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THE ARCHITECTURAL FORUM

FEBRUARY 1939

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Grouped around the observatory at Palomar Mountain are the superintendent's residence, the power plant, and five cottages. The relative isolation made it desirable to use a fire-resistant material for these buildings. So also was the need for structural strength, in case Mother Earth should become restless. Sudden changes of temperature on the mountain top made thermal insulation desirable. Quiet was desired by the staff, so sound insulation was a consideration.

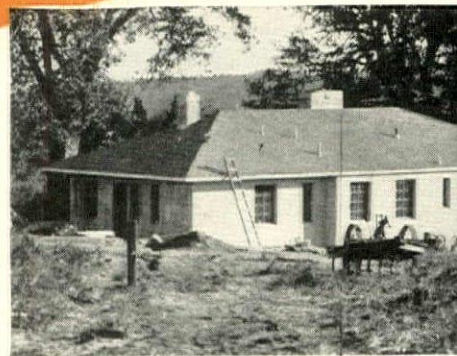
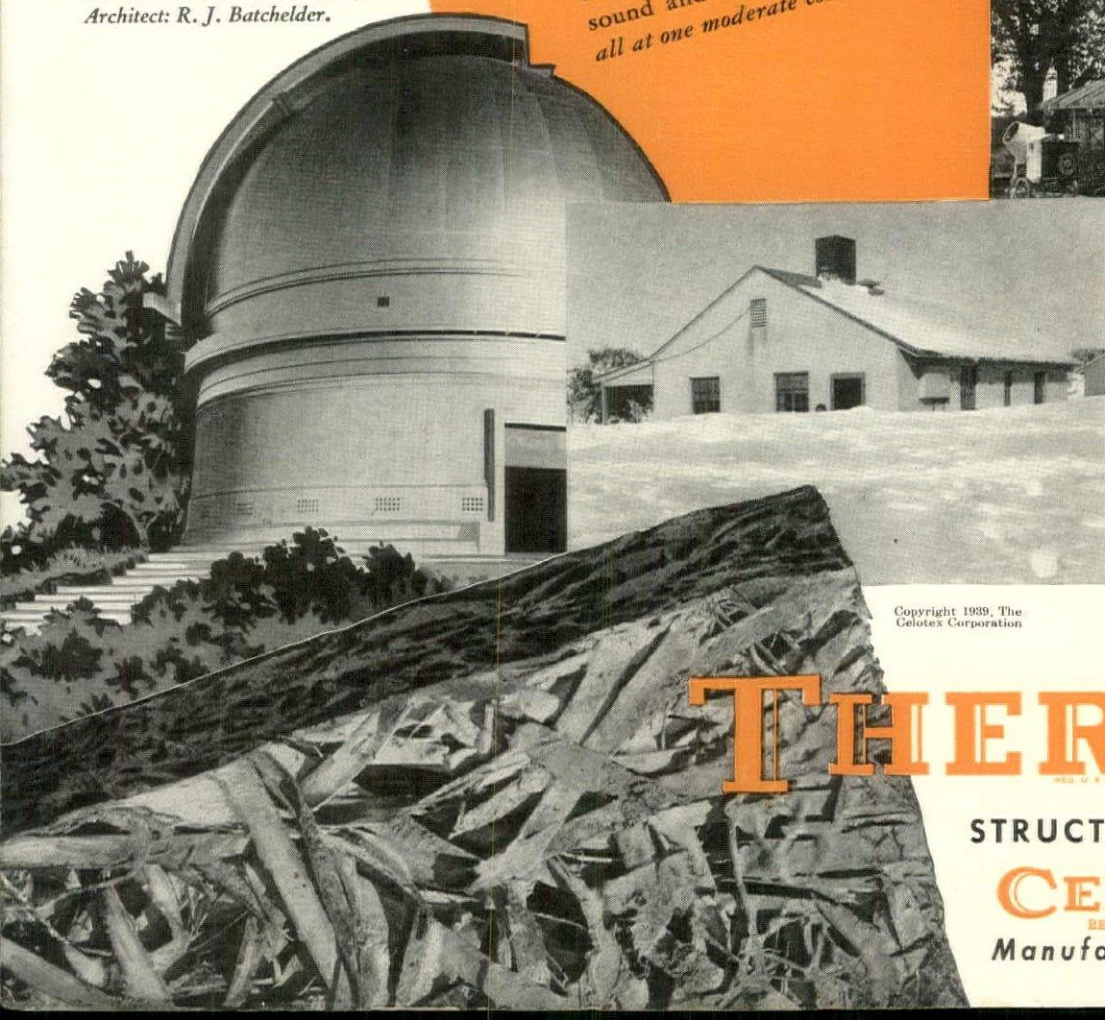
All these advantages were found in Thermax—a slab form structural material made of clean shredded fibres coated and bound with fire-resistant cement. This one remarkable material offers fire resistance, structural strength, sound and thermal insulation—all at one moderate cost!

Thermax structural insulation is furnished in large rigid slabs of 1", 2" or 3" thickness. It is equally well suited for partitions, ceilings, roof decks, or furring—forms an ideal base for plaster or stucco. Left exposed on ceilings, it also has high sound-absorption efficiency.

Thermax units are widely used in fire-proof construction and are approved by building departments of leading cities in the United States and Europe. Classified by Underwriters' Laboratories, Inc. Write today for detailed information.

The word Celotex is a brand name identifying a group of products marketed by The Celotex Corporation and is protected as a trade mark shown elsewhere in this advertisement.

Upper view shows superintendent's residence under construction; below, same building completed. At left, another Thermax-insulated building near Mt. Palomar Observatory. Architect: R. J. Batchelder.



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STRUCTURAL INSULATING SLAB

CELOTEX World's Largest
REG. U. S. PAT. OFF.
Manufacturer of Structural Insulation

FEBRUARY 1939

MAIN STREET, U. S. A.

73

A real estate phenomenon, customer of building, and design problem: Bridgeport, Connecticut under the microscope. 1) History . . . pattern of retail stores . . . assessed values . . . transportation—bus routes, automobiles, and how they are parked . . . store rentals . . . pedestrian traffic . . . tenant turnover. 2) Frequency of modernization . . . a decade and a half of Main Street modernization by years, kinds and costs . . . a typical modernization analyzed . . . Main Street's plans for the future. 3) Store design, its control, standardization, and trends . . . the basis of design—identification, design techniques, lighting and customer circulation . . . a selective bibliography of store design.

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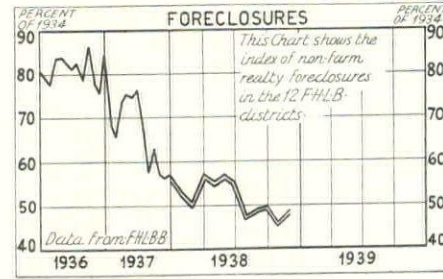
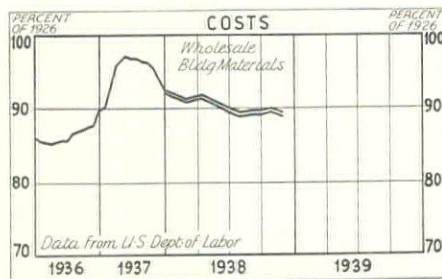
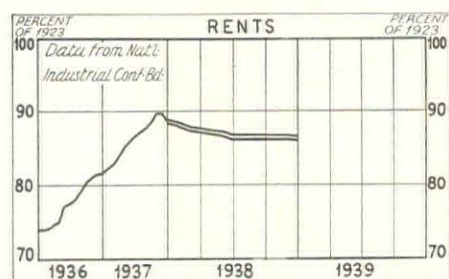
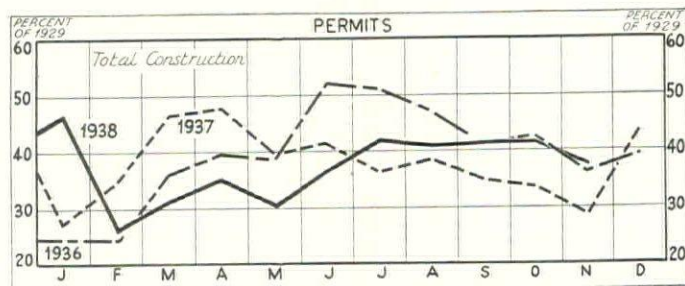
VOLUME 70—NUMBER TWO

THE MONTH IN BUILDING

PERMITS

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

	Monthly data			First eleven months	
	Nov. 1938 (millions)	Comparison with Oct. '38	Nov. '37	1938 (millions)	Comparison with 1937
Residential	\$ 74.3	—4.7%	+72.6%	\$ 795.8	+19.6%
Non-residential	50.3	—8.9	+52.9	498.9	+ 1.6
Additions, repairs . .	22.2	—2.3	— 1.7	290.6	—13.5
TOTAL	146.8	—9.4	+48.9	1,585.3	+ 6.2



HOUSING FRONT. "... the present U. S. Housing Act . . . has . . . proved an effective vehicle for achieving the lowest rents and the lowest costs in the history of public housing. . . . The slum clearance and low rent housing program does not need to be changed; it does need to be continued." So saying, Congressional Housing Champion Robert Ferdinand Wagner at mid-month introduced in the Senate a bill which would double the \$800 million borrowing and lending power of the U. S. Housing Authority, boost its maximum limit of additional annual contributions from \$28 million to \$73 million.

Passage of the amendment, however, will not be as easy as its introduction. And for four reasons: 1) the 76th Congress is less spending-minded than the 75th, 2) Congressmen from States west of the Mississippi contend that USHA's present program is doing them comparatively little good, doubt that a larger loan authorization will do them any better, 3) others believe USHA's stringent requirements as to eligible projects are limiting the initiative of local housing authorities and reducing them to a subordinate status, 4) USHA has actually lent very little money: while \$321 million has been set aside for actual loan contracts signed and \$329 million has been shoved into a cubbyhole indefinitely-labeled "earmarked," USHA has lent only about \$15 million for housing. Thus, while Congress may be for housing, it is not necessarily for USHA.

Of course, the amendment will have its supporters. Sponsor Wagner's arguments for it are: 1) USHA is theoretically broke and, 2) "The authorization for Federal (FHA) insurance of loans for the private

construction of homes . . . has been increased by \$1 billion (ARCH. FORUM, Jan. 1939, page 2). It therefore seems clear that an addition of \$800 million to the USHA loan program, involving even slighter financial risks than the insurance of private loans, is surely justified. . . ."

USHA'S "keeping-up-with-the-Jones" philosophy works both ways: it will have to step lively to keep up with FHA, whose large scale rental housing section last month signed contracts involving the insurance of mortgages totaling many million dollars. By mid-month the figure came to \$10 million and another \$10 million was on the fire for the second half of the month.*

Several of the approved projects are noteworthy. One of them, Wyvernwood in Los Angeles, will provide 1,102 dwelling units, will entail \$3 million of mortgage insurance—FHA's largest participation. Another is Arlington Village near Washington, D. C.; it will require an insured mortgage for \$2.4 million, will house 625 families and will be engineered by Gustave Ring, developer of FHA's first large scale project—Colonial Village in Clarendon, Va.

* A boon to operation of FHA's large scale rental housing program is the Federal National Mortgage Assn., which at year-end had purchased about 19,000 FHA-insured mortgages aggregating \$75 million, had commitments to buy more than 3,000 additional mortgages aggregating \$15 million and had authorized twelve large scale housing loans, secured by FHA-insured mortgages, aggregating about \$3 million. To raise more working capital, FNMA in December sold \$50 million of 1½ per cent five-year notes. (Its original issue amounted to \$29 million, and bore interest at 2 per cent.) Half the proceeds of the more recent sale went to RFC in repayment of a loan.

Evidently the U. S. is taking cognizance of the benefits that accrue to builders and tenants alike through private construction of large scale rental housing projects (ARCH. FORUM, Feb. 1938, p. 110).

STATE OF THE NATION. Works Progress Administration's millions of money and man-hours have produced many a structure of which Building may be proud. But no single WPA achievement has meant as much to Building as its latest—compilation and publication in book form of the findings of real property inventories in 203 urban communities, rightly prefaced as "the most detailed body of statistical information now available on the physical characteristics of housing in the U. S."

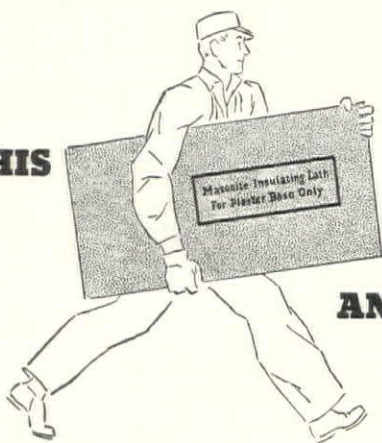
Titled "Urban Housing: A Summary of Real Property Inventories Conducted as Works Projects, 1934-1936," the report was organized by Director Howard B. Myers of WPA's Division of Social Research, was released at mid-January by Col. F. C. Harrington, successor-administrator to Harry Hopkins.

Scope of the work and value of the sampling for application on a nation-wide basis are indicated by the fact that the 203 inventories covered more than 8 million dwelling units housing about 45 per cent of all U. S. urban families.

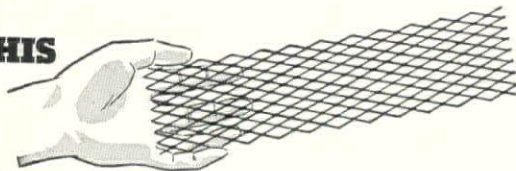
Of particular interest to building professionals are the following facts gleaned from the report's 326 pages:

¶ Of all dwelling units surveyed, 15 per cent were without indoor flush toilets, 20 per cent had no private bathtubs or showers, 5 per cent were without running water, 16 per cent (exclusive of New York) were rated as either in need of

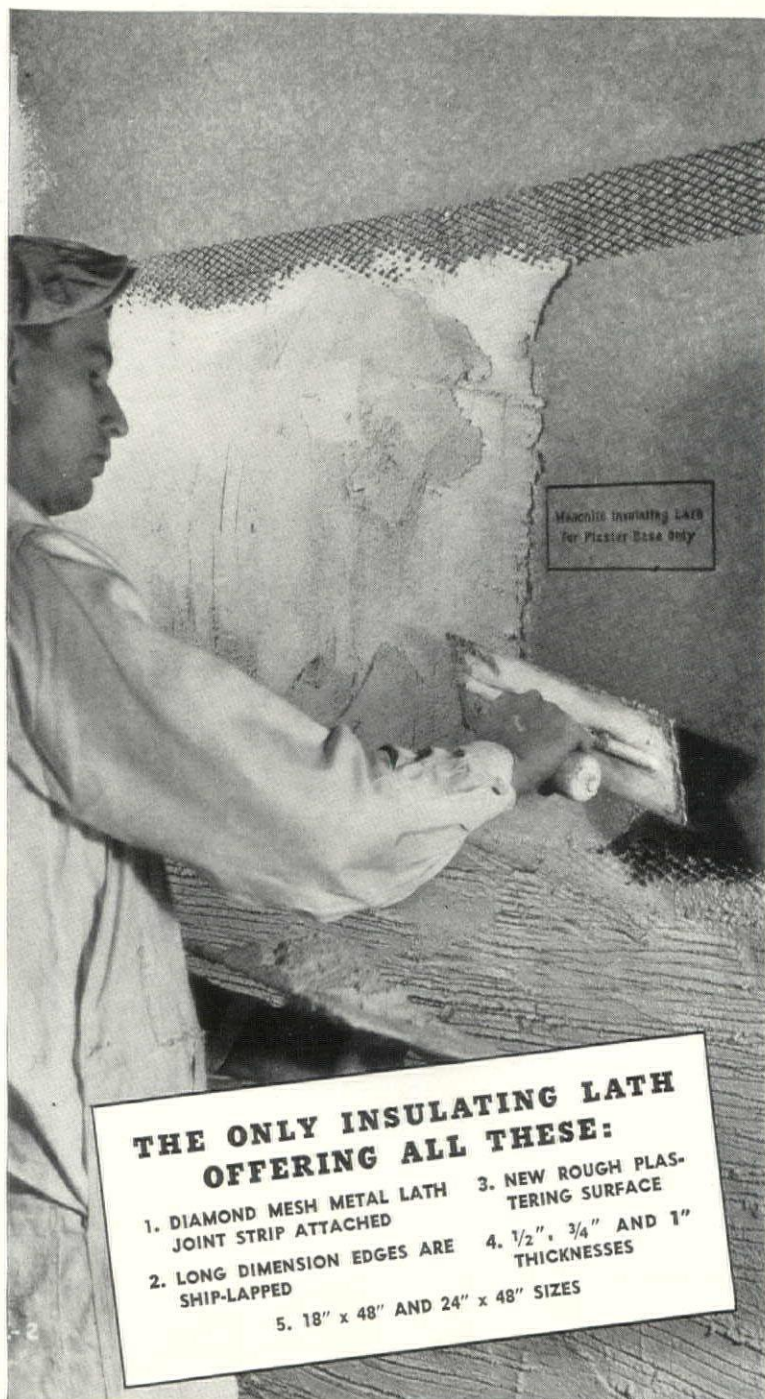
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THE MONTH IN BUILDING

major repairs or unfit for use, 17 per cent were tenanted more than one person per room and about 5 per cent of the families covered were living as "extra" families in dwelling units already containing a "primary" family. Substandard conditions predominate in the Southern and Southeastern States where the percentages frequently run into the thirties. In WPA's judgment only 40 per cent of the 8 million homes are "in good condition."

¶ Owners occupy a little over two-fifths of all occupied dwelling units, exclusive of those in New York City, and WPA observes that such units are, quite logically, better equipped than their tenant-occupied sisters. Also, as might be expected, owners tend to stay put longer than tenants. Four-fifths of the occupied units had housed the owner for five years or more, while only about 18 per cent of the tenant-occupied units could boast such a record.

¶ WPA's financial findings must be interpreted in the light of the years in which the various inventories were made—some as far back as 1934. Nevertheless, the findings are significant. In all cities except New York, 65 per cent of the single-family owner-occupied structures were valued at less than \$5,000; only 8 per cent, at \$10,000 or more.

¶ Again considering only single-family owner-occupied structures, 56 per cent were mortgaged; the balance, free of mortgage. While the average rental for all types of dwelling units in New York City was from \$30 to \$40 per unit, more than 50 per cent of all units in the country rented for less than \$25 per month. Also interesting in the face of the much publicized housing shortage is the fact that of the 688,412 vacant dwelling units tabulated in the report, 40 per cent of them were listed at a monthly rental of \$20 or less.

¶ Ages of the Nation's houses ran like this: 23 per cent were built after 1925; another 23 per cent, between 1915 and 1924; 30 per cent, between 1895 and 1914 and 24 per cent, prior to 1895.

Such is the housing picture painted by WPA. More important than the picture, however, is the fact that complete reports on local housing conditions are available to each of the 203 communities surveyed. And at bargain prices: one cent per page for microfilm reproductions. With them, communities will be better able to analyze their housing problems, solve them.

For an indication of Realty's current frame of mind toward problem solving, see column 3.

YALE-LIFE. Most neglected phase of house building at house building conferences has long been technology. Thus, news was made last week in New Haven, Conn., when some 100 students of home

building assembled for the Yale-Life Conference on House Building Techniques to further advance the industry's No. 1 objective—integration. Conceived as another step in the Life Houses for Modern Living Program, the Conference was unique on three counts: 1) Attention was directed solely at the technological aspects of house building. 2) Both speakers and audience were made up wholly of building profes-



Chairman Wallace Kirkman Harrison

sionals and technicians. 3) It was essentially concerned with building by private enterprise.

Under direction of Conference Chairman Wallace Kirkman Harrison, creative co-designer of Rockefeller Center and the theme center of New York's World's Fair, a program was planned to cover the modern house in its every phase. Typical topics: mass production, prefabrication, soundproofing, housing economics, large scale housing, integration, modular design and air conditioning. Typical speakers: Frederick K. Weyerhaeuser, Miles L. Colean, Robert L. Davison and John E. Burchard. President Charles Seymour of Yale University and President Henry R. Luce of Time Inc. addressed the assemblage at the concluding dinner, wound up the two-day conference.

Side show, but of main-tent importance, was a special exhibition arranged by THE ARCHITECTURAL FORUM. It presented significant new methods and materials, gave a bird's-eye view of present-day building techniques. Drawing cards were a full-size section through a two-story house constructed in Yale's Gothic Gallery of Fine Arts showing in use many new building materials and methods, the much-discussed prefabricated bathroom of Buckminster Fuller, a room heated with invisible ceiling coils, displays of prefabricated houses and fluorescent lighting.

PULSE. Every six months the National Association of Real Estate Boards diagnoses the condition of the Nation's real estate market. At year-end it made its 32nd such diagnosis, found that Realty's pulse was closer to normal than at any time since its Depression malady. Thus, reports to NAREB from member boards in 274 leading U. S. cities indicate 1) that interest rates and the supply of capital for real estate loans are at the most favorable levels yet recorded, 2) that, despite last year's increased home building, there is still a vast shortage of single-family houses and 3) that the market for homesites is on the upswing.

Interesting is NAREB's observation that capital's supply-demand situation is more favorable to increased real estate activity than it was at the May 1937 peak. Reports from 77 per cent of the cities (representing all geographical sections of the country) showed that money available for mortgage loans was seeking investment; only 13 per cent showed the reverse situation. The remainder reported an equilibrium in the money market.

While interest rates in 69 per cent of the cities were at about the same level as a year ago, significant declines were reported by 29 per cent. And, last year's interest rate level was already the lowest in history.

Such were NAREB's findings as to the "causes" in the real estate market. It also sampled "effects."

While Recession continued to depress sales prices in one-quarter of the cities during 1938, two-thirds of the cities reported that prices at year-end were approximately the same as in December, 1937. More important, half the cities forecast a rise during 1939 in the prices of residential property—the predicted increase being about 15 per cent.

The market for subdivisions or suburban lots improved during the year in one-third the reporting cities, declined in only one-sixth. Vacant lots sold for home sites last year exceeded the number of houses built in the 247 reporting cities—100 lots were sold for every 73 houses built.

Composite indication of Realty's pulse is the answer to NAREB's question concerning general market activity. More activity than a year ago was the answer of 33 per cent of the cities, while less activity was reported by 29 per cent and about the same activity by the remaining 38 per cent. Significance of these figures is seen in a comparison of them with those obtained in NAREB's preceding survey six months ago. At that time only 9 per cent reported that they were more active and 74 per cent reported that they were less active than they had been twelve months earlier.

Realwood FORMICA

in a **CHAIN RESTAURANT**



IN a restaurant installation made by Hillman's, Chicago, in one of the large retail units of Sears-Roebuck & Co., a large use is made of Formica real wood, for counter panels, column covering, table tops and wall covering. The result is striking and modern.

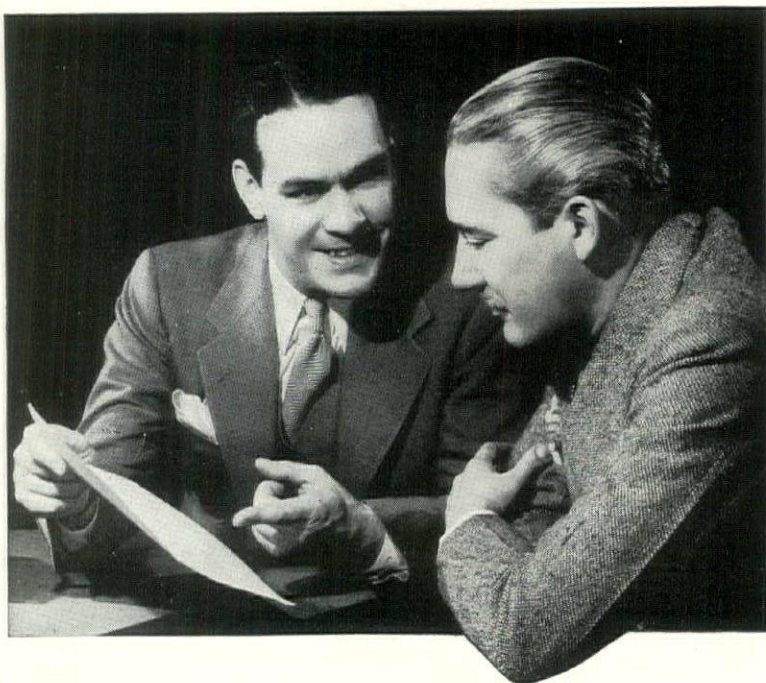
Where it is desired to use the grain of fine woods for decorative purposes Formica "Realwood" provides the wood in a form that gives it all the qualities of a plastic—a surface that will stand wear and grief, will not spot with lighted cigarettes or ordinary solutions.

Many very beautiful installations have been made with this material in restaurants and stores. Let us send you samples and all the facts.

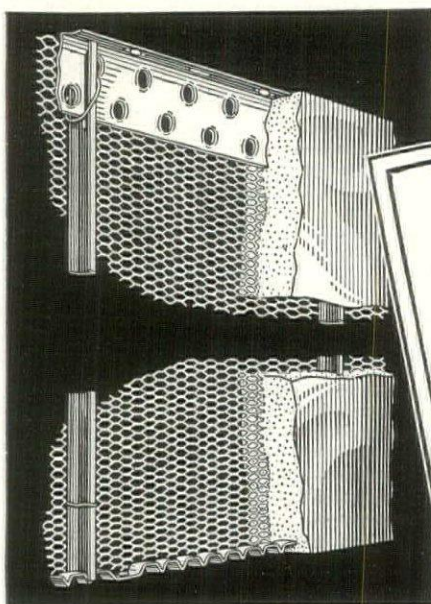
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cost of the



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— making possible new fire-
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costs for fireproof buildings
of all types.
★

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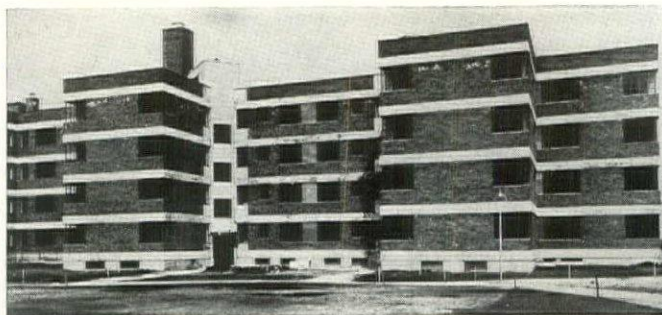
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especially under impact . . . (4) reduced dead floor load — 1/3 as much as some types . . . (5) reduced sound transmission.

For large or small projects, remodeling or new construction, the Milcor Solid Partition and Furring System is a tested method for economical, enduring construction. Patent No. 2,105,770.

Write for the Milcor Solid Partition Bulletin, today.

F-47



• The Ten Eyck (Williamsburgh) Housing Project. A 50,000-yard installation, of Milcor Solid Plaster Partitions in Buildings 1, 2, 3, 4, 6, 7, 8. Photo courtesy of FHA.

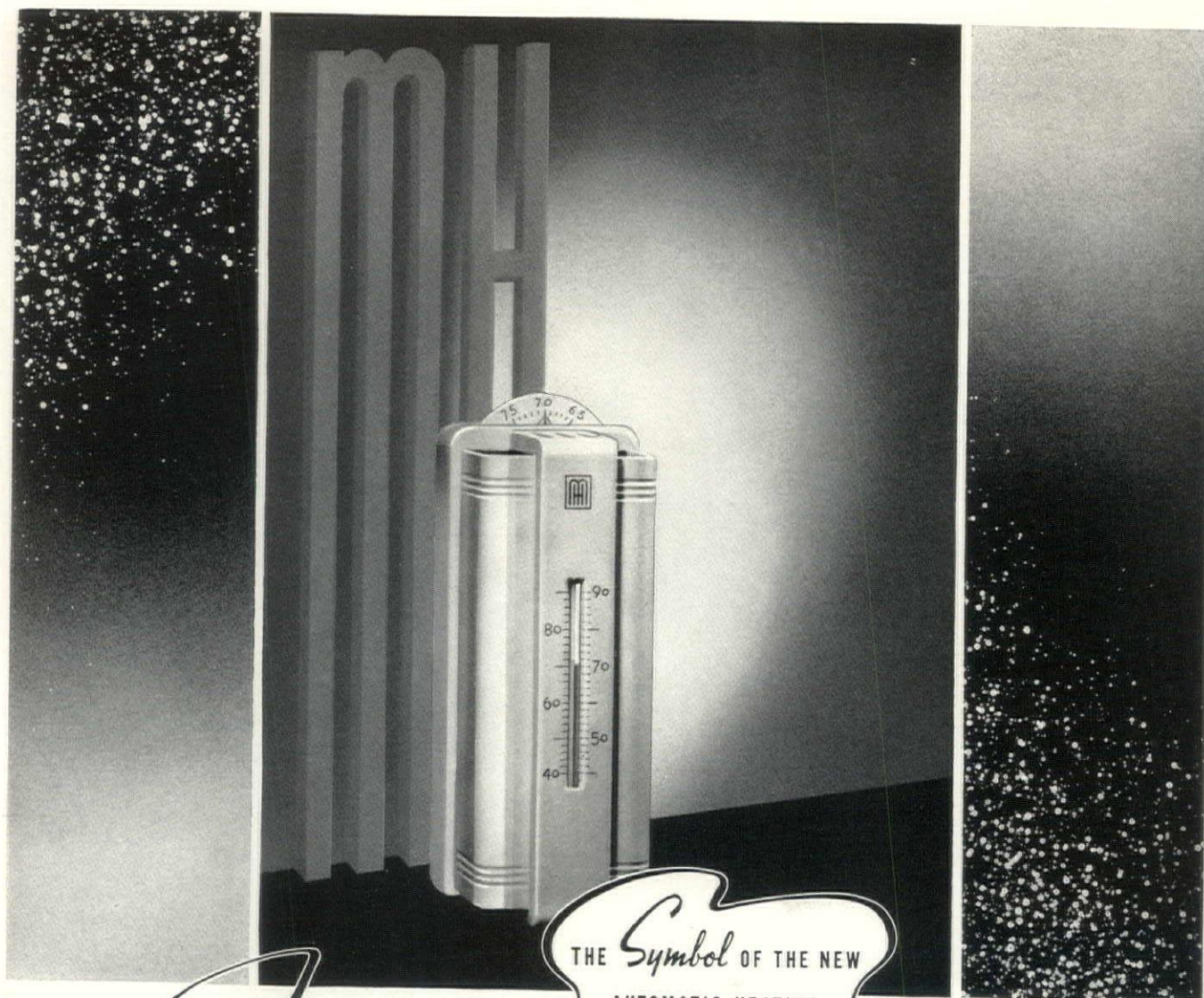
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Alloy Steel Division, Massillon, Ohio

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SHEETS

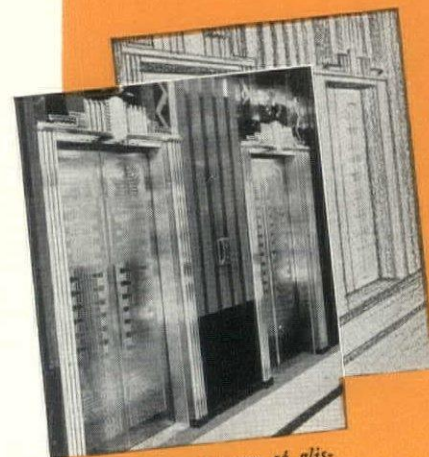
black, galvanized, galvanized, plain and corrugated.

COMPLETE LINE OF
FORMED ROOFING
PRODUCTS.

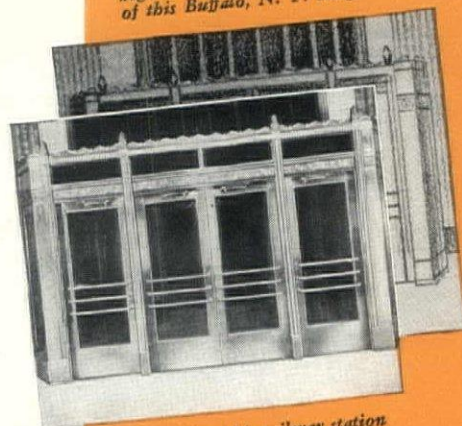
*Reg. U. S. Pat. Off.

REPUBLIC
STEEL

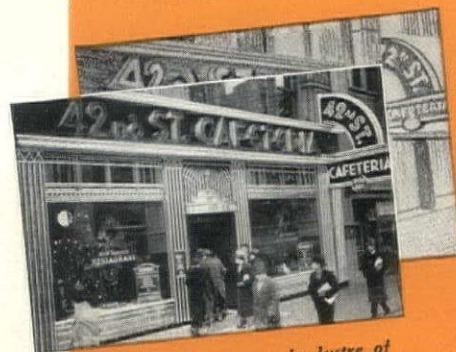
UNION DRAWN STEEL DIVISION
NILES STEEL PRODUCTS DIVISION
BERGER MANUFACTURING DIVISION
TRUSCON STEEL COMPANY
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Elevator entrances of glistening ENDURO reflect the high standard of excellence of this Buffalo, N. Y. Bldg.

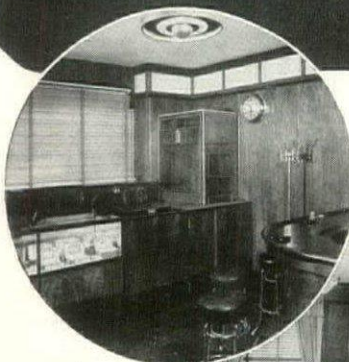


ENDURO lifts this railway station entrance out of the commonplace.



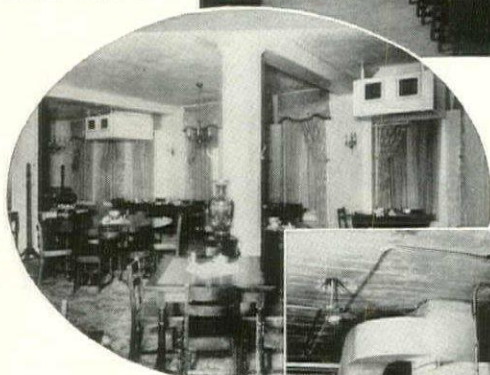
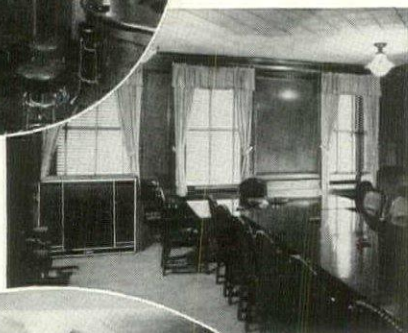
On any store front the lustre of ENDURO lures patrons and profits.

Why are YOU interested in AIR CONDITIONING? —Because Your Clients Are!



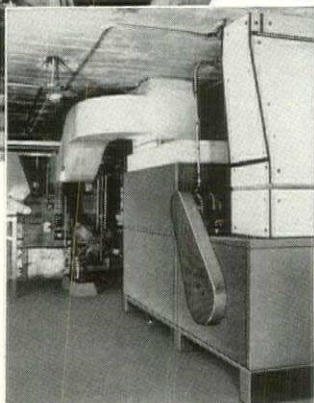
Self-contained Kelvinator Conditioner installed in the Brokers' Buffet, Chicago, Ill.

Kelvinator Room Cooler installed in the Directors' Room, Armour & Co., Chicago, Ill.



Britling Cafeteria, Oklahoma City, Okla., showing Kelvinator suspended type unit for overhead installation.

Kelvinator Central System air conditioning equipment, New Yorker Bar, St. Louis, Mo.



Kelvinator Simplified Air Conditioning



Kelvinator Air Conditioning embraces: Self-Contained Models including Room Coolers and Store Air Conditioners for "Package" installation—Floor Type Units for installations where duct layouts not advisable—Suspended Units for installations with or without ducts—Central Systems for larger installations—Complete range, from small rooms to entire building.

WE DON'T have to sell *you* the idea of Air Conditioning. Nor in general do you have to sell it to your clients. Every store owner wants to be abreast of the times...realizes the folly of modernizing his "plant" unless he begins with air conditioning.

But this general "yes" breaks itself down into a lot of "maybes"—problems of first cost—maintenance—length of lease—shut-down during installation—moving equipment to a new location next year—ducts or free air delivery. These must all be answered before the customer can see his way clear to buy.

Kelvinator believes in Simplified Air Conditioning—specializes in giving to the customer the type and kind of installation he can afford—practical application based on his *needs* and ability to buy. Kelvinator's line of equipment has been developed with this idea in mind; and wide experience with almost every type of installation has resulted in constant refining of equipment to meet the customer's requirements.

Recommend Kelvinator Simplified Air Conditioning to meet your client's needs—and *satisfy* them.

KELVINATOR, Division of Nash-Kelvinator Corporation,
Dept. K-21, 14250 Plymouth Road, Detroit, Mich.

Gentlemen:

Please send complete information on Kelvinator
Air Conditioning.

Name _____

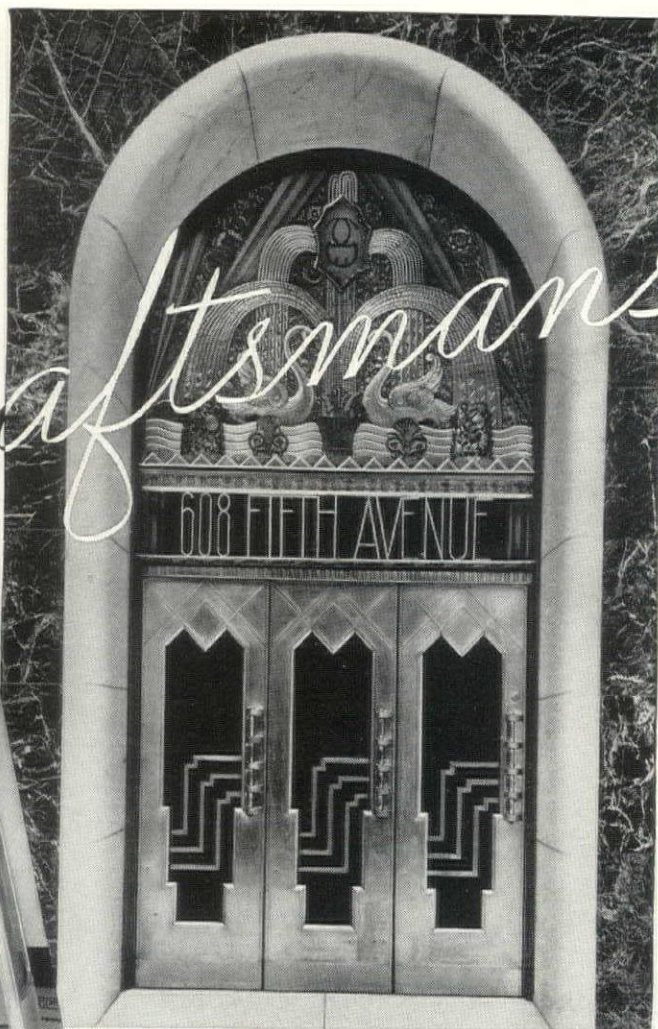
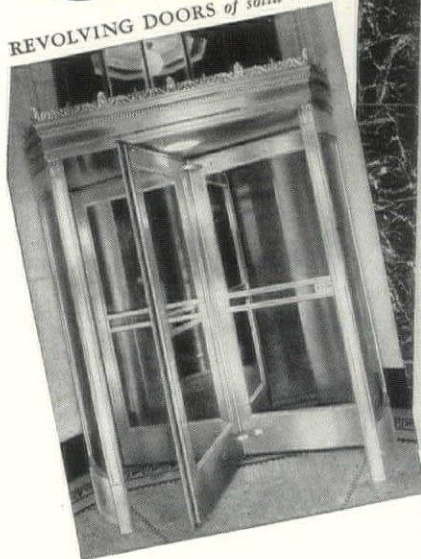
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Craftsmanship

(Left) NICKEL SILVERS, in combinations with other metals, provide infinite chromatic possibilities

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STATUARY of every description



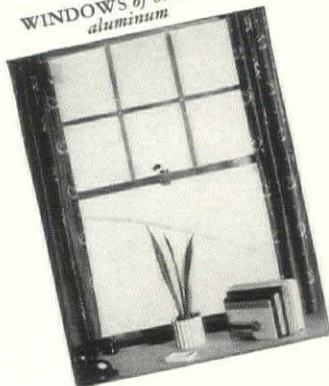
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With craftsmanship is combined expert engineering in all details of construction.

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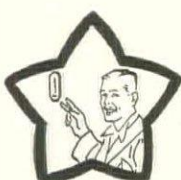
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Gives steady, even heat for real winter comfort. No "off-and-on" heat. Glows within itself—heat always in reserve.



2. CONVENIENCE

Automatic heat in any equipment with thermostatic control. Automatic fuel and ash handling all season if desired.



3. SAFETY

Can not leak, spill or explode. Anthracite is the world's safest fuel. It burns silently and is safe to use and store.



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Can't smoke, create soot or smudge. Keeps homes clean inside and out. Saves laundry costs—and depreciation.



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Insures even temperature. Reduces illness due to up and down temperatures. No cold floors, no air pollution.



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Supply for long periods can be stored in small space. Needless to be without heat when weather stops fuel delivery.



7. ECONOMY

Modern Anthracite provides all 7 essentials to complete heating satisfaction at the lowest possible cost for fuel.

WHEN you are consulted about the best fuel for winter heating, remember the exclusive advantages of Pennsylvania Anthracite. Here is one fuel that gives every user all of its 7 heating advantages in any type of heating equipment.

Anthracite does not demand the use of costly equipment. It permits the user to choose the right combination of convenience and economy that best suits his needs and budget. Moreover, it provides the opportunity to add convenience features at will.

Anthracite stokers, providing completely automatic fuel and ash handling, can be installed in an existing furnace or boiler as readily as in a new heating plant.

With any other fuel, the user must give up some of the advantages of Anthracite—which offers the features of all other fuels, and Anthracite's exclusive features besides. It is no wonder that more and more architects and builders are recommending the installation of modern Anthracite equipment when modern-

izing existing homes, or building new ones. Write for a copy of the interesting new book describing the advantages of Anthracite and Anthracite equipment. Anthracite Industries, Inc., Chrysler Building, New York, N. Y.



This Seal of Approval appears on equipment only after a representative sample has satisfactorily passed rigid and impartial tests at the Anthracite Industries Inc. Laboratories.

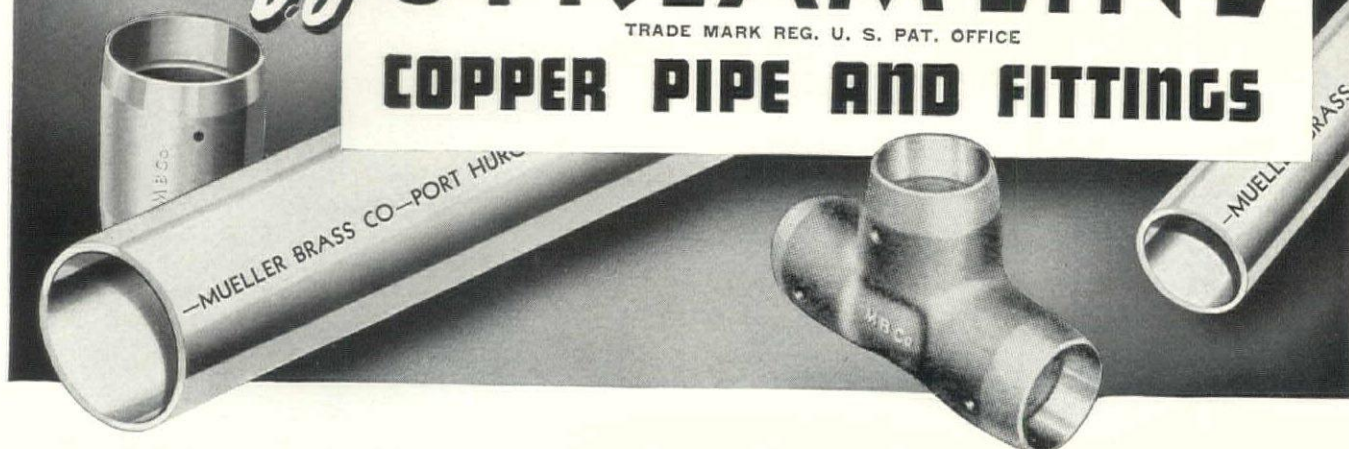
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THE ONLY 7 STAR FUEL



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TRADE MARK REG. U. S. PAT. OFFICE

COPPER PIPE AND FITTINGS



WHILE LOW COPPER PRICES PREVAIL

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**NEW WORK AND
REMODELING**
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**FOR DOMESTIC
OR INDUSTRIAL
PIPE LINES**
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● A non-rusting copper piping system is, by far, the most desirable for plumbing or heating installations. The architect knows this—and so does the prospective home owner; yet, not being acquainted with the actual facts, he may consider it too costly and pass it up without due consideration.

AS A MATTER OF FACT, THE INSTALLED COST OF STREAMLINE COPPER PIPE AND BRONZE SOLDER FITTINGS IS VERY LITTLE, IF ANY, HIGHER THAN RUSTABLE MATERIALS—AND TODAY IT IS LOWER THAN EVER BEFORE.

Every architect, building manager, realtor or home owner knows that reliable piping for plumbing and heating is the most important thing in the building. To use out-moded, rustable pipe with its old-fashioned threaded fittings to supply modern fixtures and radiators is as impracticable as it is inconsistent.

STREAMLINE Copper Pipe and Solder Fittings that cannot rust or clog is the ultra-modern piping system that bridges the gap between out-moded and modern piping lines. It is the permanently reliable conducting system that insures efficient service from up-to-the-minute fixtures and radiating units, year in and year out. With the possible exception of extremely abnormal water conditions, STREAMLINE will outlast the building in which it is installed. There will be no future repair bills.

Like all good things, STREAMLINE has many imitations, but no equals.

Specify genuine STREAMLINE—Insist upon its being used. Its quality is constant and its cost the lowest in copper pipe and fittings history.

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PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
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**AIR CONDITIONING
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Pleasant bathrooms mean happier owners



Today's most popular kitchens combine step-saving efficiency with arrangements and features that contribute to more pleasant living. Such kitchens are most successfully planned with Crane modern sinks and cabinets. Make use of Crane's Kitchen Planning Service—it's maintained for your convenience.

Bathrooms today can be more than mere "necessities," even in the most modest homes. They can embody features and conveniences that definitely add to the "pleasure of living." You'll find such things in a CRANE bathroom, whatever the price range: Crane bathtubs with the broad, flat bottoms that mean a luxurious bath. Crane lavatories with more basin room, quicker, better draining. Crane mixing faucets that give tempered water. Crane closets that are low, comfortable, quiet in action—and actually

good to look at. Crane can give you valuable and useful ideas in planning bathrooms for any type of home or any size of space—ideas *complete* down to the details of color schemes, wall, floor and ceiling treatment. You'll find such information ready for your use in the Crane Bathroom Planner—available in any Crane Display Room. Make use of this new service—see how *much* Crane can do to make homes more livable. Write today for the address of the nearest Crane Display Room.



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NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

THE SMITHSONIAN GALLERY OF ART COMMISSION

announces,

by authority of the United States Congress, a

NATIONAL OPEN COMPETITION

to select an architect for the proposed Smithsonian Gallery of Art at Washington, D. C., to occupy a proposed site comprising two city blocks facing the Mall directly opposite the new National Gallery now being constructed.

The competition will be in two stages: the first stage, open; the second, limited to ten architects chosen from among those competing in the first. The Jury will award ten prizes: first prize \$7,500; second prize \$3,500; eight third prizes of \$1,000 each.

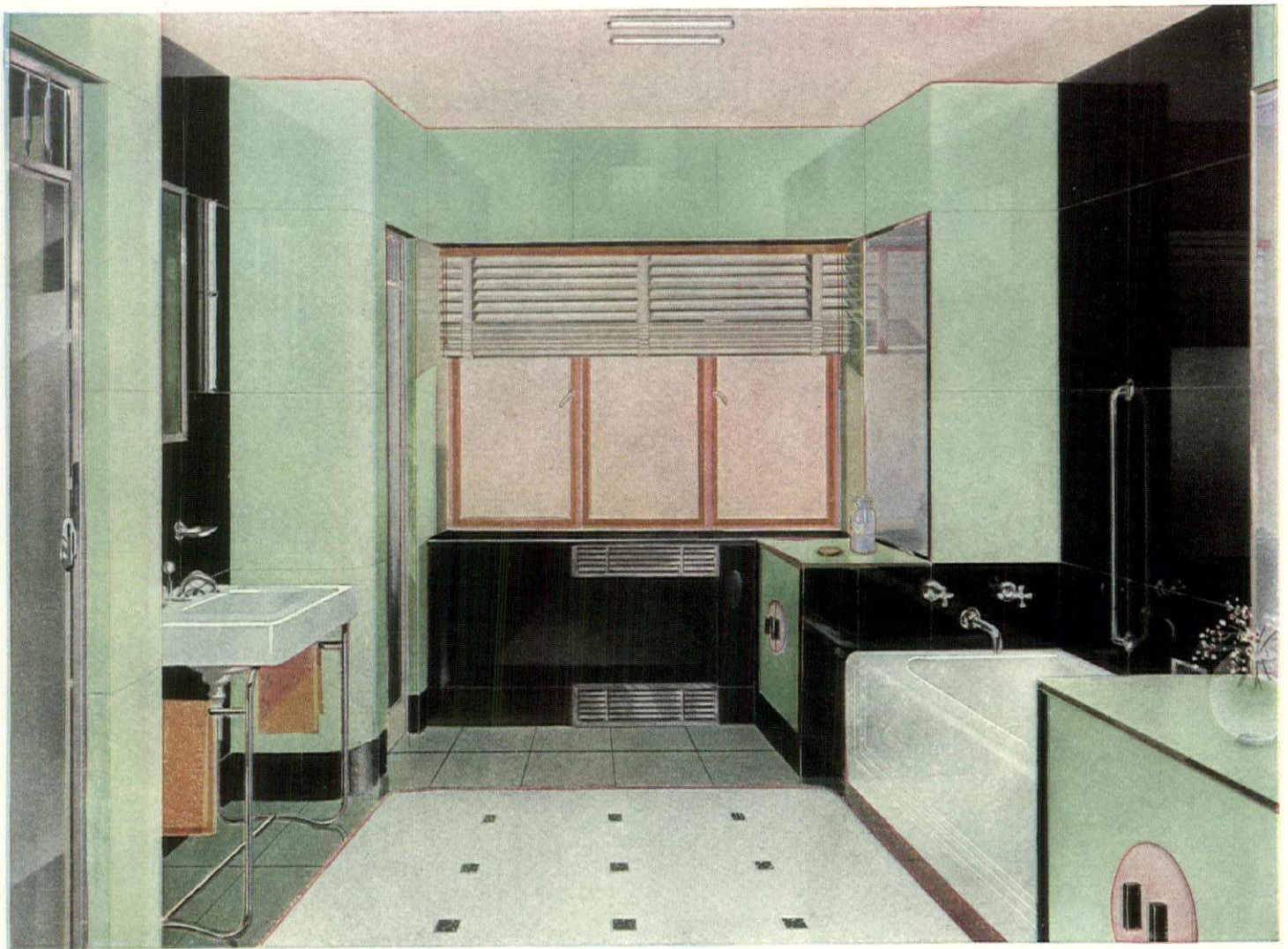
Professional Adviser: Joseph Hudnut, Dean of the Faculty of Design, Harvard University, Cambridge, Massachusetts. Technical Adviser: Thomas Dabney Mabry, Executive Director of The Museum of Modern Art, New York City.

Requests for copies of the Program should be addressed to Joseph Hudnut, Harvard University, Cambridge, Massachusetts.

The first stage of the competition will close April 29, 1939. Notification of intention to participate must be made to the Professional Adviser by March 25th.



BUILD WITH GLASS TODAY



Vitrolite **STRUCTURAL GLASS HARMONIZES WITH MODERN BATHROOM AND KITCHEN DESIGN**

Vitrolite, colorful structural glass, is today a proved material for modern kitchens and bathrooms. It harmonizes with modern architectural trends.

Being glass, Vitrolite has a glistening, reflective, sanitary surface that is non-absorbent. Walls and wainscots of this durable glass will never become odorous. Being glass, Vitrolite will not wear

out. Neither will it become unsightly due to the action of steam, moisture or changing temperatures. Being glass, Vitrolite is completely indifferent to dust, grease, smoke, soot. It is easily cleaned. Re-decorating, of course, is never needed.

Soffits of color-fused, tempered Vitrolux provide flattering, softly-diffused, overhead illumination. L-O-F polished

plate glass mirrors, clear or in colors, complete these modern ensembles.

Build with glass, today! We will be glad to cooperate with you on any unusual design problems. Meanwhile we invite you to write for our latest literature illustrating Bathrooms and Kitchens of Vitrolite. Libbey-Owens-Ford Glass Company, 1308 Nicholas Building, Toledo, Ohio.

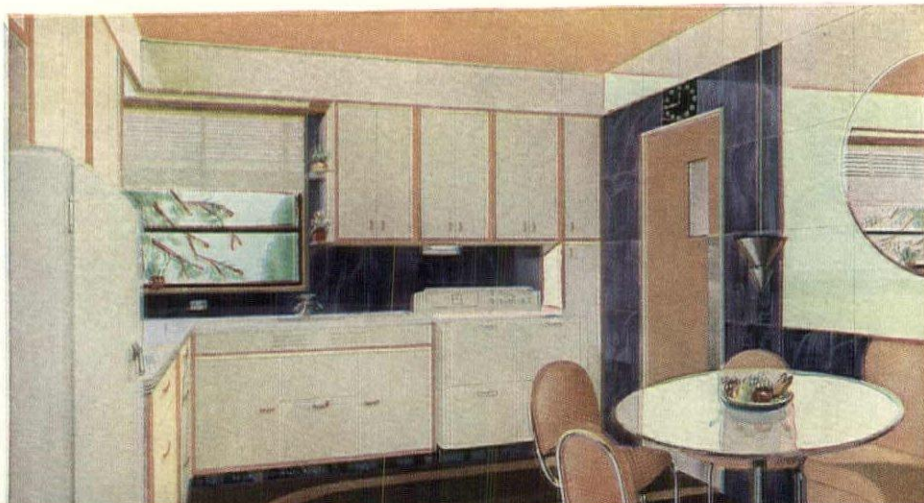
(Member Producers' Council.)

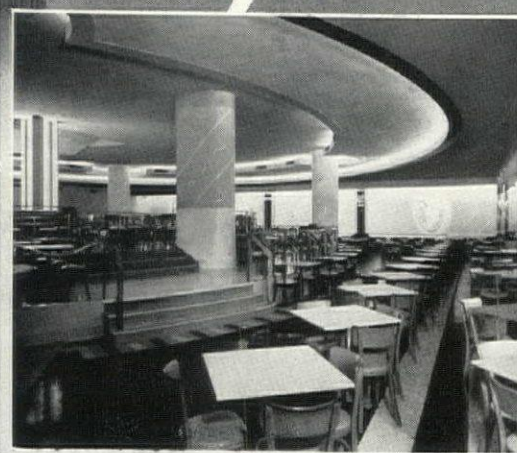
*Make sure your Vitrolite Installations are made by
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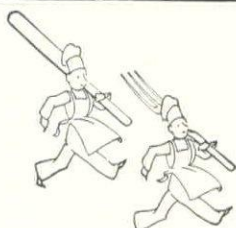
Vitrolite
**COLORFUL
STRUCTURAL Glass**

Visit the Libbey-Owens-Ford Exhibit at the Golden Gate International Exposition, San Francisco, 1939.





at **RESTAURANT
LONGCHAMPS**
IN THE EMPIRE STATE



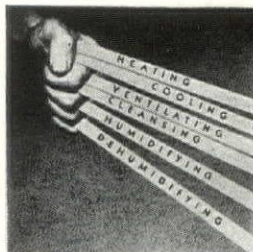
A Restaurant without knives and forks?—No, never! A Restaurant without air conditioning?—Not in 1939! That is, not if the restaurant owner is interested in making money—and who isn't?

Longchamps is a famous name in American gastronomy. Trane is a "buyword" in heating, cooling, and air conditioning equipment. The two have come together in the Restaurant Longchamps located in New York City's towering Empire State Building.

Trane Commercial Air Conditioning units—from the same factory which furnished air conditioning equipment for the Palmer House, Louisiana State University, the New York World's Fair, and the China Clipper—provide correctly tempered air to this outstanding rendezvous of good food. Customer satisfaction is assured. Good food plus good atmosphere is a combination that can't be beat. It benefits both owner and customer.

Trane provides a complete line of heating, cooling, and air conditioning equipment for your convenience. Trane recommends to the public: "Buy Heating and Air Conditioning Through Your Architect—Engineer—Contractor." Write The Trane Company, 2000 Cameron Avenue, La Crosse, Wisconsin.

Architect: Ely Jacques Kahn. Consulting Engineers: Jaros, Baum, and Bolles. Contractor: Baker, Smith and Company.



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RESULT OF TESTS
 Terrebonne Parish Courthouse & Jail, Houma, La.
 Caldwell Bros. & Hart
 Caldwell Bros. & Hart-E.W.B. Fauriol ARCHITECT
 Wogan & Bernard-B. R. Alford-J. B. Ryan
 Wogan & Bernard.

Specification - 3000#

CONCRETE CYLINDERS

POURED	DATE TESTED	AGE DAYS	MIX	SLUMP IN.	C/W RATIO	X SECTION AREA	TOTAL LOAD	POUNDS SQ. IN.	LOCATION ON JOB
10/25	10/30	3	1-2-85-3.92	4	6.0	28.27	87500	3095	Floor Slab
10/27	10/30	3	"	"	"	"	83500	2953	"
10/28	11/1	4	"	"	"	"	88000	3112	"
10/28	11/1	4	"	"	"	"	90000	3183	"
10/29	11/1	3	"	"	"	"	83500	2953	"
10/29	11/1	3	"	"	"	"	86000	3042	"

SPECIFICATIONS FULLY MET.

SHILSTONE TEST

“SPECIFICATIONS FULLY MET”

A LITTLE extra care in figuring a job often means a worthwhile cash saving. Take the new Terrebonne Parish Courthouse, Houma, La.; Wogan & Bernard, architects; P. C. Kuhn, engineer, both of New Orleans.

Caldwell Bros. & Hart, New Orleans, contractors, figured this job with both Lone Star Cement and 'Incor' 24-Hour Cement. Specifications called for 3000-lb. concrete at 28 days; form removal in 48 hours with 'Incor'; otherwise 21 days. 'Incor' showed a clear-cut saving on floors, walls and roof; one-third less forms and a 30-day saving on job overhead. Lone Star figured cheaper for footings. So that's the way the job was built.

Does it pay to figure with both cements? Fact is, a

30-day time saving, as in this job—at \$35 to \$75 a day job overhead, depending on location and conditions—means \$1050 to \$2250 on this item alone!

Now, as to quality: *Test results (above) show that 'Incor' produced the 28-day design strength in 3 to 4 days.* "Specifications Fully Met" tells the story of dependable early strength. Just as 'Incor's 11-year service record tells of ultimate strength and durability.

Use 'Incor'* where early strength and faster job curing show you a profit. Elsewhere, use Lone Star, quality standard for over a quarter century. Write for copy of new book entitled "Cutting Concrete Costs." Lone Star Cement Corporation, Room 2224, 342 Madison Ave., New York.

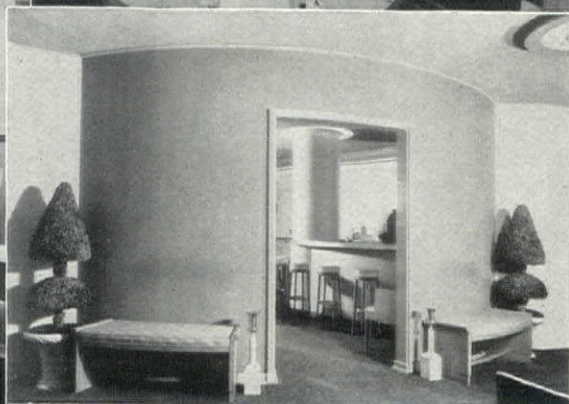
*Reg. U.S. Pat. Off.

LONE STAR CEMENT CORPORATION

MAKERS OF LONE STAR CEMENT... 'INCOR' 24-HOUR CEMENT

WESTPORT ROOM, FRED HARVEY RESTAURANT, UNION STATION AT KANSAS CITY, MISSOURI

Holabird & Root, Architects, Chicago • Murals by Hildreth Meière, assisted by Dean & Lynn Faussett, New York • Lonsdale Brothers, General Contractors, Kansas City, Mo. • A. J. Stephens Fixture Co., Cabinet Contractor, Kansas City, Mo. • Theodore Lawrence Painting Co., Painting Contractor, Kansas City, Mo.



Hedrich-Blessing Studio



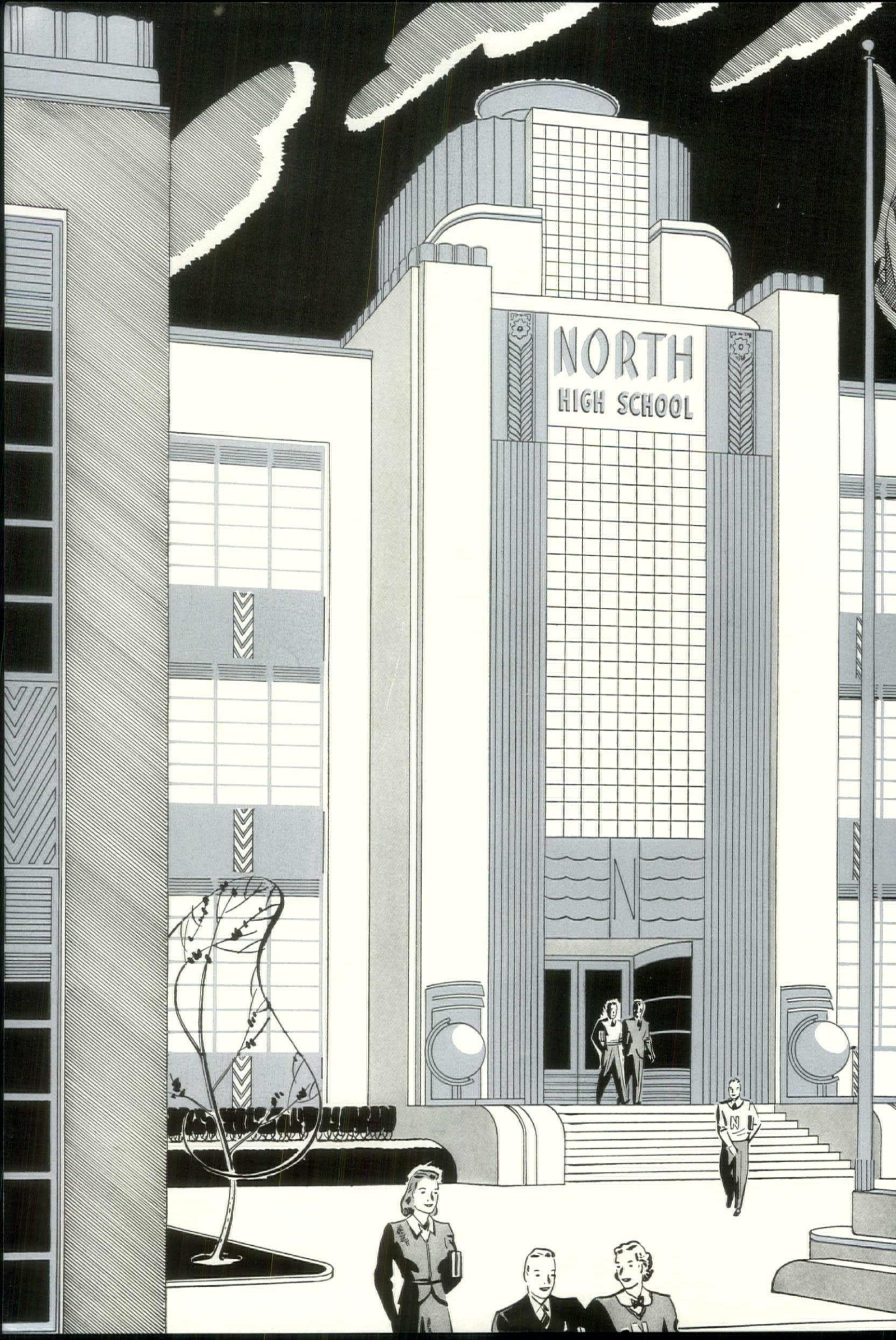
HERE a railroad station dining room is transformed into an interior that is both interesting and inviting. Historical murals, depicting the early days of Kansas City, Missouri, adorn the walls of the main dining room. The pleasing restraint of color in this room enhances the beauty and charm of the paintings. Gay in treatment, the cocktail lounge is so arranged that the amusing wall decorations there are visible from anywhere in the room.

Pratt & Lambert Paint and Varnish

Here, too, Pratt & Lambert products served practical ends in the decorative scheme. Whatever the requirements, interior or exterior, there is a P&L Paint and Varnish especially designed to give the maximum in beauty and protection at the lowest ultimate cost. The nearest P&L Architectural Service Department will render prompt, conscientious, practical aid on any finishing problem.



Pratt & Lambert-Inc., Paint & Varnish Makers • New York • Buffalo • Chicago • Fort Erie, Ont.



You learn this from the schools
on which **ALUMINUM** *is used!*

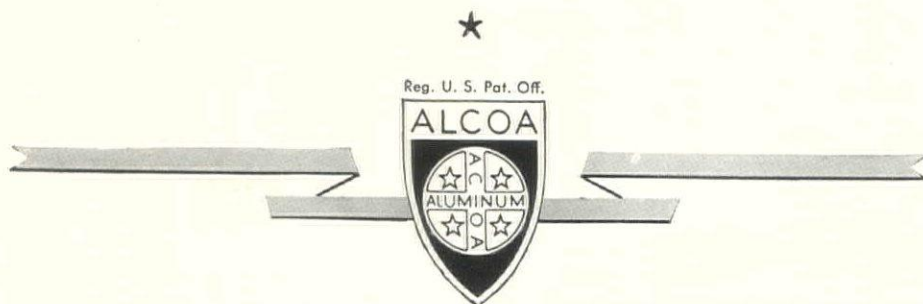
Aluminum provides a most economical way of adding beauty and of increasing the utility of a building. It requires but little attention for maintenance.

Aluminum windows offer such advantages as easy opening and closing, and permanent weather-tightness; no rusting or rotting, no warping or swelling. They never need painting. Narrow sash and frames give maximum glass area. They are surprisingly low in first cost.

You'll also find Aluminum being used in many other places on schools and public buildings. For skylights, copings and gravel stops; as spandrels and grilles; all are non-rusting and long-lived, showing, therefore, a low annual cost.

And any number of attractive, decorative effects are possible with Aluminum's many, lasting finishes.

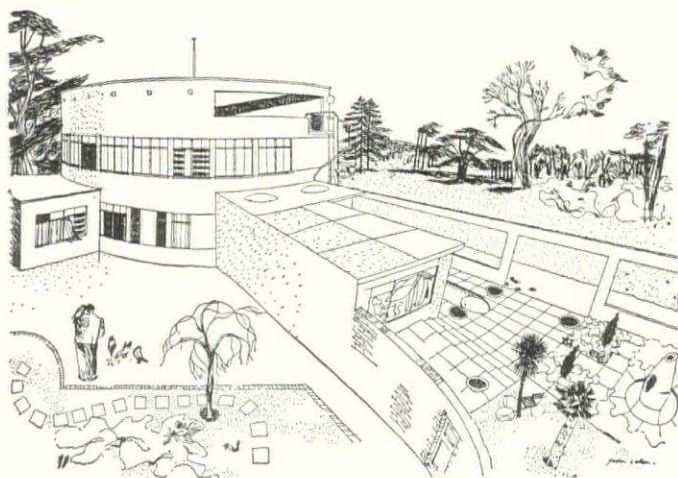
Alcoa engineers are available to architects and builders for consultation on construction problems. Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA · ALUMINUM

BOOKS

The modern garden . . . Histories of Egyptian and Spanish architecture . . . Survey of metropolitan life . . .



GARDENS IN THE MODERN LANDSCAPE, by Christopher Tunnard. The Architectural Press, London. 188 pp., illustrated. 10 x 6½. 15s.

During the entire process of development of modern architecture curiously little attention has been paid to the garden, although this important element has again and again demonstrated its integral relationship with building in the past. Whether this omission has been due to a temporary overemphasis on the utilitarian and functional aspects of architecture, or to a lack of vision on the part of landscape architects, the fact remains that there has been little critical writing of any significance about the problems of the contemporary garden, save for an occasional article.

The basis of the problem facing the landscape architect is indicated by the title of this book: the new urban pattern produced by commercial and industrial development, fast transportation, and multi-story building is in fact a "modern landscape," a new environment which has created the necessity for a revision of standards of garden design. The author, a landscape architect, states his approach as follows: "A style for our own time is being formed. I believe that it will not be very different from the humanized landscape of the eighteenth century, but it will, nevertheless, be based on broader conceptions of nature and art. . . . Today houses, factories and places of amusement are planned for the needs of the people. When their surroundings, by means of experiment and invention, are similarly planned and projected into the landscape, we shall perhaps have achieved as much as the age which discovered the street, the park, and the rationally planned community."

An historical survey as well as an investigation of the problems of contemporary garden design, this book might well serve as a much-needed introduction to the entire subject of landscape architecture, a field the great majority of architects might study with profit. Organized as a series of essays, the book discusses the various objectives of garden design in the past, modern solutions, color, communal and private gardens, large scale planning, and garden decorations. It is comprehensively illustrated with old prints, photographs, diagrams and plans, has a bibliography, and is well indexed.

EGYPTIAN ARCHITECTURE AS CULTURAL EXPRESSION, by E. Baldwin Smith. D. Appleton-Century Co., New York. 264 pp. illustrated. 10½ x 8. \$6.00.

Important, readable history. It enters a field formerly covered only by the highly specialized studies of Egyptologists, and presents an authoritative and comprehensive picture of the first great stone architecture and its cultural background. Very well illustrated with pen-and-ink drawings by the author.

THE ENCYCLOPEDIA OF FURNITURE, by Joseph Aronson. Crown Publishers, New York. 202 pp. 11½ x 8½. \$3.00.

An excellent book, which should be of great value to architects, interior decorators, designers, and students. Contains definitions, descriptions of styles, structural details of cabinet making, architecture, designers, fabrics, woods. About 1,000 illustrations, both drawings and photographs.

SUNDIALS: HOW TO KNOW, USE AND MAKE THEM, by R. Newton and Margaret L. Mayall. Hale, Cushman & Flint, Boston. 197 pp. illustrated. 8 x 5½. \$2.00.

This manual has the advantage of being the result of collaboration between a landscape architect and astronomer. It gives the history of the sundial, explains how it works, describes its essential parts, and shows how to design and construct the various types. Explanations are clear and comprehensive.

HISTORY OF SPANISH ARCHITECTURE, by Bernard Bevan. Charles Scribner's Sons, New York. 199 pp. illustrated. 9 x 6. \$7.50.

A complete history of Spanish architecture, first to appear in English. Covers the development of every style from Roman times to 1800, and includes a section on colonial buildings in the western hemisphere. Admirably documented, with over 160 photographs, 70 plans, many drawings, reconstructions, and details. There is a bibliography and index. An excellent contribution to a neglected part of architectural history.

NEW YORK PANORAMA, by the Federal Writers' Project of New York City. Random House, New York. 526 pp. illustrated. 8½ x 5½. \$2.50.

An introduction to "A Guide to New York City," the twenty-six essays in this volume embrace every aspect of city life from motion pictures and swing music to architecture and housing. Intended less as a Baedeker for harried visitors than as an informed and chatty survey, the volume draws on folk and book lore to produce an impressive, if bird's-eye, picture. Of particular interest are "Bricks of the City," a study of the evolution of New York architecture from Dutch Colonial to skyscraper; "The Urban Pattern," which Clarence Stein describes as "city patching, not city planning;" "One-Third of a City," describing New York's slum areas; and "In Studio and Gallery," history of the city's artists and dealers.

HERE'S *Color and Beauty* FOR EFFECTIVE STORE FRONT DESIGN

HERE'S A TYPICAL INSTANCE in East Grand Forks, Minn., where Pittco Products were used to give new life, gaiety and color to an outmoded cafe. Color scheme — wine, ivory and black Carrara, with Pittco Bronze store front metal and PC Glass Blocks playing prominent parts. Architect — Joseph Bell De Remer; Contractor — Forx Sash & Door Company.



COLOR—when used to advantage—often means the difference between a successful and an unsuccessful store front. Color catches the eye . . . makes a front outstanding . . . brings more business to its owner . . . and consequently, more store front jobs to the architect.

Architects have found that the wide range of colors offered by Carrara Structural Glass can work wonders in store front design.

In the standard colors—ivory, gray, jade, black, white, beige and Forest green—and in the trim colors—wine, Rembrandt blue and orange — Carrara may be used in countless combinations to make any design more effective. These colors are rich and vibrant. Never fade nor lose their beauty. Used with Pittco Metal trim of aluminum with alumilite finish, or

HERE'S *another*
PITTCO
STORE FRONT
Compare it with the old

architectural bronze, and in combination with Pittsburgh Polished Plate Glass, PC Glass Blocks and other Pittco Products, Carrara insures jobs that excite favorable comment . . . send more store front work your way.

Put the color of Carrara, the beauty of Pittco Store Front Products to work for you. Mail the coupon for information about this unified line of quality products . . . and for our free book which includes facts, photographs and figures of Pittco installations everywhere. And see the full size Pittco Store Fronts of the "Street of Tomorrow" in the "Forward March

of America" Building, and the miniature Pittco Fronts in the Glass Center Building at the New York World's Fair . . . or in the Homes and Gardens Building at the Golden Gate International Exposition.

Pittsburgh Plate Glass Company
2207-9 Grant Building, Pittsburgh, Pa.

Please send me, without obligation, your new book entitled "Producing Bigger Profits with Pittco Store Fronts."

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City State

PITTSBURGH PLATE GLASS COMPANY

THE AIR CONDITIONED CITY OF TOMORROW

Last summer few business men escaped the influence of air conditioning. Next summer it will descend like an avalanche as a potent business factor, making or breaking many commercial enterprises.


The business executive is thoughtful. He ponders over the benefits of air conditioning, its first cost, the cost per day, the amount of noise involved, and how long the equipment will last. Wisely he seeks the advice and counsel of an Independent Air Conditioning Engineer.

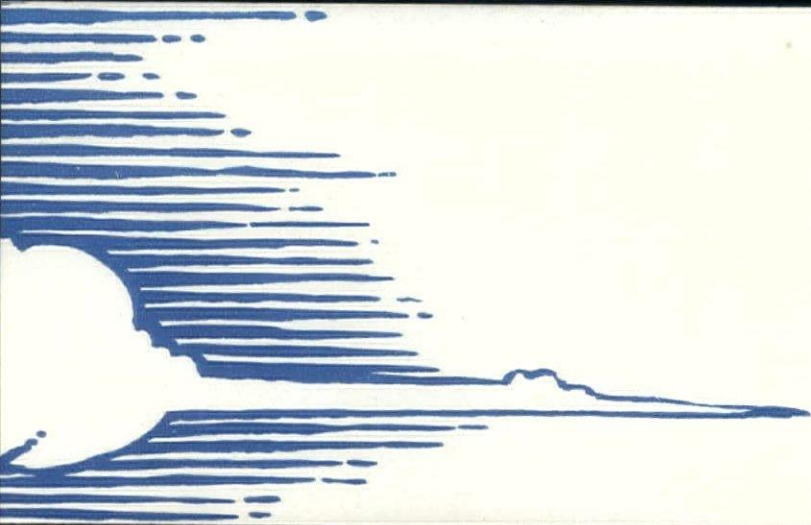
Worthington-Carbondale is in a position to assist the engineer—to help select the combination of equipment that will condition a given space economically, quietly, and with reliability over a long term of years.

A pioneer in refrigeration and air conditioning, Worthington manufactures every element, from compressors and evaporators to pumps and V-Belts, in all types and sizes.

The essentials of effective air conditioning are good engineering and good equipment. That's why so many independent engineers specify Worthington—the equipment designed specifically for air conditioning and built by an organization which is pre-eminent in the field.

Artist's drawing from photographs of a few Worthington air conditioned buildings


WORTHINGTON
CARBONDALE



WHY

CONSULTING ENGINEERS PREFER WORTHINGTON-CARBONDALE

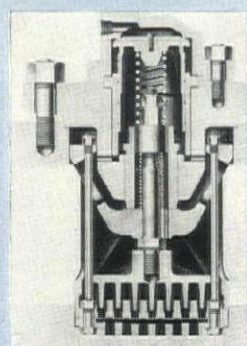
On every new job—the consulting engineer or private company engineer has *everything* at stake. Engineers who have been in refrigeration and air conditioning for a lifetime rely on the name "Worthington" for specific reasons.

1. Worthington compressors are built expressly for highest economy in air conditioning. The multiple-seal design reduces loss of refrigerant. Side thrust is removed from cylinder walls of large units by use of cross-head construction.
2. Quiet compressor operation is obtained through the use of the Worthington Feather Valve, a feature not obtainable on any other make of compressor.
3. This valve, ideal for dense gases such as "Freon-12," permits also a perfection of control that keeps cooling always in step with temperatures and humidity, eliminating the well known difficulties presented by the light loads of June and September.

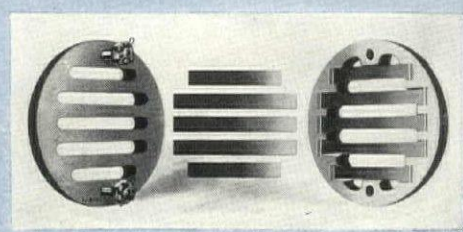
Worthington catalogs on all types of cooling and air conditioning equipment, including air conditioning units and shower condensers, are available.

CA8-29A

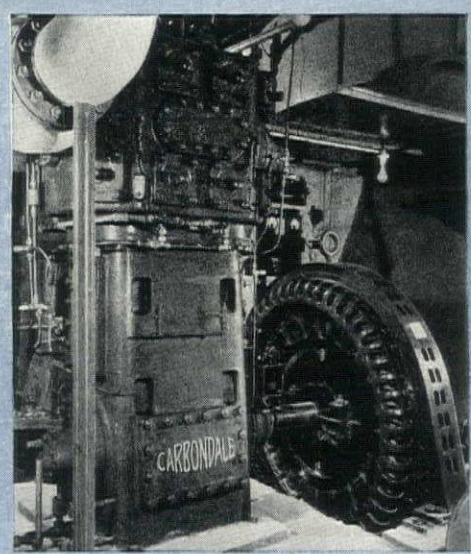
WORTHINGTON PUMP AND MACHINERY CORPORATION
CARBONDALE DIVISION • HARRISON, NEW JERSEY
Air Conditioning and Refrigeration Representatives in Principal Cities
AIR CONDITIONING EQUIPMENT
ELECTRIC • STEAM • DIESEL OR GAS DRIVEN



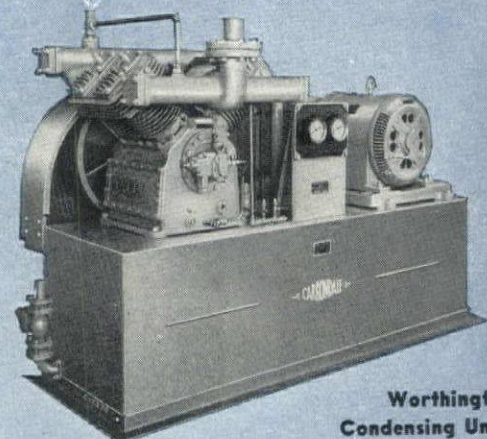
Unloading element for capacity control—an exclusive Worthington feature.



FEATHER valve



Worthington Vertical Duplex Double-acting Compressor for large tonnage installations.

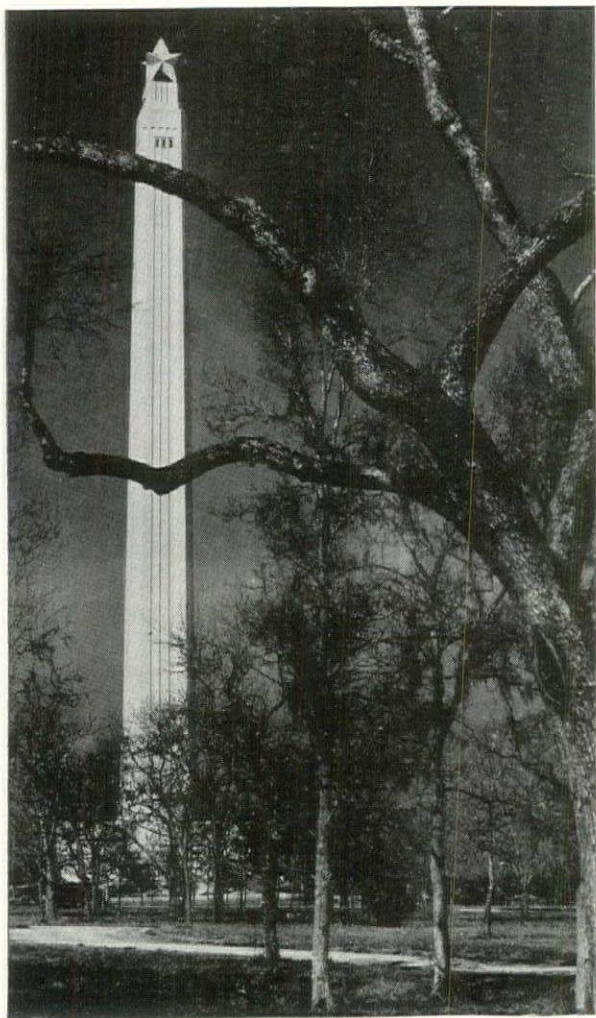


Worthington Condensing Units for service up to 125 H.P.



