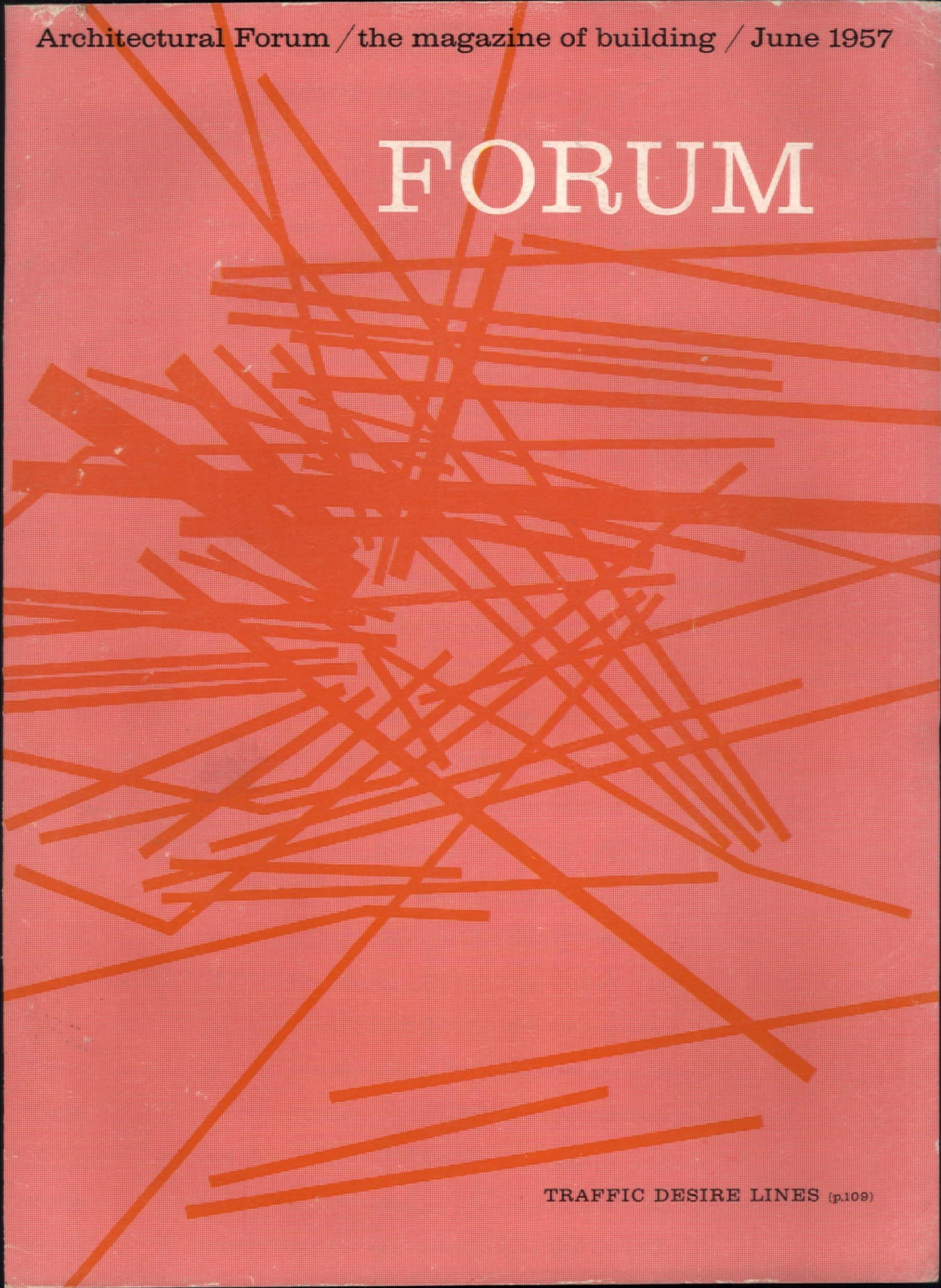
Architectural Forum / the magazine of building / June 1957

FORUM

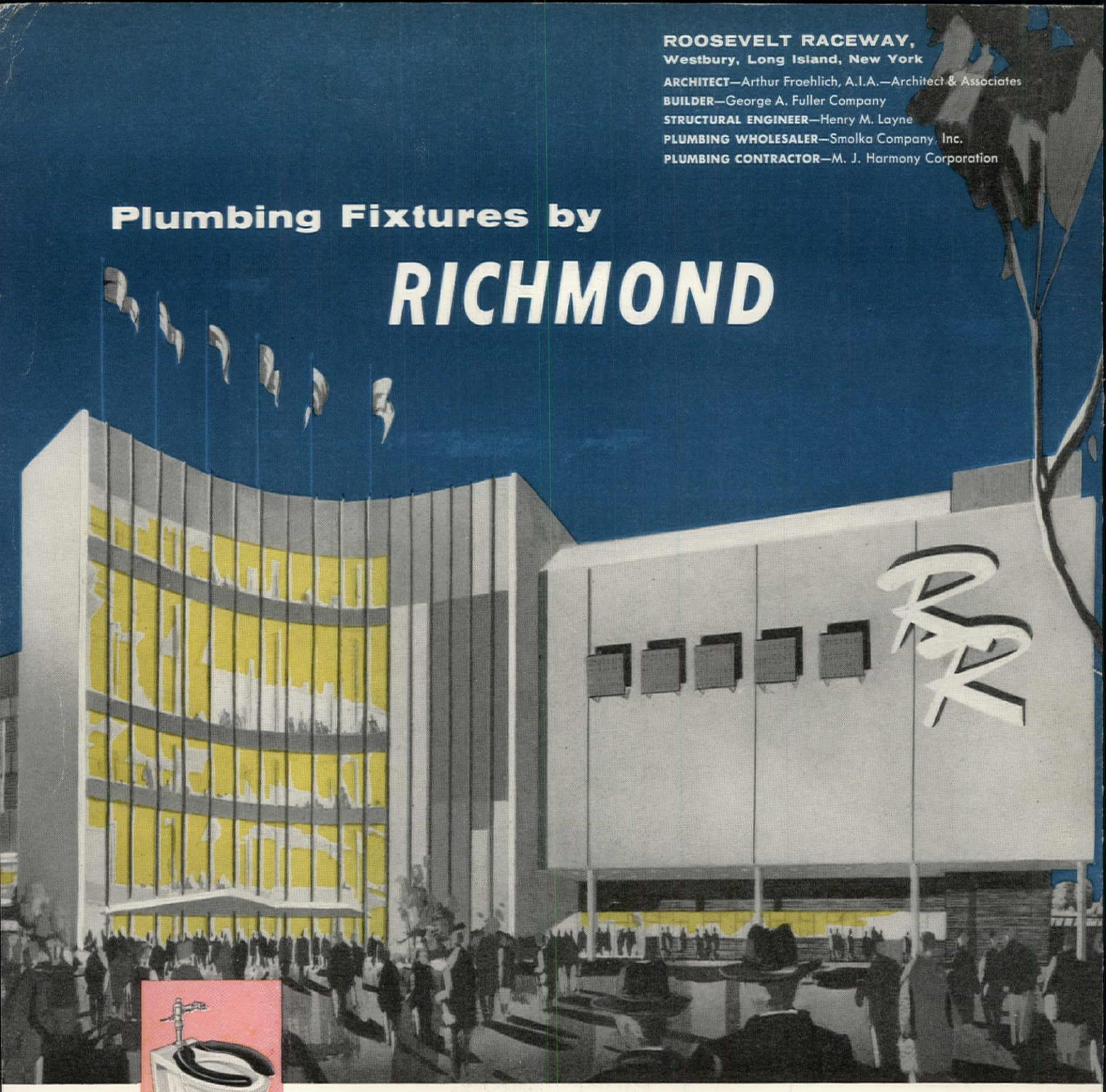


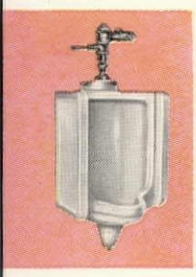
TRAFFIC DESIRE LINES (p.109)

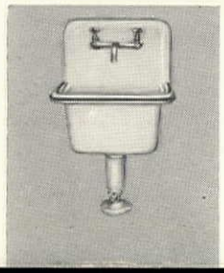
ROOSEVELT RACEWAY,
Westbury, Long Island, New York

ARCHITECT—Arthur Froehlich, A.I.A.—Architect & Associates
BUILDER—George A. Fuller Company
STRUCTURAL ENGINEER—Henry M. Layne
PLUMBING WHOLESALER—Smolka Company, Inc.
PLUMBING CONTRACTOR—M. J. Harmony Corporation

Plumbing Fixtures by RICHMOND







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Cover: Design by Ray Komai based on traffic desire line map of Philadelphia (story, p. 108)

VOLUME 106, NUMBER 6

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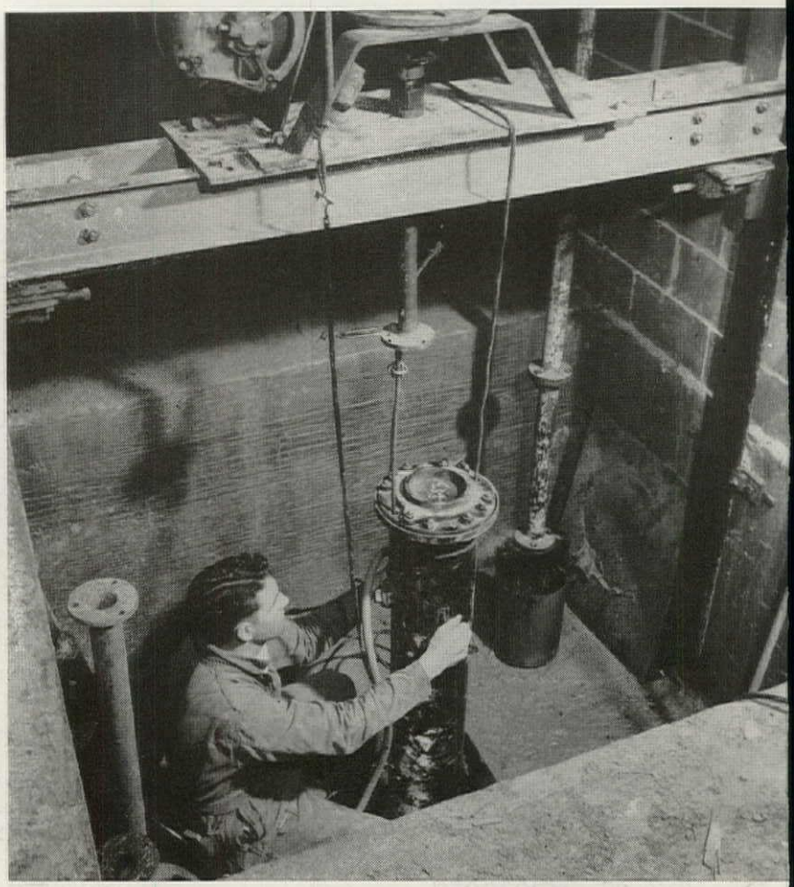

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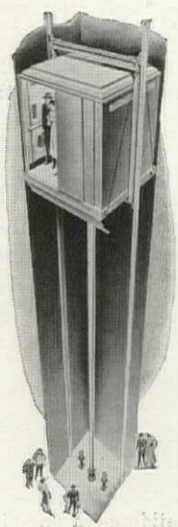

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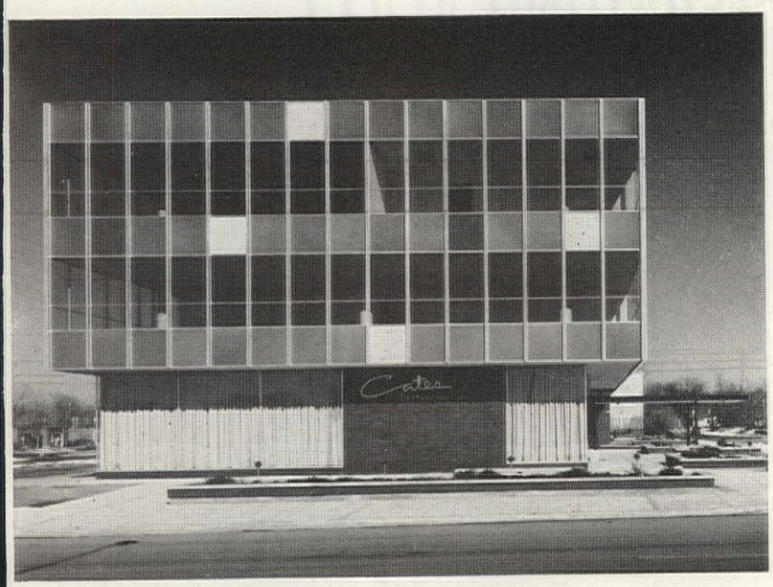

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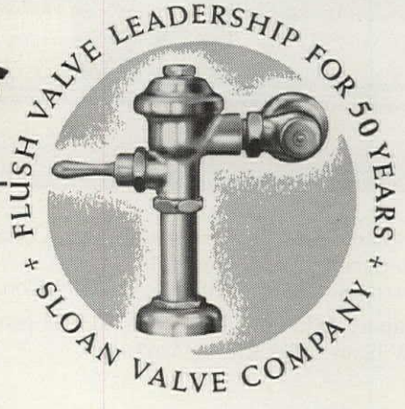

AIA centennial dramatizes growing stature of the architect—the importance of his work

A "new century beckoned," and in recognition the AIA centennial convention in Washington last month gave America's architects an unmatched chance for a panoramic view and bold steps forward.

This was not only AIA's largest convention ever (some 4,500 architects attended) but it was one from which architects emerged saying, "I never before knew the scope of architecture or its importance to the nation."

The sweep of a continent emerged from convention speakers who were senators and scientists, business leaders, leaders in art, university men and editors. They related architects and their work to broad questions of the supply of habitable land, the renewal of our cities, good architecture as good government, the place of artists as citizens, and the hope of mastering science for human use in the century ahead. Seldom, outside business sessions, was discussion held on details of design or style or building methods.

Also of note, and in the nature of innovation, were the significant cultural displays that were contributed at this convention by large commercial organizations: e.g., the first architectural exhibition ever held in the National Gallery, made possible by Eastman Kodak and LIFE; the lecture-concert by Dr. Howard Mitchell and the National Symphony Orchestra, thanks to the Structural Clay Products Institute and its affiliates.

But if its focus was mainly outward, and outgoing, the convention did allow itself one appropriate, penetrating introspective look at the architect of the beckoning century, as visualized by Dean Pietro Belluschi, of M.I.T.

Characterizing the architect as "the environment specialist," Belluschi saw him as "no longer obsessed with the romantic idea of self-expression, but rather with the idea of learning to see and understand."

"Through many agonizing reappraisals," Belluschi explained, "the modern architect is slowly becoming a vastly different kind of man from the one whose image we have so long held.

"He is more open-minded, more able to work with others; less encumbered with preconceived ideas of what a form should be, less self-conscious about being tasteful and more likely to be moved by what is feasible and significant. He is placing less emphasis on cleverness, on style, on novelty, and more on good performance and appropriateness to purpose."

The modern architect, said Belluschi, is mastering all the "marvelous new tools for architectural performance" being provided by modern scientific and engineering research. Only when so equipped will he be qualified to carry his full share of the responsibility in "the fantastic panorama of what must be done in the next century" to remake and reshape our cities so they "work again as suitable centers of human activity . . . not in the present narrow way but broadly enough to include the regions which are physically, if not politically, a part of the great city complexes."

The architect's role in all this, as contemplated by Belluschi? — "It is essential that our political leaders avail themselves of the specialized knowledge necessary to accomplish this great task, and it is just as essential that the architect-planner be prepared to provide the knowledge and wisdom. He must be the imaginative specialist and

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GOLD MEDAL PRESENTATION to President Eisenhower by AIA President Chatelain (l) took place in the White House just before start of centennial convention. Anniversary medal, cast in bronze for members, was designed by Sculptor Sidney Waugh. At right: AIA Executive Director Edmund R. Purves.

as such he will be asked to participate as equal member of a team. We all know the enormous cooperative efforts which go behind any of the large projects of our time. . . . The great body of buildings forming our cities and the very structure of our new communities will be produced by earnest, intelligent, painstaking realists who, by their day-to-day efforts, by their ability and willingness to be part of a team and to accept the realities of life, will succeed in making their influence felt in the communal process of giving form to a healthier, happier and wiser society."

Other highlight convention sessions and addresses:

▸ As a spokesman of government, forceful, outspoken Sen. Joseph S. Clark (D., Penn.) who as mayor sparked much of Philadelphia's redevelopment in recent years, gave the assembled architects some pointed political advice. He called the restoration of the American city "man's greatest challenge today in his age-old battle to control and shape the environment in which he lives." But there is a lag that "separates the politician from the planner," he noted —a lag that requires educating not just the politicians but the public. His advice on this score: "Whether public opinion is aroused will depend to a great extent on how much you architects and planners, yourselves, take part in the process of communicating to the people your conception of the better city, and how well you succeed. When public opinion is aroused—as any politician will tell you—things do get done."

Two of Clark's main prescriptions after his diagnosis of the ills of the American city: 1) a new level of government on a "metropolitan area" basis, and 2) a federal Department of Urban Affairs with cabinet status, supervising all federal-urban relationship programs such as housing, urban renewal, community facilities, and probably civil defense.

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CITATION TO STATE DEPARTMENT for excellent design of its overseas building was presented by President Chatelain to Under Secretary of State Loy W. Henderson (center) and William P. Hughes, director of the department's Office of Foreign Buildings (r).

▸ Henry R. Luce, editor-in-chief of TIME Inc., was the main speaker at the annual dinner, when Louis Skidmore received the Institute's gold medal and Ralph Walker received a special centennial gold medal of honor. At this capacity-crowded session, Luce pointed out that all Americans who wish to build a better America must learn how to teach politicians another lesson too: "that bad architecture is bad politics."

"There is one powerful lobby missing from the American scene — the lobby for architecture," Luce declared. "Let us try to develop a powerful lobby for architecture. Not for handouts, for favors; but for good architecture as such. When that is done a better and more beautiful America will be in sight . . ." In individual buildings, Luce said, "the twentieth-century revolution in architecture has been accomplished," and it has proved that "good architecture is good economics." But the will of the people as a whole has been described as a positive will to ugliness. Can democracy then not create "pervasive beauty?" It can, he suggested, if architects and editors "send out the word of architecture more vigorously." For "modern architecture did not grow up in the palaces of emperors or maharajahs. It grew up in response to people's needs." Now is the time for modern architecture to be "given the chance to transcend economics," to express more-than-economic aspirations, to "*symbolize* what Government stands for." In this connection he hailed the fresh, imaginative new US embassies being erected abroad, "symbolizing dignity of this Republic and its profound concern for all mankind.

"What we have done abroad we must do at home," he declared. "We must do it here in Washington and down to every county courthouse and post office. . . . Modern architecture can certainly express democracy and dignity."

▸ A panel that explored the future role the government should exercise in relation to the fine arts heard Actress Lillian Gish propose federal financial support for cultural activities directed by a nonpolitical cabinet rank Secretary of Fine Arts. She pointed out that prohibitive taxes now make it virtually impossible for private persons to act as "patrons" of the arts. She also cited the fact that other nations have long given financial support to the arts. Opposing any legislation that would open the way to any government "control" over the arts, and outnumbering her on the panel two-to-one, were Conductor Howard Mitchell and Sculptor Leo Friedlander, former president of the National Sculpture Society.

▸ Dr. Paul Tillich, theology professor at Harvard, protested the growing trend to houses that allow an individual no solitude, cause him to become "hostile to the family group" or resigned to losing his individuality. And, Geographer George H. T. Kimble practically outdid Malthus in predicting such a population jump in the next century that it is "high time we became 'smaller-barn'-minded."

AIA backs renewal funds, saving Capitol facade

At their business sessions, AIA members adopted resolutions on a number of major topics—in some cases over the opposition of officers or committeemen who endeavored to refer certain subjects to the board of directors (usually a pigeonholing maneuver).

Principal resolutions:

▸ A declaration of the institute's "full support of the national urban renewal program," and a request to Congress that it approve the additional authorization of the full $250 million for each of the next two years for this program as recommended in the President's budget message.

▸ Approval "in principle" of the creation of a Department of Urban Affairs as proposed in his convention speech by Senator Joseph S. Clark.

▸ A reaffirmation of the conviction of the AIA members "that the East Front of the National Capitol, the outstanding architectural heritage of the American people, should be preserved in its present form and position." This was introduced by Carroll L. V. Meeks, president of the Society of Architectural Historians, and was adopted by an overwhelming vote. (An original committee recommendation against put-

ting the resolution before the convention was killed by a two-thirds suspension-of-the-rules vote.)

▸ A tribute to the significant architectural merit of Frank Lloyd Wright's Robie House in Chicago, and a recommendation to the AIA directors to use their "influence" to support appropriate moves for its preservation.

▸ Reaffirmation that the AIA favors a national competition to select the architect for the proposed $35- to $40-million national Cultural Center in Washington (AF, March '57, Projects). This was considered a victory for fine design which comes often from small-office architects. Adoption of this resolution occurred after considerable discussion prompted by an address to the convention by Mrs. Agnes E. Meyer, member of the commission for the center. Mrs. Meyer stated that eight big architectural and engineering firms that devoted a year and one-half to the preparation of site selection and preliminary plans had served "on a voluntary basis . . . were reimbursed only for their actual travel and living expenses"—and the commission now felt it would be unjust to dismiss these firms, and they have been offered a contract to draw final plans. A special committee was immediately appointed to study this situation. The next day it reported back to the convention that it had conferred with members of these offices; that the commission had agreed to pay for all work, and all "have been paid for services rendered."

▸ Protesting that some public housing agencies are promulgating rules and regulations that "jeopardize creative design and set inadequate fee schedules," the convention proposed the creation of a special AIA committee to undertake a complete review with PHA of PHA-architect relations.

Although not a resolution, the convention also was read a brief report by Cyrus E. Silling, chairman of the special committee on "package dealers," architects who also act as contractors. This inconclusive report recited a long series of questions on ramifications of package deal operations that the committee wants to explore at length before making any definite recommendations about this complex problem. What was significant, however, was the fact that this unscheduled report was only made after considerable floor discussion by many members who expressed dissatisfaction with the lack of fuller reports on this group's work.

WASHINGTON

Senate and House bills provide $250 million for renewal; college loans uncertain

Confusion continued in Washington last month over the outlook for further authorizations for the urban renewal and college housing programs, and funds for building materials and construction industry statistical surveys.

One thing did appear reasonably certain on urban renewal: the prospect that URA would be authorized to make commitments for an additional $250 million of renewal grants for at least one more year. The President's budget message originally recommended $250 million for each of the next two years for these grants, but later HHFAdministrator Cole trimmed the administration's request to only $175 million for a single year. The housing bill adopted by the House last month, however, would provide $250 million for one year, while a bill reported by the Senate banking committee would provide $250 million for each of four more years. If adopted, the more liberal Senate bill also would boost the federal grants to cover three-quarters, rather than two-thirds of project land acquisition and clearance write-down losses. Until Senate and House bills are brought into conformity as a single measure, however, there could still be no real certainty over the precise provisions that would finally become effective as law.

On college housing, the President's budget message recommended $175 million, before Cole reduced his request to only $150 million for the coming year. For this program, the House-approved bill would provide $150 million, and increase the interest rate to 3½%, another change recommended by the administration. The Senate bill would provide $250 million, including $25 million for a new program for dormitories for nurses and interns. It would also retain the present Treasury-loss bargain interest rate formula that costs borrowers only a fabulously low 2⅞%. Final compromise between these two widely divergent measures? — Anybody's guess.

For the various Commerce Dept. business and industry surveys, including the important statistical surveys covering building materials and construction (p. 132), the appropriations bills adopted by the House provided not one penny. A potential life saver was contained in the version of the bill the Senate adopted, however. This would provide $2,167,000 for these surveys (covering a total of 25 different industries), compared with $3,284,000 requested by the department. No survey could pretend to predict what the final congressional action on this score would be.

URBAN RENEWAL

High New Haven land bid gives FHA a paradox

For some time, FHA and URA have been pressing for competitive rather than negotiated bidding on urban renewal land. Last month, in New Haven, this campaign backfired with a blast that may shatter FHA's time honored land valuation procedures.

The New Haven Redevelopment Agency set up machinery for the most vigorous sort of competitive bidding—an auction—for ten acres of its Oak St. redevelopment project. More than 250 persons showed up for the affair, and office workers along Church St. made up pools on what the winning bid would be. The bidding itself was active, to say the least—there were 38 bids in 45 minutes, and 11 came in the last eight minutes. (Bids were not for purchase of the land, but for a leasehold. Ground rent was tentatively set at 6% of the value of the land.)

But the value of the land is the puzzler. FHA had put a tentative valuation of $700,000 on the land. The top bid: $1,150,000, almost $3 per sq. ft.

This raises the question of who is right about the value of the land, FHA or the market? And it points up the peculiar position of FHA, campaigning for a bid procedure after already putting a value on the land itself.

The question now is, will FHA revalue the land in light of the winning bid, so as to allow a mortgage under section 220 of 90% of cost? If it doesn't, and the sponsors want to build under 220, they would have to put additional capital into the project.

The Redevelopment Agency will press

continued on p. 9

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RD-3

FHA for a revaluation to the full bid amount. Says Director Ralph Taylor, "This will be a test case of the validity of the whole FHA process."

It's now up to FHA's Washington policy-setters to decide how to handle the New Haven case and what to do about its own procedures. Meanwhile, Seon Pierre Bonan, president of the group that outbid a Yale University–Roger Stevens group for the land, says, "The land was cheap at that price."

COMMUNITY PLANNING

Businessmen in Baltimore order "master plan"

There was "handwriting on the wall" for downtown Baltimore, said Mayor D'Alesandro, in the fact that assessments in the city's business section declined 10% from their 1952 peak, while total city assessments rose 20%.

Heeding the warning, leading businessmen comprising the Committee for Downtown, headed by Executive Vice President Jay Jefferson Miller of the Hecht store, subscribed an initial sum of $150,000, and a month ago signed a $200,000 contract for a two-year study to produce a "downtown master plan" for rehabilitation and revitalization of the city core. The study will be made by the planning council of the Greater Baltimore Committee, another business and industry group concerned with area-wide Baltimore problems. David A. Wallace, formerly planning director for the Philadelphia Redevelopment Authority, is director of the planning council, and its chairman is Realty Consultant Hunter Moss.

Meanwhile a hitch was developing in plans for the $6 million Baltimore civic center authorized by referendum last November and recommended for a downtown harborside site by Architect and Planning Consultant Pietro Belluschi (AF, April '57). Because of rising cost estimates, the Civic Center Commission started to look for a less expensive site. One suggestion that the proposed convention hall and sports arena buildings be erected at Clifton Lake, about 3 mi. from downtown, was promptly opposed by the AIA chapter and other organizations. Also under consideration was the Mt. Royal Station area, already designated as a redevelopment district, which might open the way for federal aid on site acquisition. City officials started exploring all sorts of other expedients too, apparently afraid to risk asking voters for a supplementary bond authorization so soon. Wiser Baltimoreans were resigning themselves to the idea that they would not see their civic center for a long time yet — even though they did authorize $6 million for it.

Providence gets URA aid for downtown survey

Last October Consultant Robert W. Pratt completed a market analysis-type survey of consumers' and residents' "attitudes" concerning downtown Providence for the Downtown Business Coordinating Council of the Greater Providence Chamber of Commerce.

Among the most discouraging but significant conclusions drawn from the questionnaire replies from a "cross-section" sampling of 2,500 persons:

"There is a compulsive urge among residents of the city to move to the suburbs or the country . . . 53% of city residents have thought of moving out, and 76% of these think they might actually do so some day. . . . Only 5% of those living outside the city have entertained any thought of moving into the city, and less than 60% of these think they might actually do so. . . . Put another way, something like 14 city residents think there is a good chance they will move out for every outside resident who thinks there is a good chance he will move in." Main gripes: traffic congestion, inadequate parking, declining central city attractiveness.

Last month Providence started to search in earnest for a program to counter the attitudes revealed through the Pratt survey. It obtained a $79,637 "demonstration" grant from URA to "develop techniques and methods" for formulating an effective renewal program for its central business district. Results of this demonstration project, to be completed within two years, will then be made available to other cities trying to organize downtown area renewal programs. Of the $40,000 that local interests must contribute for this project, the city will provide $20,000 in services, the council $20,000 cash.

PUBLIC BUILDING

GSA will try again for lease-purchase bids

GSA took two steps last month to reactivate its suspended lease-purchase construction program. It announced that it would consider advertising 39 projects for a total of about $71 million during the next six months, and GSAdministrator Franklin Floete proposed a series of amendments to liberalize the law when it comes up for re-enactment by the end of this month.

"Inflationary pressures caused by unnecessary competition for labor, materials and equipment," were the announced reasons for suspension of this program last winter (AF, March '57). Now GSA feels there are indications that "inflationary pressures have been relieved to some extent" and labor surpluses have developed in many localities. But the projects to be ready for construction by Jan. 1 that it plans to advertise before then will still be subject to the 4% interest ceiling set on such deals by the Budget Bureau.

In requesting re-enactment of the lease-purchase law, Floete said prospects for construction financing are looking "brighter." He also proposed a new twist to obtain financing for GSA at reduced rates. This would be an amendment that would allow cities to erect federal buildings with the proceeds of tax-exempt municipal revenue bonds under a parallel "takeout" arrangement for GSA to lease-purchase the structure from the city for payments covering all of the city's financing expenses. In short: GSA would use the city as a front and "borrow" the benefits of its less-expensive tax-exempt financing power.

MISCELLANY

Whirlybird lifts a church spire, cuts costs

"The principle of using a helicopter in construction work is now established as sound." Some builders might question that assertion as something better left to an uncertain future, but to one man it is already dogma.

Nathaniel O. Saulter, general manager of Detroit's Acorn Iron Works,

continued on p. 12

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THE AMERICAN INSTITUTE OF ARCHITECTS CENTENNIAL CELEBRATION 1857·1957

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THE AMERICAN INSTITUTE OF ARCHITECTS CENTENNIAL CELEBRATION 1857·1957

stood in the rain in suburban Bloomfield Township one day last month and watched a helicopter heft a spire to the peak of a church. The lift actually involved five trips because Saulter wanted to maintain a two-to-one safety ratio on the Bell-47 copter, which has a lift capacity of only 800 lb.

Use of a whirlybird in place of the more conventional boom crane was more than just a publicity stunt. Saulter feels that he has proved that it is a less costly and more flexible way to get heavy pieces off the ground. He rented the copter for $75 an hour from a Detroit company. It was in the air only 45 minutes, and spent ten hours standing by. Total bill: $820.

Saulter figures that the rent of a regular motor crane with a 180′ boom would have cost around $1,200—a third more—for the same job.

Saulter had no problems with either his own insurance company—which has no restrictions against use of helicopters, or with the Civil Aeronautics Board—which approved its use as long as crowds stayed out of the way.

Saulter figures use of copters can result in savings up to 50% over conventional lift methods, and points out that a copter can go places that cranes cannot. He also claims that they require fewer people on the job. Saulter's next use of the whirlylift: Trenton, Mich., where he plans to lift a 1,000-lb. ball to a building top.

All Rio has jitters after latest collapse

Since 1906, when Rio de Janeiro's Engineers Club collapsed and killed two persons under its debris, the city has been plagued by a series of tumbling structures, including four office and apartment buildings. However, citizens have tended to consider each incident as the last of an unfortunate series of isolated accidents. Only after the latest collapse in February, when a ten-story, ten-year-old building fell to the ground with a toll of eight lives scarcely 30 minutes after an engineer had pronounced it sound, did mass complacency disappear and citizens begin to worry seriously about the future.

As owners and tenants began to examine their buildings they discovered many with splits, sags and tilts that sent them scurrying to the Department of Construction Control.

Some thorough inspections that followed, such as that of the 22-story downtown headquarters of the government's Medical Services Institute, came just in time. For six years this building's reinforced concrete beams had been groaning and rumbling. Two years ago some of its sewer connections were sheared off by shifting masonry. Inspectors discovered that the building was leaning 14″ from the vertical over the street, and 10″ sideways. Because of the slant, water tanks were leaking, and dripping water was further weakening some of the cracks that were found running from the basement to the roof. Its 307 occupants were promptly evacuated.

In short order inspectors also found serious fault in at least six other large buildings. The 21-story Mercantile Bank of Sao Paulo has started to split

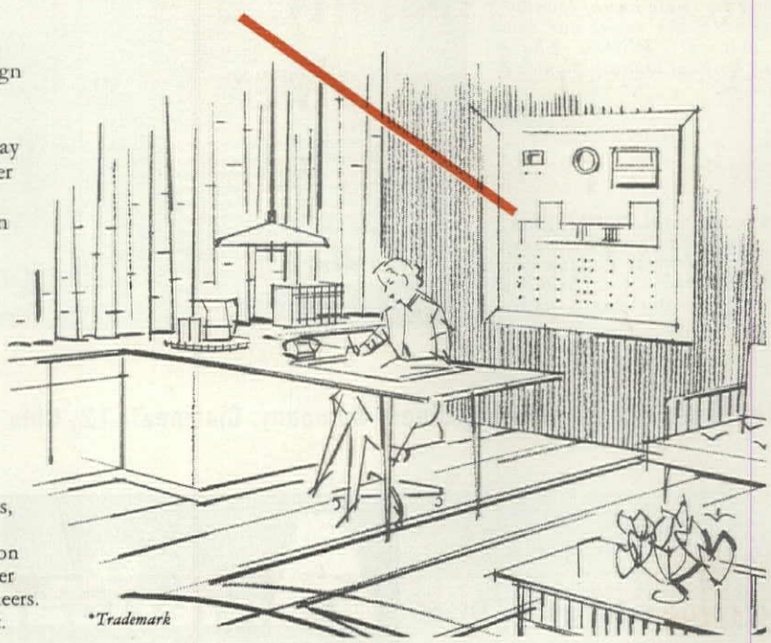
continued on p. 14

SUPERVISORY DATACENTER*

First step toward centralized automation in buildings

NEW IDEAS of major significance to building design are rare indeed. The Supervisory DataCenter panel is perhaps one of these. For by completely centralizing air conditioning control, it points the way to similar economies in the integration of many other mechanical functions. Conception, placement and installation of the DataCenter involve creative design factors that are of first concern to the architect. Your local Honeywell man has full details.

Minneapolis-Honeywell Regulator Company



Rendering at right shows how a non-technical receptionist, even while taking calls and receiving visitors, can oversee comfort in a building when Supervisory DataCenter is installed. A similar installation is in operation at the Hillyard Chemical Co., St. Joseph, Mo. DataCenter there designed by: Turnbull-Novak, Inc., Consulting Engineers. Project supervised by Harlen E. Rathbun, AIA, Architect.

*Trademark

away from the neighboring National City Bank Building — a "V" of daylight now showing between them — and is leaning noticeably over Candelaria Cathedral Square. In a fashionable shopping district, the Melodia building was condemned and closed because the next building, a prop, had fallen.

Why do Rio's towers lean? The trouble is that the talents of Brazil's famed architects far exceed those of its builders, few inspectors check a building during construction, and the builder's entire responsibility for it ends five years after completion. In their haste to throw up cheap-but-profitable apartments and offices, some builders have skimped on expensive foundations required in Rio's soft subsoil. To cut corners even further, others have also added sand to their concrete mixtures with a heavy hand. For future protection, tighter building codes are at last being pushed in earnest.

New York laws revised on renewal, relocation

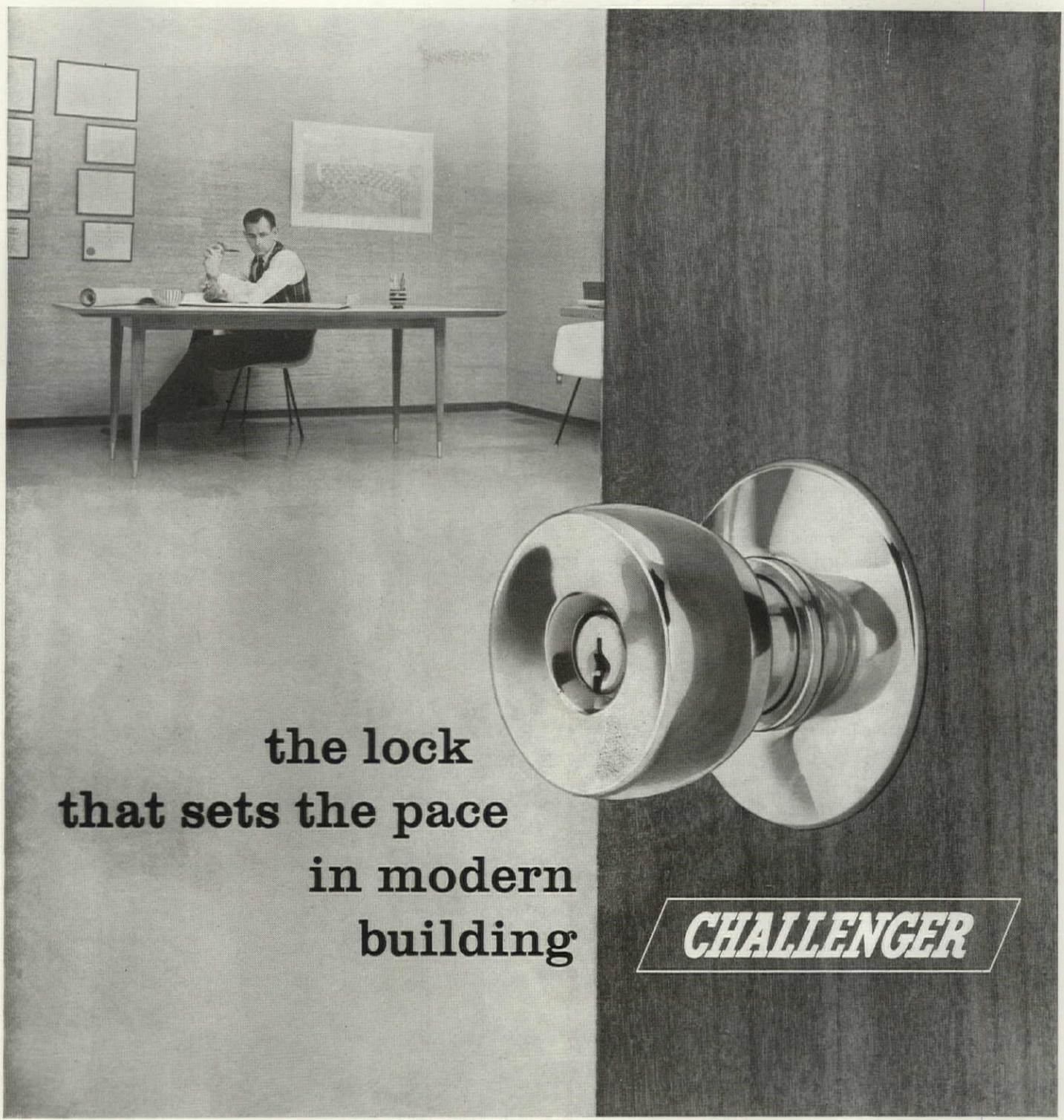
Several new laws bearing on construction, urban renewal and multifamily housing — particularly affecting New York City — were enacted by the state legislature and approved by Governor Harriman:

▸ The Mitchell-Lama slum prevention law will permit the use of eminent domain to acquire and rehabilitate individual structures in an otherwise unblighted but "deteriorating" area. The city itself will establish boundaries of such neighborhood conservation districts, or do so when owners of 51% or more of the acreage in a proposed project area organize a conservation program and request such action.

▸ The Kassal law will provide state payments up to $500 for moving expenses of businessmen forced to leave new public housing sites (contrasted with federal payments as high as $2,000 for businesses dislocated from Title I renewal sites).

▸ Colleges and universities have been authorized to form corporations eligible for state loans to build housing for married students, and such projects may be granted real estate tax exemption.

▸ Residential rent control — responsible for a considerable portion of the deferred maintenance and slum-creating deterioration of New York City's housing inventory — was continued for two more years. One new provision, recommended by Gov. Harriman after a slum tour accompanied by reporters and photographers, will make converted decontrolled units subject to recontrol if they do not conform with sanitary and building code rules. This was enacted as part of the rent control law despite an editorial in the *Times* after the Harriman slum tour that said it would be a "backward" step, and protested: "If such [unsanitary or hazardous] conditions exist, is the city impotent, by inspection and by court order, to correct them? If law is still deficient, after all the many revisions, including the Wagner administration's own recent reforms, then let us tighten the law still further. But as the legislature was told by the Republican leadership, rent control was intended as a temporary measure and not designed as a penal law to correct housing deficiencies or landlords' waywardness."



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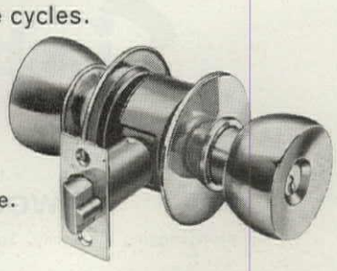

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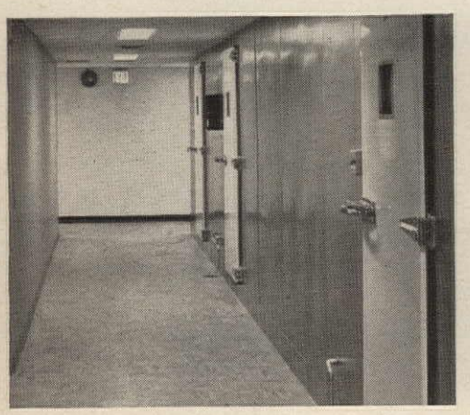
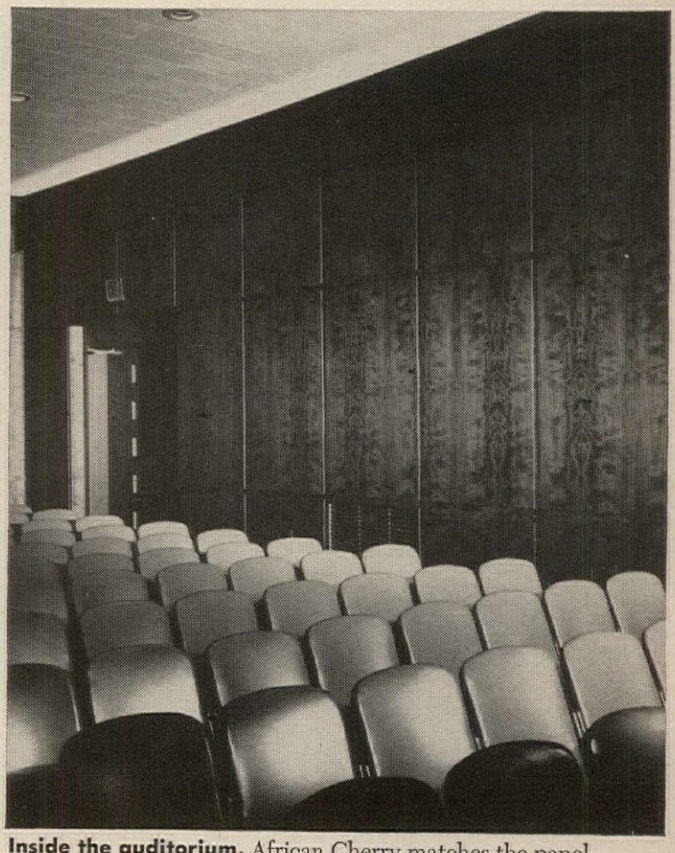
Below: Some of the 19 Special Rooms used for various experiments at constant temperature between 0°C to 5°C also from 20°C to 40°C.



Weldwood Cherry Paneling is a relaxing note in the Office of the Treasurer, Occidental Life Insurance Company.

Office of an Assistant Treasurer has highly figured Weldwood Cherry Paneling. Door matches wall paneling.

Still another Cherry Paneling—African Cherry this time—in the lobby and auditorium entrance.



Inside the auditorium, African Cherry matches the paneling just outside the door. Note the exotic grain pattern.

INSURANCE COMPANY LEARNS

Rare and exotic woods will stay beautiful for years

Trust an insurance company to know a "good thing" when they see it. That's why architects Kemp, Bunch & Jackson unhesitatingly specified Weldwood Paneling in the beautiful new offices of the Occidental Life Insurance Company, Raleigh, North Carolina.

Weldwood Paneling offered Occidental Life many things they liked: an impressive but friendly business atmosphere . . . low-cost and easy maintenance . . . a lifetime manufacturer's guarantee . . . an end to troublesome and expensive redecorating. And when you consider that Weldwood Paneling is strictly a one-time investment, where the *installed* cost is the *final* cost, it's no wonder Occidental Life wanted Weldwood.

Weldwood Paneling comes in a fabulous range of woods—from familiar species like Oak, Walnut and American Cherry to imported and exotic woods like Benge, Brazilian Rosewood, Teak, and Makore. Your Weldwood Architects' Service Representative can tell you all about them, or show you samples. Or, you can see Weldwood Paneling at any of our 87 offices in principal cities. In Canada: Weldwood Plywood, Ltd.

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- ☐ Please have Architects' Service Representative call

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Weldwood Butternut Paneling in the Executive Vice President's office. Building contractor: George W. Kane.

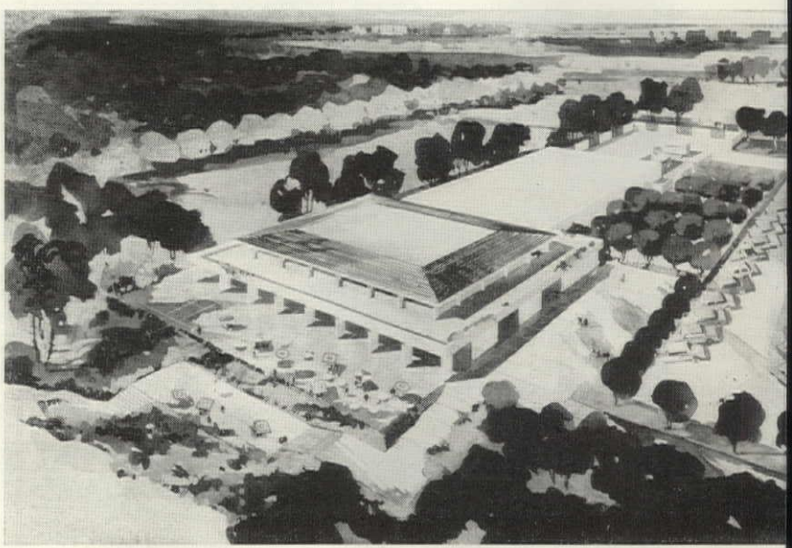
Weldwood Quartered Benge Paneling — office of an Assistant Treasurer. All millwork by Martin Millwork Co.

Projects

A roundup of recent and significant proposals

POLISH PRIZE TO US FIRM

Architects Henneberg, Henneberg & Hryniewicz of Cambridge, Mass., submitted their low-cost apartment house design to a Polish government contest—and won over entries from both sides of the Iron Curtain. Interior load-bearing walls are prefabricated concrete units; outside walls are glazed and insulated panels. Duplex apartments have outside galleries on alternate floors.



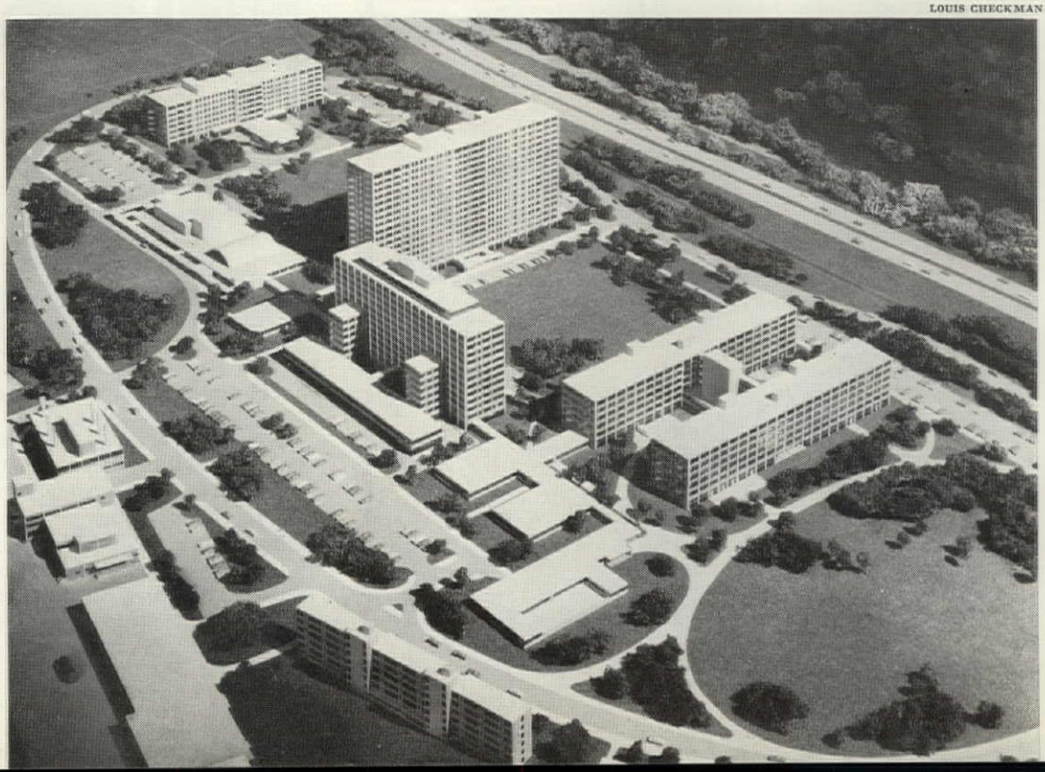
T-SHAPED DINING COMMONS

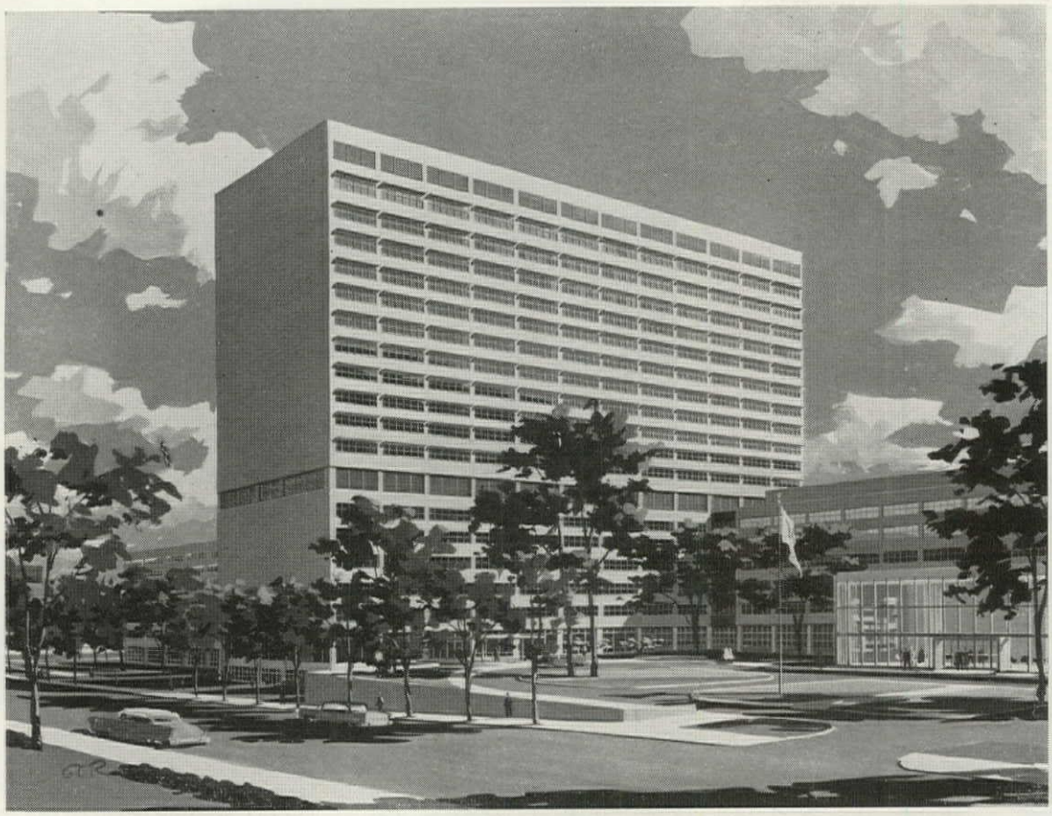
Exterior of the dining commons at Santa Barbara College, University of California, will match the other cinnamon-colored volcanic cinder block buildings which Pereira & Luckman have also designed for the campus. Top of the T (foreground) will accommodate 800 hungry students at a time; T stem will contain kitchen, service, office areas.

$70 MILLION STATE MENTAL HOSPITAL

New York's Governor Harriman announced plans for a 3,000-patient mental hospital in the East Bronx to be started within two years on 126 acres of reclaimed land. Taller buildings are: chronic disturbed, geriatrics, medical-surgical and reception buildings. Architects: Urbahn, Brayton & Burrows; Hart, Jerman & Associates, associated architects.

LOUIS CHECKMAN



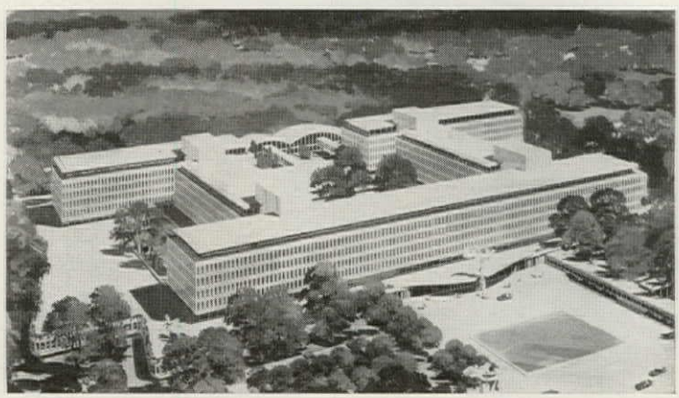


RESEARCH HOSPITAL

A $20 million research and teaching hospital, especially designed and equipped to care for private patients, will be added to the New York University–Bellevue Medical Center in New York. Single, double and four-bed patient units on ten top floors will be arranged in any proportion needed. Operating rooms, laboratories and outpatient clinics will occupy lower floors. Architects: Skidmore, Owings & Merrill.

OMAHA SKYSCRAPER

Omaha's tallest building since 1927 will tower over its present quarters (r). The Northern Natural Gas Co., which supplies wholesale gas to 384 communities in six Northern Plains states, will move into its new $4 million building in 1958. Architect: John Latenser & Sons, Omaha.



INTELLIGENCE AGENCY QUARTERS

GSA and the Central Intelligence Agency announced acceptance of a Harrison & Abramovitz design for a $46 million CIA headquarters building near Langley, Va. The canopied entrance (rear) faces a landscaped interior court. Selection of the Langley site followed a veto by the National Capital Planning Commission. CIA Director Dulles held out for Langley and the NCPC reversed its decision.

GUY BURGESS

COLORADO COLLEGE STUDENT UNION

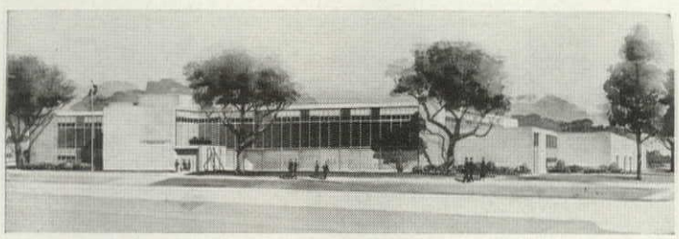
The student union planned by Colorado College (l) is part of a $6.3 million master plan for the campus announced to the community. Designed by Bunts, Kelsey & Bunts of Colorado Springs as a campus center, a single-story snack-bar section will connect dining hall (l) with lounges and meeting rooms (r). Other projects planned are a library, physical sciences building and heating plant. Five existing buildings will be renovated to accommodate 400 students.

DARTMOUTH CULTURAL AND SOCIAL CENTER

Dartmouth College in New Hampshire recently unveiled plans for a four-building, $7 million center dedicated to "cross-fertilization" of the arts, designed by Harrison & Abramovitz. Theater section will face the college green; other sections are alumni hall, studio and auditorium blocks.

LONG ISLAND MEDICAL BUILDING

A long-sought center for the medical profession of Nassau County has been started in Westbury, L.I., from plans by Daniel Schwartzman and Harold R. Sleeper of New York. The $4 million center will provide space for meetings, a library, public education and research activities.

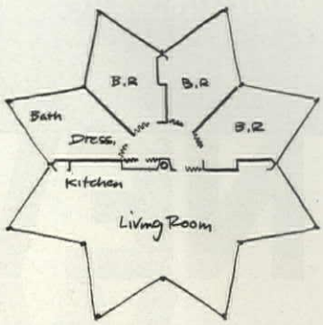


POST OFFICE AND COURTHOUSE

A two-story reinforced concrete post office and courthouse has been approved for Lake Charles, La., by GSA's Public Buildings Service. Designed by Dunn & Quinn of Lake Charles, the $2 million building will have four other government agency tenants. Construction will be by lease-purchase.

FEDERAL OFFICES IN BALTIMORE

Two Baltimore firms—Meyer & Ayers and Fisher, Nes, Campbell & Associates—designed the $25 million headquarters for the Bureau of Old-Age and Survivors Insurance of the Social Security Administration, Dept. of Health, Education and Welfare. Wing will join operations and administration buildings.



FOLLOW-THE-SUN HOUSE

Following the sun should be easy in this gleaming turntable beach house to be built as an Alcoa exhibit. Triangular sections of aluminum, deeply ridged, form the roof; walls are glass and aluminum screening. Architects: Harrison & Abramovitz.

DOWNTOWN CINCINNATI OFFICE TOWER

A 28-story shaft rising from a two-story base will make the Kroger building, by Architects Hedrick & Stanley of Fort Worth, Tex., the third tallest in Cincinnati. Principal tenant of the tower section will be the Kroger Co., a grocery chain; eight floors will be leased by an American Telephone & Telegraph Co. long lines regional office. Larger floors and basement below tower will contain a restaurant, retail stores, and a "park-it-yourself" garage for 400 cars. Milner Enterprises, Inc., Jackson, Miss., will build and own the $8 million building.

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controls light . . . diffuses light . . . reduces heat

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Reflectadome's secret is Solatex Silver, a special material embedded (not laminated) right into the acrylic dome. Unlike ordinary skydomes, Reflectadome provides an even supply of natural light all day long. For example, when the altitude of the sun is 20 degrees, Reflectadome doubles the amount of light transmitted by a clear skylight. When the sun's altitude approaches 90 degrees at noon, light is reduced by 60%.

While producing this remarkably level lighting curve, Reflectadome also diffuses light to keep interiors evenly illuminated for top visual performance.

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Naturally, Wascolite Reflectadome features all the improved functional advantages of the Wascolite Skydome. Solatex Silver embedments are available only from Wasco, so specify Wascolite Reflectadome by name.

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"NOTHING LIGHTS LIKE WASCO CONDITIONED DAYLIGHT"

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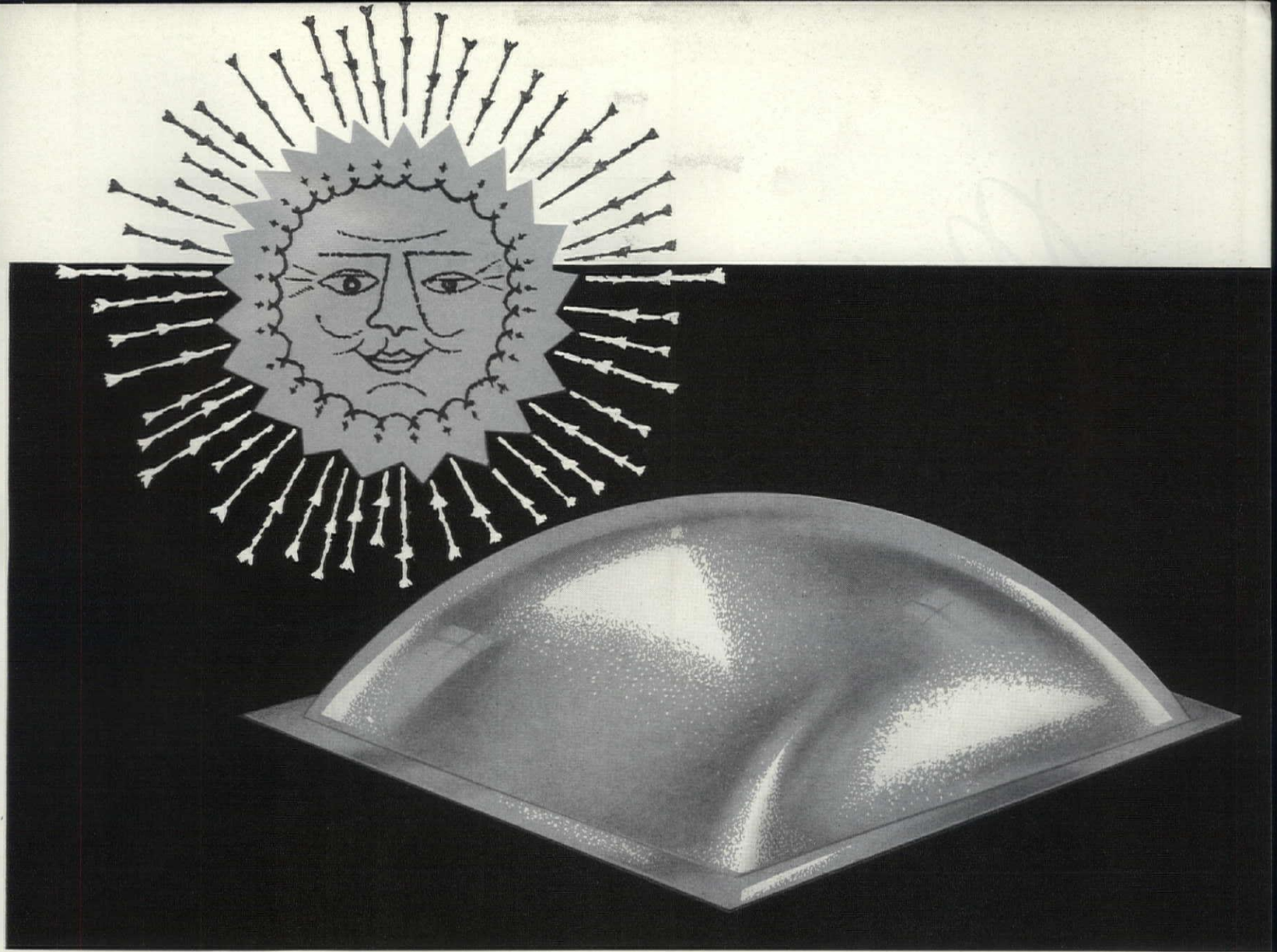

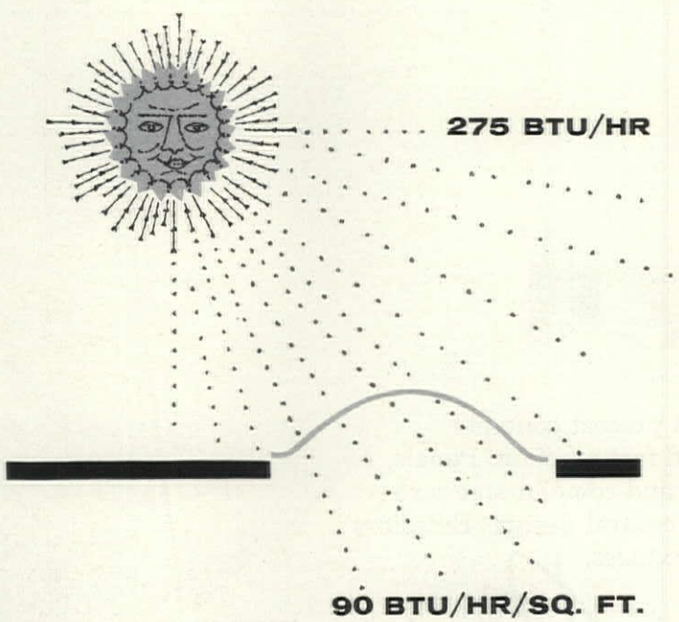

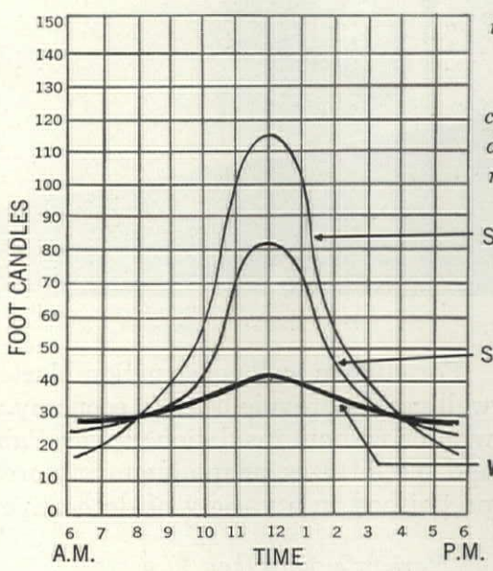

the skydome
that does
all 3—
controls light
diffuses light
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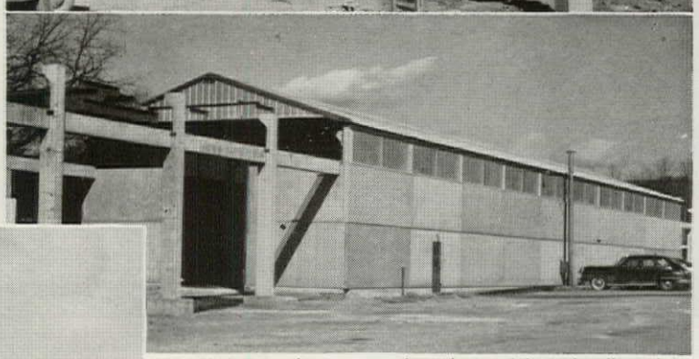
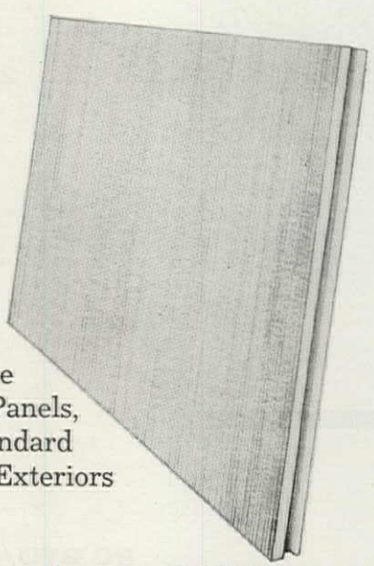


Marietta employs precast column, beam, girder and wall panel construction for fast erection of a precasting plant. Precast structural components are easily erected with a minimum of labor

Modern architectural beauty is achieved with Marietta precast wall panel construction in a Nashville, Tenn. shopping outlet



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Record outlays are offset by rising costs; apartment projects boost housing starts

Dollar volume of total new construction expenditures continued its steady advance, and in April set another record for that month at $3,459 million—or 1% above April '56 outlays.

