering main roads have their fronts directed toward them.

Five large sections are provided in the interior part of the site, forming 80 ft. wide garden courts flanked by two groups of houses and closed by a group at one end, but open toward the bordering roads at the other end. Privacy is thus achieved for the garden courts.

The administration building is on a main boundary road. It has a special service yard with a driveway from the road, and is equipped with a community center. Spray pool and play areas are arranged on the surrounding grounds with groups of houses on their boundary.

The project accommodates 328 families.

CONCLUSIONS

When studying the remarkable social evolution achieved in these public housing projects, a critical analysis of the part architecture plays in it is of considerable interest. Some projects attain the solution of the manifold problems implied in housing nearly perfectly, whereas others fall behind. Taking the spirit of the community as the measure for the success of a project, we can observe that this spirit depends on the internal organization set down in the site plan. Just as the plan of a house determines the formula of life for its inhabitants, so the relation of various groups of houses to one another determines the relationship between their inhabitants. It is the designer of the site plan who outlines the future social pattern for the community.

The conditions of light in southern countries allow for flexibility in the orientation of the buildings. Therefore the fronts of row houses can be arranged to



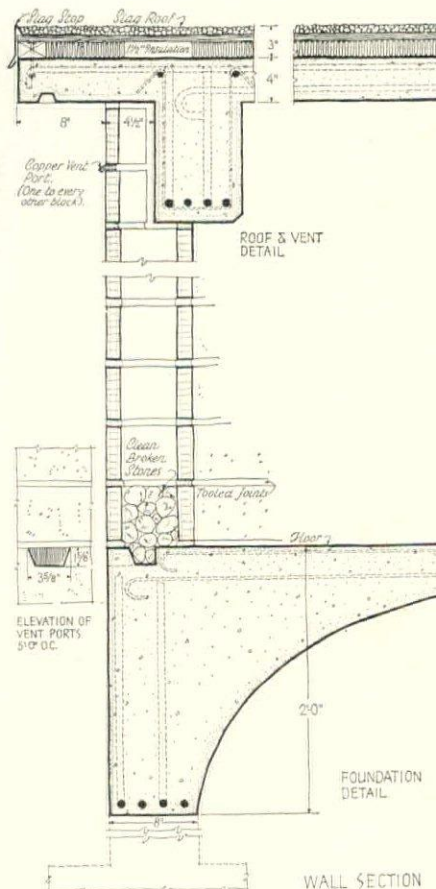
CONSTRUCTION

The wall construction is based on the assumption that the penetration of water through a vertical wall surface is caused by the difference of atmospheric pressure on the two sides of the wall. The insulating air curtain established in the hollow spaces of a wall, when built in hollow concrete blocks or hollow bricks, is usually left as a stagnant volume of air. It can be brought into circulation with the outside air by means of passages at the bottom and at the top of the wall. If so treated, this air curtain will always have the same atmospheric pressure as the outside air. Consequently suction cannot occur through the wall surface when exposed to rain and storm. The walls are merely whitewashed on their exterior and no waterproofing or furring is necessary for the internal surfaces before plastering is applied.

The reinforced concrete skeleton of the houses shows an interesting feature of the foundation beams in connection with the concrete floors above ground. They are laid out on a curve determined by the stability of the filling material, thus avoiding the necessity for forms. The filling material is not brought in before the drainage system and all utilities are in position.

face each other with open greens and gardens between them. No roads should traverse these green areas and their seclusion should be secured under all circumstances. Foot-paths are sufficient connection to the front doors of the houses whereas a system of service roads, not to be used by through traffic, should connect the rear yards and the parking spaces.

With the exception of very small projects, a division into several sections can be established, each of them forming a garden court, either open on both sides or closed on one. No attempt should be made to make these courts rectangular or of uniform size. If the topography of the site does not indicate specific suggestions for the form and size of these courts, their pattern should be derived from a centralized organization of the project. Such organization is advantageous for every project of larger dimensions. The project center should be the largest open area of the



Another idea original to this project is the omission of all screen doors. Only a door is used and it is equipped with a screen as well as a glass panel in a frame arranged for opening. It will be interesting to learn the practical effect of this arrangement, as the omission of screen doors, opening outward and therefore always exposed to damage, would mean an appreciable economy in construction and maintenance.

project where all the amenities of the community center are placed. Intelligent utilization of the site plan always leads to interesting patterns for its various sections, eliminating monotony although imposed with typical group units.

The topographic qualities of the land give the project its charm and character. It is only in very few cases justified to correct individual topographic features by adjusting the site to a preconceived plan. Existing trees should be treated with the same respect. Any irregularity in the pattern due to their preservation will produce pleasant perspective views.

COMMUNITY CENTER

The best position for the community center is within or next to the central area indicated before. It should not be placed far from the boundary road since it uses the houses the administration, and interferes

the privacy of the community by prospective tenants or inhabitants of the neighborhood using the amenities of the center, could be avoided. This consideration will, in most cases, lead to a position of the community center between central area and secondary road.

The dimensions of the assembly room are often inadequate and they should be distinctly scheduled in accordance with the number of units. This room should offer sufficient space for lectures and meetings of the community. Many projects are handicapped in their social organizations through lack of space.

In addition to the amenities generally provided in the community center, a kitchen adjoining the assembly room should be made part of the program. Experience shows that, particularly in projects for negro families, cookery courses are established. If a special kitchen is not provided, these courses are held in unoccupied apartments which are neither sufficiently spacious nor available after a certain period.

The provision of a library seems a most valuable contribution to the community. Whenever introduced it is highly appreciated. A small room adjoining the assembly room seems adequate for this purpose.

With respect to future projects, especially in connection with the defense program, the provision of First Aid facilities in the community center should be made obligatory. The rooms reserved for this purpose should be furnished with the necessary surgical equipment including sterilization, and should be spacious enough to meet eventual decontamination cases efficiently. This section should be made accessible directly from outside and should not be connected with the assembly room for the purpose of First Aid courses and training of community wardens. Eventual raid shelters should be situated with their entrance next to the First Aid station.

ARCHITECTURAL FEATURES

The adjustment to climatic conditions gives architectural creations their character. All features which we admire as local or traditional characteristics originate from climatic influences.

Architectural features like porches, verandas and projecting roofs in the South were originally introduced for their protective qualities against heat. They developed into decorative elements which became, as in Charleston, a traditional characteristic. The modern designer should reject these features for their practical value. He can also make use of their decorative possibilities, but when so doing he should pursue his idea to its simplest expression, keeping it in harmony with the simplicity of his other details applied. The treatment of columns, for instance, which support the porches of many projects in

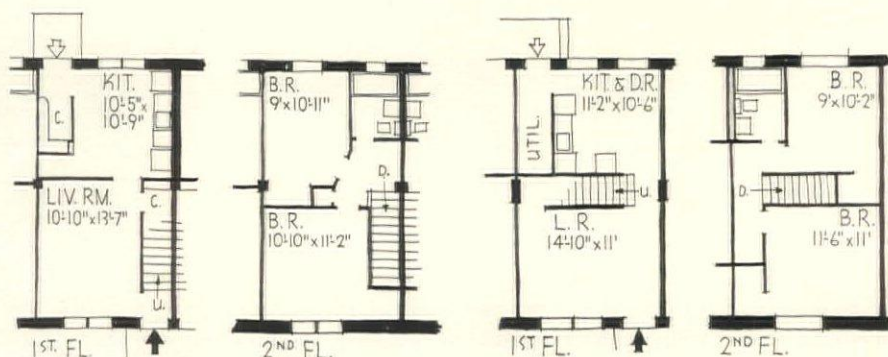


the southeastern region, is an illustration of this statement. Economy of expression is an esthetic principle of our period.

Porches appear as the most pleasant enrichment of the architecture of this section, especially when they are not merely applied as decoration, but are brought to their full value by arranging them in a width approaching the projection of a veranda. In some of the projects, porches run through two stories. They seem altogether out of place in a low cost housing project. The contrast between two such porches, one in brick and the other in reinforced concrete, serves to prove the

established esthetic principle that traditional features are best handled in materials of similar functional character to those used in the original.

The response to climatic conditions would indicate an ample projection of the roof as protection against sun. Such projection would also seem desirable to shield the surface of the walls, particularly when these are painted in white or any other light colors. No specific color on buildings is needed for a harmonious effect in southern climates. It is, in fact, the white color of a wall which stands best against the strong colors surrounding the building.



UNIT PLAN

In a two-story row house the planning of the living room and the kitchen with the utility space attached, is generally based on two principal methods determined by the position of the stairs leading to the bedroom floor. These stairs can be laid out perpendicular to the front walls or parallel to them in a space between living room and kitchen. In spite of the fact that the second method does not involve any loss of frontage space and would, therefore, appear preferable, the first method seems to be favored in the projects seen.

When applying the first method, the stairs should start opposite the main en-

trance. They are separated from the living room either by a solid balustrade or by a partition. Omitting the balustrade and beginning the partition at the first step of the stairs would seem the better arrangement, as it provides for a small entrance space and thereby adds privacy to the living room. The rear entrance to the kitchen is best placed opposite the utility space, thus preventing tools and other garden implements stored there from being carried through the kitchen.

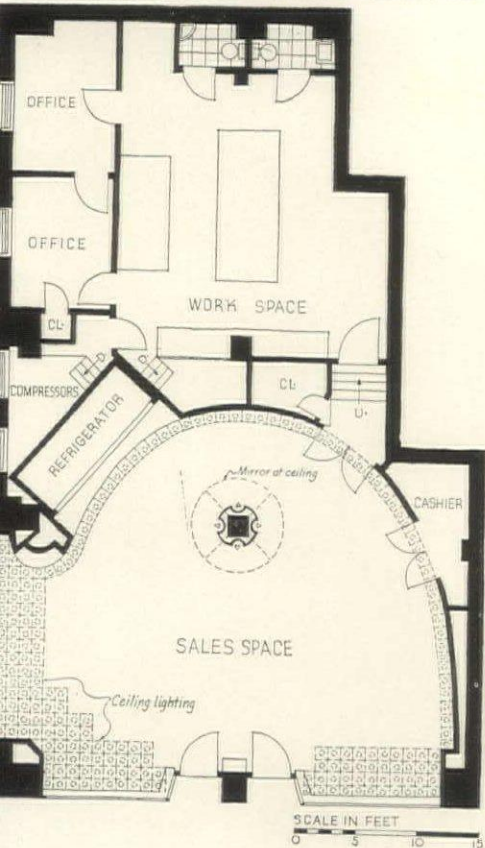
A general ruling for all modern planning also stands for low rent housing, namely, that a successful plan can only be attained free from any forced effort to achieve architectural effects on the outside.



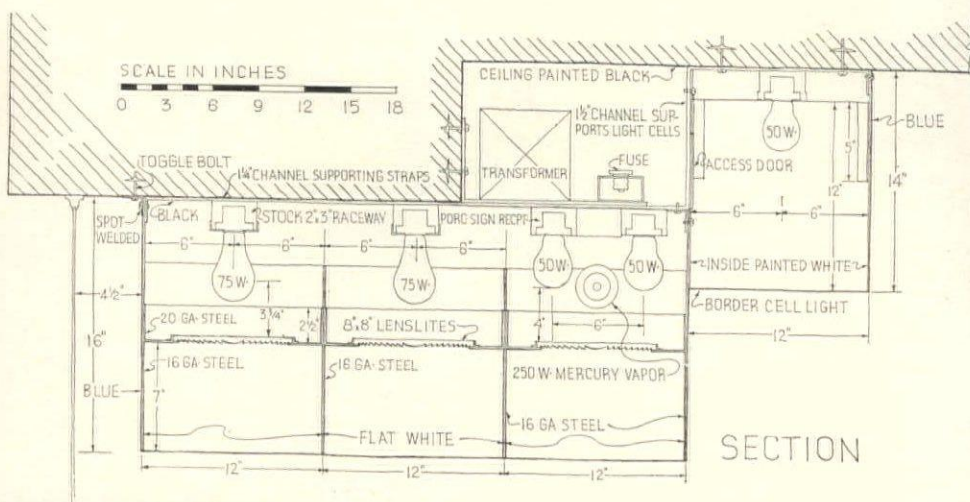
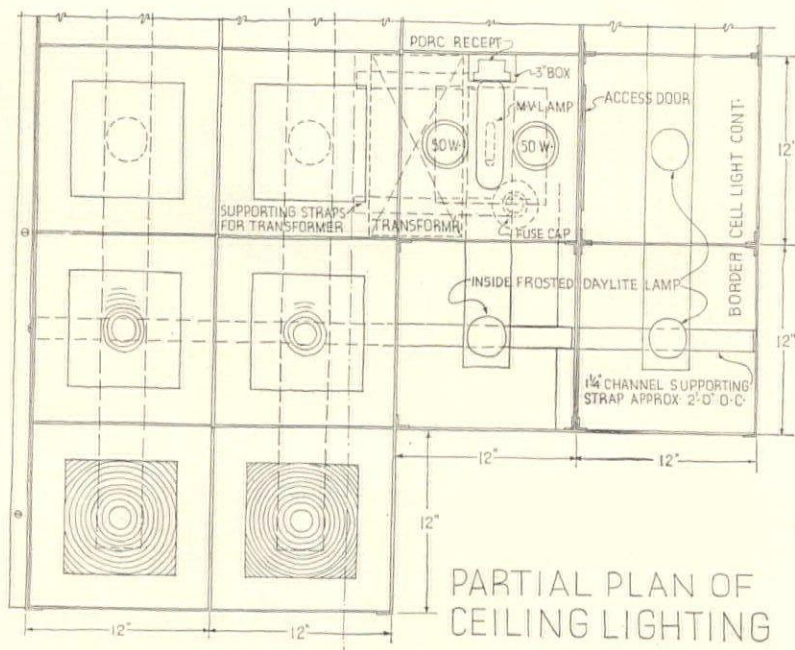
F. S. Lincoln P.



This shop was created as a display background for a florist who specializes in flower arrangements. The off-white rear wall, covered with tufted leather, provides a brilliant contrast to the green foliage and vividly colored flowers. A dark blue-green ceiling, rough in texture, also serves to concentrate interest on the displays below. Window bulkheads were eliminated, and two movable wooden pedestals, varying in height and width, were built to facilitate the periodic changing of flower arrangements. Egg-crate light boxes illuminate the show windows; the ceiling



Continuation of these units around the curved wall most successful in unifying the design. Considered as a whole, the shop provides another excellent illustration of the trend toward fuller integration of interior and show windows, with the result that the entire space functions as a display unit.

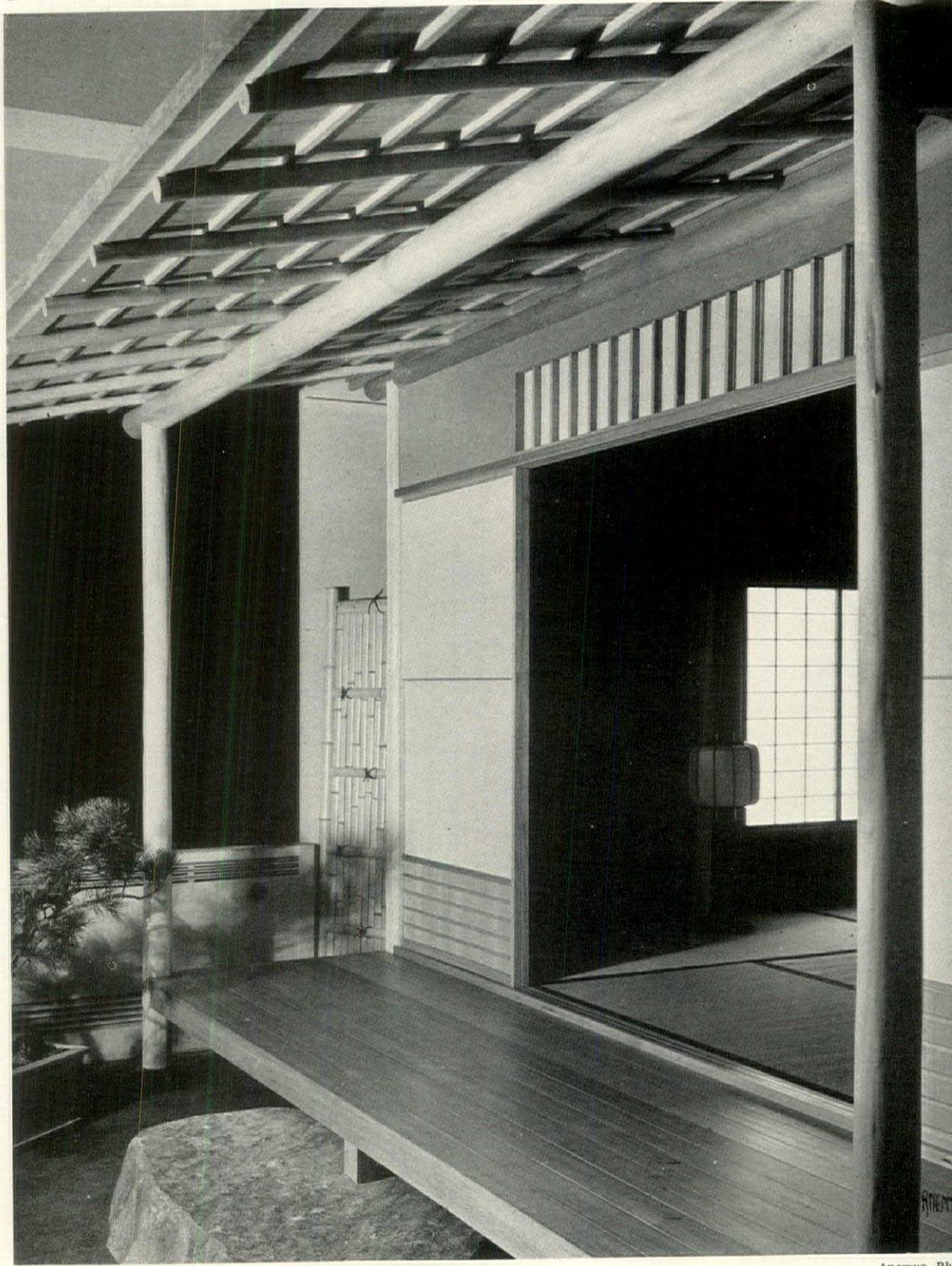


JULIAN E. GARNSEY, Color Consultant
HAMEL & ENGELKEN, INC., Consulting Illuminating Engineers
SCHELLING-BUSCH-SNYDER, INC., General Contractors

FINISHES AND EQUIPMENT

FLOOR COVERING—Asphalt tile, Tile-Tex Co.
WALL COVERINGS—Leatherwall, Blanchard Bros. & Lane.
FURNITURE—Grand Central Wicker Shop, Inc.
PAINTS—Keystone Varnish Co. and National Lead Co.
ELECTRICAL INSTALLATION—Kliegl Bros. Universal Electric Stage Lighting Co., Inc.
REFRIGERATOR—McCray Refrigerating Co.

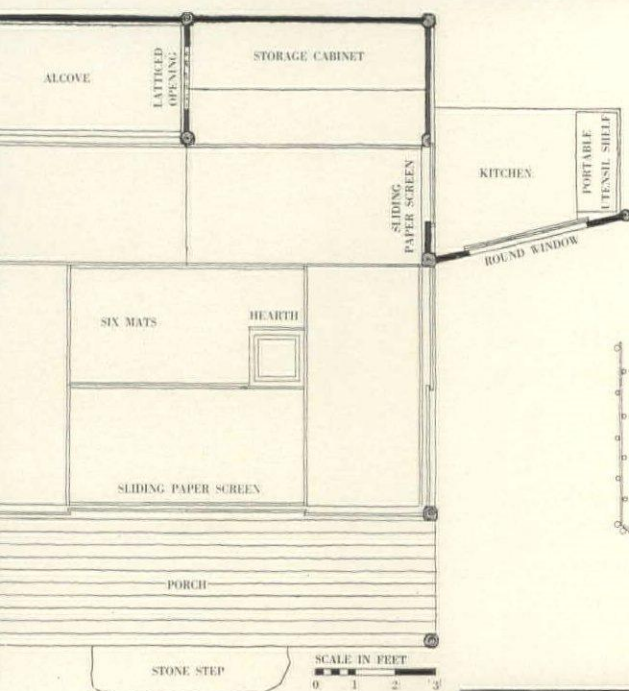
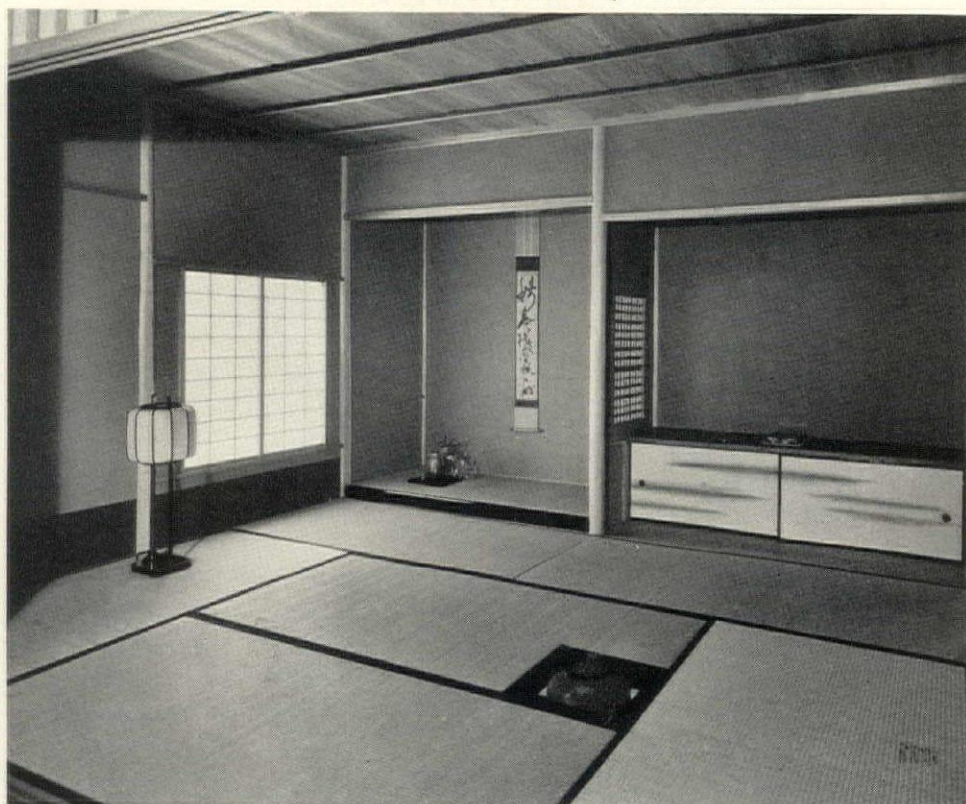
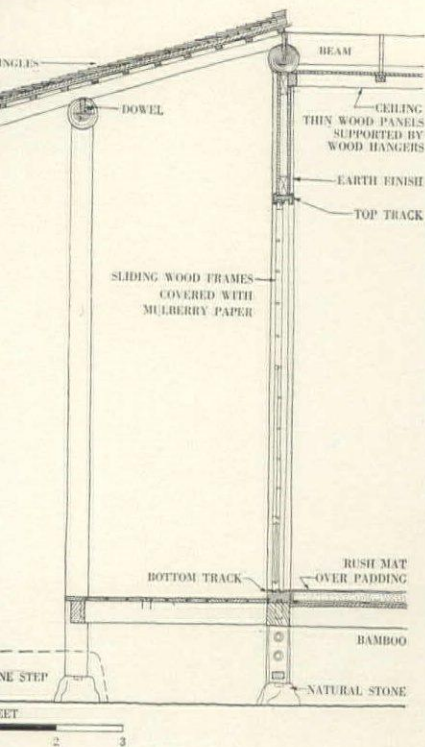
JAPANESE TEA HOUSE



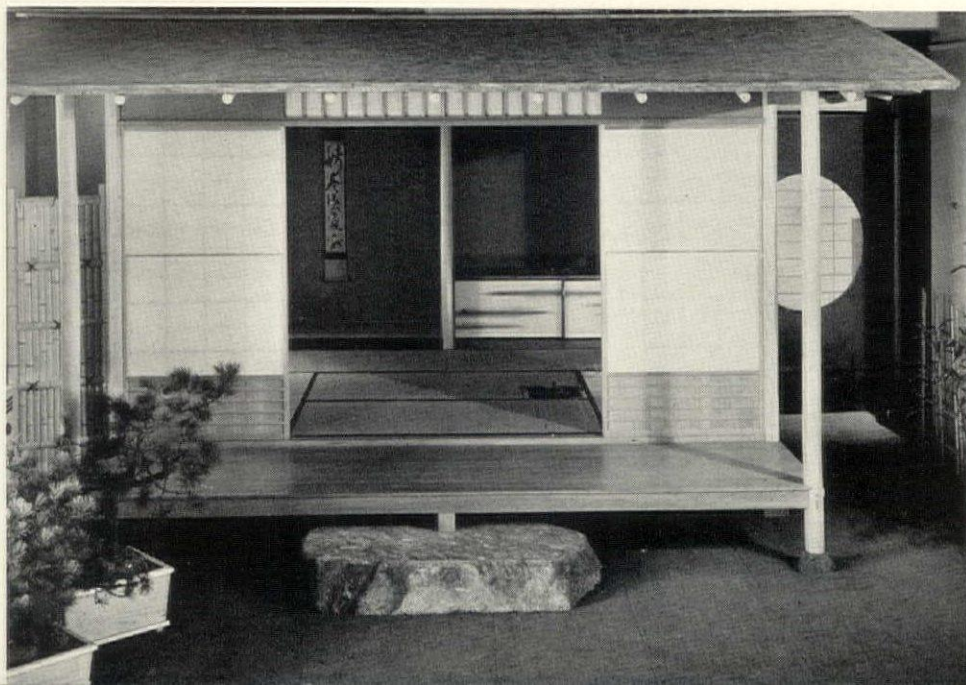
Anemysa Ph

The thoroughly contemporary appearance of this small house is accidental, as it is a replica of a type that originated in Japan in the sixteenth century. Built in the Japan Institute in New York, it demonstrates in a most effective fashion the structure developed by the early tea masters and later used for dwelling. The plan is arranged around eight of the mats which form the traditional module in Japanese domestic architecture. It is of particular interest to note that the recent trend in modern American houses, to attempt to reduce their severity of appearance by the use of natural materials and shapes, has been anticipated by work over three centuries old.

SIGNED BY JUNZO YOSHIMURA, ASSOCIATE OF ANTONIN RAYMOND, ARCHITECT



The house is of mortise joint construction, no nails being used in the frame. Wood is Japanese cedar and the harder Japanese pine. Walls are of native Japanese earth, reinforced by a reed lattice which is exposed in the wall adjoining the alcove. This alcove is reserved for the display of flower arrangements and paintings; articles used here are normally stored in the built-in cupboard. Sliding screens at the front may be placed in a variety of positions, giving flexibility to the garden view; the screens as well as the windows are covered with a translucent mulberry paper.



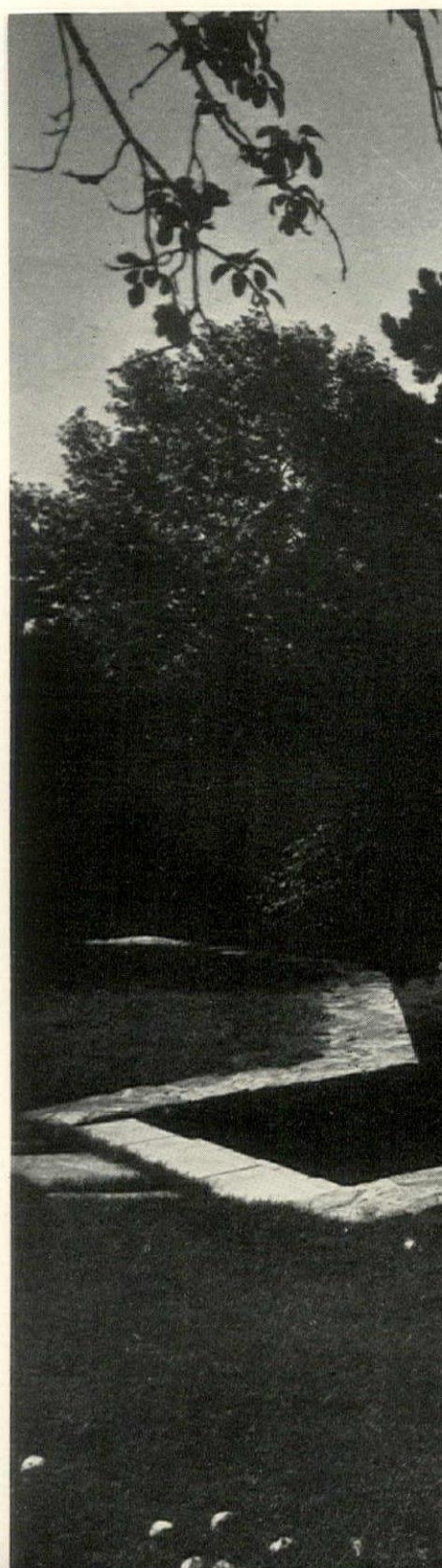
HOUSE IN PITTSBURGH, PA.

WALTER GROPIUS

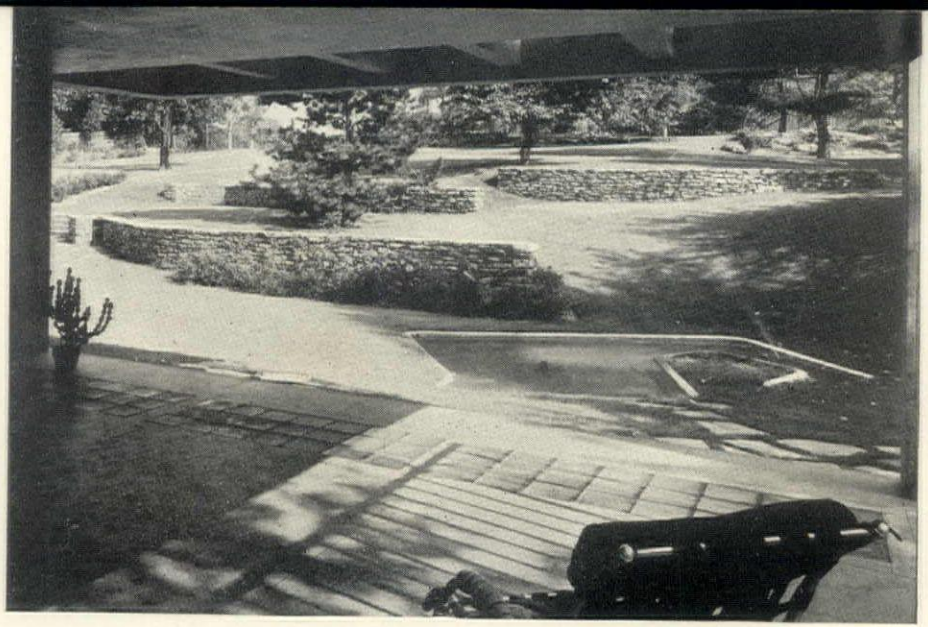
Many factors combine to emphasize the importance of this house. It is probably the largest residence ever built in the International Style. It is one of the few big new houses of any description. Its architects are unquestioned leaders of this phase of the modern movement, Walter Gropius being not only one of its originators, but the only member of the European group who has remained continuously in practice since its inception. Neither Mies van der Rohe, Oud, nor Le Corbusier, for example, has built a single building in the past five years.

The International Style is an importation from Europe. There is nothing particularly remarkable in this fact, since it also holds true for Colonial and almost every other traditional expression in American architecture. It is significant in the case of the International Style, however, that the social conditions and attitudes in Europe of the 1920's, when the style flourished, were not duplicated here in the 1930's, and the attempts to transplant it met with only fleeting approval from an extremely limited group. The frequently monotonous use of ribbon windows, smooth white walls, pipe railings and the rigidly box-like envelope angered the conservative and failed to impress the thoughtful. The characteristic machine-made look of these structures was largely a superficial manifestation of a desire rather than of an existing state of affairs. Many a European building in the International Style, which from a distance looks as if it had been rolled out in a strip mill, on closer inspection shows the stucco peeling off a base of hand-laid, hand-made brick. There are many such instances of an inverted romanticism disguised as rigorous logic. Partly as a consequence of this, the American phase of the International Style, as applied to residences, ended before it had fairly begun. This is not to minimize its enormously stimulating influence on architects here, nor to deny the fact that all contemporary architecture has an international character which will probably increase in the years to come. But there is a difference between international similarities in building, which stem from similar ways of living and methods of construction, and the International Style, which is a very special and limited expression. Also, within the present and future framework of building, there is ample room for great variety. This is already evident in the work of the best of the younger architects in the East, the Pacific Northwest and California, where distinctly regional characters are beginning to emerge.

In evaluating this house as the currently maximum expression in the International Style by two of its most respected proponents, it seems indicated in the field of American domestic architecture that a less intellectual, a less rigid and a more indigenous answer must be found. It is not without significance that in this house is displayed an awareness—even if not a wholehearted acceptance—of this fact. In its use of random ashlar, stone veneer, travertine and natural wood is indicated a new interest in natural materials. Also worth noting is the disintegration of the rectangle into freer shapes, as in the stairway, garden walls and entrance vestibule. If in so important an example such drastic modifications are to be seen, there is new and impressive evidence that contemporary architecture is entering a new phase, richer, more assured, and more human.

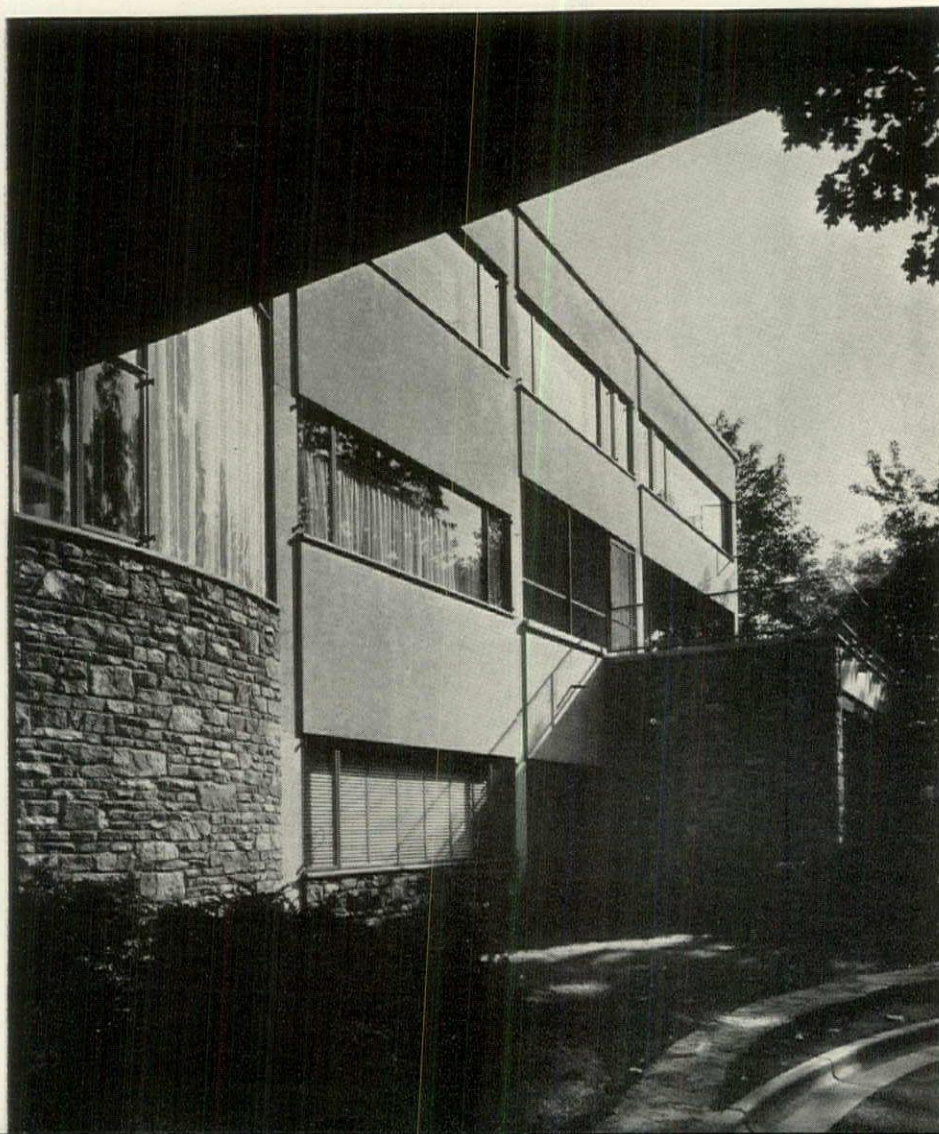
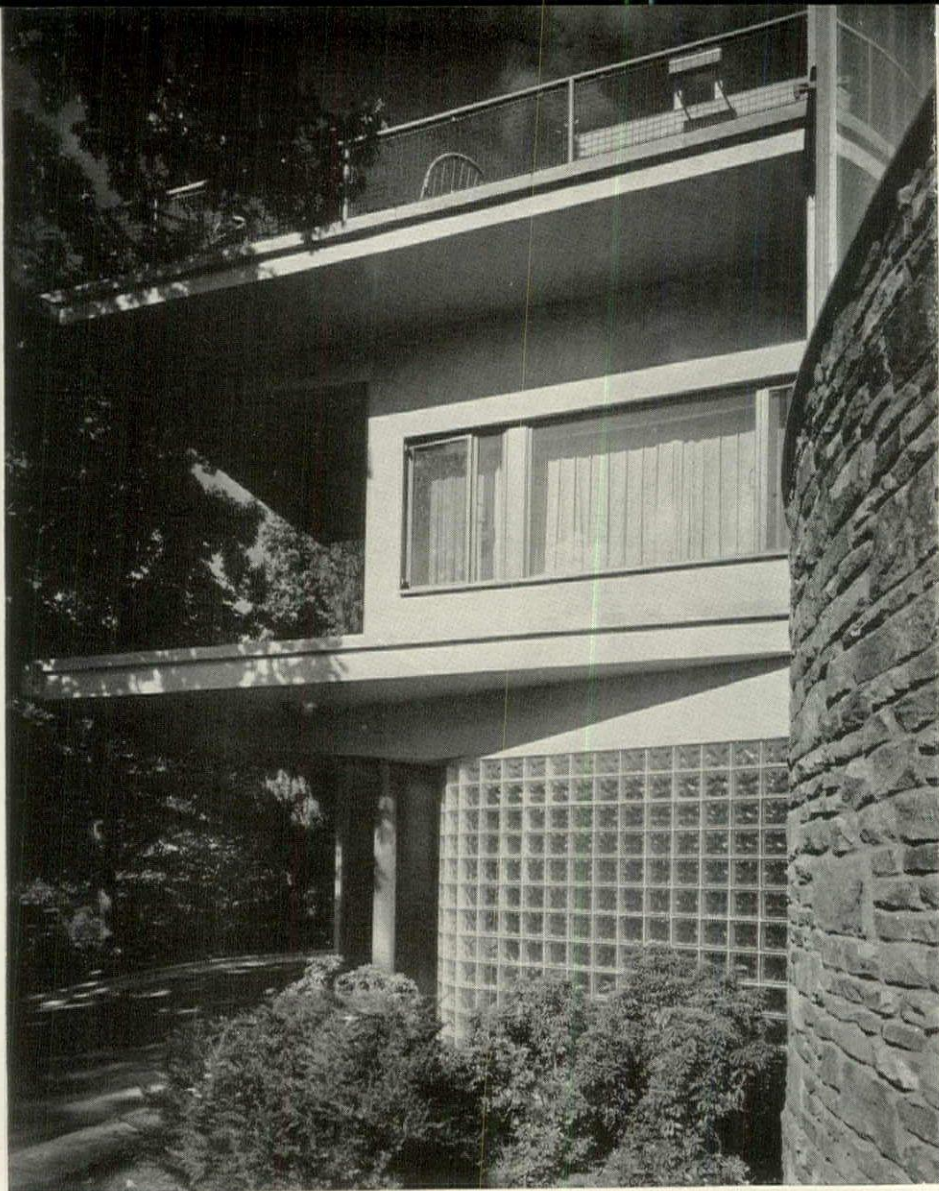


CEL BREUER, ARCHITECTS



All photos, Ezra Stoller



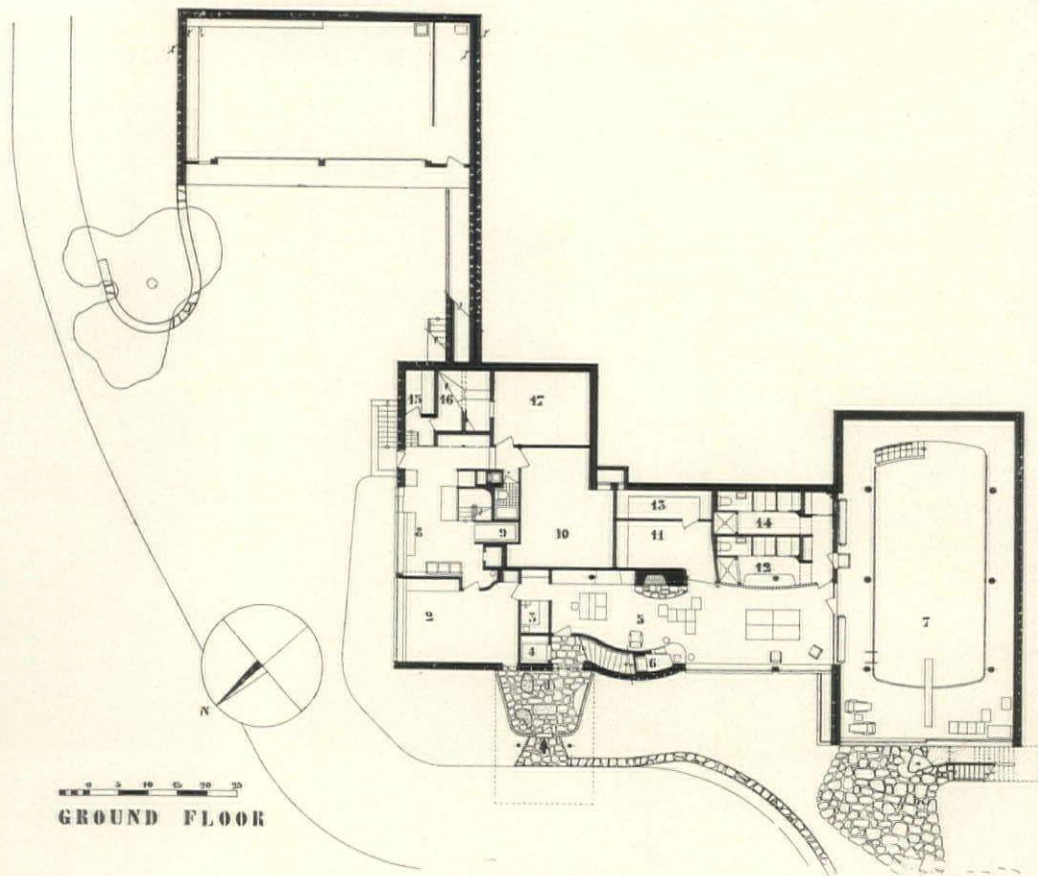
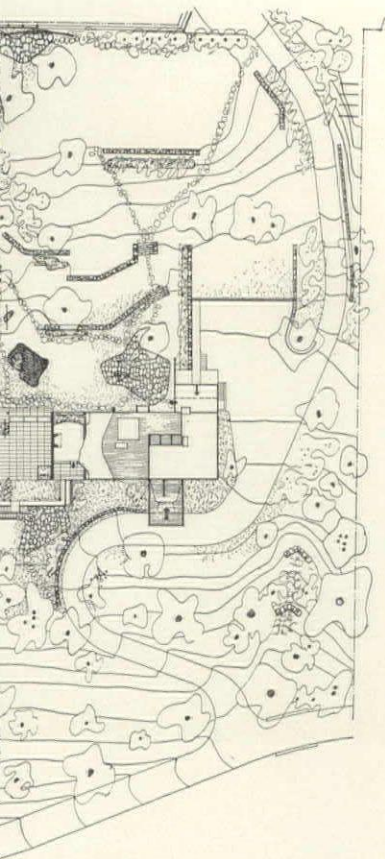


The plans show the same breaking of rectangle by long arcs and diagonals. The big curve of the main stair dominates the playroom behind it on the ground floor. This curve is echoed by another in the glass block wall in the opposite side of the playroom. None of the main rooms on the first floor is a simple rectangle. The hall, living room and dining room are separated from one another by a balcony-like pier faced with travertine, the side forming the living room fireplace. While this sculpturesque pier stands in dramatic contrast to the rectilinear planes of the other walls, it is somewhat difficult to understand its whole form as there is no large space within the house which affords the possibility of a general view. The divided character of the living space on this floor is a result of the clients' wish for small intimate rooms.

These rooms show many examples of the use of natural materials. Wood is the surface of most of the walls, and the traditional furniture which established Breuer's international reputation has been discarded in favor of his newer designs in wood. Bold-patterned fur and fabrics are used extensively. Plants and flowers are also effectively employed in the small conservatory at the end of the library, and in the vestibule.

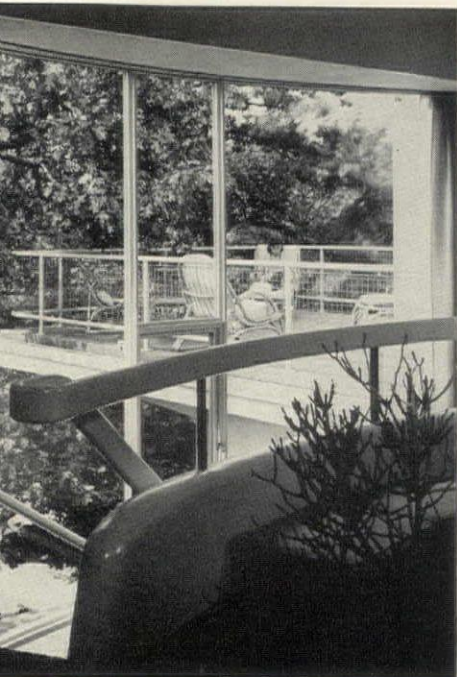
All these—wood, stone, fur and plants—are evidences of the growing desire to temper the appearance of mechanical efficiency by the humanization of architectural elements. As much painstaking scientific study goes into the house, the mechanics are no longer dramatic or excessively.

The newer interiors quietly minimize their hard-boiled efficiency, and recall in appearance many of the more graceful and human qualities of traditional domestic architecture. They are no less modern for this, but merely less insistent and looking modern. Designed by two of the leading architects of the first and most assertive phase of modern building, the house shows its relation to both the order and to the modifications now affecting it. The value of these new ideas is that they encourage architecture to develop and keep alive; the danger is that they may disorganize the old discipline of composition, or, like so many new ideas, relapse into fashionable mannerisms.