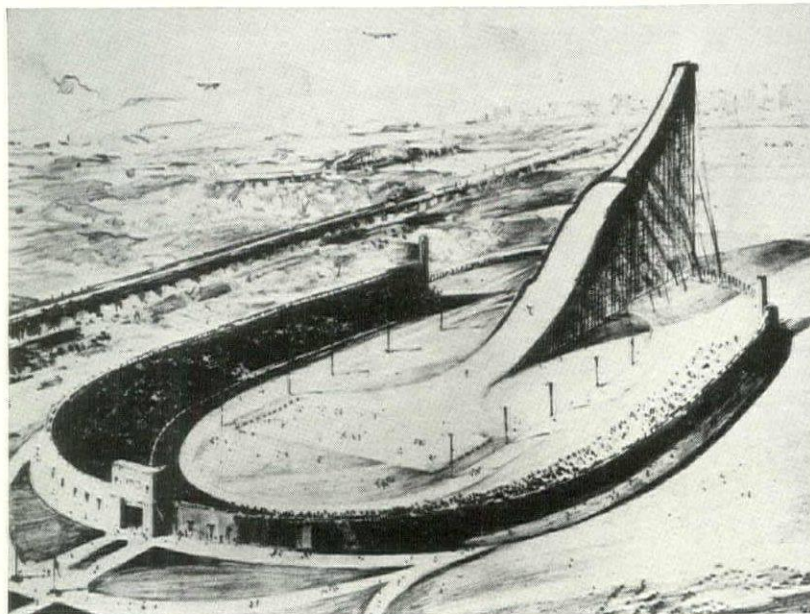
WORTHINGTON
CARBONDALE

FORUM OF EVENTS



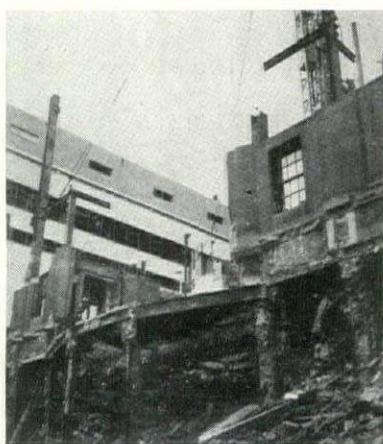
Bob Bailey

Texas—There She Stands. On the battlefield of San Jacinto, near Houston, rises this shaft of reinforced concrete faced with golden buff Texas limestone, topping the Washington Monument by 12 feet.



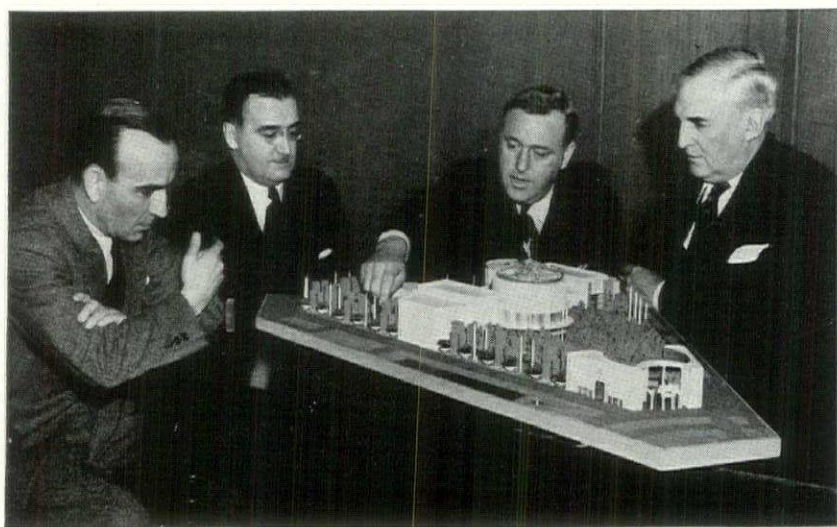
Acme

↑ **The Ski Belt Widens.** In Manhattan's backyard on Randall's Island, Park Commissioner Robert Moses moves to check population drainage to New England via ski trains.



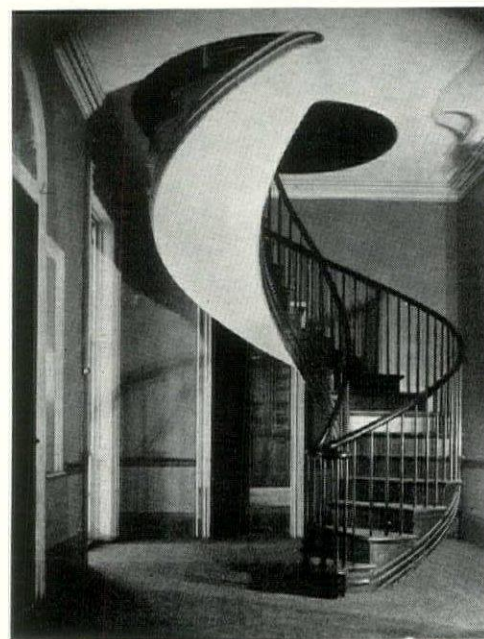
Frances T. Miller

← **Milestones.** Marking the end of one era, the beginning of another, down comes the Rockefeller Mansion in 54th St., New York, while back of it on 53rd St. rises the new Museum of Modern Art.



Martin Harris

Calling All Directories. A nationally known firm of architects takes a new name. Founded as Eidlitz & McKenzie, it successively became McKenzie, Voorhees & Gmelin; Voorhees, Gmelin & Walker; and now, reading from right to left, Voorhees, Walker, Foley & Smith.



Earl Norman

On to Natchez. March 20-April 2 dates the eighth Annual Pilgrimage to Natchez, Miss., where one may inspect ante-bellum houses, among which is Auburn (1812) and its stairway.

(Forum of Events continued on page 28)

Suppose we want an upstairs telephone some day?



MANY specifications today provide the perfect answer to that "client's question": built-in conduit to locations for both present and possible future telephones. Such provision for the future is good business and will impress your clients—and good practice, too, for conduit is the one way to overcome the complications created by many of today's building methods.

Wall insulation, fire-stops, duct-work and concrete effectively prohibit "fishing" wires through finished walls and floors. But conduit, built in during construction, is always ready to carry wiring through. This means that extra telephones may be added without exposed wiring, without piercing walls and floors.

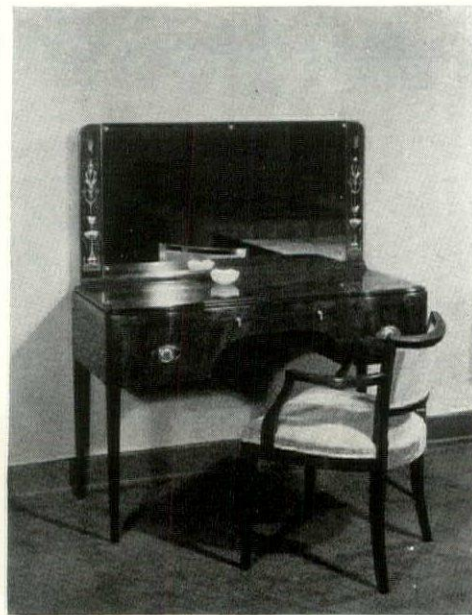
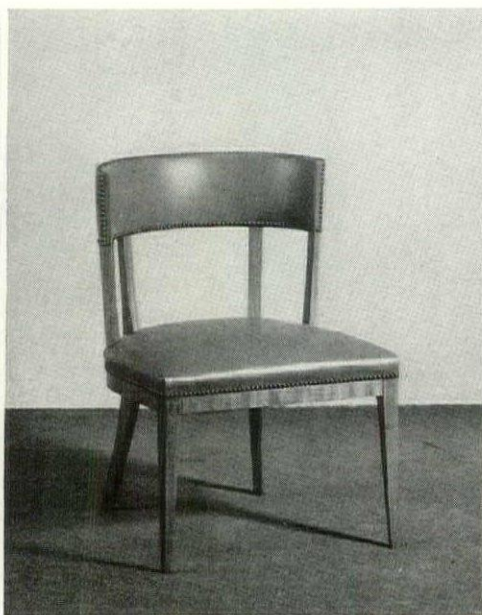
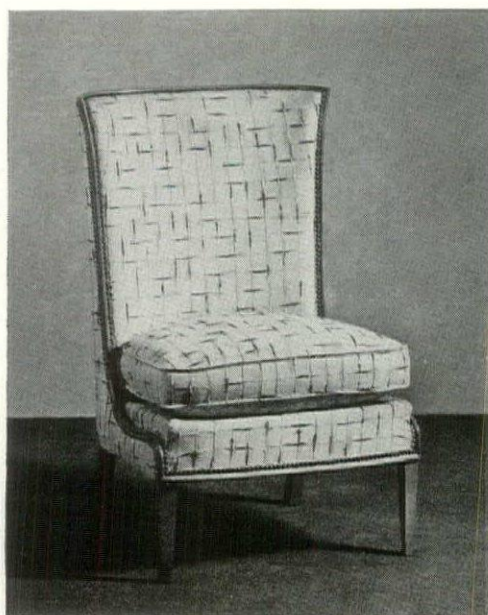
Built-in telephone conduit costs little. One or two lengths of small pipe are enough for the average small house. Call the telephone company's "Architects' Service" for suggestions in planning conduit layouts. No charge.



**PLAN TODAY
FOR
TOMORROW'S
TELEPHONES**

FORUM OF EVENTS

Continued from page 18



Resulting from a collaboration among Grand Rapids manufacturers are these and many other variations of a style they call Kentwood.

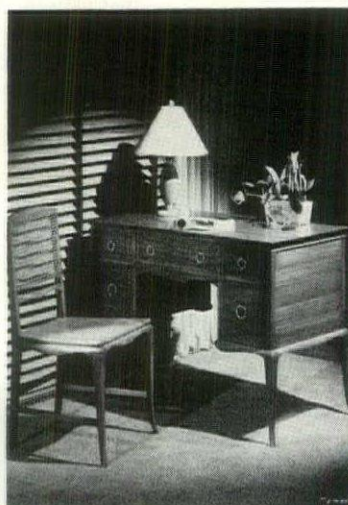
TEN THOUSAND BUYERS came to Chicago last month to inspect what furniture manufacturers had to offer. Ranging from beds of zebra wood to perfumed curtains, from armchairs of black patent leather to pink beach umbrellas, the market covered a million and a half square feet of floor space. Widely varying inspirations are derived from Sweden, from documented antiques, or from mechanical contraptions worthy of a Rube Goldberg.

IN GRAND RAPIDS, a name synonymous with the craft, nine manufacturers have collaborated in the promotion of Kentwood, a style "based on the eighteenth century productions, developed to suit a changing world."

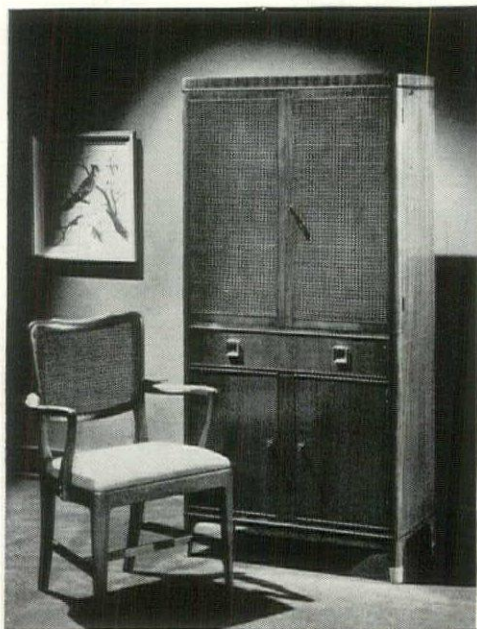
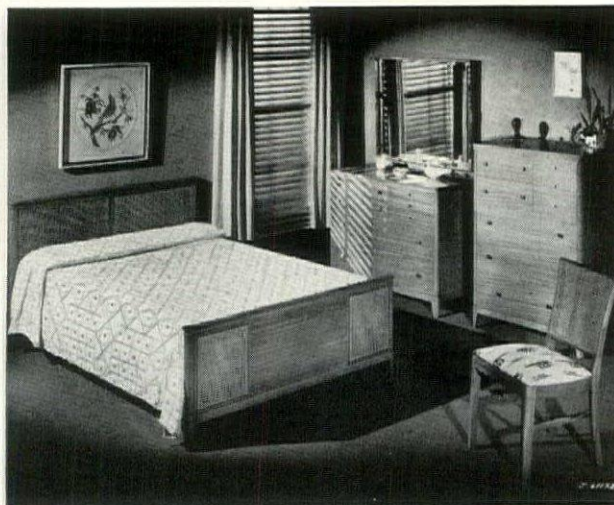
FURNITURE

As seen in Grand Rapids (above) and Chicago (below)

Swedish Modern



Caning comes back in Swedish



American Modern



Three-dimensional upholstery



Grignon Photos

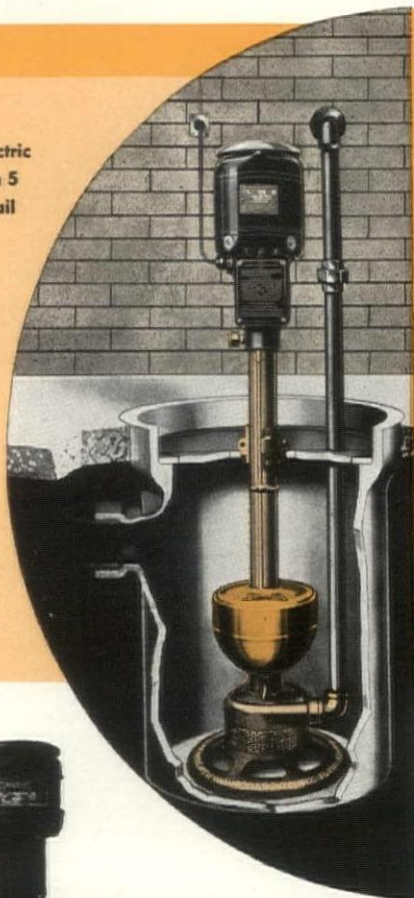
Memories of the Old South
(Forum of Events continued on page 34)

Why Penberthy Pumps PREDOMINATE

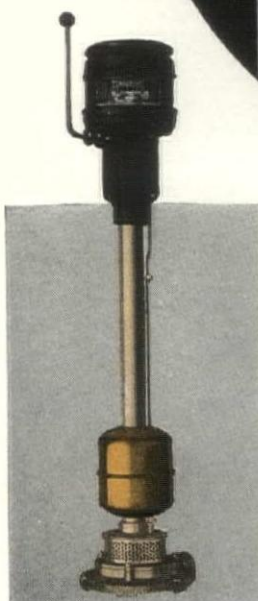
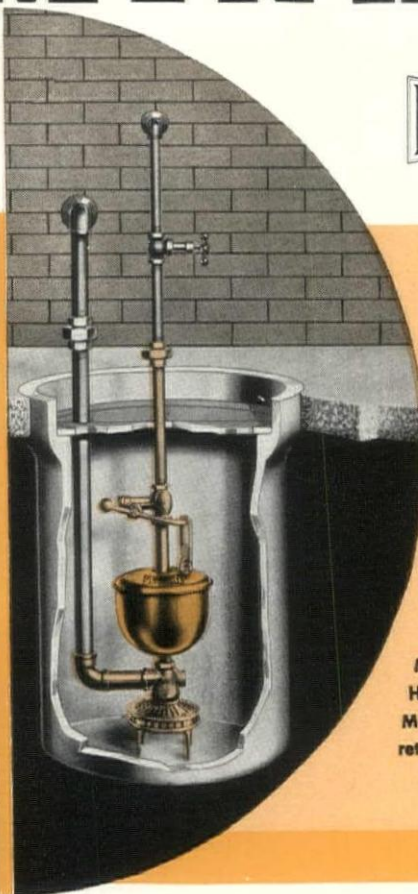
wherever seepage water
must be removed



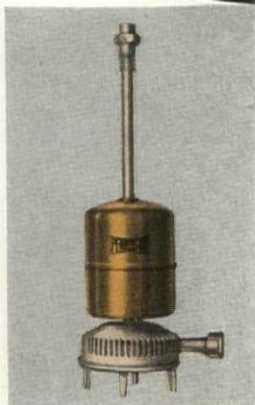
Model K Automatic Electric
Sump Pumps. Made in 5
sizes. Size No. 1K retail
price \$65.00.



Models R and L Automatic
Hydraulic Cellar Drainers.
Made in 5 sizes. Size 1R
retail price \$25.00.



Model 36 Automatic Electric
Sump Pump. Made in 1 size
only. Retail price \$39.50.



Model 5 Automatic Hydraulic
Cellar Drainer. Made in 1 size
only. Retail price \$14.50.

All prices are f. o. b. Detroit

PENBERTHY PUMPS are so universally used wherever seepage water accumulates because they have invariably demonstrated their superiority in this service. Their outstanding performance is grounded in their simple and rugged design, their careful workmanship, and the fact that they are built of copper and bronze throughout.

Leading jobbers throughout the country stock Penberthy Automatic Electric Sump Pumps and Penberthy Water Operated Cellar Drainers.

PENBERTHY INJECTOR COMPANY

Manufacturers of Quality Products Since 1886

CANADIAN PLANT, WINDSOR, ONT.

DETROIT, MICHIGAN

LETTERS

Plus (continued)

Forum:

We congratulate you upon the appearance of your new periodical PLUS, which will be surely a stimulating publication to us. . . .

DR. S. KOIKE

*Kaigai Bunka Tyuo Kyoku
Tokyo-fu, Nippon*

Forum:

The program of PLUS had our utmost interest.

Such program finds an inward correspondence in our conscience as we too are convinced of the great importance of co-operation in the field of art for the solution of human problems.

We greatly sympathize with you. Would you consider us your adherents and at your disposal for any contribution which may interest you?

G. L. BANFI

L. B. BELGIOJOSO

E. PERESSUTTI

E. N. ROGERS

Milan, Italy

Forum:

I noticed with pleasure the first appearance of PLUS in THE FORUM. . . .

Your solution of how to present radical modern art in a magazine of the type of FORUM appealed to us. Our only suggestion is that we would like more at a time.

WALLACE WOLCOTT

Scarsdale, N. Y.

Forum:

When I was but a youth (this would be perhaps 1910 if a failing memory still serves) there was a painter named Mondrian whose particular manner of expressing himself consisted of drawing lines at right angles to each other, producing eventually something not unlike a rather complicated tile floor. The Dutch and German architects seemed to like this and they made plans that closely resembled these paintings. Then some people called Constructivists came along and they did the same thing in three dimensions. A little later the painters and Constructivists got tired of just straight lines, and they put in some curves. The architects were quite strongly influenced by these happenings, as one can see from their buildings. And there was the Bauhaus, and more abstractionists, and after a while the Surrealists, who have now taken over all the swank show windows. It was very interesting.

Opening the December issue, in which

PLUS made its debut, was very pleasant, because it was like old times again, seeing the good old layouts, Mr. Gabo's antique constructions, some of those splendid buildings the Dutch and French have been doing for the past decade—even THE FORUM's old story on Fairs.

The list of PLUS collaborators, Messrs. Abramovitz to Shand, alphabetically speaking, is very impressive. Can it be that these people are doing and thinking about nothing except what happened in the slightly mildewed post-war years? Hasn't anything happened since Gertrude Stein discovered Gertrude Stein?

G. M. MATTHEWS

Chicago, Ill.

Forum:

I have enjoyed PLUS very much. It is something that is badly needed in this country. I do think though, that in its abbreviated form, it is not very impressive. It should be at least six times as big—and I do not see why it could not find a monthly following.

MURDOCK PEMBERTON

New York, N. Y.

Forum:

I have examined with great interest your new architectural protegee, PLUS. The first issue was very stimulating both in respect to choice of subject matter and to make-up. To judge by the quality of the first number and by the stated aims of the publication I should say that PLUS has an excellent chance of becoming a unique and valuable addition to American architectural literature. The list of its editors and collaborators is such as to make one confident in its future. I think that PLUS should have every encouragement and that's the reason I'm writing you to express the satisfaction I experienced in seeing a magazine of its type make its appearance.

HOWARD DEARSTYNE

New York, N. Y.

More critical of Plus is the January issue of The Magazine of Art: "It is no wonder that the Editors of THE FORUM set off these sixteen pages from the rest of their workmanlike book. The typography and layout by Herbert Matter date post-war German. Mr. Matter gets quaint and amusing effects. But he does not help us to read. . . . The Editors of Plus . . . are not given to the precious affectation, the backward look. What are these 'orientations' except backward? Plus will have to add to catch up." See page 137 for the new issue of Plus. THE FORUM invites further opinion, from it will determine the size and frequency of PLUS.—Ed.

Kitchen Fling

Forum:

I have noted with interest the small house information which you publish from time to time. Since my work deals largely with rural housing facilities, it is possibly a little different from most of the houses published in THE FORUM.

In the December, 1938, issue I especially noticed the article entitled "Engineering Takes A Fling." In checking over the house plans (page 479) it would appear that the kitchen plans had been almost deliberately laid out to be inconvenient and for no apparent reason. I notice the same thing in the Lambert Housing Plan (page 487). A great many times previously I have noticed the same thing in other issues.

Now, the point which I wish to raise is why more attention is not paid to the traffic through a house and to convenient working arrangements, better location of doors and windows in regard to wall space, and the placing of furniture. . . .

In our educational program in rural housing one of our primary points is to get people to understand that the convenience of arrangement in a house will determine to a major extent how the house will be used, the time required for various household operations, the kind of furniture that can be used, and whether the house will be properly maintained and kept up or whether it will be neglected and consequently have rapid depreciation. There is considerable research evidence to support these factors. Much of it is gathered by home economics departments of the Land Grant Colleges and the U. S. Department of Agriculture. Is it possible that these same factors do not apply to urban living or are they simply neglected?

G. R. SHIER

Columbus, Ohio

Low cost house planning still leaves much to be desired. For original research material on space and space relationships see THE ARCHITECTURAL FORUM, June 1936, page 445, July 1936, page 47, August 1936, page 133, January 1937, page 19, April 1937, page 245.—Ed.

Why Modern?

Forum:

Why do you publish so many of the so-called Modern Style residence designs? During my practice from an office in New York City and from my present address I have never had or talked to a prospective client who was interested in such a type of house. I have questioned several

(Continued on page 54)

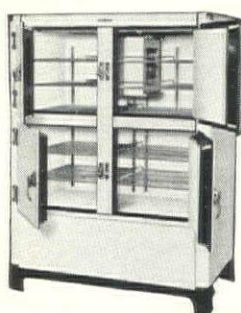
MORE VALUE PER DOLLAR INVESTED!



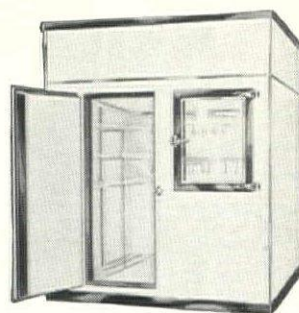
REFRIGERATION EQUIPMENT

FOR STORES AND BUILDINGS OF MAIN STREET, U. S. A.

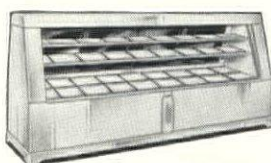
● Call on General Electric for assistance in planning the refrigeration needs for restaurants, food stores or any other type of commercial structure. G-E offers a *complete* line—from "plug-in" fixtures with matched refrigeration units built-in, to elaborate systems engineered and installed by G-E factory-trained experts. New money-saving features and engineering advancements assure thrifty operation, dependable performance and *enduring* economy. And your clients pay no premium of price for the PLUS value G-E offers. Write *today* for detailed information and specifications on the type of refrigeration equipment you may be contemplating for any new or modernization project. General Electric Co., Commercial Refrigeration Sec. CC2, Nela Park, Cleveland, O.



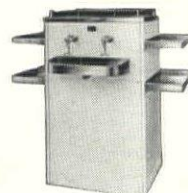
"Reach-In" Refrigerators, all sizes and capacities, including models with built-in refrigerating units.



"Walk-In" Coolers, any size. Equipped with G-E Conditioned-Air Cooling Units or Spinner Finned Coils.



Single and Double Duty Meat Display Cases, all sizes.



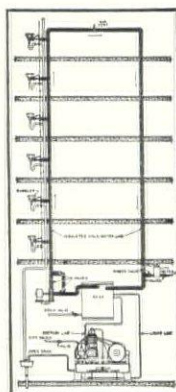
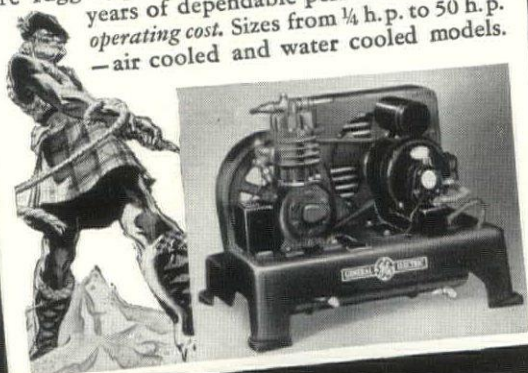
Cafeteria Water Coolers—Large capacity for peak loads.



Water Coolers for every purpose —12 different models.

THR-R-IFTY POWER BY THE FAMOUS G-E SCOTCH GIANT REFRIGERATING UNITS

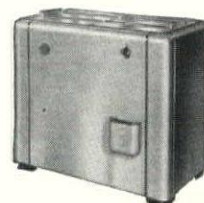
Standing head and shoulders above the ordinary kind, G-E's new "Scotch Giant" refrigeration units are rugged, powerful, thrifty... built for many years of dependable performance at *low* operating cost. Sizes from 1/4 h. p. to 50 h. p. —air cooled and water cooled models.



Circulating Drinking Water Systems to fit any size and type of installation.



Beer Cooling Equipment for all types of bars.



Bottled Beverage Coolers—3 models.

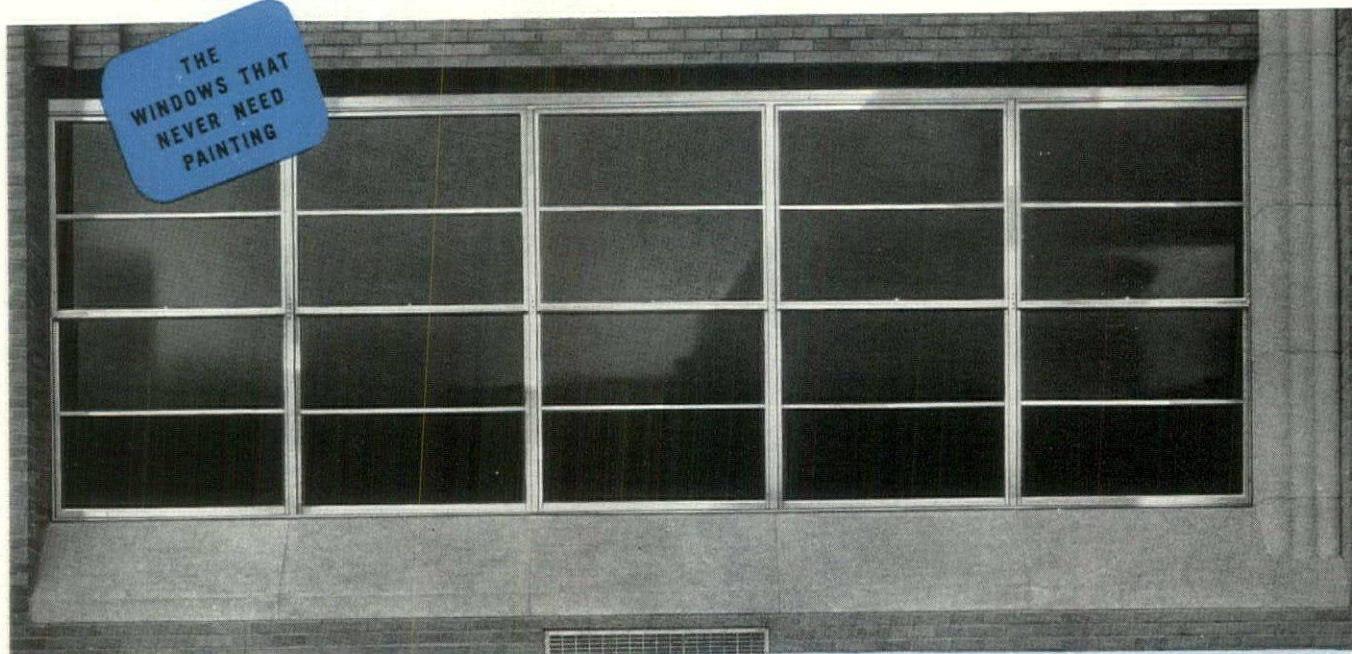


Low Temperature Ice Cream or Food Storage Cabinets —all sizes and types.

GENERAL ELECTRIC
COMMERCIAL REFRIGERATION

All-Aluminum* SEALAIR WINDOWS

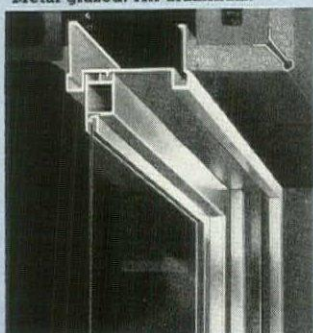
FOR ALL TYPES OF SCHOOLS, APARTMENTS, RESIDENCES,
COMMERCIAL, PUBLIC, AND MONUMENTAL BUILDINGS



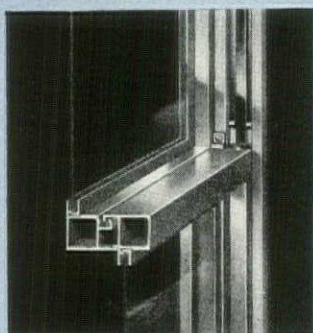
Series 220 Sealair Windows installed in Central Catholic High School, Fort Wayne, Ind. A. M. Strauss, Arch.

* SERIES 220

For openings up to 5'0" x 9'0".
Metal glazed. All-aluminum.



HEAD. All-aluminum sash and frame interlocked with felt cushion, sealing out air and weather.



MEETING RAIL. Double contacts, felt-to-metal and metal-to-metal, between strong, tubular rails.

KAWNEER Sealair Double-Hung Windows now meet all requirements for every type of building or residence—regardless of size, price range, or architectural style! Moderately priced, they offer many important and unique advantages. Furnished in complete factory-fitted units—in stock, standard and special sizes—for openings up to 5' x 9'. Putty or metal glazed. Today's outstanding window value! Write for further information.

ADVANTAGES

Rich, lasting beauty—with appealing satin finish and gloss of natural aluminum, plus refinement of design.

Strong, slender members and narrow mullions admit maximum daylight.

Drastically reduced upkeep expense, because all-aluminum Sealair Windows never need painting, cannot rust, swell, shrink, or rot out.

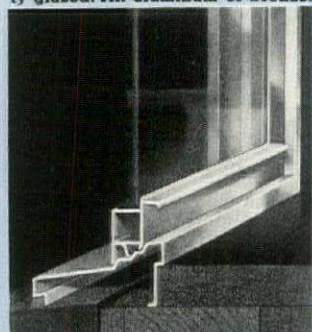
Weathertight construction for comfort, protection and fuel savings.

Easy operation at all times—no rattling.

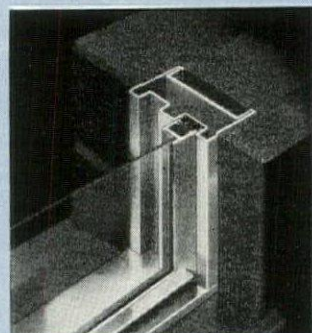
Moderate first cost, and definite maintenance savings over the life of the building.

* SERIES 120

For openings up to 4'0" x 8'0". Putty glazed. All-aluminum or bronze.



SILL. Aluminum (or bronze) with double baffle and felt seal, sloped to drain moisture to outside.



SIDE JAMB. Resilient weathering slides with the sash—concealed and protected by it.

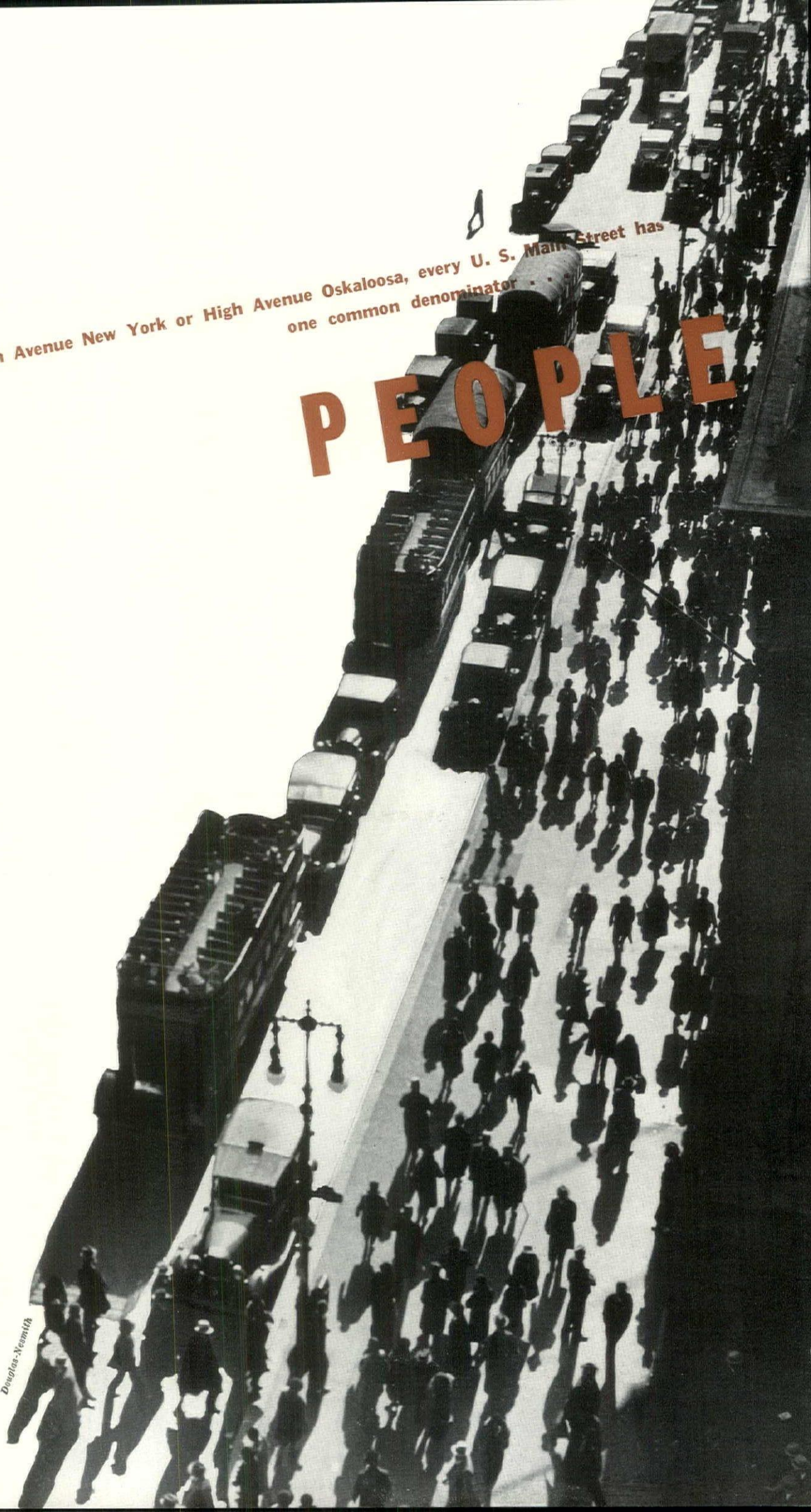
Kawneer

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

Whether Fifth Avenue New York or High Avenue Oskaloosa, every U. S. Main Street has
one common denominator . . .

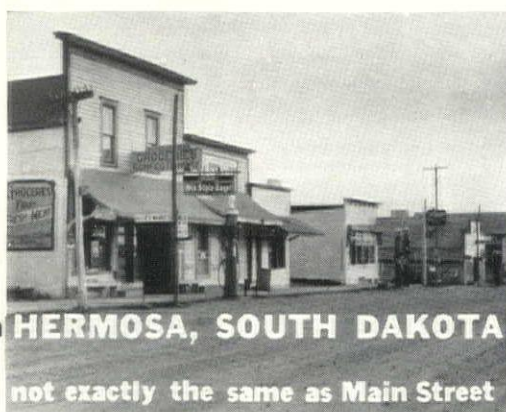
PEOPLE

Douglas-Nasmith



PEOPLE make business . . . better mousetraps notwithstanding, and retailers set up shop where the customers are thickest. This in turn brings more custom, since one who buys at Smith's is a potential buyer at Brown's as well, and more custom brings more business, until a retail center is formed. Nobody ever quite knows which came first, the people or the stores, or why the center forms exactly where it does, but the end product is clear: the principal shops in most communities huddle together within an area of a few blocks, usually on a single street. A street which in fact—and often in name—is “Main Street.” The sum of all such streets, on a country-wide scale is . . .

MAIN ST., U.S.A.



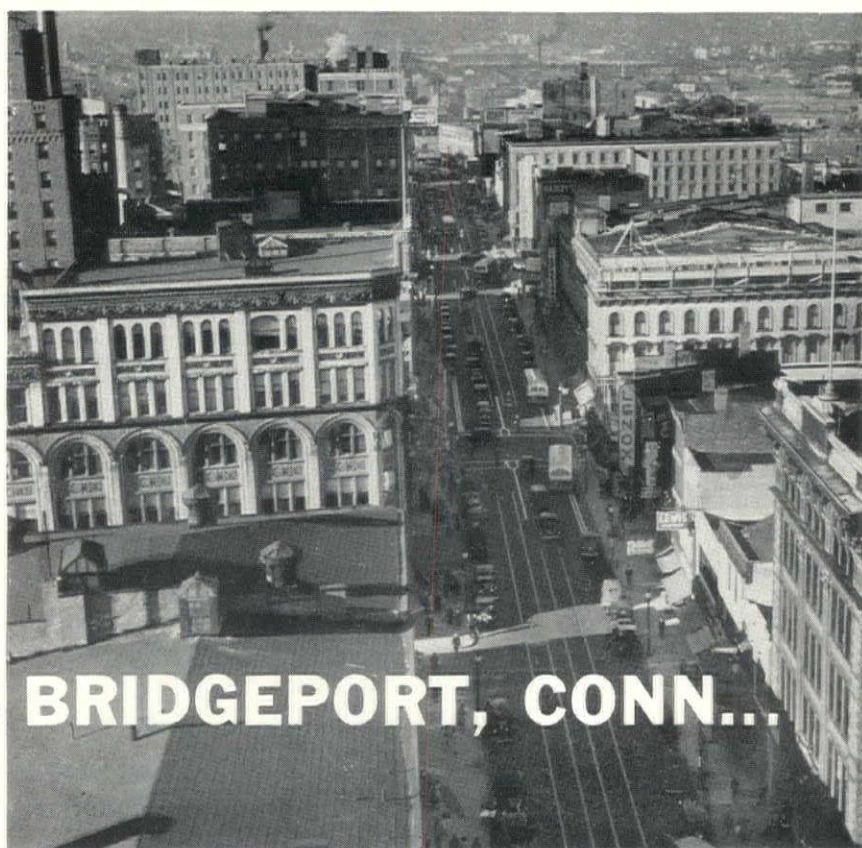
Main Street in **HERMOSA, SOUTH DAKOTA** is
not exactly the same as Main Street



in **DE LAND, FLORIDA...**

R. I. Nesmith & Associates

BUT the shopping centers of most towns—large and small—have a good many common features. They are more alike than different, as critics of the American Scene are fond of pointing out. “Breakfast Number Three” is likely to consist of the same orange-juice, toast, and coffee in New York, N. Y. and New Albany, Ind., and the drug store in which it is served is sure to be as nearly like its big-city prototype as the proprietor can make it. Main Street in a big town is simply a small-town Main Street with added attractions. There is an upper limit, of course, but in many quite large cities Main Street still retains its essential homogeneity, and is all the more representative because it includes the best—and the worst—features of the country's Main Streets from coast to coast. **One such city is**



BRIDGEPORT, CONN...

Hansel Mieth

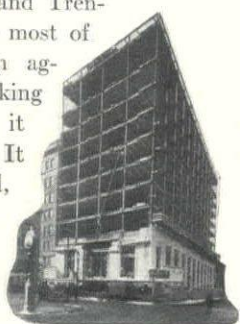
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BRIDGEPORT is representative because

it is big enough to have most of the features and most of the problems found on Main Streets the country over, small enough to retain the small-town atmosphere in which well over half the Nation's retail business is done. It transacts about the same amount of business



as Spokane, Wichita, Tulsa, Des Moines, Grand Rapids, Akron, Scranton, Jacksonville, and Trenton; and, like most of these, has an aggravating parking problem which it is solving in a fashion well worth imitating. It is somewhat smaller than cities like Portland, Dallas, Toledo, Atlanta, and Syracuse; but—probably because of its proximity to New York—its shop fronts and buses are just as up-to-date. And with smaller towns like El



Paso, Duluth, Nashville, Norfolk, and New Bedford it boasts a skyscraper (10 stories), vintage of 1928 . . . Bridgeport's largest electric sign, 2½ stories high, has 1,500 ft. of Neon tubing and burns 12,000 watts. In sharp contrast, its sexagenarian Post Office Arcade, lately renovated, still houses some of



its smartest shops. It has its non-conformists who cut prices to the bone and plaster their windows with signs, and a dignified jewelry store which this Fall quietly celebrated its 100th year in



business . . . Its 60 counterparts are scattered through 31 States, and at least twice that many would-be imitators half its size are striving to be as much like it as they can. In a word, Bridgeport's Main Street is Main Street, U. S. A., in the important sense that the business-man, realtor, builder, and architect should have no difficulty in comparing its features with those in his own home town.



MAIN ST. is interesting to the building fraternity in 3 ways:

1. as a real estate phenomenon

the place where land values and all-important ground-floor rentals peak and are most stable . . . where competition is keenest and activity reaches its highest pitch . . . where judgment and far-sighted vision earn the biggest premium

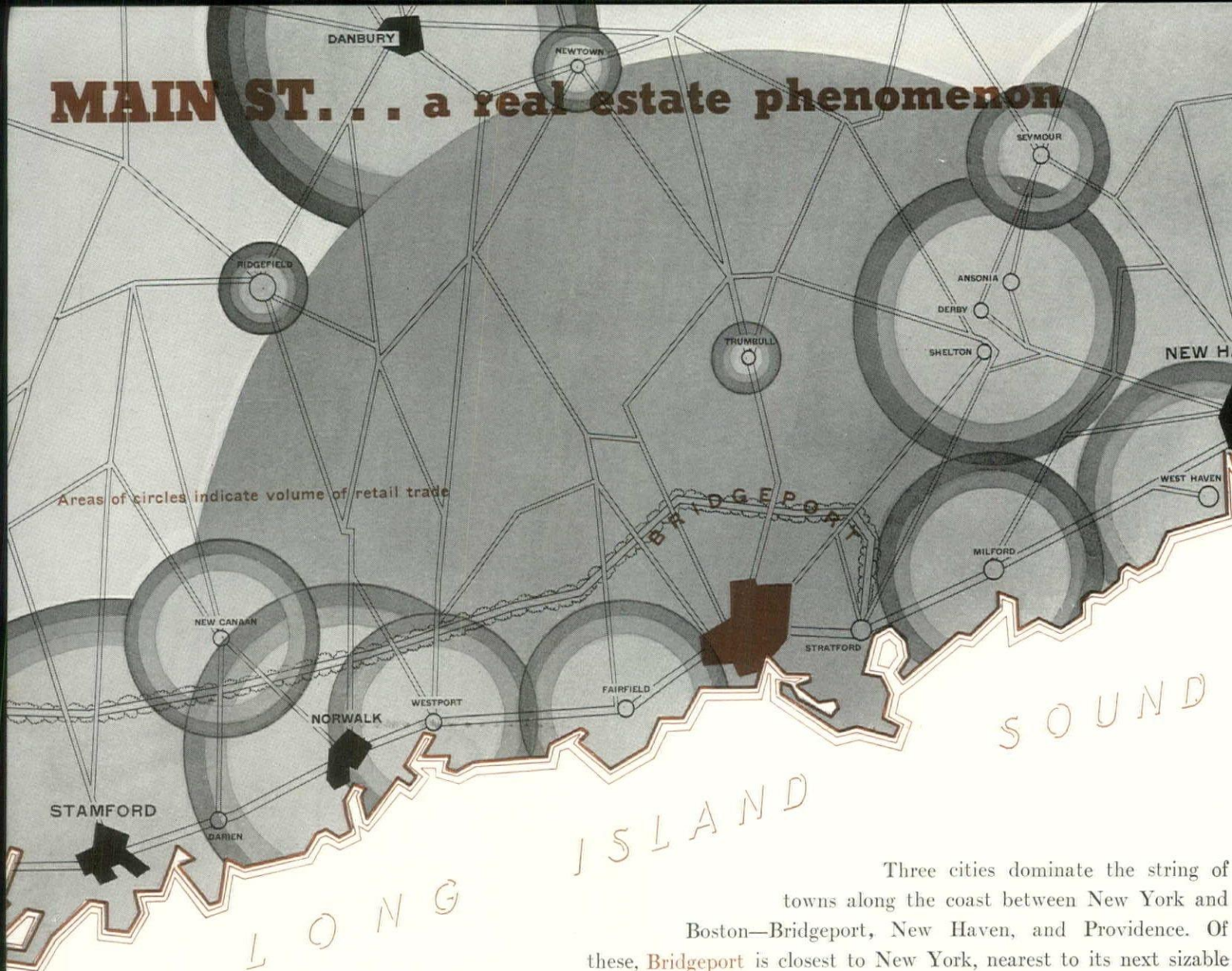
2. as a customer of Building

good in good times and a steady backlog when times are bad . . . Building's only repeat business . . . more receptive to new ideas than any other market . . . a market which emphasizes quality and workmanship to an exceptional extent . . . concentrated for easy selling

3. as a design problem

more exacting than any other . . . where Design and Dollars directly interlock . . . a problem which has produced many brilliant individual solutions but which put together too often spell chaos . . . a challenge and a whopping opportunity.

MAIN ST... a real estate phenomenon



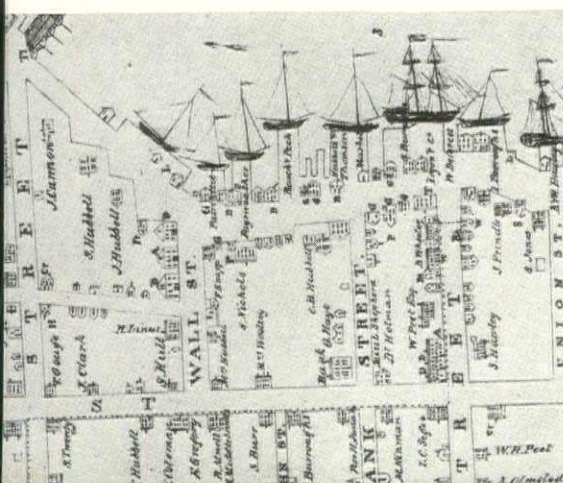
HISTORY

Unlike other New England cities, Bridgeport's history begins with the Nineteenth Century. As late as 1810 it was little more than a cluster of houses around the westward head of the new bridge connecting the villages of Stratford and Fairfield, less than 10 miles apart on the Boston Post Road. It was not until shipping shifted to its better harbor and the development of what were then prosperous inland farms made it an important trading center, that Bridgeport began to grow. Taking its name from its bridge and its port, Bridgeport was incorporated in 1836. Life revolved around the harbor. Half a dozen sailing vessels berthed next to each other along the wharves on Water Street was a common sight. Across the way was a row of shops and inns. Here, and on the wharves themselves, its 3,000 inhabitants did most of their simple shopping.

Water Street was Bridgeport's shopping center for a bare half-century. What time and change would probably have forced anyway, fire accomplished

1824

(Continued on page 78)



Three cities dominate the string of towns along the coast between New York and Boston—Bridgeport, New Haven, and Providence. Of these, Bridgeport is closest to New York, nearest to its next sizable neighbor—New Haven, and most closely surrounded by smaller competing towns. Hemmed in on the east by New Haven, on the south by Long Island Sound, and tapped on the west and north by Norwalk, Stamford, Danbury, and New York, the retail area which it serves is irregular and small for a city of its size—about 550 square miles, or less than that of a circle encompassed by a radius of 14 miles.

Bridgeport, in other words, is primarily a self-contained industrial town, and so describes itself. Its 146,716 inhabitants, with the 36,430 people in adjoining Fairfield and Stratford, together account for better than 80 per cent of its 225 thousand retail customers. Even on Main Street, which supplies mostly those more important shopping needs for which buyers customarily go a considerable distance, better than three-quarters of sales are probably made to people who live within 10 miles of the town's center.

As a wholesale center, Bridgeport's influence is a good deal more widespread. Besides its own sizable needs, it supplies those of some 3,500 retail outlets spread over southern Connecticut, does an annual wholesale business of almost 60 million dollars.

Despite this greater-than-usual importance of industry and wholesale distribution, real estate values and rentals in Bridgeport depend largely on the distribution of retail stores; which serves to underline the significance of this factor in city development and to indicate its definite importance to Building as a whole. Main Street is the place where real estate phenomena come to a focus, and the thing which, more than any other, determines the outlines of the picture is retail pattern.

RETAIL PATTERN

Bridgeport's 2,451 retail outlets spread over the entire city, provide every kind of customer service from the convenience of neighborhood stores to the variety of shopping centers. Like stores everywhere, they tend to cluster together and use the weight of their collective presence to attract customers.

Smallest unit in the pattern and largest numerical group is the neighborhood center made up of stores catering to every-day needs—the grocery, delicatessen, and drug store. Over 1,000 such stores serve the town, do an \$18 million business each year. On busier corners the unit grows to include hardware stores, small haberdasheries, tailor and shoe repair shops, beauty parlors, barber shops. These groups primarily serve residential areas, are only secondarily in competition with Main Street.

The next stage of growth, however, makes the unit a secondary shopping center (several are discernible as rows of dots on the map), and raises it to the level of competition with Main. Such centers provide much the same services as Main Street but in less variety. But nowhere outside the downtown area do assessed valuations go much over \$100 a front foot.

Bridgeport offers little evidence of the trend toward the creation of new shopping centers in outlying areas which has been reported elsewhere. A single furniture store on Milford Turnpike (7 miles from the center of town) is an isolated—if successful—example of this tendency.

SHOPPING ZONES

The downtown area (red rectangle in map above) is the apogee of Bridgeport store groupings. Within its 14 irregular blocks are some 300 stores—excluding service establishments, such as beauty parlors, etc. These retail stores are only one-sixth of the city's total of such stores, but do one-half—\$20 million a year—of the total business. This proportion sets the standard of value for Main Street real estate, makes it far and away the highest in town.

Bridgeport's 14 busiest blocks include all the kinds of stores any town needs. They contain all of the 6 big department stores, half of the 5 and 10 cent stores, half the clothing stores, three-fourths of the shoe stores, two-thirds of the furniture stores. On the other hand, only 2 per cent of the food and 6 per cent of the drug stores (the largest) are there.

Just as the volume of retail business defines real-estate values, so do the values in turn determine the location of various types of shops. Furniture and automobile stores need lots of space to display their wares, tend to locate on the edges of the busiest area where rents are lower. In doing this they set up sub-centers of their own. Auto sales logically center where people drive, extend along Fairfield Ave., the principal traffic artery. Department and specialty stores, on the other hand, depend on high turnover, need less space per unit of product, can therefore afford central locations.

ASSESSED VALUATIONS

Logically land values are highest in those areas that promise the most profit. And assessed valuations give proof that ground-floor retail stores define that profit: rents on second and higher floors average only one-quarter of these. Thus while high buildings dot the banking and office area at the end of Main, assessed valuations there average only 40 per cent of those at Fairfield, in the middle of the busy stretch. At that corner they reach \$5,200 per front foot, the town's top limit.

real estate phenomenon 1.



RETAIL PATTERN

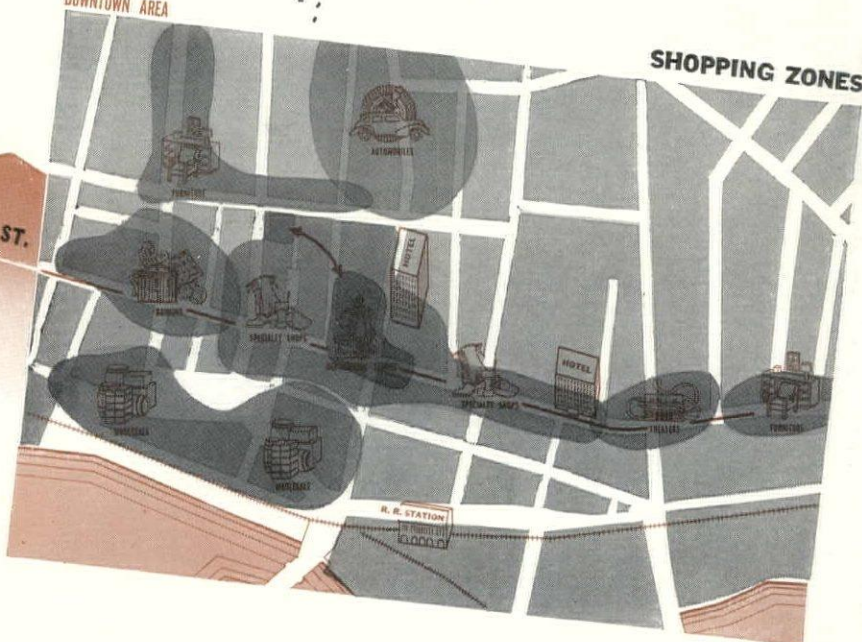
Each black rectangle represents one or more retail stores.

MAIN ST

DOWNTOWN AREA

SHOPPING ZONES

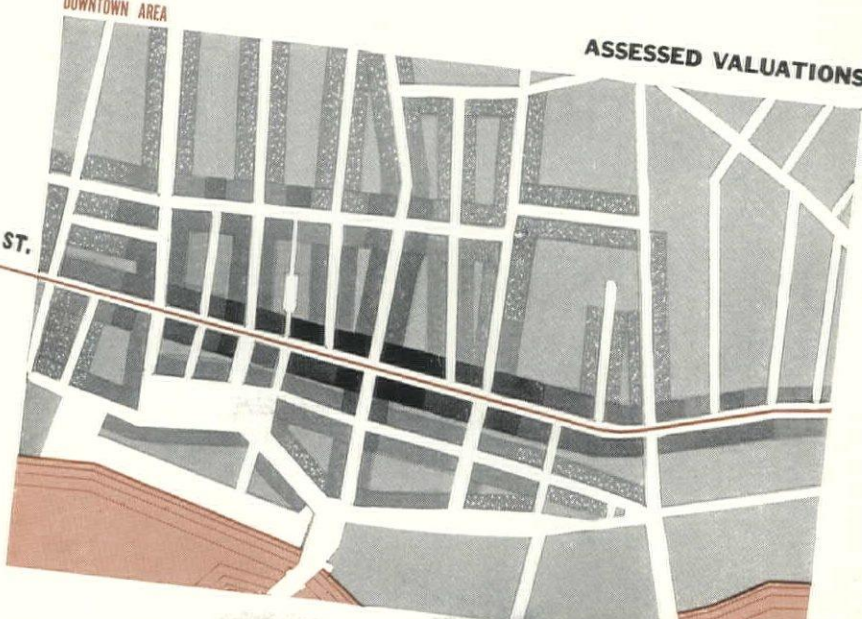
MAIN ST.



DOWNTOWN AREA

ASSESSED VALUATIONS

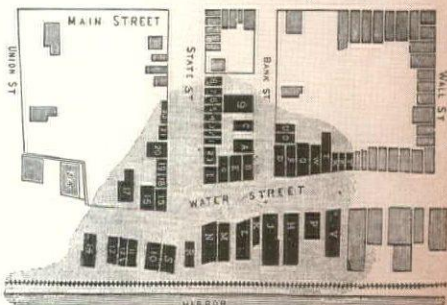
MAIN ST.



under \$100
\$100 - 500
\$500 - 1,000
\$1,000 - 2,000
\$2,000 - 3,000
\$3,000 - 4,000
above \$4,000

Assessed Valuation per front foot

HISTORY (Continued)



The Great Fire

overnight in 1845. On the cold night of December 12 it broke out in George Wells' oyster saloon. The tide was low, the water frozen. By morning most of the downtown area had been destroyed. From that year to date it has been Main Street, one block west, where people come to buy and sell.

The 94 year story of Main is one of expansion northward.

First the corner at State was the undisputed center. Here was the Company Block, part of which still stands, the oldest building on Main. But Main Street grew northward, and as it grew the center shifted. By 1875 it was the sumptuous new Arcade, 2½ blocks north. By 1900 it was Fairfield Avenue, a block and a half further.

In 1909 the elegant Stratfield Hotel opened for business, 3 blocks north of Fairfield, where Main bends around the steep slope of Golden Hill. Stores and restaurants followed; three new theaters went up. Main Street as a shopping center reached its maximum length of seven blocks.

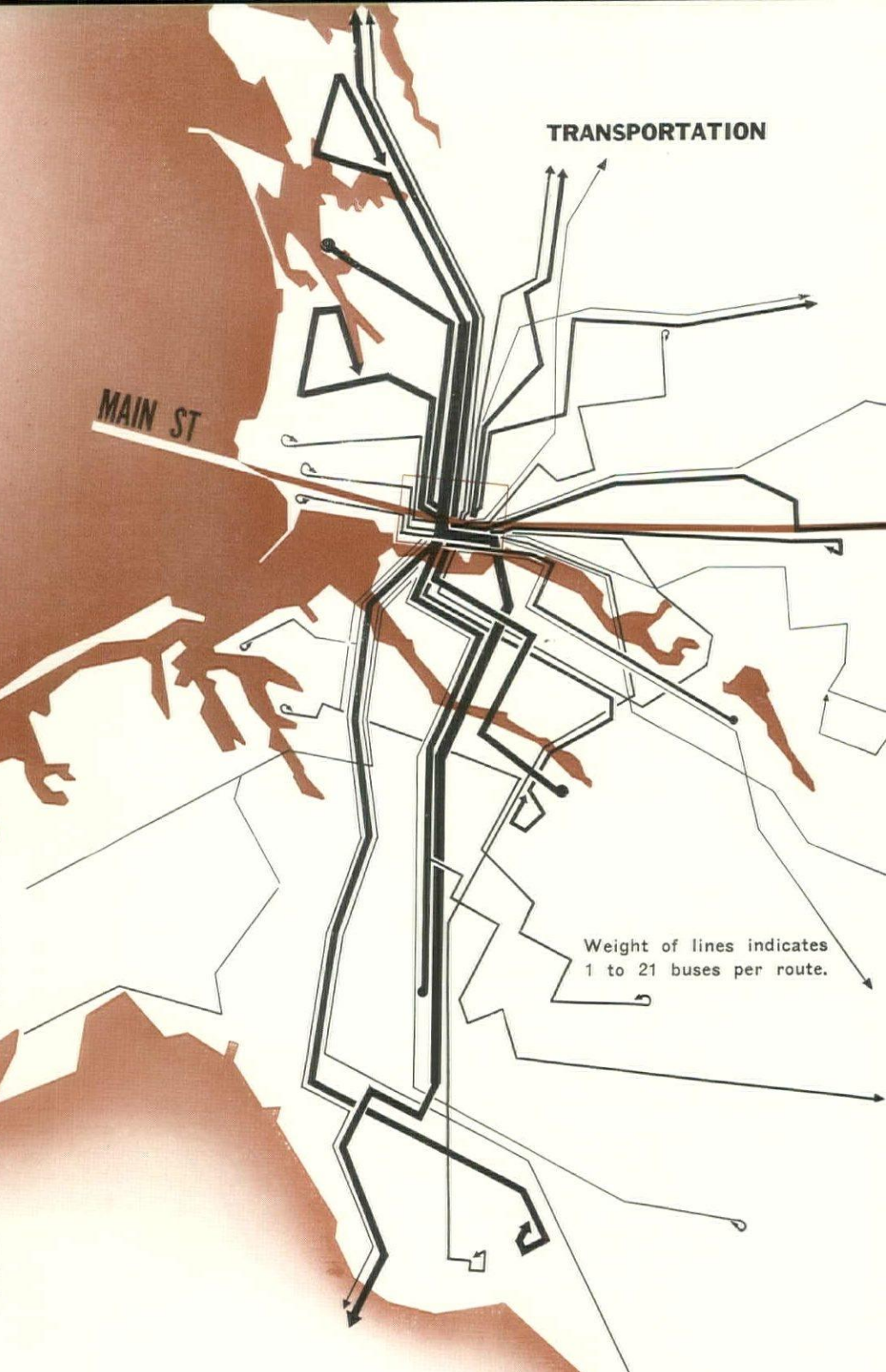
Consolidation to the south succeeded expansion to the north. Here, in the shadow of the banks and office buildings, quality shops tended to collect and remain. The north end of the street, near the theaters, has remained more active. Here vacancies are more frequent and new enterprises are launched, await their chance to move south.

Main Street's expansion, if any takes place, will probably be toward the west. Here the large furniture stores, squeezed out by high rents, have already formed a secondary center. Here, too, is Read's, the largest department store, which in 1926 boldly set up shop a block off Main, depending on its sheer bulk to draw the crowds. It did, but unexpectedly through a back door, by way of the ancient Arcade, whose owners promptly spent \$40,000 on improvements to tap this quality trade. Read's entrances and show windows on John and Broad remain largely neglected, indicating that Main Street's line of pedestrian traffic can be stretched, but is still a long way from being broken.

1857



TRANSPORTATION



Weight of lines indicates
1 to 21 buses per route.

Main Street is as important to the area it serves as its transportation system makes it. Without this system, Main Street would have a different set of land values, different buildings, different stores. In fact, Main Street would not be here at all.

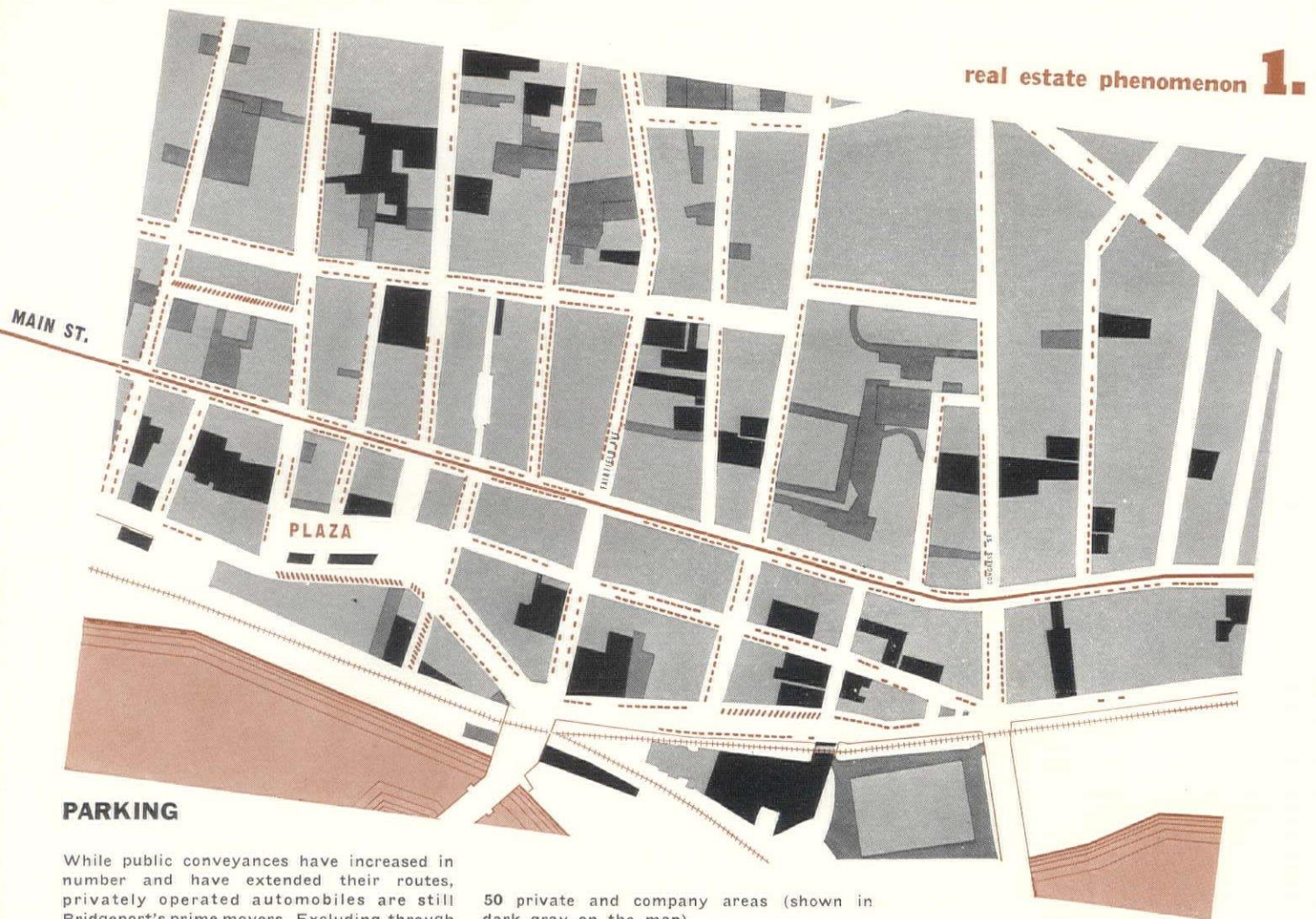
Mrs. Charles Morehouse of 509 Wood Avenue, has no trouble getting downtown—one minute's walk down to the corner, a short wait for the Brooklawn bus and a ten-minute ride. She probably knows the routine so well she could do it blindfold.

What Mrs. Morehouse does not know is that there are 195 buses in town. And, standing on the corner where Fairfield crosses Main she could probably count five or six of them—red, green, white, gray or yellow. For here nearly all of them come together. Covering a local network of more than 100 miles, tapping every part of the city and reaching out to Norwalk, Danbury, Waterbury, Milford and New Haven, they make 3,000 trips a day. And they all come back to Main Street or the Plaza, one block east.

Three-fifths of all Bridgeport bus fares come from Main Street's pockets. Unloaded here in the early morning are perhaps 5,000 people—shopkeepers, clerks, salesmen, waiters, stenographers, business men and professionals. During the day less-crowded buses ply their routes, add another 10,000 (mostly shoppers) to the downtown population.

As complicated as this 26-bus-route business is Bridgeport's transportation history.

First there was the horse car. Next, the electric car. Then the auto bus. It was during the War that the solidly entrenched traction company met its competition. Streets swarmed with jitneys which stole passengers from under trolley conductors' noses. The jitneys grew and assumed the more dignified title "auto bus." Then came State-licensing of operators, and 300 drivers were regulated out of business. The remaining 80 incorporated into a dozen independent bus companies which today do half the business. The old traction company abandoned its tracks, installed motor carriers to take the other half.



PARKING

While public conveyances have increased in number and have extended their routes, privately operated automobiles are still Bridgeport's prime movers. Excluding through traffic, 10,000 cars are downtown all or part of every working day—bringing the daily Main Street population to about one-fifth of the city's total. Thus, parking in the vicinity of Main, where streets are of horse-and-buggy width, is a problem of the first magnitude.

More concerned about circulation than storage, local police have progressively restricted street parking. Today, only five out of the eight miles of curb are open, making room for 1,428 automobiles at a time. And the time is supposedly limited to one hour. Two-thirds of all parked cars manage to squeeze into these 25,000 ft. (Actual location of 1,200 automobiles at 3 P. M. is shown on the map above). The others are found elsewhere—in the parking lots.

Surrounding Main Street is an irregular patchwork of cleared land on which thrive 43 public parking lots (shown in black). For 15 cents, or for 25 cents if closer to Main, the motorist may leave his car for the day. Or, if he can find space in one of the two-hour parking areas marked off on the Plaza, or if he is a customer of Sears, of Conlin's, of Nothnagle's, or of the Public, the King Cole or the Washington food markets, he may park his car for nothing. And, there are still other parking facilities at eight public garages and at

50 private and company areas (shown in dark gray on the map).

Bridgeport's parking lot business has, of course, grown with the automobile business. Prior to 1928 there were only seventeen lots with a combined capacity of 1,279. Since then 26 more have sprouted (sixteen of these during the past four years), giving berths to 1,867 additional cars. Due to this increasingly important business, hidden alleys and vacant lots have recently come into prominence. It has also accounted for the demolition of several buildings. One may now park his car where once stood a theater, an ice cream plant, a Turkish bath house, a livery stable, a hotel, the telephone building and a couple of churches.

Better to solve Main Street's parking problem, the Chamber of Commerce has advanced many

and various schemes. Parking meters were proposed, but protested by retailers on the ground that money in the meters would be money out of their cash registers. Parking on only one side of all streets was another unadopted plan. Claiming that parked cars obstruct their traffic, bus companies have stumped for complete elimination of parking along their downtown routes. Again, retailers protested, and the Chamber of Commerce appeased the carriers by urging that the public travel by bus. Other embryonic schemes shed light on the Main Street of the future: a co-operative parking area financed by the larger stores for their customers; multi-story, ramped parking garages; even a Ferris Wheel for parked cars.

WHERE MAINSTREETERS PARK THEIR AUTOMOBILES

	CAPACITY	AT 3 PM	PER DAY
STREET CURB	1,428	1,200	6,000
PUBLIC LOTS	3,146	1,433	2,866
PUBLIC GARAGES	1,325	165	180
ALLEYS, PRIVATE LOTS	1,675	622	650
TOTAL	7,574	3,420	9,696

1922

1939

Main St.

Plaza—2 hours

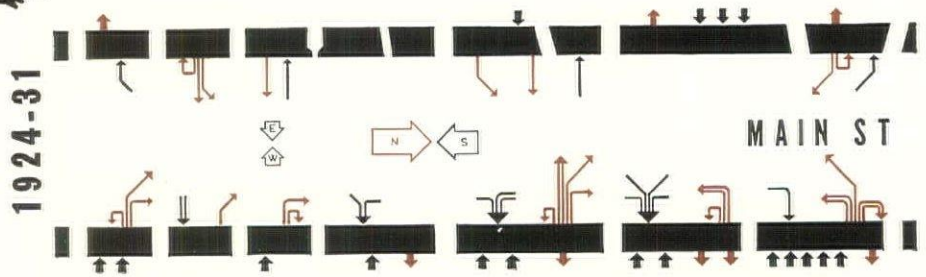


TENANT TURNOVER

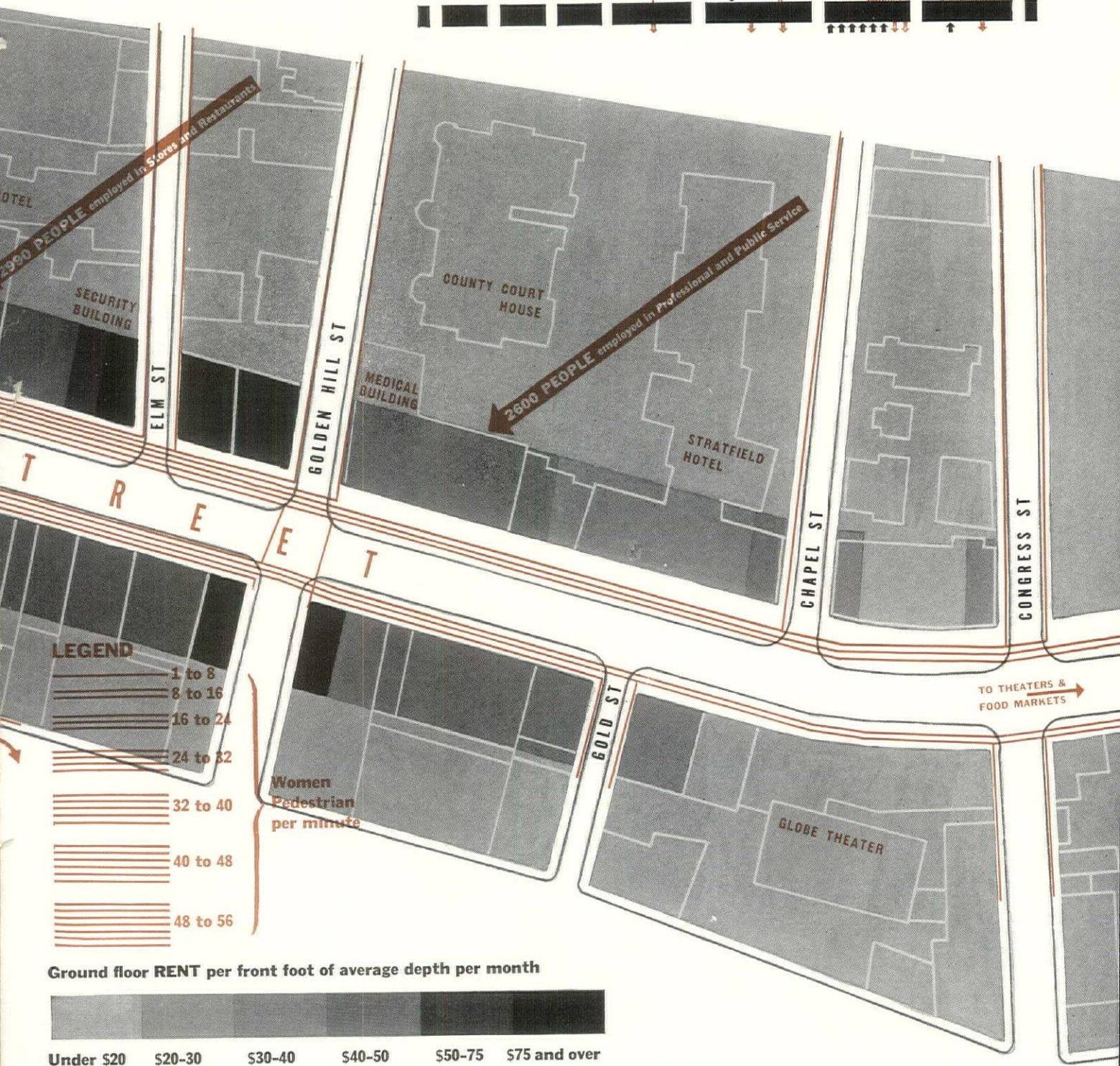
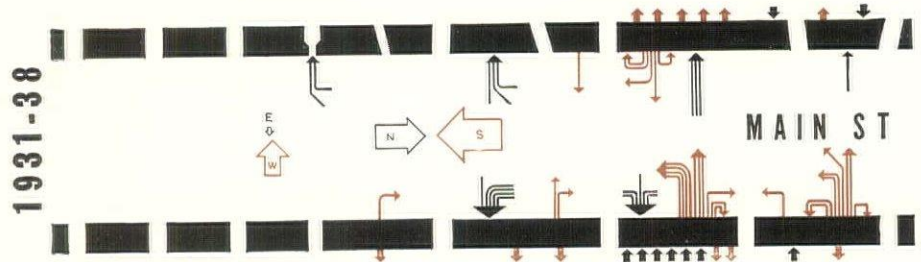
Moving on Main is determined by length of lease. Shops in the busiest sections have long leases, seldom move. In the less desirable sections, however, owners purposely write short-term leases in the ever present hope of upping rents. Result is, their tenant turnover is great, and moving a Main Street norm. Turnover during the past 15 years has averaged better than 17 Main Street stores per year.

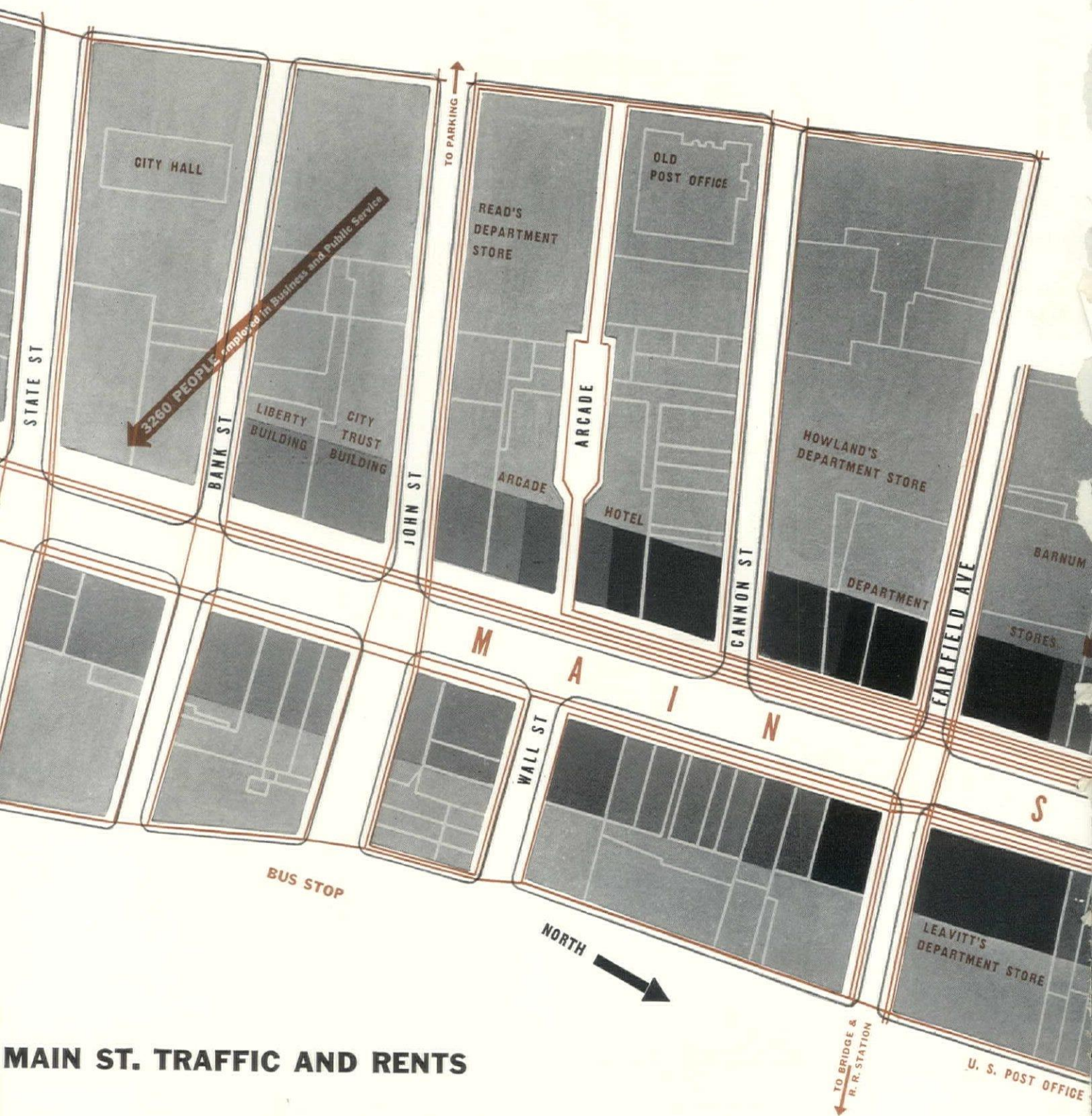
New shops entering the street must perforce locate where there is a vacancy. So the block with the biggest blossom of arrows is the most active port of entry for newcomers—indicated by stubby black arrows at the back of the blocks. These new shops fail most often, thus accelerate turnover. Stubby red arrows outside the charts mark those that left Main or went out of business.

Moves show a definite trend, and the trend shifts. The large outline arrows in the middle of the street indicate that between 1924 and 1931, moves across the street to the west were exactly balanced by those to the east, moves south down the street overshadowed by moves north. But from 1931 to 1938 the trend reversed, headed south and definitely toward the west side, indicated a tendency toward consolidation of trade in large, centrally located stores.



Charts show store movements on Main Street by blocks. Black arrows indicate stores moving in; red arrows, stores moving out. Long-stemmed arrows bend in the general direction of movement, up and down and across Main. When the move was on the same side of the street, but into another block, the arrow heads directly up or down the street, otherwise the move was across to the other side. When a red arrow bends back on itself, this indicates an intra-block shift.