For the first four months of this year, total expenditures were $12,536 million, or $276 million (2%) above comparable 1956 spending (see table and chart). But even the Commerce and Labor Depts. were beginning to call attention to the apparent net decline in the physical volume of work. As their official release last month explained:

"Spending this year reflects an increase in construction costs, so that actual amount of all new work put in place during the first four months, public and private combined, probably was slightly below a year ago."

As a matter of fact, adjusted to average construction costs for 1947 to '49, total construction expenditures have been on a slight decline ever since Jan. '56. On this cost yardstick, outlays were a shade lower in every month of 1956 than during the corresponding month of 1955—and so far this year are down a second notch under 1955 outlays. (Another indication of a decrease in the physical volume of construction: lower sales and earnings of many leading manufacturers of building products—p. 46.)

Hovering just a little below the crest of the wave, and peering anxiously ahead, construction was in the same company with most other industries. Surveying the national economy last month, members of the Business Advisory Council of the Commerce Dept. issued reassuring statements, suggested that the lull in business activity last winter was about ended and would be followed by a steady, if "relatively small" upturn through the rest of the year. And the editors of LIFE, after their own special survey of "the giant and lusty US economy," reported the majority of businesses booming and in "a golden mood."

SPENDING BY BUILDING TYPES

(millions of dollars)

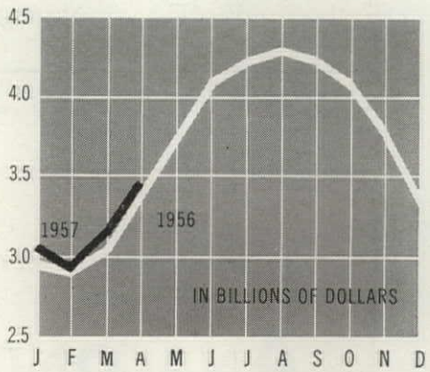
	Apr '57	First 4 months 1957	1956	%±
PRIVATE BUILDING				
Residential (nonfarm)	1,088	4,049	4,426	— 9
Nonresidential	713	2,848	2,618	+ 9
Industrial	271	1,079	913	+18
Commercial	253	988	1,012	— 2
Offices; lofts; warehouses	125	481	401	+20
Stores; restaurants; garages	128	507	611	—17
Religious	64	259	219	+18
Educational	39	163	160	+ 2
Hospital; institutions	38	141	100	+41
Public utilities	430	1,512	1,446	+ 5
*PRIVATE TOTAL	2,365	8,871	8,948	— 1
PUBLIC BUILDING				
Residential	33	120	83	+45
Nonresidential	375	1,355	1,192	+14
Industrial	44	161	129	+25
Educational	233	853	777	+10
Hospital; institutions	29	100	85	+18
Military	100	369	362	+ 2
Highways	360	1,025	995	+ 3
Sewer; water	113	410	353	+16
*PUBLIC TOTAL	1,094	3,665	3,312	+11
*GRAND TOTAL	3,459	12,536	12,260	+ 2

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

Housing decline halted?

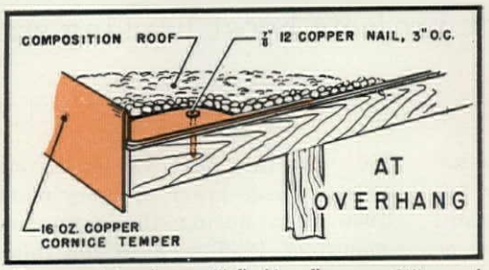
April saw an improvement in housing starts over both February and March. On a seasonally adjusted basis, private units were begun at a rate of 940,000 a year, compared with 910,000 and 880,000 a year, respectively, in the two previous months. For four months, the

continued on p. 45

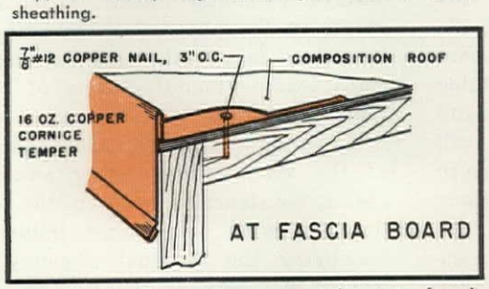


TOTAL EXPENDITURES for new construction in April were $3.46 billion, compared with $3.42 billion in April '56, according to Commerce and Labor estimates. For the first four months of this year, total outlays exceeded comparable 1956 spending by $276 million.

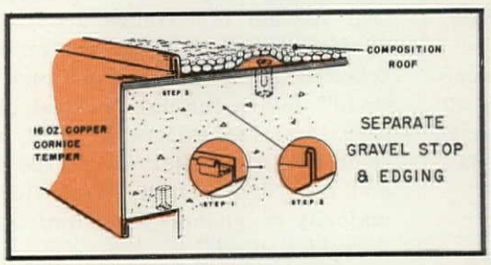
Roof edgings of copper give lasting protection



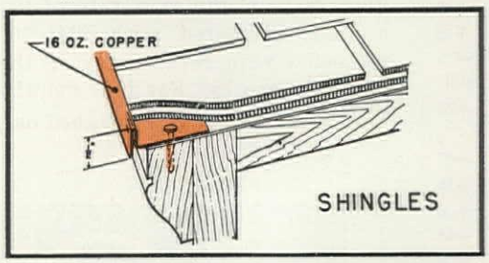
Copper edging has a 4" flashing flange, a ¾" gravel stop, and a drip edge extending at least ¼" below sheathing.



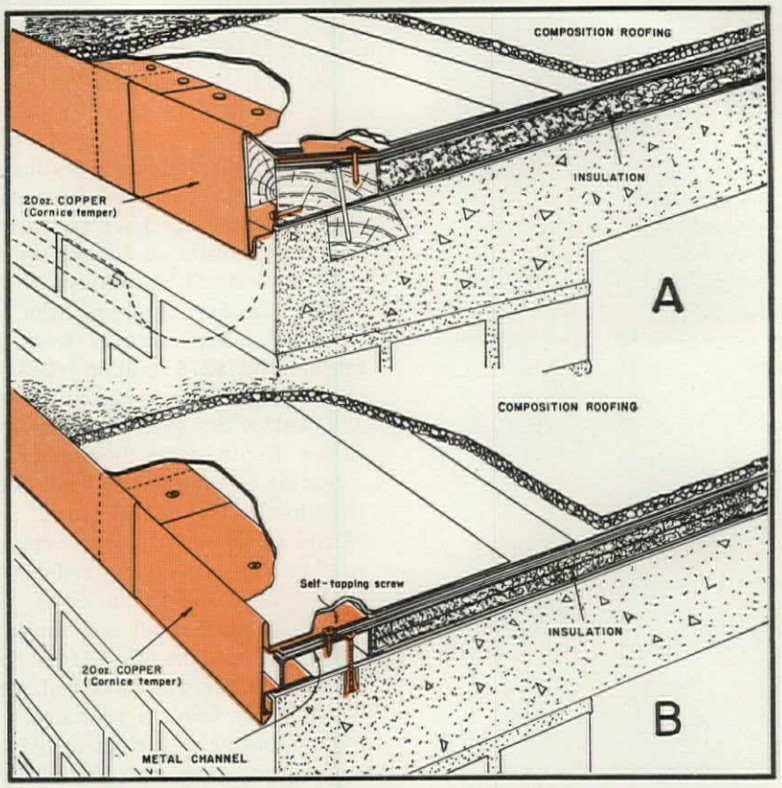
Same as edge for overhang, except that outer face is deeper for neat appearance and bottom edge is turned back to form a hem, canted outward to serve as a drip.



Edging for built-up composition roofing on a concrete deck, designed to show minimum of waviness or buckling. Facing strip is free to slide because of clinch lock seam at top and bottom. Standing seam at top is rolled toward outside and serves as gravel stop. Bottom seam is simple clinch lock joining fascia with stiffening strip for trim appearance and to provide a drip edge.



This edge for shingle roofs serves as a guide and assures alignment of shingles at end of every slope—protects the exposed edges of shingles.



Edges for insulated built-up roofs. There are two problems. One is a firm and secure fastening for the metal so that it will retain its bond with built-up roofing. The other is construction to prevent horizontal shear at the margin of the relatively soft cellular insulating material. Figure A shows how to meet these problems with wood nailers—Figure B, with incombustible metal channels.

All roofing materials, whether for flat or steep roofs, need edgings and flashings. The more durable edgings and flashings are of metal. And the preferred metal is copper—because of its lasting qualities, easy workability, weather-tight performance when properly installed.

The drawings on this page illustrate good sheet copper practice for the more common types of roof construction. For full details and suggested specifications, send in the coupon below for a copy of The American Brass Company's "Modern Sheet Copper Practices."

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5726

seasonally adjusted rate for private starts averaged 926,000.

Data for the first four months of the year showed FHA insurance applications for 29,032 apartment project dwelling units, compared with only 5,252 in the same period a year earlier; actual apartment unit "starts" numbered 5,218, compared with 2,197 a year ago.

Private nonresidential construction expenditures were a substantial 9% greater in the first four months of this year than 1956, including 18% increases for industrial and religious buildings, a 41% jump in spending for hospital and institutional building, and a 2% advance in educational construction outlays.

COSTS

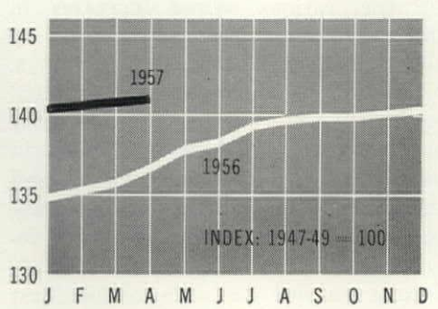
Some projects canceled by soaring bids

When the New Jersey Turnpike Authority opened four bids last month for a 16,500 sq. ft. restaurant and service facility in Montvale, N. J., all exceeded $1 million, or over $60 per sq. ft. As a result, the agency temporarily abandoned plans for the project.

But rising costs and soaring bids were not entirely a novelty. In Freeport, L. I., a $3.9 million bond issue for a 1,500-pupil high school approved by a five-to-one vote of taxpayers in March '56, turned out to be $875,000 short of the lowest bid on the job received this spring. But by a two-to-one vote a month ago the citizens refused to approve the additional $875,000, left the embarrassed school board to develop some other solution to its building cost problem. Nationwide, according to Myron L. Matthews, building cost expert, bids for schools are now running as much as 15 to 30% over estimated costs in many cases.

Last month building trades unions in many cities were adding pressure to the steady uptrend in construction costs and bids. In one of the first major settlements of the "new contracts" season, carpenters signed a five-year contract with the northern and central California AGC chapters that may increase their wages 90¢ an hour over this span, plus fringe benefits and a pension plan. This year wages will be boosted 22½¢ an hour, and next year 15¢, with a reopener provision to negotiate further increases in May '59. In St. Louis carpenters, ironworkers and laborers won new contracts increasing wages 50¢ over three years.

In April the E. H. Boeckh construction cost index for nonresidential buildings moved up 0.2% to 141.2 (see chart), the same advance registered by the AGC and American Appraisal indexes. From April '56 to April '57, the Boeckh index rose 3.3%.



BUILDING COSTS for nonresidential structures advanced 0.2% in April to a peak of 141.2 on the index of E. H. Boeckh & Assoc. Advance from January through April: 0.5%.

BUILDING MATERIALS

Average prices in April lower than in 1956; steel shipments up, price rise due

After standing still for three months, the BLS index of average wholesale building materials prices inched up in April—but for the first time in almost three years was lower (0.4%) than its reading for the same month a year earlier.

From December through March this index stood at 130.5, and in March was exactly the same as in March '56. But in April it advanced slightly to 130.7, compared with an April '56, jump to 131.3 (see chart).

Most individual items within the BLS index cost more this April than a year earlier. But depressed prices for lumber and wood products—one of the biggest segments comprising the index, and hit the hardest by curtailed home-building—more than offset all the other increases in calculating the composite average for all prices.

The changes in leading materials over the span of a year:

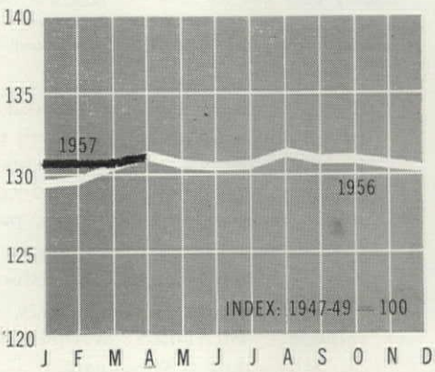
(1947-'49 = 100)

	April 1956	*April 1957*	*% change*
Structural steel	157.5	183.4	+16.4
Aluminum sheets	151.6	158.6	+ 4.6
Metal doors, sash, trim	146.3	138.1	— 5.6
Plumbing equipment	133.9	131.6	— 1.7
Heating equipment	117.3	121.6	+ 3.7
Lumber, wood products	128.5	120.2	— 6.5
Lumber	130.6	121.2	— 7.2
Plywood	106.9	96.7	— 9.5
Millwork	128.9	128.3	— 0.4
Plate glass	137.5	145.7	+ 6.0
Window glass	138.8	145.9	+ 5.1
Concrete ingredients	130.0	135.7	+ 4.4
Concrete products	121.7	126.0	+ 3.5
Structural clay products	146.0	155.0	+ 6.2
Gypsum products	127.1	127.1	—
Asphalt roofing	111.9	121.6	+ 8.7
Prepared paint	119.1	124.1	+ 4.2

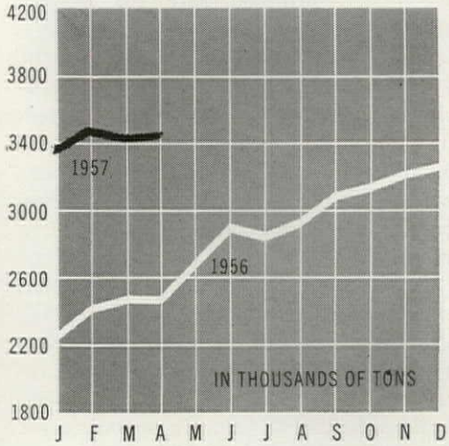
Spring upturns in output and prices for lumber and wood products have been sluggish this year. New orders have exceeded shipments only spasmodically. In the northwest last month, mill list prices for index grade plywood sheathing rose from $94 to a range of $103 to $105 per thousand sq. ft.—still considerably below the $122 quotation a year earlier. Southern pine was also slow, with some southern lumber producers blaming weak production and prices on more intensive competition from surplus northwestern plywood.

Steel deliveries gain

While fretting over the extent of the new hike in steel prices that would occur by July 1, construction could at least find some consolation in a small gain in shipments of structurals in the first quarter of this year. From



BUILDING MATERIALS PRICES turned upward again during April, rose to 130.7 on the BLS index of average wholesale prices after remaining unchanged at 130.5 from December through March, the same index figure for March '56. The 0.2 point April increase this year was less than an 0.8-point April increase a year ago, and for the first time since July '54 the index was lower than a year earlier.



STRUCTURAL STEEL orders unfilled on April 1 totaled 3,453,915 tons, an increase of 17,873 tons over March 1, according to the American Institute of Steel Construction. March shipments totaled 305,009 tons, almost 16,000 tons greater than new contracts during the month.

January through March these totaled 845,639 tons, or a 2% gain over comparable 1956 shipments.

In the same period, however, new orders were down by 23% — from 1,102,410 tons in 1956 to 852,626 tons this year, according to the American Institute of Steel Construction. For the quarter, new orders exceeded shipments by 7,000 tons, but in February and March new contracts fell just a little under shipments for the first time since the end of 1954.

On April 1, the industry's backlog of unfilled orders stood at 3,454,000 tons, or more than its record output of 2,205,000 tons during the entire year 1956 (see chart).

EARNINGS

Most producers have less 1st quarter earnings

Although the great majority of large US corporations scored increases in their earnings in the first quarter of 1957 over comparable 1956 earnings, producers of building materials and equipment were mostly in the minority on this score. Probably reflecting in part the homebuilding downturn and the slight decline in the total physical volume of construction (p. 43), reports of 46 of these firms tallied by FORUM showed 15 with higher first quarter earnings, 31 with lower earnings. Of 40 that release sales data, 23 had done a greater dollar volume of

continued on p. 48

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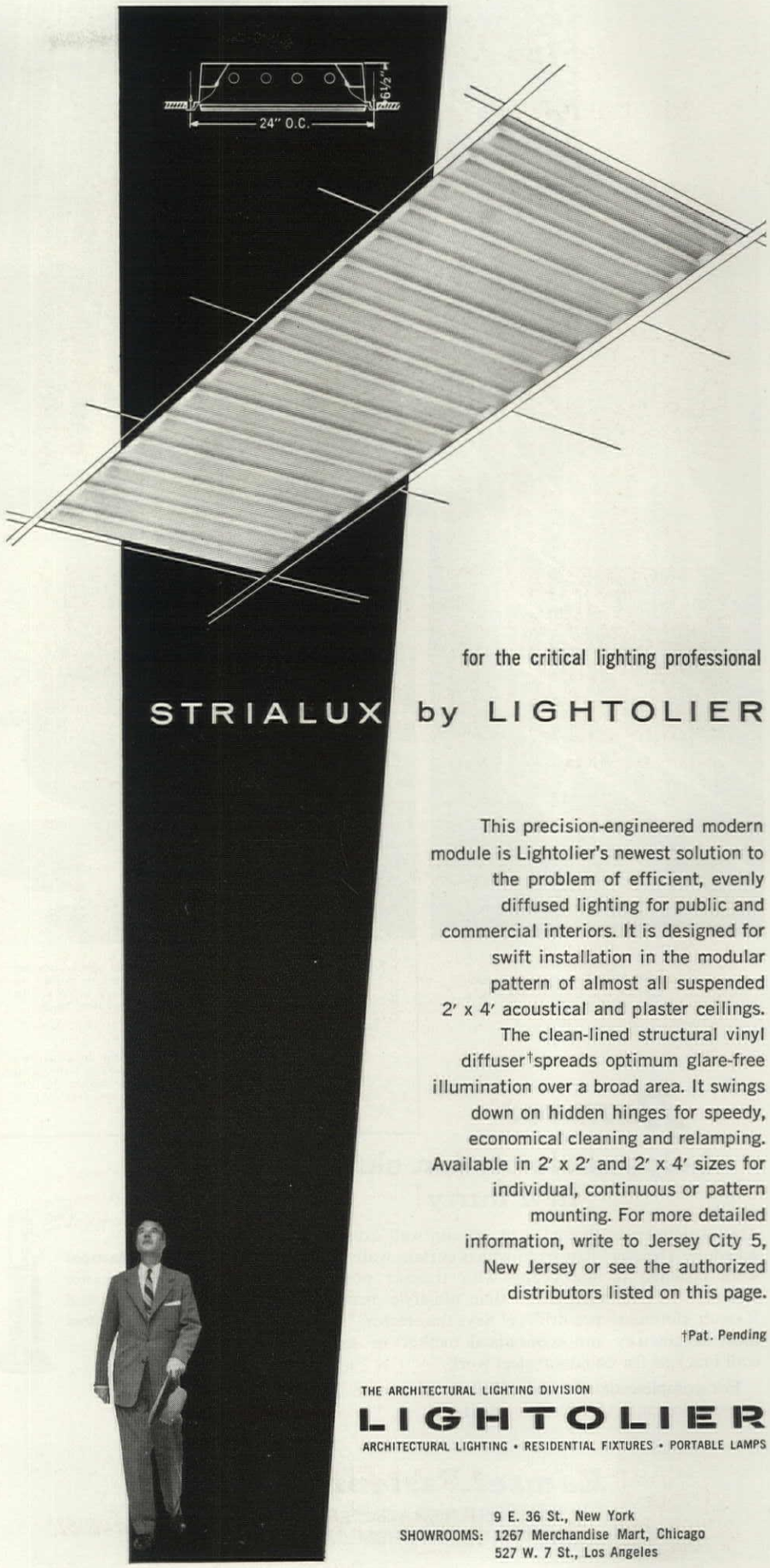

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business in the first quarter of 1957, and 17 a smaller volume.

Blaming greater imports, as well as homebuilding and auto production cutbacks, American Window Glass (down in sales and showing a deficit) laid off about 1,000 of its workers in two Pennsylvania and Oklahoma plants. Pittsburgh Plate (slightly up in sales, but down in profits) also laid off about 250 workers.

The first quarter records by companies:

	% change from 1956	
	Sales	Profits
Alcoa	— 4.9	—23.4
American-Standard	— 7.2	—45.2
American Window Glass	—43.8	—126.0
Armstrong Cork	— 1.0	—22.5
Bethlehem Steel	+29.5	+18.8
Borg-Warner	+ 1.2	— 7.9
*Carrier	+24.2	—16.9
*Celotex	—19.1	—29.9
**Corning Glass Works	—13.4	—23.8
Crane	+ 5.3	—63.4
Georgia Pacific	+51.9	+ 3.3
Ideal Cement	— 2.1	— 8.8
Inland Steel	+ 7.0	+ 4.3
Jones & Laughlin Steel	+ 4.5	— 5.4
Kawneer	NR	—24.8
Kennecott Copper	NR	—37.0
Lehigh Portland Cement	— 0.2	—17.1
Lone Star Cement	+ 7.7	+19.4
Minneapolis-Honeywell	+31.2	+15.9
† Murray (Eljer)	—30.3	—39.5
National Gypsum	+13.9	—33.9
Otis Elevator	NR	+18.9
Owens-Corning Fiberglas	+ 7.7	—23.1
Pittsburgh Plate Glass	+ 5.0	—15.8
Republic Steel	+ 6.6	+12.0
Revere Copper & Brass	—24.8	—22.2
Rheem	NR	—32.0
Trane	+ 5.7	+ 1.8
US Gypsum	—14.9	—15.2
*US Plywood	— 3.0	—46.9
US Steel	+ 8.5	+10.9
Weyerhaeuser	— 9.6	—17.6
Yale & Towne	+ 4.4	— 0.6

NR—*Not reported.*
* *3 mos. to Jan. 31, 1957.*
** *12 weeks to March 24, 1957; March 25, 1956.*
† *3 mos. to Feb. 28, 1957.*

FINANCE

Building funds raised in red-feather style

Community chest drives usually provide funds solely for operating expenses of participating agencies. Detroit, however, has been pioneering a new way to raise necessary construction, moderni-

continued on p. 50

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zation and repair funds for service, welfare and charity organizations that many other cities may wish to explore.

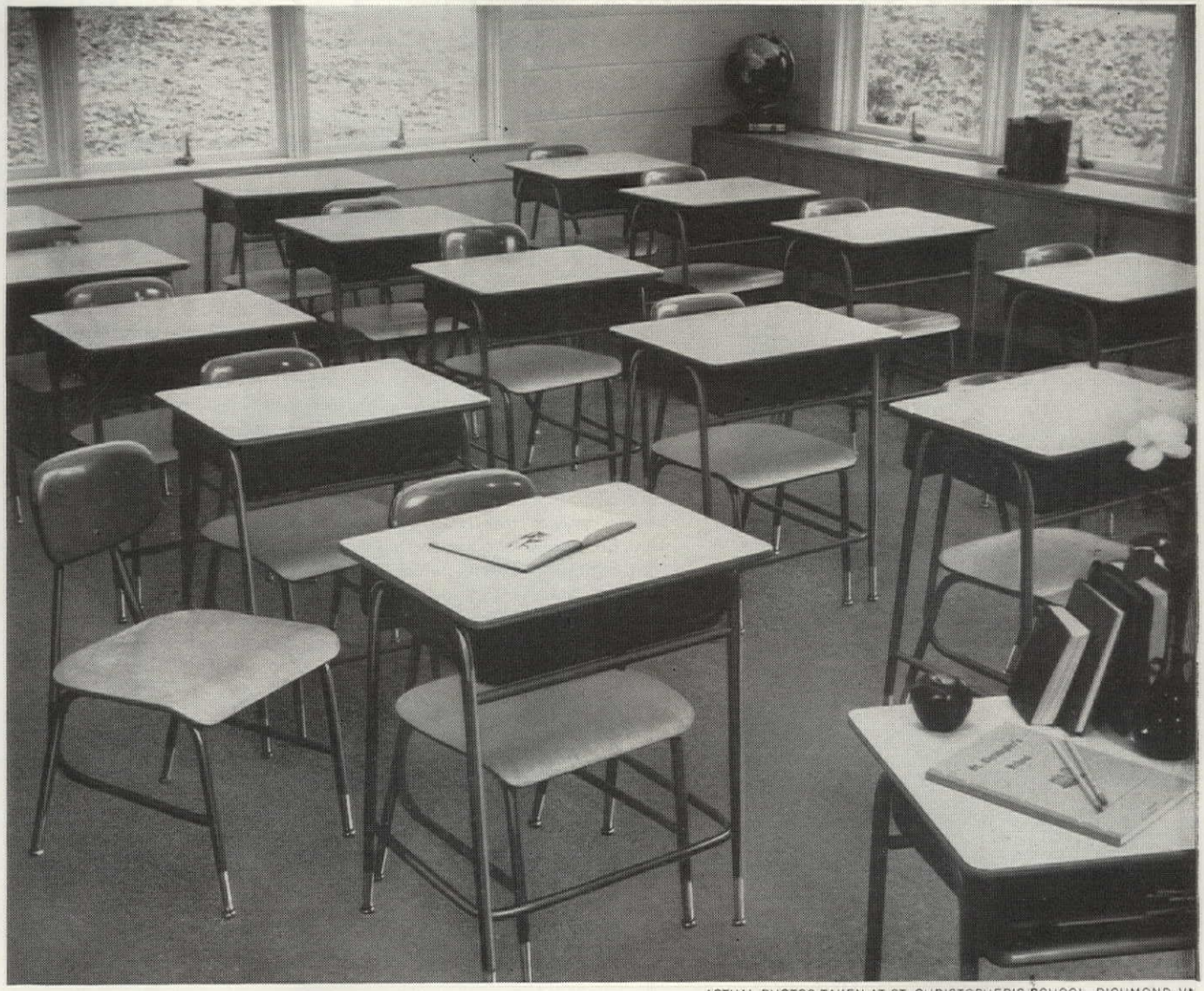
Organized solely to collect capital expenditure funds, the Metropolitan Detroit Building Fund campaign was set up during 1953. Through 1955 and 1956 it collected about $16.5 million on behalf of private organizations that pledged they would conduct no other building fund-raising drives for a period of five years if they accepted fund assistance.

Altogether 92 agencies asked the fund for a total of $112.4 million for 170 different projects; after screening, 45 agencies were given commitments totaling $15.6 million for 73 projects originally estimated to require $27.4 million of assistance. As part of the screening, an allocation committee studied the financial resources of each aided organization, coordinated programs of public and private agencies to prevent duplication, and appraised neighborhood needs to see if one building might serve several agencies in the same locality.

One of the most responsible assignments for organization was conducted on a nonprofit basis by Burns & Roe of Michigan, Inc., architects, engineers and constructors, who served as special consultants on design, construction and building costs. They first screened the practicability of each request; after reviewing preliminary plans guided the fund in granting approval for specific projects, thus permitting various agencies to commit themselves for the production of final plans by their own architect. In the final phase of their work, now about 30% finished, the consultants also checked working drawings against preliminary plans, re-reviewed them for sound construction and proper materials, and approved payments to contractors.

Meanwhile Melbourne, Australia is using an ancient form of raising construction funds that knows no nationality. To finance the proposed $8 million Sydney opera house designed by Danish Architect Joern Utzon (winner of the $11,250 first prize in an international architectural competition — AF, March '57) the New South Wales parliament has approved a series of four public lotteries a year, each with a first prize of $112,000. (Lotteries are not legal in all countries, but in jurisdictions where they are taboo some churches and schools have been known to circumvent the authorities and raise construction funds with bingo-type games.)

Brighter classrooms mean brighter pupils!



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When you want positive protection, permanence, low maintenance, and the ultimate in convenience and operating efficiency, you will select Rolling Steel Doors. Because, in truck and railroad openings in industrial and commercial buildings, and in loading dock and transfer dock openings, rolling steel doors offer definite timesaving and space saving advantages over any other type of door. The vertical roll-up action of the door utilizes no usable space either inside or outside the opening . . . and, there are no overhead tracks or other obstructions to interfere with crane handling or restrict headroom adjacent to the opening. No other type of door can give you the positive security, firesafety, and everyday operating convenience of a good, quick-opening, quick-closing, power operated rolling steel door. Permanent, all-metal construction reduces maintenance to a negligible factor, and assures a lifetime of continuous trouble-free service. When you buy a rolling steel door, it will pay you to check specifications carefully . . . you'll find that Mahon doors are built better to give you better service over a longer period of time—for instance, the galvanized steel in Mahon curtain slats is BONDERIZED and DIP-COATED with Synthetic Enamel which is baked on at 350° F. prior to roll-forming. This is just one of the extra-value features of Mahon Rolling Steel Doors . . . comparison will disclose many others that add up to a greater over-all value, and, a better investment. See Sweet's Files for complete information, or write for Catalogue G-57.

THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Underwriters' Rated Fire Walls; Insulated Metal Curtain Walls; Electrified M-Floors; Acoustical and Troffer Forms; and Steel Roof Decks and Long Span M-Decks.

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six 18′ x 14′ Mahon Power Operated Rolling Steel Doors installed in openings of an Enclosed Loading Dock in the Peninsular Metal Products Corporation's Plant, Ferndale, Michigan. Lawrence G. Markey, Inc., General Contractors.

M A H O N

Complete design Versatility with standard components

windows

Specify any size or type your design requires. Glass can be clear or patterned, and single or double glazed. Sash can be either fixed or operating in awning, projected, pivoted and hopper types or Robertson's new V-Window (hinged for inside cleaning).

verticals

The verticals as well as all trim can be fabricated from a variety of materials to provide contrast with the spandrels. The vertical members can be fabricated in a number of cross-sections to suit your design requirement.

spandrels

Here again, an infinite number of design and size selections are possible. The V-Panels can have a wide variety of surface patterns and be fabricated in aluminum, bronze, stainless steel, Galbestos or vitreous enameled aluminum or steel. Versatile Wall offers complete freedom of design.

H. H. ROBERTSON CO.

Pioneers in puttyless glazing since 1915

2400 Farmers Bank Bldg.
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In England—Robertson Thain Ltd., Ellesmere Port, Cheshire
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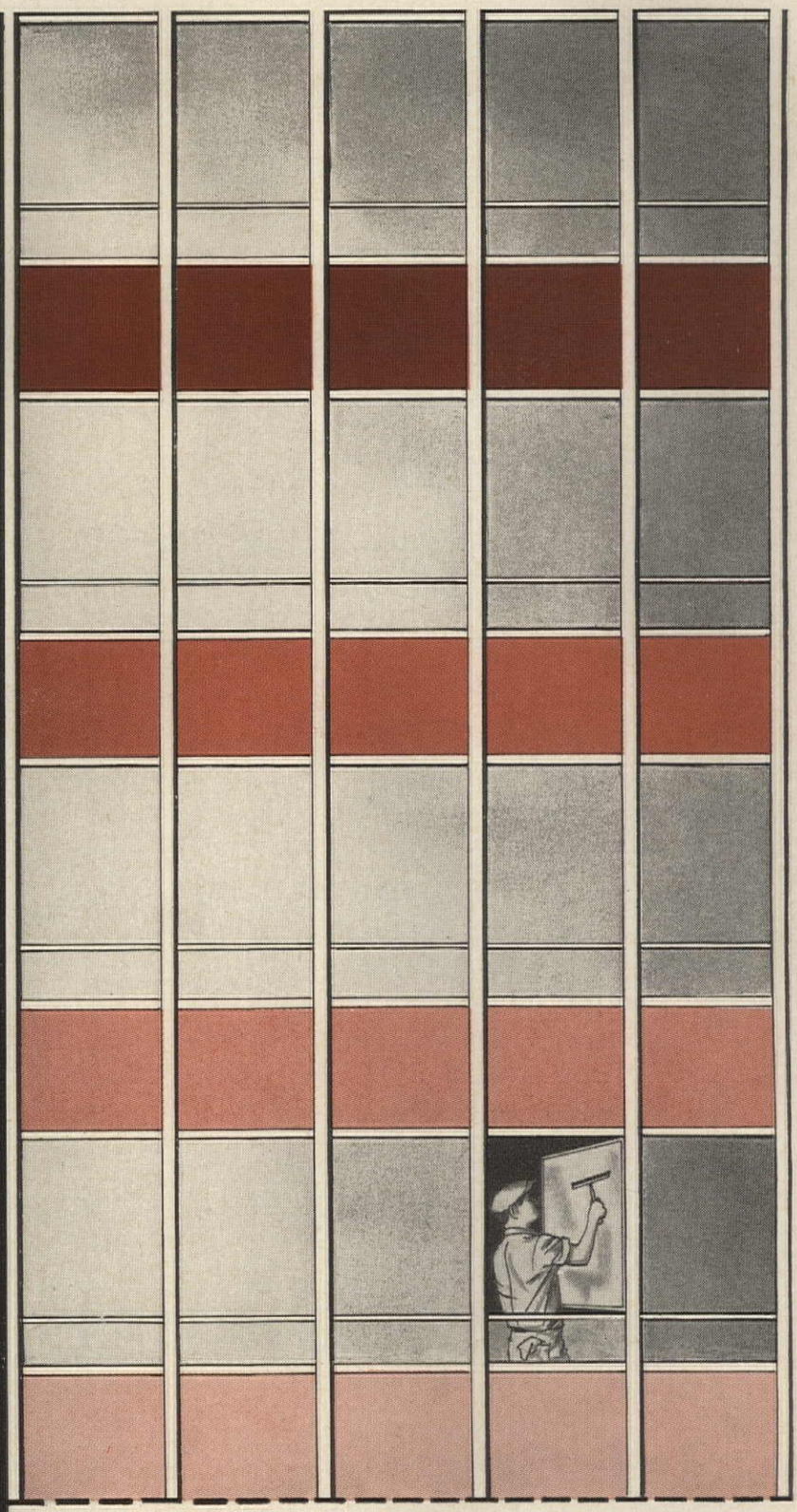

Robertson Versatile Wall

...a curtain wall as individual as your signature

Please send additional information

NAME _____ TITLE _____

COMPANY _____

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new concept

in decorative tiles!

pomona tile

announces

its brilliant

DISTINGUISHED DESIGNERS' SERIES

Working under special assignment from Pomona Tile Manufacturing Company, five distinguished contemporary designers—Liebes, McCobb, Bass, Laszlo, and Sheets—have opened the way for scores of beautiful new uses and applications of decorative tiles for both residential and commercial construction. The project was an interesting challenge. The results... as usually happens when the true artist applies his talent to a new medium of creativity... are totally unexpected and unprecedented. And this inspiration, in turn, should beget a great new school of ideas, from architects, decorators, and builders.

The first in the series will be introduced, in full color, in the forthcoming issue of this publication. Don't miss it!

POMONA TILE, the creative name in ceramic floor and wall tile.

PAUL McCOBB: functional furniture designer and originator of the "Linear look" in contemporary furniture. Famed for his imaginative uses of unorthodox materials, he recently introduced designs combining structural aluminum and natural woods. Winner of many "Best Design" awards... .....

MILLARD SHEETS: water-colorist, muralist, illustrator, mosaicist, architectural designer, director, teacher, and lecturer. Winner of scores of awards for watercolors and other paintings, his works are to be seen in the permanent collections of more than forty museums and galleries.

DOROTHY LIEBES: textiles designer and colorist, and the winner of many national and international awards in art and design competitions. Director, trustee, and member of more than a score of art and professional societies and schools, her work has been exhibited in countless museum and gallery shows.

SAUL BASS: designer, consultant in integrated design- planning for industry; also well-known for unusual movie- title designs. Teacher, lecturer, and member of the executive board of the International Design Conference at Aspen. Winner of scores of national and international awards.....

PAUL LASZLO: industrial designer and interior designer. He is a renowned exponent of the new "romantic movement" in home interiors. Known as a "radical architect" in Vienna before World War II, he says he follows no formula or dogma except what he terms "ABC's of good design, artistry, beauty, comfort."

In the

OWNER:
John W. Galbreath & Company

DESIGNERS:
Harrison & Abramovitz, Architects;
John B. Peterkin, Associate

STRUCTURAL ENGINEERS:
Edwards & Hjorth

GENERAL CONTRACTOR:
Turner Construction Company

Structural Steel erected by American Bridge Division, United States Steel

USS American Welded Wire Fabric

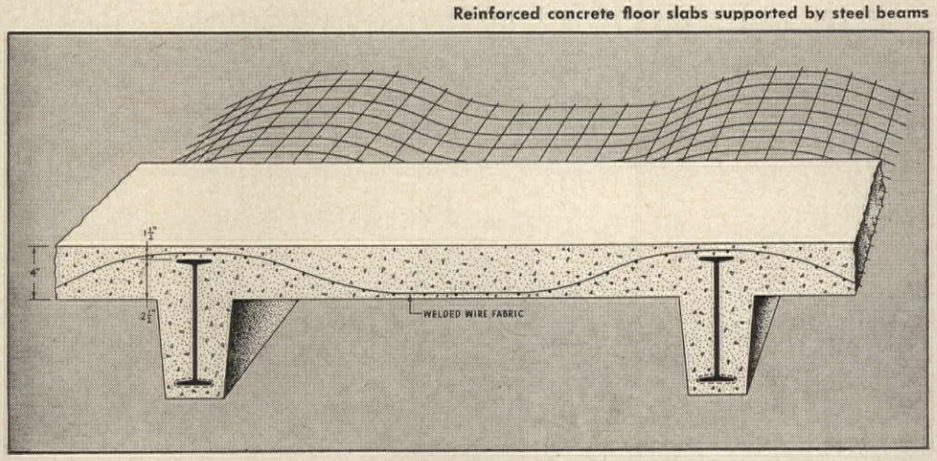
new Socony Mobil Building

. . . beam-and-slab concrete floors reinforced with USS American Welded Wire Fabric

American Welded Wire Fabric was used in the forty-two-story Socony Mobil Building in New York, just as it was in other buildings, such as in the Merchandise Mart in Chicago, in the Empire State Building, in the fourteen buildings of Rockefeller Center, and in countless other buildings throughout the world.

You're wise to use American Welded Wire Fabric wherever you use concrete in modern buildings. Short span concrete floor construction requires 28% less reinforcement where Welded Wire Fabric is used. That's because American Welded Wire Fabric is made from *high strength* cold drawn wire that is allowed a working stress of 30,000 psi in most building codes. It saves money too . . . saves on transportation, installation and handling expenses. Use it in shopping centers, factory floors, school buildings, reinforced concrete walls and homes.

Reinforced concrete floor slabs supported by steel beams



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UNITED STATES STEEL

How *high velocity* solves problem of *flexibility* in the Medical Towers

When the new Medical Towers Building in Houston, Texas was planned, the key air conditioning problem was flexibility. Professional office areas had to be subdivided *after* the building was completed. Here's how an Anemostat dual duct high velocity air distribution system solved the problem.

As shown in the diagrammatic sketch, a system of perimeter take-offs from the hot and cold ducts enables each doctor to provide the exact temperature he wants. Temperatures in the various rooms of each suite of offices can be varied. Air distribution is draftless, comfortable, perfectly suited to tenants' needs.

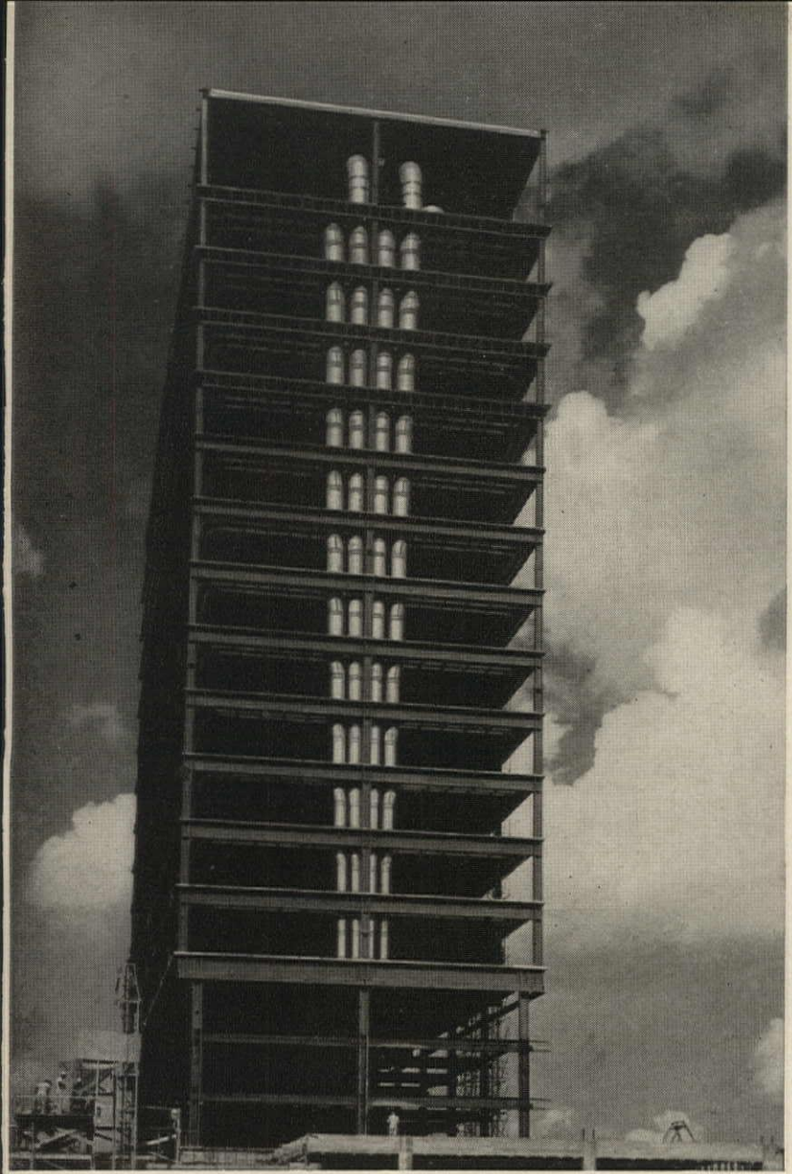
The Anemostat All-Air High Velocity distribution system offers further important advantages. It can be used with smaller than conventional ducts. It can be installed in less time and at less cost. It requires no coils, thus eliminates leakage, clogging and odors.

ARCHITECTS—Attention Please:
Anemostat round, square and straightline diffusers with high velocity units are adaptable to a wide variety of architectural designs.

Architects: Golemon and Rolfe, AIA, Houston
Consulting Architects: Skidmore, Owings and Merrill, New York
Consulting Engineers: Bernard Johnson and Associates
General Contractor: Tellepsen Construction Co.
Air Conditioning Contractors: Straus-Frank Company

Anemostat HPE units and duct connections installed in office before construction of ceiling and walls

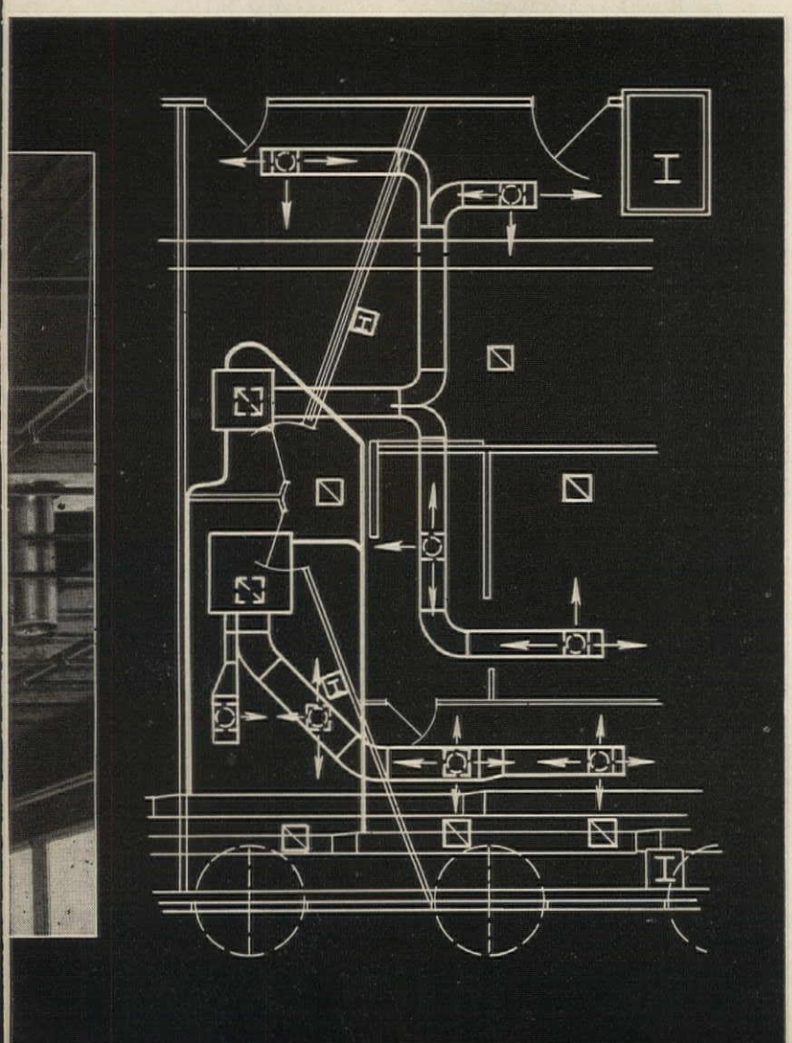
AC 1345



Note how locating of hot and cold ducts saves space in new Medical Towers Building, Houston, Texas

View of lobby showing Anemostat Air Diffusers

View of professional reception room



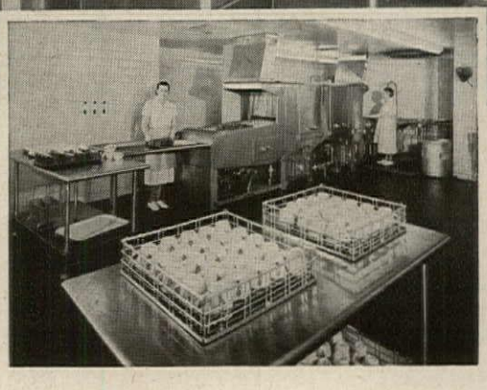
Layout of typical suite

Write on your business letterhead for your copy of

New Anemostat Selection Manual 60

to Anemostat Corporation of America, 10 East 39 Street, New York 16, N. Y.

ANEMOSTAT: The pioneer of All-Air High Velocity Systems



Help your clients to run top quality kitchens

. . . *at rock-bottom cost!*

Write for your copy

"STAINLESS STEEL for STORE FRONTS and BUILDING ENTRANCES"

Either for modernization or new construction, this 40-page booklet contains many ideas on handsome treatments for you. (Note: A new booklet on "AL Stainless in Food Preparation and Serving Equipment" is in process—write for one of the first copies when available.)

ADDRESS DEPT. B-90

Sure, the owners will need a good chef and good management in their kitchen and dining-rooms—but first of all, they'll need stainless steel equipment! That's where to start for the highest sanitary standards—the easiest, quickest cleaning and lowest-cost maintenance. And that's where to start for the greatest long-term economy, too—because stainless steel can't chip, crack, peel or wear off. It costs a building owner much less than anything else in the long run because it literally lasts for a lifetime . . . stands up under the heaviest service and stays beautiful all the way. ● In the kitchen, in the dining-room (and for structural details, too) specify *stainless steel* . . . it pays! ***Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.***

WSW 6070 B

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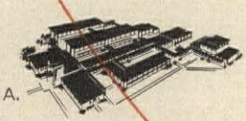
working with the architect on today's important school lighting projects . . .

4/5 mile of *Capri* lighting units

. . . every inch designed to make an architect's dream come true!

Here is lighting that takes the architect's thinking into consideration . . . expressed in the clean-cut lines and diminutive contour of the Benjamin Capri. In addition to its flair for making architectural dreams come true, the Capri's unique low-brightness illumination meets the high classroom lighting recommendations of the Illuminating Engineering Society . . . and even anticipates future increases and improvements in these practices. Benjamin Electric Mfg. Co., Des Plaines, Ill.



WEST PENSACOLA HIGH SCHOOL
Florida's newest and largest.

Architect: FRANK J. SINDELAR, A. I. A. *Pensacola, Fla.*

Consulting Engineers: EVANS & PHILLIPS, *Birmingham, Ala.*

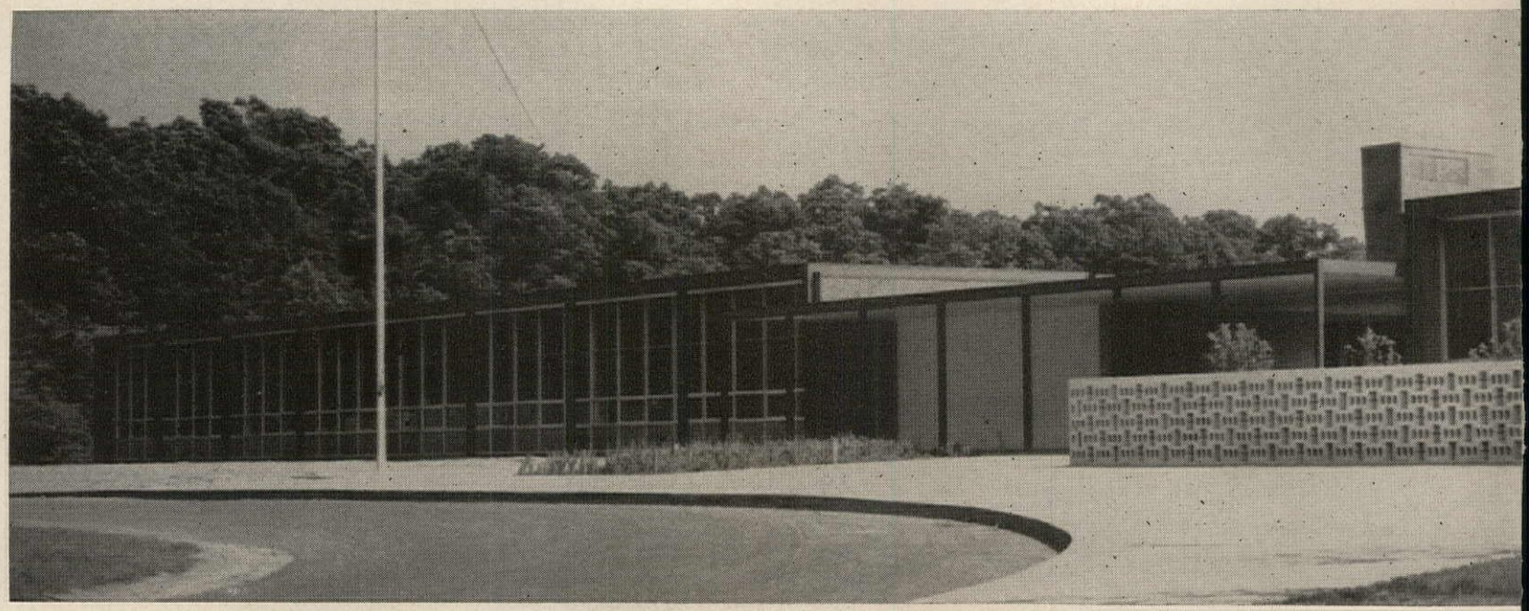
Contractor: DYSON & CO., *Pensacola, Fla.*

Electrical Contracting: BAROCO ELECTRIC CONSTRUCTION CO., *Pensacola, Fla.*

R-113-R

BENJAMIN

. . . always the source of good lighting



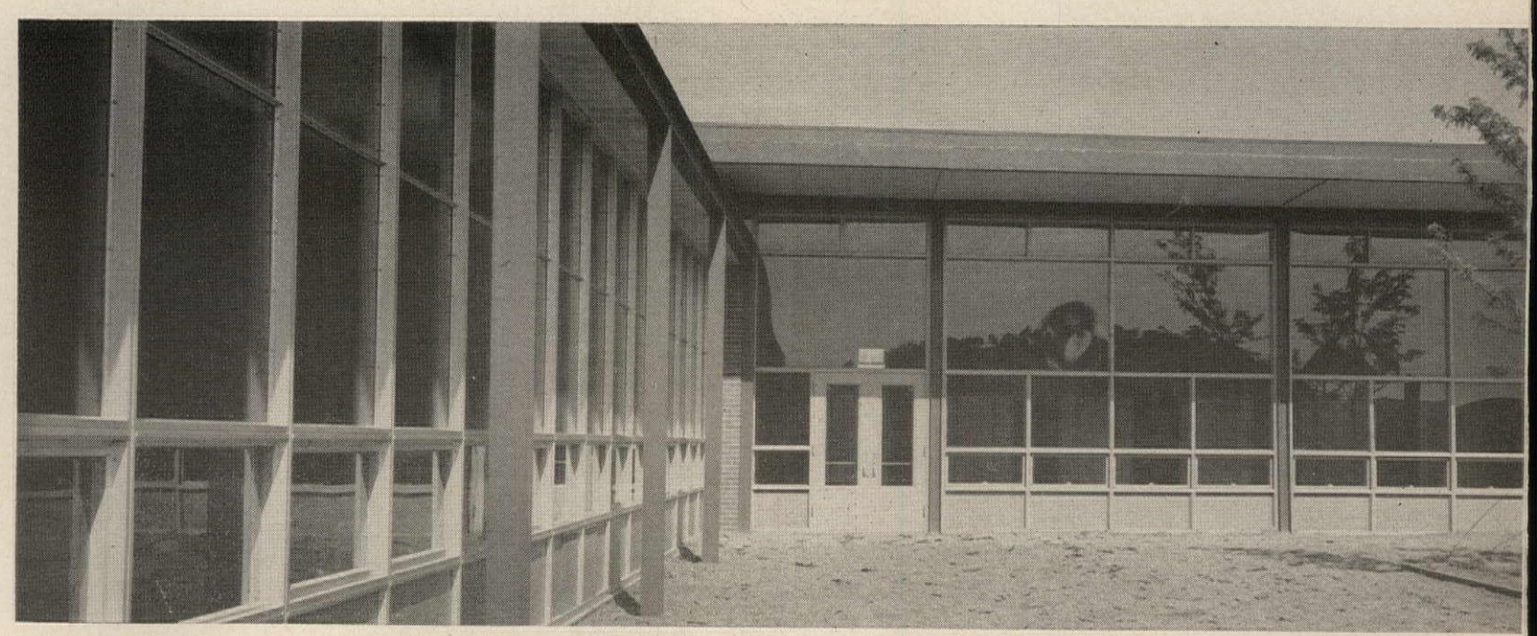
No claustrophobia in *this* new school!

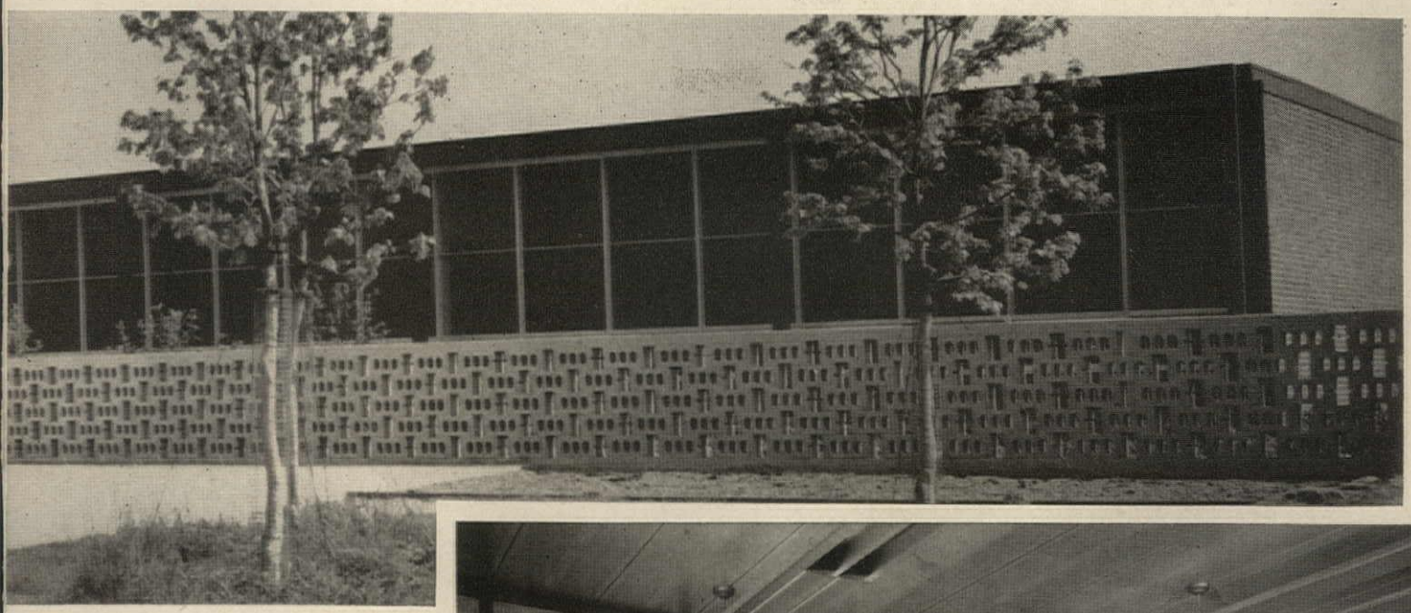
Here is the North Allegheny Elementary School in McCandless Township, Pennsylvania. It's a good-looking building, with some sprightly design features that you don't often find in public schools.

The ventilation system, for instance. A vent exhaust tower contains a heat-induction coil that expands the air and creates a draft. All classrooms are linked to the tower through tunnels that lie under the corridors—and the tunnels serve as carriers for the utility lines. The system is noiseless (no fans) and it has a generous capacity.

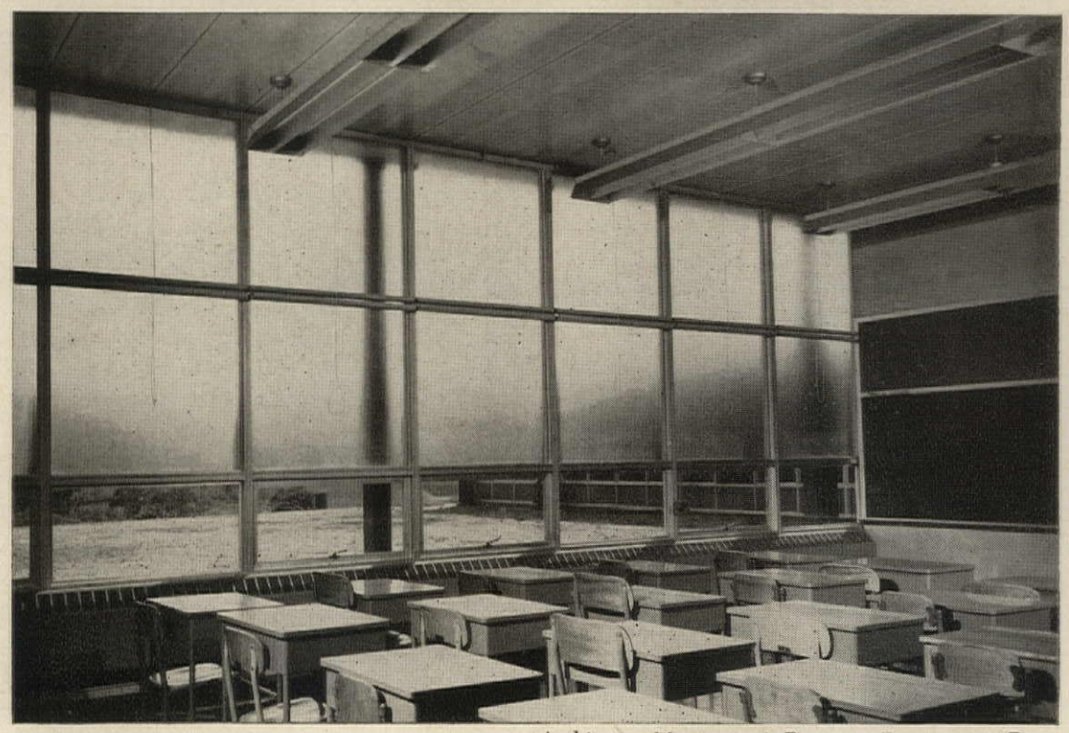
The entire building was designed with the idea of bringing the outdoors *indoors*. Mainly, this was accomplished with bilateral lighting: huge window areas on the exterior walls, smaller clerestory windows on the inner, corridor walls. In the words of architects Mitchell & Ritchey, "There's a good space feeling here. No claustrophobia, plenty of opportunities for eye rest."

Notice the exterior classroom windows for a moment. The upper two lights of glass are SOLEX heat-absorbing, glare-reducing plate glass. It's ¼" thick, with a handsome rough finish that blends in beautifully with the rich design of this fine school. HERCULITE ¼" shock-resisting plate glass was used in the all-purpose room, and the hopper vents were glazed with double-strength PENNVERNON Window Glass.