GROUND FLOOR

1. ENTRANCE LOBBY 2. SON'S WORKSHOP 3. PROJECTION ROOM AND DARK ROOM 4. ELEVATOR 5. GAME ROOM 6. CHILDREN'S SOFT DRINK PARLOR 7. SWIMMING POOL 8. LAUNDRY 9. DRYER 10. AIR CONDITIONING 11. STORAGE 12. GIRLS' DRESSING ROOM 13. WINE STORAGE 14. MEN'S DRESSING ROOM 15. VEGETABLE STORAGE 16. COAL STORAGE 17. BOILER ROOM



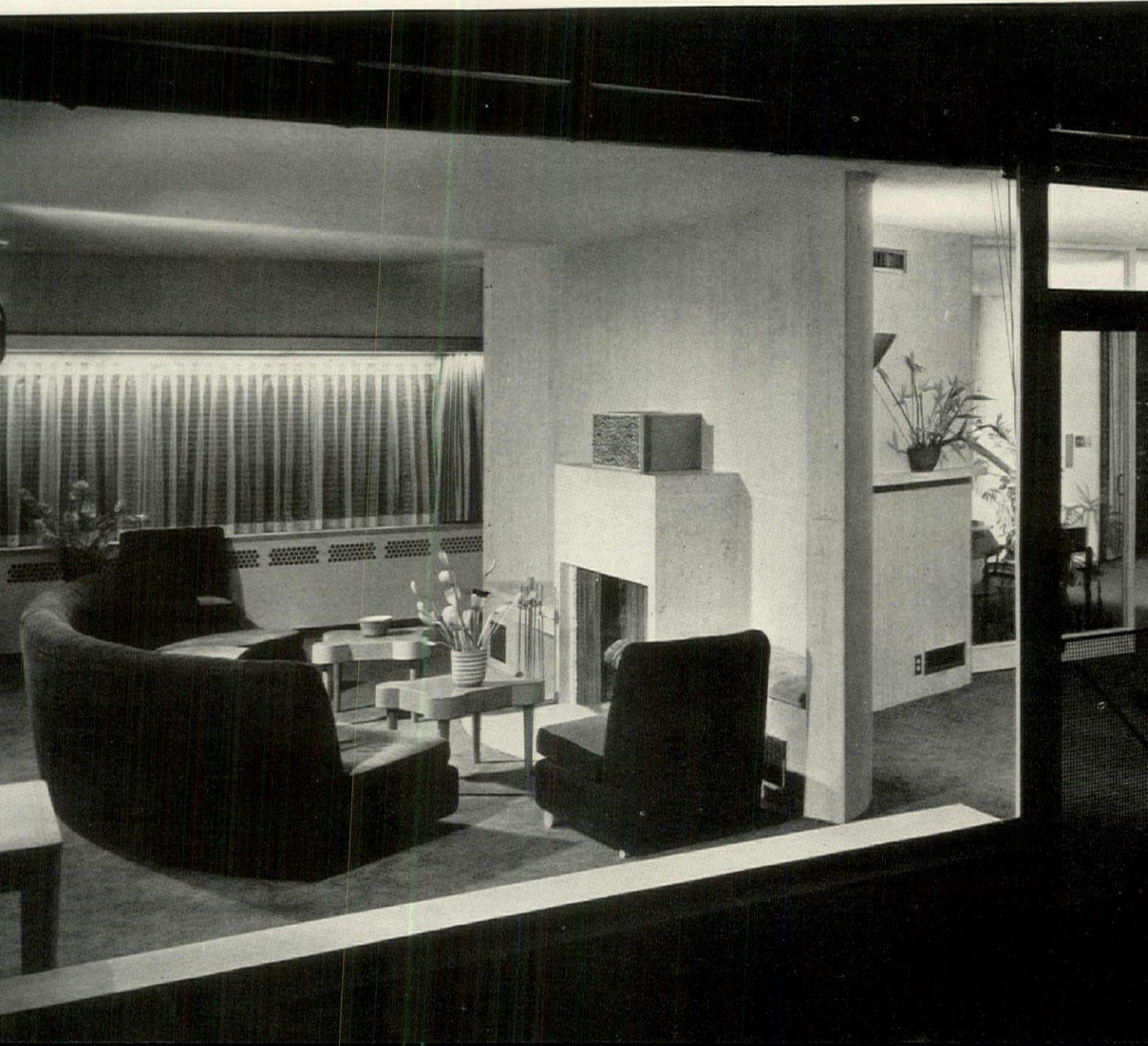


LIVING ROOM

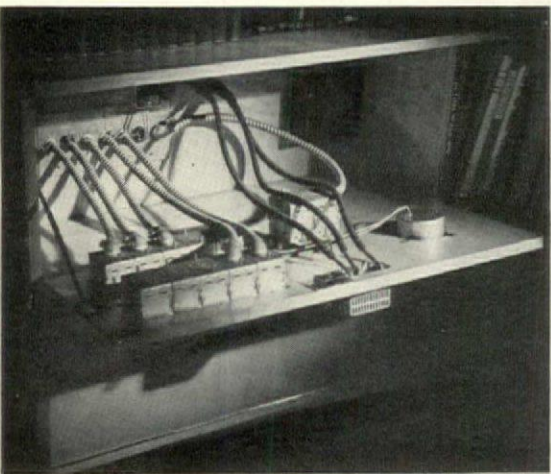


STUDY

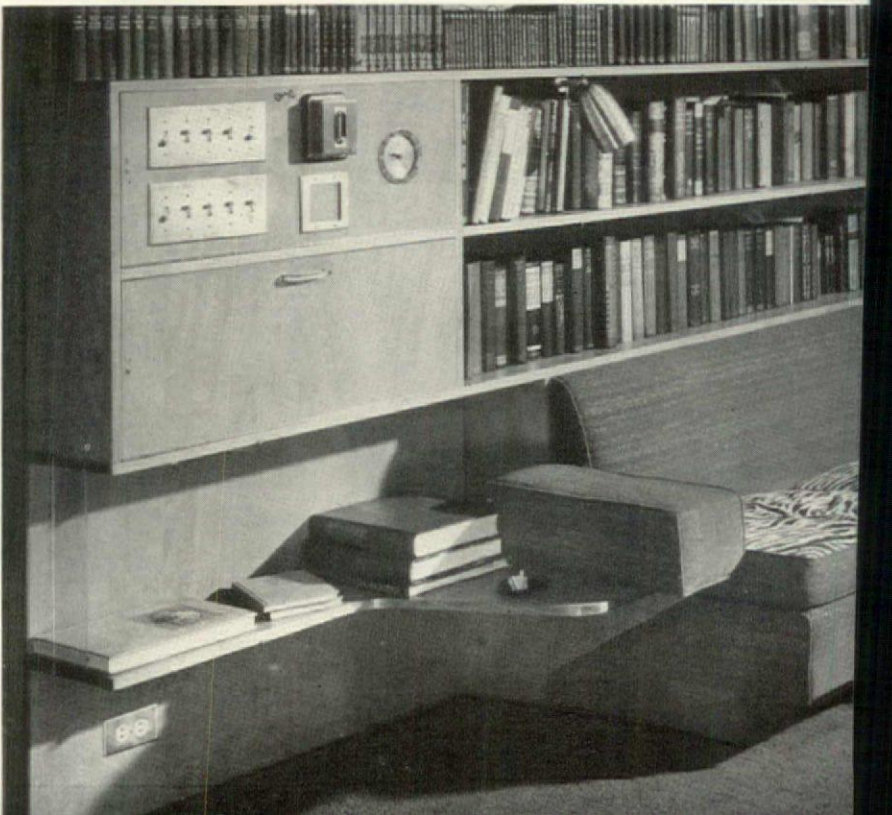
LIVING ROOM

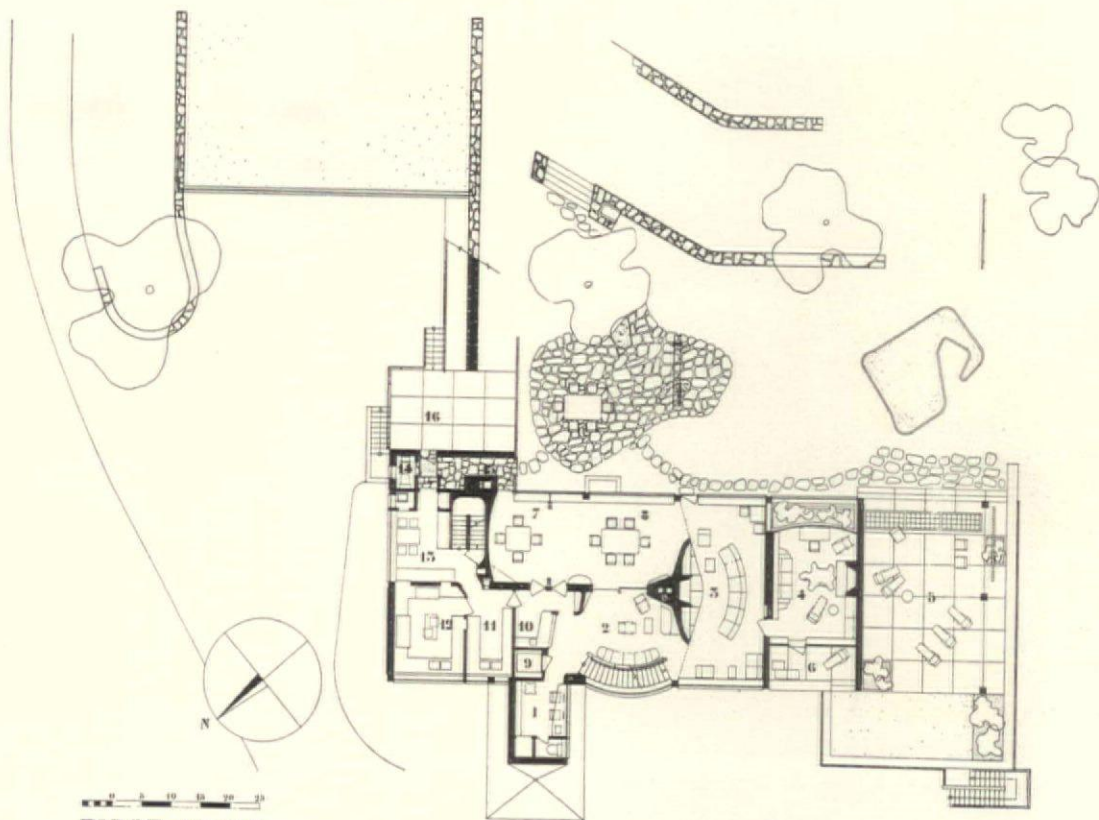


HOUSE IN PITTSBURGH, PA. WALTER GROPIUS AND MARCEL BREUER, ARCHITECTS



CONTROL PANEL IN STUDY

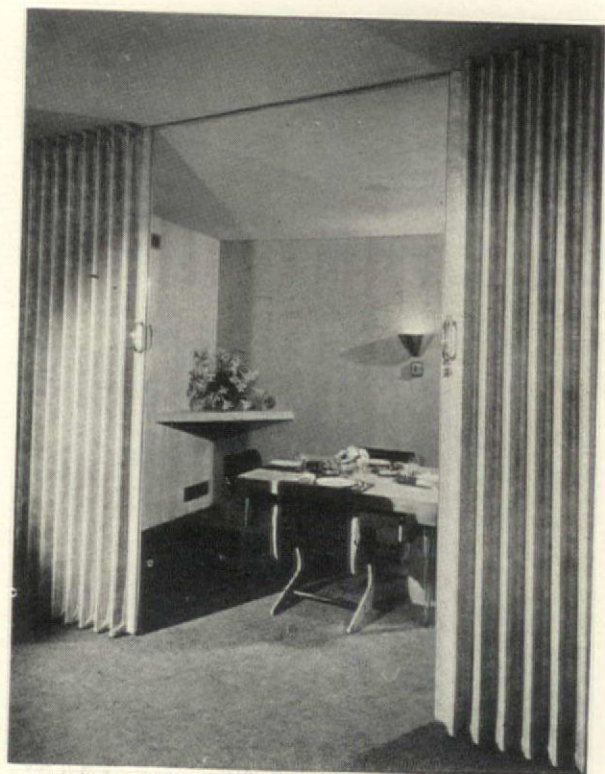




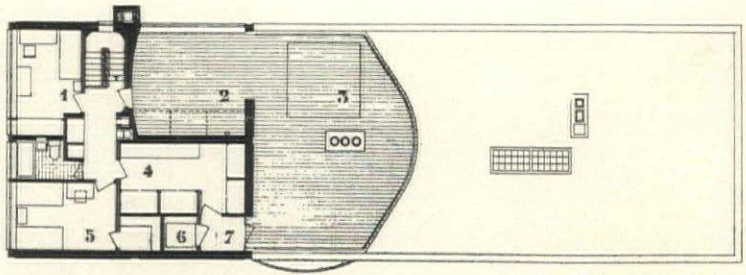
FIRST FLOOR

1. CLOAK ROOM 2. RECEPTION HALL 3. LIVING ROOM
4. STUDY 5. ROOF TERRACE OVER SWIMMING POOL 6. SCREENED PORCH 7. CHILDREN'S DINING ROOM 8. DINING ROOM 9. ELEVATOR 10. BAR 11. PANTRY 12. KITCHEN 13. SERVANTS' SITTING ROOM 14. SERVANTS' LAVATORY 15. BACK ENTRANCE 16. SERVANTS' PORCH

DINING ROOM

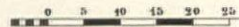
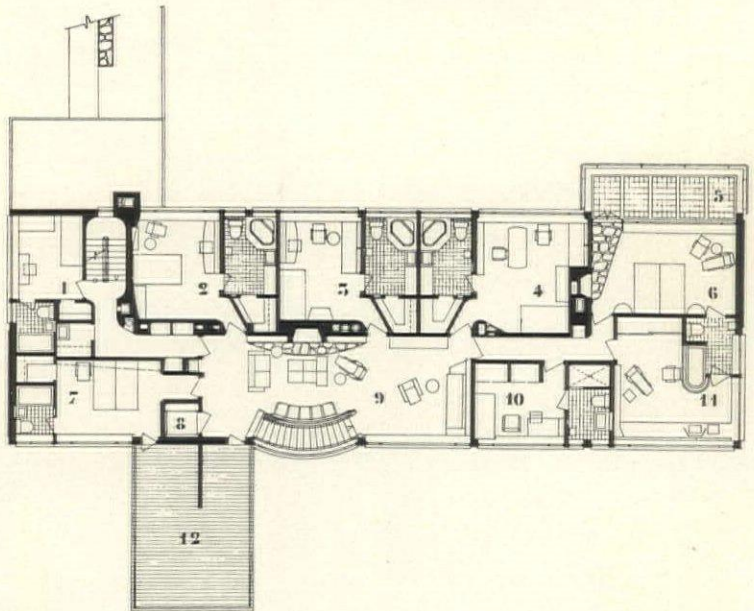


CHILDREN'S DINING ROOM



THIRD FLOOR

1. SERVANTS' ROOM 2. DECK WITH SHOWER CUBICLES 3. DECK WITH DANCE FLOOR 4. STORAGE 5. SERVANTS' ROOM 6. ELEVATOR 7. LOBBY



SECOND FLOOR

1. BEDROOM 2. AND 3. DAUGHTERS' ROOMS 4. SON'S ROOM 5. BALCONY 6. MASTER BEDROOM 7. GUEST ROOM 8. ELEVATOR 9. UPPER HALL 10. OWNER'S DEN 11. DRESSING ROOM 12. DECK

urniture, both fixed and movable, was
igned by the architects. The built-in
s, such as those shown below, are
letely simple, relying entirely on form
wood texture for their effect. The
lstered chairs, on the other hand,
esent a very personal expression of
. Essentially these pieces are a con-
tion of Breuer's earlier work with ply-
, but the frequently extravagant
es and bizarre combinations of mate-
do not fulfill the promise of the first
riments.



K IN DAUGHTER'S ROOM



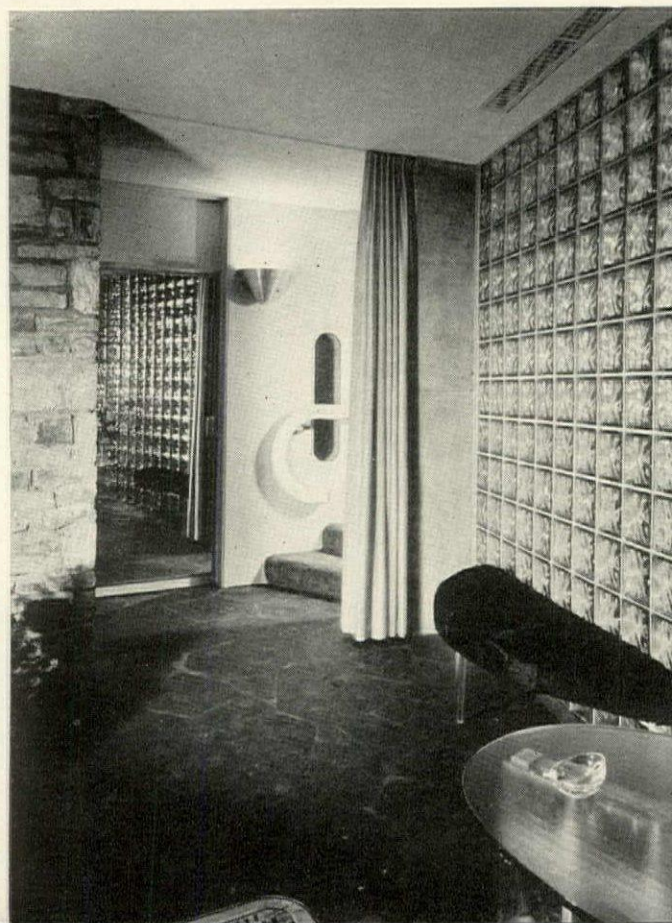
DRESSING ROOM



1.



2.



3.

rooms illustrated on these two pages on the ground floor level, and form recreation center of the house. Directly adjoining the glass-walled entrance vestibule is the large playroom. Beyond are swimming pool and dressing rooms and showers. In the playroom, as elsewhere in the house, the character is established by the decided contrast between bare walls and heavily upholstered furniture, and by the unexpected interposition of such elements as the rustic fireplace wall. Similar combinations of texture appear in the exterior, as in the photograph at the top, a view of the rear of the house which shows the ramp from the garage to the living room level. The garage and swimming pool illustrated below, are two of the most successful parts of a fairly complicated design; both are direct in expression, pleasing in proportion and untroubled by the introduction of extraneous decorative features.

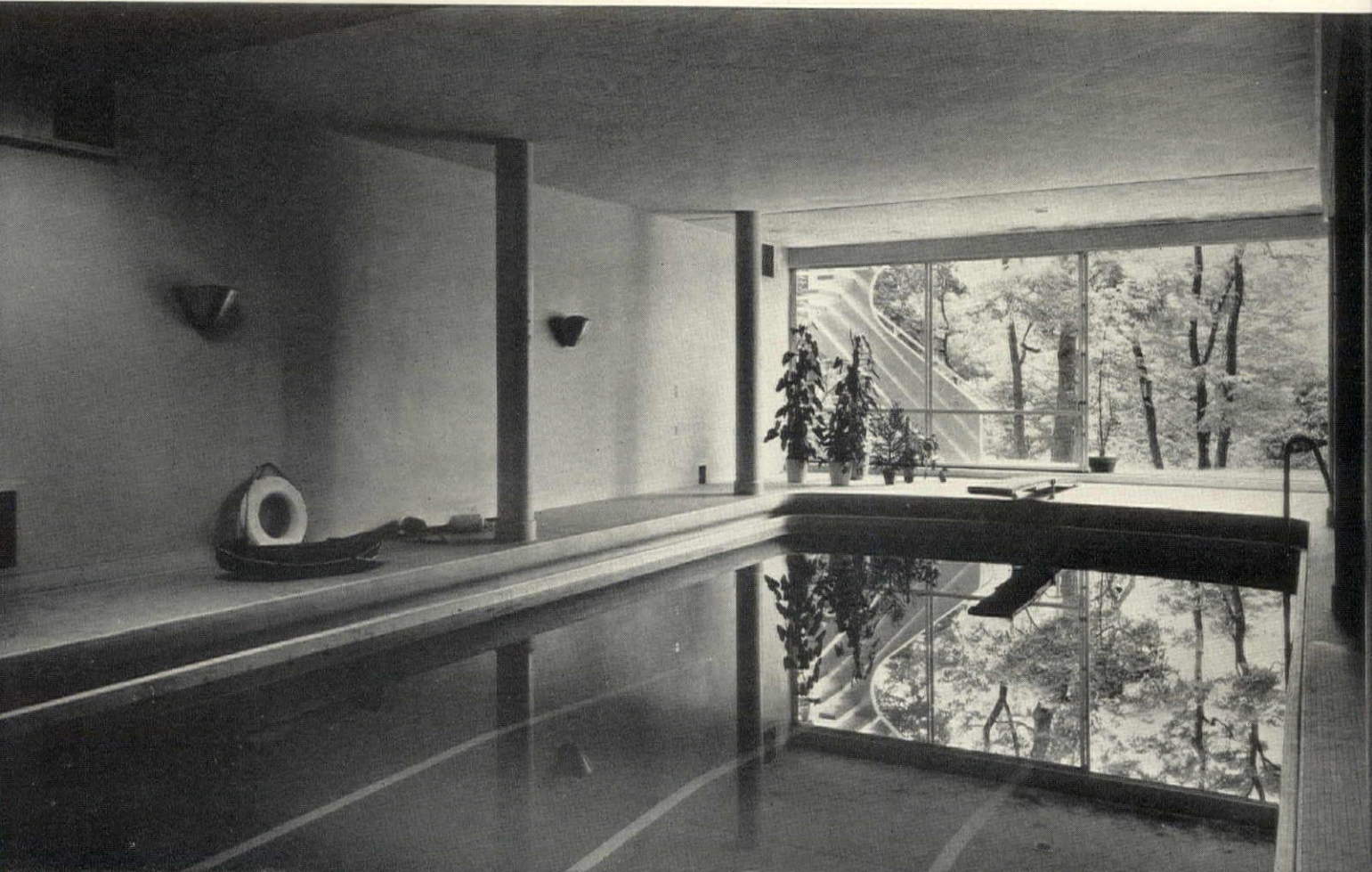
4.



5.



1. GAME ROOM 2. CHILDREN'S SOFT DRINK SALON 3. ENTRANCE FOYER 4. SERVICE PORCH 5. GARAGE 6. SWIMMING POOL



HOUSE IN PITTSBURGH

WALTER GROPIUS, MARCEL BREUER, ARCHITECTS

RITCHEY & MITCHELL, SUPERVISING ARCHITECTS

SIESEL CONSTRUCTION CO., GENERAL CONTRACTORS

The bathroom at the right is finished in slabs of structural glass, and contains, in addition to the usual equipment, a dental lavatory, electric wall heater, and built-in cabinets for linen, shoe brushes, etc. The room below is similar except for the use of cork on the walls. Bottom right, a view of the kitchen.

CONSTRUCTION OUTLINE

FOUNDATION: Footings—concrete. Cellar floor—concrete slab. Waterproofing—"Insuro," integral.

STRUCTURE: Exterior walls—steel skeleton, 3 in. Kasota stone slab, Alexander Thomson Co., 8 in. brick, 1 in. furring; inside—1 in. plaster or 1/2 in. plywood. Floor construction—concrete slab. Ceilings—acoustic plaster, Gold Bond, National Gypsum Co.

ROOF: Covered with built-up roofing, Barrett Co. Decks—open joints wood flooring.

CHIMNEY: Brick, stainless steel stacks.

SHEET METAL WORK: Flashing—16 gauge copper. Leaders—copper and cast iron.

INSULATION: Roof—in 1/2 in. cork. Sound insulation—acoustic plaster or acoustic tiles, carpets, glass wool and cork packing around pipes.

WINDOWS: Sash and screens—Hope's Windows, Inc. Glass—1/4 in. plate, Pittsburgh Plate Glass Co. Glass blocks—Pittsburgh Corning Co.

STAIR: Reinforced concrete treads, cantilevered.

FLOOR COVERINGS: Main rooms—carpet. Kitchen—linoleum. Bathrooms—cork or rubber tile.

WALL COVERINGS: Main rooms—fabrics or paneling. Kitchen—ceramic tile. Bathrooms—cork tiles; Vitrolite, Vitrolite Div., Libbey-Owens-Ford Glass Co., or Carrara, Pittsburgh Plate Glass Co.

WOODWORK: Trim—E. M. Hills Lumber Co. Cabinets—pearwood, sycamore, redwood or birch plywood, U. S. Plywood Co. Doors—flush panel. Garage doors—Overhead type, radio controlled, Better-Bilt Door Co.

HARDWARE: By W. C. Vaughan Co. and Oscar Rixson Co.

ELECTRICAL INSTALLATION: Wiring system and switches—Raphael Electric Co. Fixtures—Century Lighting Co., Litecontrol Corp., Kurt Versen, Rudolf Wendel and Pittsburgh Reflector Co.

KITCHEN EQUIPMENT: Range—Magic Chef, American Stove Co. Refrigerator—Gloekler Mfg. Co. Refrigeration system—Frigidaire Sales Corp. Sink—Elkay Mfg. Co. Dishwasher—General Electric Co. Cabinets—Art Metal Construction Co. Exhaust fan—DeBothezat Ventilating Engineering Div., American Machine & Metals, Inc.

BATHROOM EQUIPMENT: Fixtures by American Radiator-Standard Sanitary Corp., Crane Co. and Briggs Mfg. Co. Showers—Speakman Co. Cabinets—Charles Parker Co.

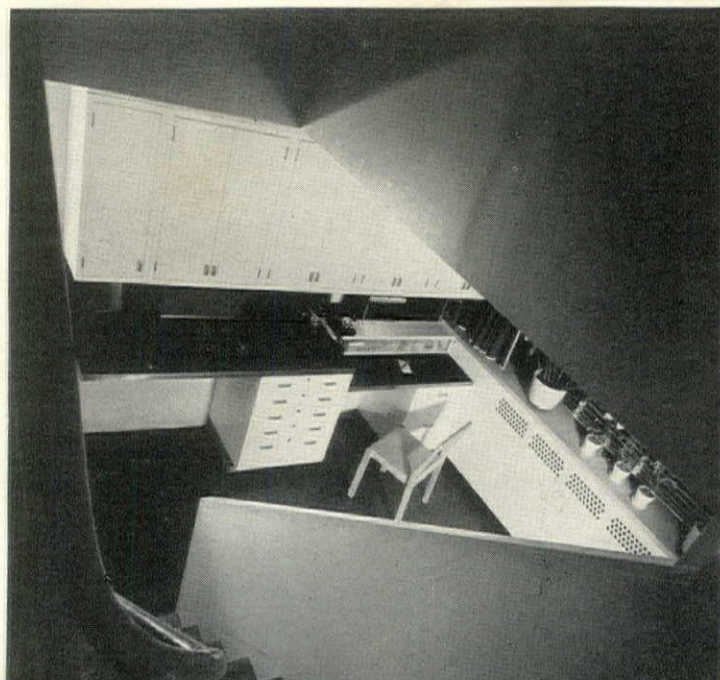
PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—Streamlined copper, Mueller Brass Co.

HEATING AND AIR CONDITIONING: Split system with forced hot water convectors and warmed or cooled conditioned air for ventilation. Dehumidifier—Bryant Electric Co., Dorex purifiers, Somers filters, General Electric Co. compressor. Boilers—Bryant Electric Co. and American Radiator-Standard Sanitary Corp. Radiators—Shaw-Perkins, Trane Co. and Aerofin Corp. Grilles—Register & Grille Mfg. Co. Thermostat—Johnson Service Co. Water heater—Alberger Pump & Condenser Co. Incinerator—Pittsburgh Incinerator Co.



BATHROOMS

KITCHEN



BUILDING FOR DEFENSE

ROADWAY AND HEADACHES

STATE OF THE PROGRAM

While the loudly voiced pros and cons of President Roosevelt's controversial lend-lease bill last month drowned out most other national defense events, significant news was made—some by progress, some by delays, some by remedial suggestions.

During January, Army and Navy contracts for plant expansion, construction and equipment aggregated \$376 million—comparably more than half the total for the preceding seven months. Six contracts individually topped the \$20 million mark: Pont's \$48 million for a powder plant Childersburg, Ala. and \$23 million for addition to its \$51 million plant at Carlestown, Ind.; Studebaker's \$87 million (two contracts) for three aircraft engine plants at South Bend and Fort Wayne, Ind. and Chicago, Ill.; General Motors \$24 million for a Pratt & Whitney aircraft engine plant at Grand Blanc, Mich.; Wright Aeronautical's \$43 million for an aircraft engine plant at Lockland, O.

In addition, Government issued "certificates of necessity" to 118 companies during January, covering privately financed defense plants having an estimated cost of \$192 million. The certificates designate new plant construction and additions essential to national defense and thus permit manufacturers to take advantage of the new five-year income tax amortization period. Most important January certificate covered Ford's \$23 million aircraft engine plant at Dearborn, Mich.

Cantonment construction delays made other news when the Military Intelligence Service and FBI went to Fort Devens, Mass. to investigate the activities of "saboteurs" who had helped double the camp's estimated \$10 million cost (p. 173, col. 2). Returning from a three-month survey of Army camp construction for the Government, New York City's Sanitation Commissioner William F. Carey reported serious delays but added that "the Lord himself could not meet the construction estimates and cost estimates first set for the camps." Lacking the Lord's assistance, the War Department has requested Congress to appropriate an extra \$338 million to pay the 56 per cent expanded bill for the current cantonment construction program (p. 173, col. 2).

The Army let contracts totaling \$32 million for construction at four of the new Atlantic bases.

At the expected peak of building labor employment, the supply was officially reported as "ample" (p. 50, col. 3).

And, as Government's lumber demand

peaked, producers took a verbal spanking for having boosted prices, promptly announced that they were now on the way down (p. 50, col. 3).

► In an effort to catch up with the Navy's speedy defense housing program, FWA last month awarded contracts for sixteen projects (tabulation, p. 173), opened a few units in its trail-blazing Fort Knox project (photograph, p. 173).

► To bolster the program, Congress was asked for another \$150 million to spend under the Lanham Defense Housing Act, \$6.75 million to buy a flying squadron of trailers and a Title VI for FHA's National Housing Act which would authorize Government mortgage insurance of speculative builders' defense houses (p. 172, col. 2).

► To the same end, Housing Coordinator Palmer belatedly established a defense housing registry service patterned after the most important cog in the World War I housing machinery (col. 3).

► And, prefabrication became the talk of Washington for three reasons: 1) The industry has been given scandalously little attention by Government housers (p. 174, et. seq), has not been given a single defense order by other than Navy agencies, 2) CIO brought its advantages to the attention of Production Co-Managers Knudsen and Hillman in a left-handed effort to crack the AFL-dominated building industry (p. 172, col. 1), and 3) Mrs. Roosevelt, self-appointed expert and adviser on all things social, told the National Public Housing Conference that she was personally and particularly interested in "the kind of housing that you can put up and take down to move to the next place."

► Meanwhile, Hitler earmarked the equivalent of \$400,000 for housing Nazi soldiers in Norway.

CONTRACT DISTRIBUTION

As far as national defense is concerned, New Jersey and California appear to be the nation's most important States, for they have shared about equally in 23.7 per cent of all defense contracts let thus far. Interestingly, these two States are called "home" by only 8.4 per cent of the U. S. population. Other leading defense States: New York, which has 11 per cent of all contracts; Pennsylvania, 9.5; Virginia, 8.5; Massachusetts, 7.7; Connecticut, 5.3; Michigan, 5.2; Illinois, 3.1; Missouri, 3.1; Maryland, 3.0. The leaders obviously have ship building, airplane production and naval construction contracts to thank for their position.

What defense is doing to employment and, in turn, housing is clearly seen in

the fact that more than one-half of all defense contracts have gone to eight industrial areas which contain only 14 per cent of the population. Hopping on these statistics to prove the need for a wiser allocation of defense orders, Acting WPA Commissioner Howard O. Hunter last month told Congress that these eight areas contained only 13 per cent of all WPAs, that "more than four-fifths of WPA employment is in areas which have received only a little more than one-fourth of the defense awards."

HOUSE REGISTRY AT LAST

Back in August 1940, THE FORUM pointed out that the Homes Registration Service of World War I days, which housed about 70,000 war workers, had been "pushed above all other parts of the housing program because it produced results with the greatest speed at the least expense." Offering this historical fact as a timely cue for present Government housers, THE FORUM advised that a similar census and classification of vacant dwellings "should, of course, be the first step in the defense housing program."

Late in January, with housing troubles dogging industrial and military expansion the country over, Government belatedly took this step. Within the Division of Defense Housing Coordination was established the Homes Registration Division with Public Houser Harold Pomeroy, former executive director of the Sacramento Housing Authority, as its director. One-time California Relief Administrator, Director Pomeroy will lean heavily on the knowledge of Harvard University's Dr. James Ford who successfully conducted the Division's World War I counterpart



House Registrar Harold Pomeroy

Rein

and has been appointed as its consultant. Acting as an advisory body to the housing committees of local defense councils, the Division will 1) provide a manual for the organization and operation of local Homes Registration Offices, 2) assist these offices via field representatives, 3) distribute all printed forms necessary to their operation and 4) suggest appropriate publicity.

Core of the program will be a complete file of vacant rooms and dwelling units classified as to location, type, condition and rental. Maintained by local registries, this file will serve as a central listing of all available accommodations for the use of defense councils, housing agencies, military and naval authorities, industrialists, and other interested parties. The registries will also report regularly to the Defense Housing Coordinator through Registrar Pomeroy concerning the local housing supply so that new construction, where necessary, may be started promptly.

"REUTHER" HOUSING PLAN

To speed airplane production, CIO offered Government the Reuther plan whereby existing automobile plants would be put to work on airplane orders. It was duly studied and discarded as unfeasible. To speed the defense housing program, CIO recently sent a plan to the Office of Production Management whereby prefabricated house companies would assume a major role in the program and a separate Government agency with power to make independent decisions would be set up to deal with the prefabricators. Since the prefabrication industry has been given the

run-around by non-Navy defense housers and fortnight ago had not received a single order (see p. 174), CIO's plan is timely.

Much of it makes good sense. CIO lists four major advantages of prefabrication which could help solve the knotty defense housing problem: 1) maximum speed, 2) least dislocation of the building industry and building labor, 3) economy and 4) maximum salvage value. CIO's claim that present production capacity could turn out 10,000 houses a month is probably over-optimistic, but a capacity one-third this size is not to be sneezed at.

Another obvious but unmentioned reason for CIO's prefabrication boost is that CIO is currently trying to establish itself in the building industry by sneaking in the back door via prefabrication, while AFL, well in control of conventional construction, guards the front door. Realizing that widespread growth of the budding industry would diminish the need for many of its skilled craftsmen, AFL has fought prefabrication vigorously. Although it judiciously refused to name AFL, the CIO proposal referred to the craft unions' stand in no uncertain terms: "As thus far administered, the defense construction program has operated to entrench vested interests of industry and labor with little or no regard for maximum efficiency or fair play for the workers. This program (prefabrication) would . . . bring this industry (building) abreast twentieth century industrial methods. Yet, so far, it has operated only to promote conventional building techniques and narrow craft procedures that have long been held responsible for excessive costs, time-consuming delays and exploitation of both public and labor."

CANTONMENT TROUBLES

To Congress fortnight ago went a \$680 million appropriation bill to cover the cost of army cantonments—not all new ones, but those that are already underway and that Congress thought were already paid for. Almost half of the requested funds

will be spent on what was originally estimated as a \$450 million program, which will actually cost 56 per cent more. Principal reasons: sharp advances in labor and material costs, unfavorable weather, unexpected site conditions, labor difficulties and over-optimistic cost estimating. The War Department last fall figured it would take about \$450 per man to house the Army in barracks, about \$320 per man in tents. Last month, the War Department guessed again, raised the unit cost estimates to \$700 and \$500, respectively.

Typical of the cantonment program difficulties is the unfortunate combination of circumstances which has put construction at Fort Devens, Mass. two months behind schedule and a rumored \$10 million ahead of cost estimates: 1) Continuing sub-freezing temperatures have made foundation and utility trench digging and refilling next to impossible, have boosted tool repair bills, have reduced the efficiency of the thickly begloved hands of carpenters and electricians. 2) Alleged racketeers are accused of charging non-union workers \$50 to \$75 each for the privilege of working on the unionized project. Construction is proceeding on a seven-day week, 24-hour-day basis, with time-and-a-half for overtime and double time on Sundays. 4) "Chiselers" have capitalized on the confusion at the multi-thousand man, multi-acre job by reporting for work in the morning—or having someone else report for them—and then leaving the site only to return in the evening to punch "out" on the project time clocks. Now the hands of military authorities are in Boston business school students who have been attending their classes daily and, at the same time, "earning" daily wages at Fort Devens.

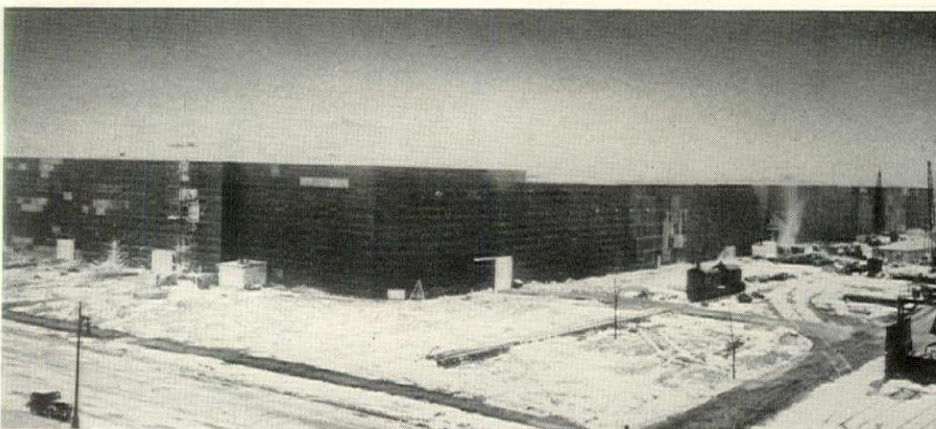
HOUSING LEGISLATION

Because both public and private housing have failed to keep abreast the demand, Defense Housing Coordinator Charles C. Palmer fortnight ago prodded them with a three-pronged fork.



Giles—B.S.

Defense plant in the making. Before Packard began its \$8 million three-building aircraft engine plant last October, its engineers and executives sat down together, laid out the plant design with the aid of miniature machinery models. From here, the design problems were picked up by Architect-Engineers H. E. Beyster Corp. and Albert Kahn.



Wide World

Building in a box. Inside the world's largest box, Henry Ford's \$21 million aircraft engine factory will be rushed to completion this month after about five months of 24-hour-day labor interrupted by darkness and cold weather. Comprised of composition board and tar paper, the heat box extends about 10 ft. beyond the factory's 360x1,000 ft. dimensions, is a device developed by Construction Superintendent George Morgan who first used it as a shield against frigid Russian winters. Inside, construction activity is progressing from one end of the plant to the other so that part of the facilities may be put in operation before the balance is finished. Thanks to the shelter afforded by the big black box, the plant's steel frame was complete at January's end.



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Mobile defense housing. Down the ice-covered Hudson last month was towed the world's largest river boat, the Berkshire, on its way to Pascagoula, Miss. where it will serve as barracks for shipyard workers. Idle for three years, the 4,300 ton, 422 ft. wooden vessel was purchased by the Maritime Commission for \$115,000. Not as mobile as the squadrons of trailers which the Government plans to buy (see text, p. 50), the five-decked Berkshire was three days on its comparatively short voyage from Athens, N. Y. to Hoboken, N. J. where it is moored beside another floating defense housing project for painting and general reconditioning.

Prong No. 1 is an amendment to FHA's National Housing Act, submitted to Congress on February 7 by Senator Steagall and previewed in last month's FORUM (p. 83), which would create a separate defense Housing Insurance Fund of \$10 million to be used to underwrite \$100 million of mortgages on one to four-family houses in Government designated "defense areas." Called Title VI of the NHAct, it would permit builders to borrow up to 90 per cent of the appraised value of their houses and either to rent them to defense workers or sell them under a plan whereby the down payment could be collected over a period of several months. The theory is that the 90 per cent loans will cover all construction costs except profits, and that builders will therefore be willing to undertake somewhat risky projects for the benefit of low income defense workers who cannot or will not put the usual cash down payment on the barrel head. Steagall's bill would limit costs to \$4,000 on a one-family unit, to \$10,500 on a four-family building.

Congress has looked kindly on the proposed FHA amendment, has indicated that it might raise the insurance ante to \$25 million. Less enthusiastic, operative builders argue that but few low cost houses give 10 per cent profit in them, that 95 per cent loans would better accomplish the bill's purpose. Moreover, a rental or delayed sales project would involve operation and maintenance costs, require that the builder supply ranges and refrigerators at an extra cost of at least \$150 per house and, if the families lacked savings, make another \$100 or so out of the builder's pocket to cover fees and other closing costs for each sale. Finally, if a \$3,000 property is rented for \$30 per month, the builder would net only about \$7 per month after 25-year FHA-insured mortgage costs (\$16) and average taxes (\$7), would have

(Continued on page 50)



U.S. Army Air Corps.

First PBA defense houses. Three months and eight days after Fleisher Engineering & Construction Co. was awarded the contract (PBA's first) for this project at Fort Knox, Ky., 35 of its 700 dwelling units were opened to Army families. Laid out and designed by PBA's architectural staff, the four-family buildings are of conventional construction. What appear to be black exterior walls in the airview are actually red—the color of the composition board sheathing. Estimated cost: \$2 million. Contractor's fee: \$81,000. (For additional data see Arch. Forum, Jan. 1941, pp. 29, 30.)

DEFENSE HOUSING GOES INTO GEAR

Given the "go ahead" signal five months ago, Government's defense housing program at mid-January had barely budged. With \$185.8 million to spend (\$45.8 million from the Army and \$140 million under the Lanham Act), the Federal Works Agency had approved 80 projects but had started only four (see tabulation, below). Only the Navy's program was running smoothly; all its projects were abuilding.

Last month, however, the FWA program began to show life; funds were earmarked for 50 new projects; sixteen more contracts were let, ground was broken for 40 projects and a few units in the most advanced project were opened to the families of Army enlisted men at Fort Knox, Ky. (see cut, above). While the Public Buildings Administration and U. S. Housing Authority took charge of most of the

new allocations (24 and 18 projects, respectively), two newcomers entered the program. To Tennessee Valley Authority went a 250-unit project for industrial workers at Florence, Ala. and to Farm Security Administration went 200 rural dwellings to be spotted around the powder plant town of Radford, Va. and a 1,000-unit addition to FSA's five-year-old, expensive but low rent community called Greenbelt, Md. In addition, FWA itself took charge of three projects, entrusted two others to the Navy for construction.

Also under FWA's wing, but financed with USHA's long appropriated slum clearance money, are 21 additional USHA projects which have been drafted "for the duration." Most of them were contemplated prior to the national emergency, and eight have already been opened.

Progress by projects—January 11 and February 8

	Approved		Contracted		Begun		Opened	
	Jan. 11	Feb. 8	Jan. 11	Feb. 8	Jan. 11	Feb. 8	Jan. 11	Feb. 8
FWA FUNDS								
allocated to:								
PBA	69	93	33	44	4	43	0	1
USHA	9	27	0	1	0	0	0	0
FSA	0	2	0	0	0	0	0	0
TVA	0	1	0	0	0	0	0	0
NAVY	1	3	0	3	0	1	0	0
FWA	1	4	0	1	0	0	0	0
TOTAL	80	130	33	49	4	44	0	1
USHA FUNDS								
USHA	19	19	17	17	16	17	3	7
NAVY	2	2	2	2	2	2	0	1
TOTAL	21	21	19	19	18	19	3	8
NAVY FUNDS								
NAVY	46	46	46	46	46	46	Data not available	

run the gamut from numerous Navy orders to nary a nod from other Government agencies. Bureaucracy, traditions and labor unions steer prefabrication past proving grounds to burial grounds.

Month ago, the Federal Works Agency had ordered 20,032 dwelling units for national defense, all of which will be produced by the same slow, complicated procedure that has been followed by the building industry for centuries. Not one will be a prefabricated house, a development of the past decade which has definitely progressed beyond the experimental stage.

The product of millions of dollars of private housing research and practical experimentation, the prefabrication industry believes that it has something to offer the defense housing program. It does not want Federal funds to pay for further experiments, nor does it seek to expand itself at Government expense. Neither does it expect Government to foster the industry solely as a possible partial solution to post-emergency housing problems. (All other factors remaining equal, this possibility is, however, worth serious consideration.) Prefabrication rests its case for participation in the defense program on these five points:

1—SPEED. Production of prefabricated houses may begin the day a contract is let—before the site is even selected. By the time the site is ready, a backlog of house parts will have been built up which can be used as fast as site labor can put them together. On the other hand, conventionally built houses cannot be started until the site has been selected, purchased, graded, platted and otherwise prepared.

2—LABOR. Since bulk of the work on prefabricated houses is done in an established shop employing unskilled mechanics, skilled labor may be released for other defense construction projects and field erection labor forces may be small, also unskilled. Construction of many conventional houses requires a large number of skilled, semi-skilled and common laborers which, if the project is located in an outlying area or small town, intensifies the very problem it is attempting to solve.

3—DEMOUNTABILITY. Although Government has said nothing about demountable powder plants, shipyards and tank arsenals, it has expressed a desire for demountable houses to shelter their workers "for the duration." Several types of prefabricated houses are already such that they may be demounted almost as easily as they are assembled, with only the foundations, utility lines and a few pounds of nails unsalvageable. Other types may be easily altered to meet this demand. Conventionally built houses may be demounted, or rather demolished, only with crow bars or dynamite.

4—QUALITY. Since the houses of most established prefabricators have already been approved for maximum mortgage insurance by FHA, they may be considered at least on a par with the quality and durability of conventionally built units.

5—COST. Prefabricated four-room houses have not been undersold to any extent by conventionally built units of comparable specifications and, once mass production for defense got under way, the unit cost of prefabrication should drop materially. Moreover, since time is money in the defense program, prefabrication would undoubtedly win the cost decision.

Against these advantages must be set four points comprising the case against the use of prefabrication in the defense housing program:

1—SKEPTICISM. Many systems of prefabrication and many prefabricating companies have proved duds. These many misfires have given the industry in general a bad name.

2—LABOR. Shop fabrication requires few skilled craftsmen, and most shops therefore employ non-union or CIO labor. However, large general contractors, such as are habitually employed by Government, use AFL craft union labor which is vigorously opposed to prefabrication because it diminishes the need for craft labor both in the shop and at the site. Result: jurisdictional disputes and strikes.

3—CONTRACTORS. General contractors ordinarily employed by Government for its construction projects are generally opposed to new building techniques, if for no other reason than their disapproval by the AFL labor on which they rely.

4—GOVERNMENTAL PROCEDURE. Government usually withholds a construction contract until a site has been definitely selected, if not actually purchased. This custom would partially offset the speed advantage claimed by prefabricators.

Government's decision concerning the use of prefabrication in the current defense program should rest entirely on the balance of the pro and con arguments catalogued above. The question is: do the advantages claimed for prefabrication outweigh the disadvantages and justify the change in the attitude and procedure of Labor, Building and Government necessitated by Prefabrication's suggested change in house building techniques? THE FORUM believes so.

No one has heard of the War Department requiring Ford, Chevrolet and Plymouth to demonstrate their ability to produce low-cost automobiles before awarding them contracts for light weight reconnaissance cars for the Army. Nor has it designed new chassis and asked these tool-and-die companies to retool and produce it. Nor has it ordered a third company to assemble Ford, Chevrolet and Plymouth parts in finished vehicles. Nor has it even considered placing an order with a promoter who has never produced an automobile, no matter how convincing his arguments. Finally, it has not gone to Cadillac or Packard for these small vehicles.

The War Department may not have gotten off on such tangents, but other Government agencies—those charged with the current defense housing program—have done just that. And, for this reason, the prefabricated house industry with an easily expandable current production capacity of more than 100 houses a day, has not been given much of a chance to help solve the problem. Directed to buy about \$200 million worth of defense houses as quickly and economically as possible, the Federal Works Agency has, to be sure, considered the possibilities of prefabrication, but has bungled the business by pursuing approximately the absurd automobile procurement procedure outlined above. Thus:

► FWA's construction subsidiary, the Public Buildings Administration, last November announced that prefabrication would be given a chance to prove the abilities in a 650 unit defense housing project at Indian Head, Md. for the families of workers in a booming Naval arsenal. This, despite the fact that most of the prefabricators considered for the demonstration already had hundreds of houses up and occupied throughout the country.

► Disregarding the fact that these prefabricators were already producing somewhat similar, four-room houses adaptable to defense needs, PBA designed its own house which would require the participants to retool their production facilities.

► Unmindful of the fact that prefabricated houses are assembled in an entirely different manner than conventional houses and that the average builder is unfamiliar with the procedure, PBA has ruled that the construction of all its projects be handled by general contractors.

► Orders to operating prefabricators have been delayed four valuable months while Government officials considered new prefabrication schemes devised by both conscientious technicians and crack-pots who had never actually prefabricated a house.

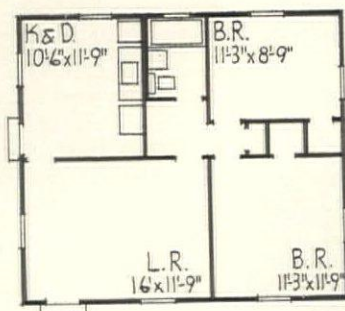
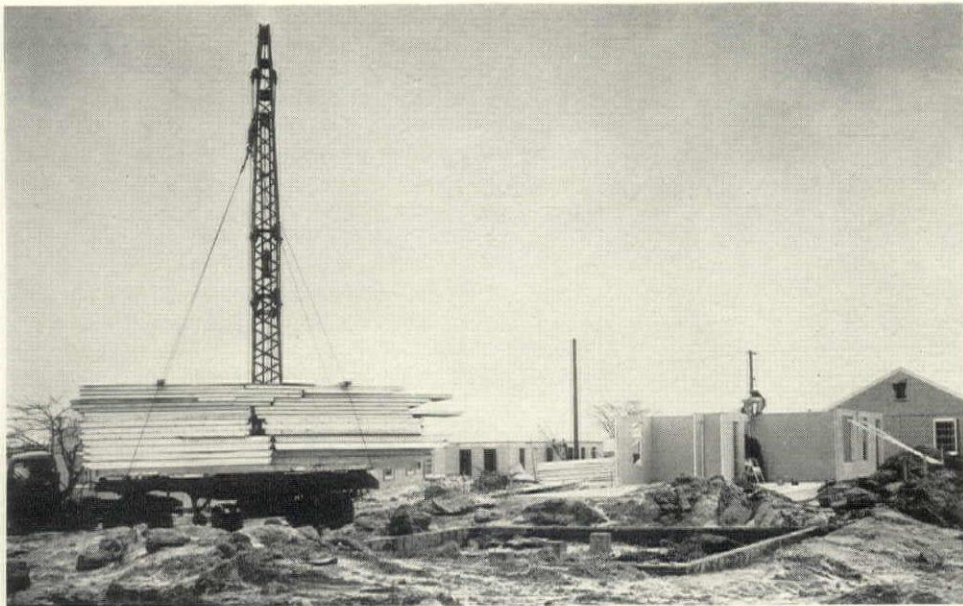
► Meanwhile, PBA, creator of post office

and other monumental Government buildings, has negotiated contracts with big contracting companies largely unfamiliar with the business of building even conventional small houses.

Result is that the prefabrication industry which by now could have delivered at least 6,000 complete houses to Government had not fortnight ago been given a single PBA contract—demonstration or otherwise. And, although 44 contracts had been negotiated with old-line general contractors for 10,822 conventional houses, only 12 dwelling units were finished (see tabulation, p. 173).

These sad statistics make sorry reading beside those of the Navy's defense housing program. All of its funds are under contract, all of its 46 projects are either under construction or completed. Prefabrication has had a big hand in accomplishing this record. The Homasote Co.'s prefabricators have completed in 42 working days 100 units at the New London (Conn.) submarine base (see photographs, right) and are now working on 310 more at Indian Head—adjacent to PBA's ill-starred "demonstration" project. American Houses, Inc., delivered six houses a day to a Portsmouth (Va.) site until the 251st unit was completed at mid-February. Stran-Steel Division of the Great Lakes Steel Corp. and the Tennessee Coal, Iron & Railroad Co. have delivered prefabricated steel house parts for 3,862 units at Quantico, Norfolk and Newport News, Va. (ARCH. FORUM, Feb. 1941, p. 84). Harnischfeger Corp. has done the same for 60 units at the Navy's Indian Head project. Moreover, American Houses, Inc. is prefabricating 64 houses for the Defense Homes Corp., an RFC subsidiary at Jacksonville, Fla., and another group for the same agency at Charleston, S. C.

Despite this demonstration, PBA has not asked any of these companies to assist its program. Some of them have vainly spent days and dollars in an effort to land PBA contracts. More days and dollars have been spent with the same results by other prefabricators whom Government has looked on with apparent favor. Thus, at least eight companies last month appeared definitely slated for a part in PBA's Indian Head "demonstration" project if they wanted it and if and when the project is launched: American Houses, Inc., Goodwillie-Green Box Co., Gunnison Housing Corp., Hauserman Co., Homasote Co., National Homes Corp., Sears, Roebuck Co., and the twelve prefabricators represented by the Willis-Way Construction Co. Most of them have long negotiated and cooperated with Government officials; many have become disgusted, have gone back to work on their regular non-defense markets, have indicated that they will resume negotiations for defense contracts only when Government means business. Rightly peeved, they have described PBA's program with such caustic phrases as: "a definite attempt to discredit prefabrication" . . . "deplorable inefficiency" . . . "damndest clown act." (Continued, p. 176)



Homasote defense houses, 100 of them, have been prefabricated by City Lumber Co. of Bridgeport, Conn. for erection at the Navy's Submarine Base near New London. Wadhams, May & Carey Co. of Hartford held the \$277,000 general contract which called for completion of the project in 42 working days—more than two houses per day at a total unit cost of \$2,770, including site preparation, utilities, etc. Other Homasote houses are going up in Maryland, Massachusetts, Rhode Island and at the Newfoundland and Caribbean Island Naval Bases. Homasote Co. repulps waste newspaper in its Trenton, N. J. plant, presses it into large weatherproof, insulating sheets, licenses local material dealers to use it in a patented prefabrication system (Arch. Forum, Dec. 1940, p. 531). Month ago, none of its 50-odd prefabricators had a FWA defense housing order.

CASE HISTORY

Illustrative of prefabrication's experience is the case of Willis-Way Construction Co., formed last year specifically to pool the resources of a group of prefabricators and erect their houses for the Government. Its president is Lumberman Jacques Willis who seven years ago originated the so-called "dry-bilt" system of prefabrication sponsored by the Douglas Fir Plywood Assn. While not a prefabricator himself, he has succeeded in interesting a dozen mid-west millwork companies in the possibilities of his system, has helped them set up fabricating plants which now have a capacity of more than 20 houses a day.

Last October Mr. Willis modified his basic construction system to meet Government's over-exercised demands for demountability: 1) Large panels of plywood sub-flooring covered with finish oak flooring (linoleum in kitchen and bath) are shop fabricated for placement on field-erected joists. 2) Wood shingled roof panels are shop fabricated. 3) Windows and doors are shop fabricated and assembled in the room-length wall panels. 4) Plumbing lines are shop assembled and enclosed in the kitchen-bath partition. 5) Field nailing is done with double headed nails to permit their easy withdrawal.

With a construction force made up of men familiar with this type of construction and in favor of it, Willis-Way Construction Co. offered to erect the defense houses of its twelve fabricators. What Willis did to convince Government of the soundness of his proposals is dramatically told in the photographs on these pages. What Government has done about it is tersely told in the accompanying "diary"—nothing.

Blame for the idleness of the Willis-Way companies and all other prefabricators in the non-Navy defense housing program rests squarely on three sets of shoulders, all of which have been put to the program's wheels in an effort to turn them in one direction—toward conventional houses. Those shoulders belong to: 1) PBA which has always relied on big general contractors to build its Government buildings and has cultivated binding friendships in this field; 2) big contractors who, besides being unsympathetic to prefabrication, have always relied on AFLabor to do their work and have learned by bitter experience the penalty for rubbing labor the wrong way; and 3) AFL which has always been stubbornly—and sometimes violently—opposed to prefabrication. An impartial analysis of the charges against these three groups and their rebuttals is in order.

PBA

At the defense housing program's beginning, PBA was not even interested in prefabrication. Housing Coordinator Charles F. Palmer and FWA Administrator John M. Carmody first saw its possibilities as a means of stepping up the program. To its chagrin, PBA was given the ball. With very few exceptions every PBA official was skeptical of or dead against prefabrication,

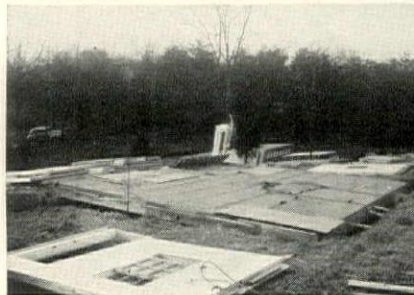
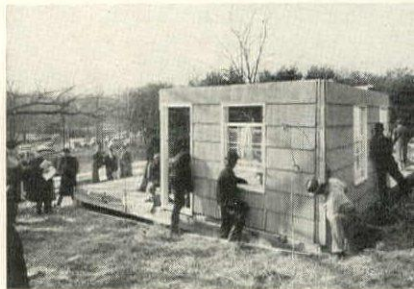
and the industry therefore went to bat with two strikes against it.

Formerly called the Office of Supervising Architect, PBA is one of the oldest of all Government agencies and is steeped in tradition. For years it has built up a close relationship with general contractors the country over, most of whom are equally conventional. PBA does not want to jeopardize its position with these general contractors by financing projects which would either leave them out of the picture completely or would require them to use a construction system which they and their labor cannot stomach. In most cases, prefabricated projects would do just that.

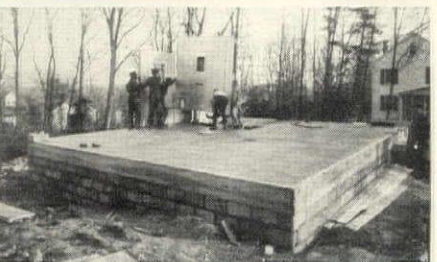
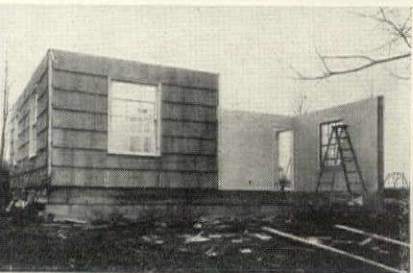
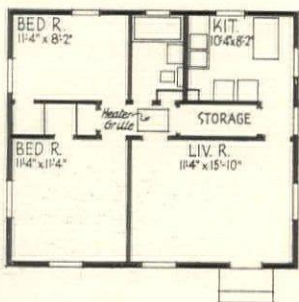
Taking the easiest way out of its predicament, PBA laid plans for the prefabrication demonstration. Originally, it was ordained that the participants erect one house each near Washington; then it was decided that each prefabricator should erect a group of houses at Indian Head. Wisdom of PBA's decision and subsequent steps are open to serious question. 1) Location of the demonstration was governed by its convenience to Washington observers, despite the fact that it was outside the economical transportation range of most existing fabricating plants and that their unit costs would therefore be unfairly boosted. 2) Believing that it would speed the project, PBA decided to divide it among several manufacturers, has announced that this questionable procedure would be followed in subsequent projects regardless of the prefabricators' argument that confusion, not speed, would result. 3) In the selection of participants, PBA required that prefabricators submit competitive bids and thus assume the risks of rising material costs or pad their bids to cover all eventualities. Meanwhile, conventional houses were being purchased by PBA on negotiated cost-plus fixed fee contracts which entail no risk for the contractors. 4) In analyzing these bids, PBA is claimed to have averaged them, with the result that all participants were penalized by the one or two extremely high bids submitted by companies who either did not know the business or were obviously not interested in the contract. 5) Finally, PBA ruled that the project should be handled by a general contractor who would be expected to put together perhaps a dozen different types of houses about which he knew nothing and to do the job at a favorable cost. Late in the game, after some of the prefabricators had become disgusted with the program, PBA made a concession, permitted each company to put a construction supervisor on the general contractor's payroll. Perhaps this would have lessened the possibility of bungling the assembly of the different house types, but it would not have removed the congestion and confusion.