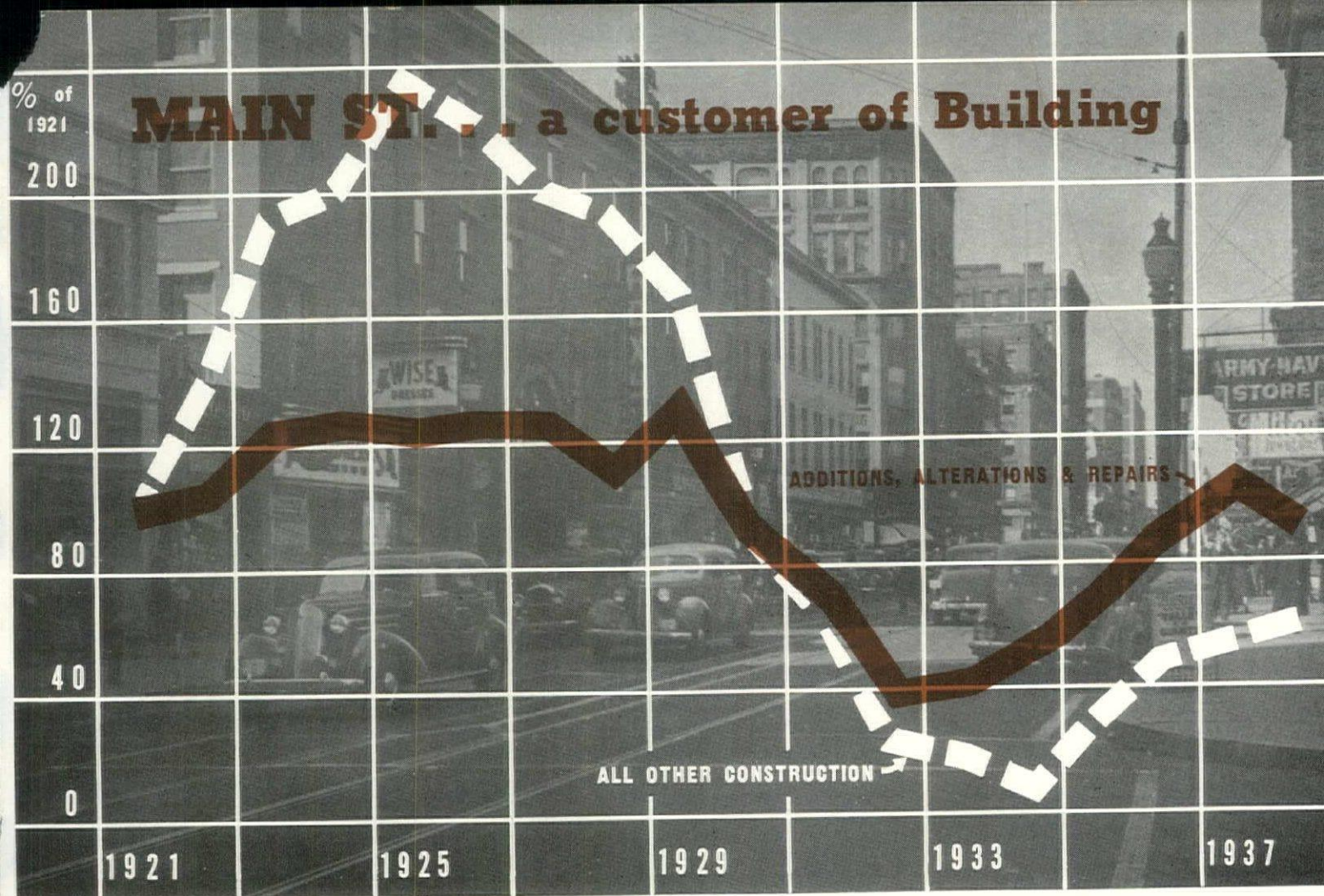
MAIN ST. TRAFFIC AND RENTS

Pedestrian traffic (especially women) means business, and business means higher rents. In the center of Main Street's active zone traffic is dense, business is big, rents are high. Intensity of all three is in direct proportion to the distance from this apex of activity. Thus, ground floor rent on the corner of Main and Fairfield Avenue (the busiest corner) is \$82 per front foot per month (the highest rent); halfway down the street, opposite Wall, it is \$43 per month; still further down on the northwest corner of Main and Bank, a mere \$28. Pedestrian counts on these three locations paint the same picture: 48 to 56 women per minute, 24 to 32, and one to eight, respectively.

Despite concentration of office personnel at either end of the street, practically all these Main Street shoppers come, not from offices, but by auto and bus from residential areas, plus a few on foot who live near by. Main Street's pedestrian pattern and resulting rents were not always thus. Its rents have gone up and down the scale in tune with business conditions and the scale has gone up and down the street in tune with Bridgeport's history. Between 1929 and 1933 Main Street shop rents decreased 10 per cent—notably small when compared to the 30 per cent drop in the level of residential rents. Still far beneath pre-Depression highs, they are now on the way up. Last year the rent

collector took in \$918,000 from shops alone (rent for the average shop is about \$500 per month). In addition upper floor tenants (who occupied four times as much floor space) paid about the same total amount; making Main's 1938 rental income some \$1.8 million.

Today, Main Street landlords take more proprietary interest in their premises, write more percentage leases than at any time during the past decade. And, as a protective measure, such leases are now required by many chain store tenants and an increasing number of independents. About half of all new leases run for five to ten years, but at least a tenth are still on a month-to-month basis.



MAIN STREET'S 7 BLOCKS HAVE:

—136 stores in place of 155 fifteen years ago; a present median store width of 14 ft.

—only four buildings which are less than fifteen years old; average age of Main's 56 buildings is just 50 years.

—practically no outstanding modernization debts; most jobs are paid up within five months.

—only three properties whose landlords share a substantial portion of the tenant's modernization expenses.

—had an increase in average store front modernization costs from \$2,480 in 1930-35 to \$4,149 in 1936-38.

—had no failures resulting from over-investment in store improvements.

—forty terrazzo entrance floors, 50 in tile, the balance in cement, wood or stone.

—one hundred and seventy-five outdoor signs, which, side-by-side, would cover a quarter of an acre.

—a total of 9,800 ft. of neon tubing—enough, if combined into one tube, to run up and down the street four and one-half times.

—averaged two new signs a month during the last two years at an average cost of \$370 each; they have ranged between \$50 and \$3,000.

—an electrical consumption of 500,000 kwh. per month—twelve times the consumption of a secondary business street of equal length.

—eighteen automatic burglar alarms, thirteen protective time clocks, six automatic sprinkler systems.

Modernization of the Nation's Main Streets accounts for a sizable chunk of total additions, alterations, and repairs—the trend of which is above compared with that for all other construction in 257 cities. As a market, modernization is relatively **steady**: it rises less, falls less, and recovers earlier than the market for new building.

On the central part of Bridgeport's Main Street, the annual modernization bill is about \$200,000, or a little more than a tenth of gross rentals. Chart within the fold (opposite) covering the fifteen-year period from 1924 to 1938, inclusive, shows the year, value, and type of every modernization which required a permit and every other modernization which tenants could remember. Density of expenditures (red figures) in the Recovery period may be attributed in some degree to the fact that 1936, 1937, and 1938 are still fresh in Main Street's memory. Nevertheless, it is reasonable to conclude that these years have been the biggest modernization years in Main Street's history, and this accelerated pace so far shows no signs of falling off. Apparently, modernization begets modernization. Note also that modernization (red marks) during vacancies (white spaces) invariably precedes reoccupation of premises.

The following tabulation, summarizing the data presented on the chart, spotlights expenditures made for air conditioning during recent years.

MAIN ST.'S MODERNIZATION MONEY AND WHERE IT WENT

	5 YEARS 1924-29	5 YEARS 1930-35	3 YEARS 1936-38	TOTAL
STRUCTURAL	(A) \$300,450	\$ 22,625	\$111,775	\$434,850
STORE FRONTS ¹ .	(B) 91,290	131,440	224,255	446,985
INTERIORS ² .	(C) 137,450	159,960	229,555	526,965
AIR CONDITIONING	(D) —	4,000	39,750	43,750
TOTAL	\$529,190	\$318,025	\$605,335	\$1,452,550

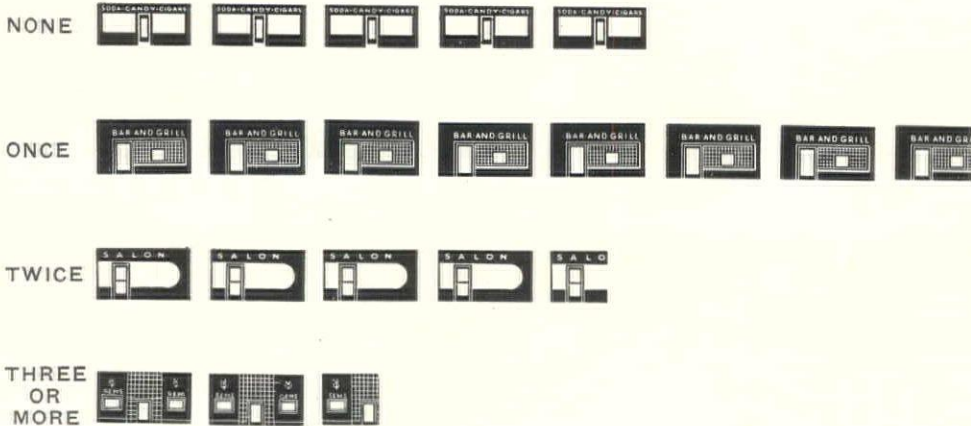
¹. Excludes signs

². Includes fixtures, electrical work and equipment

FREQUENCY OF MODERNIZATION 1924-38

In calculating the frequency of Main Street's modernization, THE FORUM considered only those undertakings which entailed an expenditure of \$1,000 or more. It is to be noted, however, that 21 per cent of the stores included in the uppermost division at the right modernized periodically but never spent more than \$1,000 in any one year. Thus only 4 per cent actually braved the fifteen-year period without modernizing. In addition to work shown on the store-by-store chart (inside fold), larger stores spent as much as \$10,000 per year for maintenance; smaller stores, as little as \$50; the average store, about \$200.

Modernization expenditures by Main Street stores average .6 times their monthly rent. Biggest spenders are Main Street's nine jewelry stores which during the last three years invested 14.4 times their monthly rent in modernization. Following in short order: Women's clothing, shoe, and drug stores. At the bottom of the heap: 5 and 10 cent stores and shoe, hat and watch repair shops with expenditures of 1.5 and 1.0 times, respectively.



Each symbol represents 5% of total number of stores of all types

COST BREAKDOWN—TYPICAL MAIN ST. MODERNIZATION

While producers of lumber, masonry materials, glass, and plumbing get the cream of Main Street's modernization money, the total is divided among many. Main Street is the leading market for such materials as porcelain enamel, extruded metals, lighting fixtures, air conditioning, special and quality finishes, flooring, etc.

Not every job, of course, costs \$5,400, but Contractor John L. Simpson, among Bridgeport's busiest, offers the one opposite as typical. A store paying \$10 rent per front foot per month will spend an average of less than \$1,000 on a single modernization; a store paying \$40, will spend \$4,000; a store paying \$70, \$15,000.

CARPENTRY	\$800	14.8%	METAL TRIM	\$375	6.9%
LATH & PLASTER	727	13.9	FLOORING (vestibule)	90	1.6
PAINTING	300	5.6	HARDWARE	53	.9
PLUMBING	575	10.6	WIRING	240	4.4
TWO TOILET STALLS	70	1.3	ELECTRICAL FIXTURES	70	1.3
GLASS	400	7.4	STORE FIXTURES	1,700	31.3
				\$5,400	100.0%

MAIN ST.'S MODERNIZATION PLANS FOR 1939-40

A canvass of Main Street's future plans indicates that 1939 and 1940 will equal or surpass 1938 in modernization volume. Cost of work not now planned will more than double the indicated total.

(Below) Main Street got its first new building since 1929 when 2 partly vacant 78-year-old derelicts at the corner of Fairfield and Main gave way to this 2-story structure of brick, structural glass, and glass block last Fall, at a cost of \$50,000, to which tenants have since added an estimated \$28,000. Demolition and construction took a total of but 3½ months. Work of Bridgeport Architect Herbert C. Elton, its modern design would be equally at home on New York's swank Madison Avenue.

TYPE OF JOB	NO.	COST	TYPE OF JOB	NO.	COST
STORE FRONTS	37	\$148,000	LIGHTS & WIRING	6	\$ 1,800
GENERAL INTERIOR	28	28,000	EQUIPMENT & MACHINERY	4	2,000
STORE FIXTURES	17	17,000	SIGNS	2	400
STOCK & SERVICE AREAS	9	9,000	AIR CONDITIONING	19	47,500
				122	\$253,700

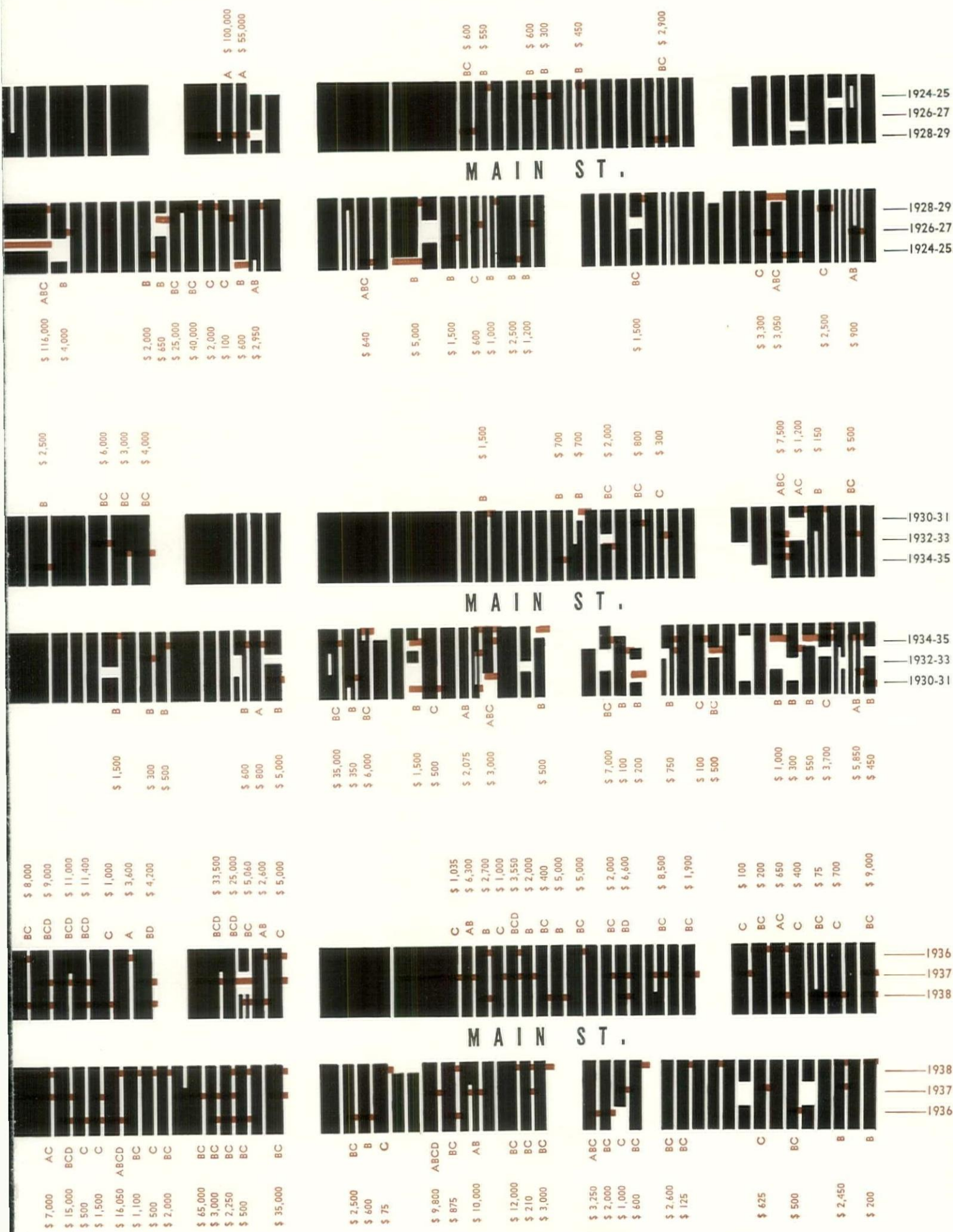
Sept. 12

Oct. 3

Nov. 10



FORE ANALYSIS OF COSTS AND KINDS

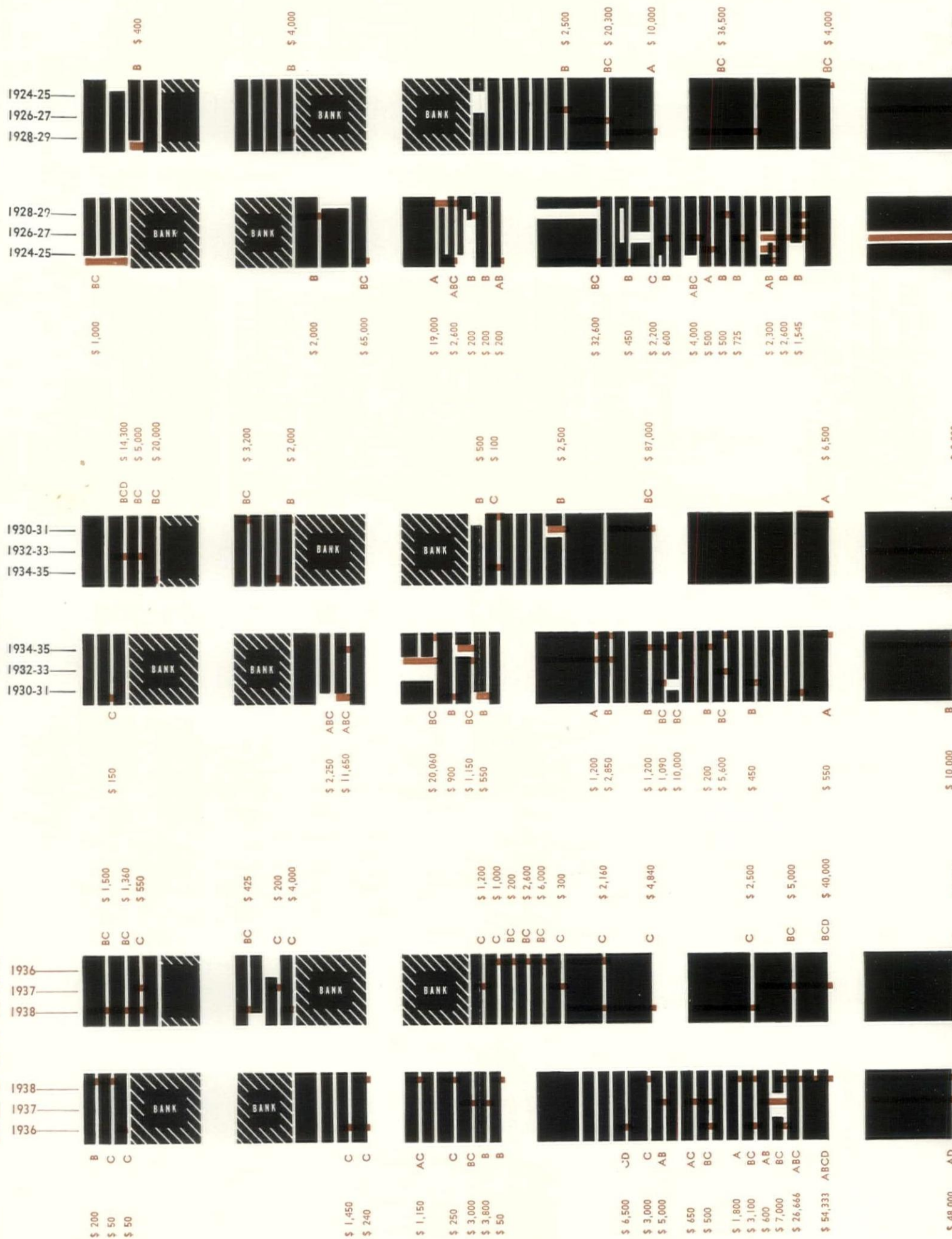


15 YEARS OF MAIN ST. MODERNIZATION—A STORE BY STORE

PROSPERITY

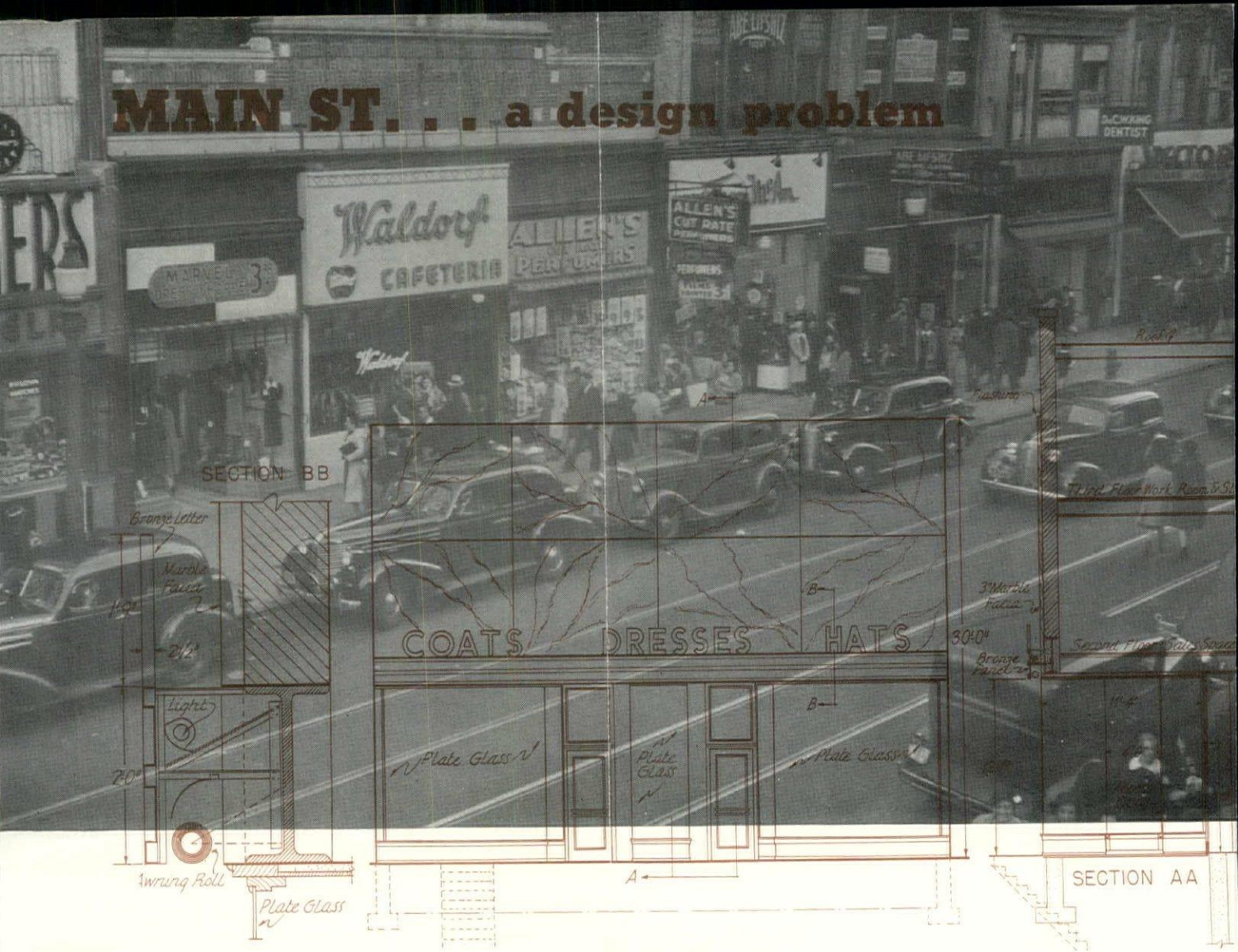
DEPRESSION

RECOVERY



KEY The three pairs of horizontal strips above represent the two sides of Main Street by years during the six-year prosperity period, the six-year depression period and the three-year recovery period. The vertical bars represent individual stores, vacancies in which are indicated by white, horizontal areas. Red marks to the right of stores designate the year of modernization; red figures, the cost; red letters, the kind: A—structure, B—store front, C—interior.

MAIN ST. . . a design problem



MAIN ST. TRENDS

—toward a more exact proportioning of show windows to display needs according to type of merchandise and store width—as shown by increased use of small, "shadow-box" windows in jewelry stores, very large windows, open to vestibule as well as street, in women's clothing stores, shallower windows and vestibules in broad-front variety and ten-cent stores.

—toward centered entrance doors to provide increased show window visibility.

—toward deeper vestibules for greater display length: in narrow clothing stores, for example, vestibule depths up to 20 ft. are now common.

—toward higher fronts, designed to make individual stores visible for greater distances, in some cases at the sacrifice of second-floor windows.

—toward quicker merchandise turnover, leading in small stores to the virtual elimination of the stock room, in larger stores to provision of space for stock on the selling floors.

—toward less use of basement space for storing stock, increased use for heating, refrigeration, and air conditioning equipment.

—toward increased installment buying, necessitating a special "Thrift Department," usually located at the rear of the store to stimulate impulse sales.

—toward a greater use of modern floor materials including linoleum as inserts and special cut carpets.

—toward more adequate electrical wiring: over half the stores have been rewired in the last 18 months to meet increased current requirements, more rigid inspection.

—toward greater use of indirect and localized lighting—already 5 women's shops, 3 restaurants, 2 jewelers, and 1 optician, drug and department store have up-to-date installations.

Main Street is design conscious. Today's shopkeeper regards modernization as an essential part of his merchandising technique, and employs the dramatic attention getting qualities of modern architecture as an **extra salesman** of prime importance. And as more and more stores on Main are improved, modernization tends to become not a question of choice but of survival.

This throws an exceptionally heavy responsibility on Main Street's architects. Form must follow practically in function's footprints, and a mis-step may make the difference between success and failure for an important client—or at the least necessitate costly changes later.

Main Street is thus no place for the dreamy-eyed artist or the architect who refuses to keep up with the times. But for the alert designer who is willing to view the retailer's needs with sympathetic understanding and able to translate them into business-getting ideas, it presents the exceptional **opportunity** of an appreciative clientele and a repeat business.

But Main Street's architectural opportunity is much larger than this. Despite the improvement in the design of individual stores which has taken place in recent years, Main in sum total is still far from attractive, and nobody regrets this more than the store owners themselves. A forest of projecting signs in which none is wholly visible defeats its own purpose, and their owners are on the alert for some system of **regulation** which takes into account their special needs and problems. Failing this, the architect who is able to bring even a semblance of order out of present chaos—an ideal not too hard to realize—is likely to be viewed as a Messiah on Main.

Store design is based on

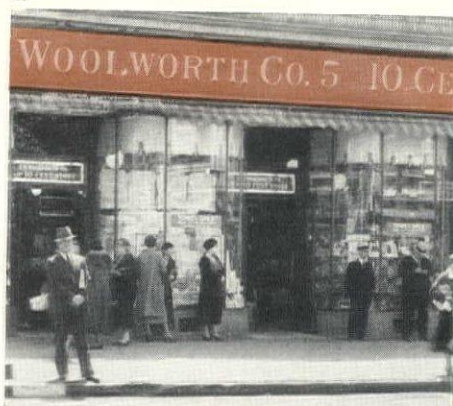
1. IDENTIFICATION

A symbol proclaiming a store's wares to the passing public has long been a form of salesmanship. Examples: the cigar store's wooden Indian, the shoe store's boot, the saddler's horse and the key maker's key (1.). More recently the symbol has been varied to include readily recognizable sign colors and styles of lettering (2.), especially in the case of chain stores. Regal's shoe stores (page 95) show the evolution of this sign standardization through 24 years of modernization. Chain store identity may also be established through some such design quirk as circular windows (Cushman's bakery, page 105). Even independents may be more anxious to publicize a trade mark (3.) than to conform to the architect's idea of good design.

1.



2.

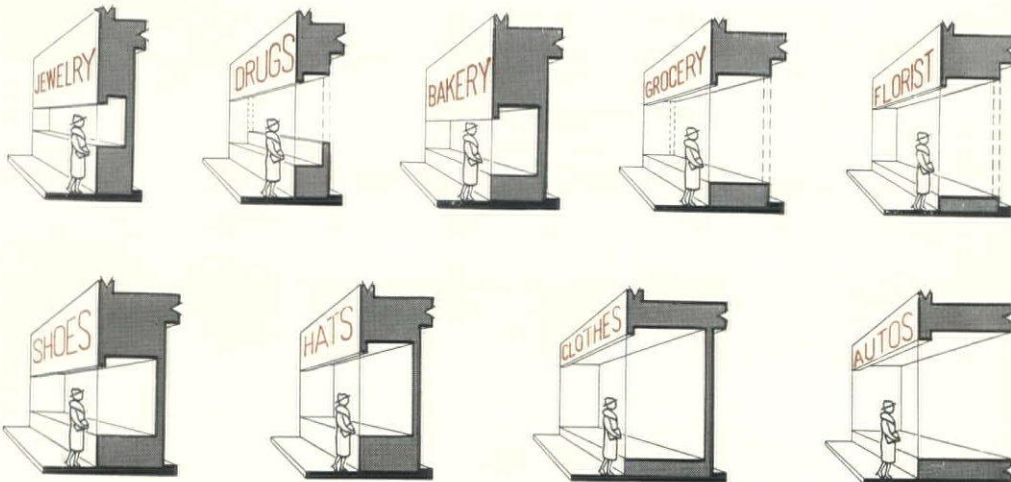


3.



2. DISPLAY TECHNIQUES

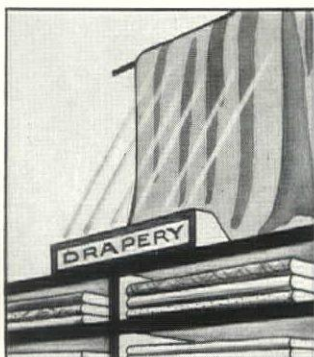
Far from static has been the trend in sidewalk display techniques. In general it has been marked by progressively larger bulkheads and, in many cases, by lower window heads. However, the trend has varied with the type of merchandise displayed. The jeweler's merchandise is small in size, is therefore brought closer to the window-shoppers' eyes, and the bulkhead is consequently above average height. Cakes and pies look best from above, thus bakery bulkheads are comparatively low. Since clothing and automobiles require more space and can be better seen from a distance, their show windows are large and deep. It is therefore evident that store front design is not determined by designers' whims; the size and shape of the display window is the controlling factor behind the proportions and appearance of the entire facade.



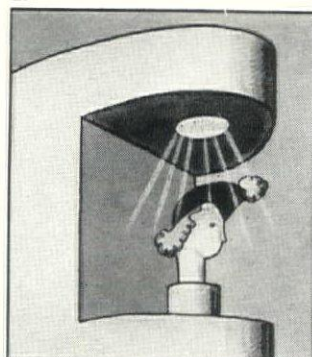
3. LIGHTING

Store owners prefer monochromatic interiors, in which lighting takes the place of color and is used to build up a scale of values which focus attention on the merchandise. Thus, localized lighting is used to accent a bolt of drapery (1.), spotlight a featured hat (2.), and emphasize display shelving (3.), and the store-architect must combine these elements into a satisfactory whole by making lighting an integral part of his design. In small shops with limited budgets this function must be performed by general lighting fixtures with a strong downward component designed for use above counters.

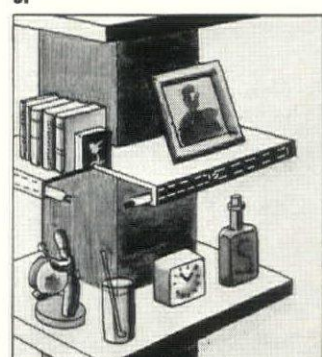
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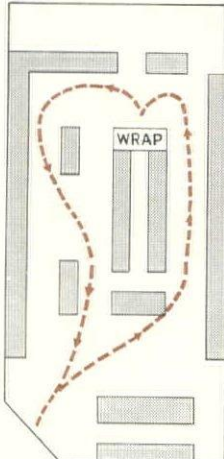
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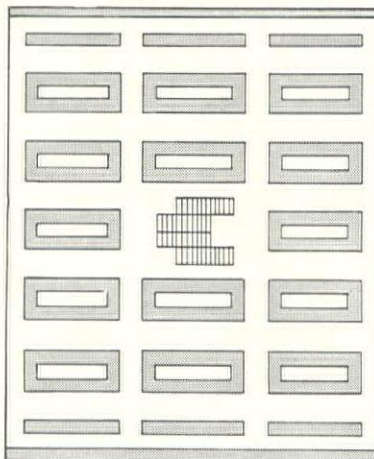
4. CUSTOMER CIRCULATION

A secret of small-store circulation (1.) is location of the wrapping counter at the rear of the store. En route to this counter the customer passes a series of displays, is frequently influenced to make additional, unplanned purchases. On the upper floors of department stores the grid iron layout (2.) and its resultant confusing circulation is beginning to give way to a radiating pattern (3.). While the former affords greater counter area, the latter permits the customer to spot what he wants from a central position at the stairs. Irregular spaces created by the sales counter arrangement may be used for larger, more imaginative displays and for more abundant stock room. Customer and service circulation may be combined so that customers may inspect and handle merchandise.

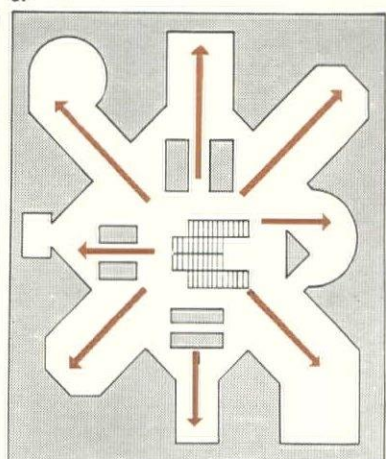
1.



2.



3.



CONCLUSIONS In dealing with a compound as volatile and complex as Main Street, one naturally hesitates to draw conclusions of cosmic importance, and to this hesitancy the editors of THE ARCHITECTURAL FORUM are no exception. However, the mass of data* upon which the preceding pages are based obviously calls for a forecast of future trends.

In an effort to stick very close to its knitting—the business and science and art of Building—THE FORUM hazards the following. One thing stands out as certain: Main Street has changed with astonishing rapidity in the past, and will in all probability continue to change as rapidly in the future. Beyond this—

the designer will be asked to provide more and more ground floor flexibility, to facilitate the several modernizations which are a part of the history of every commercial building merchants will evidence a growing disposition toward collective control of store exteriors in an effort to raise Main from the bottom of the civic design scale to a place near the top neighborhood shopping centers will increasingly be made a planned part of the planned community, and tenants will select these planned centers in preference to the hit-or-miss store developments of the past

in contradistinction to these primarily neighborhood centers, the big suburban department store will not go far toward supplanting Main Street as the general center for more important buying needs. Main Street will make a determined and successful effort to meet this competition with planned facilities for parking, increased customer convenience, and so on.

All of which adds up to what? That Main Street will claim an ever more important place as (1) a real estate phenomenon, (2) a customer of Building, (3) a design problem, in the U. S. Building scene.

* The Bridgeport research in this study was done under the direction of NILS HANSELL

PORTFOLIO OF CURRENT MODERNIZATION WORK—pages 89 to 108

A documentary review of Main Street's most active store types, with pace-setting exteriors, plans, details, and construction outlines by leading store designers.

BANK

A shoe store and two vacant floors become the money-making home of the San Diego Federal Savings and Loan Association.....page 89

WOMEN'S APPAREL

Peck and Peck move into a modernized bay of an old New York City bank . . . an example of open planning in store design....page 90

RESTAURANT

A Colonial shop front in the Colonial town of Westport, Conn. . . . McCormack's solves an irregular plan problem.....page 92

MARKET

Johnsen's sea foods and Randolph's fruits are better presented to Evanston, Ill. shoppers . . . A remodeling in glass.....page 93

SHOE STORES

An evolution of shoe store facades from 1915 to 1938 and the inside of last year's Regal model in Chicago, Ill.....page 94

MEN'S CLOTHING

K. Katz & Sons in Baltimore, Md. set a style for men's shops. . . . An old building sprucely modernized, inside and out.....page 96

THEATER

A pointed marquee and a panel of light attract new business to the Congress Theater in Saratoga Springs, N. Y.....page 97

HOTEL ROOMS

In Cleveland and Detroit the Hotels Statler play with models, produce modern rooms, additional revenue.....page 98

BEAUTY SHOP

Increased working units and better facilities for operators . . . Ann's Beauty Salon in New York City has its face lifted.....page 100

BLUEPRINT SHOP

The new home of the Wilmington Blueprint Service, Inc., in Wilmington, Del., replaces a residence, looks its part.....page 101

DRUG STORE

In Washington, D. C., the Columbia Drug Store rounds some corners, boosts its business 25 per cent.....page 102

DRUG STORE

An interior modernization in Gary, Ind.'s Ridgeley Drug Company store proves the merits of architectural simplicity....page 103

JEWELRY SHOP

An example of the trend in jewelry store design is Brunner's in Westfield, N. J. . . . a high bulkhead, a small window.....page 104

BAKERY

Cushman's Sons, Inc., build bakeries whose fronts are their trade marks . . . a typical store in Newark, N. J.....page 105

RESTAURANT

A monument to modernization is the \$12,500 undertaking of LaBuvette in San Francisco, Calif. . . . a former derelict.....page 106

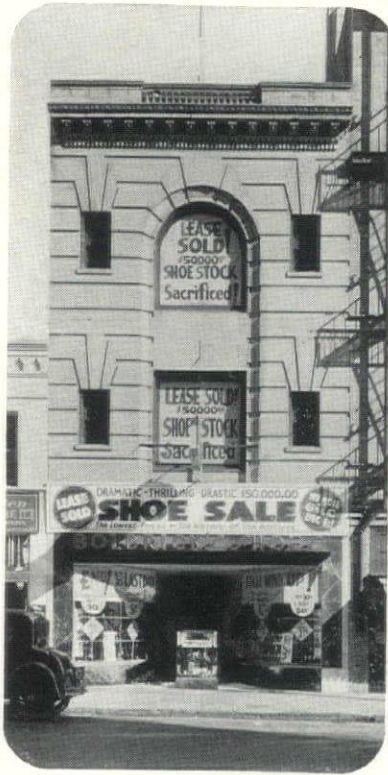
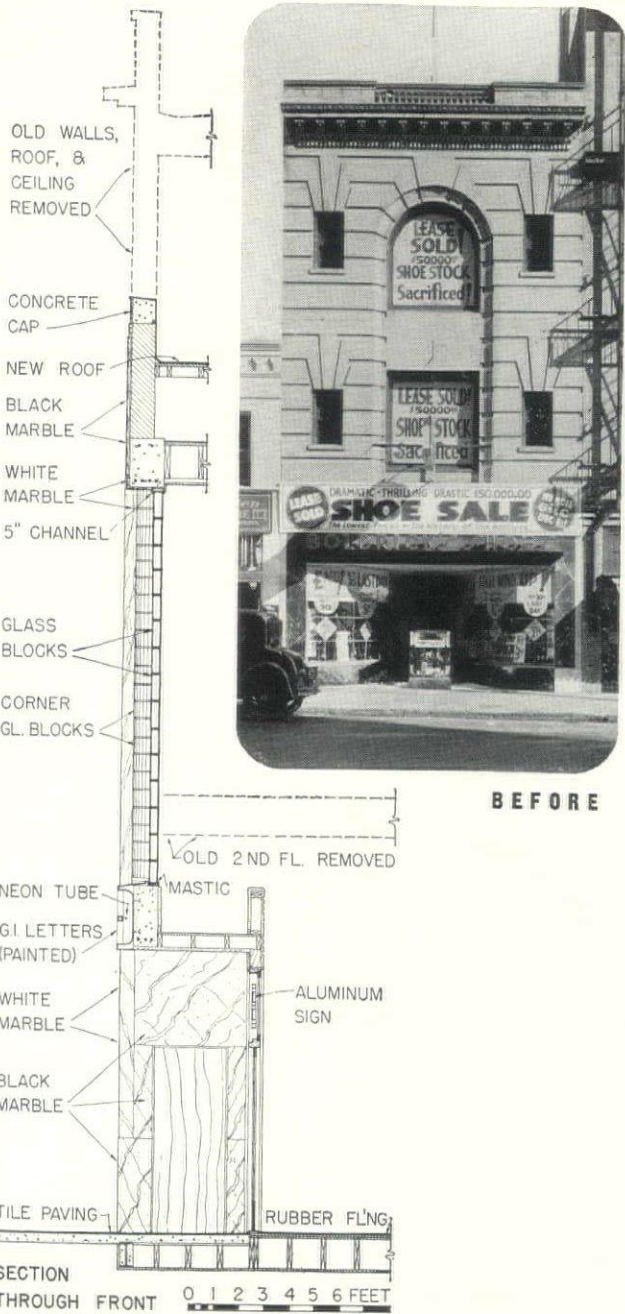
OFFICE BUILDING

The Pacific Mutual Life Insurance Company resurfaces its exterior, remodels its ground floor, justifies expenses.....page 108

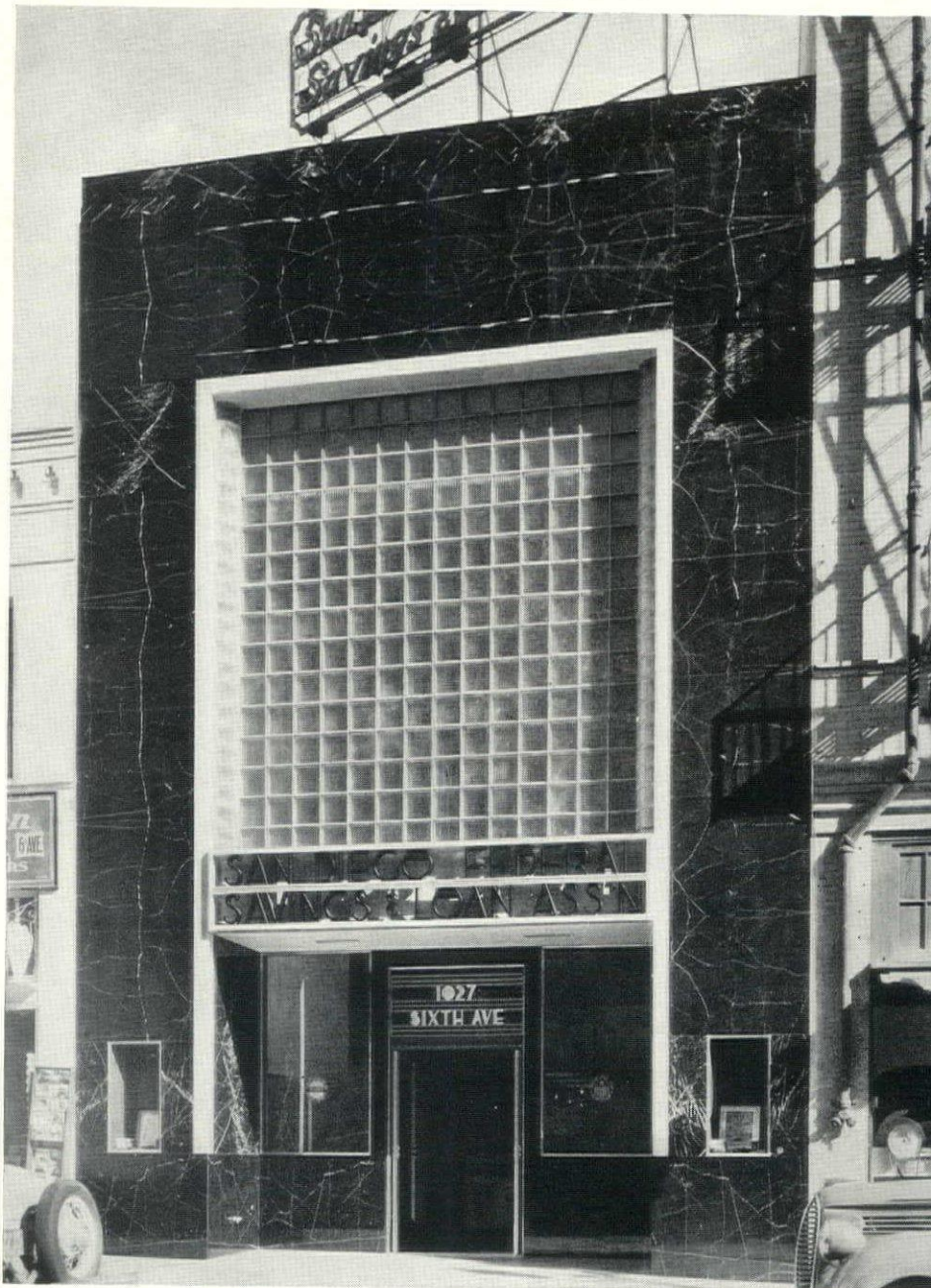
SELECTIVE BIBLIOGRAPHY OF STORE DESIGN

General: locations, planning, and design. Technical: display techniques, lighting, air conditioning. Store types . . . p. 46 (adv.)

BANK SAN DIEGO FEDERAL SAVINGS AND LOAN ASSOCIATION, SAN DIEGO, CAL.
F. L. HOPE JR., ARCHITECT



BEFORE



Advertising value of the high, outstanding facade of this building is indicated by the fact that assets of its occupant increased \$859,280 during the first year in its modernized headquarters. The third story of the old shoe store building was removed; the first and second combined to afford the usual high ceiling for a banking floor.

CONSTRUCTION OUTLINE

SOUND INSULATION: Ceiling under balcony—12 x 12 in. Perfatile, U. S. Gypsum Co.

WINDOWS: Glass—Pittsburgh Plate Glass Co. Glass blocks—11¾ x 11¾ in. No. 416 Insulux, Owens-Illinois Glass Co.

FLOOR COVERINGS: Public space—Wingfoot rubber, Good-year Tire & Rubber Co. Offices—carpet, Magic Carpet Co. and Bigelow-Sanford Carpet Co.

FURNISHINGS: Metal desks and filing cabinets—Art Metal Construction Co.

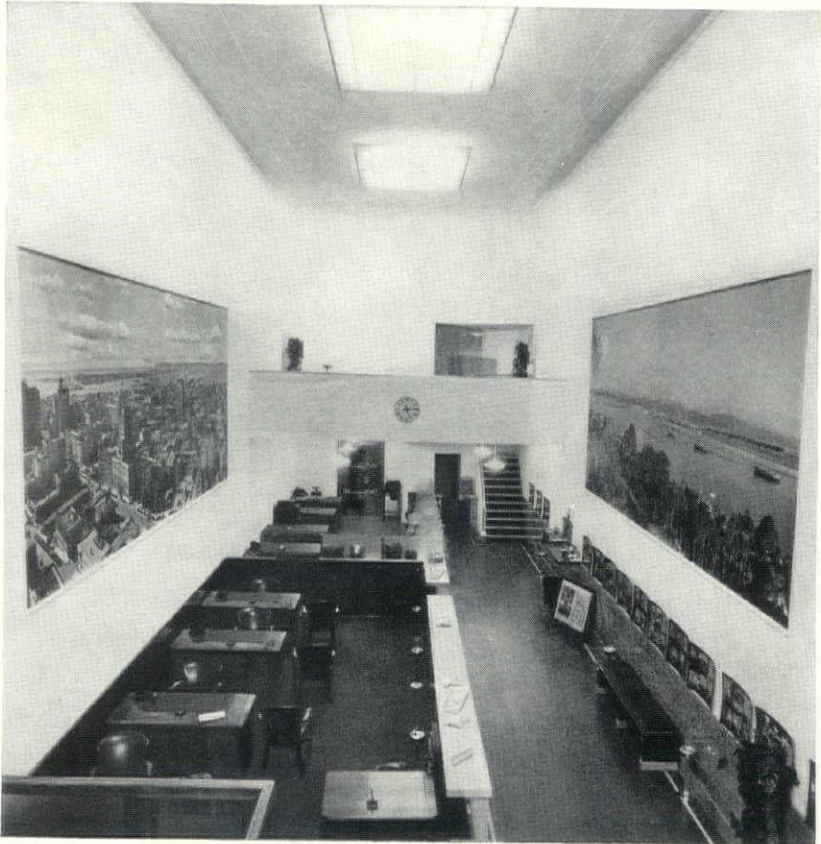
HARDWARE: Interior and exterior—dull chrome, P. & F. Corbin. Stair metal nosings—B. & T. Floor Co.

PAINTING: All material by W. P. Fuller Co.

LIGHTING FIXTURES: Benjamin Electric Mfg. Co.

PLUMBING: All fixtures by Crane Co. Water pipes—National Tube Co.

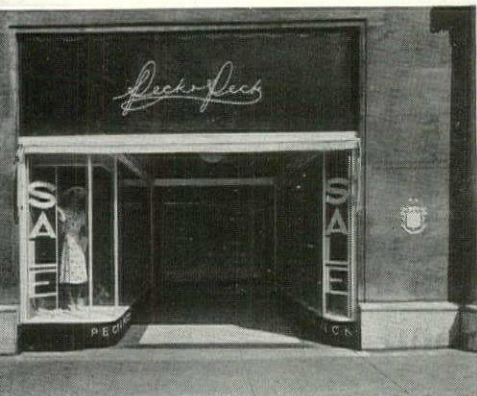
HEATING AND AIR CONDITIONING: Barber Colman Co. Hot water heater—Amer. Radiator Co. Fans—Clarage Fan Co.



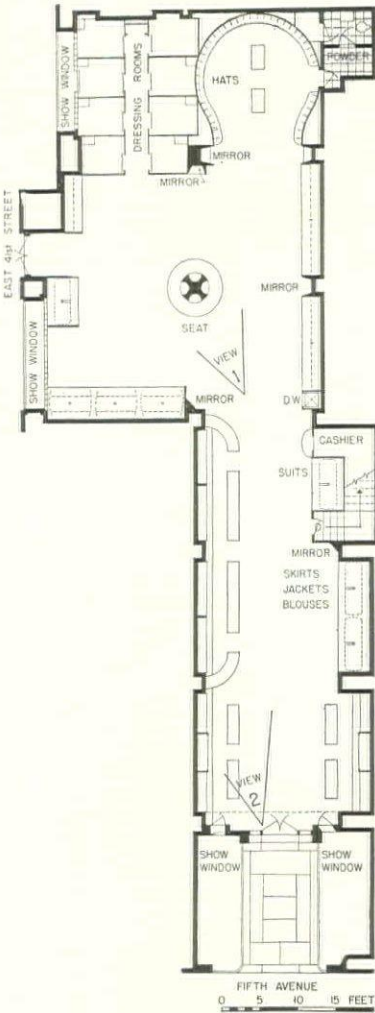


Charles Latre

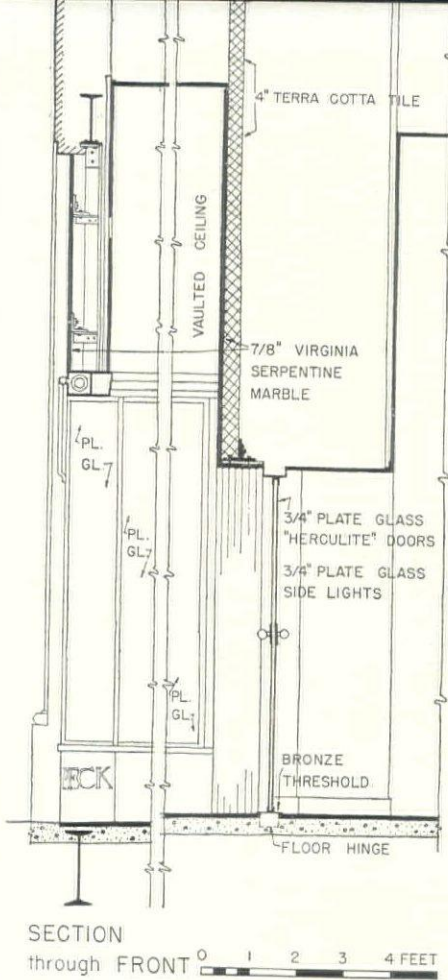
BEFORE



Samuel Gottscho



Robert M. Damora



VIEW 1.



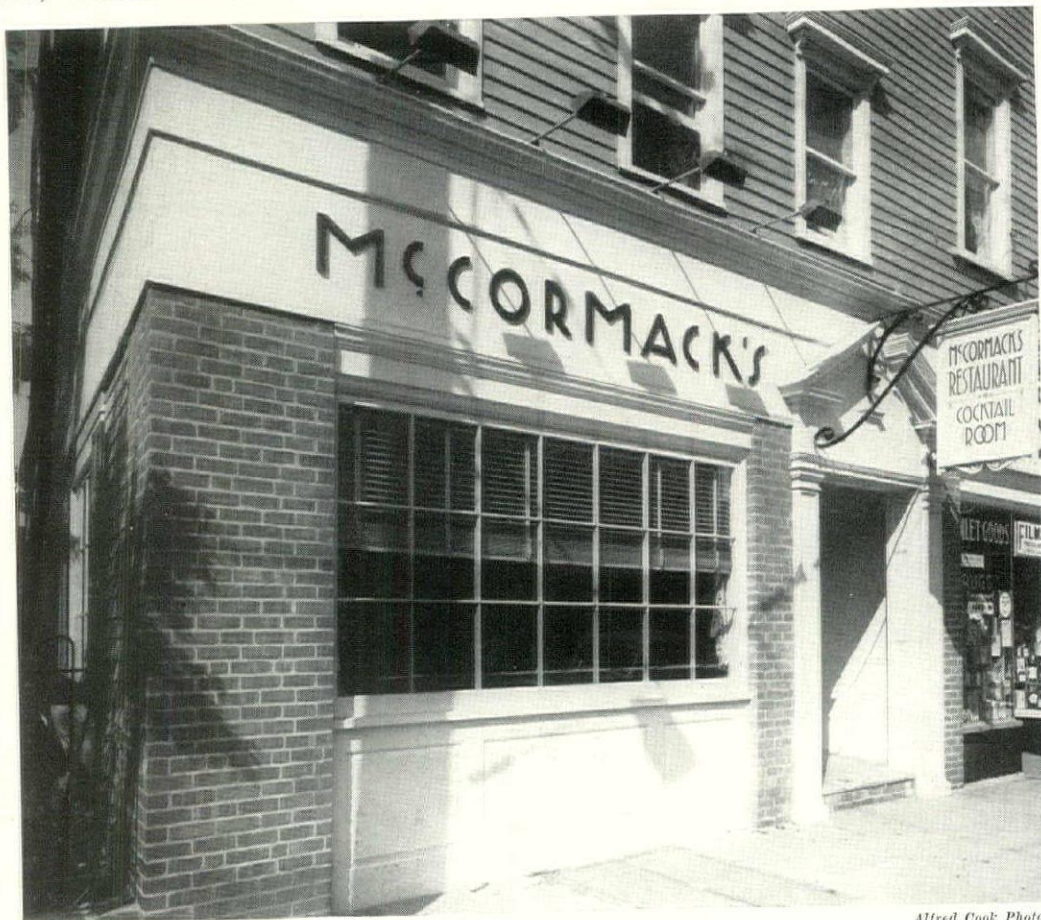
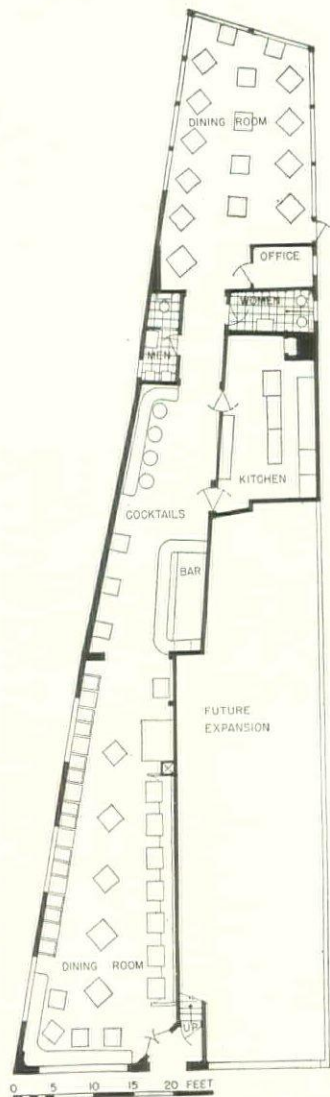
Conversion of one narrow bay of an old bank building into suitable quarters for a woman's apparel shop presented several design problems and limitations. To obtain a large area of outside display, the entrance was recessed to an unusual depth and flanked with windows. Plate glass doors expose the interior to passers-by. Inside, the owners wished merchandise to be exposed and made available for customers to handle. Thus, the interior architectural design serves largely as a frame and background for the stock.

VIEW 2.

FINISHES AND EQUIPMENT

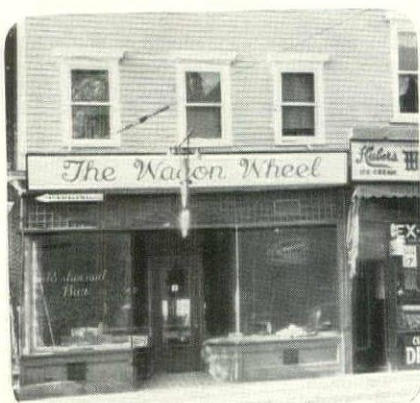
STORE FRONT: Virginia Serpentine marble, Alberene Stone Corp. and white Vermont marble, Vermont Marble Co. **WINDOWS:** Sash—extruded bronze, enameled white, Milco Bronze Co. Glass $\frac{1}{4}$ in. polished plate. **GLASS BLOCKS**—for backs of show windows. **FURNISHINGS:** Tables, counter tops and show cases—curly maple. Chairs—reed, leather upholstery. **EXTERIOR DOORS**— $\frac{3}{4}$ in. plate glass, Herculite, Pittsburgh Plate Glass Co., Lucite push bars, E. I. du Pont de Nemours & Co., fabrication by Milco Bronze Co. **PAINTING:** Interior—Luminal, National Chemical & Mfg. Co. and casein paint. **ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—Cole Electric Products. **HEATING AND AIR CONDITIONING:** Modine unit at main entrance, Modine Mfg. Co.; direct convection heating with floor line radiators; Frigidaire duct system of cooling and humidifying, Delco Frigidaire Corp.





Alfred Cook Photos

An admirable solution to the problem posed by a highly irregular plan is evident in this remodeled restaurant. With a view to expanding present dining and kitchen facilities through purchase of the adjoining drug store, a portion of the exterior modernization was extended to include that store. If the present rate of business continues, the modernization will pay for itself in two and a half to three years.



BEFORE

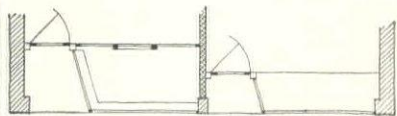


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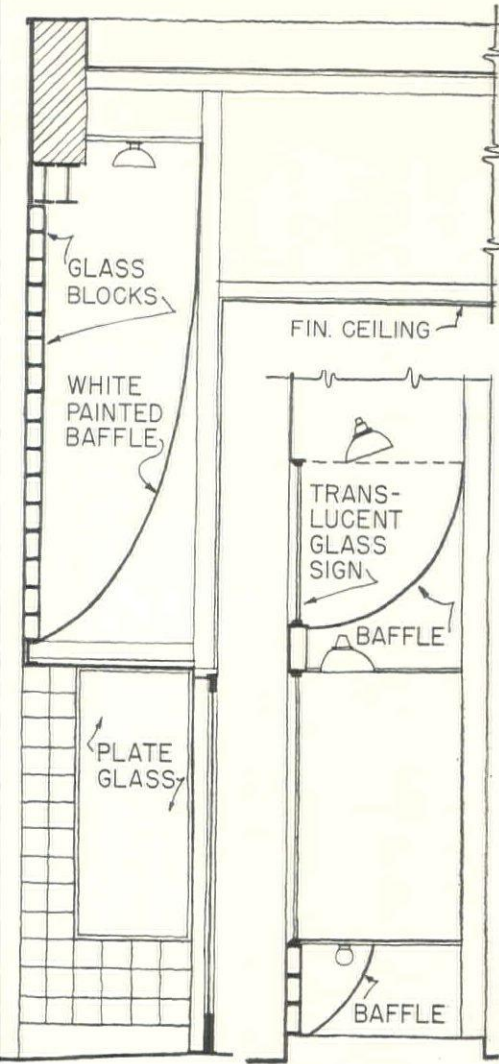
FINISHES AND EQUIPMENT

WALL COVERINGS: Walls—Homasote Co. Wallpaper—Richard E. Thibaut, Inc. Washrooms—Tiletex Co. **CEILINGS:** Celotex Corp. **FURNISHINGS:** Table tops, Formica Insulation Co. Chairs—Besto Brentwood. **ORGAN:** Hammond Organ Co. **PAINT:** Pratt & Lambert. **PLUMBING:** All fixtures by Standard Sanitary Mfg. Co. **REFRIGERATORS:** Gloekler Mfg. Co., McCall Refrigerator Co. **HEATING:** Steam. Thermostats—Minneapolis-Honeywell Regulator Co. Speed heaters—B. F. Sturtevant Co.

MARKET JOHNSEN'S SEA FOODS, RANDOLPH FRUIT MARKET, EVANSTON, ILL.

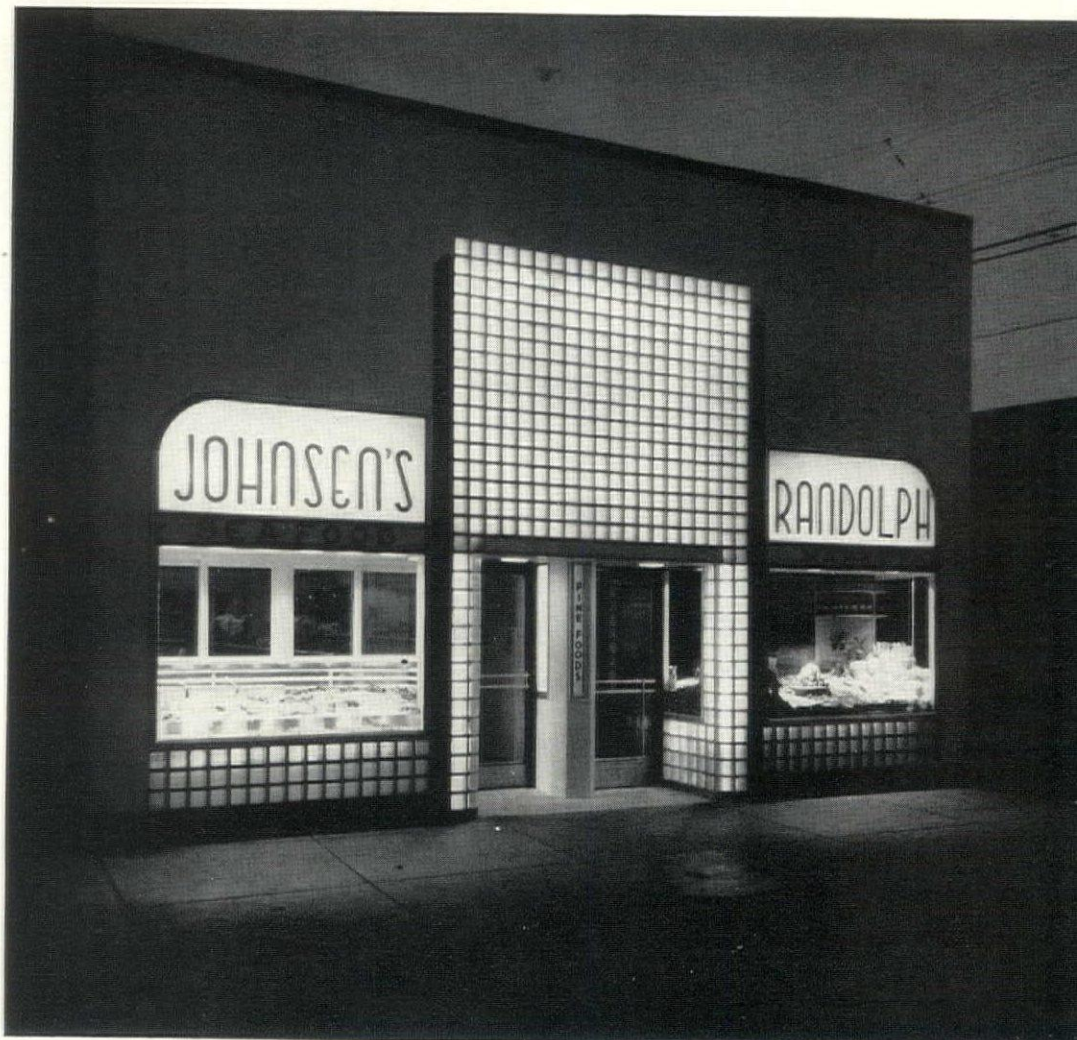


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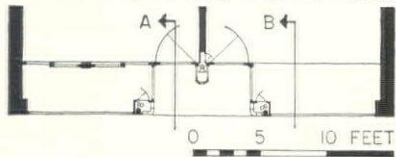


0 1 2 3 4 5 6 FEET

SECTION A SECTION B



PALMER PERSONAL SERVICE, DESIGNERS

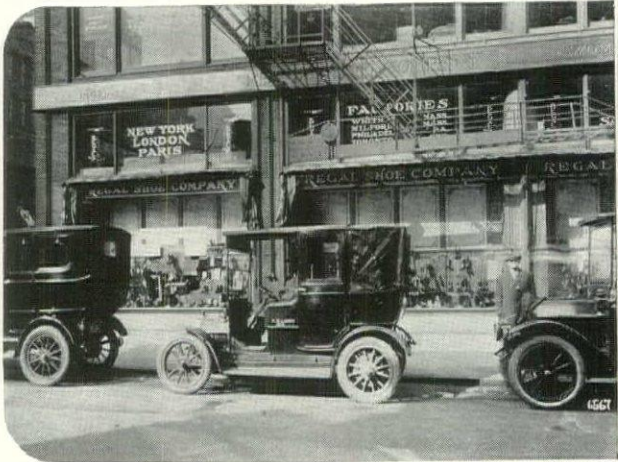


Situated directly opposite the end of a street carrying traffic to elevated and railroad stations, this double store modernization demanded an advertising medium readily visible day and night to both pedestrians and passengers. A pleasing combination of glass block and plate glass solved the problem admirably. Note that display windows lack their old-fashioned depth, that display platforms have been brought nearer customers' eyes. Increased business prompted the fruit market's owner to open another new store in the same block.

FINISHES AND EQUIPMENT

STRUCTURE: Exterior walls—12 in. common brick faced on street side by 11/32 in. ivory and royal blue Vitrolite, Libbey-Owens-Ford Glass Co. Interior partitions—sheet rock, painted. Columns—4½ in., Lally Co. Structural steel—two 10 in. I-beams over entrance. Floor construction—ceramic tile. Entrance ceiling—cement plaster, painted. WINDOWS: Sash—alumilite No. 88, Kawneer Co. Glass—¼ in. plate for transom area signs with translucent baked enamel ivory

color, Torstenson Glass Co.; letters etched into glass and filled with royal blue enamel, baked. GLASS BLOCKS: Owens-Illinois Glass Co. No. 202 lighted from inside by incandescent lamps mounted in Sterling reflectors. EXTERIOR DOORS: Special 2 x 2 in. steel tubing doors and frames, Chicago Ornamental Iron Co. HARDWARE: Exterior—Norton Lasier Co. overhead checks; alumilite push and pull bars, Chicago Ornamental Iron Co. REFRIGERATION: Frick Co.



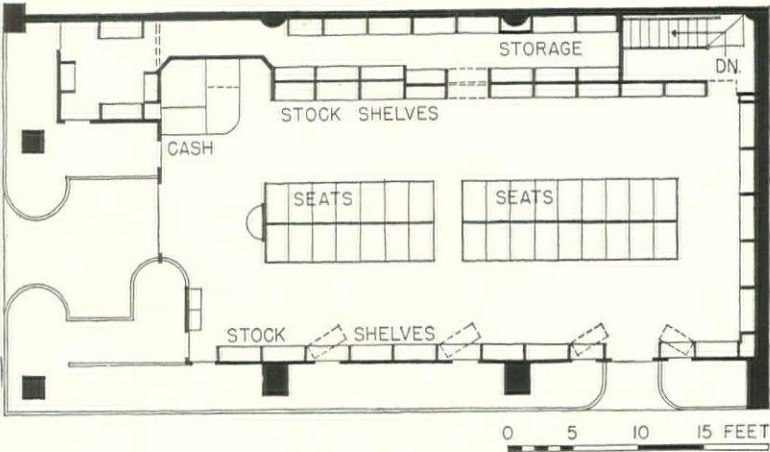
1915

Hallenbeck

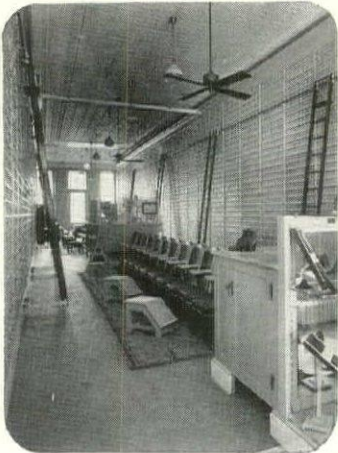


1928

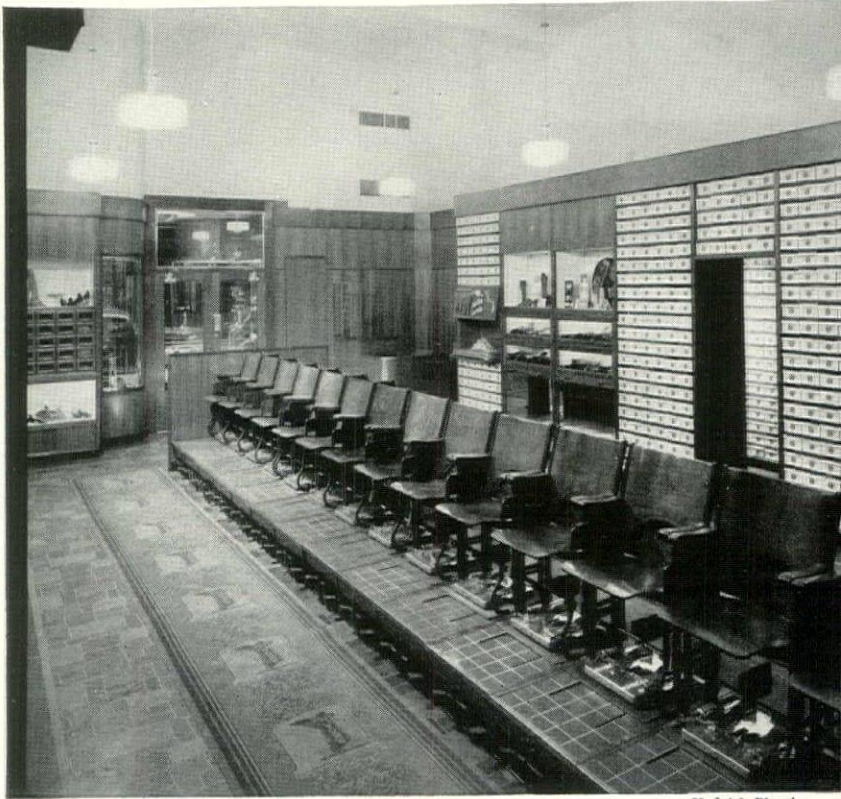
Outstanding in this six-phase design evolution are consolidation of several sign strips into one more effective band of letters, increased use of display lighting, enlargement of entrance and vestibule display space, introduction of toe-space under windows. Also, the level of displays has been raised to a height of 2 ft., 4 in., a metal valance inserted between the sign and the windows. Result is that the height of window plate glass has been reduced materially. Note complete absence of piers on facade of most recent example, which is the same store as pictured in 1915 and 1928, above. Interior of the 1938 store appears below, right. Regal Shoe Co. figures that modernization of a store ups its business 10 to 20 per cent.



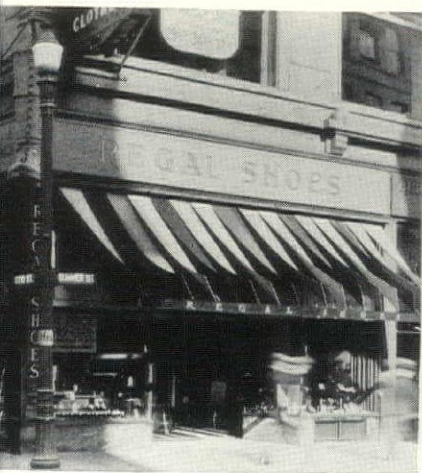
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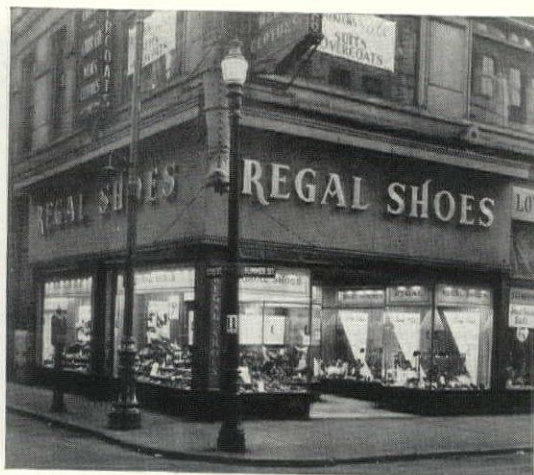
While not of the same store, these interior views are typical of shoe store modernization. Shelves have been lowered to a reachable height, interspersed with accessory display cases and moved out from the wall to provide additional storage space behind.



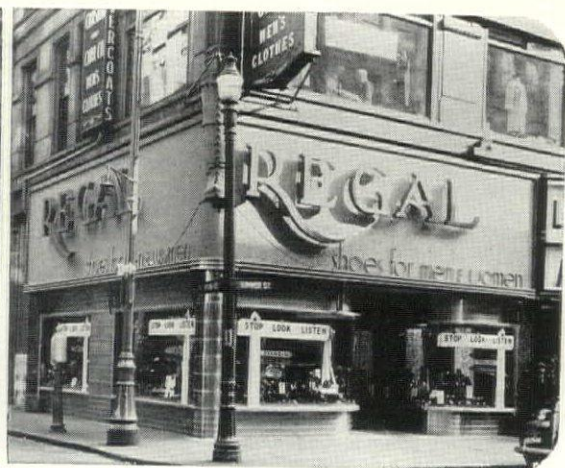
Hedrich-Blessing



1931

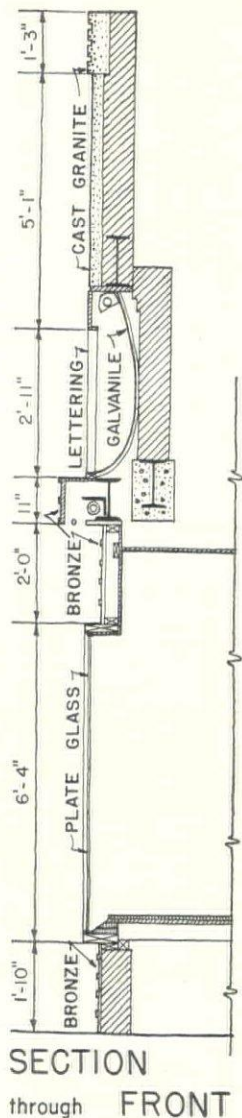


1936



1937

1938



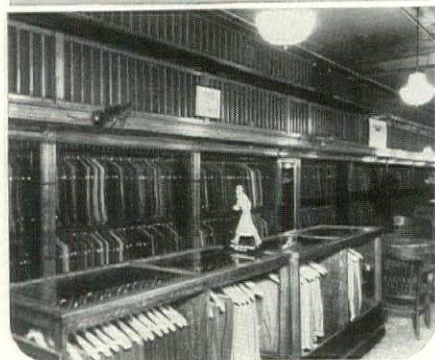
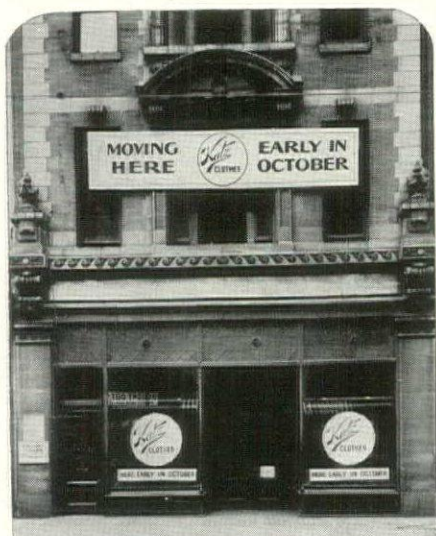
Hedrich-Blessing

STORE IN CHICAGO, ILL. MORRIS LAPIDUS, ARCHITECT FOR ROSS-FRANKEL, INC.

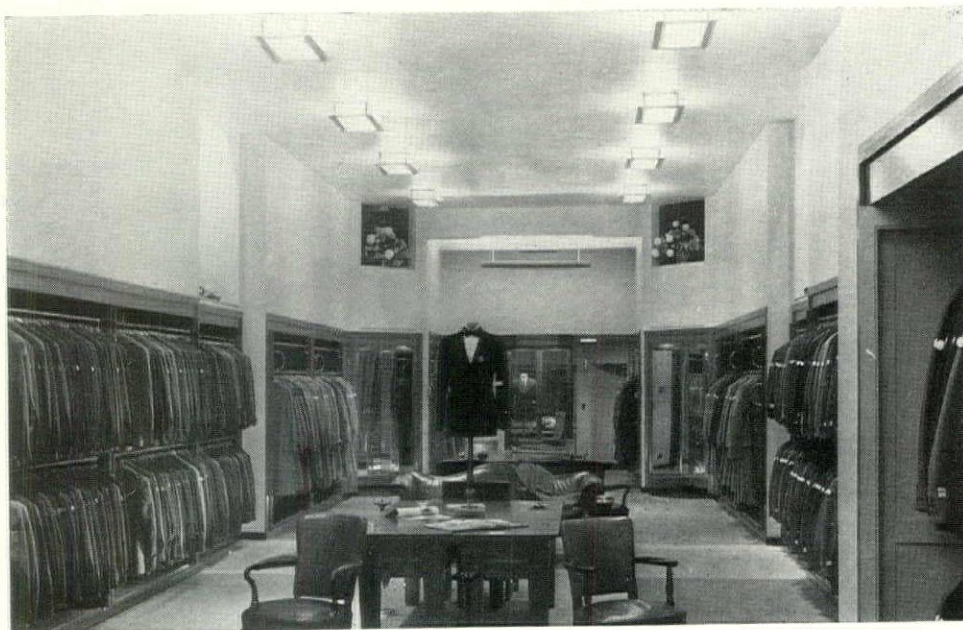
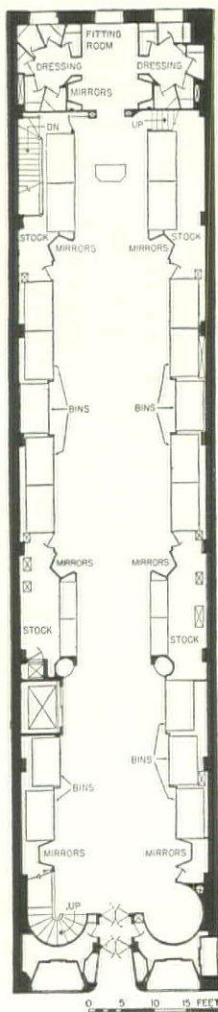
FINISHES AND EQUIPMENT

EXTERIOR: Cast granite, Architectural Cast Stone Co., bronze facing, Capital Bronze Co. SHOW WINDOWS: Glass—plate, Pittsburgh Plate Glass Co. Ceilings and panels—wood, U. S. Plywood Corp. Reflectors—Pittsburgh Reflector Co. FLOOR: Vestibule—terrazzo.

MEN'S CLOTHING K. KATZ & SONS, BALTIMORE, MD.
HERBERT G. CRISP, JAMES R. EDMUNDS JR., ARCHITECTS; JOHN POE TYLER, ASSOCIATE



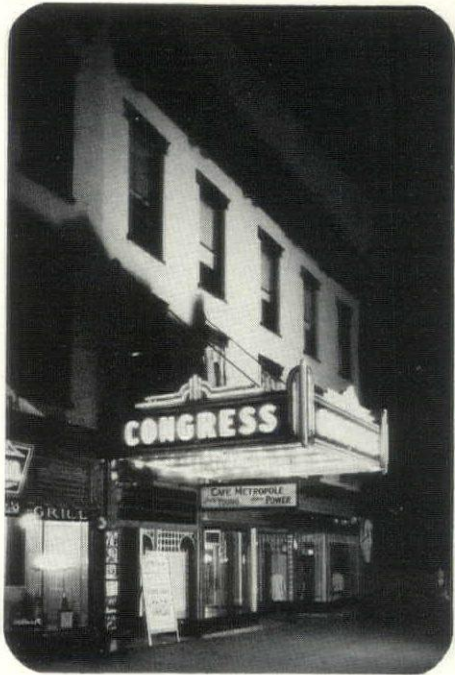
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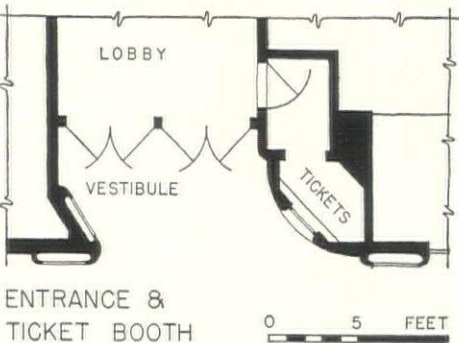
Substitution of a clean front for over-ornamentation gave organization to the exterior of this shop modernization. Inside, dark paneling was omitted above suit cases, improving the general lighting of the room. Since this shop does not sell haberdashery, no provision was necessary for display of small items.