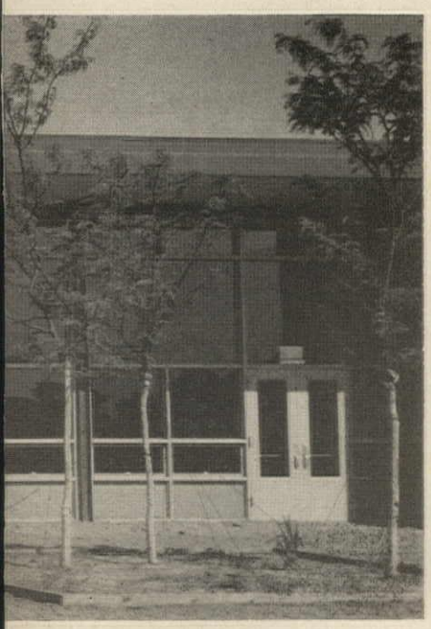
Heat-induction coils for ventilation system are housed in vent exhaust tower over entrance. Wall is made from ordinary concrete blocks.



Notice handsome appearance of the ¼" rough SOLEX glass. The tinted glass reduces glare and heat penetration during summer months.

Window walls are non-load-bearing. Steel framing remains outside of building, is important part of the design motif.

Architects: MITCHELL & RITCHEY, PITTSBURGH, PA.

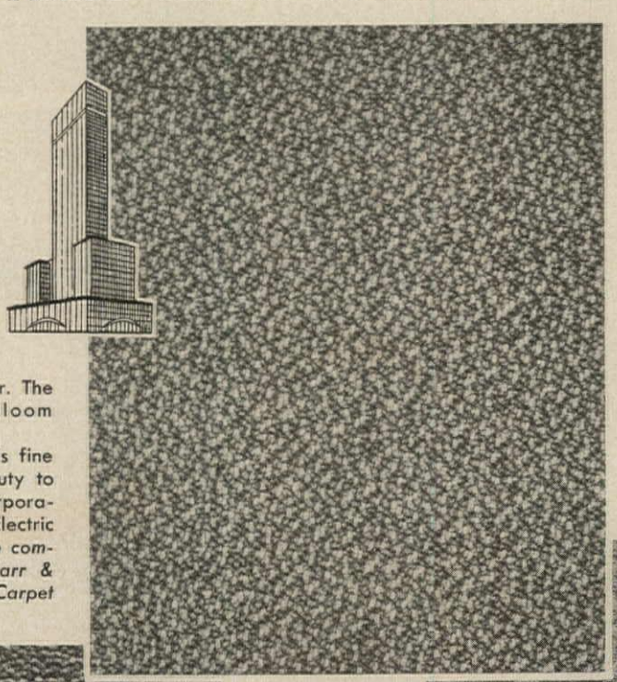


More Than 10½ Miles

OF

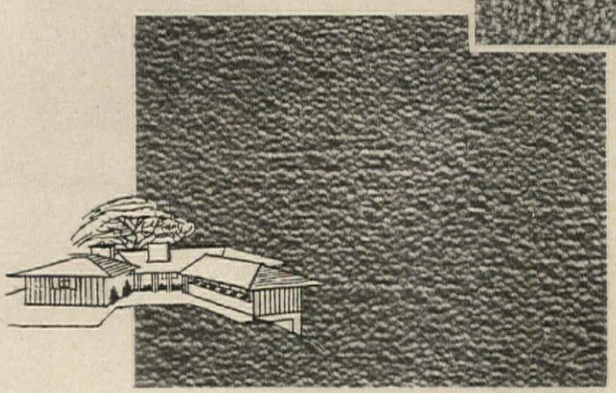
GULISTAN CARPET

SELECTED FOR THESE THREE AMERICAN SHOWPLACES

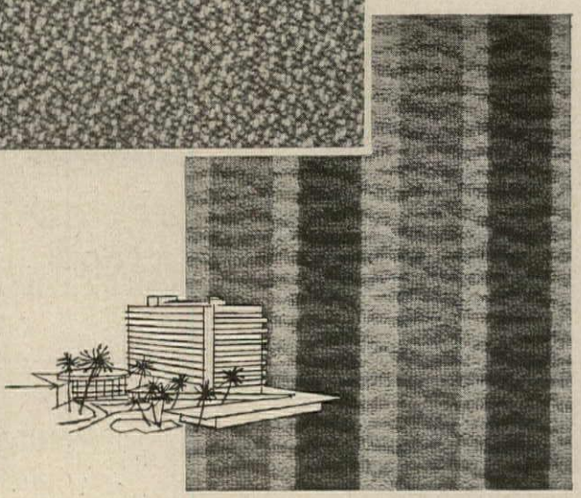


Over 6½ miles of beautiful, long-wearing Gulistan Carpet bring comfort, quiet and charm to the Socony Mobil offices in the magnificent Socony Mobil Building . . . New York's newest and largest stainless steel skyscraper. The carpet is nine-foot wide broadloom throughout.

Approximately 1 mile more of this fine all-wool Wilton adds practical beauty to the offices of the Air Reduction Corporation, and International General Electric Company. *Interior Architect for these companies: Leigh Allen of J. Gordon Carr & Associates, New York, N. Y. Gulistan Carpet Contractor: Bergh Brothers, N. Y.*



One-fiftieth of a mile of deep, thick Gulistan Coronation, a classic plain velvet carpet woven of the finest wools, graces the magnificent contemporary home of Mr. and Mrs. L. T. Gease of Orinda, California. *Architect: Jack Buchter, Orinda, California.*



Over three miles of specially designed nine-foot wide, tufted, all-wool Gulistan Carpet lend a gay "at home" charm to the beautiful rooms of the glamorous new Americana Hotel, Miami Beach, Florida. *Architect: Morris Lapidus, New York, N. Y. Gulistan Carpet Contractor: Alexander Carpet Company, Miami, Fla.*

Famous names and places choose Gulistan Carpet for comfort, quiet and low-cost maintenance.

- Ambassador Hotel, *New York*
- Fairgrounds Club House, *New Orleans*
- Radio City Music Hall, *New York*
- Tarantino's Restaurant, *San Francisco*
- Union Dime Savings Bank, *New York*
- Saddle and Sirloin, *Palm Springs*
- Hotel Chase, *St. Louis*
- Bonfils Memorial Theater, *Denver*

GULISTAN CARPET

COSTS NO MORE THAN ORDINARY CARPET

MADE IN THE U. S. A. BY AMERICAN CRAFTSMEN. A. & M. KARAGHEUSIAN, INC., 295 FIFTH AVENUE, NEW YORK 16, N. Y.

IDEAS for profits from Monsanto's "House of the Future"

Balconies and canopies of molded reinforced plastic

A molded "sandwich" section filled with rigid foam for added strength. Based on practical engineering principles for modular "bents" developed in the recent Monsanto-sponsored M.I.T. study, "Plastics in Housing."

Balconies, arcades, decorative *and* functional overhangs of striking beauty and simplicity . . . each in a single piece quickly fixed to the building as a pre-built unit. The material? The same used for military landing craft, punishment-taking truck bodies, and for 40,000 pleasure boats in 1956: *fibrous glass reinforced plastic.* Lighter than aluminum; higher tensile strength than steel; shatterproof; weather-resistant.

Qualified molders can make reinforced plastic balconies and canopies for you *today*—to your specification, in your choice of color. Even if you use as few as 24 units, the in-place cost of a molded roof or balcony should be *less* than any built-on-the-job construction. Here's an opportunity to pioneer . . . in design, in building.

MONSANTO CHEMICAL COMPANY
Organic Chemicals Division, Dept. RI-2B, St. Louis 1, Mo.

FOR NAMES *of qualified molders, write today to Monsanto—manufacturer of raw materials for reinforced plastic products.*

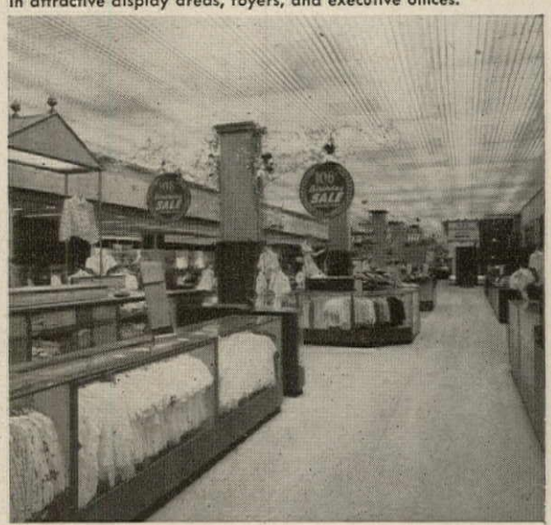
MONSANTO

WHERE CREATIVE CHEMISTRY WORKS WONDERS FOR YOU

GRINNELL SPRINKLER PROTECTION

in two new units of Jordan Marsh Department Store, Boston, Mass.

Grinnell Ceiling Sprinklers, which extend but a scant inch and a quarter from the ceiling, provide all but invisible fire protection in attractive display areas, foyers, and executive offices.



Above this modern ceiling design, not readily seen from below, is the Grinnell Sprinkler System, as well as the indirect lighting.

Fire poses a constant threat to life and property. In a few moments of time, it can reduce to a tragic, smoldering ash the most modern edifice in the world. That's why so many buildings today include Grinnell Sprinkler Protection.

Reliance more and more on Grinnell *Ceiling-Type* Sprinklers also is in keeping with the present-day trend. The beauty of Grinnell Ceiling Sprinklers is that they do nothing to mar the decor of attractive interiors. Actually, they can be made to become an inconspicuous part of the architectural planning . . . to blend in harmoniously with modern design. But should fire strike, anywhere . . . at any time, day or night, they stand ready to stop fire at the very first flame.

Make sure the buildings you are planning include Grinnell Sprinkler Protection. Consult a Grinnell engineer. Let him give you cost figures on the best Grinnell System for you. And remember, Grinnell Sprinklers usually pay for themselves in a few years through reduced insurance premiums. Call or write Grinnell Company, Inc. 292 West Exchange Street, Providence 1, Rhode Island.

Supplementing Grinnell Ceiling Sprinklers at escalator stairwells is a special Grinnell Water Curtain System, which operates to keep smoke and hot gases from entering open floor areas.

GRINNELL PROTECTION AGAINST EVERY FIRE HAZARD

Manufacturing, Engineering, and Installation of Automatic Sprinklers Since 1878

Part of the comprehensive development of St. John's Abbey and University, Collegeville, Minn.

DAMORA

TOMORROW'S HOUSE OF WORSHIP: modern symbol of reverence

"The intent of this structural system is expressed first of all in the bell tower. Historically, such a structure soars upward to serve as a lookout and defense point. Here an upraised slab of reinforced concrete seeks to form an architectural symbol that will be as structurally characteristic of our time as was the dome in medieval days. It is an impressive concrete banner, pierced to hold today's electrically operated bells. Walls and roof of the building are formed by a thin, fireproof drape of reinforced concrete, creased into folds for structural stiffness. Thus, in strong but humble lines, concrete expresses the concept of a modern religious structure."

MARCEL BREUER, *Architect;* Hamilton P. Smith, *Associate*

UNIVERSAL ATLAS CEMENTS

■ One of a series of advertisements being presented in national magazines by Universal Atlas — to promote interest in architectural contributions for a greater America through the medium of concrete. For more about this building method, write to Universal Atlas, 100 Park Avenue, New York 17, N. Y.

USS

UNIVERSAL ATLAS CEMENT COMPANY — MEMBER OF THE INDUSTRIAL FAMILY THAT SERVES THE NATION — UNITED STATES STEEL

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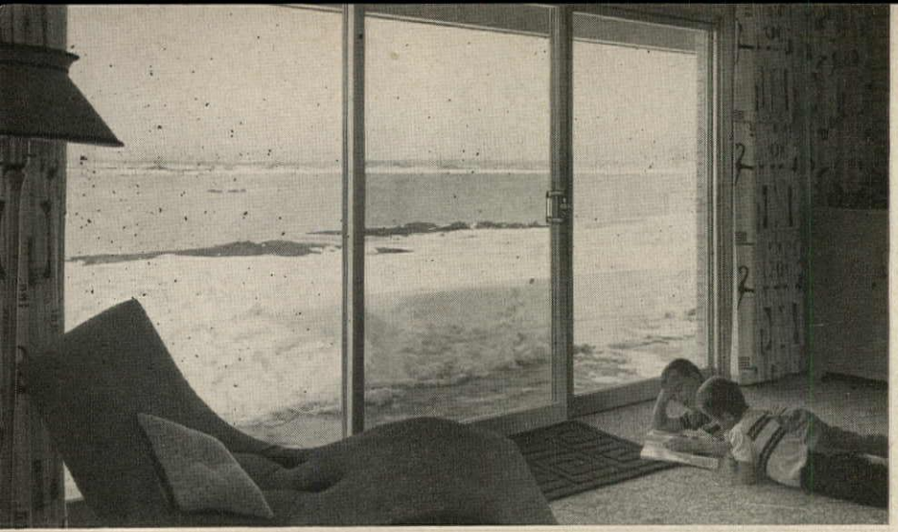

Heat and condensation control—Now Ador Thermo Door is first to offer an insulated door to match the insulation characteristics of 1″ dual glazing.

Why an *insulated* sliding glass door is important to users of dual

More and more dual glazing is being used in sliding glass doors to meet the booming demand for large glass areas in today's construction.

But, the efficiency of dual glazing is oftentimes restricted because of heat flow through the metal of the door.

Now, Ador offers an *insulated* sliding glass door whose efficiency is compatible with dual glazing. Designed in the same manner as dual glazing, the Ador Thermo Door is actually *two* doors in *one*—an inner unit and an outer unit—separated by continuous strips of non-metallic insulation.

The result is an *insulated* unit which offers these important advantages:

1. *a door designed exclusively for 1″ dual glazing,*
2. *a door insulated to reduce condensation,*
3. *a door double weatherstripped for minimum heat loss.*

For complete information on the Ador Thermo Door, see your Ador dealer, or mail the coupon below today.

Thermo Door by *Ador*

America's Foremost All-Aluminum Sliding Glass Doors

MAIL THIS COUPON FOR INFORMATION ON THE ADOR INSULATED THERMO DOOR

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2345 W. Commonwealth Ave., Fullerton, California

Please send details of the THERMO Door.

I am an architect ☐ a builder ☐

name_____

firm_____

address_____

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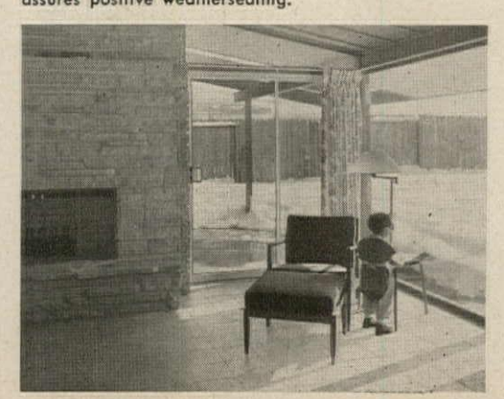
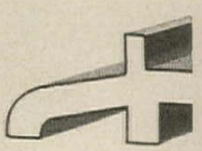
Double weatherstripping of heavy high pile mohair assures positive weathersealing.





glazing

Ador Thermo Door is two doors in one, insulated from each other to control heat transmission and condensation. Threshold and lower door section are shown here. Nonmetallic insulation strips are shown in black.

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The Spocari, Alabama, plant of The Lone Star Cement Company is one of the largest in the South. Its construction is unique in many ways . . . designed to take full advantage of the most modern methods of materials handling. The framework of structural steel, fabricated by Ingalls, plays a truly important part in the functional design. It provides support for massive equipment as well as backbone for the buildings themselves.

This is another example of Ingalls skill and ability . . . to meet fabricated steel requirements, for any type of construction, regardless of size or location.

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Capacity has been increased nearly 70% at Ingalls' Plants within the past three years . . . part of a program designed to give Ingalls the facilities to meet every modern requirement for fabricated structural steel for any construction purpose.

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Plants: Birmingham, Ala., Verona, Pa., North Birmingham, Ala., Decatur, Ala., Pascagoula, Miss.

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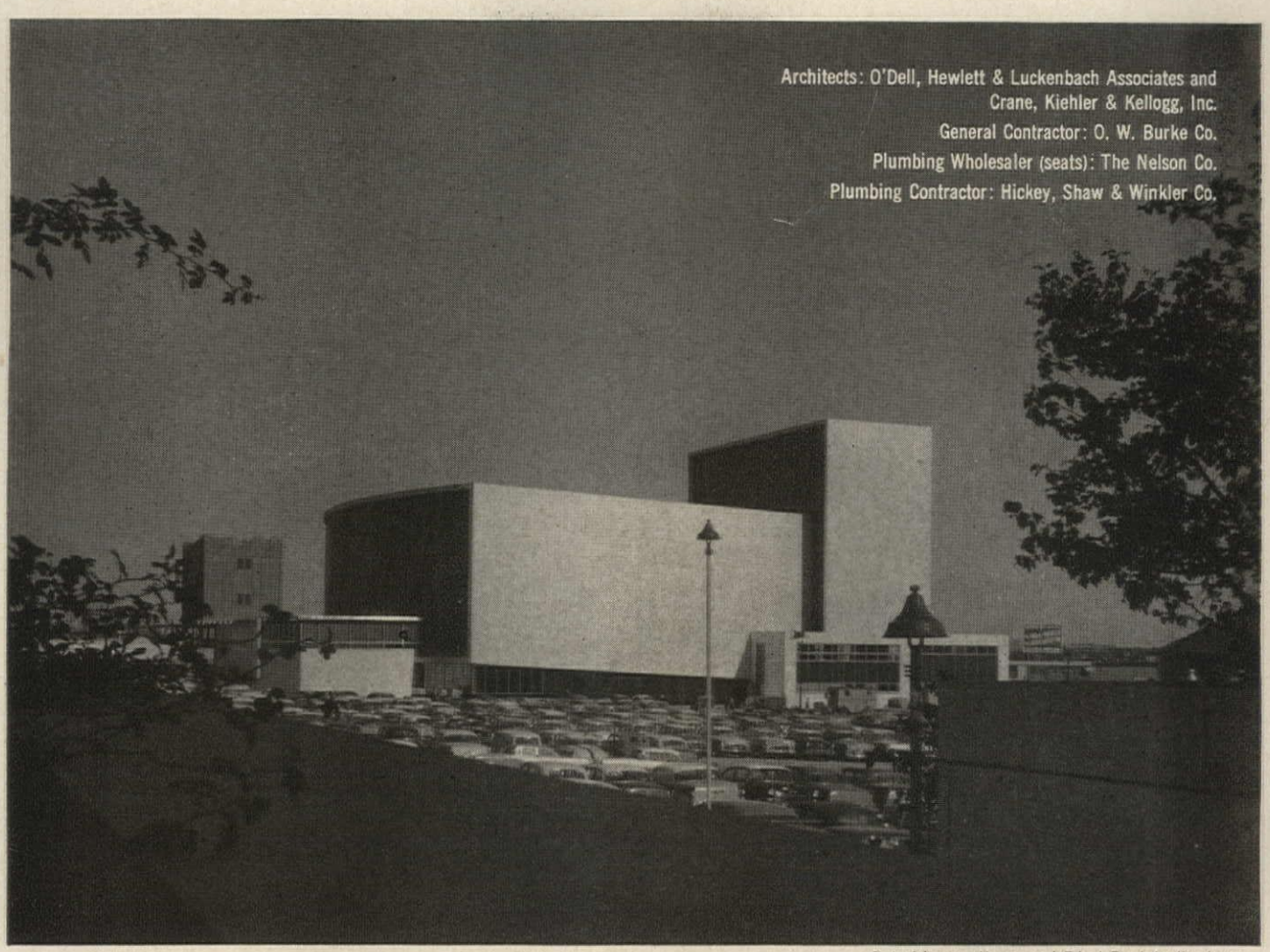

Architects: O'Dell, Hewlett & Luckenbach Associates and Crane, Kiehler & Kellogg, Inc.
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Dream job for architects

"Only the finest" said the budget-makers for the Henry and Edsel Ford Auditorium recently completed in Detroit. Architects, engineers and specification writers literally went *to the ends of the earth* for the most resplendent materials money could buy . . . Blue Pearl Granite from beneath the faraway lands of Norway . . . Pal Deo wood paneling from the South American jungles.

But seat selection? "Only the finest" in industrial seats turned out to be Olsonite white No. 10CC.

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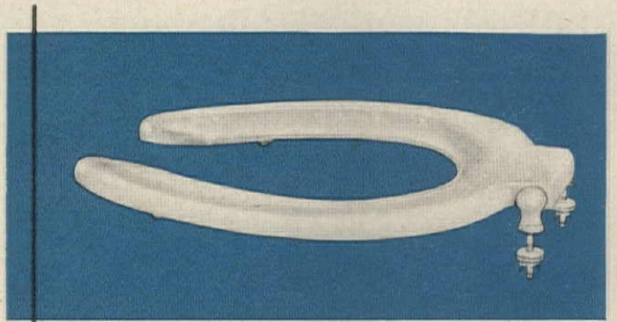

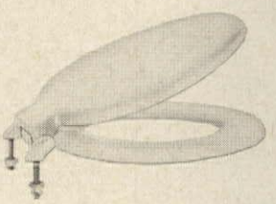

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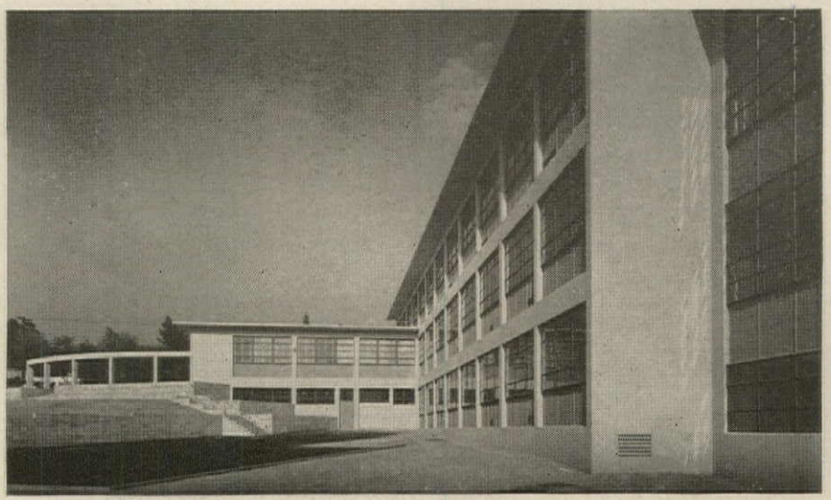
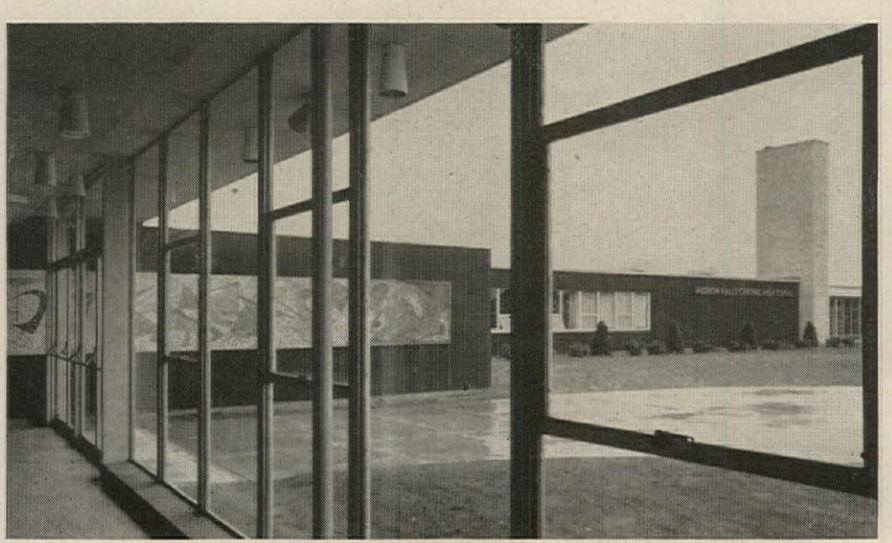
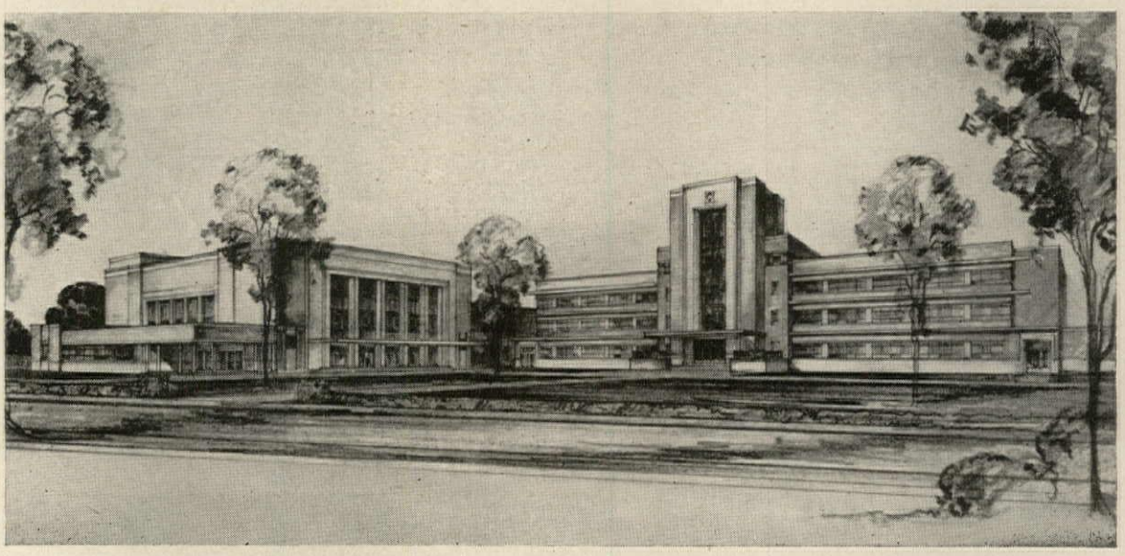


Anderson Clark Junior High School, Los Angeles, Calif.
Architects: Risley and Gould



Hudson Falls, N. Y. High School
Architects: Sargent, Webster, Crenshaw & Folley

Students who attend modern schools like these . . .



New Trier Township High School, Winnetka, Ill.
Architects: Furst, Maher & McGrew
Consulting Engineer: Arthur Bladen of Neiler, Rich & Bladen.

Pattern No. 70 glass in New Trier Township High School cafeteria. Fixtures by Electro Silv-A-King.

Pattern No. 70 glass in Hudson Falls High School Library. Fixtures by Sylvania.

Alba-Lite panels in corridor of Anderson Clark Junior High School. Fixtures by Fluorescent Fixtures of California.

Lenslites in a new auditorium-gymnasium. Fixtures by Eastern Lighting Fixtures.

Alba-Lite panels light this college library. Fixtures by Pittsburgh Reflector.

Pattern 70 panels light this modern grade school classroom. Fixtures by R. & W. Wiley.

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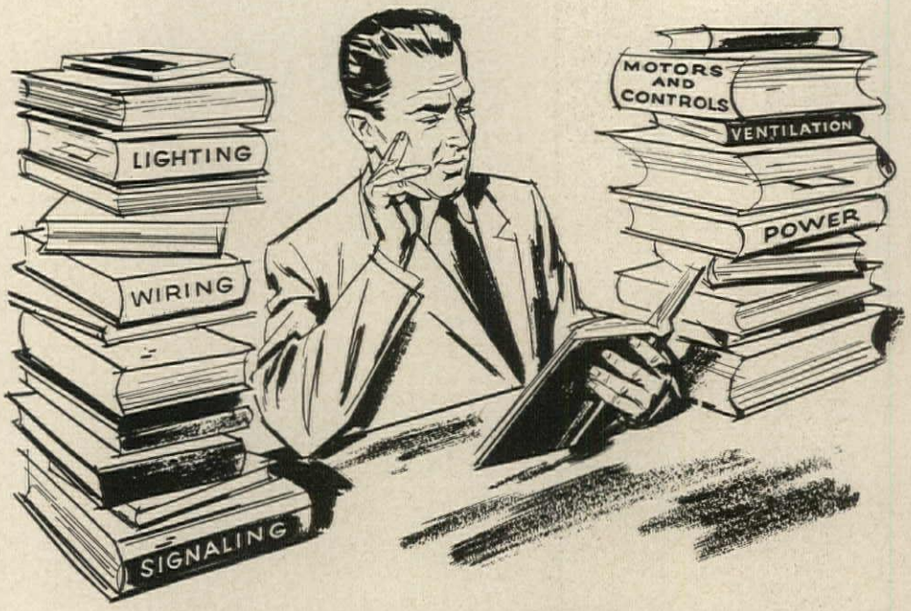
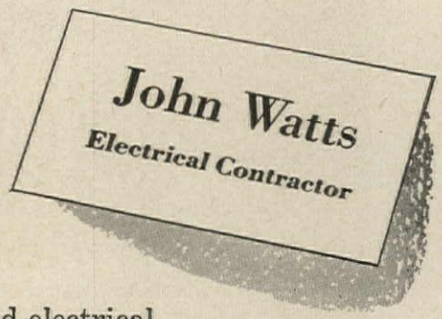


Do you have the time now — or ever — to read all the new printed matter that's being issued on all the new electric products for buildings? We venture that if you added up all the words in all the current catalogs, bulletins and spec sheets, they'd total well into seven digits.

Yes, new developments in electric products and wiring techniques are coming thick and fast. It's quite a job for anyone to keep up with all of them.

Check electrical details early with...



Here are 7 ways in which QUALIFIED ELECTRICAL CONTRACTORS can be of real help to ARCHITECTS, CONSULTING ENGINEERS, and BUILDERS

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2. Sharing experience on details of installation.
3. Furnishing first hand data on local practices, regulations and preferences.
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7. Using Graybar's nationwide warehouse stocks and facilities to deliver the smallest to the largest equipment anywhere, fast.

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So, when you check with John Watts in the early stages of design, you make sure that your electrical plans will be fully practicable. And, that's one of the most important factors in getting your projects completed on time.

You make sure, too, of getting the newest and best in everything electrical – when and where you want it – because the "John Watts" everywhere obtain electrical supplies and tools via Graybar.

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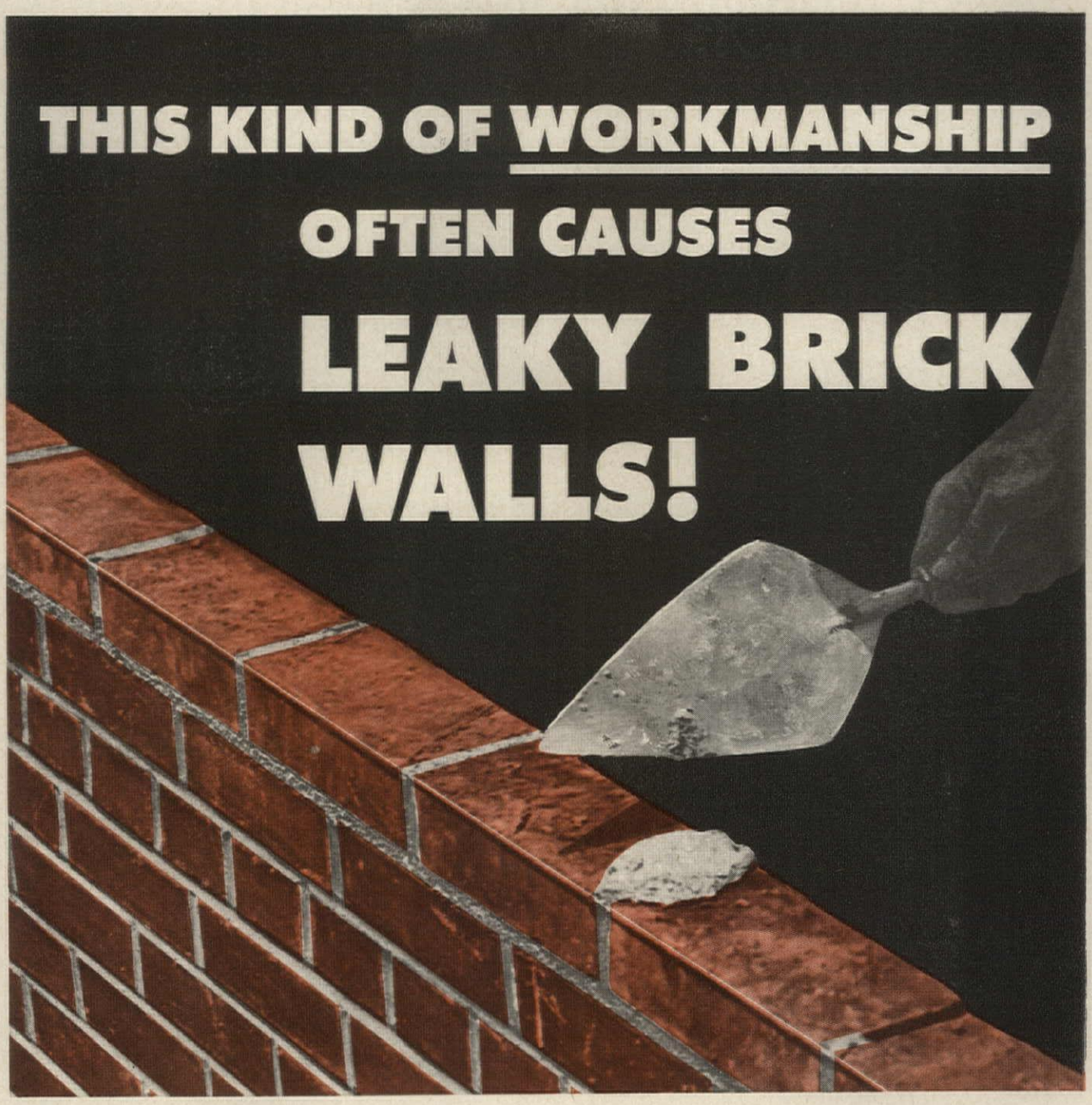

PARTIALLY filled head joints are one of the common causes of leaky brick walls.

Instead of throwing enough mortar on the brick to fill the joint completely, bricklayers often spot a dab of mortar only on one or both corners of the brick—and then slush the head joint after the brick is laid. This slushing is not enough to fill the joint solid. Result—water may work its way through voids in the head joint, to the inside of the wall.

Brixment's exceptional workability makes it easy for the bricklayer to use enough mortar to completely fill the joints without slushing, and still lay the brick easily and accurately to the line.

Brixment mortar has great plasticity, high water-retaining capacity and bonding quality, great resistance to freezing and thawing, and freedom from efflorescence. Because of this *combination* of advantages, Brixment is the leading masonry cement on the market.

BRIXMENT

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

For handsome appearance, adaptability

HERCULITE®

This eye-catching remodeling job, with its free-standing door frame, demonstrates what *Pittsburgh* HERCULITE Doors can do—in conjunction with Pittsburgh Polished Plate Glass for the display windows—to give stores and other establishments a modern, progressive, business-attracting look. Occupied by Butler's Shoe Store, Memphis, Tennessee, this retail establishment has immense appeal. HERCULITE Doors do much in providing an architectural design with open-vision appearance which makes the entire store one giant display. Architect: E. L. Harrison, Memphis, Tennessee.

For detailed information on Pittsburgh Doors, see Sweet's Architectural File . . . Sections 16a and 16d . . . or write direct to Pittsburgh Plate Glass Company, Room 7268, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

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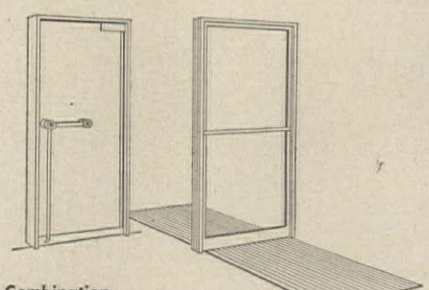
PITTSBURGH DOORS

IN EVERY PART OF THE COUNTRY, *Pittsburgh* HERCULITE and TUBELITE Doors have earned an enviable reputation for dependability, architectural flexibility and long life. These are the reasons why architects and building owners have chosen them overwhelmingly for new structures as well as for remodeling work. Backed by Pittsburgh Plate Glass Company, a name known and respected for its high-quality products for more than seventy years, you can rely upon HERCULITE or TUBELITE Doors to fulfill your requirements completely. And this is true whether your plans call for a single door or a multi-unit installation.

TUBELITE®

In this remodeling of an old garage building, P. N. Hirsch & Co. of Rushville, Indiana, chose one pair of double-acting TUBELITE aluminum doors and frames for its entrance. TUBELITE Doors are noteworthy for their clean, simple lines which are adaptable to any architectural scheme. An amazing advance in hollow metal entrance design, TUBELITE Doors have a unique interlocking feature which gives them maximum rigidity. Quickly glazed and installed, TUBELITE Doors are markedly the best possible value at the least possible cost.

The PITTCOMATIC® opens HERCULITE and TUBELITE Doors at a feather touch!



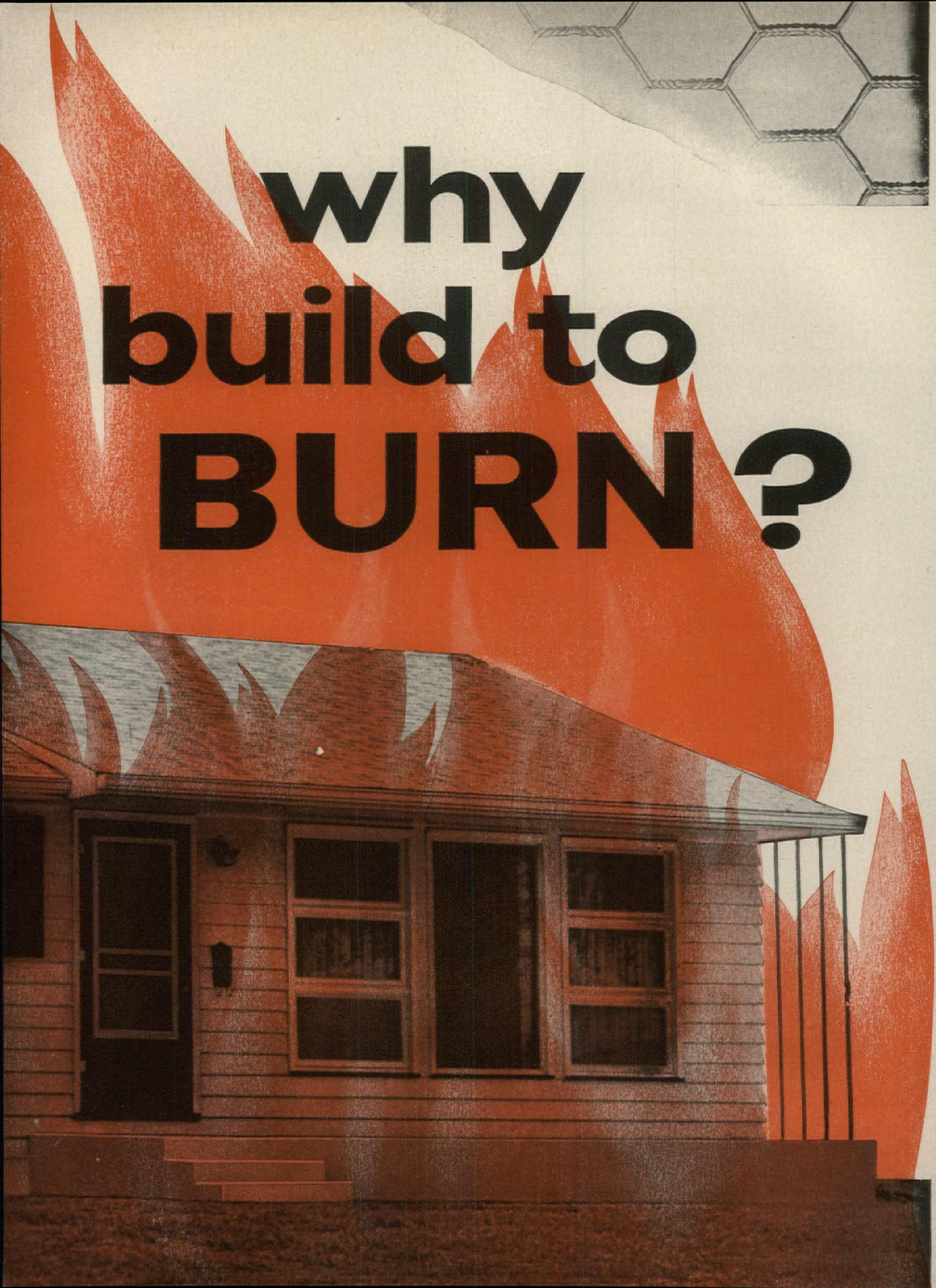
Combination Vertical-Horizontal Handle Activation

Mat Activation

TYPICAL PITTCOMATIC INSTALLATIONS

This automatic door opener features simplicity of operation: Smooth hydraulic power is supplied by the power unit, through ⅜" copper lines, to the hinge under the door. In the *handle,* or *mat,* there is a 10-volt circuit which passes through the control box and activates the power unit. Adjustments provided in the control box and the hinge regulate the action of the door. The PITTCOMATIC is the safest automatic door opener to operate . . . the easiest to install and maintain.

why build to BURN?



KEYMESH

GALVANIZED REINFORCING LATH

with gypsum lath and plaster multiplies fire resistance of buildings

Fire safety costs so little.

Actually, walls and ceilings of gypsum lath and plaster, reinforced with Keymesh, cost less than most substitutes. Just see how they *multiply* fire safety.

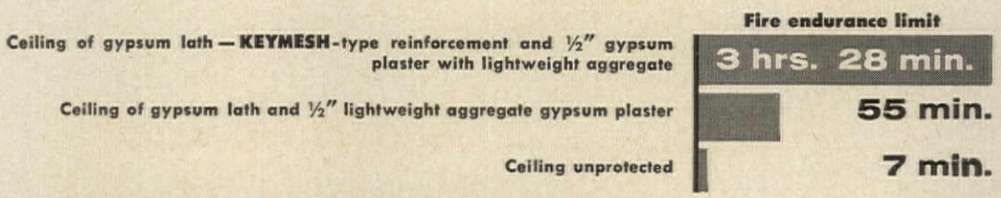
Take open-web steel joist floors and concrete slabs with gypsum ceilings, for example. With ½ inch of lightweight aggregate plaster, reinforced with Keymesh-like lath, a fire endurance limit of 3 hours and 28 minutes was obtained.*

Without reinforcement, the limit was 55 minutes. *Keymesh* adds 2 hours and 33 minutes to the fire endurance limit because it holds the plaster in place. When lath and plaster were omitted, the fire endurance limit was only 7 minutes.

You'll find equally important protection when simple columns and beams of buildings are protected in this same way. It's so good that insurance companies cut their rates because of the greater fire safety. Actually, these lower rates quickly pay the cost of the lath and plaster.

Think of it. Greater fire safety. Acoustical properties, if you wish. Durability. Low maintenance. Beauty. Takes any decoration. Yet . . . this fire safe construction costs less than most substitutes. And it can slash insurance rates enough to quickly pay for the plastering.

*Actual Fire Test Shows Amazing Value of Keymesh-Type Plaster Reinforcement**



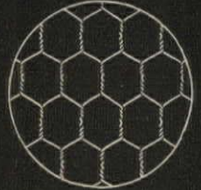
**See Building Materials and Structures Report 141, National Bureau of Standards: "Fire Endurance of Open-Web Steel-Joist Floors with Concrete Slabs and Gypsum Ceilings"*

KEYSTONE STEEL & WIRE COMPANY

PEORIA 7, ILLINOIS

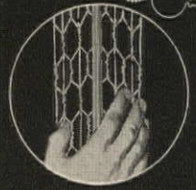
makers of Keymesh • Keybead • Keycorner • Keystone Welded Wire Fabric
Keystone Nails • Tie Wire • Keystone Non-Climbable and Ornamental Fence

Use these three keys to stronger plaster



KEYMESH lath for over-all reinforcement. Made of galvanized woven wire. Especially recommended for ceiling construction.

KEYCORNER strip lath, preformed to fit snugly in corners. Lies flat when applied to joints. Galvanized to prevent rust streaks.



KEYBEAD corner lath for outside corners. Open mesh fills solid with plaster. Galvanized nose, or solid zinc nose (Key Z Bead).

NOW . . . a touch of blue for the Golden Triangle

Where the waters of the Allegheny and Monongahela Rivers meet, is Pittsburgh's Golden Triangle. Once an industrial slum area, it has been changed to a handsome park by Pittsburgh's major urban redevelopment.

Colorful, modern buildings like the blue and white Pennsylvania State Office Building have helped make this change dramatic and exciting. This building, which houses Pennsylvania state governmental functions, fulfilled both the architect's and the

client's aesthetic and economic requirements. Aluminum curtain walls permitted fast construction, competitive costs, low maintenance, maximum floor space and attractive appearance.

Alcoa has played a leading role in the development of aluminum applications in the construction of all kinds of buildings. The latest is color for architectural applications. What we have learned, we'll gladly share with you. ALUMINUM COMPANY OF AMERICA, 1887-F Alcoa Building, Pittsburgh 19, Pa.

Owner: General State Authority.
Architects: Altenhof & Bown, A.I.A., Pittsburgh.
Aluminum Contractor: Universal Corporation, Dallas, Texas.

ALCOA ALUMINUM
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Your Guide to the Best in Aluminum Value

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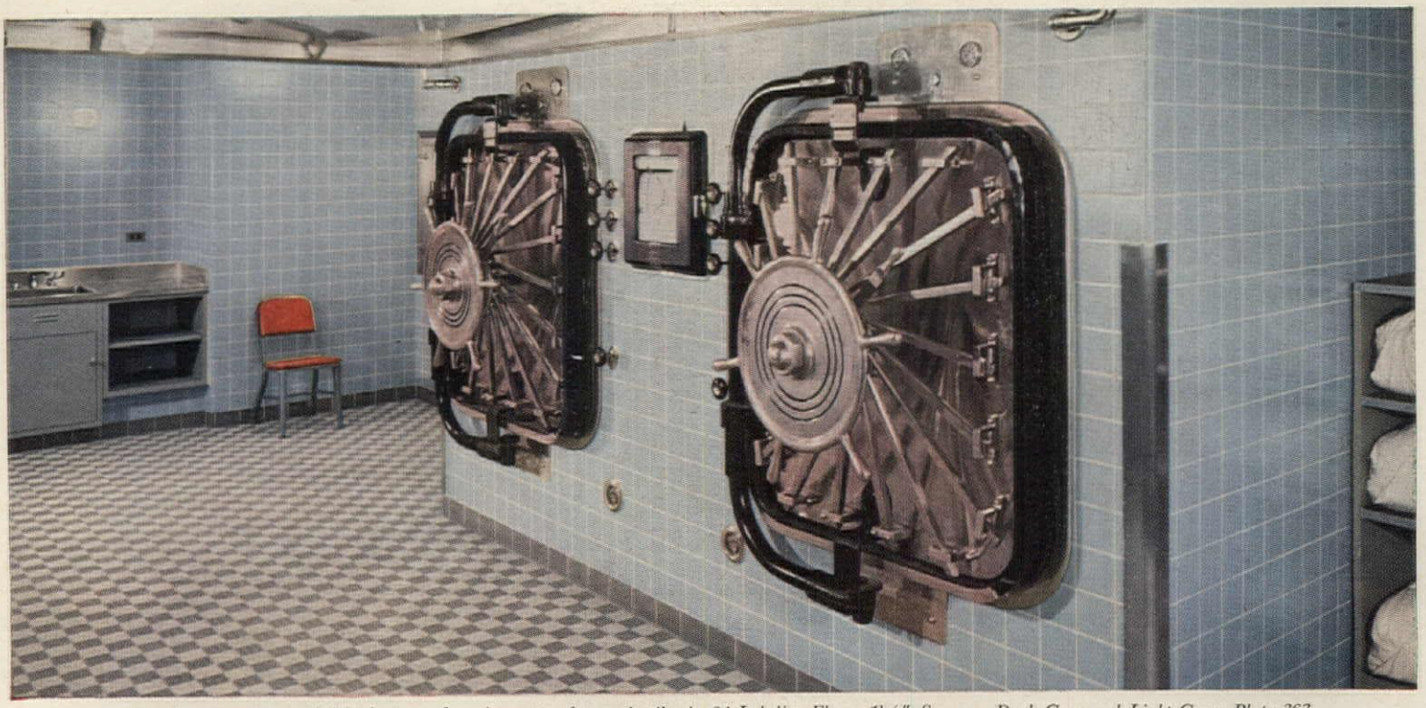

Autoclaves are surrounded by heat-proof, moisture-proof ceramic tile, in 64 Lobelia. Floor: 1 1/16" Squares, Dark Gray and Light Gray. Plate 363.

In the new operating suite at Johns Hopkins...

American-Olean Tile

In the new wing of Johns Hopkins Hospital in Baltimore, designed by Architect James R. Edmunds, Jr., trouble-free American-Olean Tile in eye-resting colors was used throughout the entire operating suite.

For bright cleanliness and low upkeep, Tile proves its superiority in hospitals everywhere. And when you specify American-Olean Tile you can be sure of trouble-free permanence along with the exact sizing, self-spacing and color uniformity that give you the finest possible installation.

Floors of Conduct-O-Tile safely dissipate static electricity—the main cause of anesthetic explosions. This tile is permanently conductive, needs no special treatment, contains no free carbon to track into other areas.

NEW! FOR HOSPITALS, SCHOOLS AND INSTITUTIONS, 8½" x 4¼" *glazed wall tile. Greater freedom of design with substantial savings in costs.*

American-Olean Tile Company

Executive Offices: 1236 Cannon Avenue, Lansdale, Pennsylvania
Factories: Lansdale, Pennsylvania • Olean, New York
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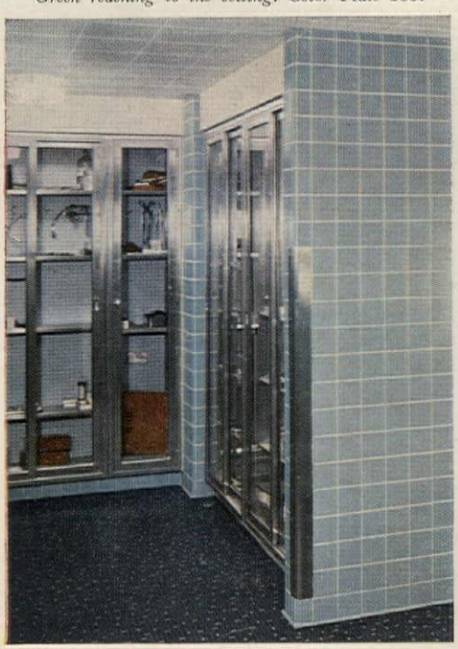
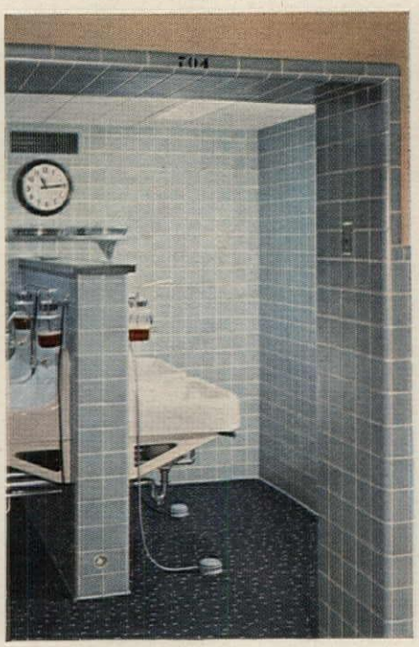
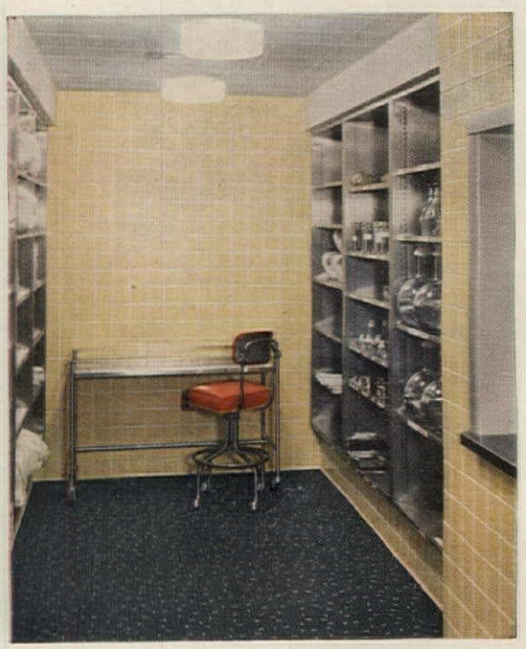
Instrument Room has Conduct-O-Tile floor in 3/4" Squares Sprinkle Pattern, Jet Conduct-O-Tile and Green Granite; easy-cleaning walls in 81 Spruce Green reaching to the ceiling. Color Plate 360.



Doctors' Scrub Room features 3/4" Squares Sprinkle Pattern Conduct-O-Tile on the floor. Color Plate 361.



Sterile Supply Storage Room, part of the operating suite, has floors of Conduct-O-Tile, walls in 52 Daffodil. Color Plate 362.



Letters

... masterpiece ... alley ... confusion ... strength

ROBIE FROM ABROAD

FORUM:
ITALIAN ARCHITECTS VIOLENTLY PROTEST AGAINST PROPOSED TEARING DOWN FAMOUS ROBIE HOUSE, CHICAGO. ASKING YOUR INTERVENTION TO AVOID DESTRUCTION WRIGHT MASTERPIECE.

BRUNO ZEVI, *editor*
L'Architettura
Rome, Italy

▪ *Editor-Architect Zevi and other friends of Frank Lloyd Wright's Robie House (AF, April '57) may be relieved, though not completely relaxed, to hear that a Municipal Preservation Commission has been established in Chicago and has designated Robie House as its first target.*—ED.

MANHATTAN ALLEYS

Forum:

It is downright misleading to laud the alleyway in the plaza of the Chase Manhattan building (AF, April '57).

In your eyes, a faulty juxtaposition of buildings is actually skillful planning. But the fact is: the new slab and old ziggurat are much too close for esthetic comfort. None of your purple prose can erase that fact.

And, of course, many office workers will be dismayed to look out their window only to see another slavey a few yards away across a dark, dank, dreary, depressing slit of space. But this is "high drama" according to your polysyllabic writer.

STEPHEN AUERBACK
Brooklyn, N.Y.

▪ FORUM *believes that when Reader Auerbach visits the finished building, he'll discover that the "alley," though no boulevard, is generous in terms of lower Manhattan space.*—ED.

NEW YORK BOOM

Forum:

I think your article, "New York's Office Boom" (AF, March '57) is excellent.

I was particularly happy to see you criticize the kind of zoning we still have which leads to the absurd and ugly cake-mold forms.

Another item which is singularly obsolete is the regulation for a court of 105 sq. ft. for the fire tower. I understand that for years even the fire department has found no use whatsoever for that small and wasteful court.

WILLIAM LESCAZE, *architect*
New York, N.Y.

DETROIT REFLECTIONS

Forum:

The Lafayette Park project of Mies (AF, March '57) was certainly interesting in its variety and comprehensiveness, but at the same time it pointed up the essential failing of his esthetics. His architecture, a felicitous combination of highly finished materials in rectangles, cool to the point of soullessness, is well enough in a building such as Lever House, providing modern business with a gray flannel suit; but there is something about it that repels the homemaker in Man.

I feel, indeed, that Mies is only a paper architect, who mistakenly concedes to Life, as actually lived, only good "accommodations"; I predict that the really moving beauty of this development will be found exclusively in the reflected trees and foliage.

WALTER C. KIDNEY
Bryn Mawr, Pa.

Forum:

The basic problem with the Miesian superblock for Detroit's Gratiot area redevelopment (AF, March '57) is that it attempts to house a wrong segment of the market—families without school-age children. Second, it requires too many members of this segment to live in elevator apartments.

Stable residential communities of the size and type required for progressive city rebuilding are created neither by planning for predominantly childless households nor by separating almost all families from direct contact with the ground. Families with children stabilize an area—especially middle-income families. Childless households tend to come and go.

Middle-income families have spearheaded the flight to the suburbs during the last two generations. This profound social and economic dislocation results primarily from a simple human necessity, namely, the need for enabling children's play to be supervised by mothers, their own or their playmates'. The desire for better air, greater freedom, safer traffic conditions and other similar reasons are important, but the ultimate need is for closer relationship between the indoors, where the mother is doing the housework, and the outdoors where her children and those of the neighbors' are playing.

Good as the elevator apartment is in

continued on p. 92

providing living accommodations for certain types of families, other structures (such as one-, two- and three-story row houses and flats) are better for most of these families. The only intrinsic living advantages peculiar to the elevator structure are breadth of views from apartment windows and more movement of air on hot summer days. These features are fine for old people, childless couples and others who want them. But lower buildings would provide a series of advantages deriving from their direct ground contact which would have a wider and stronger appeal. These living advantages include private outdoor sitting space in convenient relation to the living room, space for gardening, individual house entrances which can be approached more or less closely by automobile and individual automobile storage facilities.

This adds up to no more than a traditional truth, one corroborated by every well-known field survey on the subject. The elevator apartment provides inherently inferior living accommodations for all but a minor part of the housing market. Nothing in modern technology has been able to overcome this essential inferiority.

HENRY D. WHITNEY, *architect*
Tippetts-Abbett-McCarthy-Stratton
New York, N.Y.

SENATORIAL INTEREST

Forum:

Your housing story (AF, April '57) was a source of considerable interest to me.

JOHN SPARKMAN, *senator*
Committee on Foreign Relations
Washington, D.C.

Forum:

I am most interested in your article in the April FORUM entitled "Our Confused Housing Program." For several years I have been telling my students and people in various organizations that the various policies of the federal government are to the complete disadvantage of the economics of our urban centers. I am very much concerned with the basic concept that our federal government has an obligation to sponsor home ownership at the expense of the more advantageous economic and social housing provided by apartment houses.

FORUM's articles will do much to reverse the trend, but more positive working programs must be initiated.

1. We must obtain an atmosphere in Washington that is conducive to redevelopment in our large cities. Possibly we should have a secretary of urban life in the same way as we have a secretary of agriculture.

2. Subsidies, urban redevelopment programs and special mortgage financing should all be included in an aggressive

continued on p. 94

Inexpensive acoustical treatment can be attractive, too!

Study this picture. This room is sound-conditioned with the wonder-material of the acoustical industry—Forestone fissured woodfiber acoustical tile.

You'll notice that there are no mechanical-appearing holes drilled all over the ceiling. Forestone catches noise in its hundreds of beautifully-formed *fissures* instead. Yet, because it is made of woodfiber, Forestone costs no more than popular thicknesses of perforated tile.

Forestone is available in 12″ x 12″ and 24″ x 24″ tiles; as ceiling board to fit 24″ x 24″ and 24″ x 48″ exposed grid suspension systems; and in 12″x23¾″ tiles for exposed Z and T suspension systems, with access to utilities.

Now, Forestone is also available in center-scored 12″ x 24″ tiles with tongue-and-groove joints, flanged for easy stapling or nailing.

When planning your next building, if beauty and economy are important, specify Forestone. For further information call your nearest Simpson Certified Acoustical Contractor today. (See contractors listed on opposite page.)

Forestone®

FISSURED WOODFIBER ACOUSTICAL TILE

Simpson®

SIMPSON LOGGING COMPANY

SHELTON, WASHINGTON

AC-73

federal program geared to re-establishing the strength of our cities.

3. A firm policy of public transportation must be included in all urban redevelopment programs. The federal government should consider that subway systems are as important to urban areas as highways are to the rural sections of our country. As such they must give federal assistance to the expansion of these rapid transit systems. Possibly this should be done under the federal highway program or under a special bill.

SANDERS A. KAHN, *president*
Sanders A. Kahn Associates, Inc., real estate and planning
New York, N.Y.

DIGESTED LANDSHAPING

Forum:

I intended to write this letter the day I received the copy of the January issue. On second thought I decided to withhold comment until I had more time to digest and reflect on some of the statements made in the article entitled "A New Approach to Landshaping."

Being a landscape architect and having practiced for a good many years, I am somewhat conscious of what this monstrous machinery has done to our landscape. As I travel through many fast-growing towns and cities, I see more and more an utter disregard for topography. It seems to me that man having been provided with this machinery is defying and often challenging nature to the detriment of our natural beauty and of the more esthetic developments that might have been made if such monsters had not been so efficient.

The sooner competent, over-all planning of our expanding cities is achieved, the sooner we will avoid the unnatural earth-shaping of the "bulldozer and its monstrous progeny" and will overcome the scourge of our present urban problems.

N. A. ROTUNNO
Professor of landscape architecture
Syracuse University
Syracuse, N.Y.

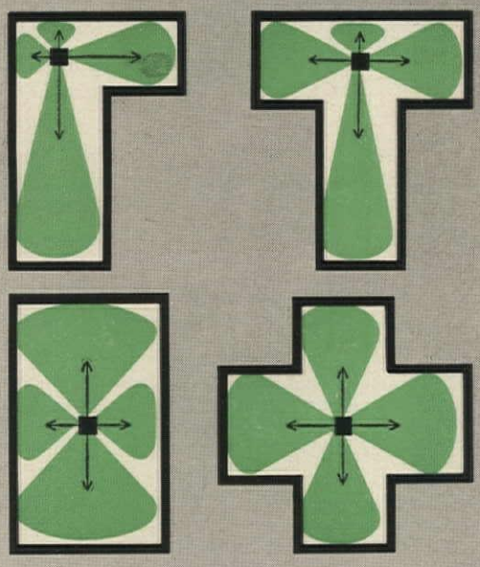
THEORY OF STRENGTH

Forum:

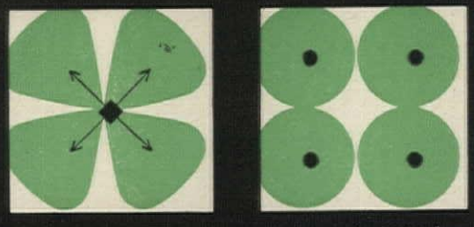
I was extremely interested in your article entitled "The Case of the Overweight Skeleton" (AF, April '57). Your discussion of the ultimate strength theory for reinforced concrete design and the plastic theory for steel design is certainly the kind of thing which is needed to alert architects and others in the field of building construction to these significant and far-reaching developments in the theory of strength.

continued on p. 96

Carrier "Clover Leaf" Unit Heaters, for steam or hot water, come in eight sizes, ranging from 55,000 to 600,000 Btu/hr.



Adjustable louvers can shape "Clover Leaf's" air distribution pattern to heat any shape area.



One large "Clover Leaf" can heat this 100-foot-square room. It takes four vertical discharge heaters with same capacity to do this same job.

1 Carrier Unit Heater replaces 2 or more ordinary unit heaters

save your client's money when you modernize heating systems or specify new heaters for plant additions

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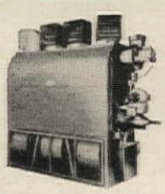
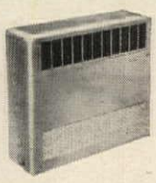
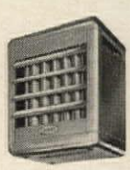


Direct Fired Heat Diffusers

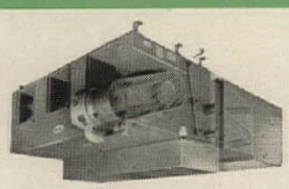
Horizontal Unit Heaters



Cabinet Unit Heaters



Gas-fired Unit Heaters



Heating and Ventilating Units

However, I feel that Dr. Jan A. Van den Broek, professor emeritus of engineering mechanics at the University of Michigan, should be included in your listing of pioneers in the field of steel design.

PAUL H. COY
Assistant professor of architecture
University of Michigan
Ann Arbor, Mich.

ALBANY CAMPUS PLAN

Forum:

Your article on the new state capitol building in Albany is interesting (AF, April '57). However, a review of the Sells-Skidmore, Owings & Merrill plan would show that the tallest building in the proposal was only 26 stories high—not 40.