Aside from its inertia to change, PBA's biggest and best reason for insisting on general contractors for prefabricated projects is that prefabricators are not experienced in large scale construction involving the installation of roads, utilities, etc.

(Continued on page 178)



UP IN ONE DAY goes the Willis-Way Construction Co.'s demountable house in a Government witnessed demonstration at Bethesda, Md. 9:30 a.m. concrete block foundation had been laid and ribbon pieces on underside of factory-finished plywood floor panels had been nailed to floor joists. (See photograph immediately above other photographs above were taken one-half hour, three hours and three and one-half hours later.) To permit their easy withdrawal, almost all nails used on the site are double-headed. Comprised of large sheets of plywood on 2 x 4 in. studs, wall panels are delivered complete with glazed windows and exterior finish, are secured to one another with plywood splines. Since the lengths are the same as the room dimensions, joints are evident. Atop erected wall panels are joists which are nailed to ribbon pieces affixed in the shop to the upper sides of large plywood ceiling panels. Factory-finished gable ends come in two pieces, support a ridge pole which, when turned, supports the ten roof panels comprised of rafters, shingle laths and wood shingles. To conceal and weatherproof the roof and wall panel joints, shingles are slipped up into place, secured with nails. Corner boards, rake pieces, gutters, four-piece entrance and shutters complete the operation, provide the finishing touches to an attractive small house whose prefabrication is completely concealed. Interior is finished with salvageable fabric wall covering which creates an equally conventional appearance.



IN ANOTHER DAY goes the demonstration to prove to skeptical Government officials that the house is demountable and suitable for use in emergencies whose need will vanish with the next emergency. Photographs were taken at 9:30 and 4:30 p.m. Last panel to be removed was the kitchen-bathroom partition containing fac-
assembled plumbing lines.

UP AGAIN IN A THIRD DAY to conclude the demonstration goes the same house — this time at Rockville, Md. Timing of photographs: 9:30, 10 a.m., 1:30 and 2:30 p.m. — a spread of four working hours. Left at the Bethesda site were the original foundations, a few pounds of bent nails and, stacked up against a tree (see uppermost photograph), a few squares of shingle scraps.

DIARY OF A DEMOUNTABLE HOUSE
prefabricated, erected, demounted and re-erected for Government's education by Willis-Way Construction Company — but, as yet, to no avail (see text, p. 176, col. 1).

NOV. 16, 1940: Government announces that several prefabricators would be invited to participate at Federal expense in a demonstration project near Washington.

NOV. 17: President Jacques Willis of Willis-Way Construction Co. (capacity: 20-30 houses per day) offers to erect a test house near Washington on Government lot but at own expense.

NOV. 18: Washington Architect Louis Justement at Company's request sends to Company's Cincinnati plant plans for a house specifically designed for defense needs.

NOV. 25: Shop drawings and jigs are completed and prefabrication begins.

NOV. 30: Fabrication is complete and trial assembly of parts is made at plant.

DEC. 4: House is ready to ship. After delay by Government in determination of a suitable site, Company itself completes arrangements for temporary use of a private site at Bethesda, Md., near Washington; invites all Federal housing bureaus and 150 housing officials to witness the erection; ships fabricated house parts to site.

DEC. 5: Building permit is secured and foundations are laid.

DEC. 9: Freight car arrives in Washington. Panels are trucked to site. Floor joists and panels are installed.

DEC. 10: Wall erection begins at 9:30 a.m. Complete house assembled by 5 p.m.

DEC. 11: Continuous negotiations begin between PBA and Company concerning participation in proposed large scale prefabrication demonstration project at Indian Head, Md. Company decides against participation because entire project was to be entrusted to a general contractor unfamiliar with the erection and assembly of prefabricated houses.

JAN. 30, 1941: Defense Housing Coordinator's office inquires of Architect Justement if Company plans to remove its Bethesda demonstration house to prove its demountability to skeptical Government officials.

JAN. 31: Architect Justement relays message to Mr. Willis at his Cincinnati office, learns that, while the Company did not originally intend to remove the house, it would immediately do so and then relocate it on another lot.

FEB. 1: Mr. Willis arrives in Washington, purchases a lot in Rockville, Md., obtains a building permit.

FEB. 2 (Sunday): The house is staked out on the new site.

FEB. 3: House is demounted to the level of the first floor by six men between the hours of 1 and 5 p.m. Simultaneously, footing trenches are dug and concrete is poured at Rockville site.

FEB. 4: House is further demounted and trucked from Bethesda to Rockville while foundation walls are constructed in the morning. Floor joists and panels are set in the afternoon.

FEB. 5: House is re-erected—first wall panel in place at 9 a.m.; last roof panel, at 3 p.m.

FEB. 6 to FEB. 20 (Forum's closing date): No Government orders. Company's twelve plants with present production capacity of 20-30 houses per day (expandable to 60 houses per day within three months) are idle as far as production of defense housing is concerned.

Most prefabricators counter that it would be easier for them to sublet road and utility contracts than for unsympathetic general contractors to erect prefabricated houses properly and at reasonable costs.

In any event, the Indian Head "demonstration" is a flop, for, even if demonstration were necessary, it should long since have been under way. Instead, it has not begun; on Feb. 8 the site had not even been acquired. (On the same date, five other sites had been acquired for 815 houses for which no contracts had been let.) It is on such grounds as these that some prefabricators and impartial observers base their claim that the Indian Head project was conceived, not as a milestone, but as a tombstone for prefabrication. And, PBA has yet to disprove it.

CONTRACTORS

If they must be used for defense housing projects, general contractors should be permitted to put prefabricators to a fair test when they seek materials for their houses. Thus, taxpayers will argue that, if a contractor by using prefabricated parts can give the Government better houses more quickly and cheaply than by adhering strictly to tradition, he should be encouraged to do so. Today he is not. The fee on a negotiated contract is usually calculated at about 4 per cent of the cost of work done by the general contractor plus about 2 per cent of the value of contracts which he sublets. He may sublet half the work on a conventional job, but, if he decides to use prefabrication, he may sublet as much as 90 per cent of the work in which case he would have to be content with a commensurately smaller fee. Usually, however, he will not be content and will reject the prefabricator's proposal in favor of conventional construction. Prefabricators argue that, where they must

work with a general contractor, they should not be classed by PBA as subcontractors, but rather as material suppliers, for they do no work at the site.

Deftly dodging the prefabricators' argument that most contractors are unsympathetic to their type of construction, PBA contends that it makes every effort to award contracts to the exceptional few. (Apparently they are difficult to find for PBA has yet to sign its first general contract for prefabricated houses.) Unless there is complete cooperation and understanding between the prefabricator and contractor, the latter is apt to jack up his cost estimate for erection of the houses or unnecessarily delay the operation to discredit the prefabricator. Indeed, one participant in the Navy program has encountered this difficulty, has attempted to meet it by having a clause written into the contract stating that, if the general contractor takes more than 150 hours' labor for the erection of each house (38 hours more than the established average), the company has the right to step in and take full charge.

LABOR

AFL is the biggest barrier between prefabrication and defense housing, for AFL, well entrenched in the construction field, influences the attitude of the contractors which, in turn, influences PBA. Moreover, AFL has learned that it can directly influence Government. Example: the union has seen to it that the prevailing wage clause, which helped kill FHA's rental housing program, has been written into every public building law including the Lanham Defense Housing Act. Out to save its neck at the risk of delaying the defense program by stifling a budding industry, AFL will do its best to keep prefabrication from getting even a toehold on the defense program.

Both the contractors and PBA are obviously afraid to meddle with AFL's stance on this subject, for they well know the inevitable consequences—costly, time-taking strikes. They know that only last fall when a CIO-prefabricated Gunnison house started to go up in Belleville, Ill., AFLsters stormed the site, fractured one CIOster's head, another's arm, and delayed the erection of the house a month.

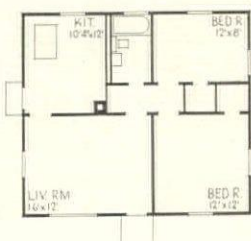
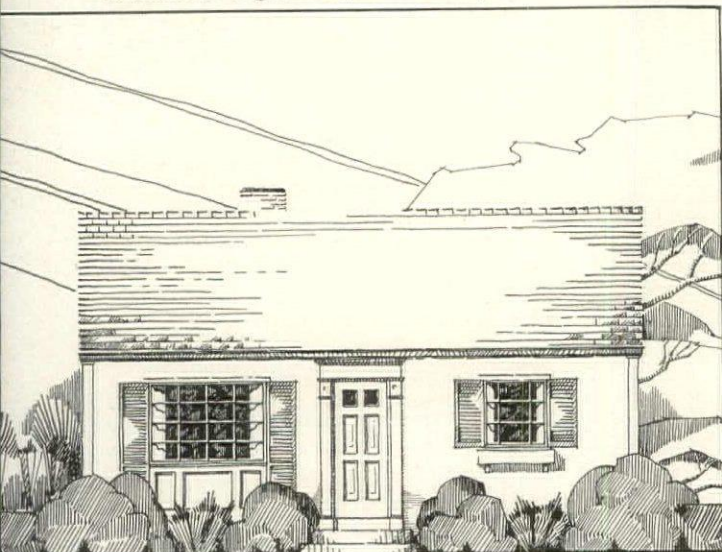
Labor's domination of PBA's prefabricated defense house program is clearly seen in the circumstances surrounding what will probably be its first project. Twenty dwelling units are needed at Ft. H. G. Wright on Fishers Island, N. Y., whose isolation would make difficult and costly the transportation of a large force of building mechanics for conventional construction. To reduce the number of men required, PBA decided on prefabrication. And, to avoid labor difficulty it appeared last month that the contract would go over the heads of near-by prefabricators to one in distant Cleveland who differs from the rest in that his house parts are AFL-produced.

Regardless of the validity of the prefabricators' claims and the counter-claims of its opponents, it is obvious that the industry has not been given a fair break by the Government. Evidence enough is the fact that, fortnight ago, it lacked a single FWA defense housing order. To the impartial observer, it occurs that the sad state of PBA's program might be bettered by such steps as these:

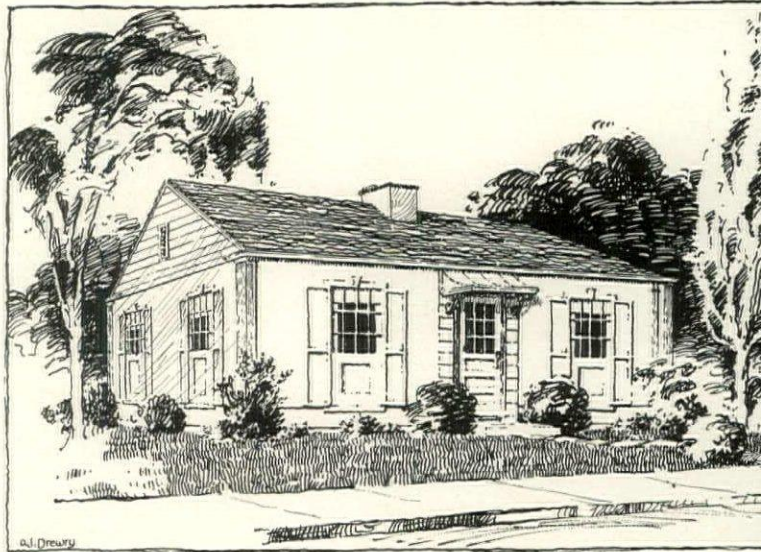
- To an office of authority in the FWA should be appointed a director of prefabricated housing who knows mass production and, preferably, one who is familiar with the merits and demerits of the various prefabrication systems.

- FWA should study the experience of the Navy.

(Continued on page 48)



Designed for defense, this compact house measures 24 x 28 ft., is comprised of plywood wall sections almost room-size in length, is prefabricated by National Homes Corp. Organized last July, the company produced 37 houses during its first three months, has turned a profit every month, boasts a capacity of 60 a month. But, last month it had no defense orders.

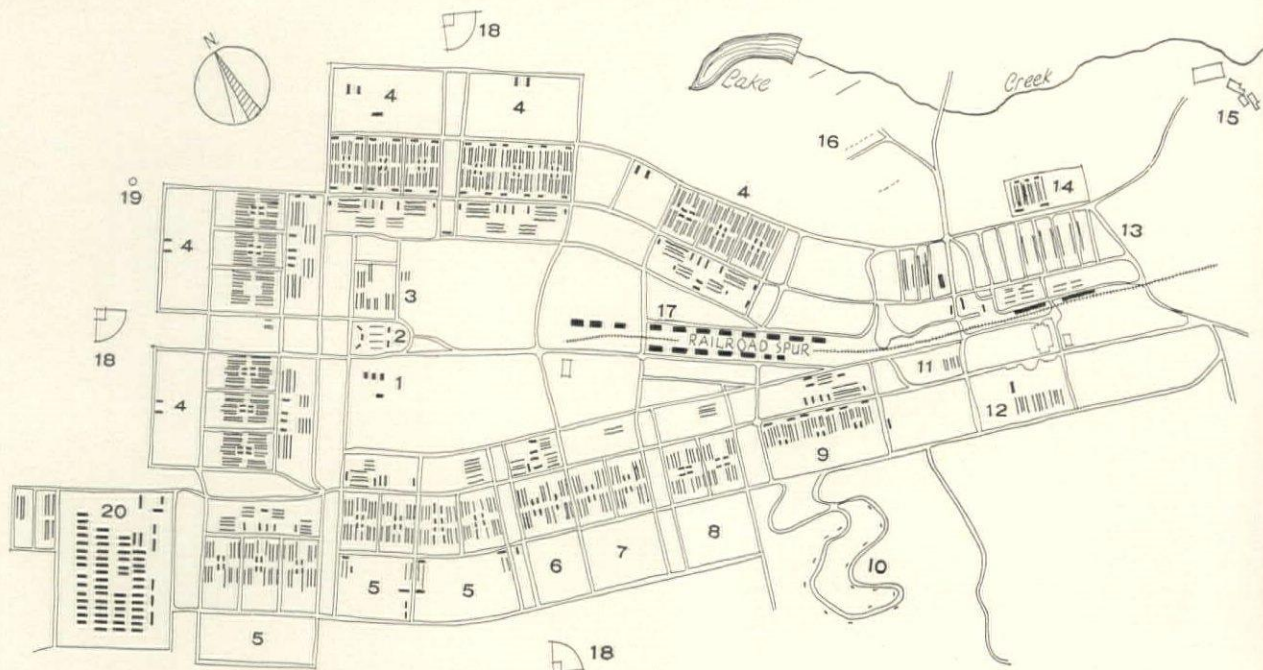


Another would-be defense house by the Gunnison Housing Corp., one of prefabrication's pioneers and biggest producers. A house like this ran into its difficulties in Belleville, Ill. last fall. Produced by Gunnison's CIO-organized shop, the 4 x 8 ft. panels were being assembled by CIO field workers when a militant AFLster stormed the site, broke a carpenter's skull, another's arm. Today, while a grand jury indictment awaits prosecution, Gunnison's houses are banned by the city for failing to meet the antique building code.

BUILDING FOR DEFENSE . . . PRIDE OF THE CANTONMENT PROGRAM

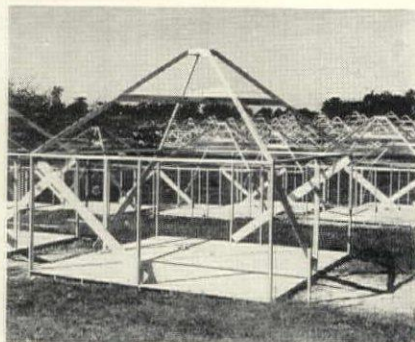
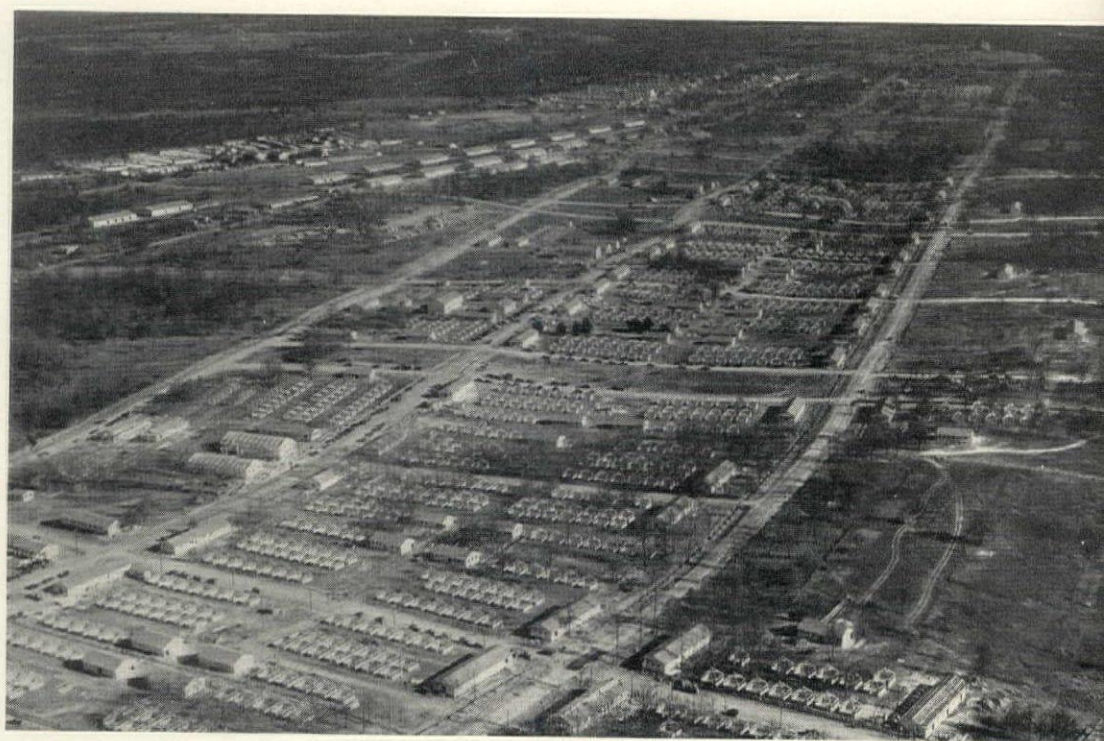
is Arkansas' Camp Robinson—an \$8-12 million tent city for 25,000 men built to last five years. Regimented design to meet the needs of a division.

BRIGADE HEADQUARTERS
DIVISION HEADQUARTERS
SPECIAL TROOPS
INFANTRY REGIMENT
FIELD ARTILLERY REGIMENT
ENGINEERS REGIMENT
QUARTERMASTERS REGIMENT
MEDICAL REGIMENT
COMBAT ENGINEERS
MAGAZINES
SIGNAL COMPANY (PHOTO)
RECEPTION CENTER
MILITARY POLICE
STOCKADE
SEWAGE DISPOSAL PLANT
RIFLE RANGE
WAREHOUSES
ATHLETIC FIELD
WATER STANDPIPE
BASE HOSPITAL



last month, THE FORUM asked the War Department in Washington to designate its most advanced, best planned, best landscaped cantonment of barracks, was added to look at Camp Joseph T. Robinson in Arkansas. On these pages are photographs of Camp Joseph T. Robinson in Arkansas. It is not yet finished, contains only a barracks building but sprouts amid natural growth of scrubby trees from a plan somewhat more imaginative than that of its sister camps. The landscaping designed by the architect-engineers in model for other camps, has yet to be completed by the troops.

Named for Arkansas' late senator and located about eight miles from his home of Little Rock, Camp Robinson is a "cantonment type tent camp" with facilities for about 25,000 enlisted men and officers who will live in gas-heated, wood-framed and framed tents whose life expectancy is five years. The buildings are divided into many small regimented groups comprised of tents, mess halls and latrines which serve each infantry company and every battery. In addition, there are numerous recreation and administration buildings, warehouses, filling stations, and temporary frame buildings spotted along the 43 miles of hard paved roads which subdivide the five-square-mile site (one per cent Government owned, the balance leased). Six buildings have been preserved from World War I days when the camp was known as Camp Pike—three stucco administration buildings and three reinforced concrete warehouses. Like the warehouses, the latter about the Mississippi Pacific Railroad siding which runs through the Camp's center. A 70-building tem-



TENT FRAME



STOCKADE

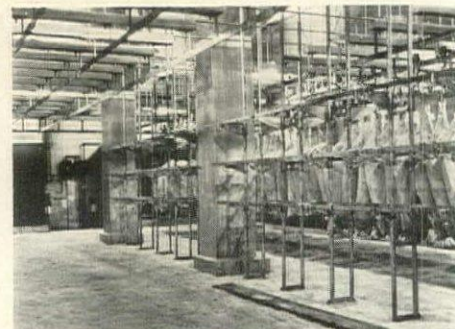
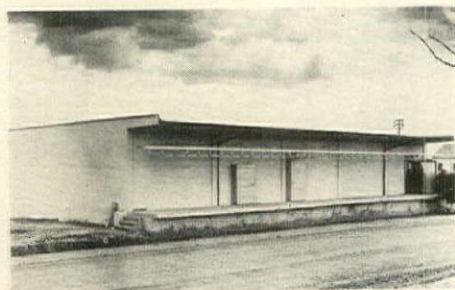
All photos, Charles R. Lynn

porary hospital occupies the southwest corner of the site. The water supply is piped across the Arkansas River from Little Rock.

Construction of the Camp was assigned on September 20 to MacDonald Construction Co. and G. L. Talton Contractors, Inc. of St. Louis on a cost-plus-fixed-fee contract of \$4,165,920. This figure has since been officially boosted to about \$8 million, and local observers predict that it will go as high as \$12 million. Consulting engineers: Black and Veatch of Kansas City, Mo. Construction quartermaster: Capt. Lynn C. Barnes, who succeeded Maj. Frank Reed, Jr. in January.



MESS HALL



COLD STORAGE



WAREHOUSES



THEATER —2,100 SEATS



DIVISION RECREATION CENTER



COMPANY LATRINE



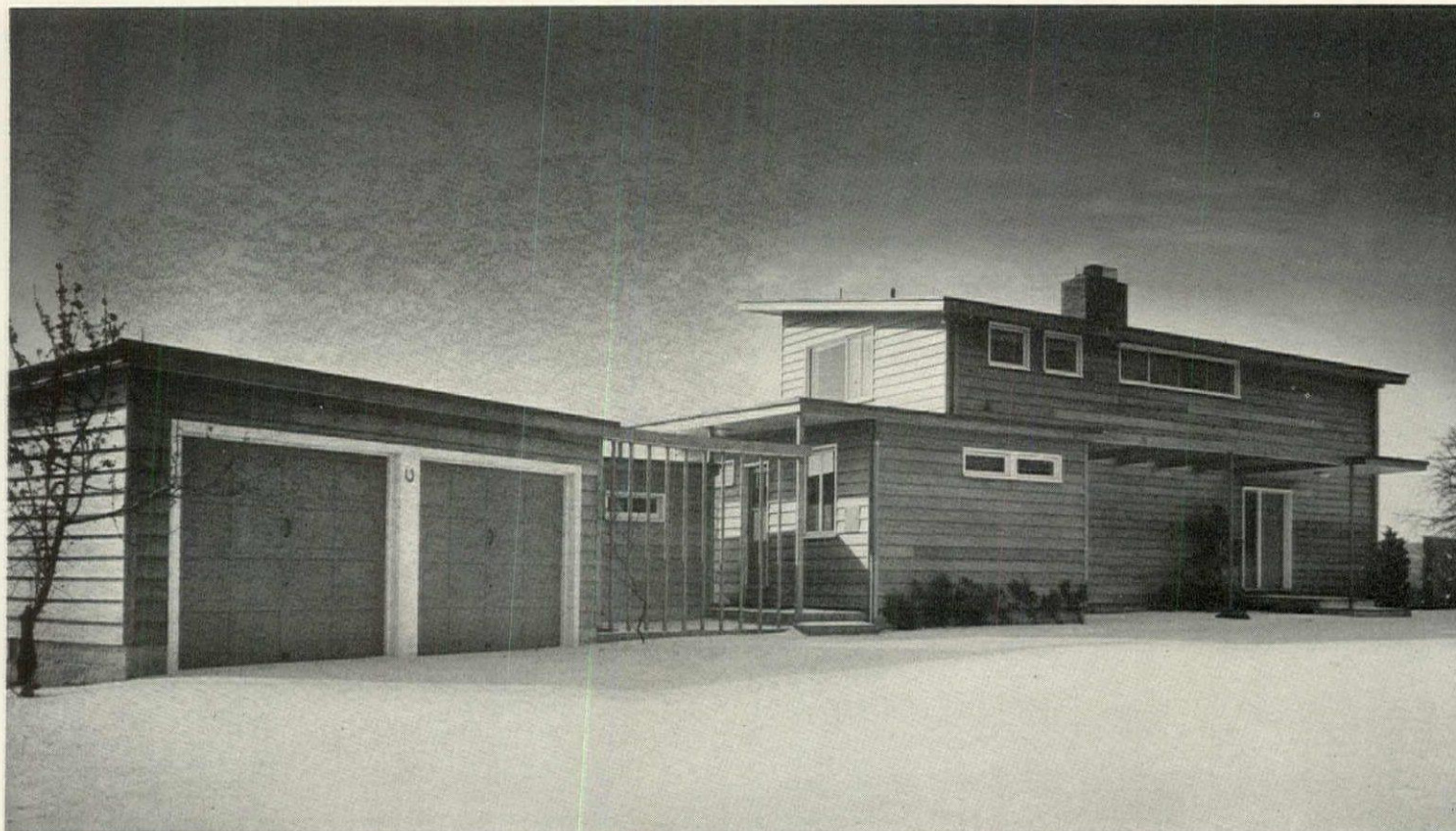
All photos, Charles R. Ly

HOUSES

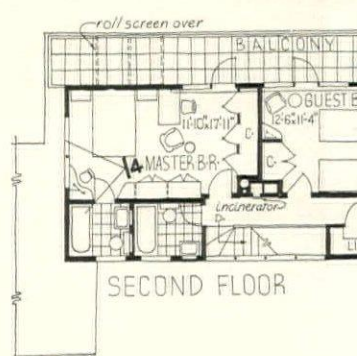
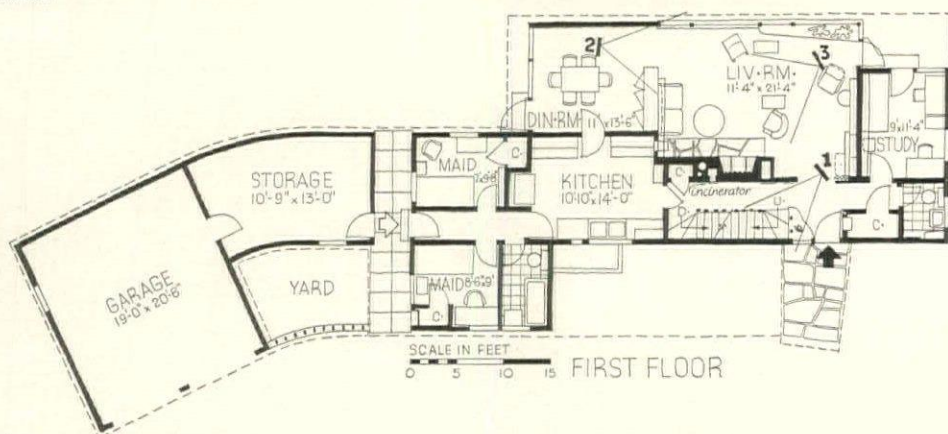
HOUSE IN CLINTON, N. J. GEORGE KOSMAK AND ERNST PAYER, ASSOCIATED ARCHITECTS



HOUSE IN CLINTON, N. J.



Richard Garrison



VIEW 1.



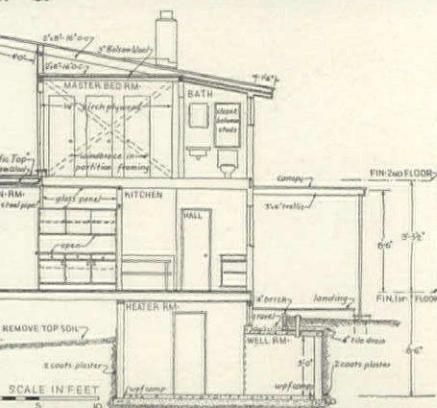
VIEW 2.



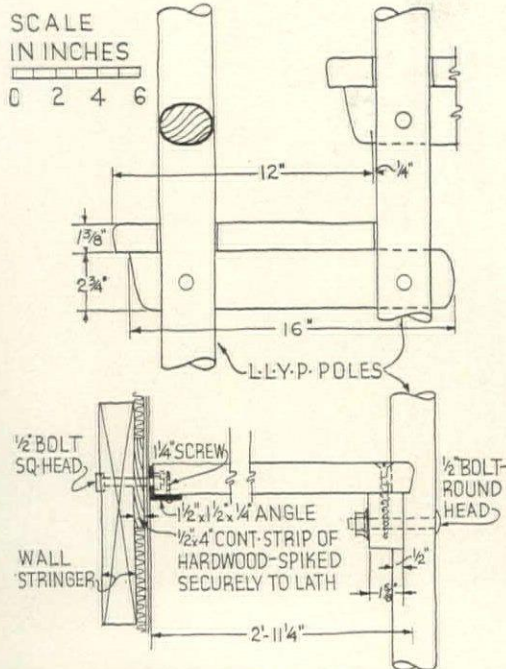
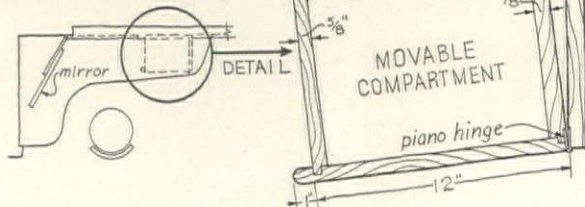


W 3.

Richard Garrison Photos



EW 4.



STAIRWAY DETAILS

The character of the change taking place in modern house design is very well illustrated by this example. The use of natural wood siding not only indicates an emphasis on the qualities inherent in the material, but it provides, in addition, a solution to many problems presented by the house lacking in applied decoration. This technique is by no means new, as it was discovered in the early Colonial house that the shutters could be omitted as a decorative accent if dark walls and light trim were used. The plan is efficient, making good use of service elements to increase the length and horizontal character of the house. The interiors are notable for the excellent design of the details. Cubage: 30,380. Cost: \$15,180.

CONSTRUCTION OUTLINE

FOUNDATIONS: Concrete block, reinforced concrete footings.

STRUCTURE: Exterior walls—red cedar clapboards, 15 lb. building paper, Celotex Corp. Vaporseal, 2 x 4 in. studs, Graylite Lok-Joint, Insulite Co.; inside—3 coats plaster or plywood.

ROOF: Covered with Celotex Corp. bonded built-up roofing. Deck—Traffic-top over built-up roofing, Celotex Corp.

FIREPLACE: Damper—H. W. Covert Co. Screen—Flex screen, S. P. Skinner Co.

SHEET METAL WORK: Flashing and leaders—copper.

INSULATION: Outside walls—Vaporseal, Celotex Corp. and Sealed Graylite Lok-Joint lath, Insulite Co. Roof—Balsam wool, Wood Conversion Co.

WINDOWS: Sash—steel casement, Croft Steel Windows, Inc. Glass—double strength, plate, and Flutex, Blue Ridge Glass Co. Div., Libbey-Owens-Ford Glass Co.

STAIR: Treads—white oak. Poles—yellow pine. Cleats—oak.

FLOOR COVERINGS: Main rooms—oak strips. Kitchen—linoleum, Armstrong Cork Co. Bathrooms—Sealex, Congoleum-Nairn, Inc.

WALL COVERINGS: Bedrooms—partly Salubra, Frederick Blank & Co. Halls—Weldtex, striated plywood, U. S. Plywood Corp.

WOODWORK: Trim and cabinets—white pine; one cabinet—maple. Master bedroom (one wall)—oak plywood. Built-in closets—fir plywood.

HARDWARE: By Schlage Lock Co.

PAINTS: By Breinig Brothers.

ELECTRICAL INSTALLATION: Wiring system—BX. Fixtures—F. G. Simmons and Kurt Versen.

KITCHEN EQUIPMENT: Range—Magic Chef, American Stove Co. Refrigerator and sink, dishwasher and disposal unit—General Electric Co.

BATHROOM EQUIPMENT: All fixtures—Crane Co. Cabinets and accessories—Charles Parker Co.

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—copper. Pump—Deming Co.

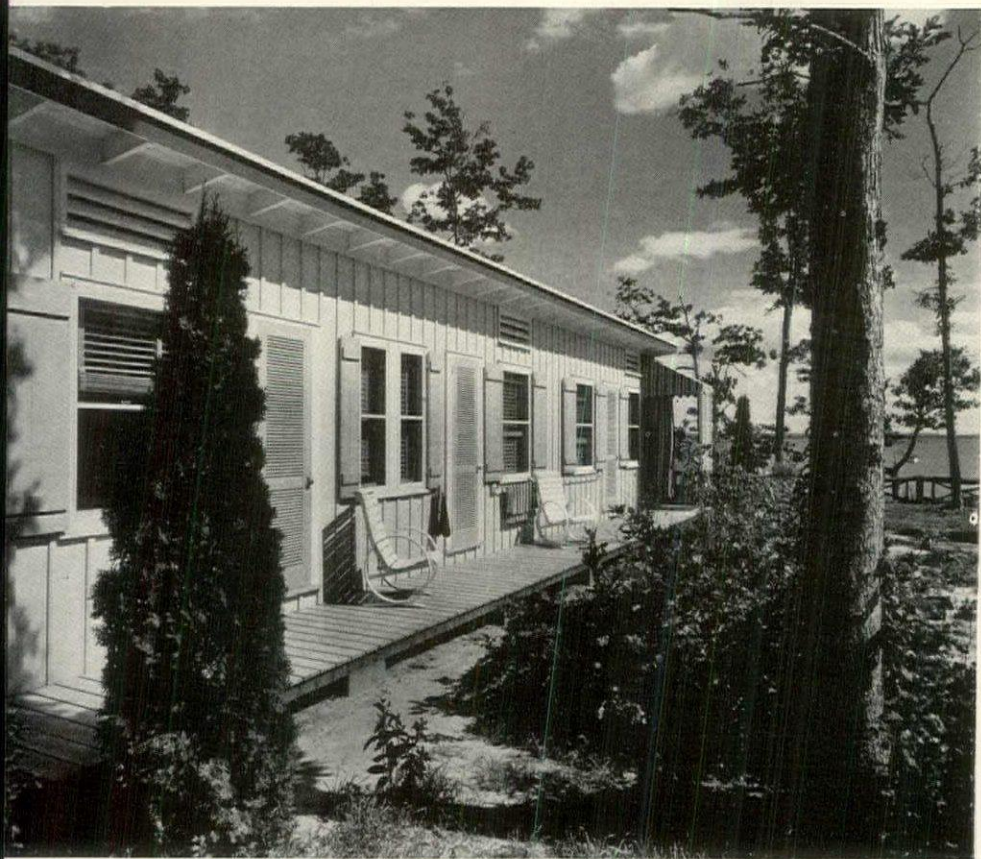
HEATING: Hot air system, filtered, humidified. System used as circulator in summer, no cooling device. Oil burner, Fitzgibbons Co. Thermostat—Minneapolis-Honeywell Regulator Co. Water heater—General Electric Co. Incinerator—Pyroneel Co.

WEEK-END HOUSE I

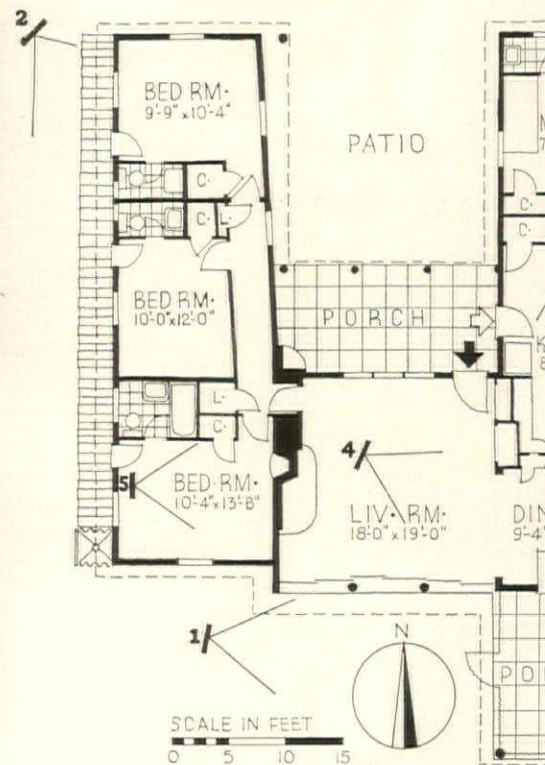


VIEW 1.

All photos, F. S. Lincoln



VIEW 2.



VIEW 3.



VIEW 4.



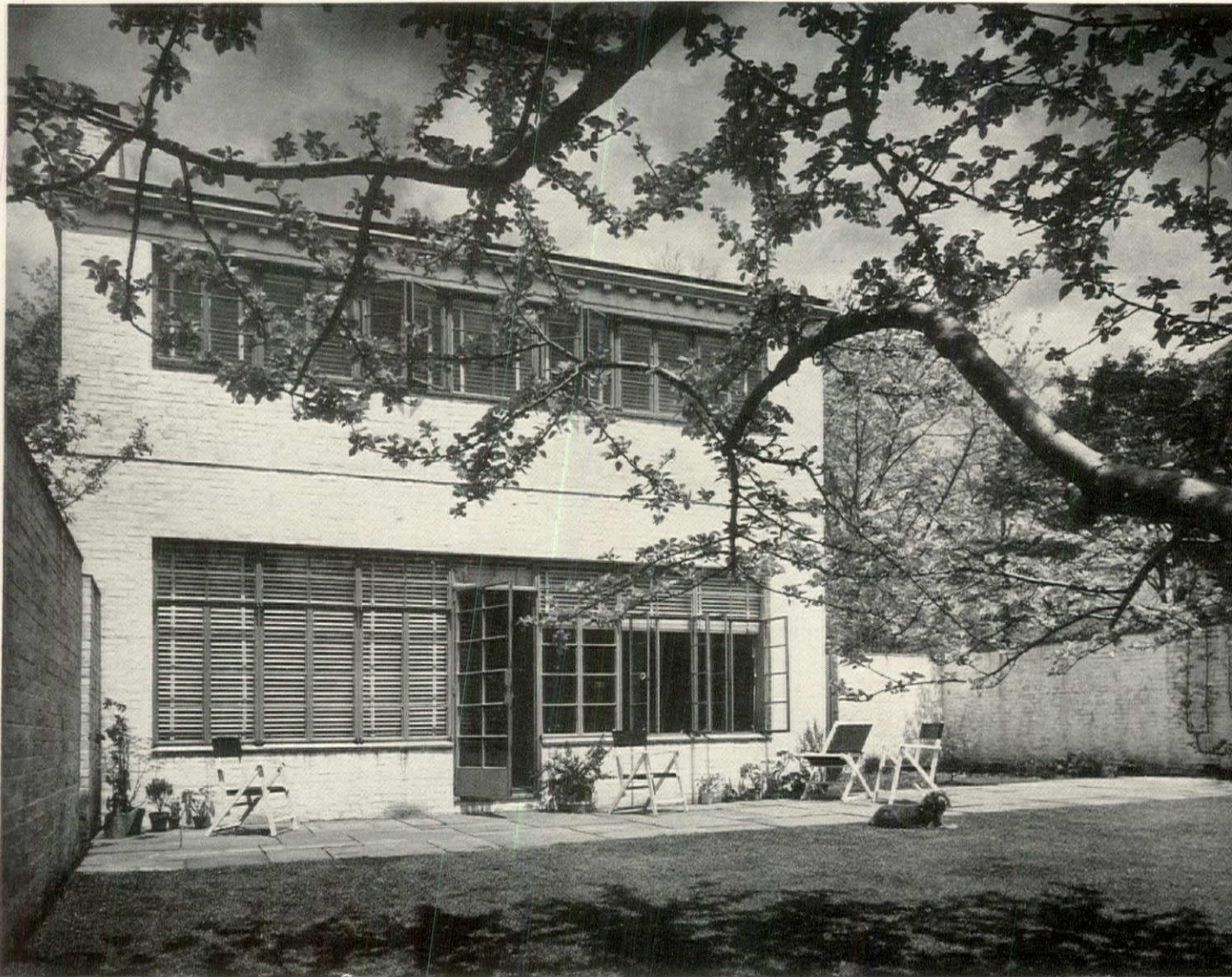
VIEW 5.

The site for this house is unusually narrow, and had a controlling influence on the design. Also important were considerations of view, sun and prevailing breezes. The main rooms face south, overlooking Peconic Bay, the living room extending through to the patio which was created as a sheltered outdoor dining and recreation area. An ingenious device is used on the south porch, where vertical slats, set at an angle, give the desired privacy without cutting off the view. Both exteriors and interiors show an agreeable informality, well in keeping with the use and surroundings of the house. Cubage: about 20,700. Cost: \$7,046.76.

CONSTRUCTION OUTLINE

FOUNDATION: Concrete blocks.
STRUCTURE: Exterior walls—vertical redwood siding, battened joints on studs. Interior finish—plywood and Johns-Manville insulating board and Flexboard. Floor construction—cross-cut round oak laid in sand on concrete slab, also N. C. pine, quality B.
ROOF: Peaked roof—covered with asphalt shingles. Low pitched roofs—Duratop cap sheet and 2 layers of 34 lb. coated asbestos felt laid shingle fashion, cemented down with cold cement. All materials—Johns-Manville.
SHEET METAL WORK: Flashing and leaders—copper. Gutters—fir.
WINDOWS: Sash—double hung, white pine; balances—Unique Window Balance Co. Living room sash—full length sliding. Glass—quality A, double strength, Pennvernion, Pittsburgh Plate Glass Co.
FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Congoleum-Nairn, Inc.
WOODWORK: Cabinets—Curtis Companies, Inc. Doors—plywood.
HARDWARE: By Lockwood Mfg. Co.
PAINTS: All lead and oil.
KITCHEN EQUIPMENT: Range—Magic Chef, American Stove Co. Refrigerator—Frigidaire Co.
BATHROOM EQUIPMENT: All fixtures by American Radiator Standard Sanitary Corp. Cabinets and accessories—The Charles Parker Co.
PLUMBING: Soil pipes—cast iron. Waste and vent pipes—galvanized iron. Water pipes—copper tubing. Water heater—Edison Monel metal. Pump—Westco Pump Co.

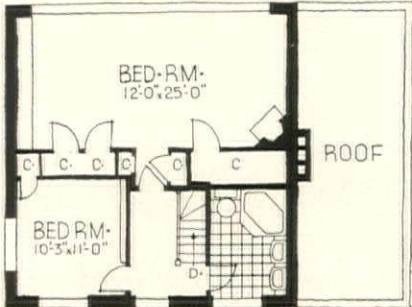
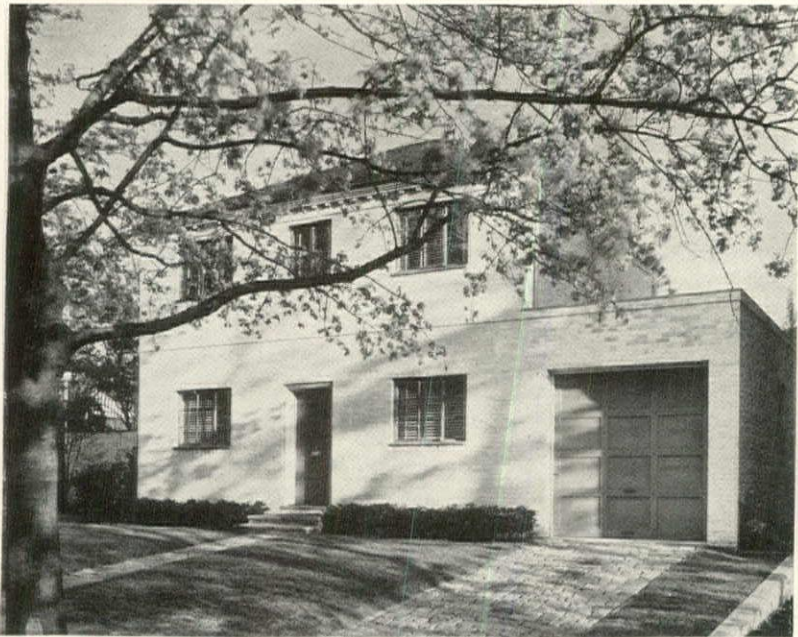
HOUSE IN PROVIDENCE, R. I.



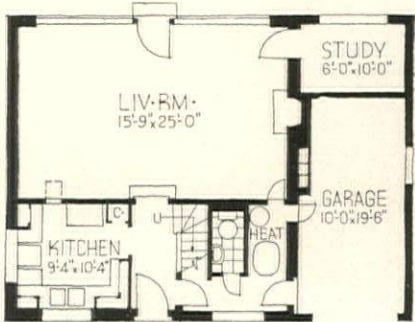
GARDEN FRONT

All photos, Richard Garriss

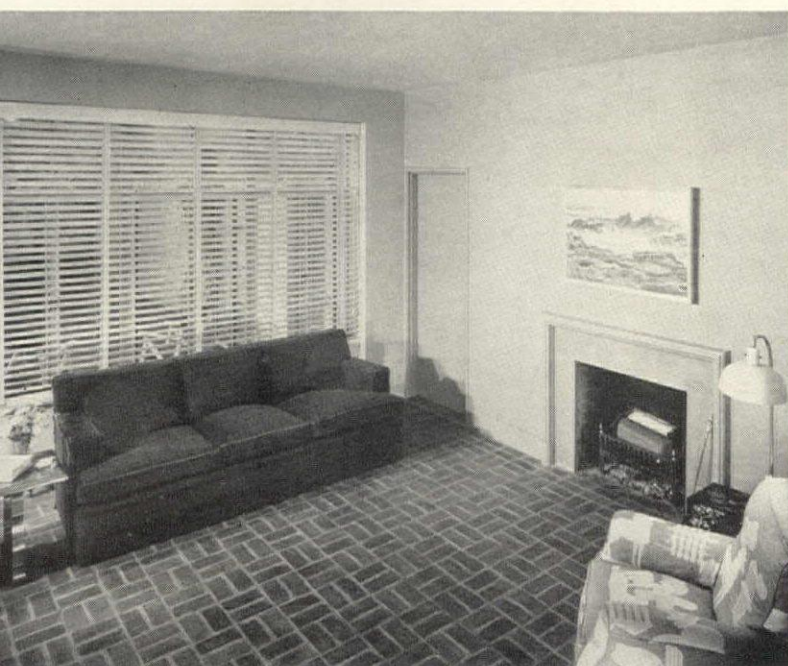
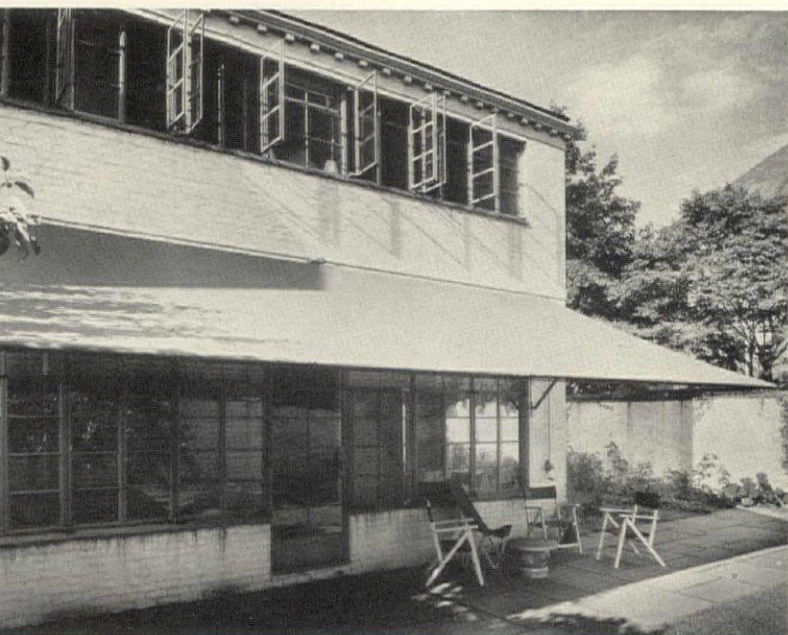
STREET FRONT



SECOND FLOOR

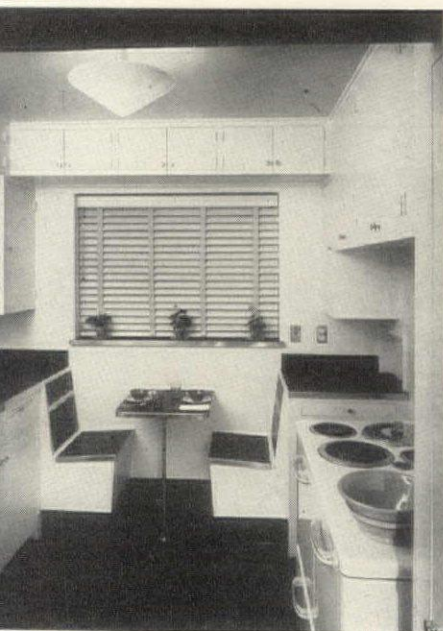


SCALE IN FEET 0 5 10 15 FIRST FLOOR



LIVING ROOM

KITCHEN



A very definite scheme is indicated here by the location of all main living elements at the rear and all services on the front, an arrangement that is reflected with complete clarity in the street and garden elevations. Considering the difficulties presented by the limited size and shape, the designer has been unusually successful in arriving at so pleasing a result. The box-like form is relieved by the hip roof, and a suggestion of Georgian formality is given by the simple brick cornice. Also useful in creating interest are the brick garden walls which not only provide a semi-architectural link between house and garden, but also a considerable degree of privacy. An amusing detail is shown in the kitchen photographs, which illustrate an unusual method for obtaining additional work space.

CONSTRUCTION OUTLINE

FOUNDATION: Poured concrete. Waterproofing—2 oz. Anaconda copper mopped onto reinforced concrete below 1st. floor and turned up 4 in. behind base, American Brass Co.

STRUCTURE: Exterior walls—4 in. brick, ½ in. air space, 8 in. cinder block; inside—Johns-Manville Steeltex lath and plaster. Floor construction—(1st.) 8 in. reinforced concrete; brick in living room; finished concrete in study and kitchen, linoleum covered, Armstrong Cork Co.

ROOF: Covered with 4-ply built-up. **FIREPLACE:** Damper—H. W. Covert Co. **SHEET METAL WORK:** Flashing and leaders—16 oz. copper, Ledkote Products Co. Gutters—wood.

INSULATION: Attic floor—4 in. rock wool. Weatherstripping—Chamberlin Metal Weather Strip Co.

WINDOWS: Sash—steel casement, Hope's Windows, Inc. Glass—double strength, quality B.

STAIR: Treads and risers—white oak. **WALL COVERINGS:** Halls—wallpaper, Katzenbach & Warren, Inc.

WOODWORK: Trim and cabinets—white pine. Doors—Johns-Manville. Garage doors—Overhead Door Corp.

HARDWARE: By Russell & Erwin Mfg. Co. **PAINTS:** By Oliver Johnson & Co., Inc., Minwax Co. and Medusa Portland Cement Co.

KITCHEN EQUIPMENT: Range, refrigerator, sink and dishwasher unit—General Electric Co.

BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp. Cabinets—The Philip Carey Co. Water closet (1st. floor)—Kohler Co.

PLUMBING: Soil pipes—medium cast iron. All supply pipes—Anaconda copper, American Brass Co.

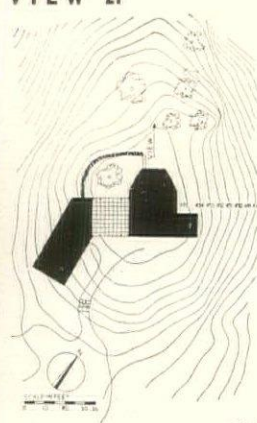
HEATING: Circulated hot water system, H. A. Thrush & Co. Oil-fired boiler and thermostat—General Electric Co. Radiators and valves—American Radiator-Standard Sanitary Corp.



A fresh approach to the week-end house, the plan being based on the fact that the house is to be an outdoor but sheltered link between the living units involves no discomfort in actual use. The house is placed for a view of nearby Mt. St. Helena and is built throughout the year. In winter the cooking room becomes the owners' sleeping room, the other bedrooms being left unheated. The bathroom, somewhat inconveniently placed for winter use, is equipped with an electric heater. Large windows in the bedrooms can be opened to convert the units into sleeping porches; they face west to facilitate late sleeping, and to isolate the rooms from the living wing. Cost: \$4,250.

