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# FORUM

the magazine of building

JANUARY 1956

Washington: 20th century capital?



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architectural

# FORUM

the magazine of building

JANUARY 1956

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NEXT MONTH:

Architecture in America—Part V

The Contractor's Role

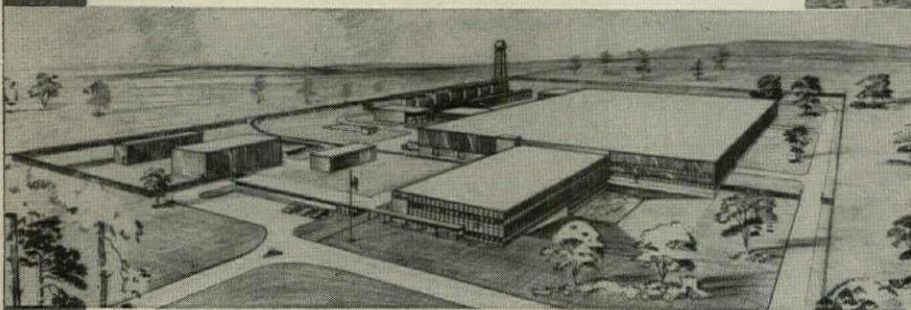
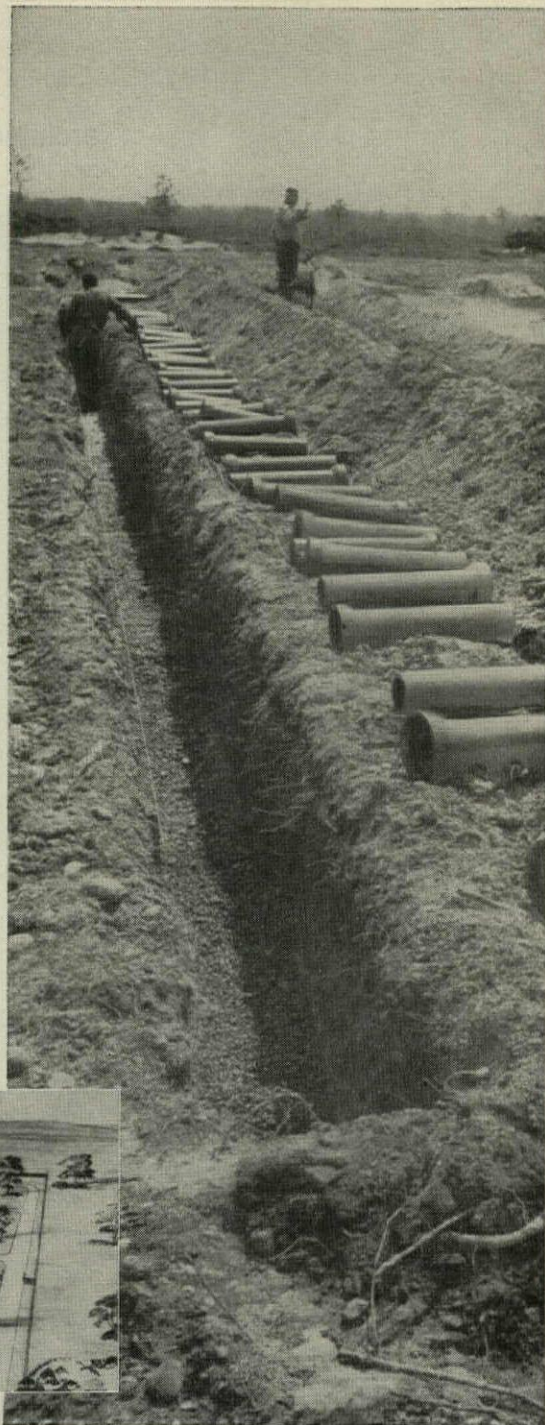


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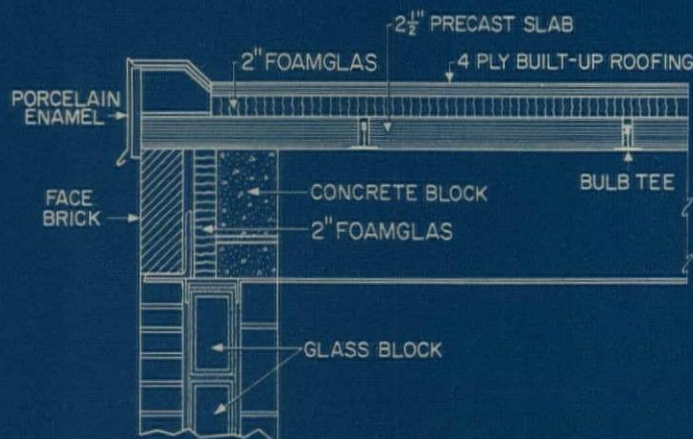
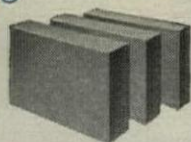
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**Progress in Public Health - Through Clay Pipe Research**

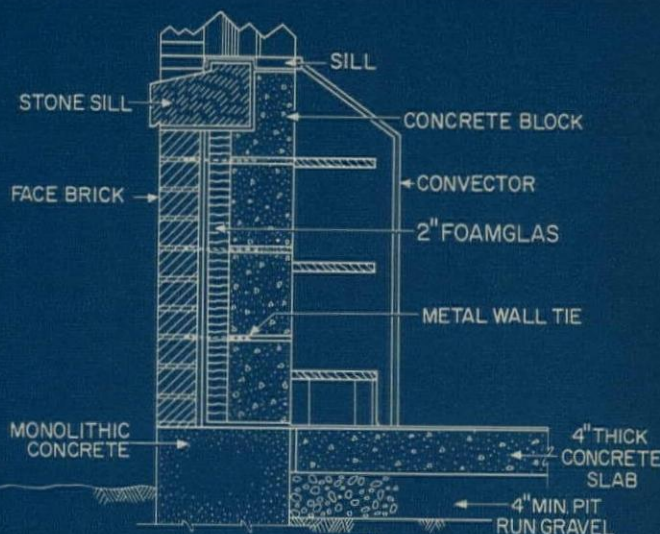


# FOAMGLAS®

the cellular, stay-dry insulation



TYPICAL ROOF SECTION



TYPICAL COREWALL SECTION

Architect: Thomas A. McConnaughey, Muncie, Ind.  
General Contractor: Glaser & Glaser Inc., Muncie, Ind.  
Roofing Contractor: Adams Roofing & Insulating Co., Inc., Muncie, Ind.

At new Parkside School, Hartford City, Indiana . . .

## FOAMGLAS roof and wall insulation makes electric heating system practical

The new Parkside School at Hartford City, Indiana was designed to take full advantage of the low installation cost and the operating economies possible with electric heating. According to architect T. A. McConnaughey, *stay-dry* FOAMGLAS roof and wall insulation was a major factor in making that type of heating system practical at Parkside. He says:

"Constantly effective building insulation is a 'must' for maximum operating efficiency of an electric heating system. We picked FOAMGLAS because it can't absorb the moisture that destroys the effectiveness of ordinary insulations. We can depend on it to retain its original insulating value continuously. Once installed, we can forget it."

Mr. McConnaughey concludes, "FOAMGLAS also gave us these construction bonuses: Its strength and rigidity prevent it from sagging or buckling after installation. Its fireproofness means added building safety. The ease with which it can be fabricated made it possible for us to imbed electric conduits in the under surface of the roof insulation . . . without impairing performance."

Parkside School is one of hundreds across the country where FOAMGLAS furnishes *dependable, long-lasting* insulating protection . . . not only for roofs and walls, but for ceilings, floors, piping and equipment as well. Why not find out today how *you* can best use this unique cellular glass insulation in your

designs for schools and other insulated buildings. Write us for a sample and detailed literature.

### Pittsburgh Corning Corporation

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In Canada: 57 Bloor St. W., Toronto, Ontario

Workman is shown grooving the under surface of FOAMGLAS block to accommodate electric conduit. Cutting into the block's surface does not affect its moisture resistance.







*Never Before*

**100%**

# Nylon carpeting

**Never before such easy maintenance!  
Exceeds wear requirements of leading hotels!**

**CANDALON FOAM-CUSHON CARPETING** is a new and ideal answer to every contract carpeting requirement, whether in hotels, stores, motels, theaters, homes, offices, or anywhere.

The surface is 100% nylon stock-dyed and woven on Jacquard looms. The foam cushion—permanently resilient—is extremely dense and it is permanently bonded together with the nylon surface.

The result is an altogether new kind of carpeting with a combination of advantages never possible before—and especially at this low price!

■ **Tests prove it outwears any woven or tufted carpet near its price!** Actual use-test in New York department store elevators showed no signs of wear after 7 weeks' hard wear by 60,000 persons. (Equivalent to about 10 years of wear in the average home.) Laboratory tests show only slight signs of wear after 170,000 abrasions—exceeding minimum wear requirements of leading hotels by more than 20%.

■ **Far easier maintenance!** The 100% nylon face resists soiling and stains—cleans and dries as easily as only nylon can.

And because of the flat, bulk-free pile, there is nothing to catch dirt. Absolutely will not lint—will not crush—vacuums easily with suction or brush-type. Absolutely mothproof and immune to carpet beetles. Non-allergenic.

■ **No separate lining needed!** With CANDALON FOAM-CUSHON CARPETING, you save the cost of underpadding.

■ **Permanently resilient!** Because you get built-in foam padding, you can be sure it will keep that yielding feeling, indefinitely.

For further details and the name of your nearest contractor, phone or write: Contract Department: COLLINS & AIKMAN, 210 Madison Ave., N. Y. 16, N. Y. MU 9-3900.

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Candalon—®

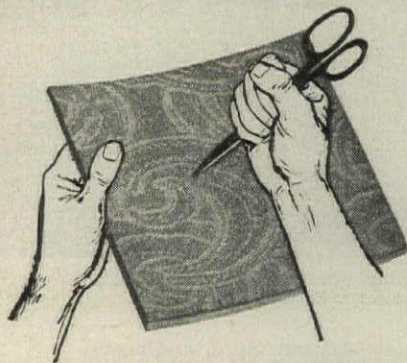


# and Foam cushioning all-in-one!

ALL THIS AND  
A LOW PRICE TOO!

Approx.

\$ **6**  
sq. yd.



**Amazing Scissor Test  
proves super-strength of special  
100% Bulk-Free Nylon Surface!**

Take the point of a scissors—scrape it across CANDALON FOAM-CUSHON CARPETING. Do it hard—again and again. It has no effect! Yet notice that, in spite of this super-strength, the nylon face is remarkably bulk-free. A loop weave of 100% nylon makes this bulk-free pile outwear other piles that are twice as thick—and carpets that cost twice as much!

Choice of four patterns, reading from top to bottom: *Patio, Chevron, Challenger, Criss Cross*. These four patterns are each available in the following eight colors: Sandalwood Tan, Spruce Green, Hunter Green, Turquoise, Cathedral Red, Old Gold, Gray and Beige.



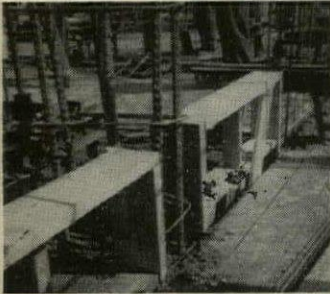
## -Cushon Carpeting

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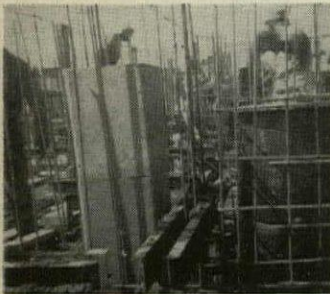


# WASN'T THERE 5 DAYS BEFORE

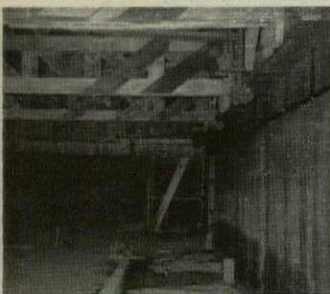
That's how fast 8 stories were poured when architect and contractor agreed on slipping this \$1,500,000 apartment building with "Concretor" Hydraulic Jacks



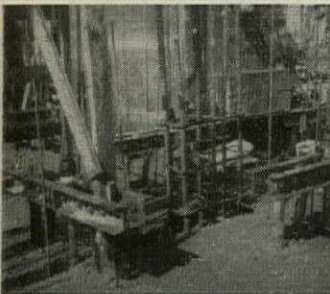
Slipping started 6 A.M. Tues., June 21, 1955—completed Midnight Sat., June 25. Photo shows inserts for framing of the structure's many windows. Other window types, such as casement, are often permanently positioned.



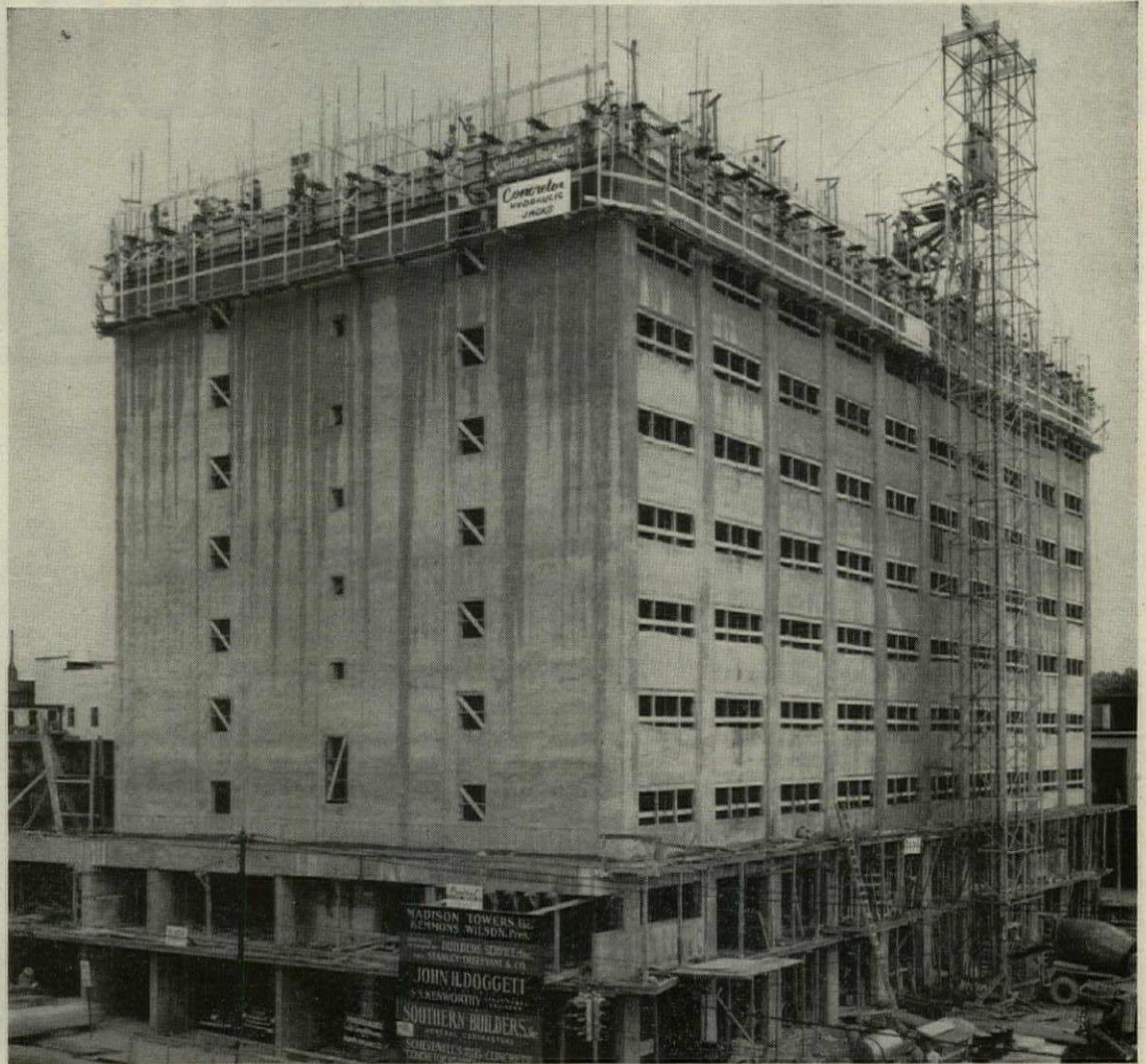
Atomic age? There's nothing structurally sounder than monolithic slipform construction by "Concretor" method. Pictured above are the chimney and vent in place. Elevator shafts and similar installations can also be provided for.



View of the 4 ft. high wooden slipform from inside. Apartment door to hallway, platform-carrying beams and yoke legs (on bottom whaler) can also be seen.



"Concretor" Jacking units with heavy reinforcing. All "Concretor" jacks (210 were used for this structure) rise in perfect synchronization . . . controlled by 1 man at pump. Here's ideal form-raising — safe, smooth, steady.



Project: Madison Towers, Inc., Memphis, Tenn., 10,045 sq. ft. apartment bldg. with 20 apartments per floor. Architect: John H. Doggett Structural Engineer: S. S. Kenworthy Contractor: Southern Builders, Inc.

Here are a few other features of special interest to architects and consulting engineers:

1. Photo shows only the outside walls; in the same 5-day period of concrete pouring, the "Concretor" Hydraulic Jacks also raised the apartment-separating walls and hallways . . . and provided for chimney and windows.

2. Architect reports substantial savings on raw-structure costs. In addition, earlier completion and delivery give the owner dollars-and-cents advantages of great importance.

3. In this instance, as on all "Concretor" jobs, we provided complete service. Jacks, yokes, pumps, oil-pipe, jack-rods—everything required was shipped direct to job site. We quote an all-inclusive rental cost. On-the-job engineers are available to supervise, as they did on this new giant of the Memphis skyline. Many years of successful apartment house experience in Europe were applied on this project.

Before planning your next job, investigate the "Concretor" method of slipform construction. See story on "X Building," Chicago (*Architectural Forum*, Nov., '55, page 148). Let us explain how you, too, can get speedier, surer, more economical results on apartment houses and other structures.

ECONOMICAL DEPENDABLE COMPLETE FROM A TO Z

## "Concretor" Hydraulic Jack Method

\*Reg.

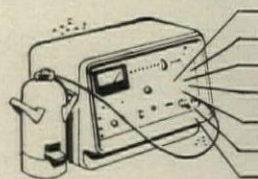
by B. M. HEEDE, Inc., 30-01 37th Ave., Long Island City, New York



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*penetrates rust* to bare metal  
on your rusted surfaces  
as seen through the "eyes"  
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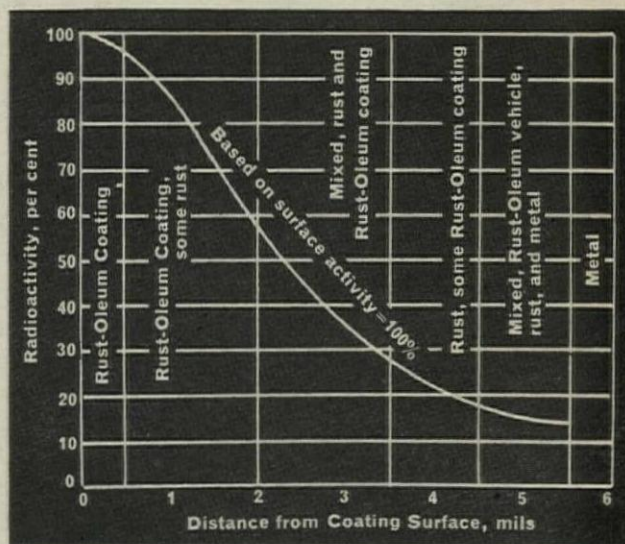
Illustration of cross section of rusted metal coated with Rust-Oleum (enlarged 150 times)



#### Geiger Counter Traces Rust-Oleum Penetration Through Rust to Bare Metal

When you apply Rust-Oleum 769 Damp-Proof Red Primer directly over rust, the specially-processed Rust-Oleum fish oil vehicle works around the rust particles, through the fissures in the rust formation, and into the pits in bare metal—driving out air and moisture. *Irrefutable proof* of this penetration is now yours . . . the results of nearly three years' research utilizing radioactive tracing with  $C^{14}$  radioisotope.

The methods and results of this research are presented in a complete thirty-page report, entitled "The Development of a Method to Determine the Degree of Penetration of a Rust-Oleum Fish-Oil-Based Protective Coating into Rust on Steel Specimens," prepared by Battelle Memorial Institute technologists. Clip the coupon to your letterhead for your copy. There is no cost or obligation.



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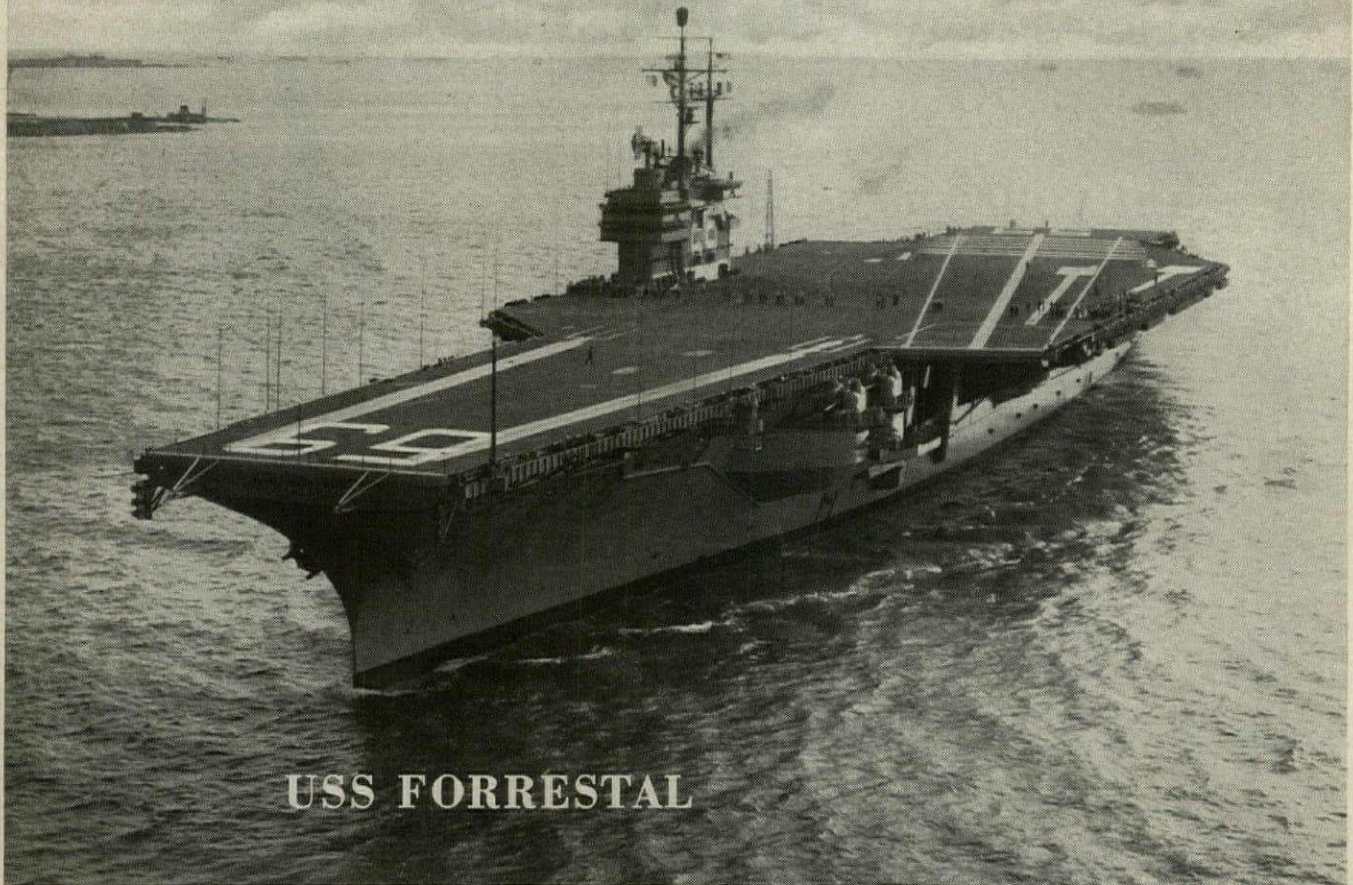
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SLOAN QUALITY SELECTED FOR NAVY GIANT — USS FORRESTAL



USS FORRESTAL

Official United States Navy Photograph

## WORLD'S LARGEST WARSHIP SAILS INTO ATOMIC AGE

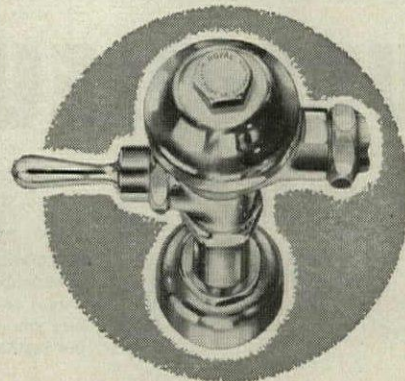
★ Huge enough to hold the ocean liners Queen Elizabeth and Queen Mary side by side on its flight deck, this 60,000-ton super-carrier will carry more than 100 jet planes, including the big three-man Sky Warrior bombers. It is the first of a new class of navy carriers designed and equipped for simultaneous plane launching and landing operations.

In effect, the Forrestal is a floating airfield, manned by 3,500 officers and crewmen, and is capable of faster sailing than any other major warship afloat at the time of its launching. All living spaces are air-conditioned and individual berth lights are provided for each member of the crew. The contract price for the USS Forrestal is \$140,729,000.

Since ships are entirely on their own once they put to sea, it is important that their equipment, such as flush valves, shall be infallible in performance. Hence, there can be no compromise with quality in meeting the exacting demands of off-shore use. Thus the selection of SLOAN Flush VALVES for this great fighting ship is wholly logical.

For *fine buildings* on land as for *fine ships* at sea, SLOAN Flush VALVES are assurance of dependable quality, durability and performance.

**SLOAN** *Flush* **VALVES**  
FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY



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## Columbia-FORUM study shows number, office status, main work of architects

The most comprehensive study of professional behavior of US architects was released last month by its co-sponsors: Columbia University School of Architecture and FORUM. Among the many interesting nuggets uncovered by the survey is the first accurate count of the profession's registered membership: a whopping 21,965.

Called *A Report on Registered Architects in the US, 1955*, the survey report is based on the answers to a questionnaire prepared under the direction of Dean Leopold Arnaud of Columbia's architecture faculty, and Oscar N. Serbein, Jr., professor of statistics in Columbia's graduate school of business.

Although etched in statistics, the report gives a revealing and flattering picture of the collective architect at work, as well as showing where he is working, how often he works alone as the head of his own office, or else as a principal in a firm.

**First accurate census.** In a short introductory section, for instance, Serbein explains how it was discovered that there were 21,965 architects registered in the continental US last April. Survey workers first culled current lists of registered architects from all 48 states and the District of Columbia. After painstakingly tabulating and eliminating about 8,000 multiple registrations (architects registered in more than one state), total individual registration stood at 22,074. Later this was reduced to 21,965, after 109 of the questionnaires were returned with indications that the addressee was deceased.

In this preparatory survey work it was found that 78.8% of the nation's registered architects held registrations in only a single state; 13.3% were registered in two different states, 4% in three different states and 1.8% in four states. Multiple registration then declined to only 0.1% each in eight, nine and ten different states, but increased to 0.3% for those individuals who were registered in 11 or more states.

New York state has the greatest number of registered architects: 13.8% of the total; California, 10.2%; Illinois, 7.5%; Pennsylvania, 6.2%; Texas, 5.5%; Ohio, 5.4%; New Jersey, 4.8%. No other state had a registration exceeding 4% of the national total.

**Almost half sent data.** Altogether, 10,226 architects, or almost half (46.6%) of all registered architects in the nation, replied to the questionnaire. Based on the number of instances in which statistical data from those who answered the questionnaire corresponded almost exactly with known statistical data about the entire body of registered architects, Professor Serbein concludes that "it does not stretch credibility too far to believe that the findings from this group are, to a substantial extent, applicable to all registered architects in the US."

**Independents: two out of five.** Tabulation of survey data showed that almost two out of every five registered architects (39.8%) head their own independent offices, and only slightly more (44.7%) are in partnerships or affiliated with larger offices. The replies by numbers and percentages:

	No.	%
Practicing privately .....	4,065	39.8
Associated: architect firm .....	3,233	31.6
Associated: engineer firm .....	142	1.4
Associated: architect-engineer firm .....	1,197	11.7
*In architecture-related work .....	1,141	11.2
In non-related work .....	93	0.9
Retired .....	352	3.4
Not stated .....	3	—
<b>Total .....</b>	<b>10,226</b>	<b>100.0</b>

Of those registered architects associated with a firm, more than half were senior members in the organization. The survey data in this respect:

	No.	%
Partner, principal, firm member, associate officer .....	2,467	54.0
Chief architect or designer .....	209	4.6
Architect or designer .....	1,016	22.2
Chief draftsman, office mgr. ....	277	6.0
Job captain, project chief .....	271	5.9
Specification writer .....	61	1.3
Draftsman, employee .....	233	4.9
Engineer .....	44	1.0
Not stated .....	4	0.1
<b>Total .....</b>	<b>4,572</b>	<b>100.0</b>

**Most graduated since 1930.** Almost one-fifth (19.5%) of all registered architects who responded were graduates of the four architectural schools that accounted for the largest numbers of registrants: University of Illinois (695, or 6.8%), University of Pennsylvania (555, or 5.4%), Columbia (376, or 3.7%) and University of Michigan (373, or 3.6%).

More than half (52.5%) were graduated since 1930. The distribution by time elapsed since graduation:

Year graduated	No.	%
1900 or earlier .....	72	0.7
1901 to 1910 .....	327	3.2
1911 to 1920 .....	846	8.3
1921 to 1930 .....	1,608	15.7
1931 to 1940 .....	2,175	21.3
1941 to 1945 .....	742	7.2
1946 to 1950 .....	1,674	16.4
1951 to 1954 .....	569	5.6
Did not graduate .....	348	3.4
Not stated .....	1,865	18.2
<b>Total .....</b>	<b>10,226</b>	<b>100.0</b>

\* Of those 1,141 at work in other than architectural organizations, 386 (33.8%) are with state, municipal and federal agencies, including the armed services; 201 (17.6%) in building construction and real estate; 156 (13.7%) in industry and manufacturing, and 130 (11.4%) in teaching.

**Current project activity.** The survey showed that four out of every five registered architects were working on nonresidential projects (almost two-thirds exclusively on non-housing jobs), according to the following tabulation:

Project activity	No.	%
Exclusively nonresidential .....	5,783	65.8
Nonresidential and residential .....	2,414	23.6
Exclusively residential .....	591	5.8
Not engaged in a project .....	1,438	14.1
<b>Total .....</b>	<b>10,226</b>	<b>100.0</b>

Another table in the report showed the number of architects working on specific types of new buildings, with supplementary data showing the number working on each type in different cost ranges—and the median estimated costs. A summary of this data:

Building type	No. Architects	%	Median Cost
Educational .....	3,441	33.6	\$826,000
Houses: housing projects .....	3,005	29.4	88,000
Churches .....	2,074	20.3	297,000
Office buildings .....	1,766	17.3	334,000
Stores, shopping centers .....	1,523	14.9	326,000
Hospitals .....	1,214	11.9	614,000
Factories .....	994	9.7	357,000
Recreation buildings .....	830	8.1	285,000
Public, government bldgs. ....	777	7.6	415,000
Apartments .....	657	6.4	458,000
Banks .....	521	5.1	257,000
Warehouses .....	377	3.7	256,000
Hotels .....	368	3.6	421,000
Military buildings .....	329	3.2	913,000
Research bldgs.; laboratories .....	216	2.1	740,000
Public utility bldgs. ....	174	1.7	488,000
Garages .....	152	1.5	330,000
Theaters .....	80	0.8	292,000
Miscellaneous .....	615	6.0	357,000

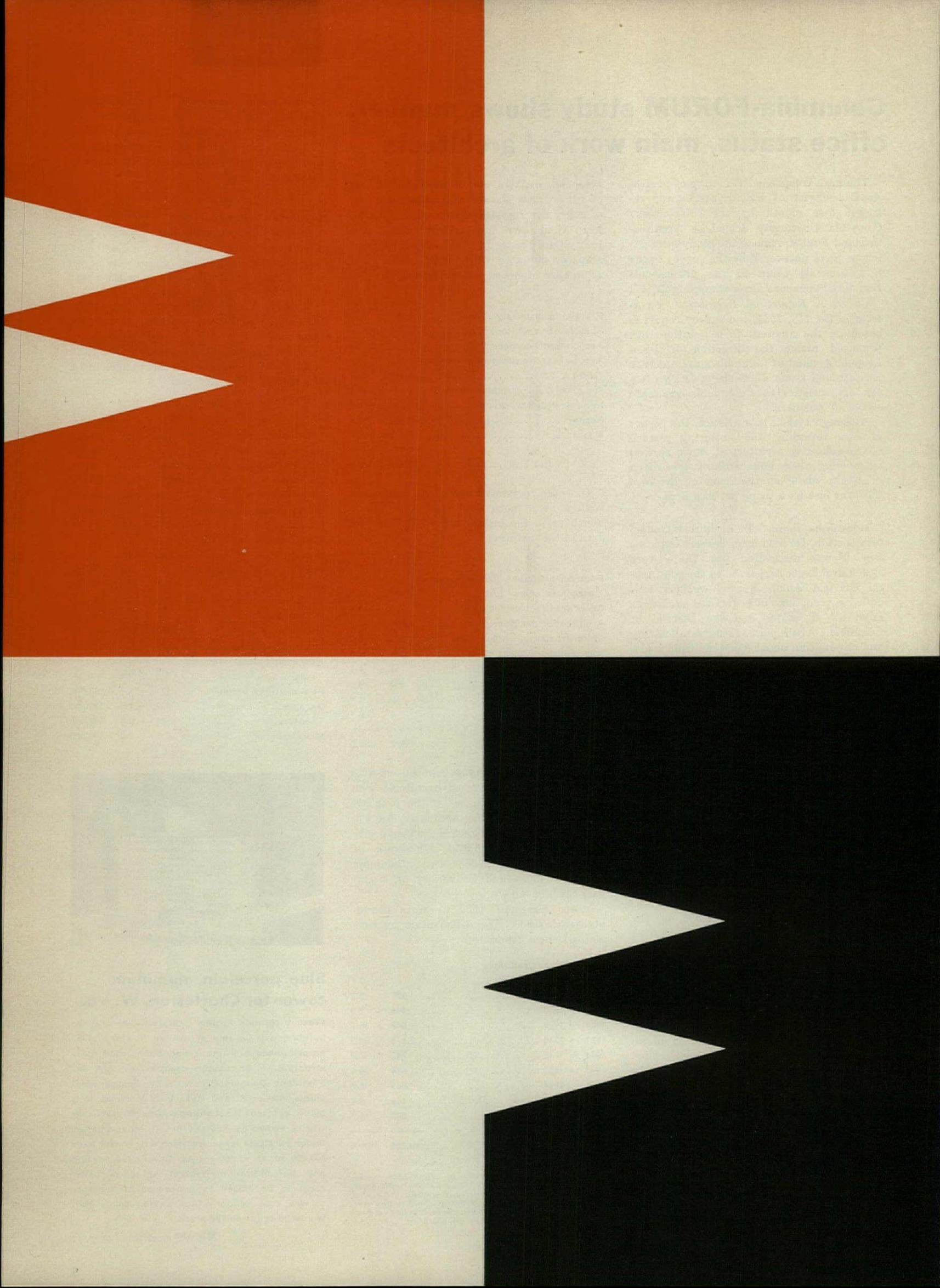


### Blue porcelain aluminum tower for Charleston, W. Va.

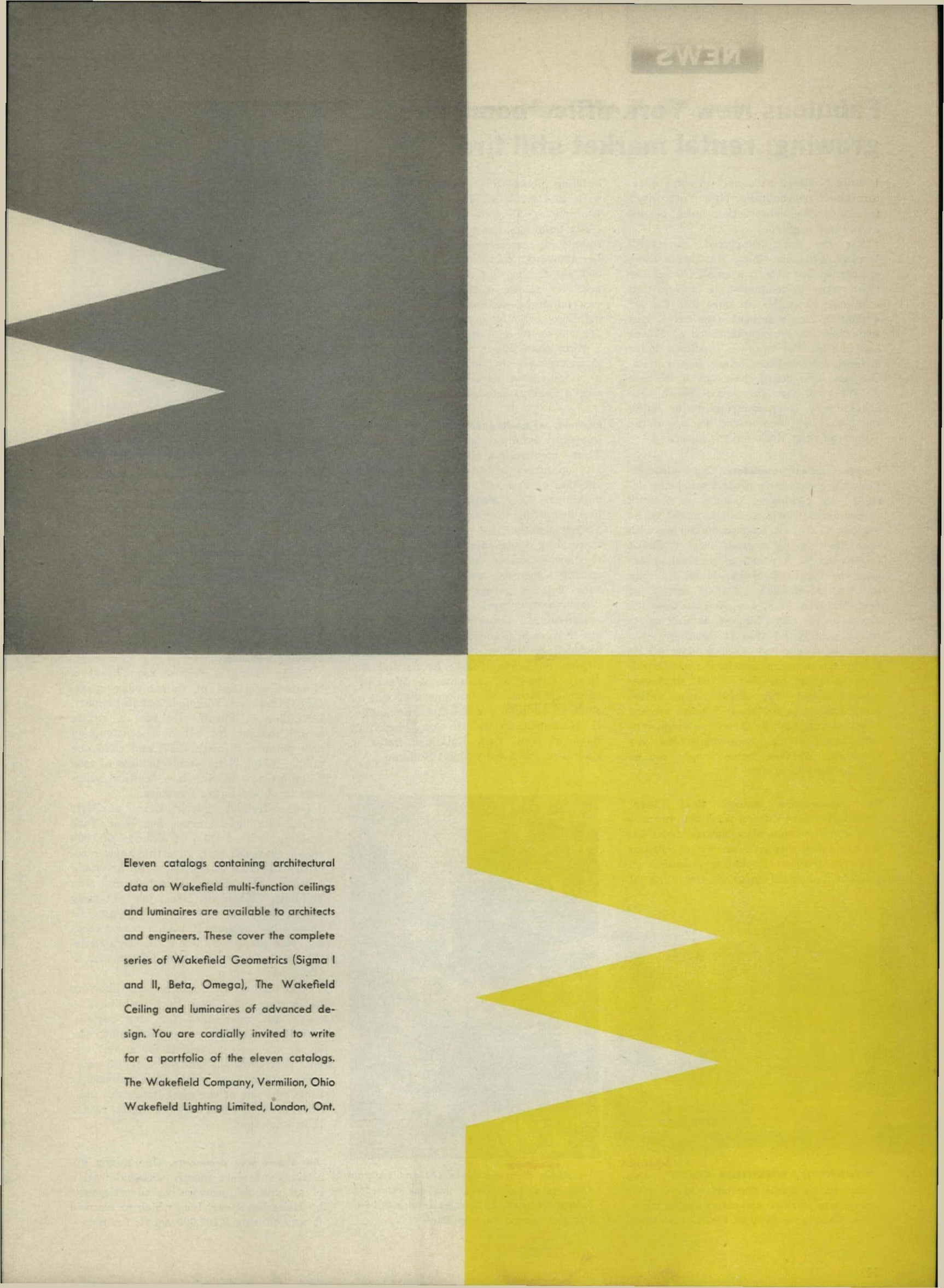
West Virginia's largest privately-owned office building will be this \$7 million 11-story blue-porcelainized aluminum and blue-tinted glass structure in Charleston designed by AIA ex-President Douglas Orr with Charleston associates Walter F. and Robert E. Martens. It is being erected for Columbia Gas System but will be owned by New York Life Insurance Co. under purchase lease arrangement. It will have 205,000 sq. ft. of floor area. Gas-fueled heating and air-conditioning system will allow boiler room to be placed in penthouse of separate service core section, thus saving space that would be required for stack.

NEWS continued on p. 12









Eleven catalogs containing architectural data on Wakefield multi-function ceilings and luminaires are available to architects and engineers. These cover the complete series of Wakefield Geometrics (Sigma I and II, Beta, Omega), The Wakefield Ceiling and luminaires of advanced design. You are cordially invited to write for a portfolio of the eleven catalogs. The Wakefield Company, Vermilion, Ohio  
Wakefield Lighting Limited, London, Ont.



## Fabulous New York office boom keeps growing; rental market still firm

Despite "concern as usual" in some quarters about overbuilding, New York City's fabulous office construction boom headed higher and higher.

For the dark, congested, canyonlike Wall St. area, the Chase Manhattan Bank announced last month a small Rockefeller Center-type development, a tower that will soar 60 stories or more into the air without a single setback (see cuts), cost somewhere in the neighborhood of \$75 or \$80 million. For uptown, predicted Peter Grimm, former Real Estate Board president and now board chairman of William A. White & Sons, news will break soon about "some very amazing major buildings" that will rise on the Avenue of the Americas near Rockefeller Center.

**"Biggest, tallest" candidate.** Chase-Manhattan's huge downtown project was being designed by Skidmore, Owings & Merrill. Nathaniel A. Owings said it might go as high as 65 stories. Even at 60 stories, with each floor having a gross area of almost 30,000 sq. ft., it promised to rival or exceed the full-block Socony-Mobil Building uptown, which has 1,274,000 sq. ft. of rentable area (AF, Jan. '55) to take the crown as the city's biggest, as well as its tallest post-World War II building.

The bank planned to consolidate all its headquarters operations in the new building, bringing together 8,700 employees now scattered inefficiently in nine different buildings in the area. For the present it would only say the structure would contain "some" rental space, while observers speculated whether "some" might run as high as 500,000 sq. ft.

**Most construction uptown.** Real Estate Board President Clinton W. Blume recently announced astronomical figures from the board's latest citywide survey of postwar office construction. Excluding several large projects publicized prior to the filing of

building plans, this totaled 84 buildings with 22,418,000 sq. ft. of useable area. Eliminating 16 owner-occupied and specialty buildings, the new competitive space completed, under construction or planned for 1956-1957 completion, totaled 19,914,000 sq. ft., more than all the space in any city in the world—in both old and new buildings—except Chicago. Forty-one buildings already completed contain 10,562,000 sq. ft. of competitive space.

More than 50 of the city's new office structures are up, building or planned in a concentrated pattern in the midtown Grand Central area (see map).

**Realtors in leading roles.** Discussing this immense building program last month, Blume credited the city's realtors and realty operators with a leading role in the creation of at least nine out of every ten buildings. They participate all along the line in putting the final "package" for the project together, he noted. This includes assembling a site; developing the "set-up" to show estimated construction costs, operating expenses, taxes and yield, etc.; then helping obtain the financing, the "key" to every project; also leasing.

Individual realtors Blume cited for their major roles in launching specific buildings included S. Dudley Nostrand of Cross & Brown, on Lever House; Leone and Anthony Peters of Cushman & Wakefield, on the 20 Broad St. Building that will include an addition for the Stock Exchange; E. M. Simon, on the 5th Ave. blockfront Bank of New York Building; Peter B. Ruffin, on the Socony-Mobil Building.



**INSURANCE DISTRICT** building on William St. designed by Emery Roth & Sons for Investor-Builders Ivor B. Clark and Erwin S. Wolfson.

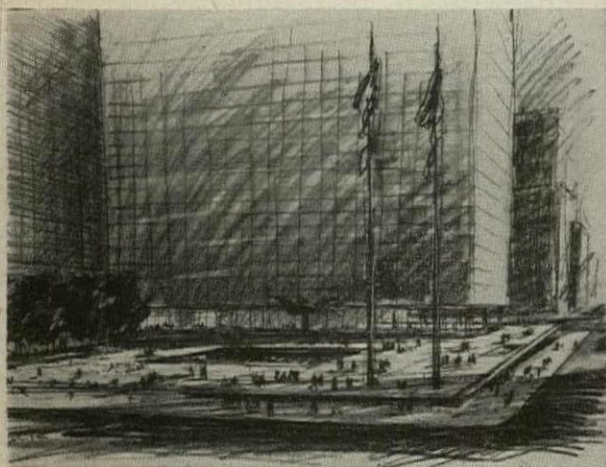
**Optimism predominates.** Blume radiated the confidence of many other top realtors in the ability of New York, as the nation's business capital, to absorb all currently projected space, and then some. He cautioned, however, that the "right location" would be the greatest single factor in any building's success.

Today there is "elbow room," but a "limited selection" of vacant office space, said Cushman & Wakefield's rental expert, L'Huillier S. Sheaff. He saw a strong rental market for all new construction now planned through 1957, and cited one unique minor trend—some tenants of new buildings now moving into "newer" buildings to obtain larger quarters.

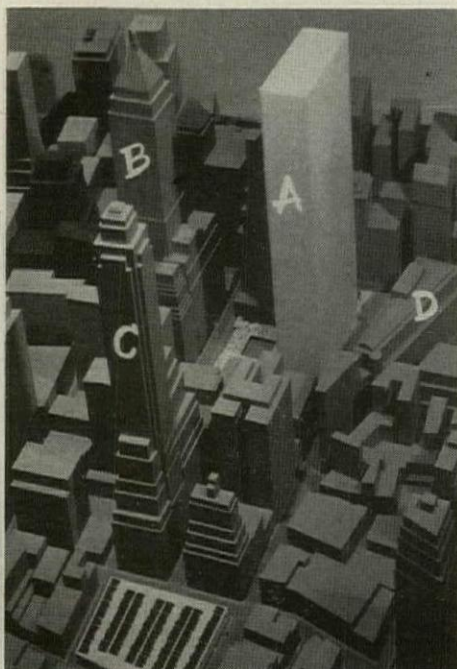
Owner-Builder Percy Uris, of Uris Bros., who have erected five New York buildings with a total of almost 3,000,000 sq. ft. since the war, gave this answer recently when he was asked when he would consider the market "saturated" and stop building: "When our latest job isn't fully rented before it is enclosed." Meanwhile he and his brother, Harold, were proceeding with plans for their sixth large structure, on a 3d Ave. blockfront from 46th to 47th Sts.

Although some vacancies were showing up in some older New York buildings, no space was unoccupied for long periods. Usually it was held vacant only until the owner was able to rent it for a considerable boost over the controlled rental rates former tenants enjoyed. This uptrend in rents was one of the most important indications of the market's strength, rather than weakness.

**Ad draws wry comments.** One minor upsetting note last month was publication of an unusual, provocative advertisement by Helmsley-Spear, Inc., which proclaimed it was offering 8,160,000 sq. ft. for rent—



**DOWNTOWN "ROCKEFELLER CENTER"** being designed for Chase Manhattan Bank would have large plaza (1) created by closing street, consolidating two Wall St. area blocks. Model



(r) shows proposed tower (A) and separate 1,000-car garage (foreground) as related to 40 Wall St. tower (B), Cities Service Building (C) and Federal Reserve Bank (D).



1,600,000 available immediately in existing buildings and 6,560,000 in existing buildings and new ones scheduled for occupancy by May, 1957.

These figures represented virtually the city's entire vacancy of scarcely 2%, and all the space still being offered in all projected buildings. As a blanket offer to find space for any prospective tenant, the same copy could have appeared over practically any licensed broker's name.

But Helmsley-Spear chief Harry B. Helmsley is chairman of the real estate board's business and commercial rent control committee and has been fighting recently to have the controls over existing office space declared unconstitutional.

Other realtors wondered whether his firm's advertisement was published with an eye to influencing the next session of the Legislature to terminate these controls, by calling attention to the amount of space for rent. Among themselves they also speculated whether the ad might backfire on the entire industry by giving prospective tenants the idea the market must be softening, thus causing them to delay in making new leases, while they wait for rents to decline. It might also shake the confidence of mortgage lenders and current investors who have shares in syndicates that own large office buildings, and it might discourage new investors.

**Contractors in equity roles.** Whatever turn the rental market took, short of complete collapse, there was little danger of any

great losses in New York's big office program. As a rule, first mortgage lenders conditioned all their commitments on the ability of owner-builders to produce long-term, firm lease commitments from first-class tenants sufficient to cover all obligations on their loan. Few, if any structures that failed to rent adequate space in advance would even be started. There has been no really "speculative" building.

Generally, owner-builders are also shrewd in holding cash investment in each building to a minimum, and in some cases are able to mortgage out. One practice towards this end that has been increasing steadily over the last three years: making the contract-builder take a share of the equity position. Recently this has even been extended to bring in larger subcontractors on different jobs.

Sometimes contract builders or subs have been required to "invest" part or all of their profits, but in other instances have even put up additional out-of-pocket funds—on some occasions reluctantly, on other jobs eagerly. There have been two reasons contract builders and subs have bowed to this practice: 1) to be sure of landing the job, against other competition, and 2) in some other cases actually to make money, after observing the high returns owner-builders have made on most projects, compared with the hard earned, but far lower income the contract builder was able to make on the same projects—on which the contract builders did most of the real "work" anyway.



**SECOND AVENUE** building, from 42nd to 43rd Sts. designed by Pomerance & Breines, was originally going to be an apartment structure, but persistent demand for business space in Grand Central-UN area caused owner Joel W. Schenker and associates to change plans, switch to an office building.

in only 10 years with 5% interest would cost only about \$3.15 a year, or 21¢ per ft. more in rentals; amortizing it over 20 years would raise rents only about 14¢ a foot. In negotiating \$5- and \$6-a-foot rents for new buildings an extra 14¢ to 21¢ is a relatively small matter, and once obtained in a lease with a prime tenant, for a 20-year period—the developer is "in."

**Price changes, and ranges.** Hardly any two city plots are exactly comparable in value, because of different new-building space potentials, or closer proximity to railroad or subway stations etc. Indicative of trends since the war, however, one large avenue blockfront near Grand Central sold for about \$34 a foot in 1943, a blockfront about the same size, but a block farther away was sold in 1951 for \$62 a foot. Nearby another blockfront sold for \$68 a

*continued on p. 16*

## NY boom doubles uptown land prices; key parcels—\$250 psf. bid, \$300 asked

Since World War II land prices for choice Grand Central-midtown office building sites have practically doubled—and are still accelerating. But coming out of the cellar depths they fell to in the depression 30's and early 40's they are still considerably below their high (perhaps excessive) peaks of the boom 20's.

During the previous boom, for instance, 5th Ave. prices rose as high as \$300 and even \$400 per sq. ft. But in the present scramble for office sites the highest 5th Ave. prices have only been about \$150 a foot—and the value of leased sites from \$150 to \$230 a foot, assuming 5% capitalization of rentals. (Big exception: the \$425 a foot Metropolitan Life reportedly paid for the land at the northwest corner of 42d St. and 5th Ave. But this already is improved with a huge seasoned, well-tenanted first-class structure, so this sale is really not comparable with regular building site sales.)

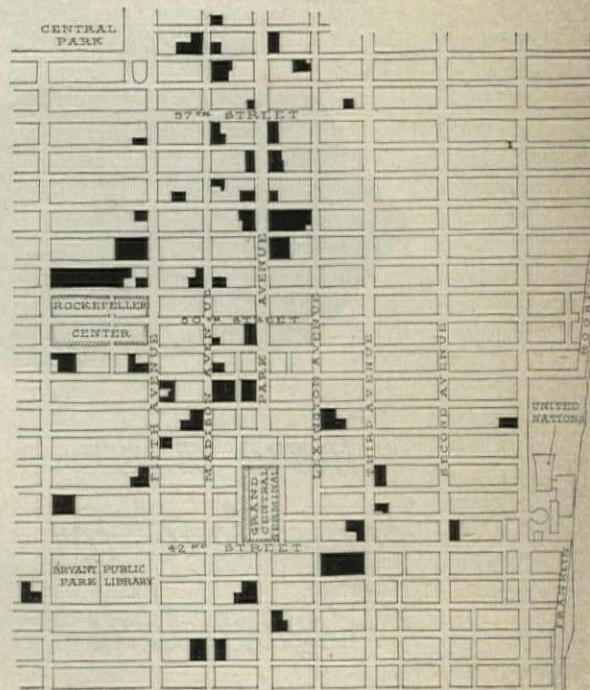
**Two-way squeeze.** Choice NY land values took a beating through the depression, and then through the inflation of the 40's and 50's. Under rent control, receipts went up very slightly, but operating expenses rose substantially. As net income sagged, and structural replacement values rose (as a result of inflation), the residual value

of a property attributable to its land had to be reduced under any appraisal that capitalized net yield. (Another factor that devalued plots suitable for building: zoning changes over the last 25 years that decreased floor areas of potential new buildings as much as 30% in some instances.)

As the vast midtown office building boom really got into stride after 1952, however, and suitable sites became scarcer every month, a reverse twist on the devaluation "squeeze" process came into play to send prices soaring upward again with comparatively little restraint.

**All in the rent bill.** Under present building and financing plans, in fact, which now start with the leasing and then work backwards to construction, an owner can virtually buy his site on a time-payment plan, with price a far less important consideration than formerly. For practical purposes, it might be said, land cost can now be buried almost unnoticed in the tenants' rent over a long period.

Example: Assume a \$25 (or approximately 15%) increase in land prices over recent choice location sales at \$150 to \$165 per sq. ft.; also assume rentable floor area will be about 15 times plot area. On this basis an extra \$25 a foot amortized



**CONCENTRATION** of New York's post-war office construction in the Grand Central area is indicated by this map locating new and proposed structures, all but a few of them already completed or now under construction.



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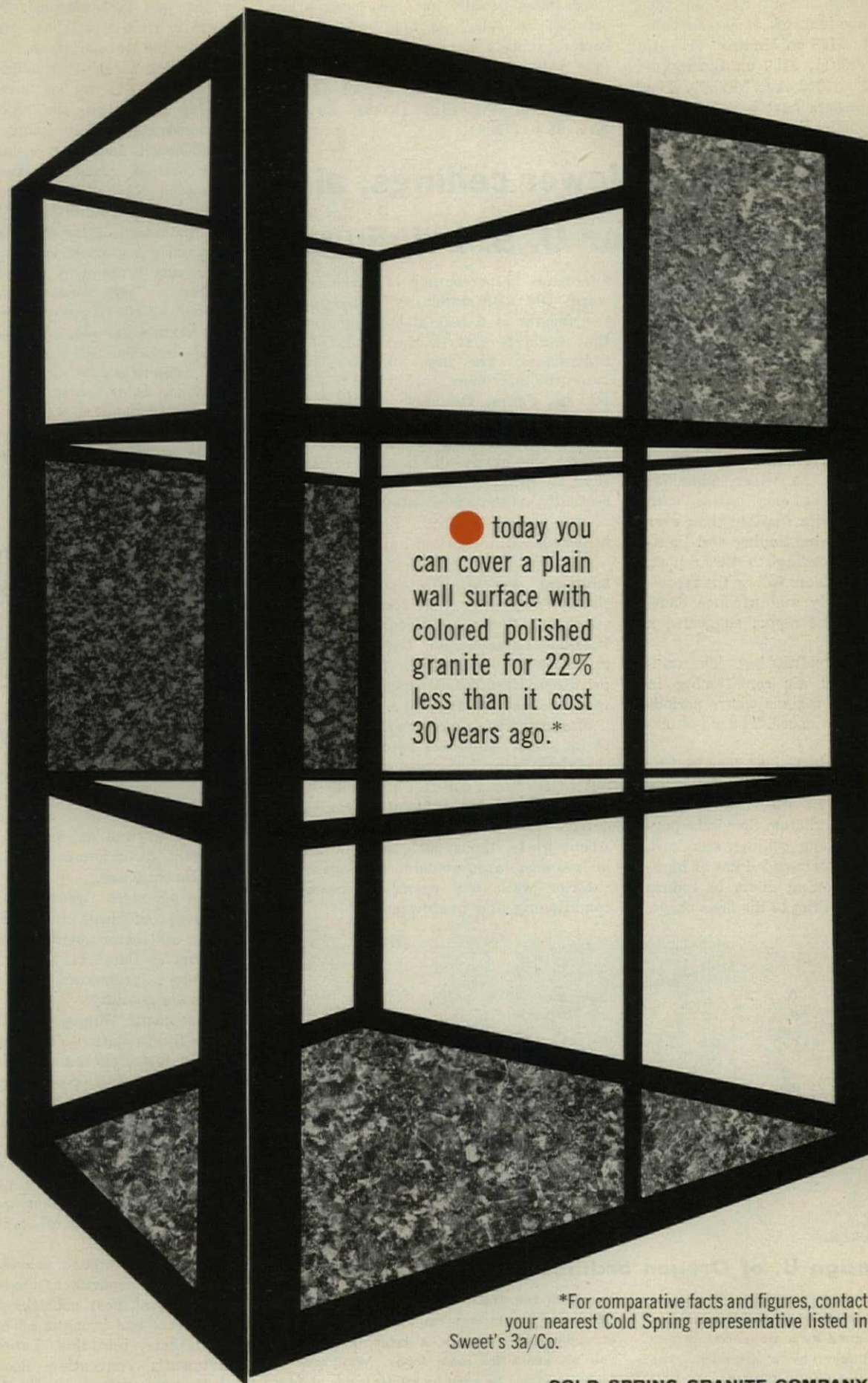
Reznor has distributors in more than 300 cities. Most of them maintain complete warehouse stocks. Wherever your job is located, you can specify "Reznor" with complete assurance that the equipment you call for will be available where and when it's needed.

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foot in 1950, the facing blockfront for \$75 a foot a year later.

Highest reported sales prices in the current boom have included \$150 a foot on 5th Ave. (1954); \$145 on Madison (1954), \$100 on Park (1951), \$100 on Lexington (1955) and \$52 on 3rd Ave. (1954). The prices holdout owners have asked for key parcels for assemblies, however, reportedly

have run to \$300, against \$250 offers.

Assuming a 5% capitalization, values of leased sites usually have exceeded prices obtained in sales. At this rate, for instance, rentals have represented leased-land values on 5th Ave. as high as \$180 a foot (1949) and \$230 a foot (1954); on Madison Ave. \$150 (1948); on Park Ave. \$155 (1954).

## Block-type designs, lower ceilings, air conditioning urged for U. S. buildings

Recommendations for simplified design and less expensive—but better—public buildings were worked out recently in the report of a committee of architects and contractors who studied federal building practices for the General Services Administration.

Biggest suggested changes:

► Construction of more block-type office buildings. A switch from elongated and wing-type buildings to wider, chunkier buildings that enclose more space with less wall is made more feasible than ever by advances in air-conditioning and lighting techniques, according to the report. But, lest federal builders follow the recommendation too closely and produce enormous superblocks, the report suggested a width limit of 250'.

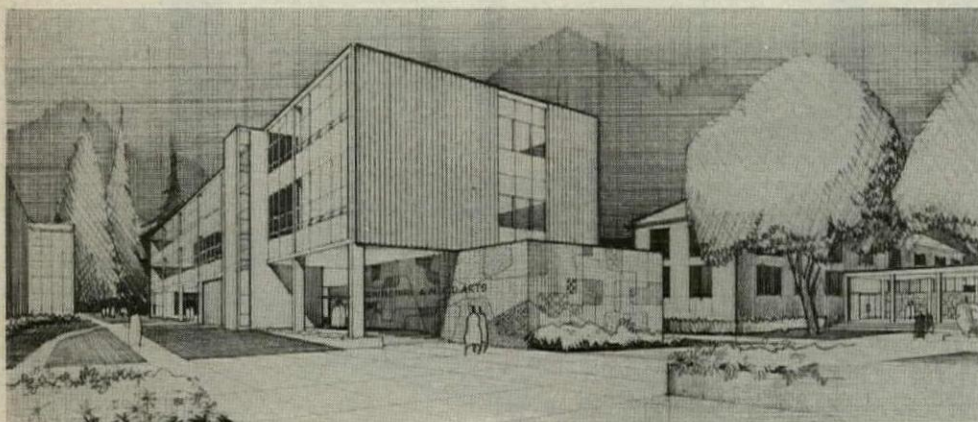
► Wide use of air conditioning. The committee recommended air conditioning in buildings erected in regions where periods of 80° heat are experienced. The old standard was 84°.

► Lower ceilings. Reduction of floor-to-floor distances was recommended. The extension of air conditioning to almost all regions within the Public Building Service's purview would make hung ceilings standard, so the committee recommended use of high-velocity air conditioning ducts to reduce the distance from ceiling to the floor above.

► Increase in percentage of subcontracted work. Old PBS standards limited to 75% the amount of a federal building contract that could be put in the hands of subcontractors. The new standards would raise the maximum to 88%, a far more realistic figure. Designed to keep brokers out of the federal building business, the old rule often required a general contractor who always did his own brickwork, say, to include other types of work—normally subcontracted—to bring his share of the project to 25%. This resulted in inefficiencies that raised building costs.

**Structural changes.** The committee cautiously suggested consideration of prestressed members in federal structures. Possible reduction of live-load requirements will be studied, the committee promised. High tensile-strength bolts were recommended for framing.

Masonry was favored as a wall material. Metal skins should not be considered "for the time being," recommended the committee, for "such covering might be subject to air and water infiltration and other defects that have yet to be corrected." About glass, the report said: "... the inclusion of large amounts of glass in the exterior walls will greatly increase air conditioning and heating costs."



### Students design U. of Oregon architectural school building

A new center for the architectural unit of Oregon University's school of architecture and fine arts was designed by a student team and adapted to the budget by a professor. The school's architectural unit will be housed in a three-story addition, above. Allied arts will be taught in the existing building, which is being remodeled. Putting all functions of the school under one roof will mean elimination of quarters in use since the end of World War II. In-

cluded in the 65,000 sq. ft. building will be a 225-person auditorium, equipped for all manner of audio-visual devices, a large review room and an exhibition-room lobby. Wall area in foreground can be used by students for mosaic, ceramic tile and fresco experimentation. Student designers: Ralph Carpino, Roger Shields, George Seeley and Dave Wilson. Faculty supervisors: Robert Ferens and Walter Ruff. Architects of record: Annand, Boone and Lel.

**Space savers.** Corridor widths can be reduced, said the report. A 5' minimum width was recommended. Wide corridors were criticized as space wasters and as irresistible storage areas.

Location of elevator lobbies and service areas should be studied with an eye to reducing space loss, the report urged. To demonstrate what it meant, the committee published its ideas for replanning elevator and corridor locations in the federal court house in Nashville and the General Accounting Office Building in Washington.

Elimination of the galleries from which post office inspectors spy on clerks sorting mail, and consequent elimination of high ceilings in post offices, might be accomplished by closed-circuit television.

A certain naiveté, which seems bound to creep into federal studies showed up in the committee's report in two or three sections. At one point the committee overran the efficiency it was pursuing. "Buildings should be designed from the inside to the outside," the report said. "When a building is properly planned, the exterior will be pleasing."

### Jurisdictional disputes board reinforced by building unions

Since its formation in 1948, the National Joint Board for the Settlement of Jurisdictional Disputes has gained steadily in prestige and strength.

Stamping out the crippling jurisdictional strikes that were characteristic of the building unions was no easy task, but the board had no choice. Under the Taft-Hartley Act the building trades' alternative to settling their own disputes among themselves was an endless series of unpleasant cases before the National Labor Relations Board.

During recent years the joint board, composed of three union representatives, three contractor members and a neutral chairman, John T. Dunlop, a Harvard economics professor, has survived considerable hostility.

Last month Dunlop and his backers had cause for jubilation. Their procedures for setting jurisdictional wrangles were made stronger than ever—in fact, they were institutionalized—by inclusion in the constitution of the Building and Construction Trades Dept. of the AFL-CIO. No out was left for unions that chose to disregard the board's rulings, for the constitutional amendment made the procedures binding on all affiliates of the department.

When the proposed amendment was offered to the department's executive council for approval, neat politicking by Dunlop's supporters had brought all but one union, the lathers, into line. Later, on the department's convention floor, opposition again came only from the lathers. After the convention lather President Lloyd Mashburn announced he was appealing to the AFL-CIO executive council to upset the amendment, charging that autonomy of affiliated unions was at stake.



## California architects mull fee problems; Florida group shuns "bid" solicitation

Architects fees and their ramifications were the subject of pointed collective discussions among AIA groups last month in both Florida and California.

Proposed changes in the "recommended schedule of compensation" of the 1,500-member California Council of Architects to be considered this year were reviewed at a small but spirited meeting in Santa Barbara called by the council's architectural practices committee. Except for one show of hands that indicated the majority present opposed a "sliding scale" in any revision, this meeting took no formal action on any specific points. It was primarily an exploratory or pulse-feeling session, so the committee could hear and discuss the ideas of all interested parties before drafting its recommendations and report. Discussion highlights:

► Napa County Assemblyman Samuel R. Geddes (D), a contractor, who has said he will introduce a bill in the Legislature to cut architect fees on state school projects from 8% to 1.5%, was criticized as a publicity seeker, and his statements attacked as "irresponsible." In calling the meeting, architectural practices Committee Chairman George Allison of Los Angeles said there was a serious "threat" of school building fees "being arbitrarily established by legislative action" under Geddes' proposal.

► Council Counsel Robert Burns, in a letter to the meeting, warned against any action that might contain any inference that its purpose was to "fix fees." On the other extreme, almost unanimous opposition was voiced after another letter was read from Rex Whitaker Allen of San Francisco, who proposed this architectural contract award system: the prospective client would be given a recommended schedule of charges prepared by the AIA chapter for his area; then the client would call for architectural service bids in an advertisement that stated what he proposed to pay for his contemplated project.

► The most spirited discussion of the day-long session occurred late in the afternoon, when "fee cutting" by AIA members was scored. At another point a program to teach the layman how an architect earns his fee was proposed. There was sharp opposition, however, when it was suggested that a compensation schedule be included in a brochure for public distribution that might be prepared for this purpose.

**School board cuts rates.** Chairman Allison's call for the meeting also took note of the "threat" of arbitrary fees being established "through fiat" by city and county governmental bodies. In this connection, for instance, the Los Angeles Board of Education announced late in November a reduction in its former fee scale, which had been 8% (the CCA recommended com-

pensation) on projects costing up to \$1.5 million, and 6% for anything over \$1.5 million (or 7% and 5% respectively if the school district furnished services, such as drawings). The board's new scale: Full service contract, 8% for projects to \$1 million, 7% from \$1 million to \$3 million, and 6% above \$3 million; modified contract, some service provided by the school district, 7%, 6% and 5% respectively.

**Rebuff to Florida board.** Across the continent in Pinellas County, Florida, the county school board sent form letters in October to various county architects (mostly in St. Petersburg and Clearwater) inviting them to submit perspective drawings, materials information, a construction cost estimate, "and the architectural service fee for the completion of drawings and supervision" in erecting an elementary school.

In November Howard F. Allender, president of the St. Petersburg Society of Architects, wrote the school board and named 17 architects who had attended a special meeting and subscribed to his letter, declining to have architectural services solicited in this manner. All, however, said they would be willing to fill out AIA-type questionnaires or compete according to the AIA rules.

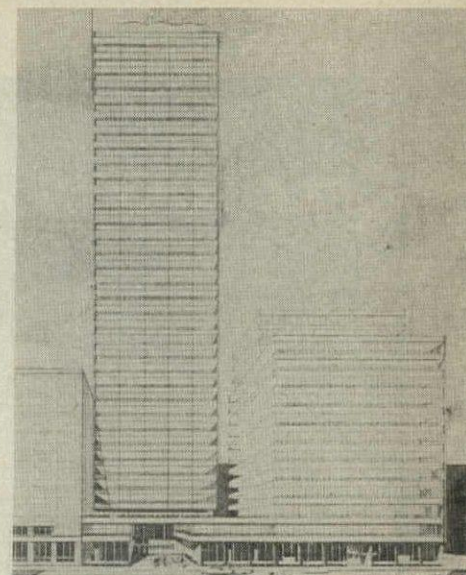
## Crippling LA teamsters strike tests industry role of drivers and employers

There is a myth in construction that the teamsters union is a responsible member of the AFL-CIO's Building and Construction Trades Dept.

Nobody really believes the myth, least of all the teamsters, but there is good reason for preserving the fiction, for enough truck drivers are employed directly by construction contractors to bring the teamsters partially within the family of construction unions. The other 18 big construction unions—and a good many of their contractor employers—occasionally wonder if the teamsters in the building supply industry, and the suppliers for whom they work, can ever be made to feel their part in the construction industry.

Once or twice a year, when a drivers' strike starves big building projects of supplies for a month or two, union officials and contractors agree that steps must be taken to bring the teamsters and their supplier-employers into the bargaining and dispute-settling programs that normally preserve stabilization in construction in most big metropolitan areas. But the efforts seldom get beyond the table-pound-in stage.

**Another big one.** Last month the whole question of the relation of supply truck drivers and their employers to the build-



### 38-story reinforced concrete tower to be built in Toronto

Construction of one of the tallest reinforced concrete buildings in the world will be started early this year in Toronto. The office structure's 38 floors will be rib slabs cantilevered around a center core of reinforced concrete, giving clear-span office space from the core to perimeter walls. The core will be given additional support with steel for its first 15 floors to carry the crushing weight of the 500,000 sq. ft. building. Costs have been estimated at \$15 a sq. ft., according to the developers Yolles & Rotenberg. Architects are Page & Steele.

ing industry was pushed into the foreground again by the three-months-old strike of 1,600 drivers employed by 29 sand, gravel and ready-mixed concrete firms in the Los Angeles area. Nobody agreed on exact proportions of the strike: driver employers said \$500 million worth of construction was halted, idling 100,000 building workers. The striking drivers said these figures were exaggerated, but no one could disagree that construction in Los Angeles was virtually at a standstill.

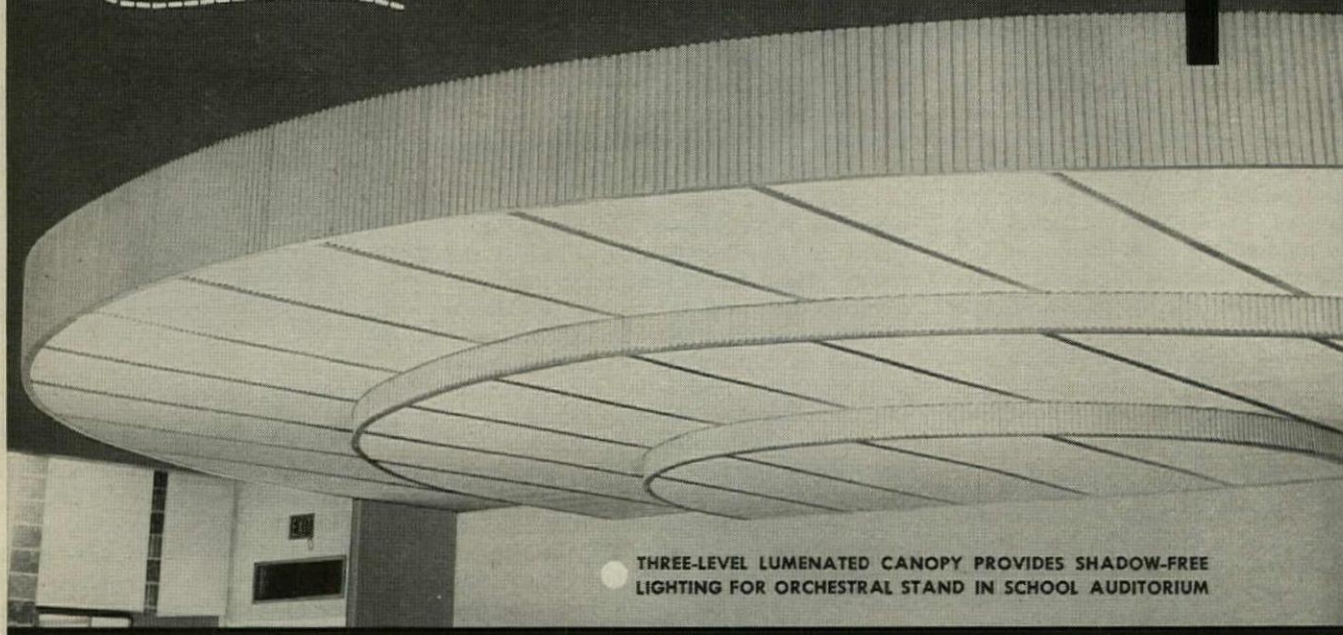
The Los Angeles strike had nothing—yet everything—to do with building contractors and their employees. The main issue was whether the 29 suppliers should contribute to an 11-state teamster pension plan in which the employers said they would have no administrative control. There were other issues: arbitration of disputes and discharge procedure. Construction supply teamsters were but a small fraction of the total number of truck drivers covered by the plan in the western states, but Los Angeles construction could hardly have been affected more by a major labor dispute completely within the building industry.

The Los Angeles Building Trades Council sided with the strikers, but it was doubtful if the strike would have been any

*continued on p. 20*



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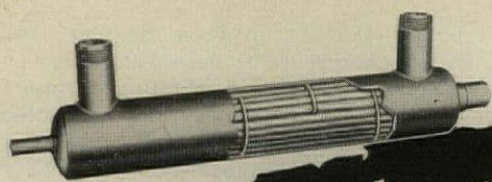
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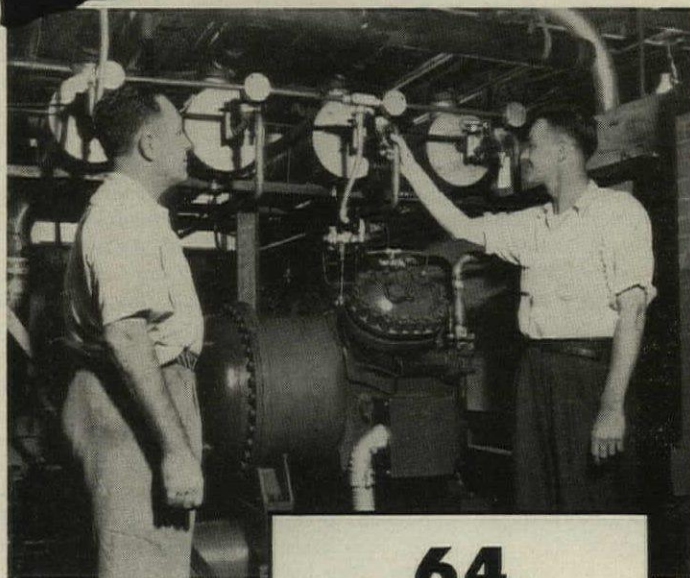






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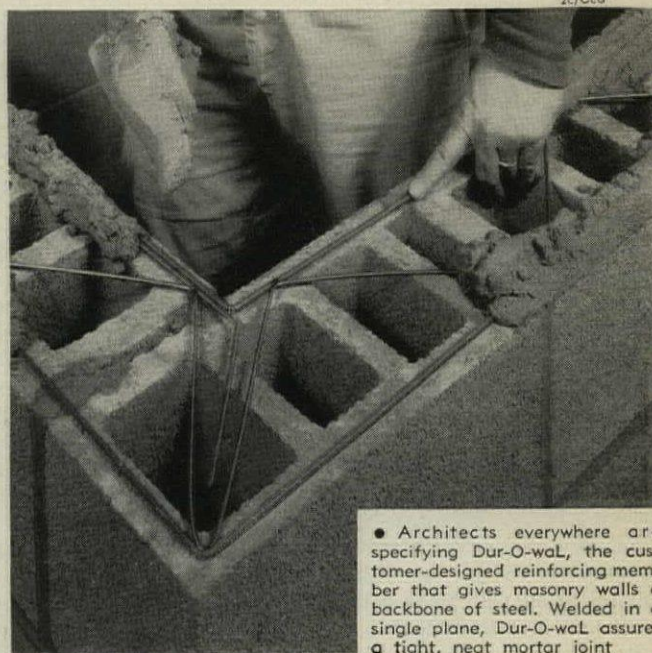


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less effective if they had opposed it. Said J. J. Christian, head of the building union group: "We're not crying about our members being out of work." But it was evident that Christian and other building union leaders had made efforts to bring the strike to an end.

**Absentee direction.** As happens in many long strikes, pride and prestige became substituted for solid issues in Los Angeles. Negotiations were broken off again and again over such issues as whether or not one side or the other was willing to take a position in writing. And there was plenty of help from outside of Los Angeles too. The employers' national groups, the National Sand & Gravel Assn. and the Ready Mixed Concrete Assn., were keeping close tabs on the strike, and there was little doubt that the Western Conference of Teamsters was pulling strings from Seattle.

Strikes by building supply drivers in recent years have established how independent the teamsters feel from the building trades. Example: In the summer of 1953 sand, gravel and ready-mix concrete

drivers in New York, fighting among themselves, tied up New York construction for two summer months, despite despair and opposition by New York building union leaders.

Cooperation of teamster leaders with other building unions is a sometime-thing,

usually showing up when the four basic heavy-construction trades—teamsters, carpenters, laborers and operating engineers—negotiate with highway and excavation contractors. But in their role of building material drivers the teamsters seldom have felt part of the building industry.

## Labor merger intensifies conflict between building, industrial unions

Two dozen workmen laying cast iron pipe in a frozen ditch in St. Louis last month, and a little cluster of pickets watching them, were the frontline troops in a battle which—for the construction industry—represented the only serious source of trouble in the AFL-CIO merger.

In New York, at the same time, platformfuls of labor leaders were assuming the postures of peace and amity. Some of them, however, top brass of the plumbers union, for example, were concerned whether the merger would bring into conflict some of the AFL building crafts and the CIO industrial unions. The plumbers warned that the constitution of the new AFL-CIO permitted dual unionism, allowed industrial unions to bargain for—and get—construction work in factories and elsewhere which should be done by construction unions.

**A place to talk.** If the building unions' anxieties were not dispelled by the wave of enthusiasm and good feeling that accompanied the merger, they were assuaged by the knowledge that a permanent joint committee had been appointed so the construction and industrial unionists could talk over their differences, or at least get to know one another. And, in the scramble for representation in the new Industrial Union Dept. of the AFL-CIO, ten of the building unions tossed a total of 1,285,500 of their members into the industrial bin.

Meanwhile, in the St. Louis ditch, exactly the trouble that was feared was

occurring. The issue: the St. Louis County Water Co., a private utility, had started to run a 30" water line between a new pumping station on the Mississippi and a new filtration plant 3,000' away. It was using its own construction workers, members of the Utility Workers Union of America, CIO (now members of the Industrial Union Dept. of AFL-CIO). But Edward Henry, acting business manager of the AFL plumbers union local, lost little time in putting pickets on the project. He claimed that his members—employed, of course, by a plumbing contractor—should have been hired to do the work.

Work on the pipeline job did not stop; the industrial union members felt no compulsion to honor a picket line that, after all, was directed against them and their jobs. But building work did stop on the pumping station and filtration plant, representing perhaps \$1.5 million in construction. Both of these were being erected by contractors using building tradesmen.

**An old problem.** How the water company planned to get work resumed was unimportant, for the remedy, whether it was an injunction or a face-saving compromise between the disputing union business agents, would not contribute to a solution of the basic problem: how to eliminate overlapping jurisdictions among industrial and craft unions.

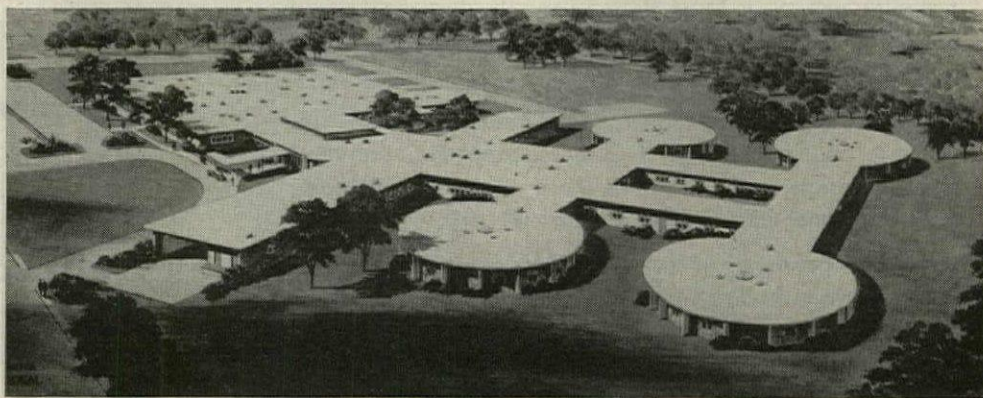
The problem was not new, nor was the St. Louis skirmish a direct result of the merger. Union officers like Henry have

### Twin hospitals to provide greater convenience, safety

Groundbreaking for twin hospitals about 10 miles apart in Wayne and Lincoln Park, Mich. took place Oct. 30 in both communities. Sponsor was the People's Community Hospital Authority, which eventually will operate four institutions in fast-growing Wayne County, decided on dispersed facilities instead of one big unit for: 1) greater convenience for patients, doctors and visitors in each district, and 2) greater safety in case of atomic attack.

The identical structures now abuilding (see cut) have been planned for 250 beds each, but initially will be erected to only 122-bed size. Modern features will include large multipurpose day rooms on each nursing floor to be used by both visitors and ambulatory patients. For any of the latter who prefer to eat away from their rooms, these will also serve as dining rooms. Surgical, laboratory, X-ray, nursery and other special rooms will be air conditioned.

Architects-Engineers Smith, Hinchman & Grylls designed these reinforced concrete and brick-and-glass covered structures. Dr. Christopher G. Parnell of PCHA and Adolf Roessling acted as consultants. Costs are \$2.5 and \$2.3 million; differ only because of different foundation conditions.



### Medical center at Brookhaven will have its own reactor

An atomic medical research center, complete with its own nuclear reactor, will be built at the AEC's Brookhaven National Laboratory, Upton, LI. The \$6 million center was designed by Architects Eggers & Higgins primarily for research. Patients will be cared for in the circular buildings at right, each with a nursing

station in the center. The square building (1) will accommodate research divisions. Building a separate reactor for the center will take a load off Brookhaven's general-purpose reactor, whose sporadic utilization for medical runs interrupted other research projects. Drawing does not show reactor.



put pickets on many similar projects. In fact, maintenance work and new construction performed by regular employees of manufacturing firms, railroads and utilities has been estimated to cost construction contractors and their craft-union workforces some \$2 billion worth of work each year. And the figure is growing.

The Associated General Contractors of America, the nation's biggest contractor group, has been watching the ditch in St. Louis closely. So have national leaders of the building unions.

Now, with the top-level merger a fact, concern in the building trades and among contractors has been intensified. The energy with which the CIO had competed with the AFL must now be dissipated some other way. There already has been much talk of an organizational frenzy, and it seems a sure bet that most of the effort will occur in the Industrial Union Dept. headed by Walter Reuther.

**Extinction possible.** Some building union leaders are secretly worried about their future. For example the ironworkers union could face extinction should the United Steelworkers of America pressure structural steel contractors into using their members instead of ironworkers to erect steel framing for buildings. Today most structural steel is fabricated by steelworkers, erected by ironworkers.

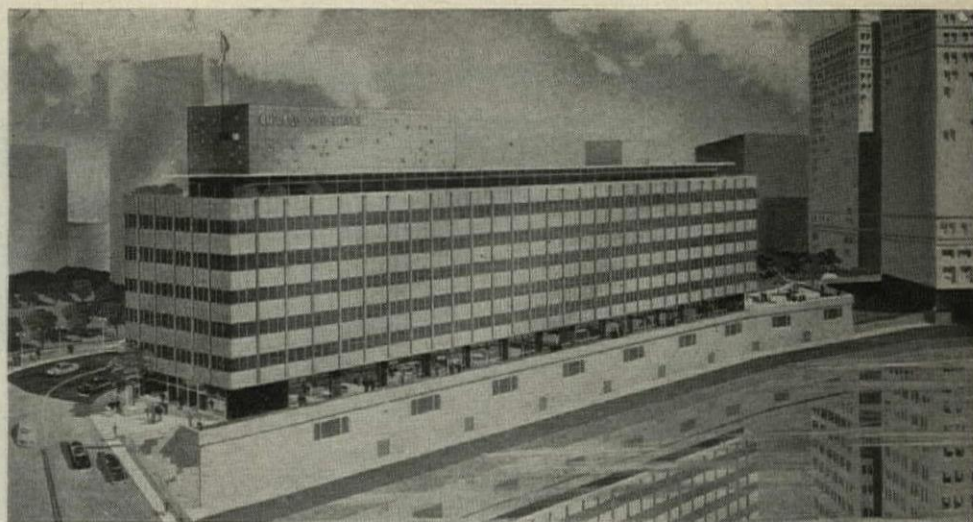
In the competition for new union members, the building trades are at a disadvantage. Most of their concern in recent years has been with preservation of the status quo and they have not changed their attitude since the merger. But the fact is the building trades are no longer the dominant force in the AFL-CIO. The IUD is on the offensive, for Reuther has an empire to build.

### State lease-purchase deals OK in Wis., taboo in Wash.

Lease-purchase plans for construction of public buildings were approved by the highest court in Wisconsin recently, but almost simultaneously vetoed by Washington state's top judges.

Approving a Wisconsin law to pave the way for about \$6.5 million of new state office and university buildings, the Supreme Court of that state unanimously said: "We are constrained to determine that the assignment and pledging of the state's rental obligation did not create a state debt, and that by consenting to such an arrangement the state did not loan its credit contrary to the constitutional provision in question."

But in Washington, where the legislature had voted a \$12 million university and state buildings program by a building authority that would float bonds to be retired by lease-purchase income, that state's Supreme Court tossed out the law with a decision that declared: "The law is not a leasing arrangement between landlord and tenant, but the installment purchase by the state of certain buildings and facilities with state money raised by taxation, far in excess of the constitutional limitation."