FINISHES AND EQUIPMENT

EXTERIOR: Carrara glass, Pittsburgh Plate Glass Co., and marble. ROOF: Haydite slabs, Haydite Co. INSULATION: Roofs—4 in. Capitol rock wool, Standard Lime & Stone Co. ELEVATORS: Otis Elevator Co. FLOOR COVERINGS: Carpet, L. C. Chase & Co. HARDWARE: Yale & Towne Mfg. Co. PAINTING: Material by Sherwin-Williams Co. LIGHTING FIXTURES: Holophane Co. HEATING AND AIR CONDITIONING: Carrier Corp. system. Grilles—Tuttle & Bailey Mfg. Co. Thermostats—Minneapolis-Honeywell Regulator Co.



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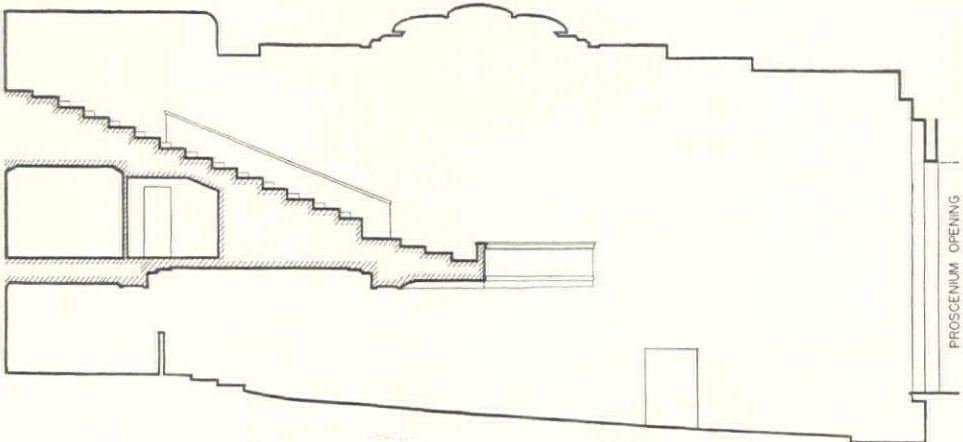


ENTRANCE & TICKET BOOTH

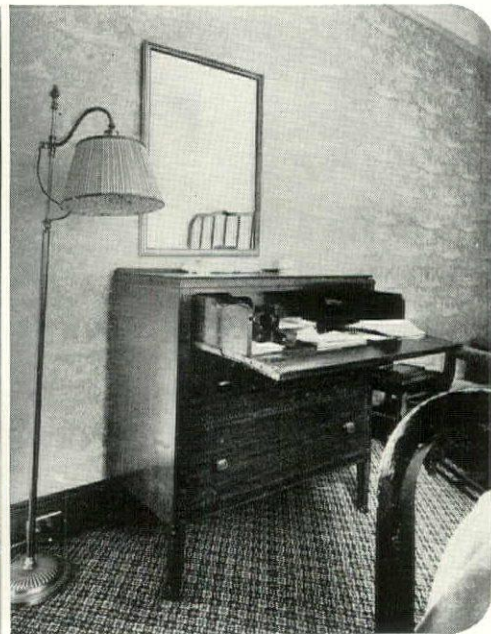
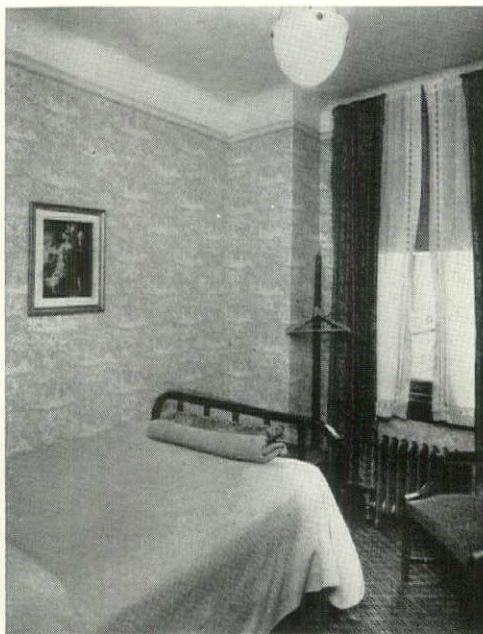
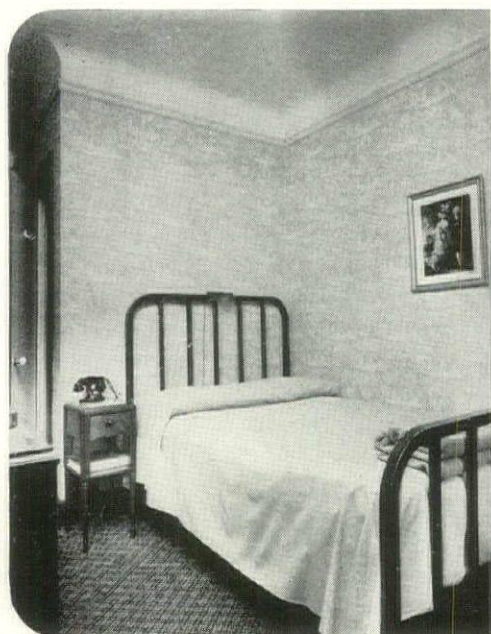
Prime purpose of today's theater marquee, which once functioned as a protecting canopy, is to attract patrons. Typifying the change-over is this modernization where a thin, square marquee has been replaced by a thick triangle whose impressive base extends beyond the building's top. Curved horizontal bands lend emphasis to the entrance. Since modernization, the theater's business has increased 20%.

FINISHES AND EQUIPMENT

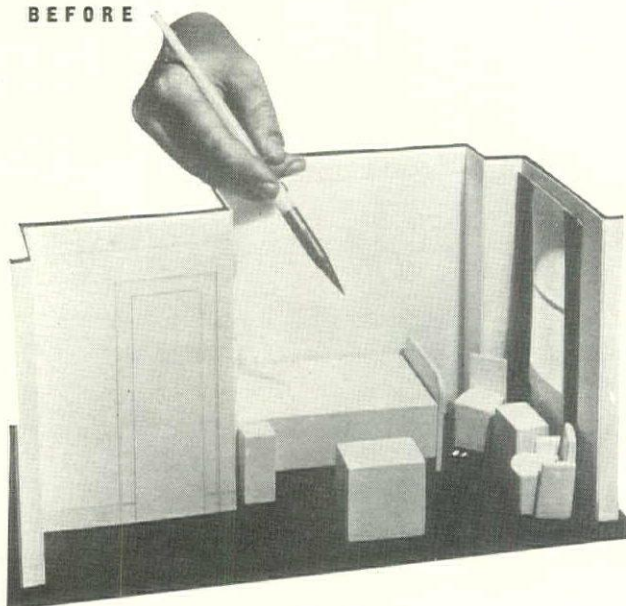
STRUCTURE: First story exterior—Formica, Formica Insulation Co.; remainder—Tuflex glass with metal bands, Libbey-Owens-Ford Glass Co. **PAINTING AND DECORATING—**Rambusch Decorating Co. **INTERIOR DOORS—**leather covered. **FURNISHINGS:** New chrome in ladies' lounge. **Drapes—**Chas. H. Kenney Studio. **Orchestra seats—**American Seating Co. **Stage set—**Novelty Scenic Studio. **Lighting fixtures—**Rambusch Decorating Co.



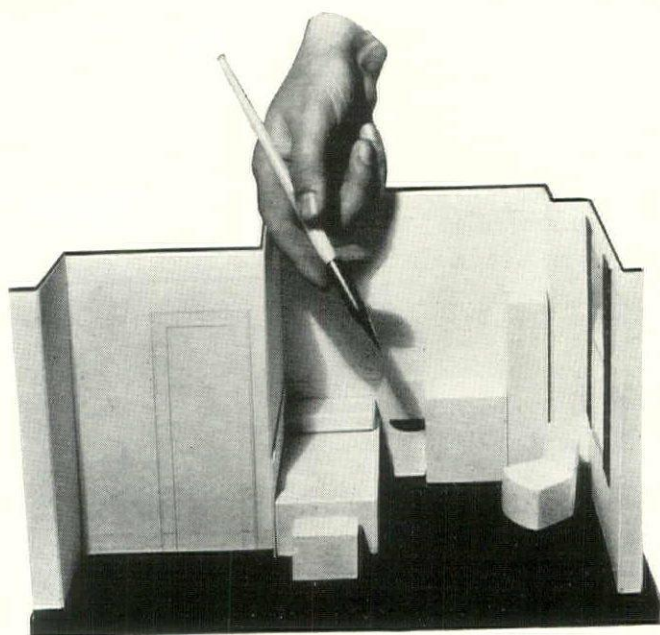
LONGITUDINAL SECTION



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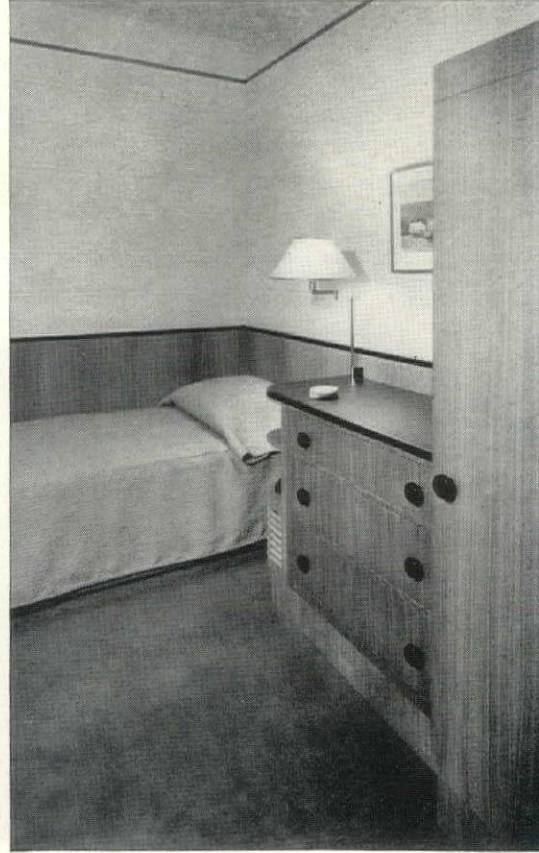
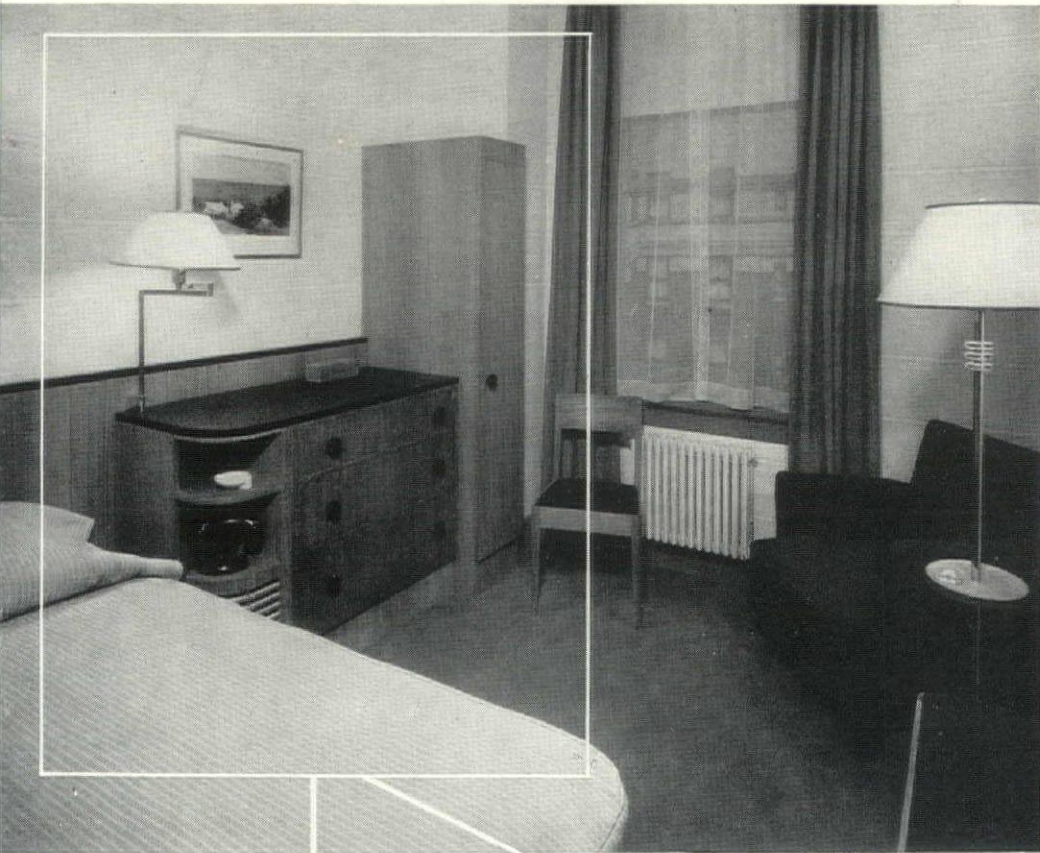
To increase demand for 600 of its smaller, obsoletely furnished rooms, the management of Hotels Statler in Cleveland and Detroit decided to redesign and rearrange the furnishings. Small scale models, used in preliminary studies, helped determine optimum use of floor areas. Typical of this space-saving planning is the combination into one unit of dresser, desk, radio, telephone stand and the abutting wardrobe which supplants ungainly clothes trees in these rooms without closets. Emphasis was placed upon color schemes. In the rooms opposite wall-paper and bedspread are cream; carpet and draperies, blue; furniture, pickled walnut; upholstery, brown. Increased salability of the modernized rooms made a boost in rates unnecessary.



FINISHES AND EQUIPMENT

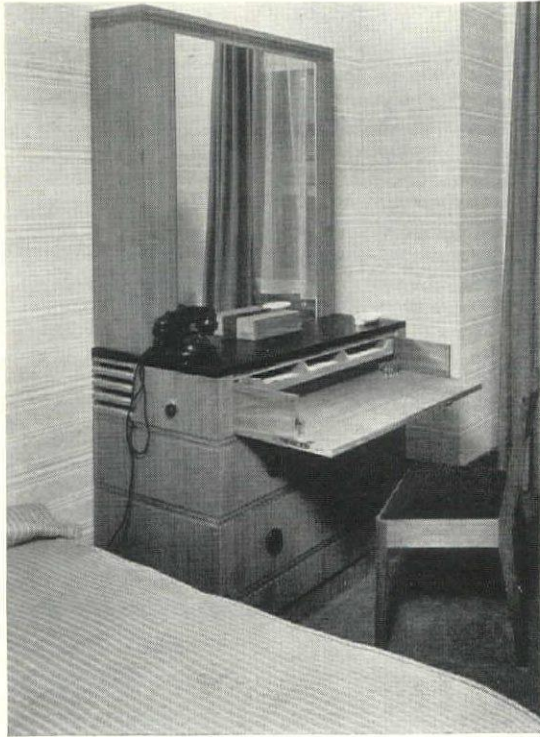
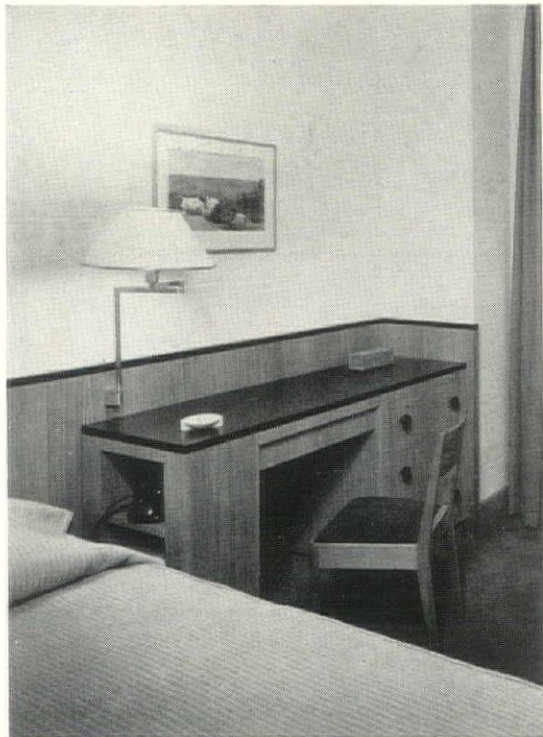
LIGHTING FIXTURES—Mutual Sunset Lamp Co. WALLPAPER—Lenox Wallpaper Co. CARPETS—W. & J. Sloane Co. FURNITURE—pickled walnut with Formica tops, Formica Insulation Co., and brushed chromium fittings. UPHOLSTERY—Modern Age Furniture Co. DRAPERIES AND BEDSPREADS—Johnson & Faulkner.

HENRY DREYFUSS, DESIGNER; DECORATIONS BY RORIMER BROOKS STUDIOS



OR
↓

OR
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BEFORE



BEFORE

Bruce Donalds

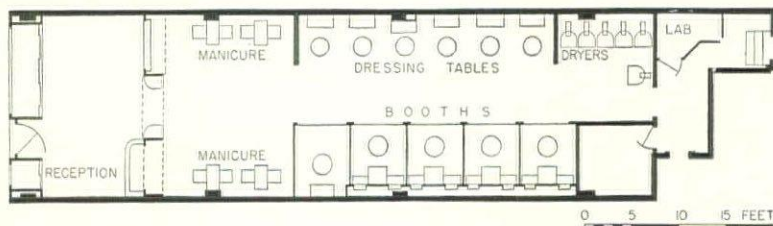


Gottsch Photos

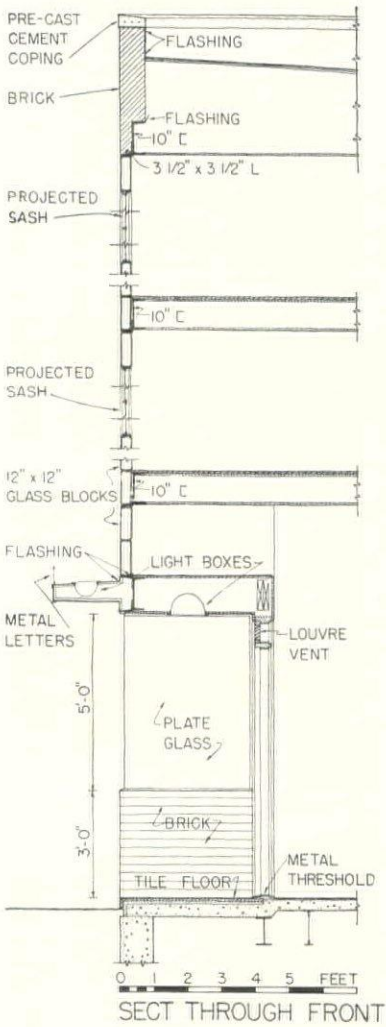
Through remodeling, this shop was given a front that holds its own in a competitive, highly modernized area. Due to the absence of displayable items, show window space was reduced to a minimum. The plan was revised to permit increased working units and better facilities for operators. Result: a 20 per cent boost in sales.

FINISHES AND EQUIPMENT

STRUCTURE: Floor construction—cement and cinders, sleepers and 3 in. tongue and groove. **GLASS:** Store front—black and ivory, Pittsburgh Plate Glass Co.; window back is made of 1 in. glass rods, carved glass in center, Glass Display Co. **FLOOR COVERINGS**—linoleum throughout. **FURNISHINGS**—Paidar & Co. **PAINTING**—all walls decorated to imitate wallpaper.



VICTORINE & SAMUEL
HOMSEY, ARCHITECTS



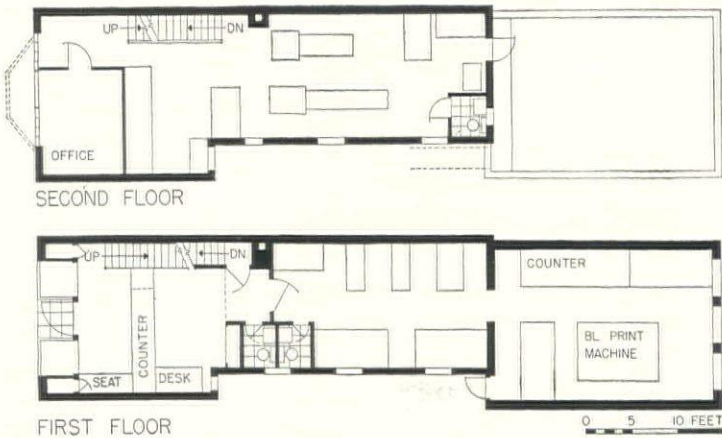
To simulate this building's principal product—blueprints—the brick facade was painted blue, trimmed in white. The large area of glass block meets the owner's requirements of maximum lighting and privacy for his deep, narrow quarters. Ground floor provides office for management, show and sales space for architects' and engineers' supplies.

FINISHES AND EQUIPMENT

STRUCTURE: Steel—Junior beams on new section, Bethlehem Steel Co. **ROOF:** New part—gypsum plank, built-up ply, U. S. Gypsum Co. **SHEET METAL WORK:** Flashing—zinc. Gutters—galvanized iron, Toncan Metal, Republic Steel Corp. **WINDOWS:** Sash—projected type, Truscon Steel Co. Glass—double strength, Libbey-Owens-Ford Glass Co. **GLASS BLOCKS—**Insulux, Owens-Illinois Glass Co. **HARDWARE:** All equipment by P. & F. Corbin. **PAINTING:** All material by Pittsburgh Plate Glass Co. **ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—Bryant Electric Co. Fixtures—Art Kraft Co. **HEATING:** Hot water system, A. B. Smith Mfg. Co.

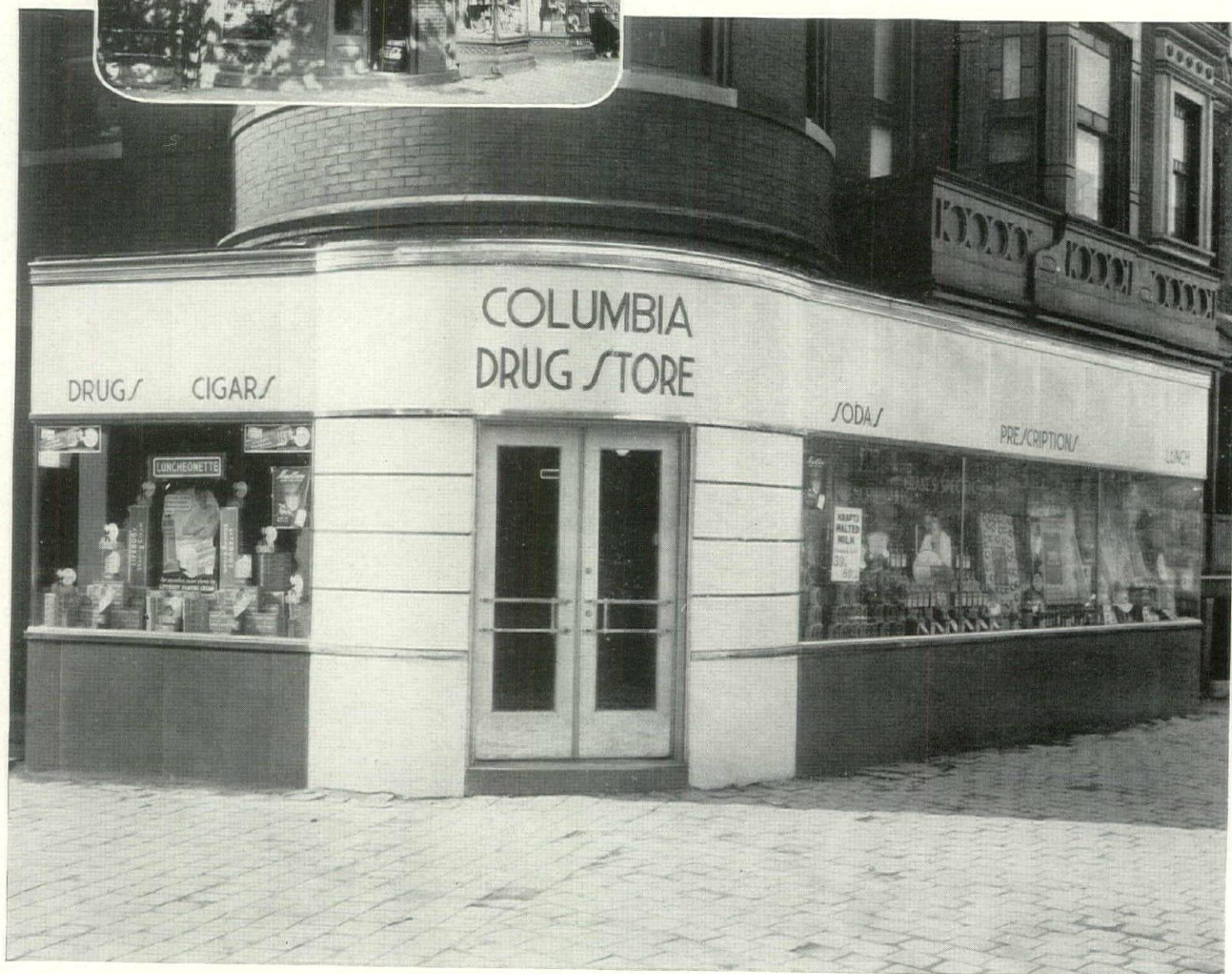


Robert M. Damora





BEFORE



By extending and straightening the front of this corner drug store, larger, deeper and more prominent display windows were created. Also, what formerly appeared to be two separate stores has been tied together. Entrance emphasis, lacking in the old building, is obtained by continuing the white porcelain enameled panel down either side of the corner door. Note that display platforms have been raised; the height of the windows, lowered. While the effective, simple lettering is adequate for daytime identification, the store relies on window lighting at night. Modernization has improved business 25 per cent.

FINISHES AND EQUIPMENT

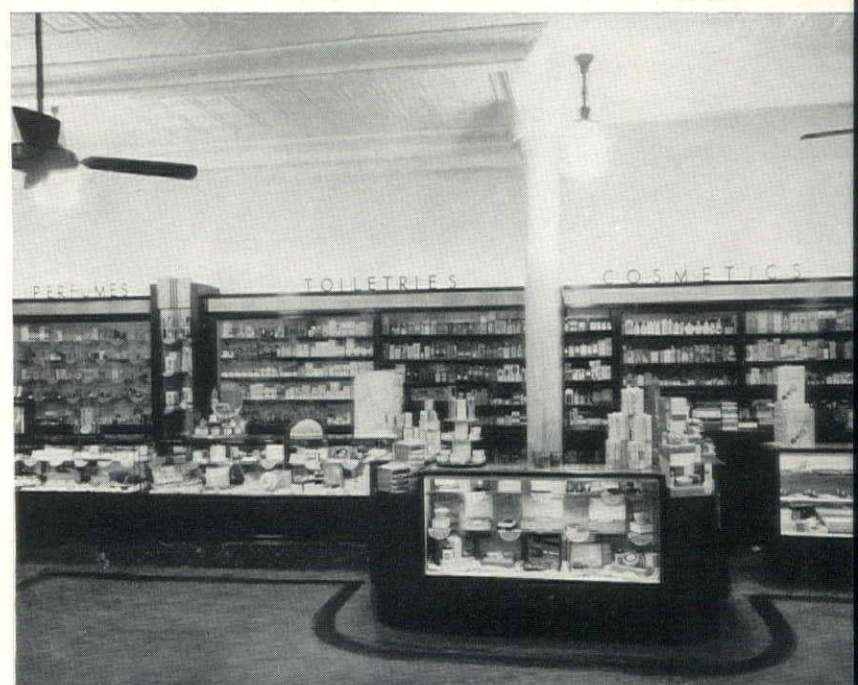
EXTERIOR: Porcelain enamel—Toledo Porcelain Enamel Co., installed by Structural Porcelain Enamel Co. TRIM—metal, Sioux City Metal Products Co. GLASS—plate, Libbey-Owens-Ford Glass Co.

Store opposite page:

FLOOR—linoleum covered. STORE FIXTURES, CASES AND COUNTERS—designed, furnished and installed by Grand Rapids Store Equipment Co. STRUCTURAL GLASS—black Vitrolite, Vitrolite Division, Libbey-Owens-Ford Glass Co. FURNISHINGS: Counter and table tops—Caf-O-Lite Co. Soda tables and chairs—Royal chrome, Royal Metal Furniture Co. Soda fountain apparatus—Liquid Carbonic Co. REFRIGERATION: Frigidaire Corp.



BEFORE

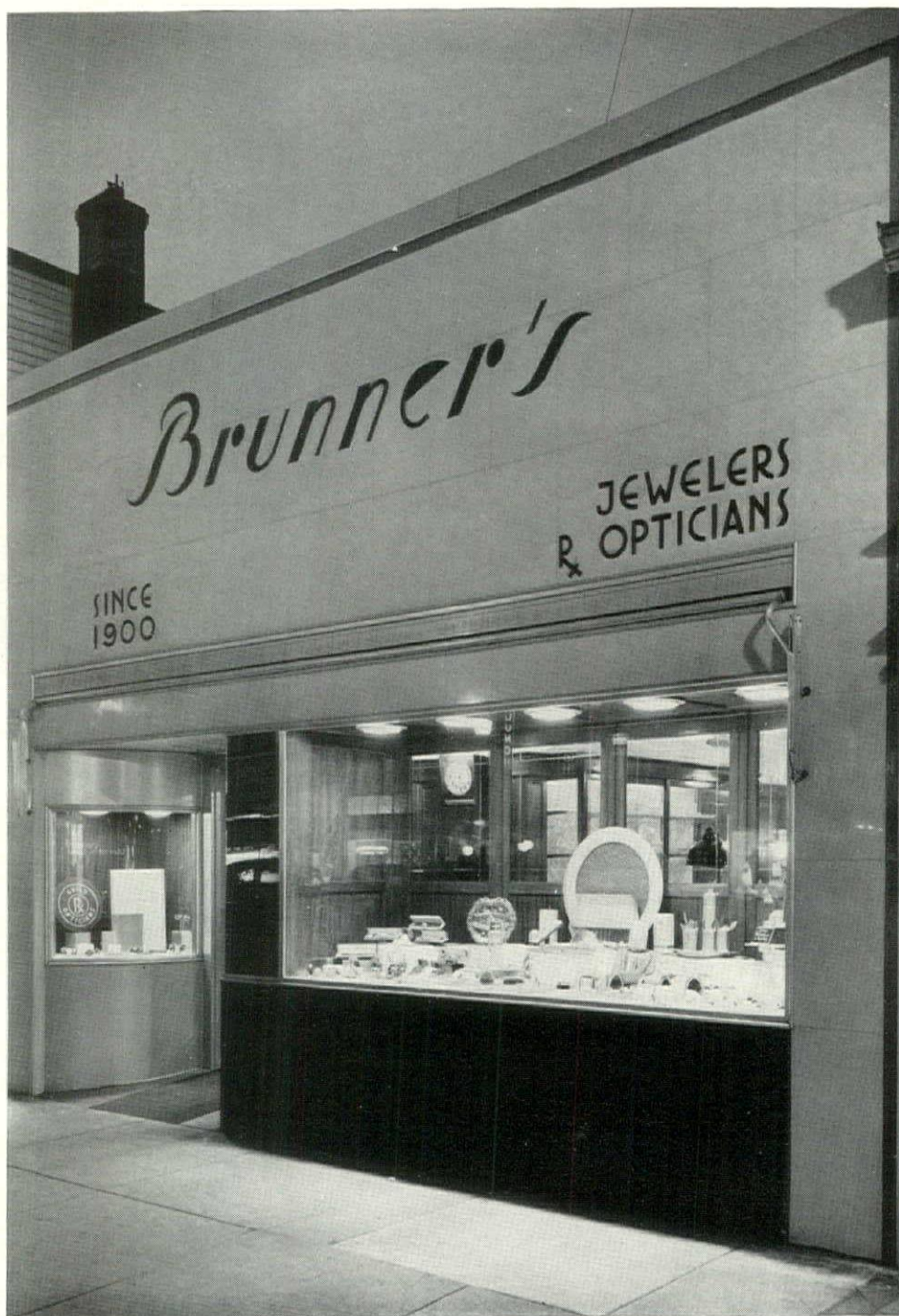


As on the exterior job, opposite, modernization of this interior gave order to confusion. The central sales counter was removed, and exposed columns were masked with effective display cases. Neat signs now direct circulation to the various departments whose stock shelves have been lowered to be within easy reach of operators. Simplification was carried down to the floor with elimination of the confusing pattern in the flooring. Some indication of the value of the modernization is the fact that, despite the addition of only a few seats, soda counter sales doubled.

WILLIAM WILDE, ARCHITECT;
SYLVIA WILDE,
ASSOCIATE DESIGNER



BEFORE

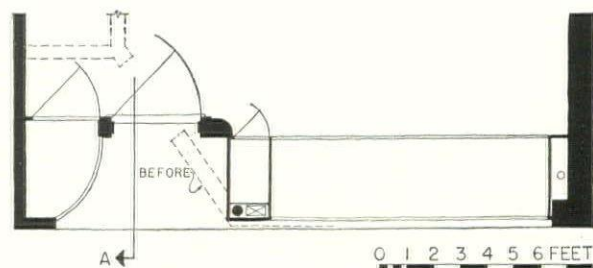
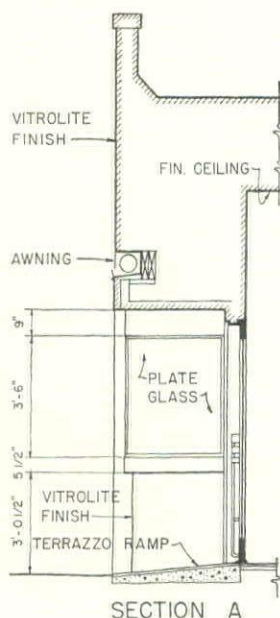


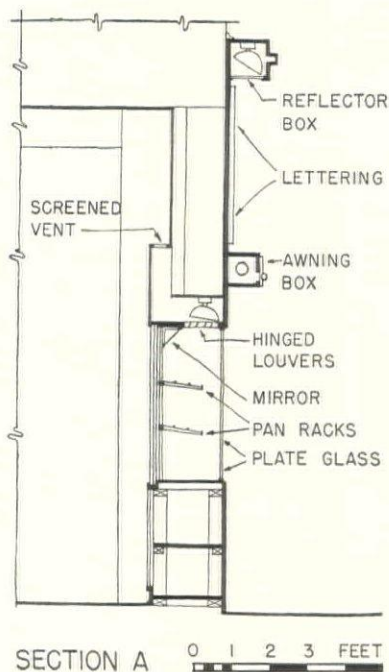
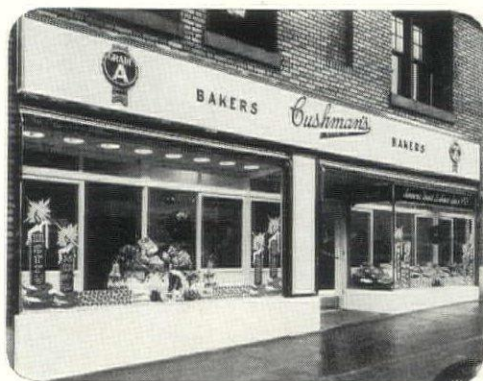
John Gass

Economical omission of an illuminated sign in this face-lifting job was justified by the fact that the store is situated near a busy, well-lighted street corner. In keeping with jewelry store trends, the bulkhead has been raised, the size of the display window reduced. A gray facade features the building among its darker neighbors.

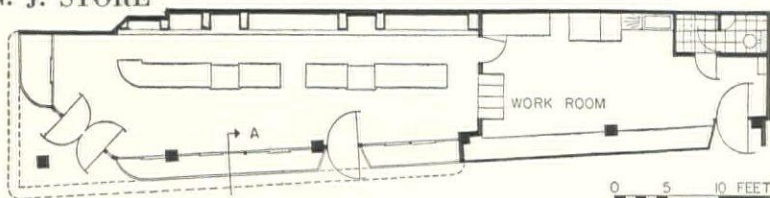
FINISHES AND EQUIPMENT

EXTERIOR: Walls—Vitrolite Division, Libbey-Owens-Ford Glass Co. **SHOW WINDOWS:** Frame—Brasco Mfg. Co. Glass—Libbey-Owens-Ford Glass Co. **FLOOR COVERINGS:** Store—linoleum. Show windows—sectional plywood. **FURNISHINGS:** Dark mahogany throughout. **EXTERIOR DOORS:** Pine covered with alumilited aluminum. **ELECTRICAL FIXTURES:** Show windows—No. 55 Permaflexors with concentric louvers, Pittsburgh Reflector Co.





NEWARK, N. J. STORE



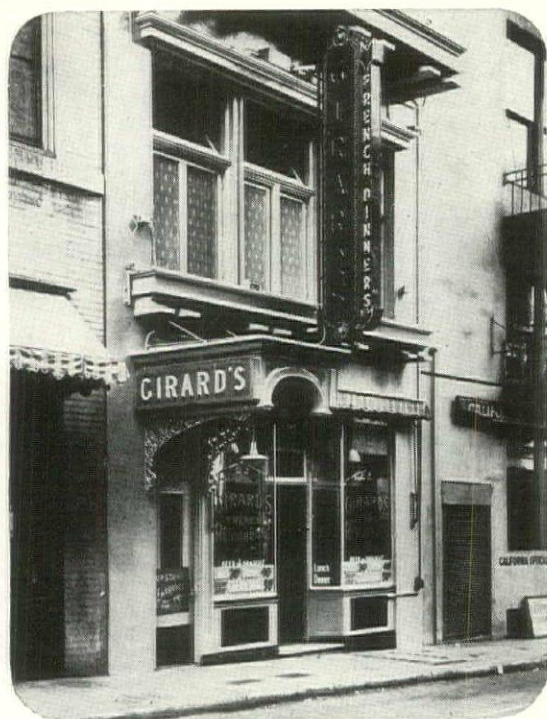
Of primary importance to chain stores are readily identifiable fronts. In this bakery the style of lettering and the semicircular window ends are practically trade marks. Typical of bakery modernization is the increased height of the bulkhead, the introduction of a valance. Note the use of mirrors at top of windows to multiply display effects. Also note tubular lights on forward edge of interior display counters.

FINISHES AND EQUIPMENT

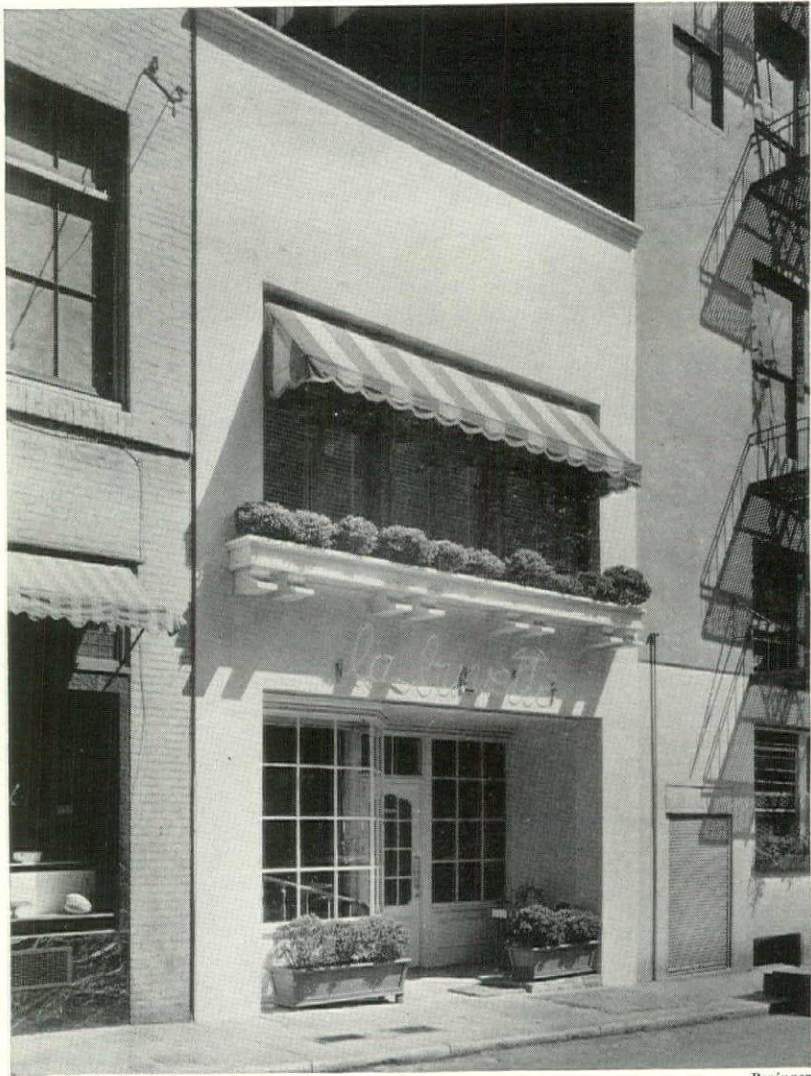
EXTERIOR—porcelain enamel, Porcelain Service Corp. GLASS—plate, Pittsburgh Plate Glass Co. SHOW CASES—A. & P. Adelhardt. TRIM—metal, Himco, Himmel Bros. Co. PAINTING—Valentine & Co. LIGHTING FIXTURES—MacBeth-Evans.



Eckman Photos

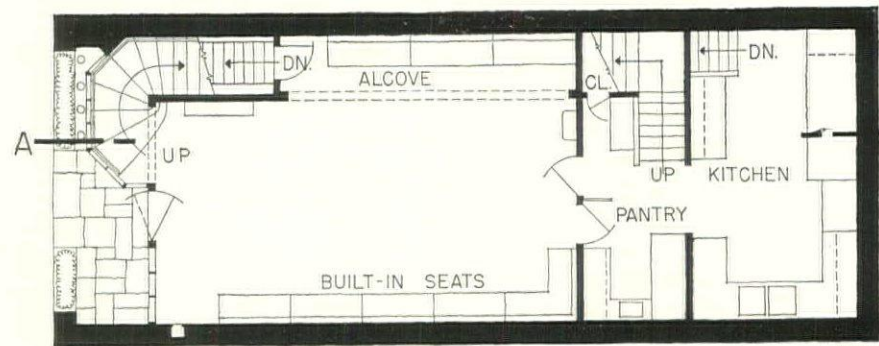
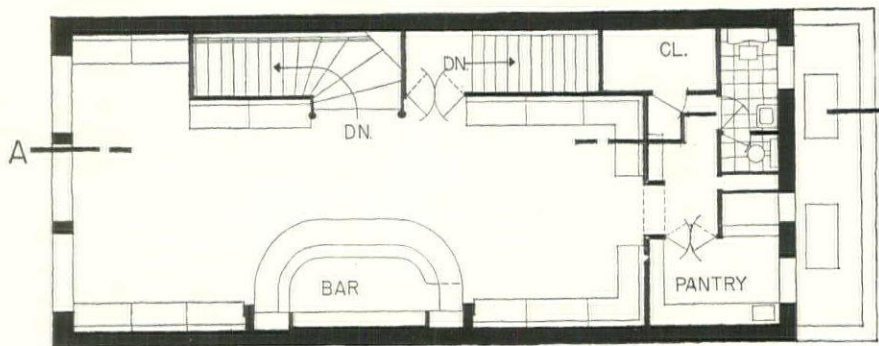


BEFORE



Beringer

Since this depression-closed restaurant was situated on a narrow alley well off the public's beaten path, it was necessary to redesign it so that the exterior would be self-advertising, the interior capable of producing and efficiently serving self-advertising food. Style of the modernization was naturally influenced by the existing brick walls which were whitewashed, and the clean simplicity of the resultant facade is noteworthy. Principal plan change was in the kitchen which was revamped and enlarged to facilitate service. Installation of an attractive, easy staircase invites patrons to the second floor, specified by the restaurant's owners as location for the bar. Remodeling paid for itself in a year and a half.



0 5 10 FEET

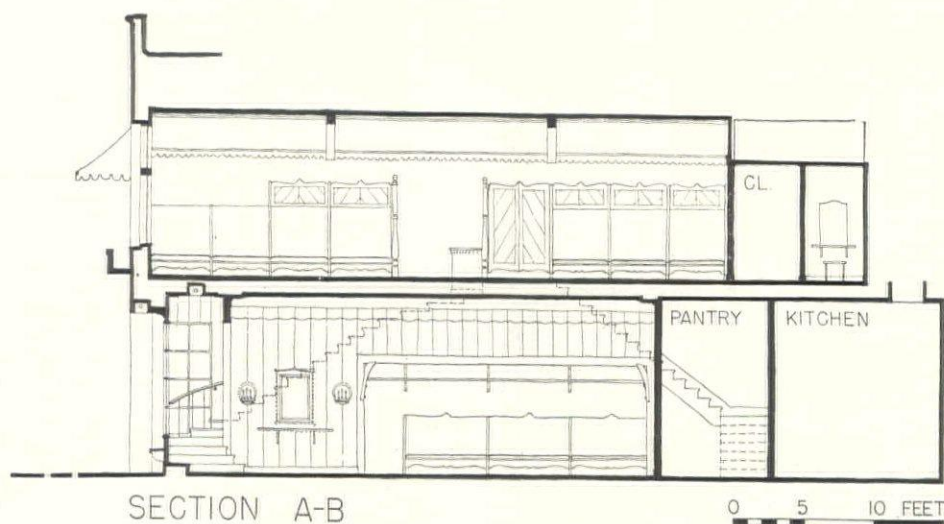


BAR



STAIR TO SECOND FLOOR

Beringer



SECTION A-B

0 5 10 FEET

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—brick, white-washed, waterproofing between. Structural steel—one I-beam to carry long lintel on facade. Floor construction—3 x 14 in. footings, 12 in. o.c. Ceilings—plaster.

ROOF: Tar and gravel; reinforced brick parapet for earthquakeproofing by the use of steel angles.

SHEET METAL WORK: Flashing and gutters—Anaconda copper, American Brass Co.

WINDOWS: Sash—wood. Glass—crystal sheet, Libbey-Owens-Ford Glass Co.

FLOORS: Red magnesite throughout.

WALL COVERINGS: Original brick painted 3 coats washable calcimine, W. P. Fuller Co.

WOODWORK: Trim and doors—pine.

HARDWARE: Interior and exterior—solid brass, Yale & Towne Mfg. Co.

PAINTING: Interior: Walls and ceilings—washable calcimine. Trim and sash—enamel. Exterior: Walls—washable calcimine. Sash—lead and oil. All material by W. P. Fuller Co.

ELECTRICAL INSTALLATION: Wiring system and switches—General Electric Co. Fixtures—hand made of sheet metal, Arthur Clough.

PLUMBING: All fixtures by Crane Co.

HEATING: Radiators and valves—American Radiator Co.

REFRIGERATION: General Motors Corp.

OFFICE BUILDING PACIFIC MUTUAL LIFE INSURANCE CO., LOS ANGELES, CALIF.

JOHN & DONALD B. PARKINSON,
ARCHITECTS



BEFORE

Purpose of this office building modernization was twofold: 1) to increase the advertising value of the building for its insurance company owner-occupant and 2) to provide a maximum of attractive rental space on the ground floor for shops. Therefore, the remodeling was restricted to the exterior, whose Corinthian ornamentation was replaced with clean terra cotta surfacing, and to the ground floor which was divided into seven individual shops. Noteworthy is the repetition of shop front treatment and the restricted use of signs. Modernization expenditures amounted to \$365,000, and, according to the insurance company, "experience has warranted the cost."



CONSTRUCTION OUTLINE

STRUCTURE: Walls—reinforced concrete faced with terra cotta; inside—plaster; tile—Gladding, McBean & Co. Interior—plaster on metal lath with steel studs, Consolidated Steel Corp. Floor construction—slab concrete; suspended ceilings.

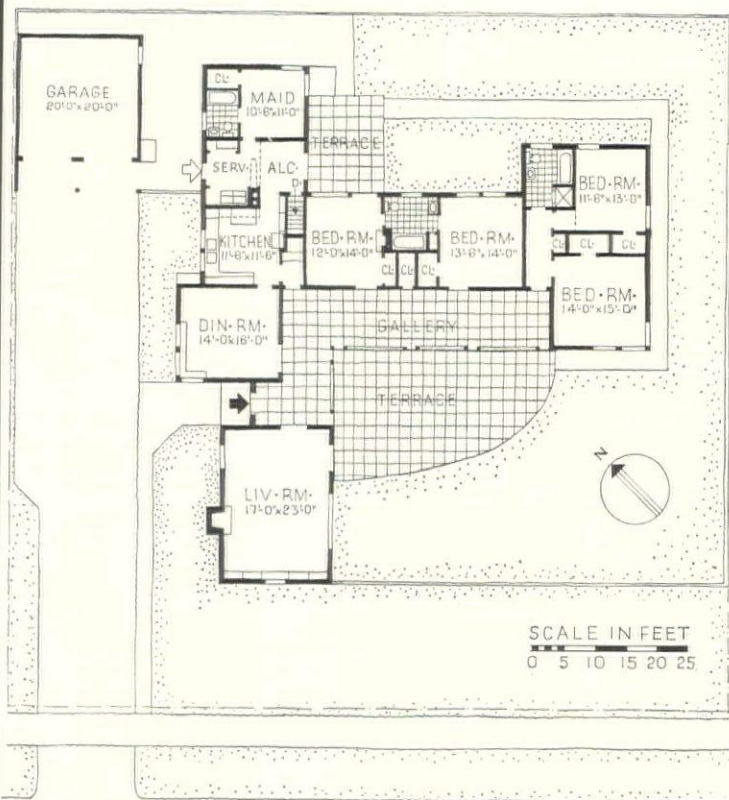
ROOF: Concrete slab covered with composition roofing, Johns-Manville.

WINDOWS: Sash—metal, double hung, Campbell Metal Window Co. Glass— $\frac{1}{4}$ in. polished plate, Townsend Glass Co.

WOODWORK: Interior doors and trim—wood, J. Niederer & Co. Exterior doors—metal, aluminum trim, West Co.

HARDWARE: Interior and exterior—bronze aluminum covered on exterior.

HOUSES



HOUSE FOR LOUIS LE HANE, PALO ALTO, CALIF. WILLIAM WILSON WURSTER, ARCHITECT



Sturtevant

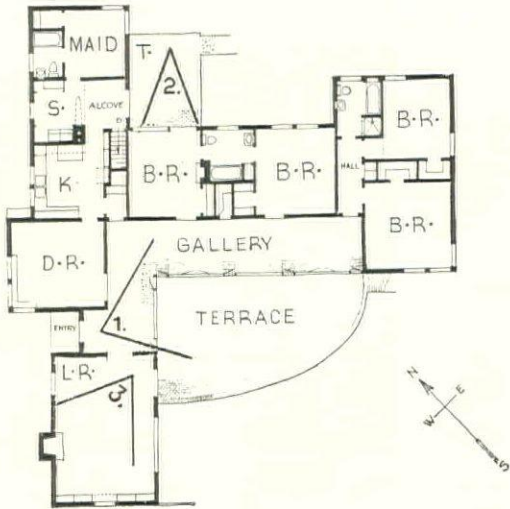
HOUSE FOR LOUIS LE HANE, PALO ALTO, CALIFORNIA



Sturtevant Photos

VIEW 1.

The above illustration is a superlative example of the use of intelligent planning to give spaciousness and dignity to a comparatively small house; instead of the blank walls of a conventional front hall, the architect has provided a view of the garden. The impressive thing about such amenities is that they are the result of planning rather than additional expenditure. As in most of Mr. Wurster's residential work, house and garden are treated as a unit; in this case the glazed gallery forms a highly flexible transitional element between the two. The plan is well organized, and is expressed with the utmost clarity by the simple, informal exterior. Cubage: 32,680.

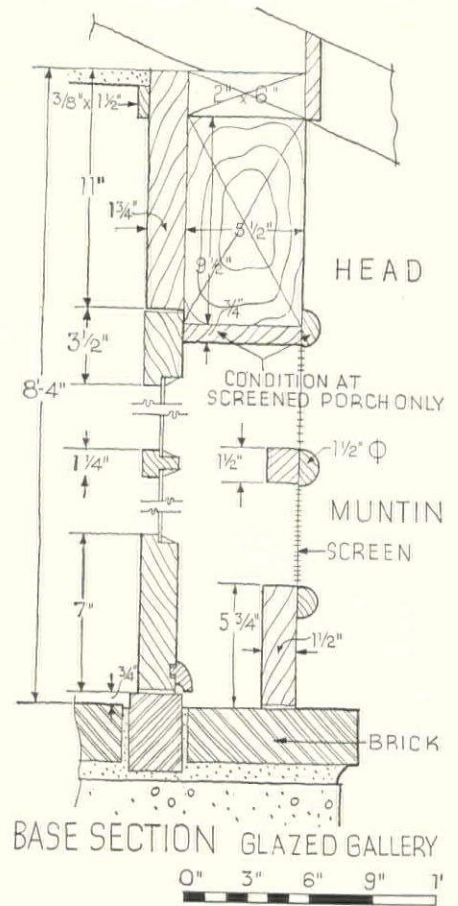




VIEW 2.



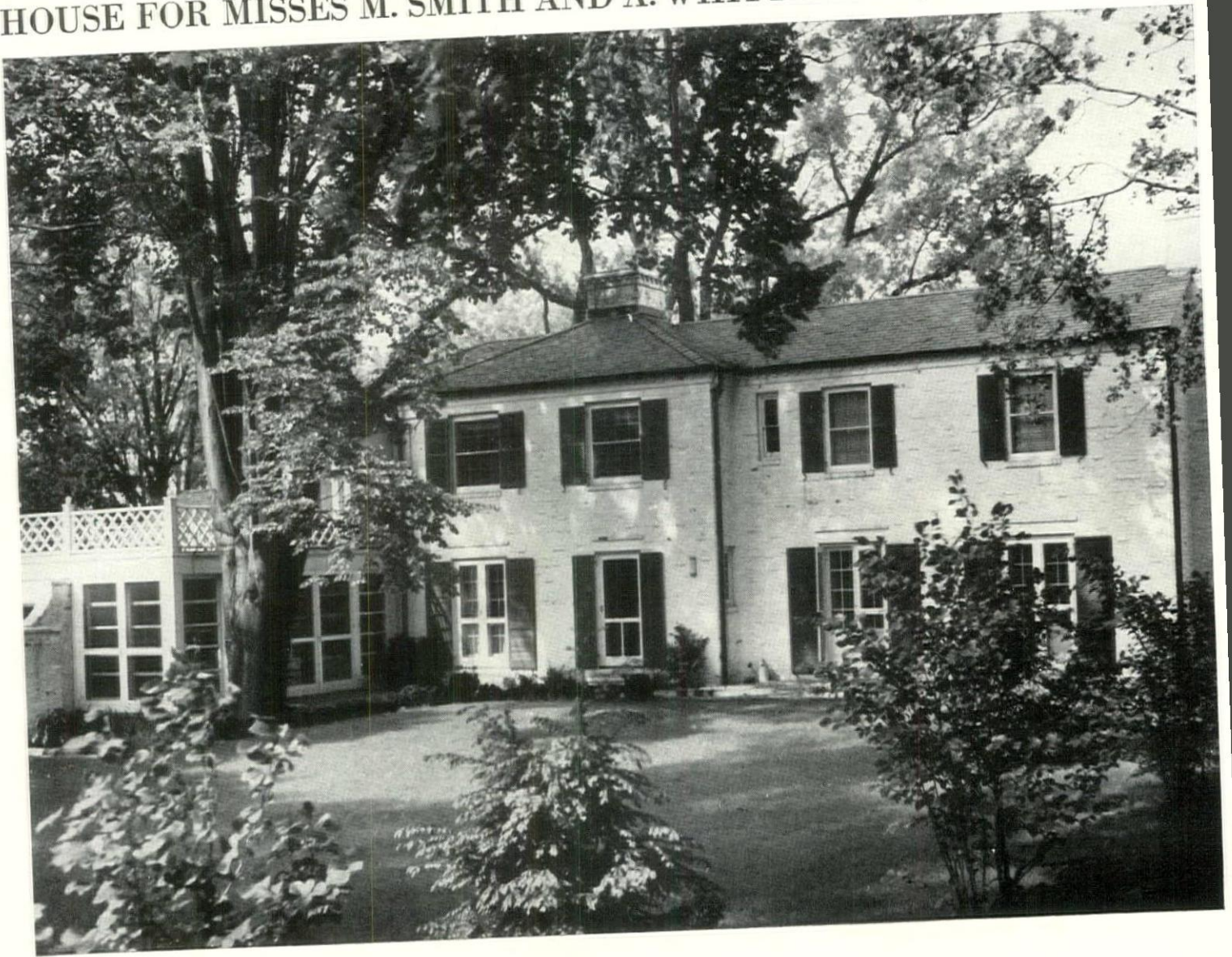
VIEW 3.



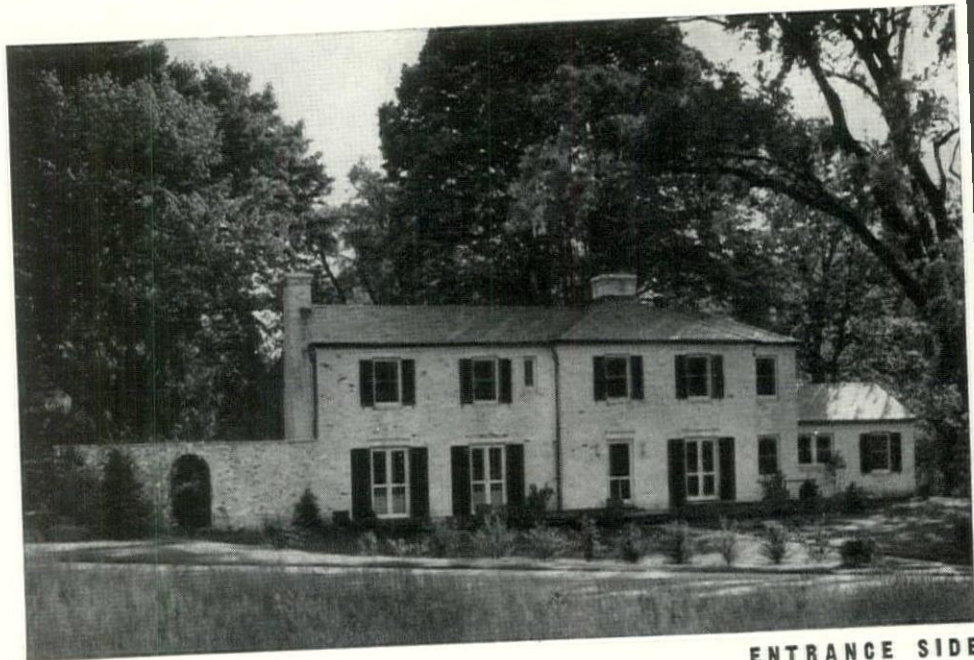
CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—1 x 10 in. redwood shiplap resawed on outside face, building paper, 1 x 2 in. strips, wood stud frame, hardwall plaster or wood on inside face.
ROOF: Covered with cedar shingles.
CHIMNEY: Fireclay flue lining, Richardson & Boynton damper.
SHEET METAL WORK: Flashing, gutters and leaders—galvanized iron.
WINDOWS: Sash—sugar pine, double hung and casements. Glass—quality B, single strength. Screens—bronze mesh, redwood frame; fixed outside.
FLOORS: Living room and bedrooms—white oak. Gallery—common brick over concrete slab. Kitchen and bathrooms—Douglas fir, T. & G., covered with linoleum.
WALL COVERINGS: Gallery walls—same as exterior walls. Bedroom and kitchen—1/4 in. plywood, white pine, U. S. Plywood Corp.
WOODWORK: Trim and cabinets—Douglas fir. Interior doors—flush slab, white pine.
PAINTING: Interior: All sand finished plaster has integral color, untreated; all smooth plaster finished with flat paint; plywood in kitchen oiled and varnished; plywood in bedroom treated with hot beeswax. Trim and sash—enamel. Exterior walls and sash—lead and oil.
ELECTRICAL INSTALLATION: Wiring system—knob and tube.
BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co.
PLUMBING: Soil pipes—cast iron. Hot water pipes—galvanized wrought iron, A. M. Byers Co. Cold water pipes—galvanized steel.
HEATING: Electrogas gas fired forced warm air system. Hot water heater—gas fired storage type.

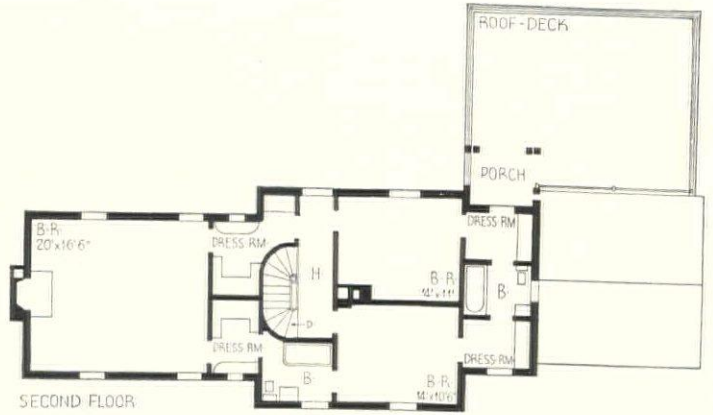
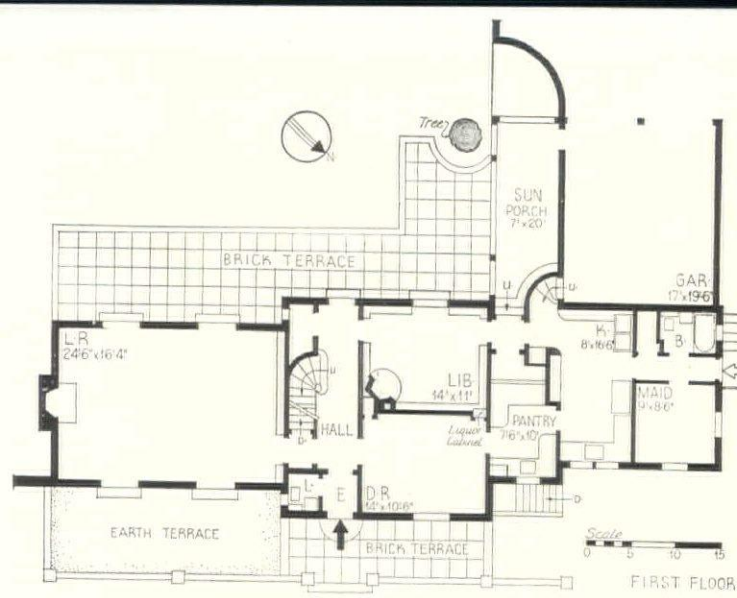
HOUSE FOR MISSES M. SMITH AND A. WHITTEMORE, GREAT NECK, N. Y.



Planned to take advantage of existing planting on the property, this house shows a number of interesting deviations from the conventional treatment. The ingenious combination of garage unit and sun porch, for instance, is practical as well as unusual, and the roof deck above, while somewhat remote, is sufficiently protected by the surrounding trees to permit its use with privacy. On the second floor, the arrangement of dressing rooms and baths is excellent, and makes possible the removal of all closets from the bedrooms, thereby increasing wall space. Cubage: 45,000. Cost: \$18,000, at 40 cents per cubic foot.



ENTRANCE SIDE



LIVING ROOM



BEDROOM

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—4 in. brick veneer on 4 in. stud wall, diagonal sheathing covered with waterproofing paper; metal lath and plaster inside.

ROOF: Construction—2 x 8 in. rafters, T. & G. shiplap covered with roofing felt and 3/16 in. to 1/4 in. Bangor slate, random width, Bangor Slate Co. Decks—wood joists, T. & G. shiplap, 4-ply asbestos roofing.

CHIMNEY: Brick with terra cotta flue linings; H. W. Covert Co. dampers.

SHEET METAL WORK: Flashing, leaders and ducts—16 oz. copper.

INSULATION: Outside walls and attic floors—4 in. Balsam wool, Wood Conversion Co. Weatherstripping—copper on all windows.

WINDOWS: Sash—double hung, Curtis Companies. Glass—quality A, single strength, Libbey-Owens-Ford Glass Co. Glass blocks—Owens-Illinois Glass Co.

FLOOR COVERINGS: Living room—7/8 in. random width select red oak plank. Bedrooms—7/8 in. T. & G. strip flooring, carpet. Kitchen and bathrooms—linoleum.

WOODWORK: Trim and interior doors—stock, Curtis Companies. Exterior door—special design. Garage doors—overhead type.

HARDWARE: Interior—Schlage Lock Co. Exterior—Yale & Towne Mfg. Co.

PAINTING: Interior—3 coats lead and oil; finished coat eggshell enamel. Library—knotty pine, stain and Minwax Co. wax. Outside brick work—2 coats whitewash.

ELECTRICAL INSTALLATION: Wiring system—BX throughout, General Electric Co. Switches—Arrow, Hart & Hegeman Electric Co.

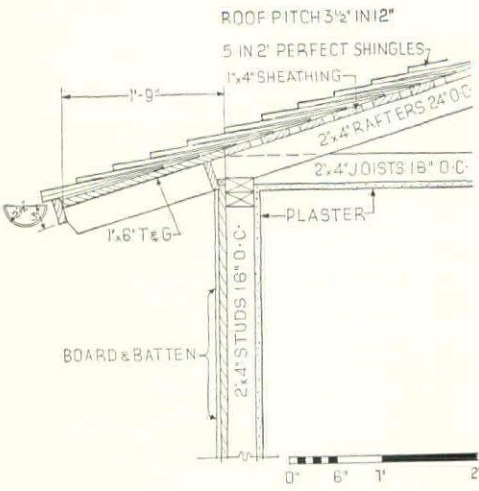
KITCHEN EQUIPMENT: Range—gas, American Stove Co. Refrigerator—Electrolux gas, Servel, Inc. Sink—Monel metal top, International Nickel Co. Cabinets—stock, Curtis Companies.

BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co.

PLUMBING: Soil pipes—extra heavy cast iron. Cold and hot water pipes—brass, 85 per cent copper, Anaconda, American Brass Co.

HEATING AND AIR CONDITIONING: Gar Wood complete air conditioning heating plant, Gar Wood Industries. Grilles—American Register Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—gas automatic, Pittsburgh Water Heater Co.

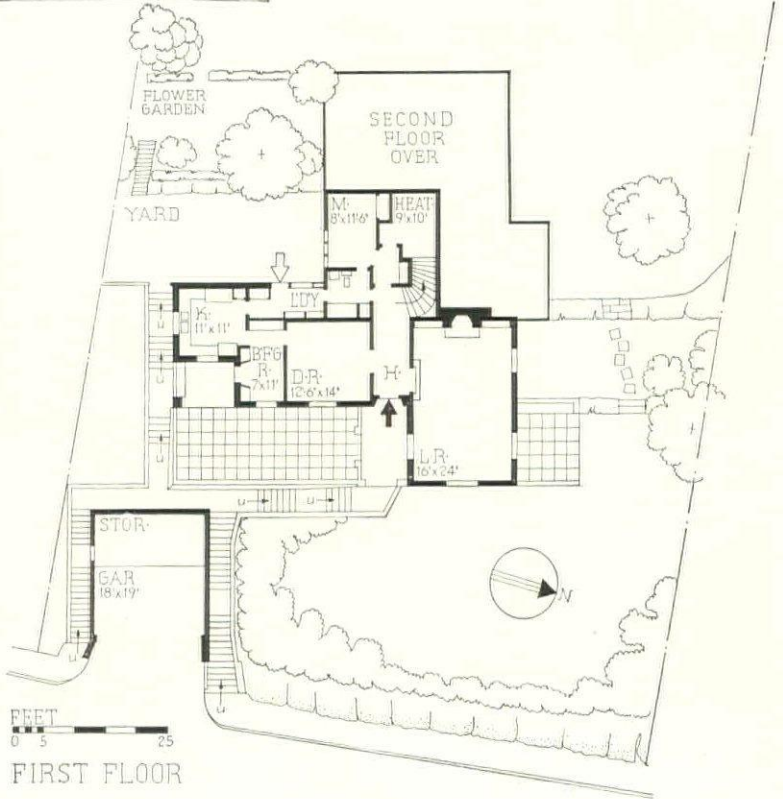
HOUSE FOR MAURICE SAETA, LOS ANGELES, CALIFORNIA



SECTION THROUGH EXTERIOR WALL
SHOWING ROOF OVERHANG



SECOND FLOOR



FIRST FLOOR

While the site for this house presented a problem, the difficulty was confined largely to means of access and the creation of a terrace; further influence of the contours is indicated by the location of the second floor. Very competently planned, the house is of particular interest for its pleasing mass, the excellent combination of materials, and its carefully studied details. Within the limits of a moderately conservative treatment the solution shows refreshing freedom of handling and admirable simplicity. Cost: \$12,000.



TERRACE

Miles Berné

LIVING ROOM



CONSTRUCTION OUTLINE

FOUNDATION: Reenforced concrete. Waterproofing in basement — Anti-Hydro Waterproofing Co.

STRUCTURE: Exterior walls (1st floor)—brick veneer; (2nd floor)—vertical boards and battens. Inside—grip lath, 3 coats plaster.

ROOF: Covered with Perfection cedar shingles.

CHIMNEY: Brick with Superior Fire-place Co. damper.

SHEET METAL WORK: Flashing, gutters and leaders—24 gauge galvanized iron.

WINDOWS: Sash—metal casements, Druwhit Metal Products Co. Glass—double strength, Libbey-Owens-Ford Glass Co. Screens—Rolling Window Screen Co.

STAIR: Treads — clear white oak. Risers—Douglas fir.

FLOOR COVERINGS: Main rooms—carpet over No. 1 common oak. Kitchen—linoleum over Douglas fir. Bathrooms—tile, Gladding, McBean & Co.

WALL COVERINGS: Bedrooms and halls—wallpaper, Kitchen and bathrooms—Sanitas, Standard Coated Products Corp.

WOODWORK: Trim, doors and cabinets—California white pine. Garage doors—overhead type, Frantz Mfg. Co.

HARDWARE: P. & F. Corbin.

PAINTING: All paint material by Sherwin-Williams Co. Floors—Minwax Co. Outside walls—3 coats Bondex, Reardon Co. Roof and woodwork—Samuel Cabot, Inc.

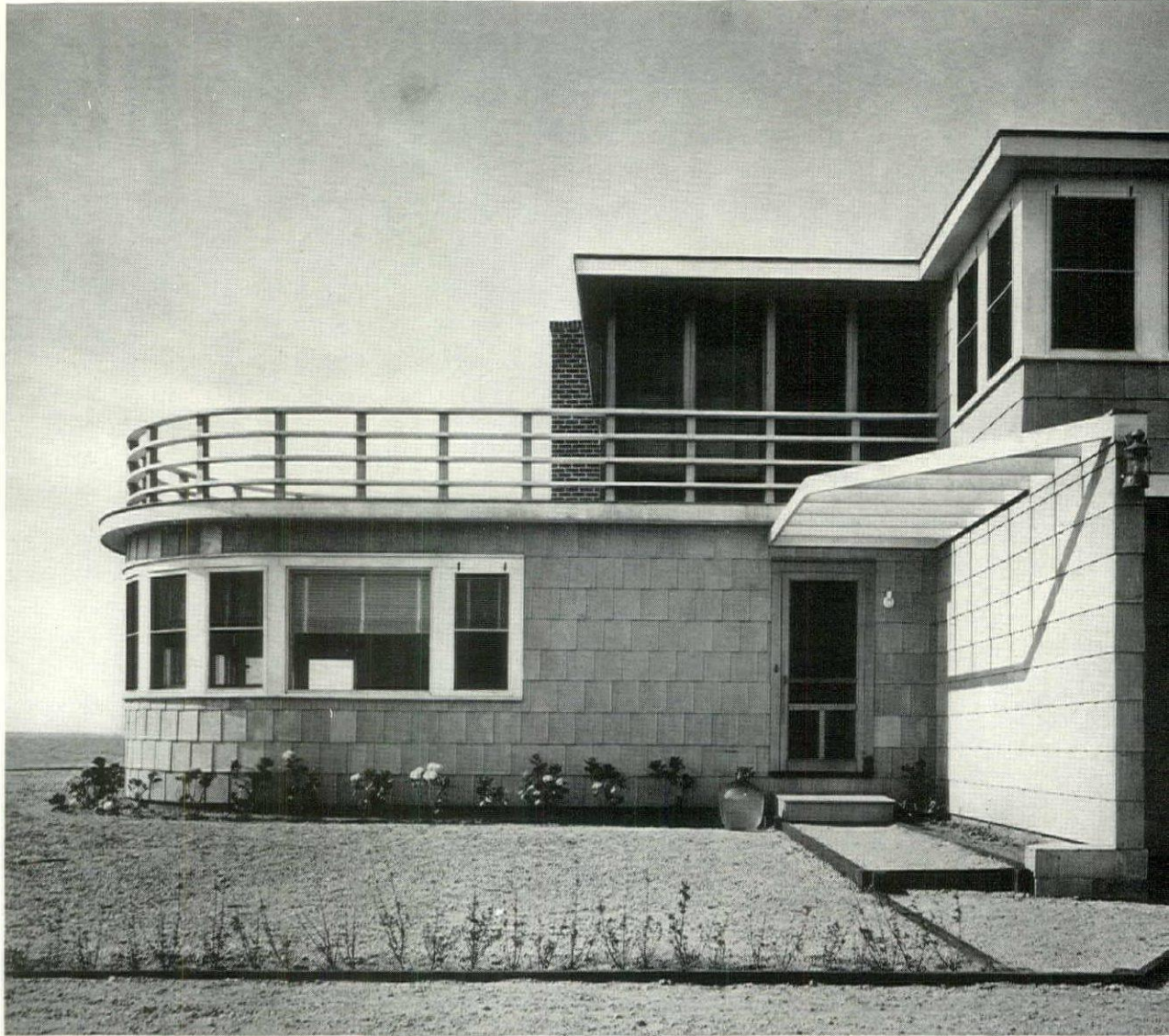
ELECTRICAL INSTALLATION: Switches—Bryant Electric Co. Fixtures—Arthur Clough.

KITCHEN EQUIPMENT: Range—gas. Refrigerator—General Electric Co. Sink—Crane Co.

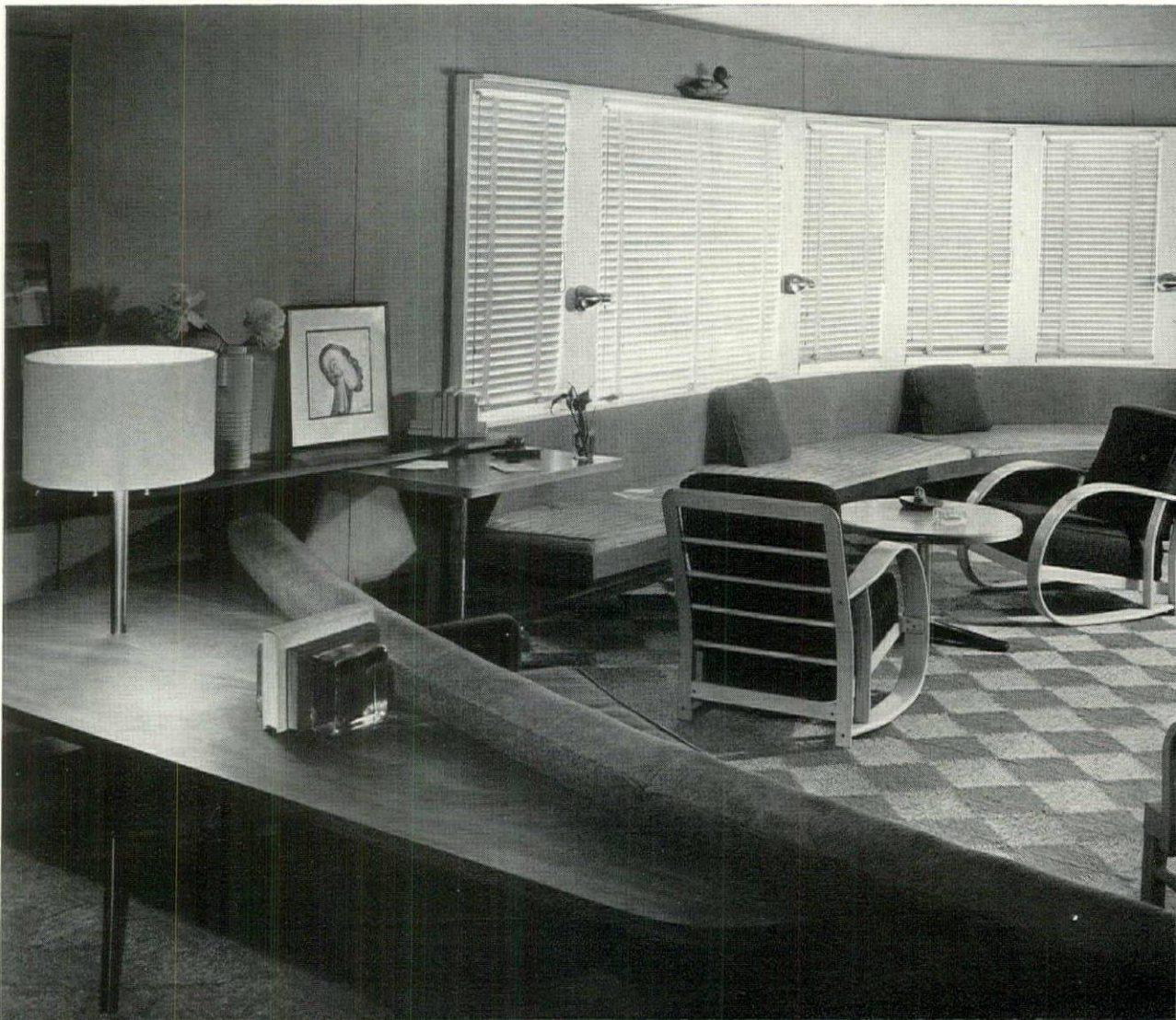
BATHROOM EQUIPMENT: All fixtures by Crane Co. Shower—Speakman Co.

HEATING: Warm air, gas-fired furnace, Payne Furnace Co. Hot water heater—Crane Co.

HOUSE FOR WADE LANE, HARVEY CEDARS, N. J.