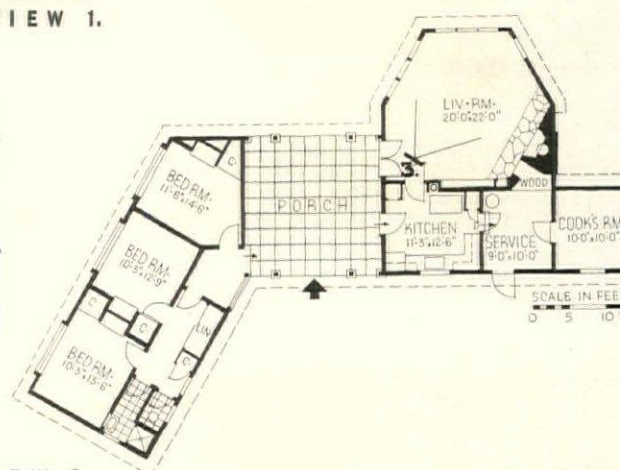


VIEW 2.



VIEW 1.

VIEW 3.



1.

CONSTRUCTION OUTLINE

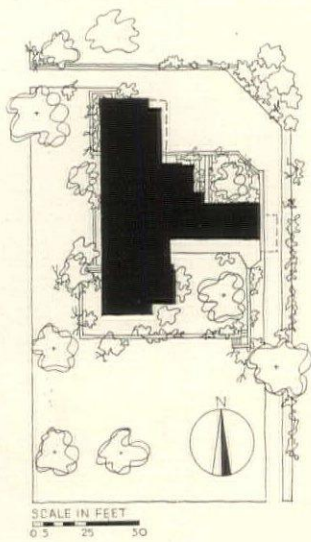
STRUCTURE: Exterior walls—1 x 6 in. redwood, rounded joint, rustic, B grade, vertically applied except in gable ends, studs; interior—vertical clear redwood, V-joint and T. & G. Floor construction—1 x 4 in. Douglas fir. **ROOF:** Covered with redwood shingles. **FIREPLACE:** Damper—Superior Fireplace Co. **WINDOWS:** Sash—sliding and casement type. Glass—Pennvernon, single strength, Pittsburgh Plate Glass Co. **FLOOR COVERINGS:** Kitchen and bathroom—linoleum, Armstrong Cork Co. **ELECTRICAL INSTALLATION:** Wiring system—knob and tube. Switches—toggle. Heater—Thermador Electrical Mfg. Co. **KITCHEN EQUIPMENT:** Range—electric. Sink—Standard Pacific Mfg. Co. **BATHROOM EQUIPMENT:** All fixtures—Standard Pacific Mfg. Co. **PLUMBING:** Soil pipes—cast iron. Hot water pipes—copper. Cold water pipes—galvanized iron. Water heater—General Electric Co.



STREET FRONT

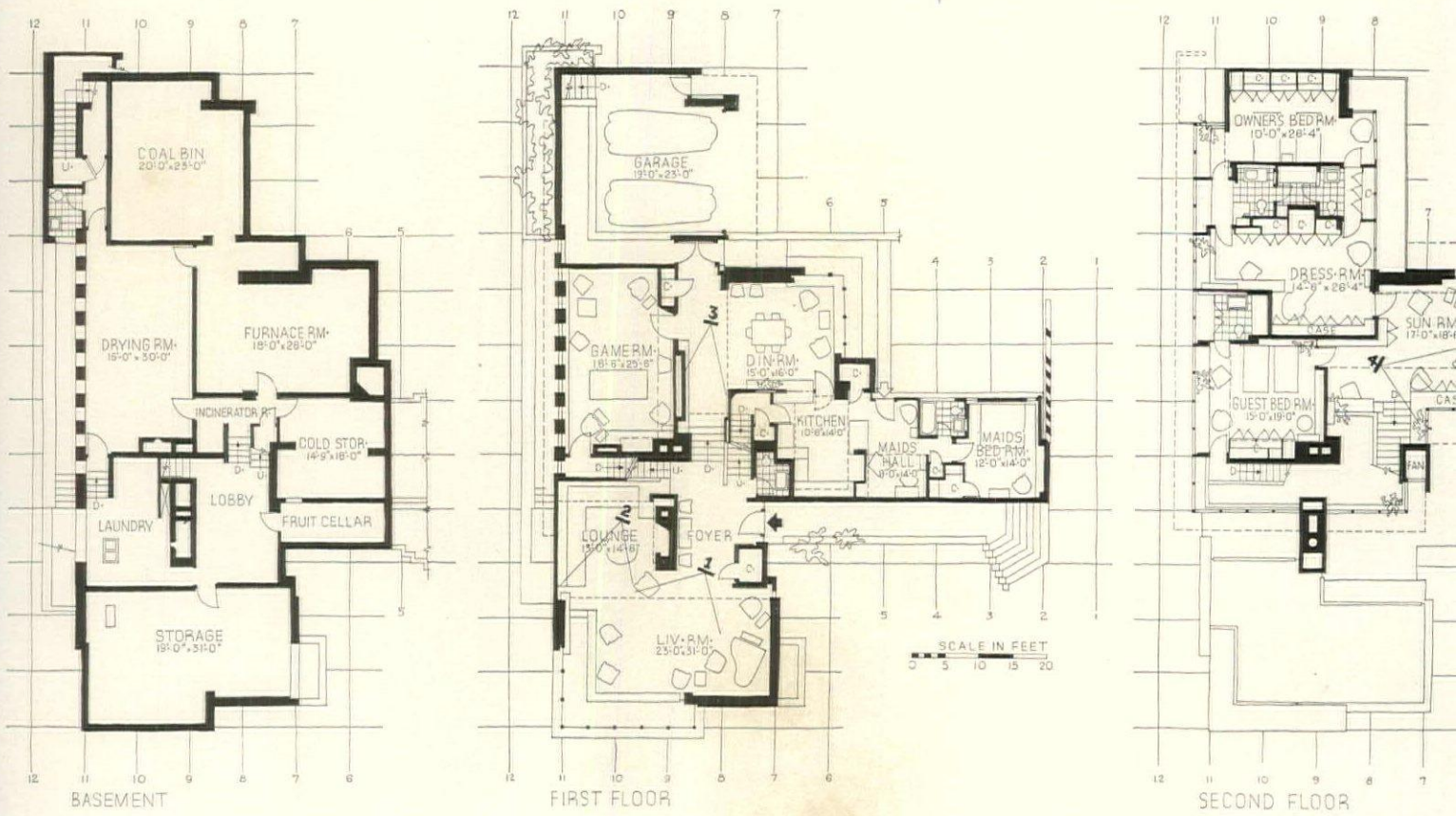
All photos, Elmer L. Astleford

AUTO COURT

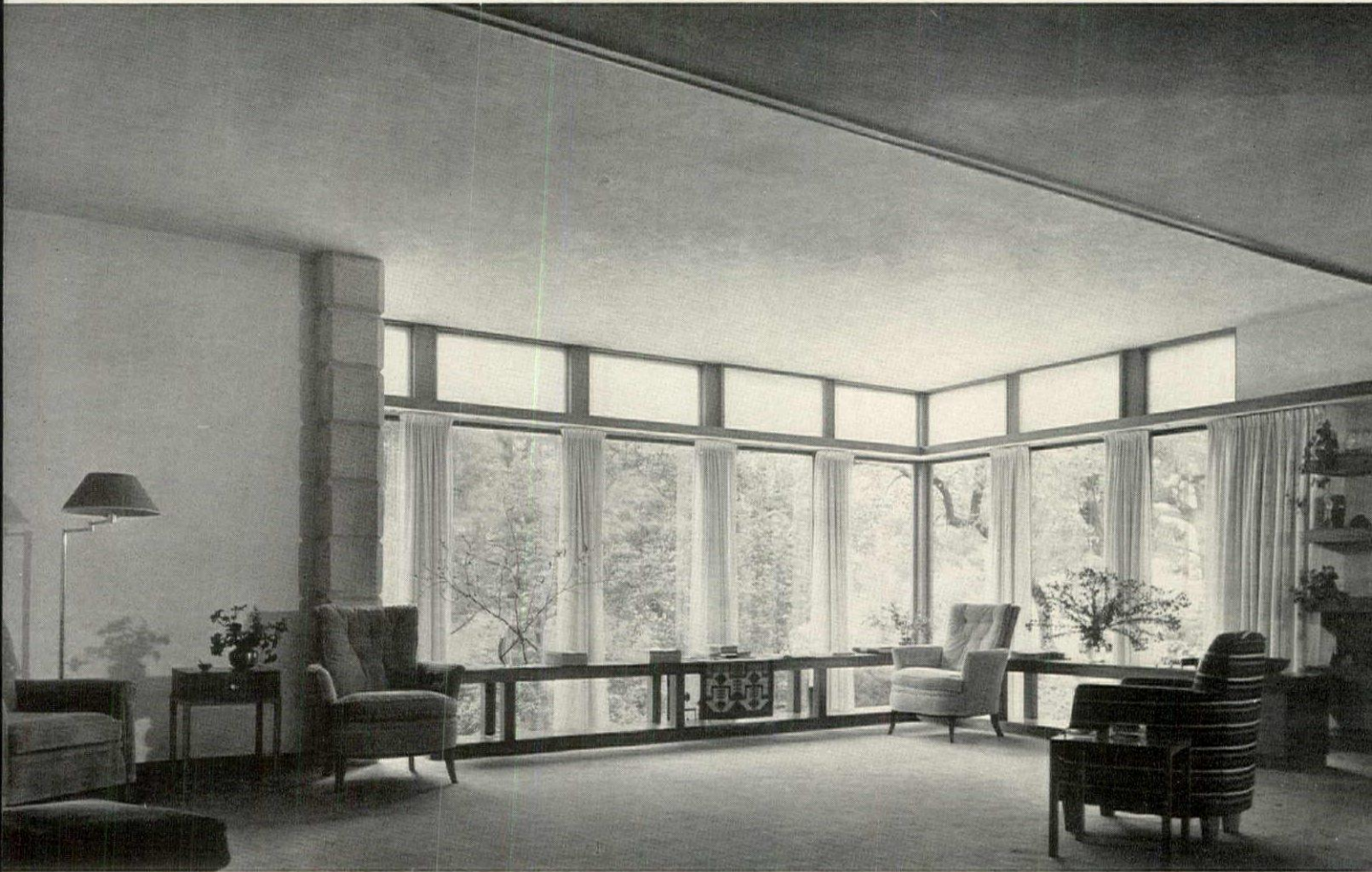


A carefully integrated concrete block structure, in which the maintenance of a horizontal and vertical module gives unity to the house and its appendages. The plan makes ample provision for comfortable living. The large living room has a fireplace alcove which greatly increases its flexibility, and supplementary recreation space is provided by the large game room. Services, including the kitchen and maids' rooms, are arranged in a separate wing.

HOUSE IN MIDLAND, MICH. ALDEN B. DOW, ARCHITECT



VIEW 1.





VIEW 2.

VIEW 3.



Direct access is provided between garage and main living areas. The upper floor contains two bedrooms and subsidiary rooms, with ample light and air assured by the almost unbroken perimeter of glass. The interiors show an interesting combination of structural materials, surface finishes, glass and built-in furniture. Cubage: 94,000.

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls — special cinder blocks patented by the architect. Floor construction—concrete on steel joists. Ceilings—plaster; Johns-Manville Acoustex blocks in game room.

ROOF: Wood deck on steel beams covered with 5-ply tar and gravel roofing.

INSULATION: Roof—Zonolite, Universal Zonolite Insulation Co.

WINDOWS: Sash—Hope's Windows, Inc. Glass—polished plate. Glass blocks—Pittsburgh Corning Corp.

FLOOR COVERINGS: Main rooms—carpet. Kitchen—linoleum. Bathrooms—tile.

WOODWORK: Trim, cabinets and doors—Louisiana red cypress. Garage doors—Horton Overhead Doors.

HARDWARE: By Stanley Works and Schlage Lock Co.

PAINTING: Block walls—white magnesite paint inside; outside—White-Western waterproofing.

ELECTRICAL INSTALLATION: Wiring system—Romex, General Cable Corp. Switches—Pass & Seymour.

KITCHEN EQUIPMENT: Complete unit by General Electric Co.

BATHROOM EQUIPMENT: All fixtures by American Radiator-Standard Sanitary Corp. Toilet—W. A. Case & Son Mfg. Co. Cabinets—American Enameled Products Co.

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—copper, Streamline fittings, Mueller Brass Co.

HEATING AND AIR CONDITIONING: Steam and warm air system. Air conditioning unit—General Electric Co. Boiler—Bryant Heater Co. Radiators—Trane Co. Grilles—Independent Register Co. Valves—Warren Webster & Co. Regulator—Minneapolis Honeywell Regulator Co.

VIEW 4.



HOUSE IN TUCSON, ARIZ.



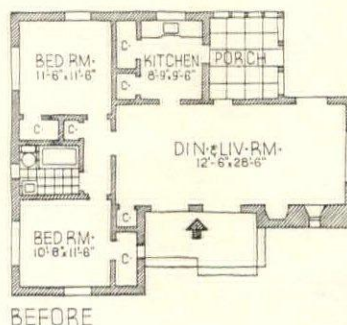
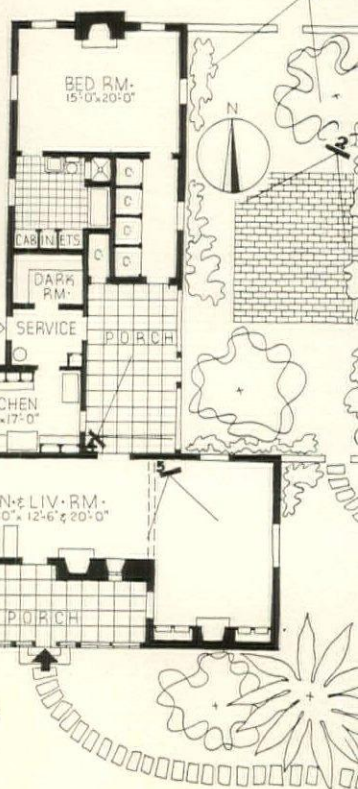
VIEW 1.



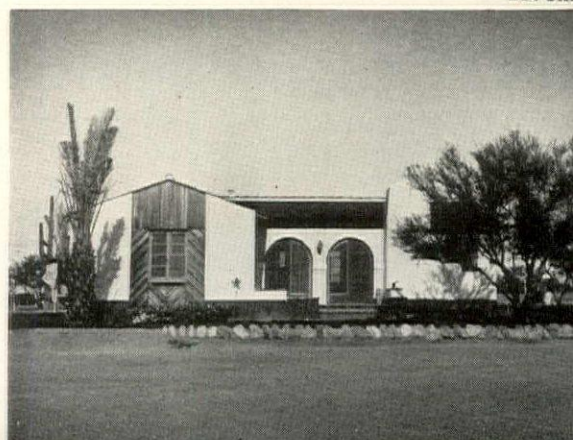
VIEW 2.



VIEW 3.



BEFORE





VIEW 4. *Maynard L. Parker Photos*

typical southern U. S. type, this Arizona residence appears to be highly successful in the general disposition of living space. Remodeled from a much smaller dwelling, it shows an excellent room arrangement, especially in the grouping of the bedrooms, and a handsome walled garden, ideally adapted to local climatic conditions. A generous screened porch supplements the outdoor living facilities. Interiors, as shown by the example below, are a pleasantly casual blend of period and modern ideas, with the accent on comfort. Cost of new construction: \$8,729.

VIEW 5.



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—common brick; inside—plaster. Interior partitions—2 x 4 in. studs, Johns-Manville Steeltex for plaster. Floor construction—oak over subflooring in living room; remainder—reinforced concrete.

ROOF: Covered with red cedar shingles. Deck—Mastipave cap sheet, Paraffine Co.

FIREPLACE: Damper—H. W. Covert Co.

SHEET METAL WORK: Flashing—28 gauge galvanized sheet metal.

INSULATION: Roof and ceilings—4 in. mineral wool, Johns-Manville.

WINDOWS: Sash—wood casement. Glass—double strength, quality A, Libbey-Owens-Ford Glass Co. Screens—16 mesh copper cloth, Pacific Wire Products Co.

WOODWORK: California Pine throughout.

HARDWARE: By Ives Mfg. Co. and Russell & Erwin Mfg. Co.

PAINTS: By W. P. Fuller Co.

ELECTRICAL INSTALLATION: Wiring system—combination of flexible armored cable and electrical metallic tubing. Switches—tumbler type, Bryant Electric Co.

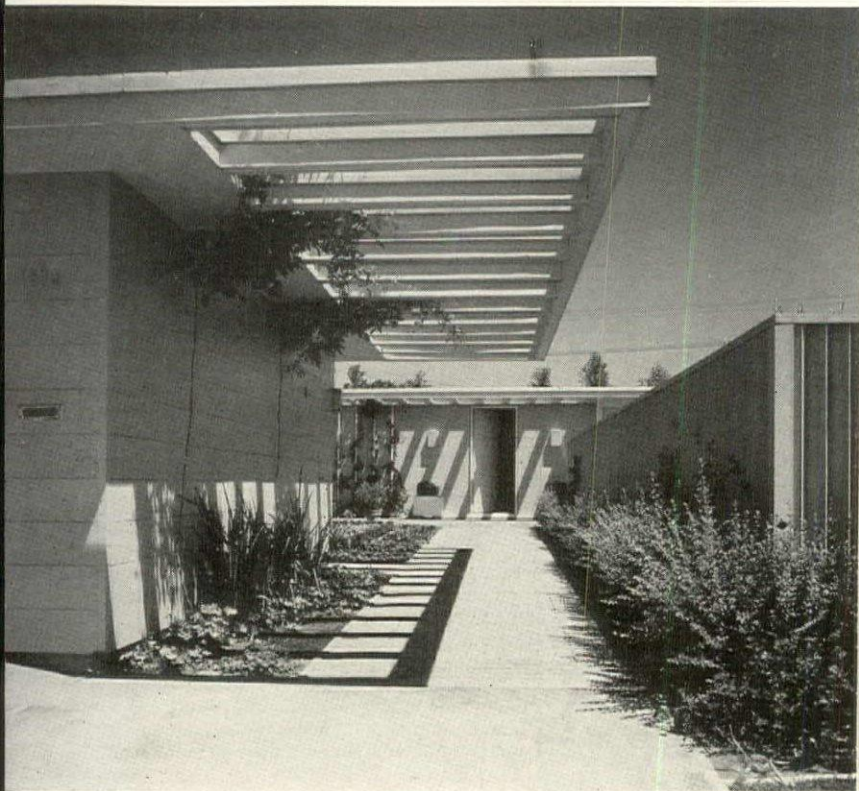
KITCHEN EQUIPMENT: In original house.

BATHROOM EQUIPMENT: All fixtures by Crane Co.

PLUMBING: Soil pipes—cast iron, A. M. Byers Co. Hot and cold water pipes—copper, Wolverine Tube Co.

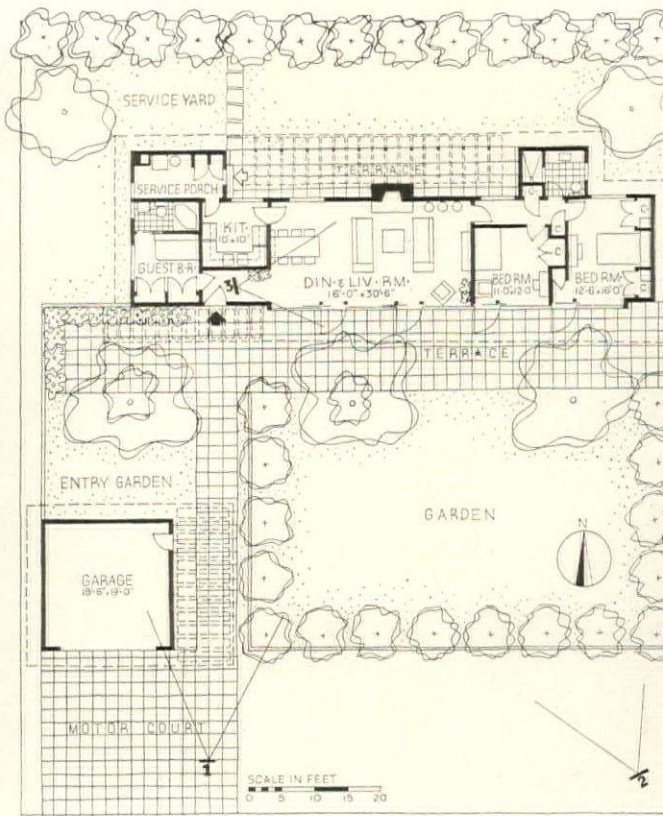
HEATING: Existing house heated by hot air.

HOUSE IN MODESTO, CALIF.

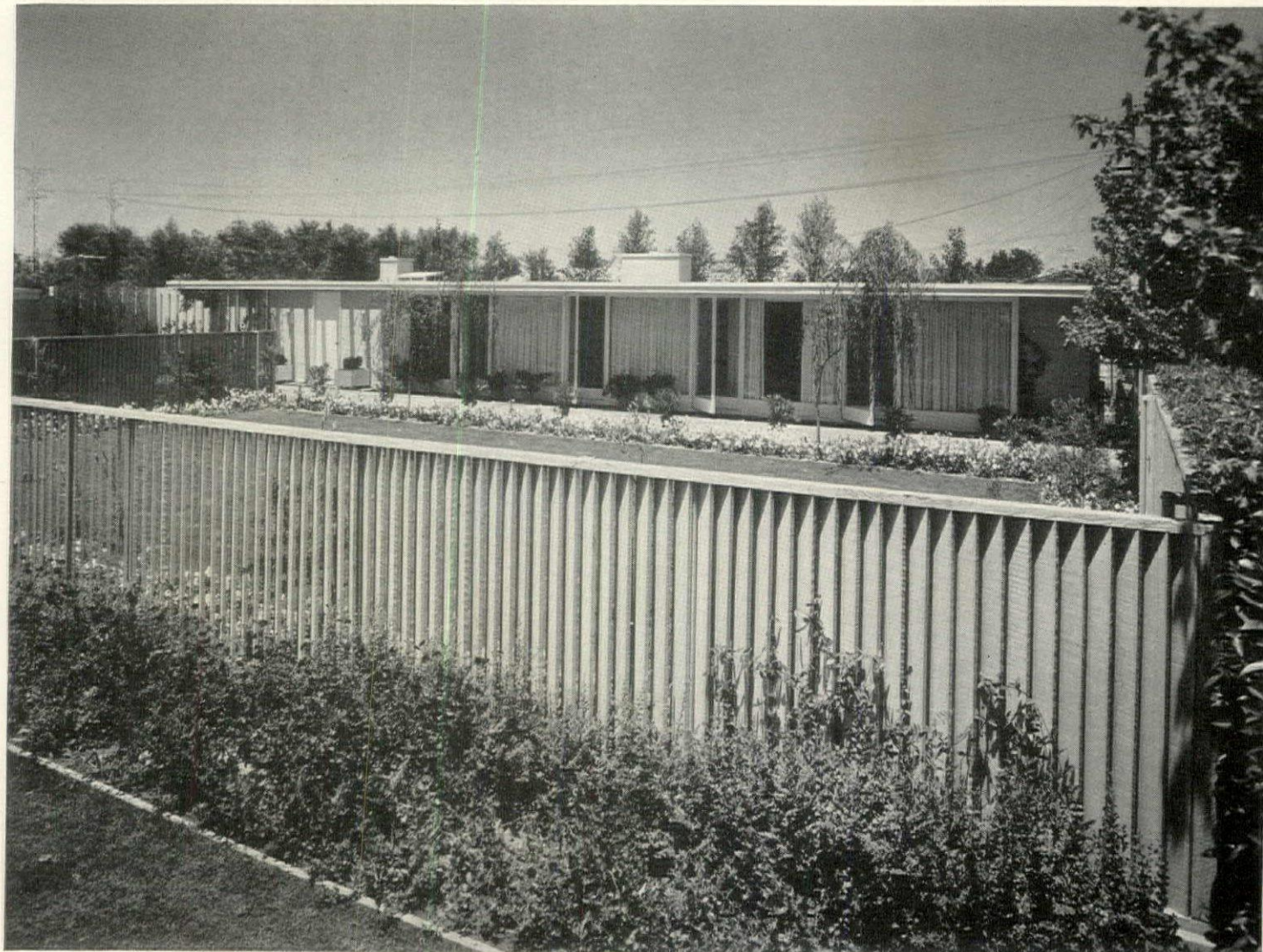


VIEW 1.

Roger Sturtevant Photos

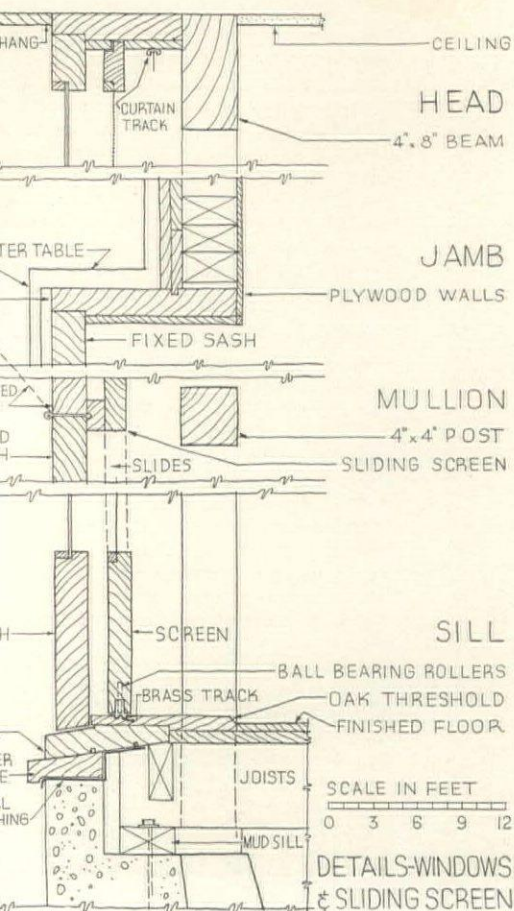


VIEW 2.

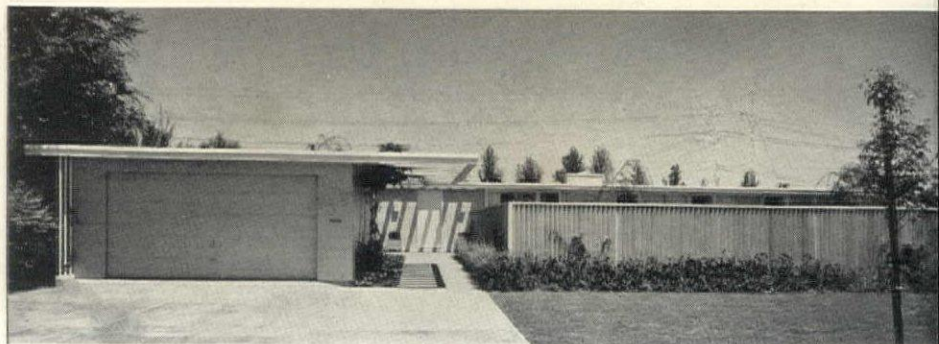


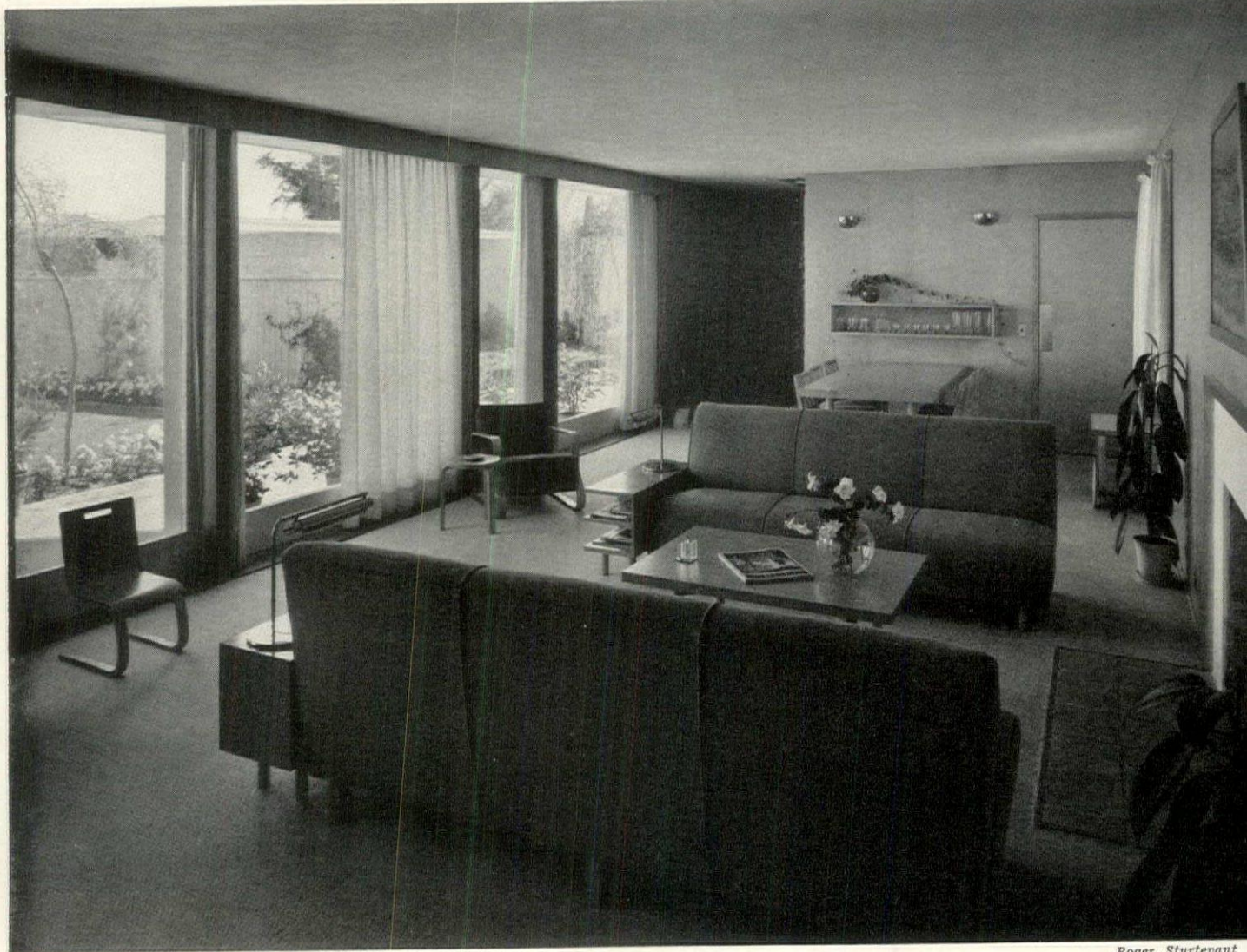


VIEW 3.



This brilliant design by one of the younger San Francisco architects presents new and tangible evidence of California's leadership in the field of modern domestic architecture. Mr. Funk's description is of interest: "The requirements were very simple. The family consists of the parents and a small daughter, and they wanted the number of rooms shown on the plan. They had no preconceived ideas, merely asked to have privacy for both garden and house, and to have the best use made of their site, etc. "We started by placing the house at the rear, giving adequate area and southern exposure. We wrapped a fence around the garden to insure privacy. The house was made one room deep for through ventilation in summer and to act as a windbreak for the terrace in winter. To protect the plate glass front we made a five-foot roof overhang. The garage was placed near the street, with a small motor court for off-street parking. "It seemed desirable to separate the guest and family bedrooms. Dining and living rooms were combined to extend the scale and comfort of the main living area."





LIVING ROOM

Roger Sturtevant

SOUTH TERRACE



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—California redwood, studs, 30 lb. building paper;—California white pine plywood, U. S. wood Co. Floor construction—D. F. and sheathing.

ROOF: Covered with built-up composition roofing, Johns-Manville.

INSULATION: Roof—rockwool. Weatherstripping—Chamberlin Metal Weather Co.

WINDOWS: Sash—sugar pine, Douglas frame. Glass—plate and double strength quality A, Libbey-Owens-Ford Glass Co.

FLOOR COVERINGS: Main rooms—carpet. Kitchen, bath—linoleum, Armstrong Cor.

WOODWORK: Trim and cabinets—white pine. Interior doors—"Sturdibilt" & M. Woodworking Co.

HARDWARE: By P. & F. Corbin Co.

PAINTS: By W. P. Fuller Co.

ELECTRICAL INSTALLATION: Wiring—knob and tube, General Electric. Fixtures—Kurt Versen and Nessen St. Inc.

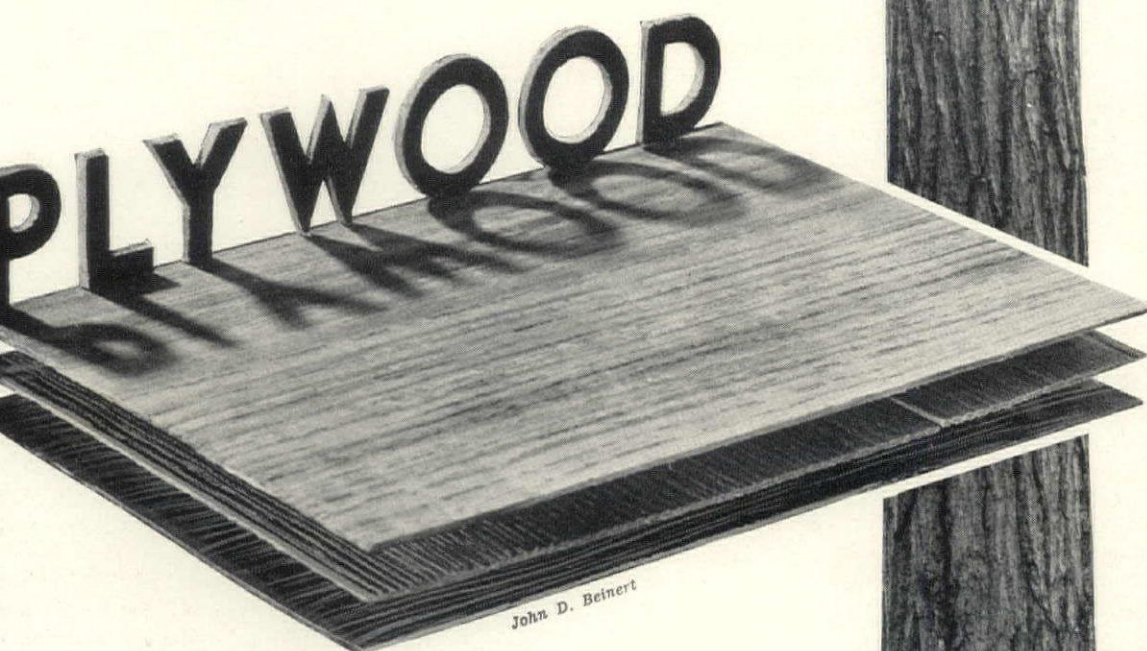
KITCHEN EQUIPMENT: Range, refrigerator and dishwasher—General Electric.

BATHROOM EQUIPMENT: All fixtures—American Radiator-Standard Sanitary Co. Cabinets—Hallensheid & McDonald.

PLUMBING: Cold water pipes—galvanized steel. Hot water pipes—copper.

HEATING: Warm air system, filtering, humidifying, Payne Furnace and Supply. Grilles—Hart & Cooley. Water heater—Ruud Mfg. Co.

PRODUCTS AND PRACTICE



Nobody knows who invented the remarkable three-decker sandwich of wood and glue called plywood, but whoever it was started something. Reputed as the strongest and most rigid material by weight and thickness so far developed, wood in this reconstructed form is finding its way back into fields where the hallmark of progress used to be a changeover from wood to metal. Molded in compound curves, an incredible three-thirty-seconds of an inch of mahogany and basswood, bonded with phenolic resin, makes an airplane wing that is stronger, cheaper, and lighter than its metal counterpart, almost impossible to dent, and minus the thousands of tiny rivets which make metal wings hard to build and hard to drag through the air. Metal-laced on both sides, a sheet of plywood provides a covering for streamlined trains which is more rigid and vastly lighter than a sheet of metal of the same thickness, and which can be worked with ordinary carpenter's tools. Laminated skis, crossbanded to prevent splitting at the toe, take the place of carefully selected and laboriously cut solid lumber, and laminated bentwood furniture, in a recent revival of plywood's earliest product, shows the enormous strength which wood can develop when stressed in the direction of the grain.

Within the building industry, plywood is challenging conventional materials on so many fronts that it is increasingly difficult simply to keep track of them. The reasons for this go beyond the physical properties enumerated above and include a number of factors arising out of Building's peculiar technology, economy, background, and even its emotional basis. Like no other industry, Building requires easily-worked materials which can be fabricated by handicraft methods. Like no other industry, it needs widespread distribution of its raw materials, buys them in small quantities, and demands a variety of sizes, shapes, and surface characteristics almost impossible to supply. And, more than any other, its market is tied to a tradition in which wood, as the first and most common of man's material partners, plays a definitive emotional role. Plywood, which is in a position to meet all of these needs in a way no other single material can match, has a headstart over all comers in the race for Building's favor.



Courtesy, U.S. Forestry Service

The giant Douglas fir, which is not a fir at all, but a conifer of the species *taxifolia*, grows nowhere but in the Pacific Northwest, but supplies almost two-thirds of the huge "peeler" logs used in the manufacture of plywood.

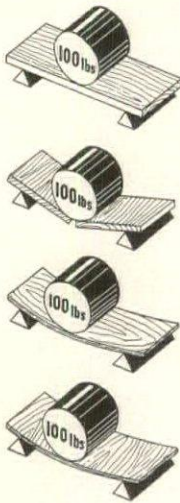
PLYWOOD: A SCIENTIFICALLY RECONSTRUCTED MATERIAL WITH UNUSUAL PROPERTIES . .

Plywood is scientifically reconstructed wood, natural timber rebuilt to function as a sheet material. By definition, it is "laminated wood consisting of an odd number of plies, with the grain of the alternate layers at right angles to one another." It owes its form, and many of its uses, to what are often erroneously described as the fundamental "defects" of natural wood, but are actually defects in our crude ways of using it. Left to itself, a tree is certainly the most marvelous structure on earth; no man-made creation of comparable size, weight, and wind resistance can rival its simplicity and structural efficiency. But cut to the ground, deprived of its normal moisture content, and hacked into pieces without regard for its fundamental structural pattern, it quite naturally misbehaves. Although dead, it remains in a number of ways seemingly alive: the enormous number of elongated, sack-like fibers from which it is made fill with moisture and swell in humid air, empty and contract again when the air turns dry, either pulling apart or causing considerable shrinkage across the grain; fibers near the cut faces and ends swell and shrink more than those on the inside; boards which are sections taken almost at random through the radial pattern of the cell structure swell and shrink unevenly, warp, twist, and check. A material which nature intended to be 20 to 50 times stronger in one direction than the other stubbornly refuses to be equally strong both ways.

All of which is relatively unimportant in the case of square or near square sections of the tree which are small (relative to the radial structure of the trunk) and loaded as beams in the direction of the grain, but tremendously important when an attempt is made to use wood as a sheet material, loaded as a panel.

It was this fact, and not, as has sometimes been suggested, the desire for wider boards than could be cut from natural timber, which led to the first conscious use of plywood. "Chippendale," according to a contemporary source, "was not satisfied with the mere natural beauty of mahogany. He did justice to its merits by

the conscientiousness of his construction. His frets were no mere pierced planks, but consisted of several thicknesses glued together in different ways of the grain, until the result was an ornament capable of withstanding climatic changes and the effects of time to an extraordinary extent." The ability to produce sheets of practically any size is an incidental advantage, rather than the cause of plywood construction—in fact, 4 x 8 ft. sheets of plywood, the commonest size now in use, are most often made from logs 6 to 10 ft. in diameter.



Its greatest advantage over natural wood, however, is its ability to produce *thin* sheets—sheets which are practically equal in strength in both directions. Thus while plywood is slightly weaker and more limber than natural wood in the direction of the grain, it is vastly stronger and more rigid across the grain; you can bend a large enough sheet of $\frac{1}{4}$ in. plywood with your hands, but you will find it hard to break, and impossible to split.

A second and almost equally important advantage of plywood is that it expands and contracts very little in either direction, probably as little as any other material. This, of course, is due to the fact that the fibers in the plies running in one direction resist the tendency of those at right angles to swell in a lateral direction; instead of changing in size with an increase or decrease in moisture content, the various plies change very slightly in thickness. Plywood's structure does not, however, prevent the formation of small surface checks, and may even be the cause of such defects. Still another advantage is that the thin veneers used in making plywood are readily dried, with absolute uniformity, by mechanical means.

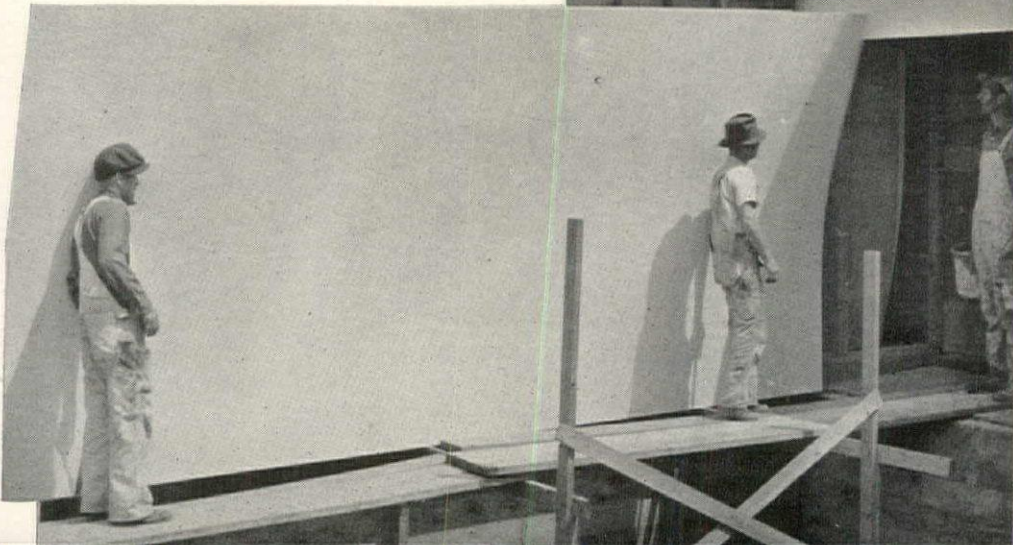
All of these advantages were inherent in Chippendale's plywood frets, but before they could be realized on a widespread basis mechanical means of plywood production had to be developed. And this development was stimulated, not by the desire for plywood, but by the needs of the already-flourishing practice of *veneer*ing.

The art of applying thin, decorative veneers to solid wood goes back to Tutankhamen, and was widespread among the Romans, not only for fine furniture, but also for door frames and wall paneling. After the Renaissance, it was developed to a high point by Italian, French, Dutch, and later (in the 17th century) English cabinet makers. But prior to 1805, veneers were made simply by ripping thin sheets from the solid with a hand saw—a method so obviously wasteful and laborious as to preclude their use for any but the most costly articles. In that year, the first power-driven circular saw was patented in England, expressly for the purpose of cutting veneer, followed shortly afterward by a machine for cutting thin slices vertically with a knife.

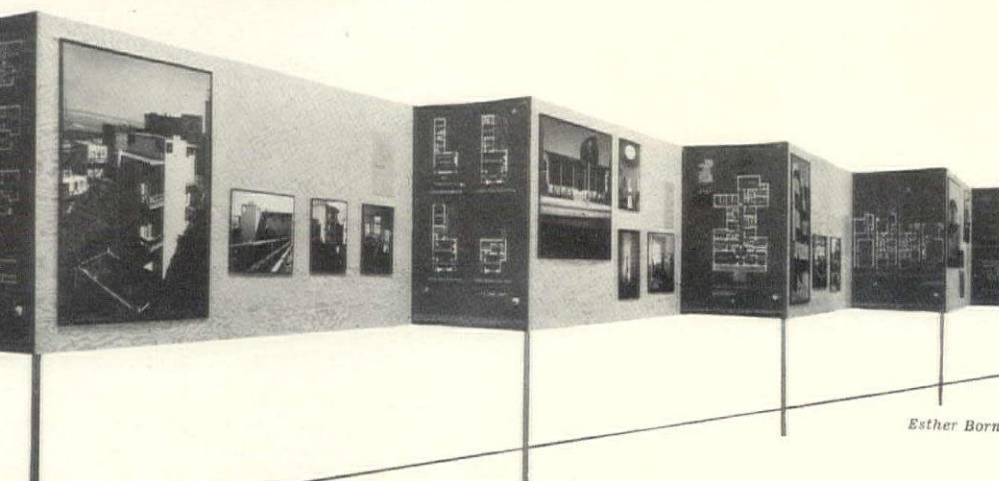
Both methods, however, had the disadvantage that the veneers produced were limited in width by the cross-section of the tree from which they were cut, and had to be used in narrow panels or butted jointed to cover any considerable area. For this reason, it is common to attribute the first large scale production of plywood to the later French development (1890) of the rotary-cutter or veneer lathe, which was capable of producing veneers of almost any dimension. Actually, evidence exists that plywood was used commercially in Russia (in the mass-production of birch wood chairs!) some ten years before the rotary cutting process was perfected, and continued to be made from vertical sliced veneers and used for this one purpose for some time thereafter.

The immediate reason for plywood's development was probably the Russian discovery of blood-albumen glue, rather than the rotary cutter, although neither could have gone very far without the other. In any event, the story of plywood progress since that time has been the story both of the improvement of machinery for cutting veneers and the development of new and better adhesives to put them together. Forty years of plywood production in the U.S. have seen the perfection of lathes capable of unwinding a continuous veneer 16 ft. wide, an eighth of an inch thick, and a mile in length from an average 6-ft. diameter "peeler log," clippers which chop this ribbon into useful and knot-free widths without interrupting its motion, and dryers which cure it within a fraction of one percent of the ideal moisture content. They have seen the discovery, one after the other, of four distinct types of glue, each an improvement over the last, and their adoption on an industry-wide scale: star-

ROOM-SIZED SHEETS, for jointless walls, available up to 8 x 20 ft. and presurfaced with muslin to keep grain from showing through glossy paints. Speedwall Co.



INSPIRES NEW DESIGN FORMS . . .



Esther Born

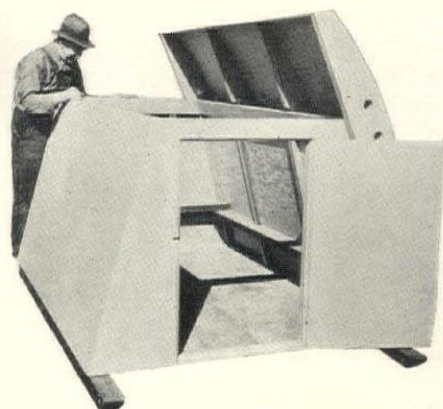


EXHIBIT PANELS, designed by Ernest Born for an architects' exhibition. Right, portable hog house. Below, temporary screen to cover construction work. All are Douglas fir plywood.

ues in place of blood albumen in 1912. replaced by casein during World War I. replaced by vegetable proteins (mostly soybean) during the 1920's, and finally, in recent years the development of synthetic resin bonding agents. And they have been, so far as the U.S. is concerned, the creation of two virtually separate industries, which only now, through their efforts to meet the demands of the building market, are at last beginning to merge.

The eastern, *hardwood* plywood industry grew up on the use of decorative veneers in cabinet work, fine paneling, millwork, etc. It manufactures a tremendous variety of fancy plywood and can, and does, make in any form which is needed in sufficient quantity or badly enough to warrant special prices. It consists of a multitude of companies, large and small, scattered up and down the eastern seaboard and as far west as the Mississippi. It so far has resisted every form of standardization beyond the general use of 1/28 in. surface veneers and crossbanding, usually applied to lumber of the thickness required to produce finished sheets of normal lumber dimensions. The western *softwood* industry grew on the use of rotary-cut Douglas fir plywood for doors, crates, furniture backs, and other utilitarian purposes. Its product is in form, varying only as to size, thickness, degree of moisture resistance, and grade of surface veneers—and rigidly standardized. Its manufacturers are few in number, confined entirely to the States of Oregon and Washington, and grouped in an association.* Unlike most hardwood plywood, the softwood variety almost invariably consists entirely of sheets of veneer of equal thickness.

Why in relation to Building do these two divisions of the plywood industry come together. Thus, for building purposes, east-producers of hardwood plywood have recently developed a standardized, 1/4 in. board, available in gum and a number of decorative hardwoods, while western producers of Douglas fir are beginning to

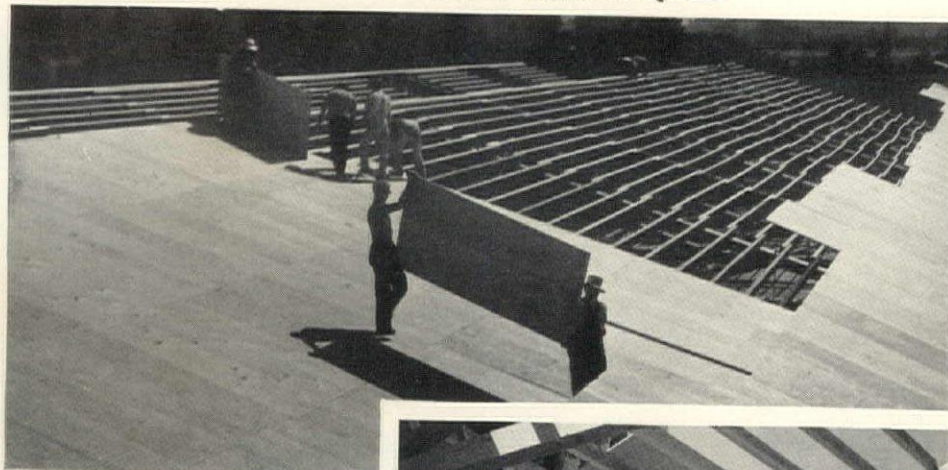
the Douglas Fir Plywood Association.

offer special surface treatments, decorative soft- and hardwood veneers including redwood, lauan, and even birch, and to urge that their regular panels be finished in special ways to preserve their natural beauty. Both now meet Building's need for a waterproof material for outside use with a special exterior grade of panel. And each is trying, through mass-production of a wide variety of types and sizes, more efficient distribution, and greater service to the Building consumer, to make plywood a better, cheaper, and more satisfactory building material.

. . . NEW USES . . .



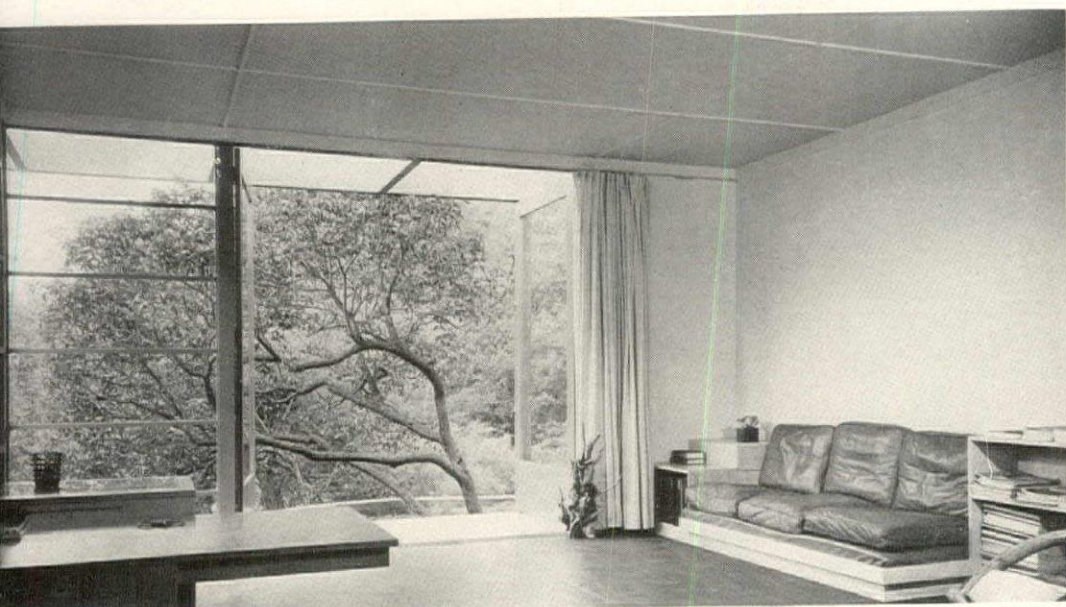
. . . AND NEW CONSTRUCTION TECHNIQUES



PLYSCORD roof sheathing (also used for walls and rough floors), roofs a defense plant in the northwest. Crew of 9, including 2 carpenters and 2 helpers, laid 32,000 sq. ft. in one 8-hour shift. A more experienced crew on a similar, simpler job, reported a labor cost of \$2 per thousand feet. Plyform, another type of utility plywood for construction purposes, makes smoother concrete walls and permits multiple use of forms.



PLYWOOD FINISHES CALL FOR A NEW APPROACH TO PLANNING AND INTERIOR DESIGN .