NINE-STORY "SUN-TIMES" PLANT TO BE TOPPED WITH HEATING UNIT, HELIPORT



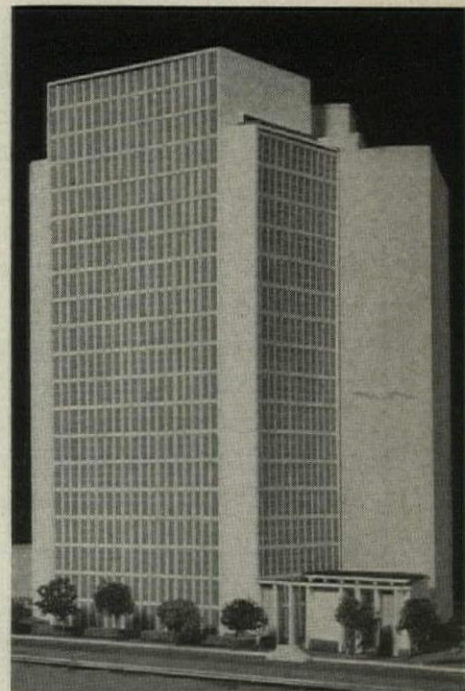
COOPERATIVE OFFICE BUILDING NEAR THE LOOP PLANNED FOR SIX BIG TENANTS

### Three new Chicago buildings with special purposes features

Ground has been broken for two of three special-purpose buildings in downtown Chicago. The third is being designed.

► The traffic, communications and materials movement requirements peculiar to newspaper production dictated design of a new \$15-million plant for the Chicago *Sun-Times*, earth for which was turned in November. As horizontal as the nearby *Tribune* Tower is vertical, the plant is a study in attractively packaged efficiency. In general, the flow of ingredients of the newspaper is downward through five levels, from the policy-making offices (fifth floor), through the big, open newsroom (fourth floor), through the composing room and stereotype department, (third) to the press room (main floor). Newsprint will be delivered to the ground floor by barge—the plant will be built on the Chicago River—and by rails leading into the plant. Circulation trucks will move out through an interior concourse. The \$15 million building will be the first new structure in Chicago's proposed Fort Dearborn redevelopment. Architect: Naess & Murphy.

► Construction is scheduled to start in May on one of the first co-operative office buildings in the country, a six-story \$17.5 million glass structure on the Chicago River between Monroe and Adams Sts. The deal, put together by Chicago Realtor Arthur Rubloff: the University of Chicago, which bought the block recently, leased it to a new corporation which offered stock to six big firms who will occupy the building as owner-tenants. Architects: Skidmore, Owings & Merrill.



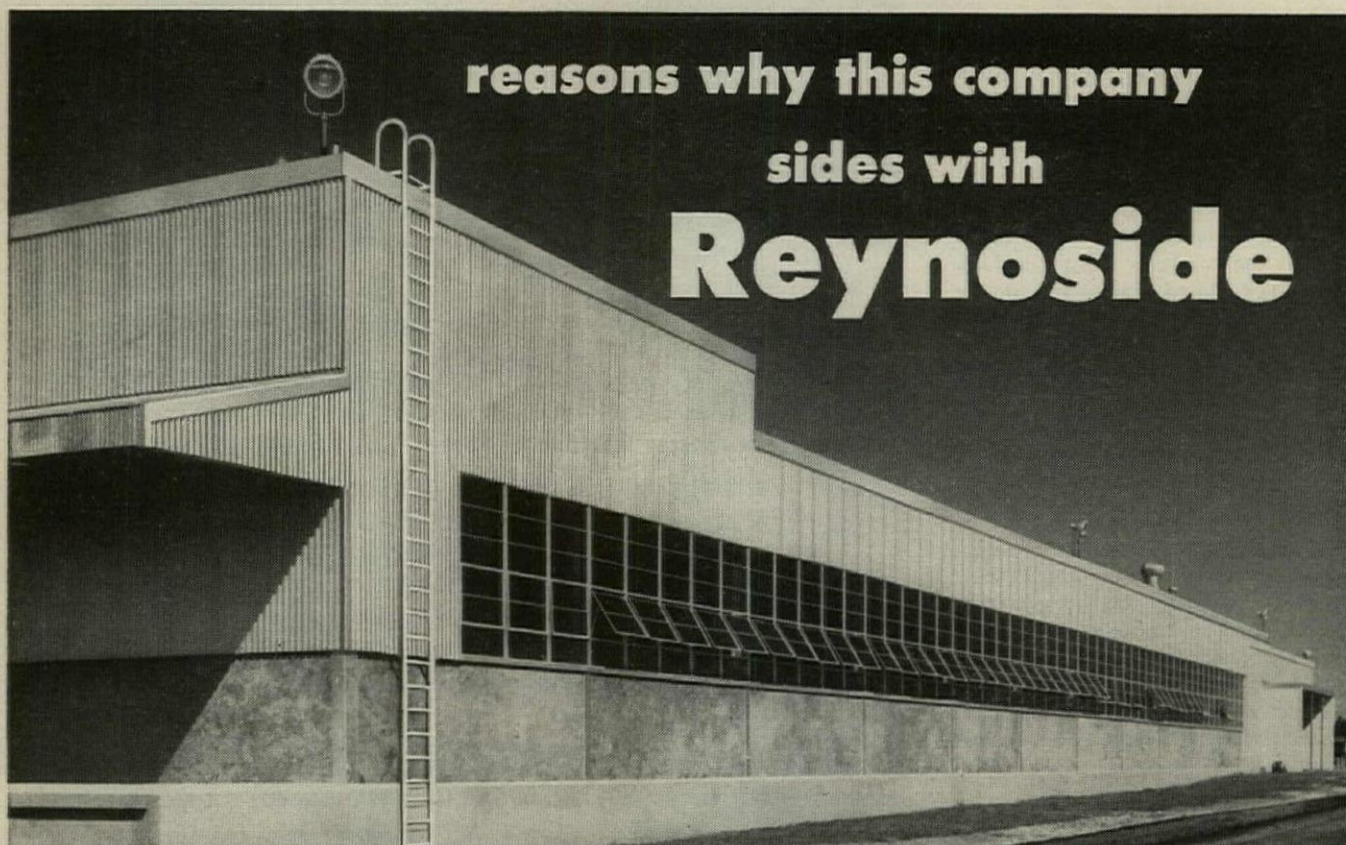
HOSPITAL AFFAIRS CENTER IS STARTED

► Excavation was begun in November for a 17-story building on Lake Shore Drive to serve as headquarters for the American Hospital Assn. and a score of other hospital-affairs organizations. From the first to fourth floors the \$5 million building will have a library, meeting rooms, eating area and mailroom and duplicating services available to all organizations. The rest of the building will house offices of tenant organizations. Architects: Schmidt, Garden & Erikson.

for news about PEOPLE—p. 25



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Finish: Stipple-embossed.

Lengths: From 5' to 14' 5 1/2". Special lengths to order.

Width: 41 3/8" over-all; nominal coverage 40".

Weight per square: (A) 59.4 lbs.

(B) 53.1 lbs. (C) 66.4 lbs.

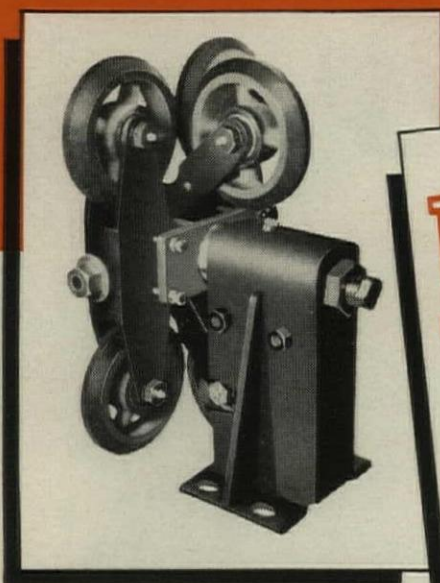
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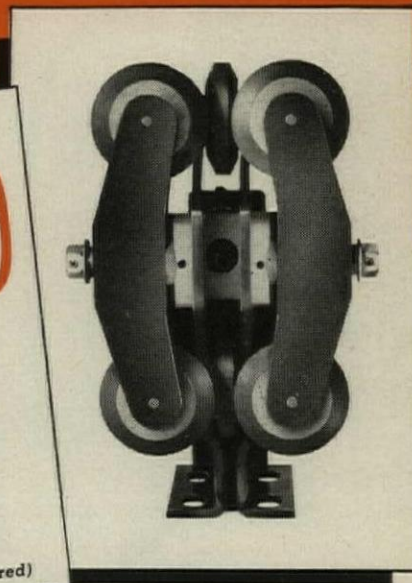
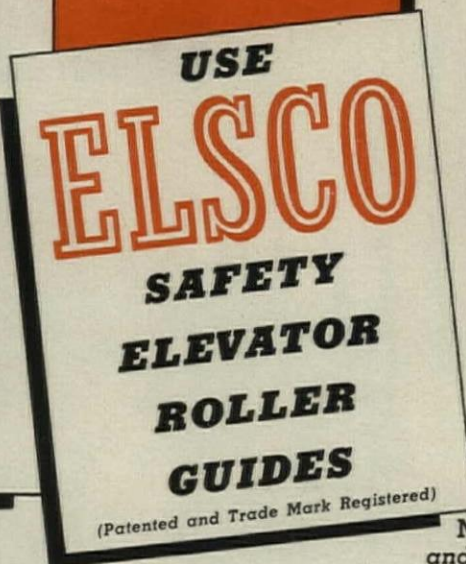


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**1** Eliminate inflammable oil, grease and fuzz by operating elevators in completely dry shaftways and on dry rails. This will prevent for all time, flash and general fires starting or drawn into the elevator shaft. Fires in elevator shafts constitute the greatest menace to life and property in buildings.

**2** Since ELSCO GUIDES roll and do not slide, they are an anti-friction device, and save between 25% and 40% in electricity. All of our tests have proven this savings beyond peradventure of doubt. Many customers made their own tests and all reported similar results.

**3** The large labor cost of frequent hatchway cleaning is completely eliminated. Those customers formerly in doubt now report that on rare occasion they use vacuum cleaners to remove dust, although not essential.

**4** ELSCO GUIDES take up all badly aligned rail and unbalanced conditions, because they operate on the principle of traction, oscillation and knee action. They contain stabilizing springs and actually glide and float in the hatchway. They contain adjustments so that they may be adapted to all conditions. They eliminate the knock and jiggling of cars and permit better leveling. They are readily adaptable for conversion from present sliding guides.

**5** Dry rails create the perfect condition for the holding of safety jaws in the event of accident.

**6** ELSCO SAFETY ROLLER GUIDES may be installed on all passenger and freight elevators, space permitting. They have been employed on the highest rise and speed passenger elevators and heaviest duty freight elevators. They are adjustable, take standard rails and jumbo rails up to 1 1/4" in width.

**7** Model C units may also be used on passenger elevators up to 200 F.P.M.—5000 lbs. capacity.

**8** The rubber compound used on the wheel assemblies, specially developed by us during the last few years, stand up indefinitely.

**9** There are two special rouge polished ball bearings in each wheel assembly. They come seal packed. We have nevertheless installed a zerk fitting in each wheel assembly should lubrication be required at a later date.

**10** Once installed and adjusted ELSCO GUIDES require no maintenance, with the exception of the recommended annual lubrication of bearings.

**11** ELSCO GUIDES have been unanimously approved by the Board of Standards and Appeals in the City of New York and State of New York up to 1200 F.P.M.

**12** ELSCO GUIDES are now installed in every part of the United States and also in Europe, Canada and Mexico. There are more than 200 agents throughout the country ready to serve.

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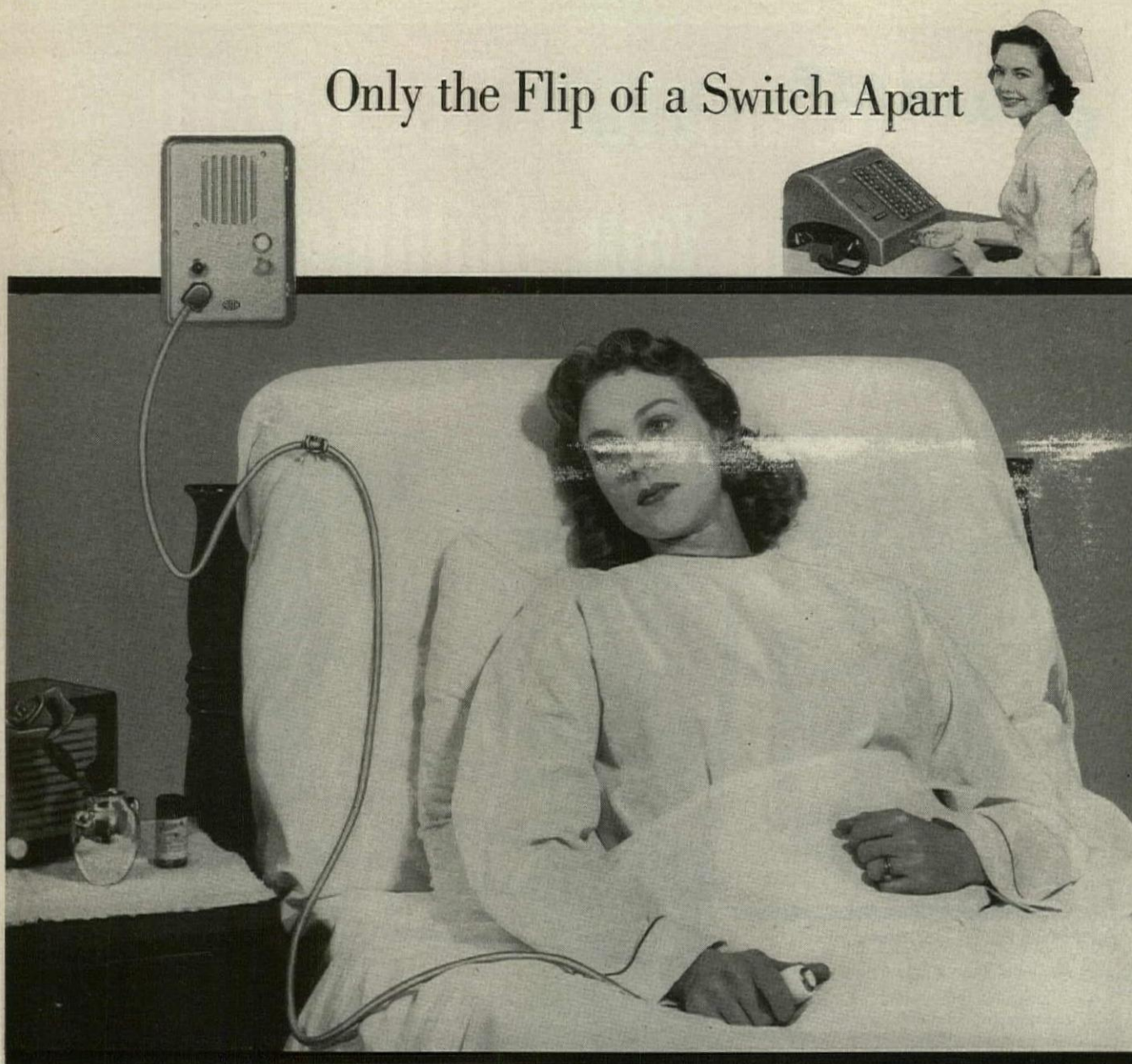
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## PEOPLE

### James Felt heads NY Plan Commission; two building unions name leaders; David Hill elected Pittsburgh Plate president

New York City got the promise of both practical and idealistic revitalization in its city planning last month, when Mayor Wagner named as Planning Commission chairman Appraiser-Realtor **James Felt**,



FELT

who promptly severed all connection with his realty brokerage and consulting firm, (James Felt & Co.) to devote full time to the \$22,500-a-year post. Known for his modesty, philanthropy, integrity and expert real estate knowledge, Felt is a member of both the NYC Housing Authority and the governors board of the NY Real Estate Board. His firm assembled the site of Peter Cooper Village for Metropolitan Life and relocated the families that lived on the site of its adjacent Stuyvesant Town development. As broker, appraiser and consultant he also has served R. H. Macy, New York Life and many other top companies and institutions. Fifty-two-year-old Felt succeeds **Col. John J. Bennett**, who retired to return to his private law practice. **Irwin Baron** was elected president, and **Paul T. O'Keefe**, senior vice-president of Felt's reorganized realty firm, in which he retains only the controlling stock. "But the company has never paid dividends," explained Felt. "All the earnings go into salaries."

**NAMED:** **Robert C. Weaver**, New York State deputy commissioner of housing and a veteran of 11 years in federal public works and housing agencies, as New York State rent administrator (the first Negro named to cabinet rank in New York State), succeeding **Charles Abrams**, author and expert on housing and urban problems, who was appointed chairman of the New York State Commission Against Discrimination; **Vice Adm. W. G. Beecher, Jr.**, (retired) as director of Structural Clay Products Institute's new public relations department; **Joseph H. Ehlers**, lawyer, field representative for ASCE and co-secretary of the liaison committee of ASCE and AIA, as assistant commissioner for technical services of the US Urban Renewal Administration; **Maj. Gen. Lewis A. Pick** (retired) former chief of army engineers, as head of Alabama's new Industrial Development Dept., one of whose first aims will be the deepening and developing of Mobile harbor to make the city a major seaport; **Raymond H. Weims**, former vice president of Equitable Life Assurance Society and for a time head of that firm's Golden Triangle development in Pittsburgh, as a consultant to the US Public Building Service until a commissioner is named to replace **Peter Strobel** who re-

signed under fire in November; **E. J. O'Leary**, sales vice president, as executive vice president of the Ruberoid Co.

**CONGRATULATIONS:** to Architect **Alfred A. Lama**, New York State assemblyman, author of much state legislation on multiple-dwelling construction, on winning the Sidney L. Strauss Memorial Award of the New York Society of Architects, given yearly since 1950 for service benefiting the architectural profession; to Engineer **Jacob Feld**, New York consultant, for receiving the first D. B. Steinman prize for research in structural engineering of the New York Academy of Science; to Canadian Architects **Sharp & Thompson, Berwick, Pratt & Charles E. Craig**, gold medal winner, and **John B. Parkin Assoc.**, winner of three silver medals in the annual Massey competition of the Royal Architectural Institute of Canada.

**David G. Hill** took charge as president of Pittsburgh Plate Glass Co. a month ago after a 30-year career in flat glass manufacturing, all of it with Pittsburgh. He entered the industry during a period of evolution — from the pot-casting method of making glass to the continuous tank method—and guided the company through still another evolutionary period during which



HILL

the fabrication, lamination and bending of glass rivalled plate-glass making in importance. Prior to assuming the presidency, Hill, a tall, rawboned hard-driving executive, was vice president in charge of glass manufacturing. He succeeded **Harry B. Higgins**, who was elected board chairman. Higgins joined the company in 1905 as a stenographer, became president in 1944. Leading the company through its gigantic expansion following World War II, he doubled plate glass capacity and increased window glass capacity by 80%. Sales were nearly quadrupled (from \$150 million to \$560 million) during his tenure.

Two of the 19 unions in the construction world had new general presidents last month. **Peter T. Schoemann**, 62, became president of the United Assn. of Journeyman and Apprentices of the Plumbing and Pipefitting Industry following the death in November of **Martin P. Durkin**. Schoemann, a member of plumbers Local 75 in Milwaukee, was a leader in civic affairs. He was chairman of the Milwaukee Housing Authority and president of the Milwaukee Board of School Directors. He was a gen-

L.A. Examiner—INS



MASHBURN

Wide World Photos



SCHOEMANN

eral vice president of the union from 1928 to 1952, when he became assistant to Durkin. He was acting president during Durkin's seven months as US secretary of labor in 1953.

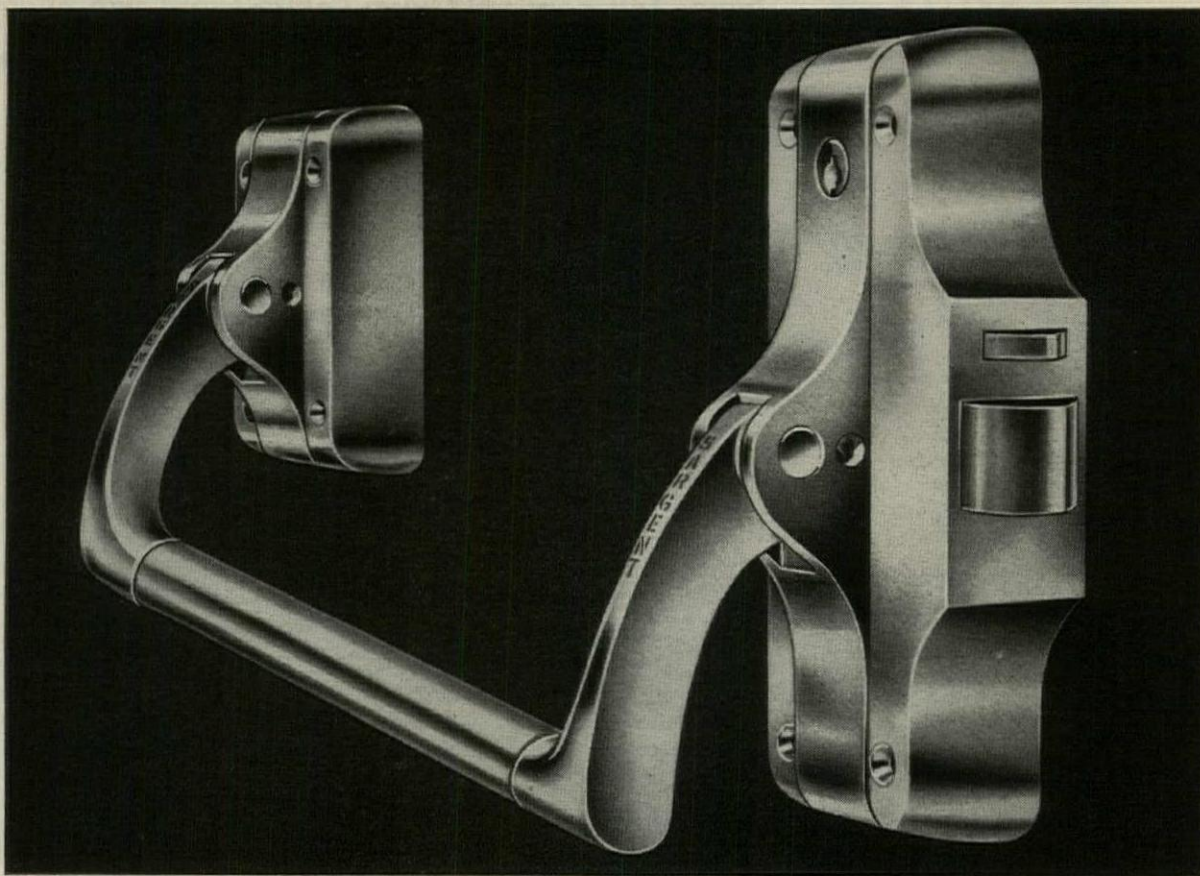
**Lloyd Mashburn**, 58, formerly California state labor commissioner and Durkin's undersecretary of labor, became president of the Wood, Wire and Metal Lathers International Union. He succeeded **William J. McSorley**, who retired in November at 78. Mashburn, whose 20,000-member union is a small but agile opponent of the building trades' national-level mechanism for settling jurisdictional disputes started work as a lather in Los Angeles in 1919.

**Alvin Lustig**, 40, architect and graphic designer, died Dec. 4 in New York, one week after an exhibition of his work—the second in two years—had closed at New York's Museum of Modern Art. Lustig was a sensitive designer, ranging from typography and book jackets to offices and apartment buildings. For the past three years his life was one of quiet heroism, for he carried on the work of his office in New York despite encroaching blindness which became total about a year ago. The continuing practice of his typography and design work with sustained high quality was regarded by his friends as a triumph of communication and devotion by his wife, Elaine, and his staff. Lustig studied in 1935 with Architect Frank Lloyd Wright and freelanced in graphic design from 1937 to 1943. In 1944 Lustig became visual research director for *Look* magazine. In 1946 he opened a West Coast office, where he designed apartment houses, art galleries and store fronts, moved it to New York in 1952.

**ALSO DIED:** **Gustavus W. Buchholz**, 73, former general manager of the George A. Fuller Construction Co., general secretary in the 1920s of the AGC and more recently general superintendent of the Jonathan Woodner Co., Washington, D.C., building firm, Nov. 15, in Southern Pines, N. C.; Realtor **Harry H. Hall**, 61, former investment officer for the Modern Woodmen of America Insurance Co and 1950 president of the Society of Residential Appraisers, Nov. 22 in Bloomington, Ill.

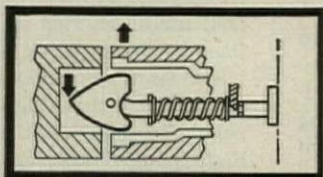
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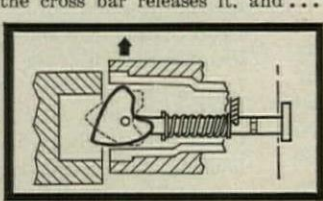


# *It cannot jam!*

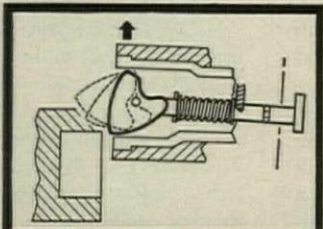
Outward pressure on a door can't bind this Sargent latch.



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and then folds out of the way. Pressure actually helps to open it.

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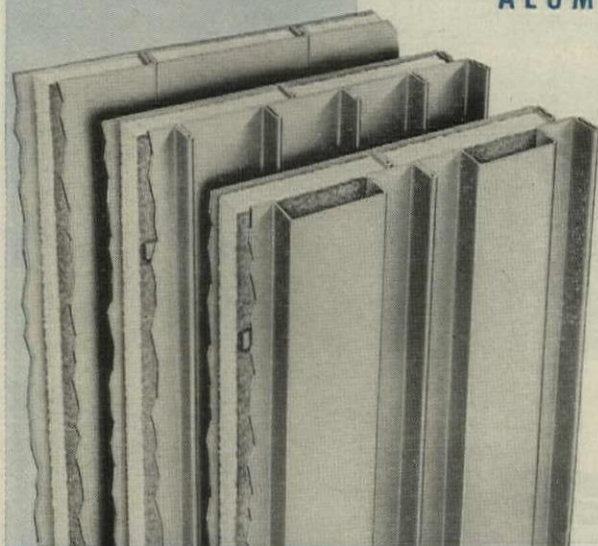
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Trinity white meets all Federal and ASTM specifications.

← This grayness of grey portland cement is absent in Trinity White. That's why Trinity White is best where concrete is to be tinted. There is no muddiness to your colors. You get cleaner, truer values.



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## BUILDING MONEY: Credit restraints make financing more difficult, but also help curb inflationary drift

A telegram to the White House Conference on Education from NY Mortgage Broker George W. Warnecke summarized the whole story of the availability of mortgage credit for almost any new construction except FHA- and VA-supported housing.

On behalf of lending institutions he represents, said Warnecke's wire to the conference, he was ready to "make immediately available more than \$50 million to finance drastically needed new school construction." His wire, however, made no reference to the yield (price) his lenders expected. For a price, and under various other conditions covering amortization and security, lenders are always prepared to help finance almost any project, will even borrow funds from some other source to make the loan, if necessary.

**Storm peak passed?** Main cause of the current tight-credit storm was the 1955 boom in virtually every type of business activity, including construction. As this generated a steadily mounting demand for credit, against a not-so-rapid increase in savings and new capital formation, loan demands outran supply. In the face of scarcity-accentuated price increases for both credit and commodities, including building materials (p. 32), the government took steps to hold the racing economy in check through credit restraints. In housing, it made FHA and VA home loan

terms just a trifle less appealing; in the banking field, the Federal Reserve banks inched up their rediscount (borrowing) rates to member banks four times between April and November, until they reached 2½%, their highest level since 1934. By making it more expensive for commercial banks to obtain reserve bank funds for increased lending, this was calculated to reduce the net amount of credit available to feed inflationary forces. Meanwhile borrowing pressure had boosted rates on all other types of loans, including both consumer and automobile credit.

As 1956 began, some observers felt the worst of the storm might have passed, even though there were no prospects for any lowering in interest rates. Dr. James J. O'Leary, director of investment research of the Life Insurance Association of America, said he expected "firm, if not increasing rates." J. Stewart Baker, head of New York's huge Chase Manhattan Bank reported "some dropping off" in demand for future loan commitments.

**Life firms back Reserve.** Said Dr. O'Leary in supporting the reserve bank's moves: "Undoubtedly the demand for capital funds in 1956 will exceed the flow of savings. With many indices of business pointing toward increased activity, the attitude of the monetary authorities is realistic... [they] deserve great praise for the resolute and courageous manner in which they

pursued a policy of credit restraint in the face of mounting pressure to revert to easier credit."

In similar vein, the joint committee on economic policy of LIAA and the American Life Convention stated its firm conviction that the FHA and VA curbs "were wise under present conditions and should not be relaxed" and would "aid to eliminate speculative excesses."

**"Inflation vs. Prosperity."** Said the NY Times in a lead editorial, "Inflation vs. Prosperity," supporting reserve bank policies:

"Mortgage debt, at \$82.1 billion, is 17% higher than it was at this time last year. ... Hearings [held by Senator Sparkman] may not be entirely without merit. They should give the man in the street a chance to decide, for example, whether it is wise to permit the building boom to go completely unchecked at a time when the cost of building materials has risen 8.4% in the course of a little over a year—and this at a time when wholesale prices as a whole have been moving in a sidewise direction."

Big building, conventionally financed, would have to shop harder and pay somewhat more for mortgage money in the months ahead than it did earlier last year. But it was not faced by any all-or-nothing situation, nor any FHA- and VA-type bureaucratic hobbles. In a test it could be sure of virtually all the financing it needed for any worthwhile project, provided it would match the relative prices all other borrowers were currently paying for money.

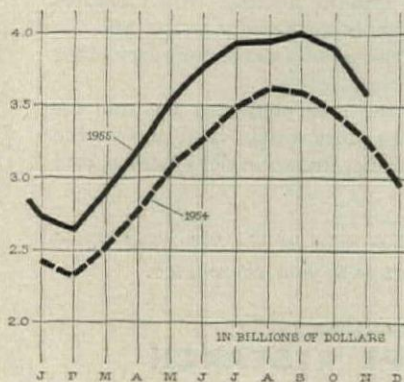
## BUILDING VOLUME: November total, \$3.5 billion; for commercial buildings, \$297 million

Private construction activity for the first 11 months of 1955 generally exceeded forecasts because of unexpected strength in both commercial and residential building. Public activity, however, ran a little behind expectations, mainly because of a lag in acceleration in educational and highway construction and a greater-than-expected industrial building decline.

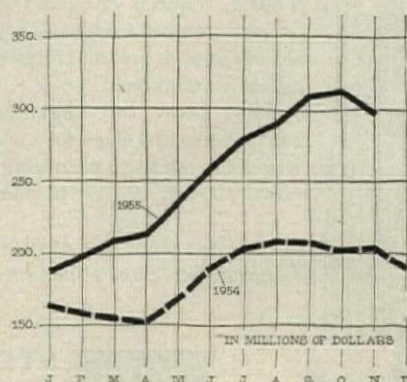
According to Commerce and Labor Dept.

estimates (see chart and table) total expenditures in November were 7% higher than in Nov., 1954, and for 11 months were 13% ahead of spending a year earlier.

For new commercial structures (separate chart), record-setting outlays for 11 months exceeded comparable 1954 spending by 38%, and according to industry forecasters would swell another 15% or more in this year.



**TOTAL CONSTRUCTION** expenditures continued to decline seasonally in November when they amounted to \$3.5 billion.



**COMMERCIAL CONSTRUCTION** expenditures in November declined to \$297 million, only a shade below their October record of \$311 million.

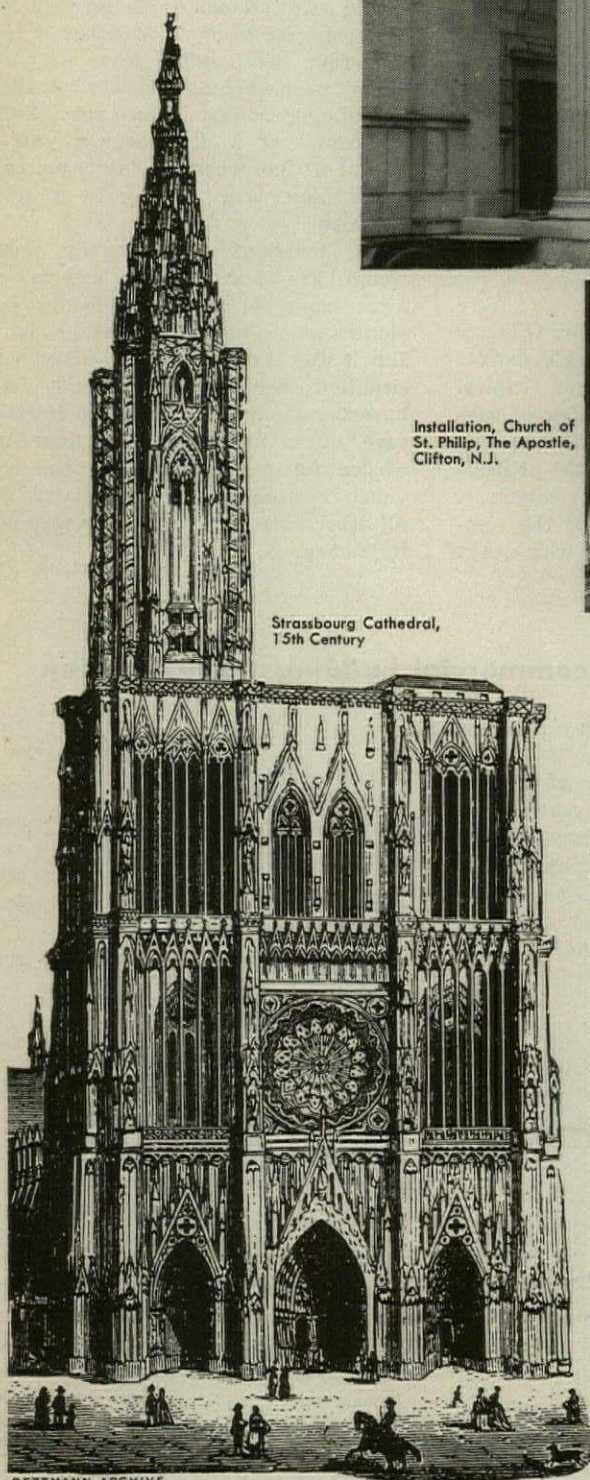
	Nov. '55	1955	1954	%±
<b>PRIVATE BUILDING</b>				
Residential (nonfarm)	1,374	15,106	12,238	+23
Nonresidential*	716	6,955	5,698	+22
Industrial	224	2,169	1,846	+17
Commercial	297	2,783	2,020	+38
Offices; lofts; warehouses	110	1,020	871	+17
Stores; restaurants; garages	187	1,763	1,149	+53
Religious	67	675	536	+26
Educational	45	457	484	-6
Hospital; institutions	28	323	308	+5
Public utilities	388	4,114	3,993	+3
*PRIVATE TOTAL	2,584	27,645	23,505	+18
<b>PUBLIC BUILDING</b>				
Residential	20	238	314	-24
Nonresidential	317	3,934	4,290	-8
Industrial	34	684	1,404	-51
Educational	200	2,258	1,953	+16
Hospital; institutions	25	310	340	-9
Military	127	1,201	942	+27
Highways	345	3,880	3,536	+10
Sewer; water	89	1,005	905	+11
*PUBLIC TOTAL	985	11,220	10,980	+2

\*GRAND TOTAL .. 3,569 38,865 34,485 +13

\* Minor components not shown, so total exceeds sum of parts.

TRENDS continued on p. 32

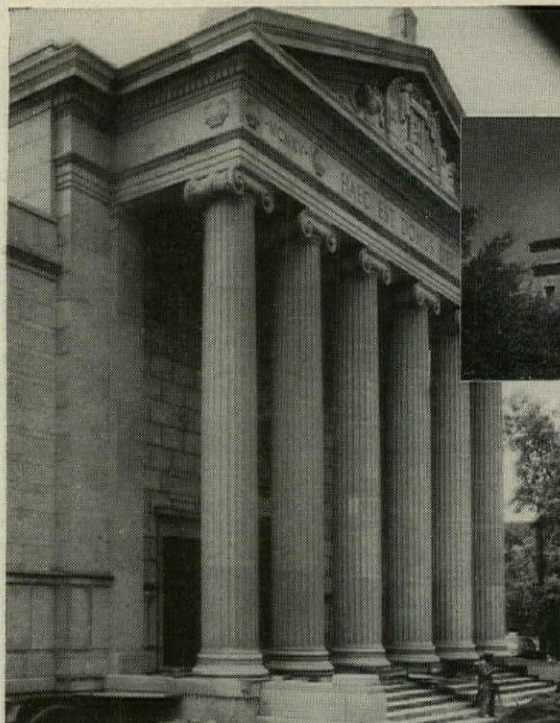




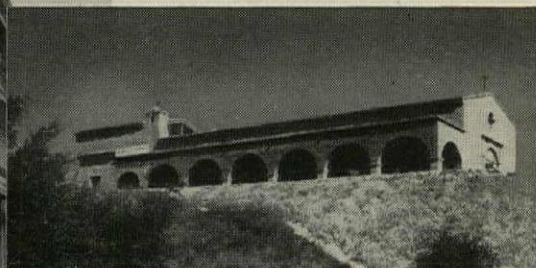
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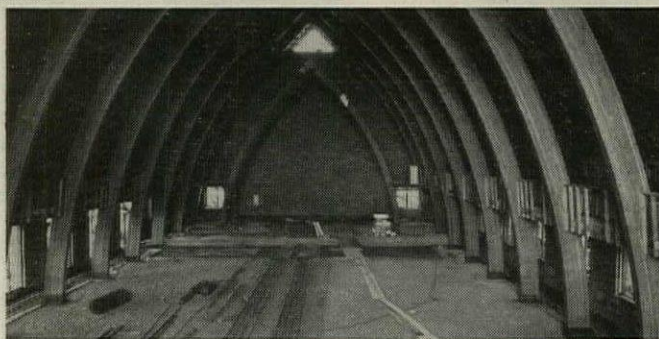


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St. John's  
Church, Delphos,  
Ohio



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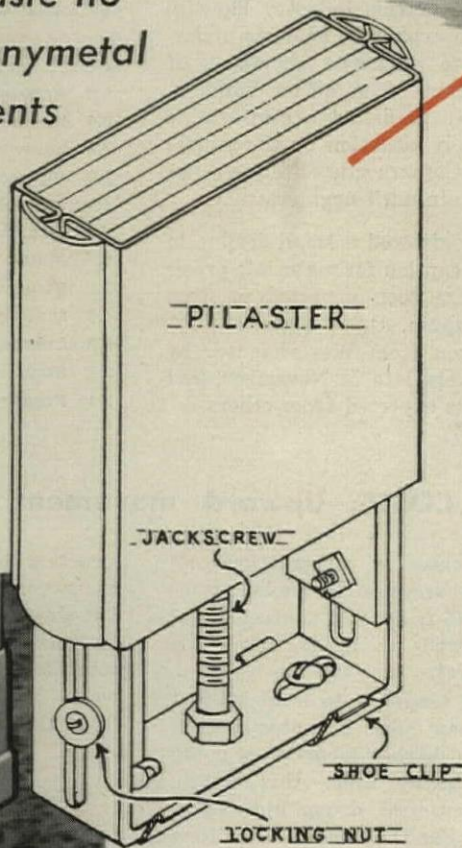
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## MATERIALS: Structural steel shortages grow worse; prices dip, but point still higher

As the steel supply situation for builders worsened in most cities, it was little consolation that scarcities, and rising prices, were mainly the result of prosperity's soaring demands.

With mills producing at rates exceeding 100% of capacity, and 1955 output almost 5 million tons above the previous record of 111 million tons turned out in 1953, however, construction could well ask why automotive producers received about 23% of the industry's total 1955 tonnage, roughly 4% more than during 1954, but structural steel shipments fell about 8% behind 1954 shipments.

**Relief promised.** Last month the nearest thing to an answer from the steel industry was a statement from President Earle V. Grover of the American Institute of Steel Construction. "Although our industry is still on short rations," said Grover, "the end of our enforced starvation is in sight. Extensive construction programs are now nearing completion by the mills which have been our principal sources of supply. From now on we should be benefiting by a gradual increase in supply of these sections. And by the middle of 1956, production of structural shapes is due to be substantially above what it has ever been."

"Flood conditions, the severe heat of last summer and the generally accelerated demand for steel combined to slow down drastically the deliveries of structural shapes and plates from the mills to fabricators' shops during 1955. Actually the year was better than average, despite these difficulties that cut shipments to about 2,700,000 tons, compared with 2,948,000 tons in 1954."

In Pittsburgh other steel spokesmen tended to minimize the importance of the growing backlog of all types of steel orders, claiming that all outstanding demands could be filled in six months. They

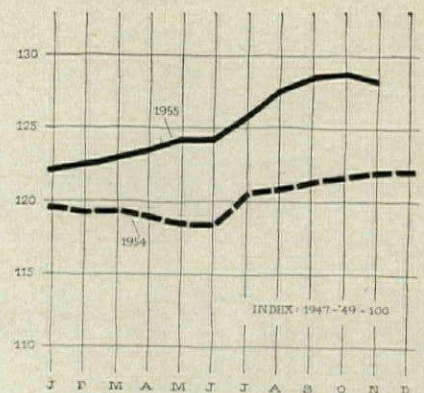
protested that many proffered orders were precautionary duplications of orders placed elsewhere and were not therefore a true reflection of actual demand.

**Field reports more alarming.** While the steel industry insisted everyone would soon be served, at month's end an increasing number of cities were reporting structural scarcities turning from bad to worse, beginning to have serious effects on construction—only a scattering of cities, such as Spokane, and Wichita, Kans., reporting no significant shortages.

**Prices going up.** To make matters worse, Jones & Laughlin boosted "extra" charges on its structurals \$6 to \$20 a ton, which was expected to lead to industrywide increases for all types of building shapes.

**Cement prices** were also boosted from 15¢ to 25¢ a barrel by most producers effective Jan. 1. Leaders of this industry likewise report extensive expansion projects underway to alleviate recurring shortages of this material that often afflict building. Some authorities predicted a comfortable "balanced" supply situation by the middle of this year, but others said effective relief will not be certain until next year.

**Lumber prices** registered a small decline in November (see caption for materials prices chart), but were soon expected to firm, head upwards again. One reason: a 4.5% pay increase won from Weyerhaeuser by its timber workers late in November, and similar increases expected from others.



**BUILDING MATERIALS PRICES** dipped during November for the first time since June, 1954, declining about 0.4 % on the BLS average wholesale price index. Lower lumber prices and a 12% drop for prepared asphalt roofing were the main reasons for the decline. Changes in the index' various components:

% of		Index		Nov.	Oct.
6.0	Prepared paint			115.0	115.0
20.4	Lumber			126.4	126.8
7.4	Millwork			128.2	128.2
2.9	Plywood			105.9	106.1
4.4	Plumbing equipment			133.0	129.4
7.1	Heating equipment			117.3	117.3
5.7	Metal doors, sash, trim			146.3	146.3
2.2	Structural metal shapes			157.5	157.5
1.3	Plate glass			125.5	126.8
8.3	Concrete ingredients			125.6	125.6
2.7	Structural Clay Products			144.5	144.3
3.1	Prepared asphalt roofing			100.6	114.4

## BUILDING COSTS: Upward movement slackens temporarily

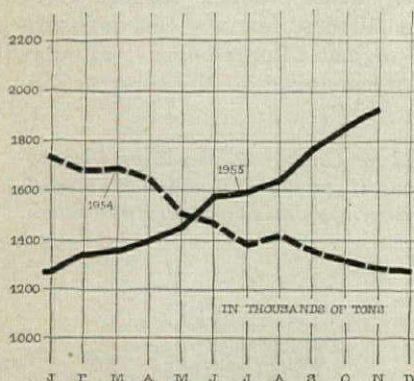
Fractional increases in construction cost indexes were recorded in November, typified by the 0.2% gain for nonresidential building registered by E. H. Boeckh & Assoc. (see chart).

Despite their tendency to level off last fall, however, new hikes in material costs (column 1), and higher labor rates going into effect in many areas this month, pointed to a continued strong uptrend in building costs. For the metropolitan New York area, for instance, Myron L. Matthews, of the Dow Service, predicted a gain of as much as 6% between now and July. About half of this boost will be caused by a 10¢ an hour labor increase effective Jan. 1, he noted, and another 10¢ increase scheduled for July 1.

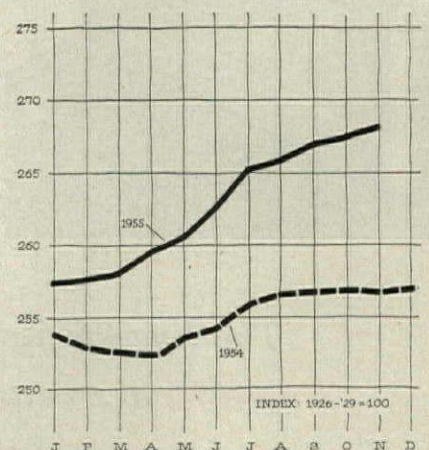
From November, 1954 to November, 1955, the composite Boeckh index for nonresidential building costs increased 4.3%; the index for apartments, hotels and office buildings registered a 4.2% gain, the commercial and factory building index a 4.4% advance.

Over the same period the construction cost index computed by AGC rose 3.2%, the American Appraisal Company's index 3.4%, *Engineering News-Record's* building cost index went up 4.8% and its con-

struction cost index up 4.6%. Nothing that its two indexes had been relatively stable for about three months, actually declined just a shade in November, *ENR* also pointed to the upward movements in wages and materials prices and warned: "But this [stability] won't last long."



**STRUCTURAL STEEL** unfilled orders on Nov. 1 rose to 1,927,000 tons, highest since Nov. 1953, when they stood at this same figure. Orders through Oct. 1955, were 41% greater than in the same 1954 period (see story), October shipments were 284,000 tons, 10% better than during Oct. 1954. This reduced the lag in 1955 shipments (2,475,000 tons through October) to 8% below comparable 1954 shipments.



**CONSTRUCTION COSTS** for nonresidential buildings rose 0.2% (from 267.3 to 267.9) from October to November, according to the index compiled by E. H. Boeckh & Assoc.



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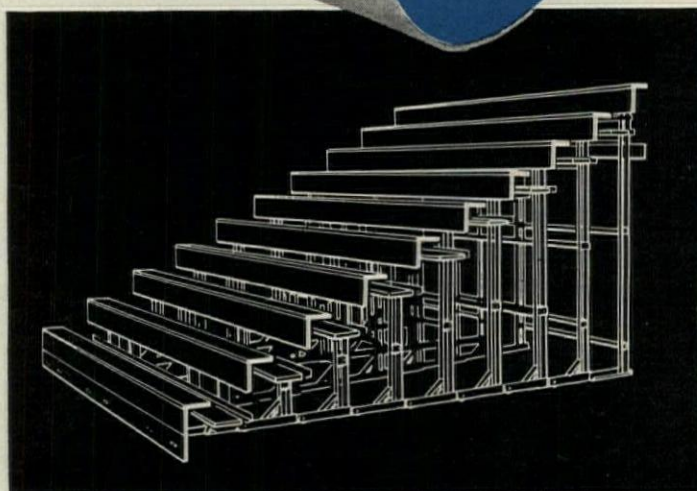
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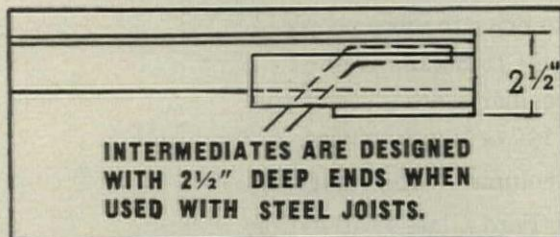
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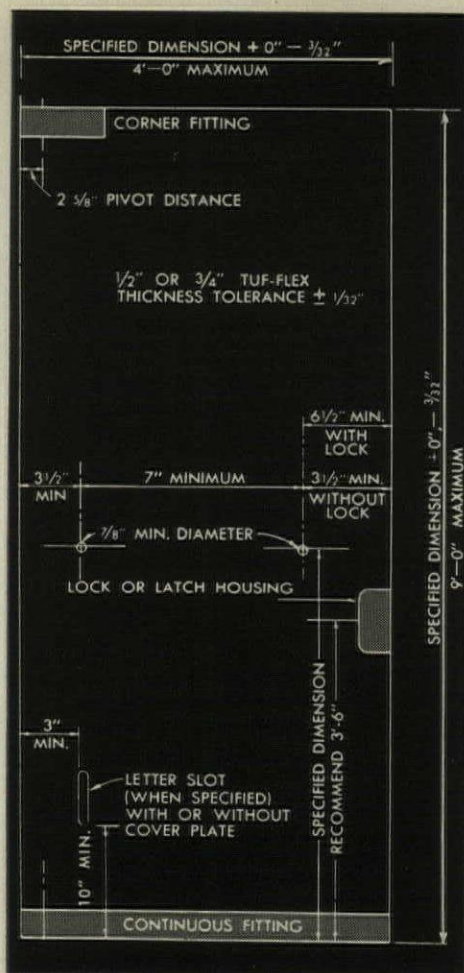
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## DATES

**American Roadbuilders Assn.**, annual convention, Jan. 11-14, Municipal Auditorium, Miami Beach, Fla.

**Round table for architects**, "An Exploration of Architectural Ideals and New Contemporary Approaches," conducted by Richard Neutra, Jan. 12-19, University of Alberta, Edmonton, Alberta, Canada.

**Highway Research Board**, annual convention, Jan. 16-20, Sheraton-Park Hotel, Washington, D.C.

**National Assn. of Real Estate Boards**, winter meeting, board of directors, Jan. 15-18, Hotel Statler, Washington, D.C.

**American Society of Heating and Air Conditioning Engineers**, annual meeting, Jan. 23-25, Sheraton-Gibson Hotel, Cincinnati.

**National Concrete Masonry Assn.**, annual convention, Jan. 23-25, Hotel Roosevelt, New Orleans, La.

**Plant Maintenance and Engineering Show**, Jan. 23-26, Convention Hall, Philadelphia.

**Associated Equipment Distributors**, annual convention, Jan. 29-Feb. 2, Conrad Hilton Hotel, Chicago.

**Associated General Contractors of America**, annual convention, Feb. 13-16, Waldorf Astoria Hotel, New York.

**Mortgage Bankers Assn. of America**, Midwestern mortgage conference, Feb. 23-24, Conrad Hilton Hotel, Chicago.

**National Electrical Manufacturers Assn.**, mid-winter meeting, March 12-16, Edgewater Beach Hotel, Chicago.

**National Gold Medal Exhibition**, sponsored by the Architectural League of New York, March 12-30, Architectural League, New York.

**National Housing Conference**, annual meeting, April 9-10, Hotel Statler, Washington.

**Urban design conference**, Apr. 9-10, Graduate School of Design, Harvard University, Cambridge, Mass.

**Regional conference**, South Atlantic District, American Institute of Architects (guest speaker: Italian Engineer Pier Luigi Nervi), Apr. 12-14, Washington Duke Hotel, Durham, N. C.

**American Institute of Architects**, annual convention, May 14-18, Hotel Biltmore, Los Angeles.

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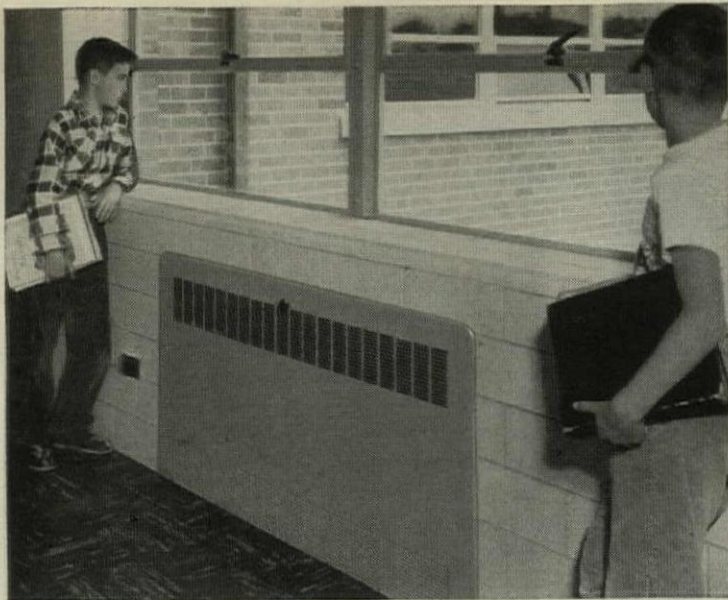




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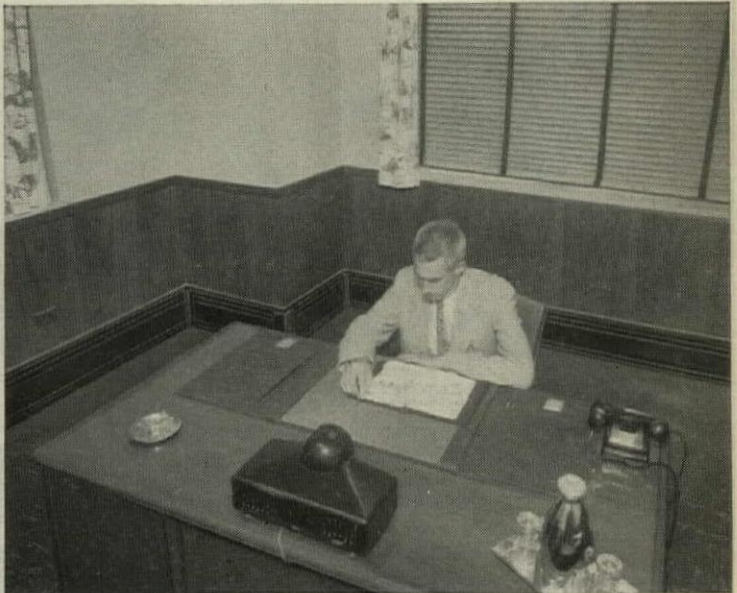
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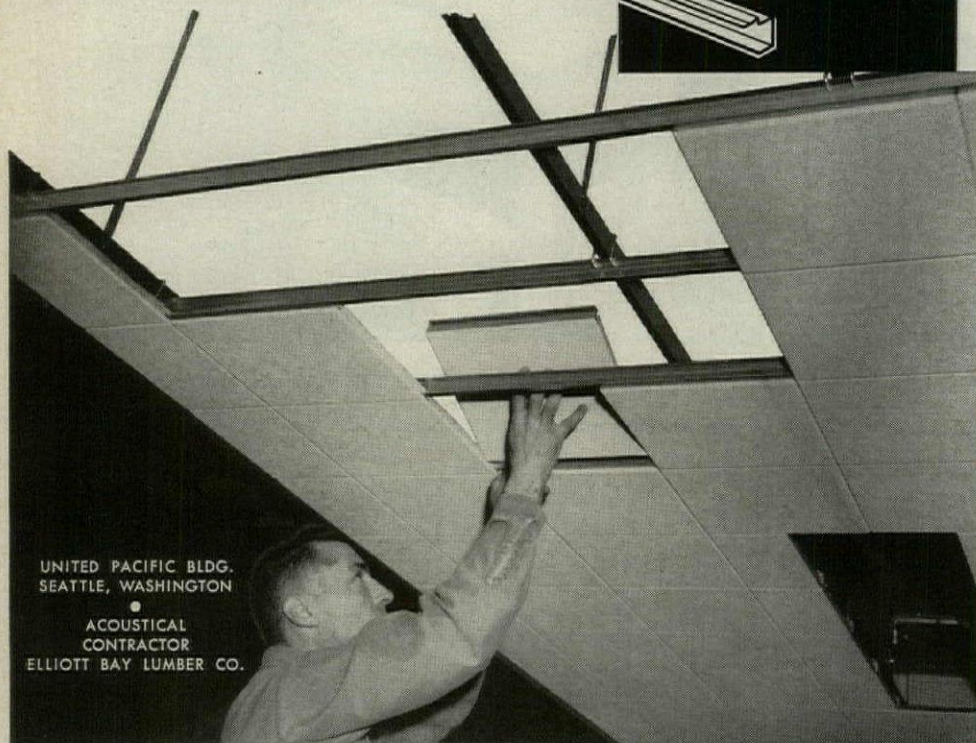
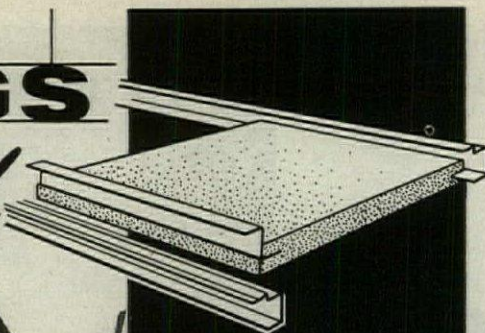
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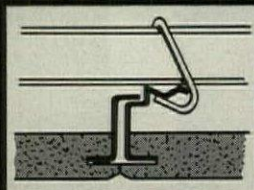


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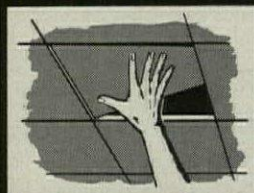
## ACOUSTICAL SUSPENSION SYSTEMS

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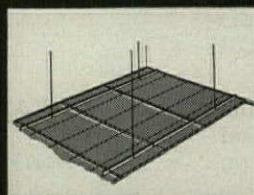
Steel Hangers fit tile kerf.  
No metal is exposed.

### EASILY ACCESSIBLE



Replacement is easy... tile  
can be passed through  
its own recess.

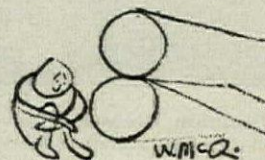
### PERFECTLY LEVEL



You can be sure ceiling tiles  
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lithic appearance.

(BRRRRR)

If it's OK, maybe this month this department will stay indoors. January is a cold month in New York. True, the offices of architectural magazines do glint occasionally with the sun tans of photographers back from Florida, but for those of us huddled here by the uncertain warmth of the printing press, conversation should be restricted to interiors—furniture and things like that, no outdoor architecture.



Words can be warming. Take the 36 colors which were selected from Frank Lloyd Wright's palette, to be manufactured by Martin Senour as a part of the great architect's recent venture into commercial furniture design. The same thing happened to his colors that happens to everyone's; they were given names. Conjure up some of these: *Cherokee Red, Deep Rust, Quiet Green, Oak Bark, Pale Mustard, Dark Eggshell, Echo Blue, Cornfield Tan, Soft Grey, Blue Mist, Lemon White, Cloud White, Pearl White, Oyster Shell White, Autumn Green, Spring Green, Bluebird, Pottery Red.* It takes a hand as firm as Martin Senour's to maintain this kind of delicate sensual discipline among colors. Oak Bark—didn't Ernest Hemingway go to high school there?



(MATERIALS)

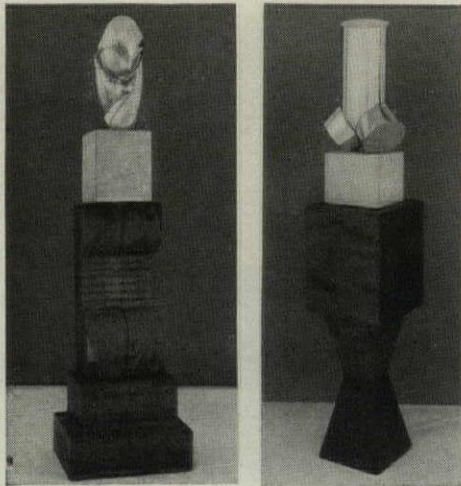
Going to art galleries is a good cold weather occupation, and the show at the Guggenheim Museum in New York is especially worth an architect's attention; in it, Constantin Brancusi shows how good an architectural teacher he is in use of materials.

His highly finished metal sculptures may be rather aloof by themselves, but placed on porous stone bases and hewn wood pedestals they have real force.

The show at the Guggenheim is, as usual, superbly staged. Brancusi did not come over from France for it; his major trip to the US was in 1926, when he registered these three remarks:



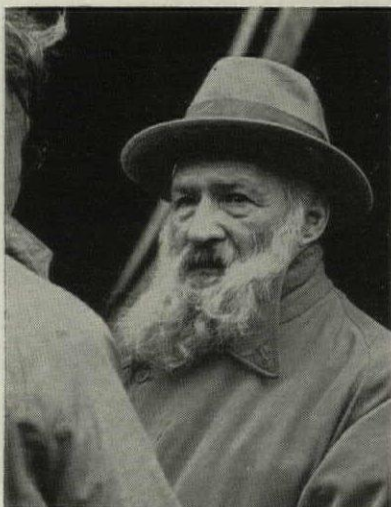
## PARENTHESES



"The architecture of New York—the great skyscrapers—gives me the sensation of a great new poetic art!"

"The statues in the parks of New York are more than bad, they are ridiculous!"

"I have found the Grand Central Terminal one of the most beautiful specimens of modern architecture. The varying decorations give me as much pleasure as if I had done them myself, although some of them remind me of a peasant woman who puts a basket of vegetables upon her head in order to be beautiful."



Ralph Morse—LIFE

### (WIND, SAND, STARS AND ARCHITECTURE)

Briefly at rest indoors in New York not long ago, Bill Caudill smiled that fine, polite, outdoor Southwestern smile of his, and explained why the partners of his firm, Caudill, Rowlett, Scott & Associates, have gone in for a new mode of transportation. CR&S, based in the little city of Bryan, Tex. (population 18,102) with one branch

in Oklahoma City, have been a hard outfit to ride herd on postwar. And now they'll be even harder—they've bought a couple of airplanes.

Bill said: "A little over a year ago, you couldn't have gotten me into a little plane. Flying was for the birds. But then we began to charter a few small plane trips. Pretty soon the pilot got nerve enough to let me take over the controls. Wasn't too bad at first. Got better. So on the next few flights I began to build up enough nerve to say, 'Think you could teach me to fly?' This guy, whose name is Guy, said 'Yep.' Guy taught me to fly on these chartered trips, plus two or three hours around the airport.

"By the time I soloed we had our own machine. We had decided, after a not too accurate investigation, that the plane could pay for itself in a four- or five-year period, if we could put at least 200 hours a year on it. We have had it only ten months and we've got nearly 575 hours on it—300 by me, and the rest by Al Martin, Wally Scott and Cleon Bellamy. With jobs working as far apart as Roanoke, Va. and Kearney, Neb., I figure the planes save me a day to a day and a half a week. At 75¢ an hour, that's nothing to sneeze at.

"These airplanes are better than a left-hand draftsman in a crowded right-hand drafting room corner. We've got two now—a Tri-pacer and Cessna 170, both in the Ford and Chevrolet class of four seaters

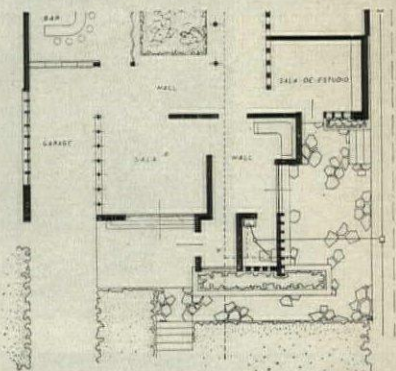


—and have a third one on order. We have five private licenses in the Bryan office and two learning to fly in the Oklahoma City office. Even our janitor had a private license, but we had to let him go. Gave the partners complexes. Three of the six partners fly—all soloed within the last ten months—and two are learning now. The fourth, Willie Pena, falls asleep when he's flying. We don't mind him sleeping over the drafting board, but it isn't economical for him to sleep flying one of our airplanes. We haven't much invested in him, but we've got nearly \$15,000 tied up in the planes."



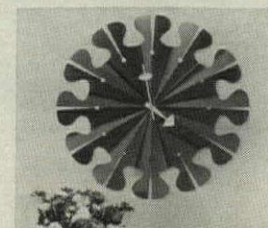
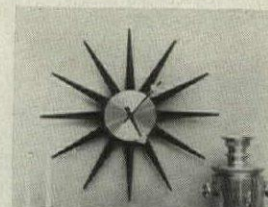
### (ALL-PURPOSE)

Automobiles like it indoors too. Here is a new solution to the perpetual problem of designing garage space, a solution which Architect Juan Valentino has used in several houses in San Salvador. The car becomes part of the furniture arrangement.



### (KLOX)

Here are three new additions to the ever interesting world of modern clocks. The first one is a translation into wood of a Japanese paper fan. The second is a pleated star design. The third has radiating spokes.

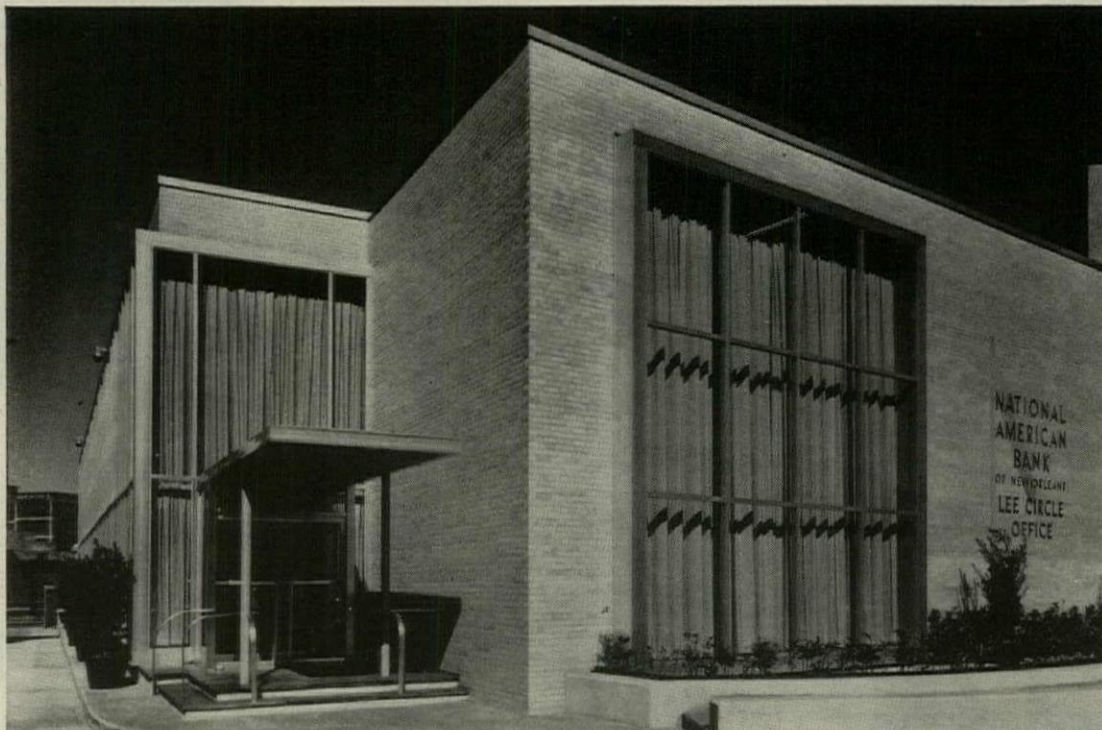


All are fine beauty spots for almost any wall. But quick, what time is it?—W. McQ.



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In New Orleans, Louisiana, the Lee Circle Office of the National American Bank is an impressive example of what good architectural planning can do to offer every possible customer service, including the advantage of an uncongested site away from the crowded downtown area. Pittsburgh's Solex® Heat-Absorbing Plate Glass was utilized throughout to keep the interior cool and comfortable. The glass is set in Pittco® Deluxe Metal. Doors are of Herculite® Tempered Plate Glass, operated by Pittcomatic® Hinges—"the nation's finest automatic door openers." Architects: Goldstein, Parham & Labouisse, New Orleans, Louisiana.

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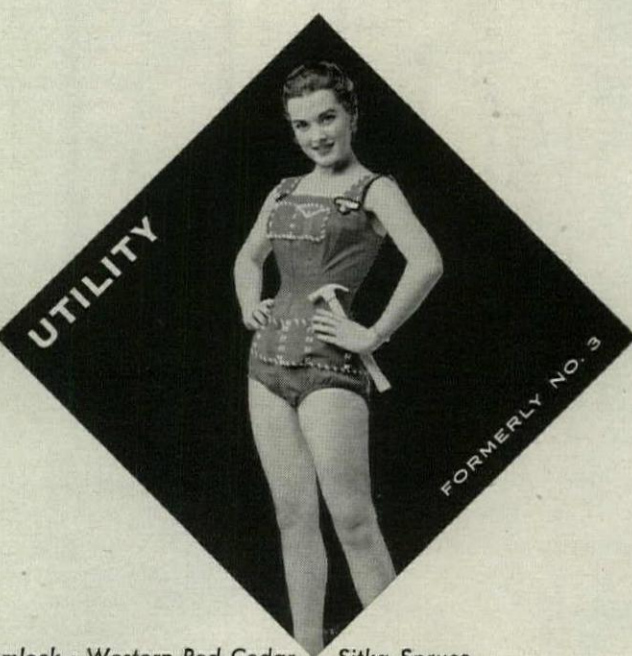
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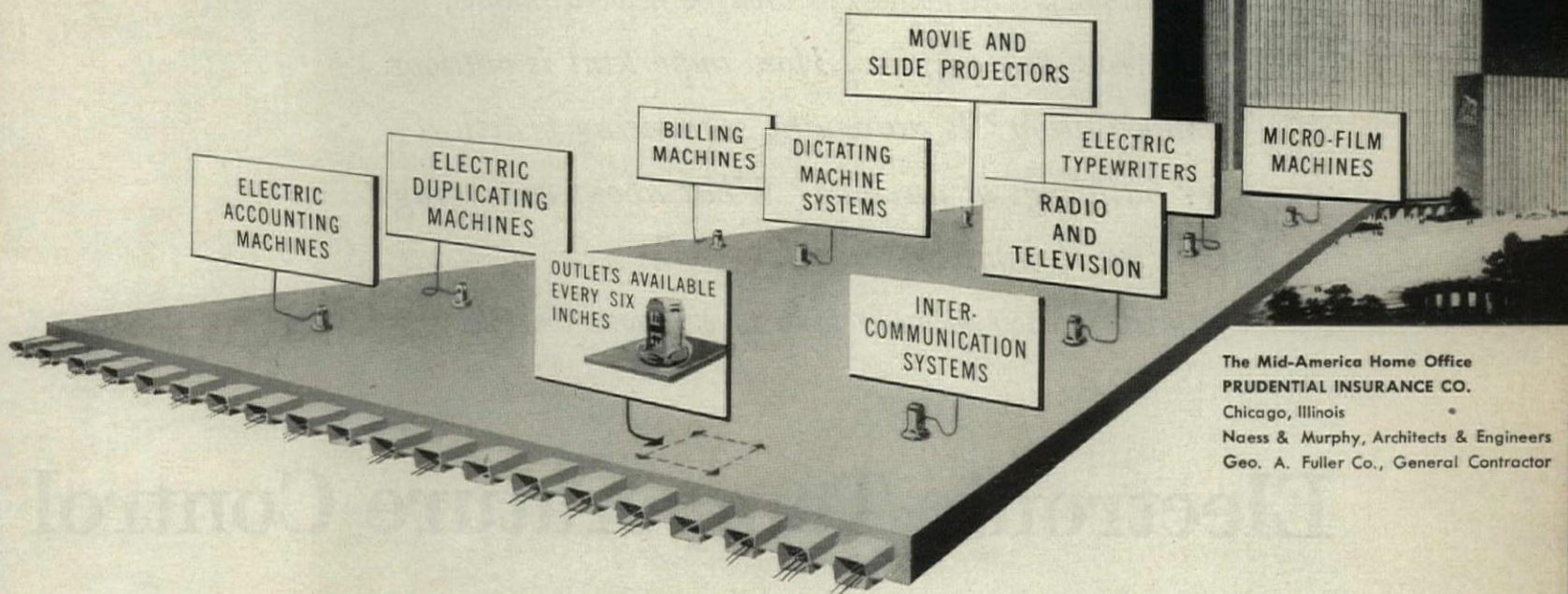
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Geo. A. Fuller Co., General Contractor

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Developers of the electronic thermostat were

### Honeywell Electronics

*Report Number One*

looking for better temperature control. They found it—in a small coil of wire that held the means of sensing and correcting temperature change quickly and accurately, without bulk, without clumsy linkages or moving parts.

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You can now assure a client that where applicable, electronic controls will deliver maximum comfort with maximum convenience, efficiency, and economy.



## What are advantages?

What is there about electronic control that makes such benefits possible? Considering specific advantages of electronics will help provide the answer. It may also suggest solutions to some of your own control problems.

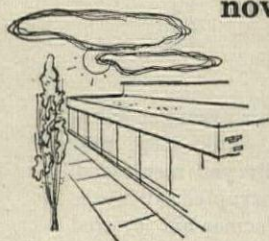
*Central Control* heads the list of these advantages. The electronic central control panel, set up anywhere within the building, provides a compact supervisory control center from which every vital function of the control installation is directed. Gone is the need for individual thermostat checking and calibration; all adjustments may be made at the panel.



## comes of age

What this means in terms of savings in manpower and maintenance is obvious. What's more, the panel also eliminates that flaw in many a control system, thermostat tampering by untrained personnel. The central electronic control panel is most at home, of course, in large buildings. But the simplicity of electronics now makes the panel economically feasible even for small structures.

### Automatic sequencing now 100% practical



Any air conditioning control system benefits tremendously from automatic change-over from heating to cooling, and from automatic use of outside air to carry part of the cooling load. Now, electronics makes automatic sequencing practical for any job, large or small. It's convenient: the same thermostat may sequence from heating to full ventilation to mechanical cooling. It's effective: it utilizes the thermostat's full operating range. It's economical: automatic ventilation economizer cycle, built in, cuts cooling costs impressively; night set-back saves fuel.

With electronics, use of *averaging* thermostats—while no substitute for adequate zoning—is no longer costly and complicated. In controlling an

open area as a single zone, for example, it's simple to locate inexpensive electronic thermostats so that load changes peculiar to the enclosure's equipment or occupancy are sensed and averaged out, maintaining a constant comfort level.

### Ideal compensation achieved

Electronic controls are essential to the kind of compensation that means *consistent* comfort levels in any building. Shifts in occupancy; variations of wind, sun and cloud effects; sudden changes in outdoor temperature—all are compensated for with greater speed, accuracy and stability through electronics. Automatic winter-summer reset, utilizing an outdoor thermostat, cures temperature drift in winter, air-cooling shock in summer. Which means that comfort conditions inside never change with the weather.

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## LETTERS

### ARCHITECTURE IN AMERICA

Forum:

Congratulations on your very meaty article, "The Architect Today" (AF, Oct. '55). It's a beautiful job.

HARRIS ARMSTRONG, architect  
Kirkwood, Mo.

Forum:

Sounds like we might expect some interesting reading during the next few months.

LEONARD WOLF, head  
Dept. of Architecture and Architectural Engineering  
Iowa State College of Agriculture and Mechanic Arts  
Ames, Iowa

Forum:

Your essay on Architecture in America, "The men and methods that influence it," is a clear and forthright statement of several of the elements that produce good architecture in America today.

Most good architecture is the joint product of the gifted architect and the enlightened client who touch the industry of building. From where do these gifted architects come?

In no profession other than architecture, with perhaps the exception of medicine, do so few talented men rise to significant achievement without the background of formal collegiate training. The first modern school of architecture was established in America less than two decades ago; and in the few years since that time, the flow of talent to produce the creative leadership for architecture and the building industry has multiplied. The mass of schools, however, are not doing their part in keeping pace with the changing customs and the new technologies. In the past ten years, more than a score of schools of architecture have had the opportunity to rebuild curriculum and faculty from the top down to a more intelligent and vital architectural leadership. Less than a handful have met the challenge and provided architecture with a dynamic program under imaginative and competent men.

Today, too few good men are accepting the challenge of teaching preferring instead the more obvious excitement of actual building. Not enough good men have looked at teaching as Walter Gropius did for so many years and equally contributed creatively in the classroom, the drafting room and on the building project. Then, too, the major source of competent men in teaching today for the major schools seems to be the safe and unimaginative source, from the schools with lesser financial backing. Also, where a few good men have been attracted into teaching, they have been hounded out again by an entrenched and solid core of the architectural cult of educational mediocrity.

The schools of architecture have been

and continue to be the primary source of men into architecture. They must do more than they are doing today to bring to the mass of building a more significant, even a more useful level.

HENRY L. KAMPHOFNER, dean  
School of Design  
North Carolina State College  
Raleigh, N.C.

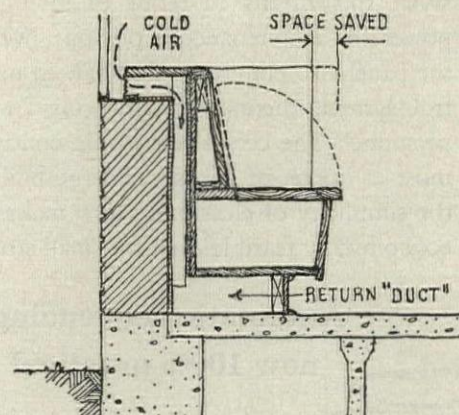
### COLD AIR RETURN

Forum:

Re: Crow Island Revisited (AF, Oct. '55), I believe that mechanical functions need not be allowed to "hog the stage" if they are given adequate study.

I have previously indicated (AF, Oct. '53) why I feel it is better to draw off cold air at the sill of a schoolroom window rather than try to supply heat at this point. (For one reason, classrooms only rarely need heating when in use.)

With the location of the heating-ventilating unit used in the new wing at Crow Island, this could have been accomplished without sacrificing sill space for "terraria, informal exhibits and the like" by sufficiently knowledgeable detailing, as shown in my sketch:



As a cold air return, this arrangement is just about perfect and would have prevented the "gusts" of air you mentioned. It provides ample uninterrupted sill space and results in a visually somewhat lowered sill to preserve more of the "indoor-outdoor space flow" of the original school. Note that setting the sash flush with the exterior wall (as was done in both parts of the building) contributes importantly to the arrangement.

HENRY WRIGHT  
New York, N.Y.

Forum:

The clever and unusual article "Crow Island Revisited" is a real contribution to a new type of architectural critique. This is an outstanding story. Let's have more like it.

HERBERT J. POWELL  
Smith, Powell & Morgridge, architects & engineers  
Los Angeles, Calif.

continued on p. 54





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Modine Convectors replace unsightly radiators . . . lend smooth, classic-modern appeal to every room. And they're finished to "take" paints that match any decor. Also, Modines retain "new look" for years because of special bonderizing process.

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Modine Convectors assure gentle circulation of warm air. There are no drafts, no hot spots near the convector, no cold spots in the far corners. And, because they are individually controlled, they can easily be set to suit the occupant's express wishes.

## 3. SAVE THE BUYER MONEY

Considering the many advantages they offer, Modines are remarkably low priced. And—they offer years of efficient, inexpensive heating at nominal cost for maintenance. Each Modine, regardless of its price bracket, is craftsman built with quality materials.

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For complete details, contact the Modine representative listed in the classified phone book or write Modine Mfg. Co., 1507 DeKoven Ave., Racine, Wis.

***Modine***  
**CONVECTOR RADIATION**

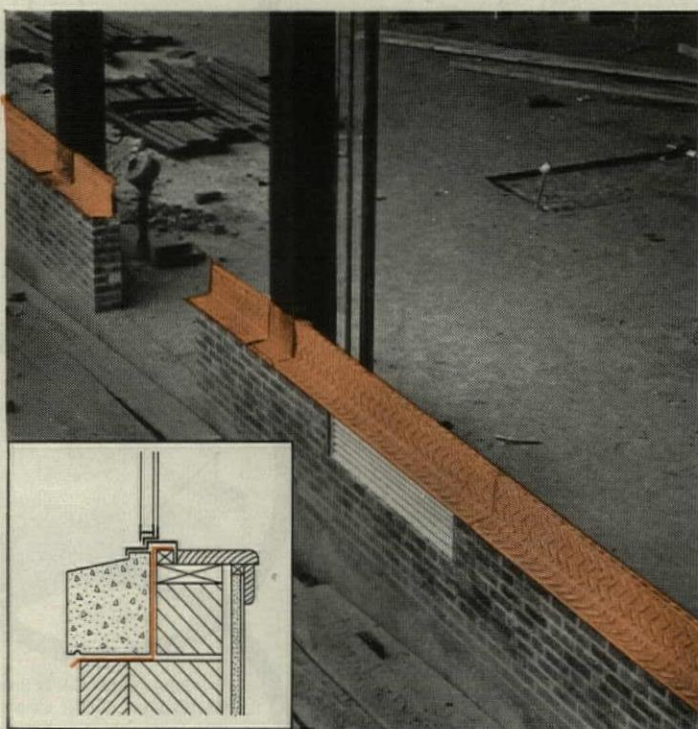


## Another new school protected by **Anaconda Through-Wall Flashing**



THE NEW SOUTH JUNIOR HIGH SCHOOL, BROCKTON, MASSACHUSETTS

Architect: Edmund I. Leeds & Associates, Allston, Mass. Sheet Metal Contractor: Gilbert & Becker, Dorchester, Mass. Distributor: Brown-Wales Company, Cambridge, Mass.



This photo taken during construction of the new South Junior High School shows Anaconda Through-Wall Flashing set in place for continuous protection at window sill level. **Insert:** Cross section view through wall showing location of Through-Wall Flashing at sill level.

### Here's why the Anaconda Flashing is preferred:

**EFFICIENT DESIGN:** The embossed zigzag corrugations give thorough bond in the mortar and equal resistance to lateral movement in all directions. The precision-stamped dam and corrugations are integral and of equal height. The smooth, flat selvage can be easily bent to form a counter flashing without causing humps or ridges that would prevent free drainage.

**POSITIVE PROTECTION:** In parapet construction, the Anaconda Flashing is installed so that the tongue edge of the dam is within  $\frac{1}{4}$ " of the outside face of the wall giving maximum protection against moisture infiltration. There is still sufficient bed for pointing the joint. The integral stamped dam and corrugations prevent accumulated water flowing lengthwise of the flashing and re-entering the masonry at the lap joints.

**EASY INSTALLATION:** The Anaconda Through-Wall Flashing is installed easily and quickly, with a minimum of delay to bricklayers and masons. Tight end joints can be made by overlapping one or two corrugations. The smooth selvage is easily bent or cut on the job to accurately fit the construction. Machine-stamped corner pieces for both 8" and 12" walls are available and make a neat, workmanlike job. Soldered miter joints or bulky laps are eliminated.

5558

**ANACONDA<sup>®</sup> SHEET COPPER**

**FREE:** This new publication, with its clear, detailed illustrations, shows you how you can provide the complete protection of Anaconda Through-Wall Flashing. Send in the coupon for your FREE copy right away.



The American Brass Company, Waterbury 20, Conn.  
In Canada: Anaconda American Brass, Ltd., New Toronto, Ont.

Please send me my copy of Publication C-28

NAME .....

COMPANY .....

STREET .....

CITY ..... ZONE ..... STATE .....



## LETTERS *cont'd.*

### CORBU'S CHURCH

Forum:

I read with deep interest the story "Corbu Builds a Church" in the September FORUM. The story is excellent in that it points out elements in this structure which recall to the reader continuities with Corbusier's entire thought and practice as an architect. This is useful. It does the man the honor of assuming that he is one man not a half dozen, that there is integrity in his lifetime of work.

But the story was unsatisfying to me in that the reader is going to look at this structure as a *church*! Your article did not presume to evaluate it as a church.

Questions I wish your writer would have answered are: Is this church exclusively a shrine, or is it also a parish church where the mass is celebrated and public worship carried on? Why is this summit "hallowed"? Are precious relics there, so that the powerful space-enclosing walls and down-pressing roof enhances a sacred bit? Or, what precisely is it that evoked this massive treatment? I'm not against this treatment; but I'd like to know what kind of solitary and social aspects of the Christian tradition are here ensconced.

JOSEPH SITTLER  
Chicago Lutheran Theological Seminary  
Maywood, Ill.

• In the thirteenth century, the story goes, there was a seigneur who was taken prisoner by a neighbor and thrown into a cell. There he was visited by the Virgin, who miraculously struck off his chains and transported him to the top of a hill in the Vosges mountains. In honor of his deliverer, the seigneur is said to have built a chapel on the spot and called it Notre-Dame-du-Haut. Through the years it became both a shrine for pilgrims and the parish church for the little town of Ronchamp at the bottom of the hill. In the new church a statue of Our Lady of the Prisoners is enclosed in a glass case built into the altar wall, where it can be seen either by the congregation in the nave or by the thousands of pilgrims gathered for outdoor services on holy days. As to the architect's intent, Corbu merely says: "This chapel harmonizes scrupulously with the countryside. Its acoustic architecture, in the shape of a musical instrument, makes it 'sing' among the mountains."—ED.

### ARCHITECT AND CLIENT

Forum:

I congratulate your staff on the October FORUM. What appeals most to all of us is that each article had a point to make that will help both the architect and the client. "Crow Island Revisited" is a good example of this. The general article "The Architect Today" is inspiring—the result of thorough research, understanding of the profession and excellent writing.