ROBERT MURRAY WAGNER
Greenwich, Conn.

▪ FORUM *miscounted, but reported accurately the feeling among state officials that the multistoried tower would be expensive, if not impossible, in view of the poor soil conditions.* FORUM *also miscounted the people who should have been credited with contributions to the current campus plan. They include Arthur Levitt, state comptroller; Paul H. Appleby, director of the budget; Charles H. Kriger, commissioner of standards & purchase; John W. Jackson, supt. of public works; and Carl W. Larson, state architect.*—ED.

ERRATUM

In presenting the Harness Racing Arena proposed for New York City (AF, April '57), FORUM *failed to mention that Roberts & Schaefer Co. were responsible for the basic structural design.*—ED.

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Zeckendorf barred from purchase of Belair estate; Welton Becket engaged to speed Los Angeles coliseum

Last October, Webb & Knapp President **William Zeckendorf**, who has proclaimed it as one of his basic policies to buy outlying land "by the acre," and resell it "by the foot," signed a contract to purchase the 2,280-acre Belair estate in Maryland for $1,187,000, or about $520 an acre. Prospective sellers: the trustees and executors of the late **William Woodward Jr.**, who had bred such famous race horses as Nashua and Gallant Fox at Belair before he was accidentally shot and killed by his wife in 1955 when she mistook him for a prowler in their Long Island home.

But before the Zeckendorf deal could be consummated, it was challenged by another building titan, **William Levitt**, who protested that he had offered $1.5 million for the property, about 15 mi. northeast of Washington and considered ideal for a large-scale housing development. (Another Long Island builder, **Norman L. Adolph**, had offered $1.4 million.) Levitt contended the Zeckendorf contract had been negotiated in "unseemly haste." In court, attorneys argued that the proposed sale at Zeckendorf's bid did not protect the interests of Woodward's minor children. Finally **Judge Charles Marbury** declared that the trustees had "failed" in their duty to exhaust "all possible means of securing the highest price obtainable," and on April 29 he signed an order nullifying the Zeckendorf contract and calling for the opening of new bids in his court after May 29. But simultaneously Zeckendorf's attorney said Judge Marbury's decision would be appealed, so it was still a toss-up whether Zeckendorf might still win title to the property at his original contract figure, whether Levitt could take it away from him on a higher bid in "referee" Marbury's courtroom, or whether some third party might eventually outbid and best them both there.

TIME: GEO. KARGER

ZECKENDORF

F. ROY KEMP

LEVITT

AP

GERETY

WASHINGTON APPOINTMENTS

A wide-ranging young Connecticut lawyer, **Pierce J. Gerety**, 43, took the oath of office a month ago as FHA's new general counsel. One of nine brothers, and an honors graduate in law from Fordham University in 1942, Gerety worked for five years in the late Wendell Willkie's law firm before becoming a partner in a Bridgeport, Conn. office. In 1954 he held hearings in Washington and throughout Europe as chairman of the US International Organizations Employees Loyalty Board. He also served for a period as general counsel for the Civil Service Commission; from June '55 to last February was deputy administrator of the refugee relief program.

Gerety's appointment as FHA general counsel upset plans for naming former New York Congressman **James G. Donovan** to that post (AF, April '57). At the last minute too many Republican leaders in Washington balked at giving this position to Donovan, originally a Democrat, who was defeated for re-election last November, when he ran officially as a Republican. Instead, Donovan was appointed director of FHA's Jamaica, L.I. office.

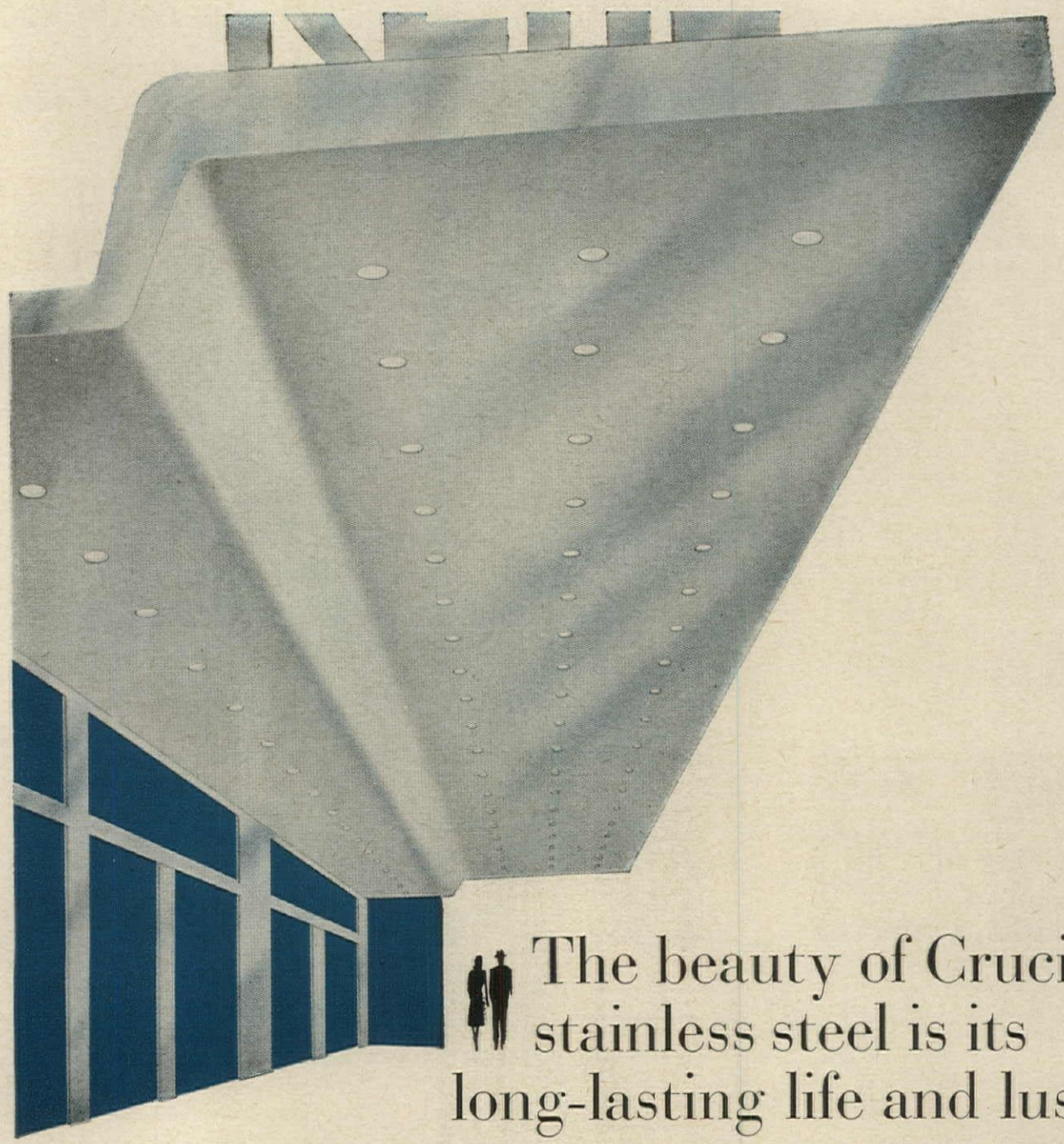
CAMERA/BILL KARLY

BECKET

LOS ANGELES COLISEUM BOUT

Taking drastic steps in a battle involving building costs and architectural fees, the Los Angeles Memorial Coliseum Commission on April 16 commissioned **Welton Becket & Associates** to design a 17,000-

continued on p. 101



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seat sports arena for which ground was broken last June. Promising to put the project on a "crash" basis, have it completed by the fall of 1958, and stay within the commission's $5,740,000 construction budget, Becket said he would have preliminary drawings completed by June 1 and could call for bids by the end of September. His fee would be 5%, said Becket, and he told Coliseum General Manager **William Nicholas**: "If I have not met your budget limitations after I make preliminary plans, tell me to get out and it won't cost the commission a cent."

But if the commission's spirits were buoyed by Becket's enthusiasm, it also had cause for depression. Filed against it on April 12 was a breach of contract suit by Architects **Stiles O. Clements**, and his son **Robert O. Clements**, who were discharged as architects for the project a month earlier and were demanding $374,434 in architects' fees, on a 6% basis. The Commission was dismayed last January when low bids based on Clements' designs totaled almost $9.2 million, about 68% above estimates — structural steel bids were 140% over estimates. After the Commission discharged the Clements, it requested State Architect **Anson Boyd**, Los Angeles City Administrative Officer **Samuel Leask Jr.**, and County Chief Administrative Officer **Arthur J. Will** to nominate several architects to prepare new plans. After nine had been nominated and considered, the job went to Becket. He had promised the earliest completion date, and had cited his firm's experience in building an 8,000-seat "jai alai" fronton in Manila, recently completed.

NAMED: **Roy W. Johnson**, executive vice president of General Electric Co., as president of ACTION (American Council to Improve Our Neighborhoods); **Peter Blake**, architectural editor of HOUSE & HOME and former associate editor of FORUM, to prepare the US building industry's exhibit at West Germany's international architectural exposition, Inter Bau; **Ernest M. Frank**, formerly assistant, as director of architecture for Colonial Williamsburg, succeeding **Mario Campioli**, who resigned to head the Washington office of **Roscoe DeWitt**, **Alfred Easton Poor** and **Jesse M. Shelton**, who are serving as special consultants to the Architect of the Capitol on plans for alterations and additions to the Capitol; Architect **John Monteith Gates**, vice president of Steuben Glass, Inc., as director of design for Corning Glass Works; **Fred W. Griesinger**, Arcadia, Calif., as California State real estate commissioner, to succeed **D. D. Watson.**

AWARDS AND HONORS

WARNECKE

Architect **John Carl Warnecke**, best known for his prize-winning West Coast schools (also the designer of a trailer for the Crown Prince of Saudi Arabia), was awarded the $1,000 Arnold W. Brunner Prize in Architecture by the National Institute of Arts and Letters. The Institute and the American Academy of Arts and Letters also made Italian Architect-Engineer **Pier Luigi Nervi** an honorary member. Honorary membership in the Academy-Institute is limited to 50 citizens of foreign countries.

Top award winners in *The School Executive*'s annual competition for better school design: Architects **Mario J. Ciampi**, San Francisco; **Fehr & Granger**, Austin, Tex.; **McLeod & Ferrara**, Washington, D.C.; **Neutra and Alexander**, Los Angeles; **John Lyon Reid & Partners**, San Francisco; **Smith, Tarapata, MacMahon, Inc.**, Birmingham, Mich.; and **Hugh Stubbins & Associates**, Cambridge, Mass.

DIED: **John Stafford Cromelin**, 61, Chicago Clearing Industrial District chief architect, former Chicago AIA chapter president, April 1 in Chicago; Philanthropist and Civic Leader **Herbert Fleishhacker**, 84, former San Francisco Park Commission and Art Commission member, donor of the Fleishhacker Zoo and main sponsor of the San Francisco Opera House, Aquatic Park and many civic buildings, April 2 in San Francisco; **Thomas Harris MacDonald**, 76, head of the US Bureau of Public Roads from 1919 to 1953, since then Distinguished Research Engineer at Texas A. & M. College, April 7, at College Station, Tex.; Architect **Ben John Small**, 49, a founder and former president of the Construction Specifications Institute, author of materials and specifications articles and former specifications director for the New York City Public Works Department hospital division, April 13, in New Rochelle, N.Y.; **Clement W. Fairweather**, FAIA, 74, designer of many churches and former member of the New Jersey State Board of Architects, April 15, at Metuchen, N. J.; **Moses Halperin**, 63, architect for synagogues and temples in many cities, April 22, in Cleveland.

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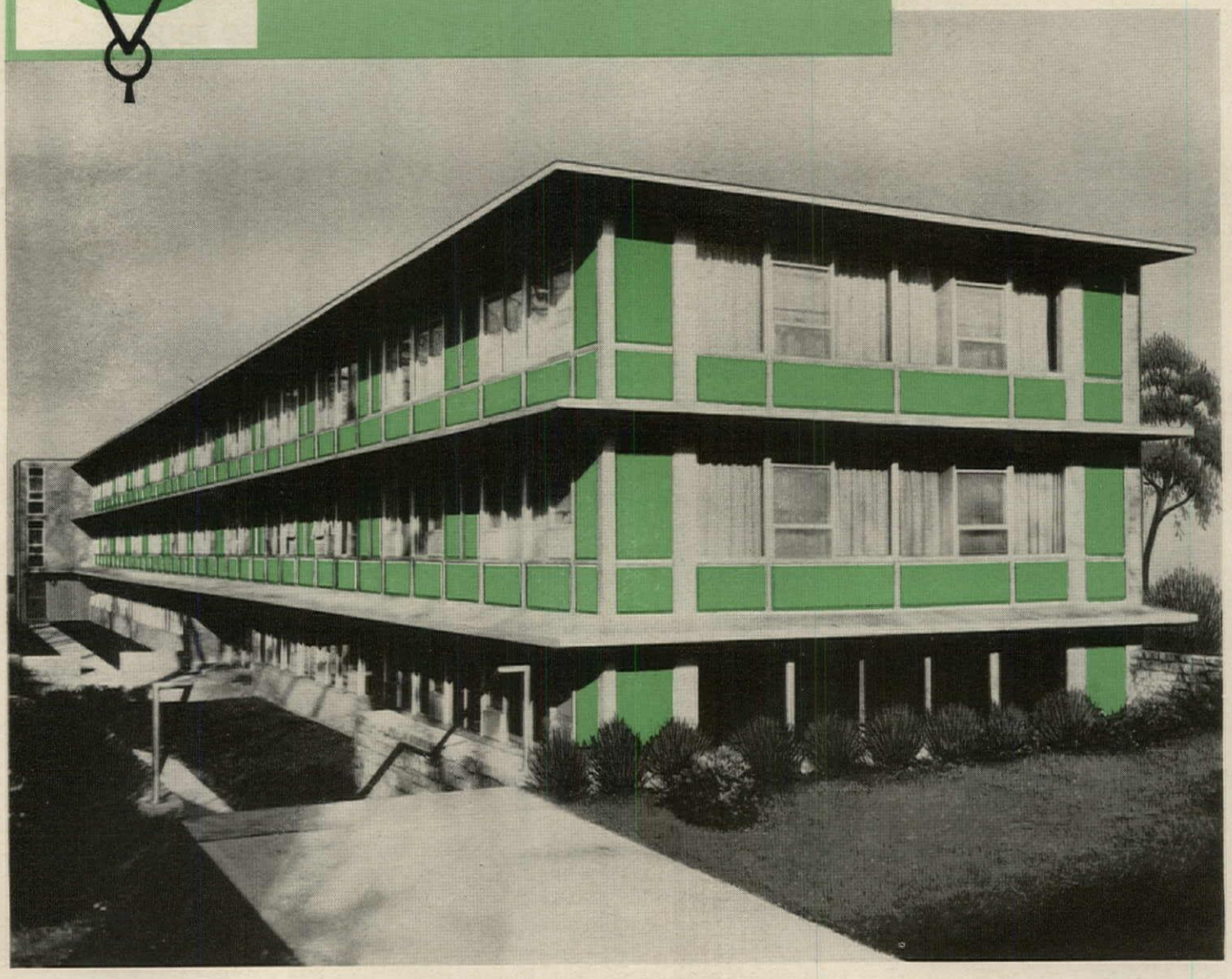

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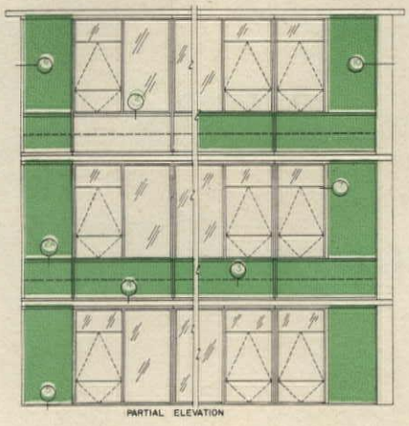

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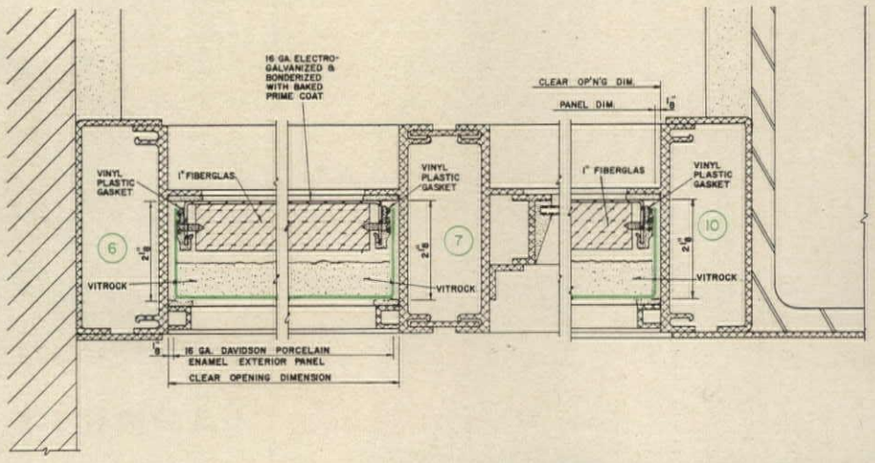

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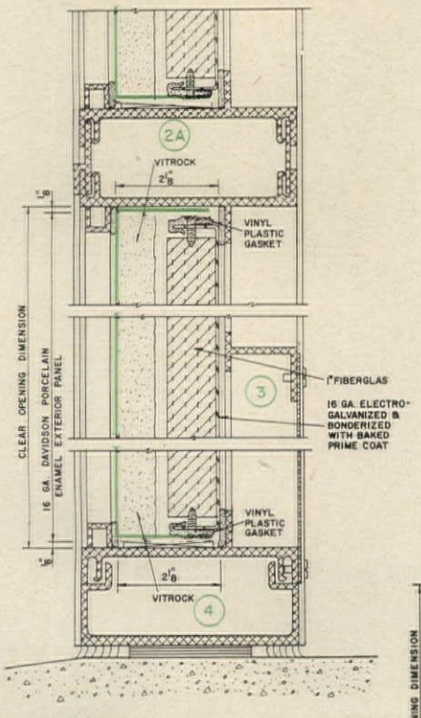

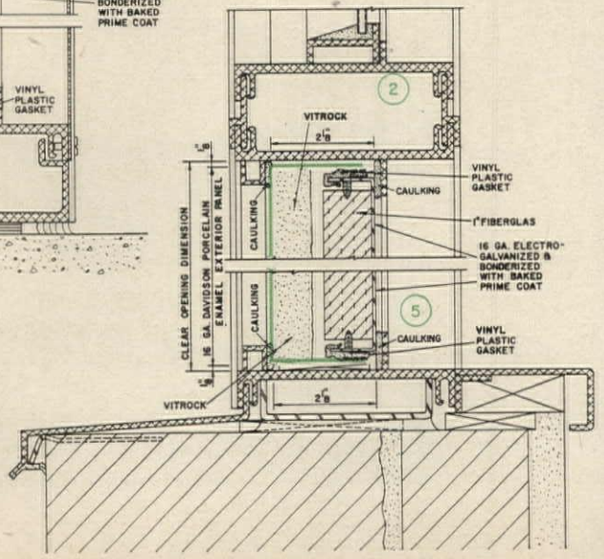

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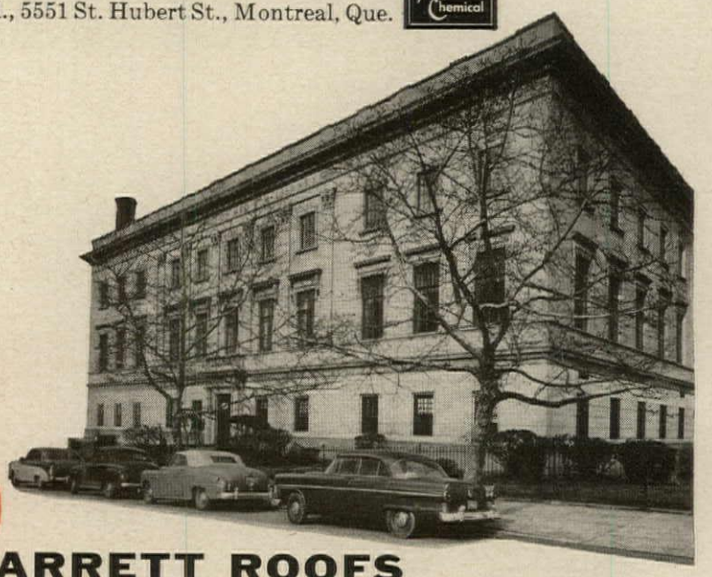

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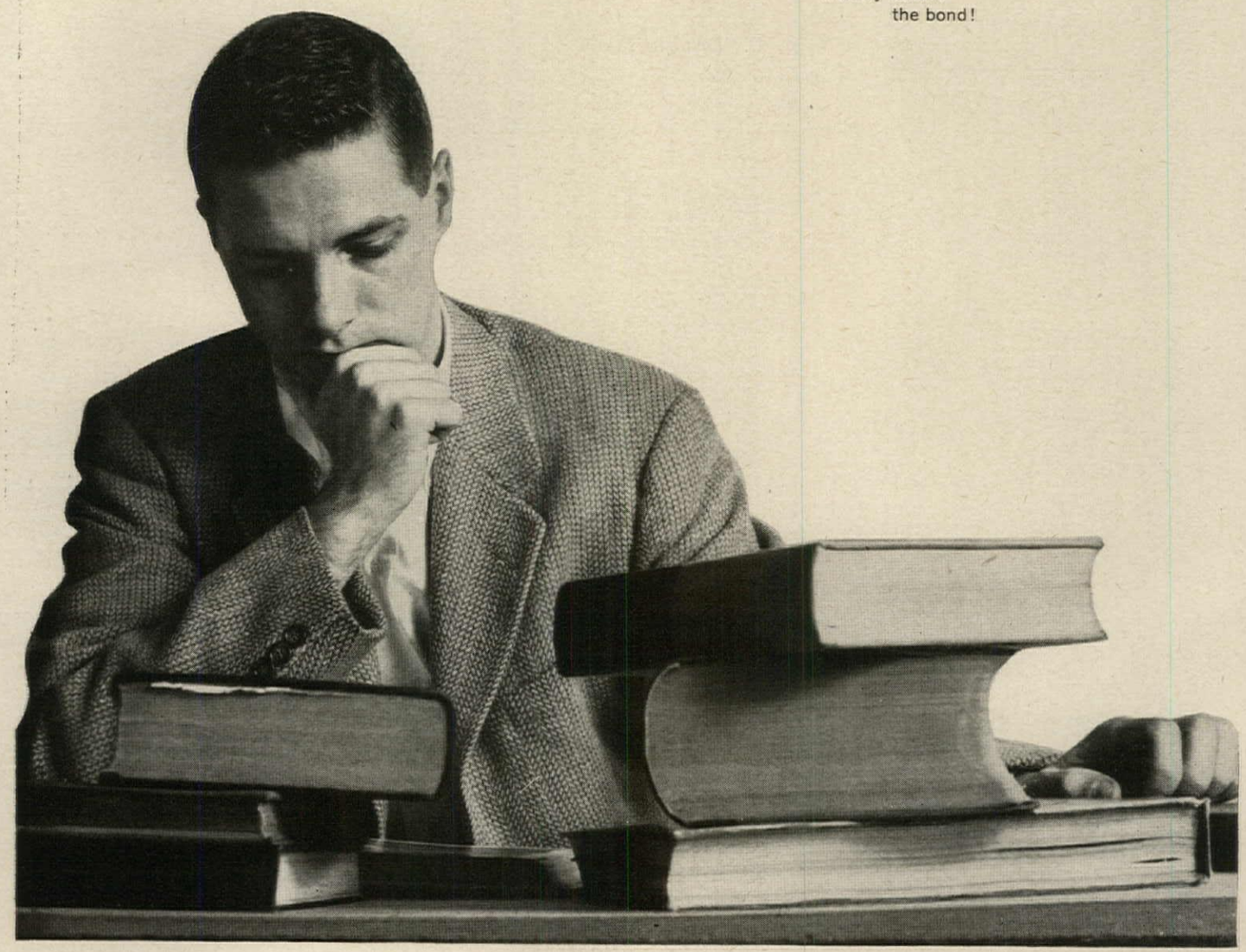

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Editorial

Art for engineers

An engrossing cultural document has just come out of the Massachusetts Institute of Technology. Its title is *Art Education for Scientist and Engineer;* the report of a special committee appointed by the Dean of Humanities, John E. Burchard. The fine school it issues from has long been noted for its insistence upon rounding out the scientific and technical education of the specialists it trains, with a broad background in literature and social sciences. Its "School of Humanities" is not a separate school, but serves all students of the institution.

M.I.T.'s exploration of the value of art, and specifically of visual art, to engineers and scientists is of special importance to the field of architecture and building. Traditionally engineers have regarded art as frills and nonsense, its values not provable either by scientific reasoning or by economics. Yet in building as an industry there is special need of intercommunication between engineers and artists and all sorts of other people, for the building enterprise is virtually a university in action, with a diversity of interests, which range through science and technology, through government and sociology, through business and economics, into art and architecture.

Curiously enough, M.I.T., although it carries one of the leading schools of architecture and planning, has not until now sought to include any visual-art education in its humanities curriculum. The same gap exists in our schooling as a whole, as the report emphasizes:

"The great majority of high school and college students will terminate their formal education without any experience in the visual arts, although it would be unthinkable that any one of them should not have had training in the use of words or an exposure to some form of literature." The persistence of ancient "artifacts" long after the ancient language that went with them has died shows how much more permanent a visual form may be in conveying to us the ancient meanings. Nevertheless, from a practical standpoint visual communication is being held unimportant, and ". . . as a result, there is a discrepancy between the average freshman's ability to think and his ability to see. Already scholastically mature, he has yet to learn his ABC's in visual terms." Parenthetically the committee has here hit upon one of the main reasons for the deplorably low estate of American popular taste—sheer lack of eye training. "The practical value of the trained eye is to inspire wonder, and, ultimately, insight."

Rejected by the committee is the idea of art education solely "for art's sake," to enhance the personal joy of life of the engineer, laudable as such an aim would be; it also rejects art education for utility's sake alone, to develop judgment on the esthetic suitability of objects of use. The significance of the arts is found rather in their contribution to the growth of individuals, and, through them, of society at large, since art opens up new and different modes

of development. A visual arts program might indeed "reverse the usual process of learning so that, by sharpening the senses, enjoyment will lead to knowing as well as knowing to enjoyment."

Perhaps one of the most difficult points for engineers or other practical men to comprehend is the committee's insistence that vision (as every artist knows) has a language of its own, or rather *is* a language of its own, separate from words. "Visual comparisons and judgments commonly occur without verbal counterpart, even at the most elementary level. A gesture frequently clarifies the inadequacy of sound, a diagram often replaces words . . . consequently the visual arts are neither an enlargement of what is already satisfactorily taught, nor a substitute for it. Not only do they become an additional dimension of the learning process, but they tend to enhance perceptions by contrasting the visual and verbal means of communication."

Consequently a "visual arts" program is described as one which ideally will include means of cultivating vision, will develop esthetic sensitivity, "will draw attention to the human control of form and space and color *no matter where it occurs in the land or in the machine, in the monument or within the home;* and will relate the varying styles to the societies which have fashioned them beyond the requirements of mere utility." It will foster coordination between eye and hand—but will tolerate the student who is manually clumsy; it will exercise critical faculties by challenging prejudice and provoking imagination, while explaining that 'good and bad' are relative terms, not absolutes. It will teach the great difference between art and science with respect to progress: civilizations improve technically with time but their artistic expression and significance "cannot be counted by time but is borne on man's fluctuating consciousness"—in other words, in our very own time the latest painting by Picasso may have no greater value than an early Byzantine work by Cimabue.

"In short," concludes the thesis, "the goal of the ideal program is to develop the capacity of the technician to undertake responsibility for the forms that his technical training creates." For, "the quality of these forms, as of his own personal insight, ultimately affects the social atmosphere and climate of his entire world."

At this point the committee goes on to practical teaching recommendations for M.I.T., leaving the graduate engineer and even the graduate business reader thinking a little harder about the meaning to him and to society of visual forms, and perhaps proposing more attentive self-exposure to them.

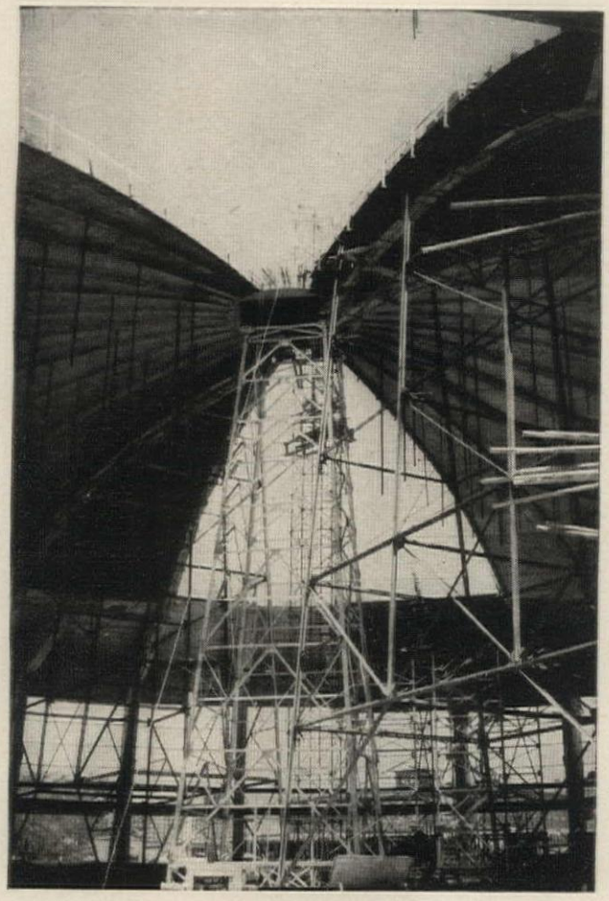
Faces east

Maybe there is a parable in this or something. At any rate, in the course of raising the new Islamic Center in Washington, D.C. — a gleaming Moorish-style building patterned somewhat after the Alhambra to house a library, museum, lecture hall and the world's first air-conditioned mosque for the convenience of some 500 Moslems in the various diplomatic legations—a curious conflict arose between science and religion.

The building was designed in the Ministry of Wakfs in Cairo, Egypt, and a crucial point in the design was to face the mosque building on its plot in a true easterly direction toward Mecca to satisfy the strict tenets of Moslem worship. When the plans were adapted to Potomac construction by a firm of Washington architects and engineers (Irvin S. Porter & Sons), the engineers, getting into the spirit of the work, drew a precise bead on Mecca and pointed the mosque 56°-33′ and 15″ east of true north. A delegation of Moslems, checking the placement of the rising structure with pocket compasses, nearly went through the roof when they discovered that the building's orientation was slewed so far off the magnetic east. In the ensuing hubbub, in which Islamic authorities seriously considered tearing down the building and starting all over again, it took the combined forces of the National Geographic Society and the engineers to prove that the mosque as built was pointing directly at Mecca. For years, ignoring the curvature of the earth, Washington's Moslems had been bent in prayer with their heads pointing in the general direction of Soviet Russia and Moscow.

Obviously there are some deep political and philosophical implications here, with which we do not feel competent to deal, beyond observing that it is always dangerous, and growing increasingly more so, to ignore the technical facts. For architecture, however, the moral seems clear. Mystics in the arts had better check their cloudy plans with the engineers to make sure they are not aiming in embarrassingly wrong directions.

50% Form Saving



DALLAS MEMORIAL AUDITORIUM
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Architects & Engineers: GEORGE L. DAHL, Dallas
Consulting Engineers: AMMANN & WHITNEY, New York
General Contractors: R. P. FARNSWORTH & CO., INC., New Orleans
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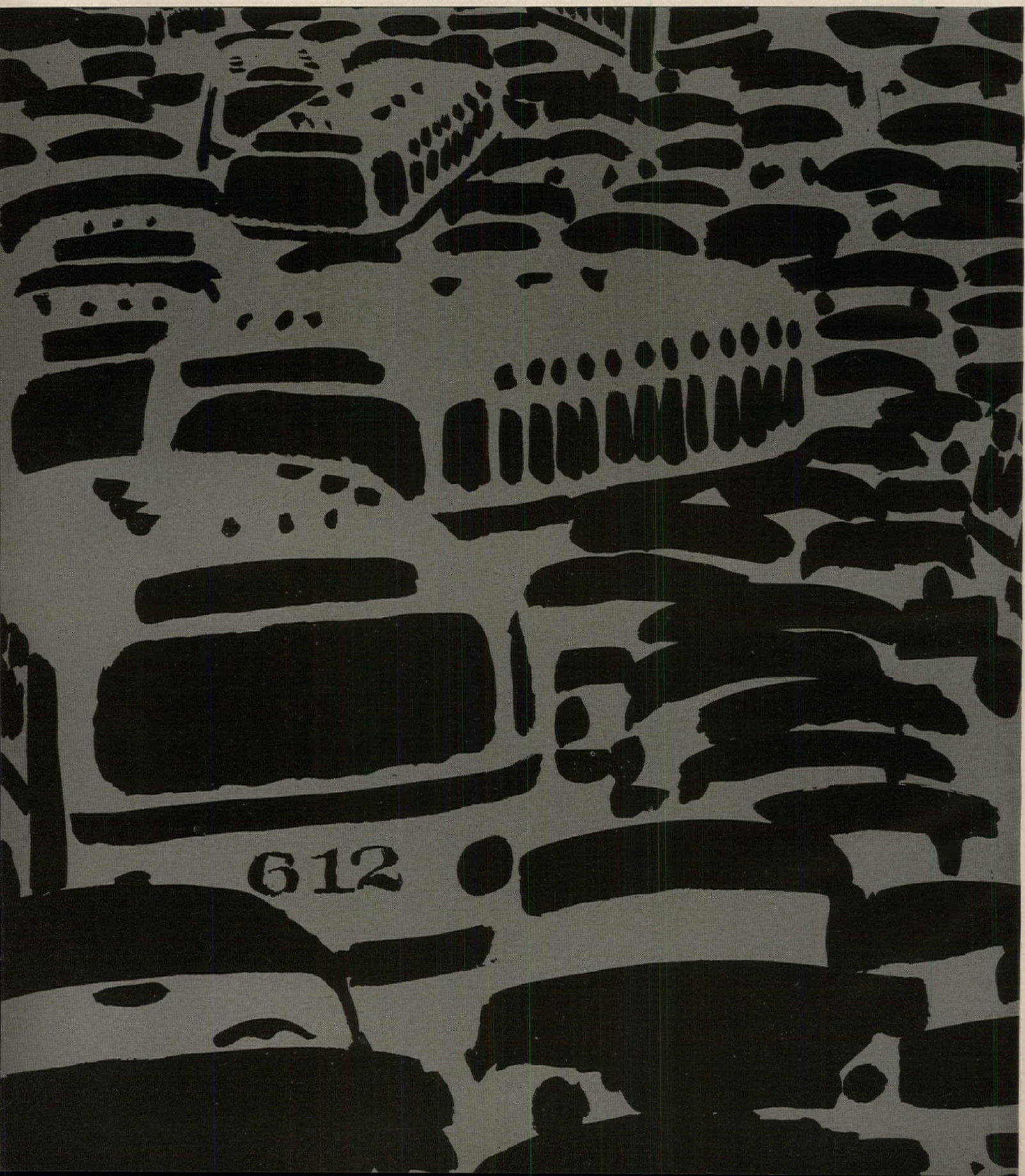
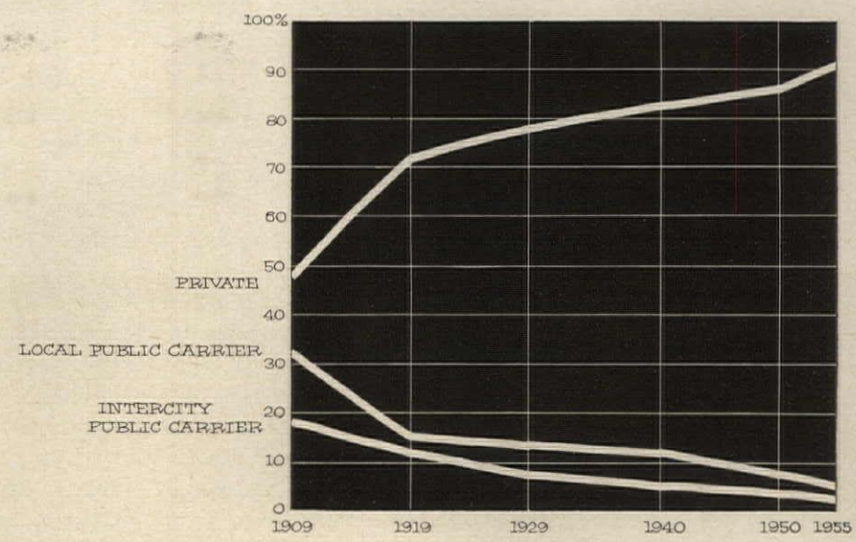
Crisis in city transit



Jammed with automobiles, our urban communities now seek a better way to move masses of people from suburb to downtown



Consumer dollars for transportation: each year, a bigger slice for autos.

Of all the problems afflicting American cities, none is so tortuous, snarled and bankrupt as metropolitan transport. Every working day some 7 million citizens pour out of their suburban bedrooms into those long, aggravated queues inching their way by every means of conveyance into the city. By the time the last straggler is in, a nation whose might derives from its productive efficiency has consumed some $15 million in unproductive man-hours, plus another $3.5 million for the ride. At night the ritual is performed in reverse, for a total annual cost of more than $1¾ billion. Yet few, if any, mass transport companies can make a profit out of these vast sums. And as suburban treks get longer, many a working citizen finds himself losing some of the amenities of shorter hours and suburban living.

For most US cities, this is a problem of crisis proportions, growing ever more acute with the growth of ever more distant suburbs. It is a problem intimately associated with urban sprawl, with traffic jam-ups, with the whole problem of center-city strangulation and decline. Indeed, all bound up in this is the very survival of the city and its renewal. Nearly all big US cities have recently made or are considering expensive surveys of their transportation problems, the latest being New York, which last month received a $1 million study of only a segment of its problem, the daily commuter rush from New Jersey.

The great engine of this crisis is, of course, the private automobile. As the wheeled population continues to grow, it cuts deeply into that margin of traffic on which mass transportation is profitable. While everything else, from population to gross national product, has soared, the only things rising in transportation systems have been operating costs and deficits. For over a decade there has been a steady loss of passengers, over all about 16% since 1940. Boston and New York transit systems lost so heavily in the last decade that private capital turned its back on them and the cities have been forced to take over the tasks of management and of balancing the deficits. For Boston last year it meant making up about $8.3 million; for New York about $90 million. And commuter feed-in lines, still run mainly by the railroads, have been doing only a little better.

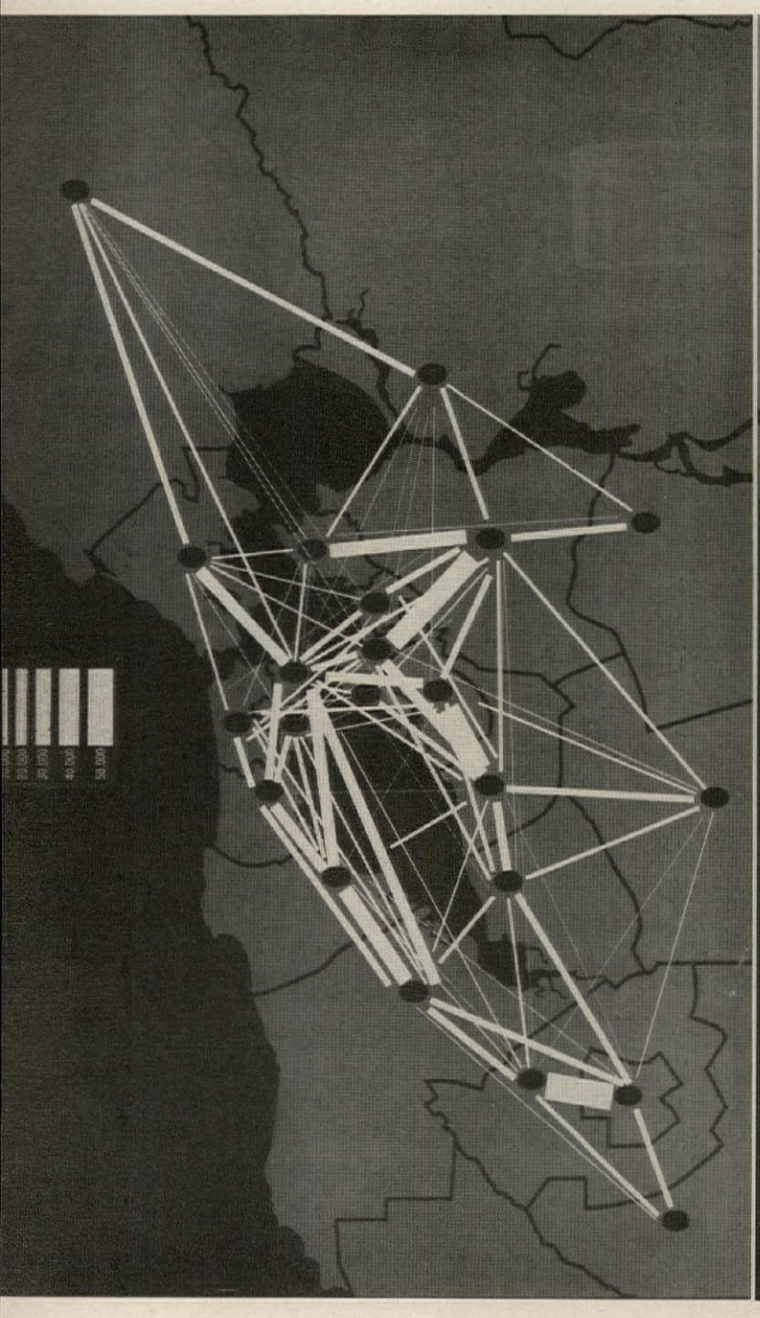
Moreover, as passengers and income declined, transportation lines, never vigorous buyers of capital goods, allowed their equipment to slip further and further behind the times, deepening the marked shift of popular preference from mass transport to private car. Even the relatively new and technically efficient motor bus soon lost favor. A recent survey of Milwaukee finds that riders prefer almost any form of transportation to the ugly, crowded, short-kneed bus. And who can blame the Detroiter who passes up the bus into town, averaging only 12 mph, when he can average 18 mph by car? Or the resident of Burbank, Calif., who finds that the 11-mi. trip into Los Angeles takes one hour by bus as against 23 minutes by car? The bus, mixed into street and highway traffic, is today all tied up in the general traffic jam.

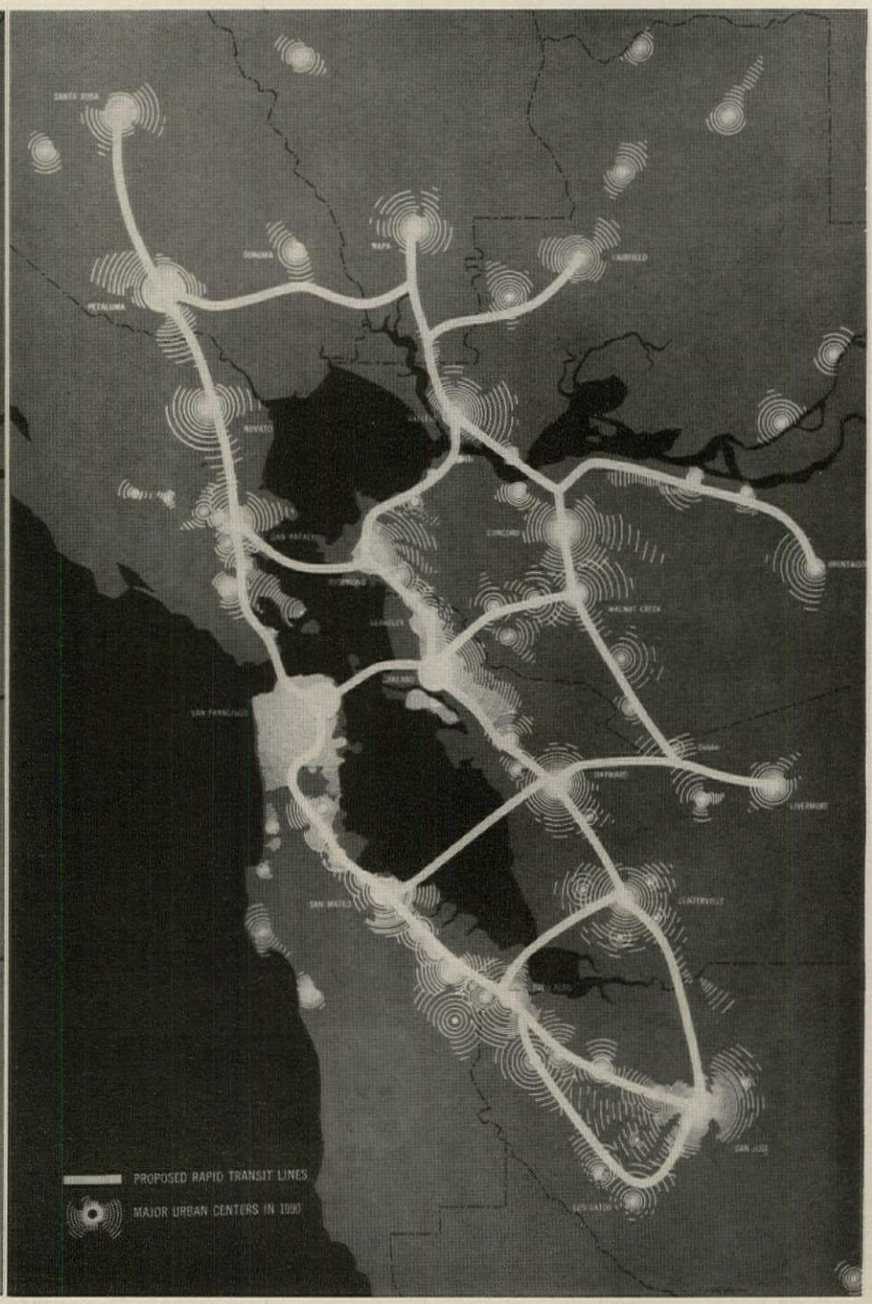
The way out

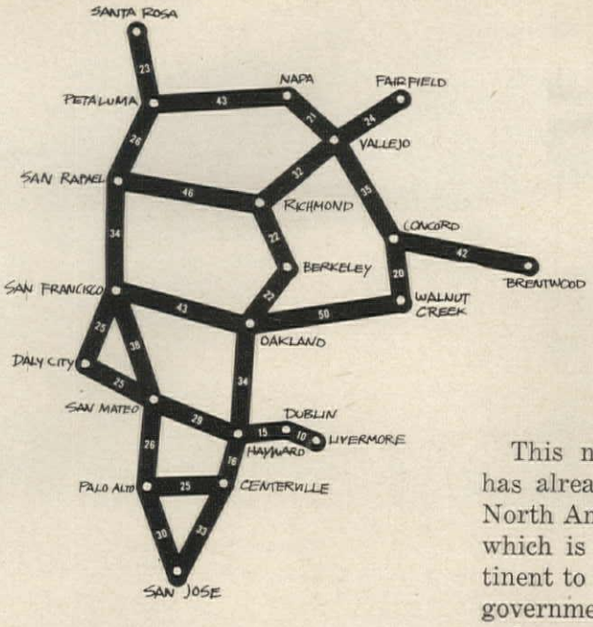
Meanwhile, the cities, of course, even as they were struggling with the decline of mass transport, were trying to accommodate themselves even more expensively to the space-eating horde of automobiles. But after a decade of widening still more streets, building more and more boulevards, freeways, parking garages, the cities finally know that congestion cannot be solved by placating the motorist. Freeways beget more freeways, garages more garages; and the streets, however wide, are somehow never wide enough. The building of still more highway feeders, unless carefully done, will only dump new troubles on the cities. Therefore, nearly all transportation plans these days (see p. 111) look to some rehabilitation of mass rapid transit to relieve the streets and to get the city's daily influx and outgo on a less wasteful basis.

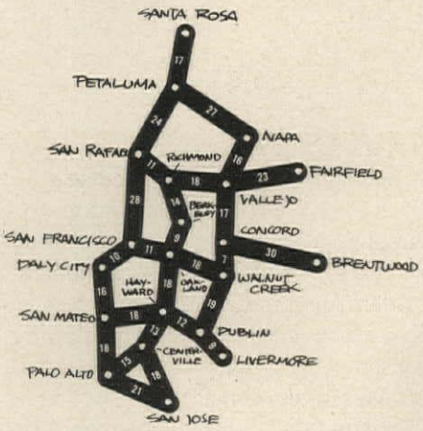
But before this can come to pass some facts have to be faced. Probably never again, or at least for a long time, will private capital be interested in building new transit sys-

tems. Hence the costly rebuilding of transit must depend on something other than fare-boxes: i.e., on public funds. To make it work and to encompass the problem of traffic and urban sprawl, city boundary lines will have to be dropped and integrated metropolitan-satellite systems developed where there are none today. Once these conditions are met, then an entirely new concept of rapid transit can come to the fore, one in which speed, frequency and attractiveness of accommodations may really wean the suburbanite from overdependence on the automobile. And transportation technology, stirring under the newfound progressiveness of the railroads, today has the devices and instruments (see p. 114) to make such rapid transit a reality, including automatic control systems capable of reducing relative labor costs from 60 to about 25%. Thus a new era of rapid transit, arising from the fields and roadways where old interurban trolley tracks lie embedded and rusting, may be aborning.

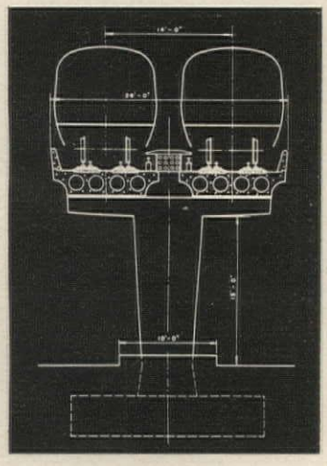








Many US cities are now considering new transportation plans. A plan for San Francisco (left and above) proposes rail rapid transit, based on desired lines of travel for year 1970. Study was made by Parsons, Brinckerhoff, Hall & MacDonald. Two route maps, above, show how Bay area shrinks—in travel time—when fast system of transit goes into operation.



Elevated line is one of several systems proposed for Bay Area. Another is monorail.

The grand plans for transit

This new era for rapid transit has already dawned in one city of North America. The city is Toronto, which is the only city on this continent to have set up a metropolitan government including suburbs and to have slowed the upward trend in auto traffic. Unlike most other metropolitan areas, Toronto heeded the recommendation of its own transportation engineers and Chicago's De Leuw, Cather & Co. During the past three years, these things have happened:

▸ Toronto opened its 4.6-mi. subway line, which cost about $60 million, including rolling stock. Today, the line carries more than 30,000 passengers per peak hour, under a street which formerly could handle only 12,000 in autos and street cars.

▸ Toronto's Transit Commission was given new responsibility. Instead of confining its authority to the 35 sq. mi. of Toronto proper, the Commission's territory was extended to 240 sq. mi., including the city and its 12 suburbs.

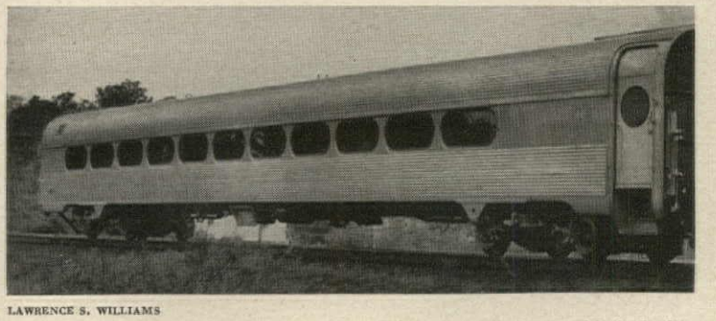
▸ In 1957, Toronto is ready to spend another $200 million for rapid transit: a second subway line, extending east and west, to join with the existing line which comes in from the north. Also, some $350 million will be spent for new expressways during the next 20 years, making up a system of rail and rubber which recognizes the proper function for each.

More than half a dozen US cities have called upon the transportation engineers during the past two years: Chicago, Cleveland, Columbus, Los Angeles, Minneapolis, New York, Philadelphia, San Francisco. A report for St. Louis will be ready soon. Another is under way in Washington. And Boston may have a study made this year.

Perhaps nothing will come of these new recommendations, though for some there is a fair chance. The need is considerably greater than ever before, and public support for some way out of the helpless snarl of traffic is now very strong in most metropolitan areas. In San Francisco, for example, a number of private polls now indicate that the people of the Bay Area want a rapid transit system, though the funds—upward of $1 billion—would come from tax levies on real estate and retail sales. In Cleveland, where a $35 million subway loop, 1.6 mi. long, has been recommended for downtown, the people of Cuyahoga County voted two to one in 1953 in favor of a county bond issue to build such a line. (Since then, however, Cleveland has been the scene of a big controversy, sparked by a strong faction which favors expressways over a subway.) In Chicago, there is discussion about a gasoline tax which would provide funds for extension and improvement of rapid transit, a notion which would have been heresy not many years ago.

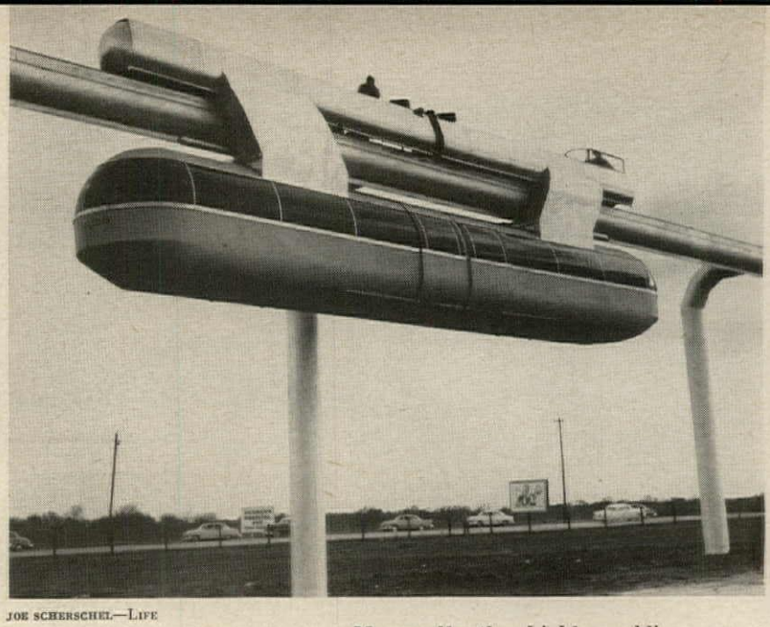
For some of the smaller cities, of course, rail rapid transit is not the correct answer, at least not for now, nor is it the answer which is recommended by the engineers. Columbus, for example, is considering express bus routes and shuttle bus service from perimeter parking lots. But the bus, like rail, must be permitted to move quickly through bogged-down auto traffic. This may mean that bus routes will have to have exclusive rights-of-way.

But the key recommendation, appearing in virtually every new plan, proposes that the metropolitan area establish a transit authority, as Toronto has done. A few US cities, notably Chicago and Boston have already taken steps in this direction, but none has gone as far as Toronto, with its metropolitan-area government.



LAWRENCE S. WILLIAMS

Pioneer III, by Budd, is lightweight coach with extensive use of plastic components.



JOE SCHERSCHEL—LIFE

Monorail, the highly publicized elevated, still has shortcomings as a transit vehicle.

The vehicles: steel, rubber and a moving belt

There are just two ways to untangle the traffic jams in downtown and along the roads which lead there. One: outlaw the private automobile in the center city, as London once considered doing. This is a guaranteed technique. The other, while not so certain, is more appealing to most of America's 54 million motorists: attract drivers to mass transportation.

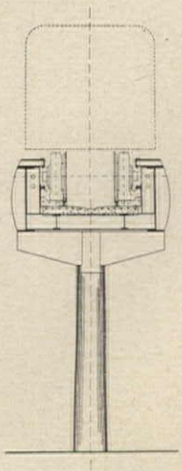
The bus companies are trying by offering coffee, more coaches, commuter clubs, express routes. The American Transit Assn., hopeful that a new design might shore up the bus industry, which has been losing riders since 1948, asked the transit companies two years ago to suggest new design ideas for a "Bus of Tomorrow." The best ideas were submitted to the major bus manufacturers. Mack Truck, the only manufacturer to show a prototype (picture, p. 113), complied as nearly as possible with A.T.A.'s recommendations. But the reaction, thus far, has been far from overwhelming. Although many transit people say that they like the bus — and all praise Mack for its initiative in building it — there is by no means agreement among bus operators as to what a new bus should be.

Perhaps because of its vast potential for renovation, or perhaps because of a real indication that the rail and transit market is stirring at last, there is widespread activity among the rail-car builders, yielding a whole new group of trains, whose immediate application is in intercity travel, but which incorporate many engineering advances which can readily be applied in commuter operations. These new developments, with an eye to economy, can be categorized as the lightweight trains. The G.M. Aerotrain is one of these. This train was built by General Motors' Electro-Motive Division in 1955. The others: ACF's Talgo; Pullman's Train X; Budd's Pioneer III (AF, Feb. '57). The first of these to go into operation, a Talgo-type for the Rock Island Railroad, weighs only about half as much as one of the 20-year-old streamliners, and cost $2,300 per seat as against $3,800 for some conventional coaches. All are lightweight, high-acceleration designs, requiring less power (1,200 to 1,500 hp) and less maintenance than older trains.

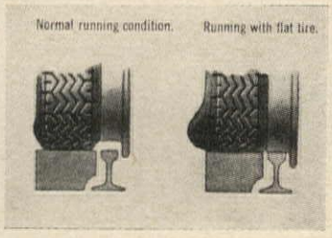
In addition to these, there are at least half a dozen other new carriers, most of which are in an earlier development stage. The most highly touted is monorail (picture, above), an old idea from Europe, where the Germans erected a line 9½ mi. long in Wuppertal, near Cologne, in 1901. In the US, there are at least four organizations plugging it. One of these, Monorail, Inc. of Houston, built a 970′ line there in 1956 to demonstrate monorail's capabilities. And at least two cities, Los Angeles and San Francisco, have given some consideration to monorail systems as possible ways out of their traffic problems. However, monorail has two rather severe engineering limitations, either of which could prevent its being recommended for a mass transit network: 1) switching is a serious problem demanding a large, heavy, flop-over device at every switching junction; 2) sway may be too great for passenger comfort.

Proponents of monorail minimize these factors and maintain that a monorail system — traveling at speeds of 70 mph above city traffic — is the most economical way for a city to unite itself with a mass transit network. In dense downtown, monorail does have the advantage of low initial cost; in the suburbs, however, it must continue to ride on its suspended rail, where a surface transit line, or even a conventional elevated system, would be more economical.

Another plan, proposed for the New York metropolitan area by retired railroad President Henry K. Norton, is a system of "aerial transit." Norton's idea, like the monorail, is to elevate the line in the center of the city (picture, p. 113), but then drop it to surface level in the suburbs. Knowing the New Yorkers' dislike of the old-fashioned, noisy elevated line, Norton would run his cars on rubber-tired wheels, an idea which the French have adopted in the Paris subway system. However, many railroaders and a number of car builders disagree, saying that rubber sharply reduces the efficiency of the vehicle. More than any plan

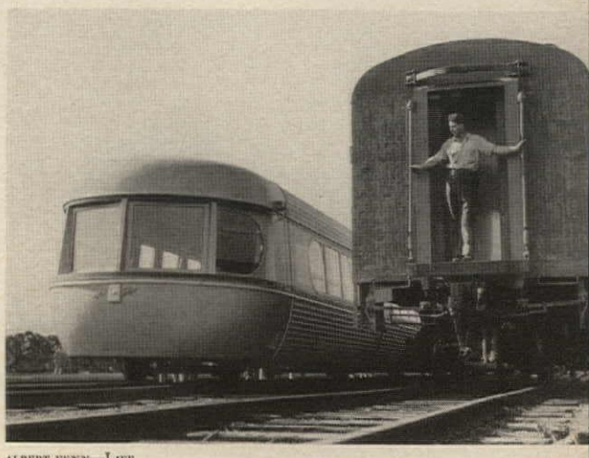


Quiet elevated: for New York, Henry Norton proposes rubber-tired elevated, similar to Paris subway cars (below).



LAWRENCE S. WILLIAMS

Budd's diesel car, self-powered, is now in commuter service on a number of railroads.



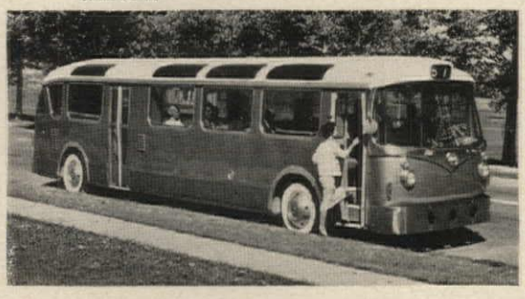
ALBERT FENN—LIFE

The Talgo, by ACF, is lower, lighter by half than conventional coach (at right).

yet proposed, Norton's network for New York introduces a new word to transit: automation. With his system, which runs self-operating cars (no motorman) controlled by operators at the stations, Norton believes that the cost of labor can be reduced from 60% of total operating cost — the average for existing lines — to 23%. He incorporated automatic control devices into his plan with the aid of Union Switch & Signal Div. of Westinghouse Air Brake.

Norton has supporters. But his plan is not likely to be adopted in New York, though a number of its elements may well turn up in future systems, including New York's.

JACK ZEHRT



Tomorrow's bus, by Mack, is composite of ideas submitted by nation's transit companies.

The moving sidewalks

An idea which is just beginning to receive serious consideration as a supplementary mass transit device is the old industry standby, the conveyor belt. The first of these to go into operation was installed in 1954 by the Hudson & Manhattan Railroad at its Jersey City terminal.

This year another passenger conveyor belt was installed by the Chicago Transit Authority at one of its elevated stations. And other more extensive installations have been proposed, one by Professor Stanley Berge of Northwestern University to provide two 1-mi. links in Chicago's downtown traffic scheme, another for downtown Philadelphia.

These are some of the vehicles now in the picture. There are many more, like the Budd RDC car (picture above), a self-propelled diesel train, introduced eight years ago, which has gained wide acceptance here and abroad. Biggest US customer for the RDC has been the Boston & Maine Railroad, which has purchased 103 RDC's, mostly for commuter operations. Many other vehicles have been proposed, such as helicopters and piggyback buses (which ride to the city on railroad flatcars). None of these meets the real problem of transit, which is to move masses of people quickly and efficiently. The best bet, after years of experimentation with other means, appears still to be a device that moves on rails.

This does not exclude the rubber-tired bus from tomorrow's transit system, even for the most densely populated metropolitan areas. Neither does it eliminate the automobile. But the mass carrier which comes into the center of the city, if it is to attract riders, must be fast, which means it must have an exclusive right of way.

For cities which do not need the capacity of a rail rapid transit system, but which can see the day when such a system will be needed, the planners and the traffic engineers are urging that these future needs be provided for now, as new freeways are built, by including a wide median strip for rapid transit between the opposing traffic lanes. In Chicago, where highway engineers are supporters of rapid transit (a rare occurrence in other cities), the new Congress St. Expressway is being built in this way. The proper place for the bus in this system is along the rapid transit spurs, outside the city, where it can deliver riders to the rapid transit stations.

There is another reason for today's smaller cities to look forward to the possibility of future rail rapid transit: rail operation may soon have an answer to every transit system's most important problem, the high cost of labor. Because a rail operation is the type which is most readily adaptable to automatic operation, it is most likely to be the favored system in tomorrow's metropolitan areas (see next page).

Commuter runs can be preprogrammed. Trains are tape-controlled from remote station.