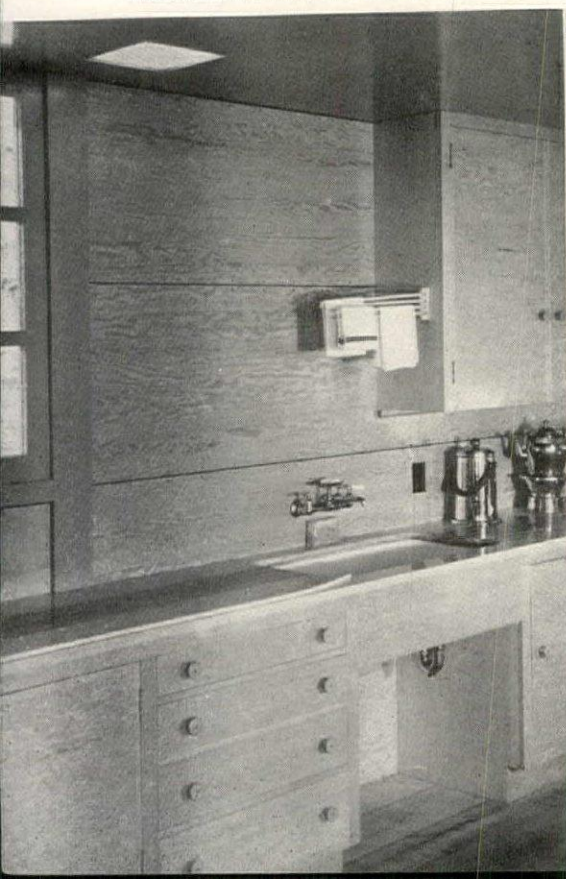
GREGORY AIN, ARCHITECT

TENNESSEE VALLEY AUTHORITY

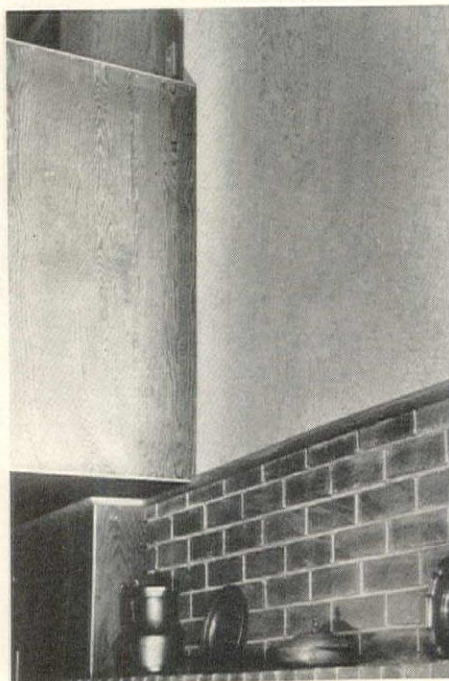


GEORGE HOWE, ARCHITECT

MICHAEL GOODMAN, ARCHITECT

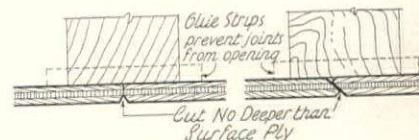


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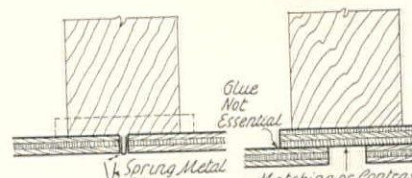
4.

1. Large-size sheet materials such as plywood and wallboard suggest, and may even come to replace, the use of modular planning, especially in small rooms. That this is not a handicap but rather an aid to better design is shown by the ceiling at the left **1.**, where the lowly batten-strip has become a decorative element of prime importance. The simplest and most inconspicuous treatment for such panels is the V-cut joint, which example **2.** shows to be in perfect harmony with the most finished construction. Skillfully used and carefully executed, the open joint with exposed nails, as in **3.** may actually be quite ornamental. Trimming plywood and wallboard calls for considerable ingenuity and a real feeling for the material, as shown by **4.**, where thin, contrasting whitewash quarter-rounds are used at external and internal corners of the rotary-cut Redwood panels to good effect.



V-Joints work best when cut after sheets are in place
V-JOINT FOR PAINTED OR NATURAL FINISH WALLS

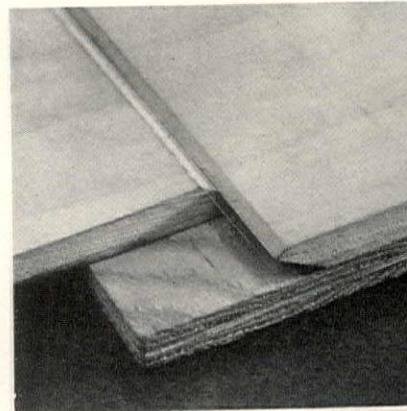
CLOSED "V" FOR BEST WORK
Center to Center joints reduced by



BEADED JOINT

DECORATIVE OPEN JOINT

Various treatments for exposed joints in plywood walls and ceilings. Still another method of joining panels is with an overlapping raised bands or alternating raised panels, coming part of the architectural treatment.



John D. ...

U. S. Plywood Corp.'s new prefabricated joint, which provides a glue strip, concave nailing, and an overlapping V as a part of the panel itself. Center to center dimension of joints remains standard 4 ft.



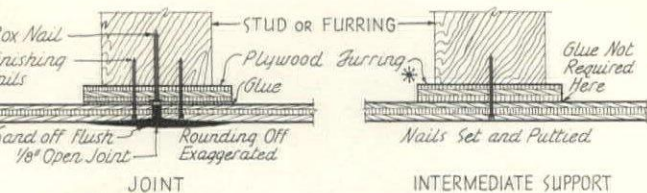
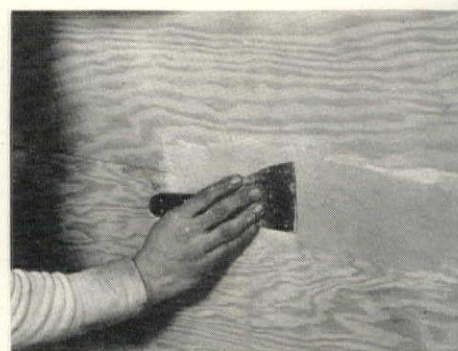
Method recommended by the Douglas Fir Plywood Association for concealed joints in Ply-wall. First picture shows carenter nailing plywood furring strips ("Firstix") to studs and locking—note that strips are fastened loosely and that grain is crosswise of the strips. In



the second picture he is applying glue to the faces of the strips which will occur behind joints in the finished wall, in order to bind panels together across the joint and prevent hairline cracks which might otherwise result from shrinkage of the panels or movement

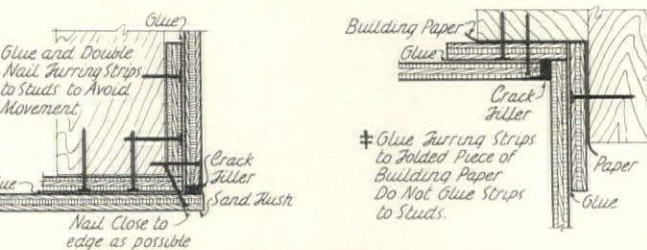


of the structural frame. Third picture shows process of nailing the panels in place over the glue-covered strips; if desired, nails may be driven only part way and removed after glue has set. Horizontal pictures show final steps of applying crack filler and sanding finished joint.

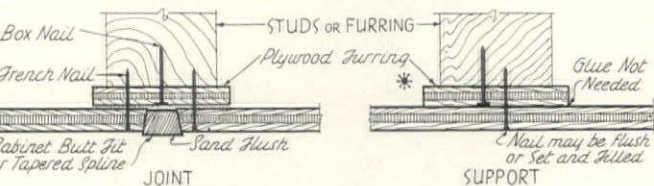


* If studs are cut back to receive plywood furring strips at joints, balance of framing does not require furring. Cutting back $\frac{3}{16}$ " to receive $\frac{1}{4}$ " strip corrects tendency of wall to cup inward at joints.

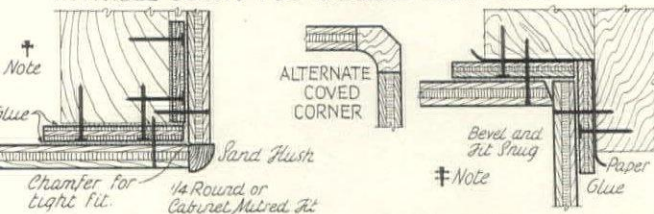
INVISIBLE JOINTS FOR PAINTED WALLS



EXTERNAL AND INTERNAL PAINTED CORNERS



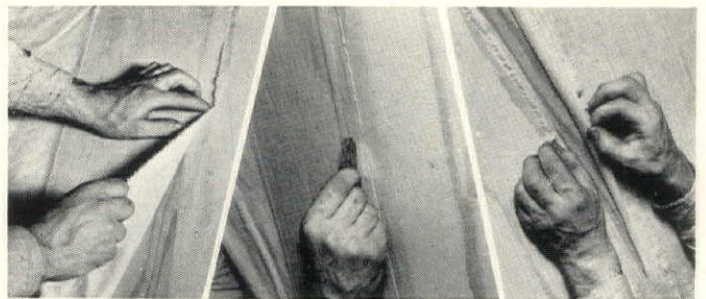
INVISIBLE JOINTS FOR NATURAL FINISH WALLS



EXTERNAL AND INTERNAL NATURAL FINISH CORNERS

concealed joints for painted and natural-finish walls in detail form. Furring strips should be free to move slightly on the supporting studs, except at external

corners; strips at internal corners may be bound together with paper and glue to prevent this joint from opening, but should not be glued to studs.



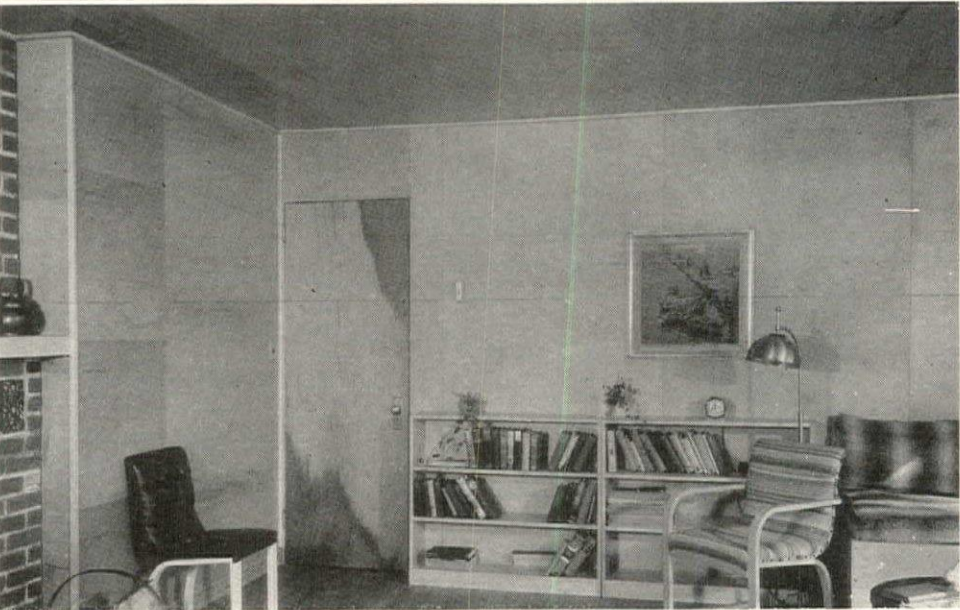
For enameled walls, the Association advises the use of muslin (painters' canvas) to keep grain from showing through. It is jointed by the old drafting-room trick of cutting through

overlapping layers, as shown in the pictures above. Muslin-covered plywood, in wall-sized sheets which permit jointless construction with surprisingly little waste, is also available.



For papered walls, a layer of felt should first be applied to cover joints and prevent grain from appearing through the paper. Smooth papers, and

those without pronounced patterns require especially careful preparation. Rough textured papers, grass cloth, etc., may be applied directly.

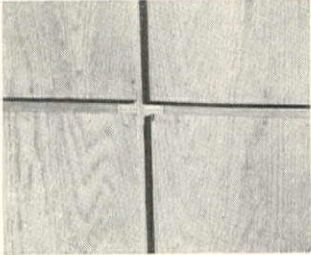


OSCAR FISHER, DESIGNER

EDWARD D. STONE, ARCHITECT;
DAN COOPER, INTERIORS



John D. Beine

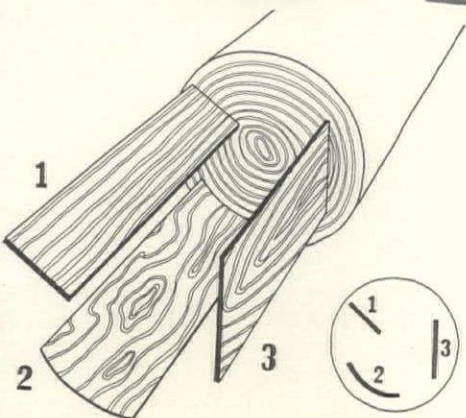
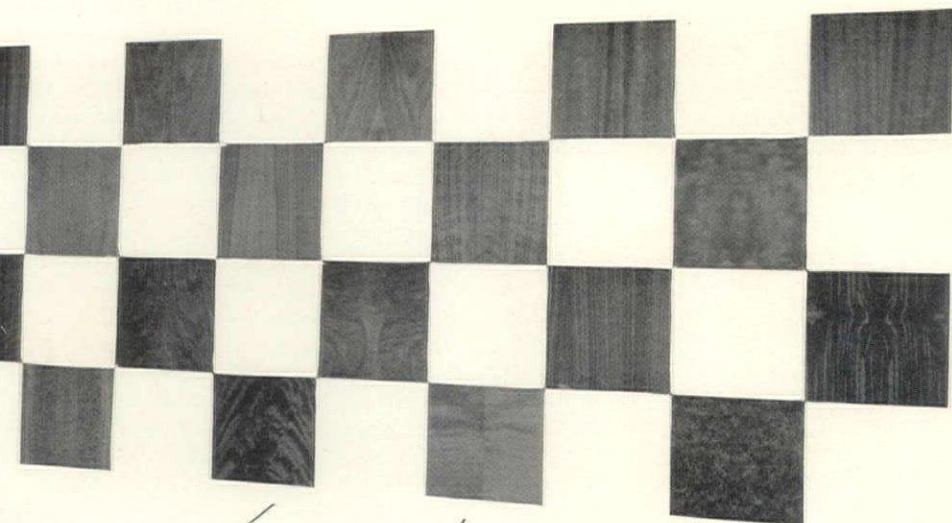


Room 1. is finished in Blue Label Weldboard, a Gum wall-board made by the U. S. Ply-wood Co., room 2, in Walnut De Lux Weldboard. The office 3. employs Walnut Mengel Bord, an economical hardwood wall-board made by the Mengel Co.

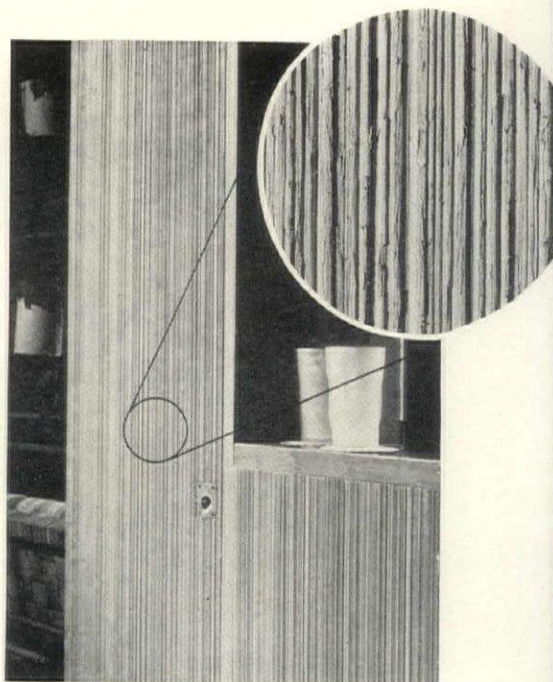


Hedrich-Bless

MODERN WALLS AT NEW LOW COST



The sketch at the left gives a rough idea—but only a rough idea—of how some of the figures in the checkerboard of hardwood veneers, above, are obtained. In addition to the cuts shown, other effects are obtained by dividing the log and mounting it off-center on the lathe (“half-round rotary” and “back



cutting”), as well as by sawing the veneers. Picture above shows texture of Weldtex, a combed fir plywood made by the U. S. Plywood Co. The kitchen below is finished in red birch, the bedroom wall (from another house) in oak. In the latter, note matching panel from the same sheet above door.

GEORGE KOSMAK AND ERNST PAYER, ARCHITECTS



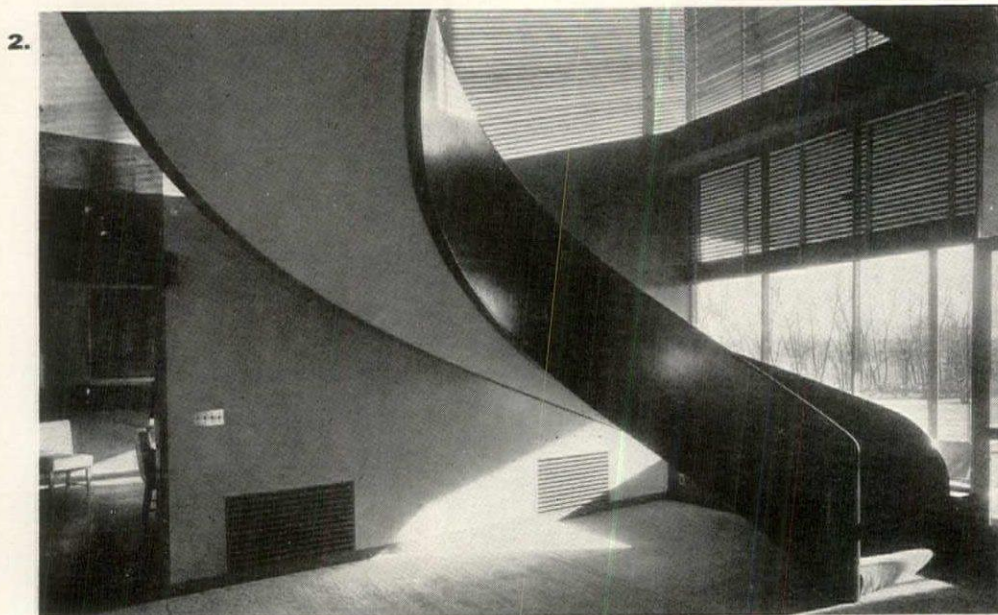
Rodney McCay Morgan



Richard Garrison

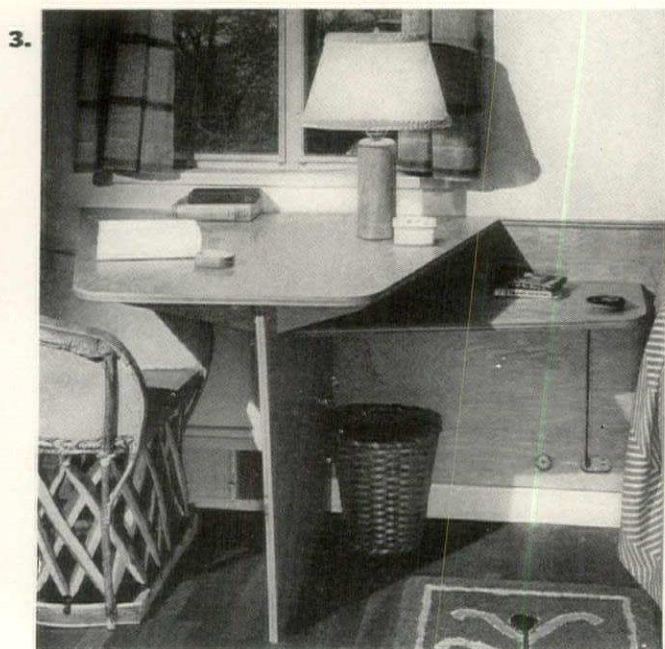
CABINET WORK

Plywood for cabinet work, millwork, and built-in furniture has radically changed the whole basis of their design. The small panels, raised moldings, and intricate joinery of the traditional styles were all originally brought into being by the shortcomings of solid wood as a sheet material. Now that these have been eliminated through the use of plywood such devices lose their functional character and become sheer ornamentation. Moreover, plywood can be made in curved form almost as easily as flat (although not, of course, on the same mass-production basis), and such curved panels have the same remarkable rigidity which characterizes the flat material. The hotel writing-desk, picture 1., shows how this later property may suggest entirely new forms. One of the first important uses of plywood in building, but still one of the most striking, the stairway shown in 2., has plywood sides which act as supporting beams for the entire structure. The little desk, 3., shows an excellent use of Douglas fir Plypanel, and 4., the same material well used for a built-in wardrobe, both examples using the exposed edges of the panels for decorative effect.



1. Kidder Smith, 2. R. T. Dooner

Architects: 1. Marta Blomstedt, Matti Lampen, Associate (Finland). 2. George Howe. 3. George Kosmak and Ernst Payer. 4. Bertrand Goldberg. The door casing in the cutaway view is a stock item produced by the Jamestown Veneer and Plywood Corp.



Richard Garrison



PLYWOOD FOR EXTERIOR USE UNITES MAN'S OLDEST AND NEWEST MATERIALS

The idea of bonding veneers with synthetic resins to produce plywood is not new—Dr. Leo Baekeland, the father of modern plastics, took out the first patent for resin-bonded plywood in 1912—but its commercial application is the big plywood news of the past ten years. Introduced into the U. S. from Germany in 1930, resin-bonding first took the form of the “Tego process,” whereby tissue paper impregnated with a phenolic resin was placed between wood plies, and the resulting sandwich combined simultaneous heat and pressure. The result was the strongest bond between wood and wood ever produced, one which was stronger, indeed, than that between the wood fibers themselves, and which was unaffected by moisture and in itself waterproof. Later experiments showed that it was also proof against fungi that feed on animal and vegetable glues, and that the resulting plywood resisted fire to a surprising degree, due to the fact that it did not delaminate under heat.



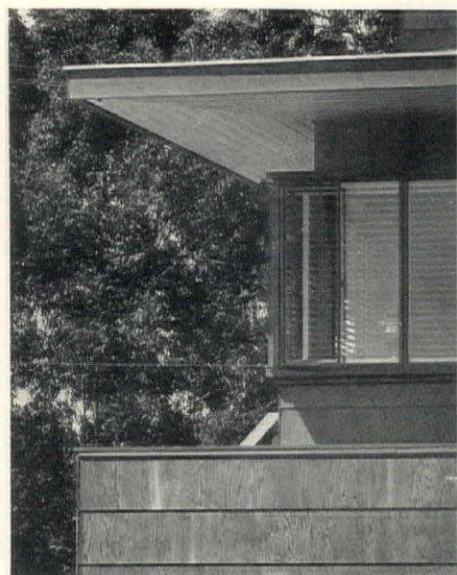
In and out of boiling seawater 10 to 20 times a day, these crab-cleaning baskets of Super Harbor (Harbor Plywood Corp.) are a convincing proof of exterior plywood's staying power. Below is Timothy Pflueger's Federal building, one of the outstanding exterior plywood jobs at the Golden Gate International Exposition.

Commercialization of the new process, however, required the development of new presses and other equipment, and a partial re-tooling of existing plywood plants. Moreover, the manufacturers of softwood plywood discovered that while the Tego film worked well with close-grained woods, their rougher veneers required the use of the resin direct, in liquid form. Until quite recently, therefore, resin-bonded plywood was produced in relatively small quantities and commanded a considerable premium.

Only in the last two years have both Eastern and Western manufacturers of hardwood plywood made the resin-bonded product available on a mass-production basis, and therefore adaptable to extended use as a building material. Having made this fundamental change in production technique they are now carrying it one step further, and bonding interior panels with urea plastics in the same quick-acting hot presses which are used to produce the phenolic-bonded exterior material.

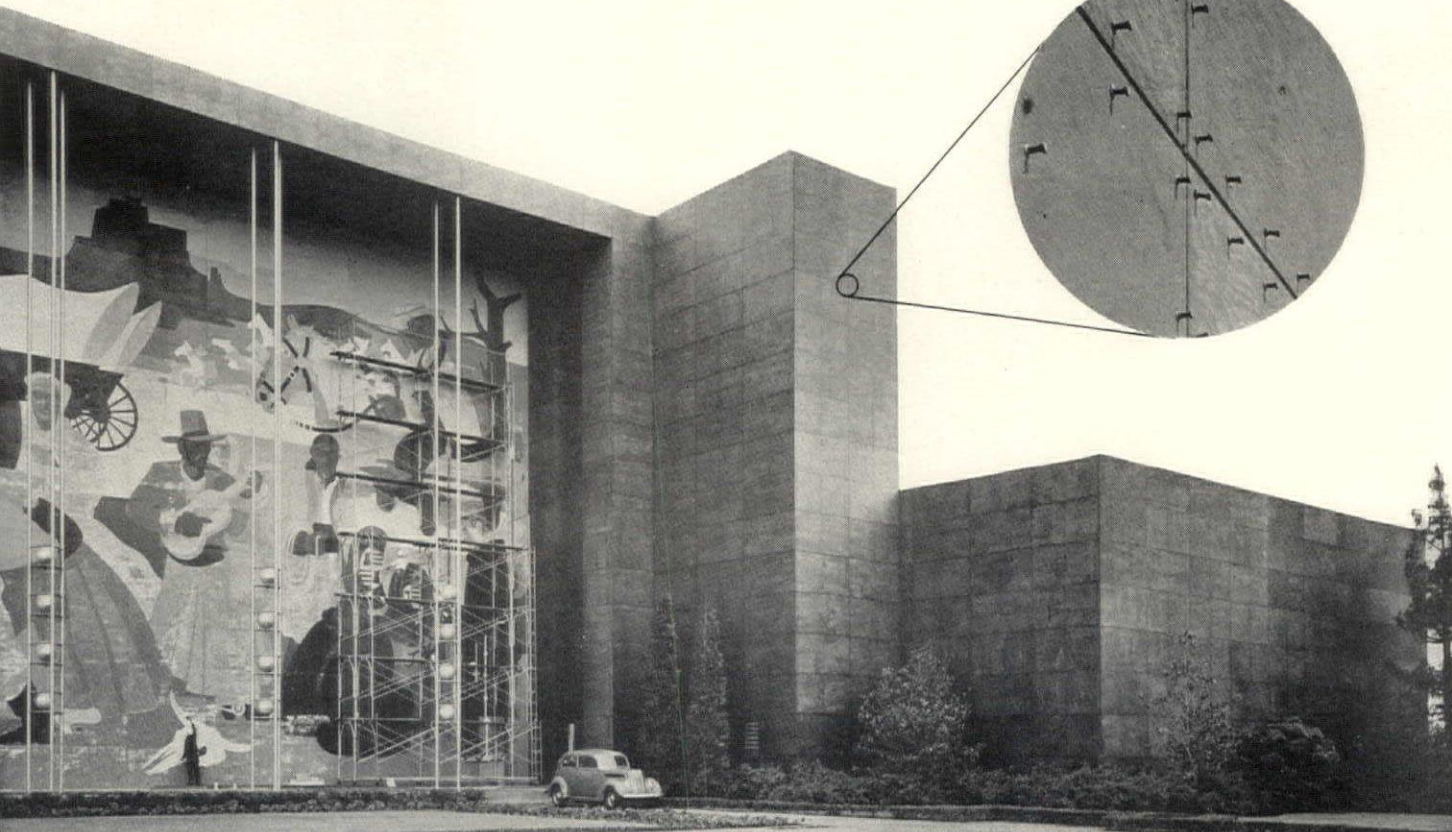
For this reason, not all “resin bonded” or “hot press” plywood is intended for exterior use, and these words, while they describe a superior and more efficient method of production, should not be used by themselves to specify exterior plywood. Instead, the phrase “plywood recommended by the manufacturer for exterior use,” or “phenolic resin bonded,” should be used. Urea resins as used in plywood manufacture, while they produce a panel which is moisture resistant, are not suitable for exterior plywood.

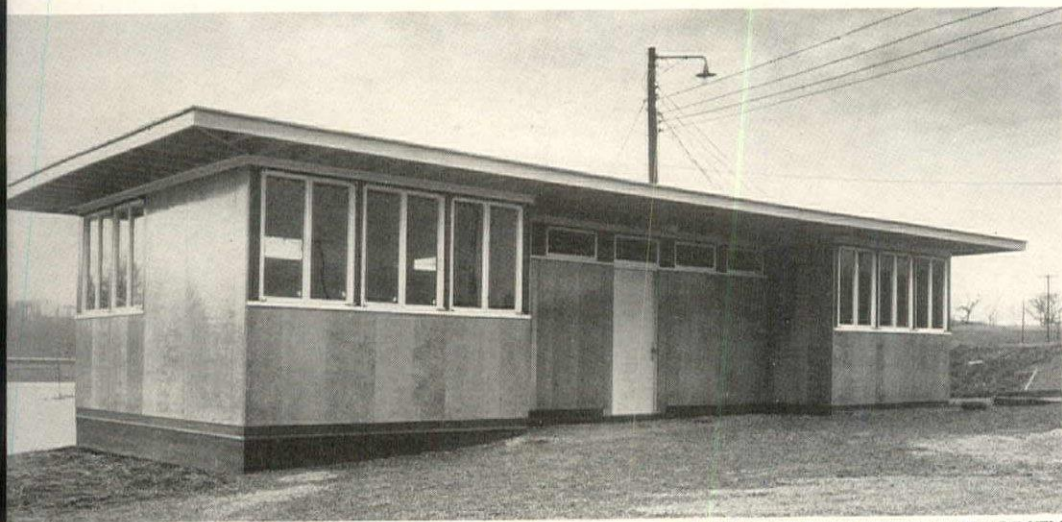
The development of resin-bonded plywood has not come to a standstill with the introduction of the hot press. Several major improvements are in the experimental stage and may be made available at any time, including a new surface ply



Probably one of the earliest all-plywood houses, this one by Michael Goodman employed unfinished redwood exterior plywood in the form of weatherboarding.

for exterior plywood made of a mixture of wood flour and a phenolic resin, hot-pressed to a smooth surface which is impervious to weather and may be given a baked enamel finish. Another possibility which is being investigated is resin-impregnation of the wood fibers themselves, producing a material which will neither swell nor check and which can be molded, bent and twisted when heated. Still another envisions a new material which is so far unnamed, but which is an entirely new form of reconstructed wood: multiple layer plywood blocks cut into thin sheets at right angles to the plies, so that the face consists of the ribboned edge and end grain normally found on the edges of plywood sheets.





TENNESSEE VALLEY AUTHORITY

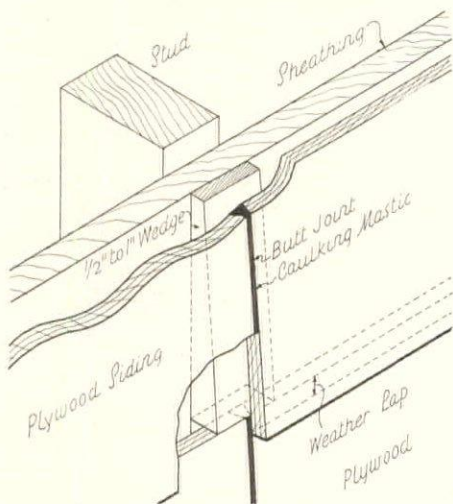
1. EXTERIOR FINISH

Because of its more recent introduction, the same extensive body of architectural experience which has been built up in the case of interior plywood does not exist for the exterior type. There is already plenty of evidence, however, that it is well adapted to all varieties of contemporary design and affords a real opportunity for fresh and unusual exteriors which are exceptionally durable and, at the same time, reasonable in cost. In line with the trend toward natural wood effects, it may be given a coat of varnish, as in 1., which is renewed every year like the woodwork of boats, will always remain fresh and attractive. It may be used frankly as a panel, as in 2., as a new and attractive form of weatherboarding, 3., or to produce a flush finish similar to stucco and covered with plastic paint. Most interesting are uses which exploit its unusual properties as a rigid sheet, such as that shown in picture 4., where $\frac{1}{2}$ in., 3 x 6 ft. panels have been used almost in the fashion of metal plates, and combine with continuous steel angles bolted to the top and bottom of the sheets to form a balcony railing that is at once practical, exceedingly simple, and low in cost, besides affording the privacy so essential for such a terrace in an urban setting.



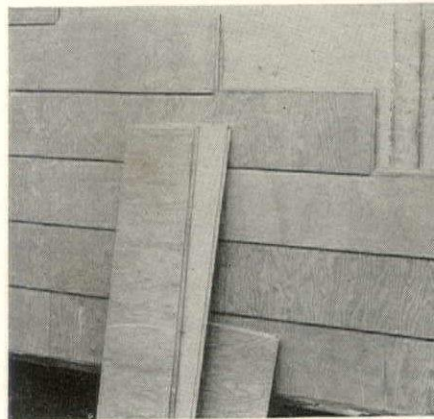
OSCAR FISHER, DESIGNER S. H. Gottschalk

2.



3.

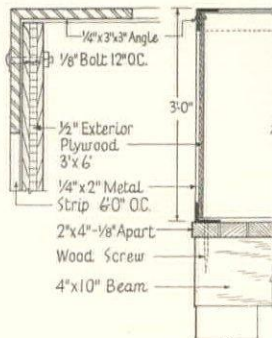
Detail above shows a recommended method for applying large plywood sheets in the form of weatherboarding. Sheets may also be used in this way without sheathing. Photo at right shows a prefabricated form of plywood weatherboarding made by the Harbor Plywood Corporation for conventional exteriors.



Jones



CAMERON CLARK, ARCHITECT



4.



RAPHAEL SORIANO, DESIGNER



Dudley A. Frost, Doctor of Decentralization

Robert Wilson

TONIC FOR DECENTRALIZING CITIES

Concocted by Oakland property owners. Ingredients: 34 remodeled buildings, tax adjustments, six parking lots and a dash of ballyhoo. Effect: recentralization.

Weakened by Depression, practically every community in the country has been attacked by the infectious decentralization germ. Immediate symptoms are an accelerating centrifugal swing of the population away from long established residential sections and a similar movement of commercial enterprise away from the community center. Secondary symptoms are nagging headaches in the heads of municipal officials, property owners and commercial realtors.

Early in the Depression urban decentralization hit Oakland (Calif.) with a bang and with the usual symptoms. However, before the downtown business district had wilted beyond the possibility of revival, the Downtown Property Owners Assn. was organized to combat the plague. Today, due largely to the energetic activities of this Association, 34 once forbidding buildings have been effectively remodeled to attract attention and business; assessed valuations on D.P.O.A. members' properties have been almost halved as an aid to modernization; \$6.20 per \$1,000 of valuation have been lopped off of the city and county tax rate; local business relations have been put on an amicable basis—small merchants who once called their landlord "bad names" now call them by their first

names; six parking lots have been acquired and operated by the Association to attract shoppers and thin out traffic jams; finally, a whirlwind promotional and advertising program has refocused local and national attention on Downtown Oakland and has brought new business tenants.

Administered by "Doctor" Dudley A. Frost, these prescriptions have brought Oakland's ailing downtown back close to "normal," have written a case history worth study by every other city in the U. S.

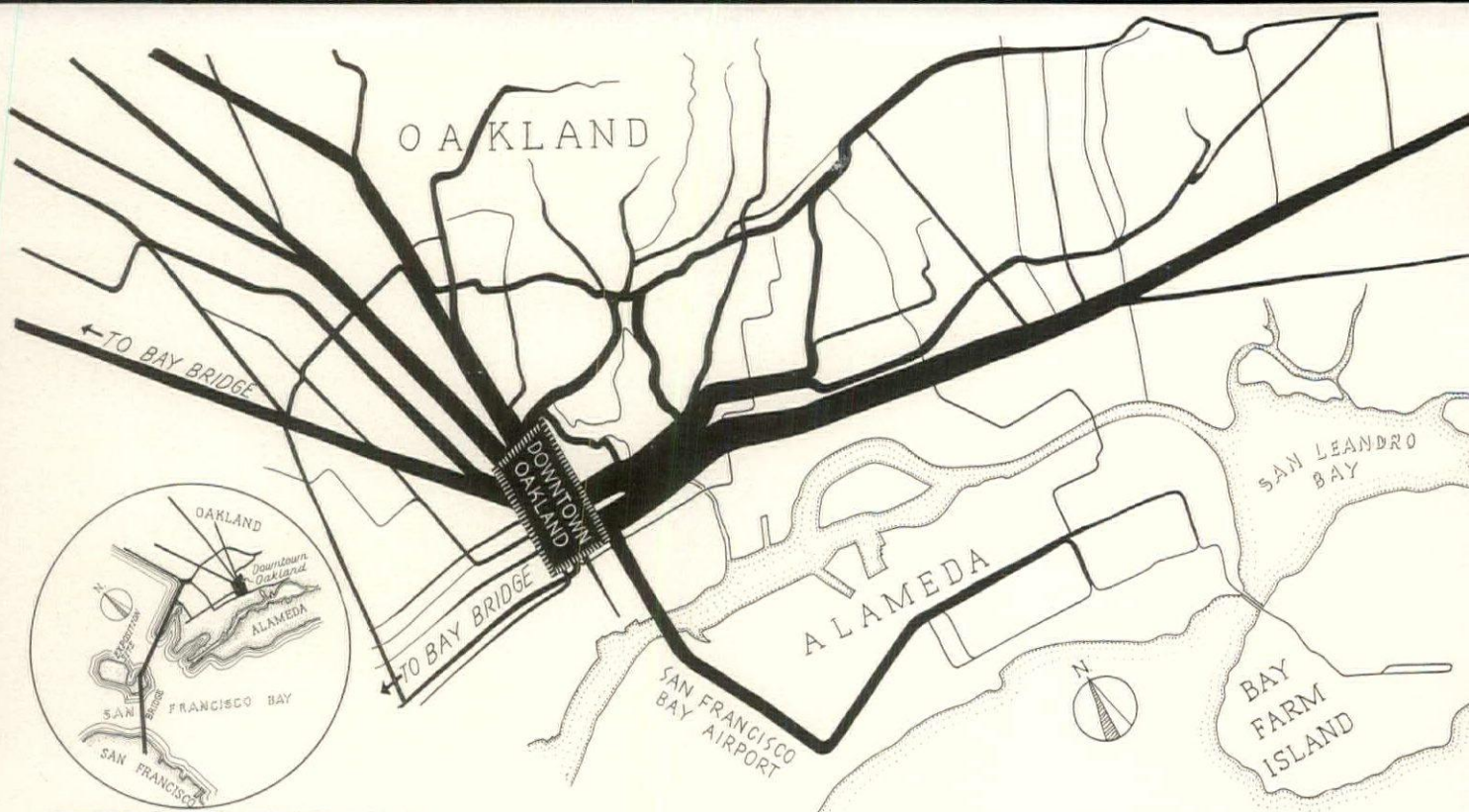
Patient. Strategically situated across the Bay from San Francisco, Oakland is bounded by navigable water to the west, lofty hills to the east. To the north and southeast are flat lands through which highways radiate from the downtown center and into which Oakland has logically grown (see map, p. 208). The city has become the terminus of three trans-continental railways, several air and ship lines and the longest bridge in the world. Opened in November 1936, this connecting link with San Francisco has brought new residents to Oakland, has helped swell its population 18,000 during the past decade to 302,000—the State's third largest city total.

A rectangular area of some 75 city blocks, Downtown Oakland has always

been the hub of the community's transportation system (see diagram, p. 208) and until the late Twenties was always the undisputed hub of the city's mercantile business and commercial building activity. However, in those transitional years downtown property owners tapered off their new construction and building improvement programs on the somewhat justifiable grounds that tax assessments were too stiff and that it would take more than modernization to stem the business spiral.

Disease, in the form of decentralization, immediately set in. Its spread was aggravated by conditions common to most other U. S. downtowns, which had developed rapidly without the aid of a studied plan; buildings were uninviting in appearance, inflated valuations and high taxes fostered prohibitive rents, inadequate parking facilities made shopping difficult and street traffic slow, thus canceling the benefits derived from the natural flow of all transportation facilities to the central downtown area.

By 1931 another set of circumstances brought the downtown disease to the critical point. Capitalizing on the area's weak condition, a group of sharp investors and realtors lured downtown merchants to an



AUTOMOBILE, BUS & TROLLEY TRAFFIC

All roads, including the San Francisco Bay Bridge, lead to Downtown Oakland, the city's commercial hub. However, only by vigorous prosecution of the five-pronged program outlined on these pages have Downtown property owners kept business from decentralizing to the city's rim along the spoke-like streets. Widths of the arteries shown above indicate their relative combined volumes of automobile, bus and trolley traffic. Where people walk once they arrive Downtown is shown on the pedestrian traffic diagram right. Busiest corner is 14th and Broadway; busiest street, Washington. The latter fact may be either the cause or the effect of the concentration of remodeling activity on Washington Street (see lower diagram, right). Black areas are remodeled buildings.

"uptown" section about eight blocks north. Their bait: more attractive, newer buildings, lower rentals, less traffic congestion.

Prescription. As the decentralization trend gained momentum, it took tenants out of the downtown property owners' buildings, took money out of their pockets. To stem the tide, ten big owners in September 1931 put their heads together, organized the Downtown Property Owners Assn., elected a board of sixteen directors and contributed a total of \$150,000 to a war chest. Each signed a legal contract, renewable every two years, promising to drop in the chest each year a small percentage of his property's assessed valuation plus a lump sum dues payment. Originally this percentage was $\frac{1}{4}$ per cent, but it has been reduced twice since 1931, and the assessed valuations upon which it is based have been substantially reduced by the efforts of the Association (see below). Since the Association's three bank members own more of Downtown Oakland than they care to talk about, they enjoy a special contribution rate which is scaled down in line with their holdings.

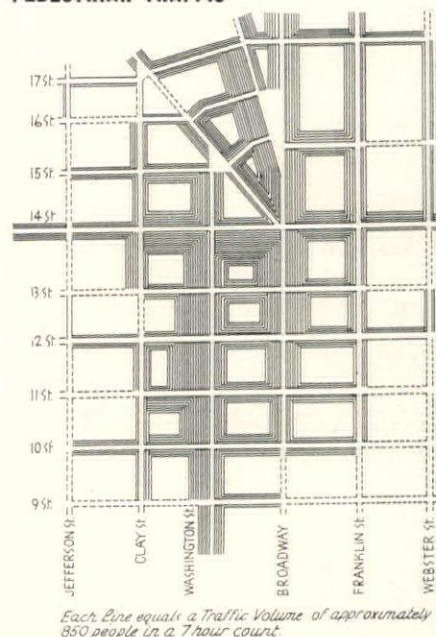
To head their counter-attack on decentralization, the ten property owners selected the mayor's secretary, Harold Weber, whose knowledge of municipal government procedure and officials was essential to accomplishment of the Association's groundwork. Three years ago when Weber shifted his management duties to Oakland's Chamber of Commerce, Dudley Frost took over the Asso-

ciation's guidance, brought with him an extensive knowledge of civic affairs from his executive post in a local transportation company.

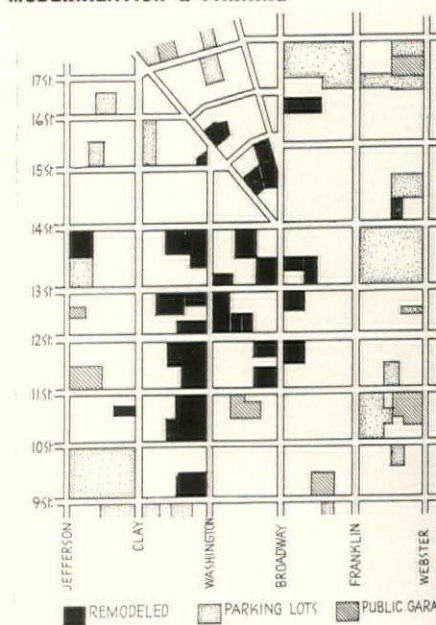
Modernization, while no more important than some other Association activities, has produced the most readily apparent results, is therefore the show window for the entire program. Trimmer of this window is Architect Edward T. Foulkes who had remodeled a couple of downtown shops prior to the Association's formation. Since his work had greatly improved the buildings' appearance at small cost and within the limitations of existing city ordinances, he was forthwith adopted by the Association, commissioned to prepare rough but impressive color sketches showing how the exterior of other downtown buildings might be improved. Supplemented with cost estimates prepared by cooperating contractors, Foulkes' modernization suggestions were then submitted by the Association to the various property owners. If lack of capital was the only argument against their adoption, loans from cooperating banks promptly removed the obstacle.

Satisfaction with Architect Foulkes' suggestions and their costs is mirrored in the fact that, with but few exceptions, he has handled all 34 remodeling jobs attributable to the Association's program. Called the "simplification process," Foulkes' work has usually involved, 1) the removal of such ornate, 60-year-old details as cupolas, cornices, jutting window cas-

PEDESTRIAN TRAFFIC



MODERNIZATION & PARKING





First moves of Remodeler Edward T. Foulkes, architect for most of the 34 Association-inspired modernization jobs, are to chip off overhanging bay windows and to snip off the fancy finch-ices at the roof lines. Note that structural elements have not been altered, that window locations are the same, before and after. This is the Delger Building on the northwest corner of 12th and Broadway.

M. L. Cohen Co. Photos



Plans plastering the corner store windows of the old Masonic building at 12th and Washington announced that the Jeweler tenant has "decentralized" to one of Downtown Oakland's outlying competitive business sections. To attract another tenant and help stem decentralization, the building's owner trimmed off its skyline, refinished its exterior with tile at a cost of \$20,000.



This low cost modernization operation involved three simple steps: removal of the classic cornice, redesign of the second-floor strip window and resurfacing the entire exterior with tile. Located on Washington Street between 12th and 13th, the City Market formerly occupied only two-thirds of the ground floor.





Commercial Photo & View Co.

After exterior simplification, the Moise-Schlisinger Building's ornamental brick and stone exterior was stuccoed, vastly improving the northwest corner of 11th and Washington. Ground floor change was limited to removal of two signs. Tile surfaced building in background was modernized earlier at a cost of \$19,000.



M. L. Cohen Co. Photos



Lost in a distracting cloud of signs, the old Schwartz & Grodin Building at 12th and Broadway was restuccoed with the accent on horizontality. Today, all ground floor space is occupied by one company (formerly seven), and signs are fewer and better designed. Disappearing awnings also improve the appearance.



ings and wrought iron grilles, 2) furring out around unwanted but obstinate details and 3) refinishing the exterior with metal lath and stucco or plaster and tile of various colors (see accompanying photographs). While the Association program has been limited to exterior modernization, some property owners have found that the resultant increase in business has justified the remodeling of interiors.

In general, costs have ranged from about \$4,000 to \$20,000 per project, but several other remodeling and extension projects which are not the direct results of Association efforts have recently been completed at higher costs ranging up to \$150,000. In some of the smaller cases, the Association itself loaned the property owner enough cash to foot the modernization bill under an agreement by which a specified part of the tenant's monthly rental is applied toward its repayment. In effect, these tenants enjoy lower rents.

Taxation. Success of Downtown Oakland's modernization program is attributable in large measure to the Association's drive for fairer tax assessments which has certainly been its most difficult and probably its most important undertaking. Tax experts employed for the purpose found that city and county taxes in some competitive business districts could be paid with merely one or two month's property rental while some sections of the Downtown area were forced to dump as much as six months' rent into the public till. Reason: the new outlying properties paid taxes on comparatively recent assessments, while Downtown levies were based on assessments as antiquated as the buildings themselves. Solution: considering the area as a whole rather than as so many individual properties, the Association's tax experts based their assessment recommendations on the income of the properties as well as on their current valuations.

Result: cooperative public officials, realizing that the Association's program would stabilize valuations and boost business to the benefit of the tax rolls, heeded its recommendations, have reduced tax assessments on the properties of Association members to the tune of 46 per cent.

Since an Association committee's recommendations with municipal officials when the annual Oakland budget is prepared and make recommendations, it also claims some glory for the 11 per cent reduction in the city and county "actual" tax rate which has taken place since 1931—a significant drop of \$6.20 to \$51.80 per \$1,000.* Due to the Association's successful effort toward lower assessments and taxes, downtown property owners and, in turn, the

* When consideration is given to the 35 per cent difference between assessed and true values, Oakland's total "adjusted" tax rate is only \$18.31 per \$1,000—well below the average for cities of comparable population.

ants who have benefitted via lower rentals have been placed on a footing more nearly equal to that of their decentralized competitors.

Transportation. To concentrate on another pressing problem, D.P.O.A. formed a subsidiary organization, the Downtown Parking Assn., which resembles its parent in that it is not out for profit but differs in that no dues are charged and that professionals and merchant tenants as well as property owners may be members. Since all highways and transportation facilities already led to Downtown Oakland when the organization was formed, its activities have been directed toward improvement of existing facilities. After considerable study, fortified with pedestrian and vehicular traffic counts (see diagrams, p. 208), recommendations have been made to the municipality covering the widening of some streets with a reasonable sacrifice of sidewalk area and the saving of others. Improved street lighting and the adjustment of trolley and bus schedules and routes have been other lines of attack.

However, as its name implies, the Parking Assn. has busied itself most with the parking problem. Ground leases have been obtained on a half dozen open-air parking lots which are operated without charge (until 6 p. m.) for the benefit of commuters. Only requirement is that the driver have his ticket validated in any one of the 146 shops, stores and offices which are members of the Parking Assn. Purchases or appointments are not mandatory. Patrons park their own cars, may pick them if they choose and thus use their cars as depositories for parcels as they go from one shop to another. Time units vary from one to two hours depending upon the location of the lots.

Benefits of the Association's parking lots are many and obvious: street traffic congestion has been reduced, more curb space has been made available for short-term parking, rates at privately operated parking lots have come down to meet the competition, and combination of all these improvements has encouraged more shoppers to drive into the downtown area. Moreover, cost of operating the lots on a collective basis is certainly less per merchant than would be the case if each operated his own lot.

Under the present set-up, Association members defray the program's cost on a monthly pro-rata basis which takes into account the number of their ticket validations and the total net operating cost of the lots. The latter fluctuates from month to month in accordance with the volume of night parking, for which the charge is the same as at private lots. To date the net cost has not exceeded 5 cents per automobile per month—a considerably lower figure than the 14-22 cent unit cost of deliveries made by local department stores which have accounted for most of the

(Continued on page 42)



Removal of window arches, quoins and cornices and resurfacing with tile (first floor) and stucco brought the old George Building (13th, between Broadway and Franklin) up to date.



M. L. Cohen Co. Photos



At a cost of only \$4,580, the owners of the Fuller Building on 14th Street simplified the exterior of its top two stories, added a new fire-escape, helped offset the appearance of its untouched first floor.



Replacement of ornamental frills with a decorative tile veneer cost the owners of the Abramson Building (13th and Washington) \$14,250, attracted an important tenant to the first two floors.





A SUBDIVISION AND 15 HOUSES ARE MADE TO ORDER, sponsored by Cleveland's Chamber of Commerce juniors. Building boosted as a quartet of architects and a land planning expert enhance an attractive site.

Tailor-made houses on hand-picked lots invariably cost more than comparable units mass produced in speculative small-lot subdivisions. The latter quite logically outnumber the former for the obvious reason that a family's housing demands are much more flexible than its pocketbook. Many a family, however, has individually reckoned that, if a dozen or so home-seeking friends could be lined up, they could have the houses they want on the lots they want and at costs close to those of the speculative builders. But, few home seekers express these thoughts out loud, much less try to organize a building group.

It would not have been tried in Cleveland had not the Junior Chamber of Commerce decided to capitalize on the potentiality as a means of promoting the local building business. It rounded up fifteen home prospects, a beautiful site, a builder, a quartet of architects and a landscape architect, gave Cleveland a professionally planned, tailor-made subdivision which today boasts sixteen attractive houses completed, four more under construction and seventeen additional lots sold for later development. While this co-operative development of \$10,000 houses has fallen short of one goal (cost savings were only about half the anticipated 10 per cent), it has achieved noteworthy results in the fields of landplanning and house design, which should prove of interest to more orthodox subdividers.

Juniors. Organized in April 1938 to give young male Clevelanders an opportunity to participate in civic affairs, the Junior

Assn. of Commerce was originally an independent group of 32 upstarts. Its rapid membership growth to 454 was alone reason enough for its adoption last year by the "seniors" and its rechristening as the "Junior Chamber of Commerce." Among the Junior's first undertakings was appointment of housing committee headed by Builder A. Kingsley Ferguson. Purpose was to research the possibilities of launching a moderate cost housing project well planned and executed for the benefit of Chamber members and their friends, and true to the traditional Chamber of Commerce spirit, for the benefit of local business.

Helpful and continuous newspaper fanfare began when the Juniors took their first housing step—the mailing of consumer preference questionnaires to some 1,000 junior executives and professionals. Replies were expressed in generalities but gave the novice housers three cues: 1) A large proportion of respondents desired more of the amenities than afforded by the average city lot and were thus eager to leave the crowded city; 2) Early American architecture was preferred; 3) Many would-be home builders were hesitant to face the problems entailed and would welcome the opportunity to entrust them to a reputable organization. From this third finding came the idea of a Chamber-sponsored cooperative subdivision.

Forthwith the Juniors selected a hilly site 14 miles from the city center, called it "West Hill Colony" and signed up fifteen families, including a few of its own members, who were eager to "colonize" it.



Field office for West Hill Colony is this inviting "doll house" whose design is in keeping with the Colony's Colonial atmosphere. Inside its large window is displayed the site model, shown above, which helps General Manager Babcox sell lots. To date, it has helped sell 37 of the project's 83, all of which average more than an acre in area, about \$2,000 in price.

And at this point, except for their continued sponsorship and promotion, the Juniors dropped out of the picture in favor of a seven-man board of directors elected by the fifteen participants and headed by the Chamber's Housing Committeeman A. Kingsley Ferguson as the paid president. Other Juniors were selected as members of an architectural quartet to design the houses. Partners Carl Guenther and John Miller, Alfred W. Harris, Jr. and (from the office of Copper & Conrad) Russell R. Peck. Another professional selected was Landscape Architect Henry C. Babcox who acted as land planning consultant and later became the project's general manager when Ringleader Ferguson returned to his building business.