J. STANLEY SHARP  
Ketchum, Gina & Sharp, architects  
New York, N.Y.

*continued on p. 60*

*coordinated  
vista designs  
in color*

FOR YOUR CONTRACT REQUIREMENTS



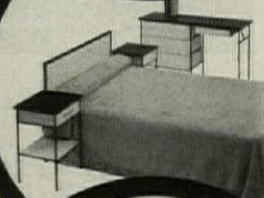
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L. \$61, R. \$22 RETAIL



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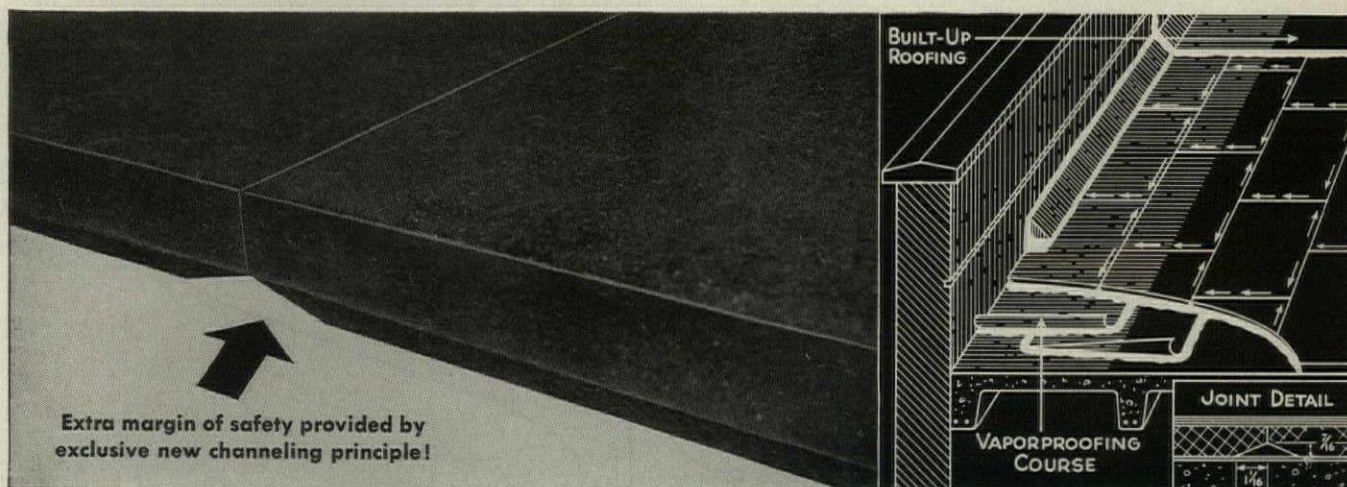
**IF IT'S MADE OF STEEL, SHLAGRO CAN MAKE IT**

**SHLAGRO** STEEL PRODUCTS CORP.

84 WASHINGTON ST., SOMERVILLE, MASS.



# New safeguard against blistering, separation of felt and insulation!



## Celotex CHANNEL-SEAL ROOF INSULATION

A unique network of interconnecting channels, formed by Celotex Channel-Seal Roof Insulation units laid on the deck, permits free air circulation beneath roof surface. Along these "escape routes", high-pressure air pockets are constantly being relieved. Result: *Cost-saving protection no ordinary roof insulation can offer!*

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Each unit of Channel-Seal has bevels  $\frac{7}{16}$ " high,  $1\frac{1}{16}$ " wide on all deck-side edges. Bevels produce a system of broad channels that reduce and equalize pressure pockets.

This minimizes risk of blistering or separation of felt and insulation.

Celotex Channel-Seal Roof Insulation provides high insulating efficiency, comes in range of thicknesses for every job specification. Asphalt-coated on both sides and all edges for extra moisture protection in storage and on-the-job.

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to both roof deck and roofing felt. Specify Celotex Channel-Seal, the only roof insulation made of durable, interlocking long Louisiana cane fibers, protected by the patented Ferox® Process against dry rot and termite attack.

*For a better roof...*

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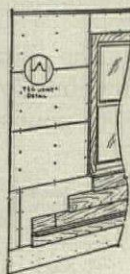
**ROOF INSULATION**

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**These Celotex Insulation Products Can Simplify, Improve, Cut Costs on Your Construction Jobs!**

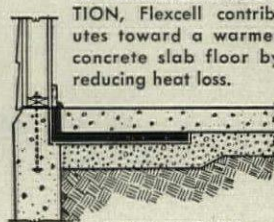
### CELOTEX Double-Waterproofed Insulating Sheathing

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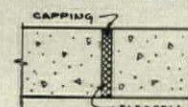
### FLEXCELL\* Bituminous Impregnated Cane Fiber Board

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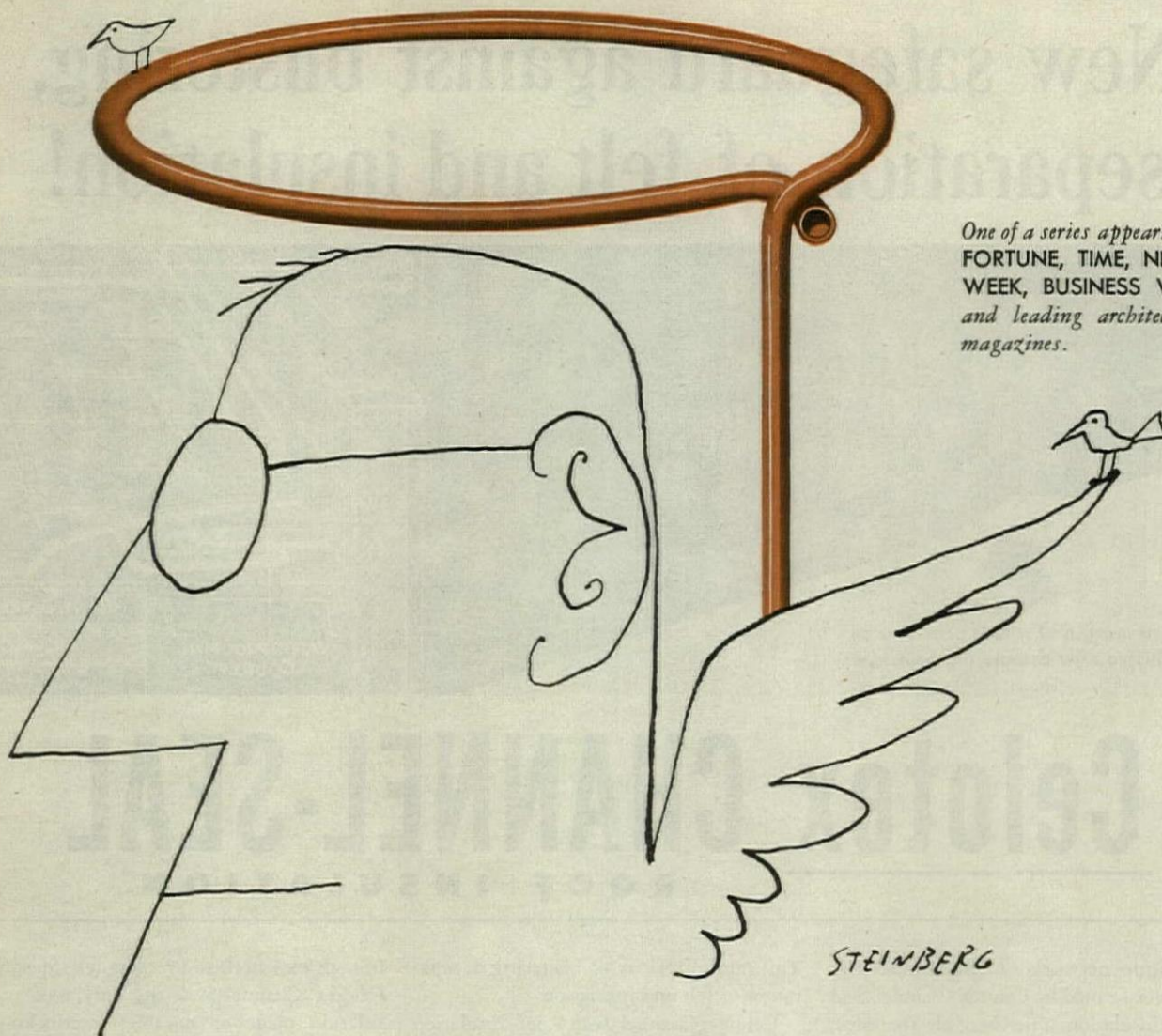
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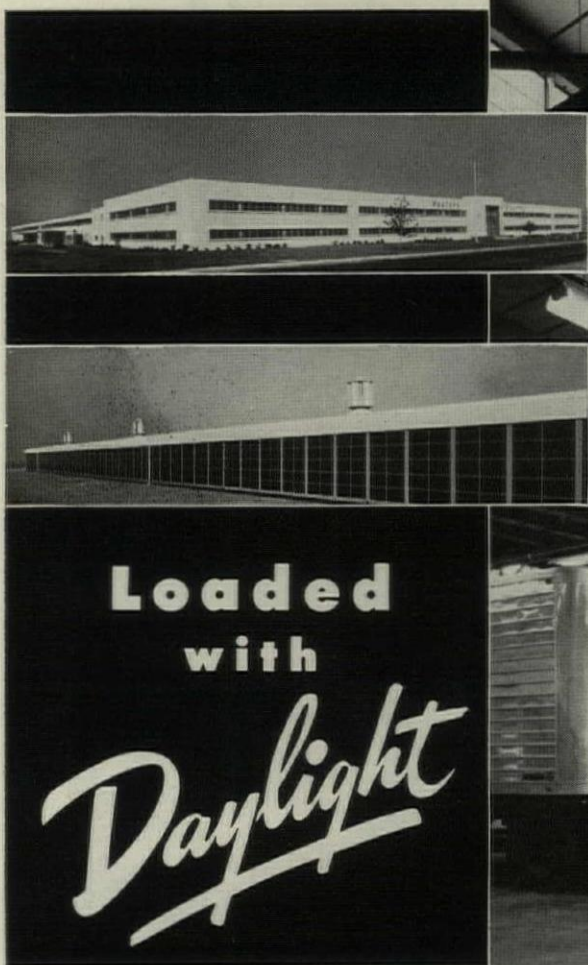
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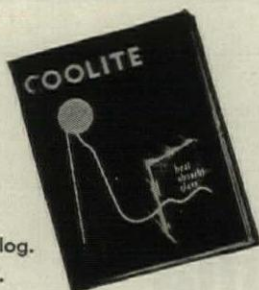


Western Electric Company and Pacific Telephone and Telegraph Company Building, San Leandro, California.  
Harry A. Thomsen & Aleck L. Wilson, Architects • Swinerton & Walberg Co., Contractor • East Bay Glass Company, Glazier

## Coolite Glass Keeps Production in Better Sight in New California Supplies Center of Pacific Telephone and Western Electric

Mississippi's Coolite wire glass, used in this modern plant, keeps work areas and offices literally loaded with daylight . . . provides plenty of conditioned, natural illumination for easier seeing, greater comfort and added safety. For Coolite, Heat Absorbing, Glare Reducing glass permits use of vast areas of glass without distracting, discomforting glare . . . absorbs up to 50% of solar heat rays to eliminate unwanted heat. The attractive Luxlite pattern diffuses softened daylight deep into interiors, avoids harsh shadows and sharp contrasts. Workers see better, feel better, work better in Coolite-conditioned daylighting. Brighten your production picture with Coolite. When you build or remodel your facilities, consider Coolite. Find out how Coolite, Heat Absorbing, Glare Reducing glass can keep costs down, boost employee efficiency, lighten load on humidification and air conditioning equipment.

Translucent, light diffusing glass by Mississippi is available in a wide variety of patterns and surface finishes, wired and unwired, all "visioneered" to meet any daylighting requirement. Available through leading distributors of quality glass everywhere.



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250	.35	.64
500	.83	.77
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4000	.77	.89
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weight per sq. ft.	1.3	1.3

\*Also available in 7/8" thickness

See "MEET THE PRESS" on NBC-TV, sponsored on alternate Sundays by Johns-Manville:



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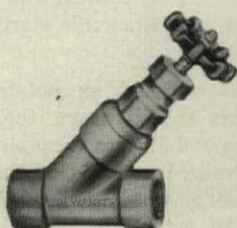
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The new Walworth plastic Valves and Fittings are made of rigid polyvinyl chloride which is non-aging, non-corrosive and non-toxic and has extremely low flammability and high resistance to chemical attack. Walworth PVC products are molded by General American Transportation Corporation. Each product bears the stamp of Walworth's long established engineering skill and reliability — your assurance of safe, trouble-free valves and pipe fittings.



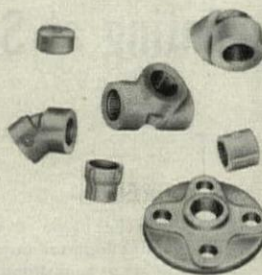
**Walworth PVC Y-Globe Valves** are designed to regulate the flow of alkalis, acids, inorganic salt solutions and other troublesome fluids commonly found in food, chemical and allied industries. They will give exceptional service at temperatures as high as 150°F

and are designed for use with schedule 80 pipe. Other features of these valves include: (1) Three chevron, Teflon packing rings give you a leak-proof seal without binding the stem. (2) No use-threads to accumulate troublesome dirt because no stem threads enter the interior of the body. (3) Snap-on spherical plug with ball-to-cone seating arrangement to assure a tight line-contact seal between disc and seat regardless of any minor inaccuracies in alignment. (4) Full 45° angle of stem with center line of pipe to reduce pressure drop and turbulence. (5) Generously designed flow passage at the valve seat for a more even flow. (6) Back seat design allows repacking when wide open under pressure. (7) Polyethylene bonnet gasket to assure a perfect body-to-bonnet seal.



**Walworth PVC Diaphragm Valves** come equipped with neoprene discs. Other diaphragms especially suited to your application can be furnished. "R-2" rubber diaphragms are commonly used in systems handling dilute acids and alkalis. "J-1" Teflon diaphragms are recommended for maximum chemical resistance.

Valve design features: (1) No stuffing box or packing to replace. (2) A resilient diaphragm connected to the compressor by a stud assures a leakproof closure on the body weir or valve seat even when slurries or semi-solids are in the line. Diaphragm easily replaced without removing the valve from the line. (3) Streamlined flow area in valve body makes valve self cleaning and allows fluids to flow equally well in either direction. (4) Separation of valve body from the sealed metal bonnet protects fluids from contamination. Fluids contact only the valve body and diaphragm. (5) Completely enclosed metal bonnet protects stem from breakage and distortion.



**Walworth PVC Fittings** assure uniform thermal expansion of pipe and fitting threads when used on plastic pipe. They eliminate the danger of jammed threads, loose joints and the chance of galvanic corrosion. These screwed pipe fittings are: (1) Designed for use on schedule 80 of plastic

pipe. (2) Walls are of uniform thickness accurately molded. Proportions are skillfully worked out in all sizes and types of fittings. (3) Fittings are chamfered to protect the thread and afford easy entrance of the pipe. Long bands provide reinforcement at the points of severest strain.



This booklet contains all the details about Walworth PVC products that you'll want to know. It describes mechanical and thermal properties, working pressures, sizes and dimensions, application and assembly data. For your free copy write to us. Please use company letterhead.

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Sundstrand

... another Ingersoll case study



New Ingersoll aluminum roof deck at Sundstrand Machine Tool Co; Olson & Urbain, Architects.

## How Ingersoll's new idea in roof deck ended maintenance painting at Sundstrand

Functional in every detail, Sundstrand Machine Tool Company's new plant at Belvidere (Ill.) embodies many new ideas. One of them—its new Ingersoll Roof Deck—has already earned Sundstrand a "Significant Plant" citation from *FACTORY* magazine.

The ceiling of the 30,000 sq. ft. plant is 55 ft. high. For this reason it was imperative that the structural roof system used be exceptionally strong, require minimum maintenance.

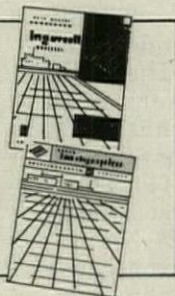
### Unequaled strength

Given these stringent requirements, Ingersoll Aluminum Roof Deck was the only logical specification. It surpasses conventional systems in strength, never requires painting. And an added benefit is its thermal insulating value. Reflects radiant heat to keep the plant measurably cooler in summer!

A new concept in engineering, Ingersoll Roof Deck is a system of full-floating panels that clip to galvanized steel sub-purlins. Erection is quick, easy, positive. And besides eliminating the need for painting, Ingersoll's aluminum panels provide gleaming beauty, improve plant lighting.

### FREE

Complete case study on the Ingersoll installation at Sundstrand is available on request. Send now for your free copy.



### In Aluminum or Porcelain Enamel

Ingersoll Roof Deck is available with panels of either aluminum or porcelain enameled steel. Porcelain provides all the benefits of aluminum, plus full protection against excessive moisture and other corrosive elements. Whether in aluminum or in porcelain enameled steel, Ingersoll Roof Deck may be just the product for your next job. Why not investigate today? Send for free brochure, along with complete case study of the award-winning Sundstrand installation.

# Ingersoll

ROOF DECK

### REFLECTAL CORPORATION

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310 S. Michigan Ave., Dept. RD-1  
Chicago 4, Ill.



ALFOL INSULATION

KOOLSHADE SUNSCREEN

## LETTERS *cont'd.*

### REALTOR'S REPORT

Forum:

I am a regular reader of the National Assn. of Real Estate Boards' newsletter, "Headlines," which panned your magazine in its July 25th issue.

As a realtor, I congratulate your magazine on its coverage and accuracy. Thousands of realtors applaud your position and hope it will contribute a little toward the improvement of our organization's attitude, which has been dictated for years by a few top hands to the exclusion of impartial coverage in publications, and to the further detriment of the standing of realtors in our communities generally—a rather sad standing, I fear.

L. WALTER HENSLEE  
Verkin, Henslee & Co.  
Galveston, Tex.

### WHO DESIGNED RICH'S?

Forum:

I compliment you on your splendid presentation of our new Knoxville store (AF, Nov. '55).

We feel that we had an outstanding team in Stevens & Wilkinson, the architects, and Raymond Loewy Corp., interior designers. However, I noticed that the Raymond Loewy Corp. was listed as the designers rather than the interior designers.

We feel that Raymond Loewy designed the finest interior of any store we have seen in the country. We also feel that Stevens & Wilkinson, who were the architects, engineers and building designers, showed unusual skill and imagination in interpreting our desire to create a gay suburban atmosphere for our downtown location.

RICHARD H. RICH, president  
Rich's Inc.  
Atlanta, Ga.

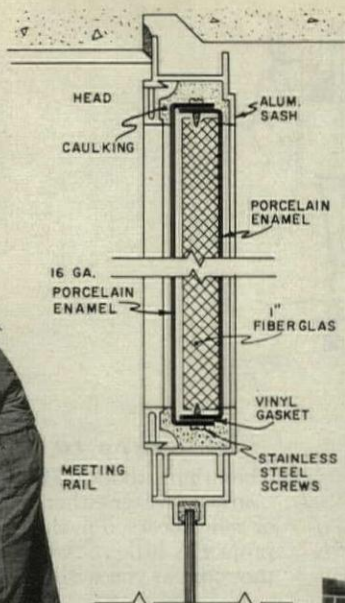
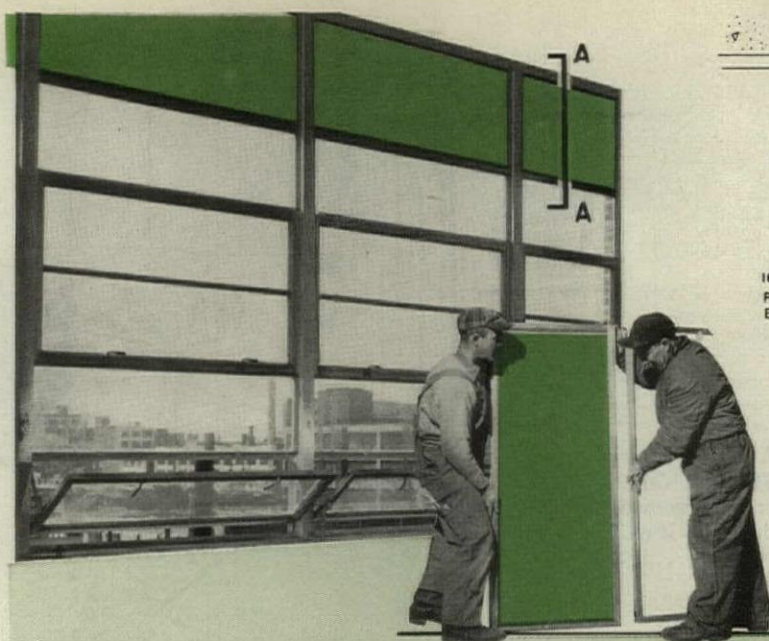
### ERRATA

• Albert Christ-Janer, assistant to the president of New York University and the man in charge of the building program for the university's heart center, was primarily responsible for the scheduling and organization of FORUM's round table on churches. (The discussion was published under the heading of "Theology and Architecture", AF, Dec. '55.) By special intervention of the devil, Christ-Janer's name was the only one omitted on the list of participants, although he was correctly identified in the photograph.—ED.

• FORUM regrets that a transposed line made gibberish of part of the report on New York's office building boom by Clinton W. Blume, president of the New York Real Estate Board (AF, Nov. '55). Here is the first paragraph of that report—corrected and brought up to date:

"The prosperous condition of our economy is making itself felt in Manhattan office buildings as forcibly as in any other segment of the national economy. Since the end of World War II, 55 new structures have been completed containing 12,558,000 sq. ft. of rentable space; 41 are competitive buildings with 10,562,000 sq. ft.; 14 are noncompetitive buildings with 1,996,000 sq. ft."—ED.





Here, an outstanding remodeling job at the County Welfare Building, Cleveland, shows the adaptability of Davidson Panels for improvement or enlargement of existing structures. Davidson "Double-Wall" Panels form both outside and inside wall. Architect: Milo S. Holdstein, Cleveland. General Contractor: The Schirmer-Peterson Co., Cleveland.

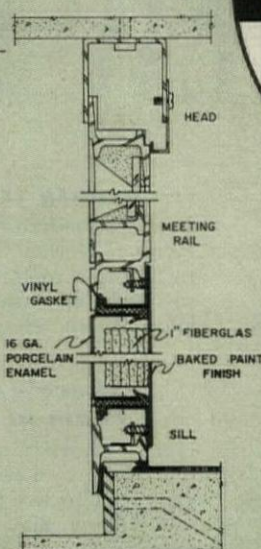


SECTION A-A

# the architect's porcelain...

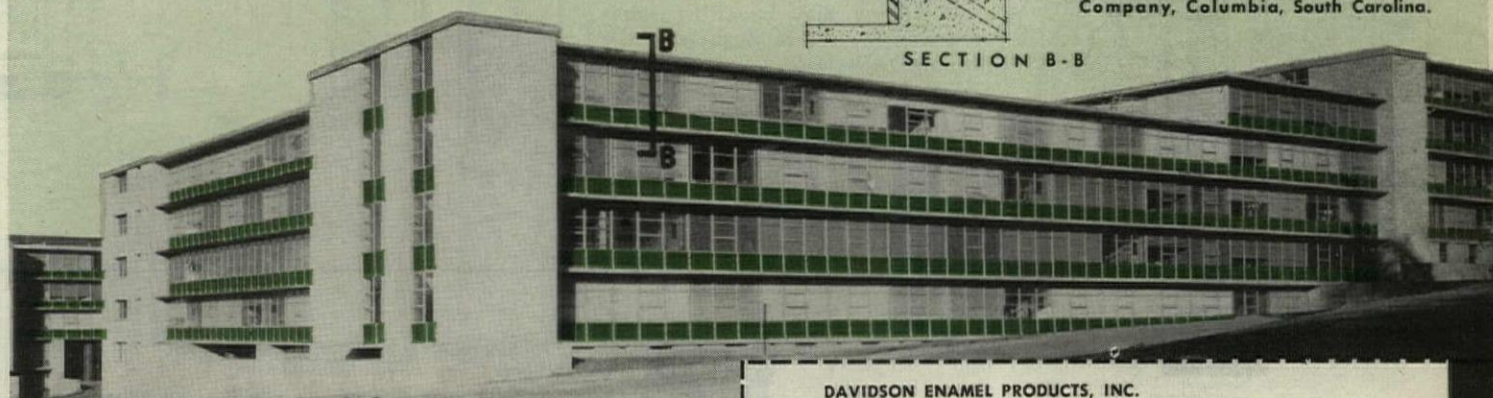


Davidson Architectural Porcelain is as flexible as your imagination. It can be used for curtain-walls, spandrels, window-walls or to accentuate structural features. It is easy to detail and offers an unlimited choice of color, shape or surface finish. As a result of long field experience and engineering development, use of Davidson Panels is practical for durable construction of any window-wall or curtain-wall. Ease of erection is winning preference for this outstanding building material.



SECTION B-B

Recently completed, Clemson College, at Clemson, South Carolina uses 26,000 square feet of Davidson Porcelain Enamel to achieve a window-wall construction that is entirely prefabricated. Davidson "Double-Wall" Panels form both inside and outside wall below windows. Architects: Lyles, Bissett, Carlisle & Wolff, Columbia, South Carolina. Contractor: Daniel Construction Company, Columbia, South Carolina.



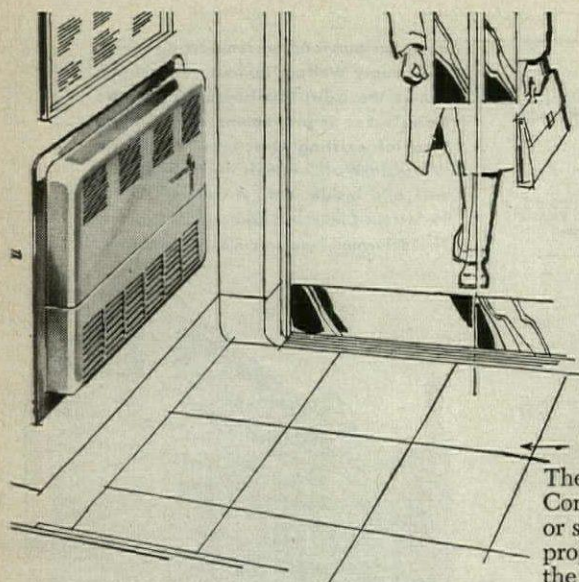
**Davidson**  
ENAMEL PRODUCTS, INC.  
1105 EAST KIBBY STREET, LIMA, OHIO

DAVIDSON ENAMEL PRODUCTS, INC.  
1105 East Kibby Street, Lima, Ohio

Gentlemen: Please send facts about the selection of Davidson "Double-Wall" Panels available. The type of project I have in mind is \_\_\_\_\_

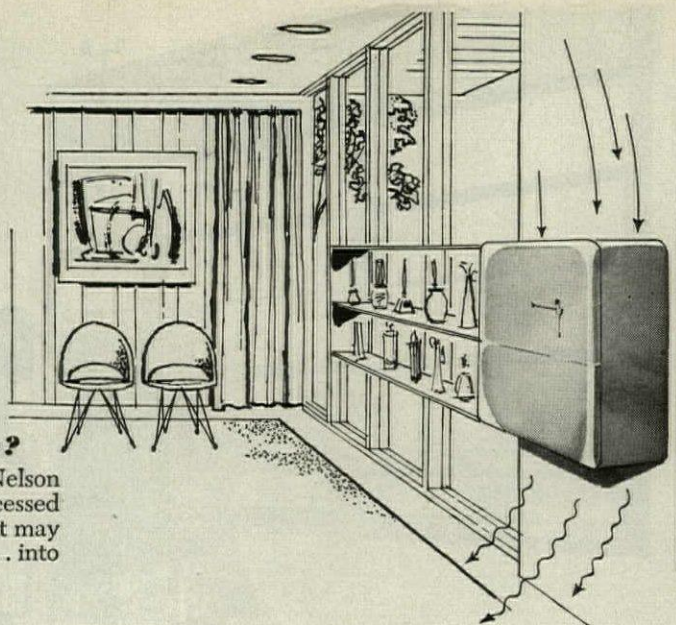
Name \_\_\_\_\_  
Company \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_





**no space to spare?**

Then think about a Herman Nelson Console Heater either fully recessed or semi-recessed in the wall! It may project as little . . . or as far . . . into the room as you wish.

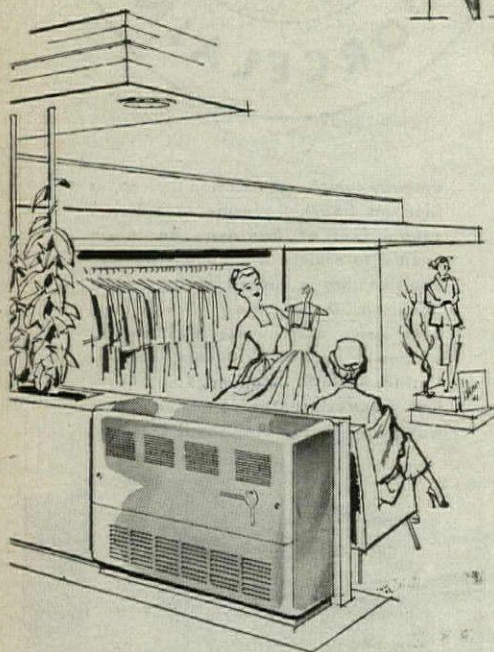


**hot idea for cold floors**

It's easy to assure warm floors with an inverted Console Heater installation. Even concrete slab floors stay comfortable when blanketed with Herman Nelson heat.

**the herman nelson console heater lends itself to**

# NEW IDEAS

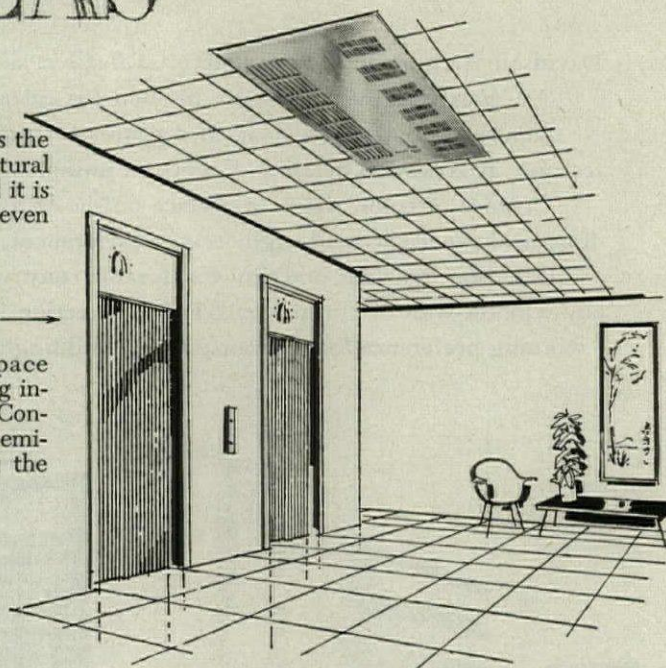


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Its crisp modern beauty makes the Herman Nelson Console a natural for use as a room divider. And it is so silent that customers never even know it's there!

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Here's another answer to space problems . . . a recessed ceiling installation. In this application, Console Heater may be either semi-recessed, or set in flush with the ceiling.



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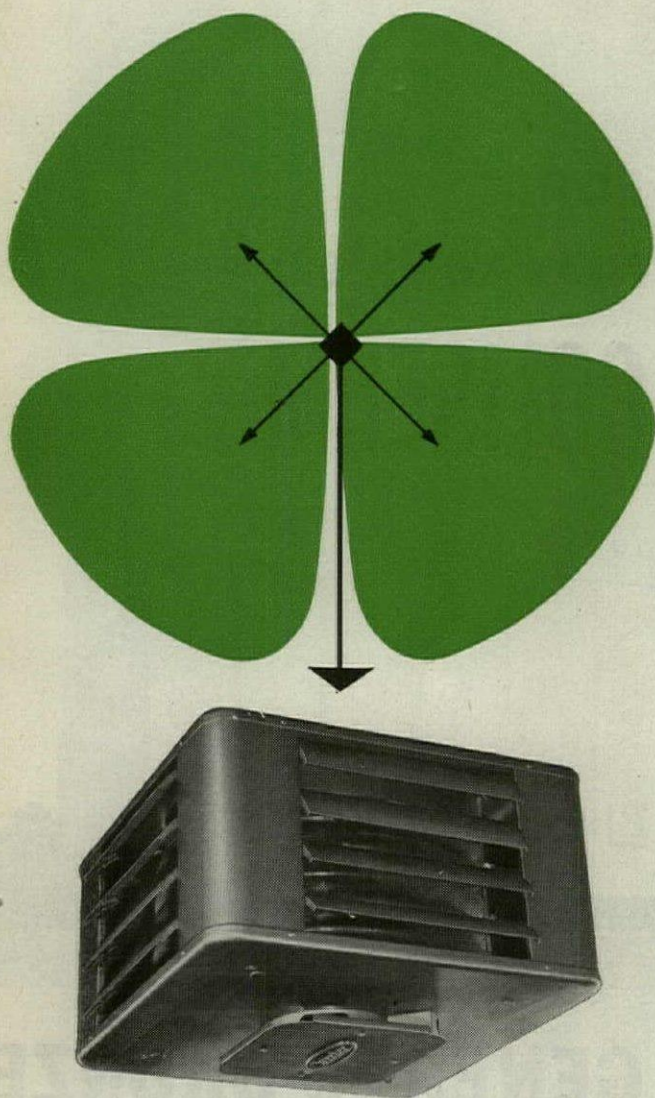
NEW YORK COLISEUM, New York, N. Y.  
Architects: Leon & Lionel Levy  
Contractors: Walsh, Fuller, Slattery



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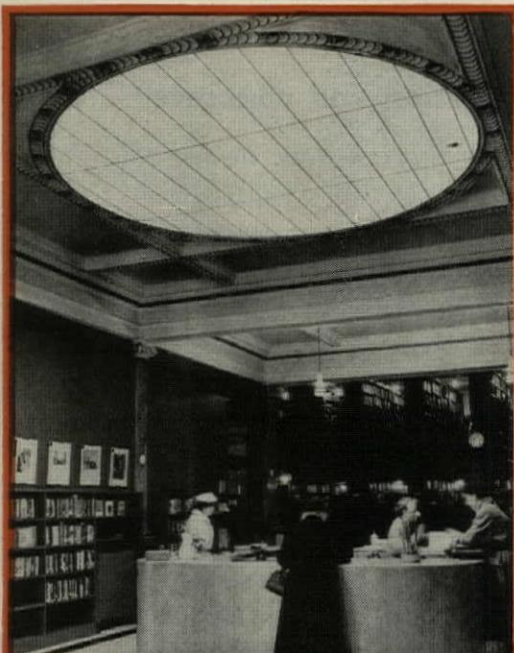
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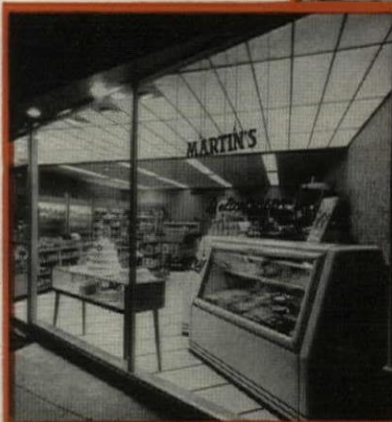


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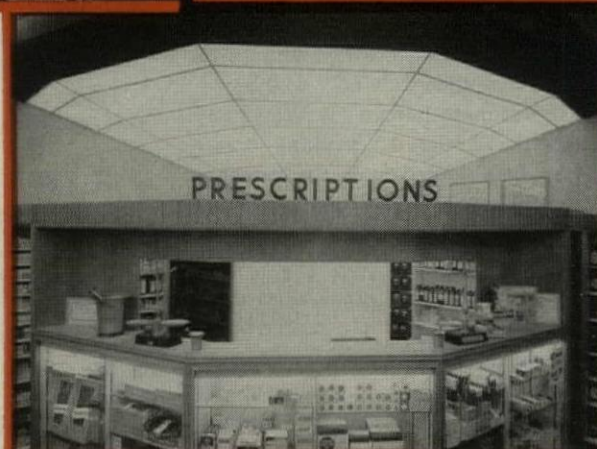


*Beauty treatment for odd-shaped ceilings...*

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## EXCERPTS

### Imagination and concrete

*Excerpts from a talk before the American Society of Civil Engineers by Roger H. Corbetta, president of Corbetta Construction Co. and chairman of New York City's Concrete Industry Board*

Since imagination is another way of spelling automation, let's try to visualize what could come to pass. Let us wander off into the limitless world of imagination where we are not hemmed in by formulae, exacting mathematics, codes, accepted practices



and prejudices. I visualize the possibilities of erecting long prestressed columns which will rise skyward for many stories. I imagine that multi-storied concrete structures may cast great

numbers of floor slabs on the ground floor, as is at present being done by the lift-slab method, to be successively raised as the columns move skyward by means of the principle of the Venetian blind in reverse.

Who knows but what piping may not be made of plastics on the site and extruded continuously from a vat as each successive floor rises skyward. Indeed, is it possible that piping may be done away with in its entirety because chemicals may well be developed to dissipate human excretions and make sewers obsolete? Drinking water might even be obtained from the moisture in the air by way of some future development, thereby eliminating water pipes.

Who can say that electric wiring and conduits may not be eliminated. Table lamps are lighted today by use of radio waves—without use of wiring. Air conditioning may eliminate windows. Precast concrete wall panels of varying sizes with perhaps outside facings of ornamental metals of one kind or another and interiors with a plastic finish may be used, thereby eliminating lathing and plastering on the inside face and painting on both inside and outside.

To continue in a vein of fantasy, why not allow for the wild possibility of hauling concrete in molds of, say, wall-size panels, stairways, columns, beams, etc. on at present unimaginable types of transportation, instead of present-day ready-mix trucks which only serve the one function of transporting unfinished raw materials. Why not transport concrete in predetermined forms, molds or shapes, and have it acquire

a flash set enroute, so that upon arrival at a site the element or section is ready to be put put into final position? Qualities of cement will continue to improve. A dash of something will develop 10,000 lb. concrete in a matter of minutes.

If reinforcing steel protrudes for connecting to other members, why not have a flash weld take place, somewhat after the fashion of an arc that occurs when two bare electric wires meet.

Of course, such thoughts are fantastic and impractical today. Horseless carriages and steam engines and wireless communication were at one time just as silly in the eyes of our grandfathers.

### Townscape

*Excerpts from an article by Grady Clay in Arts in Louisville*

This is a lament for the forgotten man in today's city, the sightseer, the rubbernecker, the fellow who enjoys gazing at his surroundings.

For he is having a hard time. His surroundings are being changed and uglified faster than ever before. Our Townscape is being changed by people and by forces oblivious to beauty.



Townscape is a term we are borrowing from the British, endowed with wonderful plasticity. It includes the unholy visual horrors being foisted on the public in the guise of "traffic cut-throughs." It includes the startling, gaunt and unkempt back-sides of sheds, garages and other buildings exposed by new parking lots. It includes the highway and sidewalk robbery being pulled off by the overhead sign-builders who pre-empt the public's light and air above sidewalks without being taxed for it.

In the name of Townscape, we must examine the appearance of city and suburb, of highway and bridges, of street furniture (light poles, street signs, etc.) and of subdivision layout; of domestic architecture. The erosion of land caused by landslagers; the visual gaps being torn out of the urban fabric by parking lot developers; streets of blight, alleys of shacks, slums, the periodic rash of church picnic signs on suburban trees—all this is Townscape.

With few exceptions, structures and other changes in the Townscape are pre-

*continued on p. 70*

**DRAINAGE**  
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Condensers

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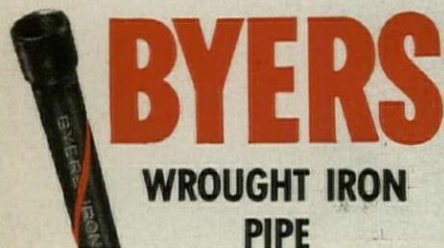
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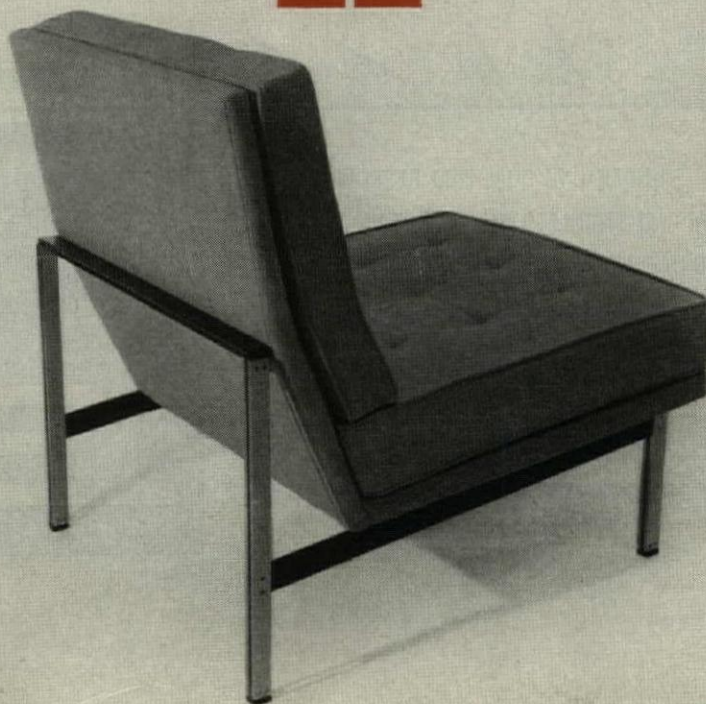




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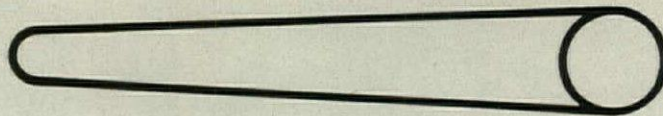
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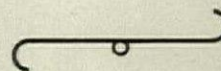
VERTICAL  
24" 30" 36"



VERTICAL  
16" 20" 24"



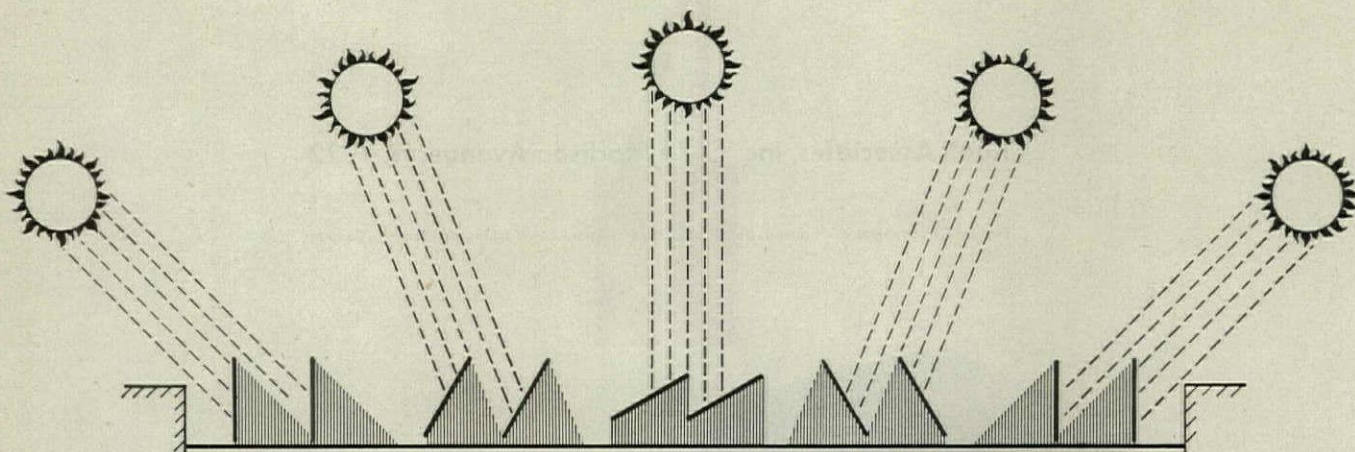
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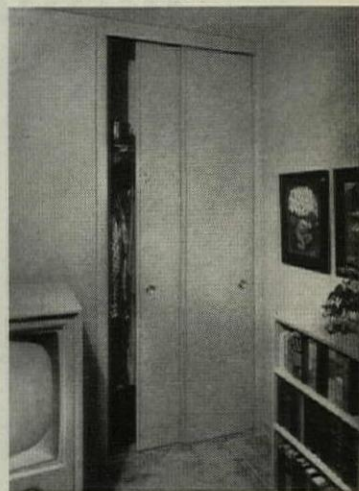
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See SWEET'S FILE, Architectural, for specifications and installation data, or mail coupon below:

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## EXCERPTS *cont'd.*

sented deliberately for the public's scrutiny. There it is; built almost invariably on a public street with public sidewalk out front, designed to be seen (and, the builder hopes, to be admired, bought and paid for).

Just as political office-seekers take over the public air waves with sound truck or radio to snare our attention, these structures take up public light and air. They throw themselves upon us, saying, "Here I am, look! I represent the best (or perhaps the worst) that is in some builder, some architect or building committee. How you like? What you think?"

We also need to be reminded that beauty is a thing to be desired for its own rewards; that by adding beauty to the aims of city planners, we do not increase their load; we lighten it. Beauty is the great popularizer. The sooner it is brought into city plans, the more popular support those plans will get.

Appearances have counted for too little in today's Townscape market. We consider beauty as essential to life as mobility; visual beauty as important to a city's life as moving traffic. Traffic engineers have proved they can move traffic, but they cannot move men's souls. This is the field in which the artist, architect, landscape architect can begin to remake our Townscape.

It is not so simple as Le Corbusier would have us believe when he says: "We must make Nature a part of the lease." Too many people today have swallowed the notion, a very old one, that only Man is vile, and Nature's every prospect pleases if only we could Keep Man Out.

This is poppycock, based on the altogether untrue notion that true beauty is only found in "natural" scenery, in "unspoiled" countryside. This notion leads many people foolishly to seek suburban or country living in the vain hope of finding a guaranteed supply of Beauty or Peace. It also leads to a violent form of city hatred which has come to dominate the minds of millions of people. (I too hate the ugliness of some cities, the failure of great cities to measure up to the high hope of their citizens, but I do not hate cities.)

We should demand of those who shape our Townscape that they shape it beautifully, as well as efficiently. We should demand beauty as well as utility in our buildings, art as well as a guaranteed 12%, so that, as Ruskin once said of new structures, "the sight of them contributes to [mankind's] mental health, power and pleasure."

*continued on p. 76*



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## THE DISTINGUISHED LOOK...

### WITH *low-cost* VAMPCO WINDOW WALL CONSTRUCTION

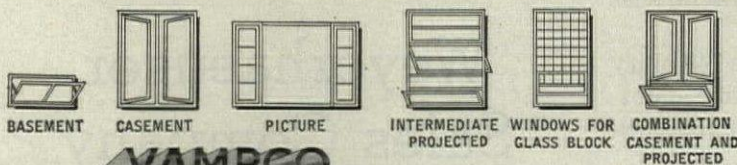
The "distinguished look" of tomorrow is here today with exclusive beauty and functional design in this new Lawrence Institute of Technology building at Oakland City, Michigan. Heavy Vampco Window Construction using 4½ inch deep sections gives its massive Window Wall expanse an extremely modern and most pleasing appearance. Porcelain enamel panels are set into the sections at the spandrels and also form attractive borders. These Vampco Windows were furnished assembled in large, full height sections for economical installation. For extra strength, durability and beauty at low cost, architects and contractors everywhere are turning to Vampco. Our special designing department is at your service . . . . WRITE TODAY!

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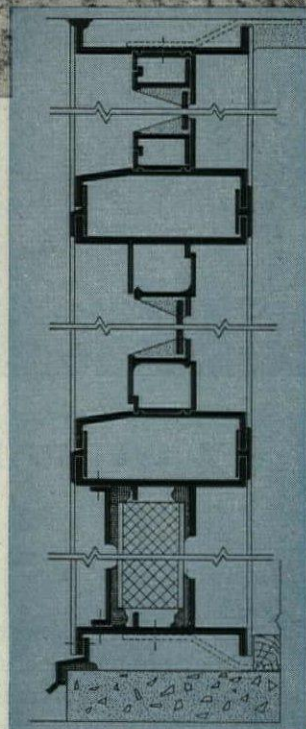
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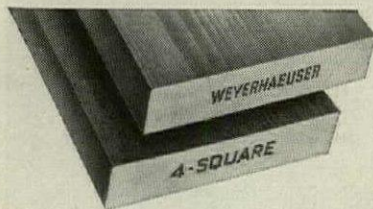
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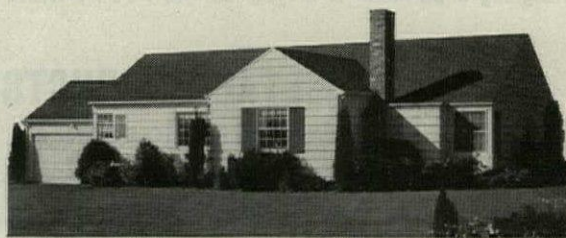
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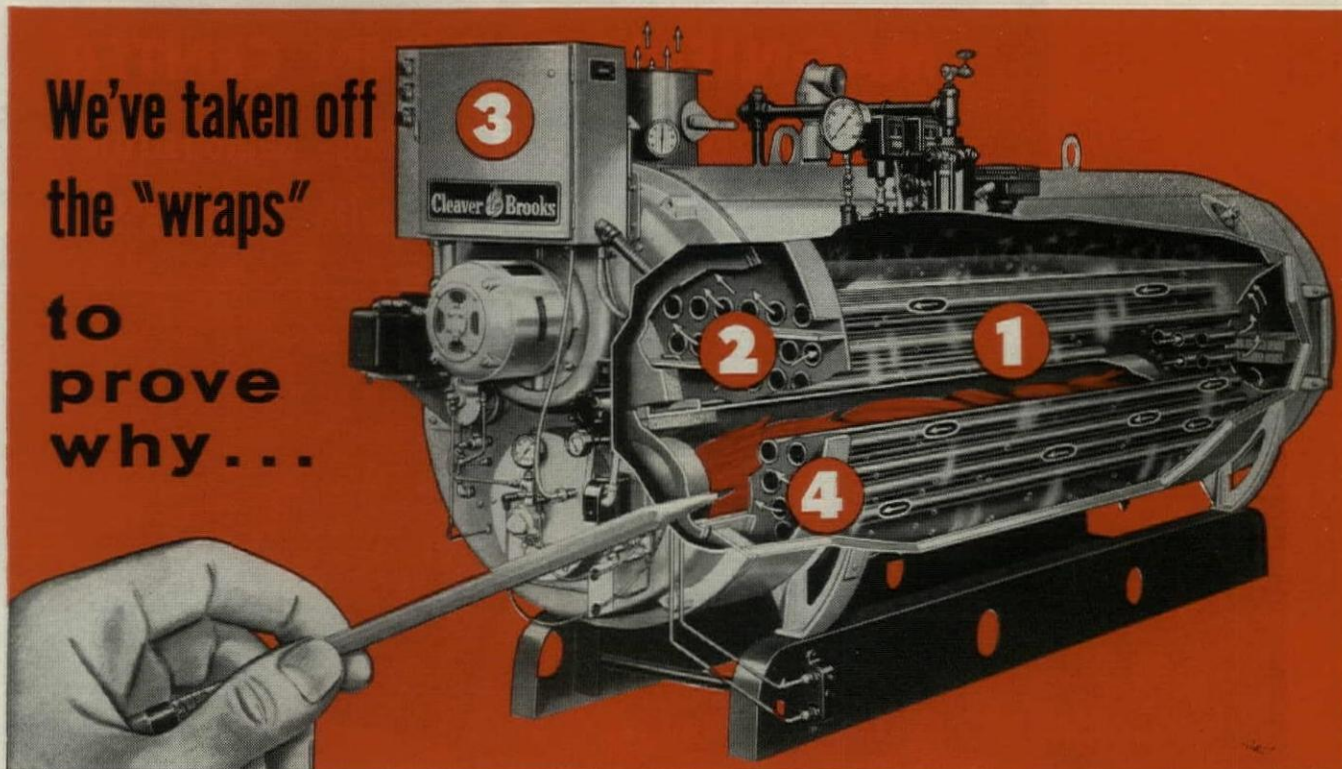
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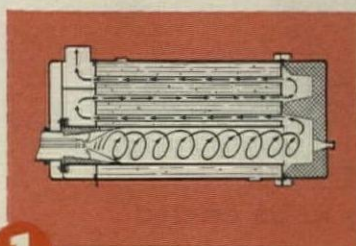


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why....

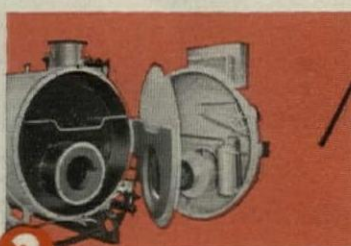


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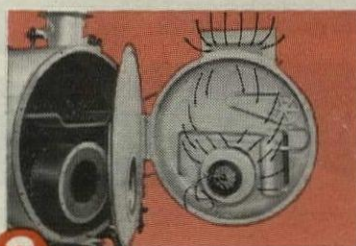
unmatched in  
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quiet operation  
low-maintenance



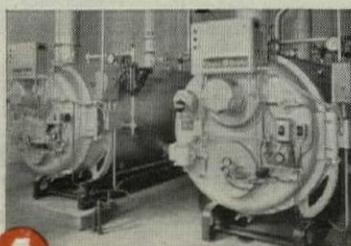
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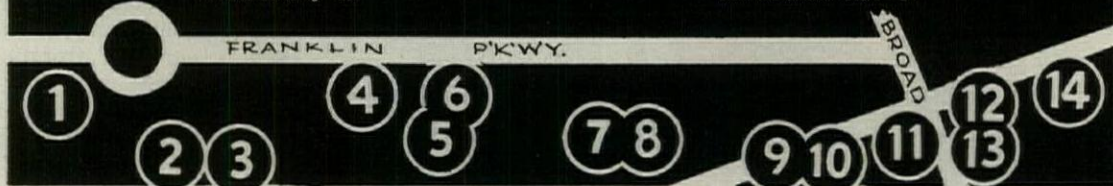
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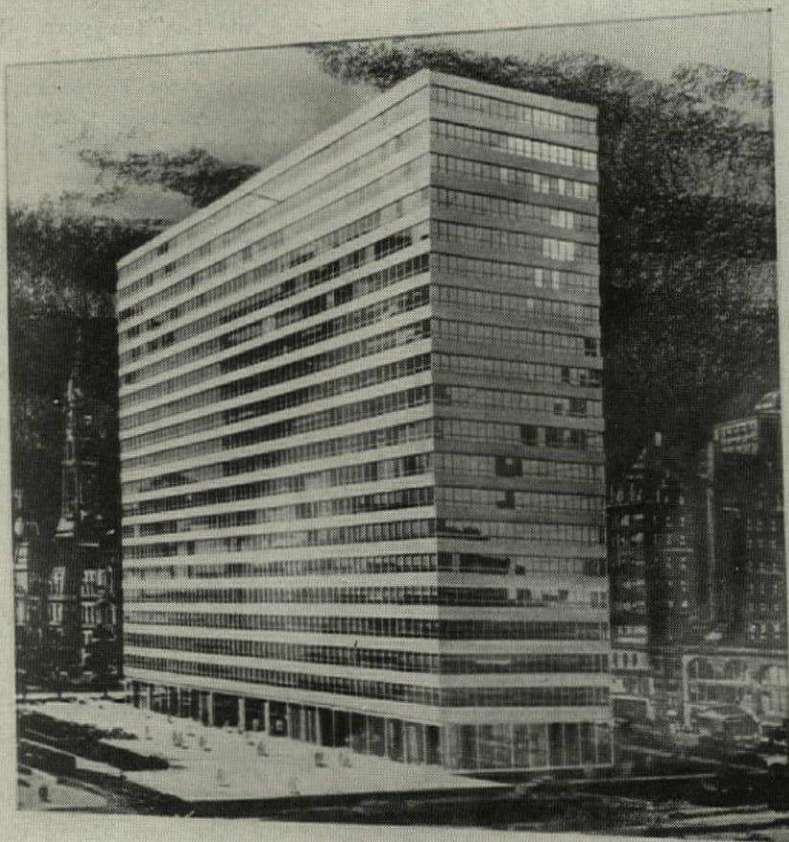
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## EXCERPTS *cont'd.*

### Cool Recovery Rooms

*Excerpts from an article in Du Pont Magazine by Emily Heine*

For the last ten years Dr. Lucien A. Brouha of the Du Pont Co.'s Haskell Laboratory for Toxicology and Industrial Medicine has been studying the effects of high working temperatures on men. His goal is to reduce stress and fatigue and thus to promote better health.

One highly effective way of preventing fatigue among industrial workers, Dr. Brouha believes, is through air conditioning. Moreover, even measured solely in terms of human comfort, industrial air conditioning saves money, he says. And he has some convincing statistics to back him up.

Comes the obvious objection: "But our buildings can't be air conditioned." There's a way around even that difficulty. When it's not feasible to air condition an entire plant, Dr. Brouha suggests giving workers short rest periods in air conditioned "recovery rooms" several times a day.

Such rooms, he says, are particularly needed in the so-called "hot industries," like metal making, where men work in temperatures as high as 150° F.

The Aluminum Co. of Canada Ltd. installed air-conditioned recovery rooms in several of its smelting plants in 1946. Dr. Brouha ran tests to compare fatigue of workers who rested in these rooms with fatigue of men who rested in the plant or outside in the shade.

In a typical study, the average heart rate of men after three minutes rest in the air-conditioned room was 97 beats a minute. Average for men who rested in the shade was 109 beats a minute, close to what Dr. Brouha calls the alarm level. When his heart is still beating about 110 times a minute after a minute of rest, a man is likely to complain about being tired. He has reached the alarm level. But fatigue control should start long before this point is reached, Dr. Brouha says.

The Aluminum Co. of Canada reported a sharp drop in absenteeism and rate of turnover among employees after the air conditioned rooms were used. And production increases alone soon far outweighed the total over-all cost of installation.

One of the most widely believed ideas about air conditioning is that our bodies suffer if we go back and forth between cool and warmer areas. Dr. Brouha's studies effectively discount this belief.



Roofs of these two United States Naval Academy Buildings are covered with

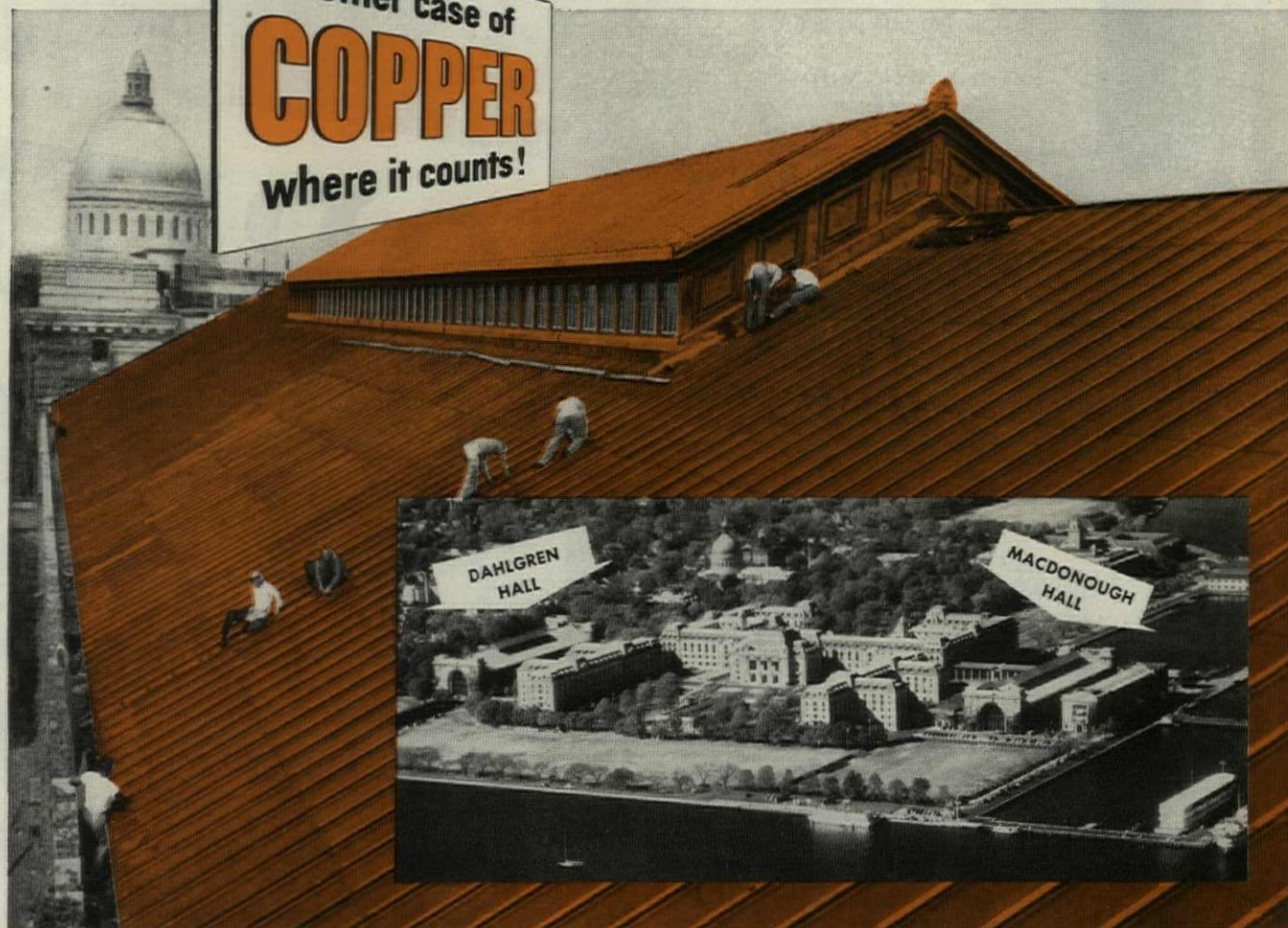
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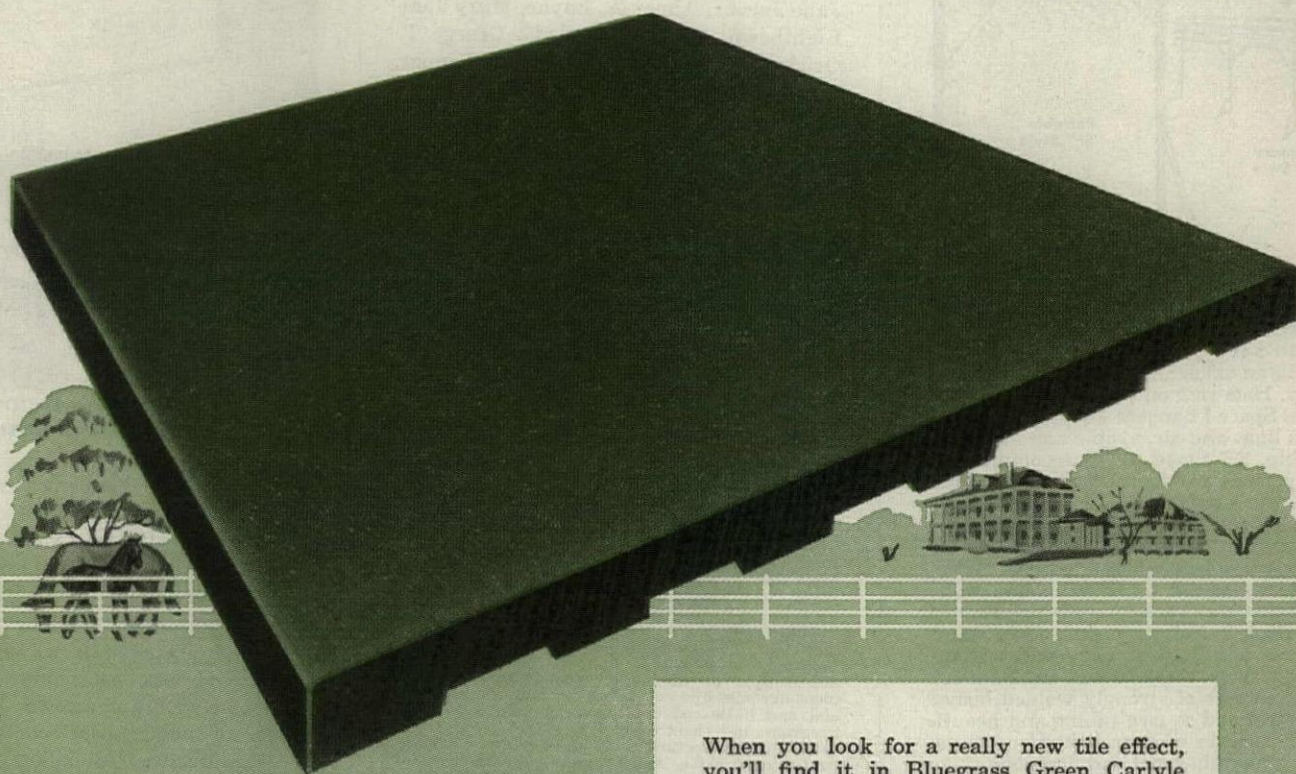


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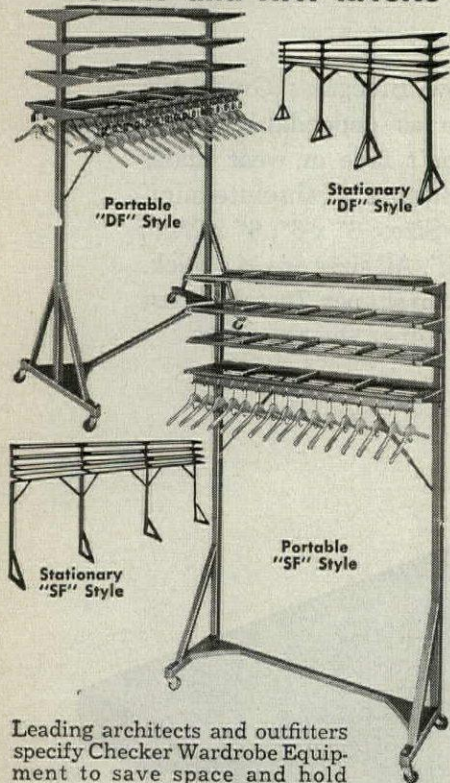
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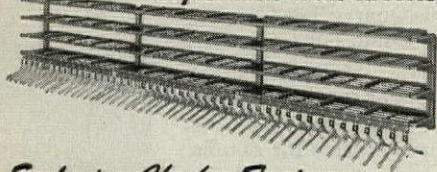


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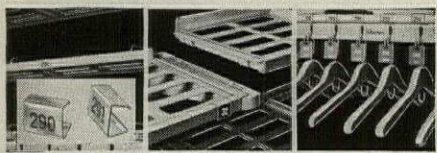


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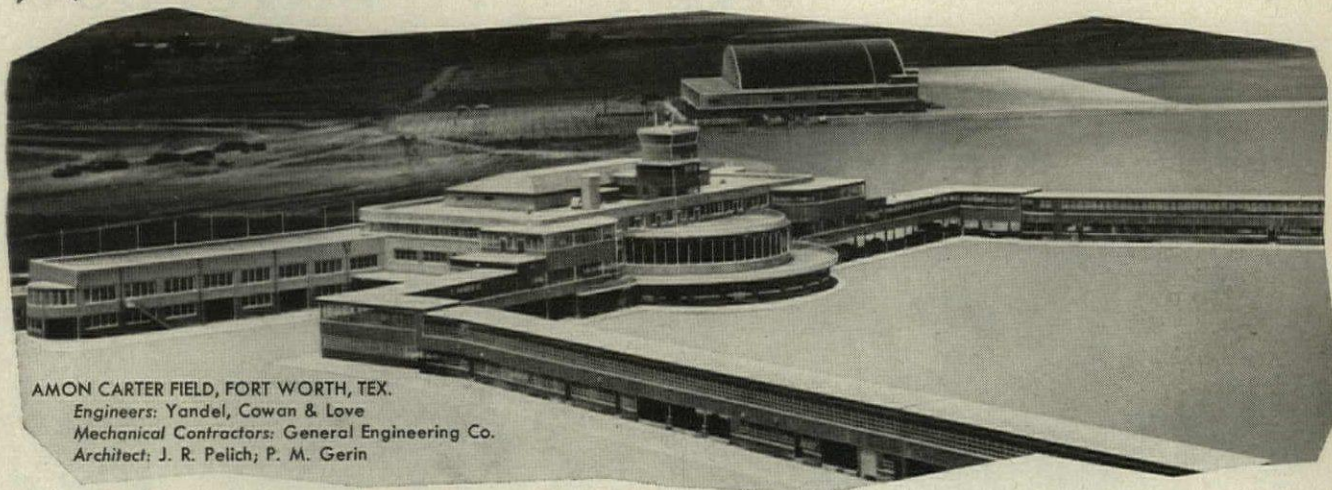
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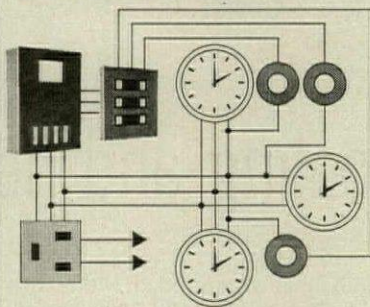
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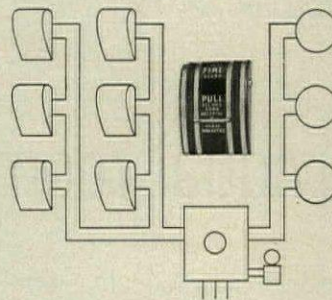


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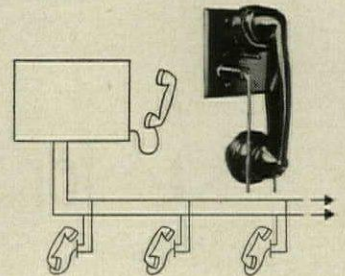
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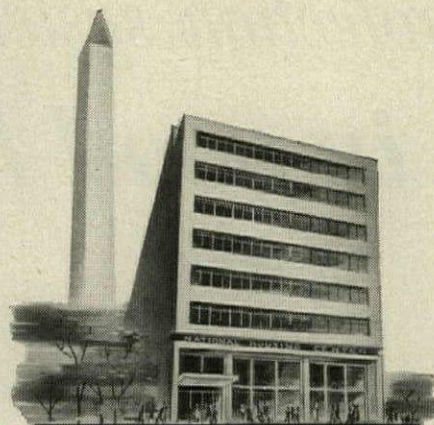
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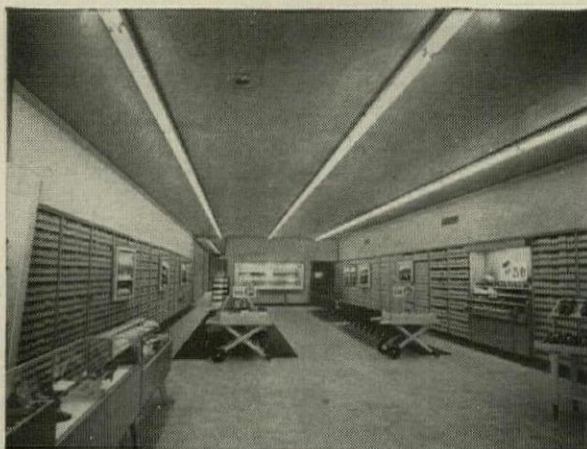






Bay Shore Shopping Center, Milwaukee, Wisconsin. Owned by Bay Shore Center, Inc.; Architect—M. O. Nathan; Builder—Sheldon-Thomas, Inc.; G-E

## Wisconsin shopping center comfort with 664 tons of G-E



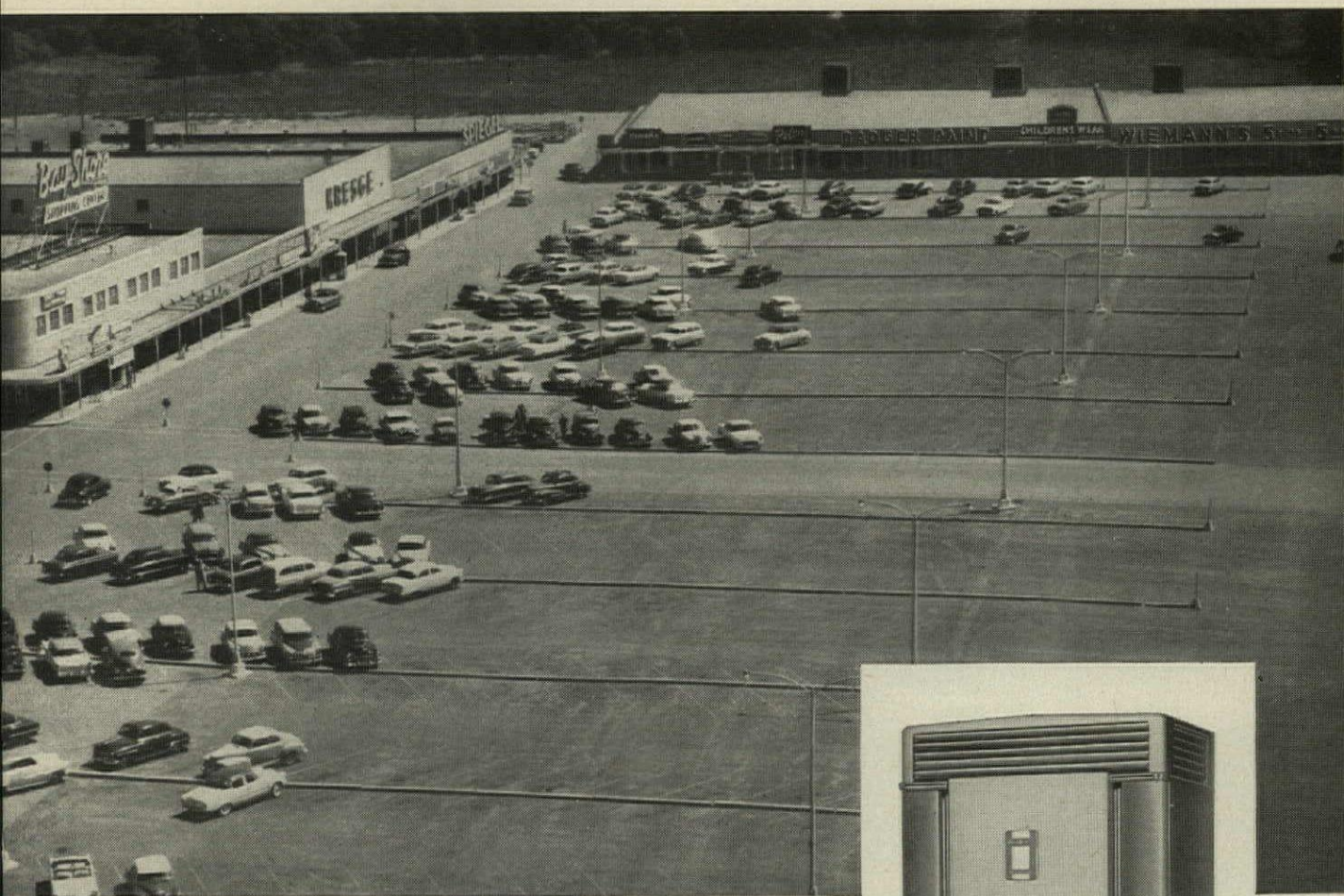
**Larger Bay Shore stores** utilize up to four G-E units. Smaller stores require only a single G-E unit of 3 to 15-ton capacity. Offices are serviced by units grouped in central machinery rooms.

**81 G-E Packaged Air Conditioners** permit individual indoor weather control in 47 stores, 60 offices of Bay Shore Shopping Center in Milwaukee

Every office and store of mammoth (315,000 square feet) Bay Shore Shopping Center, largest in Wisconsin, developed by C. M. Redman, is "comfort serviced" by 81 G-E Packaged Air Conditioners. All units, totalling 664 tons, are located out-of-space—not a single square foot of sales or office space is lost.

Installations were made on a highly flexible, individual basis as the center grew and as leases were signed. Working closely with the architect, the G-E contractor coordinated air conditioning with building design and layout—meeting (1) changes in plans with minimum inconvenience and delay;





packaged units installed by Conditioned Air Equipment Co., Minneapolis, Minn.

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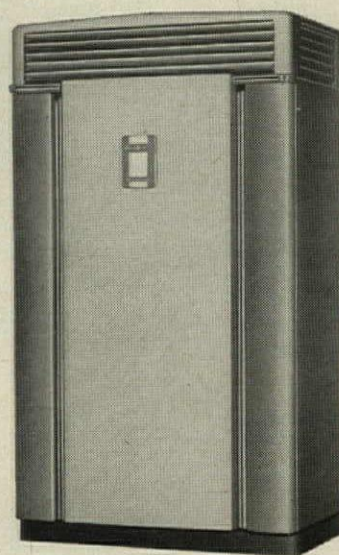
(2) the special needs of each lessee at minimum cost to Bay Shore management.

Throughout hot weather, each store and office controls its own indoor temperature and humidity. Ductwork and grilles are used both summer and winter. For winter heat, some units have heating coils. Write for data to General Electric Company, Commercial & Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, New Jersey.

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- 3, 5, 7½, 10 and 15-ton units can be used singly or in multiple to meet air conditioning needs of any building.
- Easily directed air flow for no-draft no-waste air circulation.
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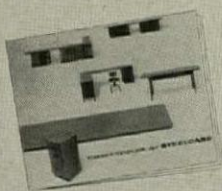
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# FORUM

the magazine of building

## About this month's FORUM

The city of Washington seems like a really appropriate place to start building the building story of the new year, but rarely have the editors had such an experience of the hot subject getting hotter so fast. Between Writer Jane Jacobs' first visits last Fall and the day you will receive this in your hands some major issues moved rapidly to a determination, and it looks as if the first big redevelopment scheme for Washington should be in the clear by the time you read this.

No matter what the immediate outcome may be, Washington is as fine a demonstration as any that the scope and scale of city building today has a relationship to the past like the liner United States to a harbor tug boat.

Washington is the twelfth city that FORUM has explored in the past 12 months and the first of a series it will talk about this year. Detroit, the industrial capital, is sure to become as exciting before year's end as the national political capital, and large changes are under way in virtually any city you might think of.

Despite all the attendant headaches, this stirring is all to the good in the minds of FORUM's editors, and it all points to the *one sound major possibility of expansion for the building industry* (Page 92).

► Closely related with the problem of Washington, which Americans will always aim to

make a beautiful city, is the question "What place art occupies in America?" And FORUM is flattered and happy to be able to greet the year with a measured but optimistic forecast on this very theme by Editor-in-Chief Henry R. Luce. (Page 130.)

► (The "Architecture in America" series is interrupted this month because of the big article on Washington, D.C. Next month the "AIA" series goes on with an article on the Contractor.)

► Once again, with the new year, you will find a new series of articles, starting this month on page 122 with the subject of *lobbies*. It is a series on rooms for the public. If you consider any large building as an enlarged kind of house, all buildings tend to share certain rooms: they have entrances and lobbies, and "rooms" that serve vertical transportation; they have dining rooms tucked away in them and bars with kitchens—to mention a few.

We are bringing these one by one into the FORUM not as special cases but in the idea that all are part of a family of rooms serving the human family. A good hospital waiting room may give a wall-finish or lighting idea to an industrialist and a good industrial lobby may give a furnishing idea to a club. These are the rooms we live in at all times when we are in buildings other than the house.

► You will find many other subjects in this issue which we think you will consider important or interesting, but may the editors close by pointing to a new convenience? This is for the serious people concerned with the bread and butter of building but might be interesting to others too: on page 29 under the heading of "Trends" you will find the same vital information as before but more sharply pointed up as "Materials Supply, Materials Prices, Building Costs and Building Money." This entire realm is under the command of veteran News and Realty writer Stephen Thompson.

► And on page 151, under the heading of "Research," you'll find gathered together quick summaries of reports that will almost certainly affect you. This is a new move in response to the need for a cross-industry research reporting service.

Happy reading, and a happy new year.

THE EDITORS







The city that belongs to all Americans is on the verge of a mighty surge of government building and private redevelopment. It is a battleground of city planning, of architecture, of ideas that will determine for America—what kind of a 20th century capital?

# WASHINGTON

We think of it as a special city. But it is everyman's city. Each year more than 4½ million Americans come to look at it—to look at a city. Half a million are high school students. They come because they love the idea of Washington and they want to leave with the belief, "This is how a grand city should be; this is it." A little of the standard of Washington, the standard of a city to inspire man, goes back inside the heads (especially the young heads) to Akron and Atlanta and Albuquerque. Washington has influence beyond the ken of lobbyists.

BY STAFF WRITER JANE JACOBS

CARL FEISS

AND FREDERICK GUTHEIM,  
CONSULTANTS

As a 20th century city, Washington is beset with the same problems as every other booming city—choked downtown, haphazard suburban sprawl, blight at the heart—with the exception that its downtown streets are lined with trees, the air is clean and there are many little downtown parks, assets becoming recognized in other cities.

But as a 20th century capital, Washington is a thing unto itself. It is not only an expanding universe. It is an exploding one. Its scale of growth is so swift that dispersal is carrying great chunks out into the greater metropolitan area; decentralization is throwing other huge agency-sized chunks to Denver, Battle Creek, St. Louis; still other chunks—these, in effect, regional subcapitals of the nation—are landing in Atlanta, San Francisco, Chicago, New York, New Orleans. Inside the exploding capital, the "temporaries" now account for as

much space as four Empire State buildings, with 47,000 workers. Cars, moving and parked, have exploded into a problem of such dimensions that both they and the L'Enfant plan for Washington must adjust. Soon a government building program, the first for Washington since the war halted building, will explode into about \$250 million of new construction.

Exploding Washington simply cannot avoid remaking itself as a 20th century capital of *some kind or other*.

What kind? Here it is appalling to discover that while time has been moving at such a tremendous pace, time has also been standing stock still in the brains of many of the men who will have much to do with shaping the 20th century capital. Thus among the would-be shapers of the Capitol building itself, we have an attitude that has become fixed upon an outmoded textbook criticism



and takes no cognizance of tradition, ceremonial use, and contemporary appreciation of fine early federal design. Thus we have among the shapers of our national museum a persistent stuffed-carcass idea, with airplanes regarded as another type of taxidermy. Thus we have in the public building service the attitude that the parking problem can be solved by regarding open Washington as a bonanza of vacant lots. Thus we have, among influential members of the Planning Commission, the attitude that an underprivileged part of the city can be redeveloped while it remains severed from the life-giving heart.

The pages that follow do not attempt the impossible task of telling all about exploding Washington. They are a series of snapshots catching significant portions of Washington at a significant moment—at the moment when the rush of time is upon it and when, simultaneously, time is standing still in much official thinking.

The emerging 20th century capital will become a miserable hodgepodge instead of the inspiring city Americans deeply desire, unless thought catches up with event. And Washington, above all cities, should take to heart the words of Justice William Douglas in reaffirming District of Columbia redevelopment law:

"The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, esthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled."

This has always been the idea behind Washington; this is why George Washington commissioned from L'Enfant a grand plan, why Washington has its temples and columns and memorials, its parks and its wealth of trees. It is something that must not be lost in exploding Washington.