Trains that run on tape

It is now technically possible to operate an entire commuter rail network without trainmen, brakemen or conductors. Every control device necessary for an automatic system has already been developed and put into service. There is as yet no completely automatic network in operation, because no system has made full use of the elements which are now available.

However, we are coming inevitably into the era of self-operating commuter trains, despite the several obstacles, all nontechnical, which presently stand in the way. Perhaps the most formidable is the individual's fear of committing himself to a vehicle which has no human up front to watch the road, though this may be allayed by a standby trainman. But the devices which are to take the place of the trainmen are equally formidable, as experience has shown, and economic necessity, which generally has its way, is on the side of the robot train.

The necessity for some form of self-operating commuter network has been mounting, along with passenger-line deficits, through all the years of the auto's ascendency. The loss of traffic, plus the five-day work week (cutting week-end travel) and other factors, have only accentuated what has always been a commuter system's main bugaboo, the sharp peaks and valleys of commuter travel, necessitating a large force to handle the rush hours. Under the decline of traffic, the peaks have lowered, but the valleys have sunk even more, with no commensurate saving in labor. Self-operating trains, by cutting sharply the manpower costs which make up most of the costs in operating a transit system, can have a decided effect on operating efficiency.

The four photographs show some of the control devices which can be integrated into an automatic commuter network. Some of these, like the centralized traffic control system (above, right), have been used for years on main line railroads, and are now beginning to be used for transit. Others, like Union Switch & Signal's automatic train identication device (right), which sets switches and signals into operation, is a relatively new development. The first unit to go into operation in the US was installed by the Chicago Transit Authority about three years ago. This year, New York is installing more of this equipment on its Flushing line.

These are the elements which can make up an automatic system:

Automatic programming

The operation of any commuter system is virtually the same from Monday to Friday. Each day's activity can be preprogrammed on tape and fed into a reading device which transmits electrical energy to receiving equipment throughout the system. Trains are dispatched and routed by impulses received from a control center. Switches are also controlled from the center. Several freight classification yards are now being operated by tape (above), and more are being constructed. Track destination information is punched onto the tape, which automatically aligns switches to direct cars into various classification tracks. A similar principle is used as an automatic dispatcher in Philadelphia's subway system.

Emergency control equipment

For operation under extraordinary conditions, where tape operation must be discontinued, a rail commuter system can use a push-button control machine, including a train describer system which indicates the position of each train in the system by an individual number shown on the control panel. Most of the major railroads have used similiar types of remote control systems for 30 years. (Recently, the same principle has been adapted to control oil pipeline operations from remote stations.) Along with the automatic train describer, an automatic operation recorder can provide an accurate time check on all trains in a system. Any schedule disruptions are indicated immediately on self-recording graphs at the control center. Chicago uses such a recorder in its rapid transit system.

Controls on each train

Safety equipment on each train is continually responsive to rail-

ASSOCIATED PHOTOGRAPHERS

Pushbutton control is used under unusual conditions. Board shows trains' positions.

carried electrical currents which indicate track conditions ahead. If conditions are unsafe, the train's brakes are applied automatically and the train either is stopped or slowed to safe speed. This, too, is an old device, developed in 1918 and now used on a number of rail lines.

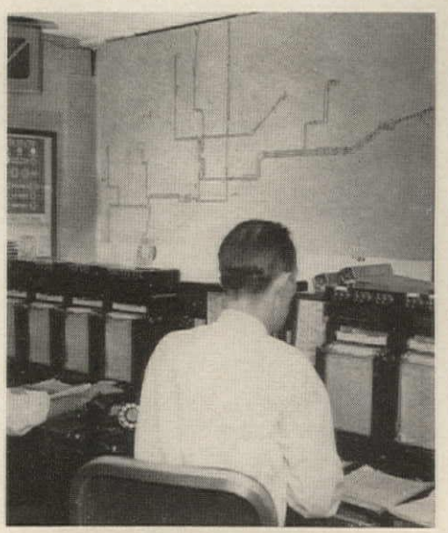
Train identification

Trains are provided with electrical identification by means of an inert wire coil, which permits them to register identity as they pass identification points. This information, in turn, activates switches ahead, sending the train on its proper route; also it can activate indicators at the next station, announcing the train's arrival. Chicago is the first US city to use this new identification system developed by Union Switch & Signal.

In another decade, train identification devices are likely to be used on surface rail lines throughout the world, at considerable savings in manpower. (Each identifier can do the job of one operator.) But the lines which use them will do so primarily to gain speed and added safety, with labor-saving as a secondary consideration: like many other automatic devices, the identifier is faster than a human, and a good deal more reliable.

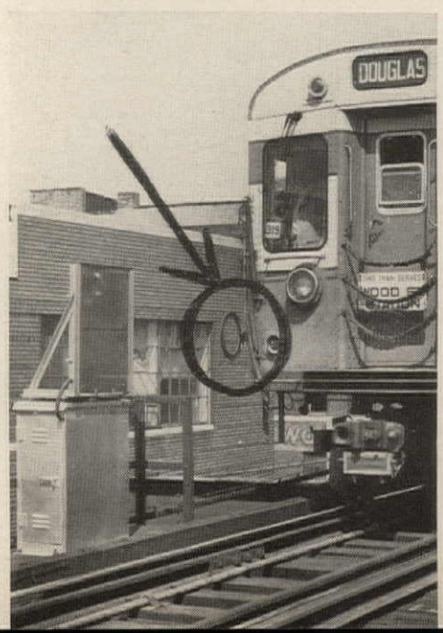
The principle of self-operation does not eliminate all personnel in the system, of course, but it does make possible great reductions in the number of necessary nonsupervisory personnel. At least in the present stage of technological development, the most automatic system still needs attendants at stations and certain observers on the moving equipment. Nevertheless, the degree to which a rail system can be self-operating is now considerable indeed, certainly sufficient to support the contention of Henry Norton (p. 112) that labor costs can be reduced by more than 50%.

But when? Although these automatic devices are going piecemeal into a number of existing systems, it may be years before any system for an entire metropolitan area is operating in truly an automatic way. As most of our metropolitan transportation systems are now set up, the city is fed by a hodgepodge of lines, each under its own management, and each, most likely, operating from its own terminal. With this goes the inefficiency of multiple operation, as well as the inconveniences which such heterogeneous systems create. Only the largest networks can benefit from the automatic devices, because such benefits are in proportion to the complexity of the system to be controlled. And no area-wide system can yet benefit from them, because no metropolitan area has yet integrated all its lines into a single system. Thus, automatic operation, like every other need in this tangled web of metropolitan transportation, must wait its turn, but its turn must come.



Automatic recorder, used now in Chicago system, provides time check on trains.

Train identifier: coil (below) registers train's identity as it passes identification panel.



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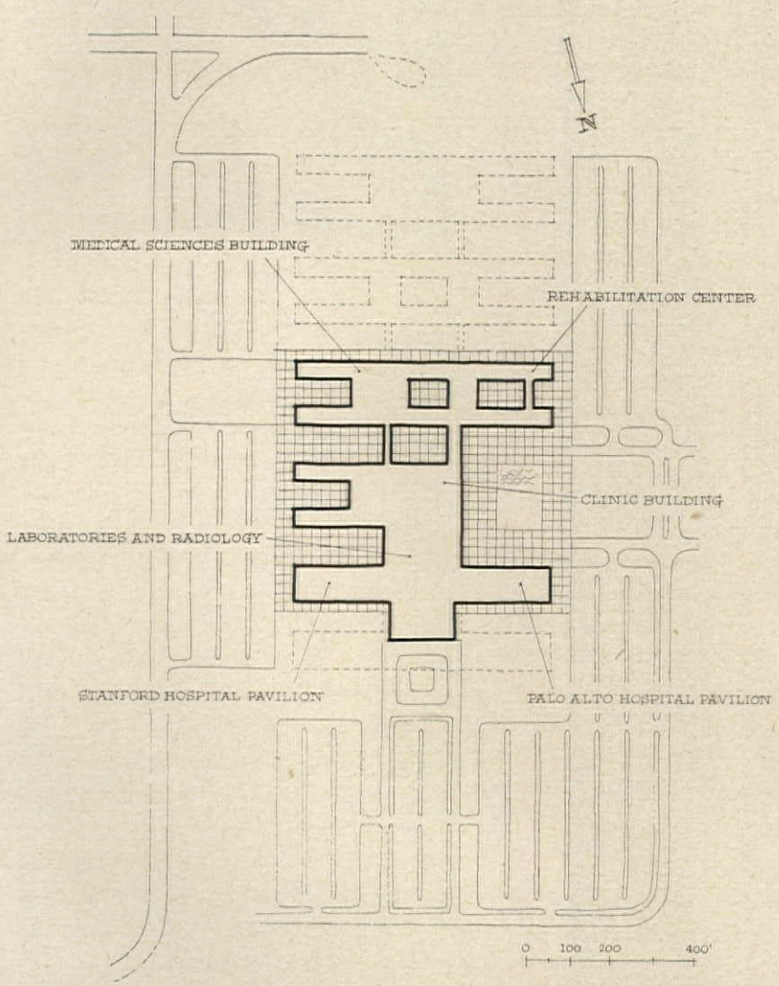
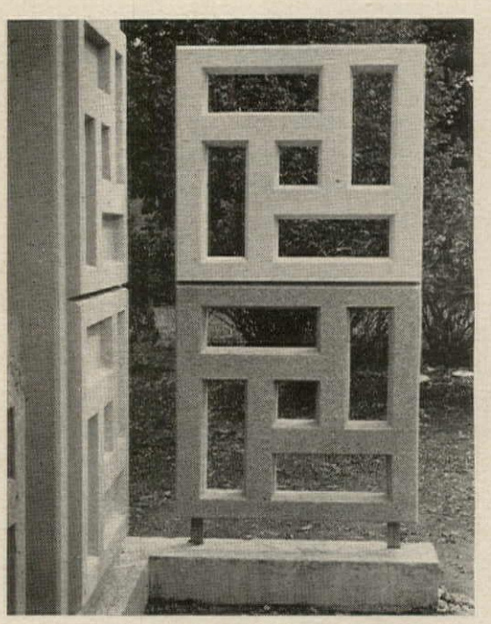
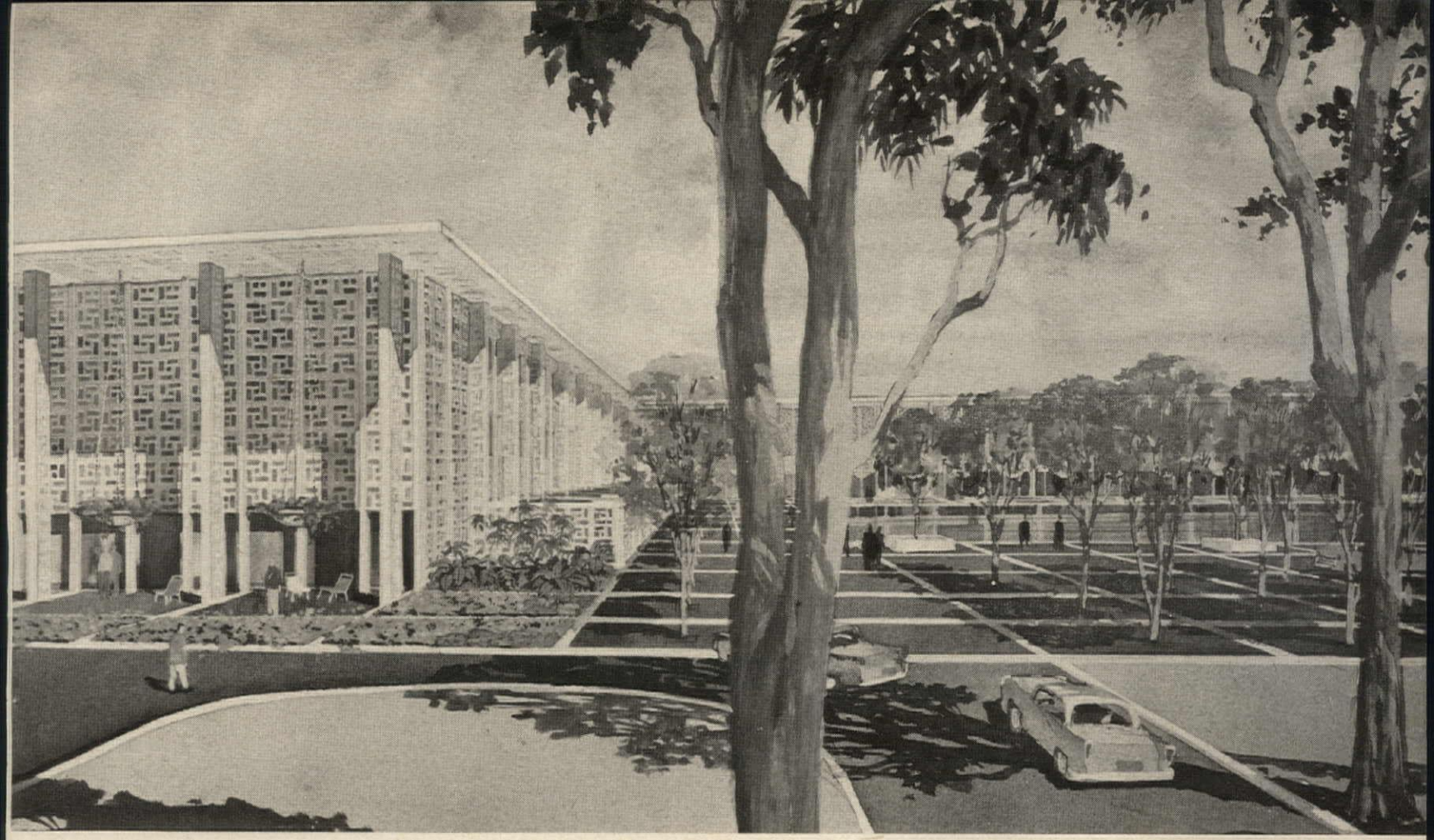
A milestone in





Grill mock-up shows 3′-8″ blocks used as column facing and open screen. At walls, glazing is behind screen. All bays, both ways, are 22′.



hospital design

For Stanford University and Palo Alto Architect Edward Stone has designed a horizontal medical school and 475-bed hospital screened in perforated concrete

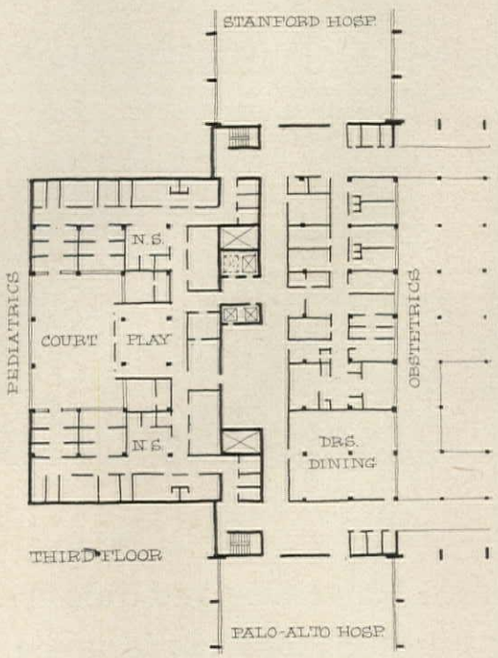
This is an extraordinary project from two points of view: façade design and horizontal planning.

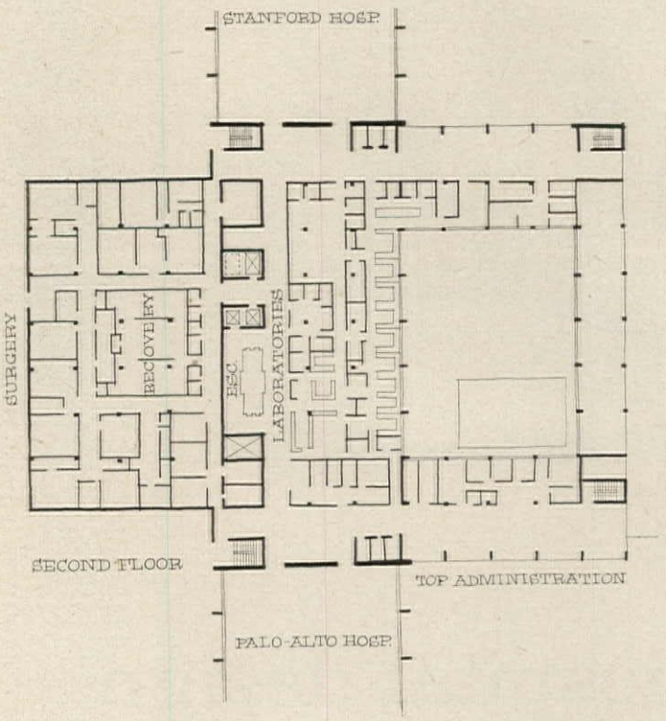
The building's façade treatment expresses the monumentality associated with stripped neoclassic, without its hardness and brutality. This is not the first time Architect Edward D. Stone has demonstrated the affinity between modern architecture and the filigree screens of Persian or Mohammedan architecture. His US embassy for India (AF, June '55) also uses a perforated screen above a quiet base and behind a colonnade. By placing his romantic screens—derived from a highly romantic architecture extending all the way from Spain to India—within quiet and serene forms—derived from the West's classic architecture—Stone gives his decoration a dignity that becomes monumental. In contradicting modern architecture's anti-decorative tenets of 30 years' standing, Stone has found a Mohammedan solution which fits into modern industrial processes of machine-made repetition. Some portions of the concrete grill are wall screens, others are garden screens tying wings together.

The center's plan is extraordinary because this is probably the largest hospital of modern times—475 beds expandable to 1,000—to be designed horizontally instead of as a tower. It has only three stories and basement. Moreover, the hospital beds are divided among two hospitals—one operated by Stanford University, the other by Palo Alto—which completely share one medical and service core. The immense economic advantages of this feature and of horizontality in so large an institution were explored and explained in a preliminary study ("The Flattened-out Hospital," AF, Nov. '55) done for Palo Alto and the University by Architect Isadore Rosenfield. How Stone's big hospital puts these advantages to work is shown in the floor plans overleaf.

The new center will go on 56 acres of Stanford University campus, adjacent to the university's science buildings. It will replace outmoded medical school facilities now in San Francisco. Choice of the campus site is based on the trustees' conviction that future progress of the medical sciences is tightly linked with progress of the physical, biological and social sciences and that these faculties should hence be in close touch with the medical researchers, teachers and students.

Floor plan organizes the center into three groups of connected buildings: the medical school, teaching and research at one end; hospital beds and medical core at the other end; outpatient clinics in between. The clinics and rehabilitation center are part of the Stanford University medical school; teaching beds are in Stanford hospital wing. The other nursing wing, sharing central core and services, is Palo Alto hospital, a voluntary community facility. Hospitals and medical school will each expand outward, in opposite directions. All units are three stories above ground but portions of third floor are being left unfinished initially to provide expansion room for central units. Cross-shaped basement (not shown) under core and part of nursing wings has emergency suite, central sterile supply, records, radiology therapy, pharmacy, shops, purchasing and stores. Second floor of medical school has pathology and student labs; third floor has physiology, biochemistry and — above rehabilitation — pharmacology. Clinic plans are not yet completed.





Everything about the way this hospital is put together is of special interest because it is a pioneering job: an attempt at bringing the space, equipment and travel-time economies of the horizontal hospital into the big time, into an institution which is big to begin with and which may eventually reach a size of 1,000 beds.

One of the principal problems—almost self-solved in the tower hospital—is how to make circulation as self-explanatory as possible, especially for visitors or incoming patients. Architect Stone's principal means in achieving this is the logical separation of facilities, and hence of traffic, into building units. The main vertical travel node is in the medical core between nursing wings; note the escalators.

Another major problem is how to keep horizontal distances down to manageable length. The nursing wing is very interesting in this respect. At first glance it looks like a double-corridor scheme, but it is not. Services on the interior are divided longitudinally, right down the middle, so that in effect each floor consists of two single-corridor floors with their service sides placed back-to-back. This makes possible great travel savings in servicing these wings, and also economy of perimeter wall. The Palo Alto wing has 225 beds, with about 70 to a floor, 35 to a nursing station. The Stanford wing has the same general arrangement with a dozen fewer beds because of extra teaching and laboratory facilities.

The third-floor, 42-bed pediatrics unit also is especially well worked out; its two nursing units share a central open court, playroom and admitting suite. The surgical suite, rather surprisingly, has its recovery room in the center and no centralized substerilizing and cleanup.

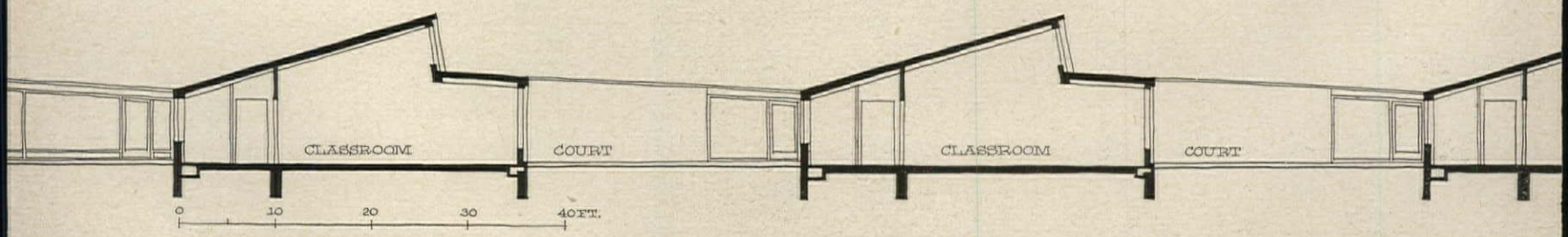
The rehabilitation building will be an experimental unit, encompassing social, vocational, pyschological and medical rehabilitation facilities; physical therapy facilities on its second floor are also to be used by inpatients. It is the first building scheduled to go into construction, was put out for bid in May. The entire hospital is expected to be completed by the summer of 1959. Construction cost is budgeted at $19 million for 542,000 sq. ft., or $34 per sq. ft. Palo Alto's share has been raised by bond issue; Stanford is now raising funds.

Thomas D. Church is landscape architect; E. Todd Wheeler is consulting hospital architect; Wagner & Martinez are construction consultants; Milton F. Johnson is coordinator of planning for Stanford.

STANFORD HOSPITAL
CHARTS
N.S.
CARDIOLOGY
DERMATOLOGY
INFECTIOUS DISEASES
RADIOLOGY & DIAGNOSTIC
RADIOLOGY RESEARCH
SCHOOL OF NURSING
ADMINISTRATION
LECTURE HALL & CLASSROOMS
KITCHEN
DINING
OUTDOOR DINING
ADMIN
IN-PATIENTS
CLINICS
SCHOOL OF NURSING
PREVENTIVE MEDICINE
PUBLIC
OUT-PATIENT
PALO ALTO HOSPITAL
NEUROLOGY & NEURO-PSYCHIATRY
ENT
SPEECH & HEARING
PSYCHOLOGY
REHABILITATION
ADMINISTRATION

PHOTOS: STRUWING, REKLAMEFOTO

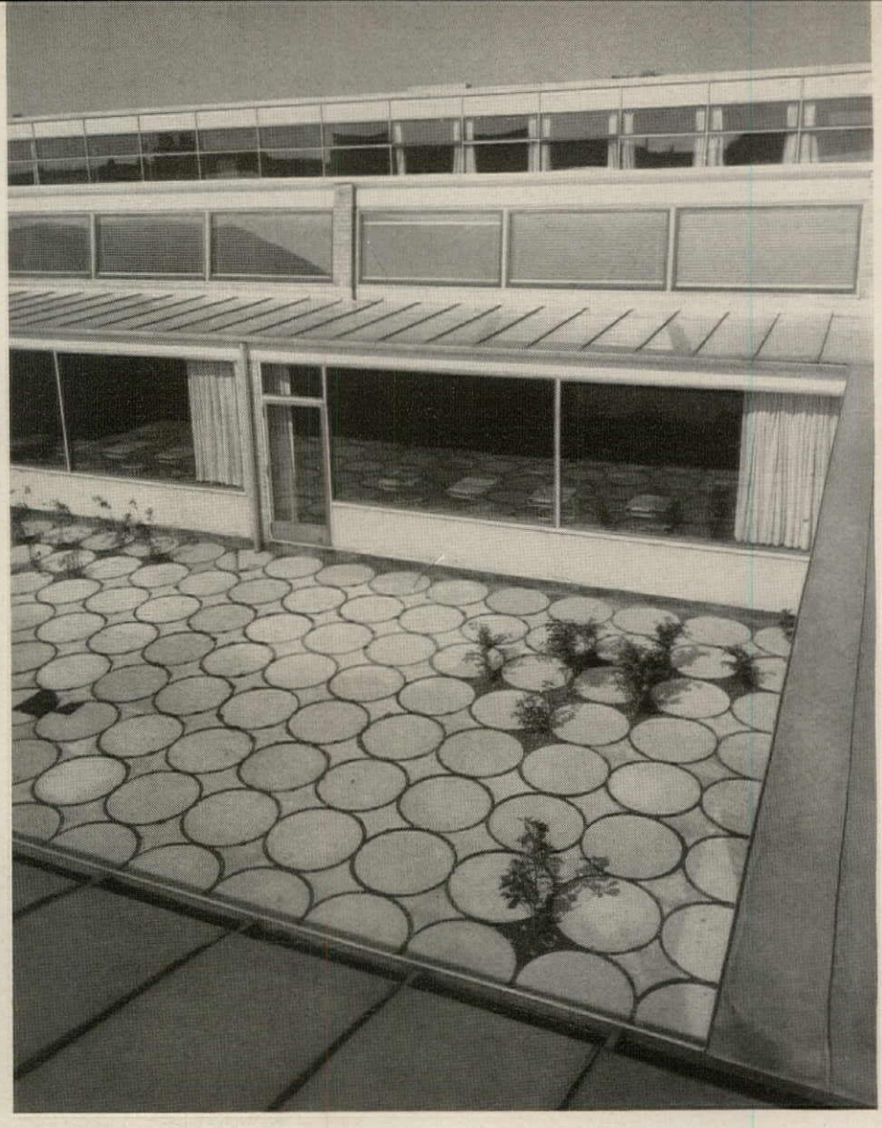
Court design in delightful Danish



Courts of the Munkegards-skolen elementary school, each shared by two classrooms and enclosed at ends by transverse corridors, are the means by which a large school—1,200 capacity—is given intimacy, and by which parallel classroom wings are given interesting and special outlooks. Rooms are unilaterally lighted, with the high, retracted top window tier lighting the interior. Classroom walls and bearing partitions are brick cavity, with the partitions sand-filled for sound insulation. Beams are prestressed concrete.

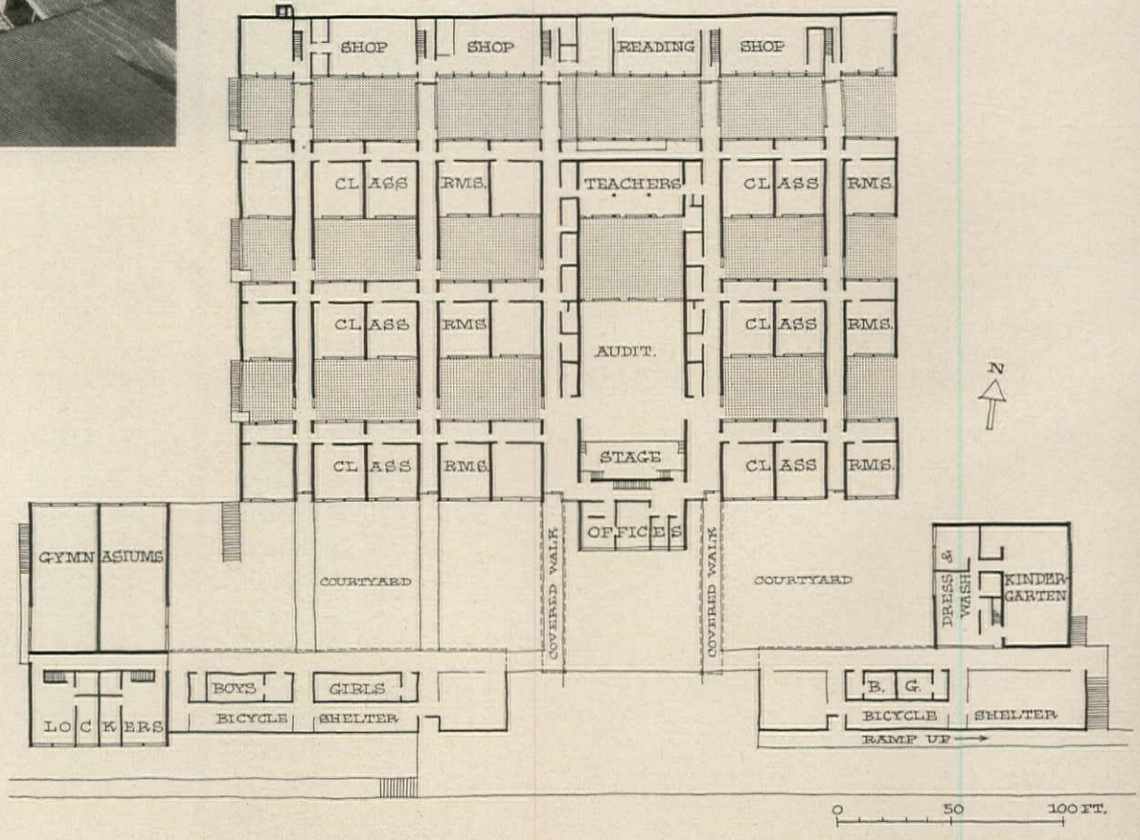
A new school near Copenhagen opens its identical classrooms to ten delightfully different courts

At the point where most US schools stop—with the buildings—this school in Vangede, Denmark, really gets into stride. So imaginatively and patiently have its courts and walks been treated, that it is truly a school built around the out-of-doors, an achievement that many buildings today aim at but few manage to carry through. The result here is that identical classrooms in an orderly plan (overleaf) are all given a distinct sense of place and uniqueness. In giving the courts (and by extension the classrooms) their individuality, Architect Arne Jacobsen used many charming details of planting and sculpture but his chief tool comes from recognition of the fact that a court's main façade is the pavement under foot.

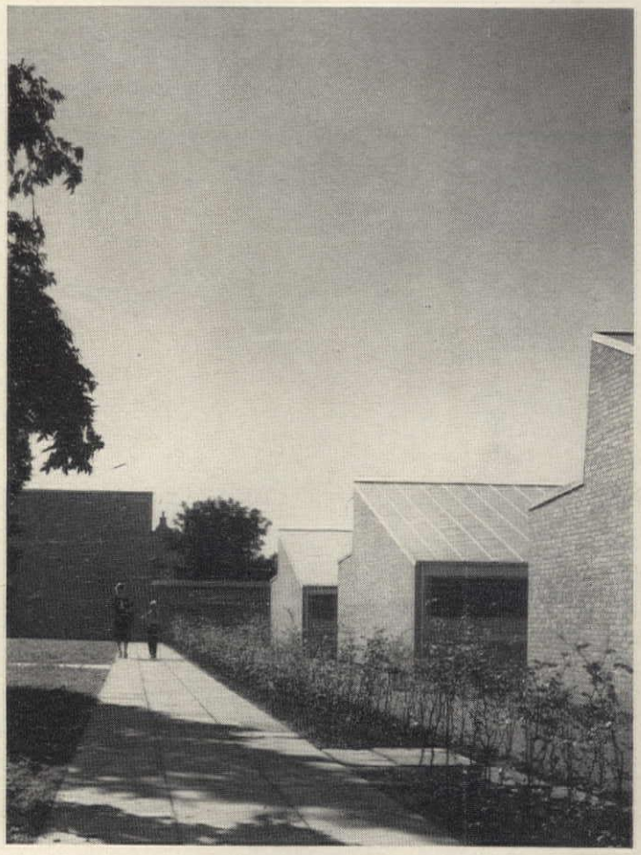


Courtyard paving and planting patterns are all different, all as special and definite as this circled one. Many contain sculptures, some have pools, all serve for outdoor classes. Classrooms and skylights face south, the favored orientation in Denmark's latitudes.

Plan is an unusual finger type with corridors crossing, instead of paralleling, the wings. The two-story wing at the rear contains special classrooms; general activities and administration are in the center building. Cloakrooms off classrooms also look out to courts, are used as areas for projects or group work.

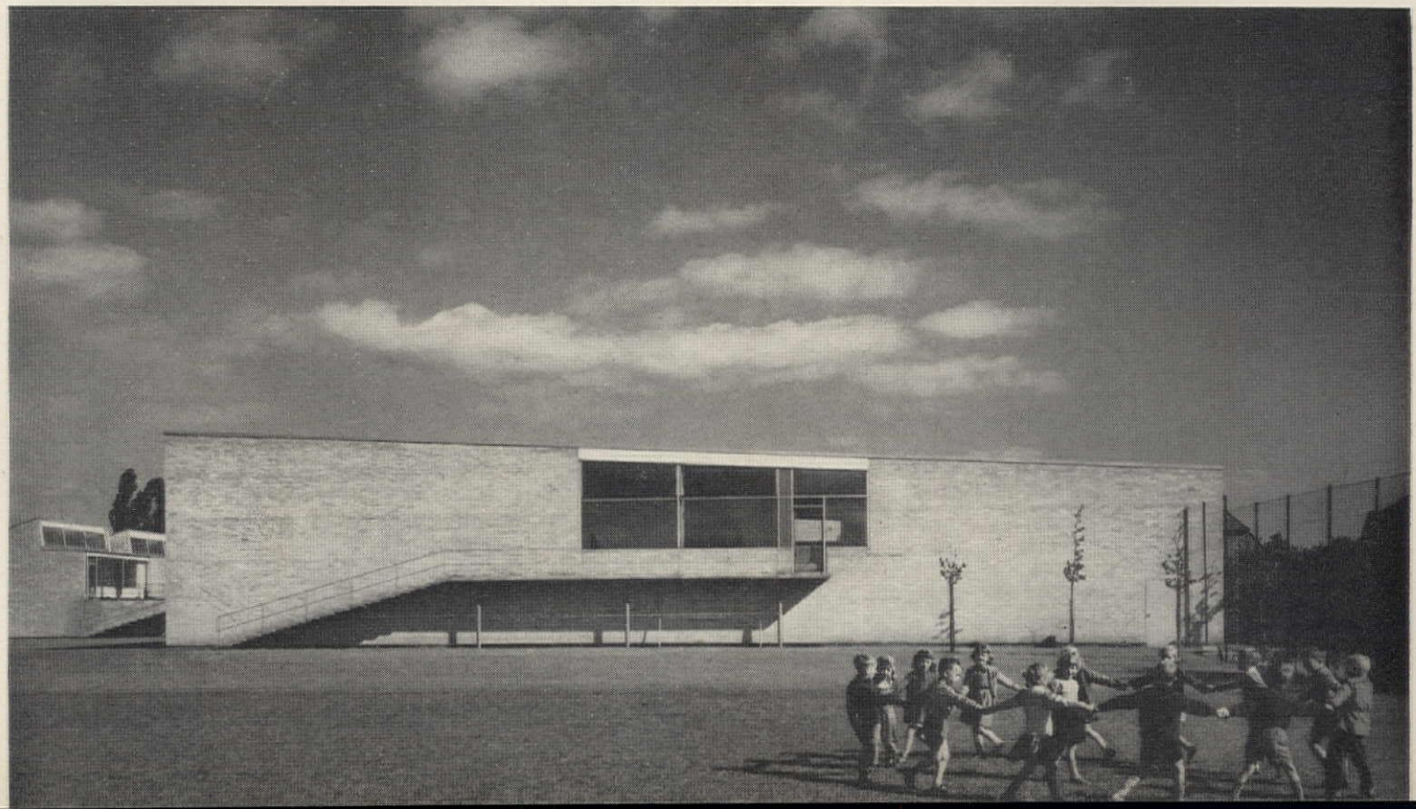


Covered walk, grown up to become a porch, extends from entrance to gymnasium. It faces into the large, main courtyard, looks across to classroom corridor entrances.



Exterior walks are handled as carefully as the inner courts. This one, along eastern ends of classroom wings, borders small children's playfields. In background is kindergarten.

Gymnasium opens westward to playing fields for older children on lower level of site. Courts on this side also open into the fields. Younger children's playroom is to the east.



In the Gothic vein: slim laminated arches of southern pine cross-brace Sarasota's Bee Ridge Church (see also p. 130)

ALEXANDRE GEORGES

ALEXANDRE GEORGES

In the Oriental tradition: curved timber beams hold the heavy roof of Sarasota's Chamber of Commerce

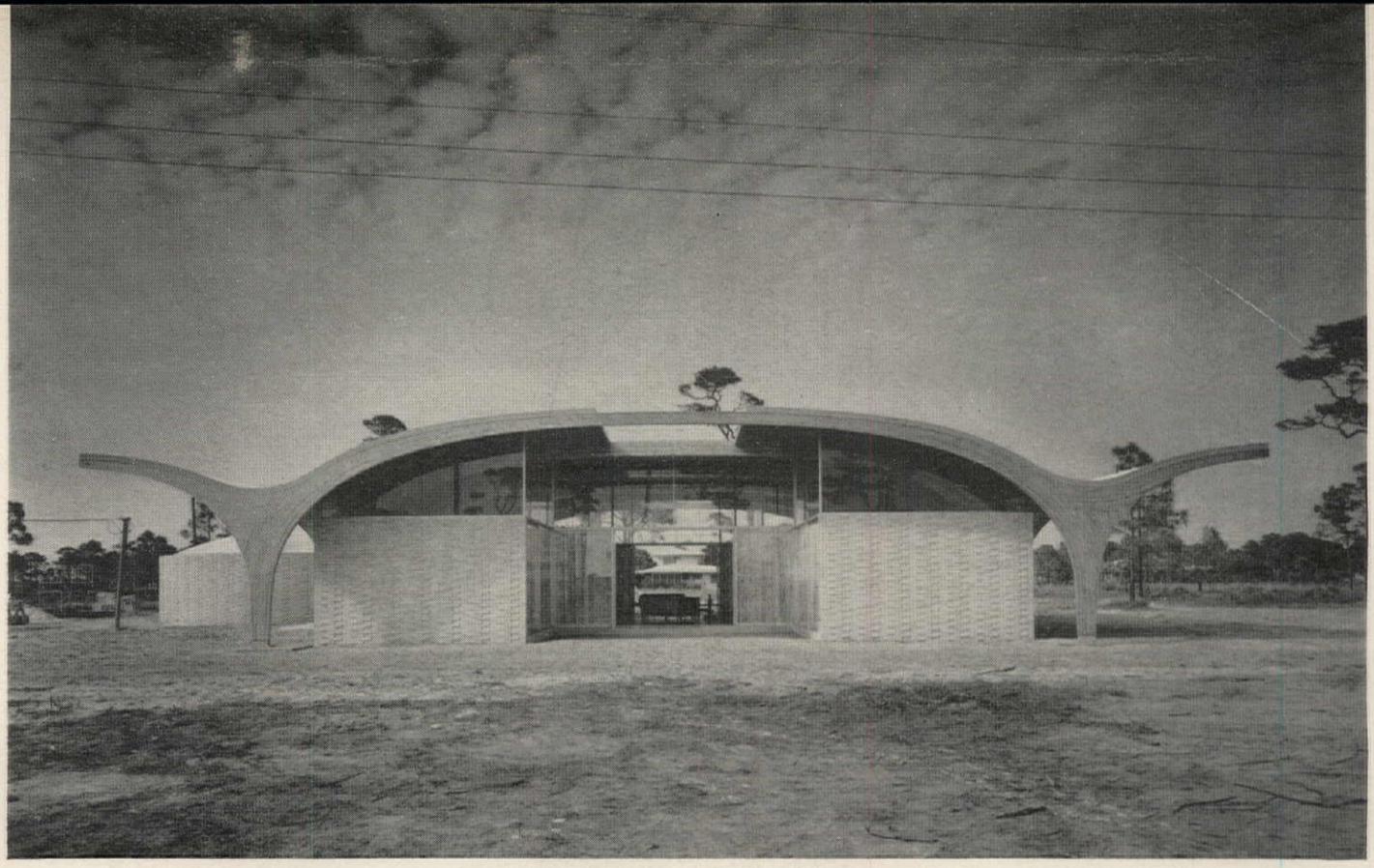
The lively roofs of Victor Lundy

WALTER DARAN

From the small office of a young Florida architect emerge a variety of vigorous new shapes—mainly in wood. Here are some of the more provocative ones, in churches, offices, shops and a most unusual house

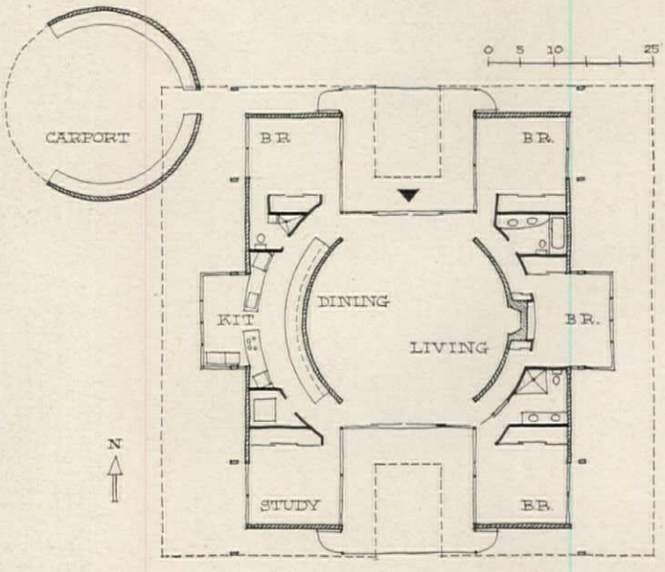
Brilliant tile roof of the Chamber of Commerce building dominates Japanese garden of the civic center

VICTOR LUNDY



A house of curves

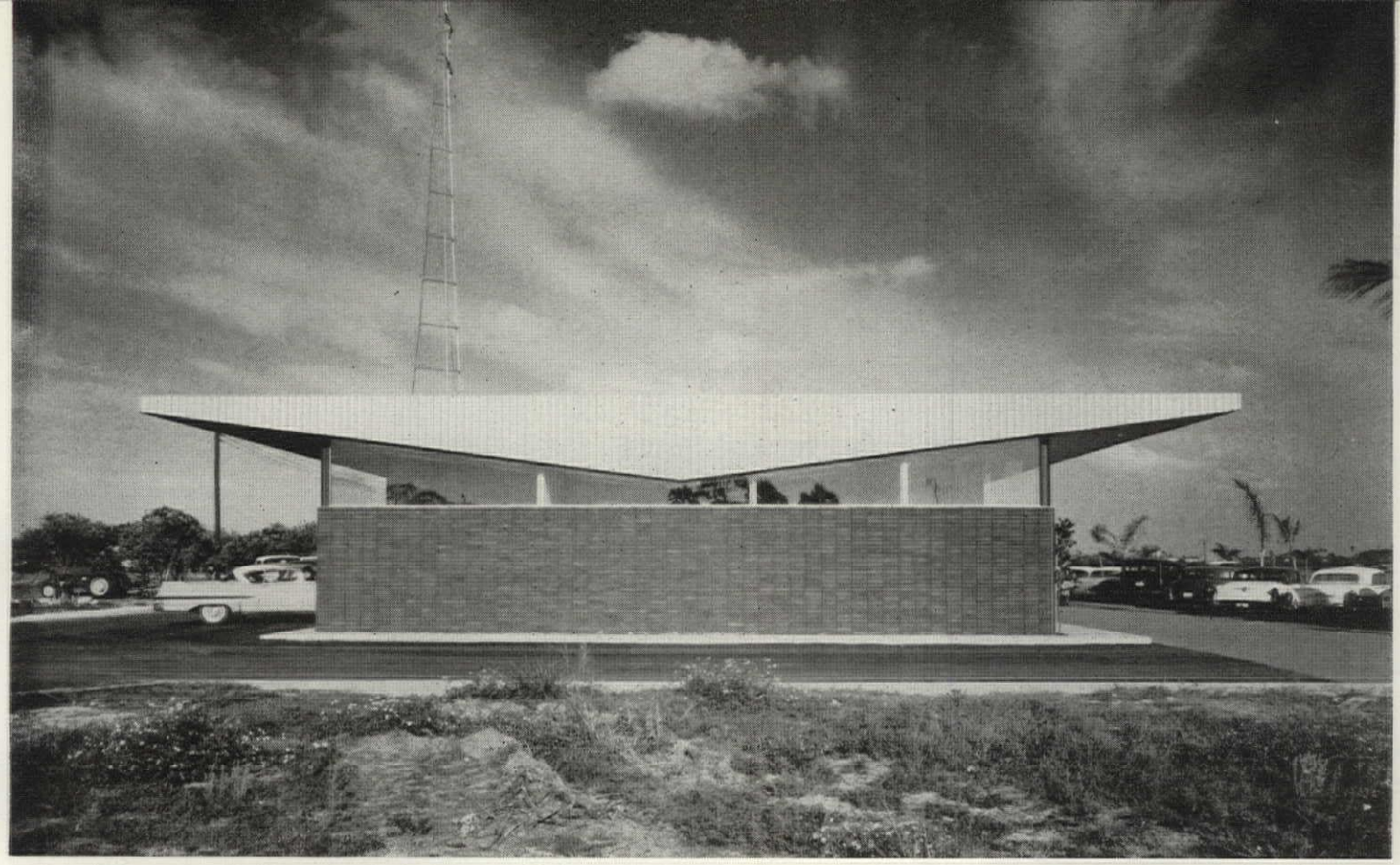
Profiled like some strange horned animal of the future, the Herron house in Venice, Fla. sits under a swept-up roof held on six arches of laminated pine spaced 14′ apart (maximum span for the 3″ x 5″ fir decking over them). In the highly symmetrical plan (below) service rooms, bedrooms and screened porches in between all focus inward to a circular living-dining room 30′ in diameter. Curtains and sliding glass doors can be opened for complete cross-ventilation and to throw all rooms into common use. Patterned block walls 8′ high are glazed above, accentuating the separation of roof and walls and permitting the roof's curve to be sensed from room to room inside. Cost: about $45,000.



LIKE most young architects starting the long climb alone, 34-year-old Victor Alfred Lundy has had to be content with small jobs at first, most of them disciplined by a building budget of $50,000 or less. Yet his animated solutions suggest both a rare originality and a still rarer ability to sell his ideas to sometimes apprehensive clients. Each building expresses a single strong theme in its over-all form. Some of the most interesting are experiments in laminated wood, which Lundy uses as a plastic form to create rhythmic, sculptural and highly directional roofs, carefully separated by glass from the freestanding walls.

Lundy, a New Yorker, moved to Sarasota four years ago after a business trip had given him a glimpse of Florida's possibilities. Before that he had been a combat infantryman in northern France, returning with a Purple Heart and a kitful of war sketches to earn his bachelor's and master's degrees at Harvard's Graduate School of Design. In 1948, as a Harvard traveling fellow and winner of the Rotch scholarship awarded by the Boston Society of Architects, Lundy and his bride stretched his stipend for nearly two years, hitchhiking and riding third class through Europe, Scandinavia and the Near East, studying and sketching ancient and contemporary architecture. His watercolors still win prizes in Florida, and his Venice-Nokomis drive-in church (AF, Oct. '54) and Bee Ridge church (p. 130) have earned AIA merit awards.

Sometimes Lundy's creative enthusiasm seems to do a little reaching, as in the house above, dominated by a startling and strangely graceful shape. Yet without the push of men like this, how does architecture move ahead?



A winged office building

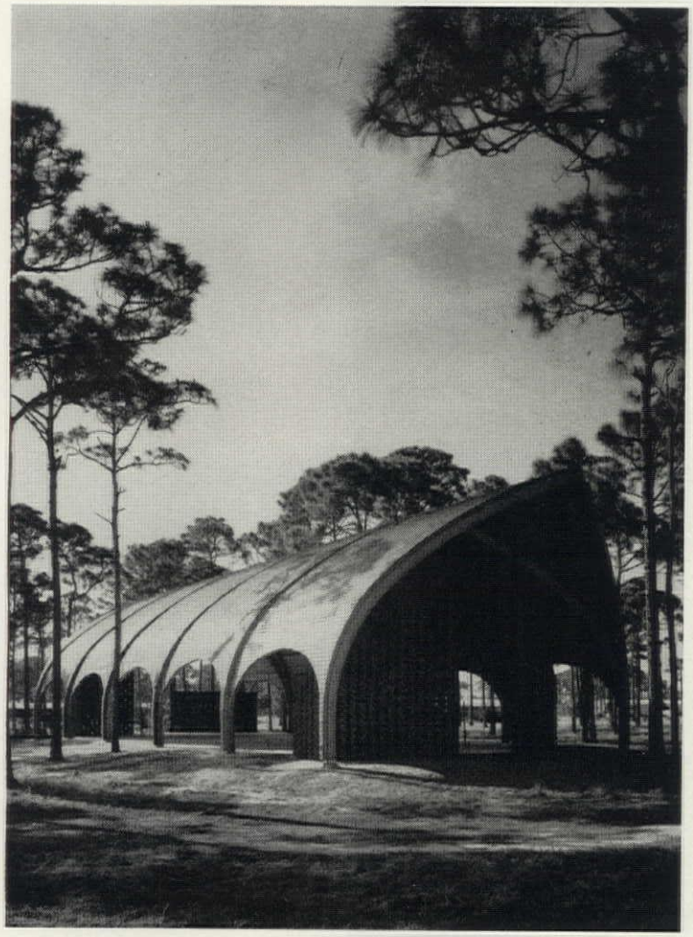
In this office for King & Smith, young Sarasota developers who fly their own black-and-gold company plane, Lundy inverted a series of light steel trusses on top of light steel columns, edged them (and the doors and windows) with gold-anodized aluminum, and floated them on glass above an office front of black cast granite. The clear span allows the owners to move partitions around at will or expand into adjoining space now rented. Cost: about $100,000.

PHOTOS: ALEXANDRE GEORGES

A broad, bright promenade of shops

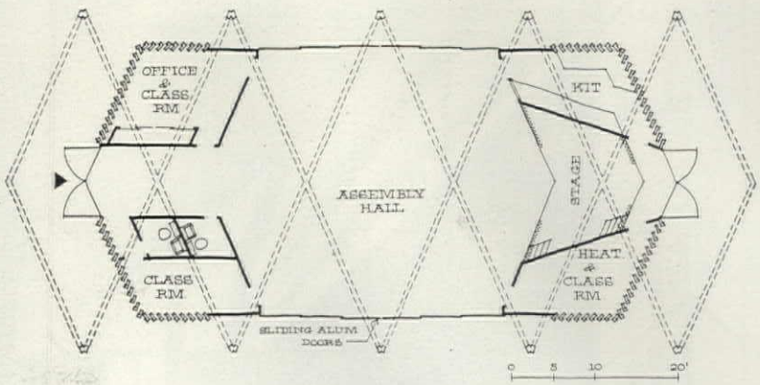
For sight-seers who come to Florida's Silver Springs to ride the crystal waters in glass-bottomed boats, Lundy has provided the cool shelter of a wide new promenade, where gift and service stores are skylighted by a long curving strip of blue, heat-absorbent glass. To avoid pedestrian traffic jams, the popular soda and photosupply shops are completely opened to the walk through slide-up partitions (above). The shopping arcade and the nearby restaurant building both echo the curve of the covered boat dock.

MOZERT

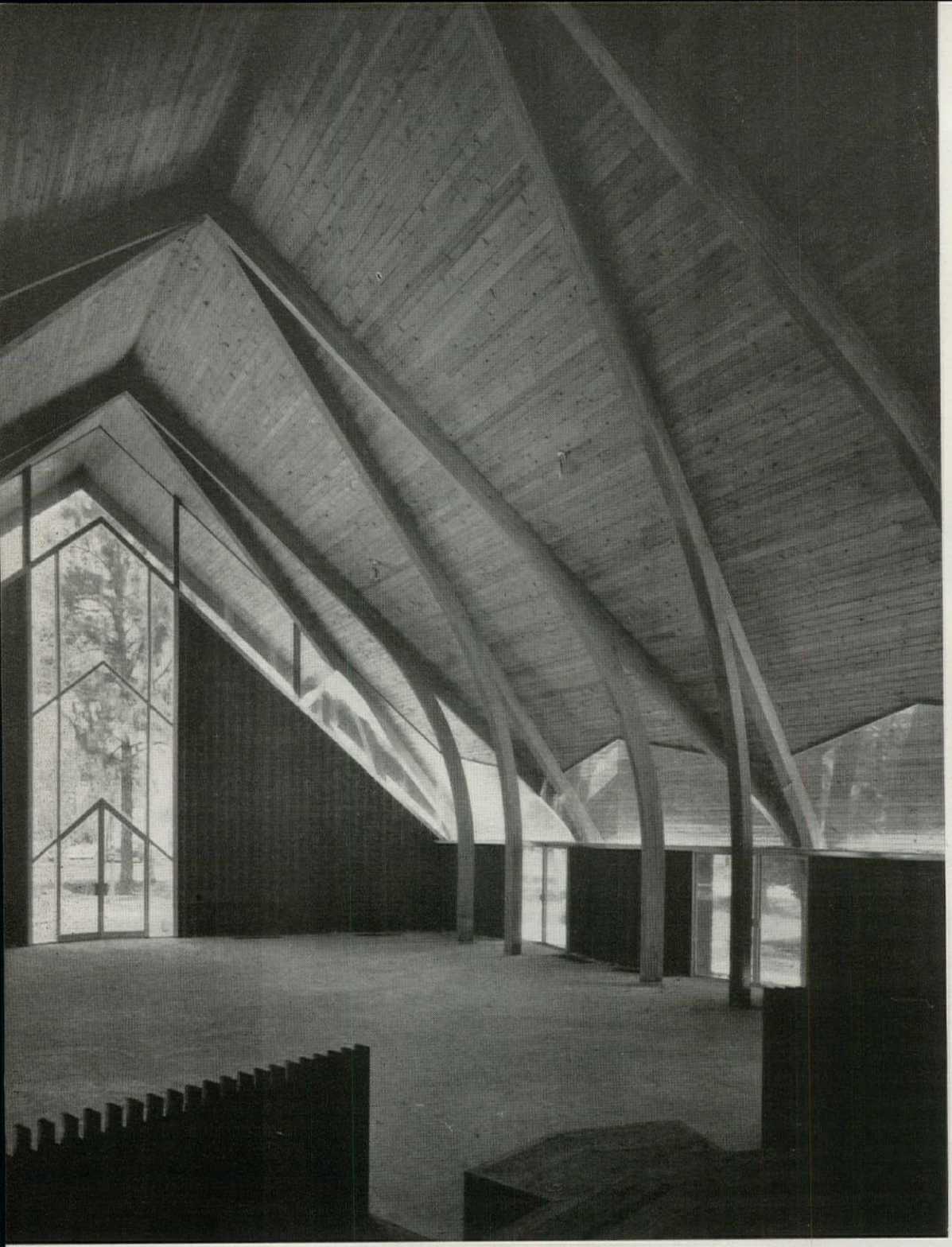


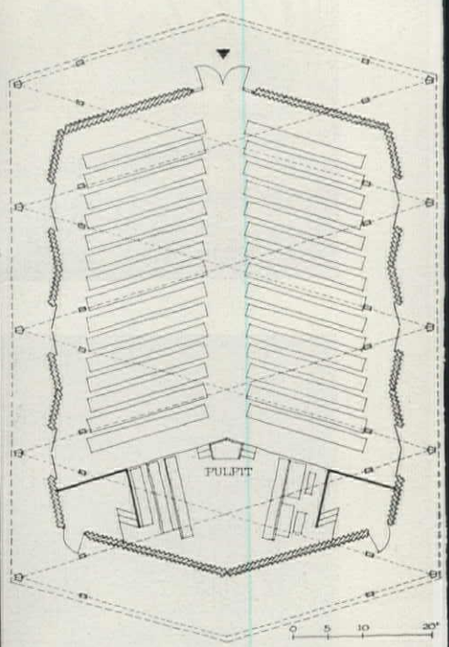
A Gothic hall among the pines

Crisscrossing pointed arches holding a wooden deck make a striking and economical version of Gothic ribbed vaults in this Fellowship Hall for the Venice-Nokomis Presbyterian Church grounds. Precut elements are quickly raised to form a strong, self-windbraced roof and finished ceiling, leaving only cedar shingles to be applied. Outside, roof recesses echo the rich rhythm of the interior. End walls are being built of L-shaped blocks (see p. 131); side walls will be sliding glass and screens that can be pushed to either end to throw the hall open to the breeze. Cost: $45,000.



PHOTOS: ALEXANDRE GEORGES

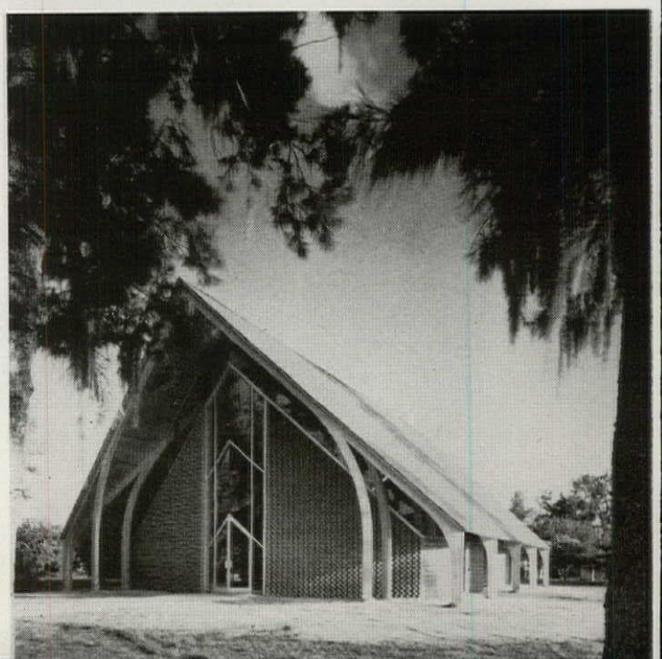


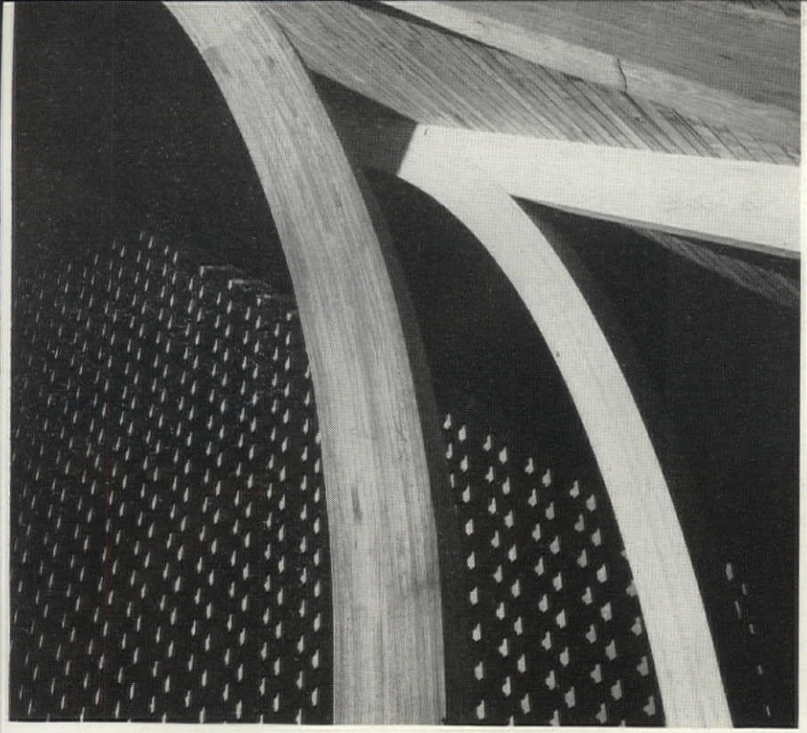


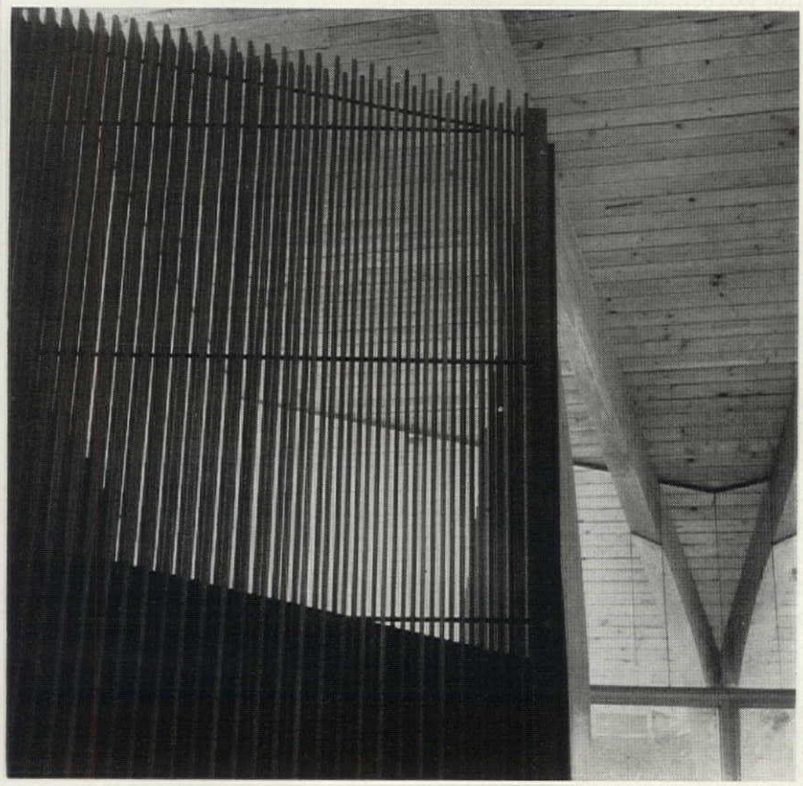
PHOTOS: ALEXANDRE GEORGES

Village Gothic on a budget

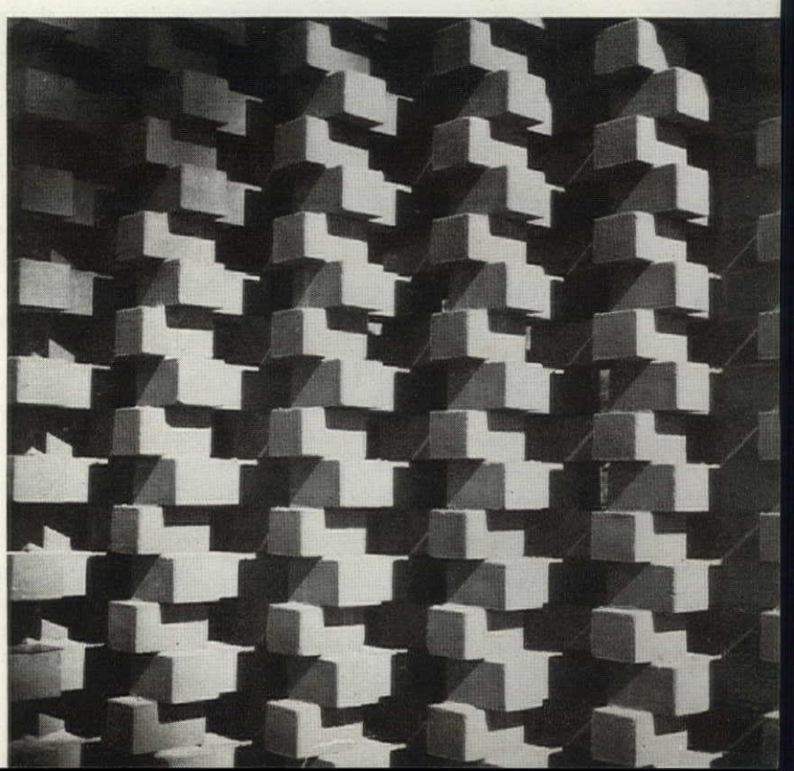
Like the meeting hall on the preceding page, this church for the Bee Ridge Presbyterian congregation in Sarasota (also shown in color on p. 124) had to be built within a $50,000 budget. Here the crossed arches and deck roof take the form of a North European church, with a high, straight-pitched roof held on arches split to create the feeling of side-aisles inside, buttresses outside. Walls are screens which stop well short of the ceiling and zigzag in both plan and pattern. The gap between walls and roof is filled by butted glass sheets which light the ceiling. Pews will angle in toward the pulpit.