Lots. Since the site originally chosen by the Juniors would have entailed high development costs, the colonists selected another tract which offered several advantages: It is only 12½ miles, or about 35 automobile minutes, from Cleveland's public square; only about three miles from a six-store shopping center; and only three miles from a rapid (22 minutes) transit line to the city, soon to be connected with the colony's site by a shuttle bus line. Situated within the limits of Pepper Pike Village, the 111 acres of rolling, partially wooded land enjoy protective zoning restrictions and are conveniently hemmed in to the north and east by two golf courses. Seven acres are covered with an attractive artificial lake created by damming a creek running the length of the property. Most important, the entire tract was for sale at only about \$60,000, and could be acquired piecemeal under an option.

By a little legal prestidigitation, title to the land was vested temporarily and without cost in the corporation's name and then taken back by the original owner after deed restrictions had been imposed to the colony's liking. Result: if the entire option is not exercised by the corporation, these protective restrictions and the plat must be followed by subsequent developers. In subdividing the site with streets and lot lines Land Planner Babcox was wisely guided by the creek, lake and contours, and had the foresight to set aside a 2.1 acre community recreation area at one end of the lake, and a ten-foot strip around its shores for the same purpose. The 83 lots are generous in size, averaging about 150 ft. in frontage, about 300 ft. in depth, about 1.15 acres in area. Since cul-de-sacs are employed almost exclusively, through traffic has been practically eliminated.

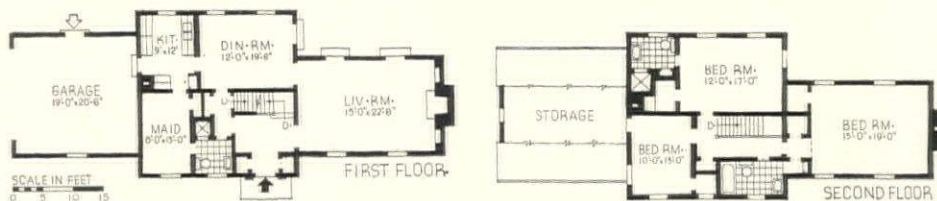
Utilities. To preserve the country atmosphere and minimize costs, sidewalks and curbs are omitted and roads are finished with macadam, gutters with grass. Being outside the reach of the Cleveland water system, the corporation has been forced to drill for water. Today, one extremely productive well and mains connecting 40 lots have been provided. Completion of the system including adequate storage facilities will bring the total cost of this utility to an estimated \$27,000, or \$375 per lot. Also about half complete, the entire street program (2.2 miles) is expected to cost about \$43,000, or \$518 per lot. Other corporation-financed improvements will come to some \$10,000, or \$120 per lot, and raise the utility total to \$80,000, or a little less than \$1,000 per lot. Lot prices, including utilities, range from \$1,500 to \$3,300 depending upon size and location, average about \$2,000 each.

Finances. Operating without financial backing, West Hill Colony has been developed on a pay-as-you-go basis. Each of the original fifteen colonists made a cash down payment of \$1,500 to \$2,600 to cover the cost of taking down about 20



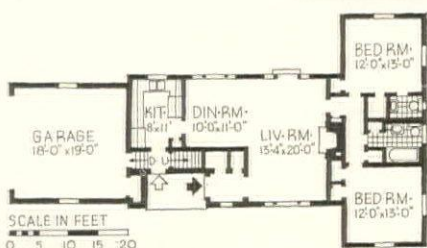
A dammed creek, the subdivision's 7-acre lake and 10 ft. strip surrounding it have been deeded to lot purchasers. Also common ground is the 2-acre recreation area from which this photograph was taken. Any profits resulting from the sale of lots will be used to develop these community facilities or will be returned to the colonists as stock dividends. The one-story house on the hill to the left is presented in detail on the following page.

Colonial architecture is Cleveland's preference, according to a Junior Chamber of Commerce survey of 1,000 young executives and professionals. The house below illustrates one interpretation of this preference; its exterior has been treated to give a weathered gray "Cape Cod" appearance. Containing seven rooms, three baths and a two-car garage, it cost \$13,000, was built on a \$2,500 lot. Like all the other houses presented on these pages, it was designed by the colony's architectural quartet: Carl Guenther, Alfred W. Harris, Jr., John Miller and Russell R. Peck.

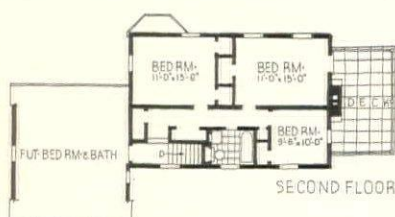
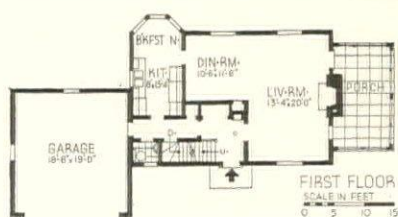


Robert W.





Economies through group action saved each of the original fifteen colonists about 5 per cent on construction costs, about 15 per cent on lot prices. House, above, cost about \$8,500, its lot, \$2,200. House, below, \$8,400; its lot, \$2,500. Fact that houses are located in a country subdivision renders separate backyard service entrances unnecessary. In floor plans for both houses, architects have interestingly solved the problem of circulation between front entrance, kitchen and inside garage door.



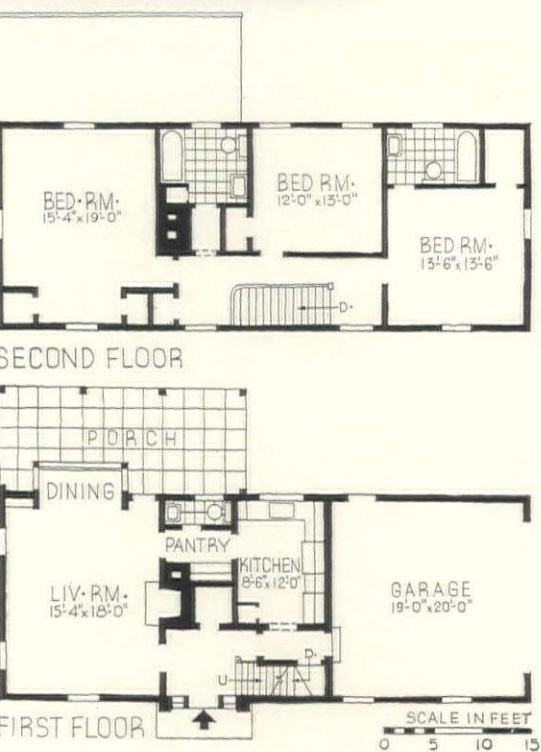
acres (eighteen lots) under the land option and of completing the basic utility installations. Down payments also gave the corporation a little working capital to defray its comparatively small operating expenses, the biggest of which is the salary of General Manager Babcox who supervises the sale of property and the installation of utilities. Since subsequent lot sales have been made in advance of improvements, the lack of financial backing has presented no problem. And, the practice of delaying the surfacing of roads until heavy hauling has been completed has temporarily augmented the corporation's working capital during the periods when it was most needed.

Fifty dollars of each purchaser's down payment pays for one share of corporate stock which carries voting rights and the privilege of participating in any profits turned in the land development. Lot prices have been marked up over costs as a hedge against any eventualities, but are in line with fair market values. Since the colony is essentially a non-profit, cooperative venture, any profits which ultimately result from lot sales will either be returned to purchasers as stock dividends or be plowed back into the project in the form of community improvements. Stockholders' votes will decide the action.

It now appears that the colonists will eventually save about 15 per cent directly and indirectly on their large scale land development—directly through cheap prices and dividends, indirectly through the amenity extras not found in Cleveland speculative subdivisions.

Houses. While these savings were about as expected, the tyro subdividers were somewhat disappointed in their construction cost savings. It was originally expected that mass purchasing and production economies would save the fifteen families about 10 per cent, but they actually pocketed only 5-7 per cent. Reasons: 1) Construction bids were invited in 1939's early fall when World War II began, and the anticipated rise in material prices was probably reflected in the low bid submitted by Builders Olson and Johnson. 2) Each house was designed by the architectural quartet to meet individual family demands, and economical standardization was limited to the mechanical equipment. 3) Instead of working under one general contract, the builders were required to deal separately with each family.

Chances are that new members of the colony (one house has already been completed, four more are under construction and another four are scheduled for construction soon) will save even less on building costs, for it has been difficult to hold back a family which is anxious to build while a group is being formed. However, while many of the preferred locations have already been snapped up, these newcomers will share in the land purchase and development economies and will benefit by the building labor agreement which the



HOUSE: \$9,000 with rooms over garage unfinished. LOT: \$1,800.



CONSTRUCTION OUTLINE

FOUNDATION: Walls—Pottscocement block, Celotex Corp. Waterproofing— $\frac{1}{2}$ in. waterproof cement, 2 coats Ironite, Western Waterproofing Co.

STRUCTURE: Exterior walls—cedar siding, building felt, wood sheathing, 2 x 4 in. studs, rocklath and plaster. Floor construction—select oak, building felt, yellow pine sub-floor, wood joists. Ceilings—rocklath and plaster.

ROOF: Covered with wood shingles, Perma-stain Co.

SHEET METAL WORK: Flashing—Anaconda copper, America Brass Co. Gutters and leaders—Armco iron, American Rolling Mill Co. Ducts—galv. iron.

INSULATION: Outside walls and attic floor—rockwool. Zinc weatherstripping.

WINDOWS: Wood double hung sash with wood storm sash. Glass—single strength, quality B, Lustraglass, American Window Glass Co. Screens—metal, Corry Metal Corp.

FLOOR COVERINGS: Main rooms—oak. Kitchen and bathrooms—linoleum, Armstrong Cork Co.

WALL COVERINGS: Bathrooms—Linowall, Armstrong Cork Co.

GARAGE DOORS: White pine, overhead type, Crawford Door Co.

HARDWARE: By P. & F. Corbin.

PAINTS: By Pittsburgh Plate Glass Co. and Minwax Co.

KITCHEN EQUIPMENT: Range and refrigerator—Westinghouse Electric.

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

PLUMBING: Soil pipes—cast iron. Vent pipes—galvanized iron. Water pipes—copper, Anaconda, American Brass Co.

HEATING AND AIR CONDITIONING: Superfex oil-fired air conditioning system with filters and humidifier together with all controls including thermostat as manufactured by the Perfection Stove Co. Water heater—General Electric.

Junior Chamber of Commerce engineered for West Hill Colony's pioneers.

Patterned in general after the newsmaking agreements between the U. S. Housing Authority and Labor (ARCH. FORUM, Aug. 1938, p. 159), the Cleveland contract contains the usual number of "whereas's" and four significant concessions in favor of either Labor or the colonists: 1) a closed union shop, 2) no strikes, 3) a sincere effort to minimize costs and 4) a pegging of wage rates for one year at the then prevailing level. To date no labor difficulties have been experienced (only close call was the employment of a non-union landscape worker who was promptly fired at the union's request), and the contract has been renewed each March.*

While all of the original houses were designed by the colony's architectural quartet in collaboration, there is no law against a family's selection of an "outside" architect. Indeed, three outsiders have already been commissioned for the design of subsequent houses. Only requirement is that houses meet the subdivision's rigid restrictions and design standards as interpreted by the colony's architectural committee—Architect Guenther, Landscape Architect and Manager Babcox and a member of the Board of Directors. Selection of a builder is also up to the purchaser; in

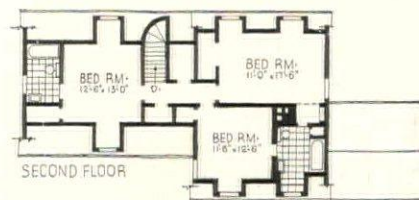
* As this went to press, it appeared that Labor this year would demand and get a higher wage scale.

addition to Olson and Johnson five other builders have participated in the project. No houses have been speculatively built.

Ranging in cost from \$8,300 to \$15,500, the sixteen completed houses average about \$10,600 which is raised to \$12,600 by the average cost of land and utilities. Nine have been financed with FHA-insured mortgages held by several local banks and two insurance companies. Their owners have an average age of 40 and earn an average of \$4,000 per year in downtown Cleveland offices.

Results. While West Hill Colony has fallen a little shy of its goal as far as construction cost savings are concerned, the Junior Chamber of Commerce's initial sally into the home building field has been successful on every other count. In addition to the 24 houses completed, abuilding or definitely scheduled, lots have been sold *this year* for the eventual construction of thirteen more, and four more lot deals are hopefully classed in the negotiation stage—an enviable record for a one-and-one-half-year-old project in the colony's price class. Present colonists, who have enjoyed the rare opportunity of building tailor-made houses in a tailor-made subdivision and reaping some of the benefits of group action, now hold stock in a going corporation. Moreover, they have given other Cleveland home seekers a professionally planned, restricted and protected hunting ground unlike any other in the vicinity.

Finally, the Junior Chamber of Commerce takes justifiable pride in having launched a project which, although only one-quarter finished, has directly brought more than \$250,000 worth of business to the local building industry. Actual total is much larger than this, for West Hill Colony's success has stimulated the opening of seven other subdivisions which have already sprouted some for houses for colonists' neighbors.



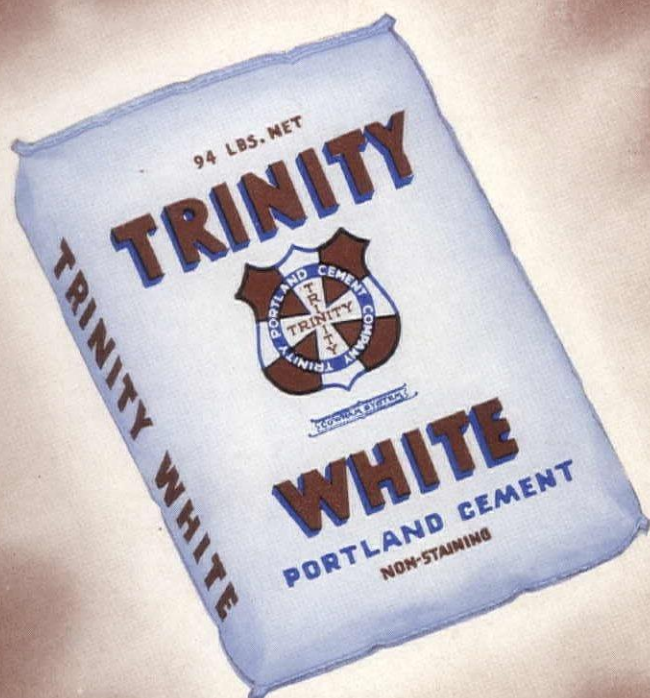
Like its neighbors, this \$8,400 house atop a \$2,000 lot follows closely the Colonial tradition, features a massive chimney. Bedroom and bath above the garage have been left unfinished until the family requires more elbow room. All houses in the colony must meet self-imposed deed requirements and design standards.



Robert Wilson

Presenting

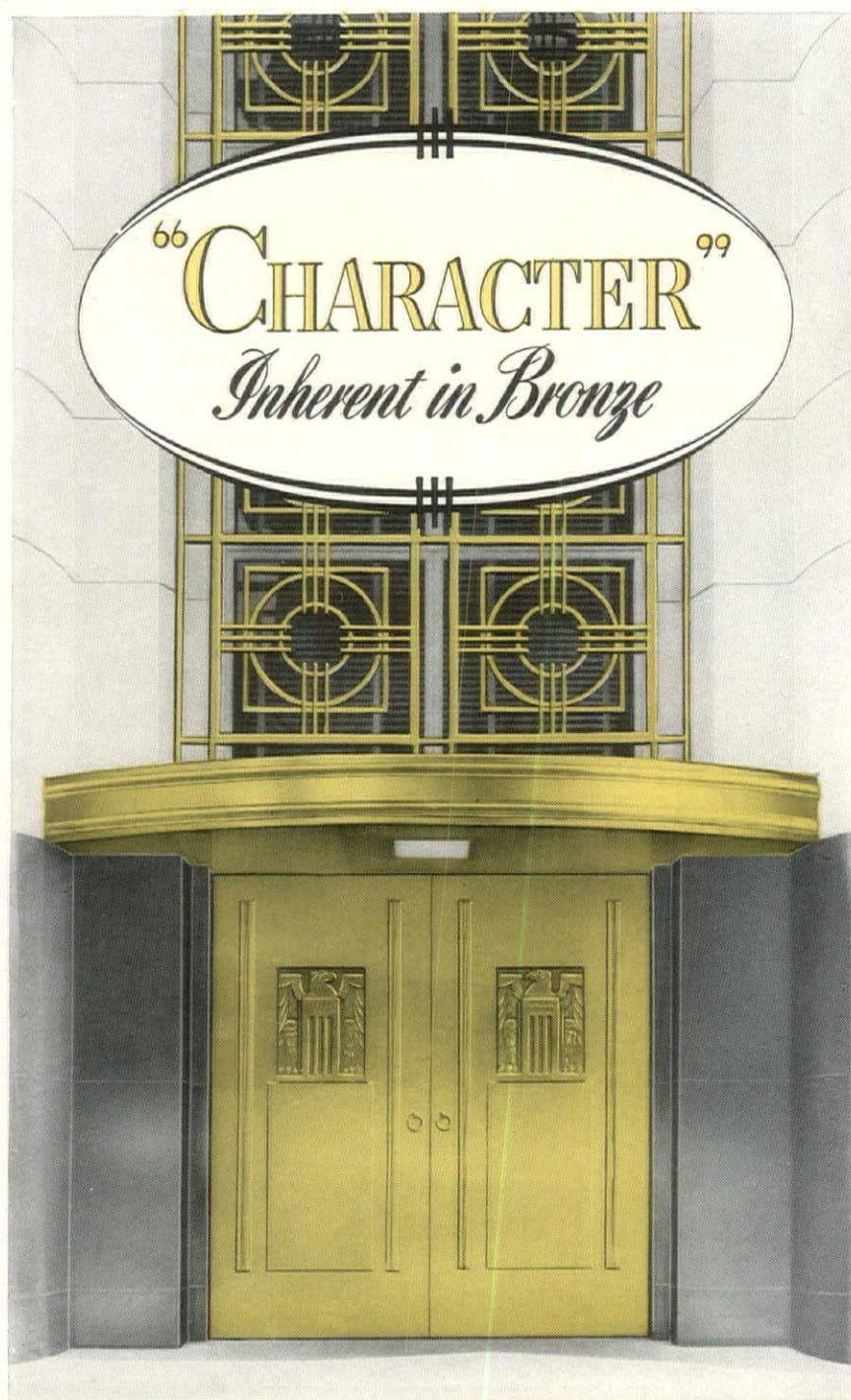
THE NEW STAR OF WHITE CEMENTS!



Trinity White

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is a *new* White . . . a *warm* White . . . Cement especially developed to meet modern requirements. For something *more* than "just a White Cement," specify and use *Trinity White*, a product of TRINITY PORTLAND CEMENT COMPANY, Republic Bank Building, Dallas, Texas.



These photographs show the Anaconda Extruded Architectural Bronzework on the new building of the Victoria Bank and Trust Company, Victoria, Texas. The continuous bronze grille extending upward five stories above the Main Entrance is believed to be the largest single frame in the country. The Benson Manufacturing Company of Kansas City, Mo., executed the entire bronze installation Architects—C. H. Page & Son, Austin, Texas.



A glance at the illustrations reveals how the impressive "character" motif of this bank building is carried out by using Anaconda Architectural Bronze. At the same time, the air of charm and distinction it lends is also apparent. But there's more to bronze than appears on the surface.

Besides its beauty and remarkable adaptability to design, bronze offers the double economy of durability and easy maintenance. The fact is, only occasional cleaning is necessary to maintain its original lustre. And beyond that, its moderate cost is a further reason why so many leading architects specify this ageless metal.

. . .

The American Brass Company is the leading supplier of Architectural Bronze, Copper and Nickel Silver in all wrought forms for ornamental work of every description.

4184

FOR ORNAMENTAL WORK

Anaconda Bronze



THE AMERICAN BRASS COMPANY General Offices: Waterbury, Connecticut • Subsidiary of Anaconda Copper Mining Company • In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

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SERVEL STAYS SILENT LASTS LONGER....

because it freezes with No Moving Parts!



TENANT: "After we had used a mechanical refrigerator, a Servel Electrolux was installed in our apartment. Its silence, lack of repairs and controlled temperature make it the most satisfying refrigerator I've ever used."—Mrs. K. D. Vandervort, 824 N. Brand Blvd., Glendale, Cal.



BUILDER: "I have had Servel Electrolux refrigerators installed in my property since 1932. My tenants praise Servel Electrolux silence, dependability and constant cold, and find this different refrigerator has an extremely low operating cost."—Mr. J. H. Walpin, 210 Republic Bldg., Denver, Colo.

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FROM ALL
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- ▶ MORE YEARS OF SATISFACTORY SERVICE
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Stays silent...lasts longer

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Many Architects have told us that they look upon PLUGMOLD not as just so much material to go into a job, but as a modern wiring IDEA that becomes an important part of the overall design for comfortable living . . . for utility or for business.

For this is, after all, a fundamentally NEW kind of "Adequate Wiring". Outlets may be multiplied to any number within N.E. Code limitation. Outlets can be ADDED or RELOCATED at any time, and at low cost.

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WIREMOLD

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Write us for copy of our new PLUGMOLD Bulletin . . . and short sample lengths for your office use.



DE-DECENTRALIZATION

(Continued from page 211)

ticket validations. While substantiating statistics are unavailable, the four of Oakland's five department stores which are located in the downtown area claim that the Association's parking program has tapered off their volume of deliveries. Month ago, parking statistics had not yet been totaled for 1940, but good guess is that the 1939 record of 1.1 million automobiles, averaging one and one-half passengers per vehicle, was surpassed.

Through cooperation with a recently rejuvenated Police Department Traffic Bureau and an independent traffic committee appointed last year by Oakland's city manager, the Association has helped improve downtown transportation on still another front. Long-time red and yellow parking zones have been reduced to make way for ten-minute green zones and three-minute white zones. Further to relieve traffic congestion, left hand turns have been prohibited at many downtown corners, the traffic flow at outlying intersections has been channelized, and traffic laws in general have been modernized.

Organization. Realizing from the beginning that thorough organization and concerted effort by all Downtowners were essential to the obtaining of its objectives, the D.P.O.A. has fostered friendship and mutual understanding on every front. Thrice yearly, it treats all landlords and merchants to an elaborate feast of suckling pigs, turkeys and hams which has come to be known as a "Van Dyke." Here the usual barriers between bigwigs and small fry are broken down and, as Host Frost puts it, "the little merchants have learned to call the department store executives by their first names, and the tenant has learned to call the landlord by his first name instead of some others entirely inappropriate."

A special D.P.O.A. committee calls on tenants, checks up on their satisfaction, listens to their complaints, then tries to set things right. Thus, if a tenant feels that he should have a new sign or larger toilet facilities, the committee weighs the arguments and presents his case to the landlord. If the matter is more serious the committee brings the tenant and landlord together in a meeting, and, if the nub of the problem proves to be financial, all three go to a bank in search of the answer.

To make this tenant trouble-shooting simpler, D.P.O.A. in 1932 set up a second "subsidiary," the Downtown Merchants Assn. Not only did this act give the merchants a hand in the development of the over-all program, but it also assured the parent organization that no separate group would be formed which might become antagonistic. The Merchants Assn. has

(Continued on page 44)

MR. ARCHITECT... *I want to make sure you know about my new White Lead Paint*



White Lead has helped many a house...and many a man... live on to fame!



Since the nation was born, Pure White Lead has protected homes from their worst enemy, the weather. Down through the years have come gleaming Cape Cod Cottages...proud Colonial Mansions—historic monuments to White Lead's durability and to those who kept those structures in good repair.

If these houses could talk, many an old New England home would tell you—"Design for the centuries...protect with White Lead". This means specify Dutch Boy—now available not only in the regular paste form but also as a ready-to-use paint.



Specify DUTCH BOY WHITE LEAD

Here's the proven protection of Pure White Lead, in a new form

Ready-to-use!

Now! The famous Home Defense of the Minute Man, in a new up-to-the-minute form—Dutch Boy Pure White Lead Paint! It's pure white lead—all ready to spread! In 2 forms—Exterior Primer and Outside White—specially designed to give a real white lead job on new or old wood with 2 coats. You have never specified a 2-coat combination that gives better sealing and hiding. In addition this new Dutch Boy provides the whiteness, gloss and finish you need to put the crowning touch on your finest work.

Remember, whichever you specify... the regular Dutch Boy Paste White Lead or the new ready-to-use paint... you will be sure of getting the time-tested protection and beauty that have made Dutch Boy a synonym for paint quality.



NATIONAL LEAD COMPANY
111 Broadway, New York; 116 Oak St., Buffalo;
900 West 18th St., Chicago; 659 Freeman Ave.,
Cincinnati; 1213 West Third St., Cleveland; 722
Chestnut St., St. Louis; 2240 24th St., San
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St., Boston; National Lead & Oil Co. of Penna.,
1376 River Ave., Pittsburgh; John T. Lewis
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BE their designs ever so contemporary, architects are very, very traditional on the subject of *quality* in the materials they use. That is one reason why Armstrong's Linoleum finds its way into more and more buildings—contemporary and traditional alike.

Traditional also is Arm-

In entrance hall below, Armstrong's No. 021 Marbelle Linoleum with white and jade strips.

strong's felt-layer method of installation... specified almost universally by architects who refuse to take chances with their clients' money.

For colors and specifications, see *Sweet's*. Armstrong Cork Co., Floor Division, 1203 State St., Lancaster, Pa.



ARMSTRONG'S FLOORS LINOLEUM

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

DE-DECENTRALIZATION

(Continued from page 42)

its own officers, equal voting rights and boasts almost 100 per cent representation but, since its dues are a mere \$1 per month, it must rely on the property owners for financial support. Example: in 1940 the D.P.O.A. handed the merchants \$7,000 to help buy permanent wiring facilities for Christmas street decorations and has contributed \$1,500 each year since for the necessary accessories.

Promotion. While the Association's accomplishments have continually made its program and activities the talk of the town, it has invested many a dollar in promotion and advertising to make Downtown Oakland's revival the talk of the State and nation as well and thus attract new enterprises. Most of it has been entrusted to Tomaschke-Elliott, Inc., a local advertising agency which has put in pamphlet and broadside form the results of Association-conducted traffic and pedestrian counts and Oakland's convincing transportation map. Each time a new merchant signs a downtown lease or an old one launches a modernization project, Tomaschke-Elliott ballyhoos the news. When a new merchant comes to town looking for a location, he is showered with these downtown promotional pieces, is given the impression that there is no other area to be considered. Today, thanks to the Association's program, he is right. Others before him have been convinced, for 43 chain store organizations have either entered or relocated in the downtown area since 1931, helping cut the ground floor vacancy ratio for the entire district from about 25 per cent down to only 5 per cent in 1940.

But the D.P.O.A. is not resting on laurels. This year Manager Dudley Frost has already made a ten-city speaking tour sponsored by the National Association of Real Estate Boards, spreading the gospel to decentralization-plagued middle Westerners and Easterners and incidentally focusing the publicity spotlight on Oakland. When he returned, he uncorked a new promotional scheme whereby so many downtown merchant will win an automobile for the best merchandising scheme. This and the other continuing phases of Downtown Oakland's de-decentralization program will be financed from the wallet of property owners' contributions and dues which the Association never lets fall below the \$50,000 mark. For, as General Manager Dudley Frost oft reiterated on his recent speaking tour, "Any successful property owners' association must always have sufficient money to do well the things which are required, regardless of costs. That has been the case with our organization, and any group who attempts to function along these lines without ample money is doomed to failure."

HELP WANTED — MALE

Architectural Draftsman

Established office requires good general draftsman. Must have practical experience. No beginners. State age, experience, education, employers, salary. Address PX 752 Journal.

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man. Must have practical experience. No beginners.

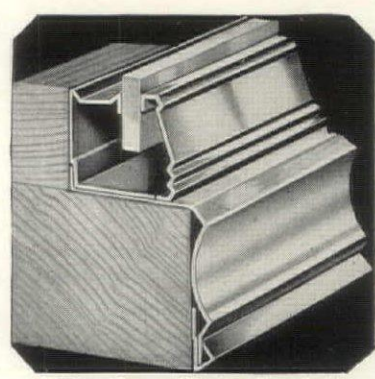
You demand it of your men — Why not of your manufacturers?

BRASCO

HAS BEEN PERFECTED BY 30 YEARS OF EXPERIENCE



Montgomery Ward Store at Dearborn, Mich., with Brasco Stainless Steel Store Front Construction.



Modern Brasco Shadow Line Sash, shown with complete sill covering.

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

BRASCO MANUFACTURING CO.
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SHAKESPEARE said "Experience is by industry achieved and perfected by the swift course of time."

It is our 30 years of continuous and concentrated effort in developing more modern and more enduring store front construction, that spells your assurance of absolute safety when you specify Brasco.

It means that Brasco has been thoroughly time-tested, and proven worthy of your confidence. It means most advanced design, in every modern metal and finish — permanent beauty — sound structural value — safety to the glass. It means a *complete* line of all essential members, in both Rolled and Extruded shapes, all thoroughly engineered and wholly unified — to fit any appropriation.

BRASCO MFG. CO., Harvey, Ill.

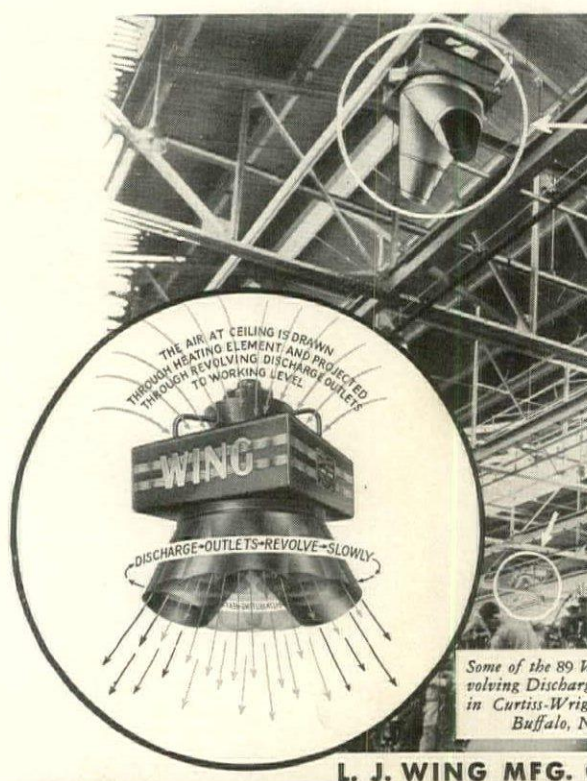
Send Samples and Details of Brasco Modern Store Front Construction.

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THROUGH HEATING ELEMENT AND PROJECTED
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DISCHARGE-OUTLETS-REVOLVE-SLOWLY

The New System of Plant Heating Designed for Workers' Comfort

Slowly revolving discharge outlets on ceiling-suspended Unit Heaters provide a sensation of heating comfort never before attained.

This is the latest advance in the science of plant heating, continuously and progressively developed during the past 20 years by WING, the originators of "Floodlight" heating.

In many defense project plants, like that illustrated, operators work better because the air "feels alive and invigorating"—the result of WING Revolving Discharge Heaters.

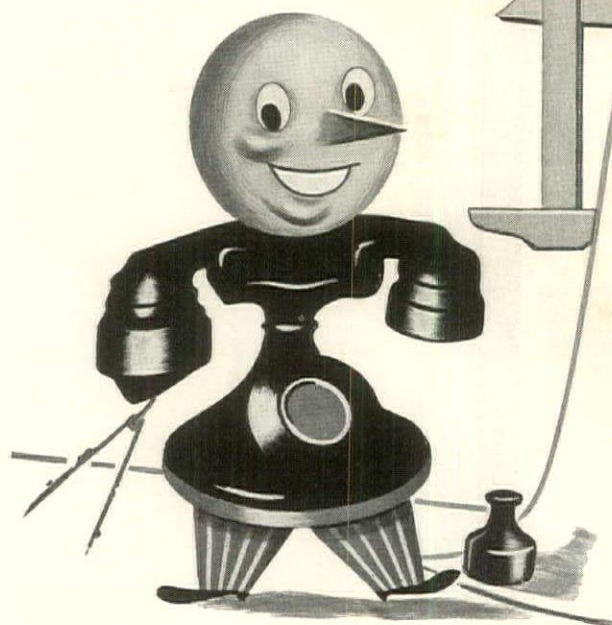
Write for Bulletin H-8.

Some of the 89 WING Revolving Discharge Heaters in Curtiss-Wright plant, Buffalo, N.Y.

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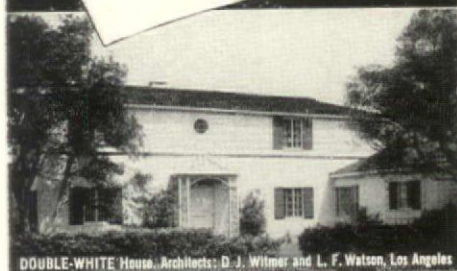
WING REVOLVING DISCHARGE UNIT HEATERS

Your local telephone company will be glad to have you use its "Architects' and Builders' Service." Call your nearest Bell Telephone Business Office and find out about this time-saving service.



**MARK TELEPHONE OUTLETS RIGHT
ON YOUR PLANS. THEY'LL REMIND
YOU TO SPECIFY CONDUIT TO CON-
CEAL TELEPHONE WIRES AND AVOID
EXPOSED WIRING WHEN TELE-
PHONES ARE INSTALLED. REMEMBER
—IF INCLUDED WHILE CONSTRUC-
TION IS IN PROGRESS, A TELEPHONE
OUTLET COSTS NO MORE THAN AN
ORDINARY ELECTRIC OUTLET.**

For WHITER White Houses



DOUBLE-WHITE House. Architects: D. J. Wilmer and L. F. Watson, Los Angeles

Cabot's DOUBLE-WHITE gives you extra whiteness on shingles, clapboards, stone or brick. It stays whiter year after year because its pigments are immune to the discoloring effects which soon give many white paints a dingy yellowish or grayish look.

For NON-FADING Color



Collopake House, DOUBLE-WHITE trim. Architect: George V. Gillette, Salisbury, Conn.

Cabot's Gloss Collopakes are non-fading because they are made of pure pigments — entirely without fillers. Manufactured by our patented Collopaking process which divides the pigments finer, Collopakes are colloidal paints. Oil and pigment are inseparable, forming a tough, uniform film — porcelain-smooth — with no brush marks to collect dirt and grime. New lower prices are now in effect.

DEFENSE PREFABRICATION

(Continued from page 178)

the Navy and the Defense Homes Corp. in their use of prefabrication.

► FWA should not brand all prefabrication enterprises as experimental and require demonstrations by those which have already proved their merit and have been approved by another Government agency (FHA). Demonstrations, if any, should be reserved for untried systems.

► If general contractors are employed, FWA should not penalize them for using prefabricated parts by classing the prefabricators as sub-contractors. In this circumstance, the prefabricators should be regarded as suppliers of materials.

► For projects which stand to gain through prefabrication FWA should encourage its use and, if a general contractor is essential, should select one who will give prefabrication a fair trial and, preferably, one who is familiar with and "sympathetic" to prefabrication.

► Where such a project is comparatively small, FWA should consider awarding the general contract to the prefabricator who may, in turn, sublet the site contracts.

► If a project's houses are to be demountable or temporary, so should its utilities (dirt roads, septic tanks, etc.), and FWA should consider awarding the entire contract for such a project to a prefabricator.

► FWA should assign these projects to prefabricators within reasonable shipping distance or, if the projects are big enough, encourage them to erect new plants near the sites.

► FWA should take a definite stand for or against AFL's present unwillingness to work on prefabricated projects. If it is against it, FWA should attempt to break this resistance by persuasion, if possible, and, if not, by Government mandate.

► FWA, if it ever plans to call on prefabricators for defense houses, should let production orders now so that when sites are acquired the prefabricator will be able to deliver houses immediately. This possibility is one of prefabrication's biggest assets.

► FWA should recognize that while the prefabricators are better able to produce demountable temporary housing than conventional builders, they normally produce "permanent" houses. Their production facilities should not be wasted pending Government's definition of "demountability" and the development of suitable demountable houses.

► Prefabricators should get together and form a trade association empowered to coordinate their activities, subdue wild claims, improve their position in the building industry, act as a clearing house for prefabrication information, and, most important, bring the industry's advantages and abuses to the attention of the legislative, administrative and judicial branches of Government.



Kitchen—Holy Cross College

*Institutional Architects
and their Clients Avail
Themselves of . . .*

JOHN VAN RANGE Food Service Engineering

While the plans for the new kitchen of Holy Cross College at Worcester, Massachusetts, were still in the formative stages, the architects and administrative officials of the College called upon the engineers of the John Van Range Company for technical advice and cooperation.

The kitchen was laid out in detail before construction work had progressed so far as to require costly structural changes. Provision was made in advance for necessary plumbing, gas, electrical and air conditioning intakes and outlets. Then every unit of the equipment was designed, manufactured and installed by the John Van Range organization, with substantial economies in cost and the assurance of continuing economies in maintenance and operation.

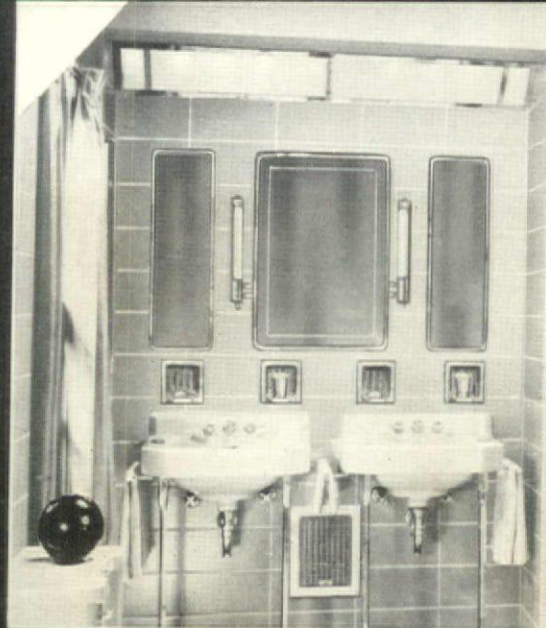
Because of the highly specialized character of kitchen engineering many outstanding architects avail themselves of the services of our staff whenever problems of this kind are on their boards. The service is given freely and without obligation.

The John Van Range

EQUIPMENT FOR THE PREPARATION AND SERVING OF

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Make
YOUR
BATHROOMS
Complete



Bathroom
By Kohler



Bathroom
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WITH
MIAMI
CABINET
Ensembles

YOU CAN GO "ALL-OUT" for BATHROOM COMPLETENESS
... PLAN for ALL the FAMILY

You perform a real service for your clients when you design their bathrooms to provide complete cabinet facilities for *all* members of the family—large cabinet for husband and wife; individual cabinets for the children.

You can accomplish this with utmost harmony and efficiency by specifying Miami Cabinet Ensembles, with towel supply cabinet, recessed shelves, built-in electric heater and an adequate number of accessories.

The Miami Line is the type of home, the world in original bathrooms really beautiful.

See the Miami Ensemble. Send for a copy of number of bathrooms equipped with Miami. Address department.

THE MIAMI CABINET

THE PHILIP CAREY

MIDDLETOWN OHIO

WANT A PAINT THAT WON'T

Give in

TO WEATHER?

**I MINE LEAD—AND ANY PAINTER WILL
TELL YOU IT'S GREAT STUFF IN PAINT**

If you want your work to survive the round of the seasons year after year without losing its good looks — your choice of paint is vital.

Here's what good painters have to say on the subject:

There's no more weatherproof paint than one made with pure white lead. It's a pretty safe rule: the more white lead, the better the paint.

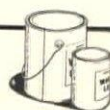
You see, white lead is made from lead—one of the toughest, most weather-resistant of all metals. And like lead, white lead paint laughs at climate; defies heat, cold and moisture; doesn't crack and scale with long exposure. It's this ability to "take it" that ex-

plains why a white lead paint job stands up longer.

Remember, using white lead doesn't limit you to white paint. White lead paint can be tinted to practically any color you desire.

Its beauty and long life make it tops with clients—yet it costs no more than regular quality paints. Here's one case where the best is really cheapest.

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



NEW WAY TO BUY

In addition to the regular paste form, pure white lead is now sold as a ready-to-brush paint by paint dealers from coast to coast—in convenient, popular-size containers. Saves time in getting jobs under way.

USEFUL HINTS ON WHITE LEAD TINTS

Color is playing an increasingly important role in modern paint styling. You'll find a lot of helpful information on mixing popular tints in a free booklet, "WHAT TO EXPECT FROM WHITE LEAD PAINT." Write for your copy now.



You're money ahead when you paint with

White Lead

COMPARE these Extra Advantages of ANCHOR CHAIN LINK FENCE

For a complete industrial plant installation to prevent sabotage—or a small installation for home grounds—there's no substitute for Anchor Chain Link Fence of heavy woven galvanized copper bearing steel—PLUS these extra Anchor features:

1. DRIVEN ANCHORS

eliminate need of post-holes, waiting for concrete to set. Permit the fence to be moved, if necessary, without loss of fabric or posts! Exclusive steel "anchors" are deep-driven on correct angles to provide maximum bracing and strength in all types of soil.



2. STRONG U-BAR POSTS

are self-draining. Special wire clips for fabric eliminate holds for climbers. Posts are rolled from high carbon steel for long life, strength against stresses in all directions.



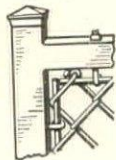
3. SQUARE TERMINAL POSTS

of high carbon steel are better looking, and prevent climbing because fabric fastenings do not encircle the posts.

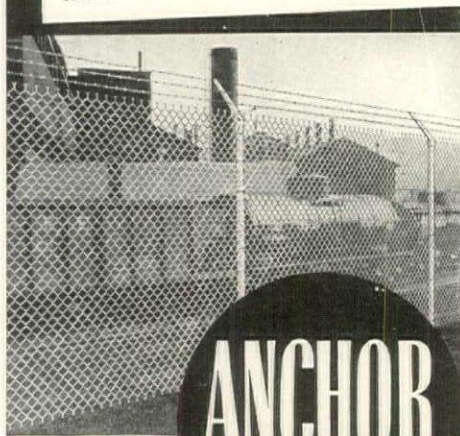


4. WELDED SQUARE FRAME GATES

with frames of square 2" steel tubing firmly butted and welded to give exceptional strength. Hinges permit full 180 degree swing.



5. CONSULTATION SERVICE. An Anchor Engineer will gladly help you plan any fence installation—without obligation, of course. Mail the coupon now for Anchor Architects' Manual and name of nearest Anchor Fence Engineer.



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IRON PICKET
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MAIL THIS COUPON TODAY

ANCHOR POST FENCE CO.
6635 Eastern Avenue, Baltimore, Md.
Please send me Anchor Architects' Manual and name of nearest Anchor Fence Engineer.

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

HEADWAY & HEADACHES

(Continued from page 173)

to wait more than three years to earn his 10 per cent profit.

Another factor tending to reduce the proposal's effectiveness was AFLabor's move fortnight ago to tack a prevailing wage clause onto the NHAmendment. Most operative builders use non-union labor, can ill afford to pay union labor's high wages for the building of really low cost houses.

► Prong No. 2 of Coordinator Palmer's fork is a request for another \$150 million to be spent by the Federal Works Agency under the terms of the Lanham Act. Covering the construction of housing for Army and Navy enlisted men and employees and defense industrial workers, this Act originally carried a \$150 million authorization, \$10 million of which went to the rental housing equity fund of RFC's Defense Homes Corp.

► Prong No. 3 is a request for still more Federal funds—\$6.75 million—with which to provide "mobile" housing while "dismountable" and "permanent" housing is being erected. A new term in the defense housing vocabulary, "mobile" housing is another word for trailers. With the sought-for appropriation, Government plans to buy some 5,000 mobile houses, hospitals, schools, churches and recreation rooms, dispatch them on trucks, railroad flat cars or their own removable wheels to cramped communities to serve as stop-gap facilities. A major use for these flying trailer squadrons will be made by construction crews working on out-of-the-way defense plants and housing projects. Chances are that this mobile program will be run by Farm Security Administration, that the mobile units will serve the migrant "Okies" after the emergency.

Down the icy Hudson River on its way to Mississippi last month went another form of mobile defense housing—a steam boat, the Berkshire (see cut, p. 173).

LUMBER PRICE ROW

"I have had all the arguments, excuses and explanations that I want—and a damned sight more than I need," thus National Defense Commissioner Leon Henderson in late January tossed off the lumber industry's answers to the question of rising prices. Continued Price Stabilizer Henderson, hopping mad: "We can get lumber; the Government can get all it wants by having the Commander-in-Chief of the Army and Navy (President Roosevelt) fix a price and forbidding buyers to pay more. And then, if not enough comes out, we can use the Selective Service Act to draft lumber the same as we are drafting men. I am going to make that recommendation unless the situation improves." By improvement, Henderson meant a \$2 reduction in the price of No. 2 Southern pine to \$25 per m.b.f. at the mills. The

lumber industry countered that Government itself had boosted lumber prices its pell-mell buying methods, when "600 or 700" different agencies bid against themselves for lumber to be used on Government projects. Also in the industrial rebuttal was the claim that labor cost had risen to the point where a \$25 price on No. 2 Southern pine would break some producers.

Fortunately, Government's lumber assumption had already humped when Henderson delivered his tirade. Next day calmed down, and Chairman N. L. Fleish of the lumber industry's defense committee purred: "The Government now is getting all the lumber it wants. Prices of cheaper grades of lumber are coming down. And the public should know plenty of lumber is available now for some homes at reasonable prices."

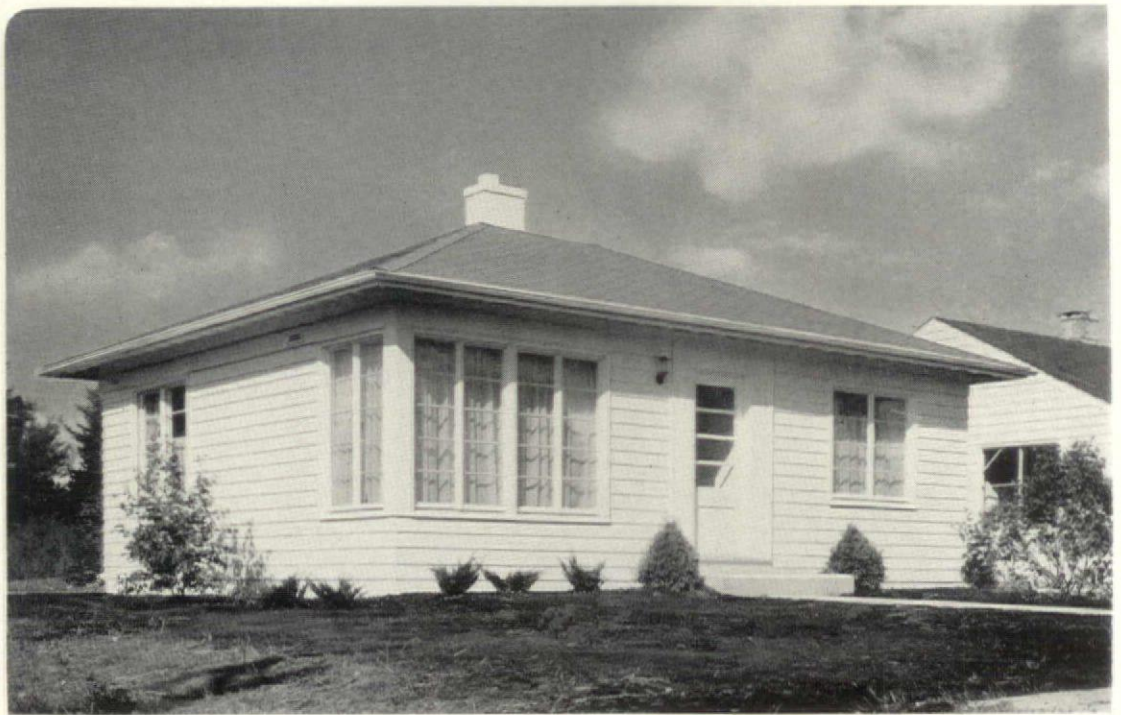
Meanwhile, however, to dodge lumber prices the Army rewrote its specifications for the packaging of its new clothing, substituted corrugated cardboard solid-fiber boxes for wooden containers. Savings in money and storage space expected to amount to 8 cents per blank \$57,750 per shipment of 1 million coats. And, at Camp Wheeler (Ga.), Camp Croft (S. C.), Camp Wolters (Tex.) Fort Riley (Kan.), steel siding was substituted for lumber on barracks to house a total of 66,100 men.

BUILDING LABOR SURVEY

Quieting fears that a labor shortage might delay and hike the cost of both public and private building operations, Federal Security Administrator Paul V. McNutt last month designated the supply "ample." Basis for the statement was nationwide survey of skilled and semi-skilled mechanics registered for employment during the near-peak month of December. Of the 250,000 registrants, 216,000 or 86 per cent were classed as skilled workers in 93 different construction occupations. Of the balance, 30,500 were semi-skilled and 5,400 were representatives of highly skilled professional and managerial occupations.

Interestingly, 40 per cent of the registrants were concentrated in five States (California, New York, Pennsylvania, Ohio and Texas), several of which are near the top of the defense contract list (see p. 171, col. 2). Other States stocked with unemployed construction labor include Georgia, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, New Jersey, Tennessee and Wisconsin.

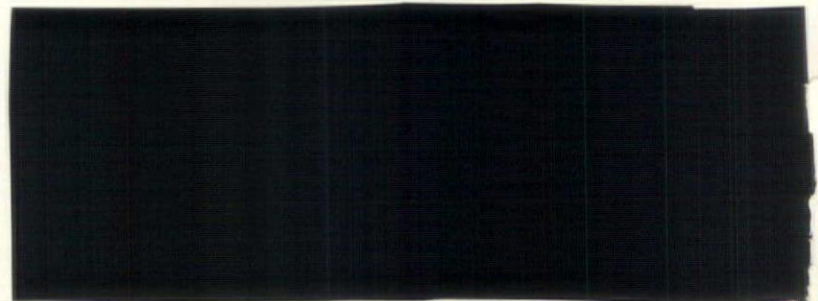
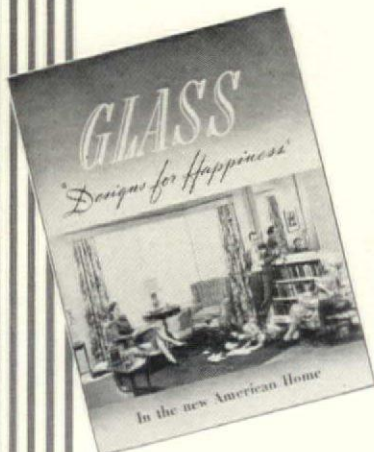
Registrants in six occupations accounted for more than 60 per cent of the skilled job seekers: general painters (42,400), general carpenters (70,000), finish carpenters (47,000), cement masons (11,000), and bricklayers (11,000). Unskilled construction workers were not covered by the survey because McNutt's Bureau of Employment Security was sure that their supply was adequate.



... little house goes to market in a **BIG WAY!**

"Design for Happiness" low-cost, high-livability homes are pulling new home prospects out of hiding. Libbey-Owens-Ford, with the co-operation of F.H.A., invites architects, builders and retailers of building materials to come into this program. Help us put families into such well-designed, quality built homes—made brighter, lighter, gayer and more livable *with glass*.

The program has nationwide radio and magazine advertising support. These homes sell fast—and on the facing page you can see why. You can profit by helping us make these homes available in your community.



LIBBEY·OWENS

**BEFORE
AND
AFTER!**



Mahogany

MENGEL BORD transformed this room—

★ and the cost of the Mengel Bord was only \$118! ★

WHEN you're working for *big effects* at little cost, Mengel Bord's the answer. Mengel Bord has decorative, structural and economic advantages that can't be matched with any comparable material. It's genuine hardwood *plywood*—LIGHT—($\frac{1}{4}$ " thick)—STRONG

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send you our handsome new booklet showing kinds of installations, and giving comparative data. We believe you'll get some new ideas!

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Please send me your new booklet and prices on
Flush Doors ☐ . . . Also full information on Mengel
Flush Doors ☐ . . . Also names of nearest suppliers.

The doors in the "transformed" room above are Mengel Flush Doors. Built on the famous Johns-Manville patent, they are lighter, stronger, more economical. The finest doors made, they are backed by the strongest guarantee in the industry. The coupon will bring you full information and prices!

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Yes, Glass DOES Help Sell Houses!

Below are shown typical glass installations in "Design for Happiness" Homes. Such features help sell higher-priced houses, as well as these low-cost homes. And, such glass designs are stout aids in selling remodeling jobs . . . they provide the glamour, with real "eye-and-buy appeal."



Built-in mirrors of polished plate increase the apparent size of a living room . . . add beauty and utility for any room.



Novel, inexpensive arrangement of 3-panel door mirrors. Half length mirrors on closet doors swing to give angle views.