1





## WASHINGTON'S STEPCHILD AREA:

blackballed by geography, the Southwest section is now buffeted by official whims

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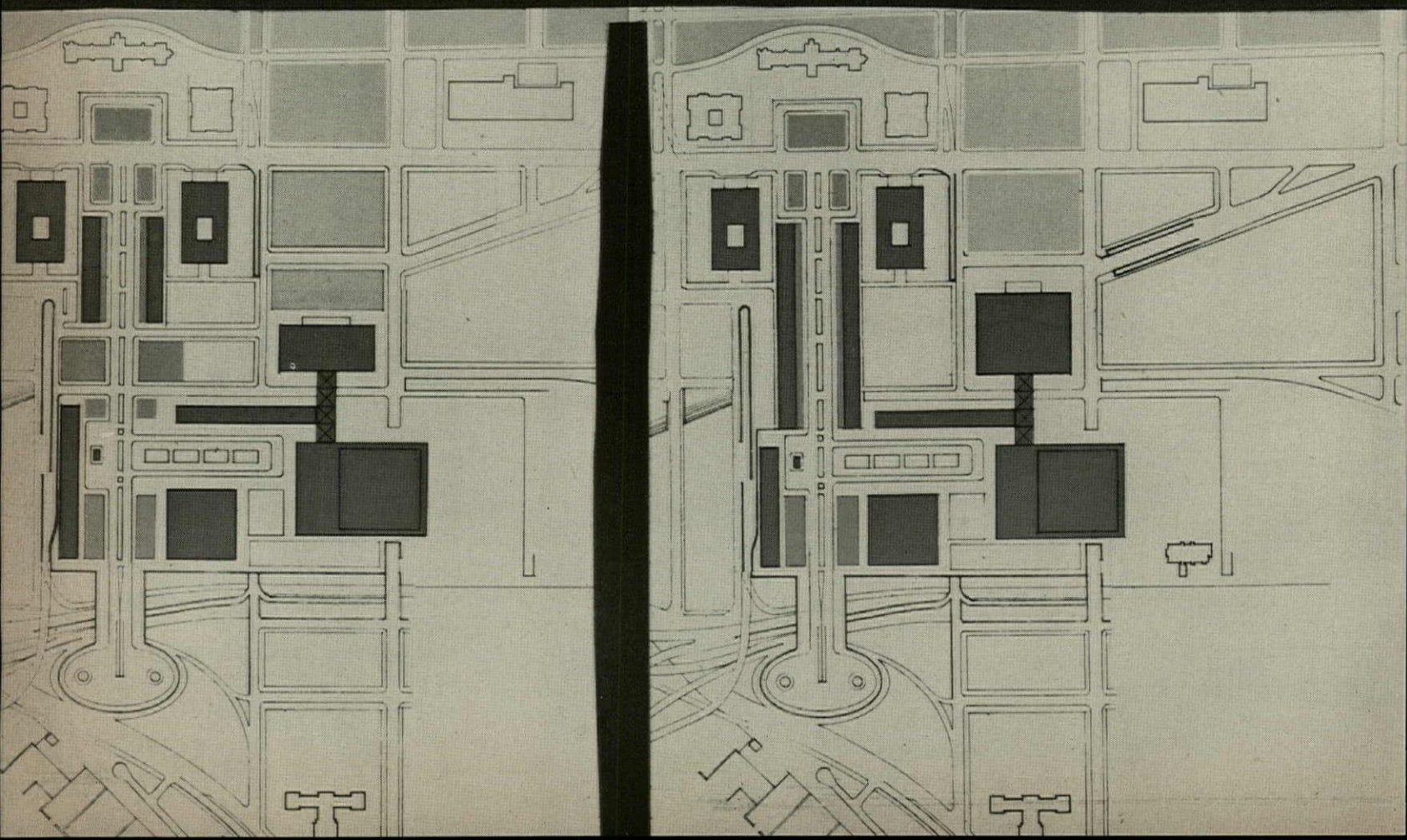
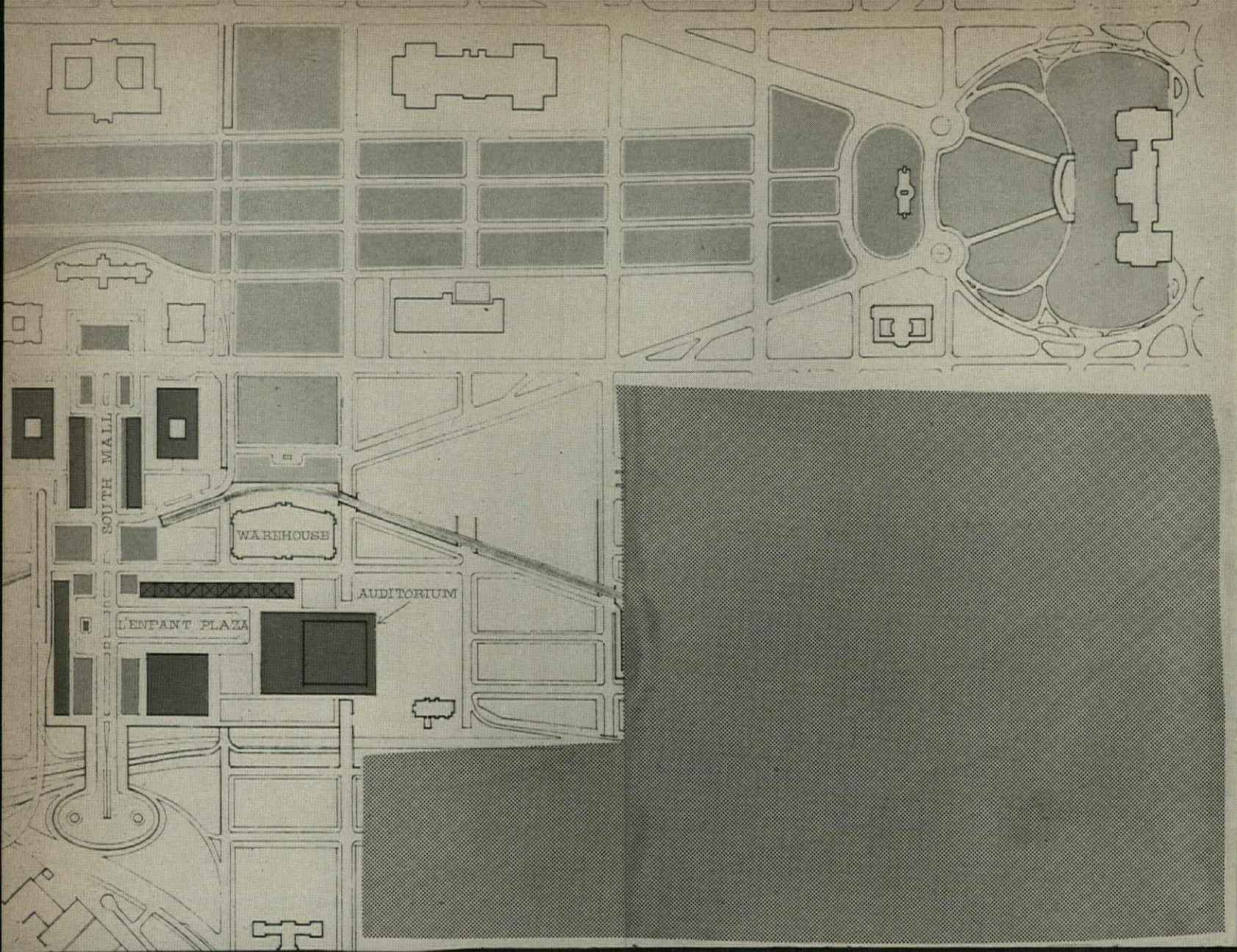


This is the part of town on the wrong side of the tracks. Before the tracks it was on the wrong side of the canal (1). During the Civil War it was dubiously benefitted with semi-official bawdy houses for the troops, which gave it the kind of reputation that lingers and lingers and lingers, although in latter years many of its residents have been hardworking laborers for the produce market and railroad.

Close by the Capitol and government offices, bounded by the Mall and lovely Potomac, no part of the city could be fairer of prospect (2). When developer William Zeckendorf of Webb & Knapp offered to undertake the rebuilding of 350 acres of the 427 designated as the Southwest redevelopment area, he made a sound deduction: If the Southwest was to fulfill potentialities it must have a feature tying it physically and psychologically to the rest of the city, a feature handsome and dramatic enough to blot out the old onus. This feature was to be a 10th St. mall, joining at right angles to the grand Mall and terminating in a splendid river overlook. (For what is on the Mall, turn the page.)

Now comes trouble. First the National Capital Planning Commission said the Smithsonian must have the head of 10th St. for its 3-block-long proposed air museum (60), presenting its backside to the stepchild Southwest. Instead 9th St. was pressed on Zeckendorf as a substitute, a street so confused in its connections and already-frozen facilities that it was hopeless as a potential mall. After difficulties too involved to retell, finally requiring personal intervention by President Eisenhower (AF May '55), the Planning Commission approved Zeckendorf's plan in principle. Only remaining problem: an alternate site for the air museum. In December a subcommittee of the Planning Commission, under the chairmanship of Conrad Wirth, head man of National Parks, met presumably to recommend a new museum site. Guess what it came up with? A scheme for putting the air museum on 10th St. and a substitute mall on







8th St., a completely unworkable pie-in-the-sky proposition involving disruption of any sensible housing development, moving the railroad tracks, destruction of a relatively new high school and of a big government warehouse which meant the toilsome, chancy grinding of the mills of Congress. This was for all the world as if the decisions of almost a year had never been made. Report by Zeckendorf covering the old ground. New meetings of the Wirth committee. As FORUM went to press, the Planning Commission was reportedly approving Zeckendorf's 10th St. mall (3), with the condition that the head of it be reserved for possible blockage. Right back where everything started, so far as connection of this South Mall and grand mall are concerned.

These Wirth committee goings-on are so strange it is difficult to interpret them. Occasionally sharp ears in the outer world pick up mutterings that imply Washington is a gentlemen's private club and the new man, Mr. Zeckendorf, is not up for membership. Whatever goes on in the committee's head, planning does not. Planning implies, at the

least, a sense of progression and enlightenment of the public, while the committee runs in secret circles. This burlesque of the planning function with its dead-pan actors, apparently unable to make public whatever is eating them, would be funny if so much were not at stake—for the stepchild Southwest, for Washington and for the nation.

Obviously there is a long pull ahead for the 10th St. mall. It will be worth it. Besides giving the Southwest a new tone and a formal entrance, this South Mall will do a great deal for Washington as a whole. The buildings defining it (other than the monumental public buildings at its head) are lease-purchase government offices; Congress has already enacted a bill to insure that the arrangements negotiated here will preserve the integrity of the mall plan. These buildings will look like what they are—offices rather than temples—but they are part of a dignified and significant setting, an excellent solution to the problem of how to deal architecturally with "workaday federal." As one of their byproducts they will help rid the grand Mall of the tem-

poraries infesting it. Nothing in Washington has been more permanent than these so-called temporaries. Those erected for World War I (7 and 8) were simply increased in World War II (9 and 10).

L'Enfant Plaza to the east of the South Mall, giving the mall its asymmetrical character, is conceived as a national cultural center, now conspicuously lacking in the capital. Eventually it could and should link ceremonially with the grand Mall.

In over-all concept, mall, plaza and the terminating overlook are brilliantly and harmoniously suited to their local, citywide and national functions, each aspect supporting the others and the whole adding up to a genuine architecture of city space. In detail they are a most interesting demonstration of the difficulties of civic planning when it is approached so conscientiously as it has been by Architects I. M. Pei & Associates and Architect and Engineer Harry Weese.

Maryland Ave. must be open across the mall (3), so planting must give much of the feeling of enclosure, of continuity, to make the mall a strongly designed outdoor room.

3

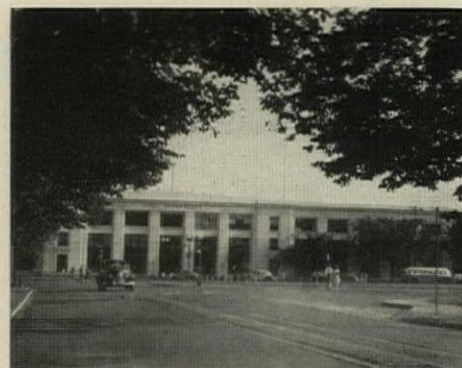
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## PHOTO CREDITS

Frontispiece George Skadding—LIFE. 1 Culver Service. 2 A. E. Nesbitt from Fairchild Aerial Surveys, Inc. 7 Courtesy National Park Service. 8 Rideout & Stapp from Black Star. 9 Doris Wallace from Black Star. 10 Thomas D. McAvoy—LIFE. 11 Hans Wild—LIFE. 15 & 25 Robert Phillips from Black Star. 26 & 27 Courtesy Bettmann Archive. 29 & 30 Robert Phillips from Black Star. 31, 32 & 33 G. E. Kidder Smith. 34 Robert Phillips from Black Star. 35 Calvin Campbell from Black Star. 37 & 39 Horydczak. 40 Keystone View Co. 41 Frank Scherschel—LIFE. 42 Robert Phillips from Black Star. 43 Hans Wild—LIFE. 44 & 45 Robert Phillips from Black Star. 47 Horydczak. 48 Walker Evans. 49 George Skadding—LIFE. 50 Robert C. Lautman. 53 & 54 Robert Phillips from Black Star. 55 George Skadding—LIFE. 56 Robert Phillips from Black Star. 58 © Ezra Stoller. 59 Hans Wild—LIFE. 60 Courtesy of Smithsonian Institution. 62 George Skadding—LIFE. 63 Dimitri Kessel—LIFE. 64 Courtesy of Smithsonian Institution. 68 Robert Phillips from Black Star. 69 Horydczak. 71 A. E. Nesbitt from Fairchild Aerial Surveys, Inc.



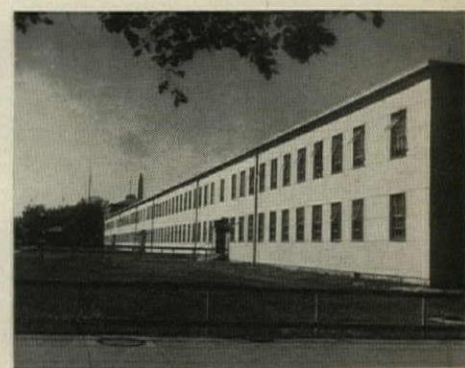
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This scheme assumes that the large government warehouse will remain and the railroad tracks will not be lowered. If in a later stage (4) warehouse and tracks are no longer obstacles, the auditorium has been so placed that it will link with a monumental public building terminating a minor axis of the grand Mall.

What to do about Maryland Ave. has been a problem of long standing in Washington because unlike its mirror image (on paper), Pennsylvania Ave., it does not lead anywhere. The Jefferson Memorial is not on its axis. It remains a vista without a focus, petering out in the indeterminate distance. One possibility might be to terminate it with an important monumental building (5), as Pennsylvania Ave. is terminated at the Treasury. The Planning Commission has never considered bringing Maryland Ave. to a definite focus, so this point is academic.

The mall plan (3) is worthy of detailed study for the care that has

gone into the scheme's "internal vistas" too—the attention paid, for example, to the visual effect of the plaza as approached from the river overlook or from the upper mall, and in turn the interior and outward views from the plaza. The vertical accent opposite its entrance is suggested as a tower for a set of bells presented to the US by the Dutch and never permanently hung.

Exactly what facilities will go into L'Enfant Plaza is far from settled. A District Auditorium Commission, with Architects Pereira & Luckman heading its planning board, is now studying the size and types of facilities needed, and possible sites.

Architects Pei and Weese plan to capitalize on the charm of the waterfront. A marina is to be integrated with a planned waterfront shopping and restaurant district which has already grown haphazardly.

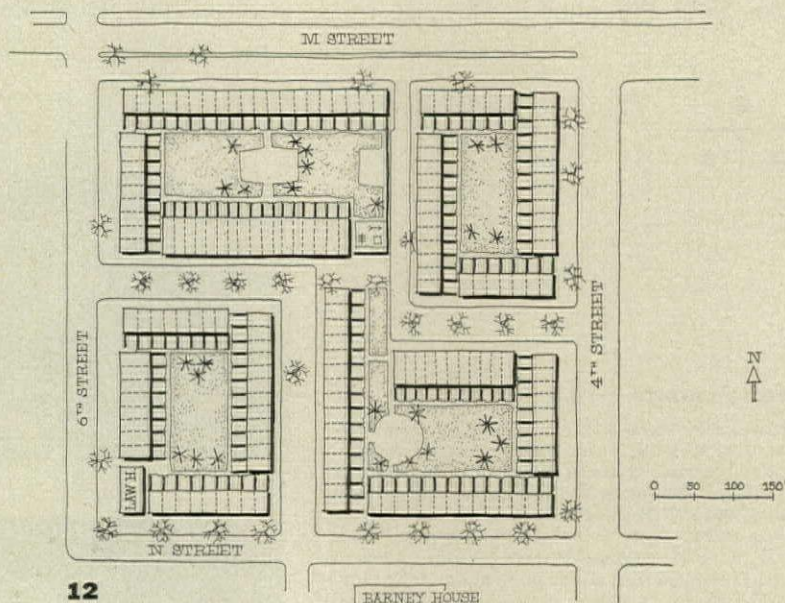
The housing of Area C, the Webb & Knapp portion of the big South-

west area (14) includes 1,100 town houses and 1,400 apartments, well under density figures proposed by the Planning Commission. The town or row houses (12 and 13) are especially noteworthy. They break with recent planning practice by returning to an old pattern (11), houses built to the street line. Advantages: the street becomes an interesting architectural space, instead of a road between ends of buildings (houses will have common cornice and floor lines, will vary in plan and design); gardens and interior courts are really private; parking can be directly off-street under the houses; existing streets and trees can be used; the scheme is economical of utilities.

The town center is just what its name implies—a combination of civic, recreational and commercial facilities with integrated parking. Neighborhood convenience shops will be in the ground floors of high-rise buildings. Throughout the area, historic buildings will be preserved.

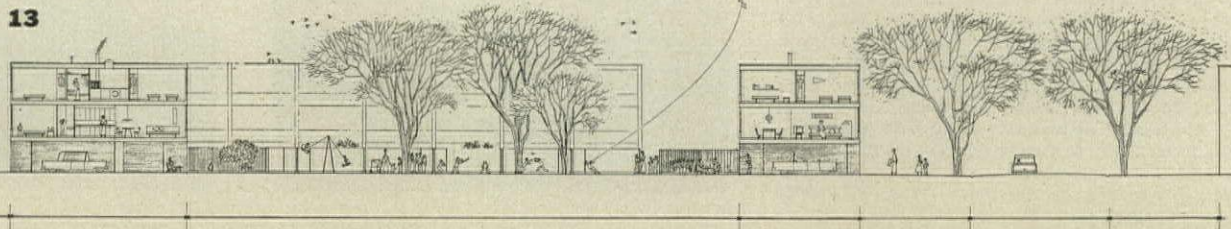


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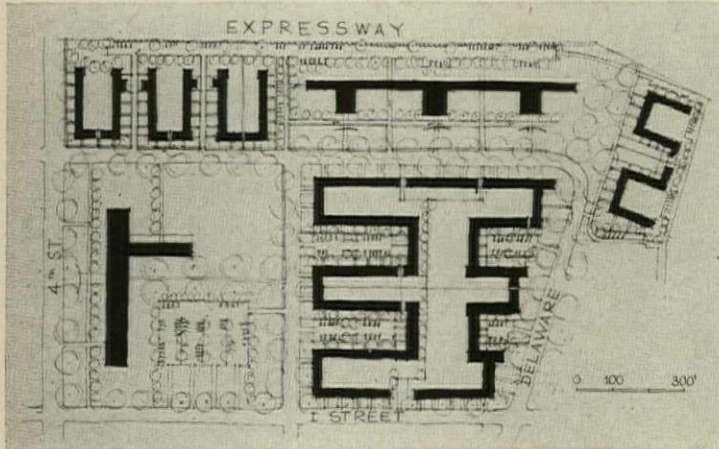




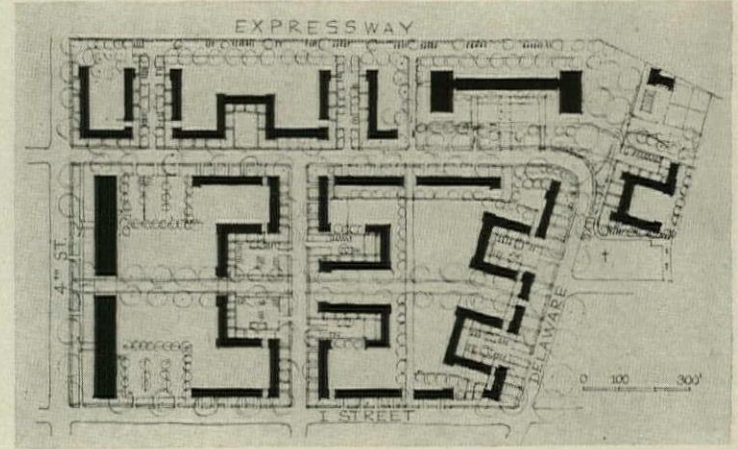




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## REDEVELOPMENT TEST GROUND:

who shall draw the site plan—FHA, local zoners or the men who know the subject best?

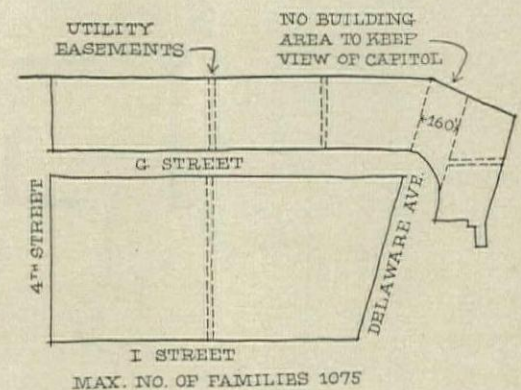
"Area B" to be built by Developers Roger Stevens and James H. Scheuer next to Zeckendorf's "Area C," is the backdoor to Washington's southwest. But it will be the first part of the Southwest redeveloped. Its 28 residential acres were once the scene of many a photo of shocking slums against the backdrop of the Capitol; now they are a ghostly clearing of street planting without the streets (15). Their location is shown on the Southwest map (14).

A retail store, now vanished from these waiting acres, was the property at issue in the famous case of *Berman vs. Parker*, the case in which the Supreme Court reaffirmed the redevelopment rights of cities. The whole idea of urban redevelopment rested on that case.

Now Area B is a national testing ground again, this time on the question whether an approved redevelopment plan takes precedence over conflicting local and FHA regulations. If it should not, it would mean that large scale redevelopment might well bog down under rules which, at worst, helped make the old messes and, at best, had to temporize with them. Area B draws

the question sharp and clear because there is no time to erase the question by laboriously reconciling codes and regulations obsolete for the circumstances. Construction work is supposed to begin next summer or fall. Firm plans must be made at once.

Site schemes by Architects Keyes, Smith, Satterlee & Lethbridge with Consultant Nathaniel S. Keith (16 and 17) show how desperately real such conflicts are in terms of livability and economics. Observe particularly the two southern blocks in each plan. The more erratic of these schemes (16) conforms with existing density ordinances which happen to have been framed for single-lot zoning. The high-rise building on the western block "uses up" that block's density allowance. But according to the approved redevelopment plan, 60% of the units must be in row house and flats. Unable to tread on the sacrosanct high-rise block, these must be jammed into the adjoining block, permitting only narrow courts after buildings and parking are laid down. The row houses in this scheme are only 16' wide, the flats 15'. Even this jam-



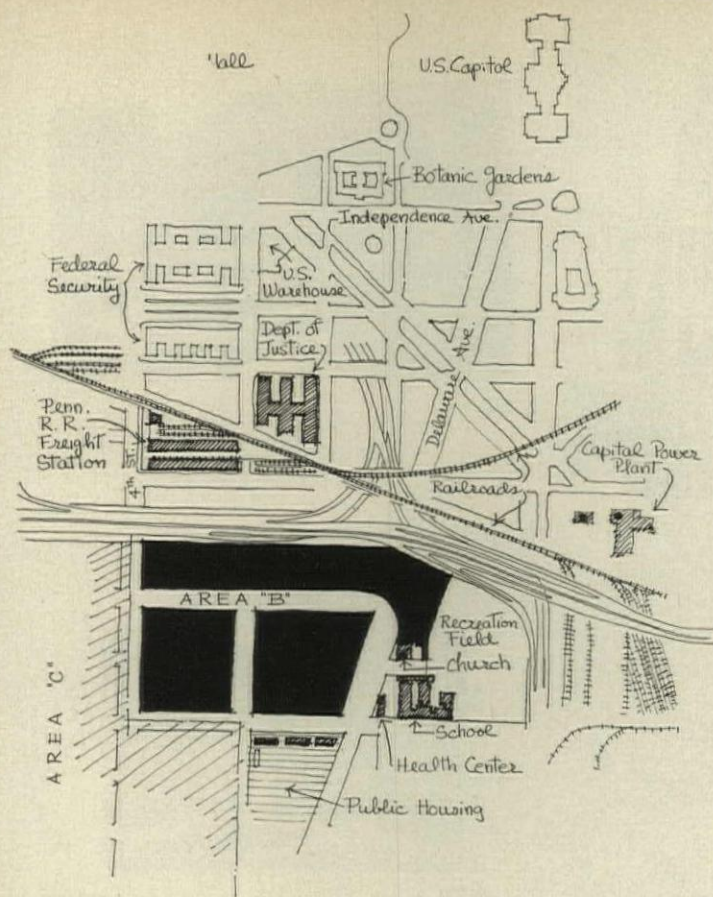
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ming, far beyond what good livability warrants, permits only 560 units on the pair of blocks, instead of the 670 which the theoretical individual lot zoning permits.

In the less crowded scheme (17), the approved redevelopment plan takes precedence. Density for the two blocks is taken as one total, land available as another total. Now the high-rise need not have a field to itself. Everything opens up. The flats and row houses are 20' wide; they have decent garden space in addition to parking. Moreover this plan includes the 670 units permitted for the pair of blocks instead of the 560 in the poorer scheme. A difference of 110 units is not hay.

Sketches are based on the reasonable scheme (17). An arcade beneath the high-rise opens into the garden beyond (20); balconies overhang the garden (21). Flats and

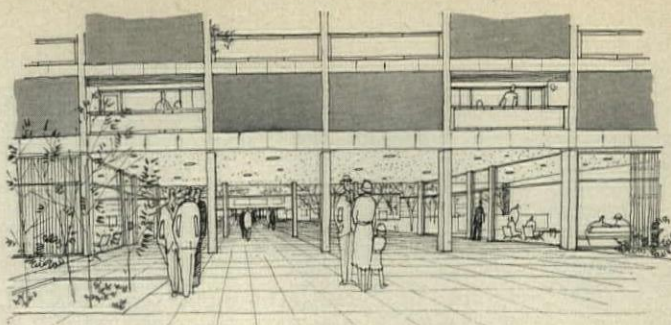




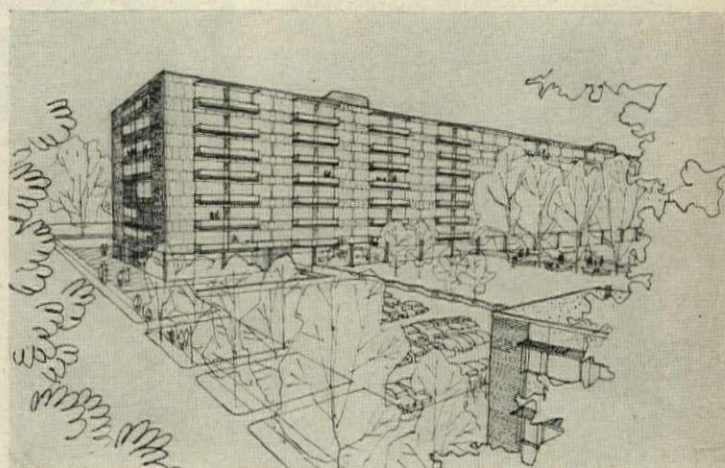
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rowhouses, shown at a typical parking court (22) are pierced with arcades too. An ingenious arrangement gives second floor, as well as first floor, flats private garden nooks (23). Now why two adjoining doors and stairwells instead of one for four flats? Another local regulation, framed to preserve a vanished occupancy pattern of two-unit, owner-occupied houses.

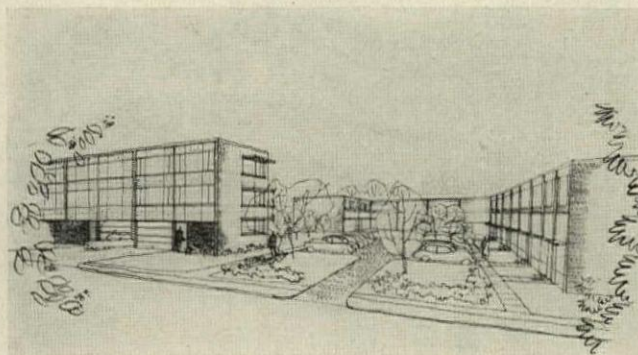
The conflicts touched on here are only examples of a fantastic flood of others, including FHA rules that could plague every redevelopment. How will it all turn out? In mid-December the zoning conflict was resolved by the Planning Commission in favor of the redevelopment scheme (17) and according to Developer Scheuer, "the chances of reasonable interpretation and coordination of other points in codes and standards, to make possible a well integrated, economically feasible project, look likely. In our conferences we have met with uniform cooperation and helpfulness." If all continues to go smoothly, this will be an important and fortunate precedent indeed for many another city. Incidentally, Architect Chloethiel



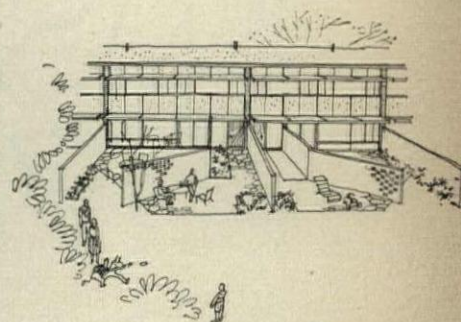
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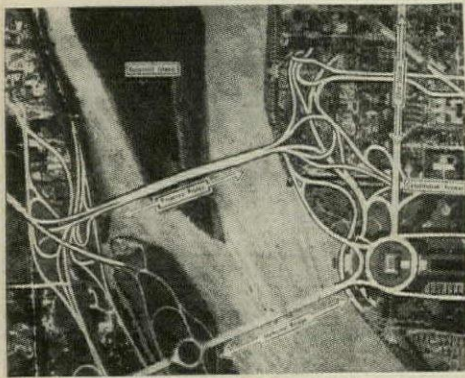
Smith (co-author of the Justement-Smith plan, forerunner to current plans for the Southwest, as well as architect on this project) thinks that a simple, over-all density and utility-access specification (18), plus the provision, "Plan must be approved by the Redevelopment Agency," should be the only operative land-use regulations for a project like Area B.

Area B is not an easy site because of its "peripheral influences" (19), such as the power plant and rail yards—no novelty in former slum areas. Most serious problem is the elevated superhighway to be built to the north, not even planned when the adjoining blocks were designated residential. The long high-rise building (16) was designed to draw attention to the problem, which has been pretty blandly ignored by everyone except the proj-

ect developers. The two southern blocks will be built first, and a buffer building developed along the highway.

Area B will be a testing ground in still one more sense. Can a private developer risk taking a piece of a big redevelopment scheme, in the assurance that official caprice will not pull the foundations from under him? By itself Area B would be a failure. It must have the support of adjoining Area C, because it is a backdoor to the Southwest, because it must share the civic and commercial "town center" of C, and because alone it cannot overcome the unsavory reputation of this part of town. If delays continue to hold up Area C, Area B will be out on a bad, bad limb, and its flop from that limb will have repercussions on middle-income redevelopment all across the US.





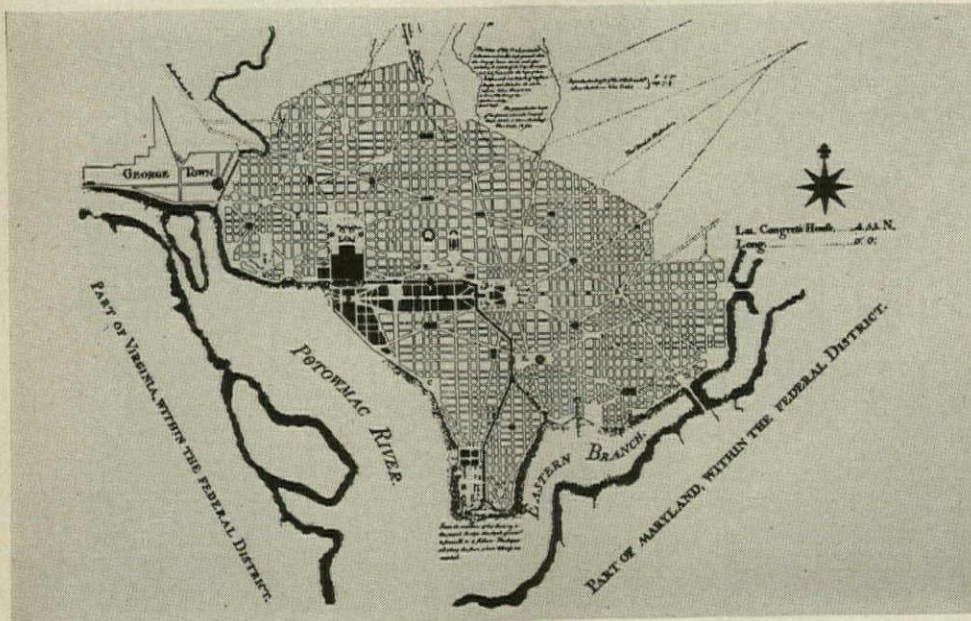
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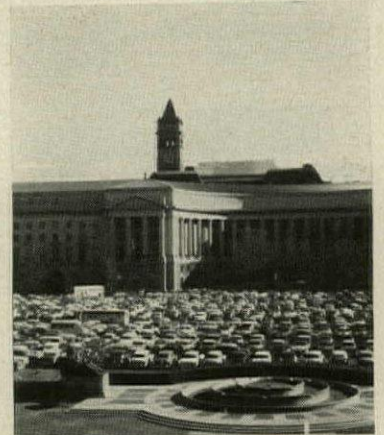
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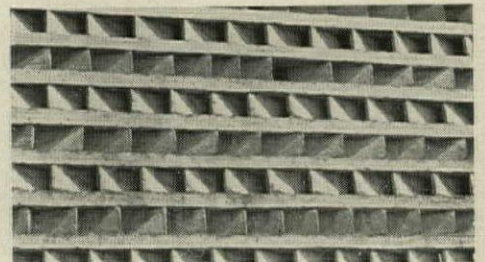
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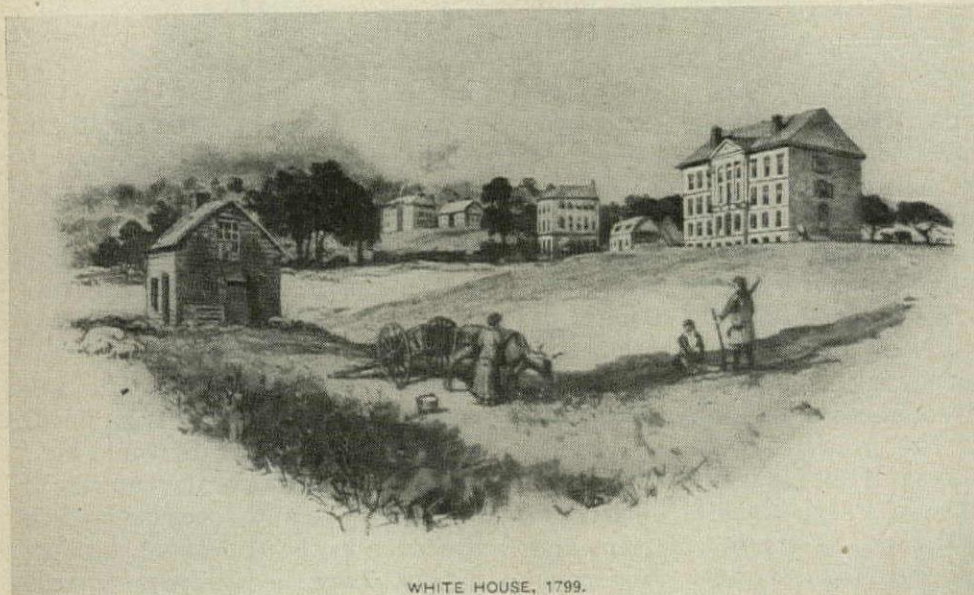
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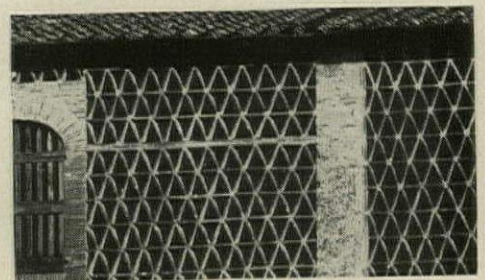
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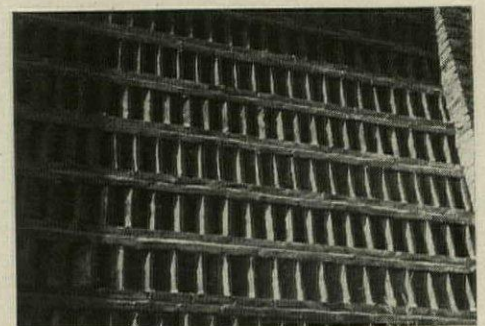
WHITE HOUSE, 1799.

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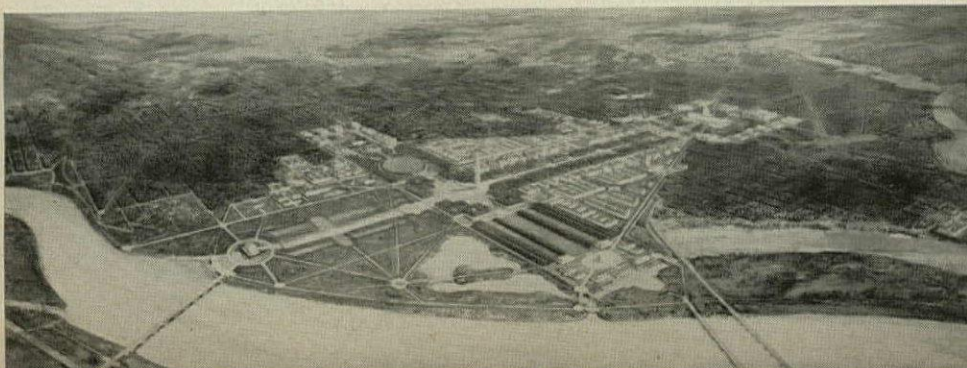
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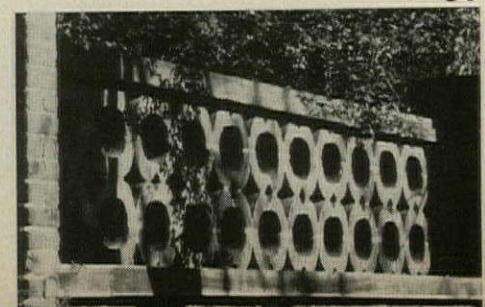
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## **CARS, CARS, CARS:** they entangle the grand plan, the grand vista, the grand architecture

From 1790 until 1940, Pierre L'Enfant's plan (26) was the plan of Washington. It was neglected for years, it was misused at times, but it was the plan, boldly adequate. The dominance it was able to establish over a malleable little village with a White House (27) was obviously still unchallenged in 1928 when the National Capital Planning Commission labeled its rendering (28) "The Washington of the Future." Now the future is upon us (24) and where is the L'Enfant plan under this plate of spaghetti?

People in Washington still think the L'Enfant plan is the plan of the city. But beginning in 1940 a new plan took over, not by anyone's decision, not by anyone's wish. Since 1940 the population of metropolitan Washington has almost doubled. As this occurred, the official planning and zoning agencies were unable to resist pressures to line the major diagonals in the L'Enfant plan with intensive land use, and the arteries of the city became blocked. Meantime, the scrambled suburban development over the District line took no cognizance of the L'Enfant plan, and important connections to the city were bottlenecked at the District line. Once this helter-skelter speculative growth occurred, inside the city and out, the dominance of overpass and underpass, cloverleaf and ramp became inevitable. The spaghetti on the Washington shore includes proposed connections to the Constitution Ave. bridge which is to be built across Roosevelt Island. It is only the beginning. The District Highway Engineers in December released plans for an inner-belt highway system surrounding the business area. This belt will tunnel under the Mall west of the Capitol, and therein lies the clue to what will become finally of the L'Enfant plan. The plan will probably be preserved recognizably at the ceremonial and monumental heart of the capital; elsewhere only in bits and pieces at large interstices of the spaghetti. Insofar as its grandeur can be saved,

it should be, but this means a broader understanding of the land-use factors that affect it than has yet been shown.

Meantime, the parked automobiles greedily devour the grand spaces of Washington. They beleager the Capitol (25); they furnish the noble Court of Honor (29) between Capitol, Congressional office buildings, Supreme Court and Library of Congress; they fringe the winding roads of the celebrated Tidal Basin, they pock the Mall, they compromise the White House south grounds and the Ellipse, they form a weird stalled island at the intersection of Constitution and Pennsylvania Avenues. The Great Plaza (30), embraced by the Post Office and Commerce Buildings, envisioned as a grand ceremonial space, has its grass covered with cinders and 1,300 cars. Washington, the city of magnificent parking lots.

The sad thing is that there are no plans for solving this problem. There are only plans for compounding it. One quiet scheme now afoot is to save the foundations of World War I temporaries on the Mall, when these are finally razed, and put parking where the buildings used to be.

The federal government is the main offender. Washington has off-street parking requirements for apartment houses and commercial office buildings, but the federal government has seldom accepted this responsibility for itself; it goes on erecting buildings which ignore this fundamental consideration. Any attempt to move parking farther from government offices raises the cry that it will hurt morale. The District government has established two fringe parking lots serviced by mass transit; they have a capacity of about 400 cars and are about half filled daily. Why park at the fringe, when the Mall or the Great Plaza is available?

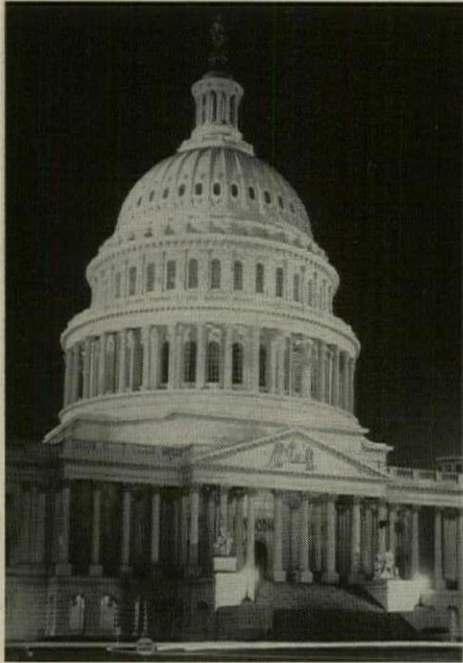
In the commercial parts of Washington, parking garages are a huge success, some of them most ingenious, but Congress has never even

been asked to consider garages for government offices. Obviously if the parks are ever to be released from the parking, every possible corrective will be needed. The most effective would be a garage beneath the Mall, from the Capitol lawns to the eastern edge of the Washington Monument superblock, like the gigantic parking facility Chicago has recently completed under Grant Park. This would be a fine way for Congress to spend the \$10+ million which it plans to waste instead on boon-doggling with the Capitol facade (p. 104). Underground shuttle service could connect all important existing and new structures along the Mall.

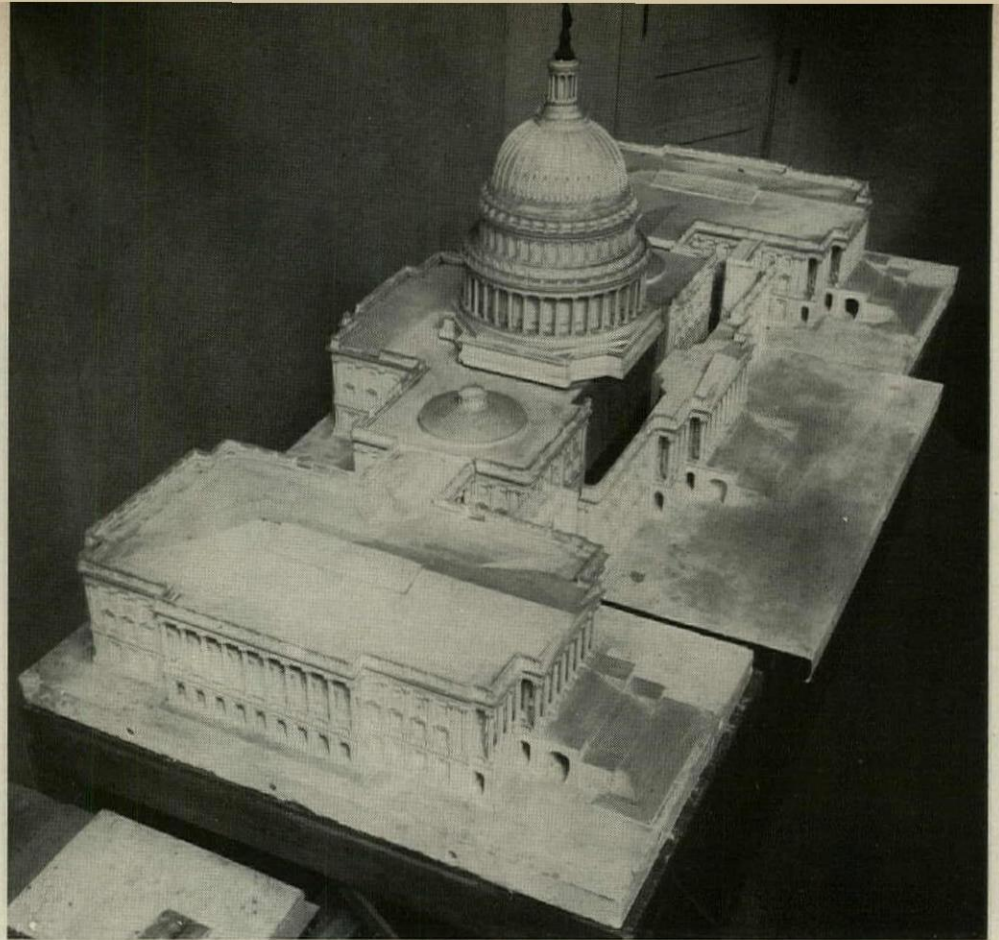
Parking garages, in addition, could be splendid because, besides storing cars, they could provide rich and handsome street furniture in problem spots. (For a proposal to accomplish just that while doing away with the ludicrous plaza scene (30) see p. 114.) The opportunity to make something really good of the garage lies in the freedom of treatment its wall permits. For inspiration—not imitation—consider the perforated walls of rural Italy (31, 32 and 33). Right in Washington, in the magnificent public gardens of Dumbarton Oaks, is a splendid variety of perforated walls, one of which is shown here (34). Those who doubt such treatment is in harmony with monumental neighbors are referred to Architect Ed Stone's design for the U.S. Embassy in India (58).

When the Pennsylvania Railroad was persuaded to take its station off the Mall 50 years ago, Congress contributed to the cost of Architect Daniel Burnham's renaissance Union Station, so it might be worthy of the capital. This is a precise analogy to the parking structure suggested on p. 114 and perhaps to others. If parking garages could infuse into governmental Washington some of the chaste richness of which our age is capable, the parking problem would be a blessing in disguise.

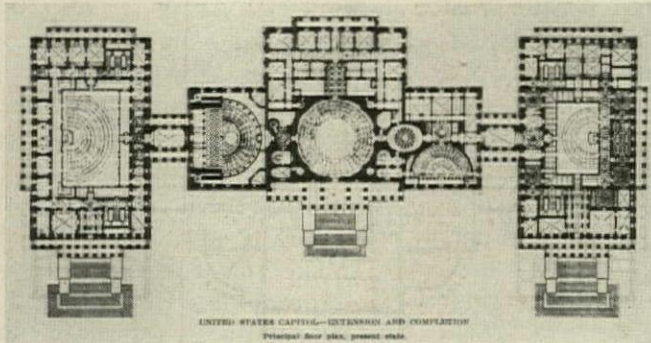




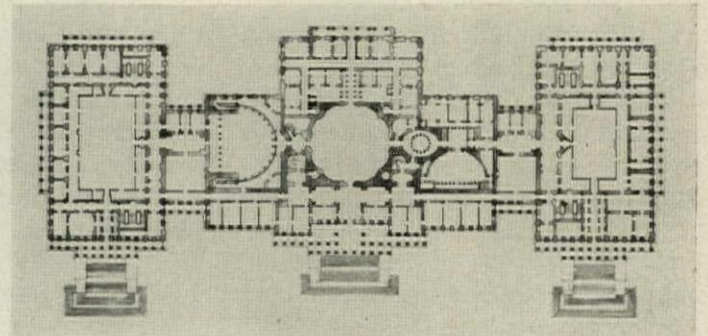
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## THE CAPITOL IN DANGER: its finest facade seems doomed by misguided remodelers

One of these days, unless a miracle of public awakening intervenes, the wrecking crews will begin tearing down the finest and most beloved face of the Capitol. In place of the painted sandstone east facade of the central block (35 and 36)—that masterpiece of early federal architecture by Thornton, Latrobe and Bullfinch, the only facade reflecting the critical judgment of Washington and Jefferson—there will jut forward 36' or 40' a new marble face (37 and 38) more in "harmony" with the much inferior, more textbookish 1851 wings (39), which shelter the House and Senate.

Aside from the destruction of this priceless, naively dignified facade, the pleasing sense of the dis-

tinctly three-part Capitol composition will be lost, the dome will appear truncated and its painted surface (cast iron, it must always remain painted) will be ill suited by the marble beneath. The ceremonial forecourt too will be lost, the traditional scene of inaugurations since Madison's. Here is Theodore Roosevelt's (40), for instance.

The excuse for all this havoc is a textbook correction of the overhang of the dome's base beyond the wall behind the portico. This visual flaw and its effect have been well described by Architect Lorimer Rich, one of the most valiant fighters for preservation: "The overhang of the dome does exist. It is wrong and a technical defect. It occurs because

of the very difficult and unusual problem that confronted Architect Thomas Walter of designing a dome adequate for the whole composition but still putting it on the existing foundation. He did a splendid job. You may remedy this one feature but the cost in sentiment, history and beauty is too great. The dome now comes all the way down to the ground and this enhances the feeling of grandeur so noticeable when standing in front of the Capitol. This is a most happy accident. The Capitol has a character and personality which is different from that of any other dome structure. Most domes are set back in the middle of buildings and consequently their great height and majesty cannot be





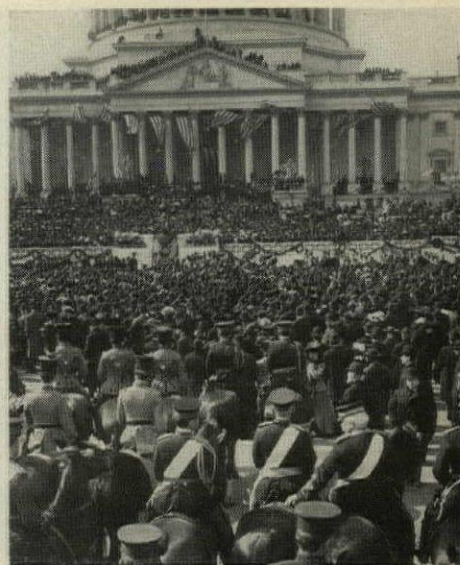
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enjoyed when you are near them. The fine views and the important views of this historic east front are practically always near views."

The first time the unhappy change was seriously suggested, by Carrère & Hastings in 1904, a 12' extension of the Capitol front was advocated; these architects designed a second scheme with a projection of 32' to illustrate what a mistake *that* would be; their bad example has been seized upon as good and now the face is to be extended even farther. This is not strange, because whenever the Architect of the Capitol has brought the matter persuasively to Congress, the advantage of more space has been the big point. As for why the last two

Architects of the Capitol should favor it, this probably has something to do with the fact that invariably architects of the Capitol get a passionate itch to write their names upon this building. Newspaper accounts usually describe the operation as "propping" the dome, giving the entirely false impression that the Congressmen are in danger of being beamed. Incidentally, the corruption of official feeling toward the fine east facade is blatantly evident in the design of the canopy for President Eisenhower's inauguration (41).

Session after session since 1936 the proposal to extend the facade has come before Congress and has been defeated. Time after time the



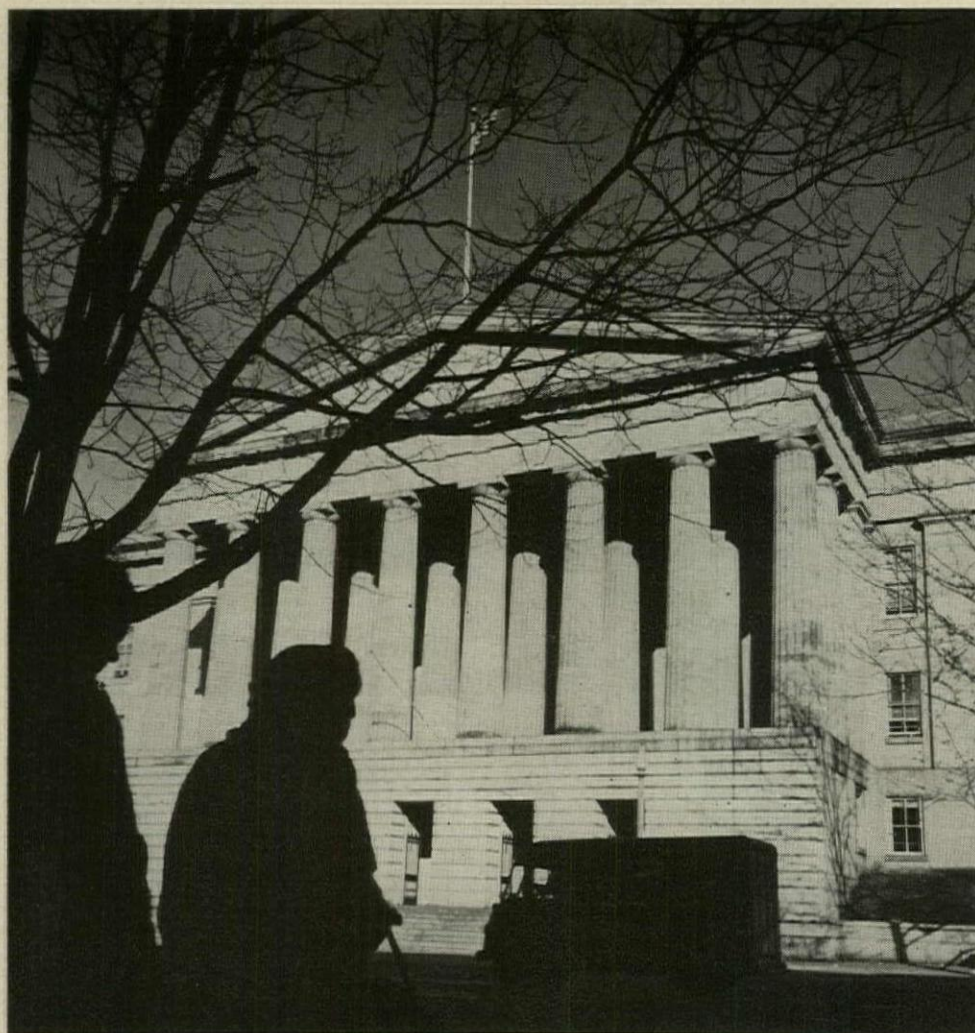
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AIA has passed resolutions against it—the latest at its 1955 convention, after the deed was all but done. For during the last session of Congress, the hearings for the first time were private; slipped over with no public discussion, no testimony from opponents, was an authorization for the work and a "token" appropriation of \$5 million in one package. The total job will take \$10 million plus an unspecified sum, presumably large. But the first \$5 million is already in hand and there is nothing whatever now to halt the destruction it could buy. This \$5 million can do so much damage the whole senseless job will have to be finished. Only the strongest protest can possibly stop it.





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## THE PROBLEM OF PRESERVATION:

... for historic buildings it requires eternal vigilance

Just because a building in Washington is an architectural masterpiece, is placed on a site designated monumental in the l'Enfant plan, is pleasant to work in, would be uneconomic to replace, and requires an act of Congress to destroy it, there is no guarantee it is safe. If, like Architect Robert Mills' old Patent Office (42)—begun 1837, completed 1867 and now used by the Civil Service Commission—it has the misfortune to occupy a coveted block, it is in jeopardy. Merchants nearby want the site for a parking garage. The government's General Services Administration is happy to comply. According to the General Counsel of GSA, "The present building is not efficient by P-55 standards."

The bill to destroy was defeated

last session, mainly by the intercession of architects, but when irreplaceable beauty is up against a combination of bureaucracy and commercial profit, its chances are not good. In some future session, if the hearings on a destruction bill are private, as in the case of the Capitol's east facade, P-55 standards will triumph.

When the British burned Washington in 1814, Thornton, Architect of the Capitol, saved the predecessor to this building, into which the British were about to fire a cannon. Throwing himself from his horse, directly before the mouth of the cannon, Thornton cried, "This is the Patent Office! Are you Englishmen or Goths and Vandals?"

Thornton's question, readdressed to GSA, still makes the whole point.

... for neighborhoods it requires

Here we have two kinds of Washington slum rehabilitation.

Georgetown (43), which 20 years ago had many seedy streets and deplorable alleys, is now almost completely a high prestige community in the heart of Washington. Even its back alleys are now the setting for a sort of picture-book hospitality. Through enforcement of building laws the old rookeries, most of them basically attractive, were vacated and converted into expensive homes for sale. Georgetown is a huge success financially, socially and architecturally, and is now being copied on Capitol Hill behind the Supreme Court and in long-shunned Foggy Bottom near the Potomac.

Fenton Place (45), on the other hand, is one of several examples of slums rehabilitated but not for the well-to-do. It is not for the former slum tenants either because it is too expensive. Builder Herman Schmidt, who believes in urban renewal without any form of subsidy, bought these houses for an average of \$3,300 (later, he says, he could have gotten them \$1,000 cheaper). Remodeled (plumbing installed, new floors and windows, new heating, etc.) they sold for \$9,650 to \$11,250, to Negro buyers. A similar project in the Southwest C-1 renewal area (p. 99) has rents of \$60.50 excluding heat or other utilities, for one-bedroom units.

The trouble with Fenton Place and similar efforts is that, though the backyard privies are gone and the interiors are sanitary, they are still fundamentally slum housing, mainly because of lack of sufficient land and the impossibility of providing a sound neighborhood plan to protect the "improvement." The one open space at Fenton Place has to earn money; it is a parking lot. To make anything of backyards as small as these (44), a feat accomplished in high income rehabilita-



surplus cash

tion, requires a good deal of surplus money, surplus energy and a way of life in which patio chairs can supplant clotheslines and garbage cans.

It begins to look as if the amenities that make rehabilitated slums into non-slums can be afforded only by the well-to-do. Or else, if renewal is done on a shoestring for the near-poor, it must be subsidized at least to the extent of street planting and neighborhood outdoor breathing space.

Of interest to city planners: one reason for Georgetown's success is the happenstance park and institutional belt which almost surrounds it (46) and provides a true inner-city green belt of the type recommended by Sir Patrick Abercrombie (AIA 1949 Gold Medal) for London.



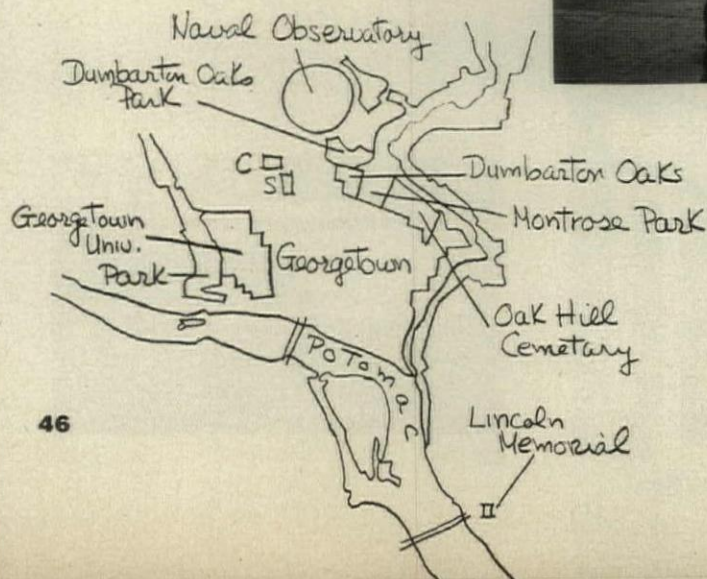
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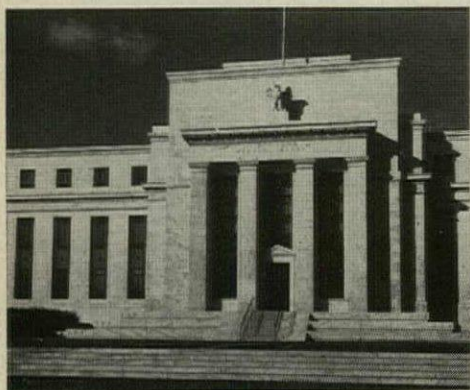


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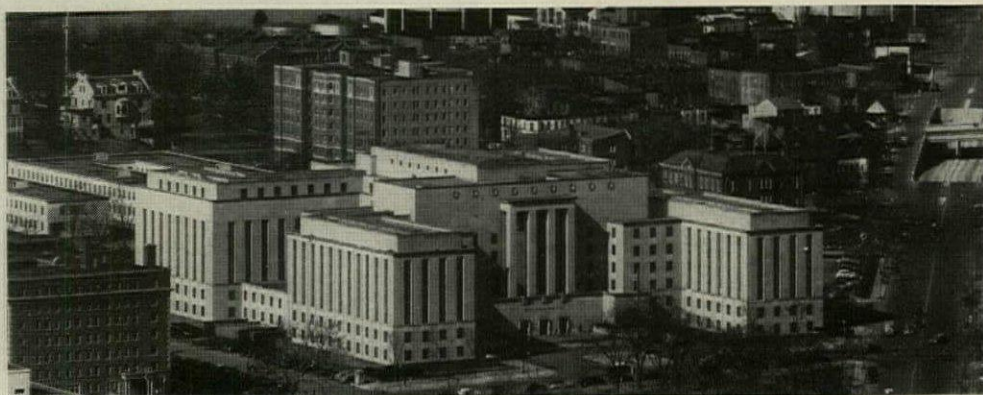




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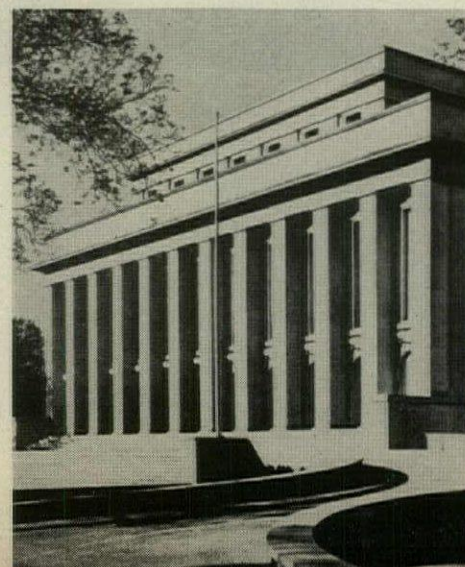
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## WASHINGTON MONUMENTAL:

what kind of architectural character for the great symbolic buildings still to come?

This is not simply a question. It is a mystery; and it is a mystery that extends beyond the federal capital and federal architecture. No field of contemporary architecture is so poor in ideas, so disappointing in results, so groping in aim, as what might be called Government Monumental.

Not every government building in Washington should be monumental or ceremonial. A great many serve as office buildings or paperwork processing plants, and they need not dress up as anything else. This fact was never acknowledged until the past few years and, curiously, the temporary buildings that so clutter the ceremonial parts of the city are a testimony to the long-held belief that in the capital every clerk must work behind a decorative column. Pending the time every clerk could be given a column, he was put in a temporary or in rented space. If this psychological block had not been overcome—fortunately it has been—we could never hope to be rid of Washington temporaries. Furthermore, as long as the architectural concept of Government Monumental was thoroughly blurred with Government Workaday, the chances of facing up squarely to the special problem of the monumental building were rather poor.

The mystery of what to do with the truly monumental is now pressing, because Washington the Monumental Capital is far from completed. For instance, Harbeson, Hough, Livingston & Larsen are about to design a huge new House office building; this building will demand monumental significance because of its lordly site in the Capitol group and the Mall complex. Somebody in the next few years must design a worthy national auditorium, somebody a center for the cultural arts. More than a mile and a half of building frontage on the Mall waits for suitable architectural grandeur and this generation will provide some of it. Already the Smithsonian—for which monumental treatment is imperative because of both site and function—

is at uneasy grips with the problem. Wonderful architectural opportunities are waiting.

### WHERE DO WE STAND?

The Supreme Court, (47) designed by Cass Gilbert, finished in 1935, is probably the last example of Classic Revival we shall see. It represents the ending of a long, and in a way an easier, era.

In its place, as interim successor, has slipped Modern Neo-Classic, the architecture of the shaved-down column. The Federal Reserve (Paul Cret, 1937) is among the most skillful examples of this style (48). The State Department (PBS, 1943), begun as a War Department building, is one of the most repellent (49). At the moment Washington stands firm with neo-classic; latest of the capital's symbolic buildings (50) is the U.S. District Court (Justement, 1952); and proposed for the immediate future is a neo-classic Senate office building (51) by Eggers & Higgins.

Neo-classic has become federal architecture by default. It has nothing particularly to do with the rich American tradition of civic architecture. It is a vestigial international government style, equally at home in Washington, Moscow, London, Rome, Berlin and their provinces. For example, see the Nazi-built state theater at Dessau (52).

Offhand it is puzzling that the recent architectural expressions of democratic government and totalitarian government are identical.

But the similarity has nothing to do with politics. It has been an uninspired formal solution to the problem of the architect who could no longer, morally, esthetically or fashionably, accept copying old style but who was stuck with the desirability (or necessity) of staying within a classic frame. "Go back to the fundamentals of the classic styles; eliminate the purely decorative; build with the simplified essentials." What could be more plausible? It has been

a popular solution with governmental clients throughout the western world because it conveys an impression of progress without being "controversial" and because it is delightfully cheap compared with Corinthian columns.

But logical as it may have sounded in theory, neo-classicism is a failure. When the supposed non-essentials of the classic styles are removed, all the subtle, complex play of light and shadow depart too. Gone is the sense of softness against hardness, and this turns out to be vital to the style. What remains is hardness against hardness. Whether neo-classicism is sophisticated as in the Federal Reserve (48) or the Dessau theater (52), brutal as in the State Department (49), flashy as in the US Court (50), or dowdy as in the proposed Senate Offices (51), the style inherently carries the ungracious quality of Institution versus Man. It has a mean look.

With 20 years to develop, neo-classicism has not grown except in quantity. Architecturally it is a dead end. It teaches us not to confuse subtraction with creation.

What is to be learned, then, from the non-governmental symbolic architecture of Washington? The two most outstanding examples are unfortunate.

The new marble headquarters of the Brotherhood of Teamsters by Holabird, Root & Burgee, (53), is one of the most conspicuous buildings in Washington. The photo shows it from the Capitol. It creates an exclamation point at the north side of Capitol park. This building would be reasonably acceptable in most cities. On the edge of the Capitol grounds, it looks incredibly vulgar. It does us the service of demonstrating how merciless are the demands of such a site; and it indicates that if dignity is missing, opulent materials simply make matters worse.

The limestone synagogue of Washington Hebrew Congregation (54) by F. Wallis Dixon carries to its logical conclusion the wall with non-



essentials subtracted. A monumental building on a monumental site can have no hidden back or sides, so this synagogue is interesting as an already-built example of what a creation-by-subtraction auditorium might lead to. It hints too at the appearance of the south facade of the Smithsonian's proposed air museum (60). The synagogue wall is 46' high; the long, curved south masonry wall of the air museum would be almost twice that high—a cliff indeed.

The inhuman big wall raises the question of scale. (Scale is the effect of balance in size, as between buildings, between buildings and their parts, between buildings and people.) The classic revival monumental buildings of Washington all have heroic human scale, but are human nonetheless.

A curious fact about scale may be observed on the streets of workaday Washington. In a typical well-weathered Washington street (55) everything appears in scale. It is not merely a matter of building size, although that helps. It is rather that all the buildings insist on the consistent scale; they show it insistently with steps, with railings, with all the indicators that are as familiar to us as the height of a man. Now put among such buildings another without the persistent indicators. The new building may dominate in size, as the AFL-CIO building (Voorhees, Walker, Smith & Smith) dominates St. John's Church (56) but it does not dominate in scale. From the street or sidewalk, St. John's, with all its familiar insistencies, still sets the scale. The new building, instead of having a scale of its own, appears scaleless. The phenomenon of the strangely dead new building, missing the vitality of scale—which is a yardstick to life—can be seen again and again on Washington streets. This is not to suggest the old indicators should be copied; it is simply to suggest that where a dominant scale already exists (and it does already exist in monumental Washington as surely as among the tree-faced row houses), the architect must beware lest his building become one of the scaleless dead.

Incidentally this unhappy photo (56) is a horrid document of the chaos of our cities, including Washington. St. John's, "the church of the Presidents," was built almost simultaneously with the White House which it faces across Lafayette Square. Its designer was Latrobe. It is being no more respected in the townscape than any other little urban gem. This is how we make new messes of our cities faster than we clean up old messes.

Everything noted thus far has been negative; a specious contemporary derived by subtraction of ornament is neither a pleasant nor inspiring answer; opulent materials will not carry the day nor will mere daring; it is hard to put anything over on the neighbors and the scale.

Against this background of difficulties, FORUM presents statements suggesting a positive approach, from five architects who have become deeply concerned with the problem.

#### JOSEPH HUDNUT:

"New buildings in Washington should be consistent with the proposals made by the MacMillan Commission. (Burnham - McKim - Olmstead Plan 1902). No doubt that plan is excessively monumental; nevertheless the scheme is justly admired for the sense of permanence and grandeur that inform it, the noble simplicities that decorate it and for the universality that (sometimes) lifts it out of time and circumstance. I do not suggest that new buildings should be rigorously monumental and symmetrical or neo-Roman in

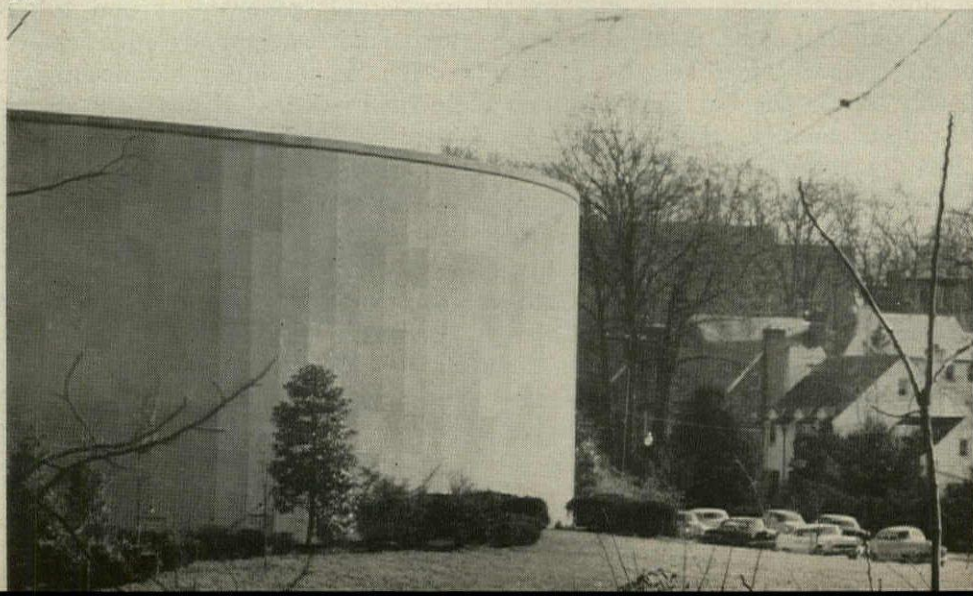
style or built of Bedford stone. I mean they should be decorous, uncomplicated and free of advertisement. The design made by LeCorbusier for the League of Nations at Geneva (57) most clearly illustrates what I have in mind. This design is classical in character, modern in temper. But don't think I mean ribbon windows. There is more to it than that! I have always liked the Saarinen design for the Smithsonian Gallery of Art (65). That also is classical but in a different way than the LeCorbusier design."

#### EERO SAARINEN:

"Whatever is done has to take cognizance of its neighbors. In certain areas of architecture we are aware of this principle. When we build a house near a cliff we recognize that nature will influence the form our architecture takes. Frank Lloyd Wright has opened our eyes to that. The columns and pediments of Washington are as permanent as Wright's cliffs and thus become an external factor that influences the form architecture in Washington takes.

"The federal building has offices in it but it is a different animal and it is time we recognized this. A federal character is a legitimate demand whether in or out of Washington. The best illustration of this point is Ed Stone's design for our embassy in India (58). He has captured an appropriate character and dignity within the modern vocabulary. An architecture for Washington is a challenge that can be met

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with no compromise to the principles we believe in."

I. M. PEI:

"One thing is sure: I cannot possibly imagine the neo-classic approach. Of course everyone is for 'continuity' between past and future, but it is important to state what we mean by continuity. I am for continuity, not in the stylistic sense but only insofar as civic design would dictate. A new building placed in the midst of other buildings built in various periods of the past must respect continuity in terms of 'scale' and 'mass' but not in 'style.' The Smithsonian's Renwick building, Freer Gallery and National Gallery are of different architectural styles. In my opinion these differences are not only of no offense, but help to enliven the Mall. On the other hand, imagine how disturbing visually such a Mall would be, surrounded by buildings of identical 'style' but dissimilar 'scale.'"

RALPH WALKER:

"I believe we are coming close to the time when it will be possible for us to use modern techniques to obtain a truly monumental expression in Washington. Certainly skin-and-bones steel and glass with its shallow so-called classicism, do not belong in Washington. The Foreign Buildings Operation has been fortunate in obtaining from individuals like Stone, Rudolph, Stubbins, Hatch, Chloethiel Smith and others an expression of regional qualities which are both monumental and representative of the countries where the buildings are to be built. You cannot laugh off the fact that Washington is a classical city and that classical proportions at least are both pleasant and suitable for that climate."

PIETRO BELLUSCHI:

"What is needed mostly in Washington is not words or theories or articles by dilettante oracles, but good works by good men; it is just as simple as that."

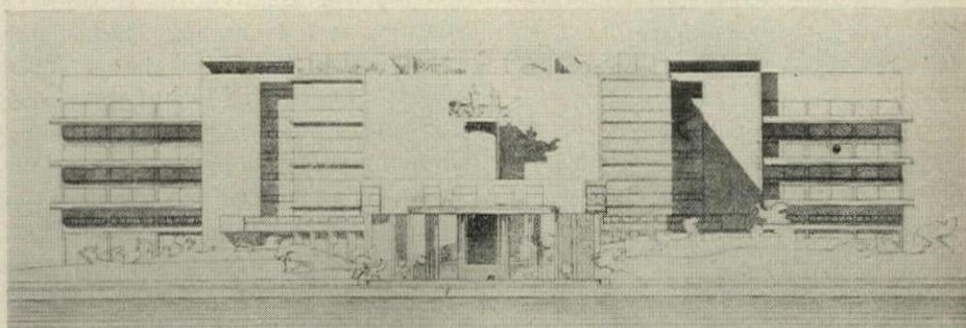
Yes that is exactly what is needed. But is that so simple?



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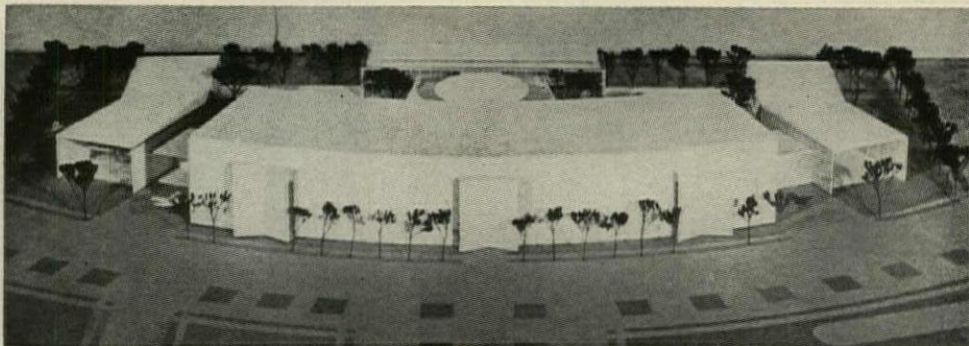


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## THE SMITHSONIAN: once an attic, always an attic?

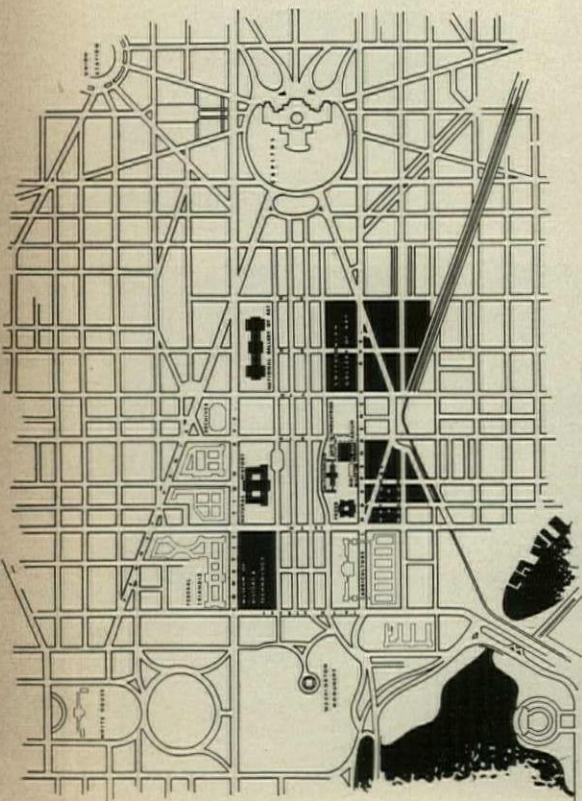


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Visitors to the Smithsonian, the national museum, frequently depart muttering about those now legendary hoarders of junk, the Collyer Brothers. There is a certain similarity of housekeeping effect, but "the nation's attic" (59) is not filled with junk. Crowded willy-nilly—the important jumbled with the trivial, Pianos leading into Mexican Antiquities, Whales and Building Stones, the *Spirit of St. Louis* guarded by a suit of armor—are the Smithsonian's fabulous collections, an unrivaled assemblage, among other things, of the artifacts of man. On the subjects of history and technology alone, the Smithsonian has more than 800,000 objects; because of lack of space even for processing exhibits, let alone showing them properly, the museum is now forced to refuse irreplaceable objects recording our scientific achievements. For a technological people like the Americans—devisors and appreciators of technology, both—this hurts.

Superficially, space would seem to be the Smithsonian's biggest problem. But it is not. Its biggest problem is that its officials have an attic psychology. Until they can overcome this, space will not cure the problem; the Smithsonian will always be an attic, and will always be unable to process and exhibit what should be shown.

There could be no sharper illustration of this than the new National Air Museum building which the Smithsonian proposes for a site along the Mall. This is a huge building—the south wall of the preliminary study (60) by Architects McKim, Mead and White scales at 80' high, 600' long in its central portion (the trees in the rendering must be magnificent oaks 50' tall). It is much too big to fit graciously into the Mall scheme. But it is much too small for an air museum which is conceived, according to Smithsonian Director Leonard Carmichael, as a repository for one of each type of aircraft de-



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veloped in the US. Aeronautics is in its infancy. In another generation or so, at least, such a museum will need to include rockets and heaven knows what their size will be. Even in present-day terms, this museum is too small. Nor is it conceived as a true museum of a living subject. It is a sarcophagus for crowded, suspended dead airplanes, utterly out of their context. Through no fault of the architects, but through fault of the program, it is another attic.

The fundamental point is that this museum—and other transportation museums such as automotive history, which the Smithsonian should be envisioning—no more belong on the Mall than does the Smithsonian's zoo, which is suitably placed in Rock Creek Park. In fact a zoo is a more manageable and predictable establishment than an air museum.

The air museum would be ideally suited to Bolling Field (now obsolete as a military airport) where the planes could be housed as they should be, enjoyed in their own exciting context of sky, space, control tower and airstrips as they should be, paraded on occasion as they should be, and added to as they should be. A "hall of pioneers" would gather vital added meaning here. The Wright Brothers' experiment would have a poignancy, a significance, in juxtaposition with these surroundings that it can never attain in the irrelevant carriage-scale of the Mall.

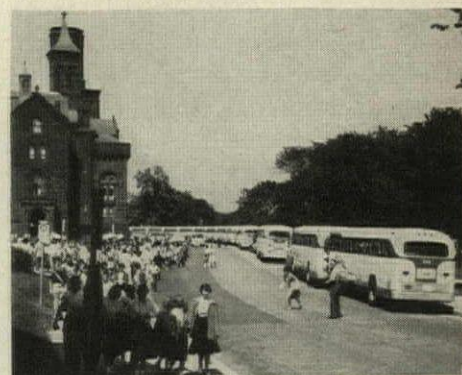
Bolling Field is no farther from the Capitol than the Lincoln Memorial is and no harder to get to. The busses that deposit the thousands of school children at the Smithsonian buildings on the Mall would reach the next stop, at Bolling Field, after a 6 min. run. Director Carmichael insists the Air Museum must be in the center of Washington because it must be on a busy site, as close to other museums as possible. The implication is that no one will go see it otherwise. Dr. Carmichael underestimates the interest of Americans in airplanes.

Or perhaps the museum officials are worried about a reverse situation—that if the airplanes are gone nobody will come see the Smithsonian on the Mall. Considering the wealth of the Smithsonian's other fascinating possessions in technology, the arts, natural history and American history, this would seem to be a superfluous worry if it exists. But it would not be inconsistent with the piddling terms in which the Smithsonian seems to think of itself and its location.

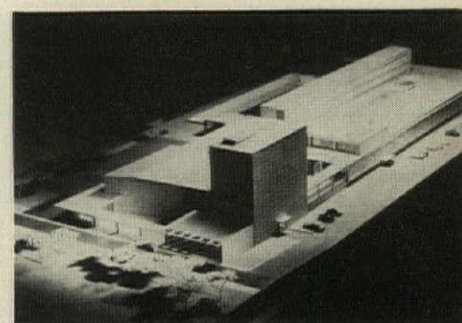
The Mall divides itself among three major "interests"—the Capitol group at one end, memorials toward the other, and in between a museum group. The portion of the Mall and environs which is Smithsonian territory (61 and 62) is grandly appropriate to the dimensions of a national museum. It is larger than the Louvre (63). It can become one of the most magnificent museum complexes in the world. But there is no evidence that it is ever thought of in this way by its official tenants or their architects. Every Smithsonian building has been designed in a drafting room vacuum and continues to be. The design of the frame thus far is a failure although some of its parts are nice. The old Renwick building of 1852 (64) has a romantic virility in contrast with the platitudes of the National Museum of 1912 and the National Gallery of 1941. The retiring little Freer Gallery of Art (1923) has a classic charm unique among Washington's Imperial Classic. Additional buildings—a \$35 million house of history and technology is presumably next to replace the collapsing Arts and Industry exposition hall which was built in the '70's for 6¢ a cu. ft.—are conceived as filling in the gaps. But gaps in what, in terms of total ensemble? One reason there is so much difficulty in thinking about the Smithsonian in parts, is that nobody seems to have been thinking about the Smithsonian in the whole. Thinking of the whole does not presuppose uniformity, as



63



64



65

Architect I. M. Pei cogently points out (p. 111). It does presuppose some kind of coherence. Would the Saarinen, Swanson & Saarinen 1939 competition-winning design (65) for the art building (postponed because of war, then ignored) be a coherent part of a whole? Who knows? Eero Saarinen says he would design it differently today, make it still more monumental.

No university or research institute of the magnitude of the Smithsonian would attempt to build without guidance of a master plan. If Director Carmichael would come out of the attic and turn his undoubted skills to this problem, the result could be a national museum worthy of the US.



## A NEW HEART: a proposal for the city center

where Washington's varied interests come together

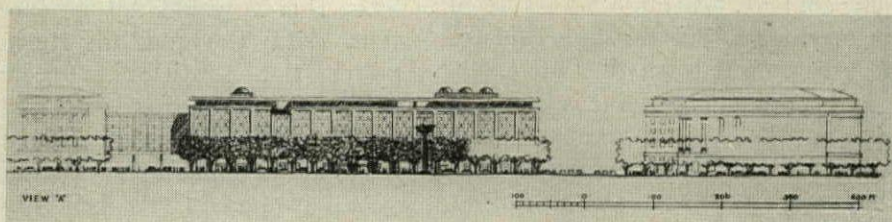
The last four blocks of Pennsylvania Ave. are the unofficial heart of the city. Here, where the White House grounds, the commercial downtown with its theatre district and big hotels, and the massive renaissance government offices all come together, here at the traditional spot of parade reviewing stands, is the place where monumental, ceremonial, tourist, entertainment, park and business Washington meet. It is an unkempt area. The photo (69) flatters it.

Three non-conforming buildings are scheduled for removal to complete the monumental government groupings, and the triangular park-squatting "temporary," still to be seen in the air view (71) has just been removed after 16 years. But the only plans officially sponsored are to add more offices to the monumental group, insert a narrow pathetic strip of green through the parking that hogs the Great Plaza (68) and put a tourist orientation center on the park vacated by the temporary. Car parking and refusal to contemplate the area as a whole have already pretty well ruined the space. The current "plans" would compound the mess beyond imagination.

FORUM presents instead a proposal by Frederick Gutheim and Willo von Moltke which would truly enhance and serve each of the Washingtons that meets here and create a dignified, usable urban heart (66). Instead of adding more office population along the Great Plaza (40,000 government workers are in this vicinity now), Gutheim and von Moltke suggest a parking structure which would free the Great Plaza of its cars. With congestion relieved, the arcaded circus to the east could be completed by a small office building.

The long, narrow parking structure, holding 1,600 cars, would be handsomely clothed (67), respecting its monumental neighbors in the essentials of mass, skyline, color, material and scale, but not attempting to imitate their renaissance details.

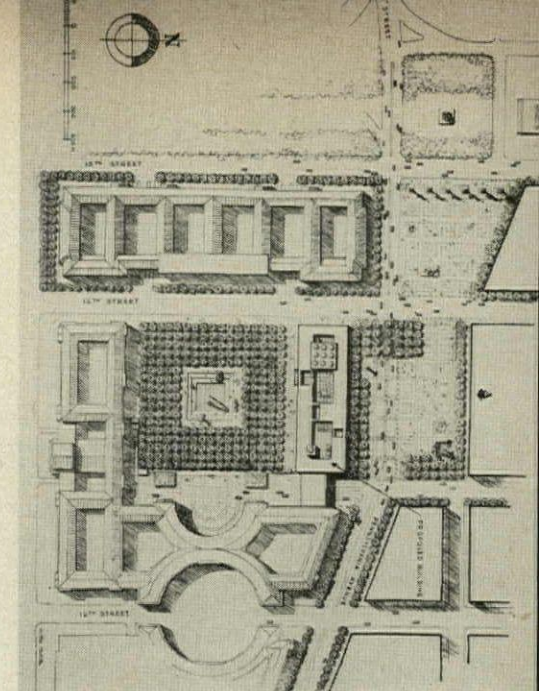
Its arcaded ground floor would be a lively place with information facilities for tourists, local bus terminal and convenience shops for commuters. (Business men's information, another needed facility, should go into the handsome ground floor room now used for patent searching in the Commerce building at the west end of the Great Plaza.)