PHOTOS: VICTOR LUNDY



Patterns beneath the roof lines

Under all of Lundy's freestanding roof shapes, walls clearly support nothing, instead are freely placed to create privacy, direction and decorative shadow patterns doubly welcome in the bright Florida sun. Details (above) from the church opposite show the patterned prow of brick, and a screen of 1″ x 4″ redwood boards separating choir from congregation. Detail from the Herron house (above, right) shows ordinary brick raised in a simple, handsome texture. In the end walls of both church buildings (below), L-shaped corner blocks are stacked crisscross and openings filled with colored glass.

Hard-to-get statistics

A crisis, a campaign and a study re-emphasize the need to develop basic building facts

Three events this spring have brought into sharp focus the often belabored and now critical lack of basic economic statistics in building and real estate:

▸ *A crisis.* Fired by budget-cutting zeal, Congress in April gave construction its worst statistical scare in years—a cut by the House of more than 60% in the government's already inadequate building statistics program. (What the House actually did was to chop off all funds for a large segment of the Dept. of Commerce's Business and Defense Services Administration, which included the Building Materials and Construction Div., the only statistics-gathering agency of those cut.) Though there was strong hope by mid-May that the Senate would restore the funds, and that the House would eventually go along, few thoughtful builders looked for any but a temporary relief in the worst of their statistical problems.

▸ *A campaign.* Driving hard to arouse support for the cause of better economic data—and making some headway—was a new organization, the Federal Statistics Users' Conference. Formed last November under the chairmanship of Dun & Bradstreet's Ralph J. Watkins, the users' conference now has 115 members, hopes eventually to draw 500 at $100 a year from the ranks of industry, labor, farm and professional organizations. (Among its current members: Ford Motor, AFL-CIO, Bank of America, General Motors, Standard Oil of New Jersey, Coca Cola.) Of its first two major efforts to develop federal statistics "of optimum usefulness at minimum expense," one is a detailed construction questionnaire asking members for their top-priority needs.

▸ *A study.* Much talked about, but as yet unreleased, is a report which may lead to a thorough overhaul of Washington's present program of construction statistics. The work of Elmer C. Bratt, professor of economics at Lehigh University, the study was commissioned by the Bureau of the Budget's Office of Statistical Standards and stems directly from the Administration's three-year failure to get additional funds from Congress to improve the current building series. Though Bratt will say nothing about his findings yet, it is known they won't stop with a mere appraisal of construction statistics themselves, but will probe the far more delicate area of just what part of the statistics-gathering job the government should do, and who within the government should do it. (A sore spot with Congress has been the diffusion of major construction statistics among three different agencies—Business and Defense Services, Bureau of Labor Statistics, and Bureau of Census.) Bratt's report is due soon.

Basic facts

If these events indicate a new sense of urgency about the state of building statistics, most economists say that it is long overdue. For years they have warned of the vagaries and inadequacies that pass for economic data in real estate construction. The Council of Economic Advisers has called construction's statistical data "very weak"; the Office of Statistical Standards, with a love for negatives, has labeled them as "not of high dependability." In real estate, where the gaps in knowledge are even wider, the remark of Columbia University's Ernest Fisher that "more facts are known, literally, about a single agricultural product, peanuts, than about urban real estate," has almost assumed cliché status. But in light of the fact that peanuts are still counted yearly, while an urban real estate inventory has yet to be taken, it is a phrase that remains embarrassingly true.

Considering the size of real estate and construction—and the emphasis America puts on reducing its major phenomena to malleable detail for decision-making—the state of building research can only be viewed as a blatant inconsistency. Even by present poor measures, construction makes up about 15% of gross national product, while urban real estate accounts for more than half of all estimated reproducible wealth. Yet within these two broad and pervasive sectors, much of decision-making goes on, and is tolerated, in semidarkness. Why?

The obvious answer is money, but this, of course, is an oversimplification. Congress, before its wholesale cut this spring, turned down three successive bids for funds to improve statistical coverage (one notable exception: authorization for an intercensal inventory of housing). But if the truth were known, these refusals were probably grounded as much on apathy, lack of understanding and a suspicion of duplication as they were on passion for economy. The same thing undoubtedly holds for private industry. Real estate and construction have done little to bolster basic research in their areas, and, indeed, many of their leaders have seen little reason why they should. The Producers' Council in 1956 did put up $44,000 for a study of the materials used in single family housing, and the Chamber of Commerce has worked long and hard in the cause of better statistics. But against this, real estate and construction let the solidly conceived Institute for Urban Land Use and Housing Studies die for lack of funds in 1955 and later raised no effective protest when a move by the National Association of Real Estate Boards to set up a center for economic research within the Urban Land Institute turned into merely another study of what kind of economic data real estate men need.

Actually most economists can agree in a matter of minutes just what data are needed, and which are needed first. The gaps and inaccuracies in plain bread-and-butter statistics are so obvious and compelling that there is no need to consider more esoteric areas where "it would be nice to have information." Three items are generally conceded by researchers to have top priority:

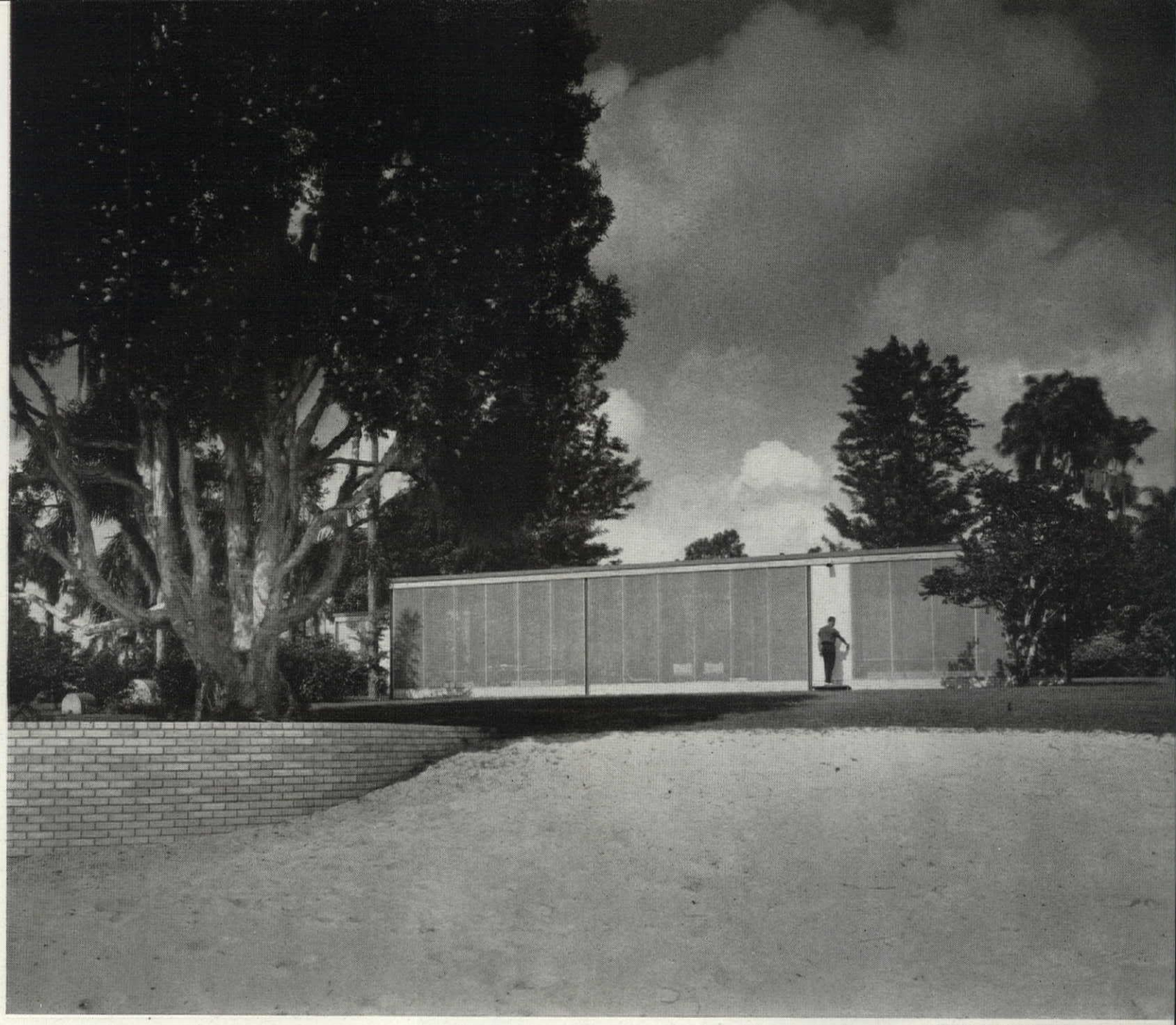
▸ Improvement in dollar volume estimates of new construction put in place. This series, a joint product of Business and Defense Services and Bureau of Labor Statistics, is easily the most widely quoted of all construction statistics. (For example, see p. 43.) No one knows exactly how weak it is, but there are strong suspicions. Walter Schneider, who heads the construction statistics division of BDSA, estimates that figures for new industrial, commercial and other nonresidential building, as well as those for state and local government construction, are 40% guesswork. Schneider bases this on the fact that extensive adjustments have to be made for undercoverage of source data (adjustments for which there is no factual basis) and that the patterns used for translating work started into work put in place—the so-called phase-out factors—are badly obsolete. All told, the series has so great a margin of error that it is practically worthless in measuring short-term trends. Even for long-range movements, it may not be accurate enough to reveal turning points with much precision.

▸ Reliable data on maintenance and repair. Though the fix-up market seems to have had an astounding growth—making it of key importance for materials sales and employment—its exact size is a statistical mystery. As currently estimated, it runs about one-quarter of total construction spending. But the only maintenance and repair figures available are for residential buildings, and these come almost entirely from secondary sources that require a heavy dose of extrapolation and projection. On top of this, they are published only once a year. The few pilot studies made show that the figures are grossly understated, and that actual totals may be three times as great as reported.

▸ Better figures on materials and labor. What information there is on the production of building materials and equipment is woefully incomplete. Figures on employment are limited to contract construction; little is known about what happens to workers in direct, or force account, construction. The researcher who tries to probe into the use of materials and labor in the various types of construction finds either nonexistent figures or ones that are badly out of date. Labor estimates, for instance, are based on some factors that date back to pre-World War II and take no account of technological changes since then.

To move beyond these priority areas is simply to invade an ever deepening thicket, one in which the clearings are few, but in which the needs are only slightly less urgent. Work is long overdue, for instance, on the Commerce Department's composite construction cost index (see p. 43). As it stands, the index is a weighted combination of 14 privately compiled indexes, which in turn, are mainly based on weighted combinations of labor and materials prices in the various types of construction. In theory, the idea is sound enough, but there happens to be no telling just how much material goes into the various classes of construction and, consequently, how great the weights should be. In the financial area, there is pressing need for new and better information on mortgage activity. The data of the

continued on p. 242

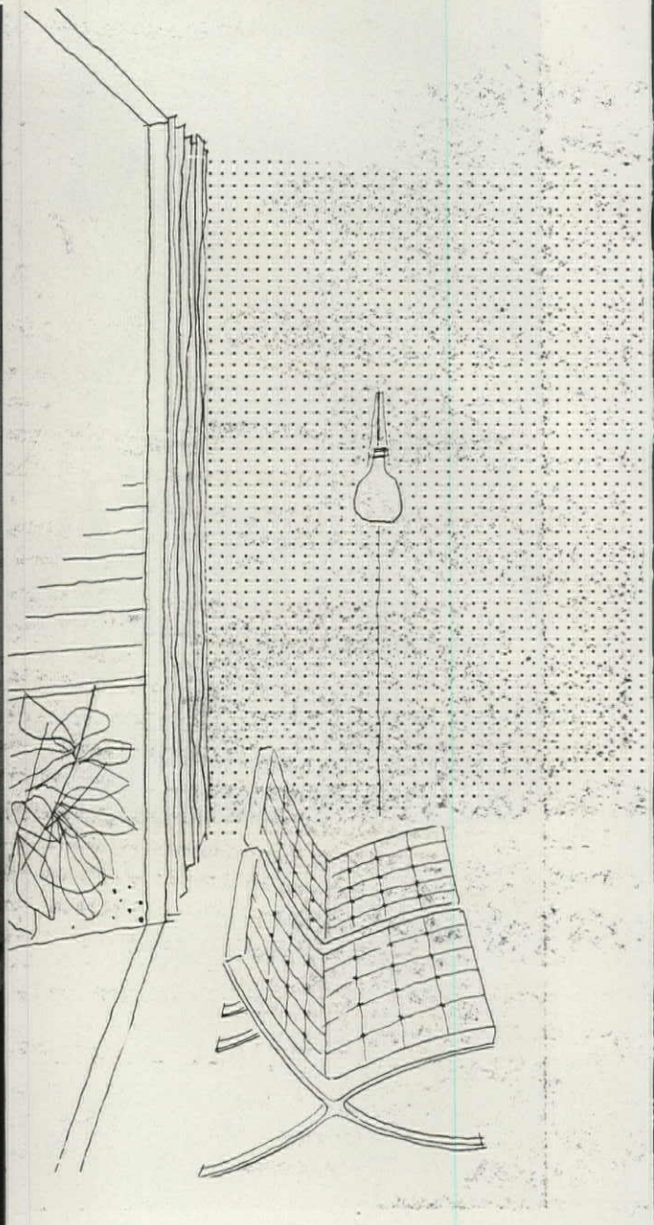


PHOTOS: ALEXANDRE GEORGES

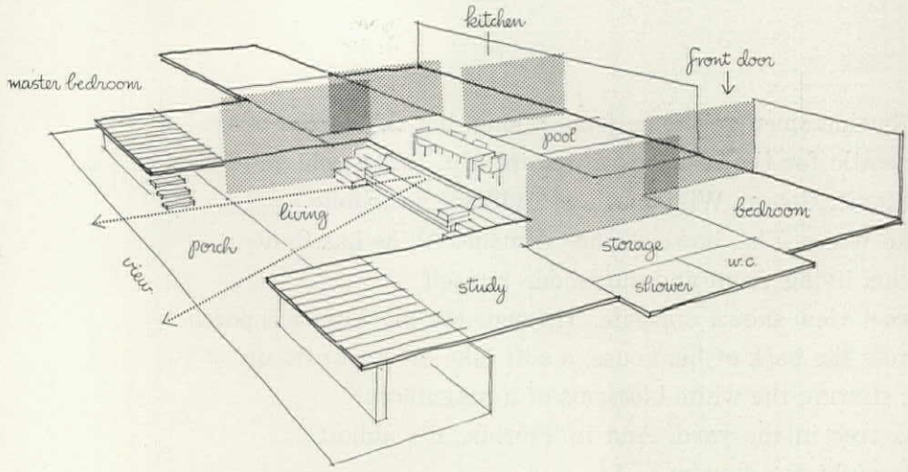
A houseful of porch

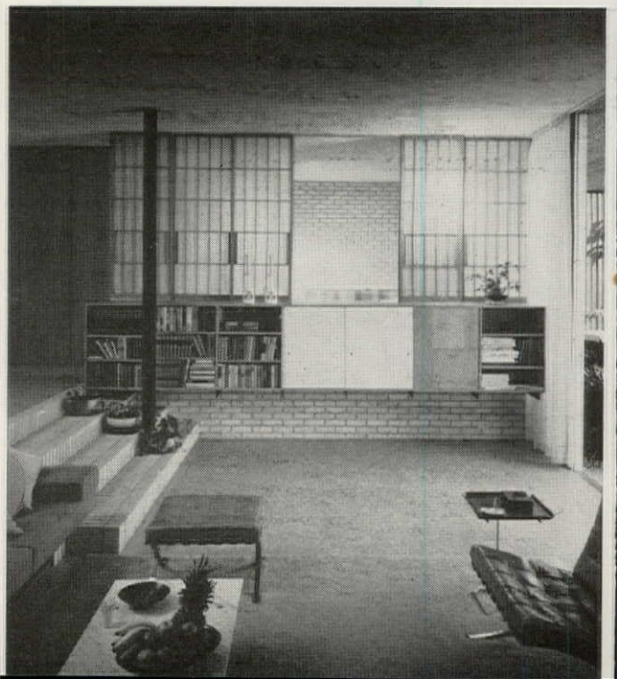
MARK HAMPTON, architect

When many businessmen get home from a long, hot day at the office, they have to settle for the restorative powers of a fan, a cold shower or a gin and tonic. George Williamson, a Cadillac-Oldsmobile dealer of Lake Wales, Fla., however, has it made. All he has to do is walk into his living room and surrender himself to the long, cool view shown opposite. Through the big screened porch that runs across the back of his house, a soft lake breeze wafts up to greet him, stirring the white blossoms of a magnificent old Melaleuca tree in the yard. And in Florida, it's almost always a nice night for a swim. . . .



ARCHITECT: Mark Hampton
INTERIORS: Design Associates
BUILDER: L. F. Martin, Inc.

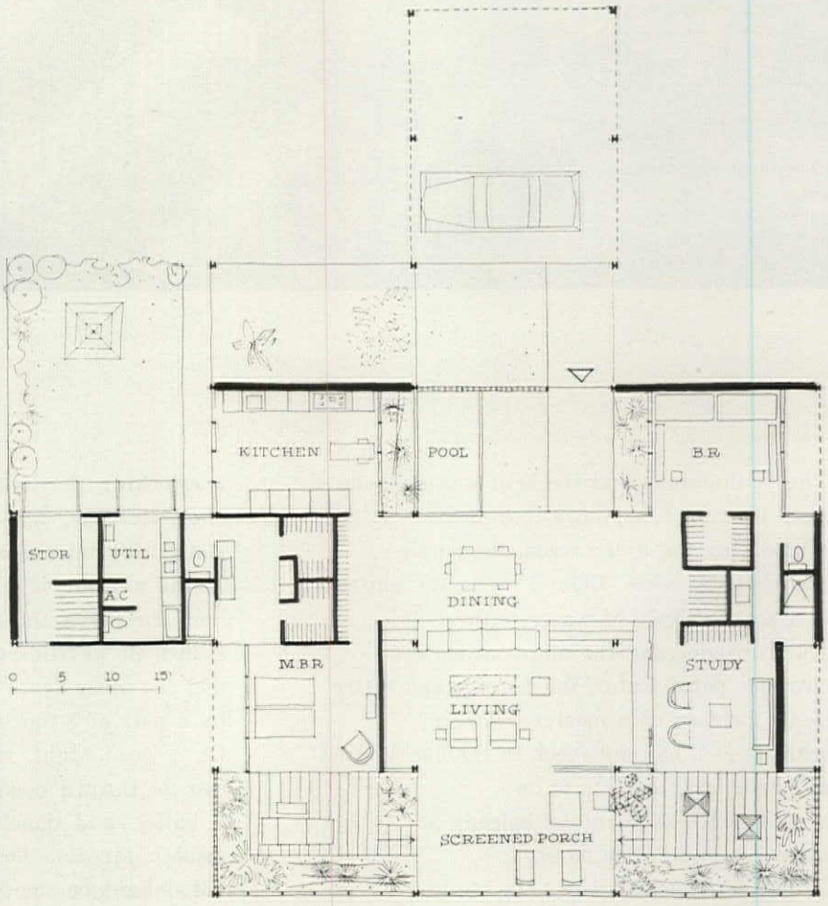




The Williamsons and the Williamsons' sons, ages 10 and 14, sit down to dinner overlooking the living room, the porch—and that lake view. Behind them, for contrast, is a smaller body of water with a fountain adorning the more intimate entrance patio. Later, the parents can retire to the privacy of a master bedroom with its own balcony (seen in the background of photo left, above), or to a study with an identical balcony at the other end of the porch.
(Photo left, below, shows the study overlooking the living room through sliding shoji screens, above a cabinet containing television and hi-fi sets.)
If the weather is less than perfect, both the porch and the entrance patio can be sealed off by sliding glass walls and the inner house air conditioned by a pair of 3-ton heat pumps.
On a good night, though, all the spaces can be thrown open for cocktails, a buffet, and dancing on the porch's smooth terrazzo floor.
(Moonlight on the Melaleuca, please.)

A HOUSEFUL OF PORCH

From a good-sized kitchen, Betty Williamson can look out through adjustable, translucent glass jalousies to the fountain pool, the entrance walk, and the matching jalousies of the boys' room beyond. A slatted screen of upright boards and insect mesh lets the lake breeze out of the front of the house without letting passers-by see in. Remarkable is the floor plan itself: compact enough to fit a 100′ lot, yet cool and open with lake view and breeze sweeping up through the middle. A variety of spaces open into each other, but, thanks to the different levels that follow the slope to the lake, they can be made private (parents' and boys' bedrooms, furthermore, are at opposite corners of the house). This pleasant informality is based, surprisingly enough, on a structural system of steel-framed bays as rigidly regular and economical as a factory loft. Walls are treated as freestanding screens, arranged at will within this frame to give the various effects desired.



The dreary deadlock of public housing

–how to break it

Eleven thinkers closely involved with urban problems tell how to make public housing do a real job for cities —and people. Despite their differing viewpoints, they are remarkably consistent in their conclusions

"To get at the problem of slums requires grabbing hold of the entire urban problem altogether and at one time and in one program."

JAMES W. ROUSE, president
James W. Rouse & Co., Inc.,
mortgage banking
Baltimore

"Farmers are subsidized to grow certain crops, hospitals to care for those who cannot pay; perhaps a similar formula could be worked out for private builders."

ELLEN LURIE, community worker
Union Settlement
New York

"Now we don't let low-income tenants acquire their homes even if they have the income and want to stay. How un-American can we get?"

WILLIAM L. C. WHEATON
Professor of city planning
University of Pennsylvania

"Public housing proved many things and with a little faith and courage its sad estate can be salvaged."

CHARLES ABRAMS, chairman
State Commission against Discrimination
New York

"We need a new program that will wipe out that split-level, cathedral-ceilinged slum called HHFA."

HENRY CHURCHILL, architect
Philadelphia

Why and how public housing has descended to its present unpopularity and moribundity was analyzed in last month's FORUM ("The Dreary Deadlock of Public Housing") by housing pioneer Catherine Bauer. She also pointed out that the recent development of urban renewal and public improvement programs, with their wholesale dislocations of families, has made it imperative to devise a public housing program which can really work —one that will provide the necessary quantity of housing and the necessary quality.

As a first step toward a fresh start, Miss Bauer proposes that the Housing & Home Finance Agency set up an experimental pilot program in cooperation with cities able to fulfill certain planning criteria. Her proposal is explained in more detail on p. 218.

With this proposal as a starter, FORUM invited a cross-section of people directly involved with housing or related urban problems "out on the local firing line" to present their proposals for a fresh start.

Almost unanimously, the participants feel the Bauer proposal for an experimental program does not go far enough, that need for drastic change is already clear.

The predominant themes that emerge in these proposals are:

- Public housing tenants should not be evicted for overincome; instead they should be encouraged to stay, and to pay up to an economic rent, or to buy their units.
- The private builder should be brought into public housing; all types of dwellings, old and new, should be used.
- The housing subsidy should be applied to the family, rather than to the dwelling unit.
- There should be no more "projects" or very few, and a great deal more attention should be devoted to the nonsynthetic neighborhood.
- Standards, methods and management of the public housing subsidy should be determined locally in conformity with law—not by federally set procedures.
- Local housing authorities should be abolished and their functions combined with a city agency of physical development, responsible to elected officials.
- On the national level, public housing should not be a separate administrative program; its functions should be combined with those of FHA (and possibly the urban renewal administration) to deal with public and private housing policies together.

In short, more freedom for locality, designer and tenant—and a new role for the private builder—are proposed.

However, all these proposals were independently written by highly independent people, and a summary of seven predominant themes should not be mistaken for a formalized consensus. To find out the routes by which various participants did arrive at these conclusions—and also to find in what respects and to what extent they differ—read the statements beginning on the next page.

FABIAN BACHRACH

ROUSE

"Why is it just occurring to us to see if the slums themselves have some of the ingredients of good housing policy?"

STANLEY TANKEL, city planner
New York

"Should we not ask ourselves whether new construction is the only way of meeting the needs of low-income families?"

DOROTHY S. MONTGOMERY
managing director
Philadelphia Housing Assoc.

"Pilot operations are a waste of time as long as an iron curtain is built into present legislation."

ELIZABETH WOOD, consultant
Citizens' Housing & Planning Council
New York

"No one should know families are getting rent assistance any more than neighbors now know who clips coupons, lives on a pension, or is getting help from Uncle Ned."

VERNON DEMARS, architect
Berkeley, Calif.

"Full responsibility must be lodged with local officials as to planning, design, management and use."

LEE F. JOHNSON
Executive vice president
National Housing Conference, Inc.
Washington

"All public housing should be considered self-liquidating."

CARL FEISS
Planning and renewal consultant
Washington

Use public housing to make renewal work

Clearing pockets of slums and replacing them with new housing, public or private, does little to correct the basic conditions which cause slums. The total of our slum clearance throughout the country has not even matched the growth of slums. To get at the problem of slums requires grabbing hold of the entire urban problem altogether and at one time and in one program.

There won't be enough housing officials, enforcement officers and social workers in a hundred years to maintain decent living conditions in our cities unless and until we reform, out of the vast, sprawling blocks of the inner city, self-contained neighborhoods which have a soul, a spirit and a healthy pride—neighborhoods which people will vigorously defend against the forces for decay.

How do you create a city of healthy neighborhoods? First, you plan the city into neighborhoods which are definable, understandable, in human scale. Then use every element of the city's public works program—expressways, schools, parks, playgrounds, hospitals, etc.—to help give shape and boundaries to neighborhoods in which a family can live, play, shop, go to school and church. City-wide traffic is routed around the neighborhoods. Inside the boundaries worn-out buildings and "bad-apple" uses are bulldozed away. Some streets are closed. Some buildings are demolished because there are just too many on the land. Given support and reason by this kind of municipal action, rehabilitation of the remaining houses can be vigorously enforced and promoted. Vacant land created through clearance will be available for appropriate new uses.

This program of reforming the city into healthy neighborhoods should be scheduled for completion over X years and any city that really wants to do it can get rid of its slums in ten years. Many cities could do it in five with a really big program.

Out of such scheduling will come an estimate of annual relocation needs of the families being displaced by clearance and rehabilitation. These needs must be related to new house construction and to the existing housing supply, bearing in mind that roughly 20% of the dwellings in the city, including the existing public housing, will be available for new occupancy every year. If a housing deficiency appears likely, it should be well publicized to accelerate construction and speed the "filtering up" process. If the supply of housing available for low-income families, including public housing vacancies, will be insufficient to meet projected needs, then additional housing must be supplied at the required rentals to avoid slowing the pace of the program. The extent of this shortage measures the public housing requirements. Public housing is not properly an end in itself. It can only be justified as a means to an end of making our cities fit places in which to live.

What kind of public housing should it be? It should consist of units adaptable to ultimate home ownership. Many units might well be individual houses rehabilitated by the local housing authority. They might also be new single-family units built on cleared land. In either event, the tenant's rent should be increased with his increase in income and he should not be evicted as an overincome tenant. When his increasing rent reaches the point at which it will cover debt service, on liberal mortgage terms, then the property should be deeded to him at its book value and his rent converted into a mortgage payment.

Such a program would move not only the individual but also his home back into the free market stream. This would block off the formation of public housing ghettos and it would curtail the empire protection complex which now surrounds the program. In time a good deal of the existing public housing supply might be similarly converted into a quasi-home ownership arrangement through cooperative sale.

LURIE

Bring in the private builder and owner

Public housing has not brought neighborhood renewal. Too much of the cultural richness inherent in the slum neighborhood was destroyed. Moreover, the most energetic slum families did not move into the projects for many reasons. The result is a strange hybrid community with institutional vacuums containing families who are too con-

fused or too suspicious to make friends with each other.

As one visits the project families, it also becomes apparent that the new housing was planned with no thought about the families who would live in it. A mother having difficulty managing four or five children playing in the street outside a tenement apartment has even less control over them from a 12th-floor window. A family needs more than a 24-page handbook of rules and regulations to cope with the concept of high-rise living.

The question must be asked: Will the families this house is meant for *like* living here? For this to be answered, there must be a real understanding of the neighborhood and the people who live there. Planners are needed—and not only architects. Sociologists, psychologists, clergymen, educators and the people of the neighborhood themselves must study the social as well as the physical needs of the community. Those who do this must be humble, for even the poorest, most unsavory-appearing community has elements of unique vitality which must be recognized, ferreted out and saved.

There is also something basically impossible about public landlordship. Family and community life simply are not flourishing under the impersonal, red-taped, paper-working management which evidently is necessary in a bureaucratic framework. This nation is built on faith in private ingenuity. This is the time to entice private builders into the low-income housing field. Farmers are subsidized to grow certain crops. Private hospitals get city and state aid to provide care for those who cannot pay. Perhaps a similar formula could be worked out for private builders, so that within a wide framework of standards we could have a variety of design and management.

WHEATON

Mix public housing into the free world

Public housing should include elevator apartments, walk-up and garden apartments, row houses and detached dwellings—new units and old. There is no good reason why dwelling types of public housing should be distinguished from the supply of private housing in any community.

"Projects" are resented. Public housing should be built as part of any new development.

Public housing should eliminate income limits for continued occupancy. As incomes rise, rents should be raised until they have reached full economic costs. If former low-income families desire to stay in public housing and help carry the costs of current low-income families, they should be encouraged to do so.

Public housing should also be available for sale to tenants or cooperatives of tenants, either as whole projects, parts of projects or individual units. FHA and VA have encouraged people to buy homes at public risk. But now we don't let low-income tenants acquire their homes even if they have the income and want to stay. How un-American can we get? We need a revolving supply of public housing, not a fixed supply. As units are sold new ones should be built to replace them.

Public housing should be located where new residential building is occurring. Cleared sites should be reserved for higher economic uses—commercial, industrial or high-income residential. The public housing formula should be revised to permit local housing authorities to buy private apartments or houses in central cities or suburbs. The local tax-exemption features of the program should be eliminated.

Public housing should be designed to meet the best standards of the future rather than the worst standards of the past. This will require the elimination of excessive federal design supervision (what kind of doorknobs?) and excessive federal cost limits (no closet doors!). Better design and higher standards will attract and hold better tenants, encourage tenants to stay at economic rents and to buy rather than leave.

Public housing must recognize that its major purpose is not the maintenance of decent, safe and sanitary dwellings but the rehabilitation and encouragement of people. This cannot be done in an environment consisting predominately of problem families, restricted incomes, bureaucratic supervision. It can be done where the environment is predominately of normal families whose incomes are rising, who have incentives to earn more, save more and participate in community life.

These objectives can be realized only as part of a comprehensive program of urban rebuilding. They will require changes in our basic public housing legislation and philosophy—and an administration that believes in the future of America, not merely the past. They will also require an expansion of urban renewal programs to include the rebuilding, restoration or conservation of entire cities, a new middle-income private housing program with federal aid, the reorganization of municipal housing and renewal agencies, and metropolitan planning.

ABRAMS

Build ownership into the program

Public housing was conceived as a tenant program during a depression when fee ownership was being foreclosed into tenancy, which seemed the only estate to which the poor could lay claim. No one really troubled to learn that the poor look to ownership for security and that 25% or more of the displaced slum dwellers were in fact owners. From this initial error it was only another step to say that the poor live only in tenements and that the lower the income, the higher the tenement.

To sell the program, the slum had to be simultaneously anathematized. Thus slum clearance accelerated even when an improving economy beckoned mass movement of minorities into the cities to man the flickering coke-ovens. They herded into the very slums scheduled for demolition. With the advent of "urban renewal," i.e., clearance without housing for the evicted, slum clearance attained its current absurdity. A program that made sense during depression and housing surplus now became the means for displacing minorities from their footholds. Since these swelling minorities were now the main eligibles for the shrinking public housing program, ghettoizing of public housing became inevitable.

Did public housing fail completely? No. It proved many things and with a little faith and courage its sad estate can be salvaged. It proved that large blighted areas are assemblable, replannable and rebuildable. It won public

continued on p. 218

Laying the cornerstone

Another Victorian vanishes

The New York Produce Exchange, 1884-1957

photographs by JOHN EBSTEL

By 1881 when Chester Alan Arthur became president of the US, the brokers of the New York Produce Exchange had come a long way in commerce. Their trade in agriculture gradually had moved off the curb and had become a paper process, although not a quiet one. But by 1881 they were operationally abstract, were well organized, needed space and felt an unexpressed prestige; to these yearnings there was and is only one answer: architecture.

So the brokers gathered themselves a building committee, held 120 meetings, and invited ten of the nation's most prominent architects to submit sketches, guaranteeing each one $500. The winner: George B. Post.

The building which Post proposed and the brokers seconded was in the architect's own image—powerful, solid looking, strong and stylish. Dominating New York Harbor, it was a brick-red monument to the US agriculture trade. Its façade had 13 large arches, symbolizing the original 13 states, decorated with a frieze of terra-cotta figures of wheat, cows and pigs that only an audacious American architect would have provided to finish off an Italian Palace. It won huge applause, although a minority of observers complained at the rudeness of building the Italian form in red brick. (Another criticism: ". . . squatty English adaptation of Venetian Roman-Gothic." In those days, architectural criticism minced buildings, not words.)

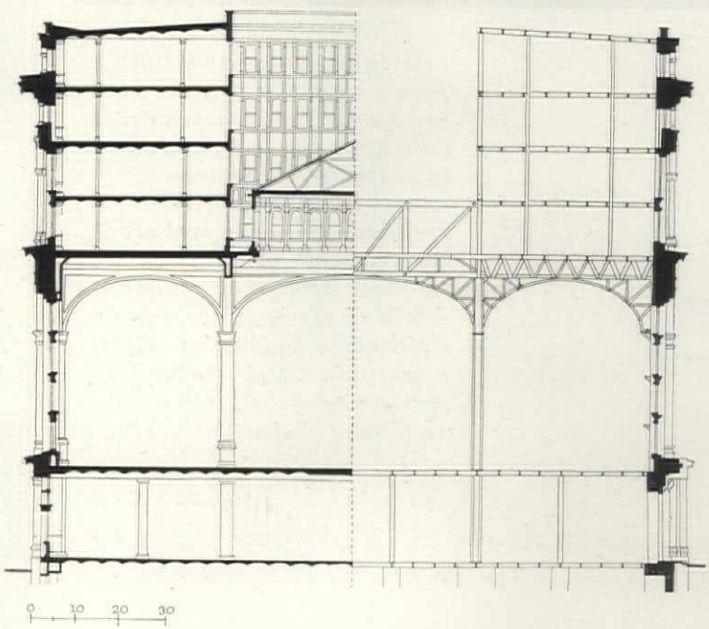
Actually George Post agreed, in part, with the objection to brick; for, buried in the heavy masonry of this agricultural monument, he had planted a seed of the coming industrial era, the steel frame. Contemporary with Chicago's Major Jenney, perhaps earlier, Post had decided to put a wrought- and cast-iron structural system into this big building. Unlike Jenney, he didn't express it in the façades; the N.Y. Building Code made him smother his metal frame with 12″ bearing walls. So Post turned to expressing brick in the arches of the façades. Inside, however, was an important, exciting structure made possible by steel—a Trading Room 220′ x 144′, 47½′ high, with a skylight 60′ high which measured 44′ x 167′, all framed in iron.

George Post's draftsmen made 4,500 separate drawings getting the Produce Exchange built; it cost $3,185,000 to put up, well over the original budget, $1 million, but its office space was completely rented before occupancy. Today it is being torn down to be replaced by a new downtown office giant (p. 149). The produce brokers, however, are retaining ownership of the site. Post's design created millions of dollars for them; the building was one of their most successful trades in futures.

The arched façade was the biggest thing in sight when it was built on New York's Battery, dominating the harbor, but subsequently a range of office building peaks grew up around three sides. Nickname of the Produce Exchange: "Grand Old Lady of Bowling Green." Statistic: 15½ million bricks.

Architect George B. Post poses for a group portrait surrounded by his office. Post is the man with the most mature moustache, in the foreground, third from the right. The firm, George B. Post & Sons, continues today in New York, clean-shaven.

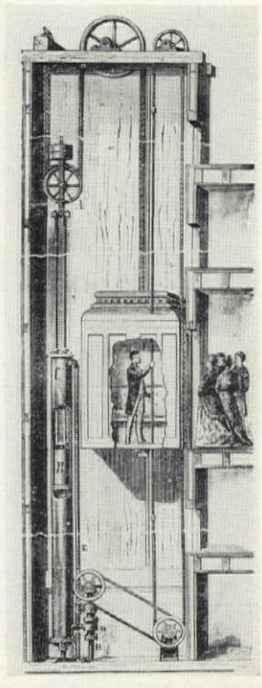
A tremendous light-well opened the center of the structure to a skylight above the Trading Room, and light-ditches off the well made clerestories. A fortress of offices, many of them first leased to the nineteenth-century railroad titans, surrounded the open core. Supporting the 61,000 tons of building (including 2,350 tons of terra cotta and nearly 70 tons of sash weights) were 15,037 wood piles.



The furnishings kept up with the times. To the umbrella stand was added a fan, in time; to the wall, an electric fixture.

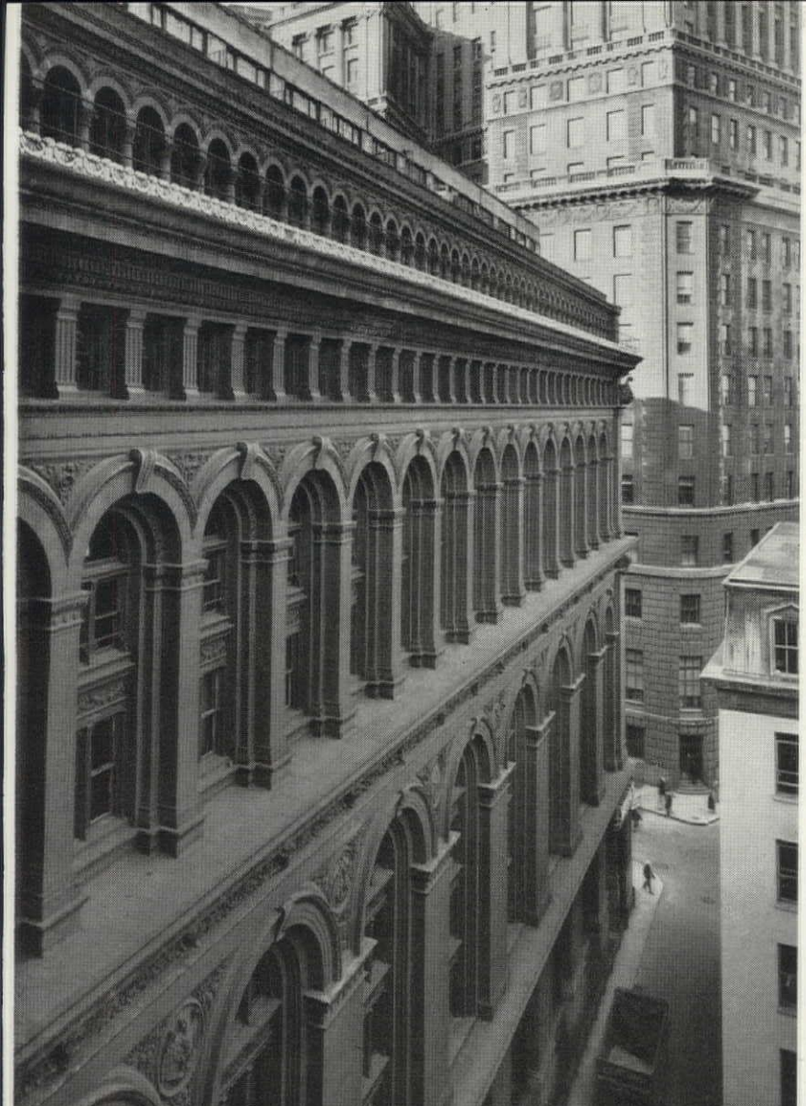
Liberty and justice shed light from a mezzanine over the Trading Room. Traders in the Produce Exchange deal in futures in cottonseed oil, soybean oil and tallow. Wheat, oats, rye, flax, barley and lard are sold on a cash basis. Sculpture was included also in the details of the building; note the stairlanding designation (right) rendered in a style that survives today only in the badges on firemen's helmets.

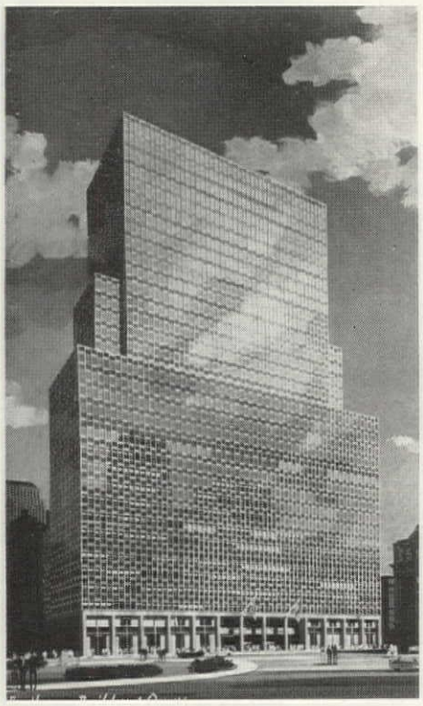
Delicacy came into style about the time electricity did.



The elevator contract, in the 1880s, was the largest yet awarded. A firm named Otis Bros. & Co., even then 27 years old, picked it up and installed nine rope-geared hydraulic lifts which gave satisfaction for the life of the building, transporting an estimated 6½ million passengers annually. The cabs were oversize, holding 30 people.

The arbitration room, where disputes among brokers were settled, wore heavy wood trim and ornamentation typical of the 1880s. Auction of the contents of the Produce Exchange was held before demolition. The bust at the left was one of the furnishings on which there were no bids. Chart to right traces the ups and downs of two prime US products: one a staple of the Produce Exchange, cottonseed oil; the other basic in building, especially in building the Produce Exchange: bricks.





The new building on the site of the Produce Exchange will be a 30-story skyscraper with a New York gleam designed by Emery Roth & Sons, built by Uris Bros. The Produce brokers will occupy 20,000 sq. ft. At the right is a clipping from the New York Sun *of 1884, indicating what else Americans were discussing about the time the Produce Exchange was brand new. (The Exchange outlasted the* Sun, *which set in 1950.)*

Sun

THURSDAY, MAY 1, 1884.

...en he left. Herty started in for ... soon passed Noremac's score. ...o'clock he was 7 miles ahead. ... 300 miles at 8:12, being the third ...so. Fitzgerald kept on tirelessly. ...tve miles an hour. Day went off at ... he had not come on again at 9 ...oked as if he had retired for good. ...nued his sturdy walk, still drink... ...uantities of liquids. He is like a ..., which needs a great deal of water ...aving of fuel. ...t on just fast enough to keep Fitz... ...miles away. ...ning two miles, Nitaw-Eg-Ebow, ... Rainbow, rested for three hours, ...me out and started again. It looked ...s though he were simply racing ...on. Panchot and Elson pegged ...ly. ... poured in all the evening, and at 9 ...6,000 persons were in the Garden. ...conversation, the shuffling of feet, ...s of venders sounded like the roar ... The score at 9 o'clock was:

.....	335	Vint	296
.....	326	Panchot	290
.....	303	Day	257
.....	297	Nitaw	134

...had been off for only five minutes ... started in the morning. Rowell ...ound on the best record, and was ...miles behind it. ...time a delegation from the Midlo... ...a Society called on Noremac and ...heir fellow countryman with a ...asket of flowers. Noremac respond... ...g several fast laps to show that he ...d trim, and the crowd cheered up... ...While spurting Noremac completed ...le at 9:20, doing it in 6 minutes 40

...ward Rowell came running around ...andsome horseshoe. ...ck there were fully as many people ...n as on the opening night, and the ...was at fever heat. Panchot carried ...nd around with him, in the shape ...pot, from which he imbibed very

...leted 300 miles at 9:39. The Gar... ...w in its worst condition, the air ...tobacco smoke and the dust raised ...s of feet. Every seat in the great ...s occupied, and it was hard to get ...rows of the railing skirting the ... band played "Mary Ann," "I'll ...a," and hundreds of voices joined ...s.

...t off for a rest at 9:10, and while he ...remac made good use of his time ...d third place.

...k Day sent word that he had with... ...the race. His legs troubled him, ...that he had no hope of making the ...5 miles. He had left the track at ...oing 237 miles. His trainers said ...quite sick.

...k Noremac was walking lame. At ...raid completed 336 miles, having ...es without rest since he started in ... This is the best third day record ...he previous best one having been ...ade by Herty in December, 1881. ...was satisfied, and retired for his

...mpleted 300 miles at 11.08. Rowell ...aing, although it was an hour later ...e when he had retired on the pre... ...ng. Herty reappeared at 11.14, ...ry stiffly. Rowell had made ...at 11.17. He was then rolled ...nd carried to the Ashland House, ...t a bath and was put to bed. His ...d they would let him sleep until ...ok the track again. Then he would ...t.

...g now was as follows:

...st Rowell.
...st Fitzgerald.

THE CAMPAIGN OF 1884.

REPUBLICANS IN A DOZEN STATES CHOOSING DELEGATES.

Maine, Iowa, Nevada, Kansas, and West Virginia Solid for Blaine—Edmunds Carries Massachusetts and Vermont.

BOSTON, April 30.—The Republican State Convention was called to order in Tremont Temple to-day by Henry Cabot Lodge, Chairman of the State Central Committee, who was made temporary Chairman. Mr. Lodge, in his speech, said that there had already been a pronounced sentiment in Massachusetts in favor of the nomination of the distinguished Senator from Vermont, and, while the Massachusetts delegation to the National Convention favored the nomination of George F. Edmunds for President and the son of the illustrious Abraham Lincoln for Vice-President, it would not go there with a factious disposition. Senator Edmunds's name evoked long applause.

The Hon. John D. Long of Hingham was introduced as permanent President, and addressed the Convention for about an hour, outlining the coming Presidential canvass and discussing the issues of the day in their bearings upon the great political parties. He then read a letter from Gov. Robinson declining to be a delegate.

The Convention then proceeded to ballot for delegates at large on one ballot. After an hour's recess the result was announced as follows: George F. Hoar of Worcester, 1,048; W. W. Crapo of New Bedford, 1,034; John D. Long of Hingham, 978; Henry Cabot Lodge of Nahant, 981; Chas. A. Stott of Lowell, 221; Francis A. Walker of Boston, 138; scattering, 28. Messrs. Hoar, Crapo, Long, and Lodge were declared elected. They are said to favor Edmunds first and Arthur second choice. Benj. S. Lovell of Weymouth, L. J. Powers of Springfield, A. H. Grimke (colored) of Hyde Park, and T. W. Higginson of Cambridge were chosen as alternates.

The platform was then adopted, the tariff plank being as follows:

We advocate tariff laws which, while furnishing necessary revenue, shall favor the labor and industrial enterprises of the country and not assail them. While we insist upon a reduction of custom duties because of the dangerous surplus in the Treasury receipts, at the same time we deem it essential that this reduction should be made with the least possible injury to the labor and manufacturing interests of the country, and we condemn the arbitrary percentage reduction proposed by the present Democratic House of Representatives, because it fails to reform any inequalities of taxation, disregards the business wants of the country, and, if adopted, would cripple many industries and at the same time would probably increase the revenue.

President Arthur's Administration is warmly commended, but no preference is expressed as to his successor, except to demand that the candidate shall be "a man of proved fidelity in public life, and whose relations to the party are such that all of its members can heartily unite in his support."

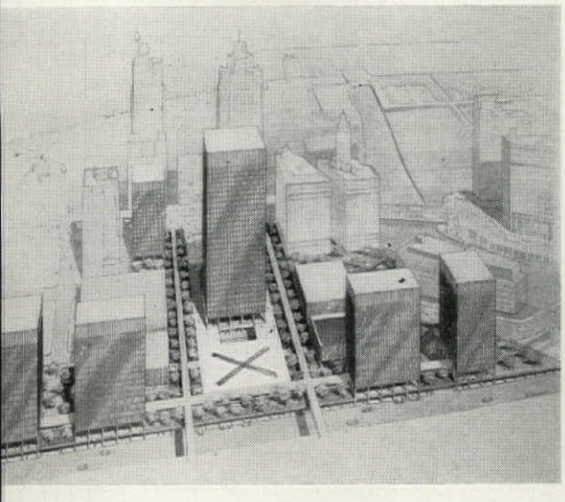
NEW HAMPSHIRE DIVIDED.

Two Delegates for Edmunds, One for Arthur, and One for Blaine.

CONCORD, April 30.—The Republican State Convention assembled here to-day. The Hon. B. F. Prescott was chosen President. The Committee on Credentials reported 617 delegates present. It was voted to elect delegates separately, and the Convention proceeded to ballot. Charles B. Sawyer was elected delegate at large on the 101st ballot. He is for

BILL ENGDAHL, HEDRICH-BLESSING

WINNING DESIGN by US Architect Reginald C. Knight has a white translucent plaza, to glow at night, with a space-defining arrangement of tall, tubular bells (chiming mechanism inside). The auditorium is beneath, at street-traffic level.



SITE for memorial would be the institutional office portion (shaded darkest on air view and depicted in sketch) of Chicago's proposed Fort Dearborn project across the river from the Loop. Memorial plaza, indicated by X's, would face State St. above traffic level. Project design is by Skidmore, Owings & Merrill.

WILLIAMS & MEYER CO.

The prize-winning designs for the Fermi pavilion in Chicago's Ft. Dearborn project raise the question of how well today's architects can memorialize a great man or a great event

Can modern architecture build a symbol?

For five days last spring, a most distinguished international jury (see photo) appraised the work of 355 designers from 25 countries who had attempted the most difficult of all assignments for a contemporary architect, creation of a symbol—in this case, a memorial to the late atomic physicist, Enrico Fermi. Although the program for the competition, which was sponsored by Chicago's Junior Association of Commerce and Joint Civic Committee of Italian Americans, included an auditorium, the heart of the problem was the symbolic treatment of a focal, elevated plaza at the foot of a skyscraper.

The jury gave first award to a chaste space-defining carillon (opp. p.), split the second award among three entries, made four additional awards (pp. 152 to 153).

How well the winners—and the jury—dealt with both the overt and implied problems of their task is discussed in cogent and contradictory words on the pages following by two eminent critics, Dean Joseph Hudnut, Harvard professor of architecture emeritus, and James M. Fitch, Columbia associate professor of architecture.

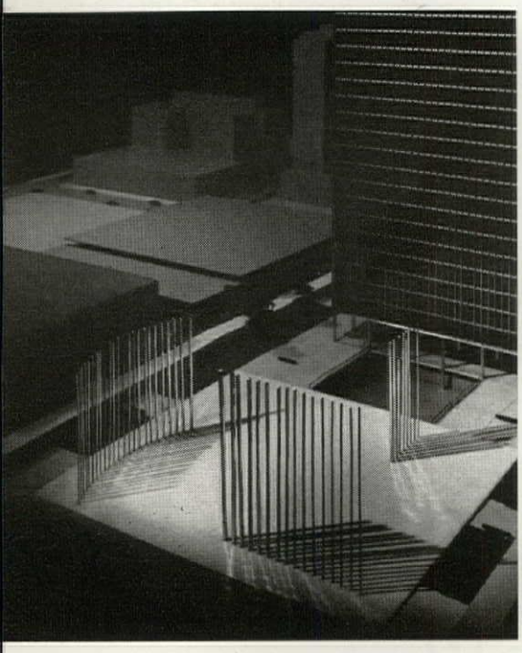
For a design problem so constraining to twentieth-century man as this one, it is almost as interesting to learn what the general run of serious contestants did as to see what won. Original ideas were mainly abstractions—even when they were structurally ingenious, their labored pomp was still more noticeable. Derivative ideas ran a familiar gamut from imitations of the suspension-roofed Berlin Congress Hall to elaborations of Fuller's "geodesic" dome. Garden treatments were few and mostly humdrum. Few "national" tendencies were evident, although it was noticeable that the West German entries assayed pretty high in sophistication and the eastern European entries included an unusual quota of pink candy palaces.

All the entries were in the form of models, sized to slip into place in the site model. By and large, workmanship was fantastically good. If there was not an abundance of well-considered ingenuity of art, there was of craft.

The entire scheme, into which the memorial would fit, is a most interesting design in itself. It consists of a group of institutional office buildings surrounded by pedestrian promenades and plazas raised one story above the street system, which they cover but which would continue to be used for traffic. The whole scheme, open spaces as well as buildings, has the order of a uniform 5′ module and 30′ bay. This institutional center is a portion—along with a governmental office center, a middle-income housing project and a commercial strip—of the Skidmore, Owings & Merrill design for Fort Dearborn, an ambitious redevelopment project proposed for a rundown area of downtown Chicago by Developer Arthur Rubloff and a committee of businessmen. The sponsors are now seeking designation of the site as a redevelopment clearance area.

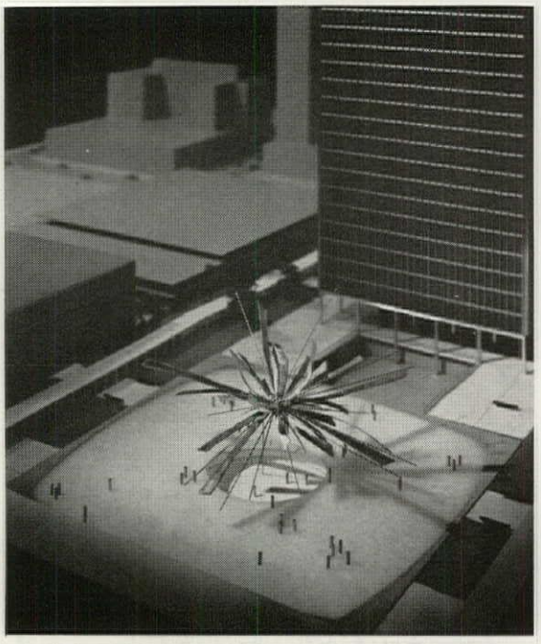
KAUFMANN AND FABRY CO.

JURY included Architect Jose Luis Sert, right foreground and, left to right, Architect Ludwig Mies van der Rohe, chairman; Italian Engineer Pier Luigi Nervi; English Physicist Lancelot Law Whyte; Architect Gordon Bunshaft of SOM. Professional Advisor John O. Merrill of SOM is at rear.

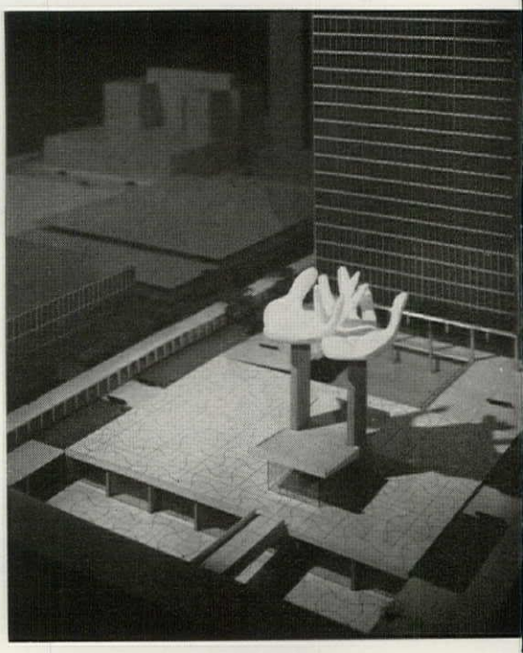


PHOTOS: BILL ENGDAHL, HEDRICH-BLESSING

$5000 FIRST AWARD: Reginald Caywood Knight, AIA, now practicing in Florida, on leave from M.I.T. staff.



$1000 AWARD: John Harold Box, James Reece Pratt and Joanne Henderson Pratt of Dallas.



$1000 AWARD: Huson Jackson, Constantino Nivola, Vincent J. Solomita and Joseph Zalewski, of Cambridge.

Two critics disagree about these prize designs:

Dean Joseph Hudnut praises the winner as "fitting and eloquent" . . .

There have been among us great spirits whom we wish to remember. That we may remember them we have need of symbols.

It is altogether fitting then that we should raise a symbol that shall recall the memory of a great scientist whose life and work are among the foundations of science. I cannot imagine a symbol more fitting and more eloquent than the design awarded the first prize in the Enrico Fermi Memorial competition.

Reginald Caywood Knight, author of this winning design, proposes a composition of bells arranged on a translucent pavement in such a way as to suggest a containment of space. Vertical, metallic, tubular and thus disposed, they announce a subtle affinity with the rigid buildings which are to stand around them: these also contain and define space within cagelike envelopes. And the spatial patterns both of the bells and the steel office buildings could only belong to the Era of the Machine.

But at this point the analogy must end. Bells are of a nature so opposite to skyscrapers that I am tempted to explain them, in spite of this visual and structural harmony, as intrusions from another world. Bells are voices, spiritual and musical, and could have no part in the functions and technologies of buildings. Bells are the servants of art and could not become the intimates of business. Bells are humanities instinct with thousands of years of event and prayer.

I could imagine no more perplexing incongruity if I did not remember that the bells are to be placed here, not so much as elements in a visual pattern, but as symbols and carriers of a unifying essence. They are to exist in this citadel of business as the soul exists in the body, animating and exalting the serviceable walls which will encompass it, in a secret unison of intent. Flinging their gentle harmonies into the brash dealings of business, the bells will touch and humanize these with the memory of that genius whose life they enshrine. Who would not wish thus to be remembered?

Symbols are thoroughfares of the memory more swift than words — those treacherous little molds of our thoughts— or of pictures in bronze. That which they bring to us comes with an immediacy and clarity unencumbered by the wrappings of circumstance or the uncertain mists of logic. They lift us, when they speak to us, suddenly and certainly out of the dull air of our necessities; we are vividly alone with them if only for a moment.

But our need for symbols is deeper than our sorrow or our praise, deeper even than our need for remembrance. All through our long adventure on the earth, symbols have been the masts to which we have tied our loyalties, our faith and our devotions; and, older than reason and the rational imagination, symbols still point our paths in that vast universe which lies outside the trim little universe of science. And symbols are still very dear to our hearts.

It is true that the sciences —which are often more modest and more tentative than we suppose— have in our era restricted (but without inhibiting) the command of symbols over our imagination. Symbols have lost some of their mystical qualities. Symbols nowadays cure the sick less frequently, ward off less certainly bullets in the midst of battle, appear

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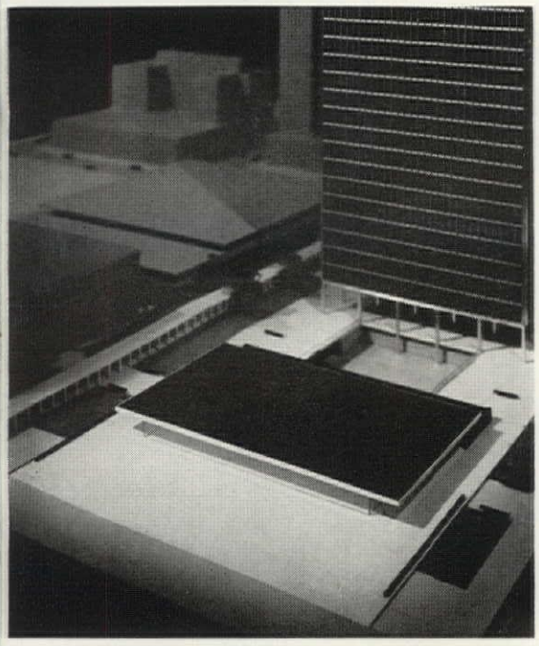
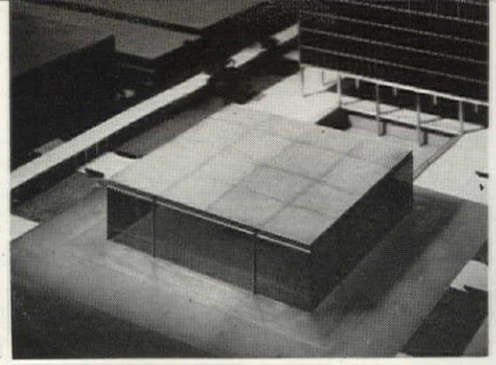


$1000 AWARD: Peter Roesch of Hamburg, Germany. Structure is an entrance to auditorium on level below.



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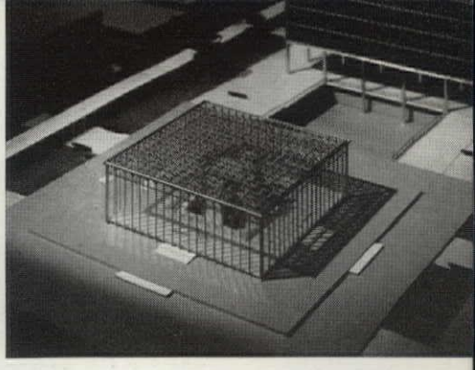

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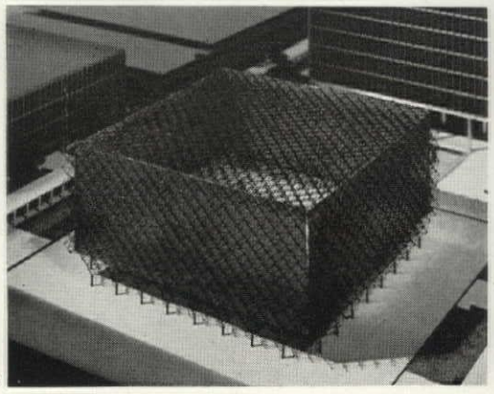

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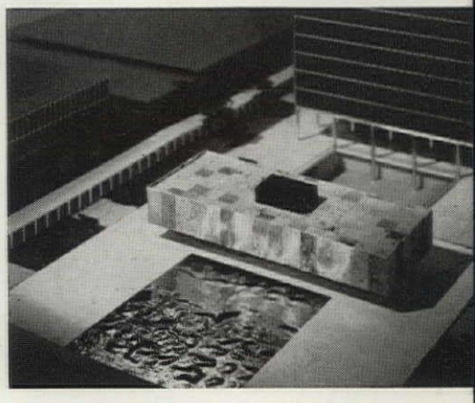

4

$500 AWARDS: (1) Jan Lippert and Degenhard Sommer of Karlsruhe, Germany and Dr. Eugene Lantzki; (2) Louis J. Johnson and Arthur S. Takeuchi of Chicago; (3) Igor Z. Sazevich, David H. Larson and Enrique Garcia-Reyes of San Francisco; (4) Eberhard Ludwig of Dusseldorf.

Professor James M. Fitch finds it "empty, noncommittal, beyond belief"

The long history of architectural symbolism took a new and surprising twist when the distinguished jury awarded the first prize in the Enrico Fermi Memorial Competition to Reginald Caywood Knight. And the astonishing thing about his design was that the symbols he used were invisible. Not sculpture, not painting, not even the architecture of the Memorial Auditorium itself was to memorialize the late physicist. This function was to be nonvisually discharged by a carillon of 48 bells whose music, the jury remarked, "will be able to reach out and touch the lives of many more people than would be possible through vision alone. . . . This brilliant conception of using sound as a unifying principle for the entire project has produced the most beautiful and dignified memorial . . . particularly appropriate since it achieves a unification of Art and Science."

Now it would be utter nonsense to deny that sound can transmit certain concepts of symbolic significance quite as readily as vision. Napoleon could be memorialized by the music of Beethoven's *Emperor Concerto* quite as well as by the architecture of Chalgrin's *Arc de Triomphe*. As a matter of fact, since we experience architecture through *all* our senses (and not merely through vision alone), it must be said that acoustics is always a component of our total response to a building. In some types of structures it is obviously a very important component. Choir and organ, for example, add a splendid sonic dimension to Chartres. Their music, reverberating down those great masonry-wrapped volumes, breaks over one in waves, very much like the light from the windows. It is a music uncannily well designed to reinforce the emotional impact of the architecture. But the moving experience of a visit to Chartres is merely intensified by this music; it is not dependent upon it. You could transfer choir and organ to the meadows and still have pleasant music. But only inside the silent Cathedral would you still find the symbolism of tremendous architecture.