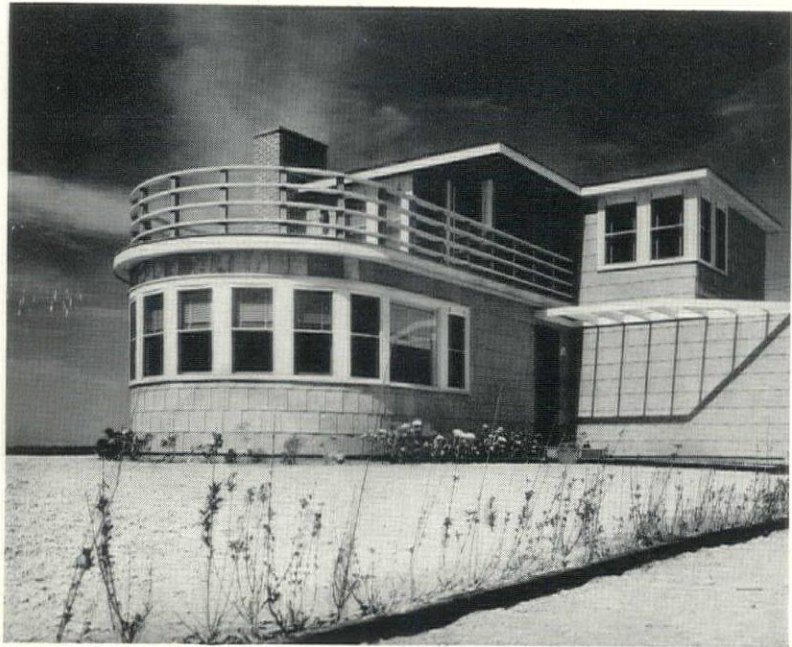
ENTRANCE



LIVING
ROOM

GEORGE DAUB, ARCHITECT

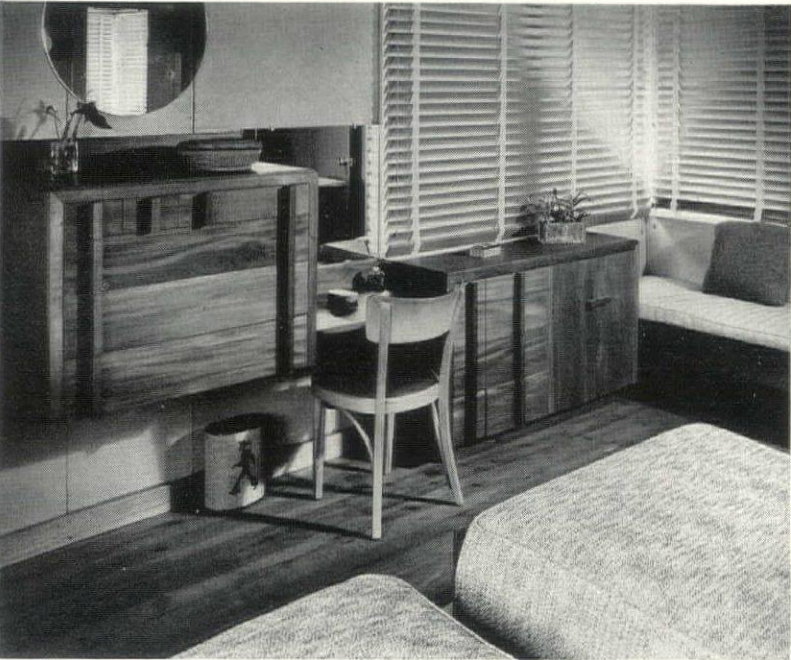
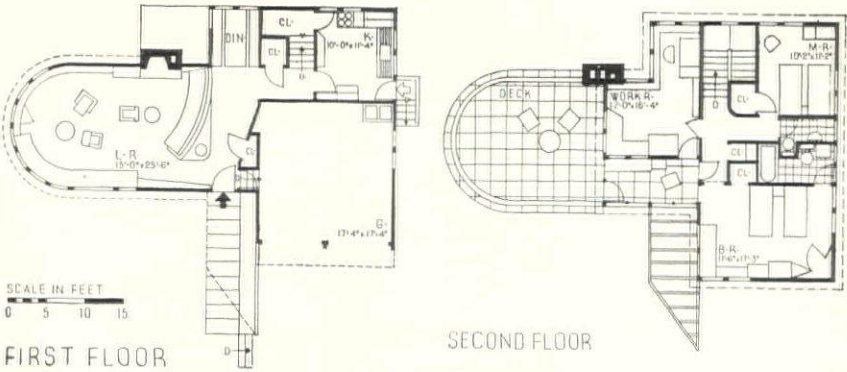
Faced by special problems which do not occur in the planning of the average year-round residence, the architect has appropriately emphasized the informal character of the house in both exterior and interior treatment. The large living room with three exposures takes good advantage of the view, and its projection makes possible the placing of a useful deck on the second floor level. An interesting bit of planning is the dining room, which is treated as part of the general living space, but sufficiently removed for privacy and convenience. Cost: \$7,448. Cubage: 27,300 at about 27 cents per cubic foot.



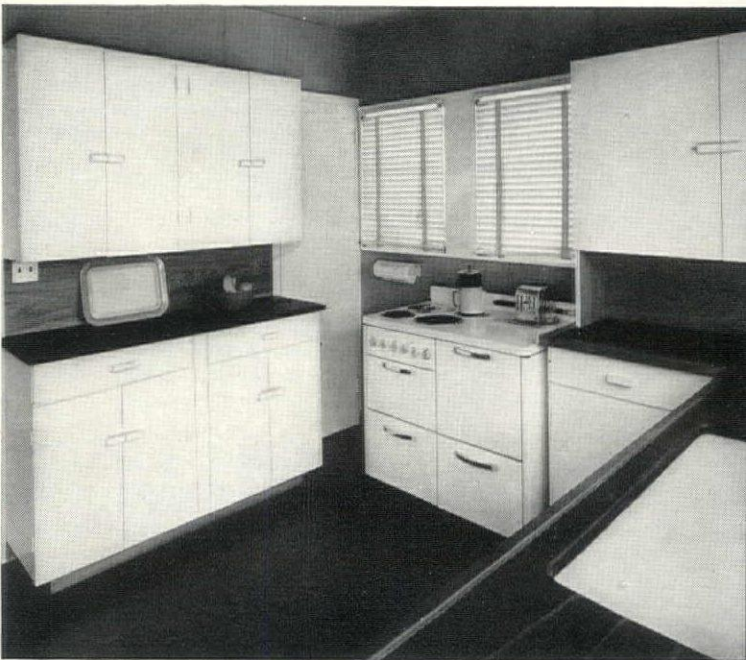
Robert M. Demora Photos

CONSTRUCTION OUTLINE

FOUNDATION: Built on 8 in. piles.
STRUCTURE: Exterior walls—Dutch Lap asbestos shingles laid on wrong side, Keasbey & Mattison Co., building paper, sheathing, 2 x 4 in. studs; inside—Thermosote, Homasote Co. Ceilings—Homasote on 1st floor, Thermosote on 2nd., Homasote Co.
ROOF: Built-up, 10-year, Philip Carey Co. Decks—covered with canvas, painted.
WINDOWS: Sash—wood, double hung with storm sash. Glass— $\frac{1}{8}$ in. quality B, Libbey-Owens-Ford Glass Co.
WOODWORK: Trim—white pine. Cabinets—Douglas fir plywood. Doors—Rezo, flush fir, M. & M. Woodworking Co. Garage doors—standard covered with Masonite, Masonite Corp.
HARDWARE: Chromium plated, Schlage Lock Co.
PAINTING: Trim and sash—lead and oil, Pratt & Lambert, Inc.
ELECTRICAL INSTALLATION: Wiring system—BX. Switches and fixtures—Pass & Seymour.
KITCHEN EQUIPMENT: Range and refrigerator—Hot Point, Edison General Electric Appliance Co. Sink—Standard Sanitary Mfg. Co.
BATHROOM EQUIPMENT: All fixtures by Kohler Co.
HEATING: Warm air system. Boiler—Sunbeam, Fox Furnace Co. Oil burner—Petroleum Heat & Power Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—electric, Hot Point, Edison General Electric Appliance Co.



BEDROOM



KITCHEN

HOUSE FOR R. R. WITT, SAN ANTONIO, TEXAS



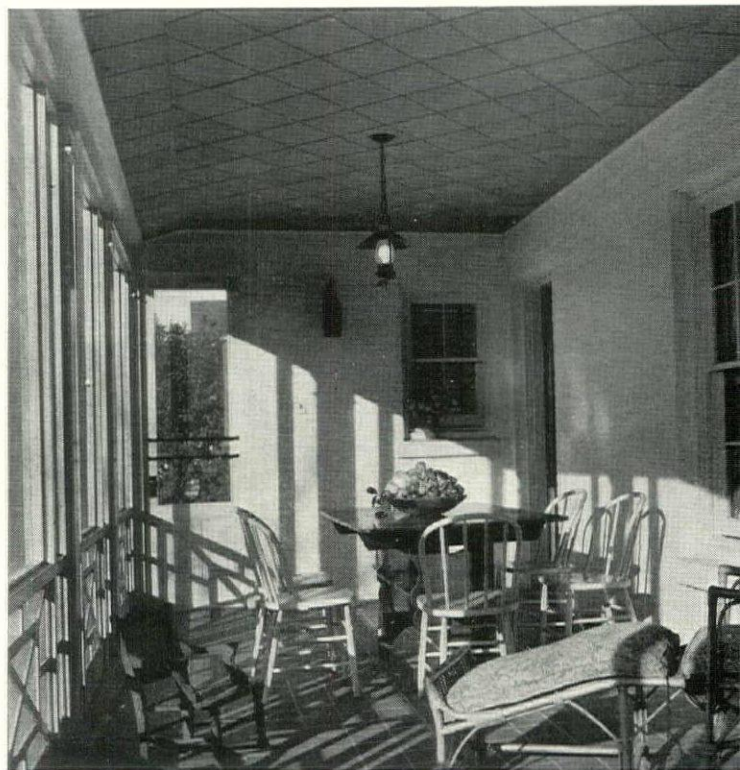
STAIR

The Colonial house in Texas, during its long process of acclimatization, has changed to the point where it is taking on something of a specific regional character, noticeable in the large rooms, provisions for ventilation, and spaces for year-round outdoor living. A particularly ingenious device in the plan of this house is the use of parallel stairways which merge on an intermediate level, an arrangement which gives privacy where most needed, with a minimum waste of space. Cubage: 36,600. Cost: approximately \$22,500, at about 61 cents per cubic foot.

CONSTRUCTION OUTLINE

FOUNDATION: Drilled concrete piles with concrete grade beams.
STRUCTURE: Exterior wall—common brick veneer on 2 x 6 in. studding, sheathing and waterproof paper. Interior partitions—expanded metal lath and plaster. Floor construction—2 x 12 in. wood floor joists, sub-floor, deadening felt and finished flooring.
ROOF: Covered with asbestos shingles, Ruberoid Co.
CHIMNEY: Lining—terra cotta tile, H. W. Covert Co. damper.
SHEET METAL WORK: Flashing, gutters and leaders—galvanized iron, Taylor's Target and Arrow.
INSULATION: Attic floor—2 in. balsam wool insulation, Wood Conversion Co. Weatherstripping—Macklanbury Duncan Co.
WINDOWS: Sash—double hung, pine. Glass—double strength.
STAIRS: Treads—oak. Risers and stringers—pine. Attic stair—Bessler Disappearing Stairway Co.
FLOORS: Living room—random width V joint T. & G. mahogany. Bedrooms and halls—No. 1 white oak. Kitchen and bathrooms—pine covered with rubber tile. Porches—red cement tile, Mosaic Tile Co.
HARDWARE: Dull brass throughout, Russell & Erwin Mfg. Co. Garage doors—overhead, spring balanced, Overhead Door Co.
KITCHEN EQUIPMENT: Sink—stainless steel fixtures, Crane Co. Ventilator—1½ fan, 1½ Electric Ventilator Co.
BATHROOM FIXTURES: Crane Co. Cabinet—The White Co.
HEATING: Forced warm air system, gas fired furnace, Beck Engineering Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—storage type, Crane Co.

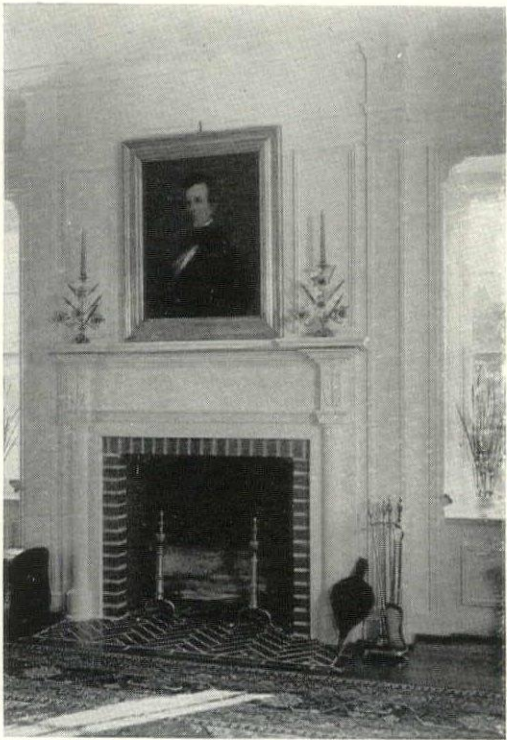
PORCH



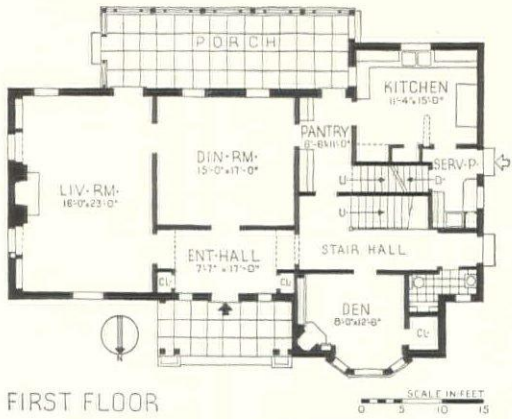


DINING ROOM

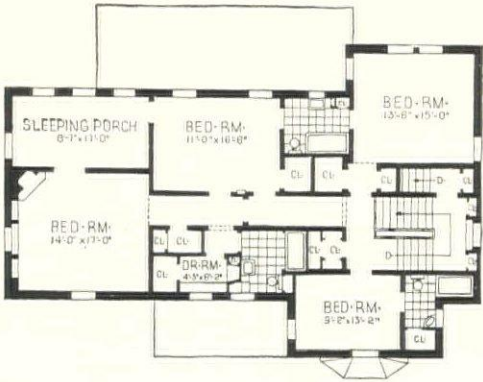
Harvey Patteson Photos



LIVING ROOM

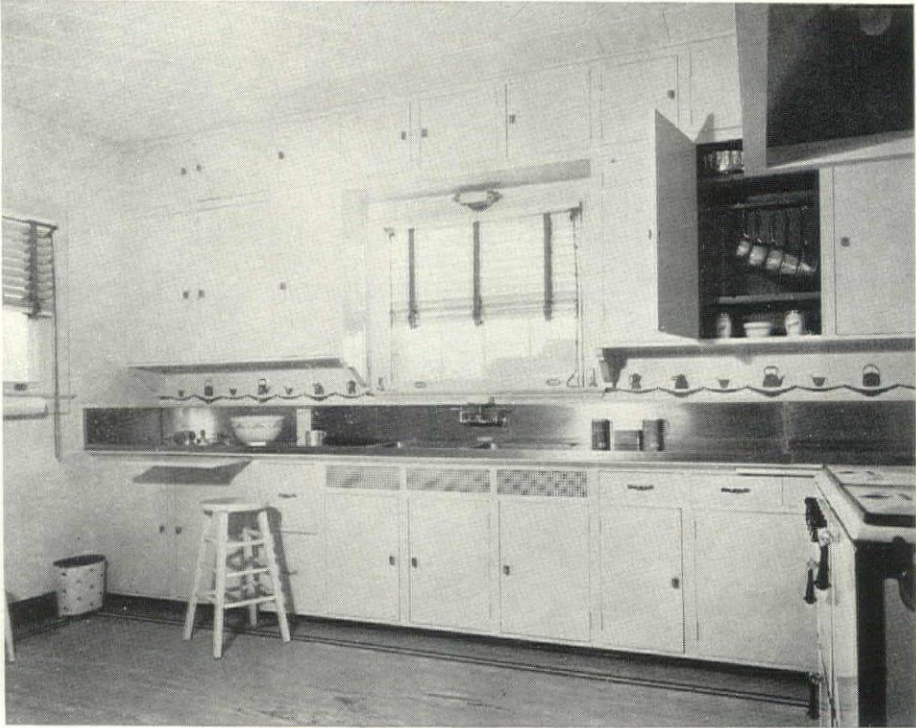


FIRST FLOOR

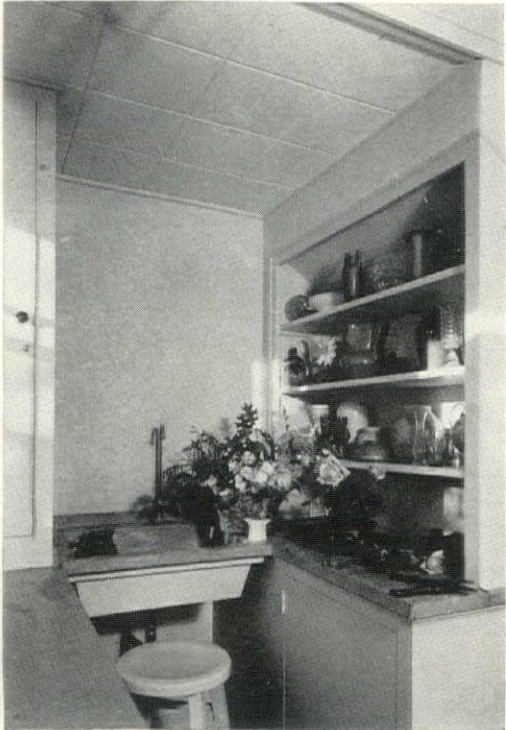


SECOND FLOOR

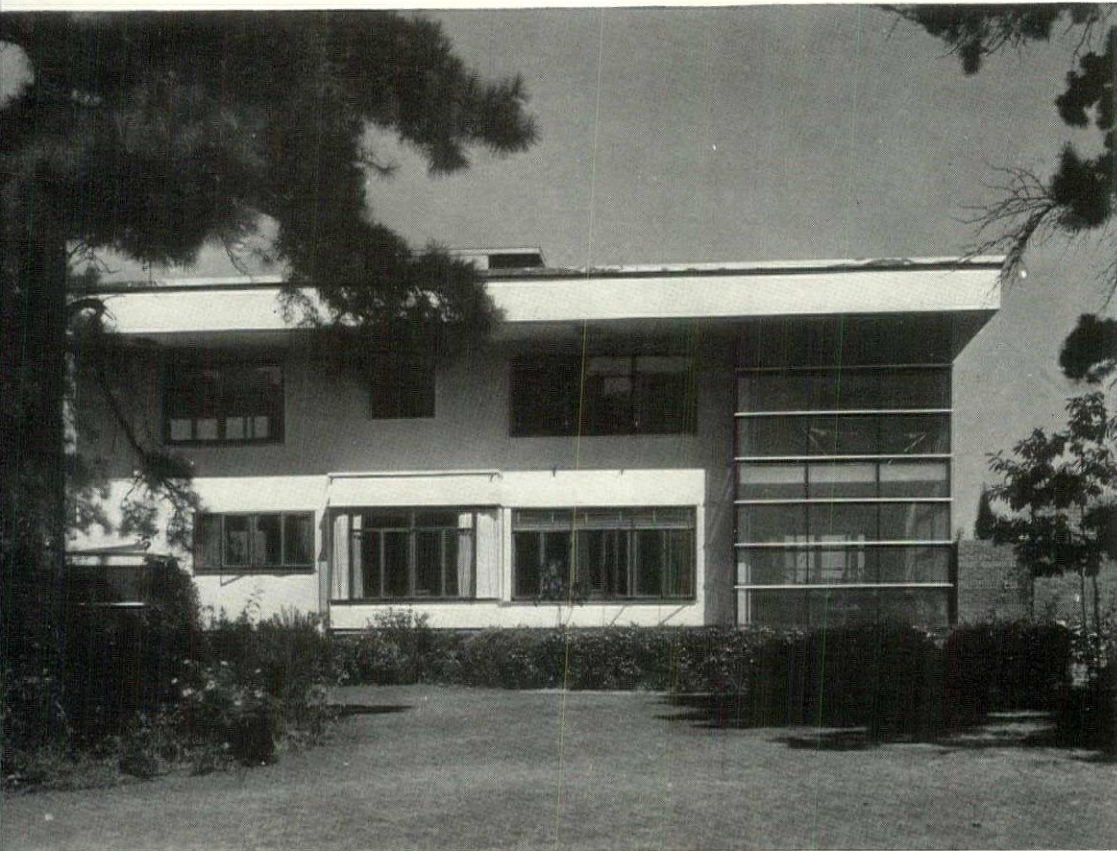
KITCHEN



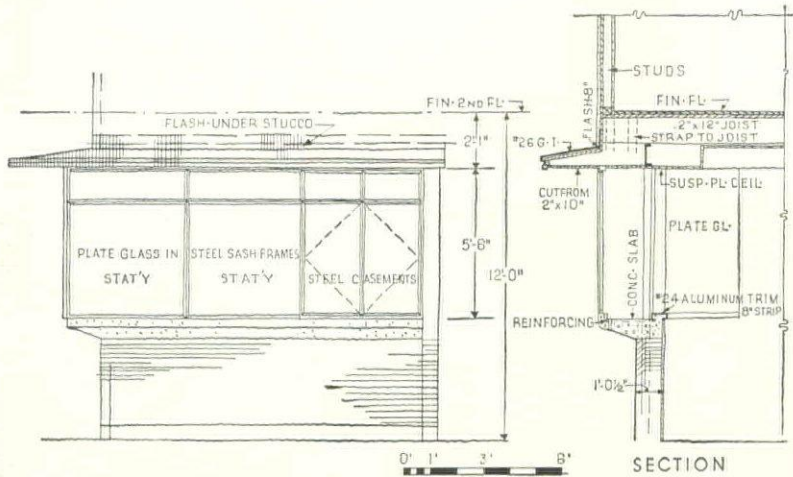
FLOWER ROOM in service porch



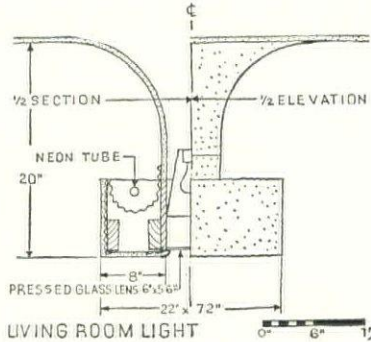
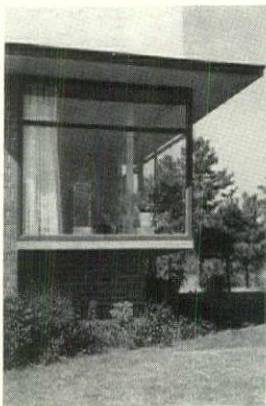
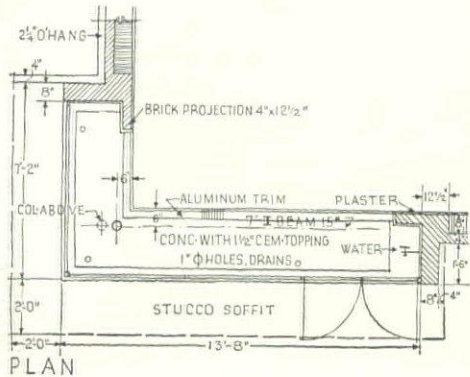
HOUSE FOR SAMUEL G. WIENER, SHREVEPORT, LA.



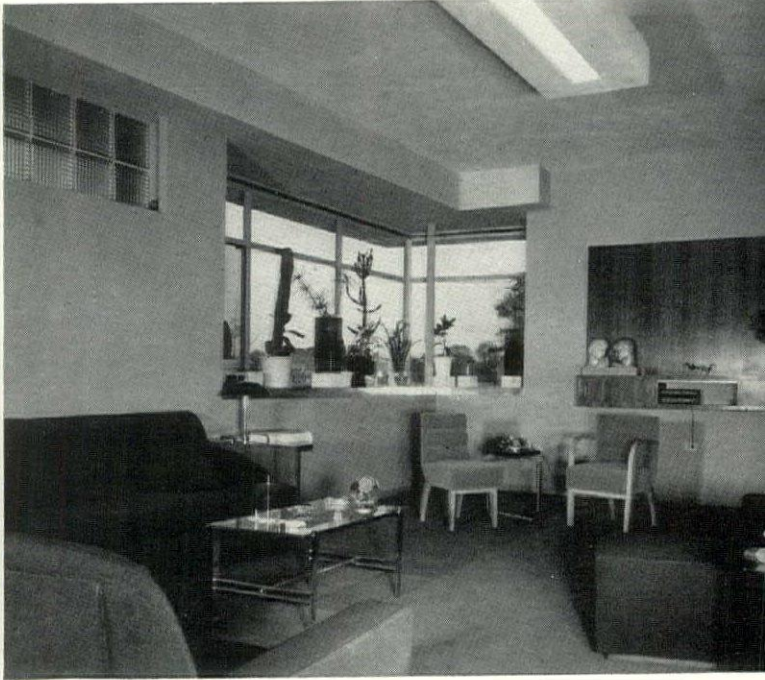
Marcus D. Weeks Photos



FLOWER WINDOW IN LIVING ROOM



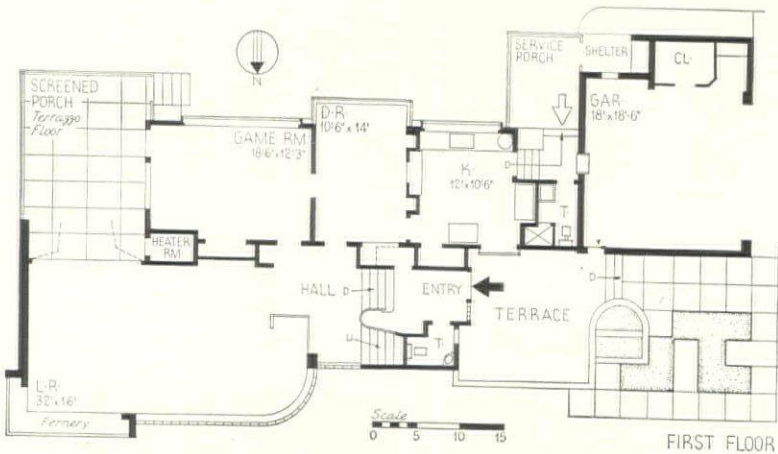
LIVING ROOM



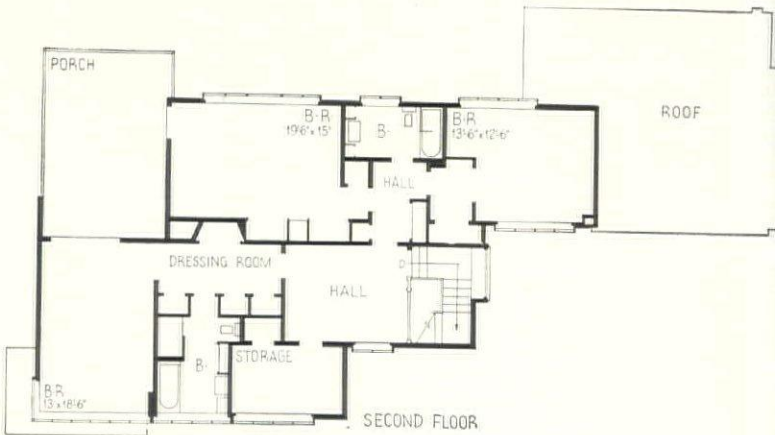
CONSTRUCTION OUTLINE

FOUNDATION: Grade beams concrete on post hole piles.
STRUCTURE: Frame of reinforced concrete, steel and wood; stucco set in metal expansion joints; waterproof reflecting paper, wood sheathing, studs, metal lath and plaster inside. Floor construction (1st floor)—reinforced concrete on fill, 2 in. concrete topping for living room, remainder terrazzo; 2nd floor—wood joists.
ROOF: Wood deck on wood joists covered with composition asphalt and gravel, Flintkote Co.
SHEET METAL WORK: Flashing—Armco, copper bearing, American Rolling Mill Co., coping finished in aluminum.
INSULATION: Outside walls—Silvercote Products Co. Attic floor—Gimco rock wool bats, General Insulating & Mfg. Co. Weatherstripping for wood doors—Monarch Metal Weather Strip Co.
WINDOWS: Sash—custom built steel casements, Concrete Engineering Co. Glass—mostly double strength, quality A; plate for flower window; obscure for built-in lights; all by Libbey-Owens-Ford Glass Co. Glass block—12 x 12 in. Insulux, Owens-Illinois Glass Co.
FLOOR COVERINGS: Living room—carpet on Ozite, Clinton Carpet Co. Bedrooms—rugs, solid color.
WOODWORK: Trim and cabinets—pine. Doors—flush Rezo doors, Paine Lumber Co.
HARDWARE: All equipment by Sargent & Co.
PAINTING: All material by Pittsburgh Plate Glass Co.
ELECTRICAL INSTALLATION: Wiring system—flexible conduit. Switches—Pass & Seymour.
KITCHEN EQUIPMENT: Refrigerator—Kelvinator Corp. Sink—Crane Co.
BATHROOM EQUIPMENT: All fixtures by Crane Co.
PLUMBING: Water supply pipes—copper tubing.
HEATING: Niagara air heating unit with ducts, Forest City Products Co. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—Crane Co.

The emphatic use of overhangs on much modern residential work in the South is one feature which gives these houses a definitely local character. In this instance not only the roof, but the entire attic space has been projected to protect the south wall from the sun. Equally typical is the two-story porch, a climatic necessity which has been most intelligently handled; the screens, it will be noted, have been treated not as an afterthought, but as the main element in the design. The plan is generous, reasonably open, and like the exterior reflects the special requirements of the locality. Cost: 38 cents per cubic foot.



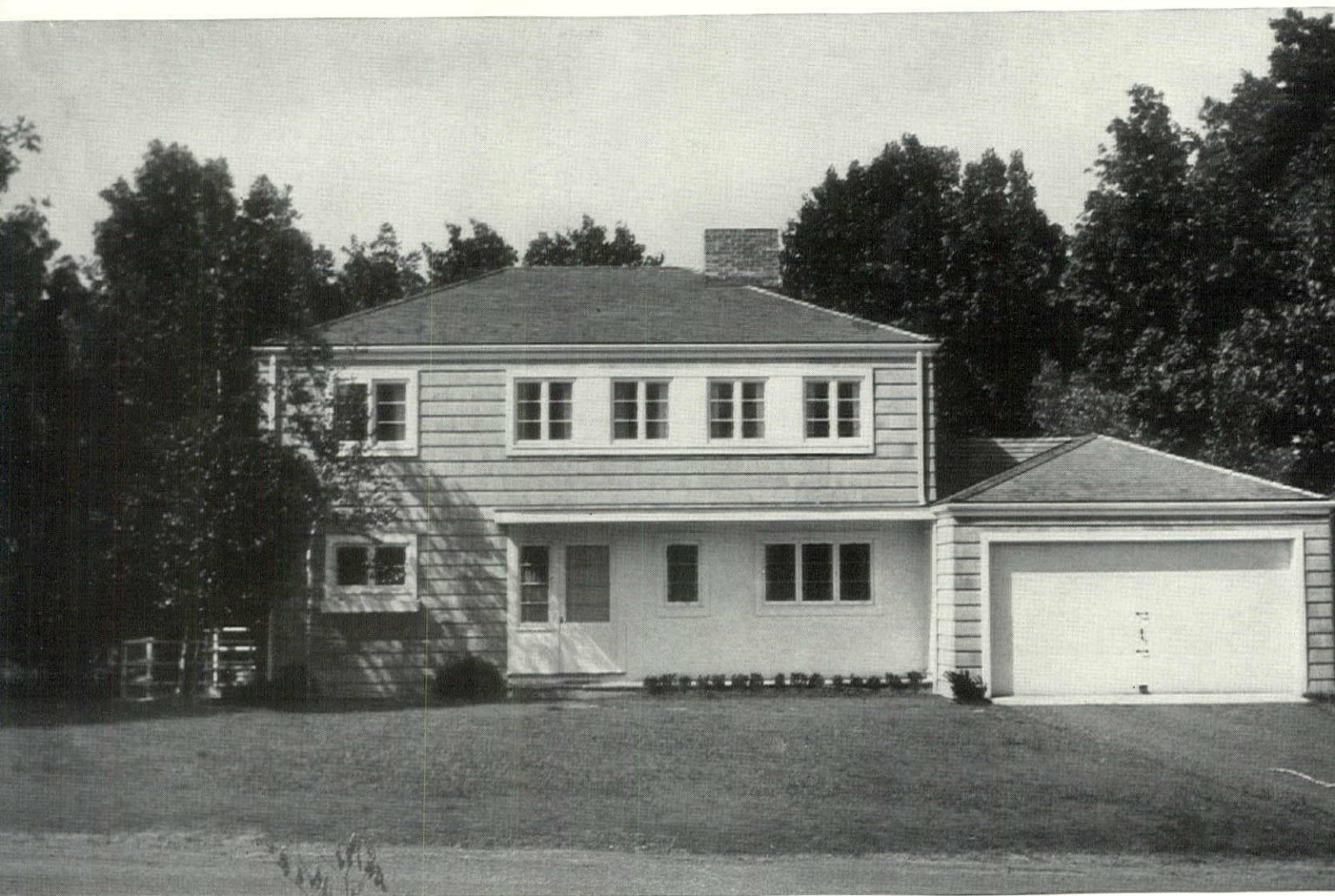
DINING ROOM



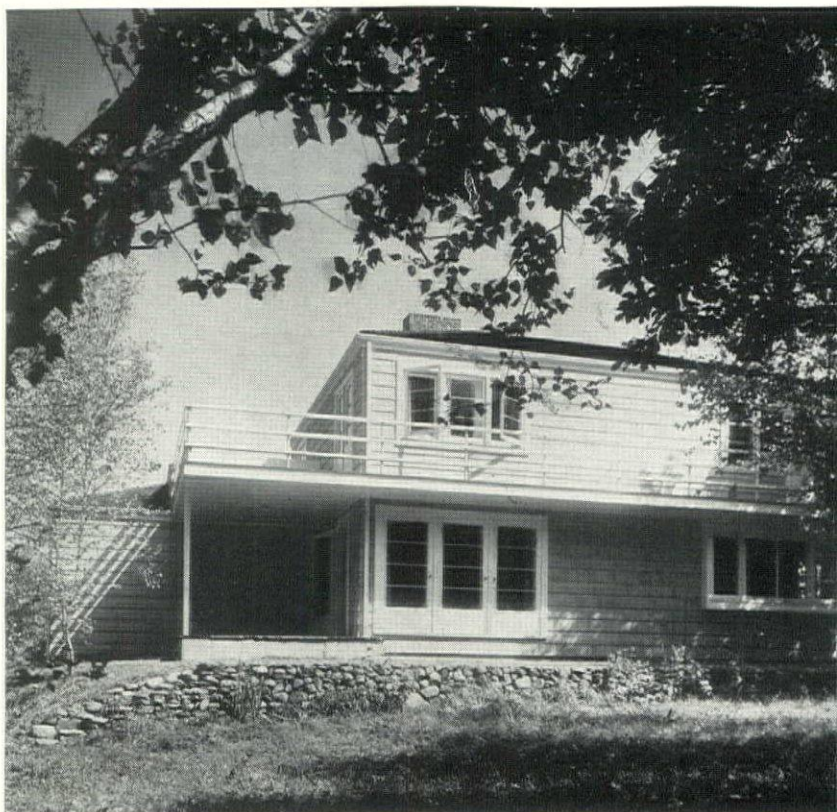
SON'S BEDROOM



HOUSE FOR J. BLISS AUSTIN, WESTFIELD, NEW JERSEY



GARDEN ELEVATION



An interesting and very significant part of the modern trend in domestic architecture is the growing number of houses which combine features of both traditional and modern design. An excellent case in point is shown here, a residence which makes rational use of inexpensive local materials, clearly expresses an efficient plan, and makes no concessions to any predetermined type of exterior treatment. The plan is simple and direct. Laid out in an economical rectangle, it merges living and dining spaces, provides for easy circulation between the various units, and has a compact second floor arrangement with bedrooms of adequate size. The interiors, shown on the opposite page, reflect the competent handling of the exterior. Cubage: 34,690. Cost: \$12,701.50, at about 37 cents per cubic foot.



HALL

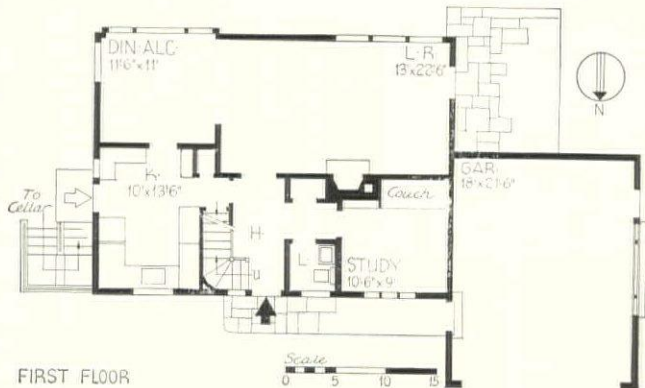
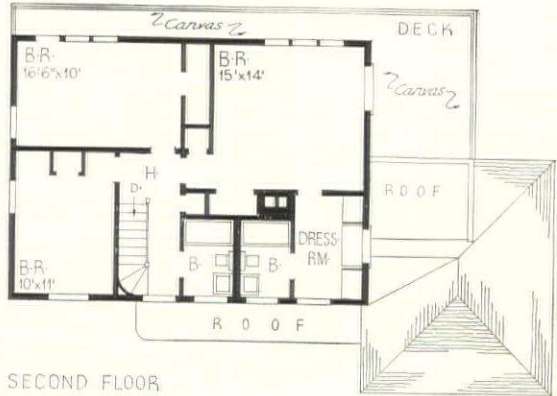


LIVING



STUDY

Garrison Photos



CONSTRUCTION OUTLINE

FOUNDATION: Walls—continuous cinder concrete blocks. Cellar floor—4 in. concrete slab over 4 in. cinder fill. Waterproofing—1 in. cement mortar with A. C. Horn Co. Hydratite mixed in, then tarred.

STRUCTURE: Exterior walls—cedar shingles, Sisal-kraft building paper, diagonal N. C. pine sheathing, fir studding, U. S. Gypsum Co. rocklath, 3 coats plaster.

ROOF: Covered with Perfection red cedar shingles. Decks—canvas on double pine flooring.

CHIMNEY: Lining—terra cotta flues. Damper—Old Style, H. W. Covert Co.

SHEET METAL WORK: Flashing—16 oz. copper. Gutters—fir. Leaders—corrugated copper.

INSULATION: Outside walls and attic floor—4 in. rockwool, U. S. Gypsum Co.

WINDOWS: Sash—pinecraft Normandy casements.

FLOOR COVERINGS: Living room and bedrooms—red oak. Kitchen—linoleum. Bathrooms—2 in. sq. tile, Robertson Art Tile Co.

WALL COVERINGS: Bedrooms—wallpaper, Richard E. Thibaut Co. Bathrooms—tile for tub recess. Other walls—waterproof Retlak, Richard E. Thibaut Co.

WOODWORK: Trim and cabinets—special pine. Exterior doors—Rezo, flush panel, M. & M. Woodworking Co. Garage door—overhead type, Overhead Door Co.

HARDWARE: All equipment by Schlage Lock Co.

PAINTING: Walls—3 coats flat. Ceilings—calcimine. Floors—1 coat shellac, 2 coats wax. Trim and sash—2 coats flat, 1 coat enamel. Exterior walls—weathering stain, Samuel Cabot, Inc.

ELECTRICAL INSTALLATION: Wiring system—BX cable. Switches—Federal Electric Products Co. and Arrow, Hart & Hegeman Co. Fixtures—built-in by Kurt Versen, Inc., others by Lightolier Co.

KITCHEN EQUIPMENT: Range—gas, Tappan Stove Co. Refrigerator—Electrolux, Servel, Inc. Sink—Standard Sanitary Mfg. Co. Ventilator—General Electric Co.

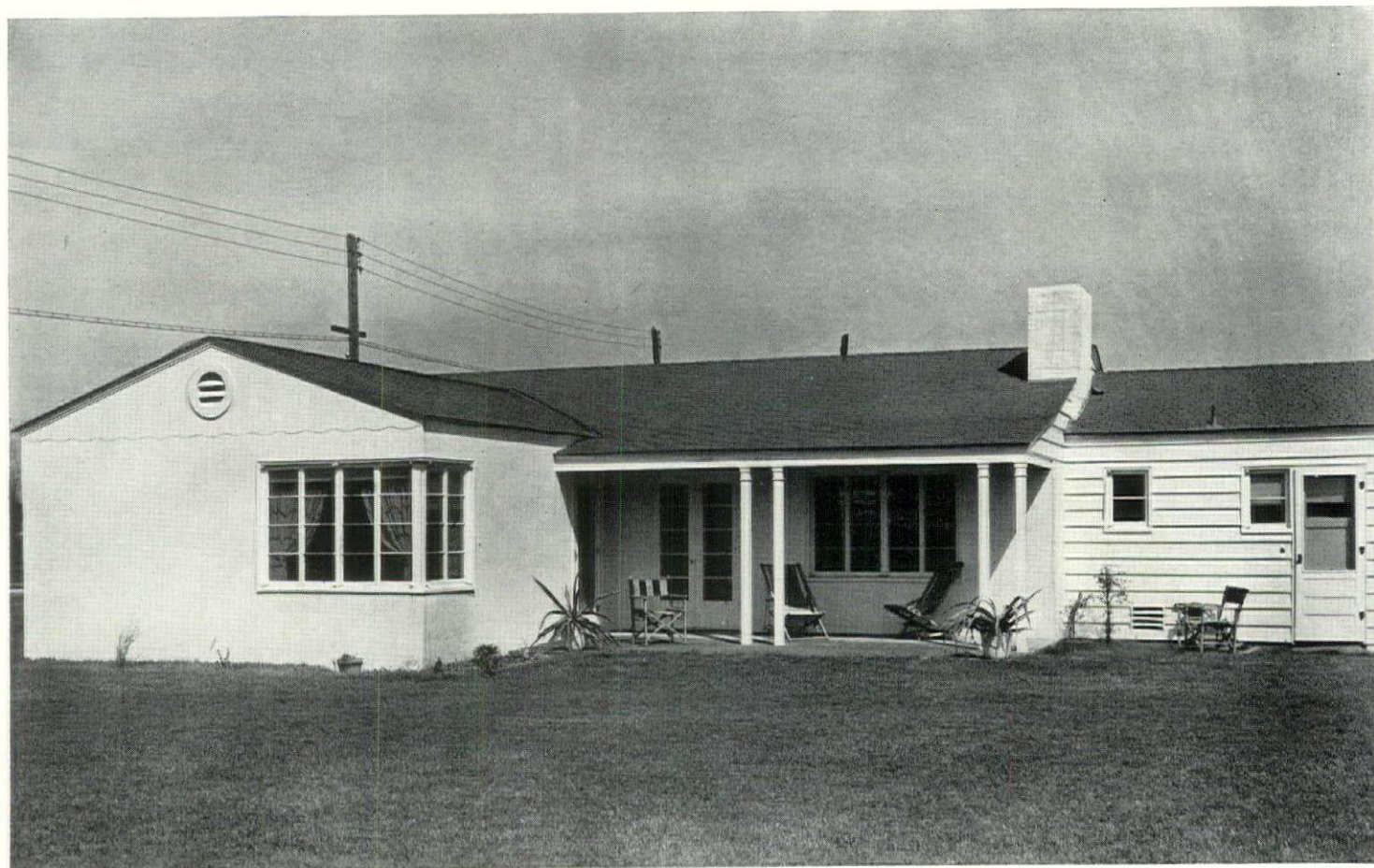
BATHROOM EQUIPMENT: All fixtures by Standard Sanitary Mfg. Co. Seat—C. F. Church Mfg. Co. Cabinet and accessories—Charles Parker Co.

PLUMBING: Water pipes—rigid copper tube, Type M, with sweat fittings, Chase Brass & Copper Co.

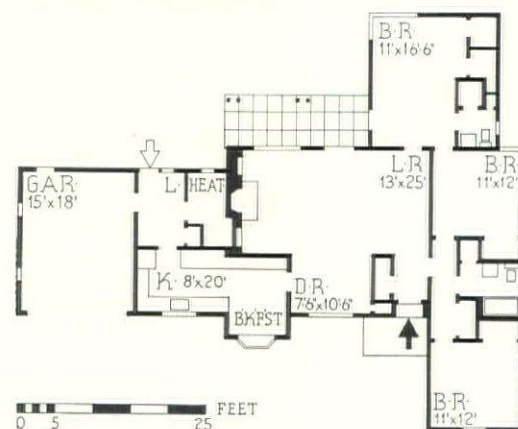
HEATING AND AIR CONDITIONING: Gar Wood air conditioning oil fired unit with filtering and humidifying, Gar Wood Industries. Thermostat—Minneapolis-Honeywell Regulator Co. Hot water heater—Pennfield gas fired automatic 30 gal. tank, John B. Wood Mfg. Co.

VENETIAN BLINDS: By Rolscreen, Inc.

HOUSE FOR CHARLES J. GILMORE, PHOENIX, ARIZONA



Getsinger Photos



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—No. 1 common Oregon pine studs, cement stucco on steel mesh; interior—plaster on U. S. Gypsum Co. rock lath; portion of exterior 1 x 12 in. redwood siding.

ROOF: Covered with clear cedar shingles.

INSULATION: Outside walls and roof—4 in. U. S. Gypsum Co. rock wool; Reynolds Metal Co., Inc. metallation.

WINDOWS: Sash—steel casements, Truscon Steel Co. Glass—quality A, single strength, Libbey-Owens-Ford Glass Co. Screens—bronze, Truscon Steel Co.

WALL COVERINGS: Kitchen—Wall-Tex, Columbus Coated Fabrics Corp. Bathrooms—Linowall, Armstrong Cork Products Co.; wainscot—Wall-Tex.

HARDWARE: Schlage Lock Co.

PAINTING: Interior: Walls and ceilings—Lauv Vello cold water paint, I. F. Laucks Co. Exterior: Walls—stucco, 2 coats Rezicote, I. F. Laucks Co.

KITCHEN EQUIPMENT: Range—gas. Refrigerator—General Electric Co. Sink—Crane Co.

BATHROOM EQUIPMENT: Fixtures by Crane Co.

HEATING AND AIR CONDITIONING: Forced draft system, air filtered, humidified and cooled, distributed through light fixtures in ceilings of rooms, Westinghouse Electric & Mfg. Co. Boiler—Sunbeam, gas fired, The Fox Furnace Co. Hot water heater—Crane Co.

GILMORE & EKMAN, ARCHITECTS

With its combination of modern and traditional elements, this house is quite similar to many being built in California. The arrangement of the rooms, providing cross or through ventilation, also reflects similar climatic conditions. The use of a coat closet to separate the hall from the dining space is ingenious and effective; less fortunate, however, is the placing of the service entrance, adjacent to the family's outdoor living area. Cost: \$9,160. Cubage: 19,140 at about 48 cents per cubic foot.

PRODUCTS AND PRACTICE

BUILT-IN ENTERTAINMENT



A good example of a built-in speaker and radio-phonograph combination with record storage. Apartment of H. J. Mali, New York City, William Lescaze, Architect, Virginia Williams, Associate. Since the speaker is located above ear-level it has been tipped downward to direct sound toward the listeners. The baffle is ample and the speaker box has been left open at the top to avoid "boom."

For nine out of ten U. S. families, home entertainment has taken the long-vacant place of the open fire as the focal-point of family life. In about 25 million households, the terms "radio" and "relaxation" are practically synonymous. Successively smaller groups, in inverse logarithmic progression, have further equipment: some 2½ million radio-phonographs, 250,000 home movie projectors, and about 2,500 projectors equipped for synchronized sound. In the homes of the very rich, built-in radio-phonographs and projection rooms threaten the place of the organ as the traditional hall-mark of luxury. For every type of house, an important particularization of the architectural dictum, "the house is a machine for living in" is becoming, "... a place to enjoy recorded and broadcast entertainment."

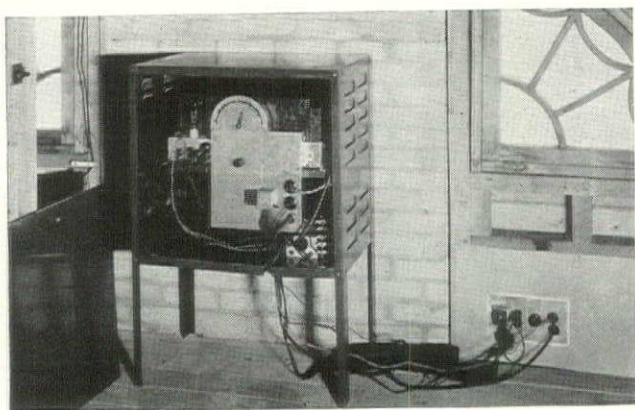
In an increasing number of fine homes and apartments, the radio-phonograph is being installed as an integral part of the structure and decoration. Of the three-fold advantages of this method—better appearance, increased convenience, and improved tone-quality—the last and least known has usually been the motivating influence. Musical reproduction is subject to certain limitations with an instrument of the portable type which are readily overcome with built-in equipment. Orchestra and organ music sounds

best coming from a powerful speaker 30 or 40 ft. from the listener through a large, open space. All music sounds better with the speaker mounted in the center of a fairly large solid plane, 4 or 5 ft. from the floor, and with plenty of free space behind. To simulate these conditions is difficult even with elaborate cabinet construction, easy with wall mounted equipment.

The convenience of remote control of both wired and wireless types is possible with either portable or built-in equipment, but full realization of its advantages calls for the latter. An elaborate set-up of this kind may comprise a number of loud-speakers located in various rooms, control outlets at several convenient points, one or more phonograph turntables, and the radio set itself, which can be located as far away as the attic. Such an installation may cost as much as several thousand dollars, but there is no reason why its essential features cannot be duplicated in the average home at low cost, in the manner indicated on the following pages.

Similarly, there is no particularly valid reason why the architect whose client is a home movie enthusiast should not make provision for this hobby in his plans. It is a comparatively simple matter to provide for projection equipment in a living room

(Continued on page 127)



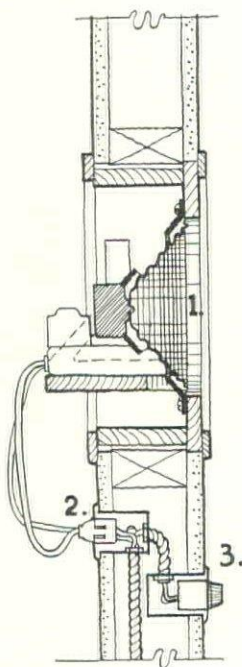
BUILT-IN RADIO

In the Stromberg-Carlson installation shown above and below the radio chassis is concealed in the attic. Speakers are located in several rooms, wherever possible in a corner to spread sound throughout the room. Remote control boxes of the type shown in the circle (below) require from sixteen to thirty wires to the set according to the number of speakers in the system, govern volume and tuning, turn set and speakers on and off.



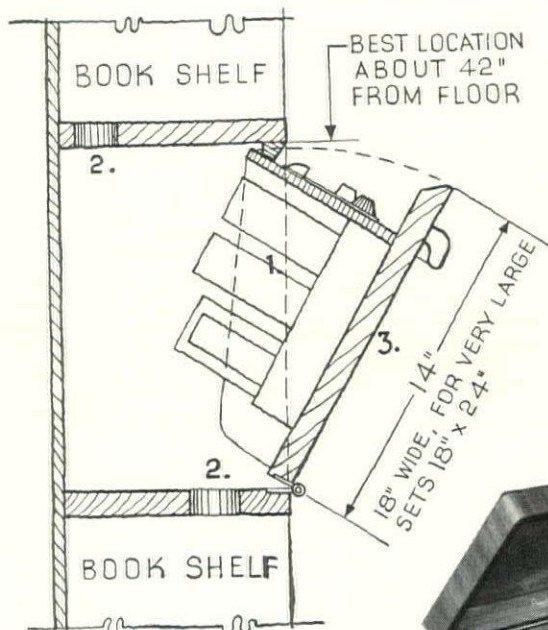
REMOTE CONTROL

The woman above is using the newly introduced Philco Mystery Control box to regulate her radio across the room. This is a miniature self-contained wireless unit, operated by a small battery. It governs tuning and volume by induction signals to the radio receiver which must be specially equipped to receive them.



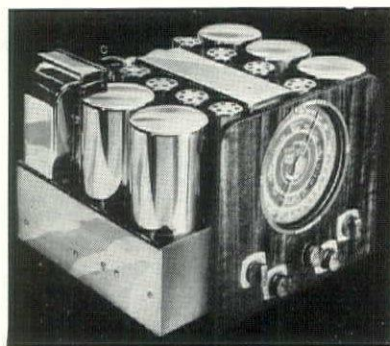
LOUDSPEAKERS

Cross-section drawing at left shows method of building a speaker into regular stud partition. 1. Shows speaker of the type illustrated above which has a 14 x 14 in. mounting and baffle board; 2. power and sound outlet which may require two to eight wires according to the type of circuit; 3. optional volume control in standard outlet box. Back of speaker may be covered with grille and open mesh screen.



PIVOT-PANEL

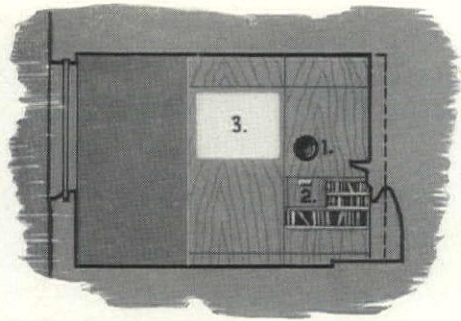
Drawing above shows an excellent method of providing for built-in radio sets in shelving and other cabinet work, suggested by the method used in the Ansley Dynaphone shown at the right. With this method controls are in a convenient near-horizontal position and no holes need be cut in the cabinet work for dials, etc. Sets may, therefore, be readily removed and replaced when new equipment is desired. 1. shows set and 2. holes for ventilation in shelving.



CHASSIS

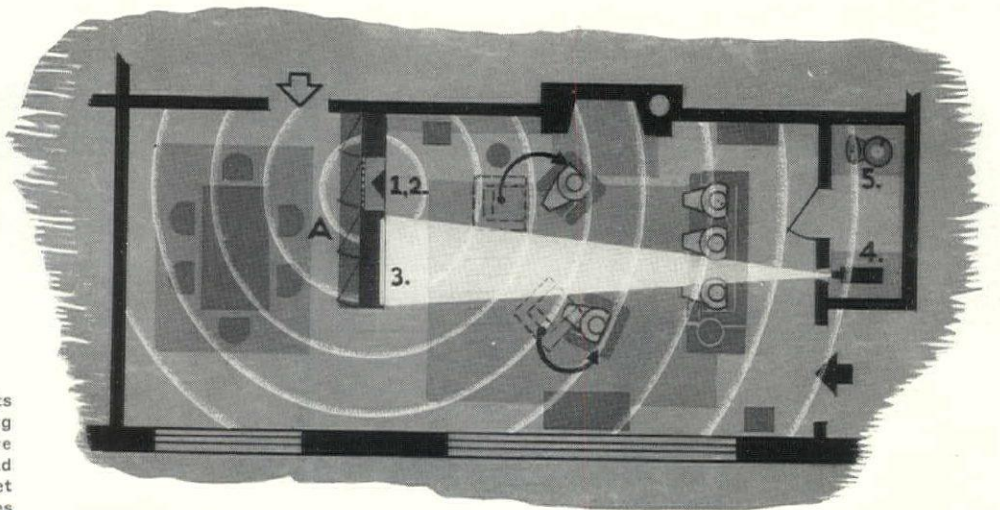
Suitable for mounting in cabinet work is the Scott Super XII Radio Chassis, shown at the left. Flexibility in installation methods has been increased through recent improvements in the construction of radio tubes which now may be used successfully in either horizontal or vertical positions.



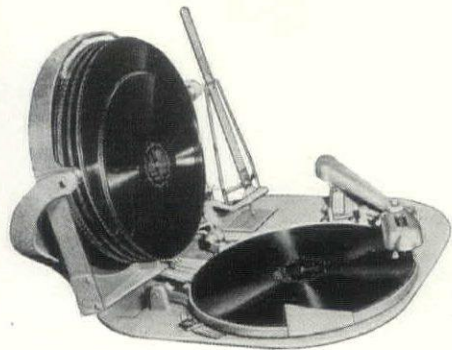


PLANNED FOR FUN

A. (right) is a dining-room buffet containing on its living-room side 1. speaker, 2. radio and 3. rolling projection screen. Speaker opens both sides, to serve both dining and living space. Projector (4.) and phonograph turn-table (5.) are located in a closet at the opposite end of the room which also provides space for film and record storage, card tables, etc.



Scale:
1/8" = 1'-0"



TURNTABLE

The Capehart Automatic Record Changer shown at the left is the only changer on the market which plays each record on both sides successively. Elaborate changers of this type require cabinet space approximately 24 in. wide, 16 in. deep, and 16 in. high.



SOUND-ON-FILM

The Fonda Sound Continuous Recorder at the right is a sound-on-film device for recording or reproducing continuously for one to five hours. As yet used only commercially, its home use may include recording radio programs, thus building up a sound-on-film library at small cost.



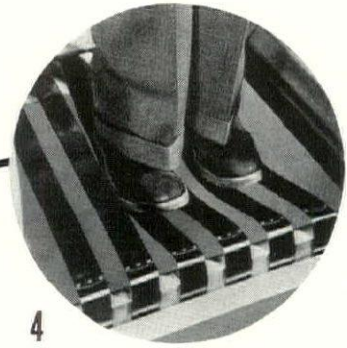
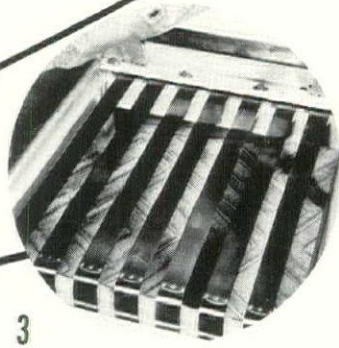
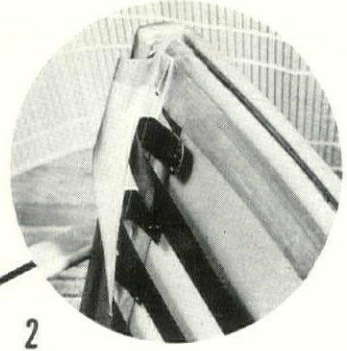
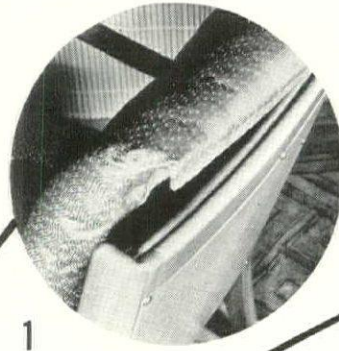
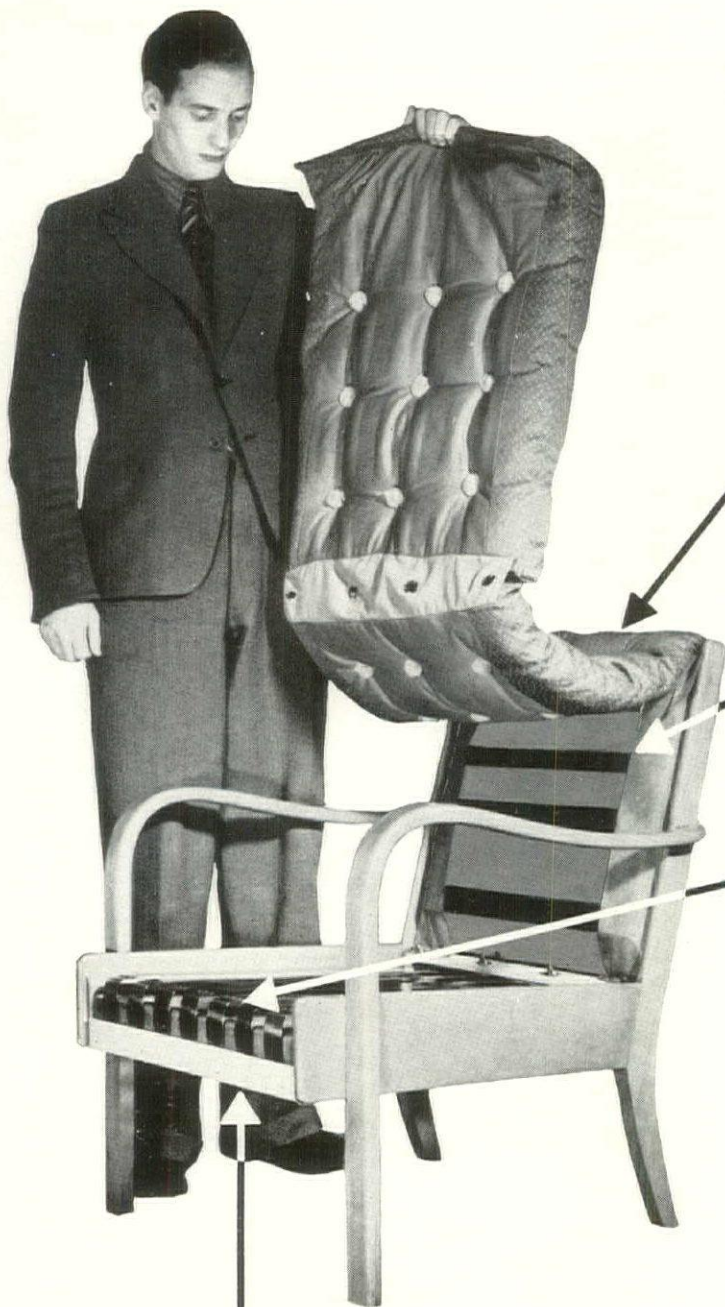
SEE ARCH. FORUM, 1949 . . .

Architectural ingenuity will be further taxed when it comes to housing devices like the above. 1. is an Ansley Dynatone, "Piano of the Future," whose tones are electrically amplified; 2. an RCA Radio Facsimile Receiver which delivers news sheets at the rate of three pages an hour; and 3. a representative television receiving set of the type likely to appear on the market this spring.

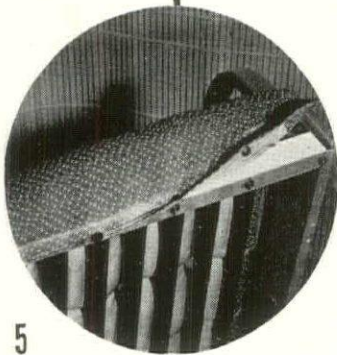
(Continued from page 125)

closet needed anyway for card tables and games, and to relate this properly to the correct location for a built-in rolling screen requires only ingenuity. Such an arrangement also makes a good place for bulky record-changing phonograph turntables and is excellent for film and record storage, leaving the living room free of otherwise awkward furniture which uses up valuable floor space. The time and trouble required in making structural provisions for such equipment are sure to be rewarded by client-gratitude and an enhanced reputation for attention to detail.

INTEGRATED CHAIR



1. "Tongue and groove" joint which holds top of upholstery to frame by friction-fit. 2. Back springs and bands, spaced according to load. 3. Seat support, consisting of metal bands hung on springs formed from special Swedish steel, located at front of seat. 4. Springs, which are exceptionally soft, are at the same time strong enough to support concentrated loads. 5. Snap fastening of upholstery along bottom edge of seat-front.



Under the trade name "Prodomo," the Mueller Furniture Co. of Grand Rapids, Michigan has recently placed on the market the new type of chair shown on this page, an excellent example of the application of integration to furniture. Frame and spring construction is the same for each of the several models, and the easily removable upholstery readily interchanged and replaced. This permits the retailer to carry in stock a wider range of fabrics and designs without excessive inventories, once again demonstrating the fact that standardization, properly handled, results in increased rather than decreased variety. Basis of the new chair is the unique system of springs described above, and advantages claimed include more sanitary construction, light weight, and increased comfort. A wide variety of designs is available, ranging from traditional to modern.

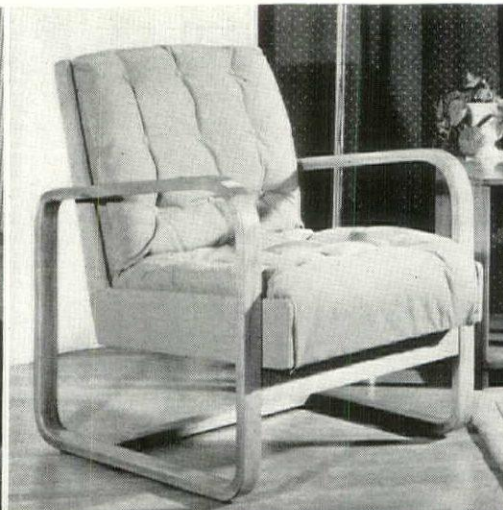
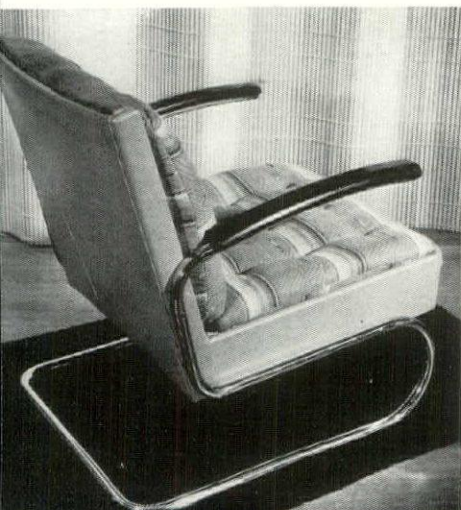
6. Chair with steel tube arms and supports, designed by Mies van der Rohe, frame leather covered. 7. Chair with bentwood arms, matching frame. 8. Settee from same design as 7.

6

7

John Beinert Photos

8



THE ARCHITECT'S WORLD

AN ARCHITECT COMES HOME FROM JAPAN

By Antonin Raymond

Excerpts from an address before The Architectural League of N. Y., December 15, 1938

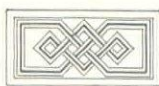
During the eighteen years that I stayed in Japan I often longed to find myself again amongst people of my kin and my profession, to whom I could try to convey some of the ideas which moved me during my stay there, and which I subsequently tried to express in my life's work. I feel that I was exceptionally fortunate to be chosen by Frank Lloyd Wright to accompany him to Japan where I was supposed to assist him in his work on the Imperial Hotel.

Eighteen years ago Japan was still a country which preserved its native culture to a remarkable degree. The earthquake of 1923 and the advent of fascism in Europe accelerated the transformation of the national life in Japan at such a pace that there is hardly anything left of what I am going to mention as having inspired and taught me to understand what really constitutes the rôle of an architect in our time.

The uniform gray color of roofs, the uniform slope of roofs, the uniform scale of all structures, the uniformity of the materials employed gave the villages and cities the aspect of having been designed by one single architect with a clear and definite idea in his mind. The result was a calm and great effect of the city as a whole, and not that of the combination of individual buildings. This aspect was further enhanced by the people themselves, their costumes, the objects and instruments that they used daily in their lives, the furnishings of their houses, temples, shops, their eating utensils, their musical instruments—all that pertains to their equipment for living was evidently of the same style and in complete harmony.

There was no question in my mind that all this was an expression of a dominating idea or ideas which governed the life of this nation, and which entered into every action and every product resulting therefrom. In its exterior aspect and viewed from the esthetical point of view, it was all very beautiful—like a dream, like a vision from other worlds.

The streets and villages are now replaced by modern highways overcrowded with vehicles of every description, and the villages are replaced by factories and slummy industrial housing.



I decided to study and try to find out what were the principles that guided this nation to arrive at such perfect artistic expression of their national ideas, and of their life. Of course, I realized that we also had in times past arrived at a similar state of affairs and that it was the development of the sciences and their applications to life, and the ensuing age of machines that destroyed this state of harmony and caused the artistic chaos which has dominated western countries since the early nineteenth century, and from which we are still trying to escape.

My good luck consisted in being able to witness the old state of affairs at a time when a similar state of affairs had been lost in all Western countries for more than a century. I became convinced—and I am convinced now more than ever—that the chaotic state of our artistic expression was caused by the loss of knowledge of principles which dominated and were a common property of all artists in all periods where great and truly satisfactory art was produced, and that what we call modern architecture is nothing but an effort to regain the lost knowledge of those principles, to re-establish the principles and apply them to the new conditions dictated by the exigencies of the change in material civilization.



As time went on I found out that the architect in our Western sense did not exist in Japan at all. The nearest to it was a "master carpenter," who had a thorough schooling not only in his trade but in all trades and even in landscape gardening. He also was a very fine draftsman. There was a long established tradition about the plan of every sort of building, whether it was a temple or shrine, a public building or a shop, a residence for a nobleman or a residence for the humblest citizen. There also were specialists among the carpenters—for instance, the temple builders.

When a client called in a carpenter he gave the carpenter a list of his needs and requirements and also indicated the grade

of work for which he thought he could afford to pay. The carpenter then went ahead and made the design and the estimates, and talked over all the details that could not be shown on the drawings. As the client had an education in proportion to his wealth and station in life, and as he knew what was befitting to him, and as, on the other hand, the carpenter knew that also, the result was good and the mistakes were few. The solution was clear from the beginning because they dealt directly with life. There was no empty imagination or abstract speculation involved in their work. They knew what kind of materials had to be used to perform the job required of them; they knew what type of construction was advisable and necessary; what particular and fit materials were obtainable in that particular locality, and what kind of construction that particular material was fit for; they knew the climate and its effects on the materials; they knew the skill and limitations imposed by skill; the esthetic meaning of the different materials besides their structural qualities; they even knew the occult meaning of color, of texture, and of materials. By occult I mean the psychological effect produced on human beings by the sight of and contact with those materials.

I further learned that parts of the structure commonly used in all buildings, like posts and beams, girders, joists, roofing materials, doors, windows, flooring, mats, had been standardized through ages and were obtainable ready-made from dealers in such things in many different grades.

I also found out that besides the carpenter there was another professional man that joined in performing the duties of an architect. He played and still plays a very important rôle in designing. He is the astrologer or "seer," to whom every design is submitted for approval. I was at first extremely skeptical about this part of designing procedure, but after my experience with many of those astrologers I changed my mind and began eagerly to learn from them. They are practicing ancient Chinese art, which deals principally with the sanitary and health conditions of the locality in which the building is going to be built, and with the orientation of all the rooms. The carpenter provides them with all the

data pertaining to the quality of the soil, to the geological formation, the wind and earthquake conditions, the drinking water supply, the drainage possibilities, etc. They then check the plan and advise about the suitability of the particular ground for the proposed building and about the rest of the sanitary conditions. They also place a certain circular chart in the gravity center of the plan of the building and check the orientation of all the rooms. A typical example of the result of their check is that all living rooms are facing south or southeast, where sun shines in the winter time and prevailing winds come from in the summer time. That the toilets are in the northwest corner, that no habitable rooms face north or west; and therefore the entrance is of necessity from the north side. The seer also determines the auspicious time for starting the building, and I found out that this also deals with concrete things like frost and dampness, and stormy seasons, and drying out of plasters, and the proper sequence of the different works to be performed.



The word "art" or "artistic" is totally absent from the vocabulary of all the trades concerned with building. Criticism confines itself strictly to the degree attained of naturalness, fitness for its purpose and economy. Museums, histories of art, teachers of art—all these were nonexistent and the now existing institutions are a very recent development of the copying of our material civilization.

The construction of the master carpenter is always a marvel of knowledge and workmanship. It is the dominating factor. It is the base out of which spring all the other elements forming the structure. A column is a column, a beam is a beam, undisguised and unornamented, but doing its work perfectly. There is not a piece of lumber in the building that does not perform a definite labor and does not do it well.

Imitation of any kind and sentimentality are excluded, because it is Nature herself that is the teacher of the client and the trades.

Materials are all natural, undisguised, and above everything not made to look old and weathered. Nothing is more appreciated than newness, freshness, and the odor of the materials in their virgin state while it lasts. Weathered and patined materials are of course loved also, provided the patina is natural.

The Imperial Shinto shrines are rebuilt every twenty years so that in their purity the newness and the pristine beauty of their natural materials may be enjoyed once again.

I took into my office new men who had a certain knowledge of and respect for the old tradition and eliminated those that through their study in Europe or America were prejudiced against my experiment. I decided that if I wanted to take the rôle

of the ancient carpenter and combine with it the rôle of the seer I must not only design, but also build everything myself. I reorganized my outfit and I had architects and carpenters, carpenter estimators, construction engineers and mechanical engineers right in my office.



All I can say is that my experiment was very successful. The result of my efforts were buildings in which the Japanese could continue their own Japanese life, buildings differing from the traditional forms because of different materials employed and other new conditions, but designed with proper regard to all the principles involved. Let us review those principles.

First, that the architect has to have a thorough schooling in building itself. It is only through building that he can learn how to design.

I do not mean to imply that we should do without general contractors; we could not, even if we wanted to. But we should design in close contact with the builders, the engineers, the contractors and the trades, and divide our time equally between the office and the job.

We should base our designs directly on the needs and requirements of the clients and deal directly with the conditions growing out of the location and the work itself. There should be no empty imagination or abstract speculation involved in our work. Our work should be structurally clean and pure. By that I mean not to design first and give a problem to the engineers afterwards, but to work hand in hand with the engineers from the beginning, in order to find not an extraordinary solution, but the simplest, the most direct and most economical.

We should not be swayed by influences coming from illustrations of past works, or illustrations of works from other countries made under entirely different social and economic conditions. We should not let the client—whether he is a private individual or the Government—influence our design, because of his taste, or sentimentality, or ignorance, or preference. Our sole criterion should be our knowledge, unimpeachable, definite, uncompromising, worthy of the great art which we are supposed to perform. We should not aim for beauty, but deal with realities and from the inside out, and if we can confine ourselves to this only, beauty will come as a reward, as it always did in the great periods of architecture.



For one used to living in close contact with nature and just returning from months in India and Europe, New York constitutes something of a shock. It takes time to get used to it again, to see things and get familiar with the conditions. The size and the scale are so large and so impressive that I feel humble and reluctant

to offer any criticism. One has to have a lot of nerve to criticize architecture before a gathering of the architects who built this city, which is evidently the greatest achievement in the arts of building in the history of the world, in spite of its many drawbacks. I hope that anything I say will be constructive criticism.

There seems to be a pause in further development. Things were achieved, and achievement spells death and stagnation, because things which don't progress regress very quickly.

Supposing that I am on the right track and that I have succeeded in defining the basis for modern architecture; then I must say that the work of the American architect, except for a few individuals, does not stimulate me anywhere nearly so much as the work of the American engineers. I have the impression that the engineers of all shades, structural, mechanical, civil, acoustical, sanitary, have gone ahead at full pace during the twenty years of my absence and are leading the world today. The average architect still struggles through the books and architectural magazines to find inspiration from the outside for the form which his design is to take, and the only thing that I find changed is, that he has added a few books and magazines on the so-called modern architecture and decoration to his library of historical styles.



While the engineer has the courage of his convictions and is ready to fight and die for them, the architect still anxiously surveys the likes and dislikes of his client and studiously offers over the counter of his bargain shop the kind of ware that he hopes will please the fancy of his client. To him the so-called modern or modernistic is just one more fashion or style with which to satisfy the jaded appetites of his clients.

The architect does not, apparently, have the courage of his convictions, otherwise he would protest and take a definite stand against the meddling and influence exercised by ignorant people, even in high governmental or public positions, who very often dare to dictate what is going to be done and what style is going to be accepted for the public work under their jurisdiction.

The architect should have the courage and authority to require and to bring about a procedure in which no public work of any kind should depend on the fancy of an individual or a group of individuals, but that there should be a competition for any and all such projects. In order to achieve this the first thing to do is to revise the competition rules and general conditions of the contract of the A.I.A. to fit modern conditions, so that no public-minded person could have any objections to its findings, just as the patient can have no objections to the decision of his physician and his consultants.

I have the uncomfortable feeling that unless the architect wakes up and fulfills once again the rôle of the master builder, he will disappear from the scheme of things in the modern world and be relegated to play the rôle of a picture maker and a crank on historical or even modern styles and fashions.

THEY SAY—

"Every profession tends to be governed by the people aged 58."—SIDNEY WEBB.

"Though Albert Kahn is a member of six golf clubs, he has never played golf, and still thinks a niblick is a small lunch eaten with a glass of beer."—CLAIR W. DITCHY.

"I owe my start in architectural practice to a competition. It would ill become me, late in life, to become luke-warm about this method of selecting architects."—PAUL P. CRET

"A man must have roots. The soil for his roots is a community. Roaming around with a house on his back may be an attractive intellectual idea, but a rotten national solution."—ALBERT MAYER in a review of Buckminster Fuller's "Nine Chains to the Moon."

"Surely, it is evident that whereas our physical comforts have greatly increased in the last twenty years, we have lagged sadly in spirituality, beauty, manners and the graces which gave the world so much of its charm in the past."—Dean E. RAYMOND BOSSANGE of New York University.

"Since the last war we have built a great number of cottages. Having built them in quantity, we call them not cottages but "housing," an appropriate name for material that can be bought or sold by the yard. This material is very serviceable, too, and much admired by a particular class in the community; and is used and tolerated by another class that finds it much better than nothing, although a great deal more expensive than what it really wants."—H. S. GOODHART-RENDEL, President of the R. I. B. A.

THE CREATIVE IMPULSE

By Burton Rascoe

A Book Review, from *Newsweek*,
September 26, 1938

I'd like to know why architects are so dumb (in the root sense), dumber even than professional vocalists or concert pianists, on the subject of their art, whereas painters, sculptors, and composer-musicians are usually astonishingly articulate and—when they turn to writing—

usually express themselves with clarity, rhythm, and distinction on general and specific ideas not related directly to their art.

There is not a book that I know of on architecture by an architect which a layman can read with any ease or intellectual profit. I have known dozens of architects (gifted, charming, and eccentric men) but not a single one has seemed to know what either he or his medium is about; or if he does, he doesn't know how to say it.

If someone mentions Frank Lloyd Wright, I hereby request a digest and a translation of the architectural data in Wright's rhapsodical autobiography and ask what universal cogency there is in his

essays, which are to me only a defense of Wright's adaptation of the Japanese straw-and-paper houses to the rigors of a Chicago winter. Even the essayists and critics who write on architecture, Ruskin excepted, seem incapable of a straightforward, coherent exposition of the principles of architectural design. Schelling gave vent to the famous definition: "Architecture is frozen music." That's pretty but not more enlightening than to say: "Music is deliquescent architecture." Some profess to find enlightening the murky mumbles of Lewis Mumford, but all I get out of him is that blub-blub sound you hear when you hold an uncorked can of molasses upside down.

INDUSTRIAL ARCHITECTURE

By Albert Kahn

Excerpts from a talk before the Building Industry Luncheon, Detroit, December 21, 1938

It is on the subject of Industrial Building that I propose to dwell for a few moments. This because it has been our privilege to be connected with much of it the past fifteen or twenty years. While some of these years were lean, it has been our good fortune to be sufficiently engaged throughout the country—even abroad—to enable us to carry on with practically all of our key men and a substantial portion of our organization most of the time. Not the least interesting of our work has been that done in Russia where for two years we had some 25 men of our staff designing industrial buildings of all types, at the same time teaching some 1,000 girls and boys in our methods of planning and preparing working drawings, which methods, we understand, still obtain in Russia.

Industrial building during the last 25 or 30 years has marked a milestone in the field of architecture. Abroad, especially in Germany in the early years of the century, remarkable work was being done. Such companies as the A. E. G., the Siemenskonzern in Berlin and such leading architects as Peter Behrens, Bruno Paul, Walter Gropius and others, showed the potentialities inherent in well studied factory buildings. Up to the advent of the Hitler regime, Germany certainly led the world in modern building. Other countries soon followed, particularly Holland and the Scandinavian countries which today possess some of the finest work of the kind. Among the latter, the remarkable Rotterdam Van Nelle works, manufacturers of tobacco, is perhaps the most outstanding.

In our own country, the development of factory building followed another course. While in Europe the new interest was due to the greater pride and pros-

perity of long established firms and a group of enthusiastic young architects, with us the main incentive was the new automobile industry which, as you know, gained in importance so rapidly in the early years of the century. We all recall our factory buildings up to then—as a rule a conglomeration of old structures added to and added to as best was possible. They had grown like Topsy, without scheme or general plan and were, as a rule, eyesores. Exterior appearance had little consideration, save in exceptional cases. Yes, many breweries made a noble attempt to imitate some of the worst of Germany's castellated aberrations, but beyond this there was little. Indeed, few architects, as such, were interested in factory buildings. The plant engineer usually took charge and did his best or his worst.



With the advent of the automobile industry there awoke a new spirit. Previously, there had been some advance in factory construction throughout the East where so-called mill buildings were being erected mainly for textile industries. Such structures were generally 50 or 60 ft. wide, of multiple stories and so-called slow-burning construction. Isolated piers between regularly spaced windows supported heavy timbers, which in turn carried laminated or heavy plank floors. On the interior, either wood, steel or cast iron columns supported the beams and girders. With the very efficient sprinkler system developed at that time, this form of building proved a distinct advance over the ordinary joist construction. They gave better light than the former solid wall type and lessened fire risks and, incidentally, presented a good appearance. Mill buildings became the generally accepted type for the modern factory and remained so for several dec-

ades. But soon it developed that the necessarily restricted distances between columns were objectionable for automobile manufacturing—sixteen to twenty foot spacings were the general rule. Twenty to 30 foot spacings required part steel construction and such was soon adopted, but there still remained the danger from fire. Machinery floors soaked with oil were a heavy risk in spite of sprinkler systems. So-called fireproof construction was excessive in cost.

And then at the psychological moment there appeared a totally new form of construction—so-called reinforced concrete. It had been in use in Europe for several years where the Hennebique system produced amazing results. It was complicated, however, and with the excessive labor costs of our country, proved rather impractical here. The so-called Ransome system was being developed quite independently in this country at about the same time and several buildings were being constructed in this, but there was much skepticism about holding a wet mass of concrete in place, until properly set, then removing the forms—expecting all to stay in place and carry loads. Engineers were reluctant to adopt the new construction and progress was slow. That there was cause for concern was amply proven by the numerous failures occurring in the early history. The old adage—"Fools rush in, etc."—certainly was applicable to my firm, which promptly took the risk and designed several buildings in a system then little known.