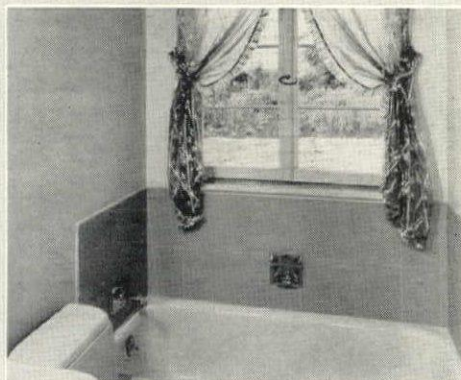
A disappearing dressing table and mirror, attached to the back of the closet door . . . saves space . . . out of the way when not needed.



Storm windows fasten on in a jiffy. They eliminate frosted windows, reduce drafts, increase home comfort and cut heating costs.



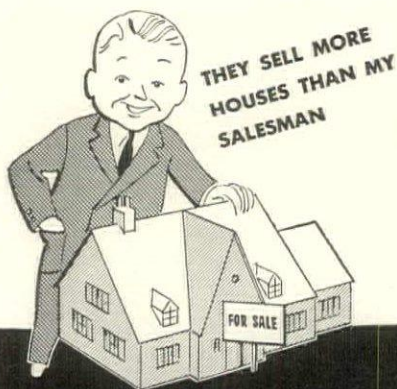
Planned kitchens afford the utmost in labor-saving convenience and utility. Large windows and decorative Vitrolite glass give brightness and beauty.



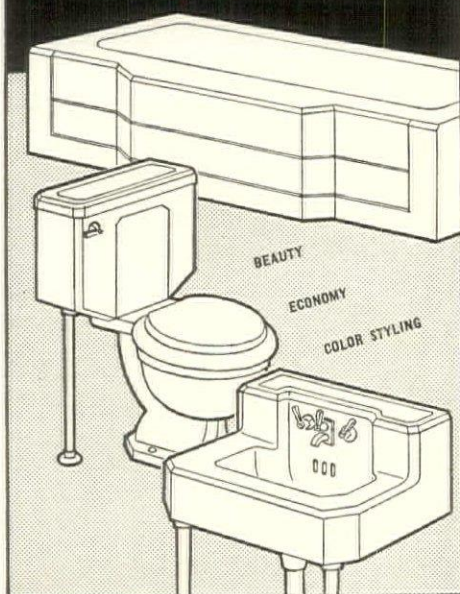
Vitrolite wainscoting to protect bathroom walls around the tub. Impervious to moisture, Vitrolite is easy to clean, never looks dull or faded.

• FORD GLASS COMPANY



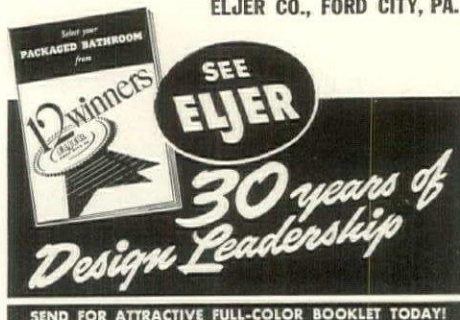


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Please send full-color booklet, "12 Winners"

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STREET _____
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LETTERS

(Continued from page 30)

the determination of such questions as you raise upon Mr. John M. Carmody, Administrator of the Federal Works Agency, or such agencies as he may designate to develop certain projects. It seems to me that Mr. Carmody would appreciate receiving from you a copy of your letter to me; or, with your permission, I shall be very glad to transmit a copy to him.

Please feel free to communicate your feelings on any of these matters. I, personally, appreciate your doing so very much. It is by such expressions of frankness and quality that we who are on the Government side of the program are better able to understand and comprehend the problems of all the interests that are involved in our program of housing.

C. F. PALMER, Coordinator

The Advisory Commission to the
Council of National Defense
Washington, D. C.

Hon. Chas. F. Palmer:

I have not the slightest objection to having Mr. Carmody see my letter of January 17 if you elect to send it to him. He will understand, I trust, that we are not critical of any individual but only of the procedure followed in turning over the design and site planning of defense housing to an agency which is wholly without experience in this field.

The Lanham Act, which I have just re-read, apparently gives complete latitude to the FWA in the choice of architectural services. It states in Section 8:

"Nothing in this Act shall be construed to prevent the Administrator from employing or utilizing the professional services of private persons, firms, or corporations."

The question of the employment of private architects, therefore, seems to be entirely within the powers of the FWA Administrator and I trust you will interest yourself in bringing to his attention the desirability of so doing.

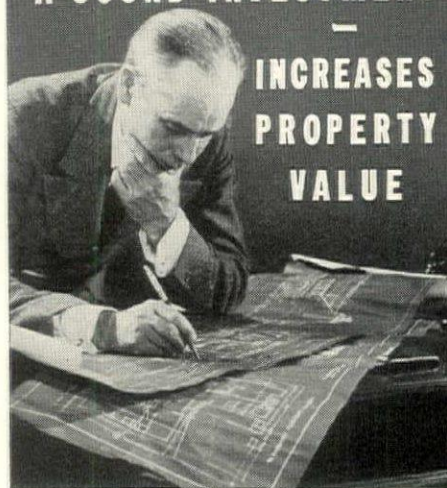
HOWARD MYERS
Editor

Forum:

Mr. Palmer has just sent me copy of your letter of January 17. I am glad to have seen it. In the interest of saving time I shall appreciate it very much if you will send me the names and addresses, not of four or five hundred architects, but a much smaller number of those who have had actual experience with large scale building of houses in the \$2,000-\$3,000

(Continued on page 56)

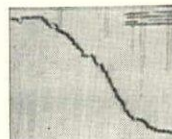
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A SOUND INVESTMENT
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INCREASES
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PROTECT AGAINST PLASTER CRACKS
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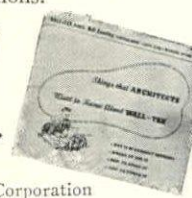
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Wall-Tex is also repeatedly washable. A unique multi-coating process makes Wall-Tex surfaces—more than 200 decorative patterns and plain canvas—positively non-absorbent, their oil colorings permanent.

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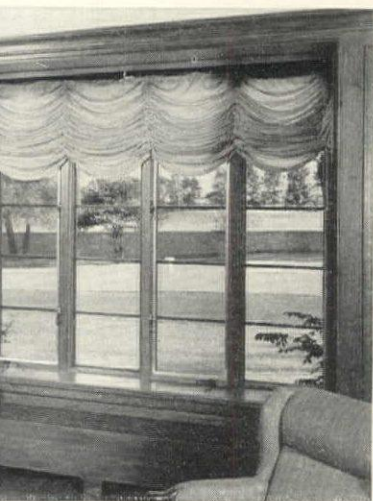
ANCE: COLUMBUS, OHIO
and RICHARDS, ARCHITECTS

This is one of a series of outstanding uses of Andersen Lifetime Windows in homes designed by architects.

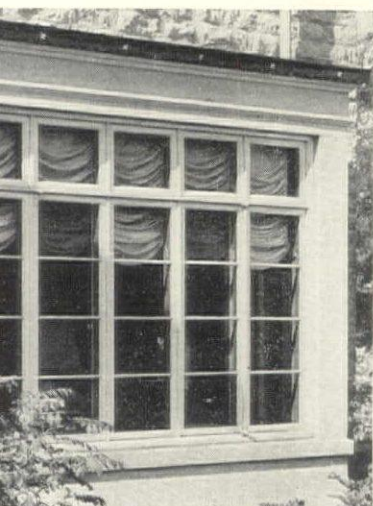
ADAPTED FROM AN AMERICAN FARM HOUSE, WITH ANDERSEN CASEMENT UNITS IN HORIZONTAL BAR SASH

Departure from the conventional marks this interesting country house in Columbus, Ohio. Interesting deviations from the standard farm house design are evident in many places—chimney tops, wrought iron balcony, carved work around the door. Sharp deviation from precedent was made when the architects specified horizontal muntin bars in the Andersen Casement Window Units. This emphasized boldly the horizontal lines which dominate the design.

Andersen Casement Window Units are made in a relatively small number of standard stock sizes. Using these sizes, together with transom tops, and variations in bars and glass, an almost unlimited number of window treatments is possible. This use of standard stock size window units is rapidly gaining favor.



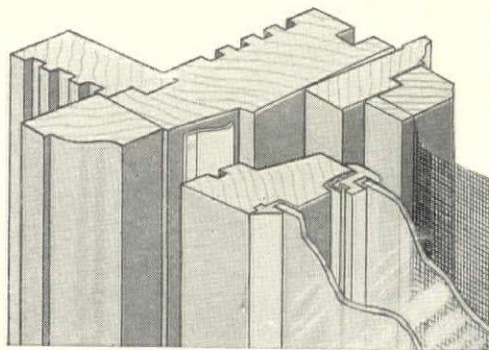
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R

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Shows special sash construction with two-point contact, double glazing, weather-stripping—all assuring weather-tightness. Operating bar or roto-type sash operator works independently of inside screen.



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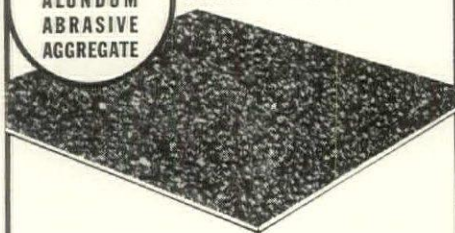
In new or in old buildings, ORCO SAFETY TREADS AND FLOORING provide a permanent, non-slip walking surface whether wet or dry.

TREADS are non-slip at the nosing and throughout the surface, thereby assuring complete protection against slipping. Investigate the many advantages of ORCO SAFETY TREADS AND FLOORING.

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NO. 500 BEN HUR AVE. • WILLOUGHBY, OHIO

LETTERS

(Continued from page 54)

range. Names of those who have done USHA projects not necessary. We have those.

I want to visit some of the projects they have built in that price range, and have others looked at promptly. I am anxious, too, to visit projects that were built on the demountable basis, that have actually been lived in, taken down, re-erected, and lived in again. Frankly, in spite of much conversation and many editorials urging such construction I haven't been directed to a single project of this character. Perhaps I haven't gone to the right source. I assure you I shall appreciate definite information on both points.

The real need for housing is in crowded industrial centers. Although this department has neither responsibility nor authority to determine this need, I began months ago to point out to those charged with that responsibility that the need was not being met by private enterprise, and that they were not keeping faith with the Congress when they recommended the use of practically all of the money under the Lanham Act for permanent housing for the Army and the Navy, both of which had special appropriations for that purpose. An acceptance of that view has brought a flood of projects to us for construction within the past few days. I think the way is clear now for real speed in the centers from which much criticism has come, and properly so.

You mention the Army. The Army is one of our large clients. I attach for your information copy of a letter from the Secretary of War. (*Secretary Stimson's letter, not published, concludes: "I am very much pleased with the progress being made..."*)

JOHN M. CARMODY

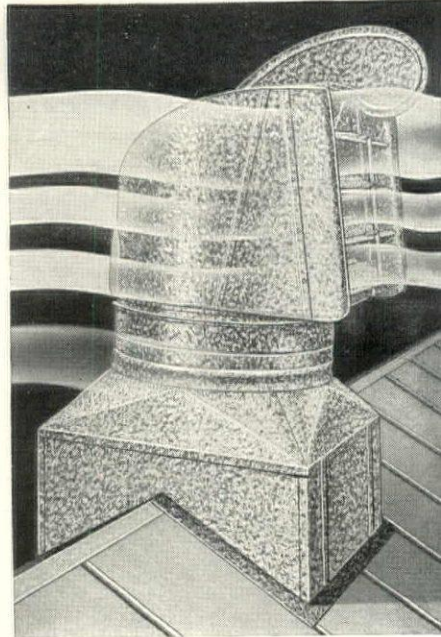
Federal Works Agency
Washington, D. C.

Hon. John M. Carmody:

I have just returned from a short trip to the Middle West which delayed this response to your letter of February 6th. A list of architects who have designed large scale housing projects is being prepared and will be forwarded as soon as completed. To this should be added the architects of USHA projects, which you already have.

It would be futile to limit such a list to architects of houses in the \$2,000 to \$3,000 price range. There are relatively few large scale detached house operations which have achieved this low cost. However, it would seem reasonable to assume that architects who have designed USHA and FHA rental projects and similar large scale housing developments can offer experience

(Continued on page 58)



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The AIRJECTOR is the last word in roof ventilation where power expulsion of fumes, gases and excessive heat is required. Low cost operation results from its unique combination of sensitive rotary head and efficient propeller type fan—dual factors in achieving largest air-moving capacity per size of ventilator. "Smaller" AIRJECTOR units, in most cases, achieve the desired results. This means a saving in first cost as well as in operation—factors your clients appreciate. Thousands of AIRJECTORS used in all types of industry. Write today for new AIRJECTOR folder.

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HARDWOOD PLYWOOD for luxurious paneling and low-cost structures

for the ARCHITECT AND DESIGNER...

"..... Paneled walls and ceilings of hardwood plywood give an appealing warmth. Whether in the staid precincts of a courtroom, the gay rotunda of a hotel lounge, the rich simplicity of an auditorium, the restful efficiency of an executive's office, or the quiet ease of a residential living room, the architect can find in American hardwood plywood a color and figure exactly in keeping with the atmosphere of the installation."

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WELWOOD panels, hot-press bonded with phenol formaldehyde resin, are recommended for the finest installations—in all hard woods.

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LETTERS

(Continued from page 56)

more nearly in line with the requirements of this problem than architects whose chief concern has been the design of post offices.

With respect to demountable housing, my observation is that such housing has been virtually non-existent. The question of demountable housing has received serious consideration for the first time, as an apparent afterthought in the defense hous-

ing program. Probably our best and fastest source of demountable housing is the prefabricator. Although I know of no prefabricator who has designed his housing primarily for demountability, I believe that several now are probably 90 per cent demountable.

However, it is difficult to understand why the consideration of demountability should determine the status of prefabrication in the defense program. Rather it would seem that prefabricated houses should be used where so doing will save time or cost. In short, the defense housing need should be the sole criterion. Demountability, like prefabrication, is a nice idea to play with

but neither should be employed beyond merit. Apparently, consideration of prefabrication on its merit is hamstringing the attitude of A. F. of L. However, I again we believe no union demands are sacred as defense needs.

You point out that private enterprise was not meeting the defense housing need. I am uninformed of any serious effort to encourage private enterprise to do so under submission of HR 3162 on February 1, 1941, covering a special mortgage insurance fund of \$10,000,000 in a belated effort to bring experienced small house builders into the program. There remain serious doubts whether this proposed Title 6 of the National Housing Act providing 90 per cent insurance on mortgages will serve its purpose. It is a doubtful assumption that builders of these very low cost houses have a 10 per cent profit in their operation when it is further considered that much of this construction will be rental housing requiring the builder to furnish a refrigerator and range, he is still faced with the problem of producing equity money. As a matter of fact, apparently it has been the policy of PBA to look to large general contractors for the construction of these small houses, when to many of us it seems that the established and experienced large scale house builders are the best qualified to handle these projects quickly and with a minimum of confusion.

Frankly, we are not in a position to give an opinion about the relative need for housing for Army and Navy requirements and for industrial requirements. We assume that these needs have now been explored and defined and that if the combined Army and Navy appropriations plus the Lanham Act appropriation are insufficient for the program, requests for additional funds will be forthcoming.

In closing, I should like to return to the point which originally prompted this correspondence, namely, that at a time when defense requirements call for the speed of construction of a great many small houses and multi-family dwellings, the use of seasoned and locally available architectural services and likewise the employment of experienced and locally available building services represented not only the natural but the obvious first approach to defense housing. I shall not attempt to comment further on the failure to utilize existing prefabrication production except to say that, from an outside point of view, at least, here again the effort of the Government has been to do it the hard way.

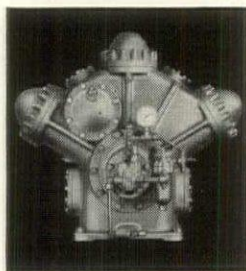
I trust you will understand that the critical comments have been motivated by a completely constructive desire, which all of us share, to move the defense housing program to completion with the greatest possible speed through the utilization of existing personnel and facilities whether private or Government.

HOWARD MYER
Editor

STREAMLINED MERCHANDISING calls for STREAMLINED COMFORT



Nimmons, Carr & Wright, Architects



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light, powerful, vibration-free, is the heart of every one of these up-to-the-minute Sears installations.

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Few air conditioning applications call for a greater reliability factor. And shrewd management demands equipment that is not only economical, but whose operating and maintenance costs may be projected accurately.

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Architects and engineers who select York appreciate the significance of the York credo, "It must profit the user." Their selection is backed by more than 150,000 engineered air conditioning and refrigeration installations. York Ice Machinery Corporation, York, Pennsylvania.



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For ageless beauty, fireproof protection, lifelong service, specify CAREY CERAMO Shingles and Siding. Write for full details of this sensational material—Address Dept. 20.

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No cement particles or asbestos fibres dull or cloud the clean hard ceramic finish.



**Permanent
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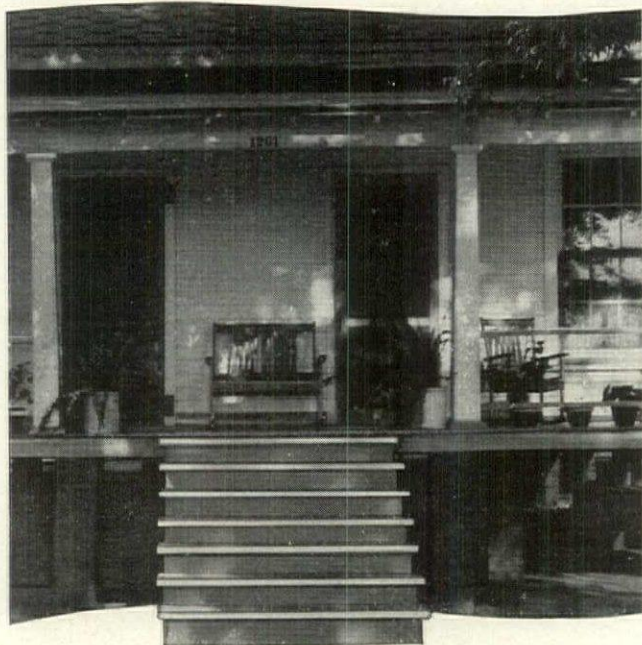
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That's what we mean by the CZC Factor of Safety: the full strength of lumber is extended over a long life -- not just until rot or termites arrive. More and more engineers and architects are employing this safety factor in all types of wood construction.

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CHROMATED ZINC CHLORIDE

For
defense housing—
summer camps—
or
custom-built homes—
**PRECISION-BUILT
CONSTRUCTION**

10 to 12 days—for a →
modern home at the seashore.



← \$8,000—Built in 30 days
by Precision-Built Sr. Con-
struction.



\$2,000—Built in 6 days →
by Precision-Built Jr. Con-
struction.



← This 4-room mountain
camp has a living room 16 x 12.
Built in 10 to 12 days.

The whole range of housing is now covered by Precision-Built Construction—tested by the Bureau of Standards—approved for F.H.A. Insured Mortgage Loans.

For small homes or for large custom-built homes—here are all the time and money economies of prefabrication! Yet the architect retains complete flexibility of design!

Hundreds of Defense Housing Units have already been erected—with Precision-Built Jr. Construction. This system requires 3 days in the shop and 3 days in the field. The homes are completely portable—bolted and lag-screwed together. Designed for one-story work, this type of construction is adaptable to weekend

houses, summer camps, tourist cottages and many similar structures.

Precision-Built Sr. Construction—requiring 10 to 30 days—is adaptable to any type or size of house—any style of architecture. More than \$4,000,000 of architect-designed Precision-Built Homes have now been erected—from coast to coast.

Franchised fabricating plants are located throughout the United States. They employ local contractors and use local labor. All materials are first-grade—purchased locally.

We invite you to write today for the full facts about this important new development in the building industry.

HOMASOTE COMPANY
TRENTON . . . NEW JERSEY

THREE TIMES BRANDED ...FOR YOUR PROTECTION!

• Good things rarely change. The practice of placing *three* triangles diagonally across every sheet of galvanized ARMCO Ingot Iron has been justified by years of usage.

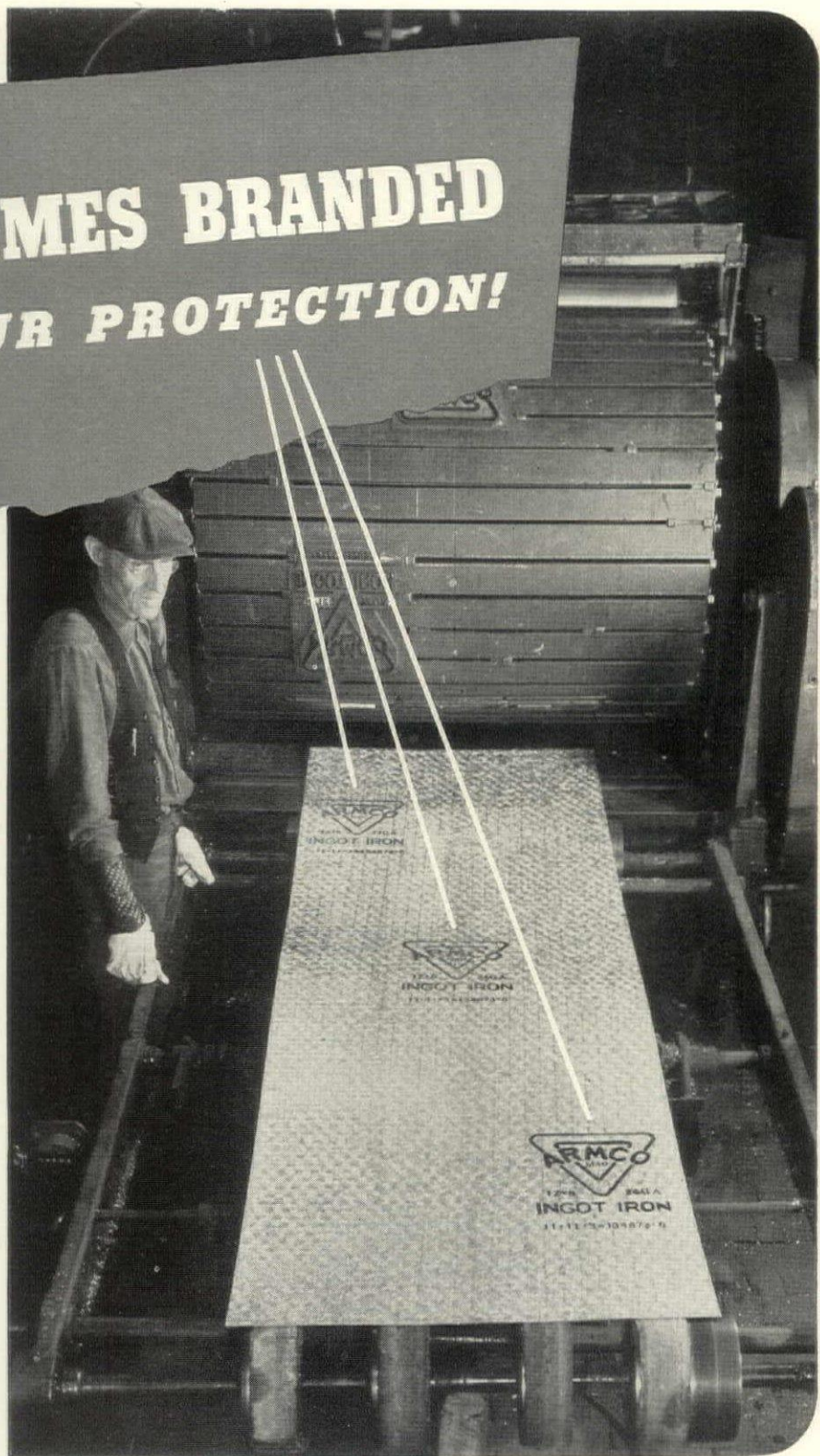
No matter how these sheets are cut, all or part of at least one triangle will show. This positively protects your specification. You can tell at a glance the brand and gage used. No chance here of having your carefully-designed sheet metal work "sabotaged" by inferior metals.

Your clients will be glad to see this familiar trademark on their work. Many of them have learned from experience, or from ARMCO's 27 years of national advertising, that this symbol stands for utmost durability.

Behind this record of proved durability are these important things: Careful selection of raw materials and exacting production control make every sheet alike—alike in chemical analysis, high refinement and uniform weight of coating. You'll never get seconds or inferior sheets of any kind when you specify ARMCO Ingot Iron and check by the triangle.

Use galvanized ARMCO Ingot Iron—or ARMCO Ingot Iron PAINTGRIP for work to be painted—for all exacting jobs. The identifying triangle will protect specifications and enable you to give added reas-

urance to your clients. For prices and useful service-record data, just get in touch with the nearby ARMCO Distributor, or write us direct. The American Rolling Mill Company, 531 Curtis St., Middletown, Ohio.



GALVANIZED



ARMCO INGOT IRON

FORUM OF EVENTS

(Continued from page 22)

AWARDS

To ROBERT A. BOYER, the United States Junior Chamber of Commerce Distinguished Service Award for 1940, awarded annually to the man of 35 years or younger who is considered to have made the greatest contribution to the nation during the year. Mr. Boyer, 31, heads the Ford Motor Company research laboratory, has developed a plastic material for automobile bodies which will resist axe blows. It is scheduled for mass production shortly.

Previous Award winners include Walt Disney, Governor Harold E. Stassen.

To JOHN E. MAIER, JR. of North Merrick, L. I., a gold medal and \$200 in the Tenth Annual Interior Decorating Competition of the Sachs Foundation. Problem: decoration of an 18th century living room in dimensions not to exceed 12x15 ft. Prize-winner is a senior architectural student at the Cooper Union Art School which received a gold cup for having been represented by students winning the first prize for three successive years.

To ROBERT MOSES, the Order of Merit of the National Institute of Arts and Letters, for his work in beautifying New York's parks; the bronze plaque of the Advertising Club of New York as their

"Man of the Month," in recognition of services to the city.

To RALPH BUDD, the "Washington Award for 1941," conferred by the Western Society of Engineers for "vision and courageous leadership in advancing the technological frontiers of high speed railroading transportation"; the "John Fritz Medal" of the American Society of Civil Engineers.

To CLARENCE STEIN of New York, medal of honor of the New York Chapter of the American Institute of Architects, awarded annually for high professional achievement.

To RICHARD SHAW of Boston, the much-prized Harleston Parker Medal, awarded by the Boston Society of Architects for beauty in architecture. Subject of award was Architect Shaw's handsome Hatch Memorial band shell, illustrated here. Said the winner: "It brought great relief. . . . I had taken my orders from



For the first time, the radiator becomes a real decorative feature. You have a choice of the two different bottom grille designs.

The NEW

Burnham Radiant Radiator

YOU know full well that a radiator with the usual enclosure; or recessed with grille front gives off only convected heat. That the estimated 20 to 30 percent of radiant heat given off from a free standing radiator is totally inactive.

You therefore overcome a part of this loss, by using a larger radiator. And you don't like to.

The New Burnham Radiant Radiator solves that problem. It's a complete, self contained radiator, enclosure and

grille, all combined in its one cabinet form.

It gives off *both radiant and convected heat*. The convected comes from the top grille and is thrown out at an angle into the room, overcoming any possibility of soiling curtains.

The radiant heat, travelling in straight lines comes from the front and sides. The grille at bottom, made in 2 designs, furnishes the air. Send for catalog giving full details.

See Sweet's. See for yourself.

Burnham Boiler Corporation

Irvington, N. Y.—Dept. J

Zanesville, Ohio—Dept. J

Representatives in All Principal Cities of the
United States and Canada



a rather formidable legal document which struck terror into my consciousness by its mandatory insistence upon the creation of a beauty spot above all else, of 'a beauty spot.' When I signed the contract I had the feeling that I must deliver a quarter of a million dollars' worth of beauty or else—"

EDUCATIONAL

UNIVERSITY OF PENNSYLVANIA's School of Fine Arts will receive applications for the Theophilus Parsons Chandler Fellowships in Architecture and the Joseph V. Horn Fellowship in Architecture until March 15, 1941. These fellowships are awarded "to provide advanced study for students or graduates of approved architectural schools who have shown special promise in their undergraduate years or office experience." Application blanks and additional information may be obtained from the School of Fine Arts.

The ROTCH TRAVELING SCHOLARSHIP providing \$1,000 for travel and study in Mexico and the United States requests candidates to register before March 22, 1941, examination in April. Information and registration blanks may be obtained from William Emerson, Secretary, 107 Massachusetts Avenue, Boston, Mass.

(Continued on page 66)



Now! PORCELAIN CABINETS

IN A VARIETY OF SIZES, STYLES, DESIGNS

*-and You can Specify
TIME PROOF
ALL-PORCELAIN
FINISHED CABINETS
-at Baked Enamel
Price Levels!*

*With or without
Tubular
Side Lights*

YOU asked for it! You architects who helped to make the new, moderate priced Lawson Vitreous Porcelain Cabinet so popular last year. You asked for a complete line of these cabinets for *every* size of bathroom.

Here is that line—commemorating Lawson's century and a quarter of pioneering in the field of metal products "High in Quality at Popular Prices."

Here is that *complete* line of porcelain finished cabinets—styled in strict accordance with latest architectural trends in home and apartment design.

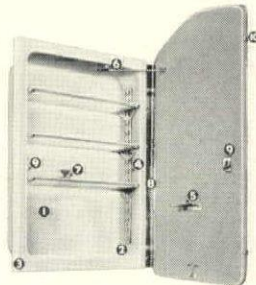
The new Lawson cabinets are *definitely* Modern—and *definitely* Classic. In their shape, detail and decoration, these cabinets interpret in glass, metal and soft, glowing light, the classic restraint, the admirable simplicity, the freedom from "gingerbread" that characterizes your plans for today's finer homes. Yes—you'll be able to satisfy your clients better with these beautifully designed cabinets!

For details and prices of this complete Century and a Quarter Anniversary Line—look in the 1941 Sweet's, Section 27, Catalog 84—or without obligation, write for AIA File 2911—today!

And a Combination of FEATURES exclusively

Lawson

- 1 One-piece Seamless Body, finished in *Vitreous Porcelain*
- 2 Easy to clean gently Rounded *Inside* Corners
- 3 Square *Outside* corners and $\frac{7}{8}$ " return flange provide easy setting in tile
- 4 Adjustable, Stainless Steel Shelf Supports and Standards
- 5 Stainless Steel Tooth Brush Holder
- 6 Bar and Spring Door Stop—shock absorbing
- 7 Razor Blade Drop
- 8 Chromium Plated Piano Hinge
- 9 Bullet Door Catch
- 10 "Jiffy" Ratchet Mirror Clips



THE F. H. LAWSON COMPANY

World's Largest Builders

BATHROOM CABINET DIVISION

125 YEARS
OF QUALITY
Lawson

of Bathroom Cabinets

CINCINNATI, OHIO, • • U. S. A.

SOLD EXCLUSIVELY THROUGH WHOLESALE OUTLETS



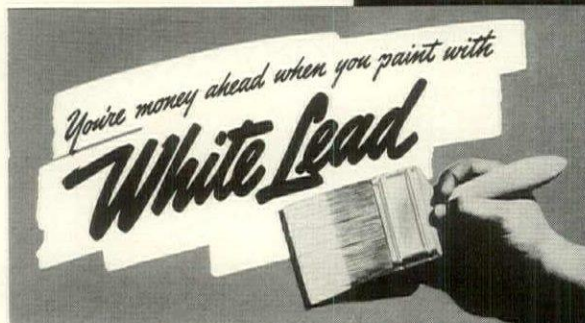
Many architects, builders and maintenance men have found they can cut painting costs by standardizing on *one paint* for all properties.

The paint is Eagle White Lead mixed with linseed oil.

This pure white lead paint has been preserving the beauty of American homes since 1843—and doing it at minimum cost. That's because its performance is always uniform—always dependable. Time between paintings is lengthened. Eagle White Lead doesn't crack or scale—leaves a perfect surface for repainting.

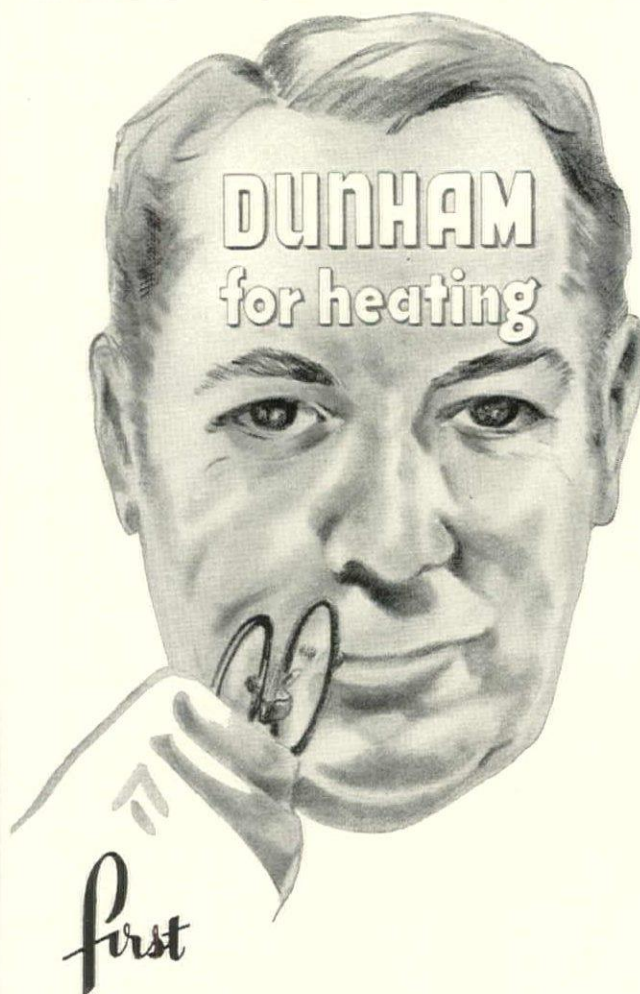


**EAGLE
WHITE
LEAD**



THE EAGLE-PICHER LEAD COMPANY, CINCINNATI, OHIO

KEEP IT IN MIND



- to "tame" steam for heating (thermostatic trap 1903).
- to control building temperature by controllably varying the temperature and volume of steam (Dunham Sub-atmospheric Steam Heating 1927).
- in economical performance as attested by a nationwide independent study of fuel and steam costs (1940).



"Dunham Heating Service" is available through the telephone in more than 60 cities, or by correspondence to C. A. Dunham Co., 450 E. Ohio St., Chicago.

SUB-ATMOSPHERIC STEAM SYSTEMS DUNHAM LOW PRESSURE STEAM APPLIANCES VACUUM AND CONDENSATION PUMPS UNIT HEATERS CABINET

DUNHAM
HEATING SERVICE

AND CONCEALED CONVECTORS PACKLESS RADIATOR VALVES THERMOSTATIC RADIATOR TRAPS FLOAT AND THERMOSTATIC TRAPS DRIP TRAPS RETURN TRAPS



How You Can Improve Your Work With **MEDUSA** *white*



PRE-CAST SLABS

Architects can improve their work by having a thorough knowledge of Medusa White Portland Cement—the most versatile of all building materials. The uses of this material are many and they continue to grow in number.

Medusa White is unsurpassed for beautiful, lasting stucco. There is no "or equal" to this material for making colorful terrazzo floors and wainscoting. The design possibilities of cast stone trim made with Medusa White are unlimited. And there is no substitute for white cement as a beautiful, lasting swimming pool lining.

Medusa White, the original White Portland Cement, is today gaining widespread use for colorful pre-cast slabs used as exterior forms for struc-

tural concrete or as facing units in new and old construction. It is also being used in monolithic concrete in conjunction with gray cement to form color gradations in concrete work.

Again we say, every architect should be thoroughly familiar with the uses and qualities of this original White Portland Cement, including its color, texture and plastic properties. We have available descriptive literature on the uses of Medusa White which is yours for the asking. Fill out the coupon below for your copies.

MEDUSA PORTLAND CEMENT COMPANY
1013 Midland Bldg., Dept. C • Cleveland, Ohio

Gentlemen: Please send me descriptive literature on Medusa White Portland Cement.

Name.....Address.....

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Medusa Products also made in Canada by Medusa Products Co. of Canada, Ltd. Paris, Ont.



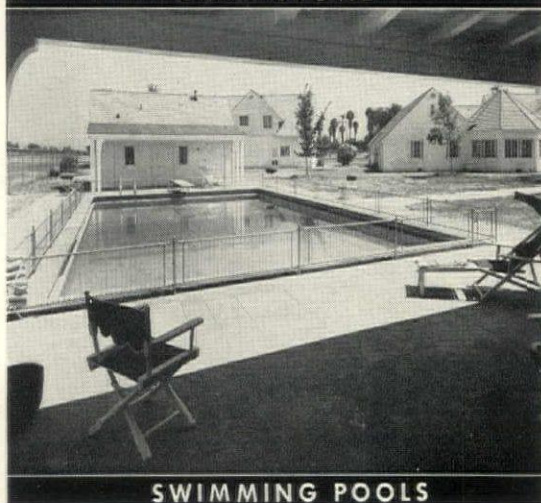
STUCCO



TERRAZZO



CAST STONE



SWIMMING POOLS

FORUM OF EVENTS

(Continued from page 62)

DIED

FREDERICK BOWEN GAENSLER, architect, 71, at his home in San Antonio. Mr. Gaensler was born in San Antonio, attended St. Mary's College there and was graduated from Massachusetts Institute of Technology with a Master's degree in architecture. Following several years of work in Boston and Philadelphia, he returned to San Antonio where he practiced for forty-five years. One of the founders of the Texas Society of Architects, his most important work was in the design of

churches and schools, notably St. Mary's Church, Incarnate Word College and Church, Ursuline Academy.

HENRY GOLDMARK, engineer, 83, in Nyack, New York. Born in New York City, Mr. Goldmark was educated at the Collegiate and Polytechnic Institute, Brooklyn, Harvard College and the Royal Polytechnic School in Hanover, Germany. On his return to the United States in 1890, he worked as bridge designer for the Erie, the West Shore, the Chesapeake & Ohio and other railroads. He designed several buildings at the World's Fair in 1893. From 1906 to 1914, he was a member of the staff of Gen. George W. Goethals, designing and supervising the construction of lock gates for the Panama Canal.

FLOOR PLANS BECOME SALES PLANS ... WITH TILE-TEX FLOORS



Constance Spry Flower
Shop, New York City
Francis Keally,
Architect

S. S. Kresge Co.,
Montreal, Canada



Investigate Tile-Text and discover how perfectly it meets all floor requirements for store floors. Low first cost—wide range of colors and size—sturdy, rugged resistance to wear — and a smooth, closely knit surface texture that will not permit grime and dirt to "wear in"—all of these you get in Tile-Text!

Architects, alert for better flooring materials, are specifying Tile-Text consistently for commercial areas. Our Design Department will gladly submit suggestions for specific projects, if you wish. See Sweet's Catalog, pages 11-64, for complete color charts and decorative data.

OUR constant objective is to furnish the architect with an honest, steadily improved product that will enable him to design architecturally correct floors which can be installed and maintained properly at minimum cost.

The TILE-TEX COMPANY

101 Park Avenue, New York City

Chicago Heights, Illinois

MUSEUM OF MODERN ART INDUSTRIAL DESIGN COMPETITION WINNERS

A — Seating for a living room

Eero Saarinen and Charles O. Eames, Bloomfield Hills, Michigan
Honorable Mentions to Emrich Nicholas and Douglas Maier, New York City; Peter Pfisterer, Los Angeles; Carl Anderson and Ross Bellah, Los Angeles; Oskar Stonorov and Willo von Moltke, Philadelphia

B — Other furniture for a living room

Eero Saarinen and Charles O. Eames, Bloomfield Hills, Michigan
Honorable Mention to Harry Weese and Benjamin Baldwin, Kenilworth, Ill.

C — Furniture for a dining room

No submissions were found worthy of first prize.

Honorable Mentions to Carl Koch, Belmont, Mass.; Hugh Stubbins, Arlington, Mass.; Stephen L. Macdonald, Salt Lake City

D — Furniture for a bedroom

Oskar Stonorov and Willo von Moltke, Philadelphia

Honorable Mention to Harry Weese and Benjamin Baldwin, Kenilworth, Ill.

E — Furniture for a one-room apartment

Martin Craig and Ann Hatfield, New York City

Honorable Mention to Antonin Raymond, New Hope, Pa.

F — Furniture for outdoor living

Harry Weese and Benjamin Baldwin, Kenilworth, Ill.

Honorable Mention to Chester E. Nagel, Austin, Texas

G — Movable lighting equipment

Peter Pfisterer, Los Angeles

Honorable Mentions to Norton Polivnick and Bernard Greenberg, Cambridge, Mass.; Charles W. Wyckoff, Cambridge, Mass.

H — Woven fabrics

Marli Ehrman, Chicago

Honorable Mentions to Henning-Rees, San Francisco; Marianne Strengell, Bloomfield Hills, Michigan; Ulla of Ugglas, Bloomfield Hills, Michigan

I — Printed fabrics

Antonin Raymond, New Hope, Penna.

Honorable Mentions to Frances Miller, New York City; Harriet Meserole, New York City; Virginia Nepodal, Cleveland Heights, Ohio

ERRATA

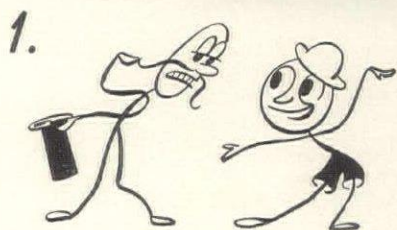
On page 10 of the January issue, the list of defense projects awarded to architects and engineers wrongly implies that H. R. Helland and F. D. Drought are architects for the Galveston Replacement Center. Messrs. Helland and Drought are the engineers, Atlee B. and Robert H. Ayres are the architects for the Center.

In the story on the Student Alumnae Building, Wheaton College, pp. 53-62, January issue, credit for the interior design was omitted. The designer, Miss Ann Hatfield of New York.

(Continued on page 70)

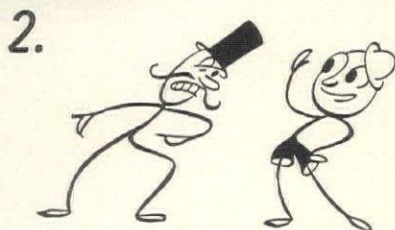


Who ME... SPECIFY Carrier Air Conditioning?



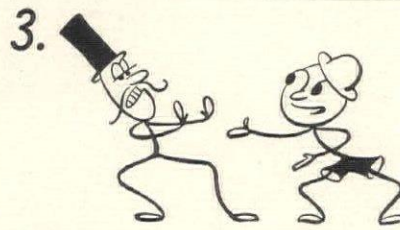
Mr. Don'tle: "Aren't all good air conditioning systems much alike?"

Mr. Do-odle: "Not by a long shot. There's plenty of variation."



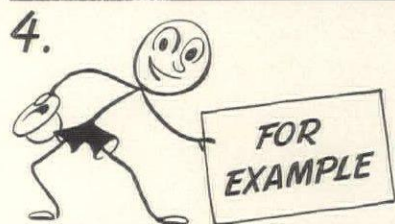
Mr. Don'tle: "Give one good reason why Carrier is so extra good."

Mr. Do-odle: "Well, Carrier pioneered in air conditioning."



Mr. Don'tle: "Yes, but is design still so important today?"

Mr. Do-odle: "You bet . . . particularly for the unusual jobs."



Mr. Do-odle: "Look around you. You'll see more Carrier Air Conditioning being selected for leading buildings than ever before. For example, take the case of . . ."

5. MUNICIPAL AUDITORIUM, New Orleans, La.

This famous \$2,000,000 structure could not be used in the summer and for carnivals, conventions, etc., without discomfort to the audience. Carrier worked out a plan whereby the two sides of the 10,000 seat hall (divided by a movable stage) could be air conditioned independently. The design also allowed optional cooling of the corridors as well as some of the side rooms. Furthermore, cost of power for operation was cut to approximately half by installing a Carrier Centrifugal Refrigeration machine for use with a steam turbine.



Mr. Don'tle: "Curses, I'm lost."

Mr. Do-odle: "You bet you are. And I'm sending for Carrier. Then I'll be sure that air conditioning for my buildings is dependable . . . and harmonizes to best advantage with basic architectural design."



**Air Conditioning's
First Name**

CARRIER CORPORATION Desk C29
"Weather Makers to the World"
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(In Canada: 30 Bloor St., West, Toronto, Ont.)

Please send me complete information on Carrier Air Conditioning. Also the name of the nearest Carrier Representative.

NAME _____

COMPANY _____

ADDRESS _____

Your Clients
CAN HAVE THE LIFETIME
BEAUTY OF COSTLY WOODS
ON A LIMITED
BUDGET

Specify Marlite PREFINISHED
GENUINE WOOD-VENEERS



Nurse's Home, New Orleans, La.
Architects, Weiss, Dreyfous and Seiferth

For creating distinctive and luxurious home and commercial interiors, Marlite Prefinished Genuine Wood-Veneers and Prefinished Wood Mouldings are ideal. An important practical advantage that holds down costs and simplifies specification and installation is that everything for the complete job is obtainable from one source—Marsh Wall Products, Inc. Marlite Prefinished Genuine Wood-Veneers and *Carstenite come in wall-size panels, up to 4 feet by 12 feet, that are readily cut to proper size and fit, and quickly installed by carpenters. Available in 23 different grains. Write for further information. See Sweet's 11/39.

MARSH WALL PRODUCTS, INC.
31 Marsh Place • Dover, Ohio

* Carstenite is the trade name of the raw, unfinished panels.



Marlite FOR CREATING
BEAUTIFUL INTERIORS
WALL-SIZE PANELS IN LUSTROUS COLORS,
TILE-PATTERNS, MARLITE GENUINE WOOD-
VENEERS AND *CARSTENITE PANELS

ANTONIN RAYMOND'S ARCHITECTURAL DETAILS

"Architectural Details" is notable as a comprehensive record of distinguished Modern detailing which throws new light on the aesthetic value of the natural substance and surface of materials. It is no less a memorable record of the author's approach to a restatement of the principles governing architecture.

More than 250 photographic plates and 530 measured drawings reveal original techniques in wood and concrete construction developed by the author in 17 years practice in Japan.

PARTIAL CONTENTS

- SLIDING STEEL SASH
- CANTILEVERED STAIRWAYS
- FOLDING PARTITIONS
- WOOD FRAME DRY CONSTRUCTION
- ROOF TYPES
- FIREPLACE DETAILS
- LIGHTING

Handsomely printed on 9 x 12 pages, spirally bound with heavy kraft cloth covers, Mr. Raymond's portfolio is still available at the published price of \$5 the copy, postage paid.

Two previous editions have been completely sold out and this third printing, because of world conditions, will probably be the final edition.

THE ARCHITECTURAL FORUM
TIME & LIFE BUILDING, ROCKEFELLER CENTER
NEW YORK NEW YORK

Enclosed find \$.....for which please send me.....
copies of Antonin Raymond's "Architectural Details" at \$5
each, postpaid.

Name

Street

City State



*... bought double rust resistance
for this duct work*

IT'S U·S·S COPPER STEEL

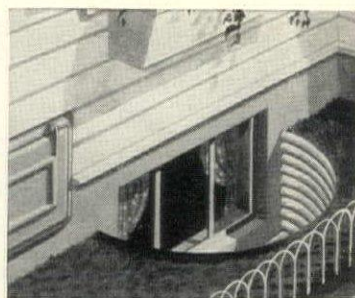
U·S·S Galvanized Copper Steel duct work in this six-room house cost only 95 cents more than plain galvanized steel and actually less than pure iron. The owner got a heating system with 2 to 3 times the usual rust resistance—plus the assurance that it would not rust out before the house was paid for.

Modern humidified air heating systems need this extra protection against rust. U·S·S Copper Steel furnishes it at a cost so low that most contractors will install it in homes without any change in the contract price. In larger buildings, copper steel adds only a fraction of 1% to the cost of the heating system—and

in return assures duct work that will stand up under the ravages of moisture and corrosive atmosphere.

In smoky cities, the sulphur in the air combines with moisture to form a dilute acid. This attacks metals, paint and even the mortar in buildings, causing them to disintegrate faster. Under these conditions, tests show that U·S·S Copper Steel gives better service than any other ferrous metal in the same price range. For proof of this see the accompanying corrosion chart.

When specifying other steel work subject to corrosion, such as roofing, siding, gutters, downspouts, area walls, remember that U·S·S Copper Steel gives the same advantages of durability.



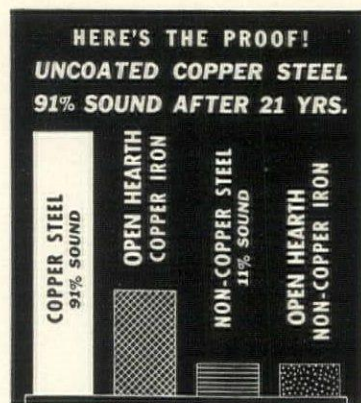
STEEL AREA WALLS for basement windows let in more light, are faster and cheaper to install, don't pull away from the wall. U·S·S Copper Steel gives them added resistance to rust.



U·S·S PAINTBOND is the new, improved material for gutters and downspouts. It's Bonderized so that paint grips the galvanized steel better, does not chip off, can be painted immediately, saving a trip. In the South and West, specify U·S·S Dul-Kote.



ALL STEEL KITCHENS take the "slavery" out of housework. No home is truly modern without one. Steel will be the style for years to come. It means better resale value.



This chart compiled from inspection reports of the Committee on Corrosion of Iron and Steel, A.S.T.M. Proceedings 1937, shows results of tests carried on at Annapolis, Md. from 1916 to 1936. After 21 years' exposure, 91% of COPPER STEEL sheets remained "sound" (unperforated). Other materials were decidedly inferior.



U·S·S COPPER STEEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago

COLUMBIA STEEL COMPANY, San Francisco

TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham

United States Steel Export Company, New York

Scully Steel Products Company, Chicago, Warehouse Distributors

UNITED STATES STEEL

FORUM OF EVENTS

(Continued from page 66)

PERSONAL

Rolf Sklarek, architect, has opened an office for the general practice of architecture at 116 North Larchmont Boulevard, Los Angeles.

Ernst Payer, architect, announces his new office address, 61 East 66th Street, New York City.

Daniel C. Bryant, architect, formerly with Alden B. Dow, announces the opening of an office at 729 Union Street, Port Huron

Michigan, and requests manufacturers' catalogues.

Joseph N. Hettel announces the removal of his office to 720 Federal Street, Camden, New Jersey and requests manufacturers' catalogues.

F. W. Dodge Corporation, announces the election of Thomas S. Holden as president of the corporation, succeeding the late Truman S. Morgan, who died December 21, 1940. William C. Breed, Jr. was elected a director and Clyde Shute was appointed assistant vice president.

The Austin Company announces the election of George A. Bryant as president and general manager of the organization, succeeding the late W. J. Austin.

GIMBELS and SAKS FIFTH AVENUE

EXHIBIT and SALE from the Collection of William Randolph Hearst

ANTIQUE ARCHITECTURAL ELEMENTS

at fractions of their current appraisals

This is probably the largest collection of fine building elements ever to have been assembled. The offering of the collection on the open market is a phenomenon which gives architects a once-in-a-lifetime chance to acquire mantels, doorways, gates, decorative carvings, and entire paneled rooms. In most cases the prices are lower than the cost of modern reproductions. There is an outstanding collection of Grinling Gibbons carvings, including overmantels

and doorways of measurements compatible with contemporary planning. There are fine Elizabethan and Jacobean staircases . . . and single carved newel posts. There are mantels and doorways, doors and gates. There are 77 entire paneled rooms, many with rare historic associations. Gimbel Brothers invites you to bring your clients to see the 20 rooms which have been set up on the Fifth Floor. The librarian will be glad to supply further information which you may require.

Architects outside the New York area! A limited edition of the catalogue of antique architectural elements is available to you. It contains 109 pages with 99 illustrations. Sent free of charge upon written request.

STYLES: Elizabethan, Jacobean, Georgian, Louis XIV, Louis XV, Renaissance Italian, 18th Century English, American, Spanish.

MANTELS: Wood, marble, stone, \$175 up.

DOORS: Wood, wood and iron, wrought iron gilt. \$29.50 up.

STAIRCASES: Jacobean and Elizabethan oak. \$1299.

ROOM-TYPES: Living rooms, dining rooms, bedrooms, Boiserie, foyers, libraries. Pine, oak, painted, frescoed. Paneled rooms \$1495 up.

Offered subject to prior sale

Gimbels Fifth Floor — 33rd Street and Broadway, N. Y. C.

ORGANIZATIONS

THE AMERICAN INSTITUTE OF ARCHITECTS. A nine-man committee, chairmaned by Frederick G. Frost, president of the New York Chapter of the Institute, has been organized "to devise plans by which the architectural profession can most effectively aid in promoting the national welfare." Other members: Francis P. Sullivan, Washington, D. C.; Frederick James W. Bridge and Frederick Mathesius, New York City; John Bakewell, Jr., San Francisco; Travis G. Walsh, Cleveland; Winsor Soule, Santa Barbara, Calif.; Arthur B. Holm, Upper Montclair, N. J.; Frederick E. Ger, Pittsburgh, Pa.

In New York, a Civilian Protection Committee of six architects to cooperate with Mayor La Guardia in working out details of passive defense for the metropolitan area was appointed. Headed by Harry Stevenson, vice-president of the New York Chapter, the committee includes Geoffrey Platt, Harry M. Prince, Matthew W. Gaudio, Alfred D. Poor and J. An Foulhoux.