Thus, while it would certainly be wrong to condemn Mr. Knight's use of sound as a "unifying principle" in his prize-winning design, it is certainly permissible to ask if the Fermi Competition was for an architectural or a musical composition. For the embarrassed architectural critic is being asked to react to a set of commemorative symbols which, visually, have no significance. The shining pavement of the great plaza is unflawed by any object except the three files of tall metal shafts (the Memorial Auditorium itself is discreetly buried one floor down). As far as one can judge from the model, these shafts might better be flagpoles than carillons since they are without even the intelligible forms of bell and clapper. Only a sign or a broadcast announcement would enable the visitor to apprehend that they commemorate a great scientist, tragically dead in his country's service. We are told that this carillon is an especially appropriate memorial because it symbolizes "the unification of Art and Science." But this is verbal, not visual, information.

The Knight design is not ugly: it is merely empty, noncommittal, beyond belief. It carefully evades the central function (or what, at

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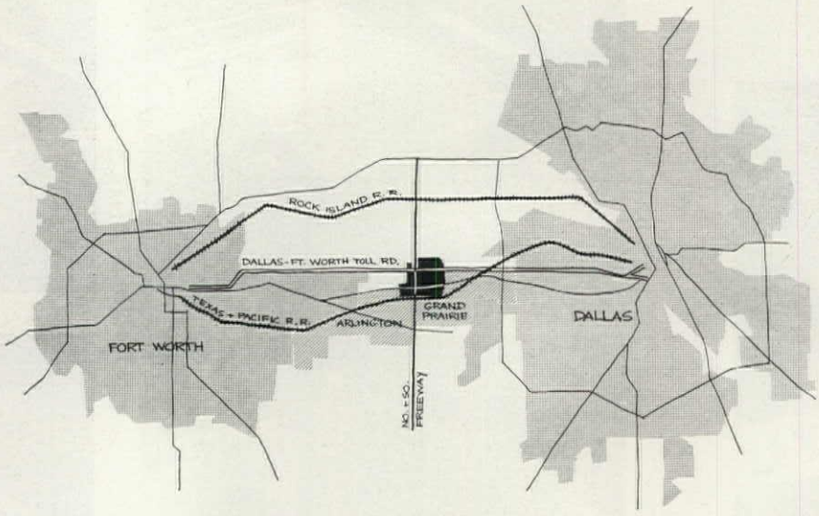


J. ALEX LANGLEY

Midway between Dallas and Fort Worth mushrooms a Texas-sized industrial district binding these two rivals into one big metropolitan region

An industrial heart for metropolis

The mushrooming concrete shells pictured left are dramatic evidence of a Big Deal even in Texas. They mark the start of the most comprehensive planned development for US industry to date: the Great Southwest Corp.'s giant industrial district.

Its most obvious bigness is size—5,000 acres in all. But its size is matched by a bigness of concept which is sure to influence future industrial planning. The salient points of that concept:

- It stands midway between two growing cities, tying them together into a regional metropolis with an industrial heart (the exact opposite of today's industrial parks located on the periphery).
- It is a "traffic heaven," carefully keyed to the new Dallas–Fort Worth Toll Road and the bisecting North-South Freeway (the crossroads at the center of the region). Ample streets are integrated into the surrounding pattern of roads. Rail spurs branch from main lines north and south of the tract.
- It is organized around a central 1 million sq. ft. terminal warehouse and adjoining truck terminal.
- It is not just a slew of factories in a field, but is broken down into "communities" of factories, each with a "community center" of restaurant, motel, shops and service facilities.
- It is planned by a top-flight team of architects and planners (Architects Richard Colley, O'Neil Ford, A. B. Swank Jr., Land Planner S. B. Zisman) who have been given more influence (and more responsibility) than is usually given in industrial development work.
- It is developed and operated by a single organization with a new imaginative standard of landscape and architecture, protected by a careful system of development controls.

Concrete shells assert the transformation of Texas prairie into a giant industrial site. These will roof a restaurant in one of three community centers.

Great Southwest's president, Angus Wynne Jr., frankly admits: "When I got into this thing I still had the idea of one city here and one city there. I had not thought that this land was located in the exact center of a metropolitan area, just 15 minutes from either downtown. I did not think it would be as good a thing as it is. Maybe Zeckendorf did, but not I."

Webb & Knapp's William Zeckendorf (who has been associated with Wynne in the Great Southwest venture from the outset) might well have seen the scope of the project from the beginning. He has said that today's real estate opportunities lie in three kinds of land: agricultural, "by-passed," and central city. Great Southwest's tract very nearly qualifies as all three.

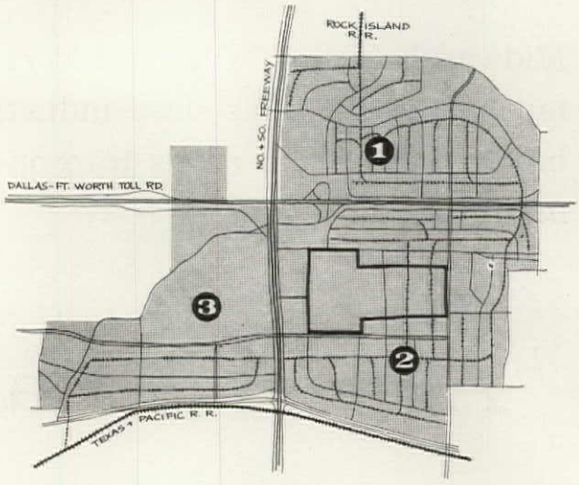
Most of the land belonged to the Waggoner 3-D Ranch, a huge chunk of prairie as empty as the hole in a doughnut. It had been on the market for some time at $3,500 an acre with no takers. About the time the Dallas–Fort Worth Toll Road was in the talking stage, the price came down to $2,500 an acre, making the land an attractive buy.

Wynne heard of Zeckendorf's interest through Dallas Realtor D. Hicks Major, and when they got together, they decided to buy 3-D and other nearby properties for $10 million. Wynne and his uncle, Toddie Lee Wynne, put up $4.5 million, Zeckendorf's Webb & Knapp and the Rockefeller family put up another $4.5 million, and Fort Worth investors (including Amon Carter Jr., and ex-Navy Secretary Robert Anderson) put up the final million. For his part, Zeckendorf said that the purchase was the first step in a deal that was "the biggest of my career."

Before the ink was even dry on the 3-D transfer, Great Southwest's backers were quietly picking up additional land north and south of the original tract—to protect the investment "against others coming into the area on our coattails," as Wynne put it.

The logistics of location

Many a developer with farm acreage stretched between a railroad and a highway has found out that it takes more than land to make an industrial location. Big industry—auto assembly plants, steel mills, chemical plants—can buy raw acreage on the basis of its own research and analysis. Big industry can arrange zoning changes, road development, utility extensions and myriad other details. It can arrange its own financing and design and construct its own plants. But small- and medium-sized industry (and even branch facilities for big industry) has found the job too big, too expensive and too time consuming to do alone. Therefore, while the developers of many industrial districts just provide "lots," the better ones are providing a whole gamut of services from market research to



individual plants built and leased to their customers. Chicago's pioneering Clearing Industrial District has been the model. However, Great Southwest will make the first really significant advance over Clearing's comprehensive district planning.

The market and labor resources

Before industry even thinks about buying land, it wants viable information regarding market conditions and labor resources. With the help of Economist Richard Johnson and Industrial Relations Experts Walter Boles and A. Q. Sartain (all of Southern Methodist University), Great Southwest is equipped with a virtual encyclopedia of data.

The Dallas–Fort Worth area, because it is the greatest concentration of population in the southwest, is the dominant distribution center in a four-state area (Texas, Oklahoma, Louisiana and Arkansas) as well as an important center in the larger 12-state southwest. The population of the metropolitan area (1.3 million in 1955) increased 33% between 1950 and 1955, will increase more than 40% between 1955 and 1965. By 1965, the total buying power should be nearly 100% over 1955, or a total of $4.6 billion. In the four-state area, growth will not be as dramatic as in Dallas–Fort Worth alone, but statistics indicate gains above the national average. Much of the labor for the new development will come from agricultural employment, traditionally a favored source for industrial workers.

General data of this kind, coupled with detailed information about each industry, is the kind of stuff that "lands industry" (and tells the developer what kind of industry to go after). But the market and labor research made two important contributions to the character of the physical planning as well. First, big industry, dependent on natural resources and water, would locate along the Gulf Coast—not in Dallas–Fort Worth. Second, primary industrial development in the Dallas–Fort Worth area would be by distribution industries serving the southwest with finished goods from its central position.

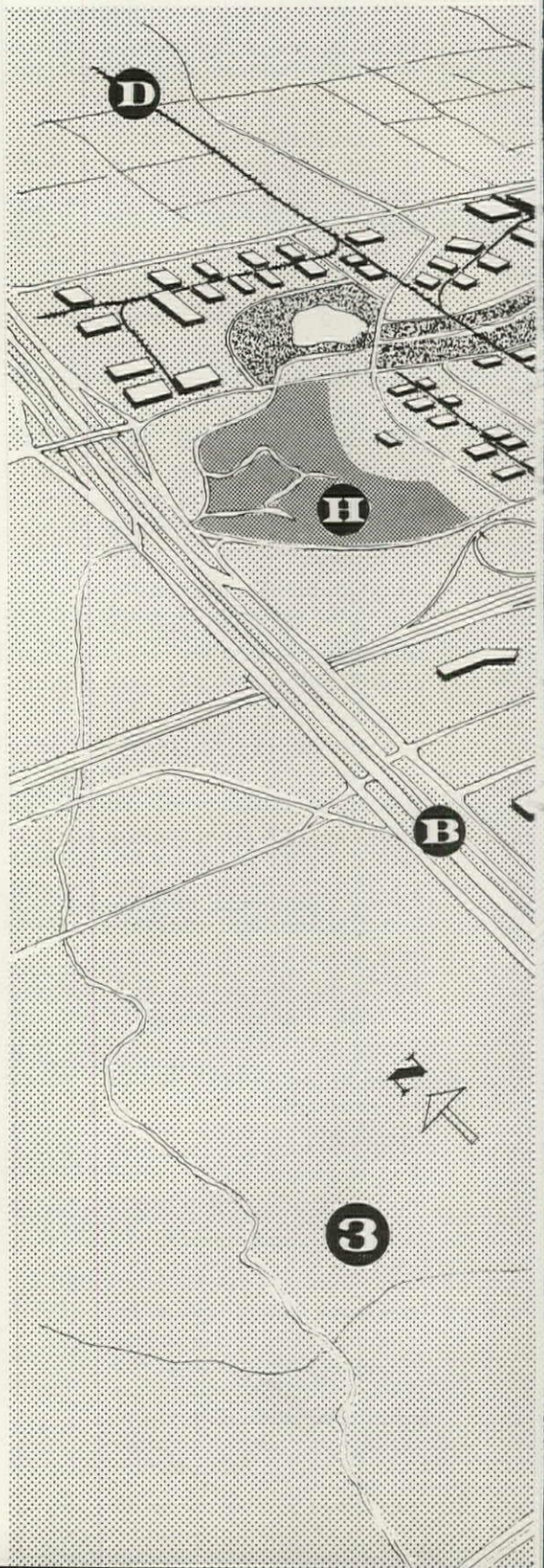
The core idea

Wynne says: "We would not have purchased the land without the turnpike. When it is finished this summer, we will really have two cities functioning as one. Any idea like that can be put on paper, but only when you can drive there and see it does it become real."

The toll road which so dramatically links the two cities is, however, only one of the transportation factors — almost any big industrial scheme depends on several. In this case there is an airport (Amon Carter is five miles away), the crossing of a pair of important highways (in addition to the Thruway) and a pair of competing railroads (Rock Island to the north, Texas & Pacific to the south).

Within this transportation nexus, the developers conceived the "core" idea—a central terminal warehouse and a consolidated truck terminal, made into a single efficient entity with a drag line conveyor in between.

The warehouse—1 million sq. ft. to be built in the first stage with planned expansion to over 2 million sq. ft. — will be built in units 728′ long by 246′ wide. With



Three communities of industry (map left) are established by the crossing of Dallas–Fort Worth Toll Road and North-South Freeway. Drawing below shows communities No. 1 and No. 2 separated by Toll Road (A), with North-South Freeway (B) along left side. Community No. 3 extends beyond drawing in lower left. Rail network in the district is served by Texas-Pacific R.R. (C) and Rock Island R.R. (D). Terminal warehouse (E) and consolidated truck terminal (F) are located on plateau in the center of community No. 2. The center for community No. 2 (G) will contain hostel for truckers, while community center No. 1 (H) will contain club-restaurant for executives and white-collarites.

ASSOCIATED ARCHITECTS AND LAND PLANNERS: Richard Colley, A. B. Swank Jr., S. B. Zisman, and O'Neil Ford

ENGINEERING: Powell & Powell

ENGINEERING, SPECIAL PROJECTS: Felix Candela

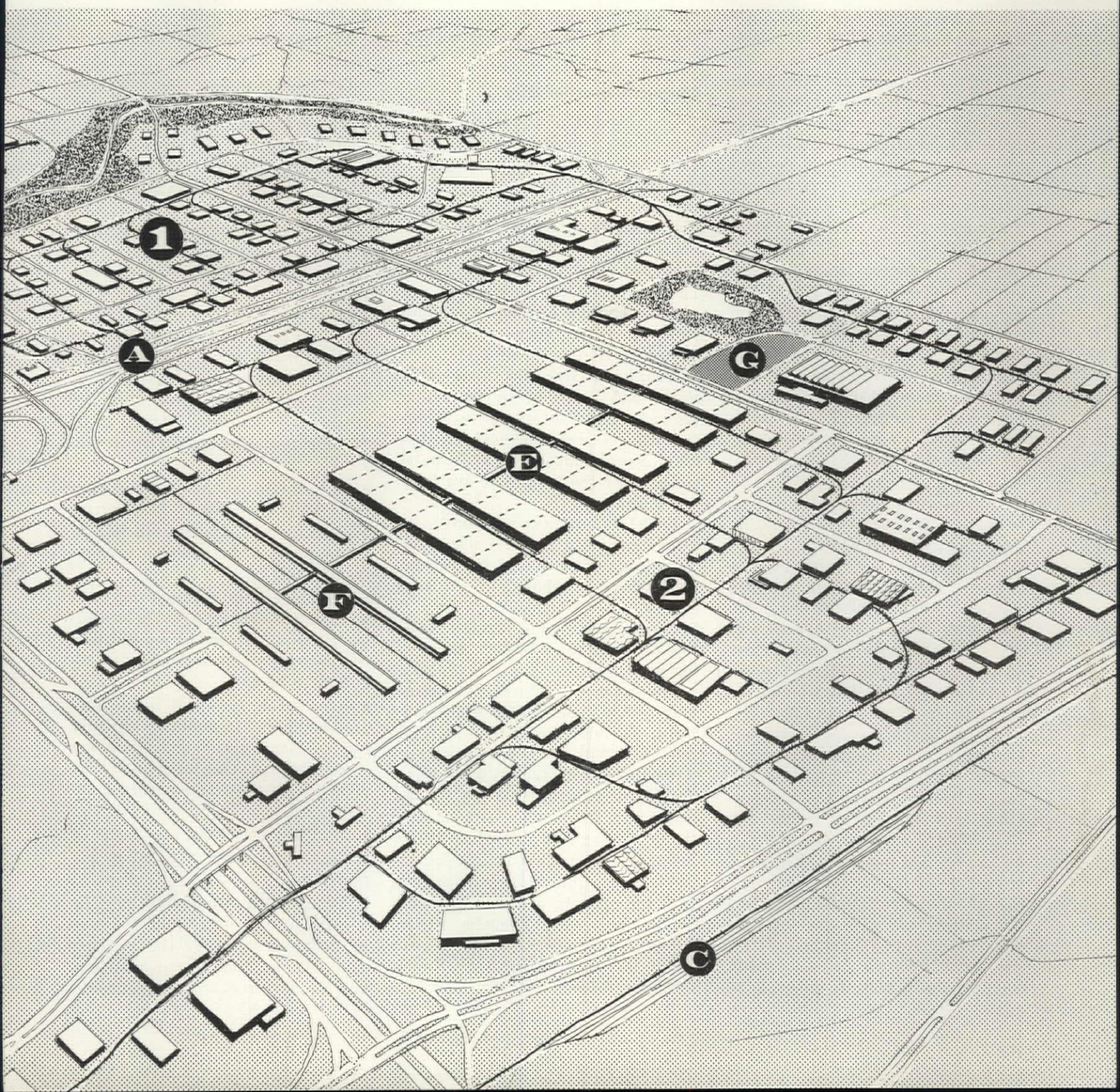
RAILROADS: E. H. Pierson, North Texas Traffic Bureau

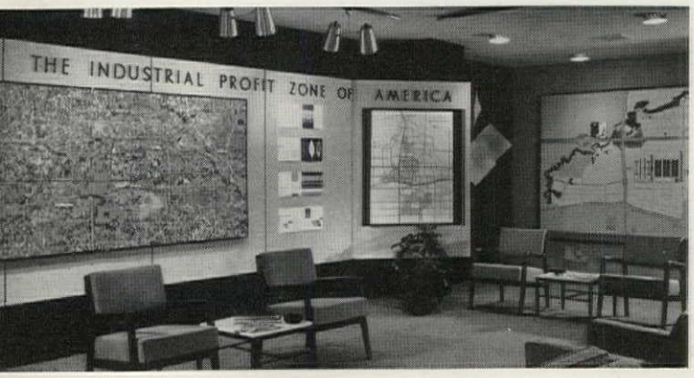
DISTRIBUTION AND MATERIALS HANDLING: W. H. Nichols & Co Neil Drake, Drake, Startzman, Sheahan & Barclay

TRAFFIC: Lloyd Braff

LANDSCAPING: Lambert Landscape Co.

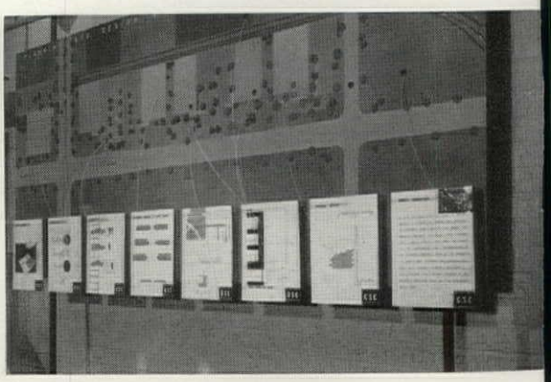
REAL ESTATE COUNSELLOR: D. Hicks Major





Selling Great Southwest takes place in handsome Dallas offices. Wall map (right) will be used to mark buildings constructed.

Planning standards are graphically demonstrated in Dallas office. Typical section shows three road types, parking, landscape, lot coverage and setback requirements.



stacks 18′ high, each unit will thus accommodate 1,600 carloads of freight. Truck docks will be on one side of the unit and rail sidings on the other. The connecting drag-line conveyor will run through the middle as a kind of spinal chord.

Warehouse facilities will be used three ways: for transit storage of interregional freight, as a public warehouse and distribution center for the entire southwest and as a factory warehouse in support of nearby factories. For small and medium industries, the warehouse should be a real inducement to locate in the district. For most of them the objective is to ship immediately after production, without intermediate storage. The intermittent warehouse needs of these plants can best be handled by renting space outside the plant itself.

The adjacent truck terminal is, in reality, four separate operating companies, linked to the warehouse by the drag-line conveyor. The developers propose that four common carriers—one working predominately east of Dallas–Fort Worth, another north, another west and another south—each take one of the quadrants as a consolidated terminal in the Dallas–Fort Worth area.

The big advantage for the trucker locating in the consolidated terminal group would be in "interlining"—that is, transfer from one line to another. For service to Dallas and Fort Worth, average cost per ton will go up 30¢ over cost of service from the old in-city terminals. But the advantage of interlining across the platform or with the drag-line offers savings of $4 a ton—more than enough to offset the increase. Moreover, as the industrial shipping in the district builds up, the cost advantage to these companies will increase.

Communities of industry

The cleavage of the site into sectors by the Toll Road and bisecting Freeway has been used to separate the district into three smaller communities: No. 1 lies north of the Toll Road, No. 2 contains the warehouse and terminal core and lies south of the Toll Road, No. 3 (planned for later development) is on the other side of the North-South Freeway. (The fourth sector is not owned by the corporation.)

Additional Great Southwest land north and south of the presently planned cluster of three communities will be used to extend the district. More community nuclei can be added after the first three are fully developed.

Each community will have its own community center—places for eating, stopping overnight, recreation, drive-in shopping, community services (such as a clinic and first aid station) and service facilities (such as reproduction, accounting and secretarial).

The major center will be in community No. 1 north of the Toll Road. Here, in addition to the normal facilities, will be a chapel and a larger hotel with facilities for sales and board meetings for use by industries in the district. A combination executive club and white collar restaurant is under construction in this center, timed for completion with the opening of the Toll Road.

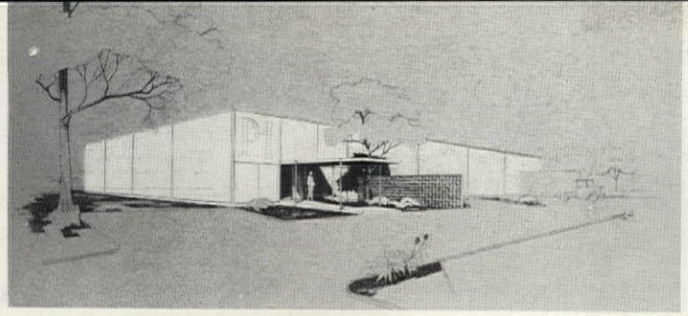
Community No. 2 has a center adjacent to the terminal and warehouse. Its central feature is a hostel for truck drivers.

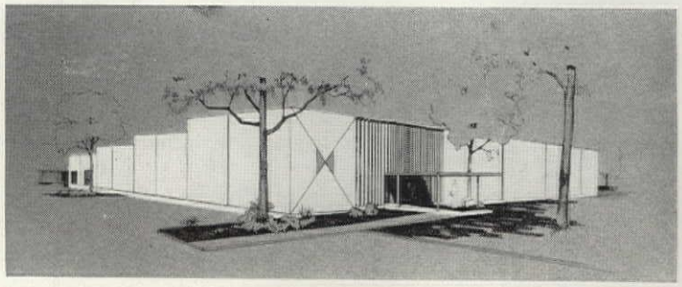
An atmosphere for pride

Wynne believes that industry is rapidly coming to expect architectural and planning excellence in industrial developments. "Industry will want something to which it can point with pride. We are establishing an atmosphere where they can develop that kind of pride and live with it."

For Great Southwest, the major device for achieving that atmosphere is an enlightened set of standards:

- The district will have three types of roads: industrial boulevards with 120′ rights-of-way paved with two 44′ roadways, major streets with 100′ rights-of-way paved with 80′ roads, and industrial streets with 80′ rights-of-way paved with 50′ roads.
- All parking and loading for each plant will be off-street. Parking requirements are related both to size of building and expected employment.
- Maximum land coverage on each lot will not exceed 40%. A 30′ setback from the street is required, and the combined side setbacks are required to be 50′.
- Of each lot, 10% will be "green" landscape, with a minimum strip of 10′ of landscaped ground along street frontage. All outside storage of materials must be screened from view.
- All buildings must be built of masonry or equally substantial construction.
- The standards are administered by a planning advisory board made up of representatives of the corporation, the architects and planners, and the property owners and lessees.





Buildings under construction will demonstrate architecture and construction techniques (tiltup walls, shell concrete roofs, prestressed concrete decks), will be left for lessees to finish as required.

The board will have wide powers to modify and adjust the standards in special situations.

The need for planning

In the 18 months since its purchase of the 3-D Ranch, Great Southwest has come a long way. In actual work on the site, progress can be easily measured: several million cubic yards of earth have been moved, three "spec" plants are under construction, and the dramatic shell paraboloids of the club-restaurant have replaced some of the trees in the grove overlooking the Toll Road interchange (photos, right and p. 154).

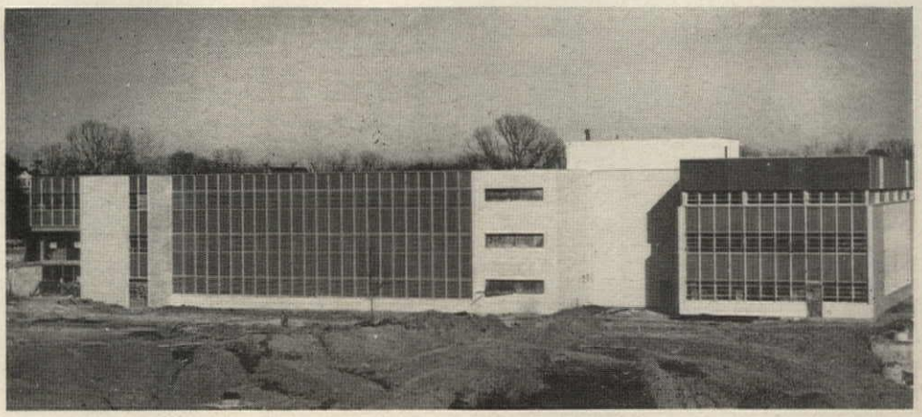
But behind that activity is a larger achievement in research, engineering, planning and architecture. Wynne says: "From the beginning we realized that we would need careful planning. We started by agreeing that we were not going to skimp on technical advice and help. We planned to bring in the best brains in the country to the end that we could say to our customers: 'This is land which will appreciate in value.' "

At the center of Great Southwest's planning effort is an organization known as the "Associated Architects and Land Planners." The principals of the firm (Architects Richard Colley, O'Neil Ford, A. B. Swank Jr., Planner S. B. Zisman) all operate their own firms, but have worked together in various combinations before. What's the secret in a successful working relationship between a team of architects and planners and an industrial development group? Architect Colley says its simple: "Just talk their language."

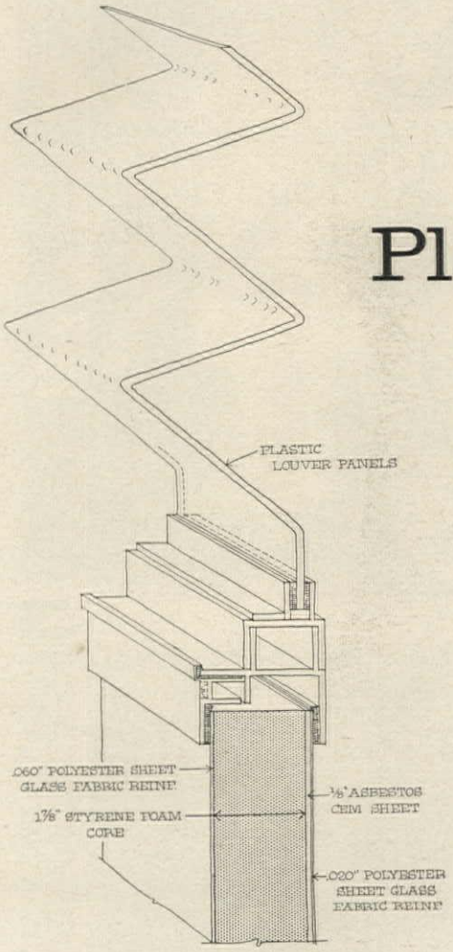
Club-restaurant in community center No. 1 overlooks Toll Road interchange; Great Southwest's tract is seen beyond. Warehouse and terminal will be on plateau in upper left of photo.

J. ALEX LANGLEY

This new laboratory building is designed to be a full-scale catalogue of available plastics for construction today



Plastic curtain wall



FEATHERWEIGHT CURTAIN WALL: One man, as shown opposite, can easily lift the all-plastic curtain wall panels developed for Monsanto Chemical's new Inorganic Laboratory building (above). The panel, a sandwich of polyester-glass-fiber skins on a styrene-foam insulating core, finished for both exterior and interior, weighs only 70 lb. as against over 300 lb. for a metal sandwich of equal size. Details of the wall system, with acrylic louvred windows, developed by Holabird & Root & Burgee, are shown in diagram (above).

The most notable feature of the building shown on these pages—Monsanto Chemical Co.'s new Inorganic Research and Engineering Laboratory, just reaching completion in suburban St. Louis—is that it is sheathed with the first all-plastic exterior curtain wall panel (framed in aluminum) to be developed for commercial building use. Appropriately enough for such a new and controversial material, the panels are tinted a bright sky blue.

Over 80 other uses of plastics are incorporated in the new building, nearly a dozen of them entirely new, over a dozen involving novel uses of by now conventional plastics. Monsanto set out in 1955 to make this new laboratory a testing ground and show place for the widest use of available plastics in more or less conventional modern building construction. Many of the uses developed, as noted later, will be of interest to builders. But the most notable development, which will be watched with great interest by architects and builders alike, is the curtain wall. For here is a 4′ x 7′ panel weighing only 70 lb. (against 300 lb. for equivalent metal panel), prefabricated with integral foam plastic insulation between tough polyester-glass-fiber skins, with color integral in the skins and both exterior and interior surfaces finished in the simple act of installation.

The panel was designed by the building's architects, Holabird & Root & Burgee of Chicago, who worked out the novel framing and joining details (see drawing, opposite). In this as in other plastic applications in the building, the architects had to engage in an extensive study of unfamiliar materials in association with Monsanto's plastics group, with rigorous testing of all components. The curtain wall assembly, for instance, was put through months of violent weathering, leakage, vapor penetration, color fading, delamination and stress tests in an outdoor project conducted at the University of Pennsylvania under objective scientific direction.

The architects concluded that self-supporting wall panels, partitions and the like, while not yet having enough background for immediate acceptance, are one of the most important areas for concentrated plastics development. Noted the firm's B. H. Bradley: "Architects are increasing their search for exterior and interior lightweight panels which can meet a variety of requirements (insulation; translucency, transparency; or opacity; ease of assembly; ease in maintenance; wide color selection but with fade control; high vapor barrier characteristics; competitive costs and code acceptance). The Inorganic Laboratory exterior panel achieves many of these, and has a crisp appearance which we believe is a good expression of the material and its function. The day is rapidly approaching when we

PLASTIC-FACED CONCRETE BLOCK (polyester) for external masonry (left) adds warm-toned waterproof quality to an old material.

PLASTIC PIPE (polyvinyl chloride) is widely used (right) for all heating, ventilating, air-conditioning and laboratory services.

shall have single large exterior panels (floor to ceiling) or larger, with self-contained vision areas where needed, variable degrees of insulation where needed, and a minimum number of supporting or dividing members required with their complexity of seals, drips and so forth."

Other components

Some of the other building components which the architects and contractor (Cunliff Construction Co.) deem important and which are likely to see wider use soon:

▸ Polyester-silica glazed facing baked on concrete block for all exterior masonry (heretofore used only on interior facings) gives the block a wide, soft color range, waterproofing, good weathering characteristics, though color control is still a problem. Cost per square foot in place is less than face brick for exteriors, less than glazed or ceramic tile for interiors.

▸ Acrylic louvered windows throughout, cutting out direct sunlight without blinds. This is the largest installation of its kind thus far. Cost is comparable to plate glass with Venetian blinds, but no maintenance required.

▸ Phenolic coated plyforms used for all concrete formwork, providing smooth surfaces requiring no finishing. While costing 15½¢ a sq. ft. more than plywood, plyform reduced this to 1¢ a sq. ft. by being reusable 15 times, then saving over 10¢ a sq. ft. of surface area in labor costs of rubbing and finishing.

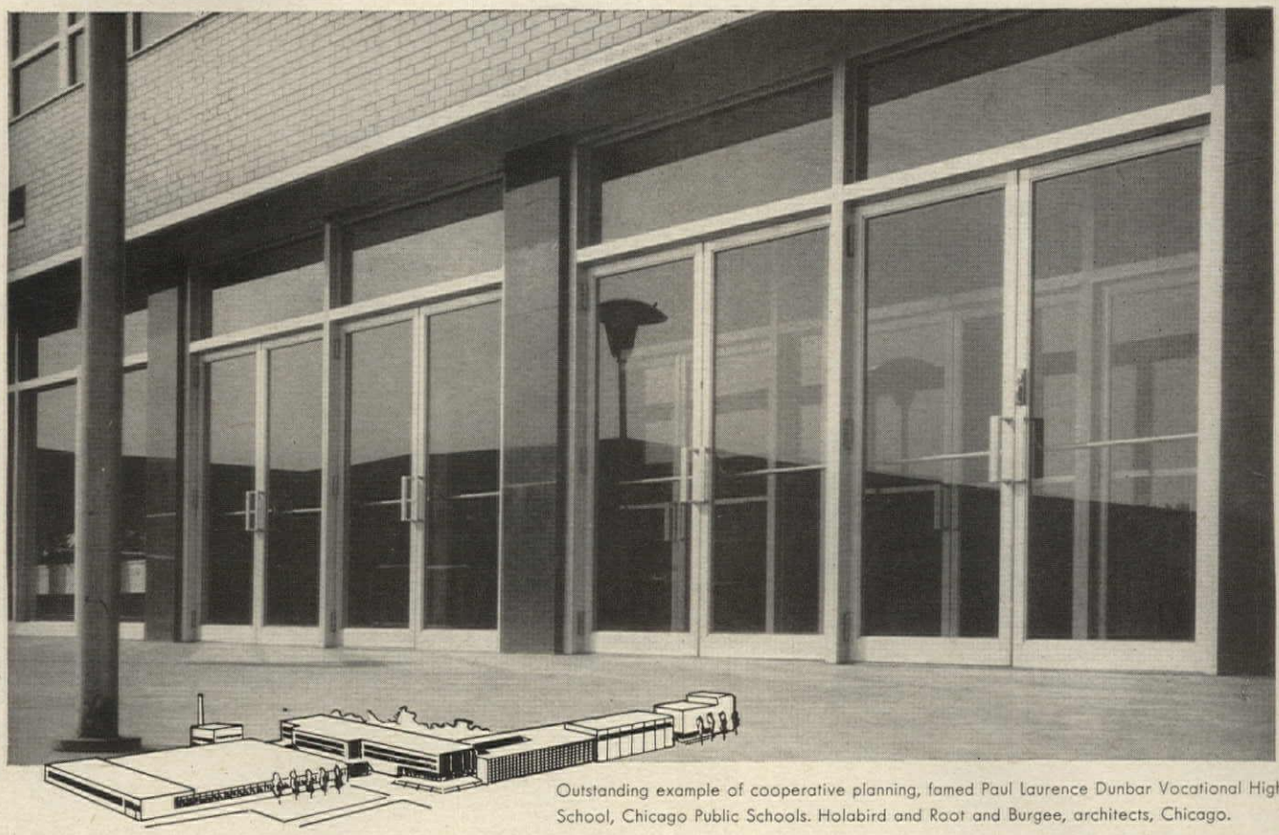
▸ Polyvinyl pipe (PVC) was used for all utilities except hot water and steam, including ducts, conduits and tubing for heating and air conditioning, laboratory piping of gas, air, water, electricity and mechanical services. Lightness and ease of assembly make it economical for general as well as special use.

"We have at least uncovered many of the unknowns," conclude the architects, "and find that they present broad horizons for an exciting future."

PLASTIC WINDOWS (acrylic) are lightweight, as seen above, cut out direct sunlight without the need for blinds or maintenance.

PLASTIC-FACED FORMS (phenolic on plywood) produced the clean-surfaced concrete (right), requiring no expensive rubbing or finishing.

RIXSON overhead concealed door closers



Outstanding example of cooperative planning, famed Paul Laurence Dunbar Vocational High School, Chicago Public Schools. Holabird and Root and Burgee, architects, Chicago.

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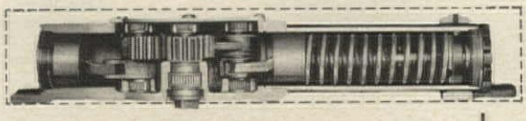
for shallow head jambs like these!



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These RIXSON no. 225 closers not only meet the requirements of narrow style head jambs but have ample power to dependably control heavy entrance doors under all conditions. Being completely concealed, no mechanisms or protruding arms are exposed to be tampered with or mar the appearance of the modern entrance. Available in three sizes for both center hung and butt hung installations.

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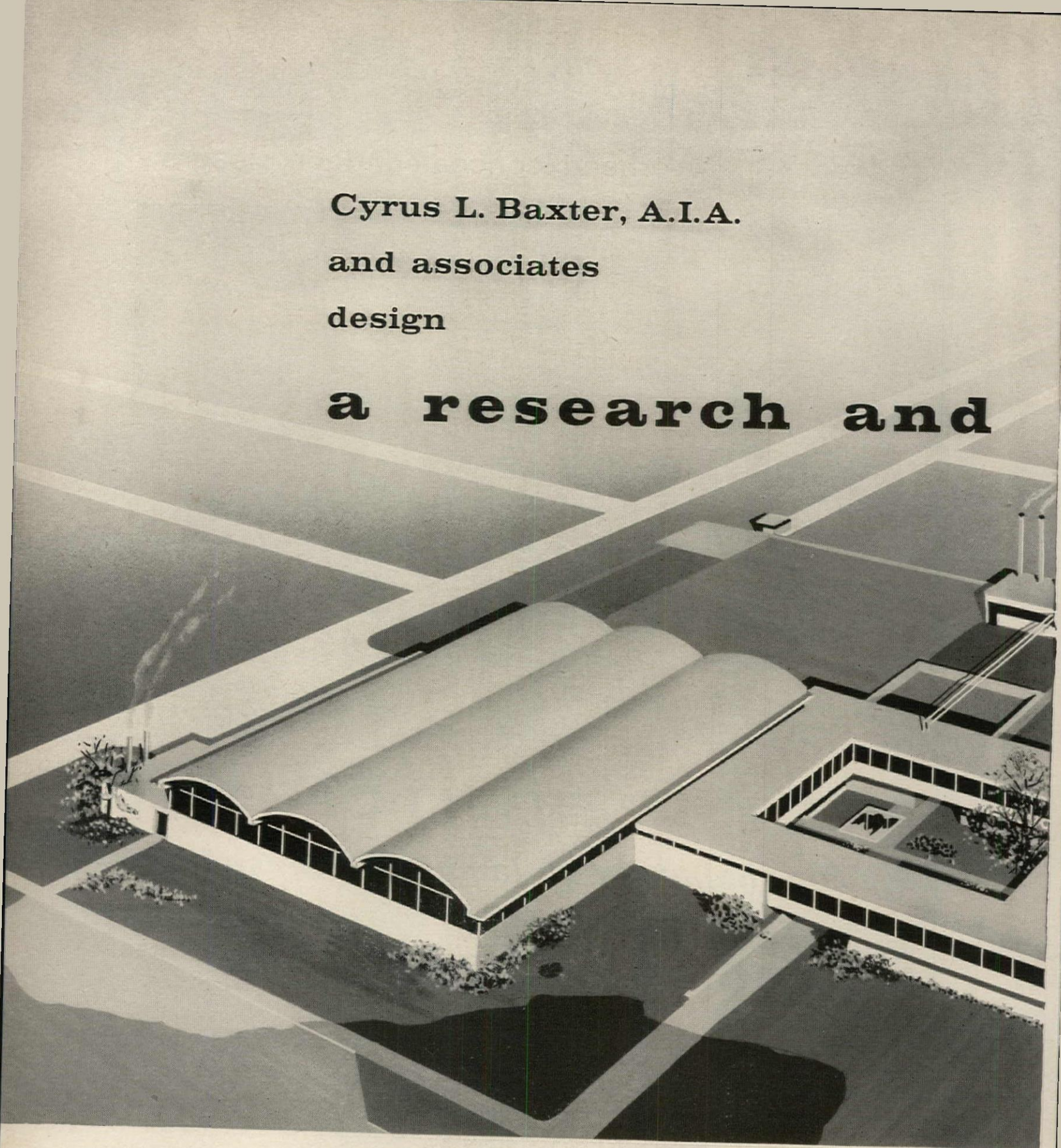
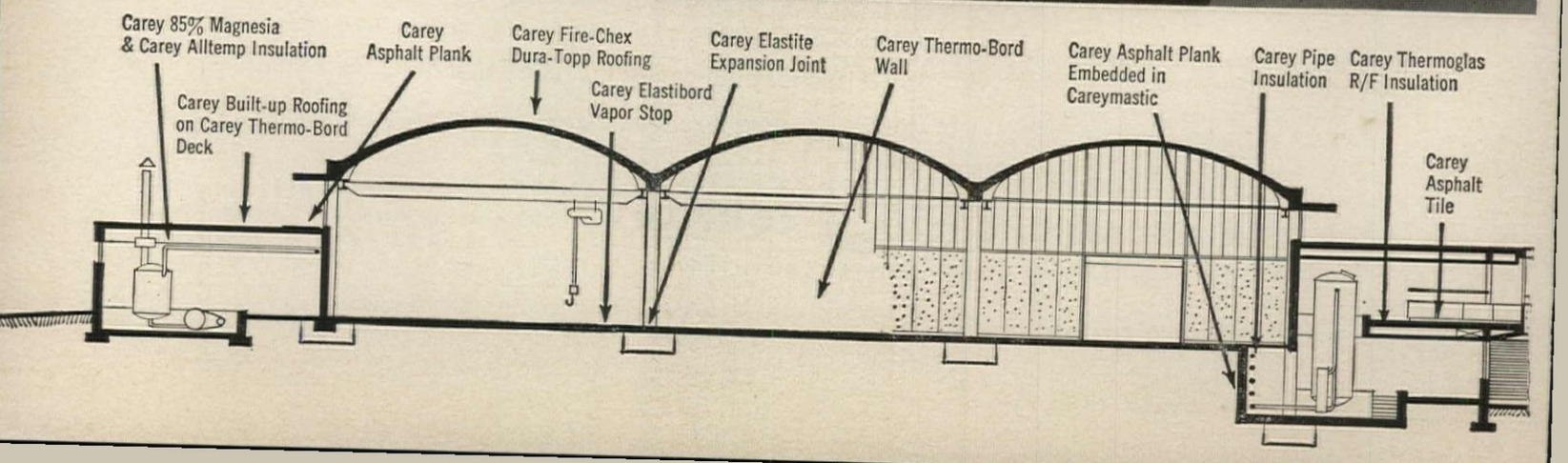
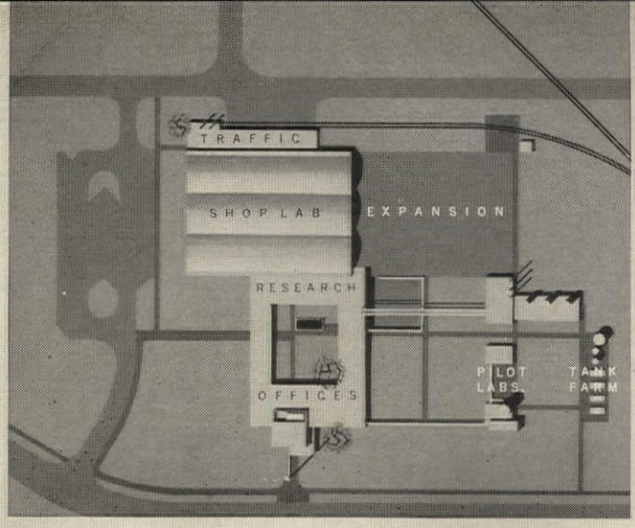
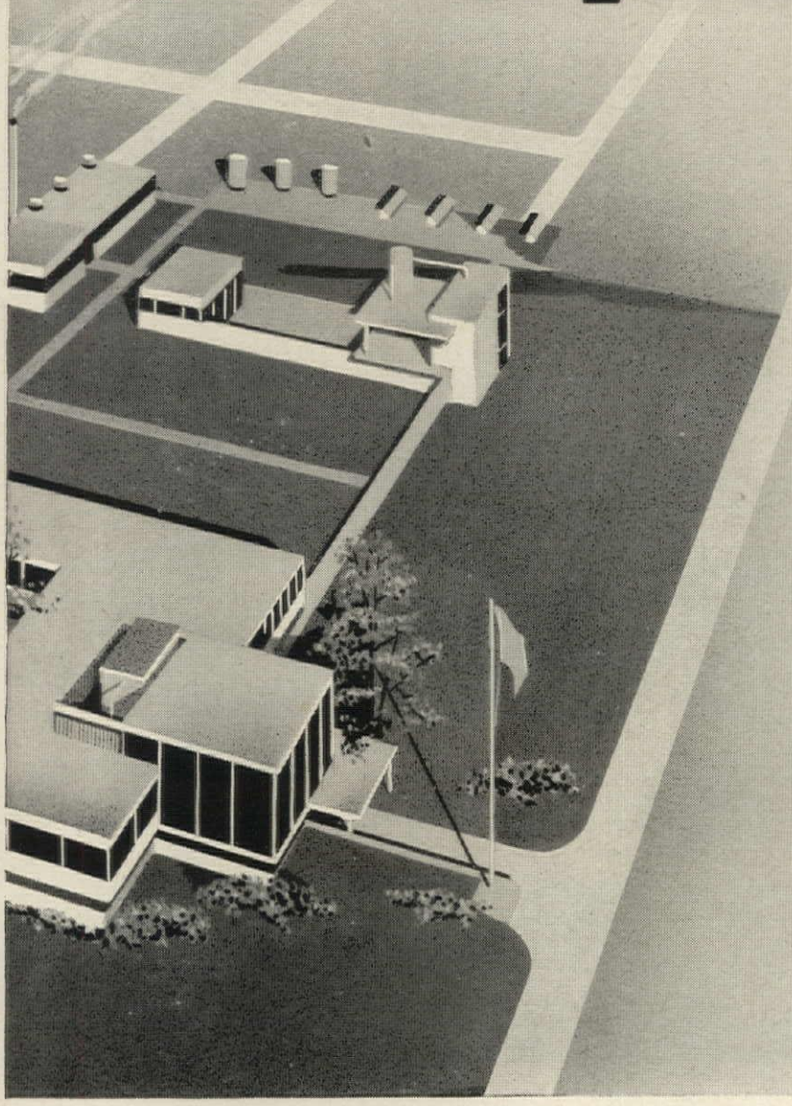






development plant



Activity in research and development has become a symbol of progress for America's industrial leaders. This is revealed in the provisions for extensive research and development plants in the building programs of so many companies.

This design study—the work of a prominent firm of industrial architects—offers a practical construction plan for this increasingly important building type. It incorporates the use of many popular Carey Building Products.

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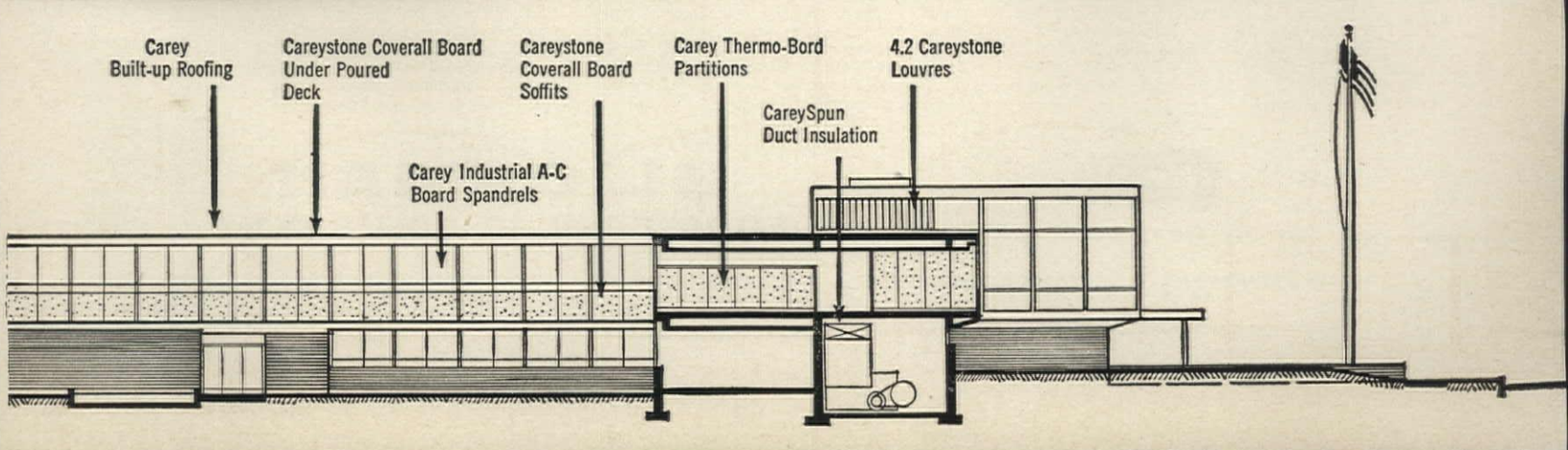

Socony Mobil Building
Owner, Galbreath Corp.
Architects,
Harrison & Abramovitz
John B. Peterkin
Interior Architect,
J. Gordon Carr
General Contractor,
Turner Construction Co.
Food Service Equipment,
S. Blickman, Inc.
Food Service, The Brass Rail

Photo by Wurts Bros.

Luncheon to your order... 2500 times a day!

This minor miracle, performed five days a week in the new Socony Mobil employee and executive dining rooms was made possible only through the close cooperation of architect, contractor, operator and fabricator from the time the decision was made to include feeding facilities in the building.

To meet the problem of serving luncheon to 2,500 people in seven separate dining areas in a limited time, Blickman designed, built, and installed the world's most modern kitchen. All equipment is long-lived, heavy-gauge stainless steel featuring Blickman's crevice-free, round-corner construction that simplifies cleaning and maintenance. Work areas are laid out for the most efficient operation possible... flow from production to service areas is accomplished without any confusing cross-traffic. And all of this has been accomplished within the stringent space requirements of the original specifications.

For more information regarding Blickman-Built food service systems and equipment, write to S. Blickman, Inc., 5806 Gregory Ave., Weehawken, N.J.

MAIN COOKING AREA • A 39′ long section with 15 all-electric ovens, broilers, ranges and fryers. The entire area is covered by a stainless steel hood with built-in automatic CO_2 fire extinguishers that flood the hood when temperatures get too high.

GARDE MANGER AREA of stainless steel is separated from the main cooking area by a 12′ aisle. An oyster and shell food counter is at extreme right. Adjacent is the cold sandwich section flanked by the salad counter. Extreme left is the dessert preparation section.

DISHWASHING AREA #1. A spacious 32′ x 27′ area designed for maximum sanitation. Tables of stainless steel with fully enclosed roll rims discourage dirt accumulations. All corners are rounded, bull-nosed and coved. Dishwashing capacity is 10,000 pieces per hour.

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Brief accounts of noteworthy developments

SOIL STABILIZER

In recent years much research, mainly for the military forces, has gone into the development of plastic soil stabilizers, using the ubiquitous synthetic plastics in fine-particle form or solution to stabilize landing beaches, airfields or roads for swift military operations. Not much of this work has been transferred as yet to its most obvious civilian application, the preparation of sites for building and construction. But as good sites become increasingly scarce, engineers and construction firms would be well advised to undertake the field research necessary to explore these chemical methods for solving the problems of soils ranging from swampy to those with poor drainage.

Latest of the soil stabilizers, more specifically applicable to civilian construction than others, is a mixture of water-soluble acrylic monomers (basic plastic materials) discovered by T. W. Lambe at M.I.T. and intensively developed by American Cyanamid Corp. Pumped into ground where water seepage is a problem, the soluble acrylic, under the action of a catalyst, is turned into an insoluble clear gel that fills the interstices of the soil to act as a water barrier. By varying the catalyst, the acrylic materials may be jelled in a matter of minutes or hours to suit the permeability of the soil being treated. Cyanamid has put the materials, designated AM-955, through rigorous field tests—sealing off the soil around a Chicago apartment house basement, a service tunnel, a plant of its own in New Jersey, with good results—and is in semicommercial production. Main drawbacks are price (85¢ a lb.), which will come down, and toxicity of the material until jelled, which is being overcome by special packaging and selling only to firms which agreee to train and equip a crew for safe handling.

While AM-955 is specifically for reducing the permeability of soils, other stabilizers are now available for increasing the permeability by lowering the density of heavy clay soils (polyacrylonitrile, polyvinyl alcohol, carboxymethylcellulose) and for raising the density and freeze-thaw resistance of light soils (polyphosphates, lignosulfonates). The direction of developments in this field is toward a frostproof, waterproof stabilized earth slab for buildings, requiring no excavation or masonry work, in which pipes, ducts and other service lines may be buried, while a relatively thin plastic surface is laid over all.

STACK SHOWERS

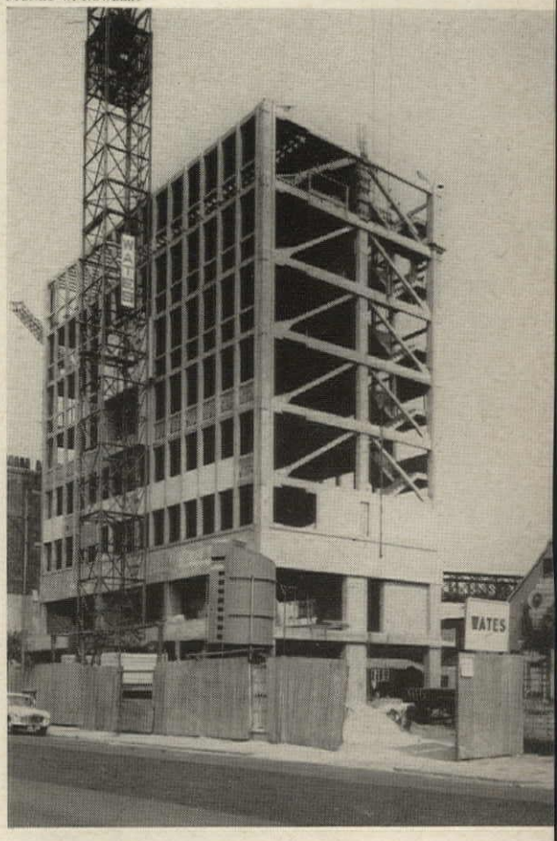
Researchers at Bituminous Coal Research, Inc.'s laboratory in Columbus, Ohio, have developed a simple device that should make it increasingly difficult for industrial or institutional stacks to belch black smoke uninhibitedly over an area. For as little as $35 in materials, a simple water spray-nozzle, something like a shower head, is installed inside the stack a calculated distance above the breech to reduce soot particles by 70%. The fine spray precipitates the particles like rain inside the stack. A 1″ water line feeds the head. Developed in cooperation with Pittsburgh Consolidation Coal Co. and the Bituminous Coal Institute, the new stack-spray system was tested last season in two installations, one a hospital in Monessen, Pa., the other a small manufacturing plant in Pottstown. Snow around these two locations, which always quickly blackened, remained white as snow last winter.

STRESSED CERAMICS

Reasoning from the fact that brittle concrete (a ceramic) gains over 25% in load-bearing strength when prestressed by means of embedded wires or thin steel rods stretched in tension high enough to exert a compressive stress on the cured concrete, Seymour A. Bortz and Hikaru Nagao of Armour Research Foundation, Illinois Institute of Technology, have developed a new theoretical class of materials called prestressed ceramics.

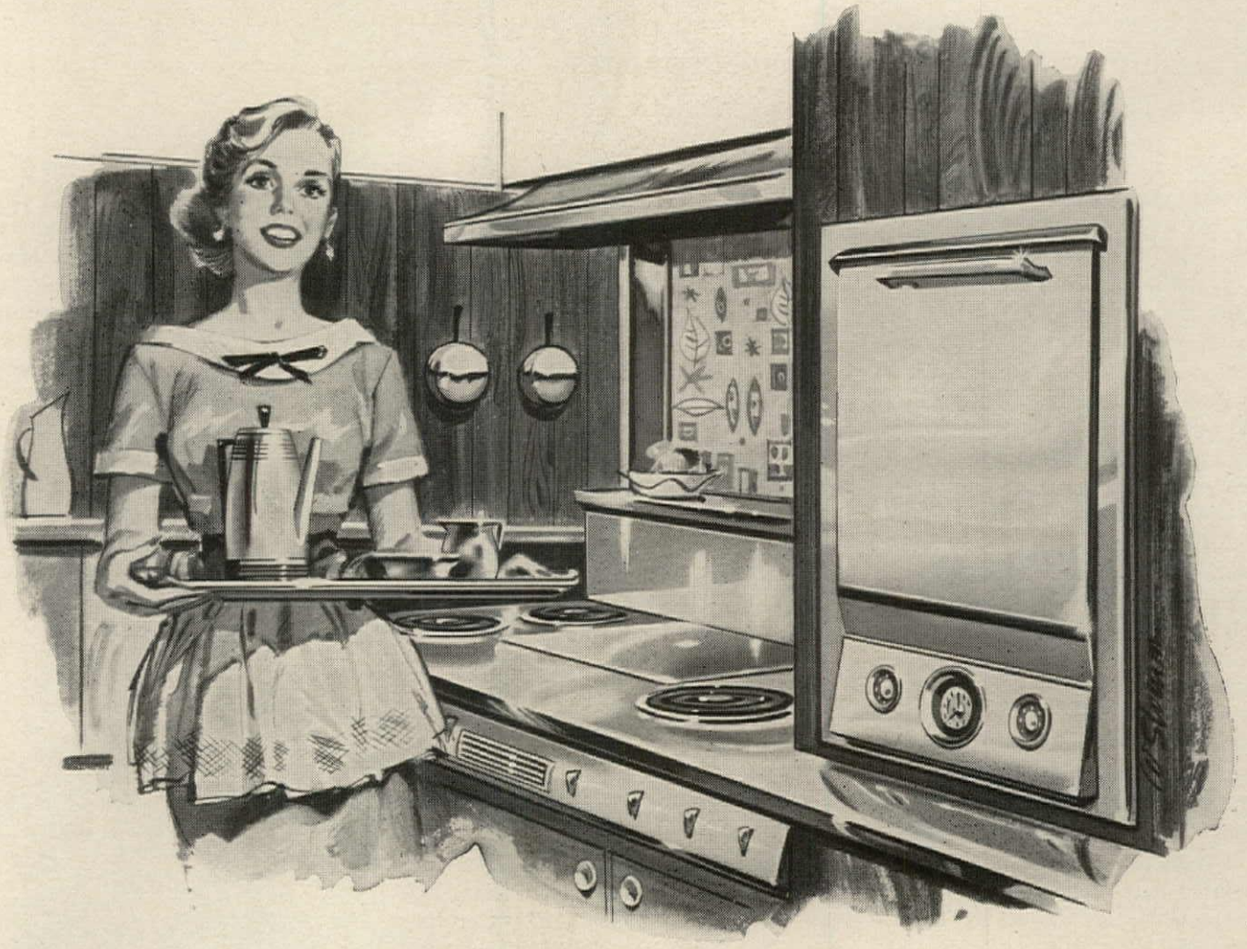
In this system a metallic network or wire grid is impregnated and encased by a ceramic raw material, then heated to a high temperature at which the ceramic cures and is bonded to the metal. Upon cooling, the metal part of the composite shrinks more than the ceramic, thus putting a high compressive stress on the ceramic. Mainly developed to make use of such high oxidizing metals as molybdenum and tungsten in extremely high temperature jet-engine parts, the new system, still in the research stages, may be applicable to the development of very high strength, lightweight cermet (ceramic-metallic) construction materials employing glass, frit or numerous synthetic ceramics coming up.

SYDNEY W. NEWBERY



PRECAST SYSTEM

A system of long-span, precast concrete slabs, developed by Engineer F. J. Samuely of England, forms this apartment building on London's Embankment. Precast columns only 5″ to 6″ wide (no interior columns) bear the slabs, have been carried as high as 13 stories. Precast frames one atop another provide a load-bearing curtain wall. Because everything was precast, including staircase units, the building was erected without scaffolding. Architect: Frederick Gibberd.



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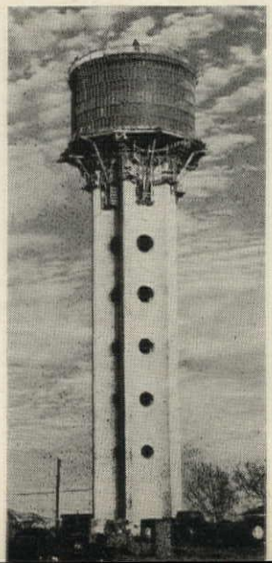
Wet mortar gun ... bare tube ceiling ... paperboard forms for rib slab ... a review of new developments

SLUMPLESS CONCRETE
gunned wet from mixing chamber

Placing up to 4 cu. yd. of concrete an hour, the *True Gun-All* spray justifies its contrary behavior with impressive results. Instead of combining dry sand and cement with water at the nozzle as do other pneumatic guns, this compact machine blends the batch thoroughly in its own tank chambers and sends it out wet. Control point for proper hydration is not at the trigger finger of the operator but in the mechanically governed mixing drum. Any type of cement material—fine, stucco, or coarse refractory, as well as sand concrete—is disbursed by the *Gun-All* in even consistency without blurted sand pockets. Creating less hose friction than dry aggregate, the premixed materials make it practical to use a small rotary compressor with 125 cfm capacity at 80 lb. pressure; dry delivery equipment requires 300 to 600 cfm. The dense concrete gunned by *True* equipment has excellent adhesion. Very little bounces back or sloughs off as waste. A mesh of metal lath can be used with reinforcing steel as inexpensive, integral formwork for exotic shell and hyperbolic paraboloid structures. *True*-gunned concrete also develops high compressive strength. After seven days curing, a 1′ long, 6″ cylinder (one part Portland cement and four parts sand) was laboratory tested at 6,000 psi. Other field advantages: rain-sloshed sand does not have to be dried before use in *True* machinery. The pumping action of the paddles inside the tank chamber boosts delivery power so that hoses 250′ and longer can be used. All equipment except the business end of the hose and an operator stayed on the ground for the spraying of the 200′ tower pictured below. Because of the lack of rebound and dusting, *True Gun-All* can be used to line vessels and pipes with refractory material. Total savings in labor time and material, according to Max True, president of *True Gun-All* Equipment Corp., run up to 40% over conventional poured concrete and other pneumatic methods.

Manufacturer: True Gun-All Equipment Corp., Box 2526, Tulsa, Okla.

PREMIXED CONCRETE of controlled density and moisture content is gunned into place with pneumatic mortar equipment. Operator, armed with a long hose, places concrete for a dome or tall tower while the machinery stays on the ground. Operator in photo at right demonstrates low slump character of concrete.

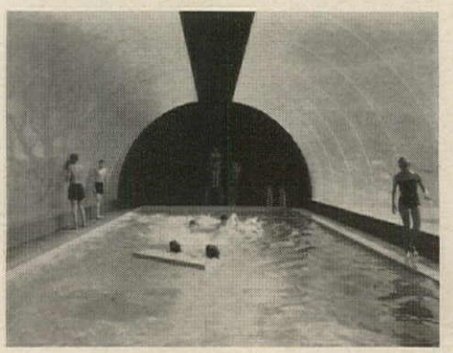


PLASTIC POOL ROOF
keeps swimmers warm in snowstorm

During his seven-years' design and manufacturing experience on plastic radomes for the Arctic DEW-line radar stations, Engineer Walter Bird came to regard his own Buffalo, N.Y. climate ("ten months of good skiing and two poor") as practically tropical. He put his knowledge of air supported domes (FORUM, May '57) to work in his own back yard and constructed a transparent enclosure for the family pool. With the lid on, the Birds and friends can swim in comfort for several months past the regular season; and by turning on a small heater for the pool water continue their aquatics through Buffalo's blizzards. The grounded blimp, 58′ x 24′ x 13″ high, is anchored to the concrete deck around the pool with room left for walking and sun bathing. A blower powered by a 1/6 hp motor maintains enough pressure to keep the struc-

continued on p. 170

ture rigid under high winds and heavy snows. Vinyl coated nylon sheet forms the *cabaña* and door-end sections of the enclosure. No beams or columns are necessary. When summer finally reaches Lake Erie, the enclosure is folded up in a neat package for storage. Cost of this structure (which Bird plans to market soon) is estimated at $1.50 a sq. ft. of enclosed area. Some other applications

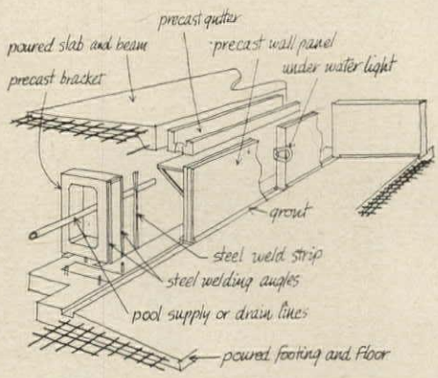


suggested by Bird for similar pneumatic buildings: portable greenhouses, skating rink and tennis court covers, commercial warehouses and display buildings.
Manufacturer: Birdair Structures, Inc., 290 Larkin St., Buffalo, N.Y.