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And then there came a turn in the use of reinforced concrete which meant much in the future of my career. My brother Julius, a graduate engineer, who had spent several years in Japan, returned to join me. He quickly saw the weak spots in the empirical system of reinforcement being used and promptly designed a form of reinforcement along scientific principles. We made tests which were conclusive, confirming his theories. Up to then, concrete beams when tested to destruction failed invariably in shear. In other words, the concrete failed—never the steel. Since concrete was a less dependable material than steel, it was difficult to make accurate calculations. If the reinforcing steel could be caused to fail in testing, a more definite method of calculation would be possible. This very point was called to the attention of the profession at the time in articles published by Capt. John S. Sewall, then in charge of construction for the District of Columbia, who had made innumerable tests on different methods of reinforcement. When, therefore, after tests on my brother's design had caused the steel rather than the concrete to fail, we immediately got in touch with the Captain with the result that he became interested, invited my brother to Washington, saw the reasonableness of the design, and before even a company was formed to manufacture the reinforcing steel, induced my

brother to accept a contract for supplying his form of reinforcement for the entire group of buildings called the War College. Youth is a great thing. I am certain that today he would hesitate to undertake such a commission with so little experience. However, the so-called "Kahn" system quickly became established and popular throughout the country and while heart-aches during the first years were many, the system won out finally.

Other systems, of course, followed with the result that the use of reinforced concrete became more and more general for many types of buildings—chief among them, industrial structures. At that, some enormous buildings, such as the Marlborough-Blenheim and the Traymore Hotel at Atlantic City, were among the earliest buildings in reinforced concrete.

Naturally, there have been many developments in industrial building since the erection of the first automobile plants, and no one has exerted a greater influence thereon than Mr. Henry Ford, whose vision and boundless courage have proven so remarkable. It was Mr. Ford, for instance, who allowed us to first use steel sash, so commonly employed now. They were for his first Highland Park building and at the time had to be imported from England. Today, of course, practically nothing else is used in industrial building. It was Mr. Ford who conceived the plan of having an entire plant under one roof with no open courts and no division walls. It was Mr. Ford who, after building hundreds of acres of floor space in multiple story buildings, decided that raising materials to upper floors by elevators was an economic waste. I know of no one who would have dared scrap the many multi-storied buildings—only a few of them being sold—to substitute new buildings, for the most part only one story high with column spacings, instead of 25 ft. on centers, 40 and 60 ft. apart. Yet he did exactly that. We had built six- and eight-story buildings for him in Detroit and many other cities, all of them costly structures. But once convinced that multiple story buildings were wrong for the manufacture of his products, he practically abandoned one after the other, replacing them with the newer type.

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The problems as a rule give scope for constructive thinking and planning, afford opportunity for exercising sound judgment in arrangement and, last but not least, for attractive grouping and external treatment. In regard to the latter, it is proven that a straightforward attack of the problem, the direct solution generally applied, the avoidance of unnecessary ornamentation, simplicity and proper respect for cost of maintenance, make for a type which, though strictly utilitarian and functional, has distinct architectural merit.

Now, what are the high spots in industrial architecture and what are the architect's problems?

Naturally, there must be reasonable familiarity with the work to be carried on. This need not mean a detailed knowledge of the various processes, but a study of the flow of materials and exercise of judgment as to the type of building best suited. There are certain processes for which multi-story buildings are preferable, many others for which one-story top lighted structures serve best, and again others which require a combination of both. Naturally, problems differ and the architect's experience should prove helpful in determining the above, even though in most instances the manufacturer's own experience is the deciding factor. The old method of different types of buildings for different departments, has been largely discarded and rightly so. Naturally, for certain operations there must be individual structures—the foundry, the forge shop, the storage warehouse are specialties which must have their own solution. But for the main, a uniform building on a unit scheme is best aimed at, since it makes for ease of operation and permits the shifting of departments, which in most manufacturing becomes necessary so frequently. There are usually many solutions to any problem. The adoption of the most advantageous scheme is the all-important thing, and in this, experience and good judgment prove valuable.

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As for top lighting of one-story buildings—whether the saw tooth construction is better than the monitor type is always a moot question. My own preference is for the latter. I, personally, want to see some sunshine in a shop and with straight north light which is usual for the saw tooth, this is impossible. I feel there are many other advantages to the monitor type versus the saw tooth. However, others differ on this point.

The all-important thing is to keep abreast and a little ahead of the times, with our minds open to new discoveries. We must be receptive and avoid stubbornness or opposition to the new. We must be cautious, to be sure, but we must be willing to take risks if we are to progress, and progress we must. To that end, architects and builders must give encouragement to those who are developing new materials and new theories, not close their doors to them, even though some time be lost in listening to visionary or impractical schemes.

Industrial architecture is continuing its forward march, contributing not only its share to the general welfare but winning recognition even in the field of art, which I daresay was perhaps the last it hoped for. But who would deny that the large expanses of glass, for instance, essential in modern industrial building, have exerted their influence on everyday building—even in residential work? Or who would question that the entire field of architecture has been influenced by today's common sense solution of the factory building?

PAIRED

Parallels of Criticism: Design and Mathematics

"I happen to believe that there is a universal canon of proportion, mathematical in its nature, to which the natural world conforms."—CLAUDE BRAGDON.

"In this affair of cutting out the head of the drum to see where the sound comes from, Claude Bragdon is an enthusiast without an equal." — FRANK LLOYD WRIGHT.



HOUSING AND THE RIGHTS OF LEISURE

By A. J. Symons

Condensed from a lecture delivered at the recent Health, Sport and Fitness Exhibition at the R. I. B. A.

In rising before you I feel that my position resembles that of a dodo speaking to the would-be writers of the label on his showcase in an exhibition of stuffed birds. I feel that though I am not yet extinct you will, perhaps, think that I ought to be. For I appear before you to confess, with an almost treasonably Russian frankness, to the terrible crime of not being a sportsman. And I must confess further that I shall probably never make use of any of the stadiums, gymnasiums, swimming pools or youth hostels so admirably depicted in the photographs upstairs. I belong to a class for which the architectural profession has, as the Americans say, no push button; first, I am a book collector, and so need space; second, I am a lover of good wine, and so need a cellar; and third, I like good food, and so need a kitchen. I am, I repeat, a dodo who is not yet extinct, and who comes to sing his death-song as melodiously as he can in your ear.

Nearly ten years ago I was forced to the conclusion that it was impossible for me to live comfortably in London unless some miracle endowed me with an unworked-for fortune; and having no unexpected uncles, I therefore retreated to one of those country villages where there is no gas, no water and no electric light, but in which I found all the space I needed to use my leisure profitably for the price of a single room in Paddington. Fortunately, my main exercise has always been taken in field walks and walking tours, so that I have been able to maintain a reasonable fitness of body despite the lack of any of those places of organized sport which we are promised for the future. And, meantime, I have thanked my stars for my good fortune; for month by month I have watched the greatest city in the world sliding down an architectural inclined plane, with an ever-increasing momentum, towards the bottomless pit of the minimum life.

Today, every mews and stable in London is an eligible residence; the artisan dwellings of Chelsea are painted up as smart small homes for the upper middle

class; and everywhere we see rising the cliff-like prisons in which our children, if they work in London, are to be incarcerated.

The Englishman's home used to be called his castle. In London it is fast becoming his cell; a rather comfortable, an almost padded cell, but still a cell. And, pursuing the analogy, it might be said that it is proposed in this exhibition to improve the exercise ground for the prisoners. We must certainly be thankful for any concession we can wring from our reluctant gaolers. Sports fields, swimming pools, gymnasiums—by all means. But let us not make the mistake of thanking them too heartily for these distractions or *they* will persist in the mistake of thinking that better exercise yards are what the prisoners really want. And they are not. What they really want is to be let out.

Who can foresee the end of this continual contraction of the space in which the ordinary man lives and amuses himself? The present stage was sharply brought home to me a week ago, when I visited for the first time the fifty-story place of confinement of an old friend who has just begun a term in one of the more expensive London gaols. The kitchen was a kitchenette, the shoe cupboard was the hall, the sitting-room was the dining room, the balcony was the garden, and two rival radios from the next door cells contended for the prisoner's attention. This was grim enough, and a pathetic example of progress backwards. But contraction will not end there. Already there are flats consisting of a single room, an ingeniously arranged care-free cell for the service of the minimum life.

Denied even a kitchenette (as he will be before long) the flat-dweller will be driven to choose between the restaurant, which he cannot afford, and the tin. What a choice, between insolvency and dyspepsia!

And not only are the joys of personal cooking, one of the most repaying of all hobbies, shut off from the ordinary man. For cellar, if he be a wine drinker, he must rely on his wine merchants' courtesy.

More likely he falls back on the unchanging, standardized whisky of the stores. For books, if he be a reader, he must borrow and not own, for there is little space for bookshelves in the modern dwelling. The time may come, indeed, when he will be denied the pleasures of individual possession completely. Already in the more advanced flats clocks are fitted, and so are refrigerators, divan beds, electric lights, wireless cabinets, wardrobes and cocktail cupboards. The tenant may still choose the color of his walls and curtains, but when carpets are included in the inventory of landlord's fixtures even that privilege may be taken away.

I do not wish my architectural friends to regard me as an unreasonable caviller at circumstances which are not of their creation, but are the outcome, as I am told, of inevitable economic causes. But I do not believe that they are inevitable. "Inevitable" is the most overworked and most misused word in our vocabulary. It is inevitable, I was told by one of your members last week, that not a single small house should be left in urban London. It is inevitable that the Bloomsbury squares should be destroyed. It is inevitable that rents should go higher and ceilings be lower. I do not for a moment believe that any of these things are inevitable. They may happen; if no steps are taken to stop them it is even probable that they will happen; but they are not inevitable.



The principal reason why the rebuilding of London is taking the form that it is taking is the rise in land values. But it is surely pertinent to ask, to whom is the land becoming more valuable? Not to the users of it; not to those who are forced to pay more than they can afford for unsatisfactory and diminishing accommodation. Let us realize quite clearly what is happening. We, the consumers, are being forced to accept less and less for our money because estate agents, ground landlords and speculators, working together, have been able to effect what is virtually a monopoly in the remaking of London. The amenities handed down to us by former generations are at the mercy of financiers who are able to exact the highest return from every eligible site by erecting the greatest number of the smallest flats.

I may seem to be straying beyond the limits of my subject in thus dilating upon national planning; but I am not. Leisure is limited by living conditions; free time is valuable in proportion to the uses to which it can be put. Limit the architectural scale and leisure is instantly limited thereby. A man in a small room cannot enjoy himself as much as a man in a big one. He cannot hang pictures on the walls or own as many books, or as many objects of interest, or receive as many friends, or breathe as much fresh air when the window is closed. The rights of leisure include

a more comfortable dwelling than anything which is at present open to the man of modest means in London. They include space, comfort and convenience. Each word is almost a mockery. For space we have rooms 14 x 12 ft.; for comfort we have perpetual noise from the street and from the adjoining apartments; for convenience we have conditioned air and kitchenettes. I repeat, we are the witnesses of a process of reduction in the amenities of London life which is gathering impetus while we watch.

Not every Londoner lives in flats, minimum or otherwise. The alternative surrounds us everywhere. We are encircled by post-war housing estates which in the aggregate must have involved an expenditure during the past twenty years not of hundreds but of thousands of millions of pounds. Heaven may forgive those who built these slums of the future, but the Royal Institute of British Architects ought not to.

If ever I am privileged to speak in this Institute again I shall cast my remarks in the form of a three-act play. In the first act the impoverished landowner will be seen selling his acres to a speculator, who is buying them with money borrowed from a building society. In the second the speculator will be observed selling the acres bought with building society money to a building contractor who is purchasing with money from the same source. And in the third you will see the working-man paying down £25 and obtaining the house that Jack built—through the aid of a building society!



It is only necessary to turn back to any Victorian novel to recapture the sense of leisure and to realize how much we have already lost. Leisure, self-chosen activity, was the condition of life to which all those who could not enjoy it aspired. We laugh now at the Victorian ladies with their needlework, their painting, their music and the rest of their accomplishments. We no longer expect our statesmen to translate Homer, like Gladstone, or write novels, like Disraeli, in their leisure hours (though Mr. Winston Churchill remains a shining example to the contrary). For as the space in which we live contracts, as our leisure contracts, our minds contract, too. These multifarious interests demanded room and time. Unless we strike for them, we shall lose both. I am not alone in feeling this. Nothing is more damning to the present system than the unanimity with which the flat dwellers, when they can afford it, flee from their electric clocks, concealed lights, central heating and "service," to take refuge in a converted country cottage, with few conveniences, but with the enormous comfort of space, in which they can enjoy that slow passage of the hours which is the essence of leisurely activity.

I hope that my words will not be taken

as obscurantist or reactionary, or that it will be supposed that it is my wish to put the clock back. No one could realize more clearly than I do that we live in a transitional age and that the new materials and the new methods now at the service of the architect demand new forms and new treatment. Queen Anne is dead and so is the Queen Anne style in architecture. But even while we consider what is to be done, while we engage in academic battles of style, the pickaxe of the demolisher is at work on what is best of remaining London, and the builders and their moneyed backers spread wider the spider's web of their development.

I began by comparing myself to a dodo;

I hope I shall offend no one if I prolong the image by comparing the architectural profession to an ostrich. Many architects realize these circumstances perfectly well, but in some miraculous way they have persuaded themselves that it is no concern of theirs. Just as we look back at the eighteenth century as a great building age, conscious that, apart from the Adams, the Levertons and the Soanes, there were hundreds of lesser and now anonymous upholders of an excellent tradition, so the observing eye of the future will confound together all the architectural activities now proceeding and will probably say bluntly that the age of taste was succeeded by the age of hash.

ARCHITECTURE MARCHES ON

By Ralph Adams Cram

Excerpts from "The Story of Architecture in America" in *Légion d'Honneur* for October, 1938.

The World's Fair at Chicago in 1893 marked the distance American architecture had traveled since Philadelphia in 1876. Where Philadelphia was a revelation of crude barbarity, Chicago was Imperial Rome reborn in the illusive glory of plaster and papier-mâché. It was McKim's Classic pushed to the limit. In all its white radiance there was one Sullivan structure, simple in form, elegant in detail, sonorous in color. Wholly out of key with the general ensemble, it was prophetic of the future while the rest was the glory of a cause soon to be lost. It held on for another 25 years in public buildings and great financial institutions, and some of these noble buildings were and are monuments to a sense of abstract beauty, archaeological knowledge, and a very high culture on the part of their creators. In the meantime a new structural factor had come into being; steel and its by-product, ferro-concrete. With other factors, this sounded the death knell of the Classical mode, for at once the style, which was essentially one of solid masonry, became merely a facade, a plating of delusive masonry a few inches thick, adhering to a hidden skeleton-scaffolding of steel members. When architecture becomes scene-painting, and style a hollow sham, its doom is sealed so far as it is conditioned by style, whether Classic, Gothic or any other. When the first skyscrapers appeared with a version of the Classical orders, or cast stone Gothic detail applied as a sort of camouflage, and when Gothic churches were constructed with columns, arches, buttresses, and high-hung vaults, maintaining a precarious existence clinging to their ignominious steel scaffolding, then out of rudimentary honesty and pure shame, something had to be done about it.

So came "functional" architecture; and it was high time. Again this was not in answer to any public demand, even from

the minority that thinks; like the architecture of the Renaissance or that of the 1880's, it was simply the work of a few clever men. Such is the genesis of all revolutions, without exception; the people as a mass may want change, but they do not know to what; the clever men tell them.



And the moral of this, as applied to the "functionalist-modernist" revolution in architecture is that the protagonists of the revolt have generally failed to materialize their excellent principles in any form that is either convincing or permanent. Pleased as children with new mechanical toys, they voraciously seize upon steel, ferro-concrete, chromium, and glass as a structural material, to the exclusion, where possible, of stone, marble, brick and wood. Some one of the cleverest discovers the cantilever; in a spasm of ingenuity he invents ribbon-fenestration, angle-windows, fluted columns without cap, base, or entasis, packing-box balconies, Congo sculpture, flour-sack and stuffed sausage mural painting, surrealist and cubist abstractions, and all the other funny little gadgets that, since they are different, must of necessity be admirable—but are not.

What is good style for a hangar, a steel foundry, a bank, department store, night club or cinema, must be equally good for a country house, an institution of the liberal arts, a parish church, or a cathedral. This of course is a literary theory that has no foundation in fact, and sooner or later will bring fatal disrepute on a style, and, I fear, a movement that at first had great potentiality.

This is a great pity because the structural and organic and functional principles are perfectly sound and, sanely applied and expressed might, and still may, redeem a great art from that ignominy which struck it in the nineteenth century.

THE DIARY

Henry J. Saylor

Friday, December 16.—To quote one of our architectural editors in London, whose bluntness I would hesitate to emulate, "Whether you consider the Royal Academy a tower of strength or a well of ineptitude, whether as a bulwark of artistic sanity or a slipway to perdition, the fact remains that its president is a very public figure." All of which is apropos of the fact that Sir Edwin Lutyens has just been elected to that office. Incidentally, he is only the third architect president; James Wyatt presided for one year, 1802; and Sir Aston Webb reigned from 1919 to 1924.

Monday, December 19.—James Hornbeck, who is instructor of drawing in Pennsylvania State College, sets me straight in this matter of axonometric and isometric. The trouble is he lets me in rather more deeply than I was before. If you must know, an axonometric projection is one made upon a single picture plane by orthogonal trajectories and with the object (assuming a cube for convenience) in such a position that three of its faces are visible. Now "axonometric" is merely a general term for such projects, while specific kinds of these include 1) *isometric* projection, in which the three visible faces as well as the cube edges make equal angles with the plane, and consequently are foreshortened equally in the projection; 2) *dimetric* projection, in which two of the cube edges make equal angles with the plane and two different foreshortenings occur; 3) *trimetric* projection, in which three of the cube edges make different angles with the plane and three different foreshortenings occur. Hornbeck admits that anyone who tackles the latter is something of a glutton for punishment, though the mineralogist's clinographic projection used for crystal drawing comes pretty close to it.

★

Wednesday, December 21.—There is a little note in the *Journal* of the R.I.B.A. to the effect that "The Corporation of the City of London with the twelve chief Livery Companies are presenting a silver-gilt Rosewater Dish to the City of New York at the New York World's Fair in 1939. The Wardens' Silver Committee of the Worshipful Company of Goldsmiths is organising a competition for the selection of the design." A session of deep thought has failed to reveal to me just

what New York City will do with a rose-water dish. Nevertheless, Grover Whalen will know.

Friday, December 23.—Peyton Boswell, Jr., in his sparkling column in *The Art Digest*, suggests that every artist bent on contemporariness, confronted with the fact that children are more expert than he at slapdash recording, might well count ten—maybe even a hundred—before applying each brush stroke.

★

Saturday, December 24.—I see that Henry K. Holsman, usually a familiar figure in the A.I.A. Conventions, has a new theory regarding the evolution of style—the East Indian domes resembling the turbaned head-dresses of the past, the peaked roofs with upturned eaves of China reflecting the hats worn by Chinese for thousands of years. "So long as men prefer brims on their hats, they will probably prefer sloping roofs and eaves on their houses." Mr. Holsman does not carry the analogy any further, but it would be interesting to know whether he feels that the protagonists of the flat roofs ought to wear mortarboards.

Tuesday, December 27.—Progress toward the integrated house is slow, but it is perceptible. Bemis Industries early last summer persuaded the American Standards Association to develop a basis for the coordination of dimensions of building materials and equipment, and the correlation of building plans and details with such dimensions. After an open meeting held by the A.S.A. last September, in which the architects, builders, prefabricators, and other groups heartily endorsed the project, the Standards Council of the A.S.A. appointed a Technical Committee representing all groups, with a recommendation that this Committee work under the joint leadership of the A.I.A. and the Producers' Council.

★

Thursday, December 29.—To lunch with Aymar Embury and Armando D'Ans, the latter of whom is up here to build the Argentina Pavilion for the New York World's Fair. Apparently there is a strong tendency in the Argentine, as in many other places, toward federal and municipal bureaus organized to carry out public

works. D'Ans is one of the City Architects of Buenos Aires, and, like most virile designers, more or less resents the results that inevitably come from designing by committee. The product is fairly sure to be the least common denominator of many minds.

Friday, December 30.—*The Architects' Journal*, London, gives over its November 24 issue to the pub. There is a presentation of road houses which will try the eye of many a froth blower. Somehow I find it difficult to reconcile the new atmosphere which chromium and the plastics are bringing to the real English pub. They are all right in a cosmopolitan restaurant, but in a pub it is hard to forego the appeal of the oldtime Inn sign, the brass work, the polished mahogany, and the plump native barmaid.

Saturday December 31.—William Jones Smith of Chicago never lacks for ideas, and one of his latest seems worth talking up. Couldn't we in some way record the measure of appreciation found among architects for architectural books? What architectural books is the profession reading, if any, and which ones do they like best? It would be interesting at least, and perhaps instructive to know, for instance, whether Paul Cret takes to bed with him Mumford's "The Culture of Cities," Bragdon's "More Lives Than One," Cram's "My Life in Architecture"—or perhaps he prefers detective stories.

★

Tuesday, January 3.—Just when it would seem that all variations of the small house problem had been covered by the competition programs of the last five years, along comes a brand new one. Ralph Borsodi's experiments in cooperative building are perhaps known only locally here in New York and New Jersey, though they deserve to be known, and probably will be known, much further afield. This new competition requires study of the shelter problem for this hitherto unaided citizen. The competition is sponsored by three organizations, all of which are devoted to the advancement of decentralization of industry, land conservation, domestic production, and wide-spread small property ownership. The prospective client wants to live on an acre-and-a-half or two acres of productive land within commuting distance

of a city. His home will be a very different type of shelter from the usual suburban dwelling. Nor will it closely resemble our modern ideas of the farm home. Efforts of one or more members of the family will be devoted to productive work in the home, workshop, studio, or garden, adding to the economic security of the family. Quite possibly the house will not all be built at the outset, but will be a progressive development, carried out in part through the labors of the owner and his family. It is a nice little problem, in which there will be no chance for competitors in previous small house competitions to get out the old drawings and resubmit them.



Thursday, January 5.—Professor Charles Rufus Morey, of Princeton, told us today at the League luncheon something of the excavations of Antioch. Chief among the finds are the floor mosaics dating from the first to the fourth century a.d. Professor Morey's color slides of these are marvelously brilliant, so much so that I inquired as to how they were made. The trick is to wet the mosaic and photograph it while wet, in full sunlight. Some of these mosaics have been sent to the Baltimore Museum and to the Museum in Worcester. Others will be seen before long in the Louvre.

Friday, January 6.—Off the sleeper in Washington to have breakfast with Henry R. Shepley and Aymar Embury before the Procurement Division's Committee on Design started its day's work. Spent a morning browsing over the photographic files in the Supervising Architect's Office. I suppose what we are doing today in our Government buildings will look strange to the observer of ten or twenty years hence, though it is hard to believe that progress can be more marked than is shown by these photographs of what we are doing and what we did ten or twenty years ago.

Lunched with Edwin B. Morris, Howard Cheney, Paul Solon and Harry Maas, all of the Supervising Architect's organization, after which I sought out Miles Colean at the FHA to inspect a fascinating model he has just had made. Taking a single simplified residential floor plan, the model develops the possibility of using this single plan, coupled occasionally with a stairhall section, to create an astonishing variety of group housing for the low income bracket.



Saturday, January 7.—Spent an hour with Louis Simon, who in June is to retire from the post of Supervising Architect. Forty years of devoted service lie behind that date, a service that in recent years must have been an almost intolerable burden for any individual. Across this desk has passed an infinitely greater amount of architecture than any one man ever controlled in all the history of building. When I spoke of it to Mr. Simon he brushed it aside with the remark that it was simply

a matter of organization. Without a large and efficient organization it would have been, of course, impossible. Nevertheless, the fact remains that the mind and personality of Louis Simon have been at the controls, and without them it is difficult to picture the results as they might have been. Mr. Simon's retirement will bring him the opportunity of leisure and rest, to both of which he must be nearly a perfect stranger. Nevertheless, Louis Simon is as active physically and mentally as he was twenty years ago, and I imagine it will be difficult for him to close down the throttle.

Spent a half hour with LeRoy Barton, now Acting Supervising Architect, who will shoulder the complete burden of the office after five months of transition, during which he will have the help of Mr. Simon's presence and counsel. An accomplished master of administration and organization, and in close sympathy with present policies and aims of the Supervising Architect's Office, Mr. Barton will carry on.

Jefferson Hamilton, Ralph Henry Seymour of Chicago, and I lunched with Pierre Blouke at the Cosmos Club, reviewing earlier days, particularly in Chicago when Frank Lloyd Wright was looming over the architectural horizon.



Tuesday, January 10.—Arrived in Chicago at the request of Lawrence Whiting to assist in the launching of the American Designers' Institute. This group is made up of the industrial designers, some of those who concern themselves with the problems of interior design, and a few architects, among whom is John W. Root. A constitution and by-laws are just being adopted, patterned somewhat after The American Institute of Decorators'. Committees on a code of ethics and design piracy are already in action. The meeting coincided with the furniture market held here quarterly, and in future, I understand, to be held semiannually. No one who has yet to see the furniture market, with its acres upon acres of floor space given over to the display of manufacturers' samples and an opportunity for inspection by the buyers, can picture the size of the industry and the scope of its products. Some of them are good, some unbelievably bad. There are red plush tufted chairs that make even the worst products of the Victorian age glow with refinement. And what has been done to certain lovely forms glorified by the eighteenth century cabinet makers would make one weep. Yet these things find ready buyers—else they would not be made.

A luncheon group imitating the "Information Please" radio feature, bombarded five of us alleged experts with questions ranging from "What architectural influences will stem from The New York World's Fair and the San Francisco Fair?" to "Will wall papers stick this year, and if so, in what colors and patterns?"

At a larger evening meeting after a dinner, my job was to explain the reason for the Life Houses and picture the small house problem in America as the contributing background to Life's presentation.

Wednesday, January 11.—After hurried talks with John Root, William Jones Smith, Carl Heimbrodt, Paul Schweiker, William Keck, in which some of the problems of the profession made kaleidoscopic shifts in emphasis, I turned into a sleeper bound for New York. Whirling about in my head are insistent immediate needs for more intelligent salesmanship of what the profession has to offer to the public: for means by which the prospective builder of the small home can get a run for his money; for information as to what, if anything, the architects read or should read; for a proper balance between the experience of the past and the invitation of new materials and techniques—to mention just a few of the problems that were worrying those with whom I talked.

Friday, January 13.—The accomplishments of the architectural profession are a never failing source of wonder and amazement. The other day Miss Georgina P. Yeatman, Philadelphia's City Architect, lost a wheel in taking off in her plane from Beaufort, N. C. While state troopers, doctors, and ambulances awaited the possibility of a need for their ministrations, Miss Yeatman circled her home airport at Conshohocken, Pa., a few times and then successfully executed a one-wheel landing.

Saturday, January 14.—There seems to be a delicate left-handed swipe at architecture in a recent order of the Treasury Department. It pats on the back the Section of Painting and Sculpture, changing its name to Section of Fine Arts. So architecture no longer is a fine art?



plus
orientations of contemporary architecture

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THE QUESTION OF "TRUTH" BY FERNAND LEGER

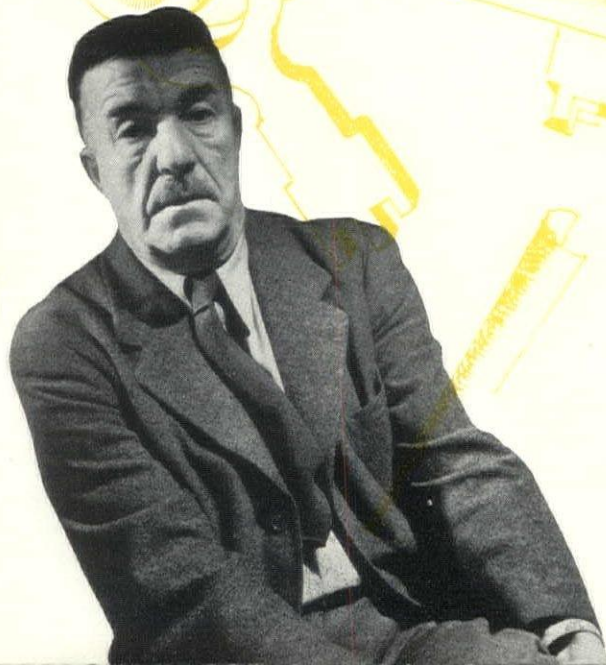
One might think that the moving pictures, for instance, could represent the "truth." Not at all. They are the product of actors, stage sets, make up, all that is artificial. In moving pictures we are far from "truth," very far . . .

If one day they will invent an apparatus which will make it possible to take moving pictures of people who are not aware of being photographed, through the opening of a door, through a keyhole—12 hours of the life of a family— . . . we may have "truth." If they would project the whole thing without retouching, crude, just as it is, you would be frightened by the unexpected aspect of the result. We are living in such an artificial way that "truth" will appear as surprising as the opening of a new world.

A considerable part of our life is spent in hiding the truth which always tries to break out. Education, religion, the "decorative life" are three inventions, three envelopes created to conceal the truth. However there would be no art, no science without "truth" which is the driving power, the means of control for every moving or useful work that man has created for his daily satisfaction.

This concern about "truth" is always present in us, around us, everywhere; for truth possesses the force of natural non-controllable events. There is the tempest, the cyclone in it; it can be the cause of irreparable disasters. Conventional order in a society is organized below that vital line. Consequently it is possible for society to achieve a certain harmony of relationships. The "enfant terrible" who speaks the truth is a nightmare for the rest of the family; he is the ill-bred child. As a solution they invented a decorative life, an education, religion . . . "Truth" in painting is color at its fullest; red, black, yellow, since the pure tone in painting is reality. Also it is the use of pictural contrasts, the design that reinforces color, the form (objective or invented) which together with color and design creates an equivalent of the real. The fear of truth however, will make the people prefer the other . . . The other is the decorative picture which fuses itself with everything, harmonizes with everything, the "painting of repose."

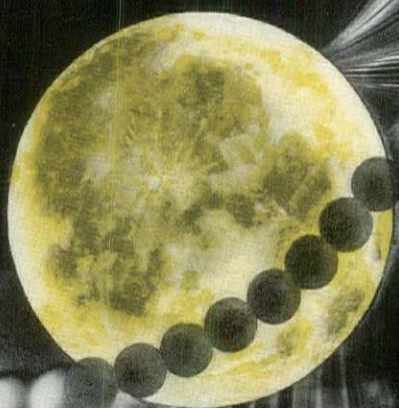
The beautiful picture makes another story. It is an event in the home with all its consequences; it takes the leading role, the center of the action in the room; the furniture is adjusted to it. The difficulty is to find place for such a major force because a painting is the antithesis of a wall. It also is an "enfant terrible."

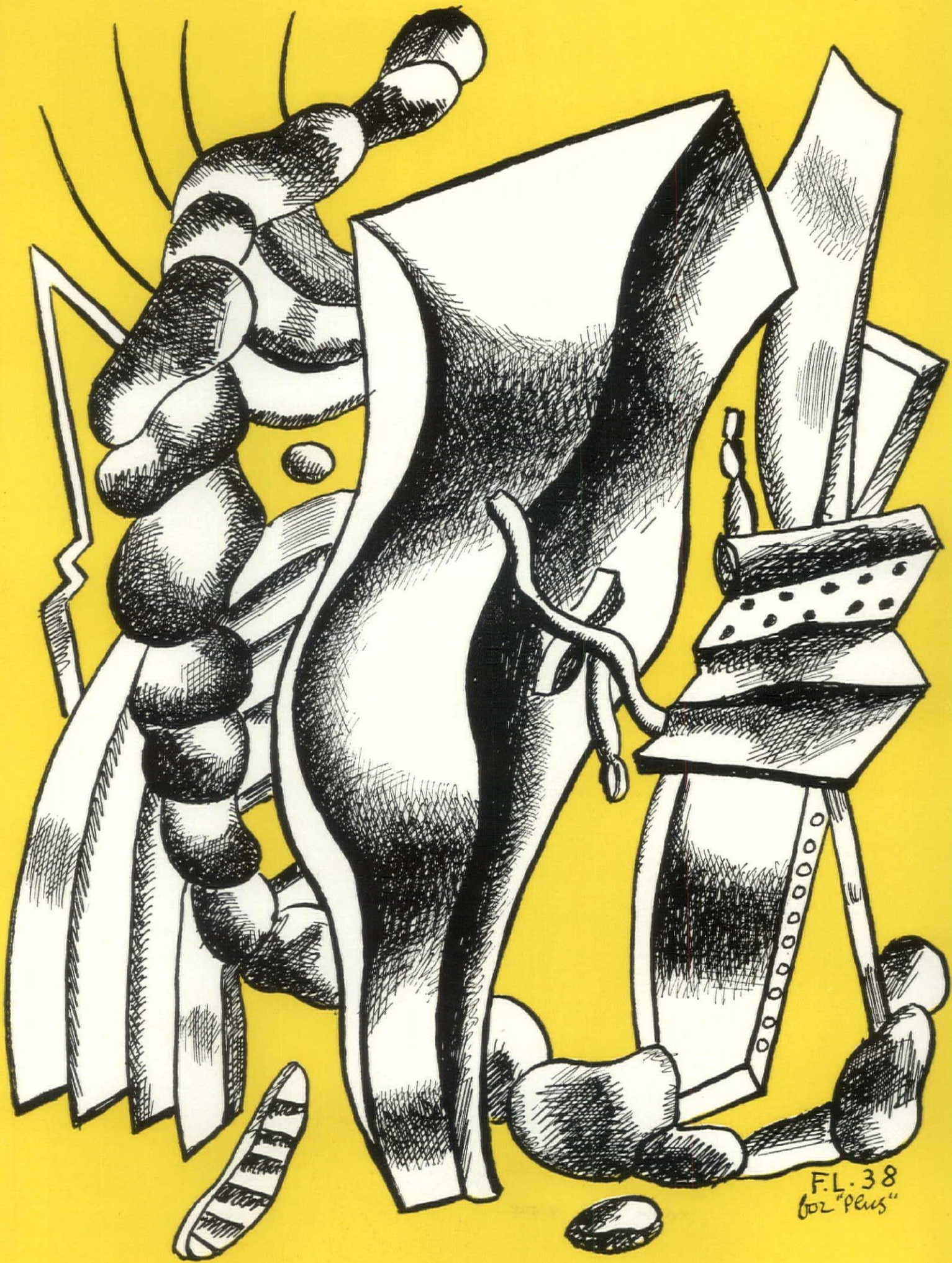


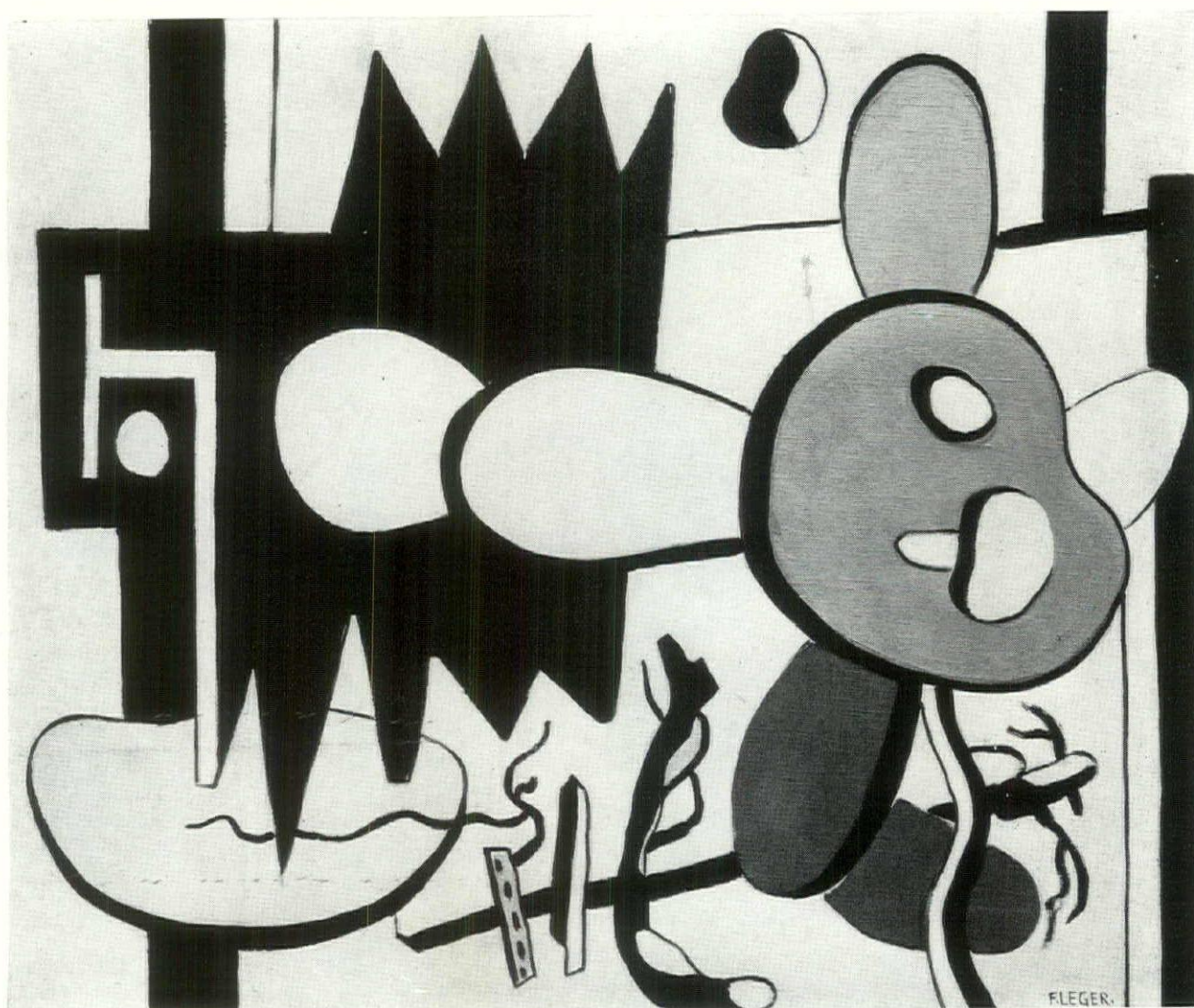
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February 1939

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Fernand Leger : Flower and Butterfly, oil, 1937



Fernand Leger : The White Chicken, oil, 1937



Fernand Leger : Man and Melon, gouache, 1938

REGIONALISM IN ARCHITECTURE

An "international architecture" has existed at various periods in history. Hellenistic and Roman formulas seemed to apply from the West-European islands well into the Asiatic continent. Again, two thousand years later, government buildings in Copenhagen, Hongkong and Washington were in a similar way dominated by a common "classicism." Derivatives of the Louvre and the Place de Carrousel are found from Bucharest to Buenos Aires. In all these cases formal treatment was largely independent of technology; colonnades, cornices, porticos were constructed without much pretense of being derived from material specifications. There was no claim that local determinants guided the designer to layout and appearance.

In contrast with this, contemporary architectural theory has argued the importance of adequate adjustment between the apparent form, the carefully fitted layout and the structural system chosen. The beginnings of "Modern Architecture," according to indications and researches of Adolf Loos and Siegfried Giedion, reach back into the nineteenth century. In this way they coincide with the growth of a world wide commerce which in that period was assuming cosmopolitan color. It is characteristic that the first broad attention was reaped by the movement for modern building design twenty years ago, just at the time a League of Nations and the founding of an Inter-

balanced by extended amortization periods. The same permanence is however dreaded in a metropolitan region of quickly shifting employment markets and recurrent insecurity. For after all, even the most modest rental depends on continuance of wage income.

What in practice may be called Modern Architecture is far from being international. In fact it is much farther from it than was classical design since the so-called "Modern Architecture" professes to be conscious of all these factors and to use them as inspirational stimuli as well as programmatic items.

A modern attitude in building design may well have the rational tendency to arrive at an optimum standard for projects, which are determined by all most identical circumstances; it may be opposed to arbitrary diversification. We may hope that the inequality of habitational standards will be reduced in some not too distant future. However today building programs are geographically diversified due to the most irregular rise and fall of the economic-technological tide in various parts of the earth.

One factor that causes building possibilities in certain European countries, Japan, Mexico, and the United States, to vary so widely is the cost of labor on the premises. The lower this is, the more prohibitive it makes the use of more prohibitive it makes the use of shop fabricated parts. Thus what is a logical design conception, let us say in

national Labor Bureau seemed thoroughly feasible schemes.

The whole period was colored by such ideal conceptions. But, as a matter of cold fact, our own time distinguishes itself by an often painful inequality of regional living standards, and wage levels which are embarrassingly varied in different parts.

In different places and on different levels there is a most irksome gradation of economic capacity—or perhaps better, incapacity—to absorb technological and industrial advance. This is especially true in the case of Housing.

And what is more, there exists today wide and troublesome variety of governmental policies chopping up the civilized world into patches separated from one another by strict moral and political boundary lines. Militant segregation interferes with the exchange of ideas as well as the exchange of commodities and especially those half-finished products which constitute the output of the building supply industry in the different countries.

Even in the United States the present Federal Marketing Laws Survey, a Federal research project, shows that the individual States tend to use every conceivable means, even unconstitutional ones, to barricade themselves against one another and against what they consider upsetting imports.

Widely varying and often prejudiced local building legislation, sometimes based on tradition, sometimes on the

whims of the consumer—of loan institutions, or of the contractors—produces even within the same country, a variety of building routines. The greater part of the components of such laws is indefensible in the light of contemporary technology.

Technology may or may not be the common denominator of building advance. However, the regional variation in the consumer's psychology and in his economic opportunity to reap its benefits, gives the true color to this transitory situation, especially in the design of private dwellings.

The acceptable minimum in a region is always related to, and reflects, the common average in the same region. The consumer's idea of a probable and desirable obsolescence rate, his peculiarly graded anticipation of durability of structure, finishes and accessories, his routine pre-estimate of maintenance and utility costs, and the standard of hygienic cleanliness—all this is quite varied even between different sections of the United States.

The customary requirements of dwelling and furnishing, in the way of "necessary" rooms, of acoustic and of visual privacy, may have been more similar to that of Los Angeles of today in a scattered, decentralized Williamsburg, Virginia of 1700 than they are in contemporary San Francisco.

A costly permanence of material and construction may be favored in certain localities and there willingly

demand a genuine esthetic digestion of its own particular combination of economic, technical circumstances.

Certain optimum combinations (and therefore esthetic types) will develop into standards. But these may quickly change again at any shift of balance in matters of the intricate technical economies in that particular region.

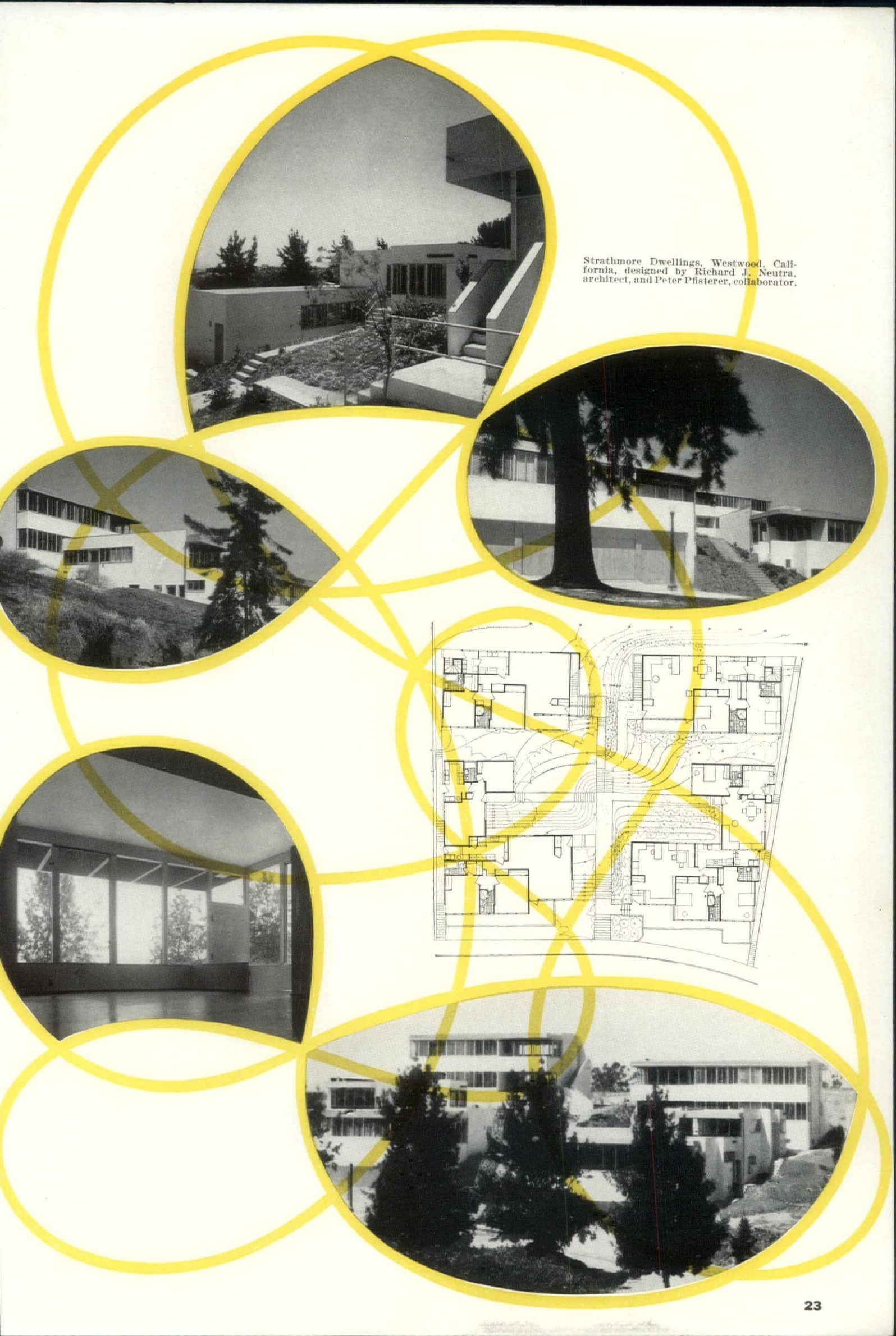
Architectural appreciation in purely handicraft periods of the past was indeed decidedly simpler than it is today. Now building designers base their work and concepts in part on industry and in part on individual skill. The proportion changes from place to place and some times from year to year. Some future day perhaps the gap may be closed again. Industrialism may actually produce a generic unity of procedures and qualities; economic and political separatism may be reabsorbed into a cosmopolitan system of broad distribution and consumption.

But for the time being architecture can scarcely be called "International." The planner is faced by intricate local problems. The artisan on the premises is always trying to adopt his skill to the ever changing requirements. It is not strange that the consumer is bewildered.

Some fear that the world is coming to dreadful uniformity and monotony. If so, this day is yet far off. At present we may rather shudder at the terrific, often senseless, variety of it all.

Richard J. Neutra

Strathmore Dwellings, Westwood, California, designed by Richard J. Neutra, architect, and Peter Pfisterer, collaborator.





Pen and ink drawing from the "Fables of Aesop" and wire sculpture by Alexander Calder. Background: Skywriting, photograph by U. F. A.

ALEXANDER CALDER: MOVEMENT AS A PLASTIC ELEMENT

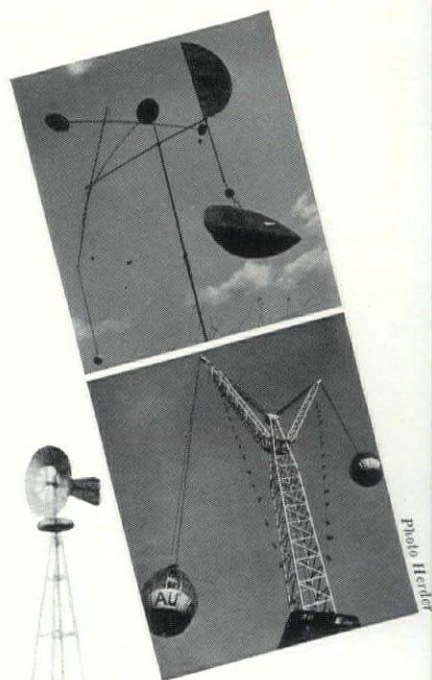
BY JAMES JOHNSON SWEENEY

The basis of graphic representation is a kinetic pleasure—the rhythmic gesture. The finger or pointed stick first recorded it in the sand, as chalk records the child's gesture on city pavements today. But our satisfaction at having achieved such a record soon crowds out all conscious recollection of the pleasurable sensation which underlies it. We quickly come to feel that our pleasure in regarding such a graph derives from some quality inherent in the linear organization itself rather than from kinetic experience of which it unconsciously reminds us.

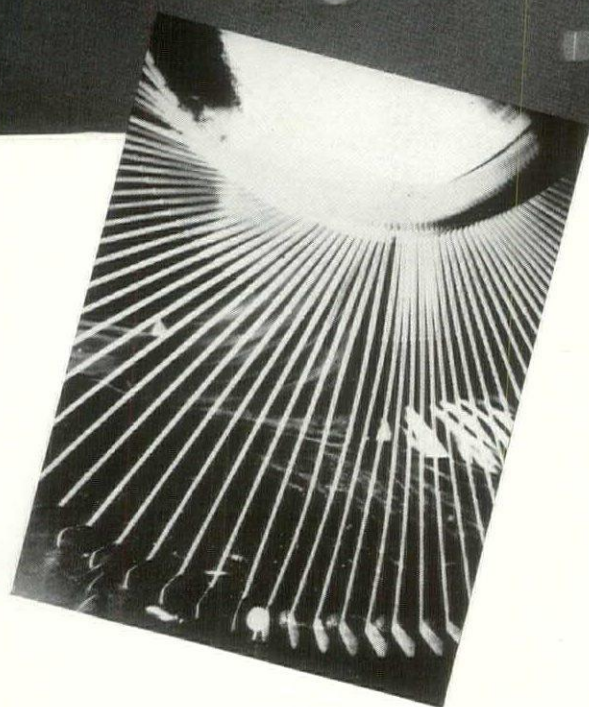
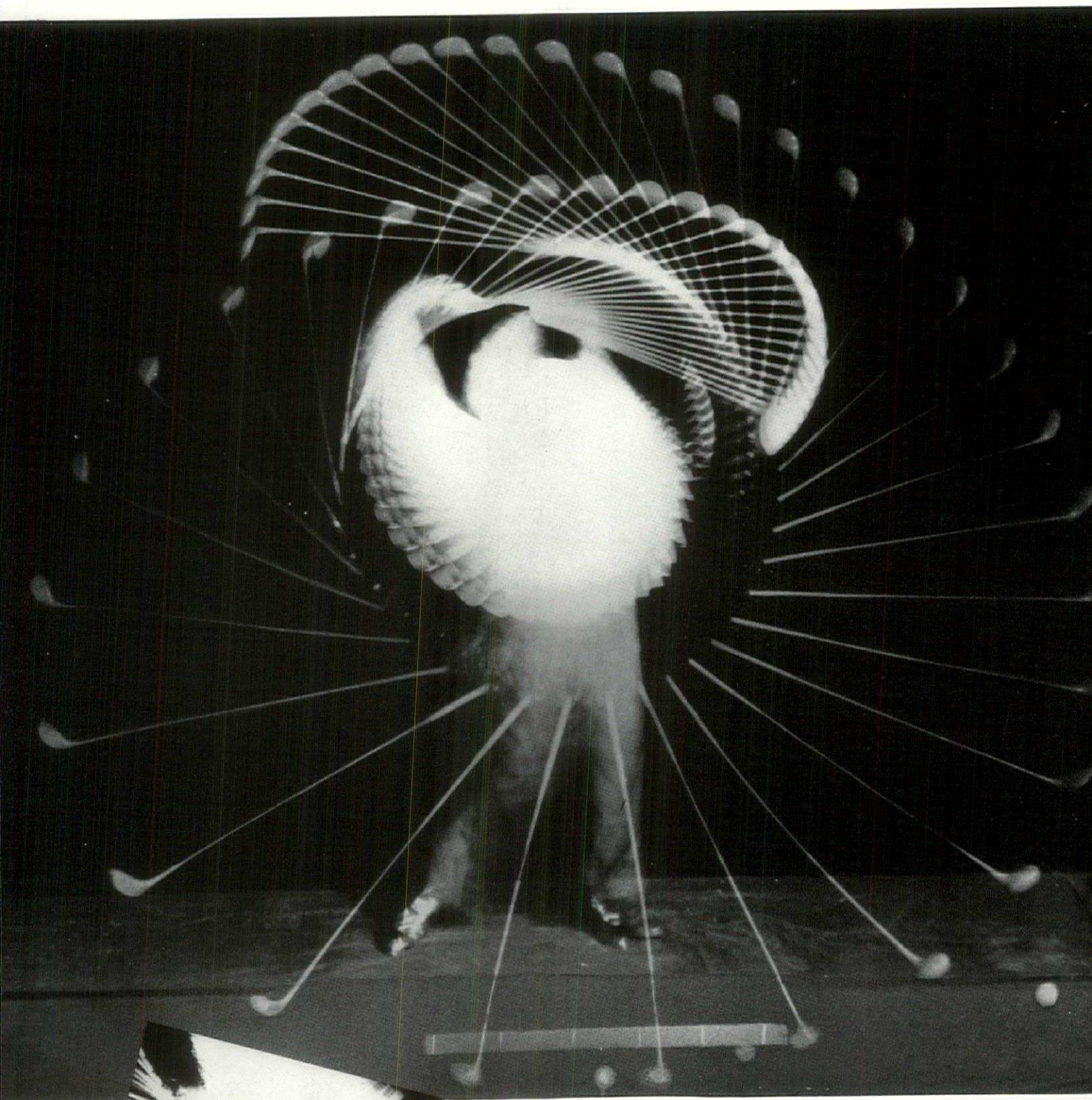
Calder in introducing actual movement into his plastic organizations has given a new emphasis to the basic rhythmic gesture. This has had the fundamental value of a primitive appeal. And, it comes with Calder's work, at a moment when plastic expression is ripe for such a physical realization of movement.

Since the close of the Renaissance the trend in plastic design has been away from the suggestion of fixity to one of mobility. The closed, symmetrical form has given way to an open asymmetrical one. The mathematical conventions of a strict perspective-approach have yielded slowly to a free, harmonic ordering of the picture-surface primarily dependent on the individual artist's sensibility. The single fixed viewpoint dominating the geometrical landscaping of a Lenotre was seen gradually to have resolved itself through Langley, Brown and Repton to a multiplicity of viewpoints that grew out of the wandering paths of late continental versions of "English" and "Chinese" gardens. While in architecture, as early as Schinkel and Nash, the formalistic stage-set character of the Baroque was turning to a free organic development of the building from within, on the basis of living requirements and in keeping with the demands of the natural surroundings in which the building was set. In short, the trend from the close of the Renaissance to the present day has been one of a growing interest in free natural rhythms and their adaptation to plastic expression.

It was only a step further for Calder to bring back actual movement in place of the suggestions of it. And the immediacy of this stimulus carried

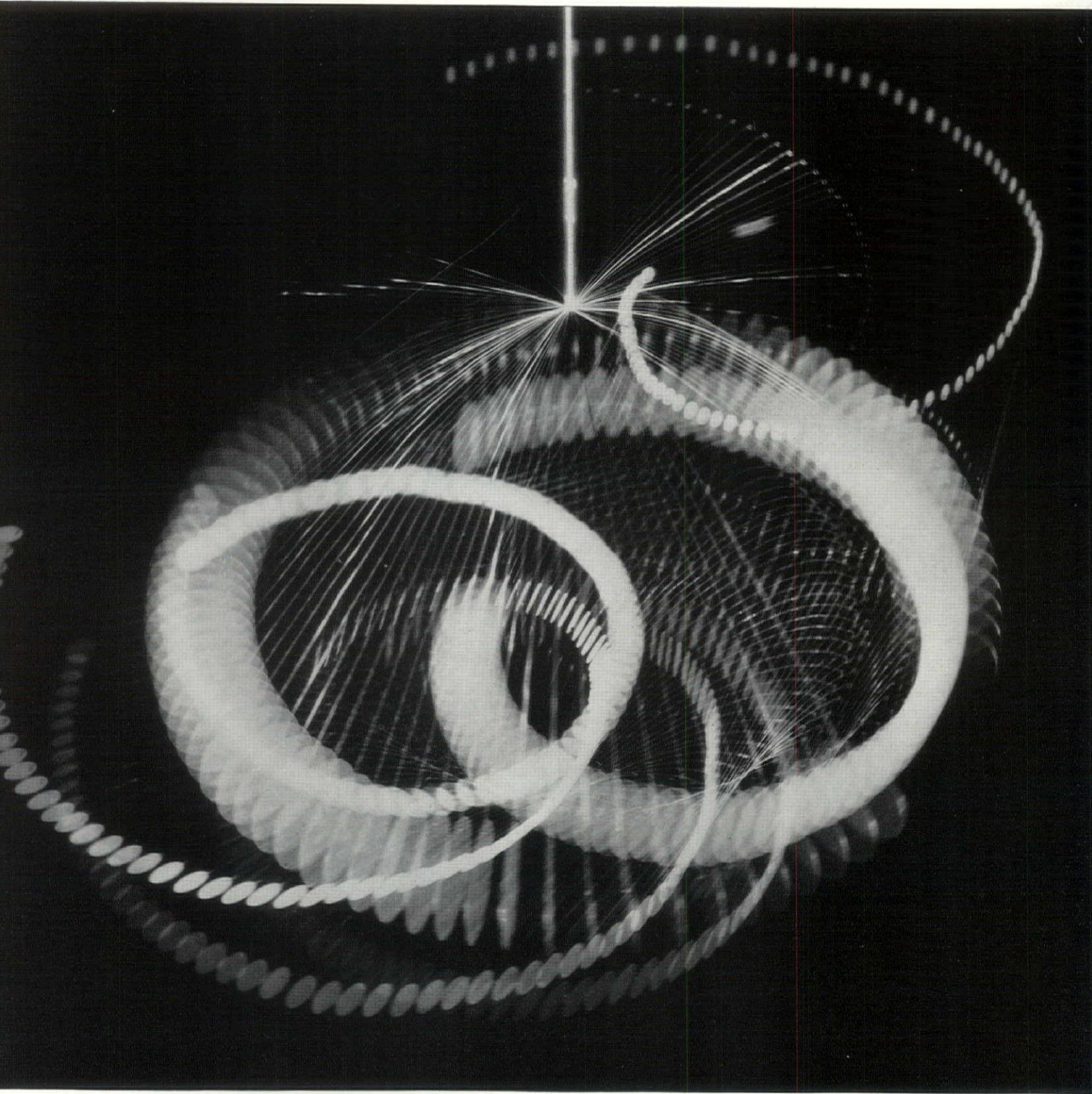


Upper right: outdoor "mobile" by Alexander Calder. Giant Swing in the Paris Exposition of 1937 and wind mills at Chicago's Fair of 1893.

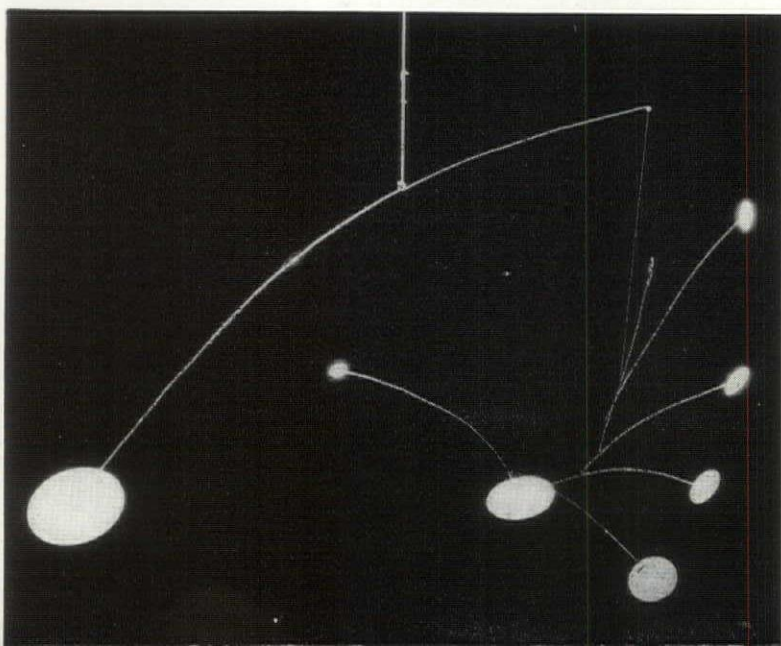


with it a primitive strength of rhythmic evocation that is perhaps Calder's most striking contribution. But a still more personal and perhaps more important one lies in his recognition of another feature of natural movements—their unpredictable character and the esthetic possibilities of the unexpected.

The Industrial period, which was ushered in almost contemporaneously with the Romantic Revival, provided a wealth of new materials and plastic possibilities through the development of the machine. But two factors militated



Right: Alexander Calder's "mobile 1939."
 Above: same mobile in a revolving slow
 motion; photographs by Herbert Matter.
 Opposite page: a pattern created by a
 golfer striking a ball. Multiple flash photo-
 graph courtesy of Spalding Brothers,
 Edgerton, Germeshausen and Grier photo-
 graphers.



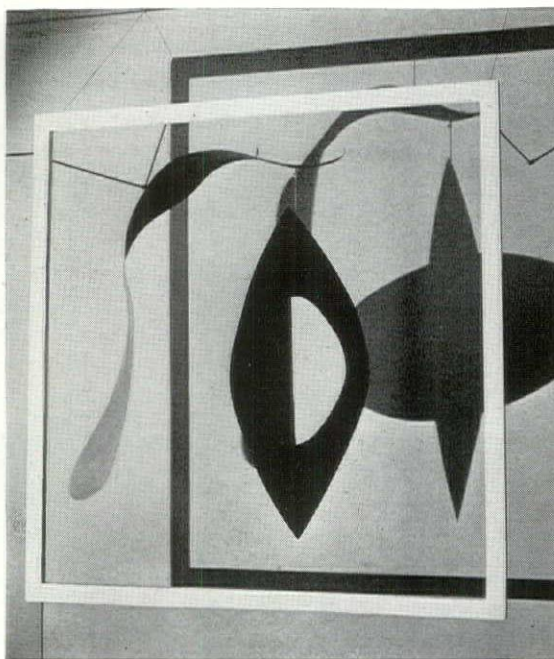
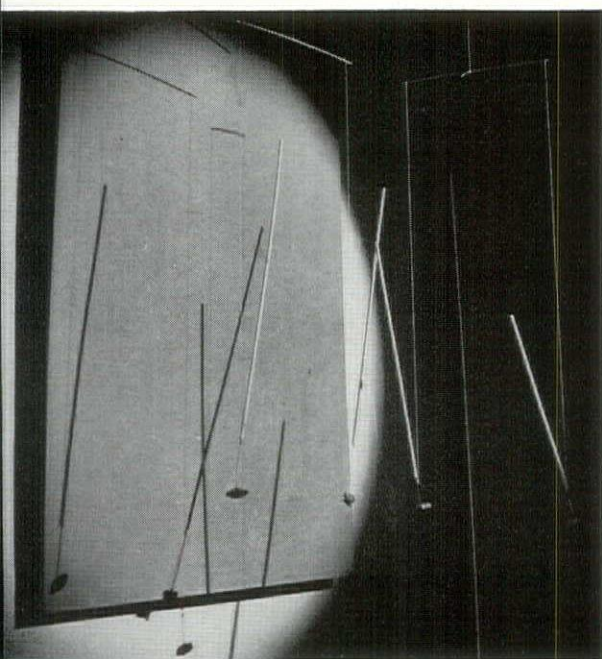
against a full use of the opportunities presented. On one hand the complacency of the Victorian world led it to feel it could improve on pre-industrial period expressions with the tools and the materials of the Industrial Age. The result was an ugly parody which caused a sensitive revulsion from the machine to a pre-Raphaelite escapism. But such a retreat into the past naturally called up a protest. And shortly after the opening of the present century we had a sentimentalization of the machine.

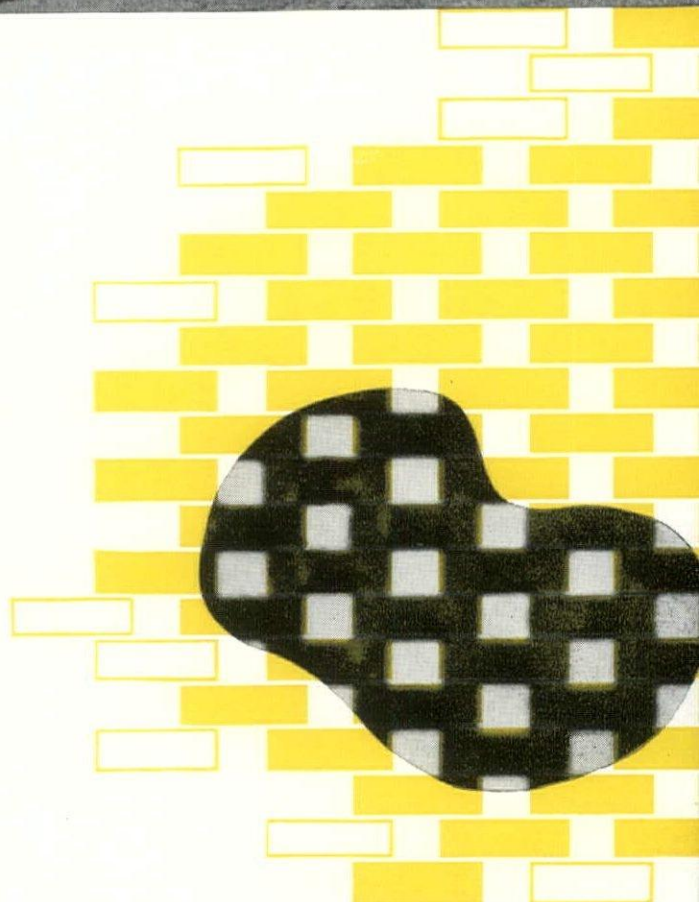
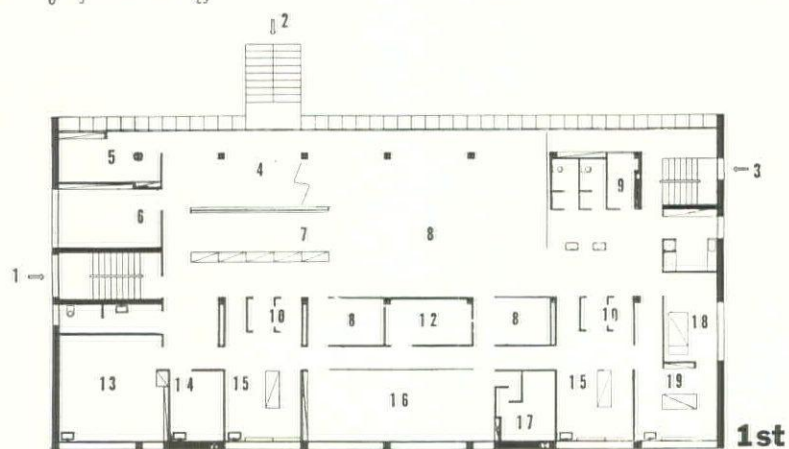
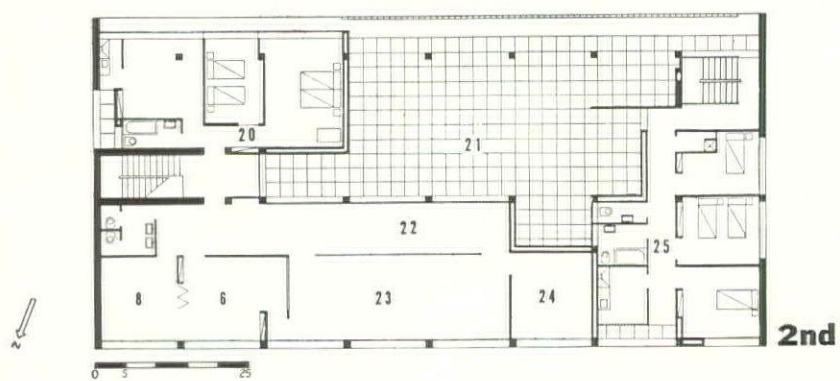
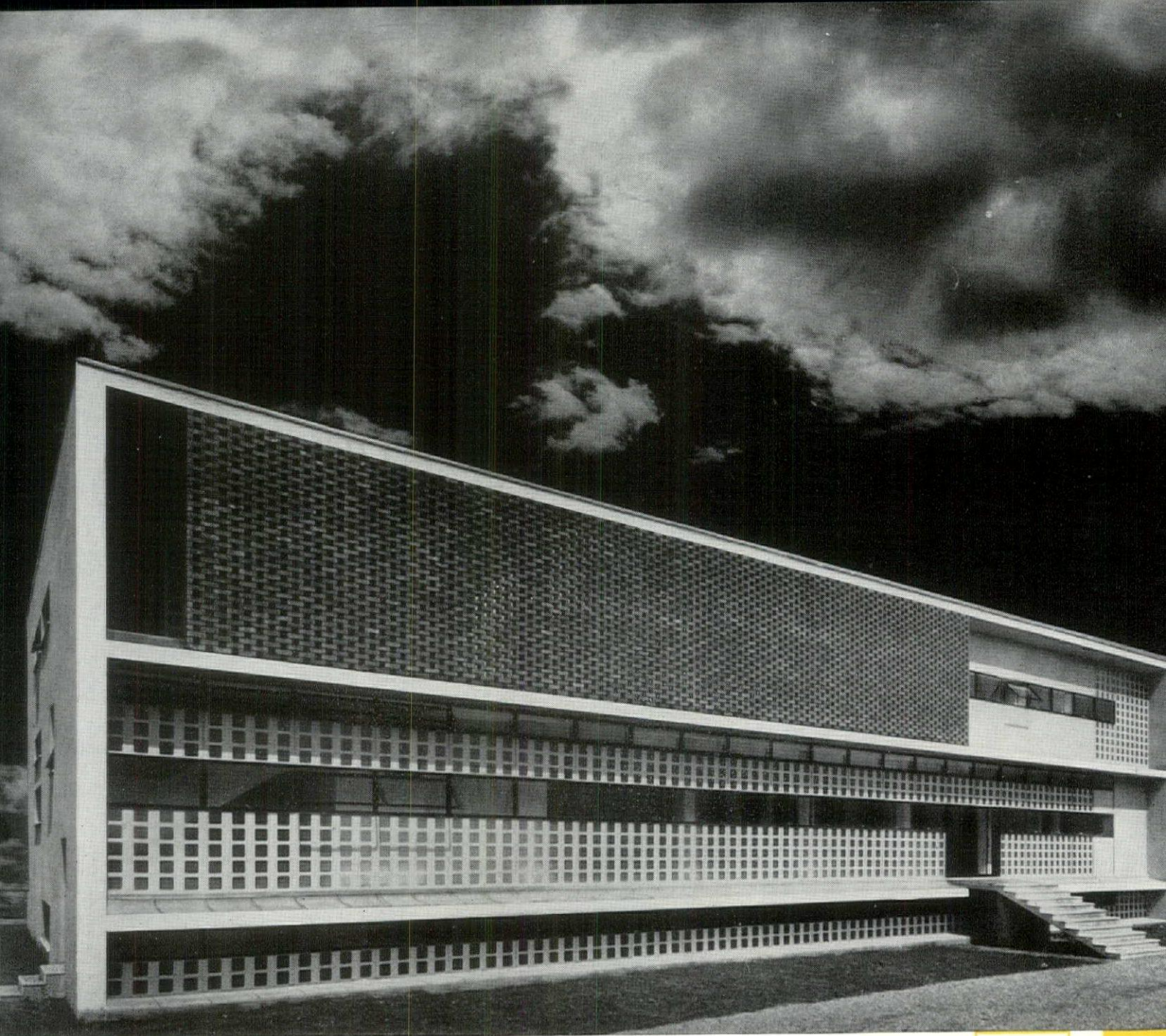
New materials, new forms, unlimited possibilities opened up toward a new plastic idiom were clearly recognized; but the romantic adulation of the machine which was felt necessary to offset the hostility of the previous generation made an honest plastic approach, for the time, next to impossible.

It was here that Calder's recognition of the potentialities of the surprise-factor in free rhythms and his ingenious, yet unaffected use of it served at once as a tonic and purge. The critics of the Romantic movement had been attracted to the unpredictable features of nature and had rediscovered through them the esthetic of the unexpected. Calder in adapting the natural rhythms also recognized the dramatic value of the surprise element. And his extremely personal use of it has probably done more than anything else toward combatting the fustian seriousness and lack of sense of humor that grew out of the sentimentalization of the machine, and toward laying a sound foundation for a new machine age idiom.

And in Calder's work these are by no means recent developments. Throughout, we see both these features constantly present: on one hand, the movement-through-space, as clearly represented by his tiny Aesop illustrations as by the skywriting of an airplane; on the other, a readiness to accept a hint from the nature of the material itself toward an unexpected rhythm or effect, now a tree root that becomes a curiously distorted representation of a cow, now a figure drawing that takes on an unfamiliarity from his use of an unbroken line. In his wire caricatures we see a similar approach to that of the Aesop illustrations. And in the later mobiles the unexpected rhythmic turn may again be derived directly from nature in a puff of wind that tosses the arms of the object, or from a mechanical rhythm produced by some twist in a wire or idiosyncrasy of the material.

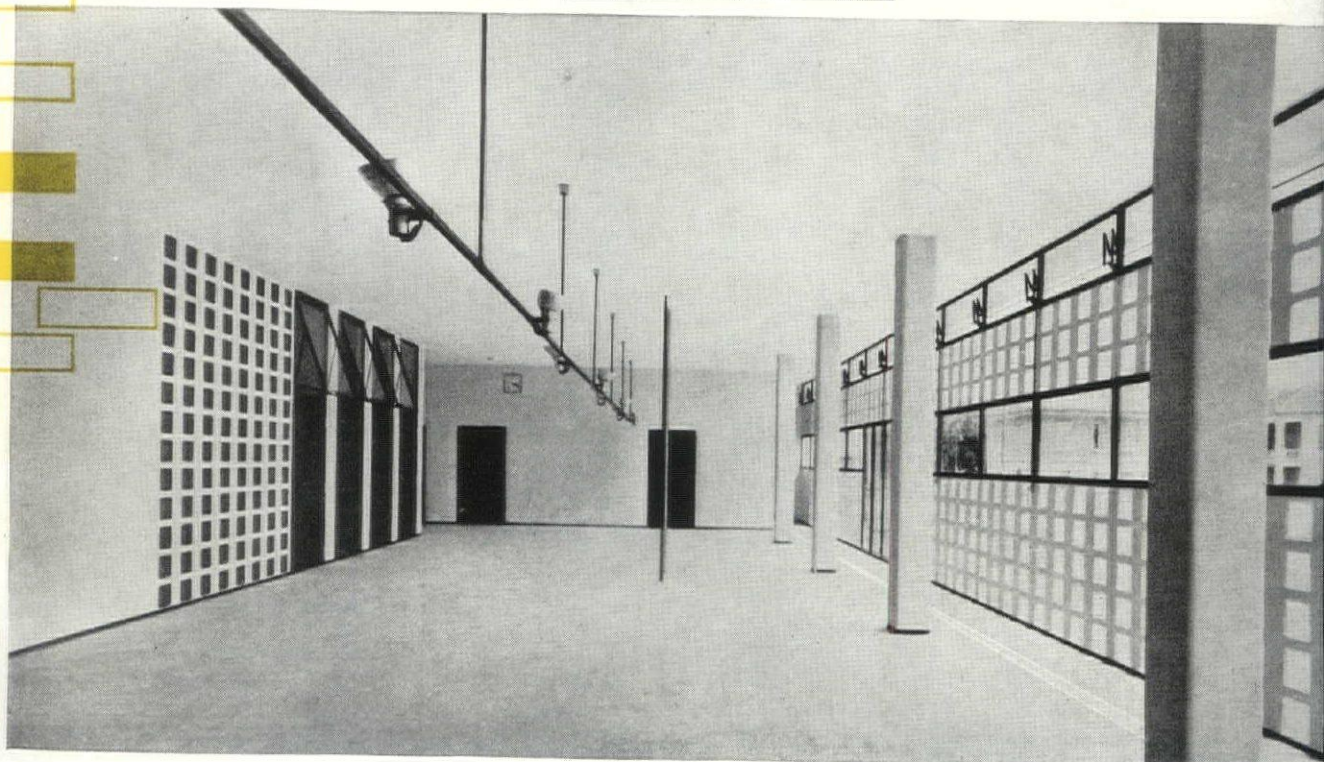
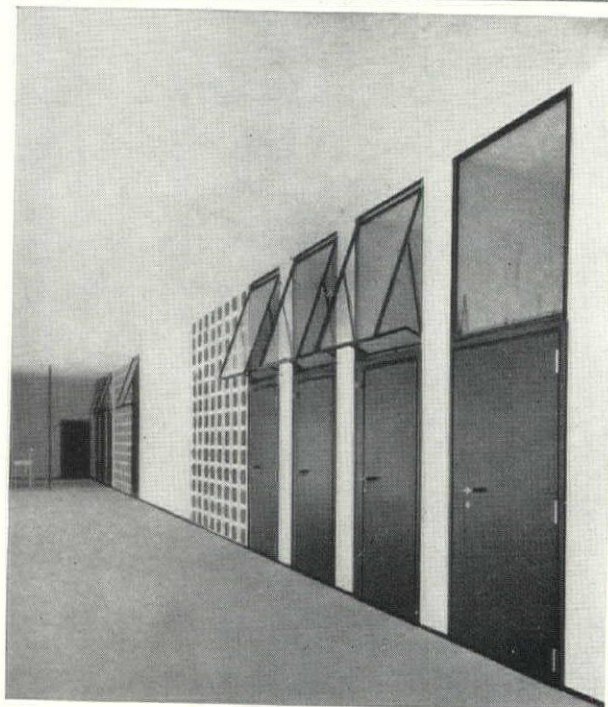
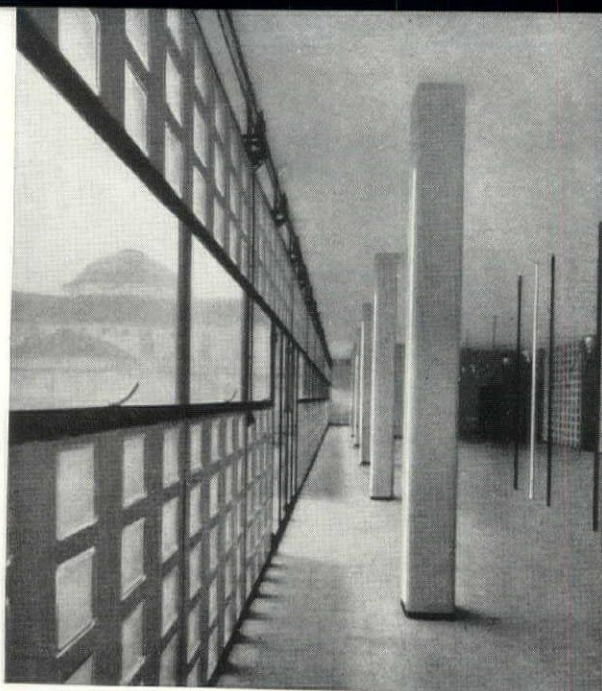
In Calder's mobiles we have the tonic which clears away the sentimental approach to the machine, and lays a new stress on the rhythmic fundament of design through a physical representation of movement.





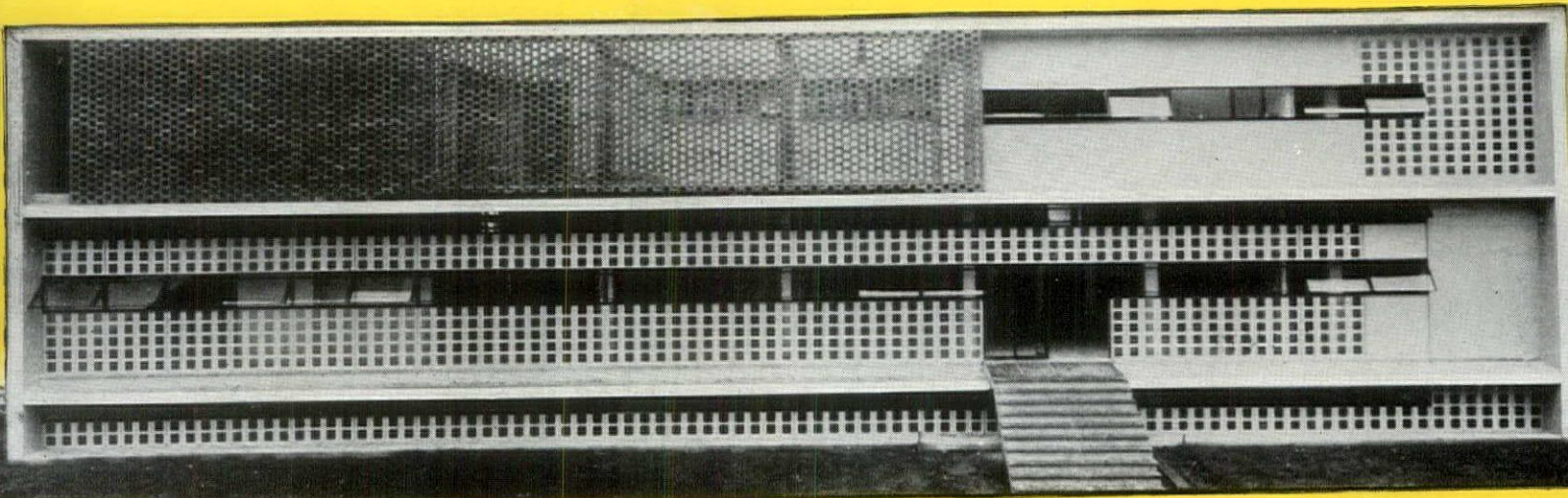
**TUBERCULOSIS CLINIC DESIGNED
BY I. GARDELLA AND L. MARTINI**

Built by the province of Alexandria to provide facilities for the examination and treatment of patients and to house the antituberculosis service. The structure is reinforced concrete; heating, by radiating panels located in floors and ceilings; curtain wall of the south elevation, of white thermolux. The exterior walls are light yellow, the set-backs, blue, the screen of the solarium, made of bricks with white joints. Floors are of white terrazzo, interior walls are light blue and ceilings white. Ground floor plan: 1 Entrance to the social service administration, 2 Patients' entrance, 3 Service entrance, 4 Vestibule, 5 Visiting health service, 6 Director, 7 Reception, 8 Waiting room, 9 Supplies, 10 Dressing rooms, 12 Fluoroscopy, 13 Laboratory, 14 Dark room for throat examination, 15 Examining rooms, 16 Radiography, 17 Dark Room, 18 Rest room, 19 Pneumothorax. Second Floor: 20 Janitor's apartment, 21 Solarium, 22 Corridor, 23 Social service, 24 Archives, 25 Patients' rooms.