THE ARCHITECTURAL LEAGUE OF NEW YORK announces "Forty Architects Under Forty," an exhibition of work by a group of the younger architects, recruited chiefly from the New York area. The entire show is being handled by architects in the age group indicated, following precedent established in the League's controversial "Versus" show of last year (ARCH. FORUM, April, 1940). The exhibit will be open to the public from the first of this month until the 29th.

THE AMERICAN INSTITUTE OF PLANNING announces the election of Earle Draper as president. Mr. Draper, now Assistant Federal Housing Administrator, began his professional career in Cambridge, Mass., in 1915. He worked as a landscape architect and town planner, was South representative for John Nolen, later established his own practice in Charlotte, N. C. His best known work is the land planning and housing for the Tennessee Valley Authority. The Institute Mr. Draper now heads is composed of architects, engineers, landscape architects, economists, lawyers and other specialists interested professionally in regional and city planning.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA held their 22nd annual convention in Houston, Texas last month, electing M. W. Watson as President, rejoicing at a 6 per cent increase in membership, listening to a summary of the year by Managing Director H. E. Foreman. Reported by Foreman: "WPA . . . is the most serious menace to the construction industry in the defense program . . . With defense activities increasing, apprentice training activities become of utmost importance . . . One huge task faces the construction industry: to sell industry and its accomplishments to the American people . . . The outlook for the future is uncertain."

(Continued on page 74)

THEY NEVER CARE IF IT'S WET!



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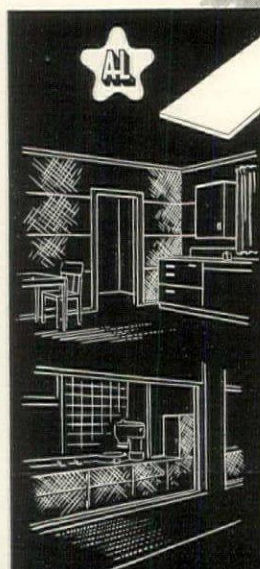
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ADDRESS REPLY TO 162 REMSEN ST.

February 11, 1941

General Electric Home Bureau,
570 Lexington Avenue,
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Att: Mr. George Ellis

Gentlemen:

In 1931, we opened our first G.E. All Electric Homes in Garden City. These were so well received by the home buying public that we have continued to install G.E. electric equipment and metal kitchen cabinets in our new Garden City homes.

The new G.E. oil furnace by its neat, compact, streamlined appearance, its fine record of economical performance and the nationally known reputation of its manufacturer has made a very definite appeal to the home owner.

The G.E. kitchen equipment has also been enthusiastically received by the modern housewife to whom a bright kitchen with modern, easy to clean G.E. metal cabinets and electrical labor saving kitchen equipment is an important consideration in deciding upon her future home.

We wish to extend our appreciation for the technical assistance of your staff and the cooperation of your sales force.

Very truly yours,
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REALLY ASSOCIATES, INC.

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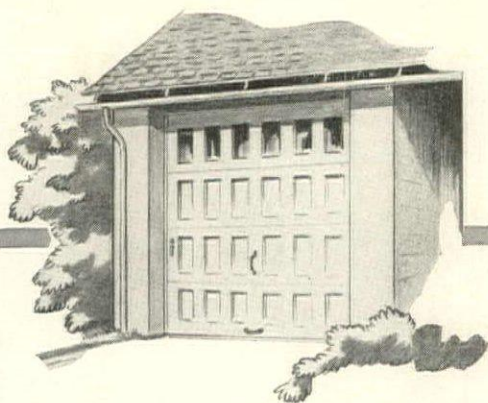
Women like the beauty and convenience of G-E equipment; men like its economy and low maintenance cost. And you'll like the assistance the G-E Home Bureau can supply—an architectural engineering service, and advertising and promotional help. Why not mail the coupon for complete information?

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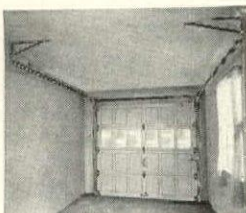
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Since these doors travel straight up, the inside of the garage need be no longer than the car, and they open easily, even when snow-banked.



Stock sizes are 8' wide by 7' high, 8' wide by 7' 6" high, and 8' wide by 8' high, doors either 1 3/8" or 1 3/4" thickness. Also furnished 14', 15' or 16' wide, 1 3/4" thick, for two-car openings. Doors can be supplied on order to fit unusual openings.

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Stanley Catalog No. 61, giving full details on the complete Stanley Hardware line, will prove handy in preparing your specifications. Write for your free copy. The Stanley Works, New Britain, Connecticut.

STANLEY

HARDWARE FOR CAREFREE DOORS

FORUM OF EVENTS

(Continued from page 70)

MAN AND NATURE

In the impressive display of painting and sculpture built into the walls of Rockefeller Center during the past eight years, the work of Carl Milles, No. 1 sculptor in America, has been conspicuous by its absence. Last month the gap was finally filled with the unveiling of "Man and Nature" in the lobby of the Time and Life building. Sculptor Milles



George Strock

(see picture) dozed peacefully through most of the ceremony. Milles' previous lack of representation in the Center was not due to neglect. At the beginning he was interested in the project by the late Raymond Hood, made sketches for sculptured columns in the big lobby of the RCA building. A few years later he was again commissioned to make sketches for work to replace the notorious Rivera mural. In both cases the projects were too expensive.

The executed group is in three parts, with a nymph and faun flanking the heroic (11 1/2 feet) horse and rider illustrated here. The figures were carved from north Michigan pine, laminated into huge blocks before cutting. Most talked-of feature is the silver-leaved bird to which the rider is listening. Every hour on the hour, from 8 A. M. to 6 P. M., the bird flaps its wings and trills the song of the Mexican nightingale to the amused crowds below. But better than amusing is Sculptor Milles' latest work: explosive in their vigor and refreshing in their treatment, the figures easily rank with the best of his long career.



Wendell MacRae

INDIAN SHOW

The myth of the American Indian as a conscienceless barbarian, whose chief occupation was taking potshots at innocent white settlers, has received some substantial set-backs during the past few years. A successful effort in this direction was Rene d'Harnancourt's beautiful installation of Indian Art at the San Francisco Fair. Even more comprehensive

(Continued on page 78)

NOT A PENNY *for Repairs* in 22 Years!



**SAYS THE CONWAY BUILDING
ABOUT WHALE-BONE-ITE SEATS**

CONWAY BUILDING
111 W WASHINGTON ST
CHICAGO

January 19th, 1941

The Brunswick-Balke-Granger Co.,
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on the excellent reputation of Brunswick seats, and the
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We feel obliged to tell you that Whale-Bone-ite
seats have far surpassed our expectations. These seats
were installed in 1919 and have never been replaced.
In the case of Brunswick, we suppose the seats
have been replaced many times over.

Since installed 22 years ago ... we have not
spent a single penny for repairs or replace-
ments ... appears they will continue giving
perfect service for a long time.



WHEREVER they're
installed—in build-
ings of every type—
Whale-Bone-ite Seats are
“putting an end” to re-
placement costs. Since
they've been introduced,
we've never heard of one
wearing out.

THEY DEFY ABUSE—ARE EASY TO CLEAN

The laminated wood core in Whale-Bone-ite Seats is super-strong. It prevents warping. The core and heavy bronze hinges are sealed in a thick hide of hard, resilient Whale-Bone-ite. This exclusive Brunswick ebony plastic makes a permanently rigid, moisture-proof unit. Smooth as glass all over, it is comfortable to use—easy to clean.

UNHARMED BY GERMICIDES—ALWAYS LOOK NEW

Whale-Bone-ite Seats have no surface coating to wear off; continuous usage actually helps keep up their rich, black finish. Antiseptic solutions will not mar or stain them—nor do they discolor with age. A soft cloth dampened with alcohol is all that's needed to keep Whale-Bone-ite Seats looking like new.

The surprising fact is that Whale-Bone-ite Seats cost no more than ordinary heavy-duty seats. Your Sweets Service shows typical models; a complete catalog showing full specifications and prices will be mailed on request.

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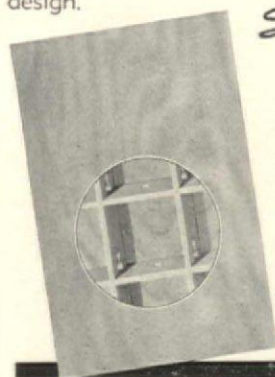
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New Londoner door data is given in Sweet's Catalog, Section No. 14, pages 50 to 54. If you desire additional information not given on these pages, be sure to write us. You should have full details available for your clients.

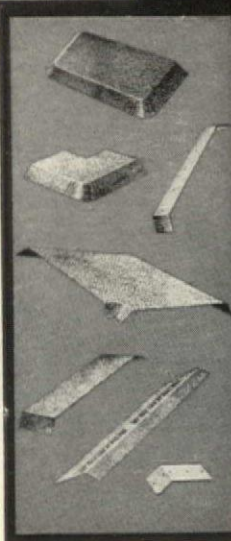


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Millions are reading dramatic advertisements about a new kind of flooring—factory-finished with a sealed-in scratch-resisting surface—a flooring that's ready to use the minute it's laid—*Bruce Streamline Flooring!*

5 LEADING PUBLICATIONS with more than 33,000,000 readers are shouting the amazing story of Bruce Streamline Flooring throughout the land! Look for the ads in *The Saturday Evening Post*, *Better Homes and Gardens*, *American Home*, *House and Garden* and *House Beautiful*!

BUILDING GOODWILL FOR YOU. This dramatic advertising will make it easy for you to specify Bruce Streamline as a new kind of flooring of longer-lasting beauty. Ads stress that the finish is "in the wood"—it's a finish which won't crack, chip or

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PERFECT FOR REMODELING JOBS. Inasmuch as Bruce Streamline Flooring comes already finished and waxed, it's ready for use the instant it's laid. No mess—no smell—no waiting for the finish to dry.

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FLOORING

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USE *Less* WATER

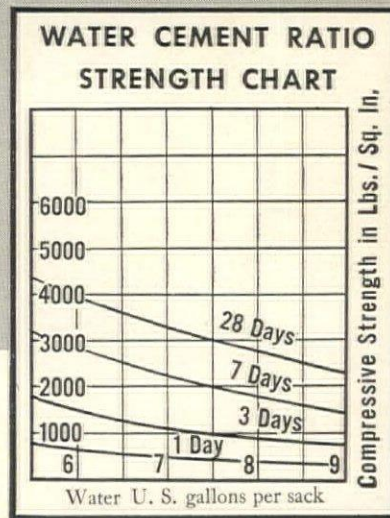
AND YOU GET— *Better* CONCRETE

WATER cannot be compressed and always occupies the same amount of space. Water, being volatile, evaporates. What happens when it evaporates? The space it once occupied in the concrete mass is left empty in the form of millions of tiny pores. So obviously, for better concrete, use less water. "But," you say, "how can we use less water and not impair the workability of the concrete?" Science gives the answer through the development of a new conception of the physical chemistry of Portland cement concrete.

AND THIS ANSWER IS—**TRUSCON**



Mammoth SEARS-ROEBUCK & COMPANY warehouse in Philadelphia. Geo. C. Nimmons & Co., Architects, Chicago. All foundations waterproofed through the use of Truscon Waterproofing Paste.



APPLY THE ESTABLISHED KNOWLEDGE AND ACCEPTED PRACTICE OF THE LAW OF WATER CEMENT RATIO.

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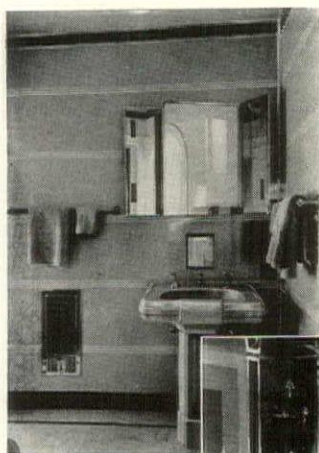
WATERPROOFING PASTE!

Not only does this Truscon Zilicon Waterproofing Paste allow you to use less water without impairing the workability of concrete, but it actually improves that workability. Besides that, it gives increased compressive strength—reduces shrinkage, increases resistance to freezing and thawing, and, with fixed water cement ratio, provides an increase of over 100 percent of slump. And Zilicon, the new chemical achievement, combined with Truscon Waterproofing Paste with its 30 years of world-wide usage and prestige, is

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Write for Bulletin No. 494

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from COTTAGE to CASINO

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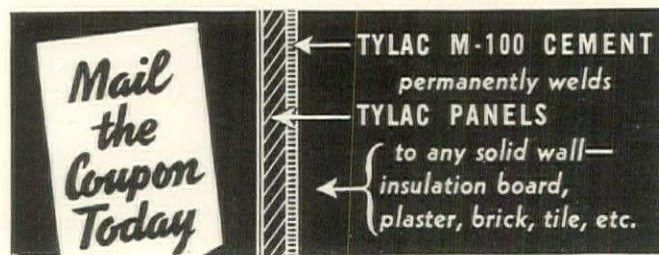
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*There are no salvage edges to be trimmed on the job.



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Without obligation, I should like complete information about TYLAC.

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FORUM OF EVENTS

(Continued from page 74)

sive and more dramatic is the current exhibition occupying three floors at the Museum of Modern Art in New York also designed by Mr. d'Harnancourt. There are engravings from the Arctic regions, paintings from the Southwest, wood carvings from the West Coast, sculpture from the South and East, pottery, Navaho silver, fabrics and rugs. A range of some 20,000 years is covered by the exhibition, which gives an almost unprecedented opportunity to study our only indigenous art as a continuously developing activity.

COMMUNITY ART CENTER

Among the least publicized of WPA activities has been the creation of some eighty or more community art centers and extension galleries in various parts of the U. S. Jointly sponsored and supported by local groups and WPA, the centers take members from \$1 up, hold exhibits, lectures,



S. W. Lock

CHILDREN'S GALLERY



WPA FURNITURE

classes in sculpture, painting and craft work, and marionette shows. All activities are free to the public.

Typical of these shoestring ventures, which have more than paid for their small cost in valuable public services, is the art center at Mason City, Iowa, a community of 25,000 engaged in manufacturing, meat packing and the usual trade with surrounding rural areas. The center was installed in a space formerly occupied by a battery service company. WPA paid for labor, which was unskilled or semi-skilled, and the Art Center Association put up the \$1,900 required for alterations and equipment. Rent is \$480 per year. Under the direction of William Friedman, designer for the Iowa Art Program, minor miracles have been accomplished within a budget that would wreck even a small-town museum. Two photographs of the results are shown here.



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ONLY with NU-WOOD Kolor-Fast

● For making homes more attractive and appealing at low cost, only Nu-Wood Kolor-Fast—among all insulating interior finishes—gives you so much exclusive charm, so many advantages.

Only Nu-Wood Kolor-Fast gives you *fadeproof* colors—a light, fast, pigmented coating, applied in a manner which coats individual fibers, but leaves surface voids unfilled, thus maintaining high acoustical properties.

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Only Nu-Wood gives you Nu-Wood colors and textures . . . Kolor-Trim predecorated wood moldings to enhance charm and complete the decorative effect.

Only Nu-Wood gives you Sta-Lite—a new, light-reflecting interior finish with the amazingly high light reflecting factor of 76% . . . a material that actually grows lighter with exposure.

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 Gentlemen: Please send me complete information on Nu-Wood Kolor-Fast interior finish.

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INSULATING INTERIOR FINISH

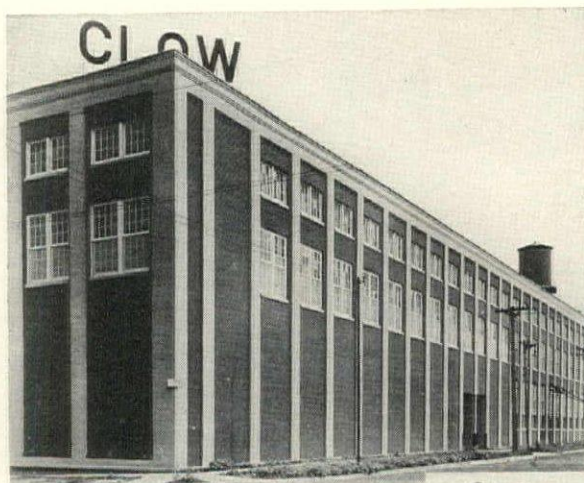
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● These before-and-after views illustrate the transformations possible with Mural-tone Masonry Paint. Can be applied to any masonry surface, old or new, painted or unpainted, damp or dry. Architects throughout America recognize in Mural-tone Masonry a decorative medium that puts the finishing touch of color on brick, stucco or concrete. Can be used on new masonry as soon as 72 hours after construction—a life-saver in these days of SPEED! Made in 8 standard colors and white. For color cards and complete information, write to—

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MURAL-TONE Masonry Paint



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In addition to being decorative, Mural-tone Masonry Paint is a highly efficient protective coating—weather resisting and non-fading. Dries rapidly—will not chalk, rub off or discolor. Quickly and easily applied. One coat is generally sufficient. No expensive treatments to prepare the surface are necessary.

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Specify the HEATILATOR Fireplace

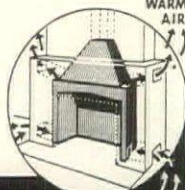
Circulates Heat
... WILL NOT SMOKE

Specify a Heatilator Fireplace in every Basement Rumpus Room, not alone for its decorative value, but because it solves the difficult heating problem. The Heatilator Fireplace actually circulates heat—warms every corner of the room evenly and rapidly—a fact proved by thousands of installations.

Specify this new-type fireplace for living rooms, too—and for country homes. It is ideal in camps, makes camp life enjoyable weeks longer: earlier in spring, later in fall, and for week-ends of winter sports.

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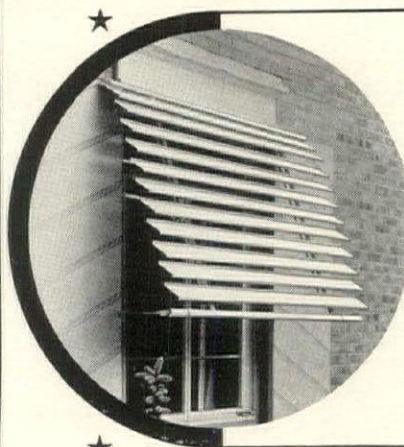
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RUSCO Venetian ALL-METAL AWNINGS

another outstanding architectural innovation!

ARCHITECTS and Home Builders agree that this smart new RUSCO Venetian All-Metal Awning beautifies the Home and solves the Awning problem perfectly and economically!

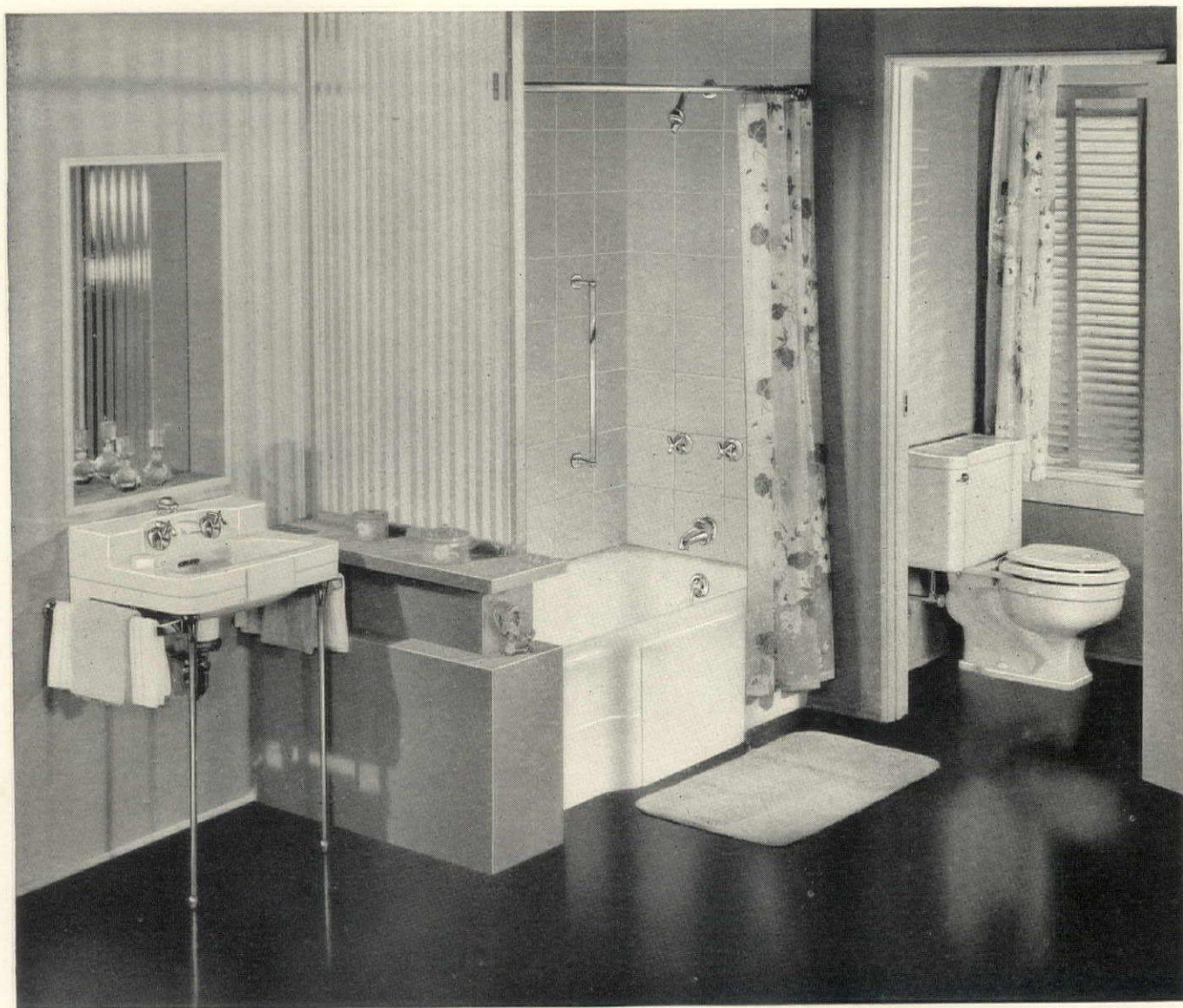
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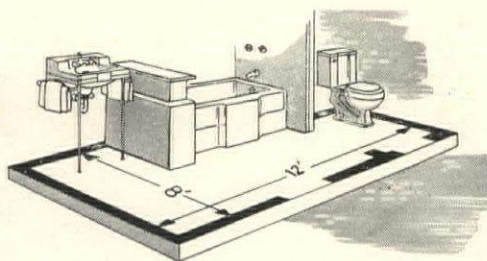
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A PLAN THAT *Doubles* BATHROOM USEFULNESS



THIS well-thought-out bathroom plan, with the closet in its own compartment, provides double bathroom usefulness. Here is an especially practical arrangement for the one-bathroom house.

Maximum convenience is obtained through choice of Crane fixtures. Notice how the design of the Crane *Drexel* matched bathroom group makes the most of the space, while the repeated panel in the fixtures and trimmings creates an effect of harmony. Observe, too, the roomy seating ledge on the bath—the slab space on the lavatory—the handy closet tank shelf.

Crane matched bathroom groups are designed to give architects more latitude in planning bathroom arrangements. Watch for other announcements in this series, and remember that Crane Quality is available in every price range, for every type of building budget.



CRANE

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WEISWAY

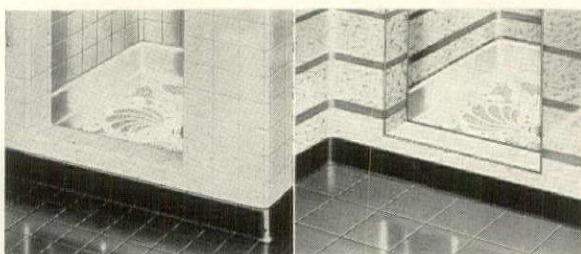


Vitreceptor OF VITREOUS PORCELAIN ENAMEL

Here at last is a beautiful, leakproof, thoroughly modern, service tested, stall shower receptor for use with any type of finish wall materials. When you specify Weisway Vitreceptor you protect the *danger zone* of every stall shower: the floor and first six inches of wall.

Made in one piece... of heavy gauge Armco enameling iron and vitreous porcelain enamel, Weisway Vitreceptors cannot leak—and positive wall flashing assures leakproof meeting joint with tile, glass, linoleum or any type wall. No metal underpans, wall flashing or special construction required. Thoroughly soundproofed, Vitreceptor is quiet as the tread of a bare foot. Famous Weisway Foot-Grip, No-Slip floor.

FOR ANY FINISH WALL



With Tile Walls

With Linoleum Walls

● A beauty spot in any bathroom, Weisway Vitreceptor is of white vitreous porcelain with attractive sea-shell pattern in neutral tone. Also available on order in four other color combinations to harmonize with individual color schemes.

Mail Coupon Now for new folder showing detail drawings, specifications and full color illustrations.

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☐ Weisway Vitreceptor ☐ Weisway Cabinet Showers

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B O O K S

(Continued from page 26)

POPULAR HOME DECORATION. By Mary Davis Gillies. Wise & Co., New York. 318 pp. 8½ x 11. \$2.95.

Associate editor of McCall's Magazine answers with photographs, drawings and color plates a continuous stream of questions, chiefly from women who want to know what to do with commonplace rooms, without spending any real money. How to proceed is not given in terms of "first take an orange crate," but in accordance with sound principles of arrangement, materials, color. The author writes with a contagious assurance gained from wide experience and an unusual gift of ingenuity. A layman's guide which even the blasé professional need not disdain.

NATIONAL CONFERENCE ON PLANNING. Proceedings of the Conference held at San Francisco, July 1940. American Society of Planning Officials, Chicago. 200 pp. 6 x 9. \$2.00.

Significant papers by Charles W. Eliot, Frederick Bigger, John R. Fugard, Harlean James, Charles H. Cheney, Harold S. Buttenheim, Tracy B. Augur, Charles E. Merriam, Rexford G. Tugwell and other nationally known authorities on civic betterment. Each paper is followed by a summary of the discussion it aroused among the conferees.

THE STORY OF THE ENGLISH HOUSE. By Hugh Braun, F.S.A., A.R.I.B.A. Charles Scribners Sons, New York. 128 pp. 6 x 9. \$3.00.

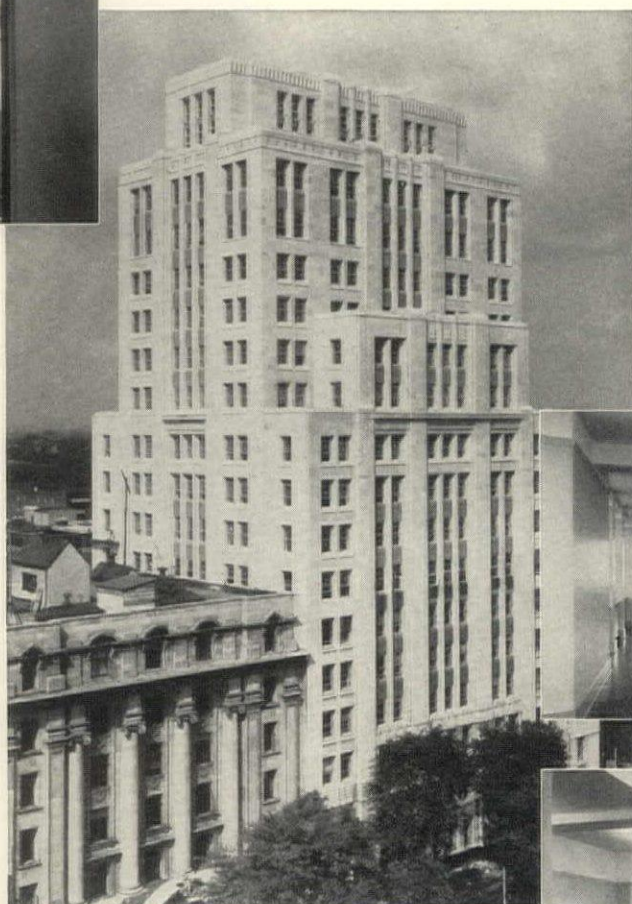
In spite of the fact that there are probably more books on the English House than on any other single phase of architectural history, the output continues. It must have been slowed down somewhat by the war, but in spite of bombs and blockades, here is another, illustrated with photographs and plans. The author of "The English Castle," in the present work, is concerned less with architectural techniques and detail than with the social forces inducing the glacier-like flow of building habits as they affect housing. From the *tuns* of Saxon times Mr. Braun leads us on down through all the pageant of England's home building until he brings us face to face with a reinforced concrete box of today. Here he leaves us, without a word of explanation, hope or despair.

THE ARTIST'S HANDBOOK OF MATERIALS & TECHNIQUES. By Ralph Mayer, The Viking Press, New York. 572 pp. 6 x 9½. \$3.95.

Methods and media of the painter's craft, written by a research chemist who is also a painter, with the viewpoint of the latter always in evidence. Architects who pursue avocations in oils, tempera, pastels or water color will find here plenty to interest and instruct them; those who do not aspire to achievement in the painter's realm will find in a chapter on murals an intensely practical treatise on a subject of which the architect would be supposed to have a professional collaborator's knowledge. He will learn the advantages of a furred wall, the proper formula for plaster in fresco work; the best procedure for oil painting on plaster; the proper way to apply a mural canvas; the intricacies of gesso and tempera, of waterglass and silicon ester, of porcelain and its vitreous enameling.

MODERN PLASTICS CATALOG. Breskin Publishing Corp. 476 pp., illustrated. 9½ x 12. \$3.50.

The complete reference book for anyone interested in using plastics. It describes the numerous types, methods of molding and fabricating, and equipment. Charts compare the properties of the various products, giving all data required by the user. The sections of the book are well arranged and profusely illustrated. There is a bibliography and list of manufacturers.



TEN-STORY ADDITION TO THE ADMINISTRATION BUILDING OF THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO, UNIVERSITY AVE., TORONTO
Sproatt & Rolph, Architects, Toronto; Bavington Brothers, Painting Contractors, Toronto; Harkness & Hertzberg, Consulting Structural Engineers, Toronto; Harry H. Angus, Consulting Mechanical Engineer, Toronto; Anglin-Norcross Ontario, Ltd., General Contractors, Toronto; Harry Brandon, Head of the Bldg. Section, Hydro Engr. Dept., supervision; H. W. Wagner, Hydro Resident Engr.

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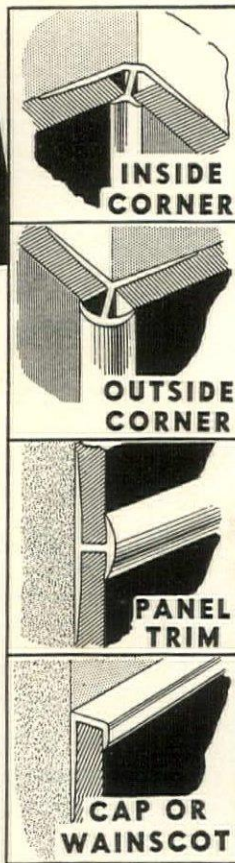


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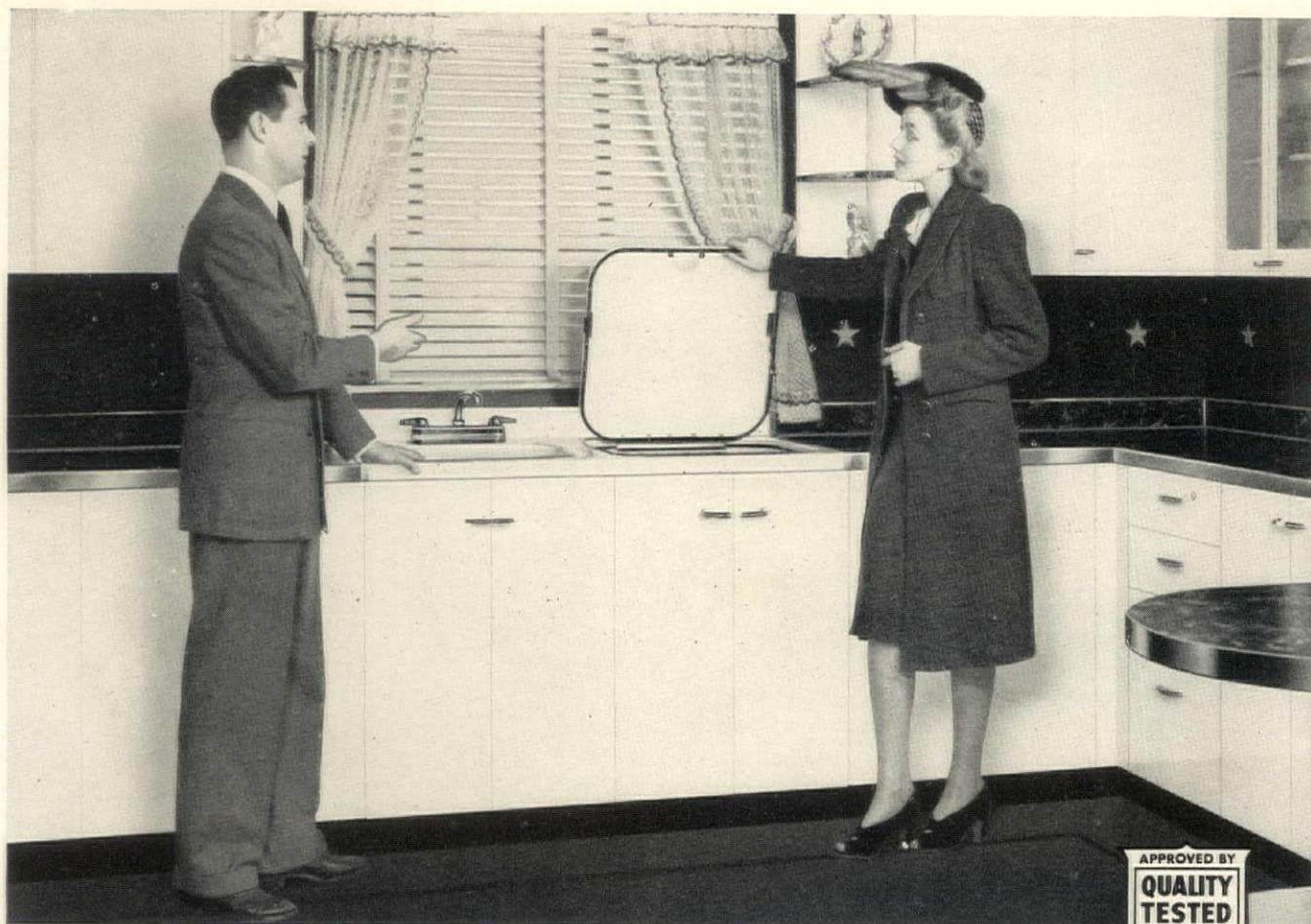
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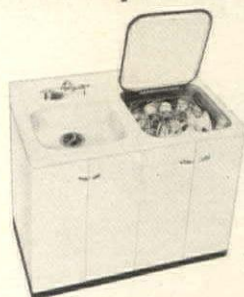


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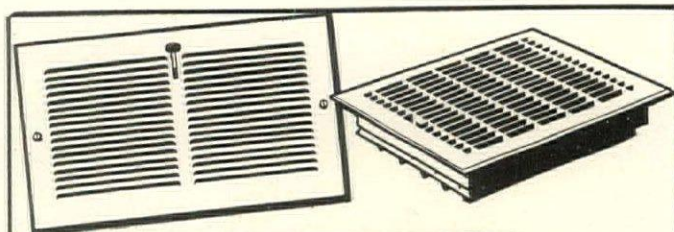


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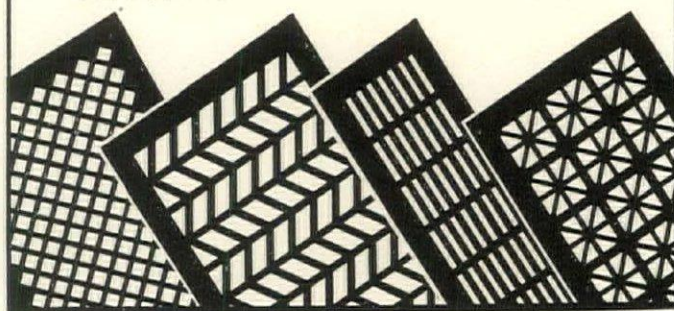
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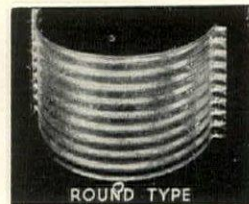
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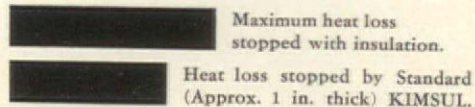
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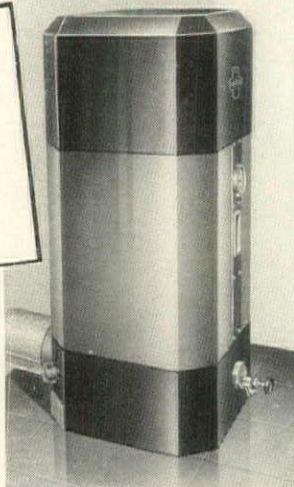
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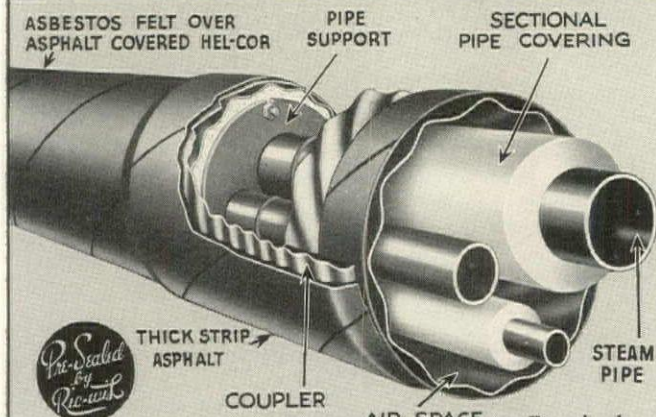
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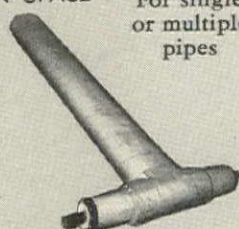
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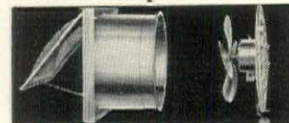
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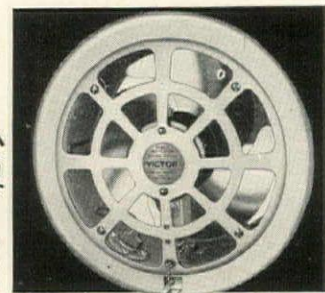
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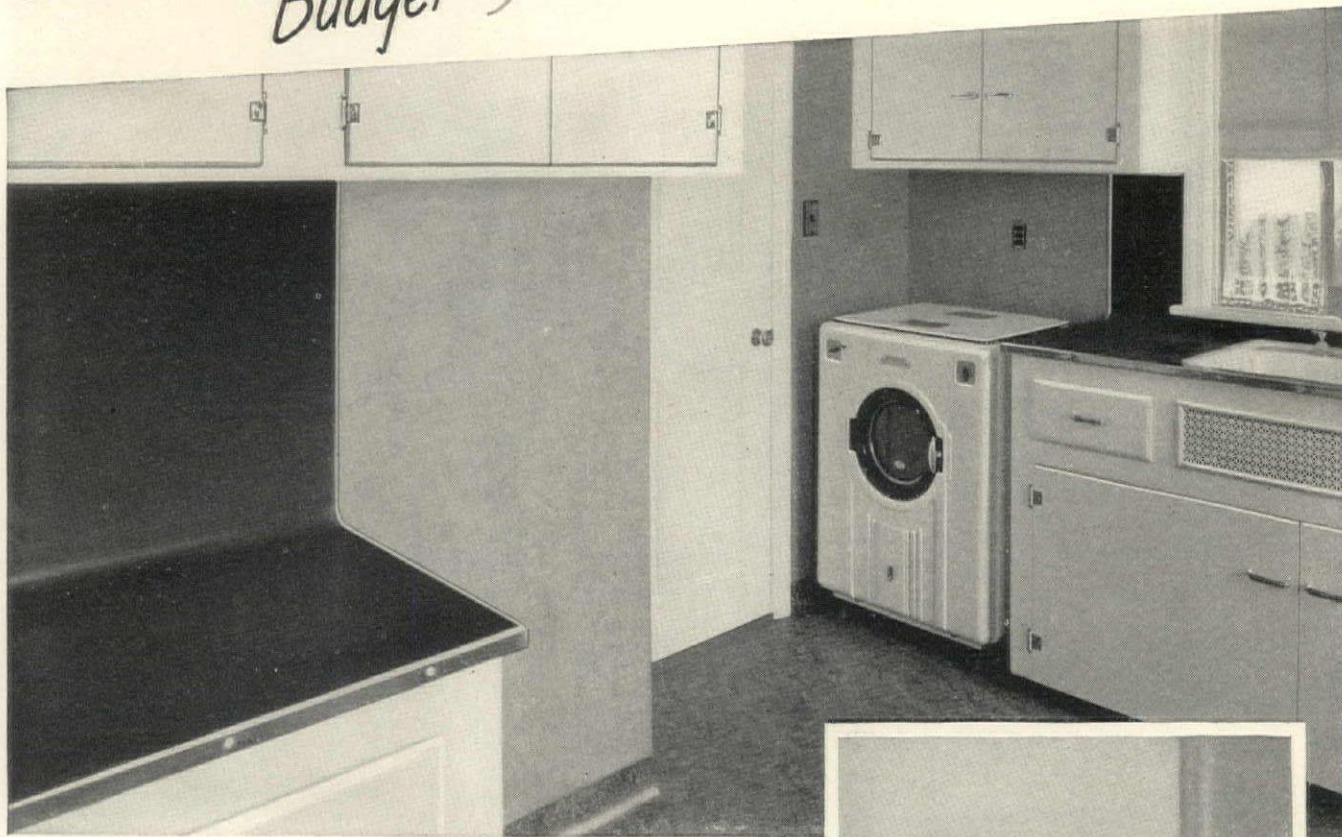
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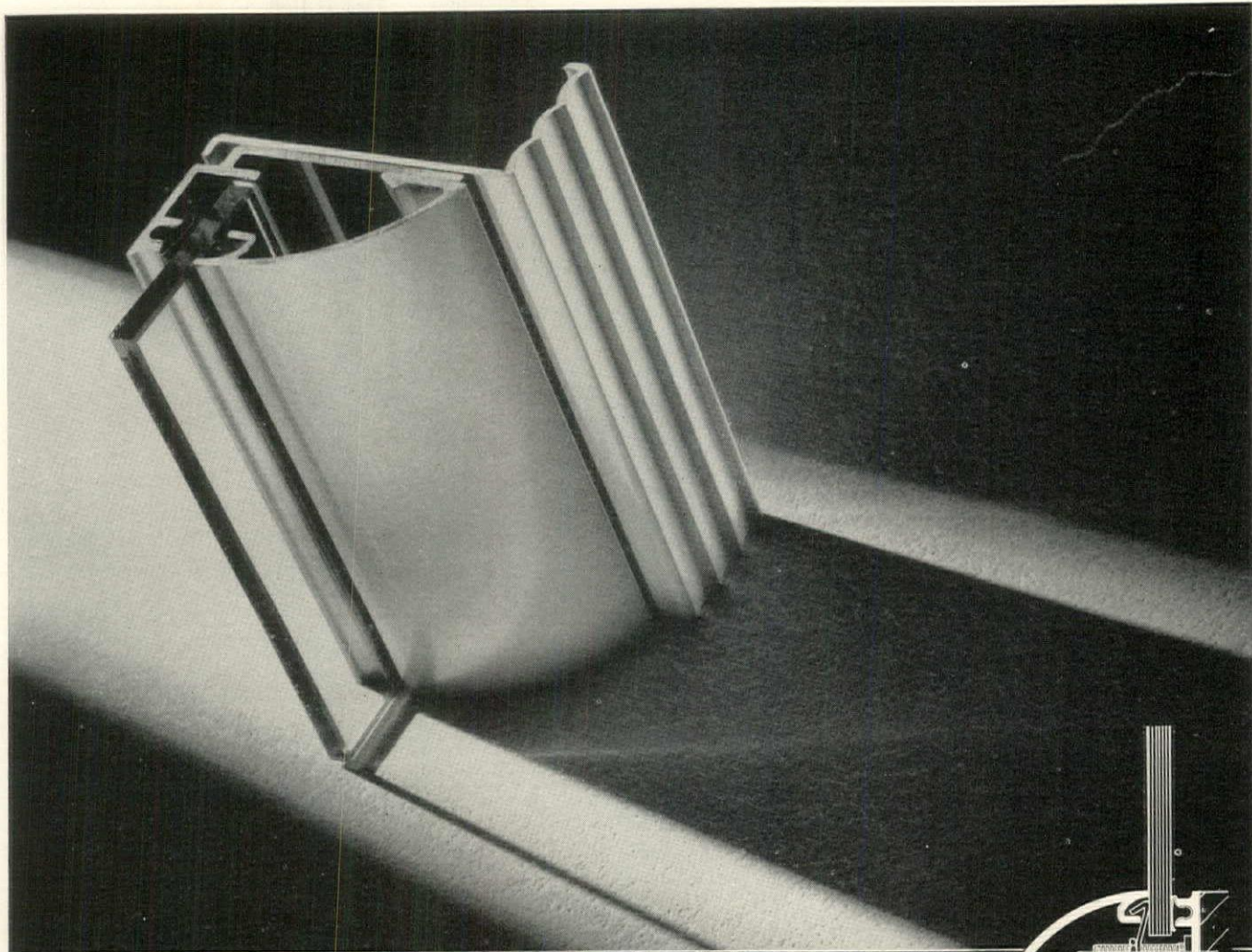
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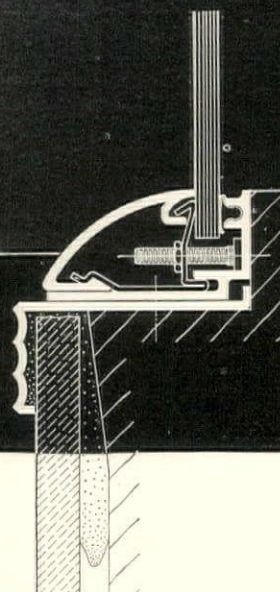
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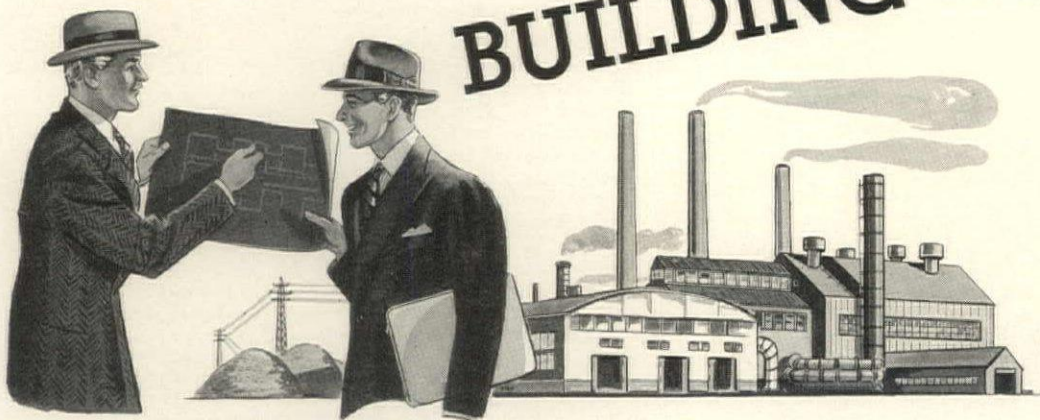
In the above combination, the clean arc of the sash faceplate enhances and intensifies the fluted jamb moulding. Sash: 12-A. Jamb: PX-195.

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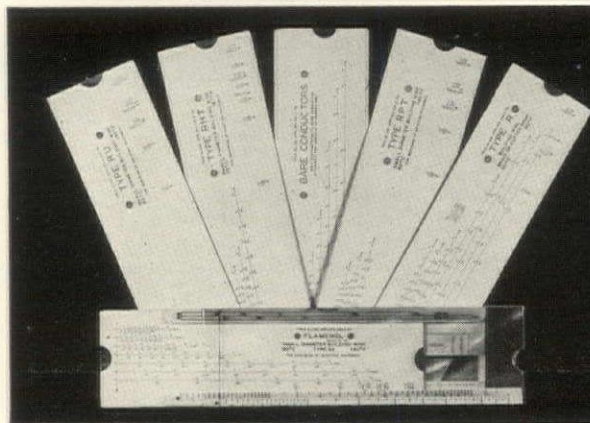
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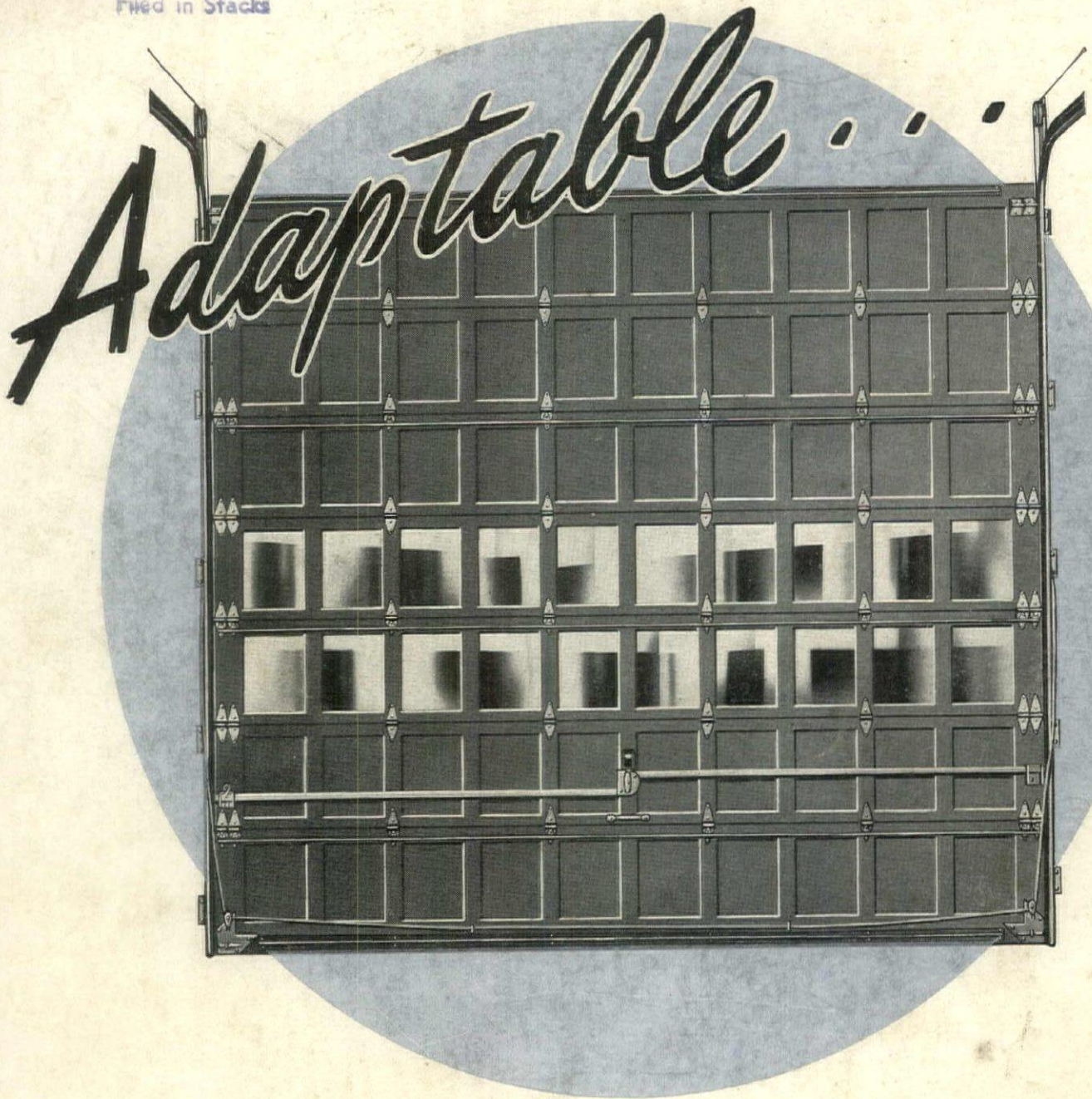
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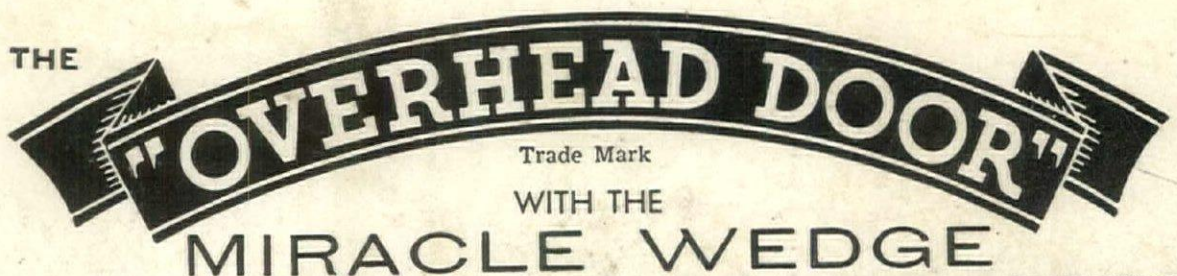
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