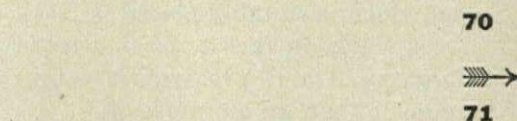
67

The roof of the parking structure could well house a badly needed club for government employees, possibly sponsored by the corporation which runs cafeterias in federal buildings. Theater and night-life parking could replace workers' cars by evening, making a combination of public and concession operation of parking logical. A network of garage access lanes for rush hour traffic would lead north to 13th St., south to 14th and Constitution Ave., west to E St., east to Pennsylvania Ave.

Pennsylvania Ave., long a traffic headache at its inconclusive terminus, would continue as an axis, a sightline, a pedestrian route and—of great importance—a ceremonial route for parades, but would be closed to vehicles in its last two blocks, beyond its juncture with E St. The new park squares and the related plaza would all be treated in the great tradition of urban squares (70), not as transplanted suburbia. They would make an exciting complex of vista and grand enclosure. Even the automobile riders emerging along E St. from the street planting grove would experience the sense of grand, outdoor architectural space. Possibly this is the first time an urban square has been deliberately calculated for riders, as well as pedestrians, to savor its full drama.



66



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71

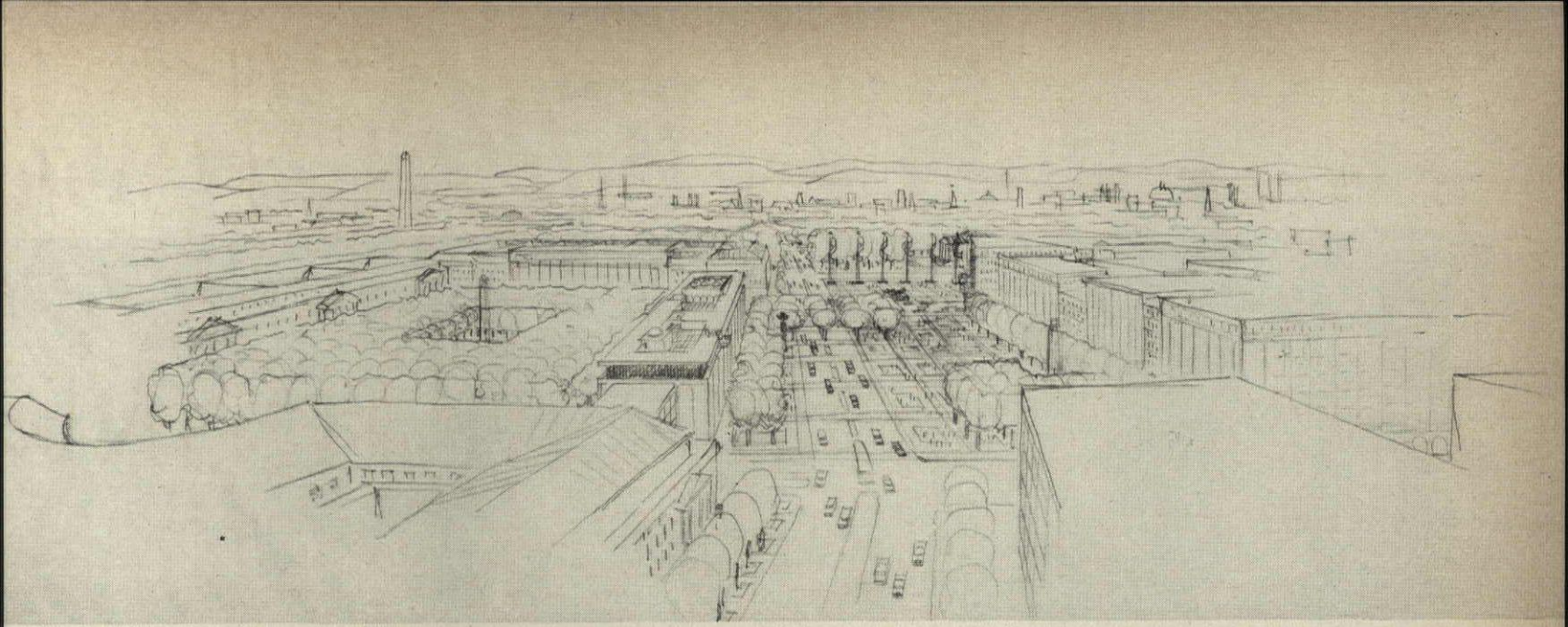


68



69











# BUILDINGS IN THE ROUND

MIT completes two of today's most talked about buildings  
—a cylindrical chapel and a domed auditorium

Ever since Eero Saarinen's designs for the MIT chapel and auditorium were previewed three years ago (AF, Jan. '53), fellow architects and other critics have been talking about the merits and demerits of this daring project. Whatever else they have had to say, all agree that the cylindrical chapel and domed auditorium are both vigorous departures from the ordinary and are serious attempts to free buildings from box-like forms—a courageous plunge into the basic problems of form.

Last month when Sculptor Theodore Roszak's spire and bell were raised atop the chapel, the project was at last complete—ready for close inspection and eventual judgment. On these pages FORUM inspects the buildings pictorially. A subsequent issue will present the judgment of a group of noted architectural critics.

LOCATION: Massachusetts Institute of Technology, Cambridge, Mass.

## ARCHITECTS:

Eero Saarinen & Assoc.;

Anderson, Beckwith & Haible, associates

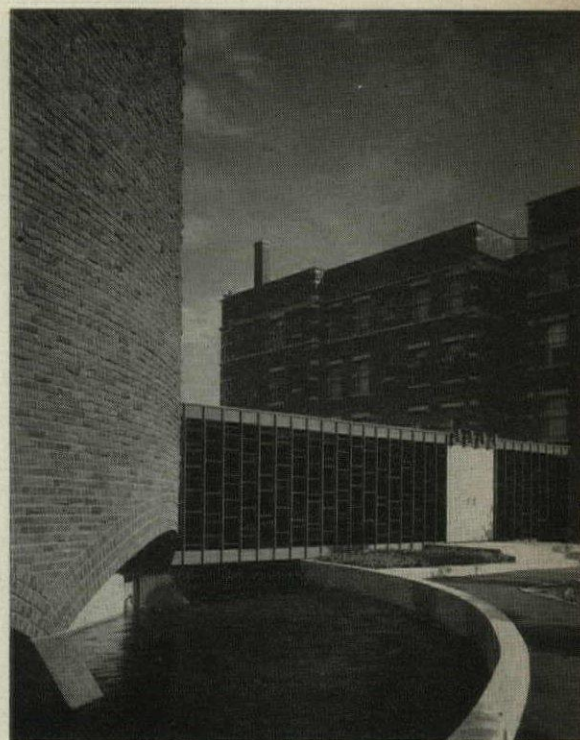
STRUCTURAL ENGINEERS: Ammann & Whitney

MECHANICAL ENGINEERS: Hyde & Bobbio

GENERAL CONTRACTOR: George A. Fuller Co.

ACOUSTICAL CONSULTANTS: Bolt, Beranek & Newman, Inc.

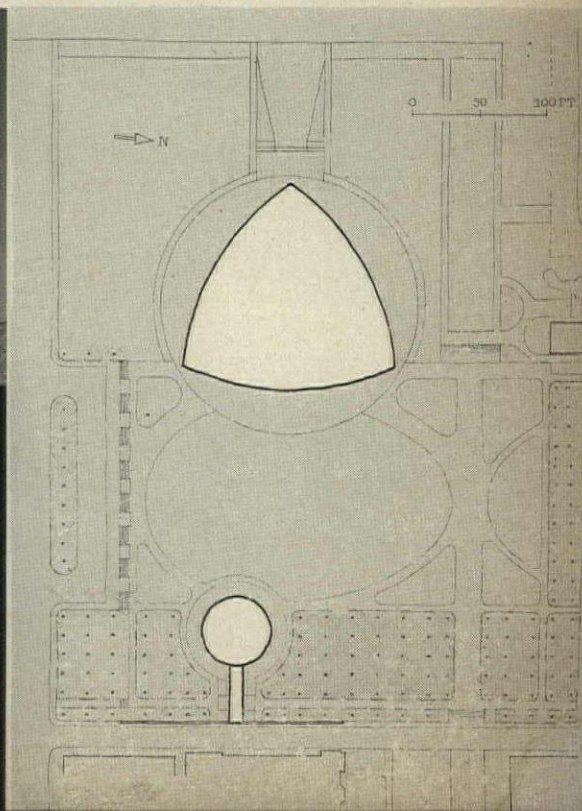
LIGHTING CONSULTANT: Stanley McCandless



**Entrance** to windowless chapel is through contrasting gallery—rectangular and all glass. "Moat" bounces daylight through low arches onto interior brick wall (detail p. 119). Saarinen now thinks arches might better have been higher, richer.

**Two circles** of cylindrical chapel and domed auditorium work well with MIT's other, older dome-topped buildings. Saarinen tried several chapel shapes on his site model, finally concluded the cylinder was preferable to a rectangular box.

*Cylindrical chapel viewed through glass wall of auditorium*



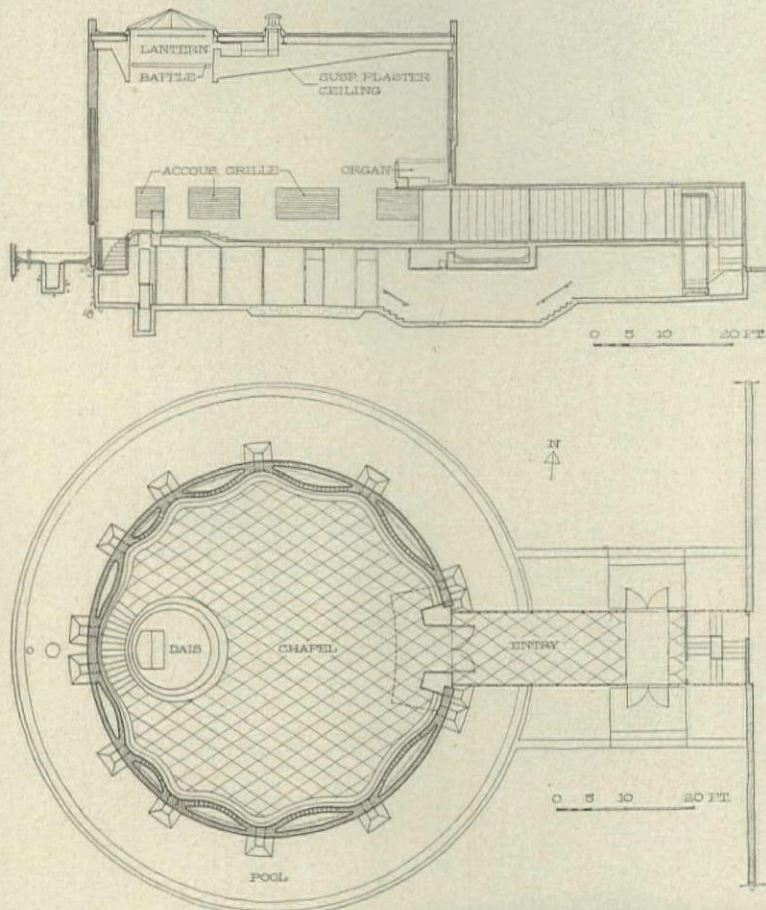






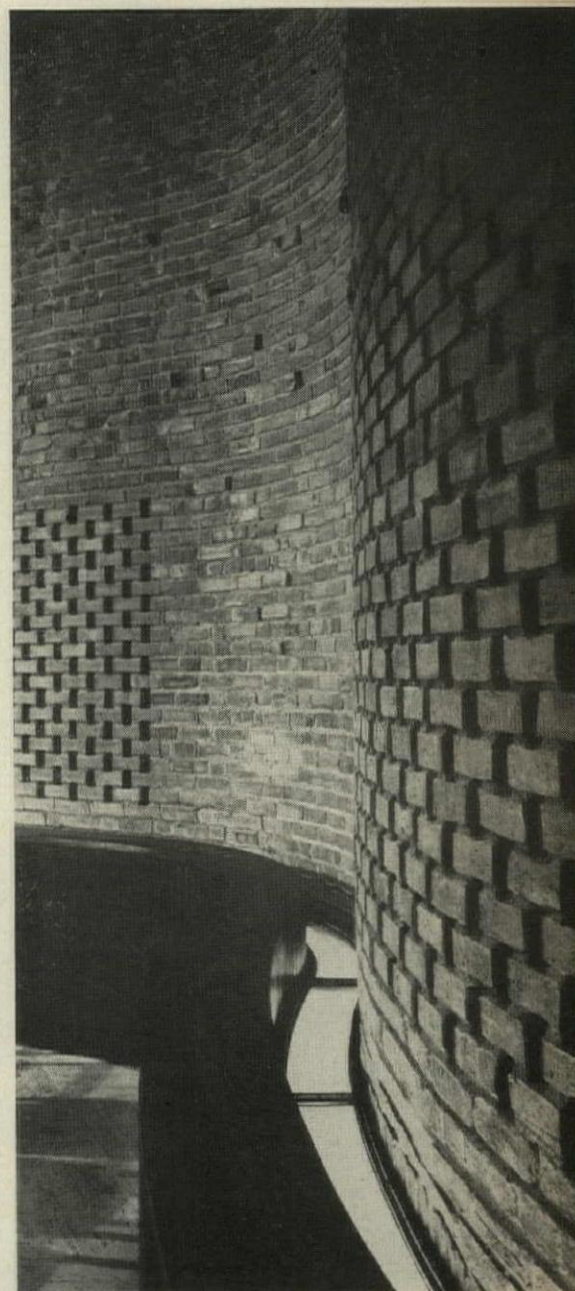
## INSIDE THE CYLINDER

Form of the MIT chapel was determined from within. Saarinen believed it most important to make the chapel ideal for the meditation of the single individual. "A circular chapel seemed preferable," he says, "because it permitted a more direct relationship between the person meditating and the altar. In a longer church form, the back of the neck of the person sitting in the row in front tends to take equal importance with the altar."

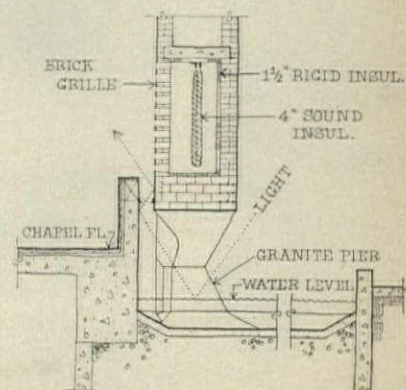


**Cathedral chairs** in chapel seat 130. Ceiling and upper brick walls are not acoustically treated so that organ is well supported by reverberation in upper half of room. Saarinen is justly pleased with the interior: "It has captured just the right spirit that we intended it to."

**Altar screen** of metal by Sculptor Harry Bertoia is daylighted through honeycomb grille in ceiling. "It is right," says Saarinen, "that the screen is now a little bit bright and almost theatrical, for in a year or so it will tone down to just about the right amount of luster."



Undulating wall prevents any focusing of sound, and sound-absorbing material behind brick grille controls reverberation in lower part of room. Reflection from "moat" bathes lower wall in daylight.









## BENEATH THE DOME

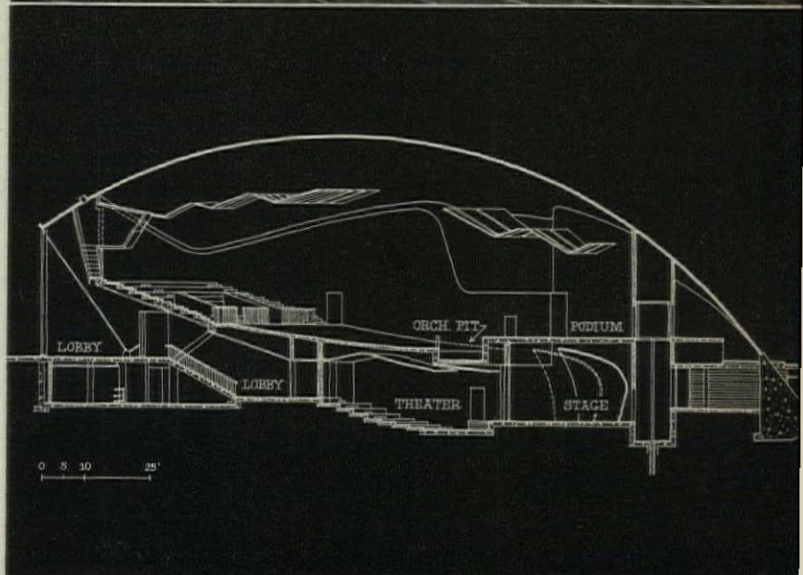
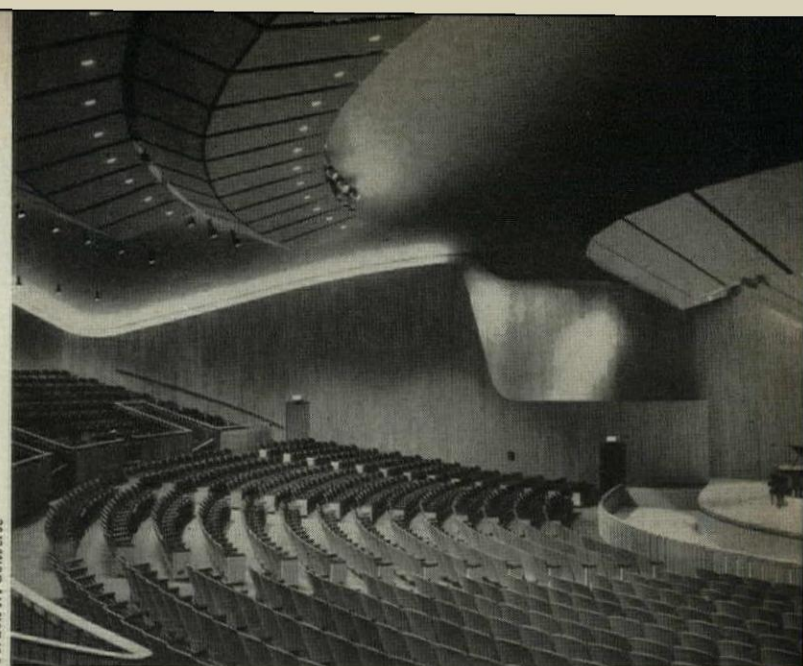
Instead of choosing an acoustically determined shape for MIT's Kresge Auditorium, the architect selected one that seemed structurally appropriate and visually handsome. Says he: "A dome seemed right for many reasons: 1) that shape is a recurrent motif of the existing MIT campus; 2) it gives expression to the idea of sheltering a large space—a single room—in which many people can congregate; 3) it provides a pleasant interior space for an auditorium where the audience and the stage can be in intimate relation to each other—especially important at MIT; 4) the strongest, most economical way of covering an area with concrete is with a dome, and a dome of thin-shell concrete seemed right for a university interested in progressive technology; 5) it was possible to confine the acoustical "floating clouds" only to certain areas, so that the sweep of the dome could be comprehended and enjoyed from the interior as well as the exterior."

Color scheme: White acoustical "clouds" hang below the blue-gray concrete ceiling. Paneling is natural oak. Seats are upholstered in black cloth; seat bottoms and backs are enameled, at random, in six shades of blue, green and orchid.

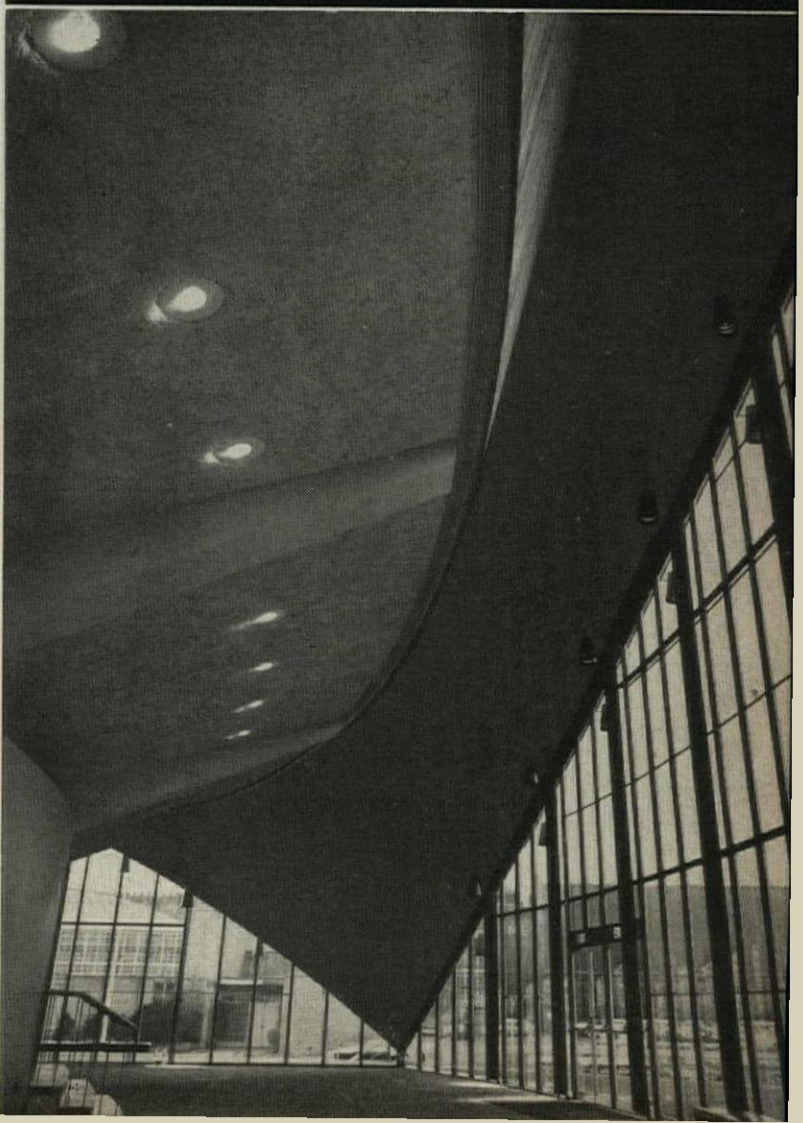
**Dome's supports** are 8" x 8" steel pintles resting on steel bearings which permit the shell to move during thermal contraction and expansion. Inside, the bowl of seats is cantilevered out over the peripheral aisle. Beneath the 1,238-seat auditorium is a 200-seat theater.

← **Thinner than an eggshell** in its proportions, the graceful concrete dome spans 160' and is only 3½" thick at the apogee, 50' above ground level. In plan, the dome is a trefoil; in space, an eighth of a sphere.

Gordon N. Converse



Jerry Cook, LIFE







A movie theater lobby of the 1920's

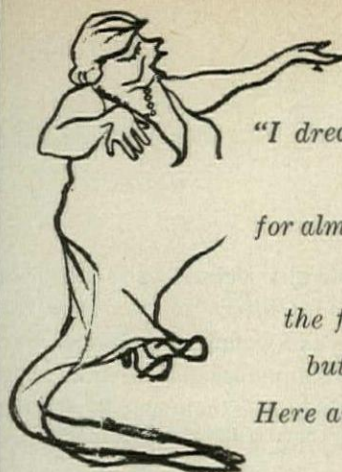
"Functionally the Lobby is the building's valve, receiving, distributing, ejecting; but beyond that it is an architectural experience which on entrance and departure imprints upon the spectator's mind and eye the character and quality of the building and its organization—if it has either."

SERGE CHERMAYEFF, Chermayeff & Cutting, Architects and Industrial Designers.

"A lobby is a transition, a visual experience between the outdoor and the main indoor space; an entrance, a place for waiting, a traffic route, a visual control over vistas, a weather control . . ."

"A porte-cochere is a lobby; the covered passageways of railroad stations and airports are lobbies; the covered bus-loading booths of schools are outdoor lobbies. In a shopping center, the covered walkway area between parking lot and wall is a lobby . . ."

MORRIS KETCHUM, Ketchum, Gina & Sharp, Architects.



*"I dreamt I dwelt in marble halls"  
was the descriptive lyric  
for almost any lobby a few years ago.  
Marble deservedly continues  
the favorite lobby material today,  
but the design tune is changing.  
Here are some notes on the changes.*

## A LOOK AT

When John Russell Pope and his successors, Eggers & Higgins, designed the National Gallery of Art in Washington, they conceived an orderly forest of huge marble columns in the rotunda to epitomize the building. The same firm, Eggers & Higgins, are now designing a new skyscraper for Fifth Ave. in New York, the new Canada House; here the main feature of the lobby will be simple walls of glass opening up the view from Fifth Ave. into the garden of a neighbor, the Museum of Modern Art.

This change in approach to designing a lobby illustrates an interesting architectural equation; costs push ceilings down; this downward pressure is converted into pressure outward; a feeling of horizontal space is sought when vertical space is denied. Result: glass in addition to marble.

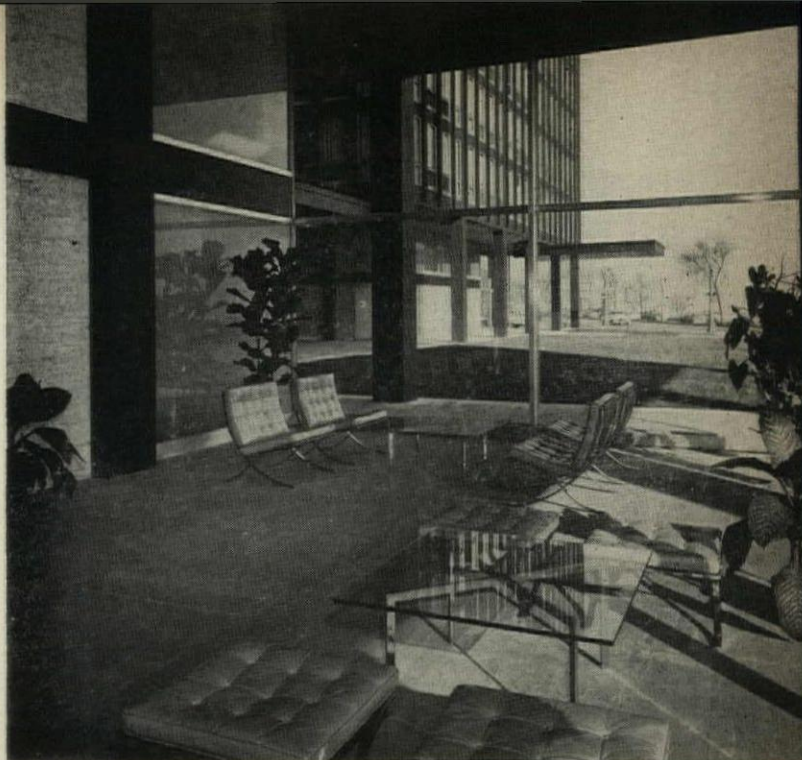
But the point of this example is more than physical, as quotes from two architects (left) imply. Today, although cramped by economic considerations, the lobby of any building is actually becoming more and more important as a last holdout opportunity for expressing the personality of the building. A lobby always has been the face to a building's body, and now that more and more buildings are being clothed in factory-made armor, this unmasked face is even more vital than before.

Those architects and clients who are resisting the inevitable pressure to make lobbies uniform and unambitious have to justify their resistance in economic terms. To do this they are revising the old, merely grandiose conception of the lobby, and putting the space to work in a number of ways (see following pages) as a dramatizer of displays, as vertical transportation, as public relations, for commerce, multi-use, and the intangible of sharp modern design itself.



*The first in a series of articles on PUBLIC ROOMS*

## LOBBIES



*Hedrich-Blessing*

When Architect Giorgio Cavaglieri remodeled the old lobby of the Fisk Building in New York (below) he decided not to throw everything away. The new glazing makes much of the nice detail of the old ceiling, retaining grace, removing grime.

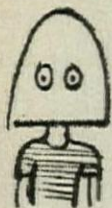


### THE ALL-GLASS LOBBY

The qualities which Ludwig Mies Van Der Rohe built into this apartment house lobby—scale, proportion, and the contrast of fine materials—spell elegance simply and emphatically to the passerby on Chicago's Lake Shore. A modern classic, this room at 860 Lake Shore Drive was nominated by several of a group of architects who were asked to name the best lobbies they knew. Some nominations: Edward H. Bennett Jr. of Elting & Bennett nominated 860 Lake Shore Drive and Burnham & Root's Rookery; Giorgio Cavaglieri, nominated Carson & Lundin's 600 Fifth Avenue; Norman Fletcher of the Architects Collaborative nominated 860 Lake Shore Drive, Carson & Lundin's Esso Building in Rockefeller Center, and Saarinen's new MIT chapel; Morris Ketchum of Ketchum, Gina & Sharp named the MIT chapel and Skidmore, Owings and Merrill's Manufacturer's Trust Bank on Fifth Avenue; L. Rossetti of Giffels & Vallet Inc., L. Rossetti nominated Saarinen's Engineering Administration Building at GM Research Center; Frederick G. Frost Jr. nominated the Paris Opera House, the Louvre, SOM's Lever House, and Harrison & Abramovitz's UN Headquarters.





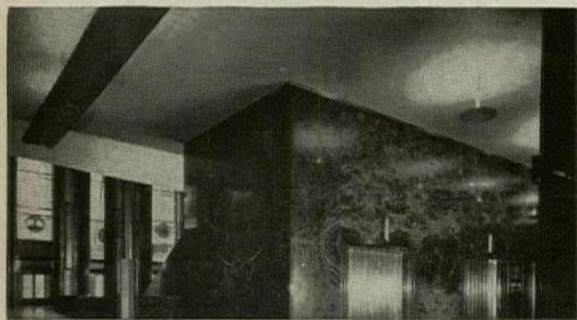


## THE TOTALLY-ENCLOSED

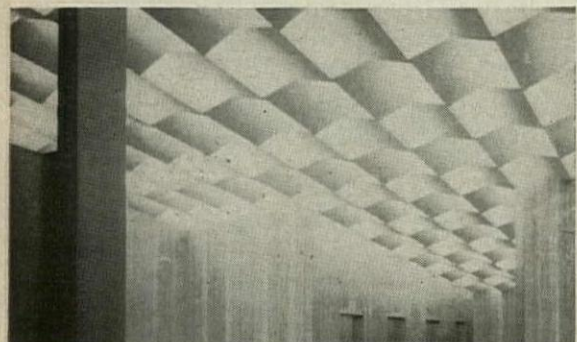
## LOBBY

Set deep in the core of a building, removed from the street, this antithesis of the glass lobby is generally walled in by shops feeding from heavily travelled sidewalks around the building. This situation, still the conventional one for most metropolitan office buildings, presents an opportunity pointed out by Morris Ketchum: "One of the nicest things you can do is to have the unlimited ceiling of outdoor space followed by a lower ceiling for the entrance and then a higher ceiling deeper inside. To emphasize this the lighting should be different in the lower than in the higher spaces; if the inner lobby is to be brighter there should be comparative dimness in the entry."

Although people can look out from a glass lobby and enjoy the neighborhood, the enclosed lobby's environment must be totally created. The tools: space, materials, furniture, art and electric lighting. The lighting of lobbies has come a long way. When Rockefeller Center was being built in the early thirties, the architects' choice seemed to be strip indirect fix-

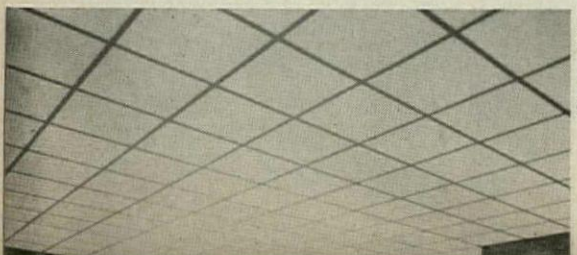


tures, which cast adequate but unexciting light. Then, postwar, the overall lighting ceiling came in, still patterned, as in Carson and Lundin's Sinclair Building in Tulsa. Then came the great revelation of the hung



plastic ceiling, used here by Carson & Lundin in the First National Bank and Trust Co. Building in Tulsa.

Most recently lobby designers seem to be going in heavily for the use of multiple recessed downlights.



© Ezra Stoller



The new extension to the U.S. Rubber Building in Rockefeller Center is a good example of this. The recessed downlights have aluminum reflectors designed to throw the light widely, blandly, but still produce some variation and shadowing to keep the space interesting.

In this job, Harrison and Abramovitz were obviously aware of the effect of entry mentioned above by Ketchum, but they achieved it more with color than intensity of lighting. They specified regular aluminum-toned reflectors for the lighting on the way into the new lobby from the concourse downstairs and from the old lobby, but then switched to gold toned reflectors inside the central elevator lobby itself. The transition from daylight, then to the cool artificial light, then to the warm artificial light, is subtly exciting. The ceiling of one entry passage also is both darker and lower overhead than the core; this entry not only has marble walls but a marble ceiling.

In the central part of the U.S. Rubber lobby the downlights are spaced irregularly in the ceiling, in a pleasant lack of pattern.

Walter Doran





Furniture actually is the most important part of many enclosed lobbies. Four Mies Barcelona chairs with a matching glass-topped coffee table, all sitting on a rug so luxurious that its looks faintly edible, have been used to dignify many a formal lobby. The hours of hand work in finishing the stainless steel and leather Barcelona chair make it not cheap. (Approximately \$800 list.)

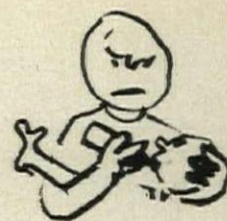


Another leather-and-steel chair now used extensively for the formal lobby is shown above, left (\$550 list). Coming up fast for the same kind of application is a steel and leather chair designed by William Armbruster (\$540 list).

Eero Saarinen designed a chair for one of the lobbies in his General Motors Technical Center (below). Massive in leather, it sits on thin metal legs.



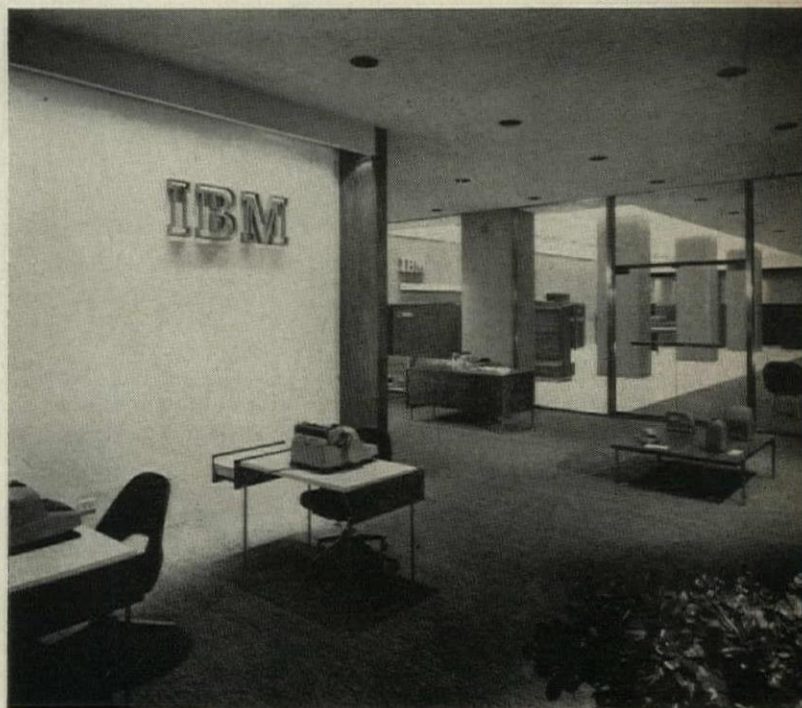
© Ezra Stoller



## WORKING LOBBIES

Conrad Hilton, the walking, dancing hotel legend, has probably put as many old lobbies to work as any man. In his days of hotel buying, he has walked into the genteel old lobby of many a new purchase and immediately pointed out rentable locations for bars, florists, gift shops, art shops—all the profitable accessories to a room-with-bath. At the Hotel Plaza in New York (which he subsequently has re-sold) he even displaced a brokerage house in favor of a bar (the woodwork remained—oak). Sometimes the increased rent receipts from concessionaires has made the difference to Hilton between a profitable and a losing hotel.

© Ezra Stoller

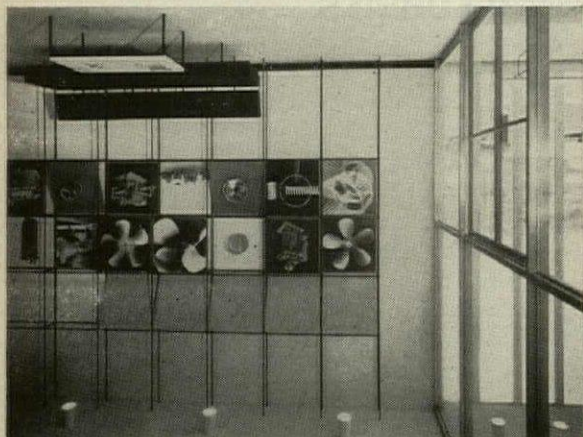


The International Business Machines Corporation, a different kind of operation, made equally astute use of its opportunity in remodeling the ground floor corner of its N.Y. building at the corner of Madison Avenue and 57 Street (above). Architect Eliot Noyes designed a lobby for this space which also is a waiting room for appointments upstairs, a display room for the newest IBM equipment, and the anteroom to a working installation of complex IBM computers. People in the neighborhood can bring in large problems and hire the machines to solve them, on a time basis. Time cards keep track of the charge; the basic rate is \$445 per hour.

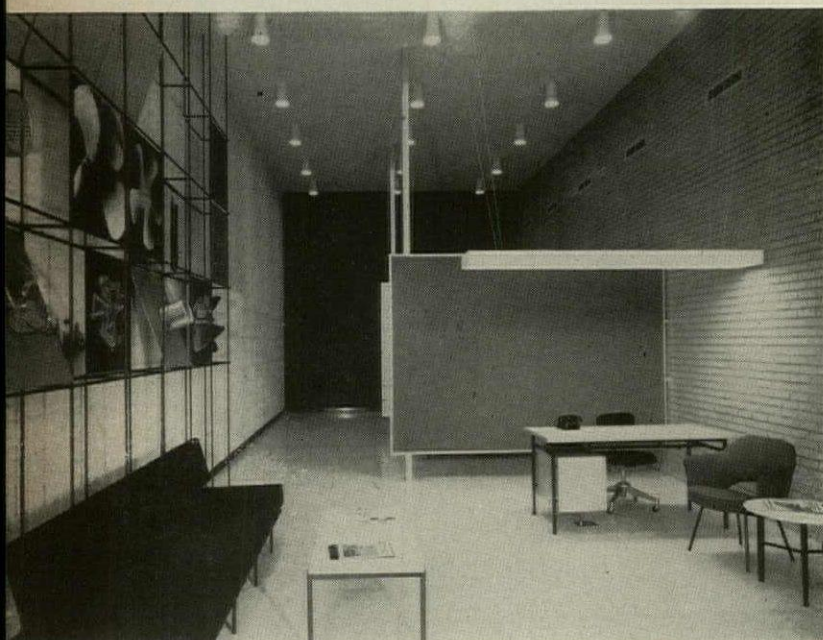
Beyond all other functions, the IBM establishment is the best kind of display to the passing public of the character and skill of IBM. Noyes' design adds the vitality of beauty to the principle of precision. Behind the bank of computing machines the architect put a brilliant red wall. Nowhere on it is hung the familiar IBM sign "THINK". It was, for once, unnecessary.



Display is the first job of many lobbies. Architects Carson and Lundin brought in graphic designer Lester Beall to develop display techniques in this lobby for the Torrington Manufacturing Company, and his techniques characterized the whole space. Like Noyes' showroom, this should be seen in color.



Ben Schnall

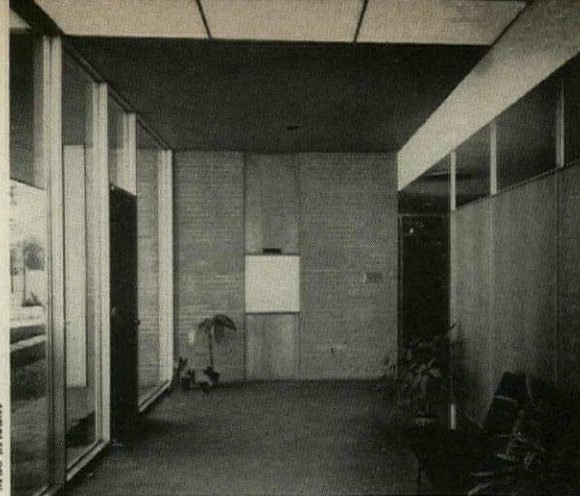


The simple expedient of planning parking space for a tractor in the lobby of this Ford factory (below) turned out to be a masterly display touch. Architects: Giffels & Vallet, Inc., L. Rossetti.



Leas Art photo

Mac Mink



Architects Hellmuth, Obata & Kassabaum used bare brick and wood paneling to good effect in a handsome lobby for the St. Joseph Lead Co., which connects office and laboratory wings. Over plastic planes in the ceiling are skylights.

Roland Chatham



School lobbies have been put to work too. The biggest expansion in use has probably been as social areas for between-class periods, but they also can be planned, like this one, to double as the library reading room during class time. Caudill, Rowlett, Scott & Associates, Architects.

This lobby-corridor, also by Caudill, Rowlett, Scott & Associates, is designed as a wind funnel as well. Pointed in plan toward the prevailing breeze, it is a great duct, scooping in air, then distributing it sideways into classrooms.

Urie Meisel







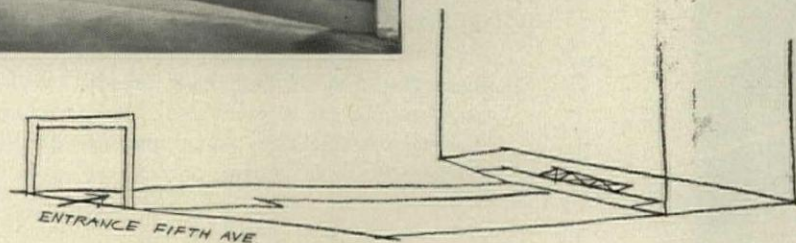
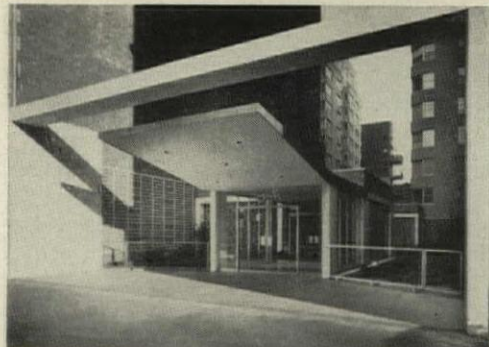
Gordon Caster—LIFE



## THE OUTDOOR-INDOOR LOBBY

Rockefeller Plaza and the space before St. Peter's in Rome are conscious lobbies, attracting and receiving people for nearby buildings on a heroic scale. On a smaller scale, the canvas or glass windbreaks common to breezy Chicago (above) wall in parts of the sidewalks and extend the building's protective reach.

Gottsch-Schleisner



Robert D. Harvey



In The Architects Collaborative's new junior high school at South Attleboro, Massachusetts (above), a striking new lobby extends its lighting function out to its porch for evening reception. In daytime the reverse is true; Three large plastic dome skylights pour daylight inside, lighting the terra cotta abstract wall so it can be seen through the glass wall from the street.

Alex Langley



Few harder-working lobbies exist than the one Raymond Loewy Corporation designed for a luxury cooperative apartment house in New York's East 80's. The apartment tower, designed by H. I. Feldman, actually sits a considerable distance east of Fifth Avenue. But the client purchased a long alley of land giving access to Fifth to add distinction to his building's address. An outdoor court with a wall of sculpture by Constantino Nivola runs along the passage. Herbert Fischbach, president of Herbert Charles & Co., Inc., sales and management agent for the cooperative, says, "The combined appeal of the Fifth Avenue address and the Loewy designed lobby has increased the apartment sales value by 20% to 25% . . ."







## LIFTING LOBBIES

The stairhall was one of the earliest of lobbies, and vertical transportation remains a primary focus for dramatizing working lobbies. The enclosed elevator shaft has replaced most staircases, but not all; for example, in Skidmore, Owings and Merrill's Manufacturers Trust Bank branch on Fifth Avenue in New York (above, right) the moving stairway to the mezzanine banking floor has all the status of the grand staircase in an opera house of old.

Majestic treatment of motorized stairs is also notable in several of Harrison & Abramovitz' many lobbies in the UN group. Lobbies there are of prime functional importance for informal contact among delegations.

A further development of the lifting lobby is the split lobby. On the first floor the lobby really is just a doorway and the foot of a staircase, moving stairway, or elevator shaft. Because space is tight downstairs on sidewalk level, most of the lobby really occurs upstairs at the other end of transit. The Chicago Arts Club by Mies Van Der Rohe (below) is a beautiful example of what can be achieved in this situation.



© Ezra Stoller

Ralph Yeakel



An example of the advertising possibilities of this approach is the lobby of the LaVerne showroom on East 57th Street in New York. The showroom itself is spread over the second floor of an old building and has only a closet of space off the sidewalk on the first floor, containing a small elevator plus standing room. But the simple, bold exterior design of these few feet of first floor facade, in metal and glass, counts for a great deal. It characterizes the showroom better than some spacious show-windows characterize their owners.

In the handsome lobby between the new chapel and theater at Maryville College, Architects Schweikher & Elting lift the space and the visitor up to a second floor gallery via a precisely detailed staircase. Beyond the corridor wall is a landscaped court.



Hedrich-Blessing



Frank Lotz Miller





# THE PLACE OF ART IN AMERICAN LIFE

—by HENRY R. LUCE

Perhaps there has never been a society of which it could be said that Art, even in the broadest sense, was the central and unifying purpose. But there have been some great civilizations of which this was very nearly true. If we recall our anthropology and the *Golden Bough*, there will spring to mind a vision of primitive societies, joyously expending their energies from season to season upon the tribal dance and other ceremonials. Here to be sure it is both art and religion. Indeed, religion and art and life itself are seen as a continuous pageant. Hunting and fishing and the weaving of the nets, adolescence and marriage and procreation, physical prowess and lusty war, death, burial and ghosts—all have their stylized part in a pageant or a drama of which Nature herself is the chief playwright and the most whimsical actor. In such a world religion and art and life are felt as one. So, all the *mores* of a society find unifying expression in the art-forms of ritual. To which we may add that religious-artistic ceremonial naturally includes the making of beautiful objects—the totem pole, the mask, the stylized statue.

When we come to great civilizations, we who are their distant and claimant heirs think first of all of Greece. I think we may say that at last we really know about the Greeks—thanks to the monumental work of Professor Jaeger of Harvard entitled "*Paideia*". The key-words of one civilization are not really translatable into the words of another. But *paideia* we may render as Education or worthy upbringing. And instantly we strike a common chord between the US and ancient Greece: education is seen as absolutely essential. But we must not press the harmony of ideas too far. From the days of Jefferson, education in America is seen as essential to the making of a nation. But Greeks, until rather late in their story, were not so much interested in the making of a nation as in the perfection of the individual. The Greek ideal was *areté* which we may translate as excellence. Crystalized out of the mists of heroic Homeric days, it was this ideal of excellence which *paideia* served. *Areté*, the ideal of personal excellence or of personal honor, is achieved in personal conduct and in the pursuit of excellence in all the arts of war and peace. It is *not* the pursuit of happiness—except as happiness, both here and hereafter, may be found in uncompromising devotion to excellence.

Given the ideal of excellence, Beauty cannot be far behind. When we think of Greece we think of Beauty. Still, we cannot quite say that Art was the unifying

*Condensation of an address  
by FORUM'S editor-in-chief  
before a recent meeting of  
the American Federation of Art*



purpose of Greek life. For we have also to remember that other glory that was Greece—Philosophy. Truth became as much the ideal as Beauty. But then, of course, John Keats says they are the same thing. Without succumbing to the naiveté of Keats, we can pretty nearly say that Art was the unifying purpose of Greek life—the beauty of person in the body, the beauty of truth in the mind, the beauty of heroic deeds and, finally as Greek life advanced to its climax, the beauty of the objective works of man's hands.

A current worry about America is whether in our vast success of general averages, we may be debasing the ideal of excellence—individual excellence and honor. This, I think, is what the educators are really fussing about in their speeches against "conformity". It is above all in a democratic society that the ideal of excellence must be fought for.

But let us take another plunge through the archways of the years and come to another great moment of our spiritual heritage. Behold now the wonderful picture of the Age of Faith in Christendom! Now I think it must be quite clear that Art or the love of formal Beauty was *not* a major impulse in the early Christian faith. The "beauty of holiness" perhaps, but not Art as we understand it. Socially the task of the Christian community was to take over the bankruptcy of the Roman Empire and to keep some light of humanity shining for six or seven dark centuries. But in the 12th Century, the darkness has passed: all Europe is pervaded by a new form of order and a new style of feeling and the Age of Faith begins to express itself in the great Cathedrals. There has never been a greater example of man's faith and feeling expressing themselves in an art form than the Cathedrals. And along with the Cathedrals, there were the 10,000 village bell-towers which even today seem to call us back to some lost Paradise.

### The purpose of American life

Thus we remind ourselves that Art and Beauty in ceremonial form or in individual creation or group creation has been very nearly *the* purpose of other societies, great or primitive. And having done that, I think we must then be quite clear in our minds that Art has not been, and is not, the dominant or unifying purpose of American life—nor any important part of the unifying purpose of our nation.

Our America has had another purpose and other

tremendous purposes. There has never been anything like the purposefulness of American life. In the beginning America was a project—and many projects. The Mayflower, the Virginia Company, the opening of the West, the covered wagon—through all our history up to the newest baby born today at the end of the Oregon trail, America and we Americans are a host of individual projects united in one grand project to establish on this continent a new nation, without precedent on earth, conceived in liberty and dedicated . . .

The grand purpose of American life does not have to be defined to any American. It has only to be evoked. The winning of continent, the making of a nation, the making of a special kind of nation, a place of open opportunity—this is the purpose of American life and we are all the heirs of that continuing purpose no less than we are the heirs of its amazing fulfillment up to this hour. In the sharp images of Stephen Vincent Benét:

*"Out of the flesh, out of the minds and hearts  
Of thousands upon thousand common men,  
Cranks, martyrs, starry-eyed enthusiasts  
Slow-spoken neighbors, hard to push around,  
Women whose hands were gentle with their kids  
And men with a cold passion for mere justice,  
We made this thing, this dream.  
This land unsatisfied by little ways,  
Open to every man who brought good will,  
This peaceless vision, groping for the stars,  
Not as a huge devouring machine  
Rolling and clanking with remorseless force  
Over submitted bodies and the dead  
But as live earth where anything could grow,  
Your crankiness, my notions and his dream,  
Grow and be looked at, grow and live or die.  
But we get their chance of growing and the sun.  
We made it and we make it and it's ours.  
We shall maintain it. It shall be sustained."*

Art has not been and is not now a central motivating and unifying force in America. But I think it may become so. Certainly it ought to become so. Thus, I express my bias in favor of the "moral imperative"—a bias from which, in any case, few Americans can escape.

What Americans feel ought to be done, they usually manage to do. If this seems a little ponderous when speaking of art, let us remember the saying that the Kingdom of Heaven cometh not without violence.



William James, typically American, speaks of the will to believe; may we not equally speak of the will to goodness or of the will to beauty? So I invoke for the American of the future, a will to Beauty.

But whether or not the moral imperative has anything to do with the case, why may we think that Art and the love of Beauty will attain a place in American life high up in our national visibility and near, if not exactly at the center? For, I think, a very simple reason, namely that we have already substantially accomplished the purpose of our history from George Washington till now, and we already begin to seek further goals, by which in general we mean the enrichment and the enhancement of life.

### A better nation of better men

We have, it seems to me, passed a Great Divide in the American adventure. Before us, to be sure, lies the world of humanity with all its challenges and dangers. We shall have to strive with enormous energy to make the world a tolerable place—yes, even as Woodrow Wilson said, to make it “safe for democracy.” Yet we have made a nation. We have established institutions of liberty under law. We have achieved the economy of abundance. So, the natural question is: what next? And ten years from now, barring catastrophe, the question will become even more insistent: what do we do next?

What we do next presumably is to try to make a better nation and to encourage the emergence of better individuals. But what would one mean by a better nation? And who is that better individual? Not forgetting the other aspects of the “good life” one can hardly imagine a definition of a better life that would fail to emphasize a greater realization of Beauty. The exaltation of Beauty will not come as a sudden national mutation. It will come first, as we see it already, through interest in works of art—in painting, in sculpture. But the historian 25 or 100 years from now will be able to see how the love of Beauty spread until it was felt everywhere—in our houses, in our schools and public places, in entire cities and in our countryside, in all our forms and ceremonies, yes in our football stadia as well as in our churches. Yes, even on TV!

We could hardly expect that the ideal of Beauty and of Art would be one of the chosen ideals of the future, unless there was already a basis, a predisposition for

this choice of goals. And it is precisely this basis which has, I think, been abuilding in the last two decades.

### The basis for the new advance

Of course, as we all know, the earnest desire for culture goes back to our earliest times. No sooner was a community established in the American wilderness than the call went out for school teachers and then for books and for lecturers. The story is classically told in Owen Wister's *Virginian*—which is the prototype of the great American folk drama, the Wild Western movie. The Wild Western morality play of which we never tire poses good against evil—and the symbol of good is not the sheriff, who may be unreliable; the symbol of good is the pretty little school teacher who reliably gets her man and vindicates civilization.

Beyond school teacher education, the American appetite for culture has been so great and so continuous that long ago it became one of the major themes of satire and even ridicule. “The Old Lady in Dubuque”, snobbed the *New Yorker* years ago—and that was very smart promotion. But it did not prevent the Old Lady in Dubuque and her daughter and her granddaughter from continuing, in their own earnest way, their remarkable cultural advance.

The broadest expression of this *will* to be educated is of course in our schools and universities. The scope of American education is really a ninth wonder of the world—there is nothing like it in Europe or anywhere else. And scholarship, the highest learning, now reaches ever greater heights in this country.

This sweep of education, even with the regrettable decline of Latin and Greek, is still accented in the humanist tradition. This is the authentic American base for that better America of which we do not hesitate to speak and to dream.

### Enter the Sunday painter

But in the last two decades, what is especially noteworthy is that Art—painting, sculpture and even architecture—has become much more widely and highly valued. This happy phenomenon reveals itself in many ways. The market for works of art is very strong—and very wide—and apparently growing stronger and wider every day. Museum attendances are breaking all records. In magazines, books and through reproductions more is being written and printed—and sold—than



ever before. Installment buying and picture rental services have sprung up in answer to the thirst. And then there is that new creature on our landscape, the Sunday painter.

It will of course be noted that I say nothing about the question of artistic genius. That is quite another problem and I am not at all sure that much can be said about how or when it occurs. But there does appear to be some relation between interest in art and the production of great art. Francis Henry Taylor, the museum director, once contended there was a direct ratio between the numbers of people who painted and the quality of painting produced. Florence was a hive of painters when Botticelli's *Venus* rose from the sea. If Taylor is right, then the Sunday painter and all of us who merely stare and buy are a portent of great painters yet to come.

In any case, I am suggesting that what we see around us in America today is something different from what we have seen before. For what we are now seeing is the enhancement of the ideal of Art and Beauty not only as a function of the general pursuit of culture but, more significantly, as a matter of personal and individual interest and enjoyment. Art becomes more and more an experience of individual discovery, individual awareness. But the individual does not stand in isolation; he does not feel himself alone in a hostile land of Philistines. What we see are tens of thousands of individuals more and more discovering in each other a new basis of shared enjoyment and shared enthusiasm.

### What price Beauty?

The incontrovertible fact is that in our American life there is still an enormous gap between the individual love of Beauty and the realization of the ideal of Beauty in our society. And it may be that the gap, instead of being narrowed, is getting bigger. You have only to look about you in most any city. Flying into one of our great cities by sparkling sunlight or at night when the electric lights come on, you get a sense of magic grandeur. But when you walk in these cities or get stuck in a traffic jam, there is little to delight the eye. The problem of establishing the ideal of Beauty in American life is in part an economic problem. We have an economy of abundance—an amazing achievement of infinite human value. But what price Beauty? We don't seem to be able to afford beauty—on a broad social-economic scale. Cer-

tainly there are significant exceptions to this rule. The better styling of products is a significant development. And some of our new buildings, schools and churches are pleasing. But the sum total of our building speaks of a great people who have not yet learned how to afford to make America beautiful.

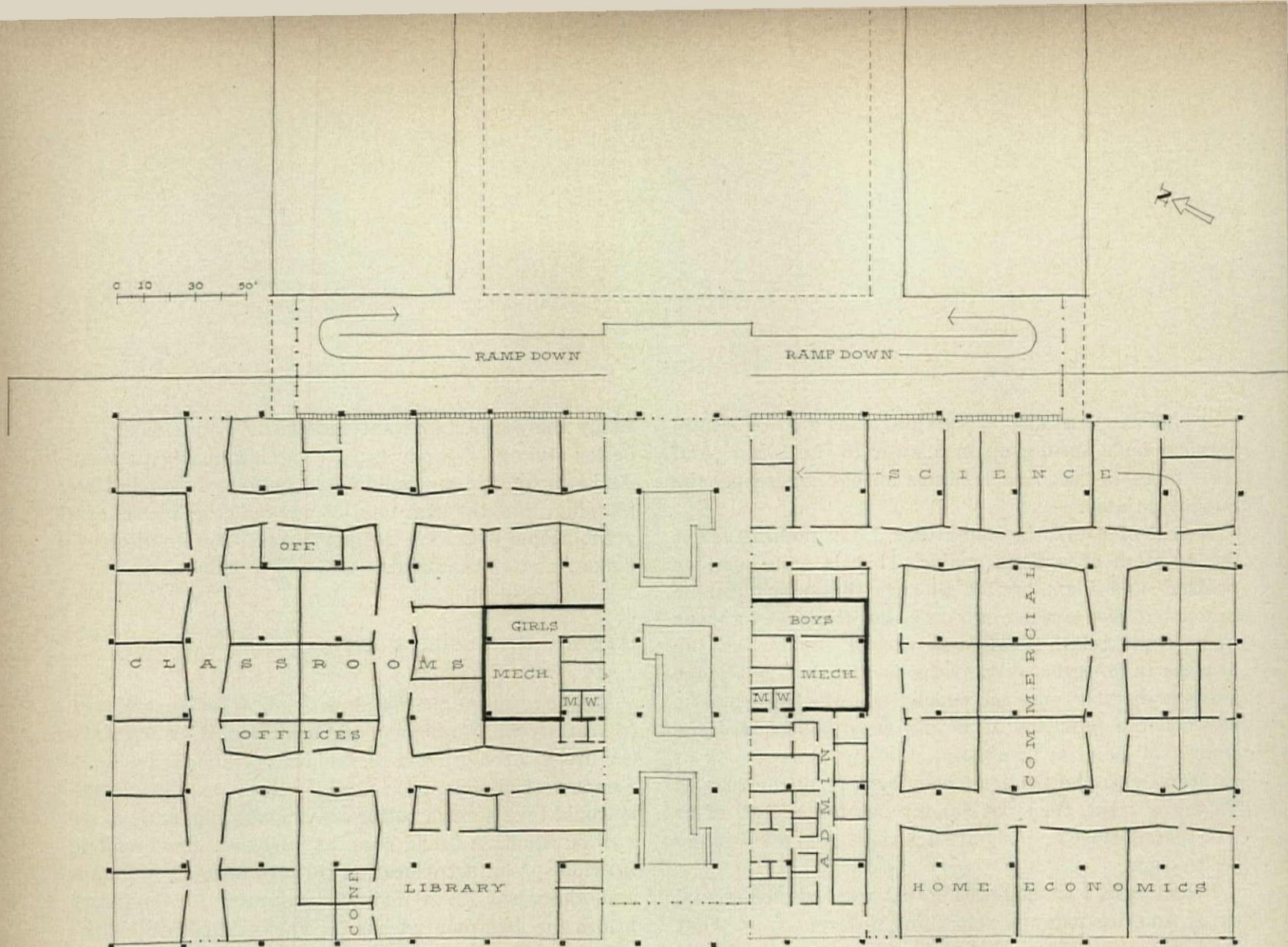
### Art and the businessman

We have made the break-through from an economy of scarcity to an economy of abundance. Can we make the break-through from an economy of abundance to an economy of abundant Beauty? I believe we will, though it would take a much better crystal-ball than mine to see how or when. A broad base for a new era has been laid in wide-spread art education through schools, museums and otherwise. An even greater assurance for the future lies in the fact that art has become so important in the personal lives of individuals. Gradually—and perhaps sooner than we think—the personal love of art will manifest itself in our public life. Thus, every man and woman on a school board has a chance to make the next school building beautiful as well as efficient. Every director of a business corporation has a chance to make the next office building a little more beautiful, with a little more fun and joy in it, even if it adds 25 cents per sq. ft. And the extra 25 cents might even turn out to be a good investment.

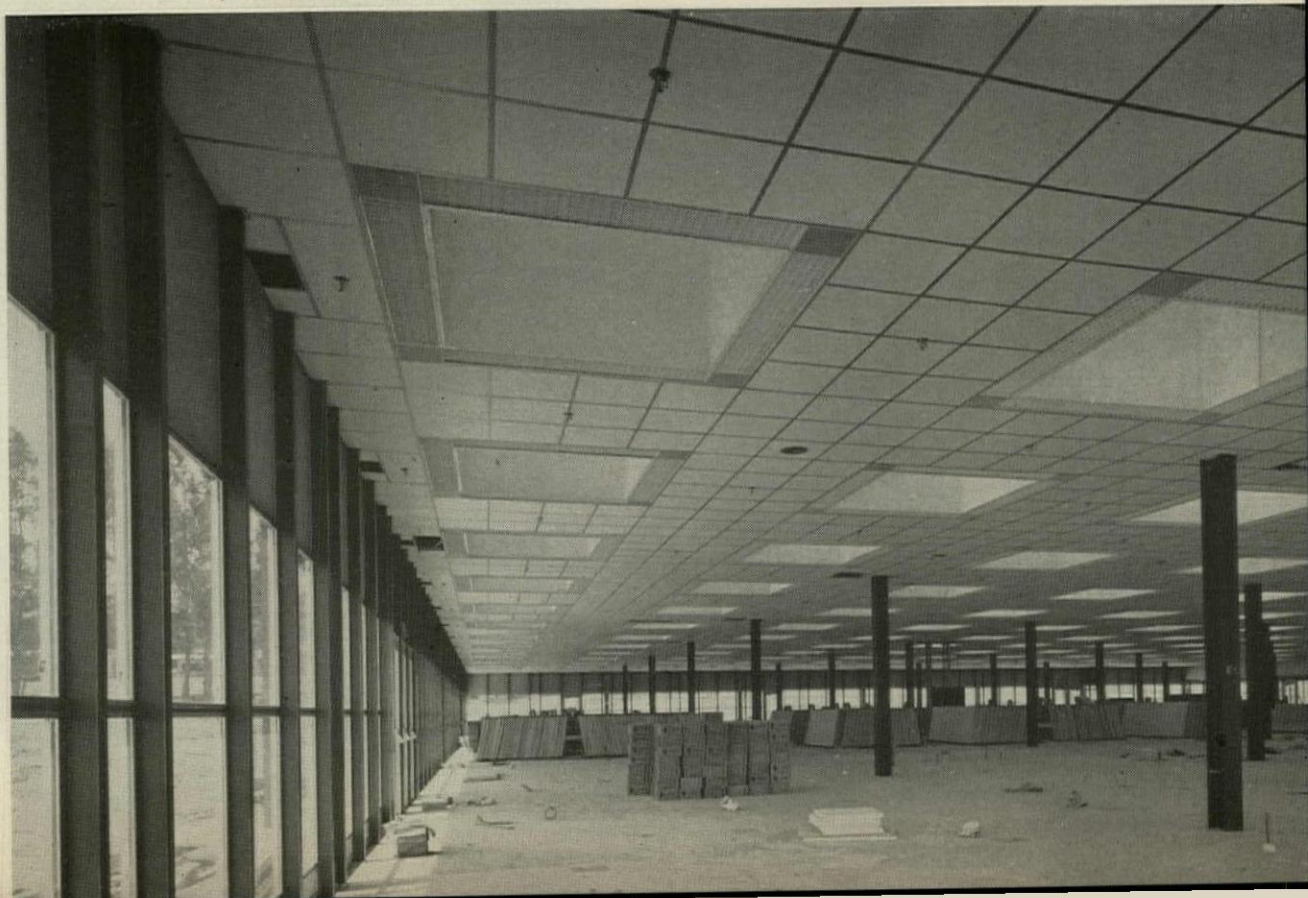
I have referred to the economic problem because ours is a highly organized economy without much room in it for uneconomic whim or unproductive fancy. This economy serves us well; it provides schools and universities and hospitals as well as motor cars and steaks. It serves us well—and it serves humanity. But we shall not have become truly masters of our economy until we have taught it to serve also our ideals of Beauty.

In years to come, there will be an American poet, another Benét, who will write not only of the love of the American land and not only of the making of a nation—that future poet will write of a people who love Beauty and surround themselves with it and live in it. Today we are making some of the building blocks for that poem. So, at least, we hope; so we believe. May each of us feel that he has contributed a line, a phrase, a thought, a desire to the great American epic of the future. I salute the architects and artists as the collaborators with the poets of the future, as the makers of a new America.

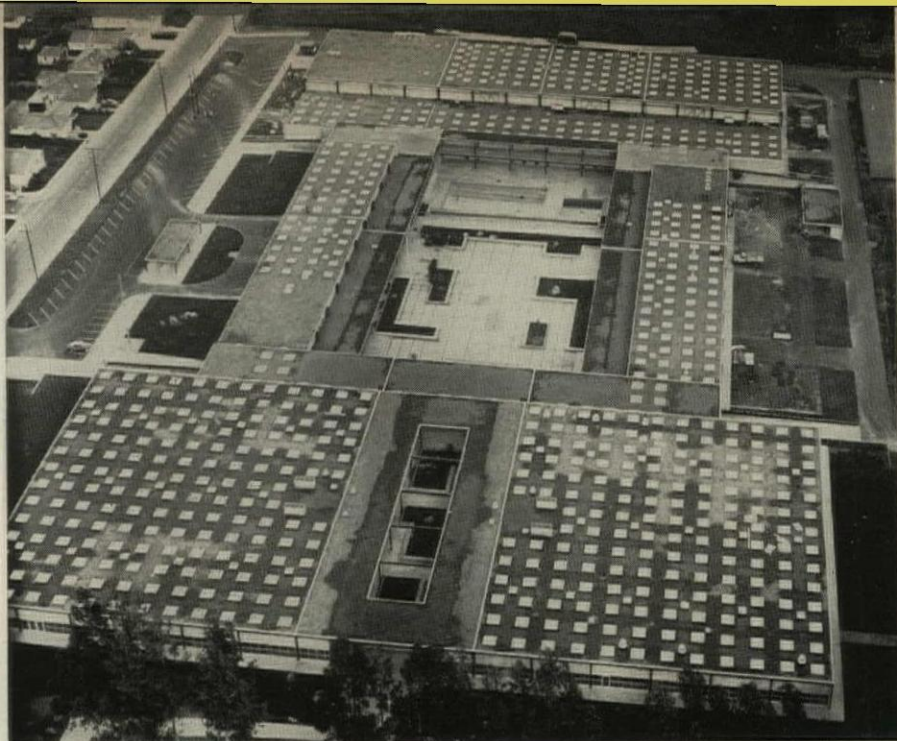




*Classroom building, before partitioning, is a vast one-story space which looks more like a factory than a school.*







## LOFT-PLAN HIGH SCHOOL

Long awaited, Architect John Lyon Reid's big experiment in school space using industrial regularity of construction, skylighting and flexibility of arrangement is now in operation.

*All photos: Roger Sturtevant*



Never in his years of brilliant school design has Architect John Lyon Reid taken as bold a step. In this plan for a 1,750-student high school, he has put all classrooms into just two big blocks, and given the interior rooms skylights instead of windows. Structurally, each of these blocks is like a loft or a factory: just one big room 12' high, with a forest of bare steel columns spaced on 28' centers, supporting a mechanical attic 5' high which is pierced every 14' with a lighting-ventilation well. What Reid is providing is, like the loft or factory interior, a space that can be partitioned up in almost any way the users wish. Here indeed is a radical attempt to solve the problem of fluctuating room sizes, fluctuating department boundaries, fluctuating community needs and educational techniques.

Occupied by year's end, though not yet completely finished and landscaped, the school gives a chance to look closely at the qualities of these interiors, which are certain to provoke heavy discussion for some time to come. Should teen-agers work for hours at a time in rooms without a view? Will any combination of daylight and electric light from above make for enough sense of variety and change? Or will this, as some have predicted, become a clean, well-lighted tank?

Veteran photographer Roger Sturtevant, who sees new buildings by the hundreds, reported on his visits to the school: "More words of praise were voluntarily uttered to me by faculty and custodians than in any school I have ever photographed. Teachers told me their appreciation of new kinds of facilities and their positive approach to using them. From all this evidence, the school is a success."

Certainly so different a school is hard to judge at a distance, even through skilled photography. The citizen and the schoolman may still be skeptical, even though the average student spends no more than three of his 50-minute periods daily away from windows, and though the entrance patio and the large central court provide a change of environment between classes.

There is little doubt about one thing, though: Hillsdale cost no more to build than an ordinary school, and because it is so completely flexible it should save a lot of money over the years in ease of rearrangement for more efficient use of space. The school board, in fact, has already commissioned Reid to do a second school of the same new kind.



During the first few months of Hillsdale's "shakedown" year, its planners and staff have had a chance to try out innovations and make a few adjustments.

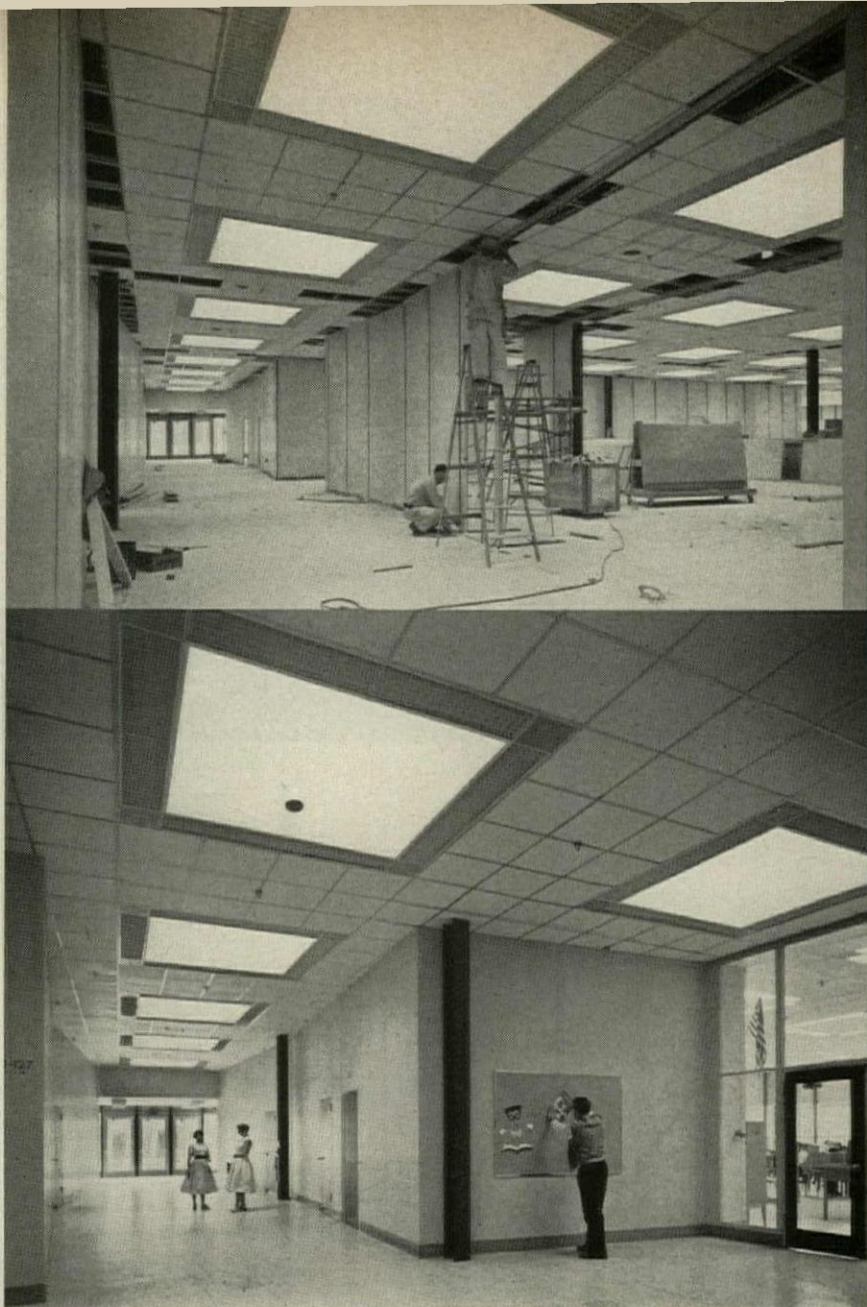
Daylight in the interior classrooms, unusually good in some respects, raised some questions. Prismatic block skylights, in wells especially engineered for this building by architect and manufacturer, exclude midday glare and heat, select only north and low-angle south light and diffuse it evenly below: readings taken in a typical inside room through a clear day in November showed an average of 35 foot-candles at desk level toward the side, ranging up to 71 f.c. directly under the skylights, a ratio of 2 to 1. Brightness of the visible source (the side of the skylight well) was 150 footlamberts, compared to 28 on the darkest task below, or a favorable ratio of 5.4 to 1. Color perception was good.

When the school opened, the daylight, alone, was criticized as "too cold" and the electric light as almost "too bright." At 8 a.m. when school started, daylight inside had not yet reached 30 f.c., and most teachers turned on their electric lights.

By 8:30 daylight inside was climbing above 30 f.c., but most teachers and students preferred to leave the lights on because it gave them a "warmer" feeling. At first Reid thought of trying colored tiles on the ceilings or color on the white-sided skylight wells to offset the cool effect of north light reflected from walls of a cool beige color. But the more he watched his school filling with pupils and their colorful activity, and the more he talked with teachers who actually preferred their inside rooms, the more he inclined to leave the rooms as they are.

When lights are switched on, they instantly add an average of 80 f.c., a striking contrast. Brightness ratio was measured at 13 to 1 (580 f.l. on the eggcrate louvers to 45 f.l. on the darkest task).

To reduce the contrast and still provide plenty of artificial light, Lighting Consultant Boyd has recommended that one tube be removed from each fixture (which could also save the school almost \$1,300 in power and tube costs).



#### HILLSDALE HIGH SCHOOL, San Mateo, Calif.

Thomas F. Reynolds, school district superintendent

ARCHITECTS & ENGINEERS: John Lyon Reid & Partners

Burton Rockwell, partner in charge

Alexander G. Tarics, structural engineer

#### CONSULTANTS

G. M. Richards (mechanical)

Charles Von Bergen, William Laib (electrical)

Daniel Fitzroy (acoustical)

Robert A. Boyd, U. of Michigan (lighting)

James D. MacConnell and William R. Odell,

Stanford University (education)

Eckbo, Royston & Williams, landscape architects

GENERAL CONTRACTORS: Rothschild, Raffin

& Weirick and Northern Constructors

CAPACITY: 1,750 students

SITE COVERAGE: 5 1/2 of 35 acres

BUILDING AREA: 231,000 sq. ft.

#### COSTS:

Total building costs\* \$3,428,400

Average per sq. ft. \$14.84

Grading ..... 39,000

Site utilities ..... 96,000

Pools and sitework. 211,000

Total of contracts.. 3,775,000

\* Including: ventilation, communication and sprinkler systems; casework and lockers; fixed equipment and seating for shops, auditorium, theater, cafeteria and kitchen. Excluding: land, landscaping, furnishings, fees.

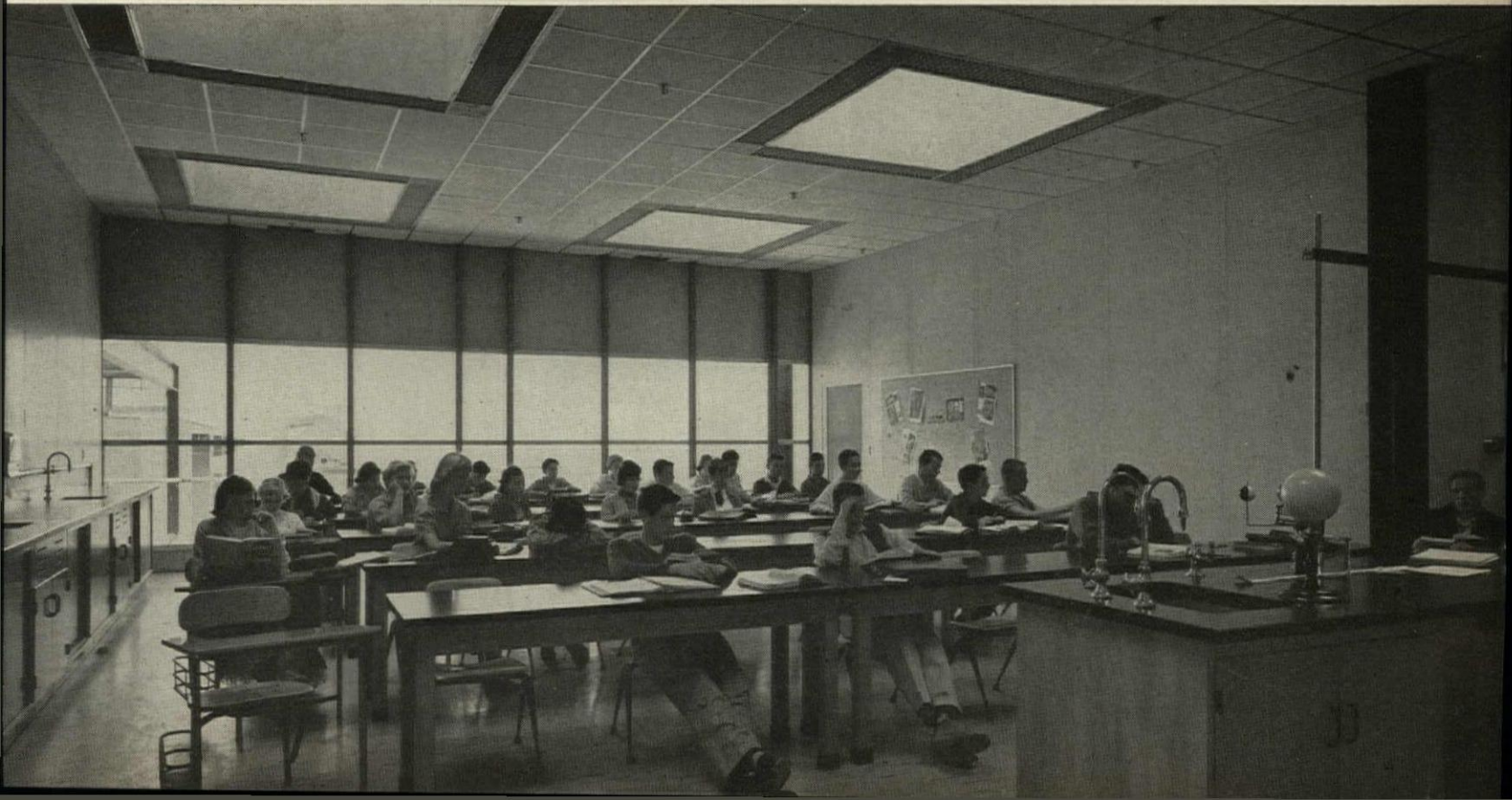


← **Partitioning** is a system of interchangeable, reusable panels of enameled metal packed with mineral-wool. Here a door panel is set into steel channel bolted to aluminum ceiling grid. Fireproof acoustical panels resting on grid are removed at will for partitioning or access to any utility above. Below, left: completed partitioning shows independence of structural system's posts. Corridor walls zig-zag, reducing echoes, avoiding drab perspectives, permitting doors at wide points where students can mill around between classes without blocking hall. Library is at right, doors to entrance court in background.

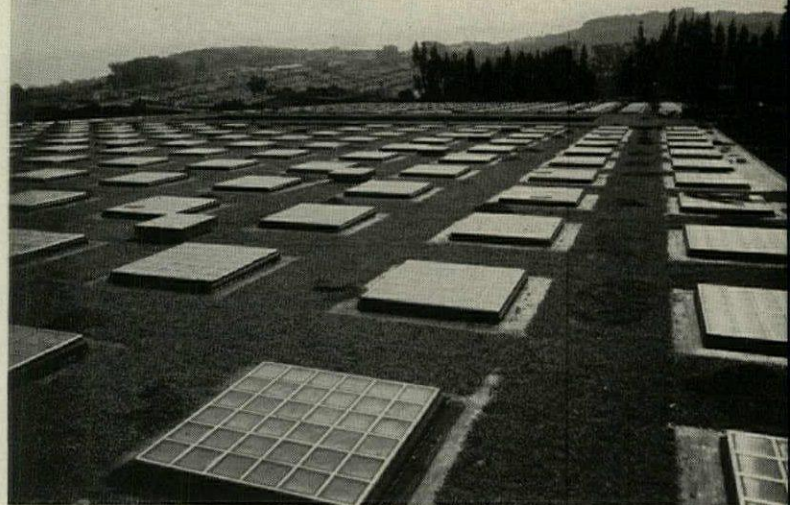
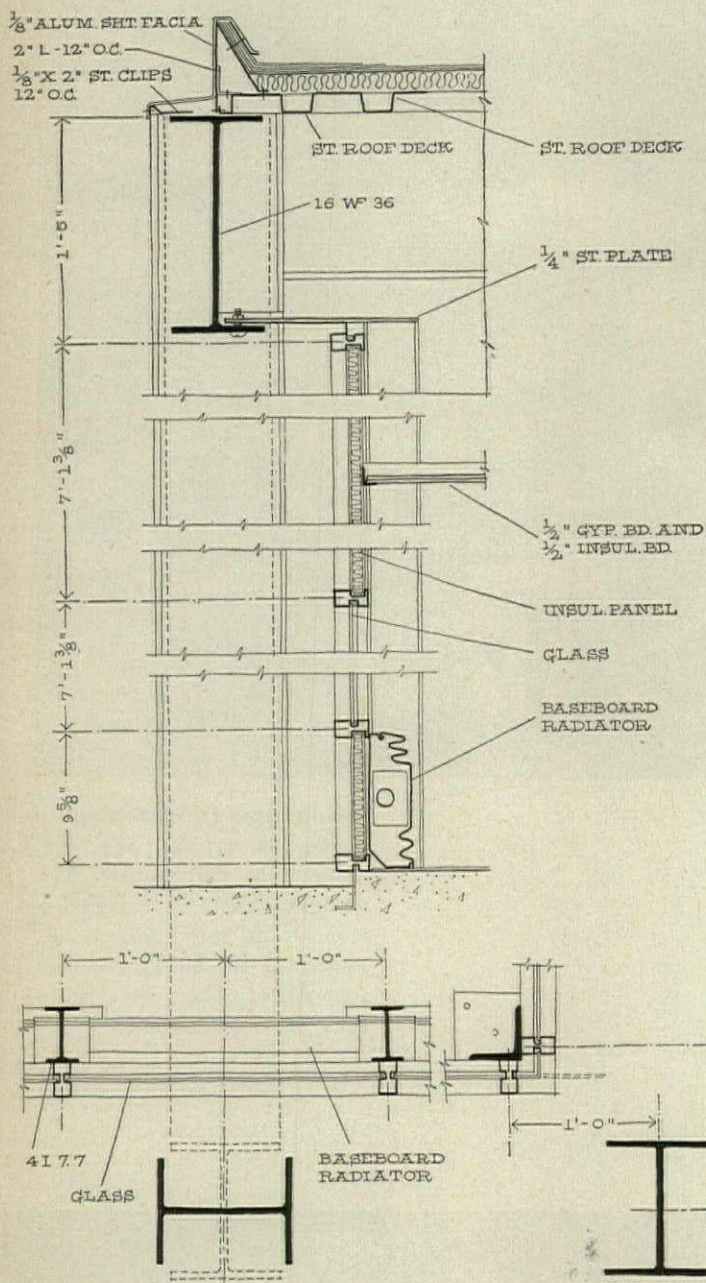


**Outside room** for science classes: windows have opaque upper section, extra relief grilles above, light heat-reducing glass. Still, sun load on west and east has required curtains, adjustment of ventilation system.

**Inside room** for office-practice classes is typical size: 28' square (one wall canted), four toplight units. Duplicating room is at left. Note solid-color floor tile marking one of four power outlets provided in each 14' x 14' module.