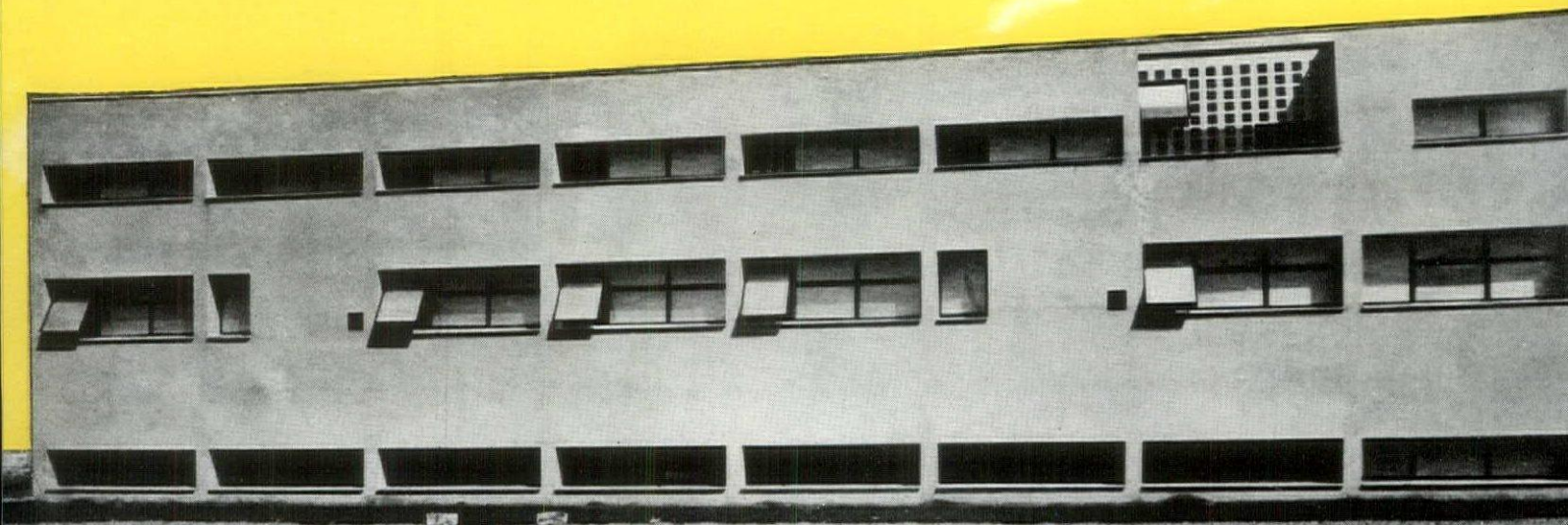


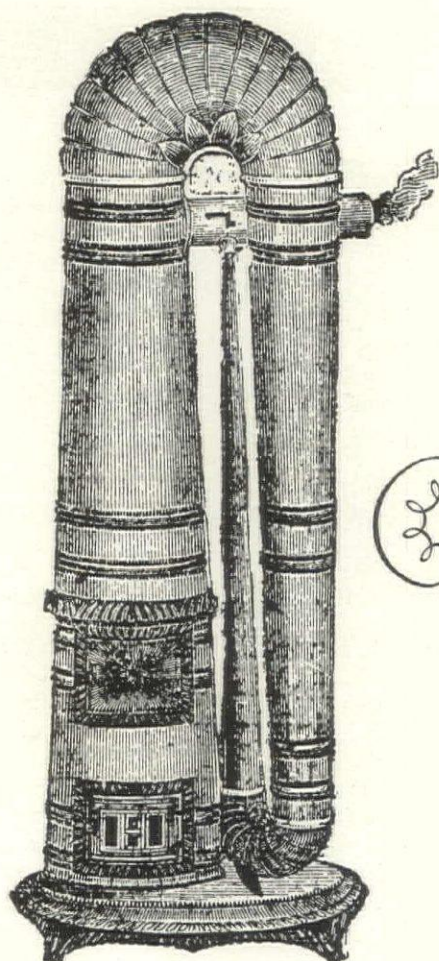
Left: the solarium. Above: interior views of clinic.

south elevation
↓



north elevation
↓





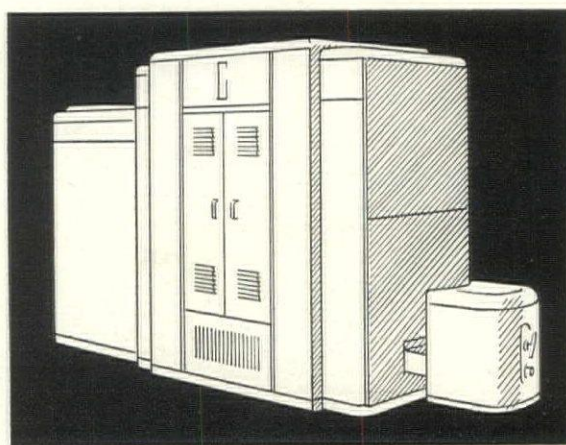
THE BIG HEATING SENSATION

CIRCA 1870

TO hear some people talk, you'd think that bituminous coal heating has made no progress since the above odd-looking furnace was the "best buy" in heating equipment a few generations ago.

The informed know better. They know that hand-fired equipment for burning bituminous coal has reached new levels of cleanliness, convenience and efficiency. They know that automatic stoker firing of bituminous coal is far and away the fastest increasing method of comfortable, safe, convenient and *economical* heating.

Throughout the designing of a house the architect makes many choices of materials and equipment whose economy and service during generations will reflect his judgment. In no other part of a home are such decisions more important than in the basement. Piped fuel costs may rise sharply. Piped fuel supplies may suddenly grow short. Wise designing provides for every contingency. Where modern bituminous coal heating is not specified, the architect provides for bituminous coal storage and use without expensive alterations.



... AND FOR 1939

If you are designing basements for modern automatic heating, *plus* economy, or wisely urging provision for bituminous coal heating later, send for our free portfolio, "The 1939 Basement Plan Book," A. I. A. File 30-G. It explains the fundamental principles of designing a house for modern bituminous coal or coke heating and is illustrated with plans and pictures of typical modern basements. Send for your copy today.



BITUMINOUS COAL -the "Universal Fuel"

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NATIONAL COAL ASSOCIATION

The Nation-Wide Organization of Bituminous Coal Producers
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WASHINGTON, D. C. CHICAGO, ILLINOIS

Please send me a copy of your Free Booklet "The 1939 Basement Plan Book," A. I. A. File 30-G.

Name.....

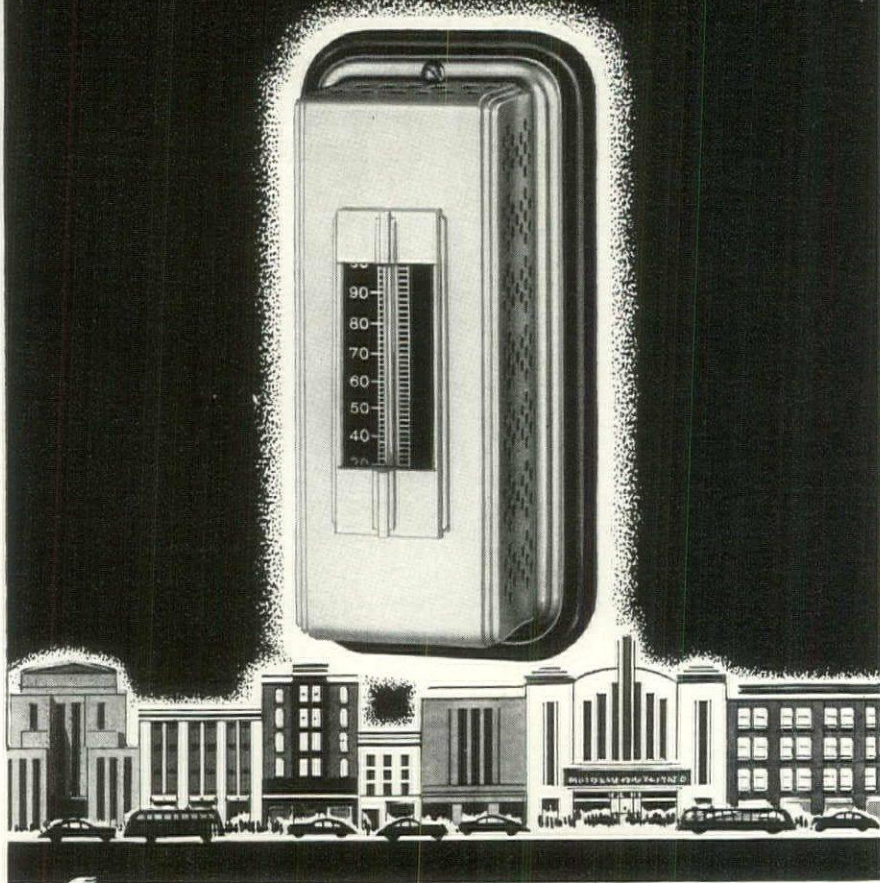
Firm..... Street.....

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

AF-2

When **JOHNSON** Controls

THE TEMPERATURES ON MAIN STREET
CUSTOMERS SHOP THERE MORE AND MORE



Comfortable customers can be "sold" more readily, not only in stores, but in restaurants, theatres, and any other business that caters to the public. Comfortable sales people, and other employees, serve customers more effectively. There are a host of advantages in

efficient automatic temperature control "on Main Street."

When that control is "by Johnson", architects and owners are assured that the equipment represents the most advanced developments in automatic control for heating, cooling, ventilating, air conditioning, and industrial processes. The Johnson organization covers the entire continent and engages in just one line of business . . . the design, manufacture, and installation of automatic temperature and air conditioning control systems.

JOHNSON SERVICE COMPANY

MILWAUKEE, WIS., AND DIRECT BRANCH OFFICES IN PRINCIPAL CITIES

FORUM OF EVENTS

(Continued from page 28)

COMPETITION

The Smithsonian Gallery of Art Commission, under authority of Congress, announces an open competition to select an architect for the proposed new Smithsonian Gallery of Art on the Mall. (See page 15). Something of the need for this new Gallery of Art, and the purposes it would materialize is expressed in a statement on behalf of the Commission:

"The importance of the new museum will arise from the potentialities of a unique service in the cause of American art that are inherent in its program of activities rather than from the value of the present Smithsonian collections, important though they are.

"The new Gallery is conceived as a means by which the national will for the encouragement of the visual arts may, in collaboration with the Section of Fine Arts in the Treasury and the trustees of the Mellon bequest, find effective expression. A new building is urgently needed, therefore, not only for a more adequate display of the present collections, but also to provide for an expanding program of services to the country at large.

"The new Gallery is conceived as a dynamic rather than static museum of art. Reconstituted as an active, influencing agency, it will use its present collection and encourage further gifts in an effort to stimulate the creation of works of art of distinction and to elevate and sustain the public appreciation of these works throughout the country. It will, it is hoped, be provided with an income adequate to purchase annually many works of art with which it will increase its permanent collection and from which it will organize continually changing exhibitions.

"No less important than its functions as a repository will be the extension of its resources to benefit all regions of the country. The works of art in its possession will become available through traveling exhibitions to people throughout the United States. It will plan an integrated program which will be educational in the broadest sense. It will not only circulate large exhibitions to other museums but it is hoped to also furnish schools, community groups, and local 'centers' with a wide variety of material in connection with contemporary painting, sculpture, architecture, graphic arts, photography, and industrial arts. It will bring out, if funds are available, publications on those subjects, both of a popular and of a scholarly nature. It will publish guides, color reproductions, pamphlets, and educational handbooks.

"It will consider its province to be the

(Continued on page 36)

2 New Luminaires

FOR BIPOST LAMPS



The GB Luminaire, with patented Denax glass basin, is available in a 750-1000-watt size.



The MB Luminaire, with aluminum basin, is available in a 500-watt size and a 750-1000-watt size.

Designed for "Main Street" *Commercial Applications*

Here are two brand new Commercial Lighting units for "Main Street" establishments . . . modern-styled luminaires available at low initial and operating cost.

Specifically designed for the Medium Bipost Incandescent Lamps, these new units are the MB LUMINAIRE, with aluminum basin finished by the Alzak process, and the GB LUMINAIRE, with patented Denax glass basin.

In MB and GB luminaires, Westinghouse has pioneered original luminaire designs to utilize effectively the new shape and the illumination characteristics of the Bipost Lamps. Both luminaires are equally effective for high or low ceiling heights. The choice between a metal or glass basin depends upon the decorative scheme as well as upon whether totally indirect or luminous indirect lighting is preferred.

Your local Westinghouse Distributor has complete details. Ask to see these units . . . check their construction features . . . see them in operation.

ASK FOR A SET OF GRAVURE
PRINTS WITH CONSTRUCTION
FEATURES, SPECIFICATIONS

Westinghouse Electric & Mfg. Co.

LIGHTING DIVISION
EDGEWATER PARK
CLEVELAND, OHIO

The Medium
Bipost Lamp,
for which the
MB and GB
Luminaires are
designed, offers
high lighting
intensity at
lower cost and
greater main-
tained lighting
efficiency.



WHEN YOU THINK OF *Lighting Equipment* THINK OF



Westinghouse

HOUSES SELL FASTER ...RENT EASIER

*with modern, colorful floors
of Armstrong's Linoleum...*



WHAT is it that sells one house against others in its price class? Builders know the answer: Special, distinctive features—for instance, a sparkling bathroom like this one with its modern floor of Armstrong's Linoleum.

A colorful floor attracts the customer's eye. Then if the salesman says: "This floor is Armstrong's Linoleum!"—it's an added inducement to buy. Prospects know that Armstrong stands for top quality and high style in floors. Years of national advertising have built up an acceptance that means easier sales for you.

You'll find Armstrong's Linoleum Floors reasonable in cost, even when special designs like the one above are used. They are inexpensive to install. And their five

THERE'S SALES APPEAL in this eye-catching bathroom floor of Armstrong's Linoleum. The field is Black No. 27 with border of Marbelle No. 021. Feature strip and die-cut insets are White No. 23.

thicknesses make it easy to select a floor that fits every purpose and every budget.

Find out today how Armstrong's Linoleum can make your houses sell or rent faster. Write for a copy of our color-illustrated book, file-sized, of sales-building room designs. Armstrong Cork Company, Building Materials Division, 1203 State Street, Lancaster, Pennsylvania.

Armstrong also manufactures Asphalt Tile, Reinforced Rubber Tile, Cork Tile, Linotile (Oil-Bonded), & Linowall.



RUBBER TILE • LINOTILE (OIL-BONDED) • ASPHALT TILE

Armstrong's **LINOLEUM**
and **RESILIENT, NON-CERAMIC TILES**

CORK TILE • LINOWALL • ACOUSTICAL CEILINGS

FORUM OF EVENTS

(Continued from page 34)

cultural life of the community all over the United States, and it will consider its obligation to be the encouragement of a high standard of quality among artists in the fields of both fine and practical arts. Above all it will be its purpose to strive, through a recognition of all that is essentially indigenous in the work of our artists, to stimulate a confidence in American creative capacity and to bring to American art a more dynamic and healthy relationship to the life of the community.

"Thus the essential problem of the Gallery is one of movement. Adequate storage facilities, adequate work areas, well-lighted galleries, and efficient physical organization must be guaranteed to secure the maintenance of the permanent collections and the flow of material in and out. The Gallery is conceived as a national clearing house for the visual arts. In this capacity it must achieve maximum flexibility and freedom of extension if it is to fulfill the objectives of its program."

The Jury: Frederick A. Delano, chairman of the Commission, John A. Holabird, Walter Gropius, George Howe and Henry R. Shepley. Dean Joseph Hudnut, Harvard University, is acting as professional adviser, and from him, at Cambridge, Mass., copies of the program may be had.

EDUCATIONAL

THE ROTCH: The Rotch traveling scholarship will this year be awarded for a term of not less than fifteen months of study and travel abroad, the amount of the prize being \$2,500. Examination of candidates will be held early in April, but candidates are requested to register themselves before March 15, 1939, and fill out application blanks which will be sent on request. For registration and further information apply to C. H. Blackall, Secretary, 31 West St., Boston, Mass.

PRINCETON UNIVERSITY: Two competitive prizes of \$500 each, in the School of Architecture, are announced for the year 1939-40. The purpose of these prizes is to permit men of unusual ability, who desire to complete their professional training, to profit by the opportunities offered by the School of Architecture, the Department of Art and Archaeology, and the Graduate School of Princeton University. The prizes will be awarded as the result of a competition in design to be held approximately April 17 to 28, 1939. The right is reserved to withhold either or both awards in case no candidates are considered to have reached the required standard. The winners, exempt from tuition

(Continued on page 38)

4 REASONS WHY... 55.82% of All Home Loans Made by Institutional Lenders Are Financed by Savings or Building and Loan Associations!

TWO and one-half million dollars a day—loaned on American homes!

That's the record of the "thrift for building" plan which accounted for 55.82% of America's home loans made by institutional lenders in 1937—which introduced the amortized home loan idea nearly 110 years ago—which keeps home dollars at home where they will do the most good for their community!

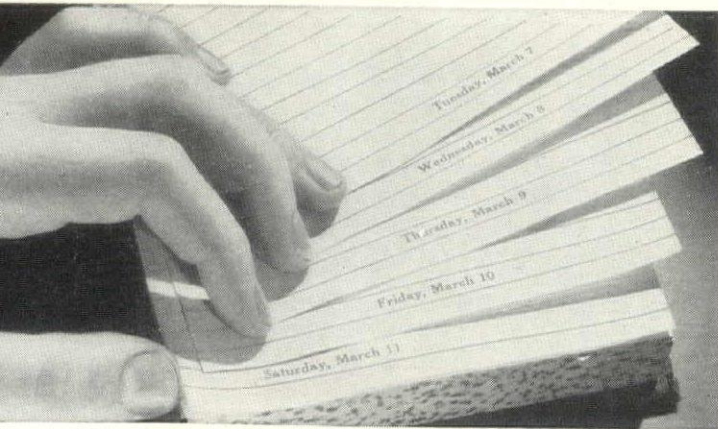
And here's what that LOCAL service means to you:

In your community a strong home financing institution

provides an outstanding opportunity for your neighbors to invest profitably. It uses these savings to finance home ownership. It takes an active part in community development.

Thus, by recommending the home financing services of your local Savings or Building and Loan Association, you actually *promote and prolong* your own business!

Here are 4 primary benefits which your clients and customers enjoy when you recommend this easier, faster and more friendly source of building money:



1. Fast, convenient service—easy to understand. Applications receive immediate attention—are approved without delay. Appraisals come through fast. Progress payments are on time. Every loan is amortized over a long-term period.



2. No red tape—high construction standards. Correspondence can't delay deals financed through your local Savings or Building and Loan Association. A high standard of construction is assured. All details are fully understood; money is passed in record time.



3. Friendly service—deal with neighbors. Friendly neighbors handle every phase of every situation. Each loan receives the attention of men who have the interest of the community at heart, and to whom a name means a friend, not just a number.



4. Long term loans—repayable like rent. Loans are retired on an amortized plan—just like rent. It's a practical, simple, time-tested plan for every family with a regular income—an attractive plan that will help you get more business.

In your community, members of the United States Building and Loan League are ready to finance new construction, modernization or sales for you—or refinance!

ARCHITECTS—whether it's for buying, building, modernizing or refinancing, your recommendation of this local home financing service will prove its value to you.

Your Local SAVINGS OR
BUILDING AND LOAN ASSOCIATION

When you support Your Local Savings or Building and Loan Association—You help local business!

FORUM OF EVENTS

(Continued from page 36)

fees, will devote the following school year to the study of advanced architectural design, and will have the opportunity of attending other courses. For application blanks and regulations governing the competition and award, address Professor M. L. Beck, chairman, Princeton Prizes in Architecture, McCormick Hall, Princeton, N. J.

SYRACUSE UNIVERSITY: One \$375 and four \$187.50 scholarships are to be granted by competition on Saturday, July 15, 1939. The competition will be in two fields—drawing, and preparatory school record. Scholarships granted may be held for five years, provided the student maintains a C plus (80 per cent) average each year. For bulletin of the College of Fine Arts, application blanks or other information on the competitions, address Dean H. L. Butler, College of Fine Arts, Syracuse University, Syracuse, N. Y.

THE AMERICAN INSTITUTE OF ARCHITECTS: *Edward Langley Scholarships.* The Institute from January 1 to March 1, 1939, will receive proposals of candidates for Edward Langley Scholarships for the year

1939. Awards may be made to residents of the United States or Canada. These scholarships are awarded annually for advanced work in architecture, for study, travel, or research, as the holder of the scholarship elects. Awards to undergraduates are precluded, but awards may be made to architectural draftsmen who desire to do undergraduate work or take special courses in architectural schools. Competitive examinations will not be used as a method of selection. The scholarships are open to all persons engaged in the profession of architecture. Further details may be had by addressing Secretary, A. I. A., The Octagon, 1741 New York Ave., Washington, D. C.

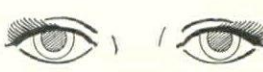
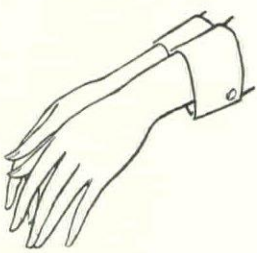

UNIVERSITY OF MICHIGAN: The College of Architecture announces that the George G. Booth Traveling Fellowship in Architecture will be offered again this year, and the competition in design will be conducted during the two weeks beginning April 7. This competition is open to all graduates of the school who have not reached their thirtieth birthday on that date. Prospective candidates should write to the office of the College of Architecture, University of Michigan, Ann Arbor, Mich., at once.

FEDERATION TECHNICAL SCHOOL, New York, N. Y.: Two new courses are offered in housing—one for experienced architects and engineers will be given under the direction of Clarence S. Stein and Henry S. Churchill. The other course is designed to develop leaders in housing activity in unions, political clubs, tenant, and other neighborhood groups.

NEW YORK UNIVERSITY SCHOOL OF ARCHITECTURE AND ALLIED ARTS announces a new four-year course in Industrial Design under the supervision of Donald Deskey. Other members of the technical faculty are Winold Reiss, Albert C. Schweizer, Will Rice Amon, Edward D. Stone, and Rene P. Chambellan.

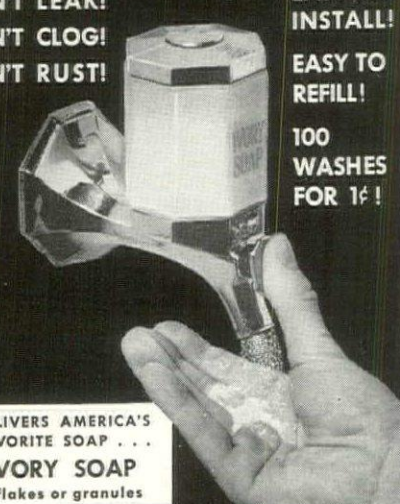
THE METROPOLITAN MUSEUM OF ART, New York: Sunday and weekday courses under the title, Study Hours on Color and Design, continue through a four-month term. Lecturers include Dean Hudnut, Harvey Wiley Corbett, Talbot F. Hamlin, Aymar Embury II, William Lescaze, Francis H. Lenygon, Edward Warwick, Eugene Schoen, Walter Kantack, Leon V. Solon, and Frank Sohn. Further details from the Museum.

(Continued on page 40)

EASY *on the eyes* 
on the hands 
on the budget 

**CAN'T LEAK!
CAN'T CLOG!
CAN'T RUST!**

**EASY TO
INSTALL!
EASY TO
REFILL!
100
WASHES
FOR 1¢!**



DELIVERS AMERICA'S
FAVORITE SOAP . . .
IVORY SOAP
in flakes or granules

EASY on the eyes? No question on that score. One glance at the Ivory Dispenser's trim lines and its gleaming chromium plated mounting tell you that.

No question either that the soap it delivers is easy on the hands. For it's Ivory Soap—famous the country over for its purity and gentle cleansing action.

Easy on budgets, too. Remarkably so, because the Ivory Dispenser delivers a clean pair of hands for about 1/100 of a cent!

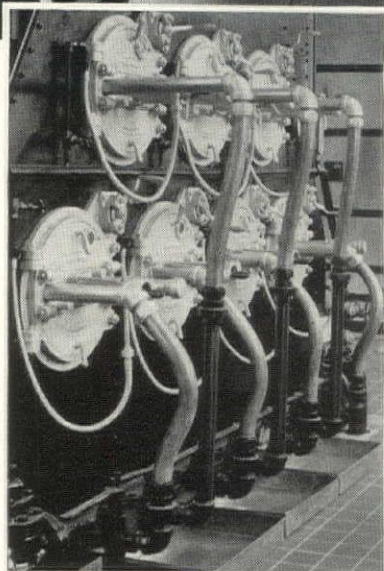
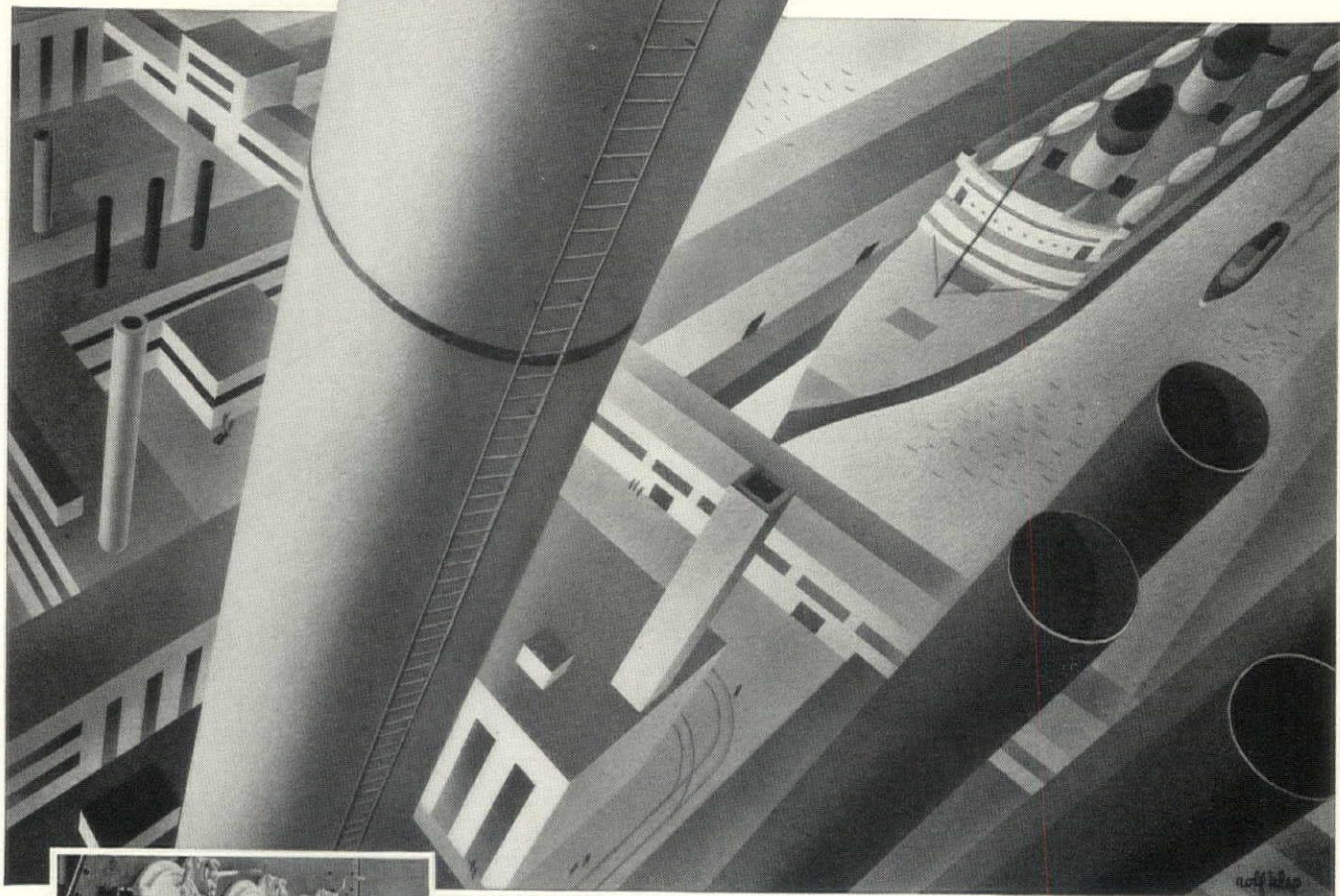
It will surprise you to know how little it costs to install and maintain this modern washroom accessory. A post card will bring you this good news.

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... and save money for your clients in heat and power production!

To generate steam at minimum cost is a basic aim of every plant designer. Fuel combustion methods necessarily must play an important part in the attainment of this goal. That is why so many architects are keenly interested in Todd—and in what Todd has to offer.

Our equipment enables users to obtain the greatest possible value for every fuel dollar spent. The economies which our different types of burners permit, under various circumstances,

are many and diverse. There are Todd units suitable for use with almost every type of liquid or gaseous fuel installation and these are adaptable to practically any boiler.

Before recommending any combustion equipment to your industrial, commercial, institutional or other clients interested in automatic steam generation—investigate Todd! Our engineering staff is available for consultation at any time.

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NEW YORK

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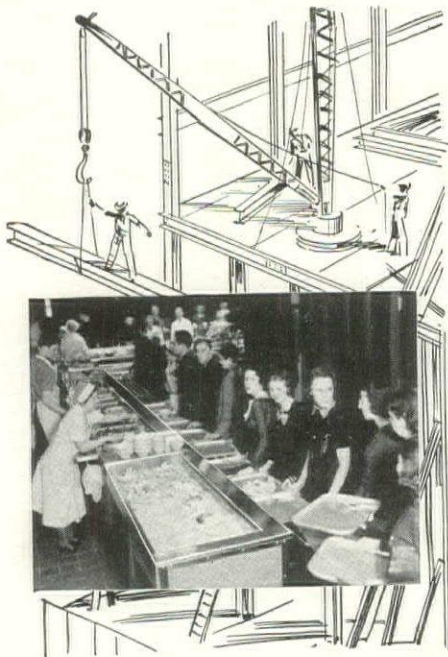
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PLANNING ENGINEERING DESIGN

IT IS just as important that the food service departments are properly designed and definitely specified as it is to engineer the structure itself to withstand the loads and stresses to which it will be subjected. The installation of food service equipment requires the coordination of steam fitting, plumbing, electrical work, ventilation. In this, John Van engineers can be of great assistance.

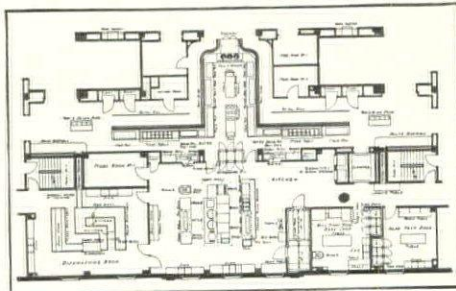
LEADING ARCHITECTS realize the importance of such problems as proper allocation of departments, relative areas, provision for service lines, and use of proper materials, and include such data in the early planning stage.

Have you such a problem on the boards?

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

328 EGGLESTON AVE., CINCINNATI, OHIO



FORUM OF EVENTS

(Continued from page 38)

DEATHS

CARL FRELINGHUYSEN GOULD, 65, architect, in Seattle, Wash. Mr. Gould was born in New York, was graduated from Phillips Academy at Exeter in 1894, from Harvard in 1898, and studied afterwards at the Ecole in Paris. After a term in the office of McKim, Mead & White, he was associated for a few years with George B. Post in charge of the Wisconsin State Capitol Competition, and later as assistant to D. H. Burnham in developing the San Francisco Plan. In 1906-07 he practiced in New York as a member of Carpenter, Blair & Gould. Moving to Seattle in 1914, he was associated with Charles H. Bebb (Bebb & Gould). He established the Department of Architecture in the University of Washington in 1914, and acted as the professor in charge until 1926. Mr. Gould was a Fellow of the A.I.A., a former president of the Washington State Chapter, of the Art Institute of Seattle, of the Architectural League of the Pacific Coast; member of the Society of Beaux-Arts Architects, a director of the American Civic Association.

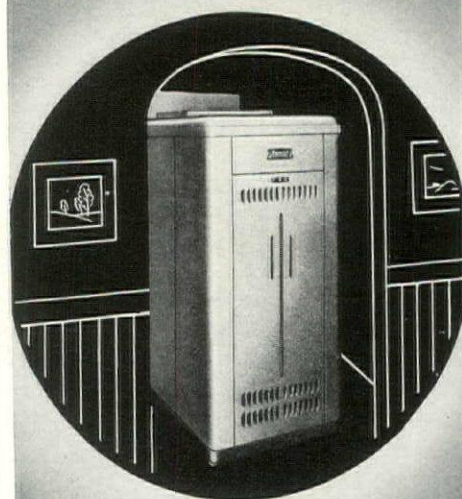
HAROLD R. SHURTLEFF, 55, at Cambridge, Mass. Mr. Shurtleff had been associated with various architectural offices, among them Guy Lowell and Warren & Wetmore. In 1928 he was named director of the Architectural Research Department of Perry, Shaw & Hepburn, and was largely responsible for the strict authenticity maintained in the restoration of Williamsburg. Harvard awarded him last year the degree of Master of Arts.

MORITZ KAHN, 58, civil engineer, suddenly, enroute from Detroit to New York. Mr. Kahn was a brother of Albert Kahn, and vice president of the firm, Albert Kahn, Inc. Born in Echternach, Luxembourg, Mr. Kahn came to America in 1881, and received his technical education at the University of Michigan. He served an apprenticeship with the American Bridge Co. and the Trussed Concrete Steel Co., being sent by the latter company to London in 1905 to organize a British branch. Of this he served as managing director from 1906 to 1923, when he returned to join his brother's firm. One of Mr. Kahn's important assignments came in 1930 when he went to Soviet Russia to supervise the building of a tractor plant in Stalingrad. Mr. Kahn was credited with many inventions in the construction field, among them hollow concrete piles, a form of steel sash, steel tile floor construction, and precast reinforced concrete ships. The last named was adopted by the British Admiralty during the World War.

MONCRIEF

winter

AIR CONDITIONERS



make homes modern

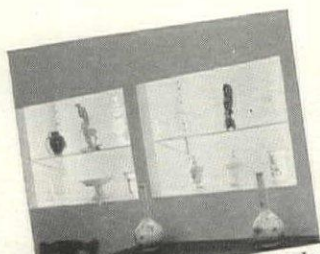
MONCRIEF Winter Air Conditioners contribute more than any other factor to make homes modern—for this year and for the years to come. In addition, Moncrief Winter Air Conditioning makes a house immediately more saleable, with a higher re-sale value for the future.

Moncrief Winter Air Conditioners—for gas, coal, or oil—include the very latest improvements, together with exclusive Moncrief features, such as the patented wind box, the Moncrief system of baffles, combustion drums, etc. Every Moncrief unit has been re-styled and re-engineered so that it stands in the very forefront in appearance, efficiency and economy of operation.

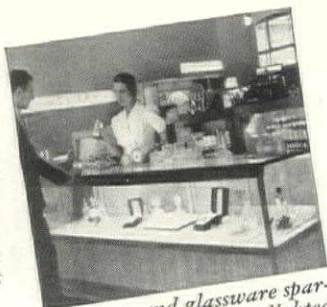
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Write for
illustrated literature
and data sheets.
★

Moncrief Engineering Service is freely available for estimating and laying out plans.

THE HENRY FURNACE & FOUNDRY CO.
3485 E. 49th Street Cleveland, Ohio



Kaufman's in Pittsburgh lights display niches with daylight fluorescent MAZDA lamps.

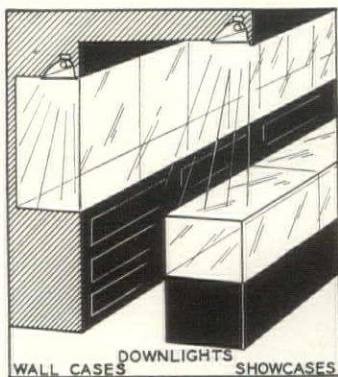


Perfumes and glassware sparkle in this fluorescent-lighted case at Linder Coy, Cleveland.

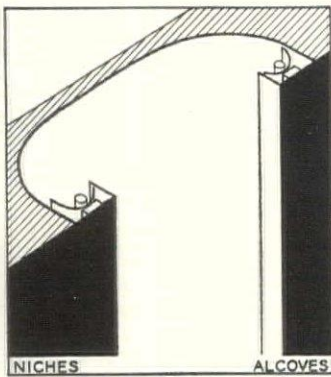


Roos Brothers' San Francisco store uses both fluorescent and incandescent lamps.

How Architects are using THE NEW G-E FLUORESCENT MAZDA LAMPS for INDOOR DAYLIGHT effects

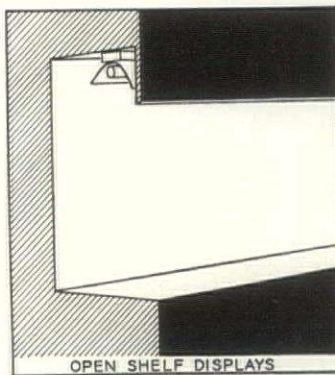


WALL CASES DOWNLIGHTS SHOWCASES

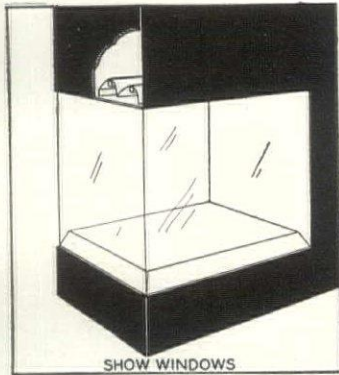


NICHES ALCOVES

The two sketches shown above indicate several places where fluorescent lamps can be effectively used to give new display value to merchandise.



OPEN SHELF DISPLAYS

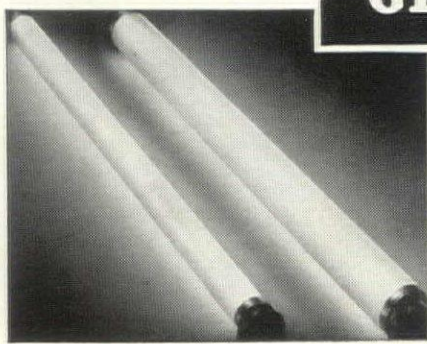


SHOW WINDOWS

The sketches shown above illustrate how fluorescent lamps can be installed to provide ample lighting for open shelf displays and show windows.

• • •

G-E Fluorescent MAZDA lamps are available in 18, 24, and 36-inch lengths and in several wattages. Because they are essentially arc lamps, they require special control equipment which is available.



ARCHITECTS are discovering the extreme flexibility of the new G-E Fluorescent MAZDA lamps for building "indoor daylight" and colored lighting effects into stores, shops, theatres, factories, and many other places.

These are the lamps that give from 3 to 200 times more light than incandescent lamps of the same wattage and color . . . and that are 50% cooler for the same amount of light.

The daylight Fluorescent lamp gives the closest approach to real daylight ever produced at high efficiency. In their range of live colors—red, green, gold, pink, blue, and warm white—they also offer wide opportunity for decorative effects. Tubular in shape, fluorescent lamps lend themselves to most forms of modern architectural design, and provide a linear distribution of light at maximum efficiency.

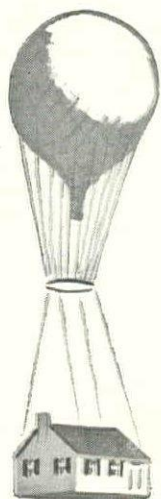
For further information, write to General Electric Company, Dept. 166-AF-B, Nela Park, Cleveland, Ohio, or mail the coupon below.

TEAR OUT COUPON FOR USEFUL INFORMATION

GENERAL ELECTRIC

General Electric Co., Dept. 166-AF-B,
Nela Park, Cleveland, Ohio.
Send me, without obligation, new free booklet giving
information about G-E Fluorescent MAZDA lamps.

Name.....
Company.....
Street.....
City..... State.....



TRIAL BALLOONS OFTEN BURST

Your typical architect is complex — an open minded progressive and a cautious conservative combined in one and the same man. A progressive — because he looks with an interested eye and an inquiring mind on new methods, new materials, new trends in design. A conservative — because he waits until he receives conclusive proof that the new way is a better way. He refuses to attach his clients' houses to trial balloons.

Paint is a product which architects have learned to consider carefully. Through experience they have found out that the durability of a paint cannot be demonstrated in a few short years. A paint has not proved itself thoroughly until it has stood up not only as a first painting but also under successive repaintings.

Dutch Boy White-Lead has long since passed the trial balloon stage. Anyone with any questions about Dutch Boy will find them answered by millions of successful paint jobs. No paint made anywhere has ever given a more convincing demonstration of complete dependability.

By specifying Dutch Boy White-Lead you secure that combination of beauty and durability which is a fundamental objective of good architecture.

NATIONAL LEAD COMPANY
111 Broadway, New York; 116 Oak St., Buffalo; 900 West 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Philadelphia.

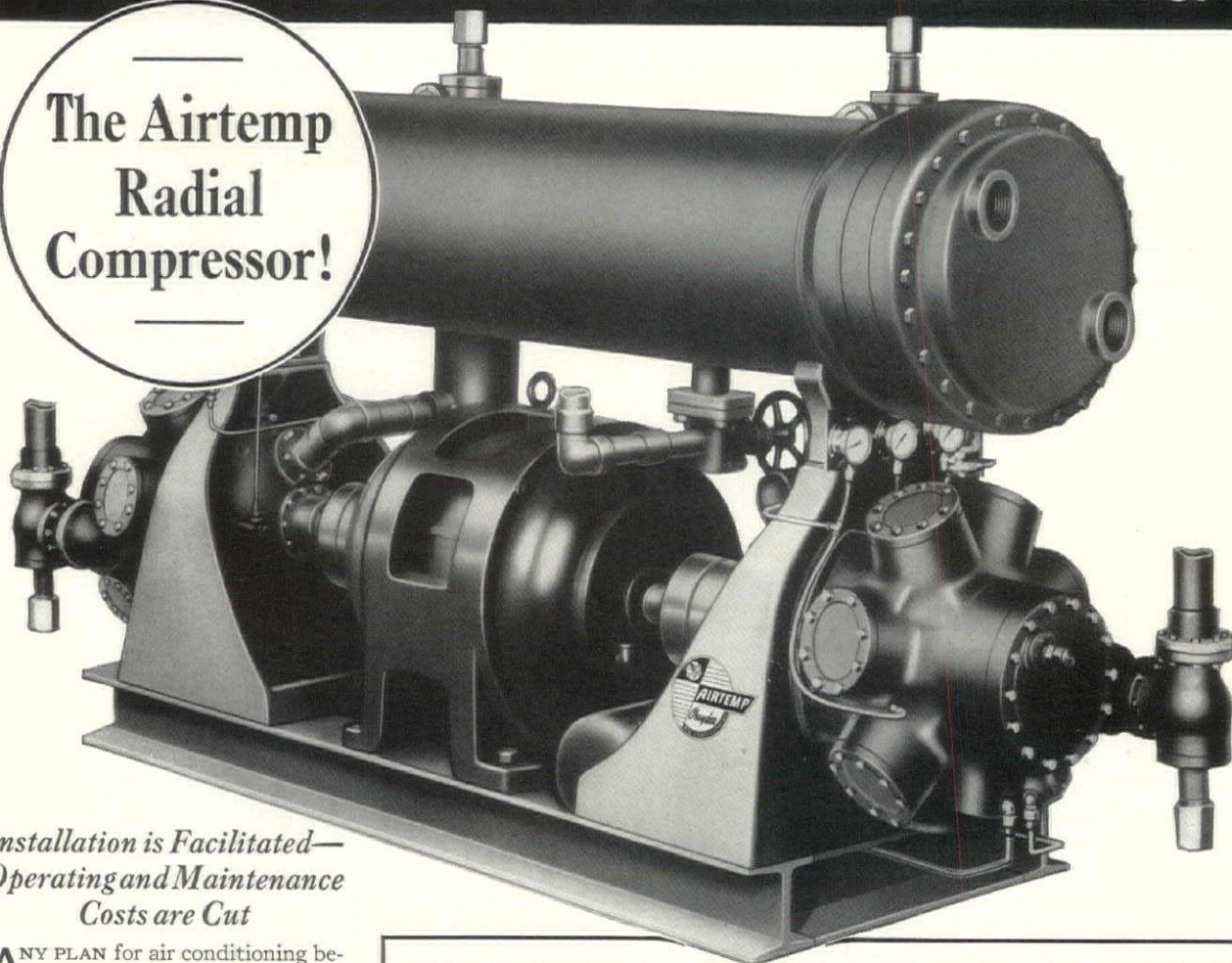


DUTCH BOY WHITE-LEAD

Good Paint's Other Name

SO FLEXIBLE IT SIMPLIFIES ANY PLAN FOR AIR CONDITIONING

The Airtemp Radial Compressor!



*Installation is Facilitated—
Operating and Maintenance
Costs are Cut*

ANY PLAN for air conditioning becomes simpler with the Airtemp Radial Compressor. Compressor, motor and condenser form a self-contained unit. Less bulk, lighter weight and absence of vibration greatly simplify installation.

Engineered especially for air conditioning, this compressor meets varying load conditions with greatest efficiency.

Know what is newest in air conditioning. Write today for details on Airtemp's Radial Compressor.

LOOK AT THESE FEATURES AIRTEMP GIVES YOU!

Automatic Capacity Regulation—keeps machine balanced to varying load requirements while running at constant speed.

Unloaded Starting—automatic cylinder unloading permits starting under no load.

Direct Connected—operates at standard motor speeds. Belts and flywheel eliminated.

Simplified Installation—shipped completely assembled.

Compact Design—the compressor, motor and condenser occupy the least possible floor area. Can be taken through a 30" doorway.

Practically No Vibration—an inherent characteristic of radial design.

Short crankshaft with common crank-pin permits the perfect balance of all moving parts.

No Special Foundations Needed—can be located close to its load.

Interchangeable Parts—pistons, valves, cylinder liners and other parts are interchangeable in all units.

Long Life—finest of alloy metals are selected for durability. Forced-feed lubrication to all moving parts assures long life.

Economy—large gas passages, large valves and ports, and low friction insure low operating costs at all loads.

AIRTEMP

DAYTON, OHIO

DIVISION OF CHRYSLER CORPORATION

AIRTEMP—Dayton, Ohio

AP-2

Gentlemen: Please send booklet describing the new Airtemp Radial Compressor.

Name _____

Address _____

IF YOU COULD ONLY TALK TO YOUR FUTURE TENANTS TODAY . . .

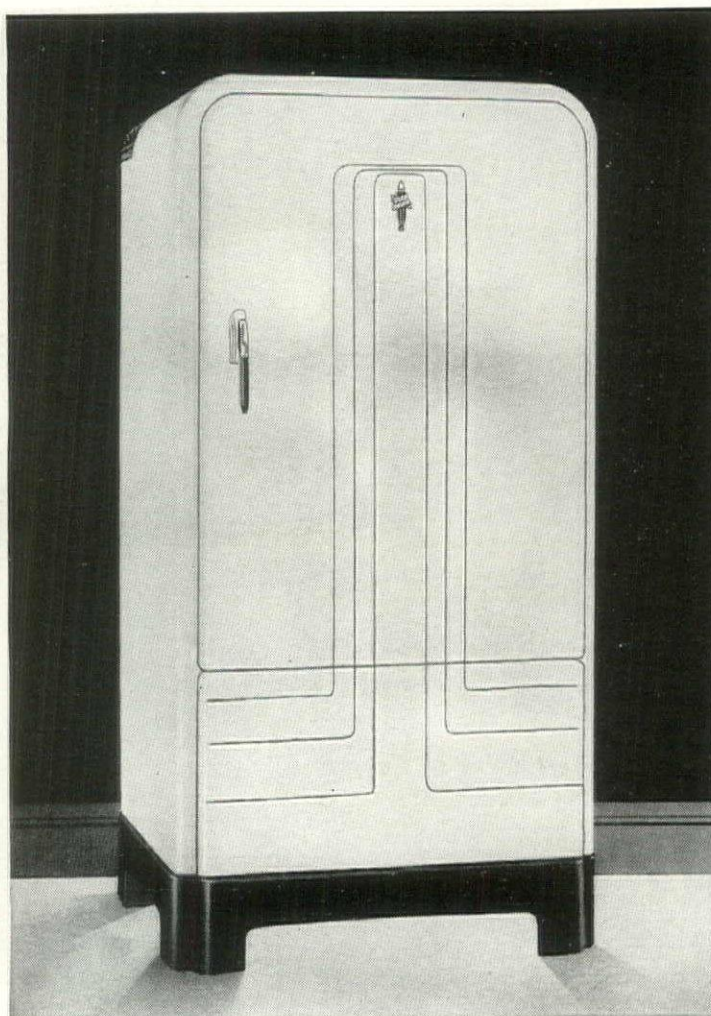
They'd say, "Give us gas refrigeration!"

► "I derive more pleasure and satisfaction from Servel Electrolux than I have found in other makes of refrigeration. Its noiseless operation and the low cost of upkeep make it most outstanding in my estimation." —Miss Linda Brown, 325 So. Witmer Street, Los Angeles, California.



TENANTS AND BUILDERS AGREE

► "As a builder of apartment houses, and having had experience with various kinds of automatic refrigeration, I have become convinced that Servel Electrolux gas refrigerators are best. Tenants like their silent dependability." —S. E. Henderson, 304 S. W. 6th, Portland, Ore.



The
SERVEL
ELECTROLUX
Gas Refrigerator

Different from all others . . .

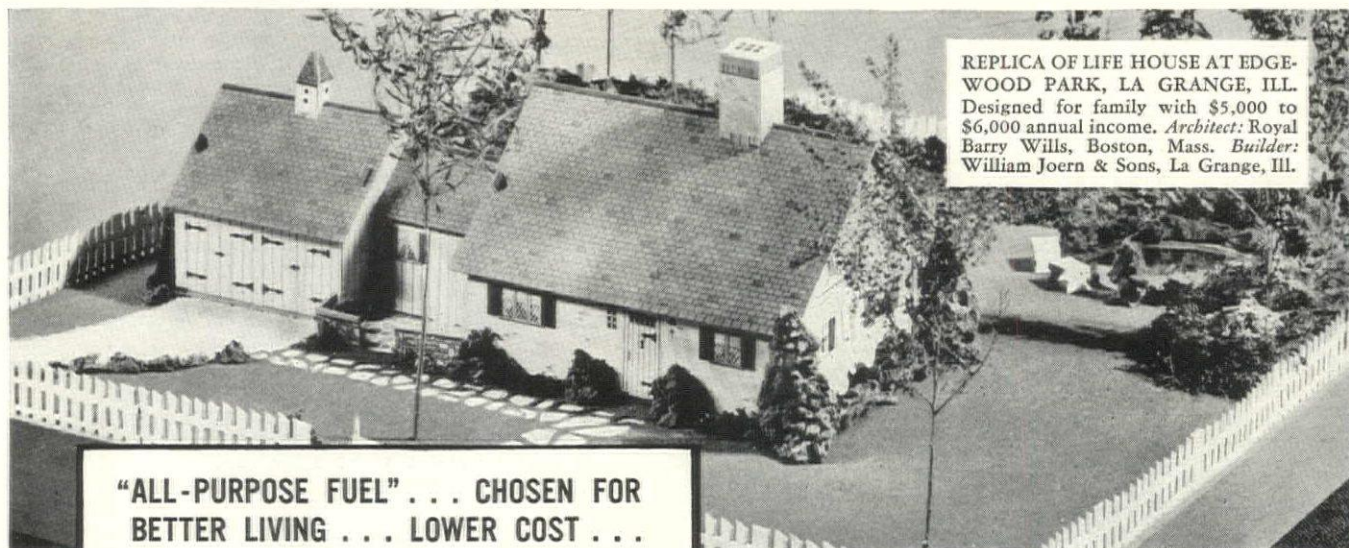
Servel Electrolux is the *only* automatic refrigerator that offers tenants and builders *all* these advantages.

- NO MOVING PARTS IN ITS FREEZING SYSTEM
- PERMANENT SILENCE
- CONTINUED LOW OPERATING COST
- MORE YEARS OF CAREFREE SERVICE
- SAVINGS THAT PAY FOR IT

In New York City Alone, More Than 150,000 Servel Electrolux from 6 to 12 Years Old Are Still in Service!

SPECIFY THE REFRIGERATOR THEY HEAR ABOUT • BUT NEVER HEAR

ANOTHER **LIFE** HOME USES **GAS** FOR THE **4** BIG JOBS



REPLICA OF LIFE HOUSE AT EDGEWOOD PARK, LA GRANGE, ILL. Designed for family with \$5,000 to \$6,000 annual income. *Architect:* Royal Barry Wills, Boston, Mass. *Builder:* William Joern & Sons, La Grange, Ill.

"ALL-PURPOSE FUEL" . . . CHOSEN FOR BETTER LIVING . . . LOWER COST . . .

When you're trying to make every dollar do "double-duty," you'll find gas saves money all along the line.

You save on the cost of the appliances and on installation, too. The cleanliness and efficiency of this *flexible* fuel permit centralization of major housekeeping equipment. Thus, you can devote more space and money to *living* area.

Compare the new gas appliances with *all others*, and you'll understand why home-buyers now prefer "gas for the 4 big jobs."

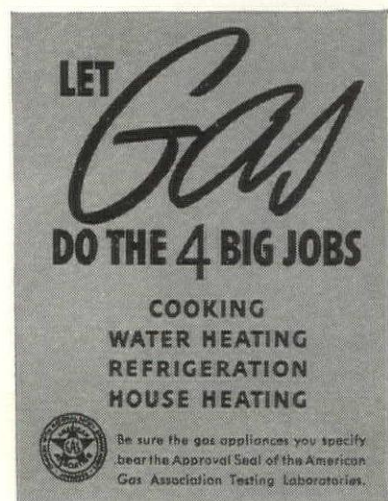
Consult your local gas company for full information about the latest gas appliances.

AMERICAN GAS ASSOCIATION

NOW BUILD AN ALL-GAS HOME \$10,000 IN PRIZES FOR BUILDERS AND ARCHITECTS

All types of homes, new or modernized, are eligible for big prizes. Simple rules. Worth your while!

MAIL ENTRY COUPON NOW!



Competition Director,
American Gas Association, 420 Lexington Ave., N.Y. C.

Date _____

Last Name _____ First _____ State _____
(Please print)

Address _____ City _____

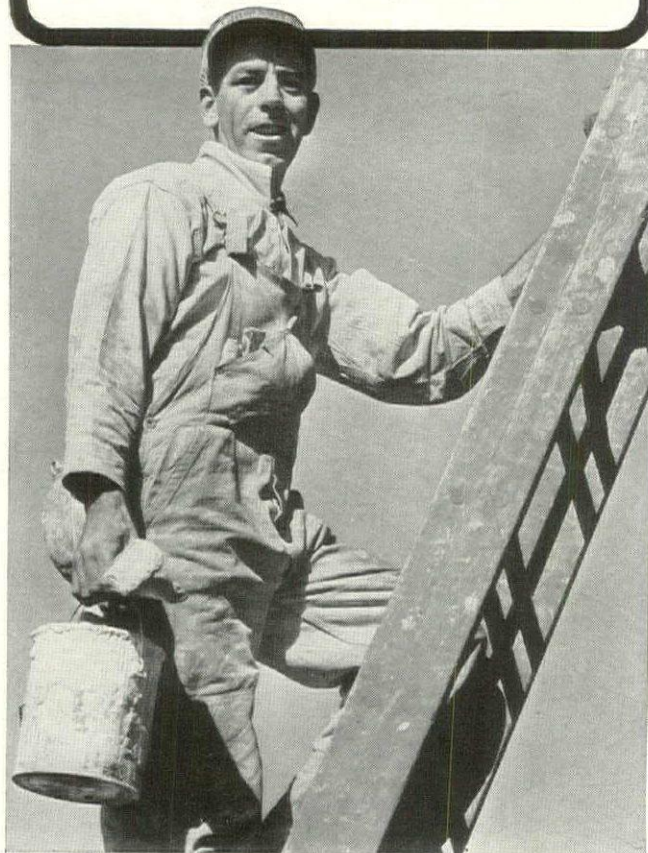
I wish to enter A.G.A. Builders' Competition. I am a builder ☐

Note: Architects or designers may enter homes in this } Architect ☐
contest with the written permission of the builder. } Designer ☐

Kindly forward complete details.

Signature _____

**FOR PAINTING SECOND-HAND
BRICK YOU CAN'T BEAT
THIS NEW TEAM OF
BONDEx AND
BONDEx-PRIMER!**



The amazing effectiveness of Bondex-Primer in preparing all kinds of masonry surface (painted or unpainted; porous or non-porous) for Bondex is shown on jobs where second-hand brick is used.

Everyone knows how "black-heads" show through and paint peels off this used material. It's good news that these dangers can now be ended by using first a coat of Bondex-Primer, followed by a coat of Bondex Waterproof Cement Paint. For full instructions send coupon below.

WANT FULL INFORMATION?... WRITE

THE REARDON CO.
2200 N. 2nd St., St. Louis, Mo.

Please send complete instructions for painting second-hand brick with the new Bondex-Primer.

Name

Address

City State

MAIN ST. (continued from p. 88)

BIBLIOGRAPHY OF STORE DESIGN

Space limitations preclude publishing a list of the numerous booklets issued by manufacturers whose products play an important part in Main Street. Readers who would like a file of such data may write to The Forum which will direct such requests to interested firms. Follows a list of major references including magazine articles on various aspects of store design, plan, equipment and modernization.

GENERAL: Planning, Design, and Techniques

Selecting Locations for Retail Stores. Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Ave., New York, 1936.

Equipment and Construction Directory. CHAIN STORE AGE, 90 Worth St., New York. Issued November 1937 and yearly, includes modernization data.

The Architecture of Merchandising. Jesse I. Straus. ARCH. FORUM, May 1933, pp 343-5. Also **Logic of Layout**, Kenneth C. Welch, same issue, pp 346-56.

Contemporary Art Applied to the Store and Its Display. Frederick Kiesler. Brentano's, New York, 1930.

Store Lighting. ARCH. FORUM, March 1938, p 18. General illumination, lighting for aisles, signs, counter tops, display cases, freestanding displays. Text, photographs, and diagrams.

Department Store Air Conditioning. HEATING, PIPING and AIR CONDITIONING, August 1938, pp 507-10. How one store reduced costs by careful planning.

Air Conditioning. Charles A. Fuller in collaboration with David Snow. Norman H. Henley Publishing Co., New York, 1938, pp 76-84, 467-87. Small store installation, load requirement, duct design.

Air Conditioning the Retail Store. H. L. Alt. ARCH. RECORD, Feb. 1938, pp 116-120.

Beauty Salons. ARCH. FORUM, May 1936, pp 407-12. Photographs, data sheet, plans and equipment details of three salons, two in department stores.

BOOK STORES

Planning Techniques for Book Stores. ARCH. FORUM, Sept. 1937, pp 187-196. Text, photographs, plans, equipment details.

DEPARTMENT STORES

Department Store Modernization. ARCH. RECORD, Feb. 1938, pp 121-131. Photographs and plans of large and small department stores.

Redesigning Department Stores. Lee Simonson. ARCH. FORUM, May 1933, pp 374-8.

DRUG STORES

Planning Techniques for Drug Stores. ARCH. FORUM, July 1937, pp 43-52. Text, photographs, plans.

Drug Store Planning. R. A. Fash. ARCH. RECORD, Feb. 1938, pp 109-111. Photographs, plans, equipment.

FOOD STORES

Modern Food Stores. C. W. Dipman. 2nd Edition 1936, 100 pp PROGRESSIVE GROCER, 161 Sixth Ave., New York.

Planning Techniques for Food Stores. ARCH. FORUM, Mar. 1938, pp 237-246. Text, photographs, plans, equipment details for all types of food stores.

Shopping Centers. B. Sumner Gruzen. ARCH. RECORD, Jan. 1937, pp 18-22, 39. Text, photographs, plans, elevations, equipment for supermarkets.

Supermarkets. M. M. Zimmerman. Super Market Pub. Co., 45 W. 45th St., New York, 1937. Reference data for trends and operation.

FURNITURE STORES

Furniture Store Modernization. National Retail Furniture Assn., 1937.

Planning Techniques for Furniture Stores (and furniture departments in department stores). ARCH. FORUM, Feb. 1938, pp 155-164. Text, photographs, and plans.

JEWELRY STORES

Jewelry Stores. Percival Goodman. ARCH. RECORD, Jan. 1937, pp 13-17. Text, photographs, plans, equipment details.

MEN'S STORES

Planning Techniques for Men's Shops. ARCH. FORUM, June 1938, pp 497-506. Photographs, plans, equipment for custom- and ready-made clothing stores.

Plan Fundamentals for the Men's Shop. Kenneth C. Welch. ARCH. RECORD, Aug. 1936 pp 151-56. Text, photographs, plans.

SHOE STORES

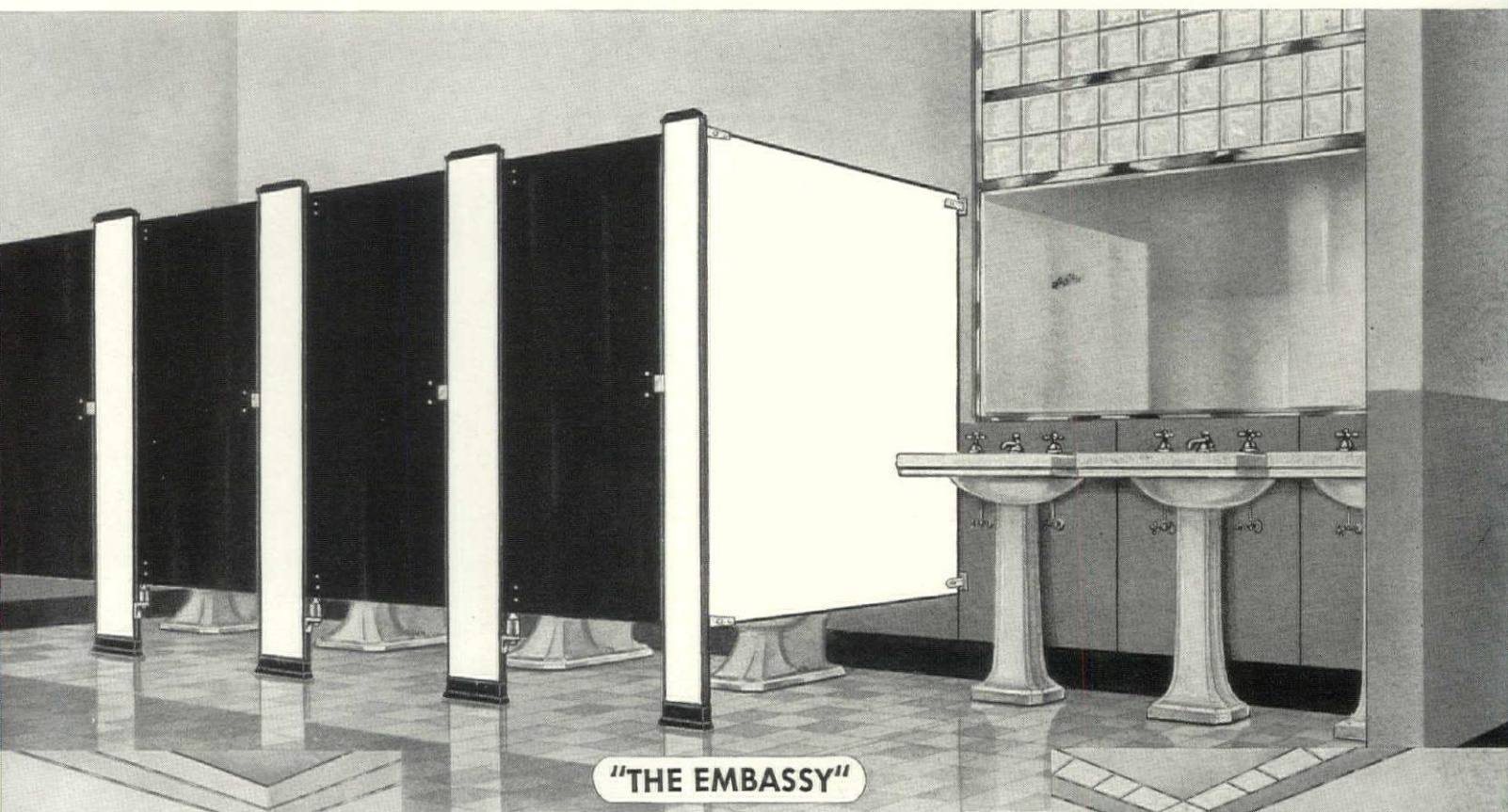
Planning Techniques for Shoe Stores. ARCH. FORUM, Mar. 1937, pp 185-196. Chain, independent, and department shoe stores. Text, photographs, sections, equipment details.

Modernization Issue. BOOT & SHOE RECORDER, 239 W. 39th St., New York, Dec. 1936.

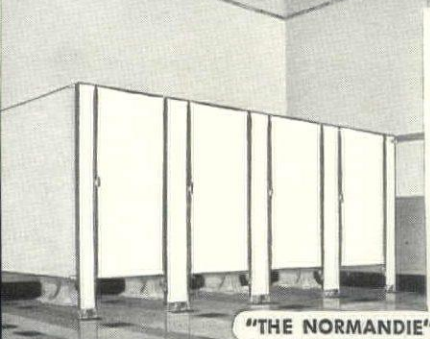
WOMEN'S APPAREL

Detail: for Specialty Shops. ARCH. RECORD, Feb. 1938, pp 103-8.

UNRESTRICTED FREEDOM IN CREATING MODERN TOILET ROOM ENVIRONMENTS



"THE EMBASSY"

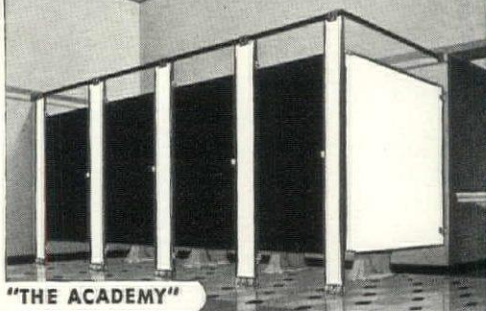


"THE NORMANDIE"

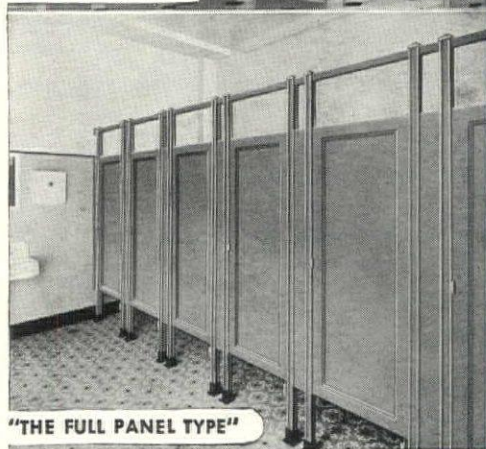


"THE FLUSH TYPE"

● With so many types of buildings and with each type requiring a different standard of convenience, the standardization of toilet room environments is unthinkable. The most suitable toilet room environment for a particular building can be created with utmost freedom from Sanymetal's five distinct types of toilet partitions...five types ranging from "The Embassy," with its classic beauty, to the always popular Flush Type, with its conservativeness emphasized by contrast with the modernity of "The Normandie" and "The Academy." Sound mechanical construction insures rigidity and promotes ease of installation. Finishes in either gleaming porcelain enamel—the ageless material—or baked-on paint enamel extend service life beyond the usual span of years. These features establish Sanymetal Toilet Partitions as the standard of comparison. The Sanymetal Representative in your vicinity, equipped with these five types of toilet partitions, can be most helpful in planning suitable toilet room environments. Consult him or write direct to the factory.



"THE ACADEMY"



"THE FULL PANEL TYPE"

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

Sanymetal
TOILET AND OFFICE PARTITIONS

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



YORK'S NEW SECTIONAL AIR CONDITIONING UNITS WON'T ASK YOU TO CHANGE YOUR PLANS!

The new high efficiency coil construction of York Sectional Air Conditioning Units keeps size and weight at an absolute minimum per unit of air conditioning capacity. A special feature is high temperature brazed return bend construction which meets all code requirements. Engineers agree that these new coils are a sensational development in themselves. But York didn't stop there . . .

York's new Sectional Air Conditioning Units . . . which are adaptable to all functions of year round air conditioning . . . are so amazingly flexible they can meet virtually any space requirement. They may be mounted on the floor, backed up to any wall or suspended from the ceiling . . . and the fan section is reversible in any direction, greatly simplifying duct design.

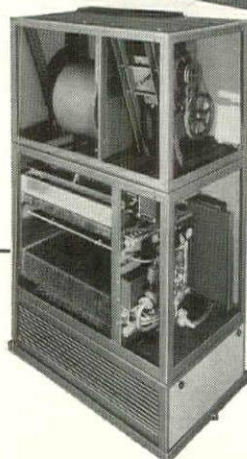
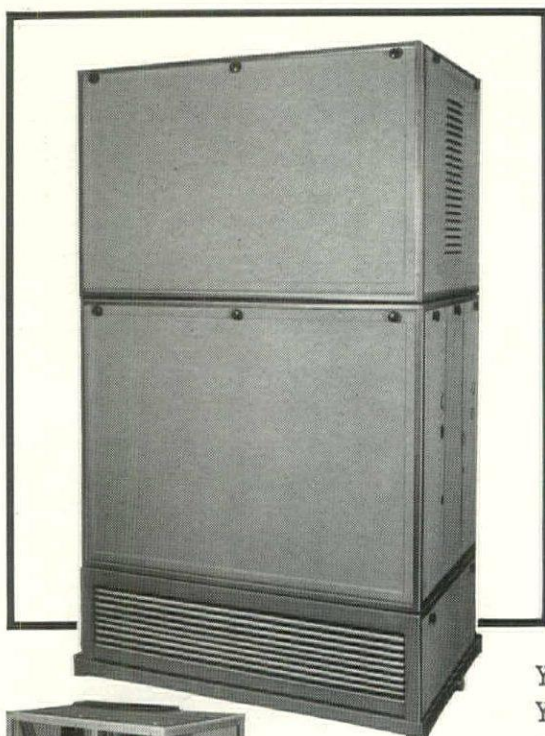
York Sectional Air Conditioning Units are available in a complete range of sizes . . .

from 5 to 35 tons capacity . . . and all can have "Auditorium by-pass" control. All motors and air by-pass equipment . . . which are readily accessible . . . are contained *within* the streamlined casing. Dark

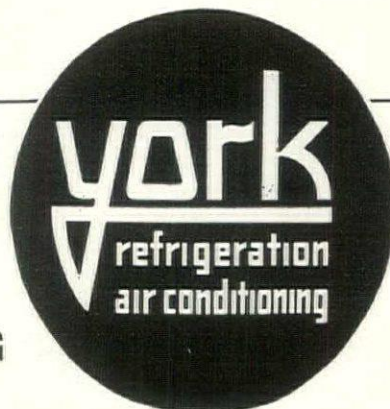
gray enamel frame and medium gray crinkle panels harmonize with finished interiors. Brass thumb knobs allow removal of panels without tools and servicing can take place from any side of unit. Scientific insulation and a special sound absorbing outlet insure quiet operation.

In addition to units for human comfort, York offers a complete line of Sectional Air Conditioning Units for industrial applications. For complete information look in the classified section of your phone book for the famous York Trade-Mark.

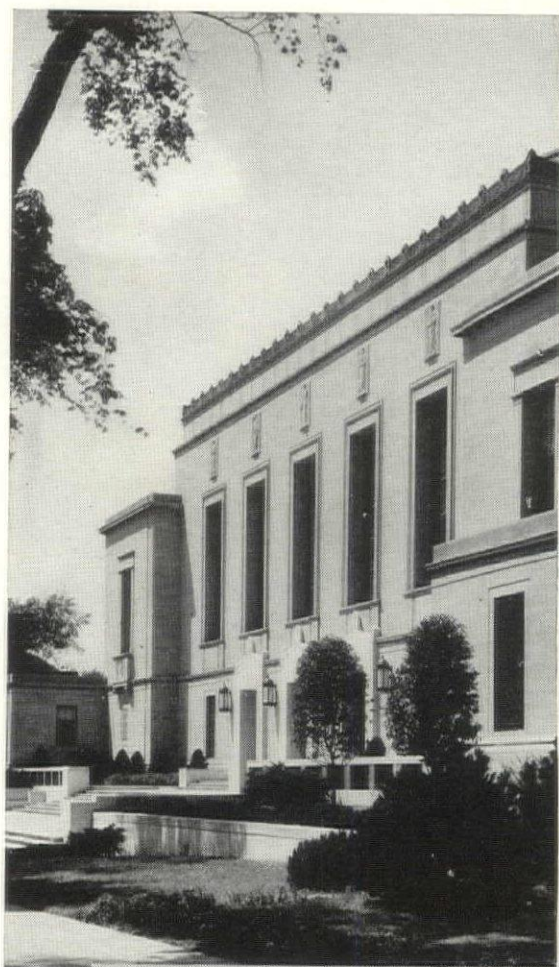
York Ice Machinery Corporation, York, Pa. Headquarters Branches and Distributors throughout the world.



HEADQUARTERS FOR MECHANICAL COOLING



SINCE 1885

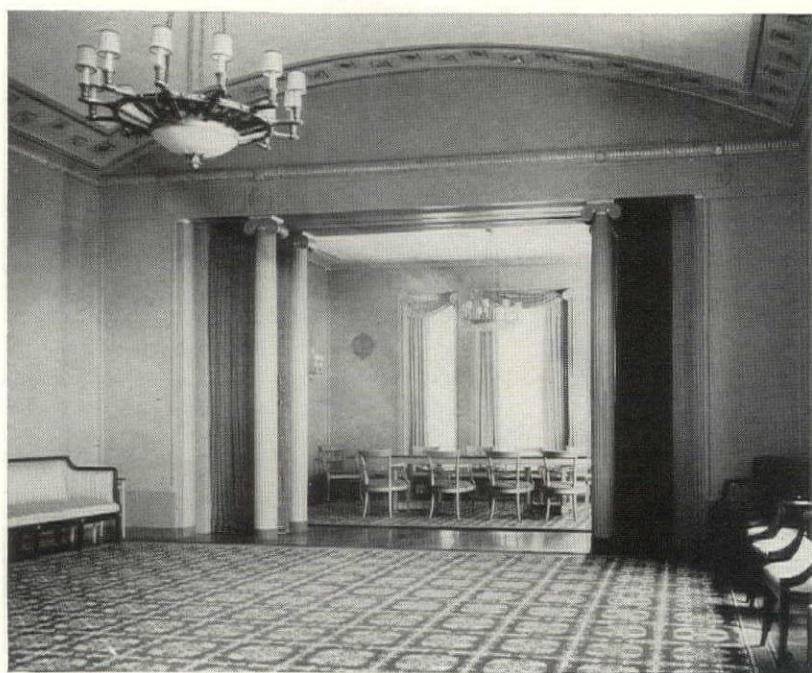


HORACE H. RACKHAM SCHOOL OF GRADUATE STUDIES

Architects and Engineers

SMITH, HINCHMAN & GRYLLS, INC.

CARPET COUNSEL *by* BIGELOW



One of the Bigelow Carpets in the Rackham School

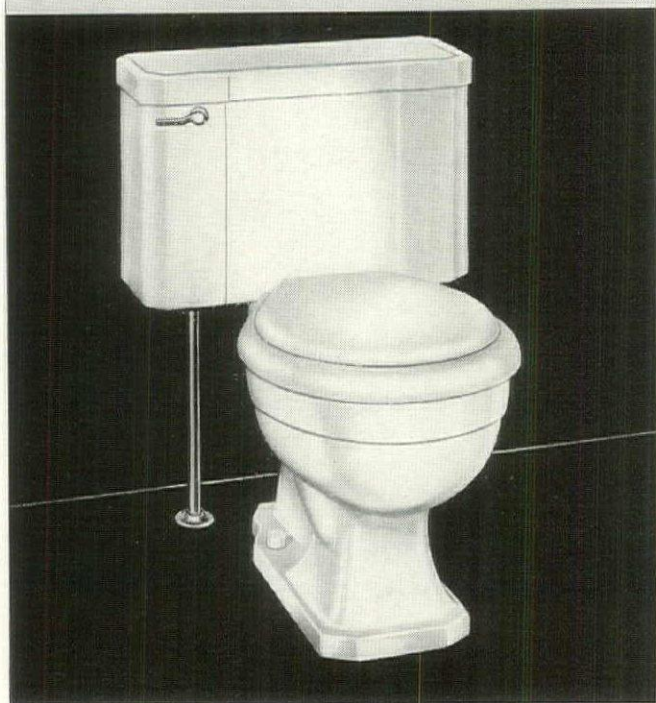
It was our privilege to work closely with the architects in creating and producing special floor-coverings for the magnificent new Rackham School of Graduate Studies at Ann Arbor, Michigan.

In speaking of this project Mr. W. E. Kapp, of Smith, Hinchman & Grylls, says: "The carpet requirements of this structure were unusual in design, color, high quality, and size, due to the nature of the building. The owners and ourselves took advantage of the counsel offered by the Bigelow Weavers at their Detroit and New York offices, and as a result of their splendid assistance from both a practical and decorative standpoint, we have a most satisfactory carpet installation."

Whatever your carpeting problem, you too will find Carpet Counsel well qualified to help you. Contract Department, Bigelow-Sanford Carpet Co., Inc., 140 Madison Avenue, New York.



Case points with
pride to the
**NEW CAMEL
WATER SAVER**



Here, at last, is a low priced water closet of advanced design—both in its fine appearance and splendid operation. It's just the fixture you've been looking for. Many of the features of far more expensive fixtures have been incorporated in the new Camel, yet it is properly priced for low cost houses or apartments. The paneled straight-front tank has a convenient shelf-cover. The reverse trap bowl is 14" high, and has a large bowl opening and water surface. Customers will welcome its powerful yet quiet action; and where economy of water is a factor, just bear in mind the Camel will operate on as little as 3½ gallons of water. Roughing in measurements 11" or greater. An important point is that the Camel is free standing and will not deface the wall. We present the Camel Water Saver with pride, and little wonder! For here is today's biggest advance in plumbing fixtures.

DISTRIBUTED THROUGH PLUMBING SUPPLY WHOLESALERS

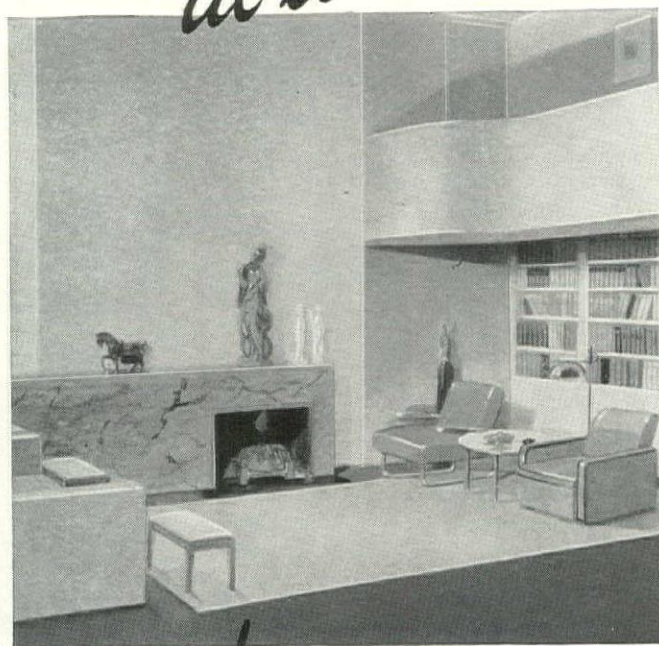


The Camel is sold and installed by master plumbers. On display at Case distributors everywhere. Names upon request. Write Dept. E-29 for complete information. W. A. Case & Son Mfg. Co., Buffalo, N. Y.