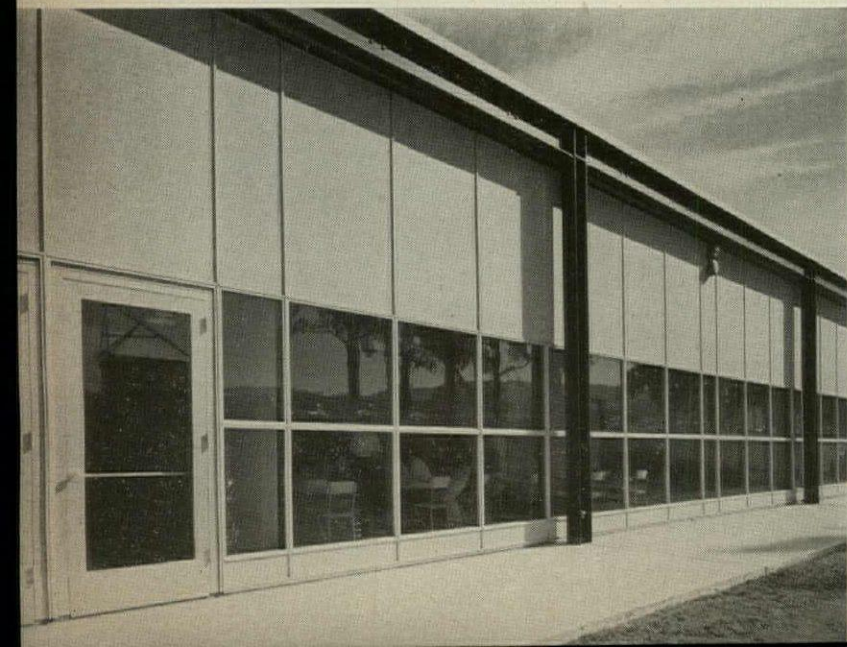






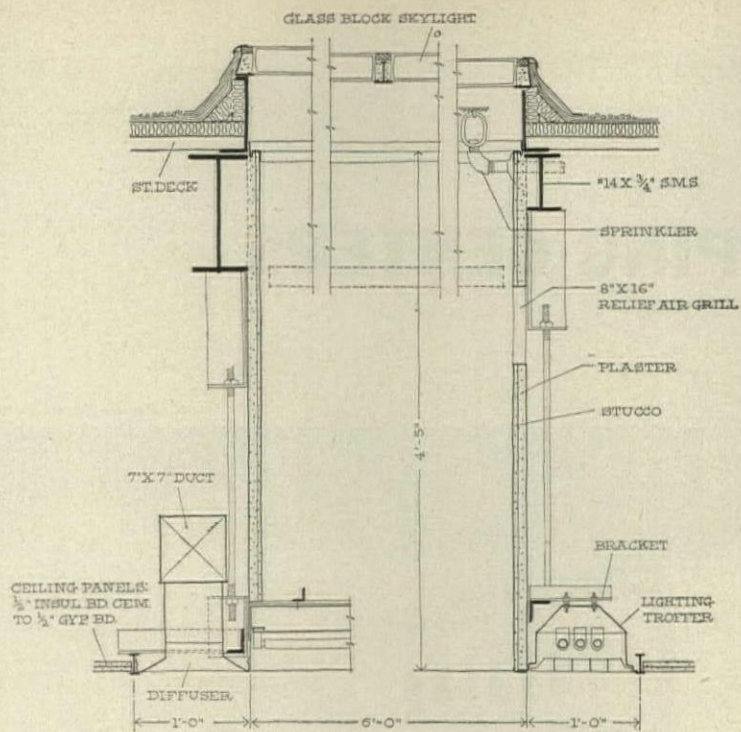
**Skylights** are 6' x 6' prefabricated units: prismatic glass blocks sealed into aluminum grid with lightweight mortar and tar and sulphur compound. Prisms admit only north and low-angle south light; glass fiber filter diffuses light for

distribution by lower surface of blocks. Some 660 such skylights were used over all areas of school. Photo of classroom building roof shows opening over entrance court (background) and row of warm air relief vents (left).

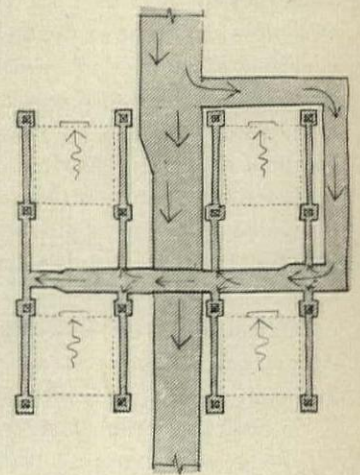


**Exterior wall** is made of aluminum sash holding fixed panels of heat-reducing glass, insulated cement asbestos board and special door panels. Like interior partitions, these are independent of exposed structural system and can easily be removed for alteration or expansion. Note how cement asbestos panels covering utility attic extend down to shield outside rooms from sky glare.

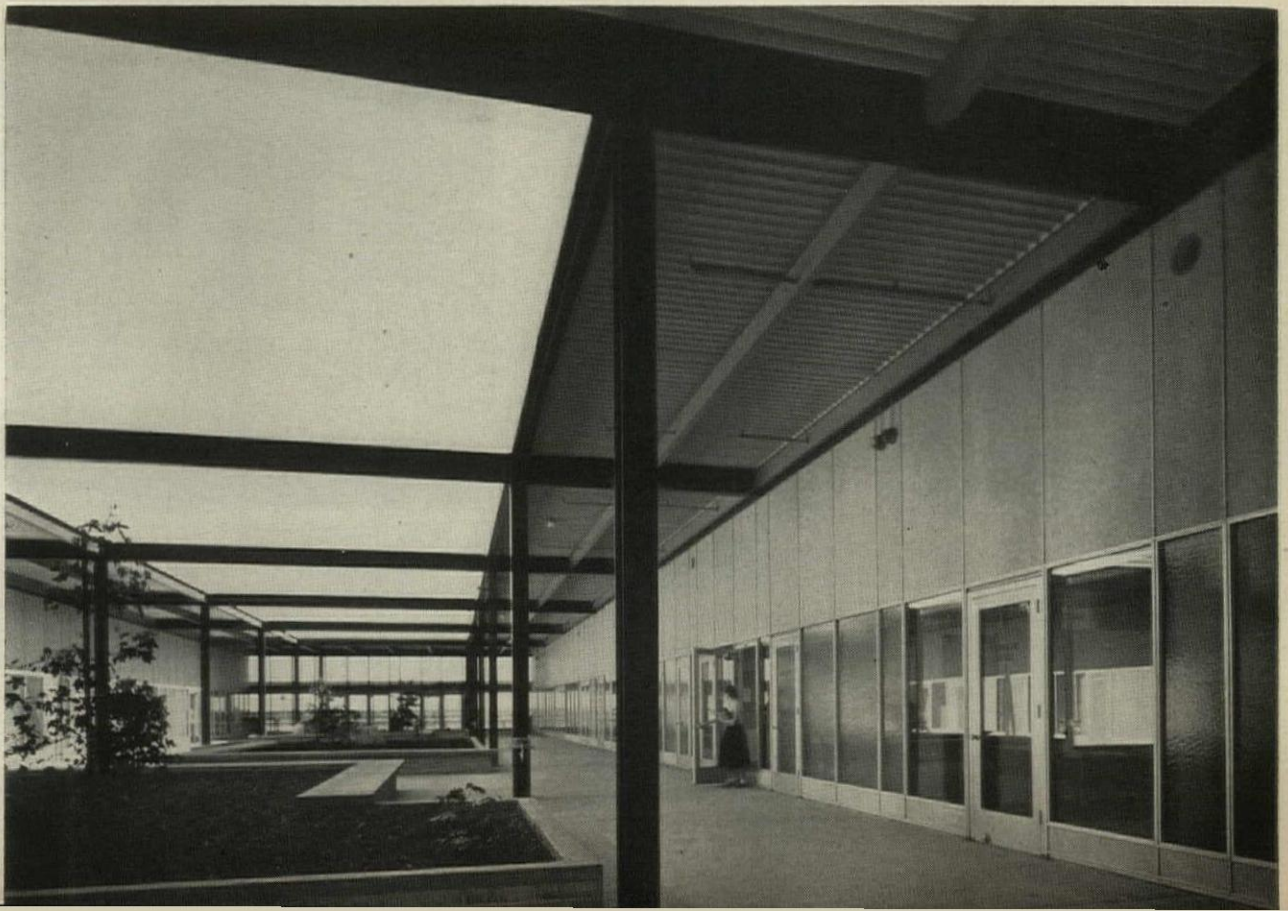




**Utility attic:** pair of trunk ducts carries fresh air and heated fresh air to each 28' square classroom bay (sketch, right) where they are mixed under control of local thermostat and distributed to diffusers at each corner of four light wells. Warm air collecting in each skylight well escapes through a relief grille into plenum served by roof vents. Daylight loss due to 5' attic depth is about 50%, compared with about 10% over the gymnasium where well depth is only 12".



*Entrance court provides spatial relief between classroom blocks*



Library of the  
Minneapolis School of Art



Neighborhood stores get off the shopping strip and group themselves around landscaped garden courts the way big shopping centers do

## TWO "POCKET" SHOPPING CENTERS

The lure of a gay pedestrian marketplace, revived by department store owners and architects in some of today's big shopping centers, is happily filtering down to the supermarket-and-drugstore level.

In the two small shopping clusters that follow—neither of them over 120,000 sq. ft. rental area—two developers have teamed with Victor Gruen, architect of Detroit's famed Northland Center (AF, June, '54). In adapting some of Northland's ideas to neighborhood use, they are proving that a group of small shops and services can form an attractive, pocket-sized center *without* the supporting power of a large department store—and at costs no greater than the conventional roadside shopping strip.

Instead of letting individual stores show off in a ragged row along the street, these centers pull them together around an inner "pocket": a landscaped patio sheltered from dust, wind and rain and from the noise and fumes of traffic. This central space not only excludes cars and delivery trucks in separate outside areas, but cuts the distance between stores to a cross-court pattern. The interior begins to take on the intimate excitement of a bazaar in a little public square, with pleasant meeting places by a bench or tree, sheltered corners for outdoor cafes. The atmosphere encourages longer, more leisurely (and more lavish) shopping. The center becomes itself a sort of open-air department store in which individual, even competing, tenants band together to offer pleasant, one-stop shopping.

The success of such an assemblage of shops, of course, depends heavily on design. In both of the groups the overall architectural frame is unified enough and strong enough so that tenants can achieve individuality in their signs and storefronts without having the group fly apart visually. (Once assured that all would have to follow the same simple rules, most shopowners were delighted to drop their defenses and save some display money. The more discreet appearance also makes stores far more welcome in residential areas, too.)

Says Gruen: "Compared to the high drama of the big shopping center, these neighborhood groups are 'little theater,' with the star performer a food market or a variety store instead of a big department store. The audience is smaller, too, but it gets just as enthusiastic about the show."

Camera Hawaii photos

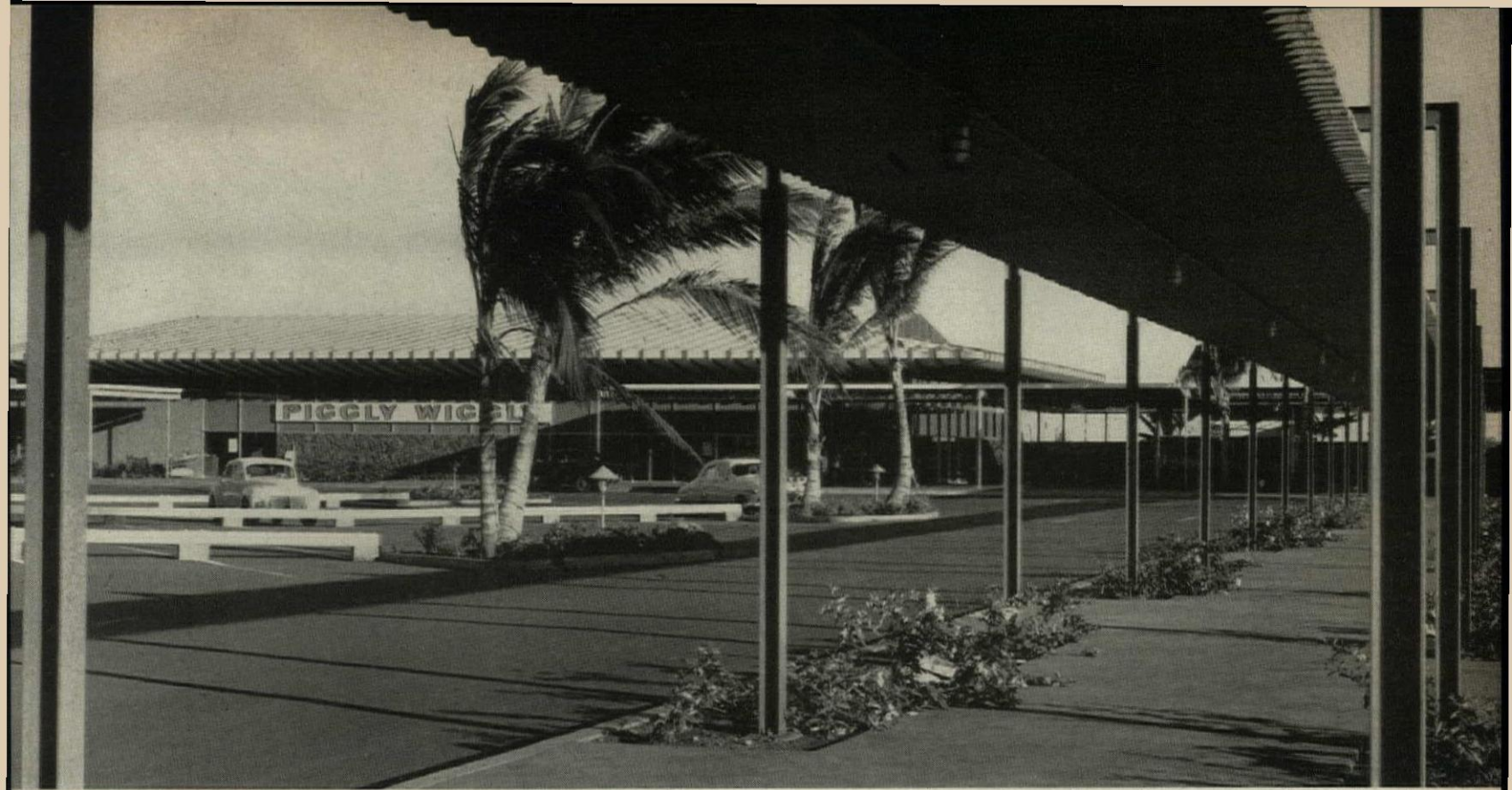


### 1. A PLAN FOR THREE-STAGE GROWTH

**Openwork** of steel decking and joists makes gay canopy joining stores. Lava rock is used in wall and bases of signs.



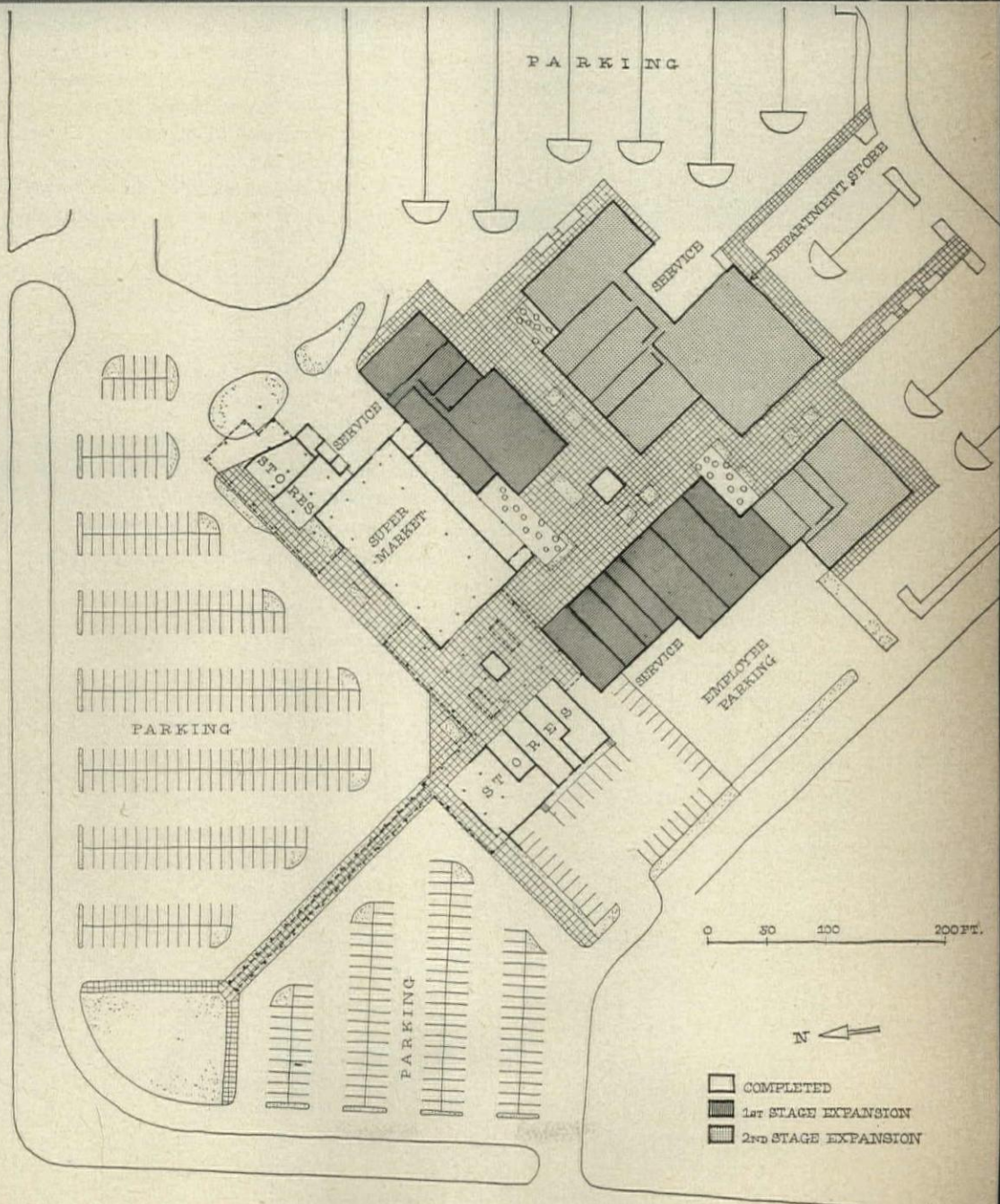




**Corrugated deck** hung from light steel posts leads from both parking areas to central court. Supermarket roof has shape suggestive of Oriental locale, non-structural ribs of enameled aluminum.

Located on a corner lot of nearly 18 acres, this center has started modestly with 32,000 sq. ft. of rental area; a chain supermarket, two small service shops and a drive-in bank on one side, a drugstore, barber, beauty salon, child's-wear shop and small restaurant on the other. In the middle is a small covered court with a florist's kiosk and space for a few tables outside a small restaurant. The first expansion would double rental area to 63,000 sq. ft. and parking to 632 cars, push the court back and open it out with a variety store, clothing, camera and stationery stores, another drugstore, a delicatessen and a restaurant, each with tables outside. The final phase, bringing the total to 96,000 sq. ft. occupied by 32 tenants (888 customer, 53 employee parking spaces) would add a small department store, furniture, hardware and jewelry shops, grocery and food shops, a bar and sidewalk cafe.

WAIALAE SHOPPING CENTER, Honolulu, T.H.  
 OWNER: Bernice Bishop Estate  
 ARCHITECTS & ENGINEERS: Victor Gruen & Associates; Rothwell & Lester  
 ECONOMIC CONSULTANT: Larry Smith & Co.  
 CONTRACTOR: Walker-Moody Construction Co.







**Sign pylons** at both parking-lot entrances are 36' high with a 3' x 12' enameled board and rotating discs in red, white and blue. Lights on struts point up at discs, down at board and ground.

## 2. PINWHEEL PLAN WITH PIVOTAL COURT

In this center, designed to expand from 35,000 to 95,000 sq. ft. of rental area as its neighborhood develops, the supermarket and 13 smaller shops are arranged in a novel X-shape that gains several advantages. First, it gives the center two almost-equal fronts, one toward a major highway to the north and west, another facing a second street on the south and east (see plan below). Each front forms an L around its own parking lot, thus making most of the stores highly visible and only a few steps from a parking space. The other two quadrants of the "X" enclose service areas, hidden from customer view by the shape of the building and served by separate truck access roads. (Fences are used to help shield deliveries until the buildings expand.)

As in the shopping center shown on preceding pages, covered walks lead past the

stores in and around a central court between the two buildings. This open space breaks the building mass with a through-view and acts as a focal point.

Unifying all shops and covered walks is a clear, uniform structural system: steel posts on 24' square bays supporting laminated 5" x 16" girders and 3" x 13" joists topped by fir decking, all construction exposed and sprinklered. The only departure from the system is in the clerestory section over the supermarket, where 7" x 34" laminated girders set 24' apart are introduced to span 60' with a 5' overhang at each end. Clear laminates, costing about 10% more than solid structural lumber in this case, were used to slim down beams and girders to handsome proportions, keep them precisely straight and free of small imperfections, and to bring out the laminates' own rich, striped patterns.

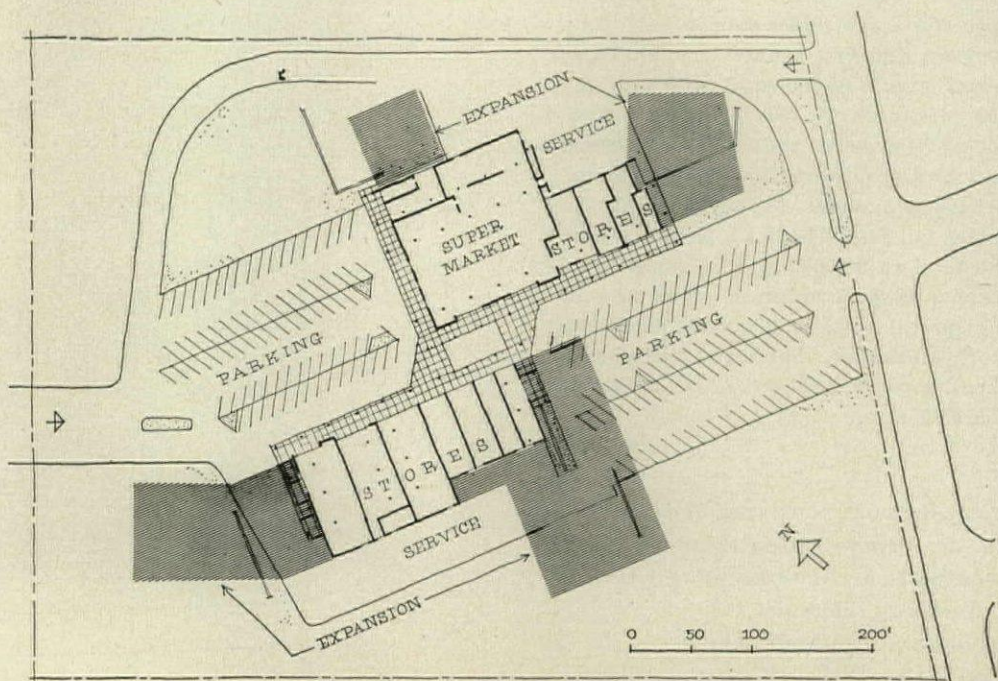
PALA SHOPPING CENTER, San Jose, California

OWNERS: McIntyre & Parker and Ernest Renzel, Jr.

ARCHITECTS & ENGINEERS: Victor Gruen

ECONOMIC CONSULTANT: Larry Smith & Co.

CONTRACTOR: Lew Jones Construction Co.



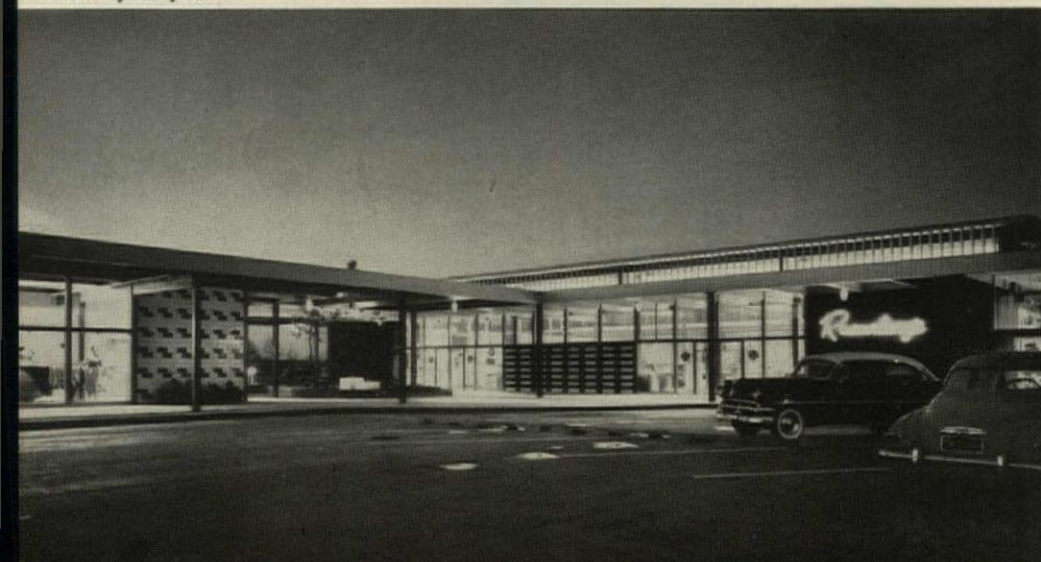




**The court:** exposed roof structure of laminated beams and diagonal decking carries through high glass fronts to form covered walks around the central patio. Note drinking fountains of two heights on edge of raised brick plant bed.



Morley Baer photos



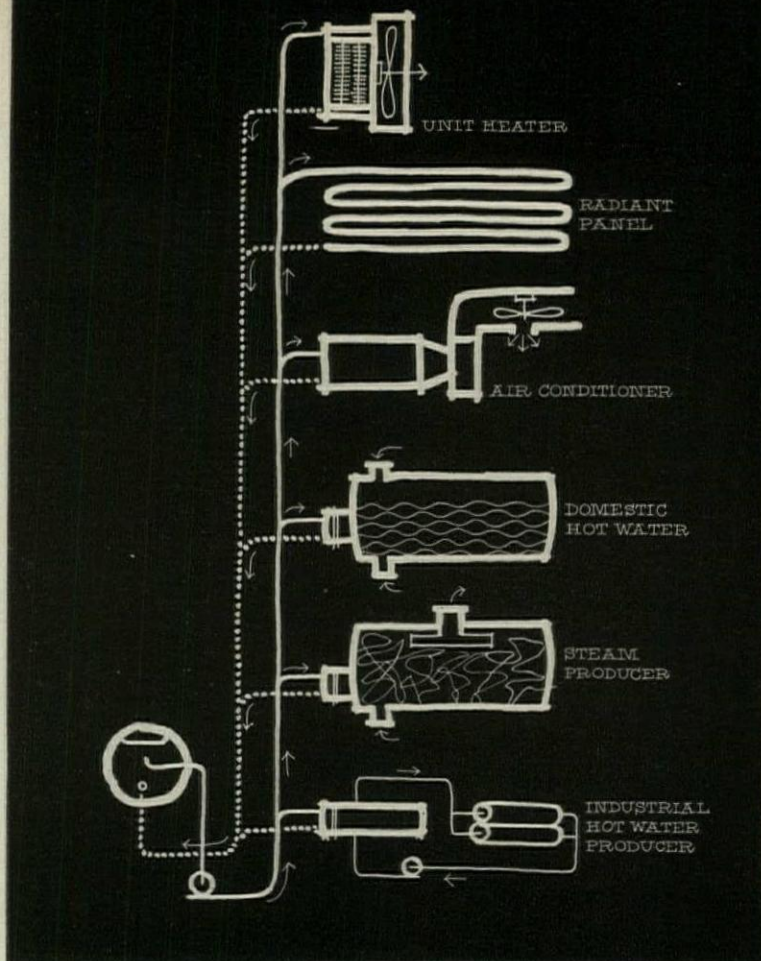
**North approach** (above) shows high section of supermarket to left of court. Part of one 60' bay sheltering walk below clearly demonstrates system used. Parking totals 172 spaces, or about 5 spaces per 1,000 sq. ft. of total rental area.

**South approach** (left) shows light, open effect of simple structure, view through court at center. Patterned tile walls and signboards stand out as occasional accents. Clerestory of supermarket at right is louvered against west sun.



# TECHNOLOGY

Heating gets into hotter water ... and tries to trap the sun ... domes of metal tubing, straps and plastic bricks ... columns that move ... record breaking arches of timber and steel ... and a new department on building research.



## HEATING WITH HOTTER WATER

*After a decade of missionary work by a few engineers, high temperature-high pressure water heating is catching on*

Moving slowly against the resistance of inertia and unfamiliarity, a little used (but by no means novel) method of heating a complex of buildings is beginning to make more rapid headway in the U.S. For exactness, the system should be called high temperature high pressure hot water, but for brevity we will use the tag, h.t.w.

Since the war a slowly but steadily growing trend to h.t.w. has been evident in the commercial and industrial building fields, and boiler makers are adjusting their production lines accordingly. Moreover, since 1952 every permanent US air base has by official directive been heated with h.t.w. The most recent to take advantage of the system's ability to distribute heat to a sprawling constellation of buildings is the Air Force Academy at Colorado Springs. Here a central heating plant will distribute heat to all the buildings of the cadet academic

area plus a sprawling community center and three large individual buildings. The individual distribution lines will be up to 2 miles long.

The reason for h.t.w.'s growing acceptance, like its basic concept, is easily understood: A given volume of water, say a cubic foot, can carry more heat units, say B.T.U., than a similar volume of steam. For instance, at 400° F. and about 247 lbs. per sq. in., a cubic foot of water has a total heat of about 20,000 B.T.U. while a cubic foot of steam at 400° F. and about 247 lbs. per sq. in., has only about 650 B.T.U. Water thus carries some 35 times as many B.T.U. as steam.

H.t.w. is water which would flash into steam if it were not confined in a closed system under pressure. As a circulating medium of heat distribution, it means water at temperatures exceeding 240° F. When used in district heating (another term for systems of centrally heated mediums distributed to groups of buildings) h.t.w. is usually circulated at 320 to 420° F. At these temperatures, the water has a pressure of 75 to 300 lbs. per sq. in.

At present, architects, engineers and designers are pressing against the upper limit of h.t.w. design temperatures and pressures (roughly 420° F. and 300 lbs. per sq. in.). The limitations are imposed by the

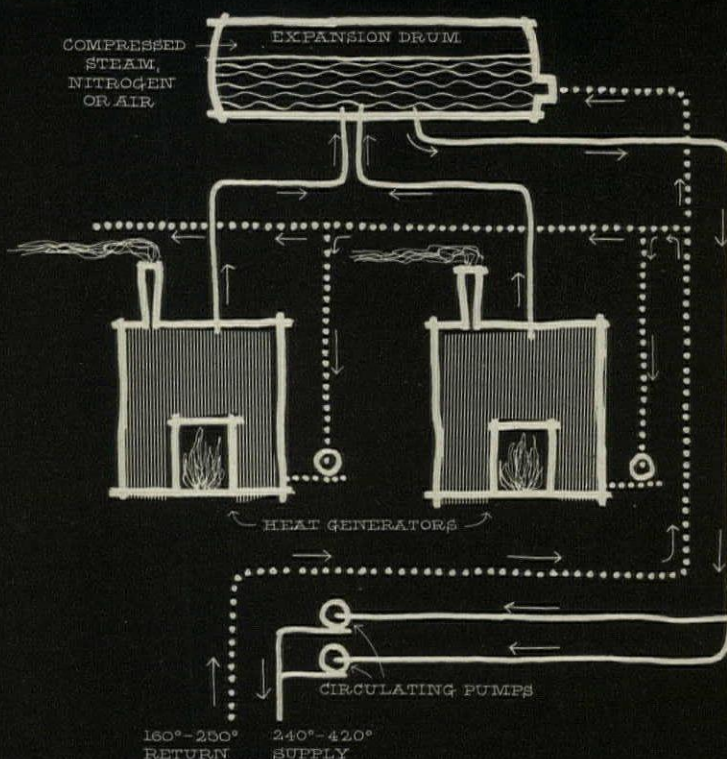




VARIED CONSUMERS can be served by high temperature water. Schematic diagram shows primary circuit with direct consumers (top three) and indirect consumers requiring heat exchangers (lower three).



CENTRAL PLANT for typical high temperature water system includes two generators, common expansion drum, circulating pumps.



design limits of economically priced and commercially available pumps and valves. Inherent in h.t.w. is a factor of efficiency which goes up with the temperature, because the system then has more heat to give up to heat consumers.

Design temperatures also vary with the maximum runs of the system. For mile-long runs temperatures up to about 400° F. are used; for shorter runs, lower temperatures.

However, each project must be investigated to find out its most efficient temperature and pressure limit. A great many projects fall into a half-way zone where temperatures and pressures not very much higher than the familiar hot water systems are useful.

**European Experience.** Among the first to recognize the advantages of h.t.w. systems was a group of German, Austrian and Swiss engineers. Back in the 20's a German engineer named Max Klingelhofer added an expansion vessel to the British "Perkins" heating system which operated at 280° F. and thus made way for the later refinements of the h.t.w. systems. Perkins, incidentally, was an American who couldn't get his system accepted in the US. British engineers followed with their own installations.

From its beginnings about 35 years ago (although the thermodynamic properties of water have been under investigation for 100 years) the Europeans were attracted to h.t.w. because it saved fuel on a fuel-poor continent. The savings result from the more efficient use of B.T.U. put into the system when compared with high temperature steam. Part of the fuel saving arises from the closed distribution system and part from the efficiency of liquid water as a carrier of heat.

Today most continental district heating systems and many industrial processing plants use h.t.w. Many older high pressure steam systems have been converted to its use.

**H.T.W. goes overseas.** Just before World War II, a group of European engineers—among them, Paul L. Geiringer, of American Hydrotherm Corp.—began to campaign actively for h.t.w. in the US. They, and their American converts, were joined after World War II by Owen S. Lieberg, a British (now American) engineer, of Cosentini Associates.

They all met the resistance which is the common experience of those who propose new ways of doing things. With enormous sums of money at stake, the tried and well accepted systems, like high pressure steam,

are vastly preferred to "experiment." Moreover, it required established and able engineers to become, to some degree, students once again—which is tedious and a strain on dignity.

Perhaps the greatest boost given the new system came in 1952, when the Air Force Engineers issued a directive. In essence the directive said that all new air bases built on a permanent basis (25 years or more) whose boiler capacity equals or exceeds 1,000 boiler H.P. would be designed with h.t.w.

Since then about 11 Air Force bases have been designed with the new system and 9 more are planned. But progress in commercial, industrial and institutional installations has been slower. Even in projects requiring district heating, the natural function of the system, the number of high pressure steam installations is vastly greater than h.t.w.

**H.T.W. gaining acceptance.** However, h.t.w. has been gaining in acceptance each year. It has been used successfully in the US on 1) military bases, 2) groups of industrial buildings, 3) hospitals and institutions, 4) campuses and 5) shopping centers.

The engineers must still look abroad for the use of the system in a housing complex—apartments and homes. One such complex



## HOTTER WATER *continued*

is a sizable housing project at Fife, Scotland, where a 28-acre project including housing, school and shopping center is served by a central boiler plant and an h.t.w. distribution system.

This is perhaps the most interesting possibility inherent in h.t.w.—it can easily be adapted to serve, from an efficient central plant, all the heat and power needs of a city or suburb. It is entirely possible for city planners, engineers and designers to plan an economical heat distribution system to parallel water, gas, and electric distribution and the sewage collection system.

Nevertheless, it is not likely that h.t.w. can take the place of more conventional systems for single structure projects. H.t.w. is not a cure-all for heating and processing problems. Cost analysis still gives conventional systems the edge in multi-story and single structures of limited area.

### H.T.W. TO CONSUMER AND BACK

H.t.w. is adaptable to a variety of complicated flow circuits. Most h.t.w. systems have these elements in common:

1) a heat generator, 2) an expansion drum, 3) circulating pumps and 4) a closed circuit with flow and return piping of equal size.

**Central heating plant.** The heat generator for h.t.w. may be a forced, a controlled, or a natural circulation boiler, a direct or indirect contact heater or a steam conversion unit. But most engineers agree that forced or controlled circulation boilers are the best heat generators for h.t.w., because the combination of boiler characteristics gives the system more efficiency at less cost, plus compactness.

Location of the central heating plant is no problem. If heavily insulated, the system will be efficient for distances up to six miles without requiring extremely high head pumps. Booster pumps may be required to circulate the water beyond the six mile limit.

An average h.t.w. system can be traced best by beginning at the generator. In many modern installations, water leaves the heat generator at about 420° F. and 300 lbs. per sq. in. The water then enters an expansion drum. When more than one generator is used, one drum serves all of them.

The drum serves two purposes: To take up the expansion of water in the boiler and system; and to maintain operating pressures. A main system supply line from the expansion drum runs to the circulating pumps, which in turn discharge the flow of water called for by the heating load.

The heat demands of the various heat consumers and heat exchangers which constitute the heating load can be controlled by several methods: self controlled valves, manual valves, automatic controls taking orders from the secondary heating medium or a system of flow temperature controls which take their impulses from changes in outside temperature. The temperature of the water as it re-enters the boiler through the return piping is about 250° F.

It is unnecessary to grade the piping of an h.t.w. system since the system is always full of water and under positive pressure. Hence, the piping can follow the contours of the site and can be laid in shallow trenches.

Being full of water at all times also means a defeat for corrosion. H.t.w. systems are almost completely corrosion proof, and expensive feedwater treatment plants are rarely needed.

**Heat consumers.** H.t.w. will serve almost all types of heat consumers, some directly and some indirectly, depending upon the temperatures demanded. Convectors, radiant panels, baseboard and indirect heaters are usually designed for lower pressures and temperatures than that supplied by the system. These consumers are usually linked in a separate circuit and a water-to-water heat exchanger is used to step down the temperature and pressure of the primary water supply.

In the same manner a secondary circuit can be set up for domestic hot water and for snow and ice melting coils.

If steam is needed—laundries, kitchens and hospitals must have steam for their equipment—water-to-steam exchangers can provide high or low pressure steam.

For most industrial processing—dies, tank coils, platens, rolls, presses, kettles and vats—direct h.t.w. can be used. Moreover, the water offers even heat and precise temperature controls—plus or minus 1° F. can easily be maintained.

The system also operates as a reservoir of heat; the ever-full lines can meet any sudden demand on the part of a consumer without robbing other consumers. In some installations the system carries a 24-hour reserve of heat.

### HOW H.T.W. SAVES MONEY

H.t.w.'s greatest rival in district heating systems is high pressure steam. Here is the estimate made by some engineers in comparing the common two-pipe steam system and h.t.w.:

**Capital investment.** Boilerhouse costs are estimated to be 10% less for h.t.w., because 1) boilers can be smaller due to the high thermal storage capacity of the water in the system, 2) make-up water treatment equipment is 1/10 that of a steam system (the only water loss is leakage from valves and pumps) and 3) smaller boiler and treatment equipment means a smaller boilerhouse, resulting in construction savings of about 15%.

Installation of h.t.w. distribution lines is cheaper than steam by an estimated 20% because the pipe sizes are smaller, the lines need not be graded and drip lines are not required.

The engineers equate the extra cost of circulating pumps and heat exchangers in h.t.w. with the pressure reducing stations, drip traps, condensate coolers, flash tanks and condensate pumps used in high pressure steam systems.

**Operation costs.** A saving from 13% to 20% is anticipated in operating an h.t.w. system over a high pressure steam system.

H.t.w. has no flash out losses because the system is closed and under constant pressure. Steam loses heat by flashing of the condensate and leakage and discharge from traps.

The smaller pipe sizes of an h.t.w. distribution system mean higher transmission heat efficiencies—up to 94%. Steam efficiency, with larger mains, is estimated at 90%.

**Repair and maintenance costs.** Estimates of savings obtained in h.t.w. systems in repair and maintenance costs vary. Some engineers compute the savings as high as 75%, others between 50% and 60%.

Virtual elimination of boiler scaling and corrosion is an item high on the list of savings. Piping repairs and replacement are at a minimum because the closed system eliminates much corrosion. Elimination of steam traps and valves also means less repair and maintenance.

**Safety?** Although steam enthusiasts argue to the contrary, h.t.w. system advocates claim their system is safer. They say that a small leak or break in a line is not as dangerous as a similar break or leak in a high pressure steam line. The water, they say, flashes into steam, expands and provides a refrigerating action similar to a steam jet refrigerator.

Both groups agree that any high pressure system, steam or water, requires experienced operation (usually a licensed stationary engineer) as well as good design.



HOW SOON FOR MORE H.T.W.?

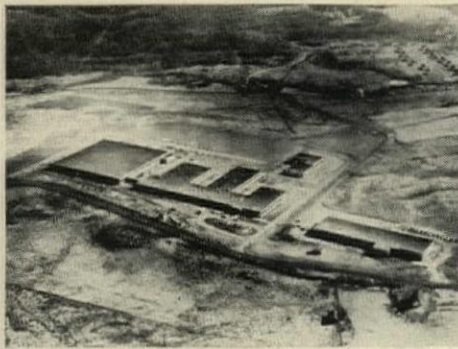
Perhaps the best indication that h.t.w. will soon be more popular lies in the industrial rivalries it is now fostering. Among the boiler makers, International Boiler Works, which makes a forced circulation boiler, was an early and vigorous proponent of the new system.

International found a strong competitor in Combustion Engineering, which also makes a controlled circulation boiler and is pushing h.t.w. alongside International.

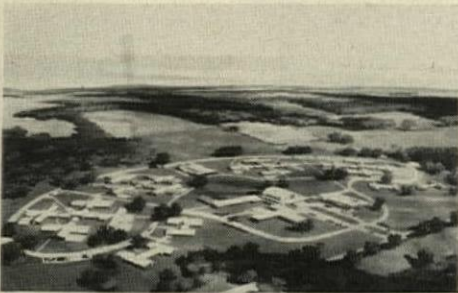
Both of these companies now are looking expectantly—and probably a little uneasily—at giant Babcock & Wilcox, which is expected to bring out a boiler designed for h.t.w. in the very near future. Many other boiler makers are working on heat generators specifically designed for h.t.w.

Another portent is seen in the touchiness of many engineering firms in discussing h.t.w. Most of them disparage claims to unique funds of knowledge about the system made by (un-named) competitors. But many admit that getting design data and information is more difficult than for, say, high pressure steam.

Part of this touchiness and part of the difficulty lies in the fact that no definitive US textbook has been written on h.t.w.—yet.



REACTION MOTORS, INC., Denville, N.J. Boiler capacity 34,000,000 B.T.U. per hour. Flow temperature 350° F. Architect: Frank Grad & Sons. H.t.w. consultants: American Hydrotherm Corp. Heating contractor: Fred Wendel Co.

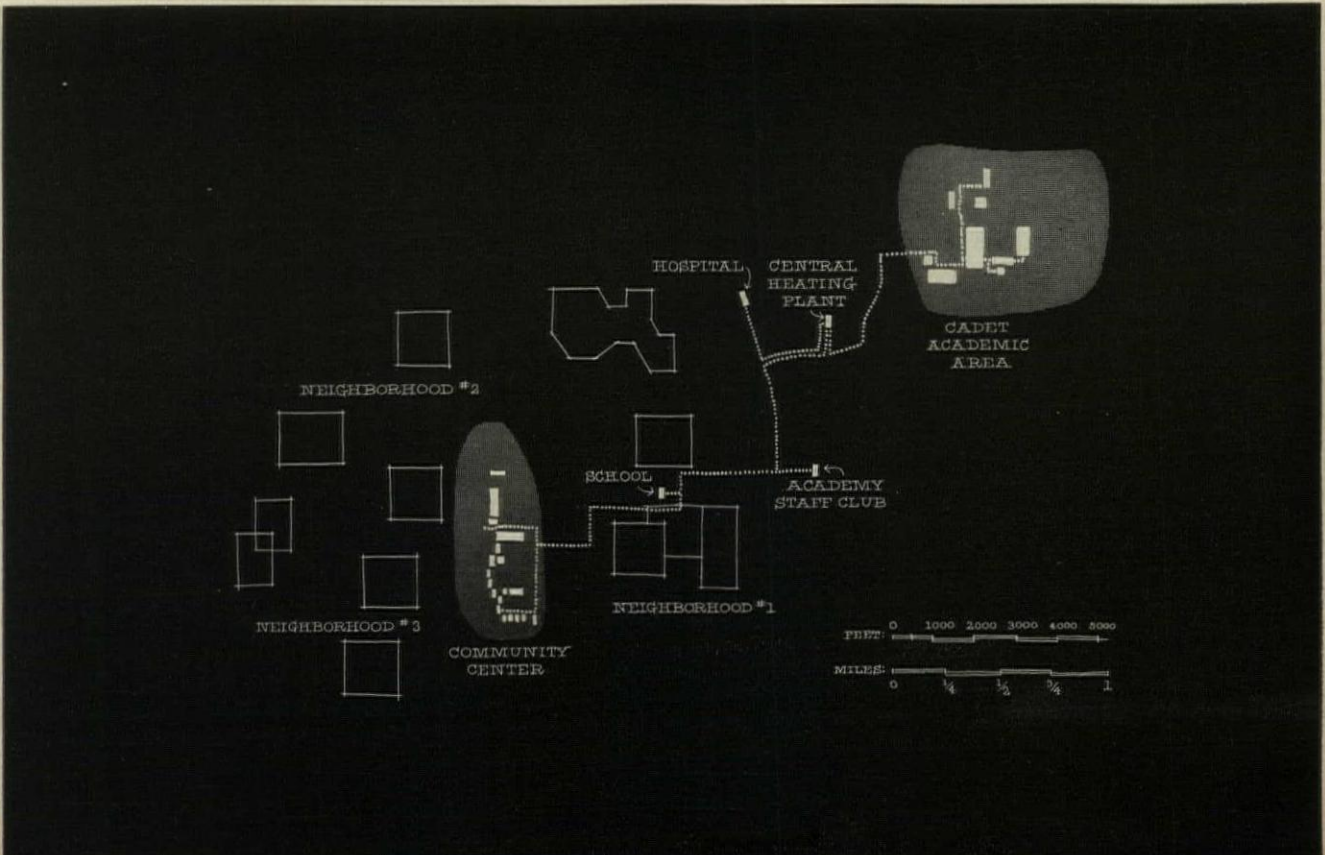


GOLDSBORO TRAINING SCHOOL, Goldsboro, N.C. Heat requirements of area shown about 30,000,000 B.T.U. per hour. H.t.w. produced from existing steam generators pumped one mile to school. Architect: McMinn, Norfleet & Wicker. H.t.w. consultants: American Hydrotherm. Contractor: Frederick Raff.

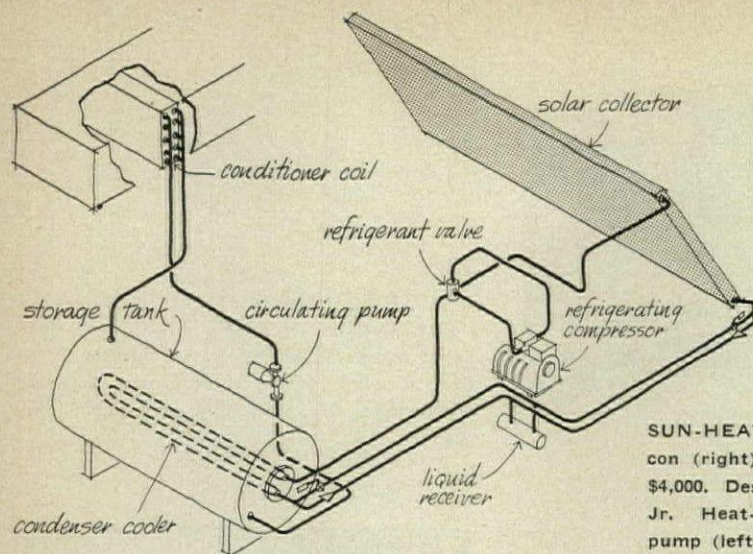


GARDEN STATE PLAZA Shopping Center, Paramus, N.J. Heating load 16,000,000 B.T.U. per hour, present capacity 90,000,000 B.T.U. (with standby). Longest pipe run about 1,250'. Architect-Engineer: Abbott, Merkt & Co. Gen. Cont.: Joseph L. Muscarelle. Heating Contractor: Frank A. McBride.

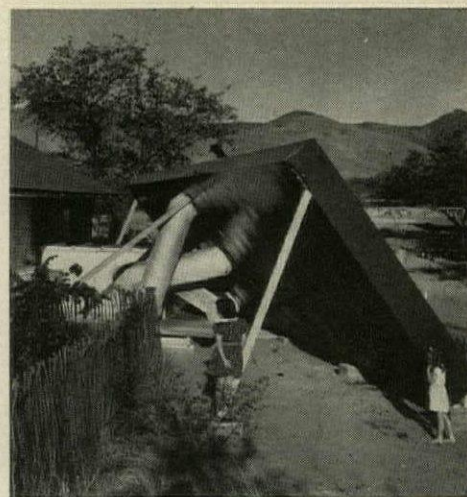
AIR FORCE ACADEMY, Colorado Springs. System capacity 300,000,000 B.T.U. per hour. Diagram shows main distribution lines, both supply and return. Boiler operating pressure 425-450 lbs. per sq. in. Architects: Skidmore, Owings & Merrill. Engineers: Syska & Hennessy.







SUN-HEATED HOUSE near Tucson (right) uses system built for \$4,000. Designer: Raymond Bliss, Jr. Heat-cool cycle with heat pump (left) is proposed by American Gas & Electric Service Corp.



Bill Sears-Black Star

## HEAT FROM THE SUN

*Scientists and businessmen study latest traps and rigs designed to use solar energy. Their conclusion: not yet and maybe not very soon*

At this time, mankind probably uses more of the sun's energy directly than any other single form of energy. Even in the northern latitudes houses, commercial structures and industrial plants are sun-warmed through a great part of the year. In fact, the whole of the environment is solar heated through much of the year.

Then the problem of making efficient use of solar energy comes down to this: concentration, storage and transmission.

Against this background the recent solar energy meetings in sunny Tucson and sunny Phoenix left the unexpectedly large number of participants (1,300 scientists and businessmen from 35 countries) a little disappointed. They had expected much and found little. The 60 exhibits produced no great surprises, no great advances. The newspapers played with the energy figures in the manner of newspapers from time immemorial and compared them to:

▶ A diesel locomotive, large—"The energy falling in midday on an acre of ground in Southern US is at the rate of about 4,000 hp."

▶ Coal, 1,150 billion tons of it—equivalent to the solar energy received by whole of the US in a year.

▶ Atom bombs, a whole skyful—the earth receives a daily drenching of sun energy equivalent to 27 million Hiroshima atom bombs.

But newspapers have been reporting these many-zeroed figures in many a Sun-

day feature for many years. What, then, went wrong at the "World Symposium on Applied Solar Energy" (Phoenix) and "Conference on Solar Energy—The Scientific Basis" (Tucson)?

For one thing, they got a cold shower from Sir Edward Bullard, director of Britain's National Physical Laboratory. Said Sir Edward: "On a major scale I'm . . . pessimistic about solar energy. . . . It is improbable in the next fifty years that large solar power stations will be built because they can't compete with their alternatives" (coal, oil, atoms).

But Sir Edward's dour view could be canceled out by the bright future speeches of other scientists at the two meetings.

What was wrong, perhaps, was a lack of real imagination—there were a lot of little exhibits but none with the try-anything spirit invoked by Jesse E. Hobson of Stanford Research Institute, one of the three sponsoring groups. (The Assn. of Applied Solar Energy and University of Arizona were the other two.)

Hobson said: "We believe in a long look ahead in an optimistic, open-minded, try-anything approach. We further believe that now is the time to take that look, to make those ventures, to use creative imagination in the laboratory and in the marketplace."

How this spirit squared with the dozens of solar cook stoves in a variety of shapes is hard to see.

Perhaps the best answer came from a businessman who said that one thing which came out of the conference was this: that scientists should stick to their fundamental science and let the industrialist worry about the economics of things. He said that many of the engines, cookers and processes showed promise, but in most cases the inventor or scientist said that the things were not practical or economical. The business-

man believed he was speaking for other business representatives when he said that scientists were worrying too much about whether a solar process or product was commercially feasible, when they should stick to imaginative science and leave the economics to the businessmen.

Notes of cheer: Announcement of a \$700,000 solar research laboratory to be built in Arizona (probably in Phoenix, although Tucson will fight hard for it). The laboratory will be operated by Stanford Research Institute. Also a newspaper will be established to keep solar scientists and engineers informed of progress and findings.

The building industry had to be satisfied with discussions of solar house heating and solar water heating which was discussed at both the conference and the symposium.

Typical of the discussions was a halfway house experiment described by American Gas & Electric Service Corp. President Philip Sporn and Air Conditioning Division head E. R. Ambrose. Arguing that while there are many ingenious direct utilization solar collectors for comfort heating, relatively few have been installed because of their complexity and high first cost, they proposed—and experimented with—a combination of solar collector and heat pump.

The heat pump, they said, offers several possibilities for overcoming some of the present handicaps facing the direct utilization collector. The heat pump, for instance, has the inherent ability to maintain a relatively low collector temperature. Operating at these lower temperatures reduces the transmission losses which, in turn, materially increases the efficiency of the collector.

In 1949, A.G. & E.S. began to explore the solar collector heat pump combination. Field tests continued intermittently to May '55. The results, according to Sporn and





R. Eyerman—LIFE

**SOLAR BOILER**, patented by Pioneer Solar Scientist C. G. Abbott, produces about 1/40 H.P.

"SHELL TRUSS" theater at Vancouver, B.C. uses only six different tube lengths to form the structural elements.

Ambrose, are not conclusive, but they did come to these decisions:

► A relatively high collector efficiency can be obtained, varying from 50 to 100% according to conditions. On an average day, they trapped 224 BTU per house per sq. ft. of the collector—about 78% of the available solar and sky radiation as measured by the pyrliometer.

► The collector must also be able to use outdoor air as the heat source. This may mean eliminating the glass covers. But, they point out, this may also mean a lower trap cost.

► The solar collector can also be used as a heat sink for cooling. The collector would have to be freed of glass covers, but this secondary use for the collector would increase its acceptability.

► The performance of the trap is affected by geographic location. The tests took place in what was, in the opinion of Sporn and Ambrose, an unfavorable location—near New Haven, W. Va., in an industrial area along the Ohio River. Nevertheless, during the January-May '55 period the heat pump was inoperative for only ten days.

► The solar collector heat-pump combination can have an operating advantage over a straight air source design. The tests indicate that it is not unrealistic to expect coefficients of six to eight on solar heat-pump designs in the future. The combination can materially improve the competitive position of the heat pump with respect to fuel-fired heating systems.

► A promising field, barely explored in the tests, is a "solar-collector-heat-pump-water-heater" combination. According to Sporn and Ambrose it shows promise equal to or greater than the air-conditioning system.

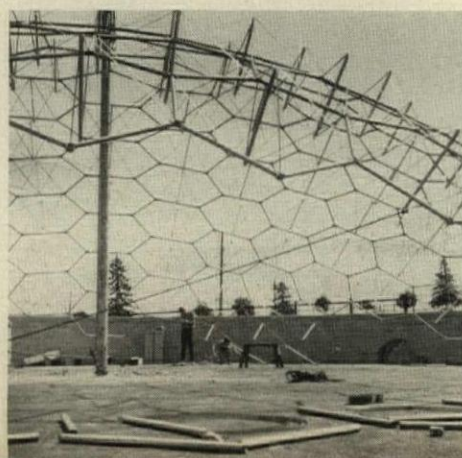


Architect on completed frame



Structural element

Central mast used for erection



## SHELL TRUSS ROOF

*Rigid frame of metal tubes and straps holds up double plastic tent*

A new kind of space frame, which the inventor claims can be applied to any shell form, was first used for a building at the Pacific National Exposition Grounds in Vancouver, B. C.

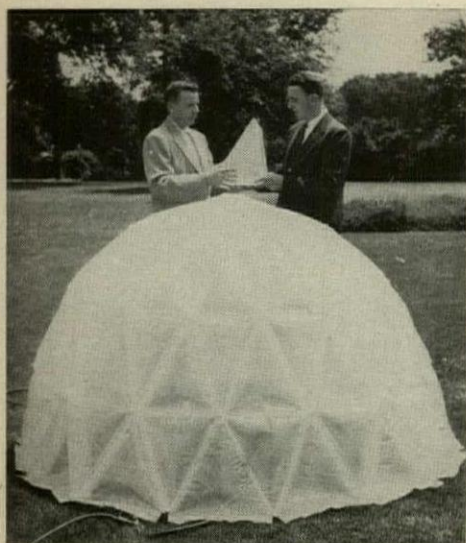
To explain the structural system, its designer, Jeffrey Lindsay, a former associate of Inventor R. Buckminster ("Geodesic Dome") Fuller, calls it a shell truss. Says Lindsay: "In order for the system to work, the pattern of the overall grid must be such as to cause the stress flow to change direction continually or pass through the deep section of a structural element. To avoid redundancy, there should be only three compression members and their attendant tension straps to a joint. Although a hexagon grid is the most uniform—any interrupted line polygonal pattern (eg. octagon, square) is suitable. The resultant frame gains its strength from the over-all deep trussing of the basic form. Mechanically the space frame functions as a shell although it is a truss.

The structural element consists of compression tubes (aluminum), tension straps (stainless steel), joints (cast aluminum) and spreader tube (aluminum).

The Vancouver building is a 400-seat theater, spheroid in shape, spanning 70' and rising 30' from the ground. The "shell truss" and neoprene coated nylon covers (two covers are used with an 18" air space between for insulation) weigh about 2,000 lb. Erection time was 60 manhours. Cost was \$11,860. According to the designer the entire structure was brought to the site in a single station wagon load.

Architect on the project was Geoffrey Massey of Sharpe & Thompson, Berwick, Pratt, of Vancouver, B. C.





## PLASTIC BUILDING BLOCKS

*Triangular air-filled cushions are combined to form lightweight dome*

The 6' diameter dome shown above is built with triangular air cushions made of 5 mil. thick polyethylene plastic, joined at the seams and inflated to an air pressure of 2 psi. The total weight of the dome is 10 lbs., only  $\frac{1}{4}$  lb. per sq. ft., yet it is strong and resilient enough to absorb the heaviest wind and snow loads, permitting it to serve as a lightweight emergency shelter for downed airmen on life rafts or ashore. Larger models could cover radar installations or serve as temporary barracks, shops or aircraft hangars.

The triangular air cushions are made of two plastic films, sealed by heat and pressure at the exterior flanges. Adjoining units are connected by one-way valves designed to allow inflation of an entire dome from a single point. The valves are self-sealing in case one of the units is ruptured. If that happens the ruptured unit is repaired with coated patches and reinflated. Air space in the plastic units gives good insulation against cold, while radiant solar heat through a translucent plastic would provide warmth, where required. The structure was developed by Ambrose M. Richardson, Professor of Architecture at the University of Illinois.

## BIGGEST STEEL ARCHES

*Triangular trusses will span 600' to roof 25,000-seat convention hall*

Ever since 1889 the 377' steel arches of the Galerie des Machines in Paris have held the record for the world's largest building spans. This record is about to be broken by the 600' x 1,000' column-free convention hall planned for Chicago's north side. The corrugated steel roof deck will be carried by three-hinged steel arches spanning 600'. A 150' prototype of the structure is shown in the photo.

The arches will be prefabricated in 50' sections with steel angles welded into 8' wide and 8' deep triangular trusses. At the site these sections will be bolted together to form three-hinged arches, space 36' o.c., which will support longitudinal purlins and an 18 ga. corrugated steel roof deck. Weight of the triangular trussed roof structure will be 8 million pounds or  $13\frac{1}{2}$  pounds per sq. ft.

Including gallery seats for 25,000 spectators, the convention hall structure will cost \$17 million—\$2.80 per sq. ft. for the materials plus \$2 per sq. ft. for erection. It is a patented design by Wonder Building Corp. and Jay J. Seaver Engineers.



Dan Abdo

## BIGGEST WOOD ARCHES

*Three hinged laminated members span 247' to shelter Jai-Alai fronton*

The 3,500 enthusiasts, most of them holding pari mutuel tickets, watching Jai-Alai at the fronton in West Palm Beach, are sitting under the largest wood arches ever built.

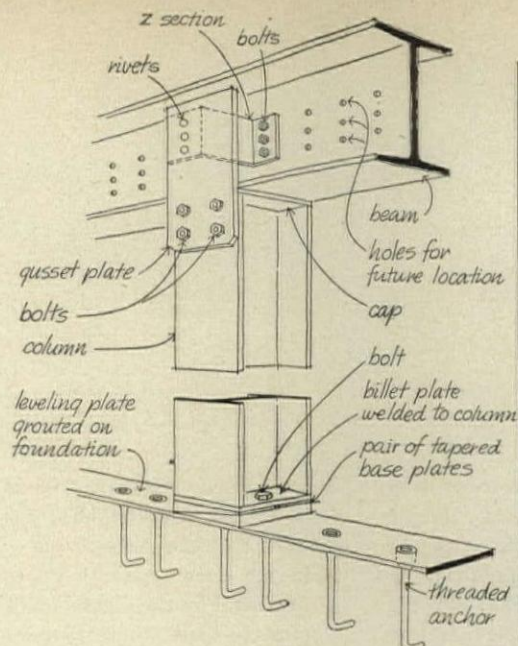
Jai-Alai (some people call it Pelota) is a Spanish game played in many Latin American countries. A fast, hard, and dangerous game it seems to combine tennis, handball and lacrosse with overtones of the bull ring and Belmont.

To give the fronton its necessary clear area the structure incorporated 12 arches each with a clear span of 247', a lineal arc of 340' and a crown height of 80'. The span is 50' greater than any other wood arch. Depth of the arch varies. At the base, it is 25"; at the point of maximum stress, 46"; at the crown, 20".

Splice joints near the point of maximum moment solved a problem which in the past prevented architects from using three-hinged wood arches of this size. The problem was transportation—nothing could carry the members from factory to job site. Because of the simple splice, it was possible to fabricate and ship each arch in four sections. Two of the four sections were then spliced together and the half sections hinged to the buttresses and pinned at the crown. The 12 arches, linked by struts, were roof decked with 4" double tongue and groove sheathing.

Unit Structures, Inc., Magnolia, Ark., manufactured the arches; Steel Erectors, West Palm Beach, erected them. Spicer & Gehlert, Daytona Beach, were the architects.





## MOVABLE COLUMN

### *Overdesigned beams, sunken floor anchors promise real flexibility*

Flexibility of interior layout is best attained by use of movable loadbearing columns, according to H. Nash Babcock, P.E., inventor of the patent (applied for) structural system illustrated above.

Designed primarily for shopping centers, garages, warehouses and factories, the movable column is best suited for one-story buildings, but according to Babcock, may even be used in multistory buildings. He claims the system will not add to construction costs and that a column can be moved for about \$500 and within one night.

Here's how it is done: The beams are designed as continuous beams using the moment distribution theory, with some excess weight and section to take care of increased future spans. The columns—standard except that they are bolted to the beam through the neutral axis—rest on two slotted wedge-shaped base plates. The base plates rest on an elongated leveling plate grouted to the foundation. Column anchors are set flush with the leveling plate and have a threaded female receptacle at the top. The column billet plate is bolted to this receptacle. Then the two wedge-shaped base plates are slipped in between the leveling plate and the column billet plate.

To provide for future movements, the beam is punched for future column connections and the elongated footing is provided with the necessary column anchors.

To move a column, a new column is erected at the desired location along the existing beam. Deflection of the beam at the new column location is taken up by the wedge-shaped base plates. Then the column is bolted to the beam. The old column is removed and used for future moves.

The distance a column can be moved depends on the overdesign of the beam.

## RESEARCH

### A spotlight on new tests, new standards, new studies

This column will serve each month to apprise the whole field of architecture and building of research results in different parts of the field. It will cover the more important tests on materials and building components (which affect the availability of these materials for different kinds of use), the publication of new standards (which affect the design and cost of buildings), the outcome of new research studies (which affect the future of building).

There now exist two different basic kinds of research and testing. One is concerned with building technology—how building is best carried out. The other, much rarer, kind is concerned with architecture—how various kinds of completed building spaces serve and please those who use them.

On the technological side, some 120 associations and organizations issue standards; some 278 commercial laboratories and 86 college or university labs do testing. Architectural research is, by contrast, in its infancy. More on this later.

Here FORUM reviews four new standards and codes.

► *American Standard National Plumbing Code—Minimum Requirements for Plumbing (A40.8—1955), American Society of Mechanical Engineers, 29 W. 39th St., New York 18, N.Y. \$3.50 paperbound. Sponsors: American Public Health Assn. and American Society of Mechanical Engineers.*

The standardization of plumbing requirements has been almost impossible to attain; disparities are wide in local building codes relating to plumbing. The explanation generally given is that plumbing contractors and journeymen attain special advantages in lack of uniformity, and that local plumbing boards in many places are supreme in the matter of drafting plumbing regulations; from their unique position, held by no other special-interest group, the local plumbing boards are enabled to set up requirements suitable to themselves.

This new standard was undertaken as a revision of American Standard Plumbing Code (ASA A40.7) issued in 1949, and the Report of the Coordinating Committee for a National Plumbing Code, issued jointly by the U. S. Department of Commerce and the Housing and Home Finance Agency in 1951.

On the plus side, the standard expands the use of nonferrous materials for piping outside buildings. On the minus side, it contains such extraordinary requirements as one drinking fountain for each

100 persons of seating capacity in theaters and auditoriums.

Before the ink was dry on this new standard, the National Assn. of Plumbing Contractors had already taken steps, such as setting up a fund of \$25,000, to have this standard revised under new sponsorship. The establishment of a plumbing standard suitable to the contractors appears to be years away, but this standard is acceptable to other groups.

► *Standards for the Installation of Sprinkler Systems, No. 13-1955, National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass., \$1.*

Since the ordinary type sprinkler head is no longer being manufactured, the standard has been revised so that it applies to the installation of the spray type head. The section pertaining to location and spacing of sprinklers has been completely revised; additions have been made to the classification of occupancies; new recommendations are included for figuring pipe schedules for extra hazard occupancies.

► *American Standard Safety Code for Elevators, Dumbwaiters and Escalators (A17.1-1955), The American Society of Mechanical Engineers, 29 W. 39th St., New York 18, N.Y. \$3.50 paperbound, \$4 clothbound. Sponsors: National Bureau of Standards, American Institute of Architects, American Society of Mechanical Engineers.*

This ASA standard is a complete revision of the last edition published in 1937 and its 1942 supplement. It covers safety standards for the design, construction, installation, operation, inspection, testing, maintenance, alteration and repair of elevators, dumbwaiters, escalators, private residence elevators, and inclined lifts and their hoistways. The work of the 150-member committee on this edition was started in 1946.

The standard is intended to serve as a guide for state and municipal authorities in drafting regulations and as a standard reference for safety requirements for the guidance of architects, engineers, and manufacturers.

► Among other important standards recently approved by the American Standards Assn. is that entitled, "Building Code Requirements for Minimum Design Loads in Buildings and Other Structures," (A58.1-1955). Sponsors: National Bureau of Standards. The document is a revision of one similarly entitled and published in 1945.



# for all concerned

## THE MISSING ARCHITECT

A shock to thinking people attending the White House Conference on Education was the virtually total absence of architects among the delegates selected. Among 1,782 delegates only one architect was in evidence. He was Henry L. Wright of Los Angeles, appointed by the American Institute of Architects. Fortunately a very able man.

The virtual omission of architects would not have been so remarkable if the need for school buildings had not been half of the agenda. The other half was the need for teachers (and both needs together added up to a need for money).

Something must be very wrong in such obliviousness to architecture's service on the part of the American people.

Conversely something must be very wrong in the lack of success of the profession in establishing contact with the people.

The Washington situation was especially marked because schools have been the American architect's finest success of the past quarter century. More architects design more schools than any other type of building. Architecture has done more *for* schools than for any other type of building. Hand in hand with the best educators, devoted architects have been supplying finer airier teaching space, better lighting, acoustics, ventilation, circulation, multi-use of space. Meanwhile, schools have increased proportionately *less* in cost than all non-house buildings. Moreover the architect could not conceivably have been left out in any other civilized country in the entire world except the USA, which aspires to be a leader in world civilization, but has managed to give itself this unwit-

ting characterization.

Nothing is to be gained by merely deploring this situation, this American gap in basic cultural awareness. And the first move is up to the architects.

It would seem as if a reversal must occur in some traditional attitudes of the profession.

### FEARS DON'T HELP

Fear of "publicity-seeking" for example has prevented some of the finest architects from putting themselves forward among their fellow-citizens. Fear lest architecture and its practice be soiled by public contact has led during the past year to a series of letters from architects to their own *AIA Journal* complaining that others besides architects were subscribing to professional architectural periodicals. The same fear has led many architect groups to seek their security wholly by legislation compelling employment of registered architects. Necessary as this is, in the cause of public safety, it can be enforced only where the community really believes in it because the community understands the nature and value of architectural services. Fear has caused some few architectural educators to hold back against the ideal of broad industry-wide education to supplement architectural education. And, finally, there has been fear of any statement which brackets architect and engineer with building owners or lenders or builders or realtors as a team concerned with the creation of buildings.

These fears of architects do indeed have some basis. For example, as member of a team the architect could seem to lose his unique position (along with planners and engineers) as a man trained, like the doctor and

lawyer, in a university-bred profession; he could become "faceless." And indiscriminate resort to personal publicity by some architects could deprive the profession, which basically has nothing to sell but its services, of respect and the chance to keep its service uncorrupted.

And yet the time has come to ask whether the architect's greatest and only real fear should not be, in a famous phrase, fear itself.

Team action is, for example, so deep-grained in American civilization that those who fear and oppose it go against the grain. The question is not whether we are to have team action. The immutable fact is that the team is here, in building as in other activity; and the only real question open to the architect is whether and how to join it. For example, the White House Conference was one great big team; and after encountering the numerous contractors and bankers and businessmen who got themselves on it, one has to ask whether more architects as individuals might not have made it if they had worked harder at it.

### PERSUASION WORKS

Only after the team has been set up can a captain be chosen; and obviously those who have not made the team cannot aspire to this position. And obviously nobody can claim the captaincy by inherent right: he has to win the position by his ability and the confidence of his team-mates.

This is, in actual fact, the way individual successful architects all across the US are succeeding. The reason they have so little time to work up the same fears as some of their confreres is that they are so

busy at work with their friends the owners, the builders, the lenders and the rest, to get a good job done. Also they are often found on the Chamber of Commerce team, the urban renewal team, the hospital and school board, the speakers list, the civic organization.

In a forum of important clients, architects, engineers and contractors conducted by FORUM it was agreed (AF, June '53) that "under the client the architect should be the captain of the planning team." The architect, being especially schooled to see building broadly, in its ultimate contexts, as an act of civilization, may often be more aware than the owner of consequences that extend beyond the immediate occasion and the immediate interest. Moreover the architect alone can bring building into the realm of art; and art, along with religion, philosophy and science, is what men ultimately live by. But they don't like to be forced. They have to be persuaded. Leadership cannot be claimed: it has to be established. More and more communication has to be opened.

Not many of us, in our daily hurly-burly, adhere to our best values without very frequent reminders. But let the architect have no fear—America will reach for the best he has, including the fine art, just as fast as America can understand it. Perhaps, as Secretary Ned Purves of the AIA keeps repeating, it is time for architects to talk with others besides fellow-architects. It is time to get into closer contact with the great American nation.

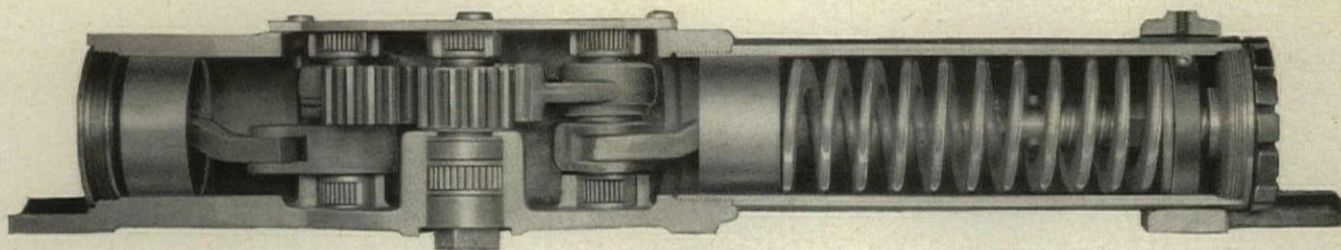
Douglas Haskell



*now*

# ALL

## the door controls are built-in



*the improved*

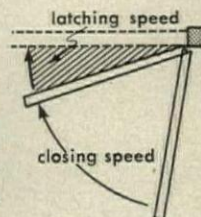
**RIXSON**

**OVERHEAD CONCEALED  
DOOR CLOSERS  
no. 220 series**

**1.**

### two independent closing adjustments

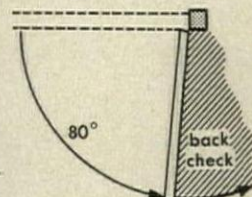
The closing speed from open to approximately 20° is controlled by one adjustment and the latch speed from 20° to closed position by another.



**2.**

### hydraulic shock absorber (back check)

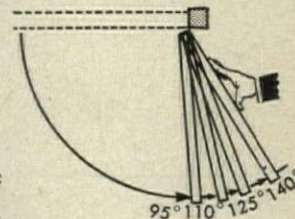
At approximately 80° a hydraulic resistance starts to slow down or check the opening action of the door. Hydraulic back check optional.



**3.**

### built-in spring cushion door stop

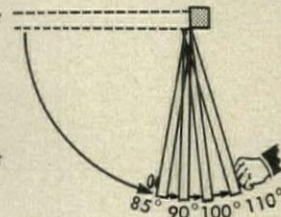
Door is "cushion stopped" at choice of any one of 4 factory-set positions—95°, 110°, 125° or 140°. Stop removed for wider openings to 160°.



**4.**

### built-in door holder

When specified—built-in to hold door at choice of 85°, 90°, 100° or 110°.



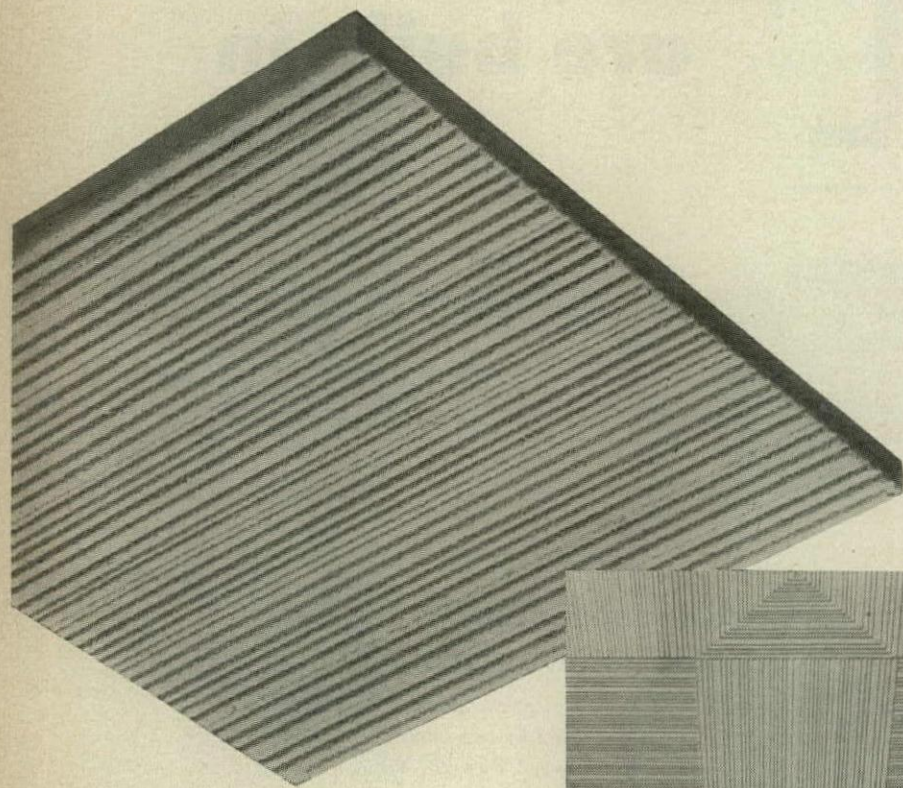
**... and still the most compact — requires only 2 7/8" x 2 7/8" x 17" space in head jamb.**

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center hung installations  
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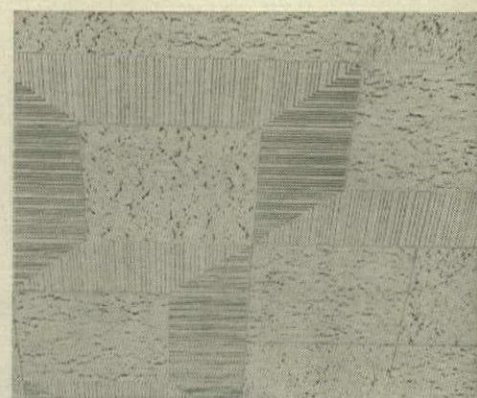
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# New acoustical tile gives you unusual design freedom



**CUSTOM** . . . a striking design for many types of commercial ceilings. Crestone will stay good looking and highly efficient for years with just occasional cleaning or repainting.



**COMBINATION** . . . the surface striations of Crestone blend well with the natural fissuring of Armstrong Travertone, and the two can be worked into many attractive designs.

Sound-Absorption Coefficients of Armstrong Crestone

Mounting	Thickness	125 Cycles	250 Cycles	500 Cycles	1000 Cycles	2000 Cycles	4000 Cycles	N.R.C. Specification Range
(1) Cemented to plaster	5/8"	.16	.23	.69	.72	.73	.73	.55 - .65
(7) Mechanically supported	5/8"	.38	.56	.55	.57	.74	.79	.55 - .65



# Armstrong

## CRESTONE

Armstrong Crestone is a mineral fiber material, striated to create a textured surface of contemporary beauty. Designed for those areas where appearance is a primary factor, Crestone offers many decorative possibilities for commercial and institutional ceilings.

The ridges and valleys on the face of each Crestone tile form strong directional lines of high light and shadow that permit great flexibility in creating patterns. Available in both 12" x 12" and 12" x 24" sizes, Crestone is  $\frac{5}{8}$ " thick. It is finished with two coats of light-reflecting white latex paint.

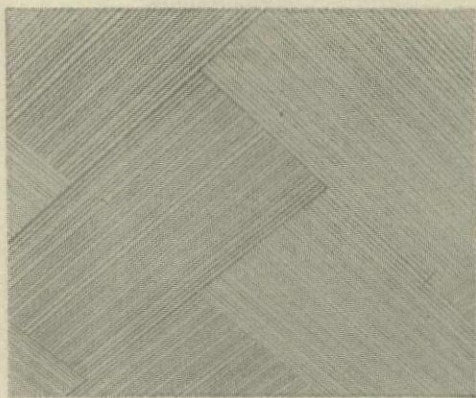
Crestone's mineral fiber composition is rated incombustible under Federal Specification SS-A-118b. Crestone can be safely used

where construction must conform to rigid building codes requiring a completely fire-safe material. Installation is by conventional cementing or mechanical suspension methods.

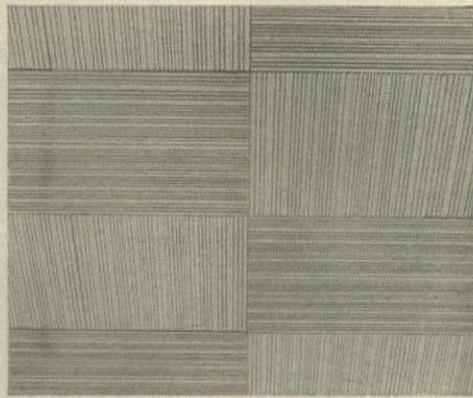
Crestone can be cleaned by vacuum or wall-paper cleaner to remove surface dirt. Painting, when necessary, can be done by either brush or spray gun without affecting the acoustical efficiency of the material.

**Get complete specifications** on Crestone and the entire line of Armstrong sound-conditioning materials from your Armstrong Acoustical Contractor.

**For the free booklet**, "Armstrong Acoustical Materials," write Armstrong Cork Company, 4201 Rooney Street, Lancaster, Pennsylvania.



**HERRINGBONE** . . . a good-looking ceiling that's easy to install. Crestone is smartly finished with two coats of white latex paint. It has a light reflection coefficient of .70.



**12" x 24" PARQUET** . . . one of the many smart ceiling patterns possible with Armstrong Crestone. Efficient as well as beautiful, Crestone has an N.R.C. specification range of .55-.65.



**PARALLEL** . . . can be made with either 12" x 12" or 12" x 24" Crestone tiles. Lines of light and shadow formed by the surface striations give an unobtrusive, modern ceiling effect.

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# Another National Electric Header Duct Installation

## Where built-in electrical availability knocks out future high-cost alterations

National Electric Header Duct will help cut the owners' future operating costs at West Penn Power Company's new office building in Greensburg, Pa. It makes possible easy alterations in office layout by providing complete built-in electrical availability.

The Header Duct raceway system permits easy access to the building's Fenestra cellular steel floor. The result: a combined electrical raceway system that makes possible electrical, telephone and inter-communication outlets wherever and whenever the owner wants them.

Make sure your plans for cellular steel floor construction include a National Electric Header Duct installation. It's the low-cost way to



provide for easy, inexpensive changes in office layout without disrupting business routine.

Architect: Hoffman and Crumpton  
Electrical Engineer: Carl J. Long  
General Contractor: O. H. Martin Associates  
Electrical Contractor: H. P. Foley & Company

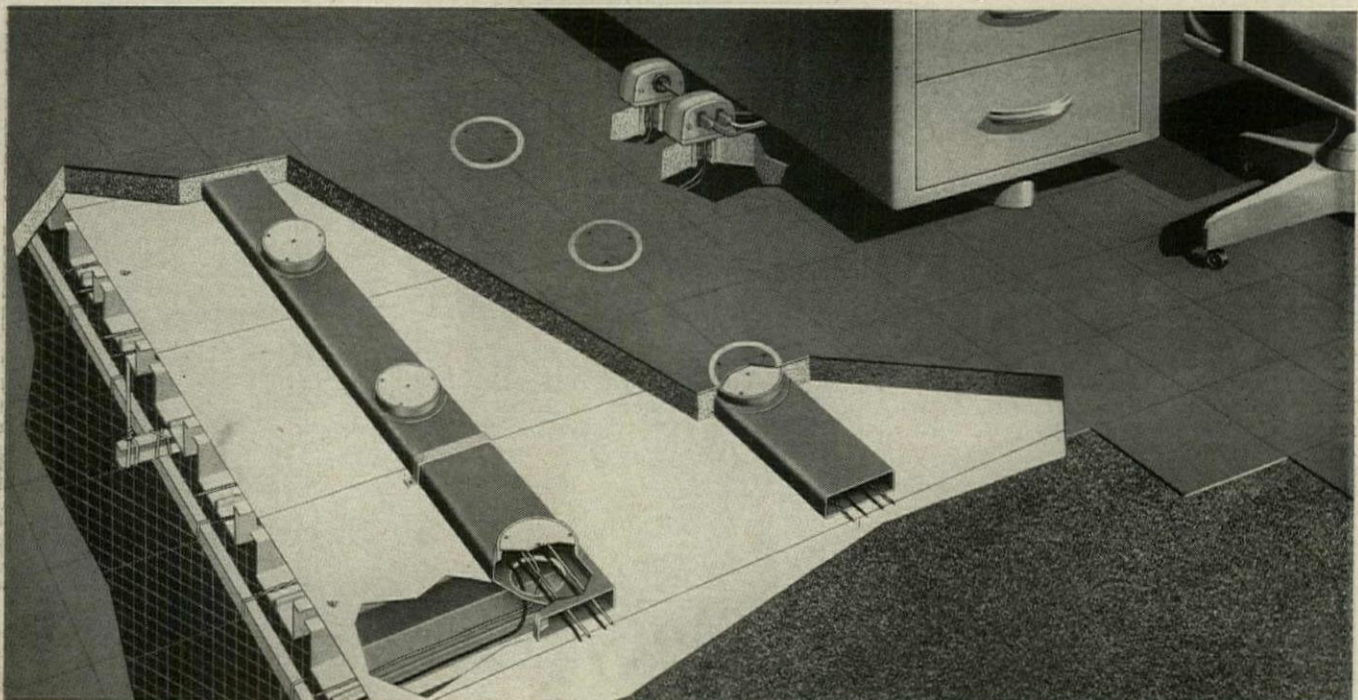
*Listed by Underwriters' Laboratories, Inc.*

### National Electric Products

3 Plants • 10 Warehouses • 36 Sales Offices  
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Cellular Steel Floor by Detroit Steel Products Company







## **Goodyear saves \$3,000 a day burning coal the modern way**

### **Consult an engineering firm**

Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency but in fuel economy over the years.

### ***facts* you should know about coal**

Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems result in a virtually labor-free plant • Coal is the safest fuel to store and use • No dust or smoke problems when coal is burned with modern equipment • In most industrial areas, bituminous coal is the lowest-cost fuel available • Between vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

Six years ago, Goodyear Tire and Rubber Co. decided to modernize its power service. Among other considerations, 70% of the firm's steam-generating equipment was over 30 years old. As a result, operating efficiency was only 65%. Power needs at Goodyear's Akron plants ran so much greater than capacity that additional power had to be purchased. Goodyear engineers and engineering consultants, Sargent & Lundy, were called in to study the problem and recommend a solution.

Now two 220,000 lb.-per-hr. boilers have replaced six 50,000 lb.-per-hr. units. Coal and ash handling are automatic. Controls are fully automatic. And not only have these and other changes resulted in dependable power service, but steam generating efficiency is now 82%—saving Goodyear \$3,000 a day. For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.

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# OWENS-ILLINOIS TOPLITE used in Hillsdale School

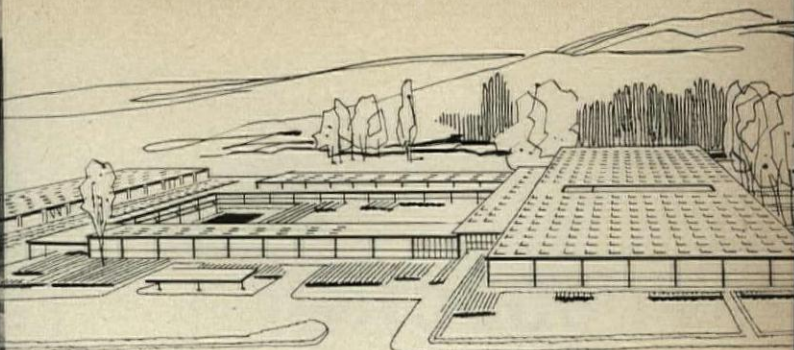


**Classroom completely daylighted by Toplite Roof Panels**

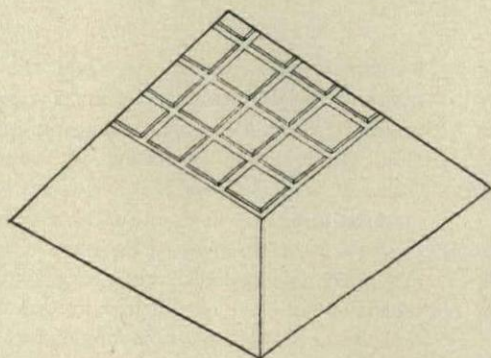
While this domestic science room is somewhat larger than the standard classroom, its top-lighting system is similar to other rooms in the school. The typical classroom is 28' x 28', uses four Toplite panels and is completely self-sufficient as to its daylighting, heating and ventilating. The prismatic

glass units of O-I Toplite Panels "think" before they transmit the sun's rays. Needed North light and the soft low rays from the South are readily accepted. But rays from the high summer sun are rejected. Glare and heat of old-fashioned skylights are eliminated.





The new Hillsdale High School, San Mateo, California, was planned by John Lyon Reid and Partners (architecture-engineering). Rothschild, Raffin & Weirick and Northern Constructors, General Contractors. Thomas F. Reynolds, Dist. Supt. of Schools.



## OWENS-ILLINOIS TOPLITE

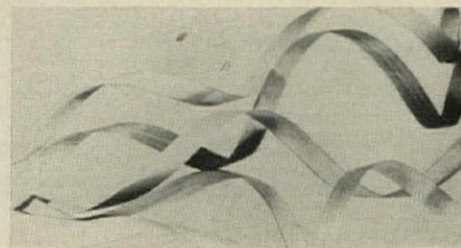
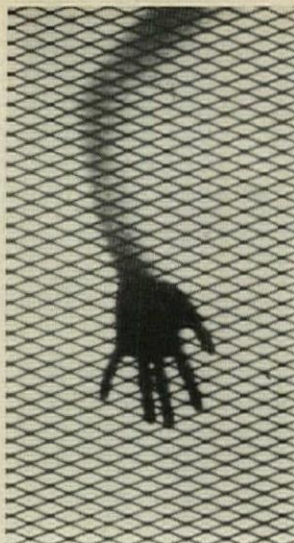
The new Hillsdale High School brings to architecture a bold new concept in school design. There are 661 Toplite Panels in the roof of this building—providing proper light for *every* classroom and for *every part* of the classroom at *every* time of the year. Although the Hillsdale project is the largest single use, up to now, of O-I Toplite Panels, they have been used by architects and builders for buildings of all types, including homes.

TOPLITE ROOF PANELS  
AN **O** PRODUCT

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GENERAL OFFICES • TOLEDO 1, OHIO



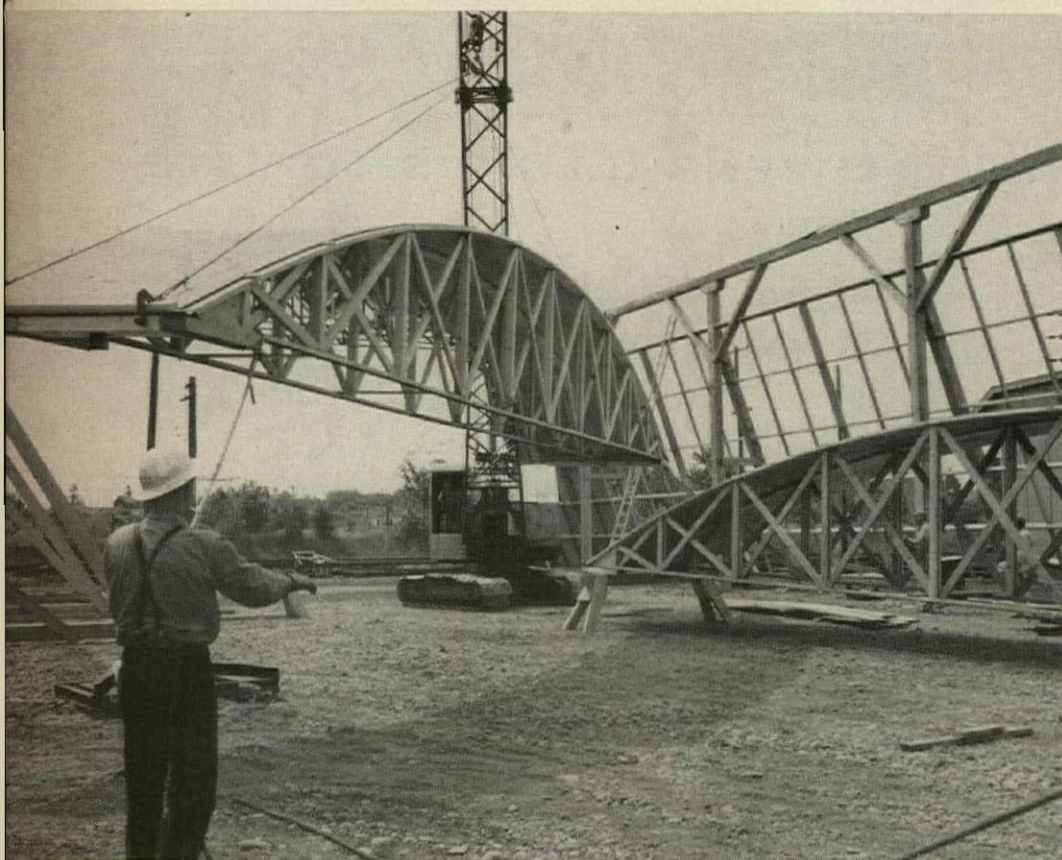
# PRODUCTS



Veneer dressing for plywood (p. 178)

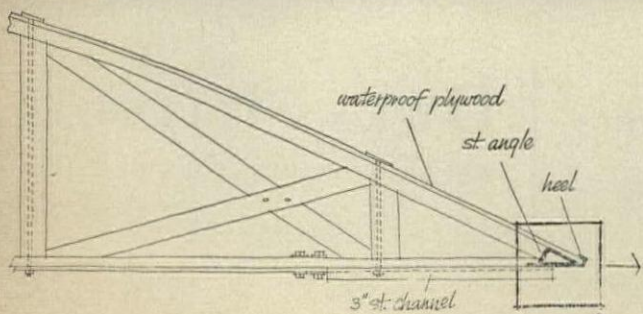
Safety panel of metal and plastic (p. 194)

## Low rise truss uses stress skin plywood sheathing for top chord



Taking a construction cue from the old covered bridge, and borrowing a rigging method from his company's logging operations, Ray Gould, president of Diamond Lumber, has developed a series of long-span buildings of wood and steel. Essential component of the low-cost knockdown package is the low rise *PSI* truss, a sensible integration of steel in tension and wood in compression. Most novel feature of the truss is its upper chord, a continuous length of scarphed 13/16" plywood which doubles as roof sheathing and, as a stressed skin, provides diaphragmatic bracing for the entire building. An 8' long steel heel with two flat bars running the length of the span serve as the lower chord tension members and as thrust bearing for the top plate. Designed for handling by carpenters and helpers, the truss arrives at the site as a package of precut lumber and plywood and factory-fabricated steel and hardware. The roof units are assembled in segments. Plywood is nailed to the bearing plate and bolted through predrilled holes at panel points which extend to and through the steel flat bars. Because of the strengths achieved through the stressed skin plywood top

*continued on p. 170*



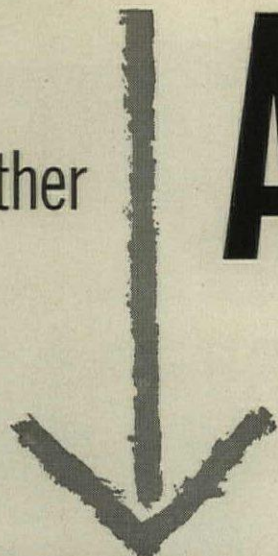
Providing thrust bearing for the *PSI* truss' top plate, this steel heel seats the plywood chord-sheathing and acts as a tension member for the lower chord.



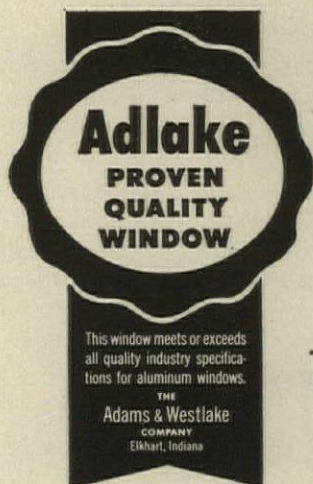
Another

# Adlake

aluminum window  
installation



St. Mary of the Woods Church, School and Convent, Chicago, Illinois  
Architects & Engineers: Gaul & Voosen. General Contractor: Slezak Construction Co.



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**Echoes are eliminated**, annoying noise is reduced

drastically—trapped by thousands of pores between the "Limpet" asbestos fibers.

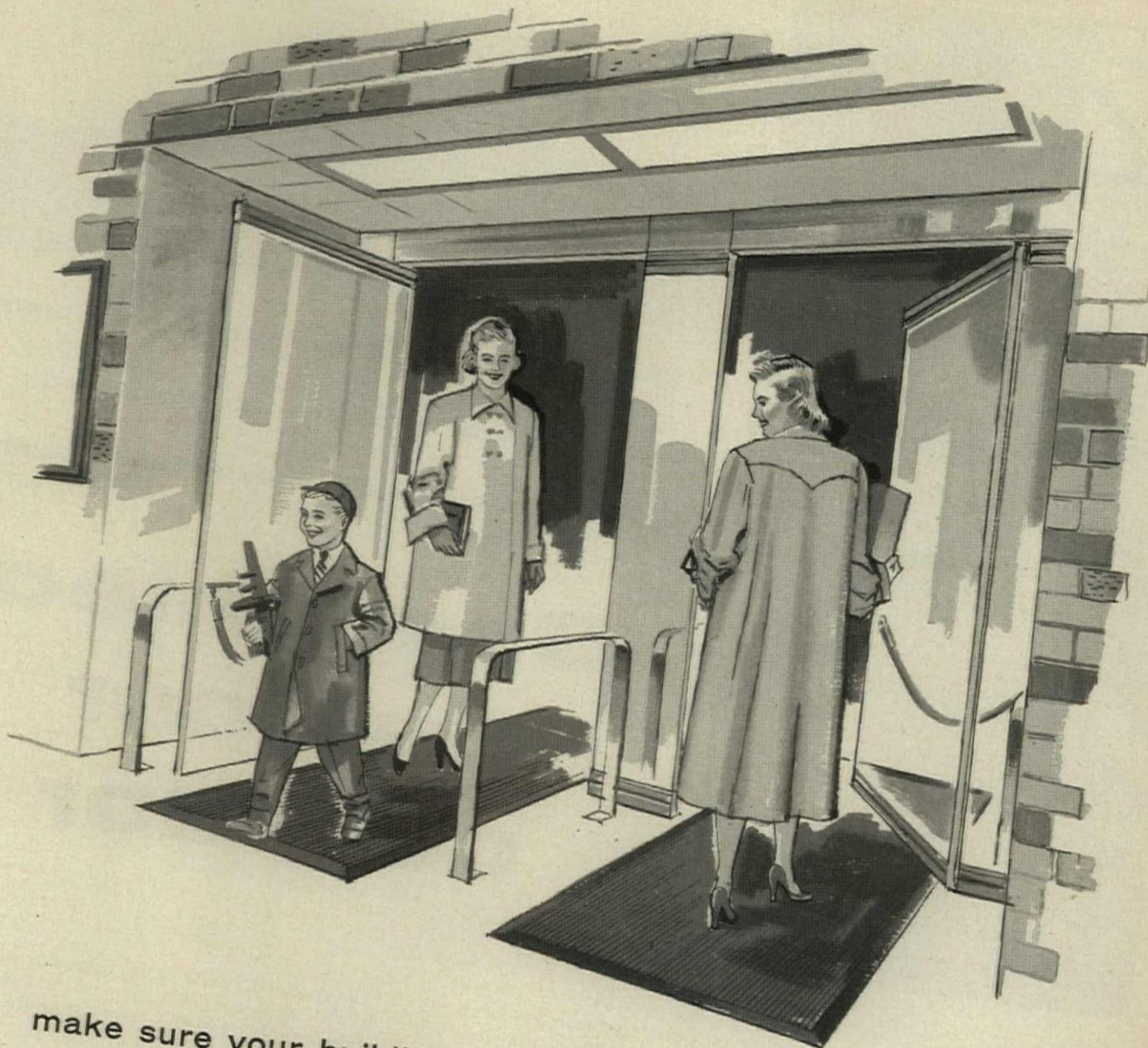
**Costs are cut.** An ideal thermal insulator, Sprayed "Limpet" Asbestos cuts fuel and air conditioning bills. Because it's all asbestos, it provides excellent fire protection.

**Technical and application data available.** See your *Sweet's Architectural File*. Write for additional information and the names of Sprayed "Limpet" Asbestos applicators in your area who have been approved and trained by K&M.

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| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Are easy to install and maintain.                         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Increase property values.                                 |

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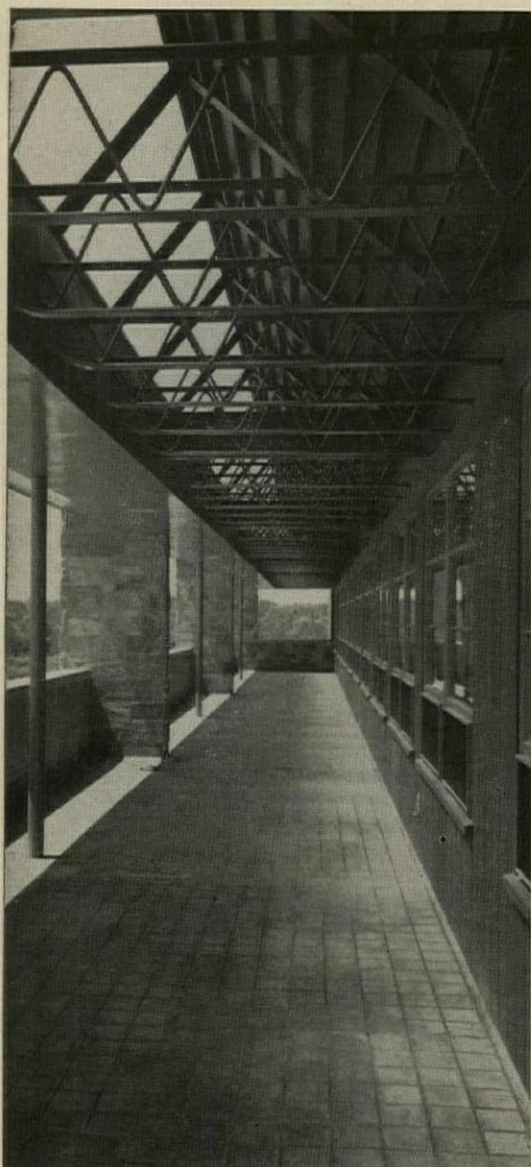
Write for complete information on Magic Carpet\*, and other Stanley Magic Door Controls that will meet your specific requirements. Complete automatic door service is available from your nearby Stanley Magic Door Representative. He is listed in your telephone directory. Ask for AIA File No. 16-D. See 1956 Sweet's Architectural File <sup>18e</sup> Sta

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Immaculate Heart of Mary Church School  
Youngstown, Ohio  
P. Arthur D'Orazio, architect;  
Charles Shutrump and Sons, Co., contractor.



**TRUSCON® "O-T"® Open Truss Steel Joists,  
Ferrobord® Steeldeck and Projected  
Steel Windows Help Create This Exciting**

## **Daylighted outdoor corridor**

This interesting outdoor corridor has been designed into the new Immaculate Heart of Mary Church School in Youngstown, Ohio. Almost monastic in appearance, the second floor corridor has been roofed by extending Truscon "O-T" Steel Joists and structurals across its full width. Truscon Ferrobord Steeldeck completes the roof except for a run of clerestory windows which bring daylight directly into the Truscon Architectural Projected Windows of second floor classrooms.

Truscon "O-T" Steel Joists are light, strong, fire-resistant floor and roof supports. Lightweight and easy to handle, they lessen time and labor costs, save material in supporting framework and foundations.

Ferrobord Steeldeck is clipped or welded directly to the steel joists. It comes in long lengths to span three or more purlins. Easy to handle, easy to place, it roofs large areas quickly—flat, pitched or curved. Erection is from above, no scaffolding needed. Full length interlocking adds extra strength.

Truscon Steel Projected Windows provide superior ventilation plus minimum air infiltration. Integral baffles of Truscon's own special steel section provide casement-type full weathering contact—a Truscon exclusive feature in windows of this classification.

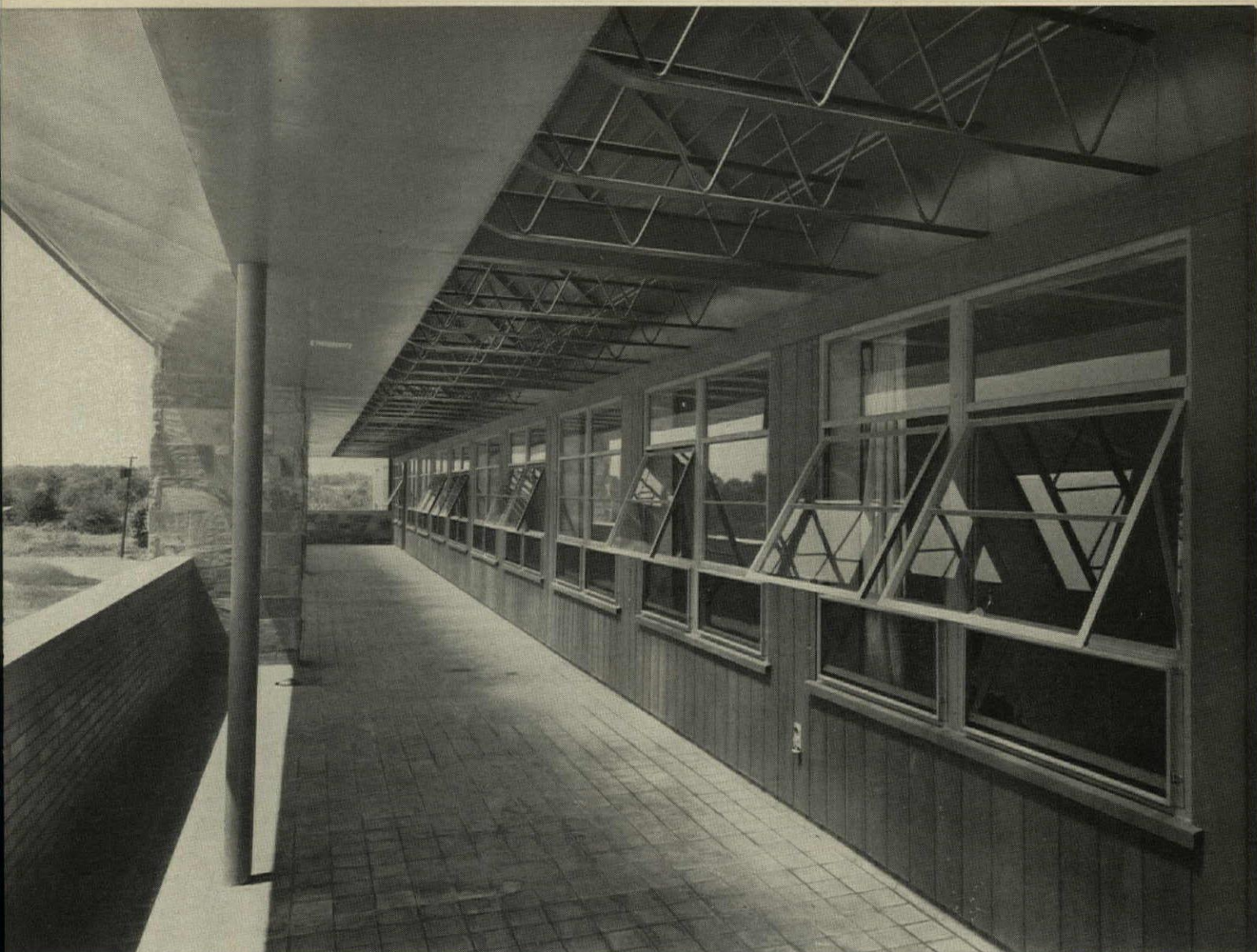
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# **R E P U B L I C**



*World's Widest Range of Standard Steels*



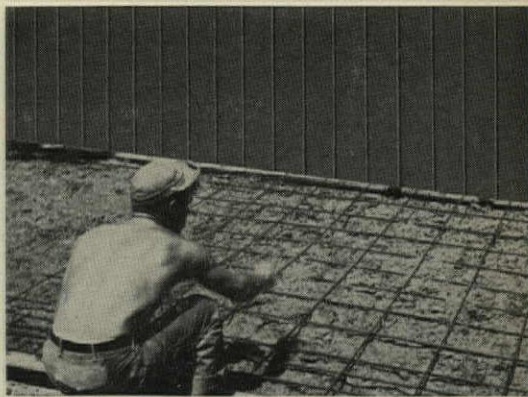


#### SCHOOL MADE FIRE-RESISTANT WITH TRUSCON METAL LATH AND PLASTER

Membrane fireproofing is a system of fire protection using metal lath and lightweight aggregates. Used in ceilings, partitions and for shrouding structurals, membrane fireproofing makes possible buildings of lighter weight, greater useful space and lower cost. Truscon Metal Lath and plaster make a safer school.

#### SCHOOL CONCRETE PROTECTED WITH TRUSCON WELDED WIRE FABRIC

Pennies buy you "concrete plus." Truscon Welded Wire Fabric reduces the rate of cracking. High strength steel wires keep cracks tiny and practically invisible. Concrete areas get lifelong protection. Specify concrete PLUS Truscon Welded Wire Fabric for longer-lasting, expense-free concrete slabs.



# STEEL

*and Steel Products*

REPUBLIC STEEL CORPORATION • 3108 East 45th Street, Cleveland 27, Ohio

Please send me more information on these Truscon Steel Division building products:

- ☐ Truscon "O-T" Steel Joists    ☐ Truscon Ferrobord Steeldeck  
☐ Truscon Steel Windows    ☐ Truscon Metal Lath and Accessories  
☐ Truscon Welded Wire Fabric

Name \_\_\_\_\_ Title \_\_\_\_\_

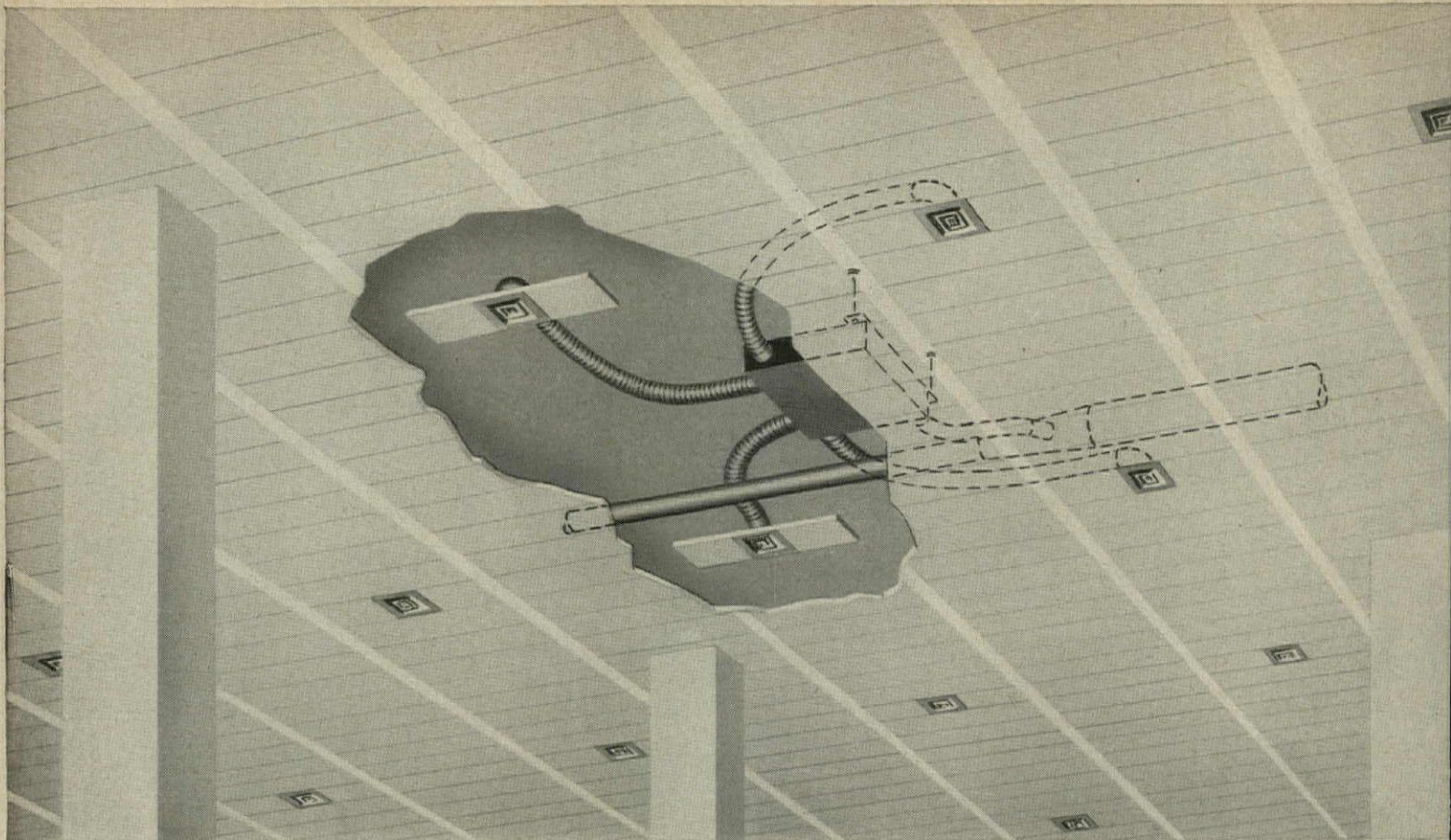
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K-9688





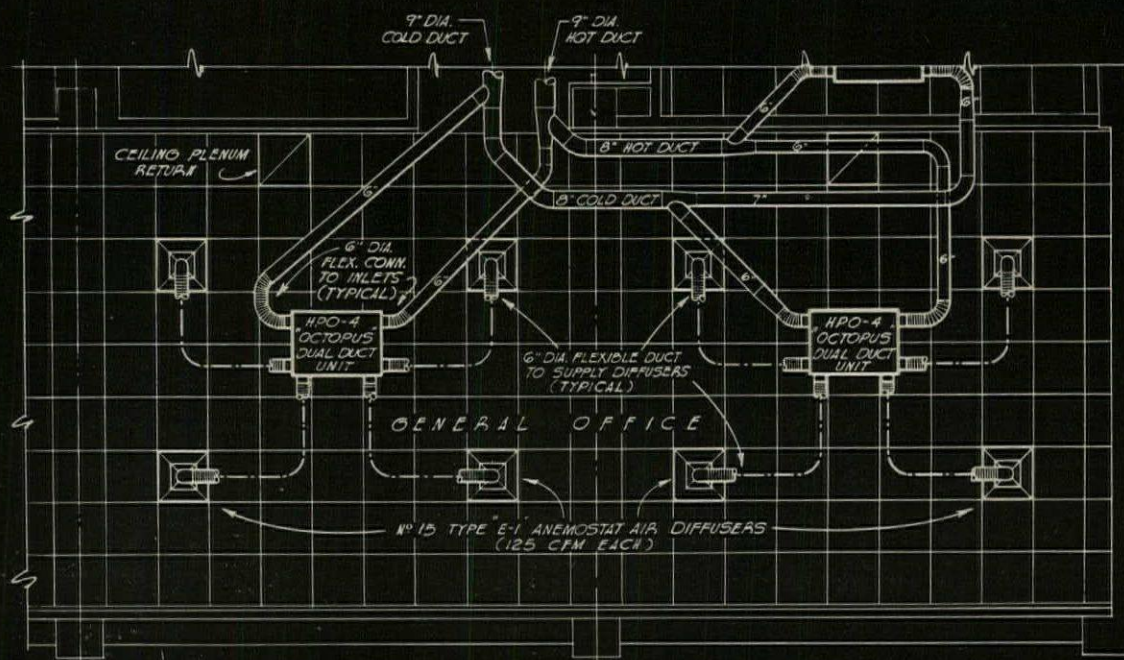
## Here's flexible high velocity air diffusion

Here's how the new Anemostat Octopus unit works in interior zone air conditioning. High velocity air travels to a sound attenuator volume control unit, which has from *two* to *four* openings. The air is carried from these outlets through flexible hose to Anemostat diffusers. These have the same outer dimensions as the acoustical panels. If the space must be adjusted to meet changing conditions, such as subdivision of the occupied area, ceiling panels and diffusers can be quickly relocated by merely moving the flexible hose.

Air can be supplied to the Anemostat Octopus sound attenu-

ators from a dual-duct system with a thermostat controlling one bay, or from a single-duct system with automatic or manual control.

*Write on your business letterhead for Selection Manual 50 which gives full application and specification data on wide range line of Anemostat All-Air High Velocity units. Anemostat Corporation of America, 10 East 39th Street, New York 16, N. Y.*



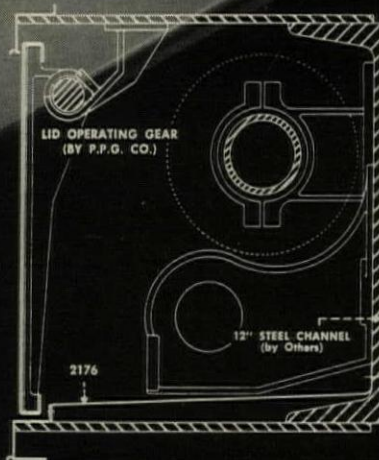
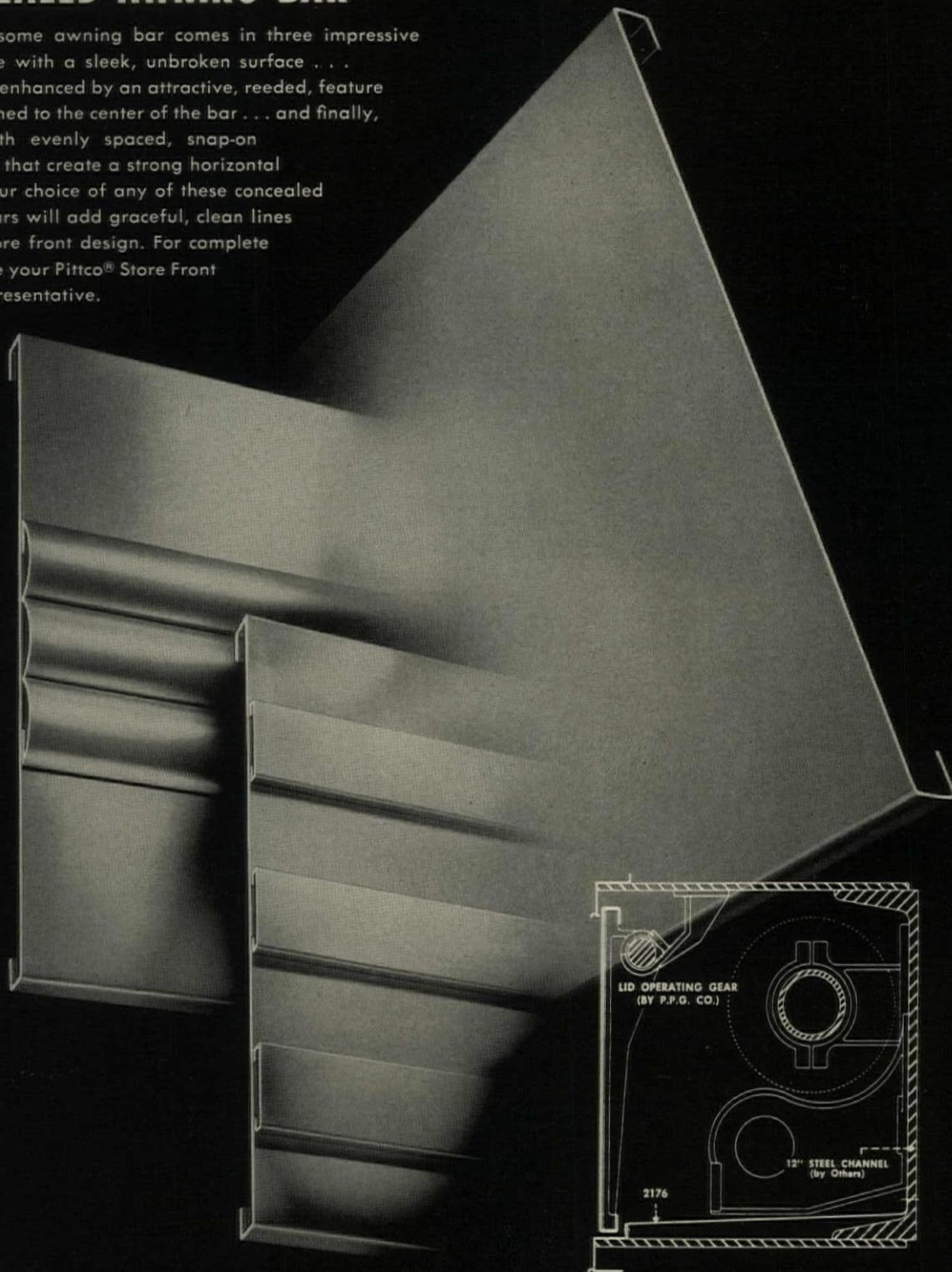
Diagrammatic illustration of office building showing Anemostat HPO-4 Dual-duct Units.



# Pittco NO. 91

## CONCEALED AWNING BAR

This handsome awning bar comes in three impressive styles. One with a sleek, unbroken surface . . . another is enhanced by an attractive, reeded, feature strip fastened to the center of the bar . . . and finally, a bar with evenly spaced, snap-on mouldings that create a strong horizontal sweep. Your choice of any of these concealed awning bars will add graceful, clean lines to your store front design. For complete details, see your Pittco® Store Front Metal Representative.



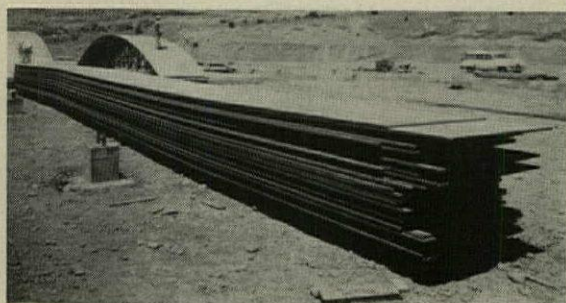
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

**PITTSBURGH PLATE GLASS COMPANY**

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



## PRODUCTS *cont'd.*



**HAWS** the leader in  
**DRINKING FOUNTAINS**  
FOR *School*  
SPECIFICATIONS

Over the years, architects, engineers, school authorities and contractors have come to agree that when sources of public drinking water must meet particularly rigid standards of sanitation, mechanical excellence and design, the ideal specification is HAWS! That's why the name "HAWS" is so often found on drinking fountains used in public schools—where equipment must be extremely rugged, thoroughly dependable, completely sanitary. Always specify HAWS!

**HAWS**

**DRINKING FAUCET CO.**

1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

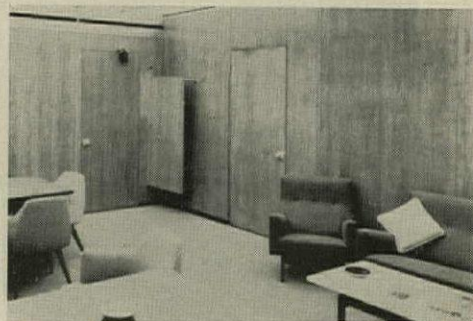
chord and steel tension chords, short and comparatively slim lengths of lumber are used for the web, sparing the *PSI* truss the bulkiness of conventional wood trusses.

In erection, the wide trusses are swung into place by crane with rigging patterned after logging tongs.

Having the sheathing applied at ground level is just one labor advantage of the *PSI*. Another cost saver is the extremely simple kind of finished roof the continuous sheets of 13/16" waterproof exterior grade plywood make possible. Spanning the trusses heel to heel, the sheathing joints are coated with mastic, sealed with a glass-fiber ribbon and a second mastic coat. The entire roof surface then gets a single mop coat of roofing compound. This construction is comparable to a 15-year roof and, according to Diamond, if properly cared for, can be made to last indefinitely.

Standard buildings are available in 32', 40', 50', 60', and 80' spans suitable for such uses as warehouses, plants, hangars, supermarkets and gymnasiums. Special spans up to 120' may be had on order. As for cost, a typical warehouse with 60' span trusses runs about \$2 a sq. ft. in place.

Manufacturer: Diamond Lumber Co., Plywood Structures, Inc., 323 Pittock Block, Portland, Ore.



### WOOD PANEL PARTITIONS mix mobility with tranquility

Hard to top for gracious warmth and dignity, wood veneers grace the *Weldwood* line of stock office partitions. Although just 1 1/4" thick, the solid mineral core units have a sound-reduction value of 37 db., twice that of 2 x 4 stud, lath and plaster interior walls. About 90% of the partition is incombustible, and the inert core keeps the panels warpfree and dimensionally stable. The panels come in standard widths of 2', 30", 3', 42" and 4' in heights up to 8'

*continued on p. 178*



*In Building, THIS\* makes sense...*



**\*FIRST COST *can be the* LEAST COST  
if it's the LAST COST**

### **"INFO" for Architects and Builders**

**1** "AL Stainless Steels for Building"—12 pages on stainless grades, properties, forms, finishes, standard "specs," uses and advantages.

**2** "Stainless Steels for Store Fronts and Building Entrances"—40 pages of valuable data on examples and details. AIA File No. 26D.

**3** "Stainless Steel Curtain Walls"—A 24-page progress report on methods. AIA File No. 15-H-1.

*Write for Details*

**Address Dept. B-73**

Take the lobbies of big buildings as an example, so many of them all agleam with stainless steel on walls, columns, elevator enclosures, etc.

They weren't built that way just to *spend* money. Stainless was used to **SAVE** money, because of all modern surfacing materials, nothing else is at one and the same time as hard, strong and lastingly beautiful—as resistant to heat, wear and corrosion—as easy to clean and keep clean as stainless steel. *Nothing else lasts as long and costs as little in the long run!*

Lobby interiors are only a case in point. The same advantage of long-term economy holds good for stainless steel curtain wall panels on building exteriors. Or stainless store fronts, marquees and entrances. Or stainless windows and doors, railings, grilles, roofs, drainage systems, etc.

• Wherever a surface or a product has to take a beating and *last*, AL Stainless can save you money. Let us give you any information or technical assistance you may need. *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*

**Make it BETTER-and LONGER LASTING-with**

**AL Stainless Steel**

W&D 5732A

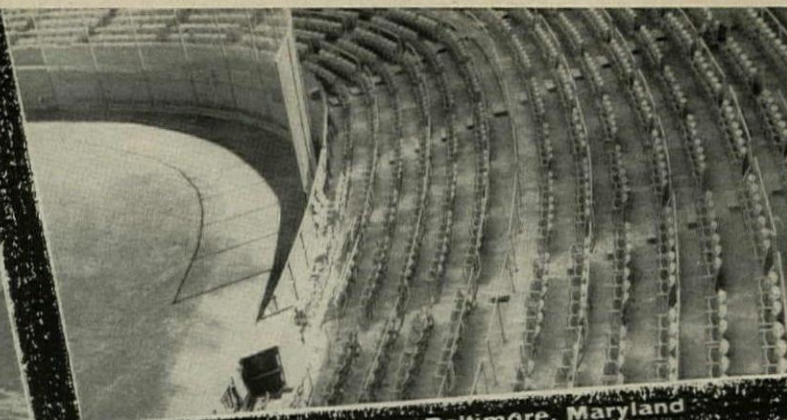
Warehouse stocks carried by all Ryerson Steel plants







Memorial Stadium, Baltimore, Maryland



Memorial Stadium, Baltimore, Maryland

## SURCO STOPS CONCRETE DETERIORATION

SURCO puts an end to spalling, deterioration and water damage to concrete structures. Applied only 1/8-1/4 inch thick, SURCO Yellow Label is an effective "umbrella" that seals out water.

Outstanding examples of this type of SURCO application are found at numerous college and municipal stadiums. Offices, dressing and storage rooms that were formerly unusable because of water leakage are now dry. Deterioration of the concrete itself has been eliminated and damaged areas restored like new.

Where waterproofing is indicated use SURCO Yellow Label... its unusual bonding qualities and speed in application assures a most efficient and economical job.



Grant Field, Georgia Tech, Atlanta, Georgia



Alma College Stadium, Alma, Michigan

See Sweet's Architectural File  
for further information

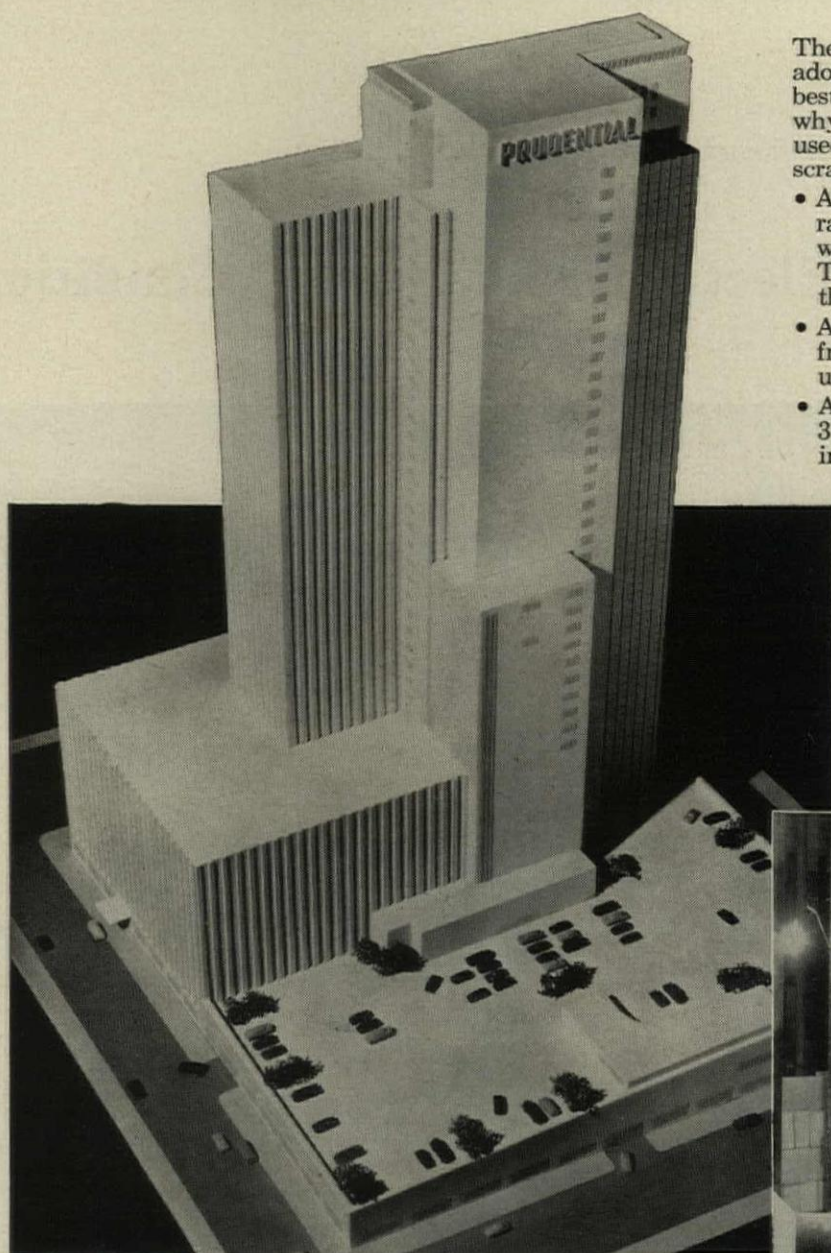


**SURFACE COATINGS, Inc.**

110 Pear Street, S.E. • Atlanta 15, Georgia



# Prudential "takes out insurance" on safety and dependability with **USS NATIONAL PIPE**



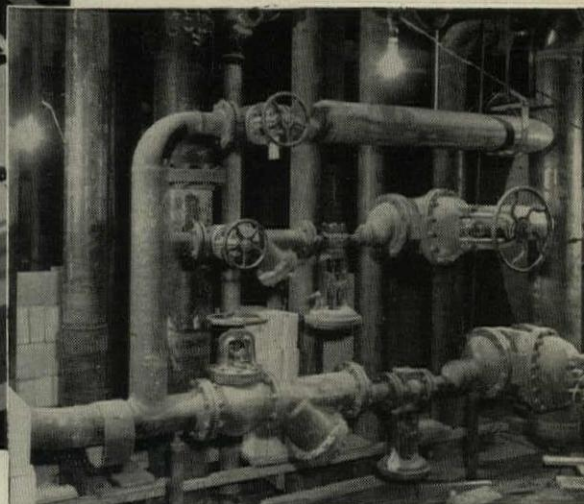
*Prudential Building, Chicago, Illinois*  
ARCHITECT AND ENGINEER: Naess and Murphy, Chicago  
GENERAL CONTRACTOR: George A. Fuller Co., Chicago

The Prudential Insurance Company of America adopted the policy of installing nothing but the best in their new Chicago office building. That's why almost 200 tons of National Steel Pipe were used in the construction of the ultra-modern skyscraper. Here's how the material was used:

- Approximately 120 tons of National Seamless, ranging in diameter from 6 inches to 20 inches, were employed as air conditioning carriers. These "risers" run from the sub-basement to the top floors.
- About 42 tons of National Seamless, ranging from 2 inches to 14 inches in diameter were used for heating and fan rooms.
- About 20 tons of National Pipe, from 1 inch to 3 inches in diameter, help make up the building's plumbing system.

It's no surprise that National Pipe is used in so many of the "big jobs" across the country. Engineers know from past experience that they can depend on National for safe, efficient, trouble-free service.

Write us for further information on the use of National Pipe in air conditioning, heating, and power installations. And, if you'd like some personal assistance with your pipe problems, get in touch with our engineers.



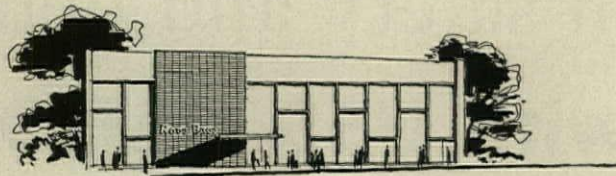
**NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.**  
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS  
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

## **NATIONAL STEEL PIPE**



**UNITED STATES STEEL**





*Comfort story of a modern apparel shop*

## How Honeywell Electronics makes Air Conditioning



*Roos Bros. clothing store, San Mateo, Calif. Architect representing Roos Bros.: Welton Becket, F.A.I.A., & Associates (San Francisco office). Architect-engineer representing Parrott Investment Co.: W. P. Day, San Francisco. Air Conditioning contractor: York Corp. (San Francisco office).*



**Dramatic three-level plan** of Roos Bros. store provides maximum floor area with no feel of crowding.

Major advantages of its Honeywell Electronic Customized Temperature Control system are:

... *big savings on cooling*—outside air is used automatically to help cool the store, cutting costs of mechanical refrigeration.

... *from heating to ventilating to cooling*, comfort is controlled automatically by a single thermostat.

... *an outdoor thermostat* anticipates weather changes winter and summer, prevents air-cooling shock and winter chill.

... *system on-off switches* are conveniently located right in the manager's office.

Added up, these features mean maximum comfort with maximum convenience, efficiency and economy.



## Systems work better for less money

*Now you can give any client ideal comfort,  
big-system conveniences at lowest cost—  
with Honeywell Electronic Temperature Control*

A few years ago, stores like this one—a smart new Roos Bros. apparel shop in San Mateo, Calif.—had to make do with second-rate indoor comfort.

Why? Because good air conditioning performance depends on good control. And it took the recent development of Honeywell Electronics to make the *best* air conditioning control economically feasible for installations of moderate size.

Before electronics, for example, smaller installations for which a pneumatic system was too expensive had to depend on electric controls—fine for certain applications, but lacking flexibility for meeting varying load requirements of a retail store.

Having acted on wise analysis and guidance in their choice of a control system, Roos Bros. management enjoys many big-system benefits from the store's heating-cooling plant—benefits that only Honeywell Electronic Customized Temperature Control can provide at sensible cost. Explained briefly above, they result in an ideally comfortable shopping environment in which customers are likely to stay longer, buy more.

These benefits suggest some of the ways Honeywell Electronics can help you give your clients unprecedented comfort, convenience, economy—in heating, ventilating, air conditioning and industrial control, in any building, new or existing.

Call your Honeywell office for a new booklet that tells more fully how to apply electronics to your clients' control problems—and for information on the economical Periodic Maintenance Plan. Or write Honeywell, Dept. MB-1-11, Minneapolis 8, Minn.

MINNEAPOLIS  
**Honeywell**  
Electronic Controls



112 offices across the nation



# AN ENTIRELY NEW CONCEPT IN A SPECIFICATION GUIDE

[illegible]

At last, guide specifications that take into consideration the time and practical problems of the specifier. The new Kentile Specification Guide! 16 pages of specification data printed on one side of expendable paper so that you can modify and edit sections and paragraphs according to your requirements. Covers the full line of Kentile resilient floors, wall bases, and the like—with appropriate Federal Spec-

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# REINFORCED CONCRETE *lowers costs*

*... provides flexibility of design*

*for the luxurious, new*

*\$17,000,000 Beverly Hilton*



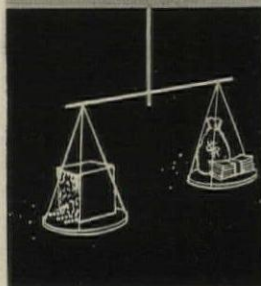
The Beverly Hilton Hotel  
Beverly Hills, California

Architects and Engineers:  
Welton Becket & Associates  
Los Angeles, California

General Contractors:  
Del E. Webb Construction Co.  
Phoenix, Arizona

"Lower cost and flexibility of design" are cited by Welton Becket & Associates, architects and engineers, as the two prime considerations in their selection of *reinforced concrete* for the new \$17 million, 450-room Beverly Hilton. Their imaginative use of reinforced concrete is beautifully demonstrated by the eight-story, Y-shaped structure which towers over its predominantly two-story surroundings.

On important projects from coast to coast, reinforced concrete is providing better structures for less money. It is a flexible medium, inherently firesafe, and highly resistant to wind, shock, and quake. Furthermore, reinforced concrete saves money by saving erection time . . . work can start sooner because materials and labor are readily available from local sources. On your *next* job, design for reinforced concrete.



*Compare . . .* YOU'LL SAVE WITH REINFORCED CONCRETE

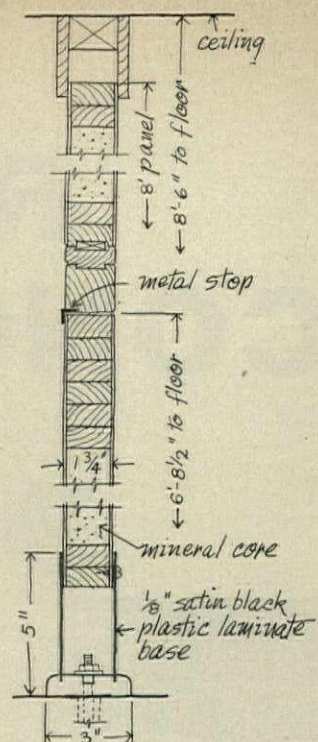
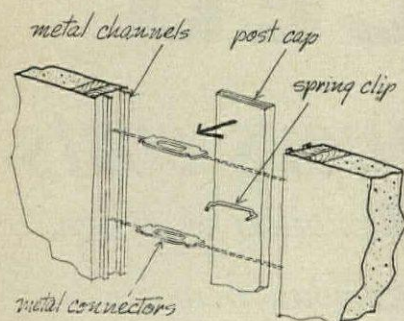
**CONCRETE REINFORCING STEEL INSTITUTE**

38 South Dearborn Street • Chicago 3, Illinois



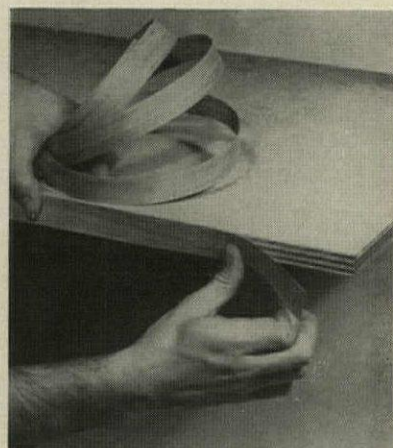


## PRODUCTS *cont'd.*



with face veneers of stain grade birch, Korina, walnut, oak, mahogany. Estimated cost of a 7'-1" high birch partition, in place and finished, is about \$28 a running foot. In putting up the partitions, metal connectors fit into metal channels affixed to both sides of each panel (see exploded view above). BX electric cable can be run through the oval openings in the connectors. All wiring and outlet boxes are concealed in the base, posts and cornice. A post cover snaps over the opening between panels with a spring clip. Cornice-high partitions can be left open above or closed in with matching panels or mineral board. The *Weldwood* system weighs about 4 lb per sq. ft.


*Manufacturer:* US Plywood Corp., Weldwood Bldg., 55 W. 44th St., New York 36, N.Y.



### **VENEER STRIP dresses off exposed plywood edges**

Although its faces may be finished with the loveliest hardwoods, plywood, the lumber wonder of our age, often seems embarrassed by its naked edges. To cover up those laminate give-aways on shelving and cabinet work, US Plywood is now marketing flexible strips of wood veneer mounted on latex-paper backing. Available in woods

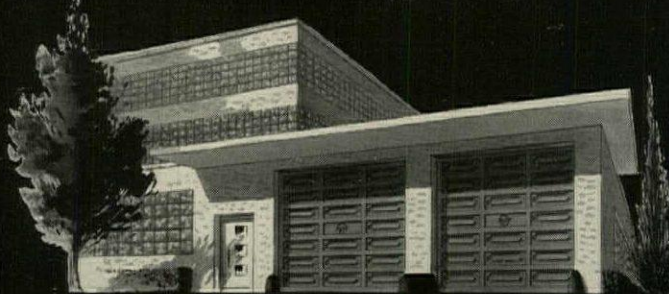
*continued on p. 186*



**KNOW THIS MARK OF QUALITY**

*Craftsmanship..*

**IS ESSENTIAL**



in the manufacture of a quality product—smooth finish, correct operation, long years of trouble-free service. Raynor Doors have all parts manufactured under one management in modern plants equipped with the latest of specialized machinery. Only by such control can be guaranteed the high standards demanded by Raynor and symbolized by their distinctive nameplate and handle. Undivided responsibility is the assuring result of Raynor's "controlled manufacture".

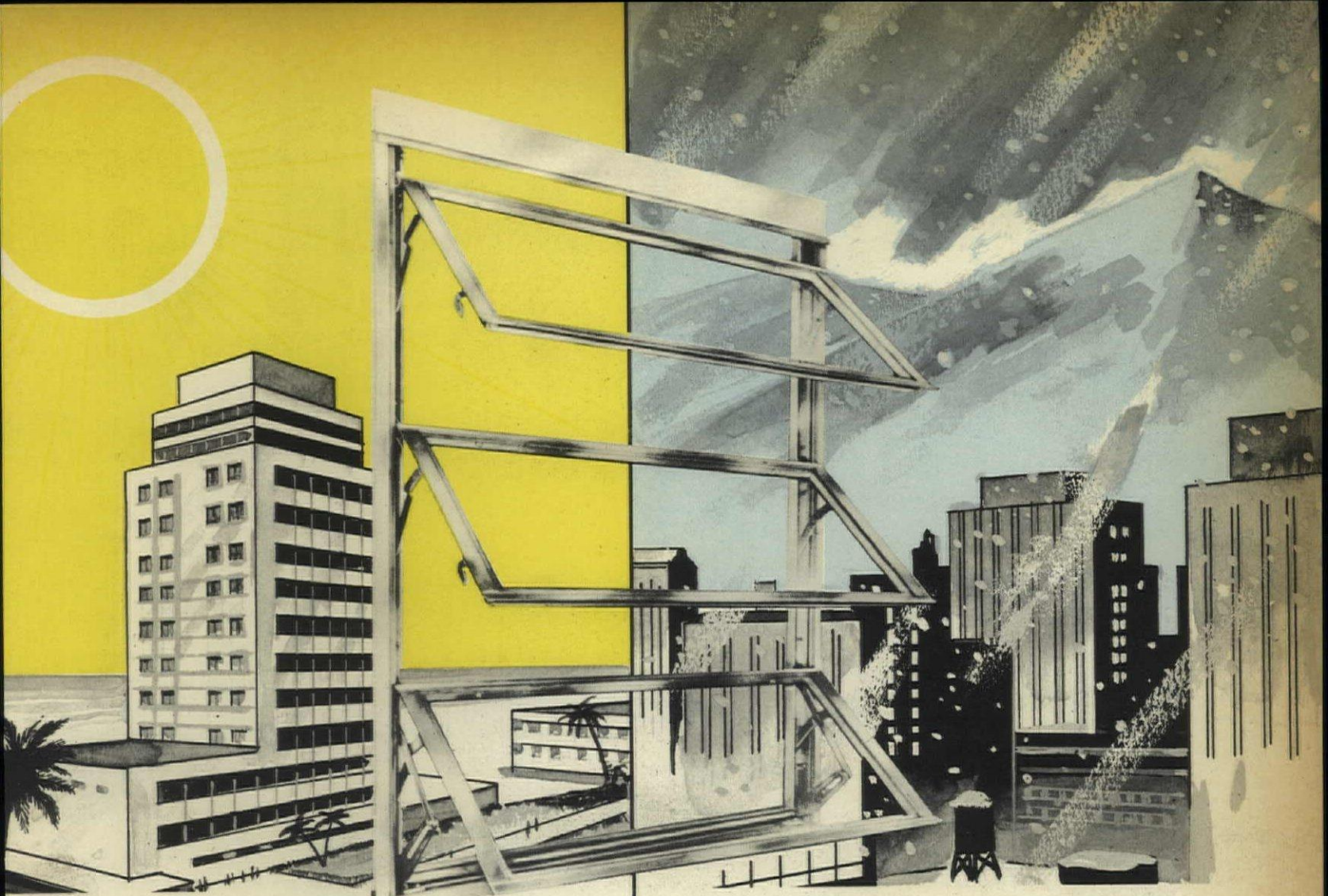
Check your telephone directory for the name of your nearest representative or write direct.

**RAYNOR**

**RAYNOR MANUFACTURING CO.**  
Dept. 3      Dixon, Illinois

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**BECAUSE LUDMAN LEADS IN WINDOW ENGINEERING**



**ASSURE TRUE CLIMATE-CONTROL**

**AS NO OTHER WINDOWS CAN!**

SEALS  
TIGHTER  
THAN A  
REFRIGERATOR

TRUE CLIMATE-CONTROL takes full advantage of Nature's milder moods, yet protects against extremes of temperature. Because Auto-Lok Windows are engineered by Ludman to be the tightest-closing windows ever made . . . because Auto-Lok Windows open wide to the breeze . . . completely control ventilation . . . **TRUE CLIMATE-CONTROL starts with Auto-Lok Windows!**

When Air-Conditioning or Heating units are operating, Auto-Lok Windows seal the heat or cold out . . . seal the man-made weather in. A simple flip of a clip allows installation of storm windows (or screens), in an instant.

In mild weather, when windows are open, there is no equal to Auto-Lok. These famous windows provide complete control of ventilation. Both the quantity, and quality, of ventilation is controlled by Auto-Lok Windows, which open from the slightest

crack of the exclusive Night Vent, to a full opening of all vents. Auto-Lok Windows can direct entering air . . . provide fresh air, even when it's raining.

Because Ludman leads in Window Engineering, Auto-Lok Windows stand alone in performance, appearance, and endurance. Because only Auto-Lok Windows provide full control of ventilation . . . because Auto-Lok Windows are the tightest-closing windows ever made . . . they do both jobs required of a window for TRUE CLIMATE-CONTROL. Their many operating advantages, their long life, their rugged construction are still more reasons why so many leading architects specify Auto-Lok. **Ludman Engineering Research assistance is available to architects on request.**

**ONLY AUTO-LOK MEETS WHAT EXPERTS\* AGREE ARE THE 10 MOST IMPORTANT REQUIREMENTS IN A WINDOW**

\*Geoffrey Baker and Bruno Funaro in "Windows in Modern Architecture"

**LUDMAN Corporation**  
NORTH MIAMI, FLORIDA

**LUDMAN**  
*Auto-lok*

*Tightest closing window ever made*



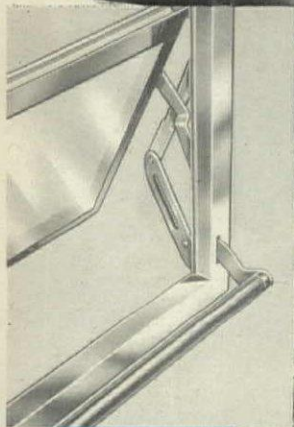
# LUDMAN LEADERSHIP IN WINDOW ENGINEERING

*...Development of the*

**LUDMAN**  
**Auto-lok**  
AUTOMATIC LOCKING

**CONTROL BAR  
WINDOWS**

SEALS LIKE A REFRIGERATOR



Improved Ludman Auto-Lok Control Bar Window opens entirely from inside without touching screen. Pull bar up to open, push down to close. Completely eliminates push-up screens.



Many years ago, Ludman Engineers designed the Auto-Lok Control Bar Window to be used in public buildings like schools, hospitals and institutions. Since then, thousands of installations testify to the popularity of these famous windows. Now, comes another development in their operation and construction . . . a more simple opening and closing mechanism. Children find it easier to operate: they pull the bar up to open, push down to close . . . and all vents lock automatically.

Architects find Ludman Auto-Lok Control Bar Windows fit into their designs better than any others. No other school window can compare with its truly modern beauty. Auto-Lok is the only window that meets all ten requirements that experts\* agree are essential in a window.

The Auto-Lok Control Bar Window is the tightest-closing window ever made . . . and only Auto-Lok stays tightly closed for the life of the building without the periodic adjustment required by other awning windows. Tightness is an all-important requirement in the design of a school building. Specify Ludman Auto-Lok Windows as the best insurance of your reputation for using the best building products.

\* Geoffrey Baker and Bruno Finaro in "Windows In Modern Architecture".

**LUDMAN** *Invited to Participate*

with 26 Outstanding American Manufacturers of School Building Products and Equipment in

**SCHOOLROOM PROGRESS, U.S.A.**

the traveling exhibition sponsored by the

Henry Ford Museum and Greenfield Village and The Encyclopedia Americana.

"Schoolroom Progress U.S.A." is a traveling educational exhibition touring 250 major American cities with an estimated 3,000,000 persons viewing it. Featured are replicas of schoolrooms of 1840 and 1890 contrasted with the ideal classroom of today and tomorrow.

Ludman's Auto-Lok Control Bar Windows, an integral part of today's new schools, are displayed in that part of the exhibit which reveals the latest in classroom architecture for kindergarten, upper elementary, domestic science, manual science, and office practice.

Ludman is proud to participate in a project which represents a major contribution to educational thinking. Ludman invites you to see the exhibit when it comes to your city.



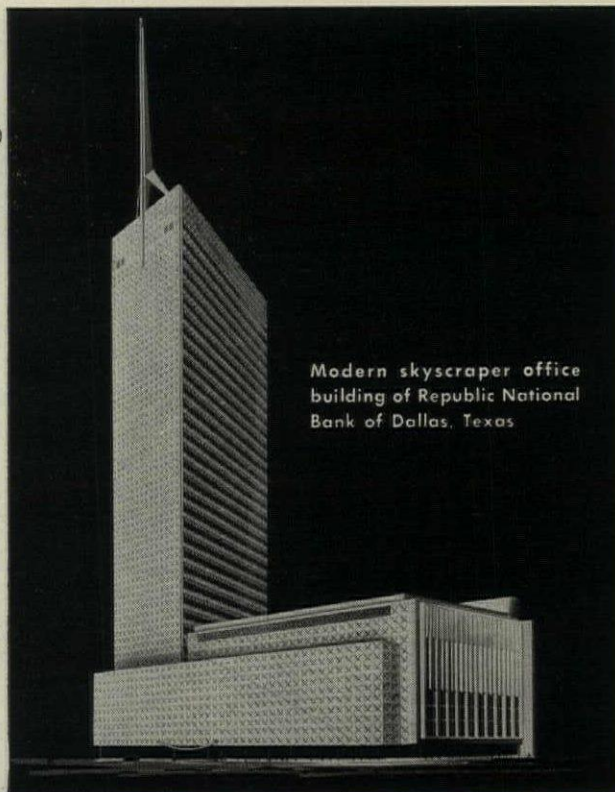
**LUDMAN** Corporation

NORTH MIAMI • FLORIDA



# NIBROC®

**cabinets and towels  
bring efficiency,  
convenience, fine  
appearance to  
new bank building**



Modern skyscraper office  
building of Republic National  
Bank of Dallas, Texas



**Why** did the Republic National Bank of Dallas choose Nibroc Recessed Combination Dispensers and Waste Receptacles—and Nibroc Towels—for the washrooms of its magnificent new building? To provide employees and customers alike the best in washroom service, to make towels convenient for users, to provide easily accessible receptacles, to save floor space, and to enhance washroom appearance.

**First wet strength towel**—and still the finest—Nibroc Towels are super-absorbent, strong, sanitary, soft textured. They speed washroom traffic . . . stop waste because *one* towel dries both hands.

**Architects specify** Nibroc Multifold Cabinets widely—they hold 50% more, require less servicing, cut maintenance costs. Available in 3 models—wall, floor, and recessed. Wall cabinets in durable white enamel (with or without mirror) and easy-to-clean chromium plate or stainless steel.

**For utmost, trouble-free service**, the new, improved recessed dispenser with waste receptacle loads faster, holds far more towels for heavy traffic. 22-gauge stainless steel in stunning design. Dispenser and waste receptacle come separately if desired for staggered installation.

**Choose the best**—Nibroc Towels and Cabinets! See "Nibroc" in your classified directory for name of your distributor, or write Dept. NU-1, our Boston office.

## BROWN

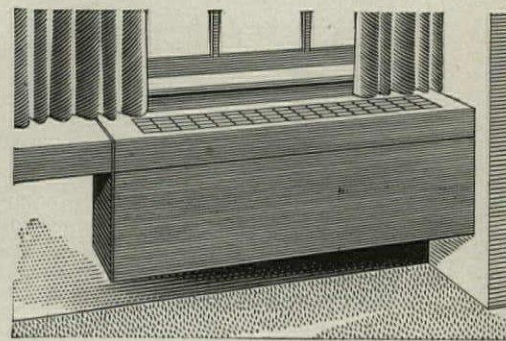
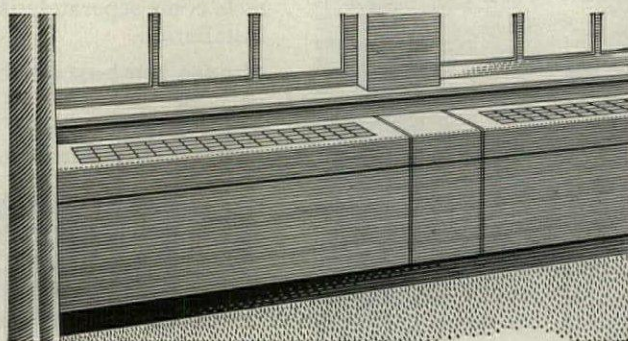


COMPANY—Berlin, N. H.

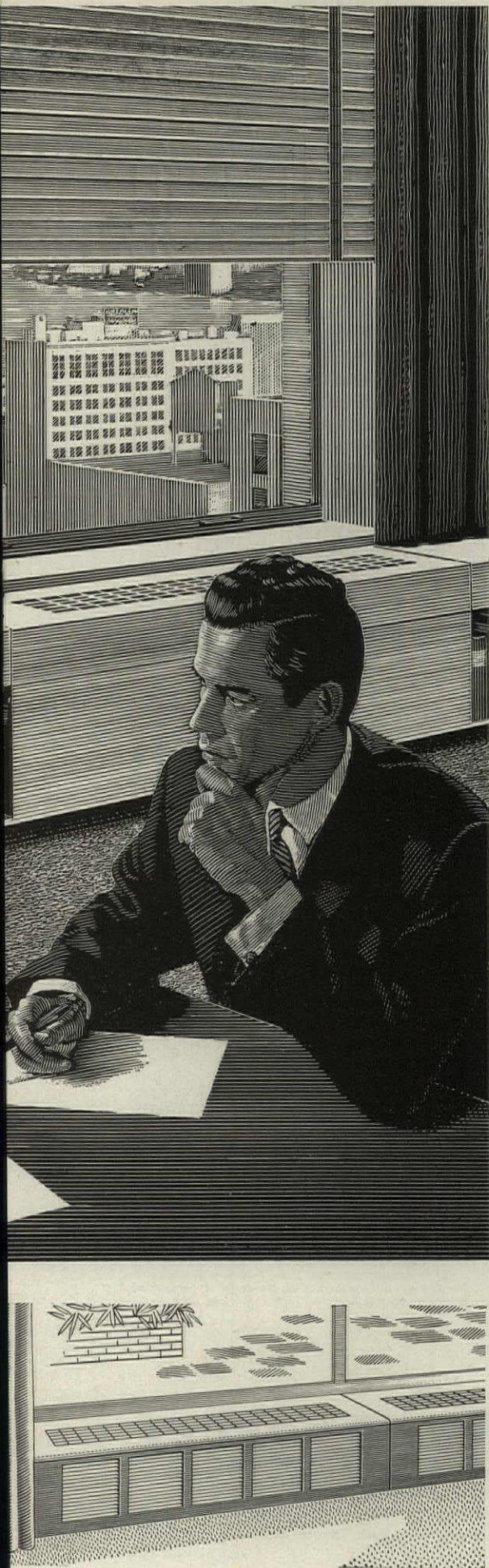
General Sales Office: 150 Causeway St., Boston 14, Mass.



# Carrier again makes news







# Office Air Conditioning Goes Modular!

*Handsome new Weathermaster units fit any window or wall treatment—are assembled from standard “building blocks”*

Now the world's finest air conditioning system—the Carrier Weathermaster\* System—gets the world's most flexible and adaptable under-the-window units. New Modular Weathermaster units are based on the “building-block” idea. Standard components can be assembled into units that fit any size or shape space you may plan. The units actually become part of the architecture in any multi-story, multi-room building—old or new.

**THEY'RE MODULAR!** If you are modernizing an older building with traditional windows, you can plan for the units to hang on the wall, up above the baseboard. If you are designing new buildings with low windows, units can hug the floor—as little as a foot high. If your plan requires it, these units can be extended from wall to wall or column to column—or be confined to the wall space right under the window.

**THEY'RE MODULAR!** You can plan the units so that they become part of the wall. You can make them look like a decorative ledge...or built-in cabinets...or modern bookcases. There's no “tacked-on” look. And the pieces are so easy to assemble that you can install them in record time.

**THEY'RE MODULAR!** With Weathermaster units, you can save on ductwork. You can use fewer vertical risers, because the air supply can be extended through handsome prefabricated enclosures to units in series. And you have greater freedom in location—for lines can enter at the bottom of the unit or either side.

**THEY'RE MODULAR!**—plus all the famous Carrier Weathermaster advantages. A twist of the dial on the unit in each room brings the exact climate you want, any time of the day, any day of the year. Operation is quick, quiet, automatic, dependable.

Why not learn *all* of the reasons why the new Carrier Weathermaster units fit *any* plan? Find out how they give you unlimited flexibility in design. Call the nearest Carrier office or write for the big new colorful booklet that will help you picture handsome Modular Weathermaster units in the buildings you are planning. Carrier Corporation, Syracuse, New York.

\*Reg. U. S. Pat. Off.



air conditioning • refrigeration • industrial heating



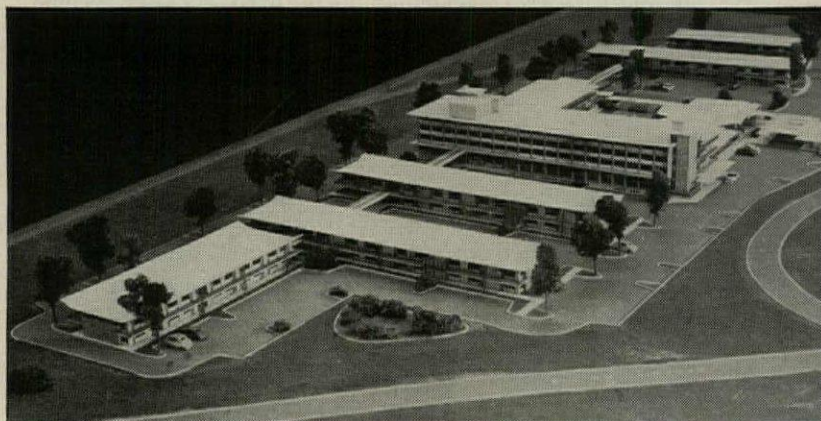
# Seaporclad Porcelain Curtain Walls

make buildings glow  
with ageless color

These insulated porcelain panels of sandwich construction combine the use of various cores laminated under high pressure between heated platens to skins of diversified metals.

Seaporclad can be adapted to meet conditions for any type of construction. On the First Security Bank Building, a wire mesh, fastened to the insides of the grids, was sprayed on the job with lightweight cementitious plaster in thickness sufficient to insure proper insulation and fire-proofing factors.

Fabricated in a variety of textures, in a wide range of colors and shades, Seaporclad will not fade, tarnish, craze or peel. Also, no repaint or other serious maintenance costs are involved.



Architects: Joseph G. Morgan & Edwin Weihe, Washington, D. C.

## MARRIOTT'S MOTOR HOTEL, facing Pentagon Bldg., Alexandria, Va.

Seaporclad colorful panels . . . laminated-insulated . . . will cover entire exterior of this 348 room sound-proof \$4,000,000 motel. These panels were selected for sound-resisting and insulating values . . . in great part to eliminate the noise of planes constantly flying over this area.

Write for our newest catalog and construction details.

Address Dept. 16



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# Seaporcel

ARCHITECTURAL PORCELAIN

SEAPORCEL METALS, INC., 2800 Borden Avenue, Long Island City 1, New York — Member: Porcelain Enamel Institute, A.F. of L. Metal Fabricating & Enameling Plant — In Canada: Seaporcel is manufactured by General Steel Wares, Ltd., London and Toronto, Ontario. Complete erection and engineering departments.

\*Reg. U.S. Pat. Off.

## FIRST SECURITY BANK BLDG., Salt Lake City, Utah

Outlining this structure are 44,000 sq. ft. of ribbed porcelain framing and wall surfaces, bolted into a steel grid framework forming a completely assembled unit 4 ft. x 12 ft. placed in position and fastened to main structural steel by angle clips. The spandrels (12,500 sq. ft.) 4 ft. x 4 ft. are recessed with 8 in. x 8 in. squares in "waffle" effect.

Associate Architects: Bank Building and Equipment Corporation of America, St. Louis; W. Sarmiento, St. Louis; Harry S. Mayer, San Francisco; Slack W. Winburn, Salt Lake City.



Architect: Vincent G. Kling, A.I.A., Philadelphia, Pa.

## POTTSTOWN HOSPITAL, Pottstown, Pa.

Seaporclad panels, of numerous sizes, consist of a porcelain enamel face with aluminum honeycomb core, with a flat sheet paint grip steel back. A feature of this building is the wide use of sun shades made of Seaporclad panels of porcelain enamel facing front and back.



# Milcor Cellufloor meets any combination of circuit and design requirements

*Milcor's "floor of the future" permits unlimited electrification in a variety of fields*

This steel sub-floor meets today's growing need for flexibility in electrification for both communications and power. Combining strength with light weight, it helps the architect solve unusual load problems economically.

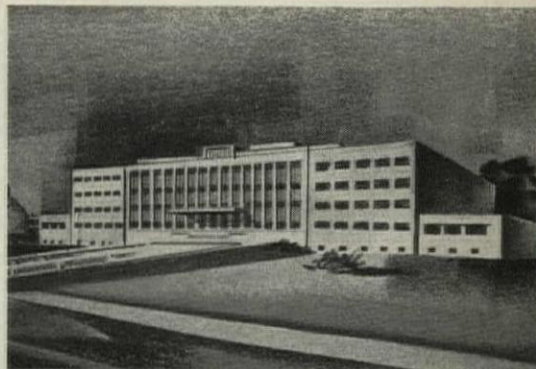
No matter how complex the electrical system, Milcor Cellufloor has ample capacity to handle it. Its cells, spaced on 6-inch centers, permit the installation of service outlets at any point on the floor. As requirements change, these outlets can be relocated — or new ones added — without expensive alterations.

The raceways of Milcor Cellufloor can be used also for other services — for data-processing and office automation circuits... for closed-circuit television hook-ups... for future telephone-cable demands.

The variety of Milcor Cellufloor types enables you to take full advantage of every opportunity to apply this modern idea in floor construction.

Catalog No. 270, available upon request, further develops the exceptional possibilities of Milcor Cellufloor.

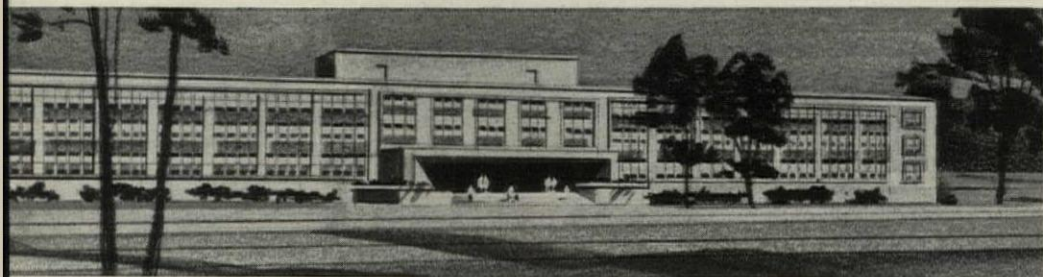
## **MILCOR<sup>®</sup> CELLUFLOOR**



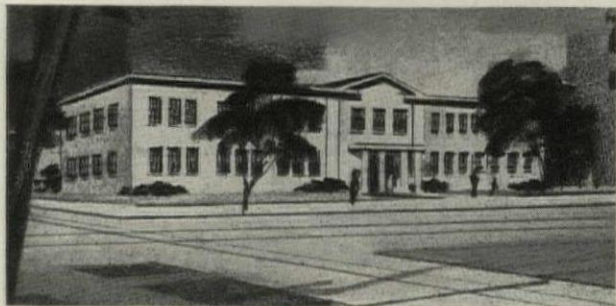
... in the **Insurance** field  
State Mutual Life Assurance Building,  
Worcester, Mass. Architects-  
Engineers. Cram & Ferguson, Boston,  
Mass. General Contractor: Turner  
Construction Co., N. Y. C.



... in the **Banking** field  
Federal Reserve Bank Building,  
Minneapolis, Minn. Architects: Larson  
& McLaren, Minneapolis, Minn.  
General Contractor: Naugle-Leck, Inc.,  
Minneapolis, Minn. Consulting Engineer:  
Schuett-Meier Co., Minneapolis, Minn.



... in the **Governmental** field  
New York Department of Civil Service Building,  
Albany, N. Y. Architects: Cornelius J. White,  
State Architect, Albany, N. Y. Kenneth G.  
Reynolds & Associates, Albany, N. Y. General  
Contractor: Brown-Turner, N. Y. C. Engineers:  
Praeger & Kavanaugh, N. Y. C.



... in the **Communications** field  
Glen Ridge Directory Building, (New  
Jersey Bell Telephone Co.) Glen Ridge,  
N. J. Architects: Voohees, Walker,  
Smith & Smith, N. Y. C. General Contractor:  
James Mitchell, Inc., Jersey City, N. J.



... in the **Finance** field  
Commercial Credit Building, Baltimore, Md. Architects: Harrison &  
Abramovitz, New York City.  
General Contractor: Consolidated  
Engineering Co., Baltimore, Md.  
Engineer: Edwards & Hjorth, N. Y. C.



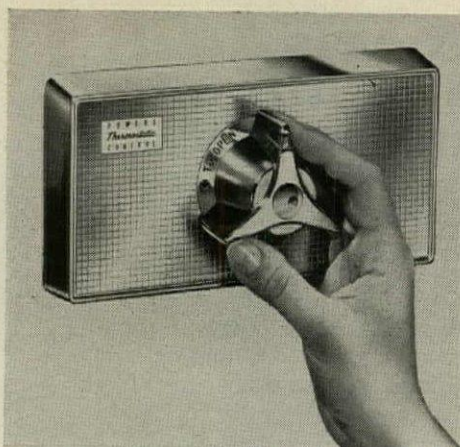
... in the **Transportation** field  
Pennsylvania Transportation Center,  
Philadelphia, Pa. Architect: Vincent  
Kling, Philadelphia, Pa. General Contractor:  
McCloskey & Co., Philadelphia, Pa. Engineer:  
McCormick & Taylor Associates, Philadelphia, Pa.



## PRODUCTS *cont'd.*

to match popular plywood veneers—mahogany, oak, walnut, birch and Korina—the 1"-wide, 1/85"-thick *Wood-Trim* can be cut with scissors or blade. It is applied with any good glue; no heat or clamping is required. The new edging is packaged in 8' rolls at 79¢ each.

**Manufacturer:** US Plywood Corp., Weldwood building, 55 W. 44th St., New York 36, N.Y.



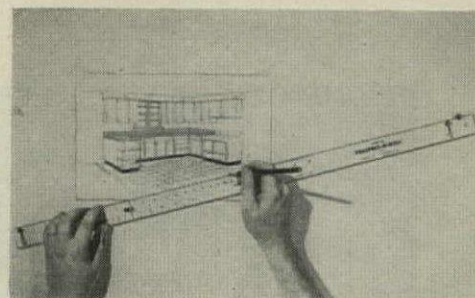
### **WATER MIXER** safely regulates shower or bath temperature

Controlling water temperature in spite of changes in pressure, Powers' new shower control valve, the *Hydroguard*, is a fine safety device for hotel, hospital and school bathrooms as well as apartments and houses. Eliminating multiple controls and visible piping, the compact unit has a thermostatic mixer which delivers water at uniform temperature and protects the bather from scalds or chills as other building occupants turn on taps and cause sudden drops in water pressure. (In view of the legal prosecutions that can follow a tenant being scalded in a shower, hotel and apartment owners should appreciate this feature.) The neat rectangular box is installed easily and fits in nicely with the grid pattern of a tile wall. The valve's mixture range is 65° to 110° F. at 45-lb. pressure, and a concealed adjustment provides for temperature variations. A tamperproof feature, available on valves for institutional applications, locks the delivery temperature at any degree; only personnel provided with special equipment can change the setting. The valve's flow capacity is 10 gal. a min. with 45 lb. pressure differential. A low capacity shower head will not affect its performance. Price of the *Hydroguard* ranges from \$30 to \$60, depending on the quantity purchased.

**Manufacturer:** Powers Regulator Co., Skokie, Ill.

### **DRAWING AID** has perspective computations printed on straightedge

A complete perspective drawing instrument on a ruler, the *Perspect-O-Rule* furnishes all the information necessary for constructing two-point perspectives at any scale from any viewing point—worm's-eye to bird's-eye. Computations are printed on the clear acrylic plastic guide. No additional reference charts or graphs are needed. *Model 50* for use on 23" drawing boards



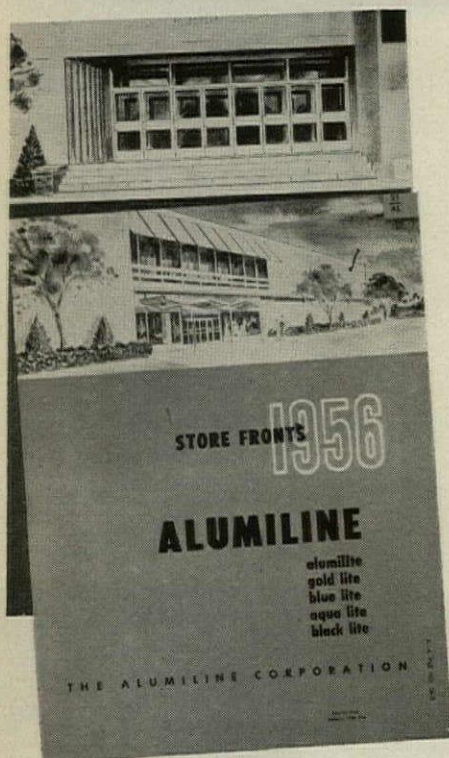
makes drawings up to 15" wide and costs \$7.50. The \$8 *Model 100* is for 30" boards, makes 17" wide drawings and the \$10 *Model 200* for 48" boards makes drawings up to 26" wide.