CASE

DISTINCTIVE PLUMBING FIXTURES

How to get interiors
that are bright, color-
ful, charming
at low cost!



Specify **TEXOLITE**

Texolite* is a development of modern paint chemistry—a paint with which you can secure *colorful, fine appearing, durable decoration* at a cost so low and at a speed so fast that it will astound you.

MOST JOBS—ONE COAT—One coat of Texolite will usually give superior coverage over most surfaces.

DRIES FAST—No need for you to have rooms out of order for a week when you decorate with Texolite. Under most conditions it dries in less than an hour.

ECONOMICAL—One gallon of Texolite usually covers from 500 to 700 square feet of finished plaster surface—more than the wall area of the average room.

WIDE COLOR RANGE—Texolite is available in a wide range of colors. It comes ready-mixed in 9 soft-hued pastels and 9 brilliant, deep colors. With the Texolite Deep Color Mixing Guide you can accurately secure and match over 40 other variations of these standard colors as well as the "dusty" colors so popular with interior decorators today.

Send today for the Texolite Deep Color Mixing Guide and the 40-page book "Modern Principles in Paint and Decoration"—and learn how you can save money on your next decorating job.

UNITED STATES GYPSUM COMPANY

AF-2

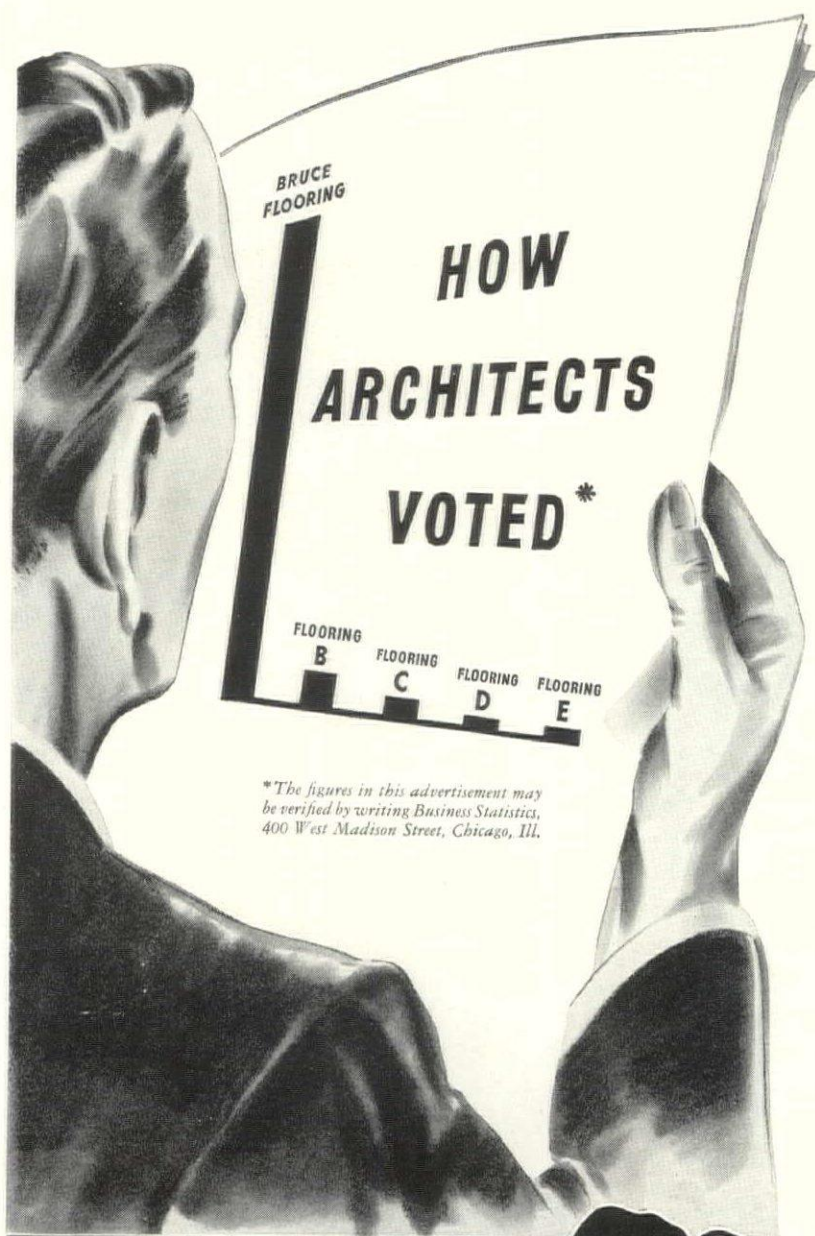
300 West Adams Street, Chicago

*Registered Trade-Mark



Architects vote BRUCE FLOORING FIRST

4 ⁷/₁₀ to 1 over all other brands!



● An independent research organization asked architects all over the country to indicate the brand of hardwood flooring they preferred to specify. 82.6% of those replying said *Bruce first!* And Bruce Flooring received 14 times as many votes as the next most popular brand! See the chart for details.

Architects expressed this preference for Bruce because they have found that Bruce means high quality and rigid uniformity of grade—that Bruce products are adapted to modern construction—that Bruce has a positive interest in proper specification and installation.

Check these other examples of Bruce preference!

● IN 1938—Bruce Flooring was specified for *Three Prize-Winning Houses* in A. G. A. competition. 79 of the architects in this competition specified "Bruce"—no other brand receiving more than 5 specifications.



IN 1938—*Eight out of thirteen* apartment projects reported by a leading architectural magazine were equipped with Bruce floors.



● IN 1938—*Over 15,000* homebuilders asked about Patterned Hardwood Floors of Bruce Finished Blocks.

Bruce offers you a complete line of flooring and lumber products. May we send you complete information? Just use the coupon.

E. L. BRUCE CO., Memphis, Tenn.

OTHER BRUCE PRODUCTS

HARDWOOD STRIP FLOORING • SOLID OAK FLOOR PLANKS • BRUCE FLOOR FINISHES • MOULDING AND TRIM • YELLOW PINE • SOUTHERN HARDWOOD • HARDWOOD DIMENSION • CEDA' LINE • BRUCE PRESERVATIVES • TERMINIX

THERE IS NO SUBSTITUTE FOR HARDWOOD FLOORS

BRUCE

LARGEST
MAKER OF
HARDWOOD
FLOORINGS

E. L. BRUCE CO., Dept. AF-2, Memphis, Tenn.

Please send me complete information on Bruce Products checked. (Check in product box at left.)

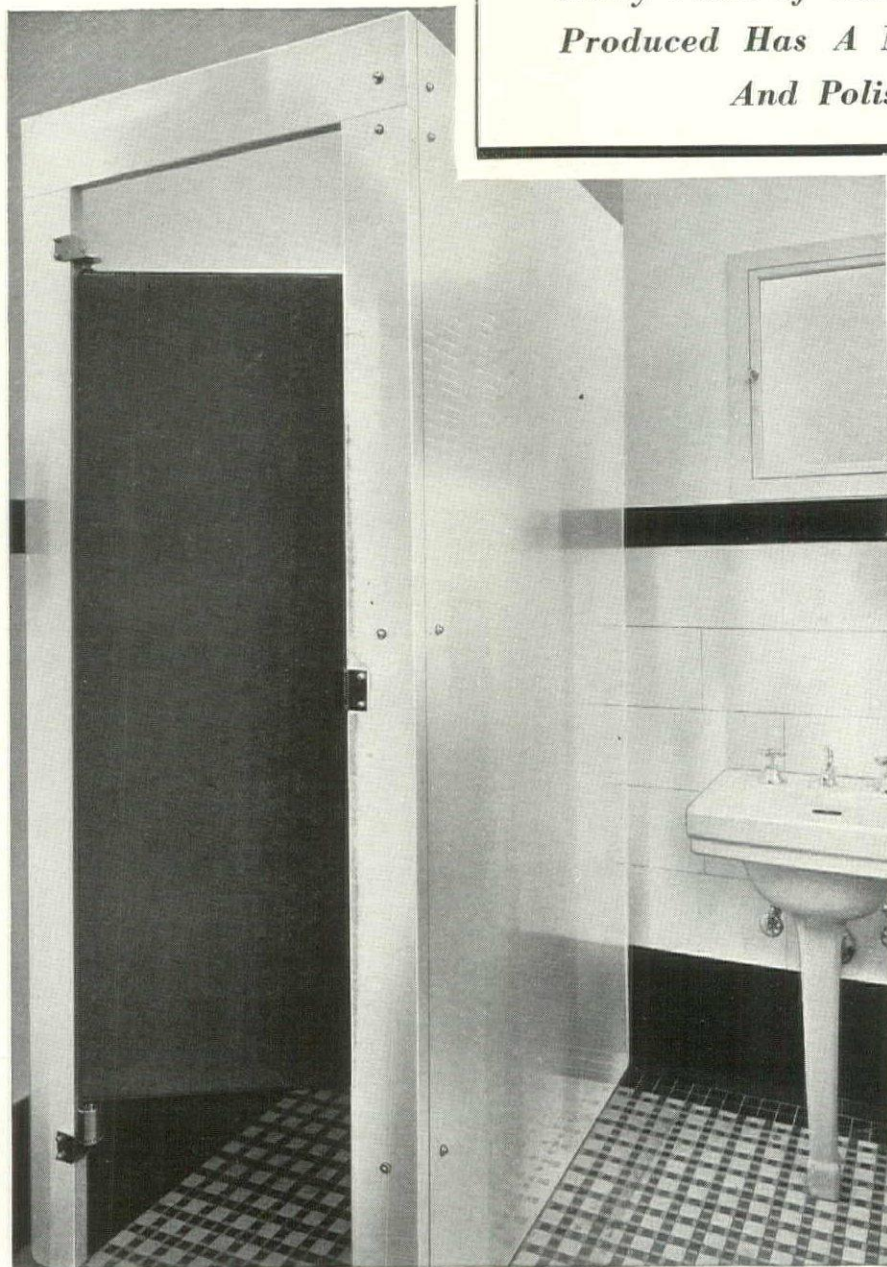
Name

Address

City State

"Carrara" Means Only One Type of Finish...the Best!

*Every Piece of Carrara Structural Glass
Produced Has A Mechanically Ground
And Polished Finish.*



A GROUND AND POLISHED FINISH means accurate reflections, eye-catching beauty. Notice how this toilet room of Carrara stamps the building as modern and desirable.

A MECHANICALLY ground and polished finish like that of the finest plate glass, identifies Carrara as a top-quality structural product. This finish gives Carrara unusual beauty, mirror-like reflectivity.

And Carrara possesses other vitally important advantages as well. For it will not check, stain or craze. Its vibrant color tones do not fade. It presents no maintenance problem. An occasional wiping with a damp cloth keeps Carrara always bright and sparkling. Essential, too, for buildings that must stay modern: it does not absorb odors. Toilet rooms of Carrara never betray a building's age.

This modern material serves exceptionally well for toilet room stiles and partitions, for wainscoting . . . for countless practical and decorative uses. An expanse of Carrara, strategically placed, gives dignity, beauty, tenant appeal to any building. And in all its varied thicknesses, Carrara offers the same qualities. Every piece assures permanence, accurate reflectivity and low-cost maintenance. Get all the facts. Send your request for our free booklet, "Carrara, the Modern Structural Glass," to the Pittsburgh Plate Glass Company, 2102-9 Grant Building, Pittsburgh, Pa.

Distributed by

PITTSBURGH PLATE GLASS COMPANY

and by W. P. Fuller & Co. on the Pacific Coast

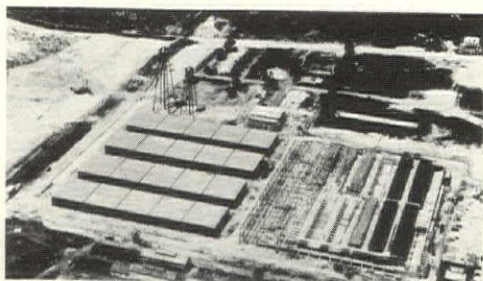


WHAT EXCUSE DO substitutes

FOR LUMBER NOW HAVE?

Today Wolmanized Lumber* is the recognized material for enduring, economical construction!

Whether you are planning a \$5000 house, a mansion, or industrial construction, Wolmanized Lumber now does what you have always wished ordinary lumber would do — it endures. Treatment applied under close laboratory supervision protects against damage by decay and termites. The product is clean, dry, paintable lumber which is easy to



E. G. 1,200,000 feet of Wolmanized roof and floor plank was used in this textile mill to forestall rot due to high humidities. Ludlow Mfg. & Sales Co., Edge Moor, Del., Chas. T. Main, Inc., consulting engineers. A. Y. Hodgdon and R. I. McCorkindale (Ludlow Mfg. Associates), specifying engineers.

handle. Wolmanized Lumber is used only at "danger" points, where decay-fostering moisture can cause damage. In residences this means joists, sills, and sub-floors, for effective protection which adds less than 2% to the total cost of the house. Ask us to send file data, especially prepared for professional use. **AMERICAN LUMBER & TREATING COMPANY,** 1425 Old Colony Bldg., Chicago.

*Registered Trade-mark

WOLMANIZED LUMBER

LUMBER FOR ENDURING, ECONOMICAL CONSTRUCTION



LETTERS

(Continued from page 30)

of the other architects interested in residential work and their experiences are like mine.

... Please understand that I have no feeling against the so-called Modern Style, only a curiosity as to why architectural magazines seem to push this type of work when practically all the houses being built seem to be something else. Look through the . . . advertising pages of our metropolitan newspapers and note the type of house most people seem to want and buy. Some of these small houses are pretty poor in design but I have seen many that are very good, convenient, well designed, making a good use of materials and with all the earmarks of a pleasant home. Are they wrong or are the architectural magazines wrong? From the sidelines it looks to me as if the magazines were trying to change the homes of the people much in the same way the crowd in Washington is trying to force us into a better life, whatever that is.

Here are some of the objections clients have to the Modern type of house: "Who wants to shovel the snow off the flat roof houses and after all who wants to sit on the roof when it's hot? A porch or a terrace near the ground level would be much more pleasant and cooler. The roof terrace can-

not be screened and who wants to sit in unscreened places in most localities where the mosquitoes come out at dusk? Who wants a square box anyway?" Another said, "I like to buy shoes in one of those shops and eat in one of those restaurants but live in such a place, never."

We will all agree the Modern Style has greatly benefitted the design of office buildings, factory buildings and business buildings of all kinds. No more piling one order on another, no more fat swags and plenty of goulash to cover up deficiencies in the designers' minds. The Modern Style has stopped that but it doesn't seem to be the cure-all its devotees seem to think when it comes to the homes of the average American. He (the owner) may be wrong but after all he has to live in the house. Is he wrong?

CHARLES S. KEEFE

Kingston, N. Y.

THE FORUM publishes modern houses because they are new, because satisfactory solutions are now appearing in numbers, and because in this period when the modern movement is in its formulative stage there is every reason to report developments adequately. Flat roofs, no screens and square boxes do not a modern house make. Latest index of the public's acceptance: 42 per cent of the votes in the "LIFE House" poll favored modern designs. Latest index of professional acceptance: 62 per cent of the votes in a recent FORUM subscriber survey pronounced modern "here to stay." Actually during 1938 THE FORUM published twice as many traditional as modern houses.—Ed.

Contractor Credit Forum:

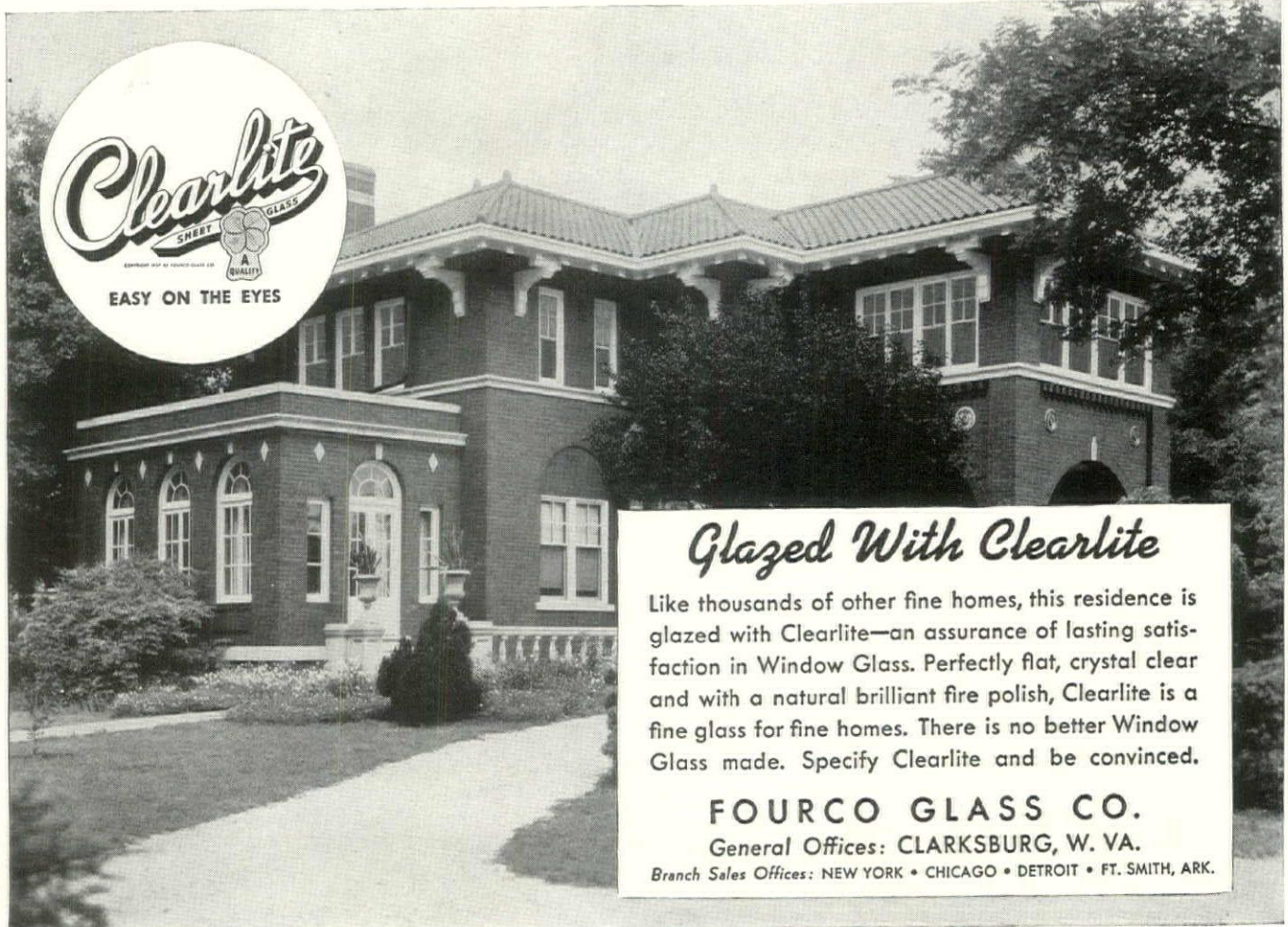
The December issue of ARCHITECTURAL FORUM interested me, principally because I have what I think is a just kick to register. You illustrate very beautifully and describe in detail the apartment house at 25 East 83rd Street. In accordance with the usual magazine editorial policy you give credit to the architects, you mention the mechanical engineer and then you go into such minutia as exhaust fans, insulation material, pipe drainage and name the manufacturers thereof. Nowhere can I find that the Turner Construction Co., were the general contractors of this job.

At a Directors' meeting in Chicago last week an architect was present and started to talk about this apartment. He said he would have liked to have known that we did it but how could he know it if you editorial fellows refuse to give the general contractors any credit for their part in building a building such as this as successfully as it was built.

J. P. H. PERRY

Turner Construction Co.
New York, N. Y.

Justly rebuked for failure to give credit where credit is due, THE FORUM's Editors will mend their ways, in the future will cite general contractors on all major buildings published. Unversed in advertising matters as FORUM Editors are, they nonetheless suspect that Builder Turner might well consider a program in this journal as an economic and effective means of not being overlooked, eh Mr. Perry?



Glazed With Clearlite

Like thousands of other fine homes, this residence is glazed with Clearlite—an assurance of lasting satisfaction in Window Glass. Perfectly flat, crystal clear and with a natural brilliant fire polish, Clearlite is a fine glass for fine homes. There is no better Window Glass made. Specify Clearlite and be convinced.

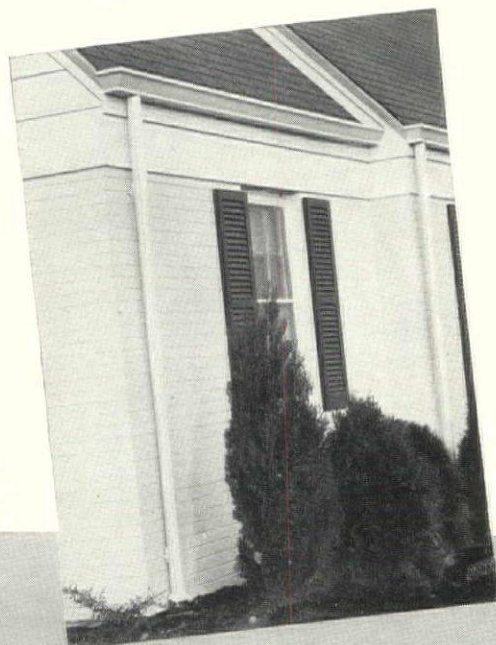
FOURCO GLASS CO.

General Offices: CLARKSBURG, W. VA.

Branch Sales Offices: NEW YORK • CHICAGO • DETROIT • FT. SMITH, ARK.

This roof drainage means **LOW UP-KEEP**

for the owners



Orval E. Williamson, of Indianapolis, is the architect, and Gregory & Appel, Inc., is the builder of this charming colonial residence. Sheet metal work by Midwest Heating and Service Co., Indianapolis, Ind.

NO OWNER of a new house likes the unexpected expense of repainting roof drainage to ward off deterioration. You can save your clients this maintenance cost by specifying that gutters, downspouts and flashing be made of galvanized Armco PAINTGRIP* Sheets. Exposed duct work is another good use.

Armco PAINTGRIP has a special neutral film that keeps the paint from coming into direct contact with the zinc, thus preventing the zinc compounds from drying out the paint. This definitely prolongs paint life. Also, this film takes paint immediately without acid-etching or weathering (a process which destroys part of the protective zinc coating).

Home builders looking ahead to up-keep costs will appreciate the benefits of Armco PAINTGRIP. Write

for a copy of our new folder, especially prepared for architects and builders. . . . The American Rolling Mill Company, 311 Curtis Street, Middletown, Ohio.

*A special Bonderized finish.

Listen to the Armco Band over N. B. C. every Sunday afternoon, coast to coast. This program ushers in the 25th ANNIVERSARY YEAR of Armco national advertising.

Write for free set of Armco architectural data pages prepared by Don Graf—20 pages of loose-leaf, Lefax-size sheets, containing information on ARMCO Ingot Iron, Armco Stainless Steels and Armco galvanized PAINTGRIP roofing and roof-drainage applications.

ARMCO PAINTGRIP SHEETS

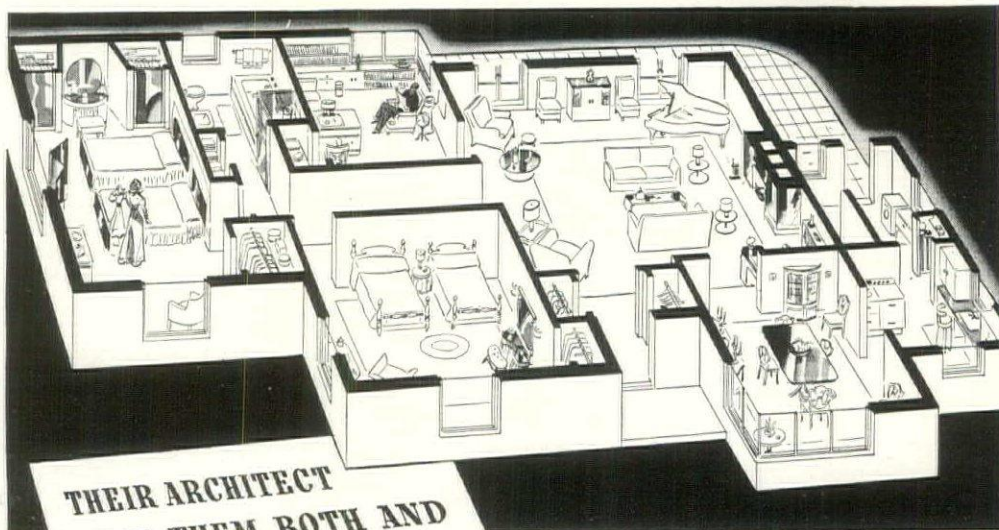


She

WANTED BIG CLOSETS ...

he

WANTED A DEN ...



**THEIR ARCHITECT
GAVE THEM BOTH AND
MUCH MORE BESIDES**

She, and her husband, had planned and replanned this home for years. Always in her subconscious mind, a voice kept repeating, "I want big closet space."

Heaven to her, was full of ample closets . . . wide, spacious shelves, broad drawers, row on row of coat hangers and hat holders . . . and a full-length mirror on the door.

He wanted a sanctuary . . . a den.

The skilled guidance of their architect has made their

dream come true. And now, they have what they wanted, and more.

For, in this home of theirs, all through it, you'll find Glass in ample window spaces, "Window Conditioned" to reduce heating cost . . . Vitrolite Glass walls in kitchen and bath . . . mirrors, either clear polished plate or colored . . . a home that is thoroughly modern in beauty, brightness and comfort.

The best advice we can offer, to make your dreams come true, is this: Employ a competent architect, a capable builder, and, very important, use quality materials. All three represent a sound investment for sound building.

Libbey-Owens-Ford Glass Company, Toledo, Ohio.

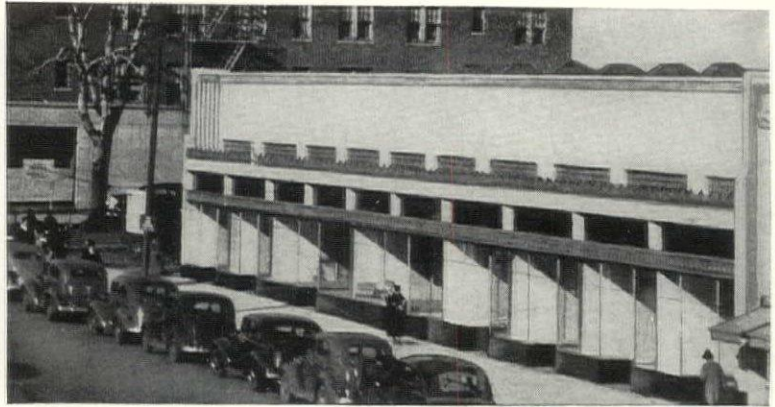
LIBBEY · OWENS · FORD  **QUALITY GLASS**

LOOK FOR THE LABEL

- *Here is another of a series of L-O-F advertisements to be continued this year in Time and Newsweek. Each advertisement will emphasize the value and the importance of the services rendered by the architectural profession.*



NEW YORK: U. S. Fidelity & Guarantee Co., Virginia Black Serpentine Spandrels; John H. Knubel, Architect.



A seven year old installation influenced the use of Virginia Black Serpentine bulkheads and panelling in this group of East Orange, N. J., shops.

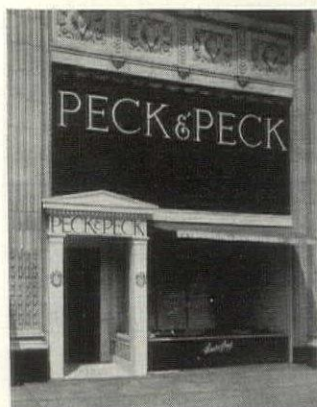
Are you dressing-up your Main St. with these $\frac{7}{8}$ " THIN stone veneers?



BUFFALO: Segall Store, F. C. Backus, Architect, Virginia Black Serpentine door trim and bulkheads.



MONTREAL: Empire Life Building, Virginia Green Tremolite base.



E. ORANGE: Branch of Peck & Peck; Virginia Black Serpentine bulkheads and trim are used on these outstanding modern shops in several cities.



GRAND RAPIDS: Central Bank of Grand Rapids; entire exterior facing; Knecht, McCarthy & Thebaud, Inc., Architects.

The dark stones from the Alberene quarries have become extremely popular for new construction, as well as for remodeling, on Main St., U. S. A. They meet the demand for dark exterior materials which can be installed at moderate cost and on which upkeep will be negligible. They polish naturally to a rich, deep satiny finish, not reflective or mirror-like. Having great toughness and density, facings, bulkheads and spandrel panels can be cut into sections as thin as $\frac{7}{8}$ ". The buildings shown on this page are typical examples of what can be accomplished at *moderate* cost.

A set of samples, conveniently boxed, showing the range of stone, including mottled dark blues and greens, from the Alberene quarries will be sent gladly. . . . Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York, N. Y. Quarries and Mills at Schuyler, Va. Sales offices in principal cities.



FROM THE ALBERENE QUARRIES

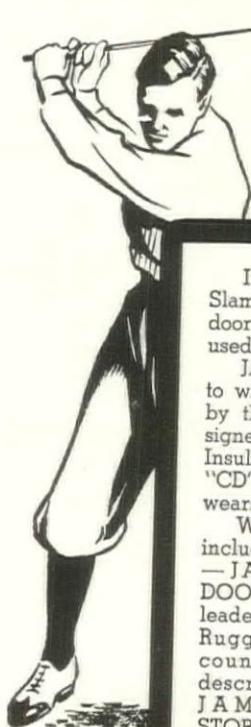
BACKED BY
A NATION-WIDE SALES INSTALLATION SERVICE

The
"OVERHEAD DOOR"

THE DOOR WITH THE
MIRACLE WEDGE

Manufactured by
OVERHEAD DOOR CORPORATION
HARTFORD CITY, INDIANA, U. S. A.

WRITE FOR FURTHER INFORMATION



**YOU CAN'T BE A
SISSY**

It takes a strong man to score a "Grand Slam" in golf, and it takes a strong cold storage door to be the leader in all fields where they're used.

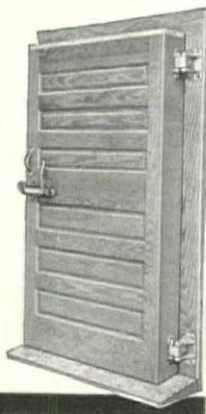
JAMISON-BUILT DOORS are constructed to withstand battering punishment and abuse by the he-men who use them. They're designed with strength at points of greatest strain. Insulation stays put. The soft conforming "CD" gasket of resilient pure rubber outwears old types by many times.

Wherever cold storage doors are used—including locker and quick-freezing plants—JAMISON-BUILT DOORS prove that their leadership is no accident. Rugged performance counts! Send for free descriptive bulletin to JAMISON COLD STORAGE DOOR CO., HAGERSTOWN, MD., or to branches in principal cities.

*Jamison, Stevenson, and
Victor Doors*

JAMISON

*Stevenson Super-Freezer
Door (overlap type)*



(See our catalog in Sweet's Catalog File)

**NOW Automatic Opening AT
NO ADDITIONAL COST**



This patented device makes it only necessary to release the latch to open the door overhead.

It was hard to believe that yesterday's streamlined, sweet-running motor cars could be improved. But look at the cars of today! * * * And look at what Frantz has done for garage doors. The new 1939 model "Over-the-Top" Door Equipment now has, in addition to the many advantages that have brought it fame, full automatic opening. Simply loose the latch . . . the door starts, rises, stops without help from hands. This added luxury comes without added cost. Send today for full file data.

FRANTZ MANUFACTURING CO.
STERLING ILLINOIS



**OVER-THE-TOP[®]
DOOR EQUIPMENT**



From TOP TO BOTTOM

Carey PRODUCTS

Carey Bonded Built-Up Roofs

Engineered to the individual requirements of each job—bonded to give definite years of repair-free, trouble-free service . . .

Carey Corrugated Siding

Made of asbestos and Portland Cement—meets industry's requirements for fireproof, rust-proof siding that will stand unusual stress, requires no painting or other upkeep—that is low in first cost and economically applied . . .

Carey Rocktex Insulation

Assures maximum control of temperature the year round—fireproof, rot-proof, chemically stable. Made in Bat, Wool and Granulated, to meet varying installation requirements . . .

Carey Industrial Flooring

Tough, resilient, silent, non-skid, vermin and termite-proof—highly resistant to rough usage. Quickly applied, easily repaired, if damaged . . .

Carey Heat Insulations

Meet every service condition from sub-zero to 2500° F. Usually return investment in a year or less; thereafter pay big annual dividends . . .

Carey Paints, Waterproofing

Protect basements against seepage of ground water and dampness. Insure a dry cellar. Prepared—ready for use. Can be easily applied by unskilled labor.

Build Low Upkeep into Modernization Jobs . . .

Especially well adapted to present day remodeling of commercial and industrial structures, CAREY PRODUCTS meet the architectural requirements of properties in which improved appearance, reasonable first cost and low upkeep are essentials.

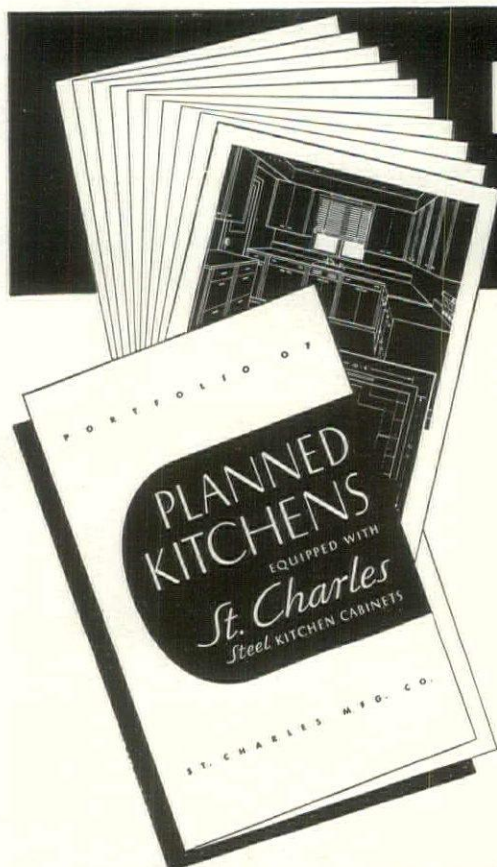
In the development of these and other products which give extra service and better performance, CAREY Research is providing Architects and Builders with new ways of constructing and modernizing the nation's buildings.

See the Carey Catalog in Sweet's or write for samples and full information.

THE PHILIP CAREY COMPANY • Lockland, Cincinnati, Ohio

Dependable Products Since 1873

BRANCHES IN PRINCIPAL CITIES



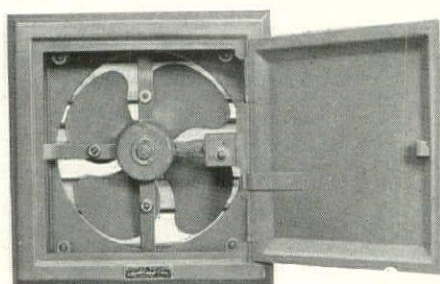
New Kitchen Plan Book

Loose Leaf • Handy Size • Helpful to Architects

From hundreds of STEEL Planned Kitchens... layouts developed by our kitchen planning department... we have selected examples illustrating efficient arrangement of cabinets, counters, sink, range, and refrigerator for "L" or "U" or straight line kitchen layouts... for space large or small, narrow or square... for new homes or remodeling... to fit a wide range of building budgets. It is a regular part of our service to cooperate with architects and builders in solving problems of efficient kitchen layout... without charge or obligation. This Plan Book will visualize the value our service may have for you. It not only contains plans, but explains them from a functional standpoint. We shall be glad to send you a copy... simply ask for Plan Book AF-29. Address St. Charles Manufacturing Co., St. Charles, Illinois.

St. Charles Steel Kitchen Cabinets

Here's the *new* **SIGNAL**
AUTOMATIC WALL BOX



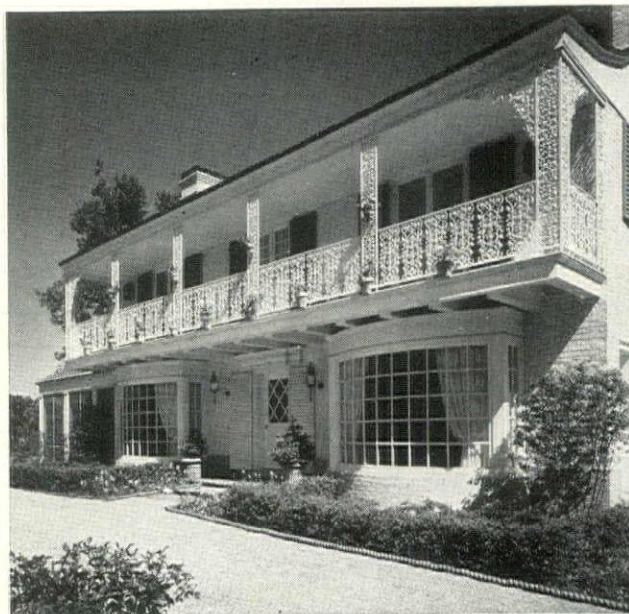
**KITCHEN
VENT
FAN**

A high quality kitchen vent fan for permanent installation... telescopic in design... made in sizes to fit walls from 7" to 24" thickness... easy to install... 10" quiet type fan that moves 500 cubic feet of air per minute... outside shutter frame is cast iron with aluminum weather-tight shutters... motor is rubber mounted... motor operates by opening and closing door.

We will gladly send you complete details and specifications upon request.

SIGNAL ELECTRIC MFG. CO., Menominee, Michigan
Offices in all principal cities

SIGNAL
MANUFACTURERS OF ELECTRICAL PRODUCTS



*Smyser-Royer Cast Iron Veranda Design No. 70
as used on his own residence by
Jerome Robert Cerny, Architect, Chicago, Illinois*

SMYSER-ROYER CAST IRON VERANDAS

Attractive designs and combinations to meet practically any specification, for houses large or small. Write for prices, estimates, and complete catalogue.

SMYSER-ROYER COMPANY, York, Pa.
Philadelphia Office, Architects Bldg., 17th and Sansom Sts.

SMYSER-ROYER COMPANY

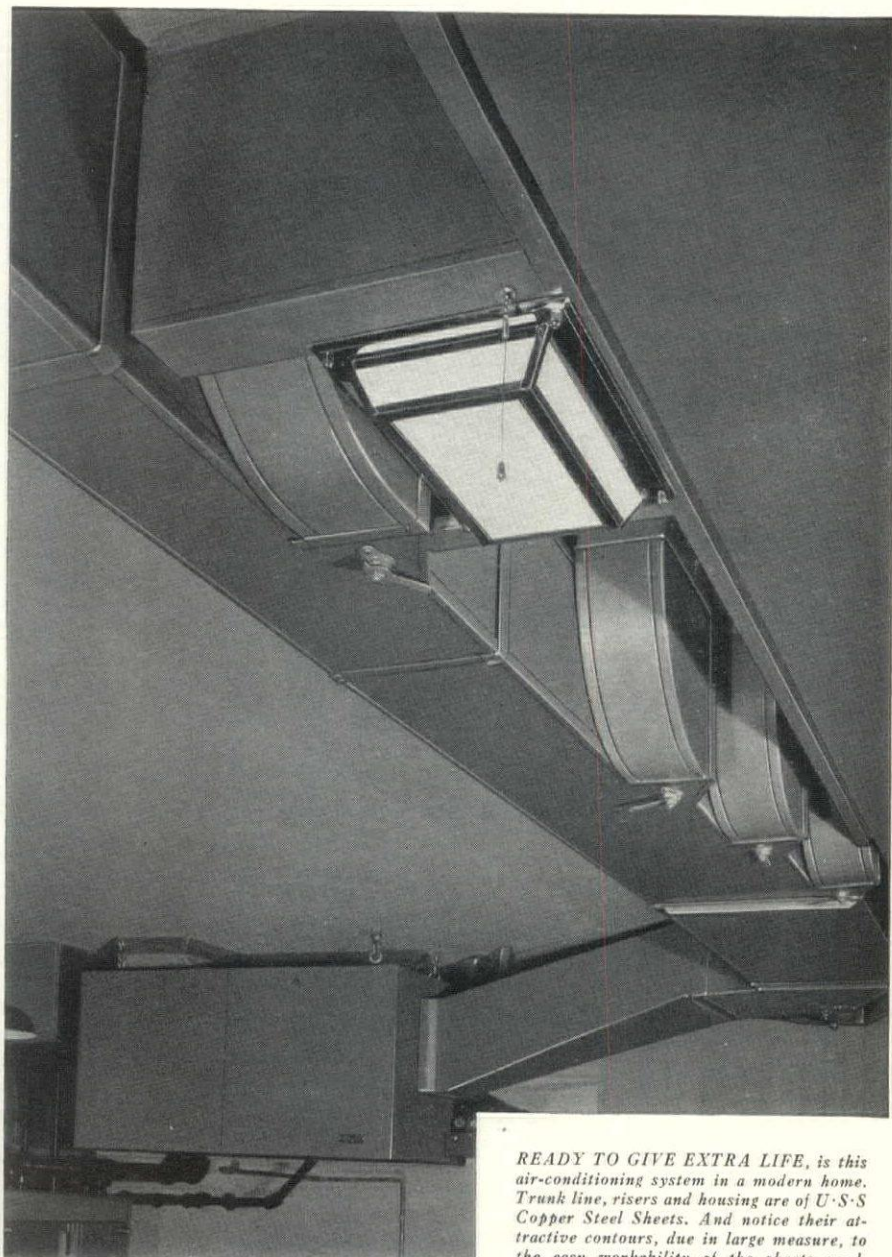
Any Building lasts long enough to need the extra endurance of **U·S·S COPPER STEEL DUCTS**

THE life of any modern building is long enough to warrant the best duct that can be obtained at reasonable cost. For air-conditioning ducts are subject to the constant ravages of corrosion. Humidified air and condensation attack them night and day. And when duct work is eaten away by corrosion, it's costly to replace. That's why it is important to select materials for this construction with special care.

Built of U·S·S Copper Steel Sheets, duct-work costs but slightly more . . . and its useful life is greatly increased. Metallurgists long ago discovered that only a little copper added to molten steel imparts superior rust resistance. And 22 years' experience with copper steel construction has proved this to be true.

Because U·S·S Copper Steel Sheets are ductile, they can be easily fabricated. Installation time is cut down. Substantial savings in labor costs result.

Measured in terms of service, U·S·S Copper Steel Sheets give double value. Prove their superiority on your next job. There are many places on any type of building where they can mean greater economy for your clients. Use them to prolong the life of duct-work, roofing, gutters, down-spouts and flashings. U·S·S Copper Steel Sheets, either plain or galvanized, are available for quick delivery in all important cities.



READY TO GIVE EXTRA LIFE, is this air-conditioning system in a modern home. Trunk line, risers and housing are of U·S·S Copper Steel Sheets. And notice their attractive contours, due in large measure, to the easy workability of the sheets used.

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 Products Company, New York, Export Distributors



UNITED STATES STEEL

CASH IN ON THE PRESTIGE OF KITCHEN MAID KITCHENS



THE ORIGINAL STANDARD UNIT CABINETRY

Selection of Kitchen Maid, the original standard unit cabinetry, requires little explanation. Home owners everywhere know this famous name and Kitchen Maid kitchens grace the mansions of governors, society leaders and scores of other celebrities. Yet, a choice of units in three price ranges makes this cabinetry economical for any purse. Write today for color catalog and details.

Convenient Utility Bin directly beneath sink—one of many Kitchen Maid efficiency features.

The Kitchen Maid Corp., 692 Snowden Street, Andrews, Indiana
Send new catalog and details on standard unit Kitchen Cabinetry.

Name _____

Address _____

☐ Architect
☐ Builder



☐ Dealer
☐ Owner

Instead of insulation that meets some of these requirements, recommend the insulation that **MEETS THEM ALL...** and pass on to your clients the advantage of economy in building as well as economy in heating.

1. Efficiency 2. Flexibility 3. Permanence
4. Non-Settling 5. Lightness
6. Proper Thickness 7. No Waste
8. Ease of handling 9. Expandability

KIMBERLY-CLARK CORPORATION
Established 1872 • Neenah, Wisconsin

NEW YORK CHICAGO
122 East 42nd Street 8 South Michigan Avenue

KIMSUL

Expanding Blanket

INSULATION

IT PAYS
TO PAINT
WITH
EAGLE
pure
WHITE
LEAD



CHOICE OF GOOD
PAINTERS SINCE 1843



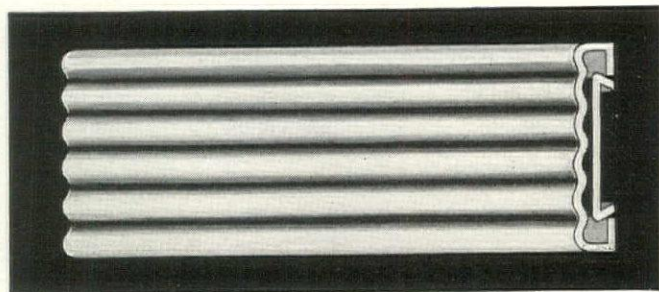
"I've had 15 years' experience with Eagle White Lead"—says E. W. Holmok, Cleveland—"and, believe me, I'm sold on it. Costs me only \$2.18 a gallon* all mixed and ready to apply."

*Based on national average cost of Eagle White Lead and Linseed Oil.



THE EAGLE-PICHER
LEAD COMPANY
CINCINNATI, OHIO

Specify HERZIM SNAP-ON MOULDINGS



Easy to apply. Offered in a wide variety of shapes and sizes. The full line of HerZim Snap-On, Filler type, Bead Insert, Wallboard, Linoleum Insert Mouldings is shown in detail in Sweet's Architectural Catalog for 1939.

Get 1939 Catalog and Supplement

Supplement shows Clip-on, Nail-on and Tack-on mouldings, as well as new style end forms. Both catalog and supplement mailed on request.

HERRON - ZIMMERS

MOULDING COMPANY

3904 East Outer Drive

Detroit, Mich.



Marlite Creates Smart Colorful
Cocktail Lounge in Elk's Club.

THE COMMERCIAL FIELD URGENTLY NEEDS THE ARCHITECT ... awaits your creative skill in decorative design



Marlite...The
Wall Material
of a Thousand Uses.

BUSINESS and commercial interests are ever in urgent need of something new and different to give them a sales advantage. Marlite will aid you to extensively capitalize these opportunities.

Provocatively modern... lustrously beautiful... it will inspire an originality in interior design that will outmode the smartest of present-day interiors... permit you to achieve decorative effects that will personalize the character of every business and environment.

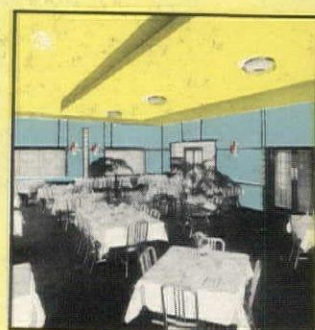
Marlite is reasonable in cost; entails no renovating expense; is obtainable in 63 thrilling colors and patterns; wondrous plain-colors... the smartest of tile-patterns... rare marble and rich wood effects. A damp cloth keeps its lustrous, glass-smooth surface beautifully bright; and the smart decorative effects achieved defy obsolescence years longer than those obtained with out-moded materials. Marlite comes in lustrous wall-size panels that can be cut to size, and speedily applied to walls, ceilings, and other surfaces by carpenters.

It's ideally suited for interiors of department and chain stores, restaurants, night clubs, hotels, beauty parlors, funeral homes, commercial, office and transportation buildings, doctor and dental offices, banks, etc. It can be used for counter fronts, display windows and cases, elevator interiors, cocktail bars, just as readily as for walls and ceilings.

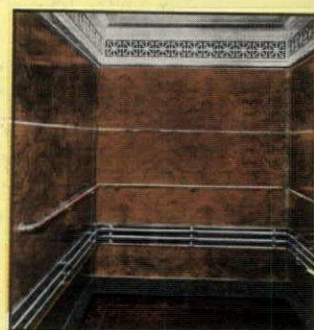
The convenient coupon below will bring you free book of colorful Marlite interiors and complete product information. The local Marlite representative will be glad to advise how you can use Marlite to good advantage.

MARSH WALL PRODUCTS, INC. • 111 Marsh Place, Dover, Ohio

See Our Catalog in Sweet's 11/41 for Complete Product Information



Marlite FOR DINING ROOMS
—Dining Room, Cross Keys Hotel,
Cross Keys, Pennsylvania.



Marlite FOR ELEVATORS—
Elevator, Neil House, Columbus, O.



Marlite FOR BATHROOMS
—Bathroom, Edgewater Beach
Hotel, Chicago.

Marlite

FOR CREATING BEAUTIFUL INTERIORS

ALL-SIZE PANELS IN LUSTROUS COLORS AND PATTERNS

MARSH WALL PRODUCTS, INC., 111 Marsh Place, Dover, Ohio.
Please send me your book "Marlite for Creating Beautiful
Commercial and Institutional Interiors."

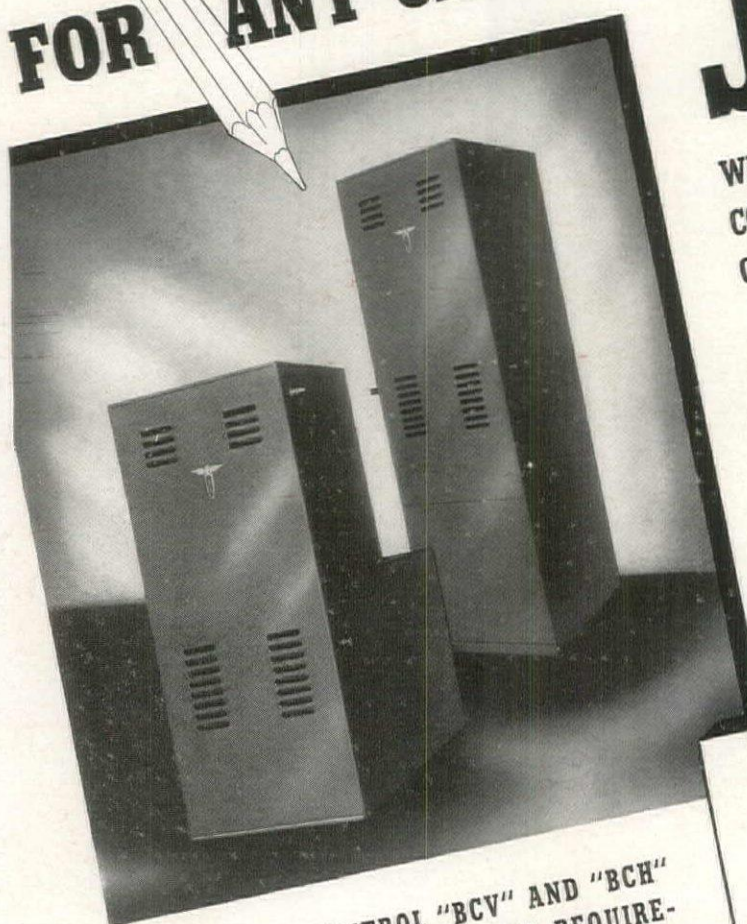
Name.....

Firm.....

Address.....

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

FOR ANY CLASS HOME, *Specify* JANITROL!



WITH THE ADDITION OF TWO WINTER AIR
CONDITIONING UNITS TO THE LINE, YOU
CAN NOW WRITE JANITROL INTO YOUR
SPECIFICATIONS FOR:
**THE LOW-COST HOME AND
NEW HOUSING PROJECTS**



THE NEW, FLEXIBLE JANITROL "BCV" AND "BCH" WINTER AIR CONDITIONERS MEET ALL REQUIREMENTS FOR A QUALITY UNIT, WITH A SIZE FOR HIGH OR LOW CEILINGS... AT A NEW LOW COST

● Beautiful appearance has been combined with mechanical perfection to make them outstanding in the field of low-cost, automatic heating equipment. All controls and attachments are concealed within the cabinet. This preserves the handsome appearance which reflects the quality of the unseen parts that assure smooth, quiet, trouble-free operation for a lifetime.

Quiet, efficient heat exchangers are made of $\frac{1}{8}$ " thick steel plate, corrugated for rigidity and smooth, free air flow, welded in one piece. The steel plate is corrugated by a special bending process which maintains uniformity of thickness and eliminates the effect of alternate heating and cooling.

30 years' research and experience back of Janitrol, thousands of satisfied users, together with universal acceptance and endorsement of the gas and heating industry, assure client satisfaction.

SURFACE COMBUSTION CORPORATION • TOLEDO, OHIO

JANITROL

**GAS-FIRED
HEATING EQUIPMENT**



★ And... A New Forced Air Circulating Heater... for small basementless homes, stores, offices, recreation rooms, maids' quarters, individual apartments, etc.



Small and compact, it is quiet, efficient, low in cost, easy to install, economical to operate. Two sizes, equipped with 18", six-blade fan, humidifier, patented venturi radiator, automatic controls, ionizer, provide practically all the advantages of complete winter air conditioners.

★ ...And, of course, the finest conditioners for the medium and better class homes—the Janitrol "CF" and "CA" Winter Air Conditioners. Outstanding features are built into these units such as the compensating system of control and cast iron copper fin heat exchanger of the "CF." For complete specifications of these two high-class conditioners refer to Sweet's Catalog or call your Janitrol representative.



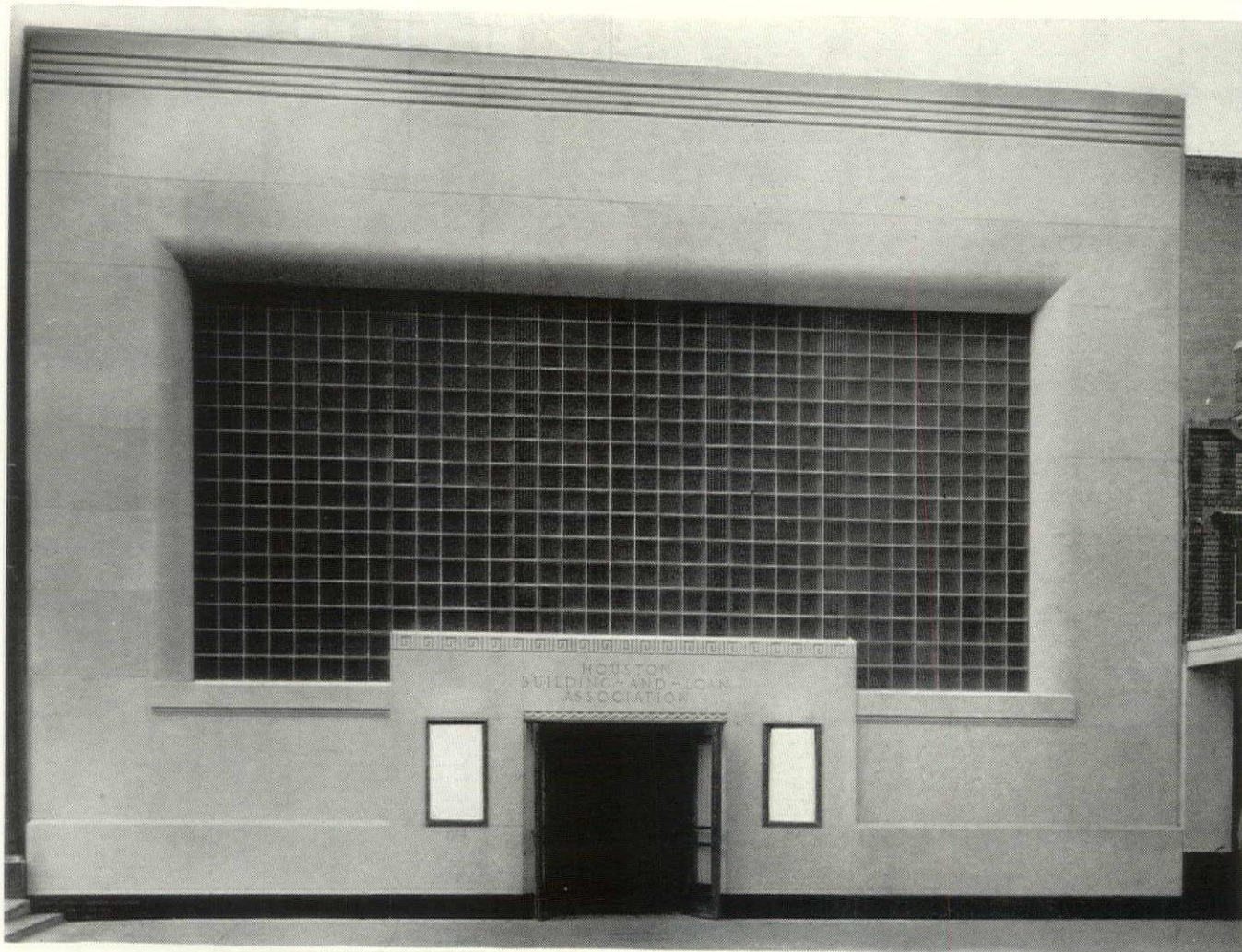
SURFACE COMBUSTION CORPORATION, TOLEDO, OHIO

To supplement the information in Sweet's Catalog, send us special specification sheets and folders descriptive of new low-cost winter air conditioners and circulating heaters.

Name _____

Address _____

City _____ State _____



MAIN STREET KNOWS,
*"Sound Architecture is
 Smart Business"*

Main Street is modernizing for more business. Sound architecture is synonymous with smart business, it says.

Atlantic seaboard or Pacific Coast, you will find Main Streets pretty much alike, especially in their appreciation of Owens-Illinois Insulux Glass Block.

A building material, yes, but a three-fold merchandising help as well, retailers tell us. Smart designs containing Insulux blended with other storefront materials, stop street traffic. Generous light-diffusing characteristics which transmit anywhere from 41 to 86.5 percent of available daylight, make for better interior display of goods. Third, a real help to air conditioning since it retards heat.

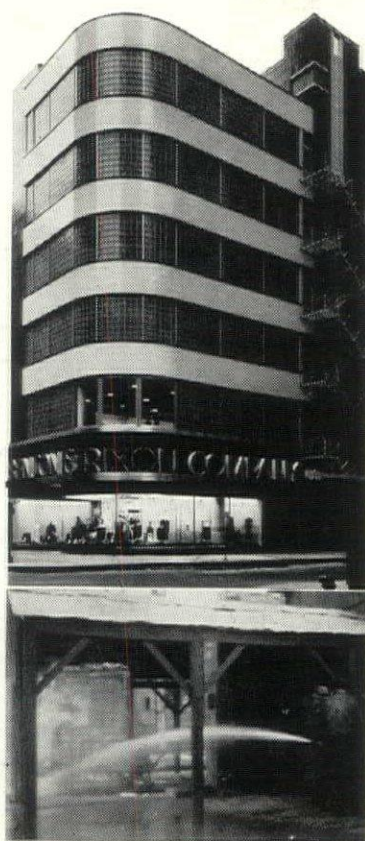
Architects have specified Insulux in more than 50,000 buildings, many of them designed for retail trade. Owens-Illinois Glass Company, Insulux Products Division, Toledo, Ohio.

(Above)—Houston Building and Loan Association, Houston, Texas. Staub & Frangheim, Architects. Financial institutions were quick to adopt Insulux for exterior beauty and interior daytime lighting. Desks are provided with soft, well-diffused light.

(Right)—Benson and Rixon Store, Chicago, Illinois. Alfred S. Alschuler, Architect.

This alert store on State Street, one of America's busiest shopping thoroughfares, turns to Insulux for aid in lighting and air conditioning.

(Right)—Insulux is constantly subjected to rigid testing and retesting at Purdue University. Here you see the hot side of an Insulux panel resisting hose stream immediately after withdrawal from furnace after a standard 45-minute fire test.



Insulux **GLASS BLOCK** PIONEERED AND PERFECTED BY... **OWENS-ILLINOIS**

"First in Glass"

Elsie N. SAYS:

MEET ME IN SWEETS

"To save your time, we've put our full catalog of LCN Door Closers in Sweet's for 1939: Section 16/26. But if you don't find there exactly what you want, or if there is any question on door control to be answered, we'll be delighted to hear from you. Call the nearest LCN representative, or write us direct."—Elsie N.

Copyright 1939 Norton Lasier Company
466 W. Superior St., Chicago, Ill.

LCN Concealed and Surface
DOOR CLOSERS
in 86 Types and Sizes

Why Tie Your Client's Hands To Any One Fuel

If you should encourage their burning oil, and using a special oil burning boiler, they would be tied to oil.

If they wanted to shift to Stoker fired coal to save money, it would mean an entirely new boiler.

But not so with the new Yello-Jacket Burnham, you can quickly shift from one fuel to the other. The jacket extension covering the oil burner is removable.

It lifts off. No bolts or screws even. Which ever is burned, oil or coal, this Yello-Jacket will sting the fuel bill.

Send for special printed matter about it.

See Sweet's for full line of Burnham Heating Equipment.

BURNHAM BOILER CORPORATION
Irrington, New York Zanesville, Ohio

Burnham Boiler

"If I were an architect, I'd specify Fir-Tex too"

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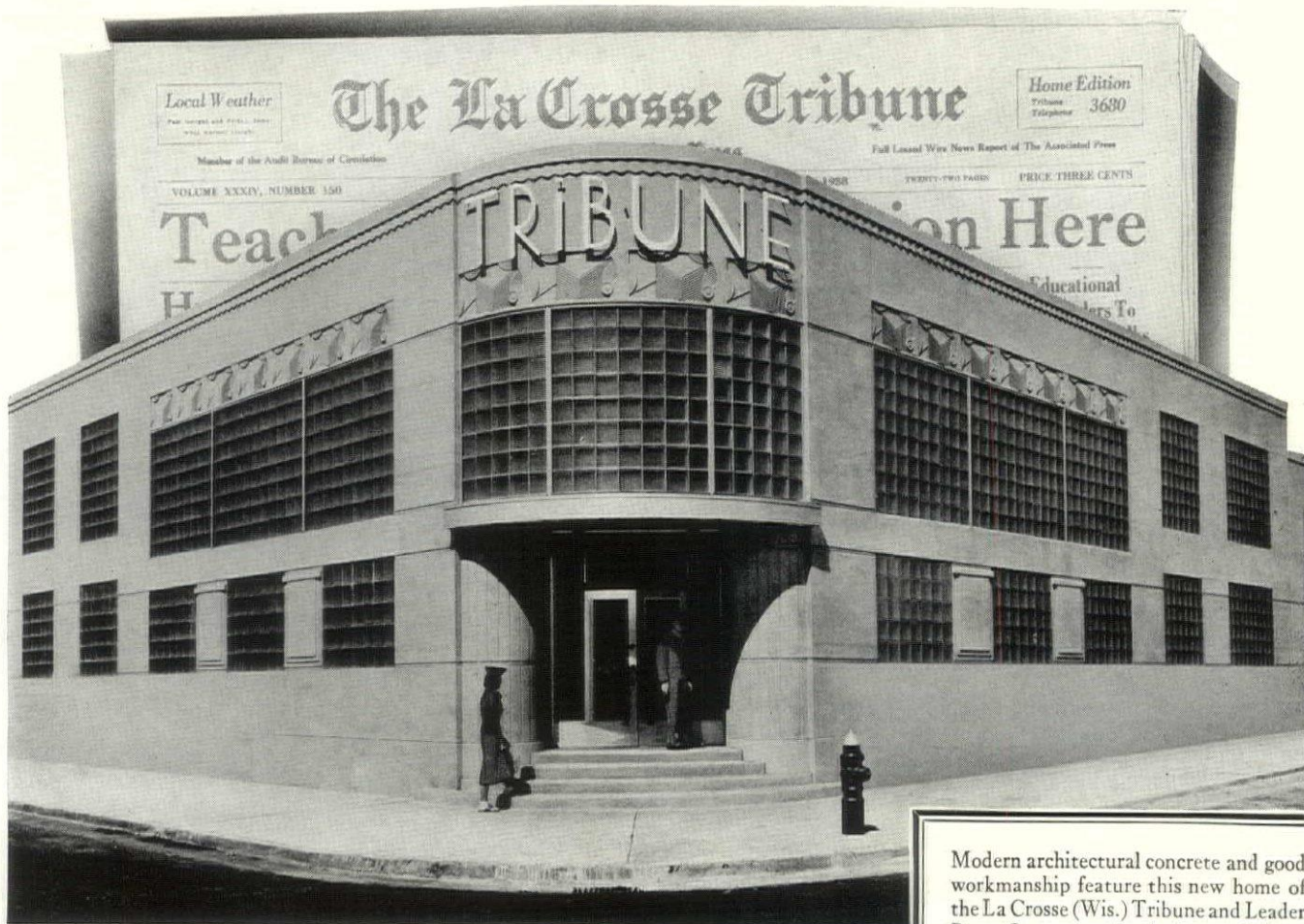
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THE STANDARD

THE MASTER



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Architectural concrete brings to this new newspaper plant the beauty and strength typical of modern design and construction

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It helps you turn strictly utilitarian structures into things of architectural beauty. It is easily adaptable to any style or form of architecture. This modern development, in which structural parts and ornamentation are cast as a unit, gives fire-safe buildings, unusually strong, permanent, economical in up-keep. Decorative possibilities are almost unlimited. Surface textures can be obtained ranging from the perfectly smooth to the roughest. Or the surface can be left untreated. If desired, the finished surface can be painted, stuccoed or tiled.

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Modern architectural concrete and good workmanship feature this new home of the La Crosse (Wis.) Tribune and Leader Press. Ornamentation is clear and clean-cut. Corners are straight. The surface has a natural plywood finish and is uniform in color and texture. Architects and engineers—Kruse & Parish, Davenport, Iowa; Associate architects—Boynn, Schubert and Sorensen, La Crosse; Contractors—Theo J. Molzahn & Sons, Inc., La Crosse, Wis.

serve your clients in distinctive ways. There are also pictures showing its application to different types of buildings. Send the coupon today. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 135 East 42nd Street, New York, N. Y.

Universal Atlas Cement Co. AF-AC-2
135 East 42nd Street, New York, N. Y.

Please send me further information on architectural concrete.

Name

Address

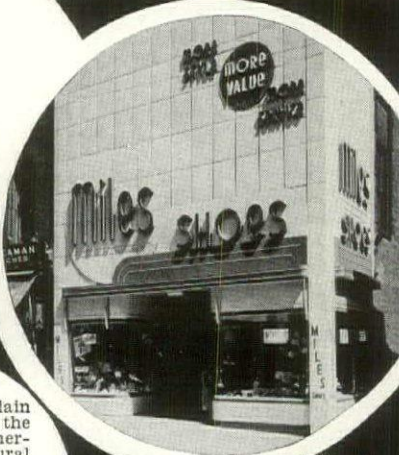
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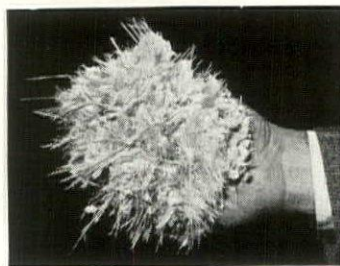
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HEATILATOR Fireplace

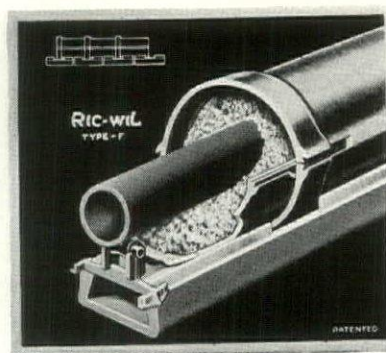
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Dry-pac, an insulation for underground steam pipes, is *not* a general term for any ordinary or even a loose asbestos filler—but an exclusive registered trade mark applied only to the Ric-wil product. It is a proven combination, 85% high grade long-fibre asbestos combined with 15% carefully selected clean sponge particles, all processed to make the mass positively water repellent. It is manufactured in our own plant under strict laboratory control and guaranteed to be as represented. Specify it fully!

Ric-wil Conduit System, with Dry-pac Insulation, keeps steam lines permanently tight, dry, and at least 90% efficient. Descriptive bulletins, correct specifications, and test data sent on request.

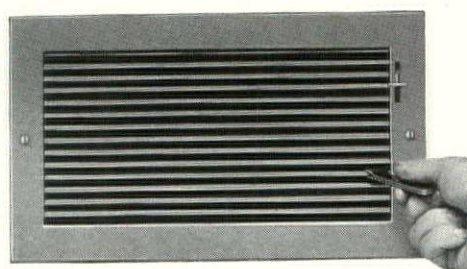


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Air Conditioning
Register Catalog.

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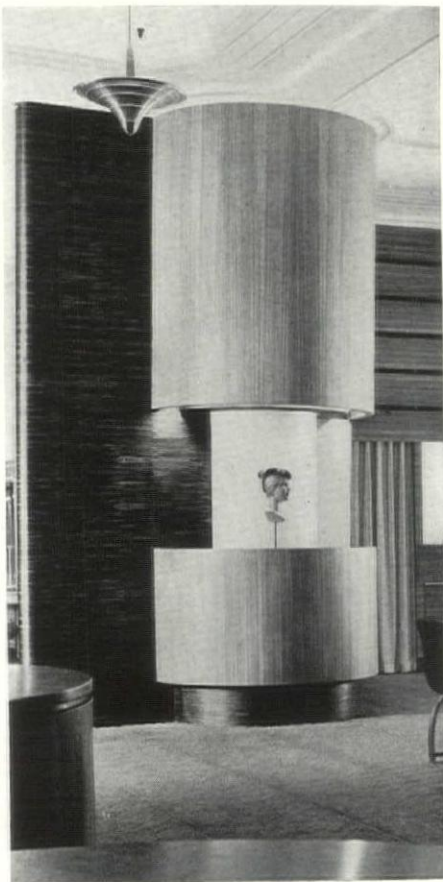
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**AUER DISTINCTIVE REGISTERS
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MAIN ST. trades up...with



A modern design using pale, lustrous Avodire Flexwood, Saso Shoe Store, New Haven, Conn., Chas. Abramowitz, Architect.



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modern interiors

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wood frame dry construction

fireplace details

roof types

wood and cloth partitions

lighting

ceiling details

hardware

dining room details

reclining sofa

curtains

folding partitions

living room details

storage space

sliding door construction

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TIME & LIFE BUILDING, ROCKEFELLER CENTER
NEW YORK NEW YORK
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Published by the author, this important work present
architectural elements developed by Mr. Raymond ove
a period of seventeen years practice in Japan. Mor
than 250 photographic plates and 530 measure
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sign studies ranging from exterior views and interior
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"Architectural Details" is notable as a comprehensive
record of distinguished Modern detailing which throw
new light on the aesthetic value of the natural substanc
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with heavy kraft cloth covers, Mr. Raymond's portfolio
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Due to the limited size of the edition, orders should
be booked without delay and will be filled in order o
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Another Mackin Achievement!

Rockefeller Center Buildings Install 13,000 Mackin Premier Blinds...

A better, more serviceable blind—and proven lower maintenance cost. That in brief is the basic reason Mackin Premier Venetian Blinds stand first in the commercial field . . . and why the demand for them is so rapidly increasing. They are distinctive and different—and should not be confused with ordinary blinds. Exclusive features of construction and operation give them many advantages. A demonstration will convince you beyond any doubt that the Mackin Premier Venetian Blind is in a class by itself—far superior and more desirable than any you have ever seen before. Write today for further details and let us demonstrate why Mackin Blinds should be *your choice every time!*

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Department F-2 Kankakee, Illinois



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and many others.

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Palmer House Chicago, Ill.

Rockefeller Center Apts., New York City

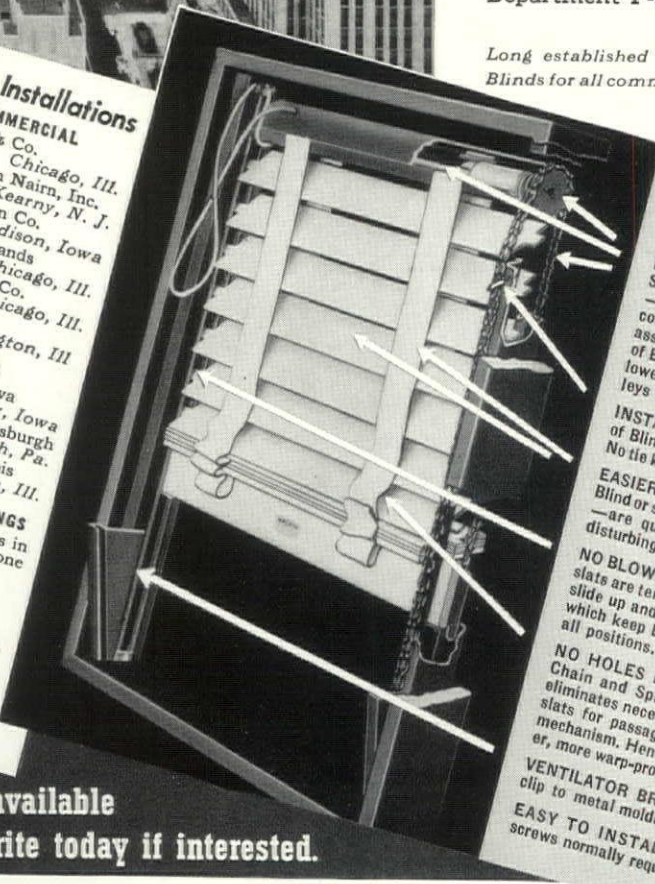
Williamsburg Inn Williamsburg, Va.

HOSPITALS

Barnes Hospital St. Louis, Mo.

Mt. Sinai Hospital Chicago, Ill.

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Look at These FEATURES!

POSITIVE LEVEL LIFT! Chain and Sprocket concealed in each molding—operating on ball bearings and coupled together with a steel shaft—assure easy, equal lift to both sides of Blind. Chain used for raising and lowering—hence no cords and pulleys to get out of order or replace.

INSTANT STOPPING and securing of Blind is provided by Chain Hook. No tie knobs to become loose!

EASIER TO CLEAN! Entire body of Blind or slats individually—and tapes—are quickly removable without disturbing working mechanism.

NO BLOWING OR FLAPPING! All slats are tenoned—easy to lift out—slide up and down in metal grooves which keep Blind neatly in place in all positions.

NO HOLES IN SLATS! Mackin Chain and Sprocket construction eliminates necessity for holes in the mechanism. Hence slats are stronger, more warp-proof.

VENTILATOR BRACKETS simply clip to metal moldings. No screws!
EASY TO INSTALL! Only four screws normally required per Blind.

Certain territories are still available for selected distributors. Write today if interested.

FOR LASTING SATISFACTION AND GREATER ECONOMY—SPECIFY AND INSTALL MACKIN PREMIER BLINDS

SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built completely of products advertised in THE FORUM. While it is not possible for a magazine to certify building products, it is possible to open its pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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Modern

PROTECTION AND CONVENIENCE FOR YOUR CLIENTS



SQUARE D MULTI-BREAKER_s COST SO LITTLE •• MEAN SO MUCH

● When you include Square D Multi-breaker_s in your specifications, you give your clients *protection and convenience* that will be appreciated—tremendously.

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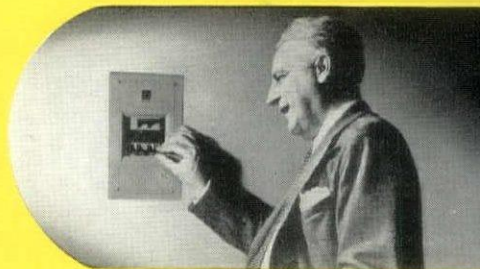
Neat and compact, the Multi-breaker_s can be placed in any convenient wall. Its cost over ordinary equipment is negligible—well within the means of every client.

Ask any good electrical contractor for the complete story of this new, low cost circuit breaker. Or write for Bulletin 543-B.

CALL IN A SQUARE D MAN



No annoying delays. The Multi-breaker_s restores the current when it is needed.



A simple movement of the lever restores the current unless trouble still exists.



Neat and compact, the Multi-breaker_s can be installed in any convenient wall.



A Multi-breaker_s on each floor ends long trips to restore current.

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



Tradition .. plus

RETAINING INHERENT BEAUTY OF DESIGN AND INCLUDING LATEST FEATURES OF CONSTRUCTION

● Truscon's Residential Double-Hung Steel Windows retain all that is worthy of perpetuation; namely, the traditional design of the early American window. ● In all other respects, these new windows incorporate the latest features of modern construction, operation and durability. Here are a few:

Bonderized Steel resists formation and progress of rust.

Baked-on Priming Coat of Paint lasts up to five times longer.

Tubular Sash Rails add greatly to strength and appearance.

Spring Balances equipped with tapes of Enduro Stainless Steel eliminate sash cords, pulleys and weights, assuring smooth, quiet, positive action.

Spring Bronze Weatherstripping (factory-installed) assures weathertight, heat-saving construction.

Attractive Hardware is cadmium plated steel, brush finish. Enduro Stainless Steel or solid bronze is also available. All hardware attached at factory. Windows arrive at job complete and ready for immediate installation.

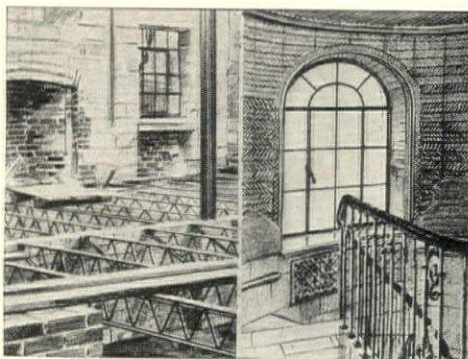
Flush Installation of Truscon screens and Tempryte insulating windows provided by rebate on exterior of frame.

Packaged Windows. Truscon Residential Double-Hung Steel Windows are completely assembled at factory and packaged in strong, durable cartons,

arriving at job site ready for quick, easy installation.

Twenty-Four Sizes in each of Four Types: Type "A"—no muntins; Type "B"—horizontal muntins only; Type "D"—horizontal and vertical muntins top sash only; Type "E"—horizontal and vertical muntins in both top and lower sash.

Illustrated Catalog describing complete details of Truscon Residential Double-Hung Steel Windows will be mailed to you promptly upon request. Truscon's 80-page catalog in "Sweet's" also contains data on these windows.



See "Sweet's" for details about Truscon Steel Joists for all types of construction.

See "Sweet's" for details about the complete Truscon line of metal lath and accessories.

TRUSCON

Steel company

57 SALES ENGINEERING OFFICES • 27 WAREHOUSES

YOUNGSTOWN • • • OHIO

SUBSIDIARY: REPUBLIC STEEL CORPORATION

MEMORANDUM: This is the second of a series of messages relating to current developments of Truscon Steel products for the building industry. Watch for the next . . . in the March issue. Subject—Truscon Donovan Awning Type Steel Windows.

A New, Inexpensive Way to Air Condition Stores, Shops, Offices by FRIGIDAIRE UNIT CONDITIONERS

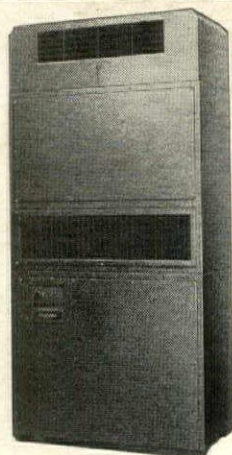


THE PROFIT SIGN FOR '39



●Now, General Motors provides a complete line of self-contained Unit Air Conditioners to keep stores, shops and special departments of larger stores in the "comfort zone" 12 months of every year. There's a size and style of Frigidaire Unit Air Conditioner to solve virtually any air conditioning problem—to fit any interior layout. Frigidaire Unit Conditioners may be suspended from the ceiling, concealed in closets, placed in the basement, or installed within the space to be air conditioned.

In warm weather, the Unit Air Conditioners cool, dehumidify, clean and circulate air. In cold weather, *heat* can be supplied by adding a simple coil and connecting it to the heating plant. In addition, the Conditioners free the air of dirt, dust and objectionable odors, and prevent air stratification year 'round.



FRIGIDAIRE
Unit Store Conditioner

Quickly Installed—Easily Moved

The Unit Conditioners can be quickly installed. In remodeling, they may be easily moved and re-installed in a new location.

There's a Delco-Frigidaire Air Conditioning Product to solve any air conditioning problem

Both large and small air conditioning problems are easily solved by Delco-Frigidaire. A capable, highly-trained field organization stands ready to help you plan an air conditioning system, or analyze the proved investment values of air conditioning for your clients.

Delco-Frigidaire assures you of installations at the lowest possible initial cost for the highest possible operating efficiency. Get the complete details.

CONSULT YOUR TELEPHONE DIRECTORY FOR NEAREST DELCO-FRIGIDAIRE DEALER. Or, write Delco-Frigidaire Conditioning Division, General Motors Sales Corporation, Dayton, Ohio.

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Unit Air Conditioners • Portable Air Conditioners • Commercial Air Conditioning
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