**Manufacturer:** Canlen Co., Wyomissing, Pa.

*continued on p. 194*

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The new 45-bed St. Joseph Hospital\* in Del Norte, Colorado, is an excellent example of the modern approach to the problem of temperature and humidity regulation in the smaller hospitals. The correct solution to that problem is a system of Johnson *Individual Room Control* engineered to meet the exact needs of the individual building.

### AIR CONDITIONED AREAS

At St. Joseph's, in the air conditioned operating and delivery sections, optimum temperatures are maintained constantly by strategically located Johnson Thermostats in each individual room. The humidity of the conditioned air is also controlled at all times by Johnson Room Humidostats. Complete safety, *even in the presence of explosive anesthetic gases*, is assured by the use of pneumatic control apparatus.

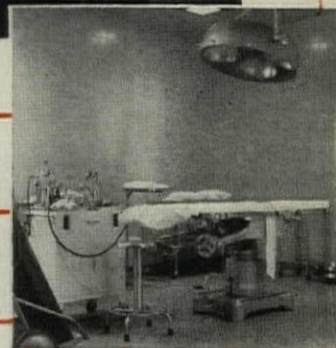
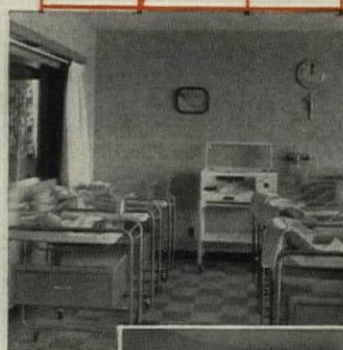
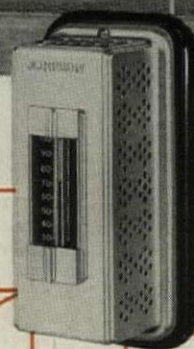
### HEAT REGULATION

During the heating season, Johnson *Individual Room* Thermostats control Johnson Valves on convectors to insure the exact temperature desired in all other rooms of the building, including all patient rooms, offices and public areas. Comfort control is also provided on the building's unit ventilators.

In addition to *individual room* control, behind the scenes other Johnson Thermostats, Valves, Dampers and other controllers regulate the basic operation of the heating and air conditioning equipment. All apparatus is combined into a single, highly efficient system that not only provides the finest in individual room temperature regulation but accomplishes all this at the lowest possible heating and cooling cost.

In hospitals everywhere—and in all other types and sizes of buildings, new or existing—Johnson Control automatically insures the ultimate in comfort, convenience and economy. Each Johnson System, like the one in St. Joseph's, is planned to meet the exact needs of the individual building.

Next time you have a temperature or humidity control problem, talk it over with an engineer from a nearby Johnson branch. He draws on the more than 70 years' experience of the only nationwide organization devoted exclusively to planning, manufacturing and installing automatic temperature control systems. His help is yours for the asking. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.



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\*St. Joseph Hospital, Del Norte, Colorado. Thomas & Sweet, architects, Colorado Springs; K. J. Murray, mechanical engineer, Denver; Howard Whitlock Construction Co., general contractor, Pueblo; Brickham & Tomberlin, mechanical contractor, Denver.



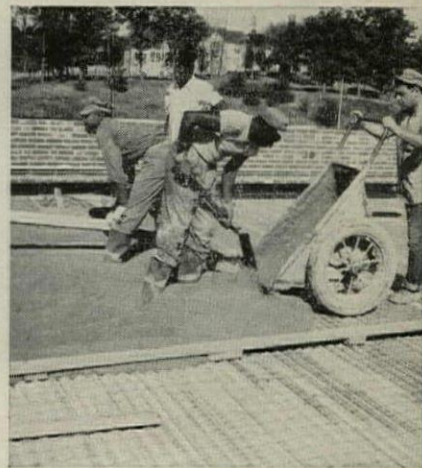
## ON-THE-JOB PHOTOS SHOW



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**An immediate deck.** TUF COR clipped or welded in place offers a safe platform for trades working above and below the steel deck. The tough-tempered, deep-corrugated high-strength deck withstands construction loads.



**Insulation quickly placed.** TUF COR steel serves as a structural deck and forms a tight, solid base for insulating concrete fill. TUF COR safely supports workmen and concrete buggies during roof construction.

# TUFCOR® gives Westroads strong, lightweight roofs

Shop buildings of the Westroads Shopping Center in suburban St. Louis • Architects: Jamieson, Spearl, Hammond & Grolock, St. Louis, Mo.  
Structural Engineer: Milligan & Miklas, St. Louis, Mo. • General Contractor: I. E. Millstone Construction Co., St. Louis, Mo.





# TUFCOR ADVANTAGES



**Permanent cast-in-place slab.** The lightweight insulating concrete fill forms a strong bond with the galvanized TUF COR sheets. The result is a rigid permanent slab with low dead load and high insulating value.

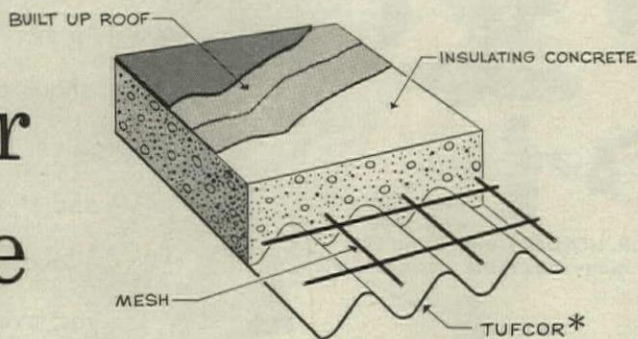


**Perfect roofing base.** TUF COR deck and concrete slab offer a firm, inorganic, permanent base for the built-up roof. It is not necessary to apply roof immediately. Allow the concrete slab 5 to 10 days for curing.



**Suspended plaster ceilings** in Westroads units show one satisfactory method of Tufcor ceiling treatment. Others: Tufcor's bright, galvanized surface can be left exposed for reflectivity or painted in harmonizing colors.

## Shopping Center that are firesafe



\*Available in 1 1/4" depth for 20, 22, 24 gage and 3/4" depth for 26 gage, also known as Heavy Duty Corrugum

Needing strong, lightweight roofs for two one-story buildings in St. Louis' new Westroads Shopping Center, both the architectural and structural engineering firms on the job chose 26-gage TUF COR, a deep corrugated galvanized steel deck, as the perfect companion for steel joist construction and insulating concrete fill.

Says William A. Grolock, Architect, "We chose TUF COR because it is economical to use for stores and commercial buildings where there are large areas to cover and where dead load is a factor. TUF COR provides enough strength for normal construction loads and subsequent live and dead loads. The roof system is a good base for the 20-year bond roof we demand. Fire safety is another reason we chose the TUF COR roof system."

Says Michael Miklas, Structural Engineer, "With the 3' - 0" joist spacing, TUF COR was an economical roof system. The system is adequate structurally and has a low dead load which permitted us to save on structural framing costs. The lightweight concrete fill used with TUF COR provides good insulation and can be pitched easily for drainage. It is a good base for applying the built-up roof."

From the standpoint of economy, good roof design and

ease of erection, TUF COR is an ideal decking for the cast-in-place insulating concrete fill. The lightweight roof system permits maximum economy in framing since total dead load of steel sheets, concrete and built-up roof is less than 16 pounds per sq. ft. For complete information, estimates or cost on your building plan, contact Granco home or district office, attention Dept. F-61.



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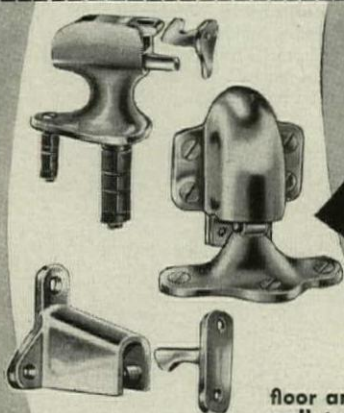


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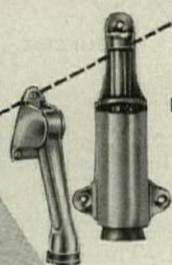


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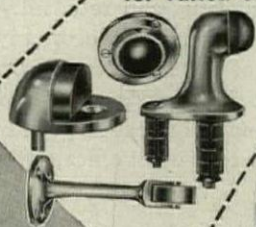
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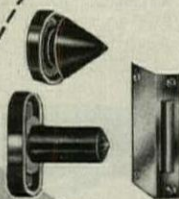


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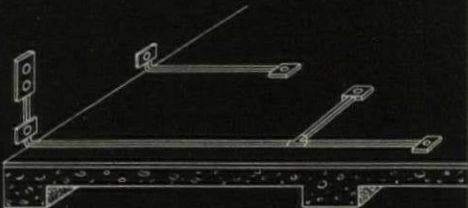


**HOW MUCH  
WILL IT COST  
TO MOVE A DESK?**

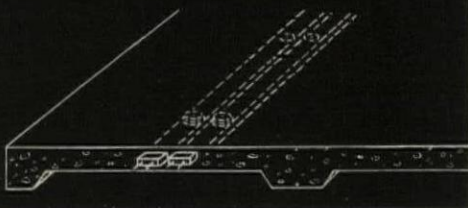


**THE FLOOR YOU CHOOSE CAN SAVE MONEY!**

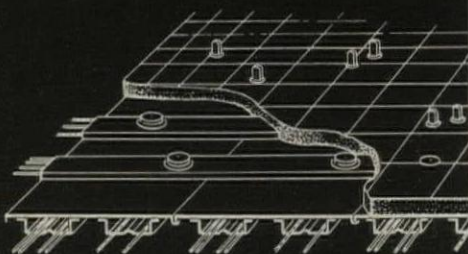
**ORDINARY CONCRETE FLOOR  
NO ELECTRICAL OUTLETS**



**CONCRETE FLOOR WITH DUCTS  
SOME ELECTRICAL OUTLETS**



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UNLIMITED ELECTRICAL OUTLETS**



Business management knows that the *big expense* of moving a desk is supplying electrical, telephone and intercommunication service in its new location. That's where the kind of structural floor you *design* into a new building can make a difference.

For example, an ordinary concrete floor provides *no* electrical outlets. Wires must be run on top of the floor, or walls and floors must be torn up to install new wiring conduit.

Concrete floors with underfloor wiring ducts offer *some* electrical outlets. However, the small duct cells are of limited capacity and are located in widely spaced grids. Moving desks and partitions may require expensive alterations.

But, with Fenestra\* Electrifloor†, *unlimited* electrical availability is *built right in*. Outlets for electrical, phone or intercom service can be installed anywhere, *any time*. Desks may be moved, office layouts changed or new electrical equipment installed with a minimum of time, trouble and expense.

Exclusive 4" handholes and large-area cells make outlet installation easier and avoid crowding wires.

And, because Electrifloor is a structural subfloor and electrical distribution system *all in one*, it actually saves money and building time, when compared with all the costs of other structural systems.

To utilize all the unique advantages of Electrifloor, your building must be designed around it. So get the facts, including cost comparisons, *before* you start your plans. Write Detroit Steel Products Company, Department AF-1, 2296 East Grand Boulevard, Detroit 11, Michigan.

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**ELECTRIFLOOR**

TODAY'S FLOOR WITH A FUTURE...UNLIMITED



## PRODUCTS *cont'd.*



### METAL AND PLASTIC PANEL shields personnel from hazardous equipment

Expanded steel lath is imbedded in glass-fiber reinforced polyester resin to make Resolite's *Security* sheeting for industrial use. Boasting impact resistance of 120 lb. per sq. ft. without rupturing and a deflection of 4.25" under 100-lb. loading, the translucent panel can be installed as a shield around hazardous equipment or chemicals and as protective screening for laboratories or plant security areas. The 0.125" thick panels are available in pale green and ice blue with 30 to 35% light transmission and semiclear with 56%, in 8' high x 1', 2', 3' or 4' wide sheets. Weight of the metal-plastic-glass-fiber laminate is 1.4 lb. per sq. ft. It costs \$2.51 per sq. ft. for the regular formulation and \$3.39 for the fire-resistant. In the photo above left, *Security* panels fence in a high pressure hydraulic pump to confine flying particles and oil spray in case of equipment blow out. A clear acrylic porthole is fused in place in front of the pressure gauges.

Manufacturer: Resolite Corp., Zelienople, Pa.



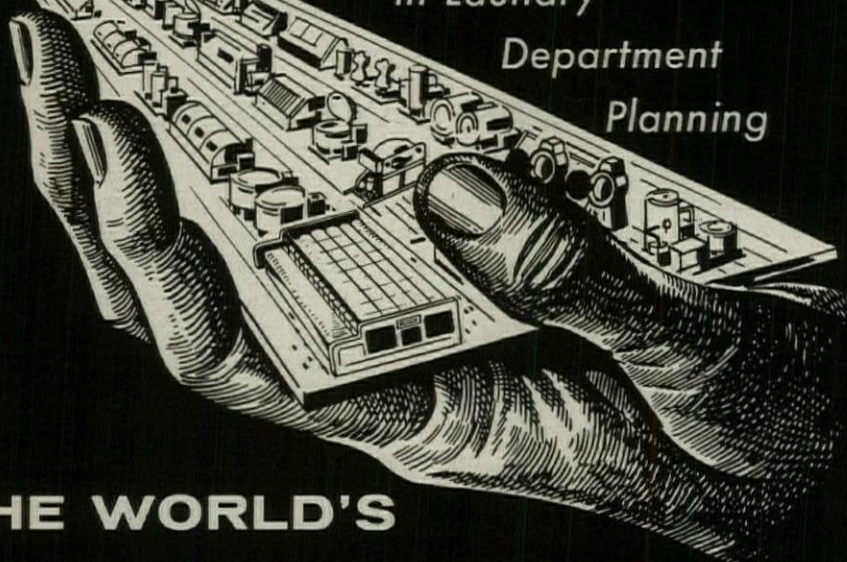
### MECHANICAL TROWELS smooth stiff concrete

Troweling concrete surfaces smooth and fast, the lightweight 24" *RotoTrowel* can be put to work soon after the concrete begins to set up. Because the rotating action of the blades brings the wet cement to the surface, stiffer, stronger concrete can be used than for hand-troweling without the danger of having the mix harden too quickly. Priced at \$250, the *G-24 Trowel* has a knob on the handle for adjusting the pitch of its three blades for floating or finishing while the machine is in motion. The instant the operator lets go of the handle, a dead-man control stops the machine from rotating but does not stop the engine. The workman can set handle at any height comfortable to him. A guard ring permits use of the device up against walls and other obstructions.

Manufacturer: Stow Manufacturing Co., 219 Shear St., Binghamton, N.Y.

*continued on p. 202*

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Only the manufacturer's full and complete responsibility for laundry equipment after installation can assure lasting client satisfaction.

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World's Largest, Most Complete Line of Laundry and Dry Cleaning Equipment





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a lifetime finish  
that never needs  
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*the lowest lifetime maintenance costs  
of any windows on the market!*

Fenestra\* Galvanized-Bonderized Steel Windows are made of solid-bar steel sections, for the strongest possible window construction. Steel is non-combustible, and is the most fire-resistant material for windows . . . hardware never pulls off . . . steel offers ideal putty adhesion . . . no glass breakage resulting from expansion and contraction.

And to slash maintenance costs to the bone, an exclusive *double* protective coating eliminates the need for maintenance painting of windows. First, Super Hot-Dip Galvanizing alloys a thick zinc coating with the steel. This is done in Fenestra's own special plant—the only one of its kind in

America. Then a process called Bonderizing adds a nonmetallic coating over the zinc. The result is a handsome, weather-resistant finish. And its cost for a lifetime of service is as little as the cost of two inside-outside field coats of paint!

For an idea of the maintenance savings on your next apartment project, contact your local Fenestra Representative. He's listed in the Yellow Pages of your phone book. Or write for our free booklet on Fenestra Super Hot-Dip Galvanizing and Bonderizing. Detroit Steel Products Company, Dept. AF-1, 2296 East Grand Boulevard, Detroit 11, Michigan. ®



Fenestra G-B-S Intermediate Projected Windows in the Lake Meadows Project, Chicago, Ill. Architect: Skidmore, Owings & Merrill, Chicago. Contractor: Turner Construction Co., Chicago.

*Fenestra*

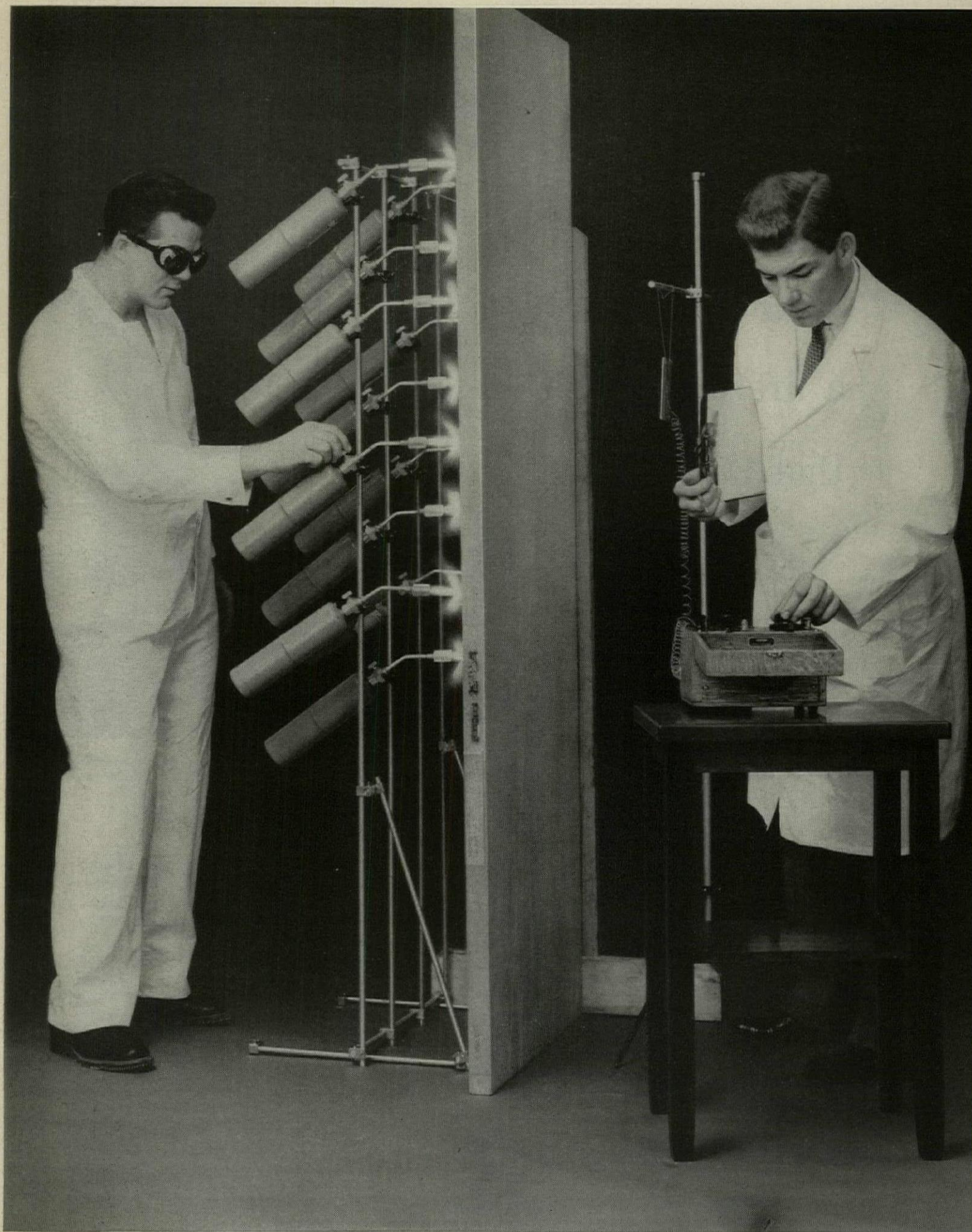


**INTERMEDIATE WINDOWS**

**GALVANIZED-BONDERIZED-STEEL — THE STRONGEST MATERIAL, CORROSION-PROOFED FOR LIFE!**

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**Severe one-hour fire test** — reproducing exacting laboratory conditions — demonstrates Weldwood Fire Door's superior protection. Fire Doors carry the UL label for all class "B" (vertical shaft) and "C" (room and corridor partition) openings. Available with 10" x 10" or 8" x 12" light cutouts, 1 $\frac{3}{4}$ "-thick door is offered in all standard sizes up to 4' x 7'.



# Now—a wood-faced Fire Door that stops heat cold!

Beautiful Weldwood wood-faced Fire Doors give positive protection against searing fire, destructive heat

Look at those blazing blowtorches—1700°F. hot! Yet, after one hour, the temperature one foot from the other side of the Weldwood Fire Door was only 102°F! This solves one of the most difficult fire hazards of all: the problem of suffocating heat that causes more fatalities than fire itself. Weldwood Fire Door's amazing performance is due to its core of incombustible Weldrok®—Weldwood's exclusive mineral material that's lightweight, stable and extremely strong.

All this protection plus the beauty of superb oak, walnut, birch and Korina® hardwoods. Standard thickness face veneers are 1/28" thick for superior construction; edges of joined veneer will not cup, shrink or swell.

Guaranteed for the life of the building in normal use. The Weldwood Fire Door is guaranteed against warping, twisting or manufacturing defects. It's no wonder a Weldwood Fire Door is considered a "must" for schools, hospitals, institutions, offices and apartments.

Famous Stay-Strate® Doors—for interior or exterior use—have the same dimensional stability, same unconditional guarantee, same beautiful hardwood surface, and same exclusive Weldrok core.

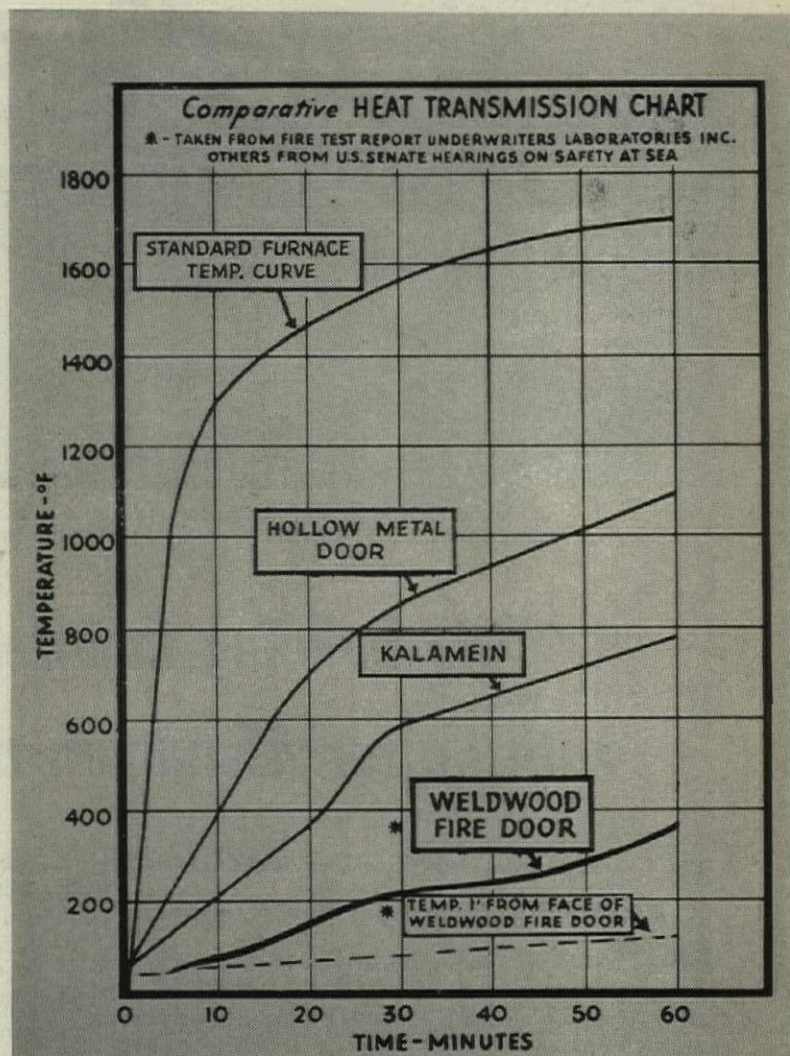
How about performance? A Weldwood Fire Door was mechanically opened and closed 200,000 times; then opened and slammed shut an additional 100,000 times beyond the standard test! The door was unaffected and worked perfectly. A Stay-Strate Door was exposed to all the natural elements on one side—and to a 90-95% relative humidity on the other side—and yet has worked perfectly for over 5 years!

Send this coupon for details on all the famous Weldwood Doors. Or visit any of United States Plywood's 87 branches in principal cities. Remember that Weldwood's Architectural Service Department will be pleased to assist you in any way on your next job. In Canada: Weldwood Plywood, Ltd.



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A product of  
**United States Plywood Corporation**  
*Weldwood—The Best Known Name in Plywood*



**Proof of Fire Door low heat transmission.** Thanks to incombustible Weldrok core and fireproof edge-banding, surface temperature of the other side of a Weldwood Fire Door\* was less than 250°F after 30 minutes—650° less than a hollow metal door tested under the same conditions.

\*Patent No. 2293050

**United States Plywood Corporation**  
**55 West 44th St., New York 36, N.Y.**

SEND ME your free booklet containing details on all Weldwood Doors including Weldwood Fire Doors and Stay-Strate Doors.

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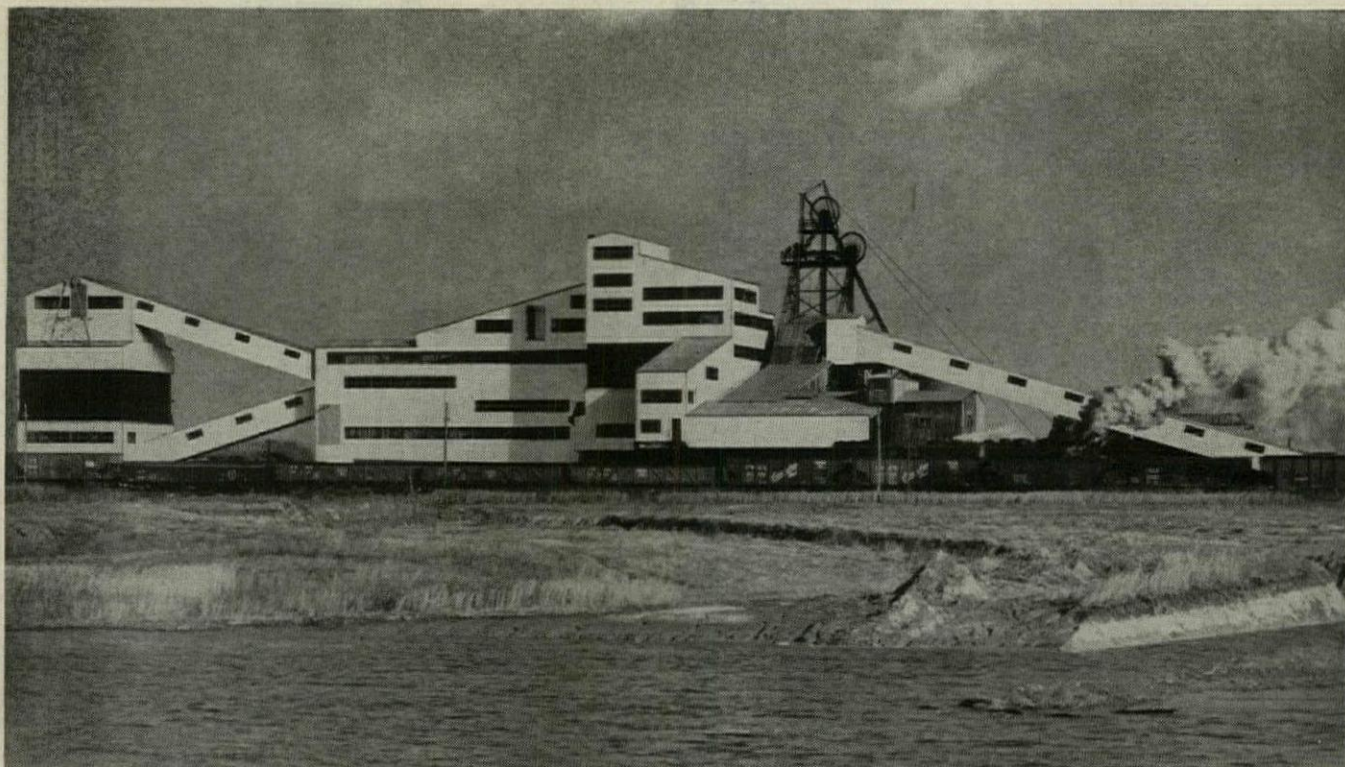
NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

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This gleaming, modern coal preparation plant at Valier, Illinois, made of Kaiser Aluminum, was built for The Old Ben Coal Corp. by the McNally Pittsburgh Mfg. Corp., Pittsburgh, Kansas.

## **"No building maintenance problems with Kaiser Aluminum roofing and siding"**

says Mr. J. W. MacDonald, Vice-President Engineering,  
The Old Ben Coal Corp., Christopher, Illinois

"FUMES AND GASES seem to have no effect on our corrugated aluminum coal-preparation plant. It is completely rust-proof and never needs painting or any other expensive upkeep.

"That's particularly important in the coal industry where building maintenance is often a major item of cost.

"We like the way that aluminum keeps the interior cool on hot summer days.

"In our opinion, aluminum is the ideal building material for coal-processing plants. A recent contract for another preparation plant will again require provision of corrugated industrial aluminum roofing and siding."

Not only does Kaiser Aluminum Industrial Roofing provide greater protection and lower maintenance . . . it also assures *immediate savings*. Its light weight reduces transportation and handling costs. And it often requires lighter, less expensive supporting structures.

Whatever you're building—figure first in Kaiser Aluminum—for better value at lower cost! For A.I.A. File and complete information, contact any Kaiser Aluminum sales office listed in your telephone directory. Or write Kaiser Aluminum & Chemical Sales, Inc. *General Sales Office*, Palmolive Bldg., Chicago 11, Illinois; *Executive Office*, Kaiser Bldg., Oakland 12, California.

## **Kaiser Aluminum**

### **Industrial Roofing and Siding**

**Light Weight**—Reduces transportation costs. So easy to handle that construction is faster, lower in cost. Often permits the use of lighter, less expensive framing.

**Strong**—The increased depth ( $\frac{7}{8}$ " ) of the corrugations of Kaiser Aluminum sheet provides greater load carrying capacities over the longer spans of modern industrial construction.

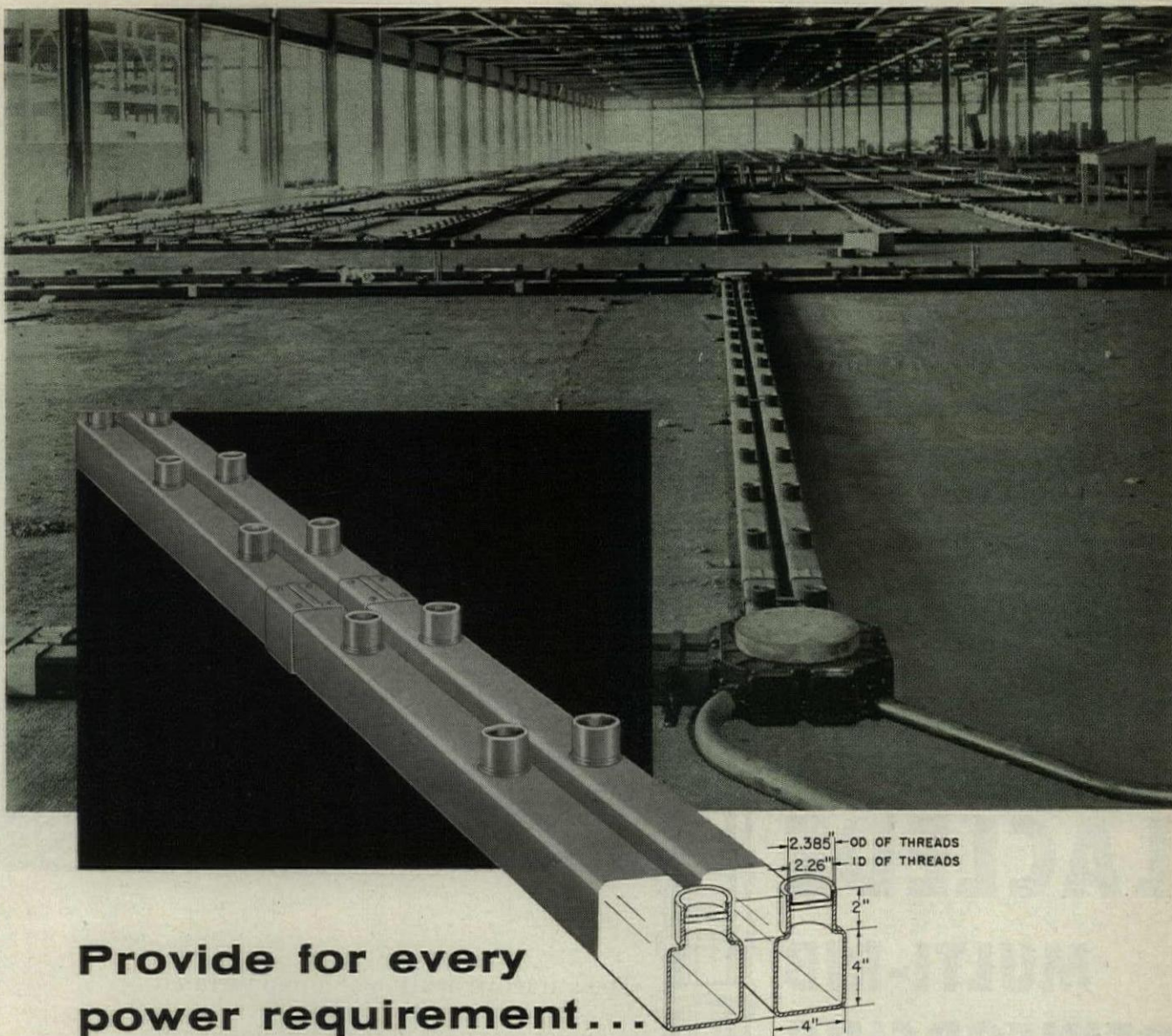
**Corrosion Resistance**—High resistance to most industrial fumes.

Can't streak with red rust. Maintains attractive appearance indefinitely.

**Low Maintenance**—Never needs painting. Resists heavy winds and hail.

**Cooler, Brighter Interiors**—By reflecting hot sun rays, aluminum keeps interiors as much as 15° cooler. Aluminum's high reflectivity insures extra interior light.





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DURABILITY**

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LACLEDE  
MULTI-RIB  
REINFORCING  
BARS**

Public Housing Project Mo. 1-6, Phase 1, providing 660 dwelling units for low-income families.

**Architects:** Hellmuth, Obata & Kassabaum, Inc.;

**General Contractor:** Millstone Construction Co.;

**Engineer:** William C. E. Becker. All of St. Louis.



The attractive apartment group pictured is one of many large-scale public housing projects for which Laclede reinforcing bars were specified. These bars, with their outstanding multi-rib deformations, conforming to ASTM specifications A-305, represent the perfect balance between high strength and maximum anchorage.



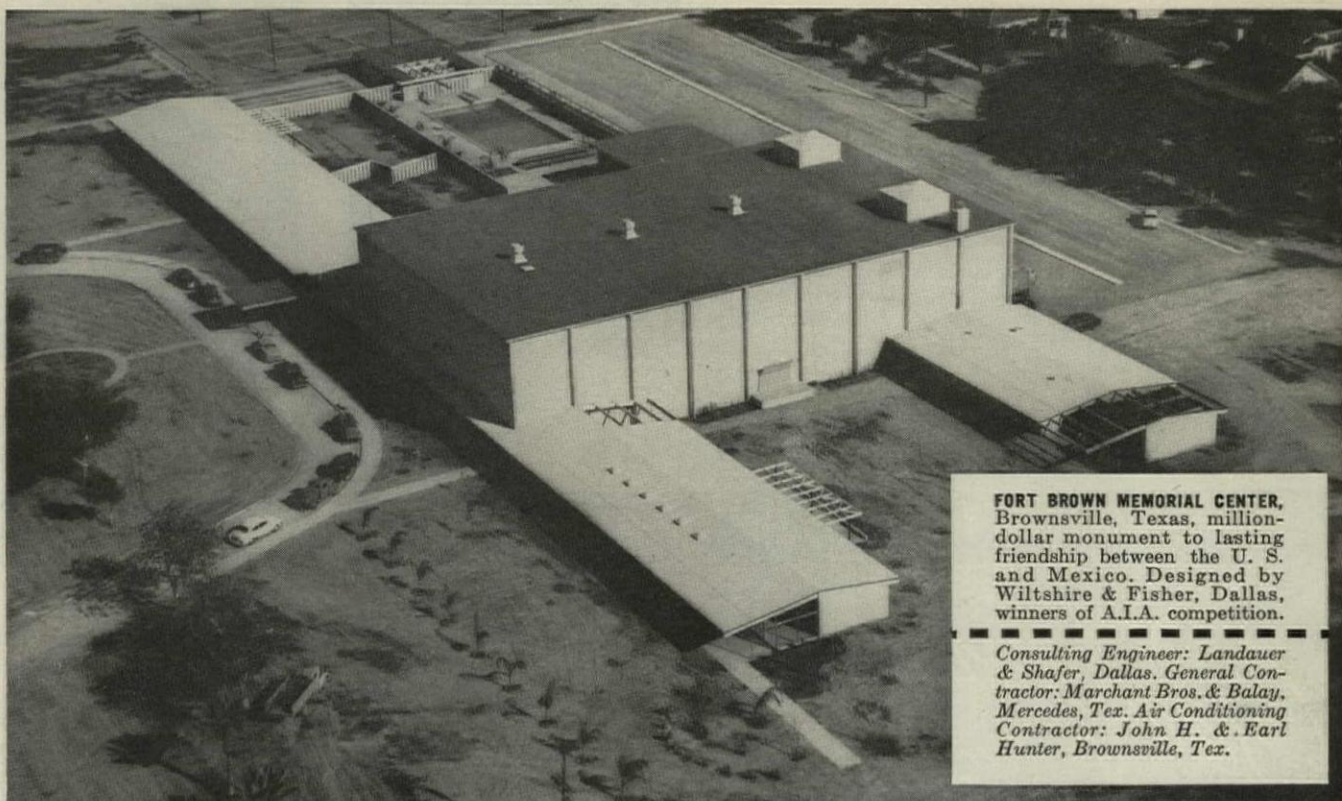
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SAINT LOUIS, MISSOURI



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**IN PRIZE-WINNING FORT BROWN** *Memorial Center*

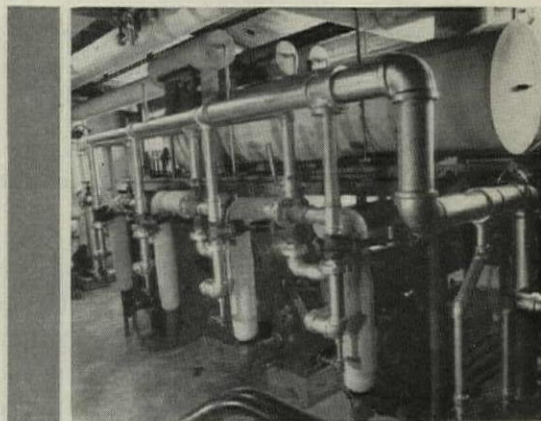
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AMONG LEADING U. S. ARCHITECTS!**

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Whether your job is large or small, in the complete Airtemp line of equipment for all systems of modern air conditioning, you will find the *exactly right* equipment for every requirement.

When you air condition with Airtemp you can make *doubly* sure that your installations are right in every detail by utilizing the advisory services of *top engineers* of Airtemp Construction Corporation. And to safeguard your installations through the years ahead, there are Airtemp-trained *personnel* and service *facilities* right on the spot in every major community.

So remember, next time you're planning commercial or industrial air conditioning . . . specify AIRTEMP. Get the best equipment for the job *plus* the complete air conditioning service that will relieve you of many problems.



**250 TONS OF COOLING!** Two Airtemp Liquid Chilling systems provide water for cooling cycle in air conditioning of Fort Brown Memorial Center. Heart of each unit is the Airtemp Variable-Capacity Radial Compressor with exclusive design which saves space, reduces compressor weight. Quiet operation is due to perfect balance and reduced vibration.

## AIRTEMP BUILDS AIR CONDITIONING TO FIT ANY REQUIREMENT!

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you, write to: Airtemp Construction  
Corporation, Dayton 1, Ohio*

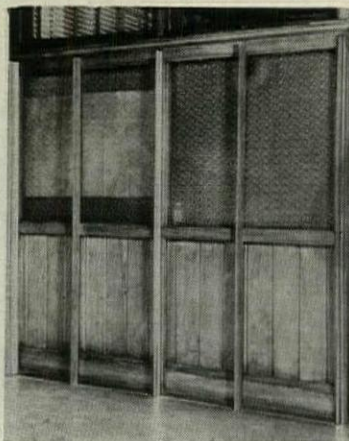
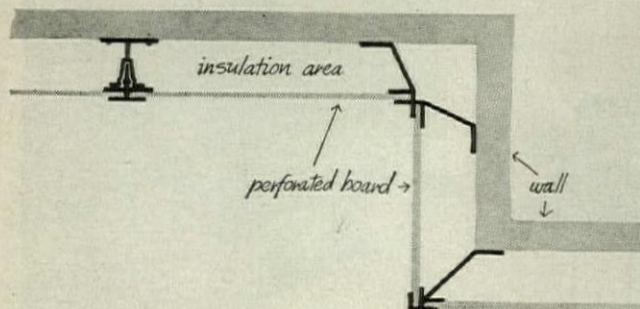


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AIR CONDITIONING • HEATING FOR HOMES, BUSINESS, INDUSTRY



## PRODUCTS *cont'd.*



### ACOUSTIC PANELS snap on over existing walls

One of Erdle Perforating's stock products that is extremely practical in remodeling jobs is the *Epcu Snap-on Wall*. Not only does the simple system of perforated panels and aluminum channels spruce up outmoded interiors, it can also provide efficient sound control. The metal framing is designed to allow for the addition of an acoustical batt between panel face and existing wall. Available in 8', 10' and 20' lengths, the aluminum channels are mounted at boardwidth intervals and can be attached with screws or adhesive. Various kinds of hardboard and metal face panels are available with numerous size and pattern of perforations—including slots and square holes. Interestingly enough, Erdle points out, the tinier the holes the more open area per square foot and so the more effective the sound control. Also, up-and-down patterns seem to be less astigmatic than diagonal.

Another Erdle item useful in old and new construction is the acoustic ceiling panel made in aluminum and 28-ga. steel. Designed for use with standard suspension channels, the sheets come in a 4" o.c. crimp and in a shallow corrugation pattern. Erdle also maintains an engineering service for developing special acoustical wall, baffle and ceiling systems according to architects' specifications and details.

*Manufacturer:* Erdle Perforating Co., Inc., 169 York St., Rochester 11, N.Y.

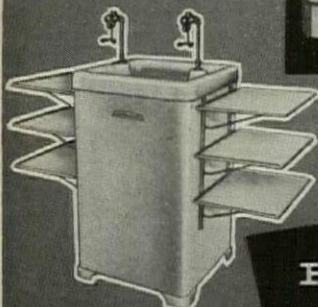
### specified by State Authority of

*Pennsylvania*

Eastern Pennsylvania  
Psychiatric Institute,  
Philadelphia, Pa.

Architects: Harbeson,  
Hough, Livingston &  
Larson and Harry Stern-  
feld, under supervision of  
THE GENERAL STATE  
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### TECHNICAL PUBLICATIONS

#### ELECTRICAL EQUIPMENT

Product Selector Including Application and Installation Data. The Clark Controller Co., 1146 E. 152nd St., Cleveland 10, Ohio. 32 pp.

Switchboards with Basic Circuits. GEA-4127B. General Electric Co., Schenectady, N.Y. 40 pp.

#### FLOORING

Architect's Specification Guide. Kentile, Inc., 58 Second Ave., Brooklyn 15, N.Y. 16 pp.

#### FRAMING

Unistrut Space-frame System. The University  
*continued on p. 210*



# GOLD COAST CHERRY

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N.A.H.B. Show—  
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*Beautiful*  
**buy....**



**... any way  
you look at it!**

**S**URE, it's beautiful to look at... in grain and figure, in warm, light, *modern* color. Glamorous rotary-cut Gold Coast Cherry is the *new* beauty star in flush doors.

More good news! Gold Coast Cherry cuts finishing costs: its beautiful color makes stain unnecessary — its smooth, close texture requires no filler.

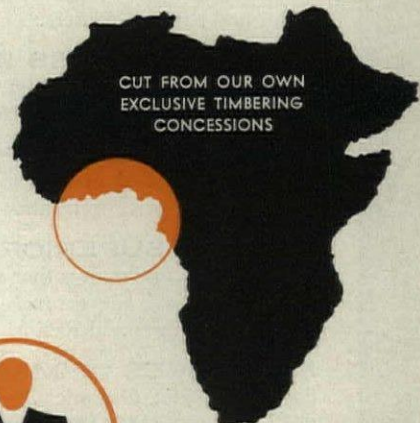
Price? *Actually lower than many domestic hardwoods!*

That's Mengel rotary-cut Gold Coast Cherry — eye-appeal, *buy*-appeal — any way you look at it.

See for yourself: order an inspection lot from your distributor. Why not phone or write him... *this very profitable minute?*

Door Department, THE MENGEL CO., Louisville 1, Ky.

Mengel Doors equal or exceed the requirements of  
Bureau of Standards specifications CS200-55

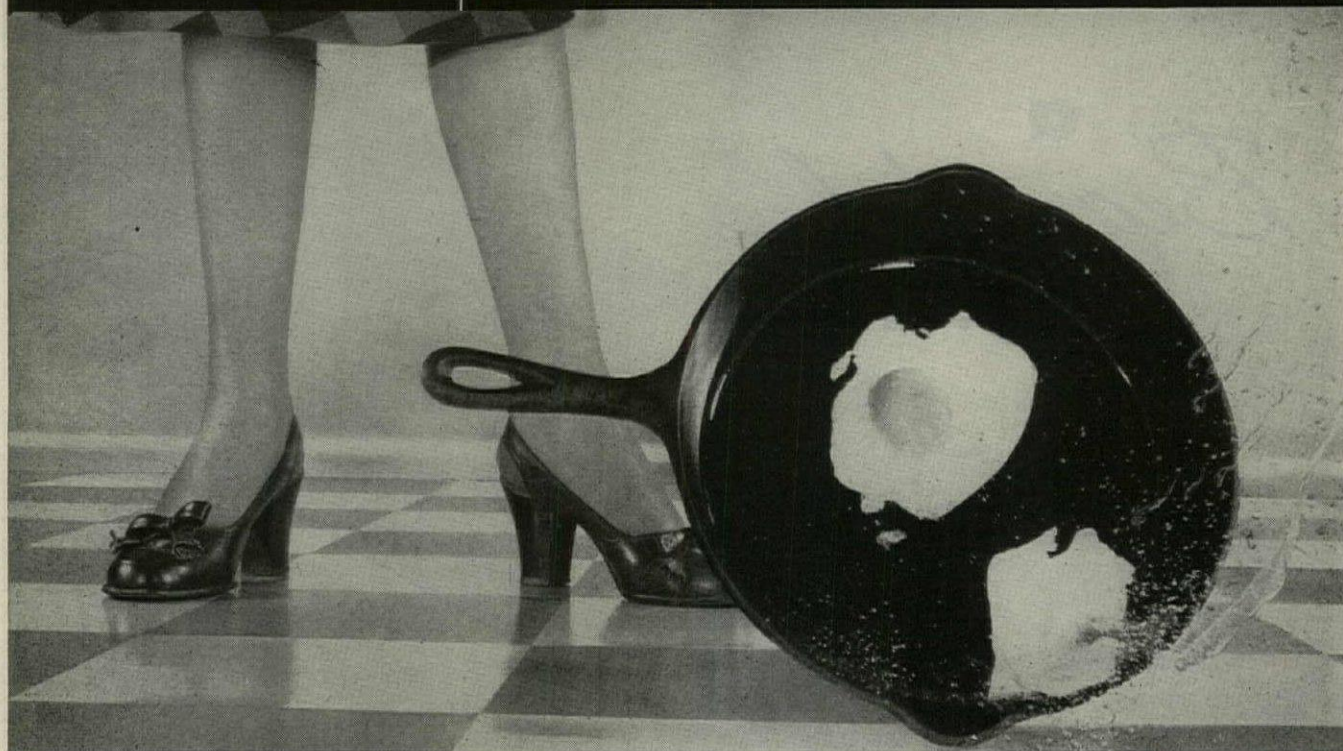


**MENGEL**  
*Flush*  
**DOORS**



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# Vinyl floors resist wear ...clean easily...stay new



**NO HARM DONE!** Vinyl floor tile's outstanding resistance to abrasion, wear and traffic makes it ideal for

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**RESISTS STAINS.** Super-tough vinyl flooring offers maximum protection against damage from grease, acid, bleach, alkali and strong cleansers.

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**LASTING SUPERIORITY.** Flexibility, resistance to deterioration, and many other salable features are permanently "built in" vinyl tile through Monsanto chemical materials called Plasticizers and Resins.

**FOR NAMES OF MANUFACTURERS** of vinyl floor tile write: Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478-D9, St. Louis 1, Missouri.

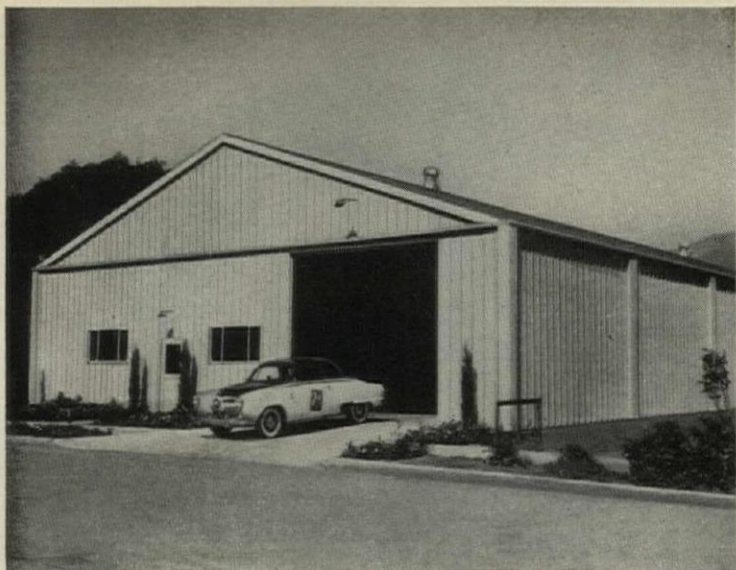


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Building and industrial equipment, Albuquerque, N. M.



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Hardware store, Lafayette, Calif.

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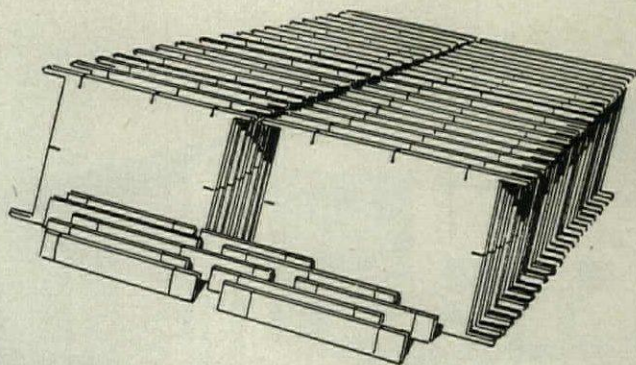
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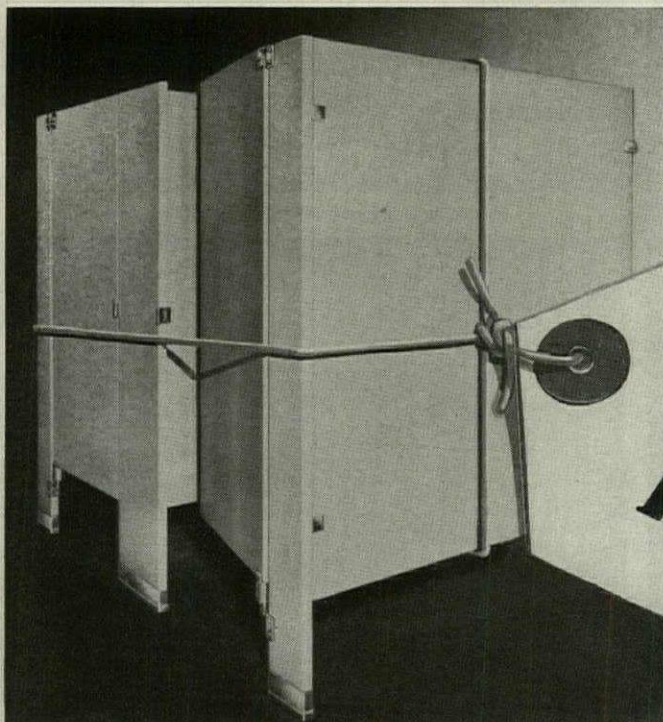
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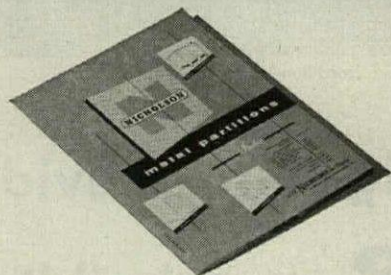


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*in standard colors*



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You can specify better-built compartments—Nicholson compartments—and have them shipped *right away!* No hold-up. No waiting. No delay in completion of important building contracts.

Latest production facilities, housed in a modern 67,000 square-foot plant, are busy building up a standard-size stock of three distinctive styles. From ultra-modern to rugged utility designs, you can get the toilet compartments you need *in a hurry.*

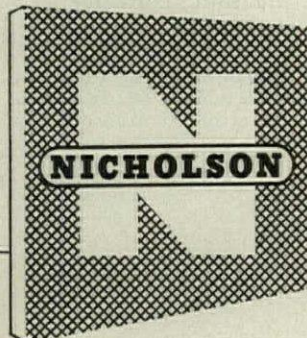
For serviceability and *service*, specify Nicholson.

*Nicholson Toilet Compartments are immediately available in the following types . . . in standard colors:*

Type A—floor braced

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Type B—flush type



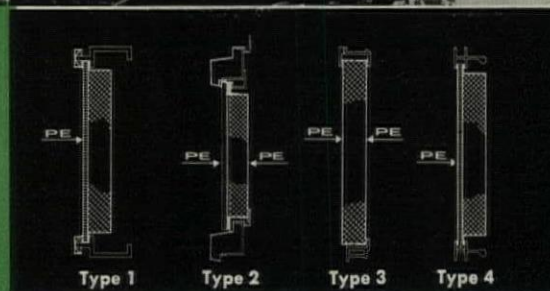
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The buildings shown above are: (1) Ford Central Staff Office Building. Architect: Skidmore, Owings & Merrill, New York. (2) RCA's Cherry Hill Project. Architect: Vincent G. Kling, Philadelphia. (3) Buffalo Airport. Architect: Harry A. Morris, AIA, with Thomas B. Bourne Associates, Inc. Consulting Engineers, Washington, D. C. (4) Wyeth Laboratories' Home Office and Research Unit. Architect: Skidmore, Owings & Merrill, New York. (5) Safeway Store. Architect: Wechsler and Schimmenti, New York.

Typical insulated PORCELPANELS for curtain wall construction (sectioned above) include: Type 1—Flat face panel used for Ford Office Building; Type 2—Corrugated face used for RCA Cherry Hill Project; Type 3—Double face used for Buffalo Airport; Type 4—Flat face used for Wyeth Laboratories.

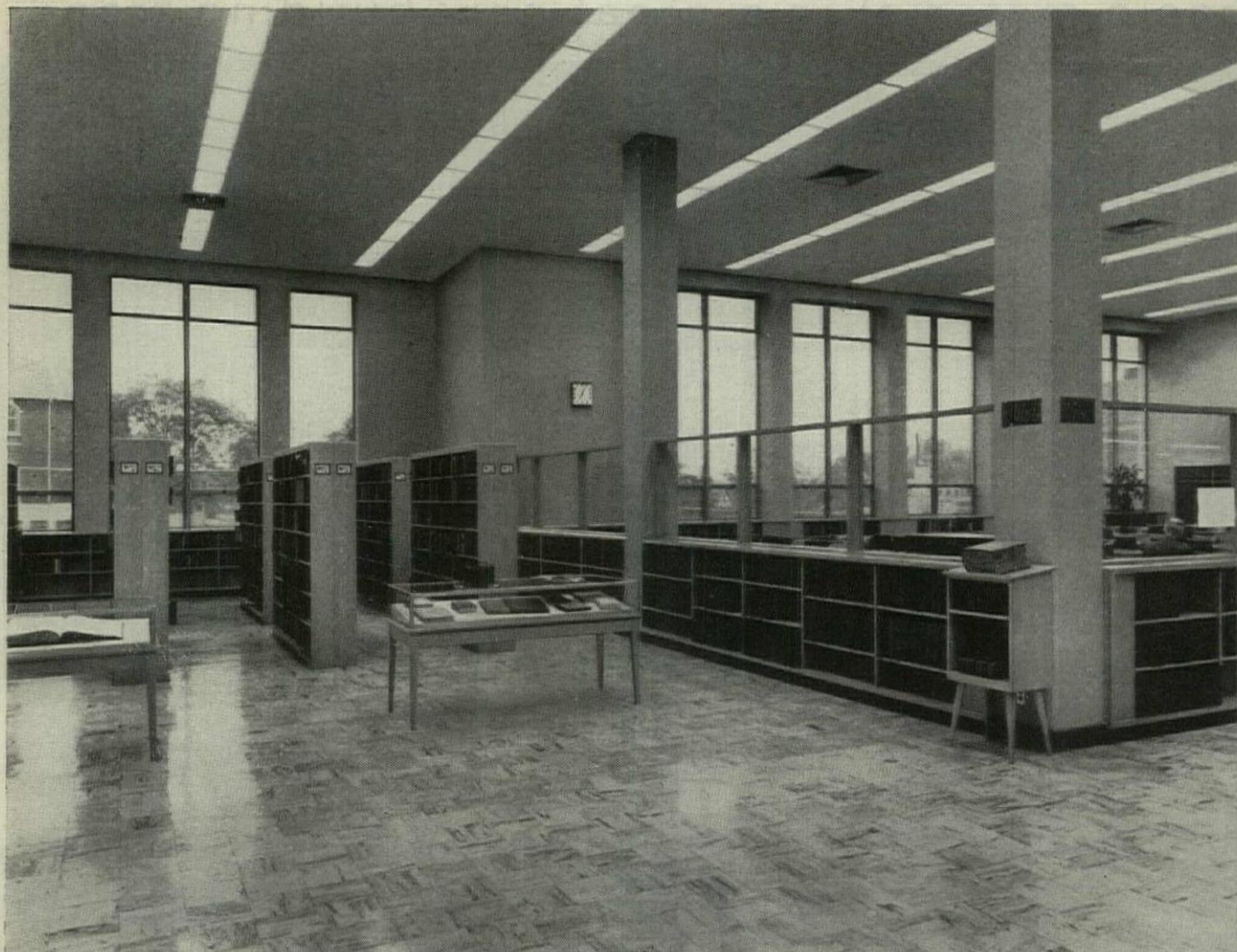
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WRITE for Bulletin A-56 which includes data helpful to the architect designing with porcelain enamel.







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If *you* have a lighting problem put it up to Litecontrol. Your local Litecontrol Representative can help you plan the best illumination for the job — and probably save you money in addition.

ARCHITECT: Frantz & Addison, Roanoke, Virginia  
 ENGINEER: Wiley & Wilson, Lynchburg, Virginia  
 FINISHES: Ceiling, Light Buff Tile; Walls, Aquamarine;  
 Floor, Light Tan  
 CEILING HEIGHT: 18' 0"  
 FIXTURES: Litecontrol No. 5828 Recessed Louvered  
 Slimline Troffers  
 SPACING: 9' 0" on centers  
 INTENSITY: Average on tables, 40 footcandles in  
 service  
 Average between stacks, 35 footcandles in  
 service (horizontal plane)



**LITECONTROL** *Fixtures*

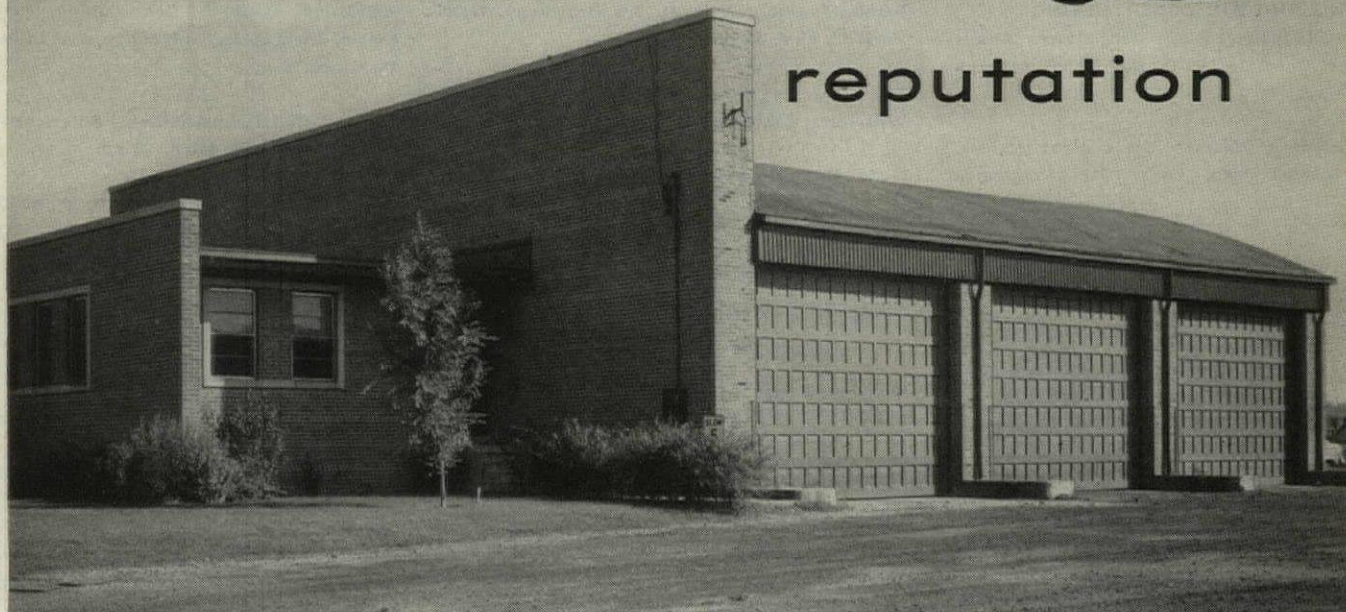
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Ro-Way doors are replete with features preferred by architects to insure owner satisfaction. Features like Taper-Tite track and Seal-A-Matic hinges that guarantee weather-tight closure against side and head jambs. And ball-bearing rollers with Double-Thick treads for smooth, easy performance year after year.

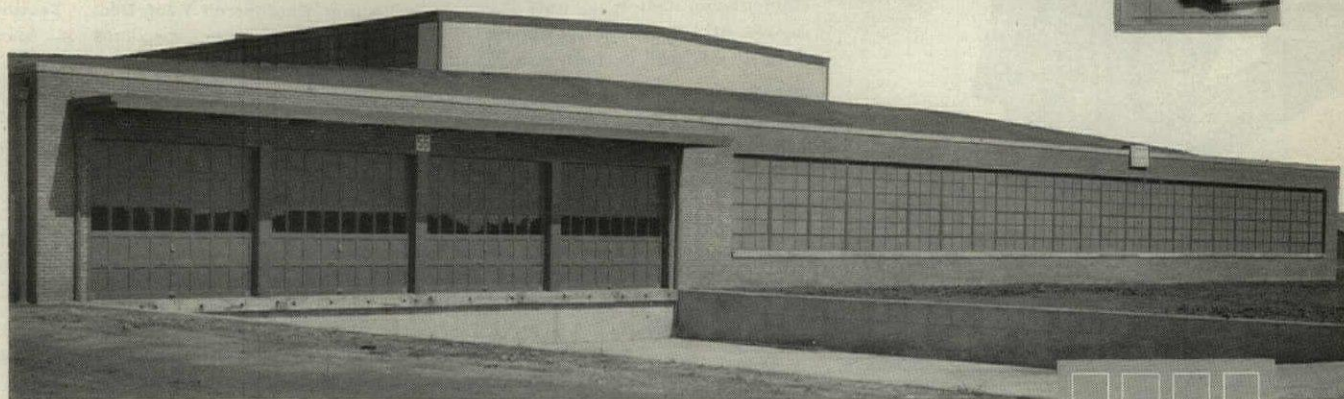
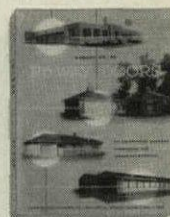
Write in "Ro-Way" and you write in mortise and

tenon joints — waterproof glued and steel doweled. Precision-squared muntins, rails and stiles. Rabbeted sections for weather-tight joints. Drum and hand sanded millwork for finest finish. And special heavy-gauge hardware (Ro-Way's own) that's both Parkerized and painted *after* fabrication to prevent rust—inside and out.

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*there's a Ro-Way for every Doorway!*

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American Industrial Plant Ventilators. American Steel Band Co., P. O. Box 565, Pittsburgh 30, Pa. 4 pp.

Berko Electric Radiant Glass Heat Panels.  
Berko Electric Mfg. Corp., 212-40 Jamaica

Ave., Queens Village 28, N.Y. 8 pp.

Heat Flow by Radiation in Buildings. Infra Insulation Inc., Dept. R, 525 Broadway, New York 12, N.Y. 48 pp.

The Logic of Stoker Heating. Form W-301. Will-Burt Co., Dept. 1, Orrville, Ohio. 12 pp.

Model K Ventura Fans for Industrial Ventila-

tion. American Blower Corp., Detroit 32, Mich. 4 pp.

Reflective Radiant Conditioning. Reflectotherm, Inc., 26 E. University Ave., Cincinnati 19, Ohio. 16 pp.

Sprayed Coil Dehumidifiers. American Blower Corp., Detroit 32, Mich. 20 pp.

Thermo-Base for Gentle Warmth and Cooling. Gerwin Industries, Inc., Michigan City, Ind. 12 pp.

Vibration Control Specifications for Air Conditioning Equipment. Korfund Co., Inc., 48-086 32nd Pl., Long Island City, N.Y. 4 pp.

The Wickes Boiler Co.—Its Products and Its Facilities. The Wickes Boiler Co., 515 N. Washington Ave., Saginaw, Mich. 22 pp.

**INSULATION**  
Insulation Case Study Reports. Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh 22, Pa. 16 pp.

**LIGHTING**  
Holophane Datalog. Holophane Co., Inc., 342 Madison Ave., New York 17, N.Y. 64 pp.

Smithcraft Architectural Troffers. Smithcraft Lighting Div., Chelsea 50, Mass. 36 pp.

Smithcraft Over-all Illumination. Smithcraft Lighting Div., Chelsea 50, Mass. 6 pp.

**PARTITIONS**  
Hollow Partitions with Channel Studs. Metal Lath Mfrs. Assn., Engineers building, Cleveland 14, Ohio. 4 pp.

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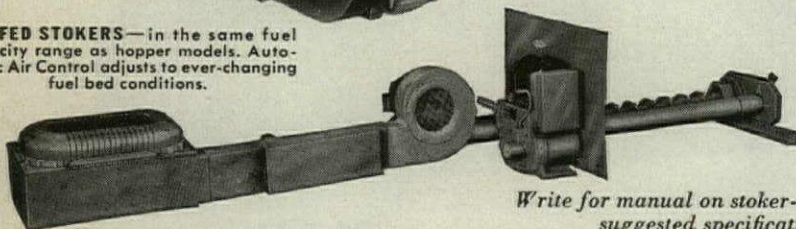
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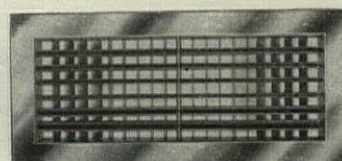
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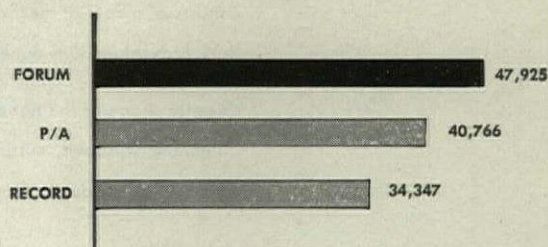
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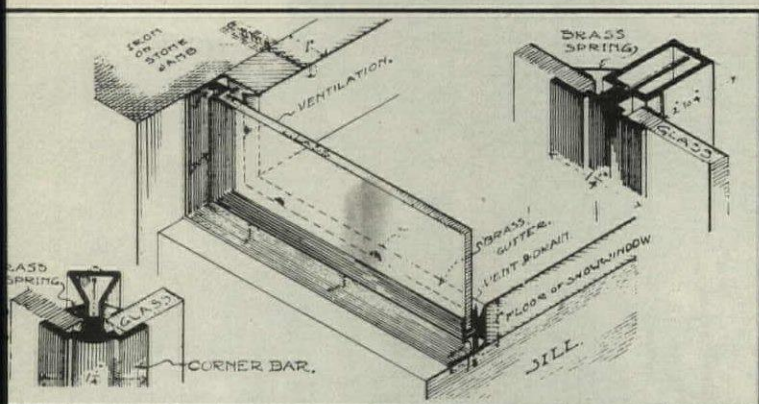
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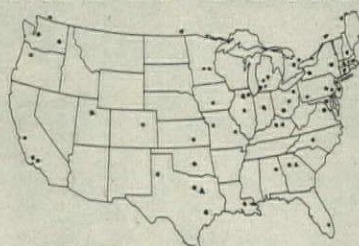
# How you benefit today from a 50 year old patent

Patent 820,438 was issued to Francis J. Plym, city architect of Kansas City, in 1906. On the basis of this patent for a new resilient window sash, he started the Kawneer Company, which today, 50 years later, is a major producer of architectural metal products for the construction industry—curtain walls, windows, sash assemblies, sun control products, doors and entrances, mullions and division bars, sliding and flush doors, trim and bulkhead members and facing materials.



ated above is a reproduction of the patent application drawing submitted by Francis J. Plym for his unique new resilient sash that revolutionized window display techniques and displaying methods.

## FROM COAST-TO-COAST...



Since its start in 1906, Kawneer has developed a nationwide organization to better service the architectural profession and the construction industry as a whole. From a small plant in Niles, Michigan, the company has grown to include 12 factories and warehouses in key distribution points to provide immediate service. A sales organization of 110 men, trained to serve the architect and contractor, covers the U. S., Canada and Latin America. A dealer organization consisting of more than 1200 factory-trained dealers offers its skills and stocks of Kawneer materials to assure proper completion of jobs. With these facilities Kawneer assures your construction team quality materials, manufacture, design and application.

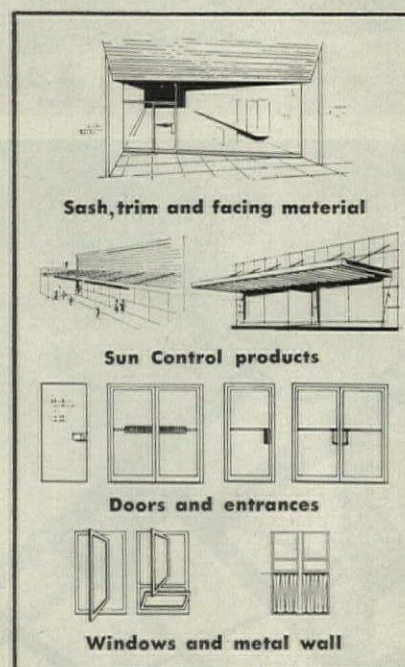
## ARCHITECT-INVENTOR



Francis J. Plym, founder of the Kawneer Company in 1906, was a practicing architect who was interested in the problems of store window design. Prior to his first invention of resilient sash, large panes of glass, ideal for display of merchandise, could not be used. There was too much danger of cracking and shattering from grip and rusting of iron sash or rotting of wood sash. As a result of his studies, Mr. Plym provided the construction industry with materials that made possible the

ing of large lites of glass. This invention was a boon to retailers who could finally display merchandise effectively to shoppers. It revolutionized store front design. As a result of this, Mr. Plym is recognized as the pioneer of store front modernization and helped to make possible the modern, appealing store fronts we have today. The impact of his invention led to the demand for more material and assemblies. Over the years Mr. Plym amassed a total of 30 patents, all of which have helped to contribute to the needs of the architect for the versatility of design with stock materials.

## COMPANION PRODUCTS



Although the reputation and growth of Kawneer can be attributed to its design and manufacture of materials for store fronts, the work with architects through the years has made other building products possible. Kawneer in the 1930's was the largest manufacturer of aluminum windows for the home and commercial buildings until production was curtailed because of World War II. Since the war, Kawneer has branched out to include Canopies, Louvers, Flush Doors with honeycomb cores, Doors and Entrances, Spandrels, Mullions, Facing Materials and other products that apply to other types of building as well as store construction.

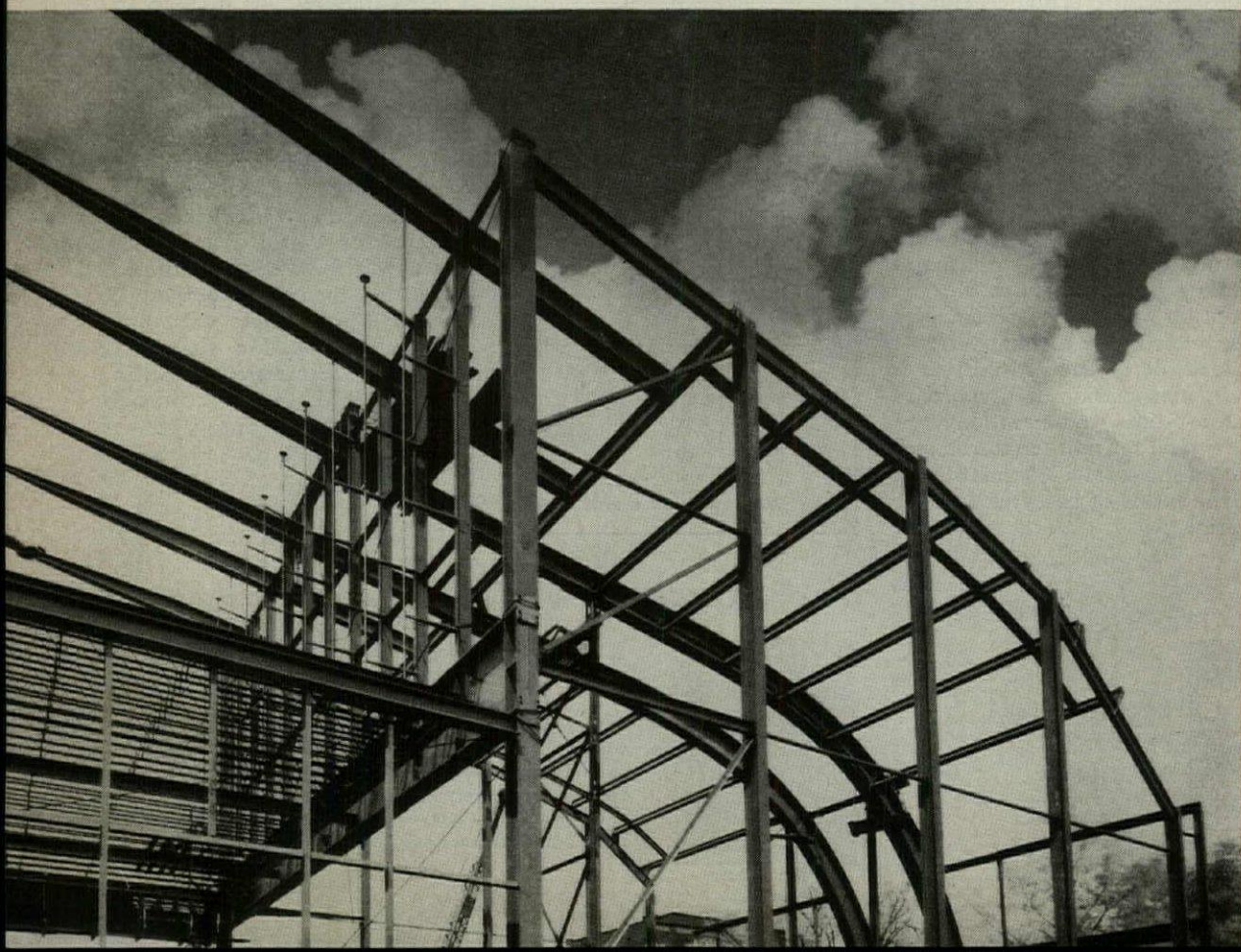
and now—new Kawneer products to serve the architect



Some years ago Kawneer instituted an extensive Research and Development program to contribute new products to the construction industry. You have already seen some of the fruits of this program. Very soon, Kawneer will announce a number of new products in commemoration of its 50th anniversary. Look for the announcement in the coming issues of this magazine.







**Temple B'Nai Amoona.** Architects: Eric Mendelsohn, A.I.A. Engineer: Isadore Thompson, San Francisco. Fabricator: Mississippi Valley Structural Steel Co., St. Louis. Erector: Ben Hur Construction Co., St. Louis. General Contractor: I. E. Millstone Construction Co., St. Louis.

The temple, assembly wing, and school are tightly arranged around an enclosed garden. The deep columns together with the overhang of roof slab form a system of sunbreaks.

←  
Erection of the curved beams. They are 42 in. deep at their base, tapering to 3½ in. at the edge of the cantilever. The flanges and web were welded together in the shop and each rib shipped to the field in three sections. They were then erected end to end on false work, and the splices welded.



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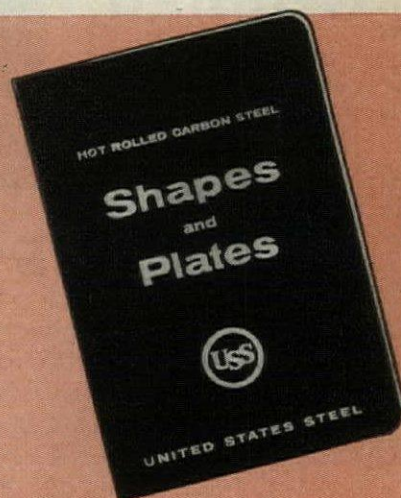
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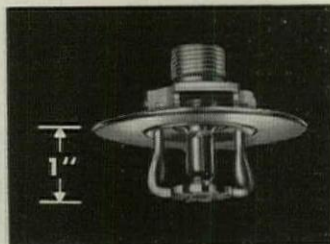


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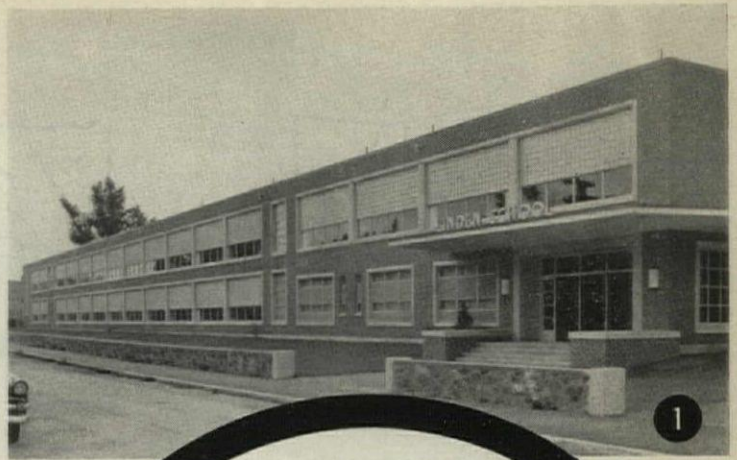
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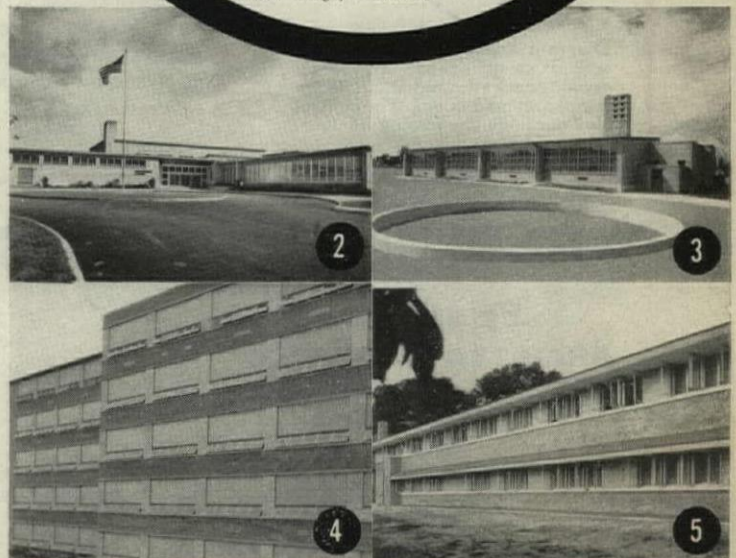
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CONCEALED-IN-THE-FLOOR DOOR CONTROLS

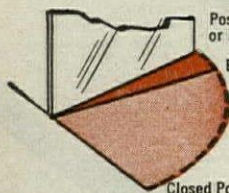


Diagram shows how door is controlled as it opens. Accidental openings are eliminated... as are accidental hold-opens. The control also cushions the closing of door.

- BUILT-IN HOLD-OPEN DEVICE
- POSITIVE BACK STOP
- POSITIVE CENTERING
- BUILT-IN LEVELING DEVICE
- NO ACCIDENTAL HOLD-OPEN
- TWO SPEED CLOSING ACTION
- PERMANENT HYDRAULIC OIL SEAL
- POSITIVE UNIFORM CONTROL
- NO SEASONAL ADJUSTMENT
- EASY INSTALLATION

Precision-built Dor-O-Matic door controls are at work in thousands of buildings from coast to coast... where they are providing more positive door closing action. There are twenty-five models in all. Each is designed for long service life under all conditions and complete adaptability to contemporary design and function. Only Dor-O-Matic provides all ten of the service advantages listed at left.

Write for Detailed Information and Literature



MADE BY THE BUILDERS OF THE INVISIBLE DOR-MAN

AUTOMATIC DOOR CONTROL

SEE SWEET'S  
ARCHITECTURAL FILE

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## DOR-O-MATIC

Division of Republic Industries, Inc.

4440 North Knox Avenue • Chicago 30, Illinois

IN CANADA: Dor-O-Matic of Canada, 550 Hopewell Ave., Toronto 10, Ont.

EXPORT REPRESENTATIVES: Consultants International, 11 West 42nd St., New York 36, N.Y.

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## *Thoughtful design provides new comfort and safety for the aged!*

### **Eljer fixtures play an important role in this totally new concept in "homes for the aged"!**

Gone are the frightening, austere buildings . . . the impersonal dormitory life. In their place is a warm, inviting small-town atmosphere . . . a real community to brighten the "sunset" years of their lives.

Choosing the Eljer Legation Bath is typical of the advanced thinking that developed this project. The Legation permits a "sitting" shower, reclining bath and even a foot bath! The new

6"-wide side rim seat makes it easier and safer to enter and leave the bath.

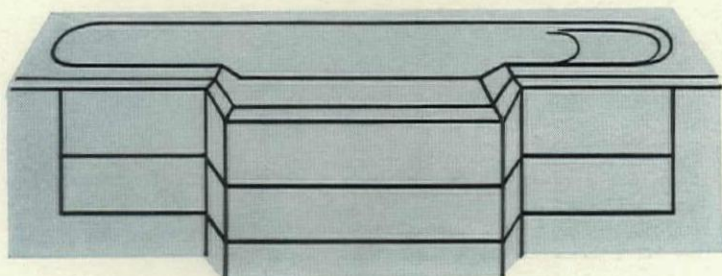
Eljer fixtures in cast iron, formed steel, and vitreous china are used throughout the project. And you can be certain that after decades of use, they will still remain lustrous and beautiful.

When you consider plumbing for any need . . . look to Eljer. For specifications and facts on this job-proved line of fixtures and fittings, write: Eljer Division of The Murray Corporation of America, Three Gateway Center, Pittsburgh 22, Pennsylvania.

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**Fixtures for every plumbing need**

# ELJER

DIVISION OF THE **MURRAY** CORPORATION OF AMERICA

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See Sweets  $\frac{13A}{FO}$  for more Formica information or

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