PRESTRESSED POOL PANELS
cast at plant and welded at site

While polyester, vinyl and aluminum are helping to sate and/or spark the home pool market, concrete has turned up in swimmingly good form to meet commercial pool needs and building codes. Delivered in prefabricated prestressed panels, a community-size Lincoln pool can be built in six hours. After the floor slab has been

poured, precast buttress footings are set in place and the walls tilted up against them. The pool is ready for action in 30 days. The precast sections may be assembled in *T* or *L* shapes as well as in the plain rectangle pictured. Approved by the Illinois State Dept. of Health (whose stiff regulations are now echoed by 27 other states) the prestressed concrete panels are designed to be more resilient and so more resistant to cracking than poured concrete. Components for a Lincoln pool structure run about $6,000 to $23,000 depending on size—reportedly 20 to 30% less than metal or masonry pools of comparable ruggedness. A complete line of filtration, chlorination and



recirculation equipment and pool accessories are made by the manufacturer.
Manufacturer: Lincoln Swimming Pool Div., Water Conditioning Products Co., St. Charles, Ill.

FLOATING WALLS
inhibit sound leak between rooms

Metal-to-metal contacts are excellent transfer points not only for electrical energy and heat but for noise and conversation. Thin steel-framed partitions have displayed design and cost advantages in buildings such as hotels but have not rated high in acoustical absorption. To get the sounding-box resonance out of its nonbearing walls, Penn Metal simply has isolated the plaster and lath skins from the steel studded middle. The system uses a double S *Hush Clip* and snap-in ¼" pencil rods to insulate the wall faces from each other. Sound transmission loss of

continued on p. 172

"REINFORCED CONCRETE

gave us elegance, lightness, and grace throughout the entire complex structure..."

The amazing Americana is a spectacular example of the graceful design made possible by the use of reinforced concrete. In addition to the hotel itself is the outdoor band shelter . . . a huge hyperbolic parabola roof of reinforced concrete . . . the only structure of its type in the world. Architect Lapidus, in describing the construction, states, "Our experience in previous hotels indicated that work could be started as soon as plans were completed . . . concrete and reinforcing steel were immediately available." Furthermore, "We found it possible to pour at the rate of one floor per week." On other important projects from coast to coast, reinforced concrete is providing better structures for less money. It is inherently firesafe, and highly resistant to wind, shock, and quake. On your *next* job, design for reinforced concrete.

. . . says
Mr. M. Lapidus, architect for the fabulous Americana Hotel in Miami Beach, Florida

- 14 Stories and roof "topped out" in as many weeks
- Faster completion; less job overhead with reinforced concrete
- Earlier rentals . . . 50 to 60% savings on forms
- 25,000 Cubic yards of concrete, 100,000 concrete blocks, and 2,200 tons of reinforcing steel went into the Americana

THE AMERICANA HOTEL
Bal Harbour, Miami Beach
Laurence A. Tisch, President
Owner: Tisch Hotels, Inc.

Architects & Designers:
Morris Lapidus
Leo Kornblath, Associate
New York-Miami Beach

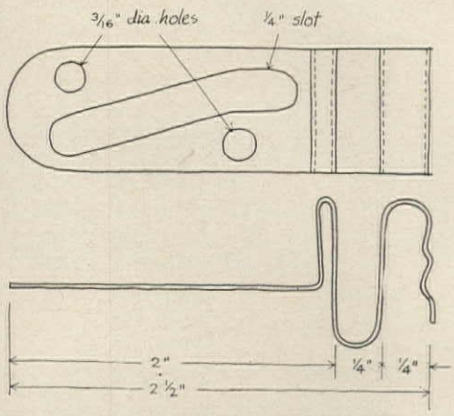
Structural Engineers:
Oboler & Clarke
Miami Beach

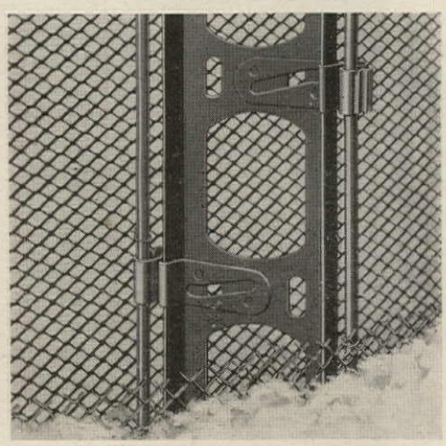
Contractor: Taylor Construction Company
Miami

CONCRETE REINFORCING STEEL INSTITUTE

38 S. Dearborn Street • Chicago 3, Ill.

the new 5¾"-thick interior wall construction is 56.4 db—about 10 better than regular metal stud wall and comparable in privacy protection to a 10" partition with framing mounted on cork strips. The pencil rods act as vertical supports for metal lath; through-contact areas are reduced to the small surface of the clips. Floating the faces away from the studs gives the wall a structural bonus: the

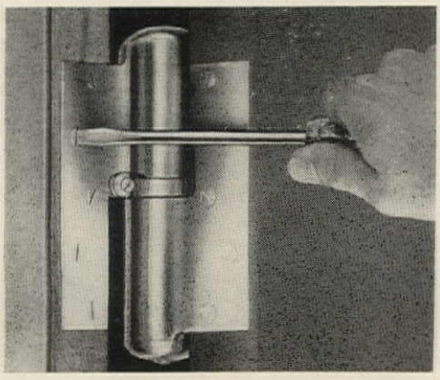




resilient clips flex with the studs' expansion and contraction and so reduce plaster cracking. *Hush Clip* wall components—studs, tracks, lath and plaster and clips—cost about 11¢ more per sq. ft. than for standard partition materials. However, some saving should be realized on installation by the convenient method of tying the lath to the pencil rods.
Manufacturer: Penn Metal Co., Inc., Boston, Mass.

ARMLESS DOOR CLOSER
attaches like ordinary hinge

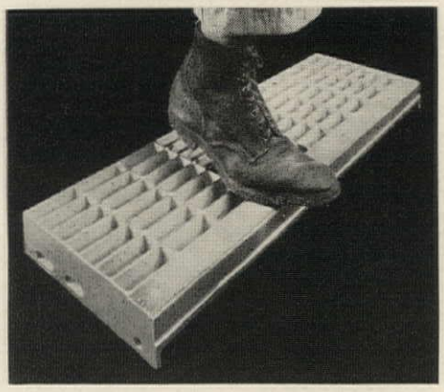
A self-sufficient door closer, the 6" high *Hydro-Hinge* installs as easily as a regular leaf hinge. The mechanism consists of one sealed hydraulic unit which controls the closing and latching action of the door, and one or two spring hinges according to the heft of the door. Said to provide reliable and noiseless closing, the *Hydro-Hinge* has no brackets, arms or additional devices for concealment in the floor. The units are manufactured in two types for light and heavy duty. The 2H series for doors weighing up to 74 lb.



start at $20 for a prime-finished hydraulic hinge and $14 for a matching spring unit. Hydraulic hinges for doors up to 125 lb. in the 4H series start at $37 and $17 for spring hinge and $12 for intermediate hinges. All are also available with bronze finish and bright and satin chrome coats. *Manufacturer:* Bakewell Products, 1128 Mission St., South Pasadena, Calif.

GRITTY NOSED TREAD
die cast of aluminum in one piece

These stair treads are fabricated of aluminum alloy to buck the outrages of extreme weather and corrosive surroundings. Cast in one piece, the treads distribute loads evenly over the bearing surface and can take on 3,000 lb. with little deflection. Nonskid nosings of aluminum oxide abrasive are bonded metallurgically to each plate's front surface. Requiring little maintenance, the jointless grates have rounded corners which keep dirt from



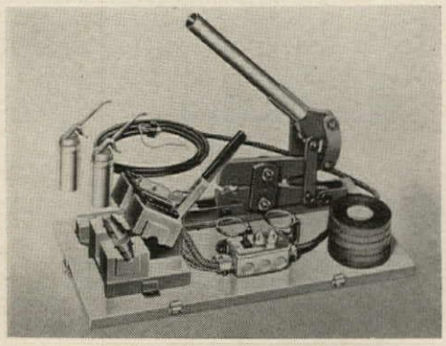
collecting. Standard width of the treads is 10". They are made 2' to 3'-6" long and sell for $8 to $11.80 in an "as-fabricated" finish. For food plants a sand polish is recommended; and for marine stairs, anodizing and aluminum paint. *Manufacturer:* Aluminum Co. of America, 1,501 Alcoa Bldg., Pittsburgh 19, Pa.

PORTABLE SPLICING KIT
produces vulcanized cable joints

Shockproof cable splices can be made in the shop or on the job with the *Cam-Lok*

continued on p. 174

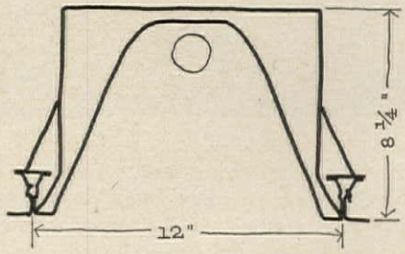
Kit. To produce a vulcanized splice in five minutes, the electrician strips back the insulation, inserts the bare cable ends in a copper tube and crimps them together in the kit's press. An inner sleeve keeps the splice slim, smooth and flexible. Another sleeve is then vulcanized to the cable jacket. Conductivity of the splice

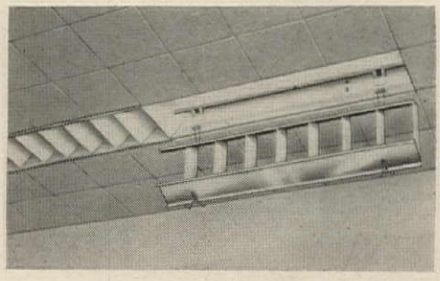


portion is as good as the wire itself, and the finished insulation will withstand 2,500 v. without leakage. Cable sections as short as 2′ can be spliced instead of wasted. The kit handles wire for 110 v. AC. Its $250 price includes cable cutter, crimping press, vulcanizing mold and ten rolls of neoprene tape. Sleeves and jackets for 50 splices cost about $2. *Manufacturer:* Cam-Lock Div., Empire Products, Inc., Cincinnati, Ohio

YOKELESS TROFFER
latches on standard grid system

Smithcraft's 1′-wide finned troffer sets into a hung ceiling with hinge tabs that attach to the suspension members. Resting on the *T*-bars, the one-lamp fixture needs no supporting yokes for alignment, and is adjusted vertically with a simple thumb screw. The 8¼″-deep troffers are framed only on the sides, and each 4′ baffle strip

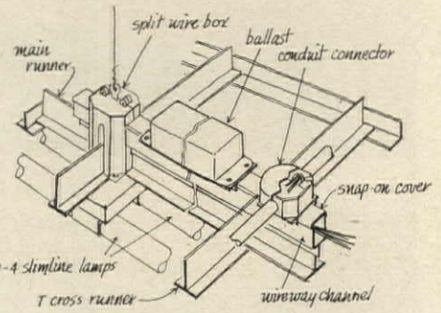




is a complete assembly. Fixtures can be mounted individually or wired in series in long runs with no breaks between adjoining sections. Anodized parabolic reflectors throw a high degree of illumination from the single lamps on work surfaces without distracting brightness streaks at ceiling level. List prices run from $62.71 for an *ALT* troffer for a 40 w. rapid start bipin lamp up to $204.58 for a twin parabola section for two 8′ slimlines.
Manufacturer: Smithcraft Lighting Div., A. L. Smith Iron Co., Chelsea 50, Mass.

ROW LIGHTING
hooks on ceiling grid suspension

Sound control and illumination are stripped to fundamentals in the *Lok Electric* ceiling—and cost follows function at a bargain 99¢ a sq. ft. in place. Continuous rows of bare fluorescents are anchored on top of the rigid suspension grid of *Drive-Lok* aluminum inverted T's. Except for simple porcelain lamp holders, all electric fixture parts—wireway channels



and ballast assemblies—are attached out of sight above the acoustic ceiling panels. Slimline lamps align automatically with the ceiling grid and can be mounted in single or multiple rows. By keeping the hottest part of the fluorescent system, the ballasts, up in the plenum where air can move freely, *Lok Electric* helps lighten the air-conditioning load and lengthen lamp life. The frank ceiling already has worked out well enough in its first installations to merit a modest refinement: diffuser covers are being made for the exposed tubes.
Manufacturer: Lok Products Co., 5109 San Fernando Rd., West, Los Angeles, Calif.

continued on p. 176

CORRUGATED BOXES
fold into waffle and rib slab forms

The asphalt-treated paperboard in *Jayhawk* construction pans got its basic weather training inside refrigerators before emerging onto less-devastating job sites. Passing all standard laboratory tests on crush, puncture, stiffness and bursting, as well as the rigors of water immersion and drying cycles, the corrugated *Freezerboard* is made up into low-cost forms for both waffle and rib slab construction. Precut and scored, shipped knock-down for quick assembly on the job, the lightweight *Jayhawk* pans are easy to set in place. Their paraffin coating lets them come clean without oiling after the concrete cures. Rib slab pans are made in lengths up to 12' in straight and tapered shapes; waffle boxes

are 6" to 14" deep and 15" to 30" square. All types are flanged and butt neatly at midjoist to prevent drippage and rough burrs. Form price of 10¢ to 15¢ a sq. ft. FOB plant includes detailed shop drawings and initial job supervision.
Manufacturer: Lawrence Paper Co., Lawrence, Kan.

PISTON DRIVE TOOL
shoves fasteners through steel

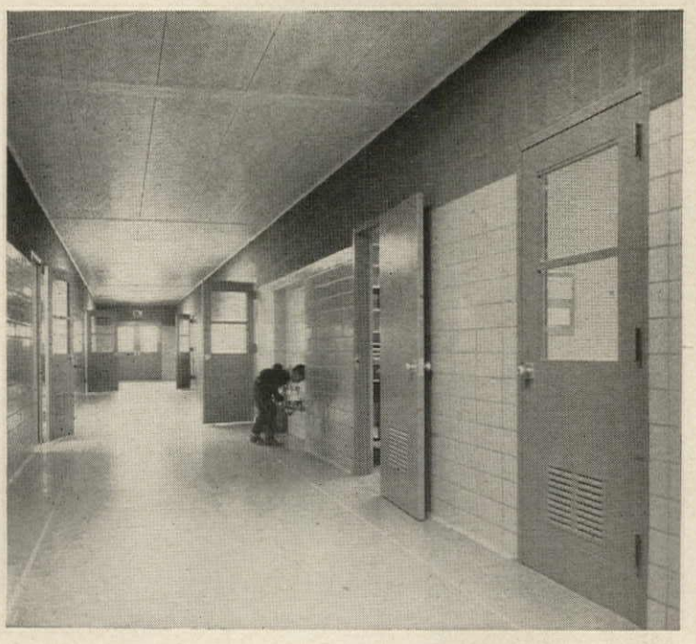
Firing blank cartridges, the 6-lb. *VP Stud hammer* sends a special nail stud through wood objects or sheet metal and anchors it firmly into masonry. Handy for installing conduit boxes, door bucks, furring, partition framing and other metal components, the small powder-actuated tool is engineered with a piston drive for safe handling. Instead of shooting fasteners, the *VP* pushes them into the work surface. It fires only when held in work position and cannot ricochet or go off

accidentally. One type cartridge is used with three stud sizes: 1¼", 1¾" and 2¾; penetration depth is regulated by settings on an adjustment ring. Price of the stud hammer with carrying case, auxiliary tools and safety goggles is $112.50. *Manufacturer:* Velocity Power Tool Co., 201 N. Braddock Ave., Pittsburgh 8, Pa.

DIAMOND BIT DRILL
extracts clean core from concrete

Noiselessly and without mess, a *Kor-It Jr.* bores precise holes 3/16" to 2" wide through concrete at the rate of 6" a minute. The portable drill's high-test metal circular bits are imbedded with industrial diamonds to cut clean voids in marble or masonry walls, floors or pavement. Useful for installation of new wiring or utility lines and for attaching hangers on masonry spandrel panels, the tool maintains constant pressure as it drills. It can be handled at any angle and cuts to a depth of 8" or, with extensions, infinity, lifting the core out in one piece. Price of a basic *Kor-It Jr.* is $225. Diamond bits range from $45.50 to $144. The drill runs on 110 or 220 v. current and its water supply hose can be attached to any faucet. An assembly for water removal costs $43.80. *Manufacturer:* J. F. Hamlin Co., Inc., 746 Ellis St., San Francisco 9, Calif.

NEW CUSTOM DESIGNED



Here's a door designed especially for school classrooms. It looks expensive, but it isn't. It's a stock door by Fenestra®—with an installed cost about $100 less per opening than you'd expect to pay.

What's outstanding about this door? First, the hardware. The new anodized aluminum pull-push plate makes it easy to open for even the smallest child. It's locked from the outside with a key. A thumb turn on the inside will open the door if a child should be locked in by mistake. An automatic door closer and inside kick plate are also included. Now, look at the glazing. Two panes of patterned glass with one pane of clear glass gives classroom privacy with a view window at eye level.

Architect Glen Drew, Poplar Bluff, Missouri, uses Fenestra Hollow Metal Door-Frame-Hardware Units for custom quality at stock door costs. O'Neal School, Poplar Bluff, Missouri, has 42 Fenestra Flush Doors. *Contractor:* George H. Gassman Construction Co., Poplar Bluff, Missouri.

SCHOOLROOM DOOR

The door itself is a Fenestra Hollow Metal Flush Door that can't warp, swell, stick or splinter. It always swings open smoothly and closes quietly. Thousands of these doors are in use in schools all over the country.

This classroom door costs you less to buy and install because Fenestra mass produces them on special jigs that save expensive labor. Then the doors, complete with frames and hardware, are delivered to your school ready to install. You don't have to cut, fit, mortise, drill or tap a Fenestra Door. It's factory machined for all hardware, either template or surface mounted. *One man with a screw driver can install it in minutes!*

Before you choose the doors for your next school, call your local Fenestra Representative—listed in the Yellow Pages—for complete information on this New Fenestra Classroom Door, or mail the coupon below.

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DOOR-FRAME-
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Your Single Source of Supply for
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Please send me complete information on Fenestra Hollow Metal Door-Frame-Hardware Units for schools.

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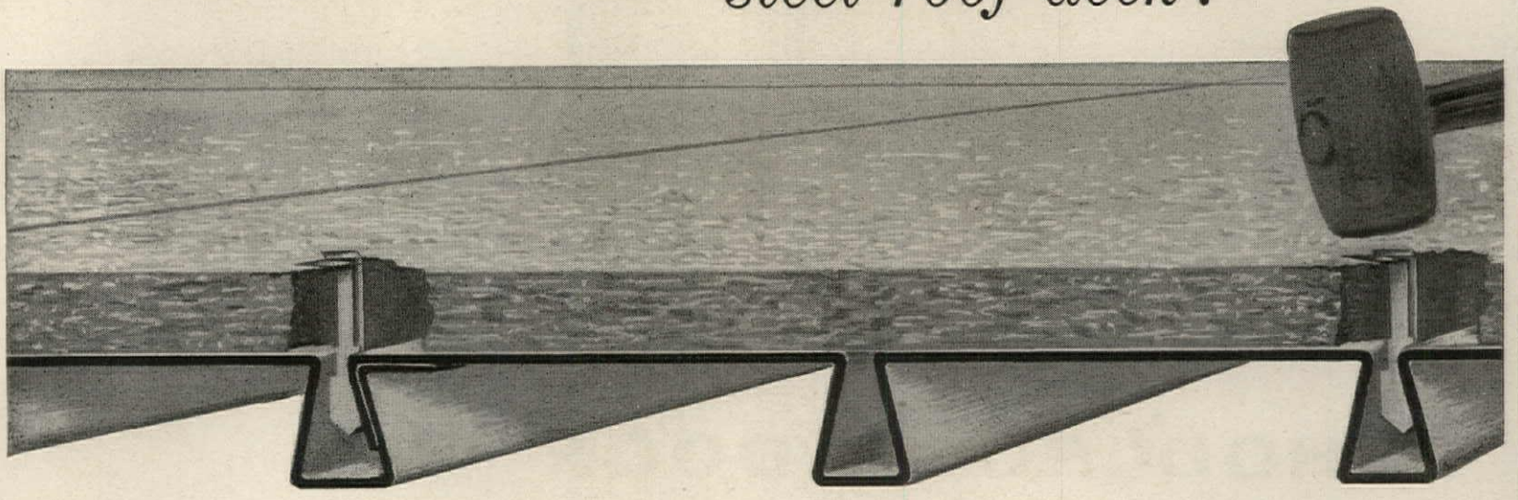
Fenestra
DESIGN NEWS

Fenestra HOLORIB...

quality standard for steel roof deck!

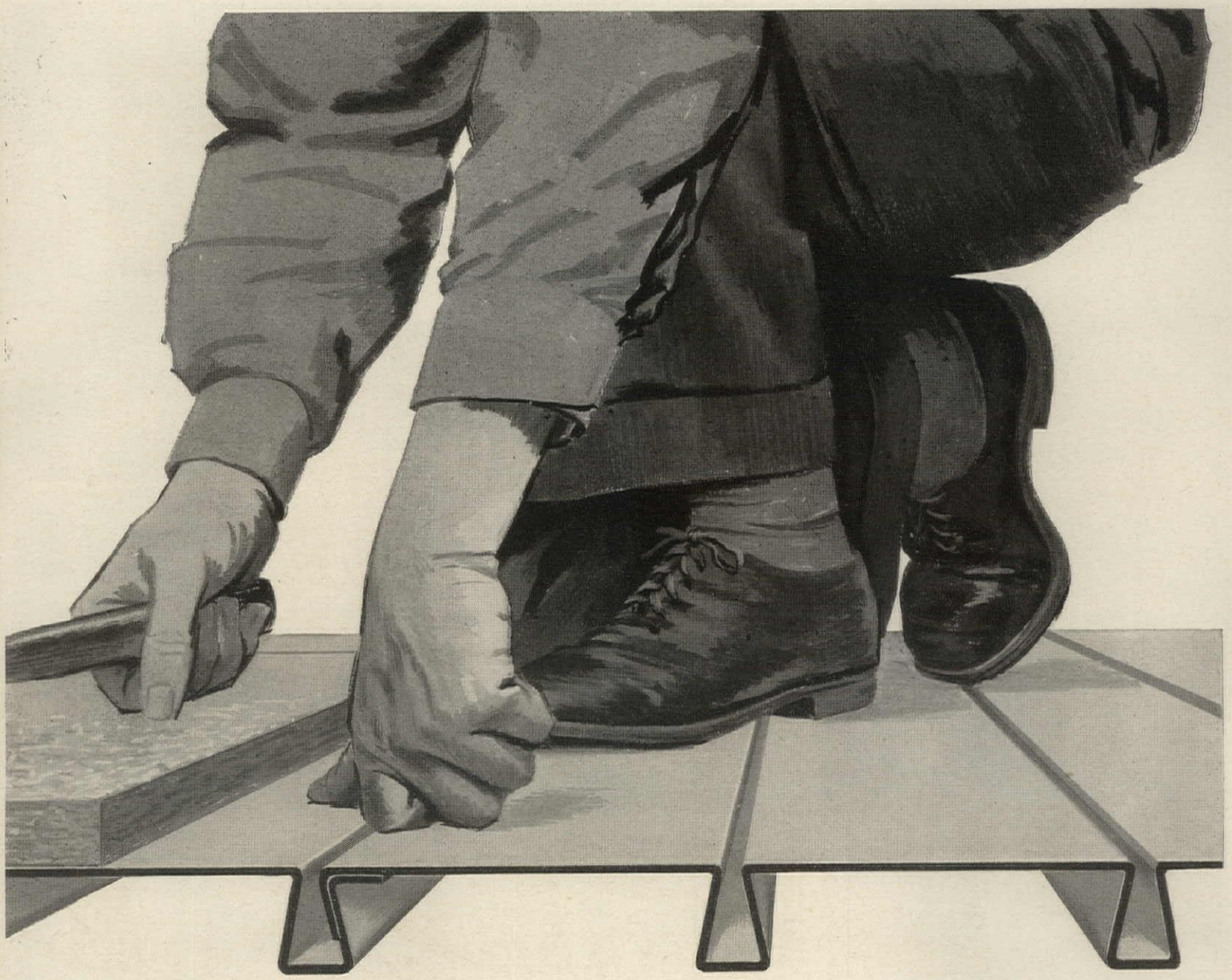


■ Since its origination in the early '20s as the first insulated roof deck, Holorib has been recognized as the design standard for this type of construction. Its exclusive features give you many important advantages.

The pyramidal-shaped ribs which distinguish Holorib provide greater lateral and vertical stability than ordinary designs. This greater strength allows heavier loads on longer purlin spacings. The narrow rib openings—$\frac{3}{8}$"—give full bonding area and a firm support for insulation as well as allowing a minimum waste of bonding materials. The broad base—1"—rests firmly on the purlins for a balanced structural section and greater welding area.

Holorib design features also speed up construction and provide tight joints to eliminate asphalt leakage. The telescoping end laps provide for expansion and contraction and give positive connection. The side laps interlock with the complete last rib of the adjoining sheet to assure full and equal strength at all points. The side lap is smooth and permanent and allows the Holorib to conform to movements of the material above it. No side lap clips are required.

Fenestra® Holorib Steel Roof Deck is rolled in lengths that permit economical spacing of purlins and the design advantage of continuity over supports. Full 18" coverage gives fast erection with the large area sheets.



Non-piercing insulation clip now available exclusively for Holorib. This provides fast construction and a positive anchor for insulation when the asphaltic vapor barrier or adhesive is eliminated between deck and insulation.

Be sure to get the quality design and construction advantages of Fenestra Holorib Roof Deck. Specify it exactly . . . there is no equal. Check any alternates for bonding area, strength and stability of section at all ribs, end and side lap details, insulation fastening, and speed of installation. There is no comparison to Fenestra Holorib. For complete details, get your FREE copy of the *1957 Fenestra Building Panel Catalog*. Call your local Fenestra representative—listed in the Yellow Pages—or mail the coupon below, today.

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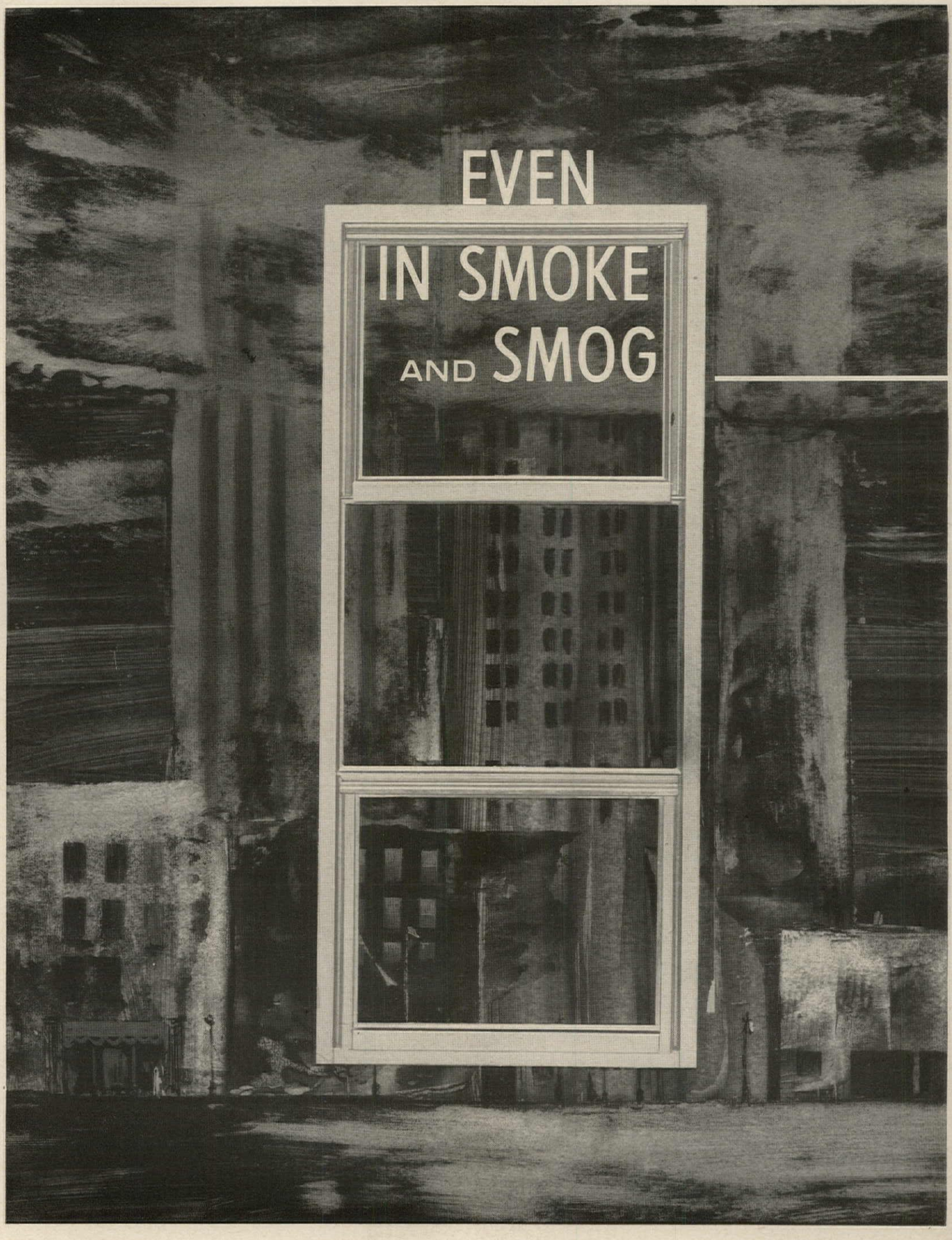
EVEN
IN SMOKE
AND SMOG

FENESTRA *FENLITE* WINDOWS NEED NO PAINTING

New Fenestra® FENLITE Industrial Steel Windows are the answer to window maintenance problems in new or existing plant buildings. They give you distinctive appearance . . . lifetime corrosion resistance without painting . . . *plus* the strength of steel! *And they cost no more than ordinary steel windows with two-coat field painting.*

This new corrosion-resistant steel window finish is produced by an exclusive Fenestra process developed through years of research and testing. The FENLITE process alloy-bonds a lifetime zinc surface with the steel of the window. A special chemical polishing treatment protects the surface against the natural early corrosion of free zinc. Standard 20% salt spray tests indicate that resistance to the start of white corrosion of the zinc is increased 3 to 12 times by this treatment. The window is also prepared for a tight glazing compound bond and for decorative painting, if desired. *Maintenance protective painting is not required.* Precision electronic control is needed for every step in the FENLITE process. *The windows must be completely submerged in one dip in each bath!* Fenestra's specially designed "million-dollar" plant is the only one in America with facilities to produce FENLITE.

Fenestra FENLITE Industrial Steel Windows are now being installed in new industrial plants from coast to coast. Other leading firms are solving their window maintenance problems in existing plants by replacing the windows with Fenestra FENLITE Windows. They estimate their savings in painting and maintenance costs will quickly pay for the new windows and eliminate future problems and expense.

If you have the responsibility of designing or maintaining industrial buildings under all types of atmospheric and weather conditions, you should get complete information on Fenestra FENLITE Steel Windows. Your local Fenestra representative—listed in the Yellow Pages—can show you an actual sample. Call him, today, or mail the coupon below for details.

The Fenestra FENLITE Finish is also available on the complete line of Fenestra Intermediate Steel Windows for schools, office buildings and other fine structures.

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1

2

Every panel in every door

EXTERIOR GRADE DORLUX® PANEL

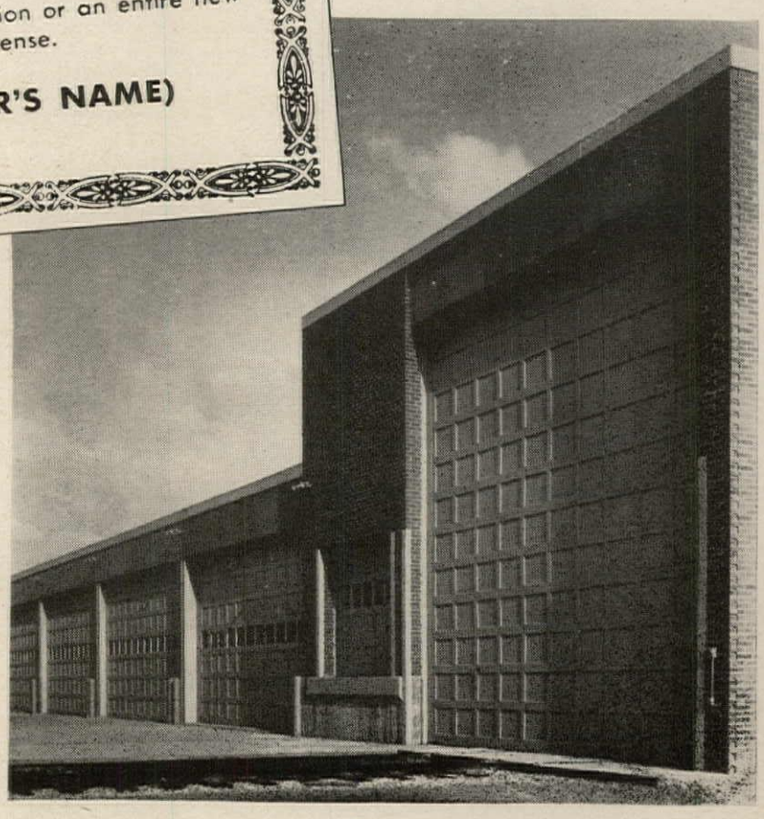
Lifetime Guarantee

The panels of this door are Exterior Grade Dorlux, a product of Masonite Corporation. Dorlux is a wood product selected by the manufacturer of this door to give you the best in quality, beauty, and service. These panels are guaranteed not to split, splinter, delaminate or crack due to any natural conditions of weathering. If a Dorlux panel fails in any of these ways, notify Masonite Corporation, giving conditions of failure and name of door manufacturer. After verification of the failure, Masonite Corporation will furnish a new door section or an entire new door, depending on the circumstances, at its expense.

(MANUFACTURER'S NAME)

® Masonite Corporation, Chicago, Ill.

1. McKee Door Co.
2. Rowe Mfg. Co.
3. Overhead Door Corp.
4. Raynor Mfg. Co.
5. Barber Colman Co.



5

3

4

is guaranteed for a lifetime!

MASONITE®

exterior grade DORLUX

Here's an extra feature you can offer on every job calling for an upward-acting door—at little, if any, difference in cost.

No matter how often the doors are raised and lowered each day...no matter what treatment they get...no matter what weather they must stand up to, the panels of Masonite Dorlux are guaranteed never to split, splinter, delaminate or crack.

No wonder the major producers in the industry are fast turning to these dense, tough panels. There isn't a knot in Dorlux. Its surface is firm, flat and smooth—an ideal base for handsome surface finishes. Since there is no grain to swell and disturb the finish, repainting is extra years away.

The complete facts about Masonite® Exterior Grade Dorlux® deserve your attention—they'll mean a lot to your clients. Just mail the coupon.

An ironclad Lifetime Guarantee on the panels in the door!

MASONITE® PRODUCTS

®Masonite Corporation—manufacturer of quality panel products.

MASONITE CORPORATION
Dept. AF-6, Box 777, Chicago 90, Ill.

Please send me the facts about Masonite Dorlux for garage doors and the names of door manufacturers using it.

Name .....

Title .....

Firm .....

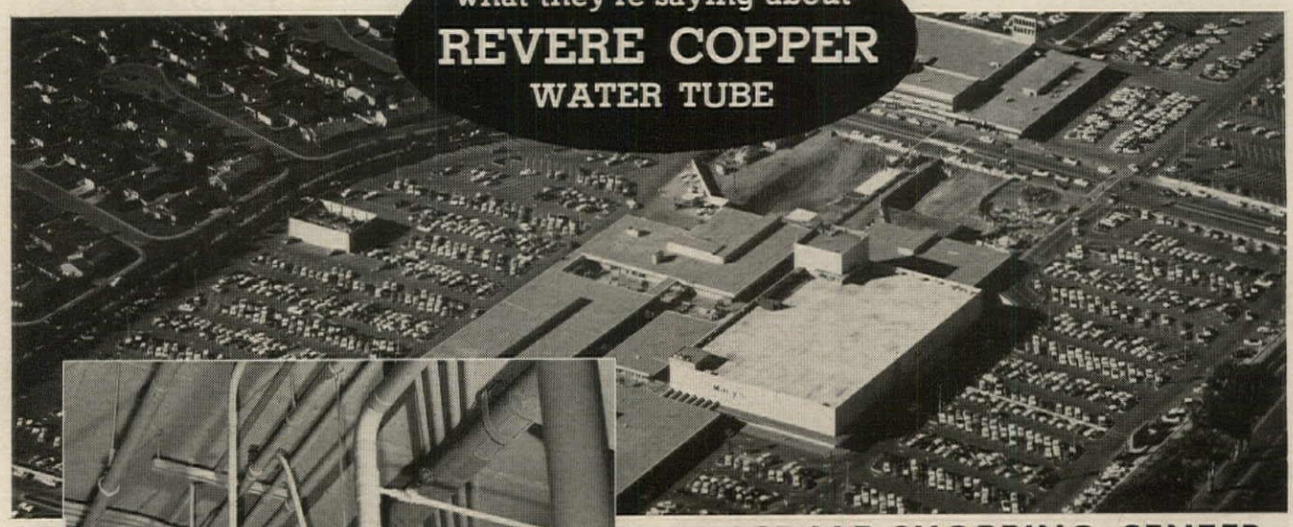
Address .....

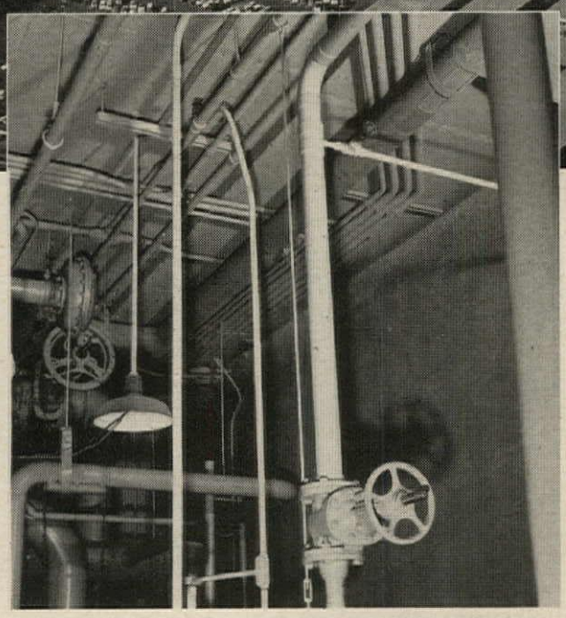
City ..... *State* .....

Zone ..... *County* .....

what they're saying about

REVERE COPPER WATER TUBE





THIS MAMMOTH CENTER containing over 800,000 sq. ft. of space employs 30,600 ft. of Revere Copper Water Tube from ½" to 4" diameter for its water and refrigeration lines. A section of the installation is shown above. Note neatness and compactness. Tube was furnished by Revere Distributor: TAY-HOLBROOK, INC. Architect: WELTON BECKET & ASSOCIATES. Both of San Francisco.

HILLSDALE SHOPPING CENTER

San Mateo, California

"There just isn't any other material that's as easy to work with or as economical to install"

Says, EDWARD P. HICKEY, Co-owner W. L. Hickey Sons, Inc., San Bruno, Sunnyvale, Sacamento, and San Rafael, Cal.

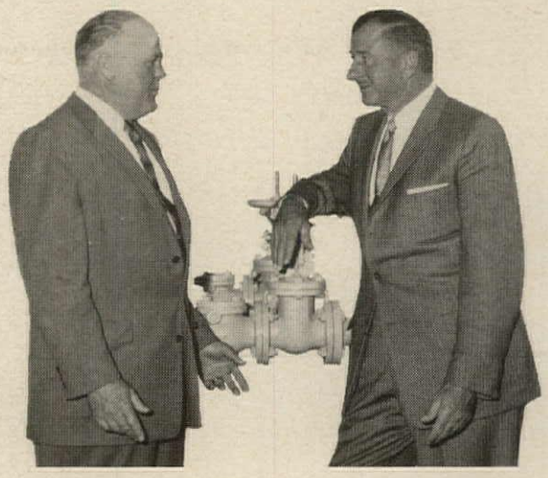
"Why take a chance on a material that can rust when a copper job costs no more"

Says, DAVID D. BOHANNON, President, David D. Bohannon Organization, San Mateo, Cal.

Mr. Bohannon, who has built over 20,000 homes in the San Francisco Bay Area, and is an originator and developer of the "California Method" of mass-production-on-the-job-site building techniques, continued, "In today's 'tight-money' market using copper water tube is more important than ever. For with copper I can give my clients a low-cost job without any sacrifice of quality."

"I've found that copper water tube, because of its solder fittings, and ease of prefabrication and handling, costs less to install than rustable materials," said Mr. Hickey, mechanical contractor.

Builder, contractor, architect, engineer . . . all agree that there is no "or equal" when it comes to copper water tube for hot and cold water lines, radiant panel heating, air conditioning lines, underground service lines, drainage, waste and vent stacks. See your Revere Distributor for your needs.



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Books

G. E. KIDDER SMITH

Square in Vällingby

SWEDEN BUILDS. By G. E. Kidder Smith. Published by Reinhold Publishing Corp., 430 Park Ave., New York, N.Y. 270 pp. 9" x 12". Illus. $10

As Kidder Smith points out in the preface to this extensively revised edition of his 1950 picture book, the last seven years have liberated Sweden from postwar austerity and from a disinclination to experiment. The experiments, particularly the "New Town" of Vällingby, are here well presented by 130 recent illustrations. So well presented, in fact, that they dispel any remaining doubts that a vigorous yet regional branch of modern architecture is making a vitally important contribution to a still-expanding universal development.

BUILDING, U.S.A. By the editors of ARCHITECTURAL FORUM. Published by the McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York, N.Y. 147 pp. 6¼" x 8¼". Illus. $3.95

Here, so that they all may meet each other, are the nine most important characters in the drama of building. As presented by the editors of ARCHITECTURAL FORUM, they are: the real estate operator, the lender, the contractor, the laborer, the manufacturer, the engineer, the corporate client, the public man and the architect.

Near the end of the book is a description of a particularly central character. "At his best the architect is the man in pursuit of wholeness in the building concept and in the building effect." The description contains a challenge: that someone must take ultimate, moral responsibility for the work of the building team —no one other than the architect.

But the challenge doesn't refute the book's major thesis, that the $50 billion US building industry has become a truly group effort. It is rather a recognition of the necessary dominance of the humanistic leader in a specialized world. The book is based on the series of articles called "Architecture in America," published by FORUM in 1955 and 1956.

THE CHANGING CHURCH: Its Architecture, Art and Decoration. By Katherine Morrison McClinton. Foreword by Frederick Dunn, AIA. Published by Morehouse-Gorham Co., 14 E. 41st St., New York, N.Y. 144 pp. 8½" x 11". Illus. $7.50

Clerics, laymen and hod-carriers—everyone in the "industry"—should welcome this sensible and outspoken guide to contemporary church building.

Mrs. McClinton does not hesitate, happily, to make such statements as: "To build a successful church, the architect must be the sole creator of the design." As a result of the author's frankness and her experienced contact with all the committees and attitudes the church architect must encounter, the many possible clichés are exposed and devils exercised with unusual thoroughness.

The book is divided into 15 chapters, each dealing with a peculiar problem of church design or construction. Each one is well-illustrated and carefully looked at.

TOWARD NEW TOWNS FOR AMERICA. By Clarence S. Stein. Introduction by Lewis Mumford. Published by Reinhold Publishing Corp., 430 Park Ave., New York, N.Y. 263 pp. 8" x 10". Illus. $10

Humanity in architecture appears so regularly as the topic for the speaker at the evening ladies' club that there's a temptation to doubt its existence in fact. Like Literacy for the Children of Baluchistan, one often wonders whether it can ever be anything but a topic.

Readers of the newly revised edition of Clarence Stein's great book will be heartened to find, however, that Humanity in Architecture can be as real as bricks and mortar. Or rather, it can be as real as Sunnyside Gardens in New York City, or Chatham Village in Pittsburgh, or Baldwin Village, Los Angeles. And that is real indeed.

For in these beautifully designed, self-contained developments (or, to use the English term, "New Towns"), there are willing witnesses to the humanity of the plans produced by Clarence Stein and his associates in the years between 1924 (Sunnyside) and 1941 (Baldwin Village). There is, also, an obvious rightness to the nine Klein-inspired designs that can only serve as an inspiration to the planners of the latter half of the American Century.

As well as illustrating the livability of the projects, Stein tells in convincing detail the economic history of the "New Towns" movement as it adapted itself to the challenges of American capitalism. The tribulations of the movement during the

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years of the Great Depression make fascinating reading; they also provide a clue to the financial soundness of Stein's recommendations for those who would follow.

The book makes a much better presentation of the facts and ideals of "New Townism" than did the original edition. And, fortunately, the great-hearted concern of Clarence Stein for the way Americans live still stands out as the major reason why the book should be in the library of all who, to any extent, share his concern.

ERIC MENDELSOHN. By Arnold Whittick. Published by F. W. Dodge Corp., 119 W. 40th St., New York, N.Y. 219 pp. 7" x 11½". Illus. $9.85

The biography of an artist, at its worst, is a mere matching up of the masterpiece with the love affair, the symphony with the summer holiday. At its best the biography of the artist is an organic structure, the difference between "life" and "work" being only subtly discernible.

Whittick's *Mendelsohn* falls about in the middle of this range. The author apparently felt under such an obligation to write the history of modern architecture that he was willing to make sacrifices in the story of his subject's life. This distracting sense of obligation ("meanwhile, back at the drafting board . . .") prevents us from being able to focus on Mendelsohn's philosophical and artistic development. It also prevents us from getting what the price of admission should entitle us to: an appre-

Sketch for railway station, 1917

ciation of Mendelsohn's meaning for that mysterious word, *organic*.

A passage from Chapter III does, however, give a clue. "When the observatory (Einstein Tower in Potsdam, 1920) was finished, Mendelsohn conducted Einstein round the building. He was naturally anxious to learn the great scientist's opinion of it. Einstein went through the building and examined the interior, but said nothing. Hours later, during a meeting of the building committee held in the main observatory, Einstein suddenly got up, crossed the room, and whispered in Mendelsohn's ear: 'Organic!'"

As well as providing several similar moments of insight, Whittick does an ad-

Temple and community center, 1948

mirable job of bringing together the known facts of Mendelsohn's dramatic journey across the first half-century of modern architecture. From the Germany of the twenties, to the struggles of Israel, to postwar USA, it is a story worthy of a hero, worthier and with better music than Hollywood could ever imagine.

But it is not, unfortunately, a biography that will satisfy all who wish to know Mendelsohn, artist and organicist.

BOOKS RECEIVED

INK DRAWING TECHNIQUES. By Henry C. Pitz. Published by Watson Guptill Publications, Inc., 24 W. 40th St., New York 18, N.Y. 144 pp. 8" x 10½". Illus. $6.75

COLLEGE HOUSING. Compiled by the Dept. of Education and Research of the American Institute of Architects, 1735 New York Ave., N.W., Washington 6, D.C. 40 pp. 8½" x 11". $1

PRACTICAL ACCOUNTING FOR CONTRACTORS, fifth revised edition. By Frank R. Walker. Published by Frank R. Walker Co., 173 W. Madison St., Chicago 2, Ill. 255 pp. 8½" x 11". Illus. $5

continued on p. 190

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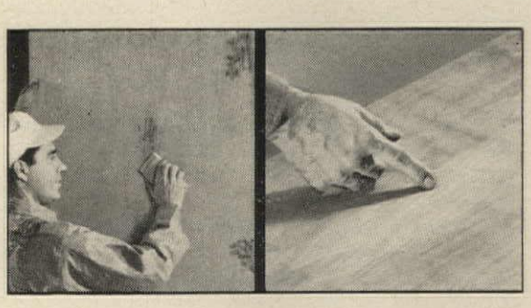

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STILWENDE: AUFBRUCH DER JUGEND UM 1900. By Friedrich Ahlers-Hestermann. Published by Verlag Gebr. Mann, Hauptstrasse 26, Berlin-Schoeneberg, West Germany. 116 pp. 7" x 9½". Illus. About $4

HERE LIVED THE CALIFORNIANS. By Oscar Lewis. Published by Rinehart & Co., Inc., 232 Madison Ave., New York 16, N.Y. 265 pp. 7" x 10½". Illus. $7.95

THE ARCHITECTURAL INDEX FOR 1956. Compiled and edited by Ervin J. Bell, 517 Bridgeway, Sausalito, Calif. 59 pp. 5½" x 8½"

TECHNICAL PUBLICATIONS

A selection of new handbooks, textbooks, technical reports, brochures and commercial leaflets, noteworthy for their information content or pictorial format or both

BALLAST SOUND RATING CALCULATOR: GEN-147. Published by the General Electric Co., Schenectady 5, N.Y.

A circular slide rule, with instructions and table of calculations, for determining the noise level beforehand of the GE range of ballasts for fluorescent lighting installations, correcting specifications for the lowest noise levels.

WINDOWS AND GLASS PROCEEDINGS. Published by the Building Research Institute, 2101 Constitution Ave., N.W., Washington, D.C. 200 pp. $5

Complete proceedings of the BRI conference on windows and glass in the exterior of buildings. Contains also papers on air conditioning, ventilation, daylighting and use of interior and exterior controls; also a section on fenestration problems in schools.

NEMA MANUAL FOR ELECTRIC HOUSE HEATING. Published by the National Electrical Manufacturers Assn., 155 E. 44th St., New York 17, N.Y. 25¢

Recommendations and specifications for insulation, computing heat loss, selecting proper equipment and estimating annual operating costs in the use of electrical heating systems. Area maps and tables for calculating data for any location in the US, expressed in watts familiar to electricians rather than in Btu's.

LIGHTOLIER STYLE BOOK. Published by Lightolier, Inc., Jersey City 5, N.J. 96 pp. Illus.

Colorful, well-designed catalogue and architectural style book on the Lightolier line of lighting fixtures for commercial as well as residential applications, including over 200 new fixture numbers and descriptions.

PRESCOLITE CATALOGUE. Published by the Prescolite Manufacturing Corp., 2229 Fourth St., Berkeley, Calif., 32 pp. Illus.

Color catalogue of this firm's extensive line of residential and commercial lighting fixtures, including recessed and surface types, portables and pinups, spots and rotating bull's-eyes.

COLOR IN THE MANUFACTURE OF CONCRETE BUILDING MATERIALS. Published by C. K. Williams & Co., 640 N. 13th St., Easton, Pa. 10 pp. Illus.

An instruction manual, with a range of concrete color chips in pigments manufactured by this company, for the application of color to concrete work.

ARCHITECTURAL DESIGN WITH PORCELAIN ENAMEL. Published by Armco Steel Corp., Middletown, Ohio. 24 pp. Illus.

A color brochure, with many architectural details, showing notable applications of this company's porcelain-on-steel curtain wall panels to a wide variety of buildings.

COLOR IN GRANITE. Published by H. E. Fletcher Co., Inc., 114 E. 40th St., New York 16, N.Y. 4 pp. Illus.

A leaflet showing the range of colors, sizes and availability of different hued granites from various quarries for architectural purposes.

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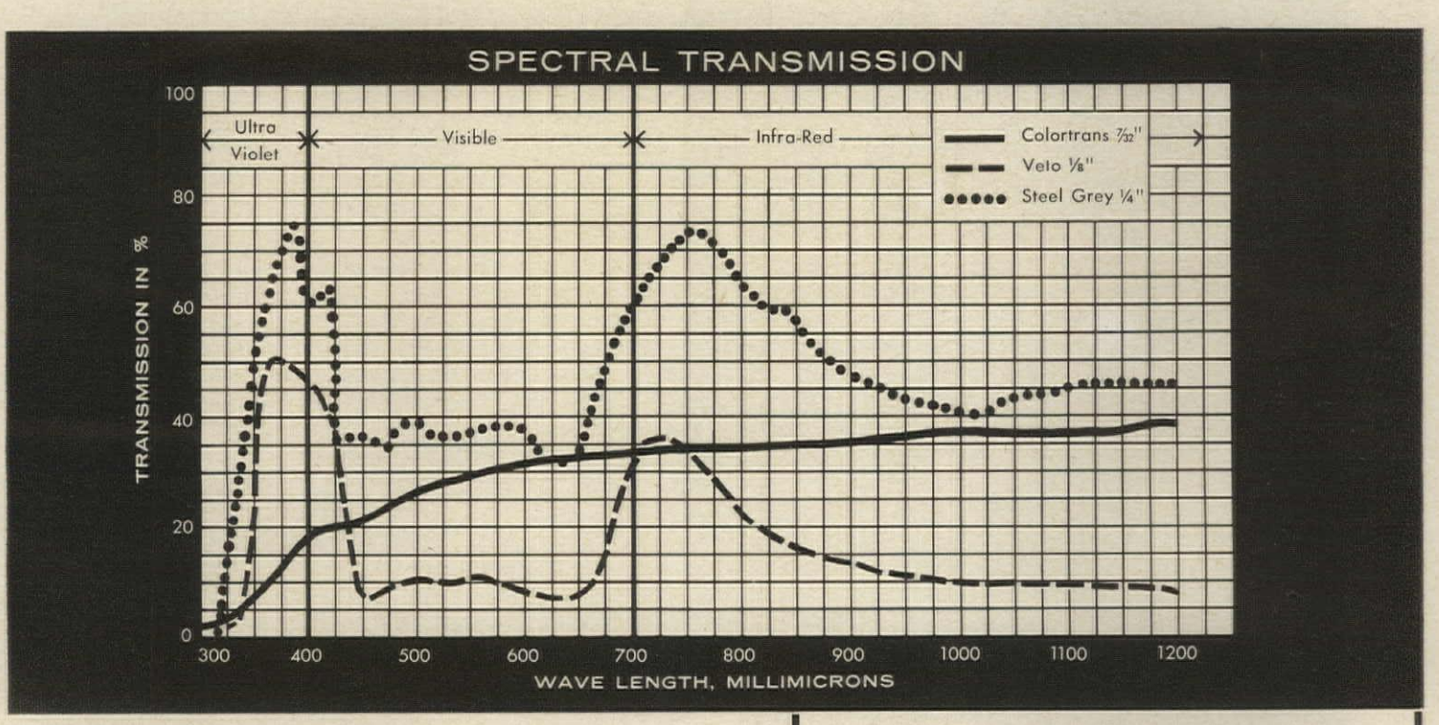

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What other people are saying

European report card

The good and bad marks of postwar European architecture can now be toted up. The March issue of Britain's Architectural Review *did the addition, gave a gloomy verdict*

It is ten years since reconstruction got underway in the war-damaged countries of western Europe—ten years of building on a greater scale than those countries have ever before experienced. The initial phase can now be said to have ended. Although much remains to be done—although the housing shortage is still nearly as acute in some places as it was at the end of the war, although the cities of the Rhineland still show large areas of devastation and even in Britain, where the extent of damage was less, economic difficulties have slowed up the rebuilding of bombed cities —nevertheless the damaged European towns and cities have, by and large, been rebuilt, at least sufficiently for an appraisement to be made of the architectural results.

We had great expectations of those results, since the war came at a moment when the revolution of the twenties and thirties, which aimed at replacing an architecture based on historical precedent by one based on scientific analysis was being consolidated. It was expected that postwar reconstruction would give the Modern Movement great impetus, in fact from the first ten years of reconstruction there would emerge a Europe transformed—at least as regards the newer parts—from a scene of confusion, arising from generations of conflicting aims and prejudices, into a scene adorned with a consistent, though perhaps a regionally differentiated, standard of architecture deserving the adjective modern.

Somehow that has not happened. The confusion is still with us. The products of ten years of rebuilding are little different to look at from what they would have been before the war; at least that is the general impression the traveler gets everywhere in Europe except in western Germany (and to a less extent in Italy), where there has been a change, if not a total transformation. It is time the absence of fundamental change elsewhere was recognized, especially by those accustomed to declare that the battle for modern architecture has been won.

Inconceivable churches

Dr. Arland A. Dirlam, AIA, gave the keynote address at the recent convention of the Church Architectural Guild held in St. Louis. A part of his talk concerned the personal qualities necessary for those who would be church architects

It is inconceivable that a man unsympathetic to and lacking in the understanding of churchmanship would dare take upon himself the responsibility of designing a place of worship. Unfortunately, such a situation does exist and in this booming period of church building, it is increasing at an alarming rate. The dangers of these unecclesiastical designers have been twofold: First the majority of these structures, although sometimes unique in design and imaginative in composition, have failed to capture and incorporate the salient features of Christianity. Second because of their unique character, they have been published occasionally in some of the building magazines and so have been exhibited as prototypes for unsuspecting building committees.

The church of all institutions cannot afford to be an architectural guinea pig. The church architect is not merely a practitioner who has been exposed to church design. He is an individual who has gleaned from his experience in the past and has thus better equipped himself to fulfill future professional responsibilities.

Unshakable billboards

The conference of The American Society of Planning Officials could not avoid billboards. Among the opinions given on the subject, one of the most understandably straightforward was that of Leonard W. Trester, vice president of the General Outdoor Advertising Co.

I believe—and with unshakable conviction —that the outdoor advertising business is

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PLANNING BY METAPHOR

"Don't mistake industry for a golden goose to be overused in the planning process. No one industry should be treated as a 'soft touch'—or your goose may become a worm and turn."—*Charles D. Laidlaw, community planning representative of Cleveland Electric Illuminating Co., before the San Francisco Conference of the American Society of Planning Officials.*

entitled to every consideration given any other business. Actually, "billboards" are business structures just like stores, business offices and factories. They are appropriate wherever communities and highways are zoned for industry, business and commerce. They don't belong in residential areas, and it is contrary to the industry's policy to put them there. They don't belong in national parks, or next to national monuments and shrines, and it is also contrary to our policy to put them there.

Many zoning ordinances provide certain regulations as to height, setback and the bulk of buildings or other structures in various business, commercial, industrial and manufacturing districts. If this type of regulation is provided for other buildings and structures, then certainly outdoor advertising should be similarly treated. Actually, if the regulations imposed are reasonable and if they permit the erection of our structures in business, commercial, industrial and manufacturing districts, then we welcome regulation. *Outdoor advertising in not incompatible with zoning.* We believe in zoning. We support zoning. We actually seek zoning.

There are several bills before the federal Congress to exclude outdoor advertising along the entire now 41,000-mi. Federal Interstate Highway System. Actually, what some people dislike about outdoor advertising and many of the things that we don't like either; specifically, the small sign erected without any service or standardized maintenance facilities.

On the subject of esthetics, one of the strongest answers to those who claim "billboards" are ugly is a survey conducted a few years ago by the Virginia Dept. of Highways. The survey was made at the request of certain organizations who were confident it would show that most people disliked outdoor advertising. To their dismay, the survey showed that 70% of the 6,000 highway travelers interviewed had absolutely no objection to what they call billboards. Most of the 30% who did object were against some specific type or feature—not against outdoor advertising generally. Contrary to what our detractors would have the public believe, most people are *not* against outdoor advertising.

Dishonesty on the campus

A recent issue of the Princeton Alumni Weekly *took a wry look at Gothic architecture as the final answer for matters of style in the Ivy League*

Veblen's question about "the fitness of housing the quest for truth in an edifice of false pretenses" often occurs to the professors who are compelled to teach in buildings almost perversely designed to mock the cold rationalism being expounded from the lecture platform. For instance, there is something charming about studying at Princeton the principles of architecture in a structure in which, as one professor has delicately put it, "the joy of scholarship was commensurate with the inadequacies of the building." (To reach the library there one must climb several floors and according to the original plans, to get from the north to the south end, go out of doors.) To take an example not so close to home, one of our sister universities has designed its library in the form of a great cathedral, with the card catalogue in a side chapel, the delivery desk at the high altar, and pay telephones in the confessional booths; the Gothic windows give little light and the medieval chandeliers even less, so an occasional graduate student dons a miner's lamp to pierce the gloom and dramatize his plight. As an example of how this sort of decoration is applied for ornament like frosting, without regard to the function of the building, another edifice there is Gothic on one side and Georgian on the other, giving it, as one wit said, "a Queen Elizabeth front and a Queen Anne rear."

continued on p. 198

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The city on the hill

Excerpts from a talk by John Ely Burchard, dean of the M.I.T. School of Humanities and Social Studies, at the Semicentennial Convocation of the University of Michigan's College of Architecture and Design

The city on the hill symbolizes the most urgent architectural problem of our day. This is not the problem of the individual building or the problem of city or regional planning, but rather the crying need for urban or regional design, and these are very different matters.

There is no doubt that we live in an urban culture and one of the great ironies of our time is that we have come increasingly to fail as city builders while perhaps improving as builders of buildings.

It might be conceded that we have approached a modern classic form for office buildings and factories, and perhaps another for schools and still another for churches, and that, though improvement and change are always possible, our individual buildings are often very fine. Meanwhile our cities become steadily uglier and less pleasant places in which to live.

The city exists because it permits diversity of interest to be cultivated and satisfied as it never can be in a village; it permits brilliant specialisms which most advance our society; it may provide opportunities for valuable conversation. For all this it exacts the perhaps necessary price of some crowding and the surely unnecessary price of too much noise, too many bad smells, to few trees, and too little sky. If the city suppresses diversity in favor of standardization, if it isolates the specialists in hermetic cubicles, if it destroys the opportunity for conversation, then it is a failure and a tragic one.

Can our cities survive? This is not a question of atomic destruction or of strangling to death in the grip of automobile traffic or of "going broke": the first can be averted and the second and third prevented. Solve them all, and the city can still be a prison.

There are many elements of urbanism and not all of them are the responsibility of the architect, but his buildings can make or destroy the skyline, free or block the traffic stream, encourage the further cultivation of trees or blight the few that remain; he can place his buildings on land so that they may be seen or hide others with his own arrogant façades; he can surround them with those small areas of green and repose that make the difference between a serene city and an urban inferno, or he can ignore this need. Most of all, he can lead greatly or follow supinely.

In all this we are struggling against American indifference to urbanity and American mistrust of bigness. The mistrust is not always justified, and certainly not in architectural terms. It is not an array of small businesses which creates a great and clean and ennobling national forest—it is the federal government. It is not an array of small businesses which provides a Lever House or a General Motors Technical Center. Small entrepreneurs build the sunset strips and the used-car dumps that disgrace the approach to our cities; they are not built by the Standard Oil Co. Individual small owners are the ones who deface a brilliant piece of scenery; it is not done by a public utility.

If a nation is to want great architecture and great cities, it must have some comprehension of what great architecture and great cities are. Here I find a new mission for architectural schools which has been entirely overlooked and which is perhaps a duty more than an opportunity. A great opportunity and responsibility awaits the architectural school which will grasp it: to be itself a figurative city on the hill within the university, thereby making an everlasting impression on the future builders of our urban culture.

continued on p. 200

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Silence, please

How to design noise out of our hospitals and keep it out was discussed by William J. Cavanaugh of Bolt, Beranek & Newman, acoustical consultants, in the February issue of Hospitals

Noise control need not be an afterthought. Technical requirements for a quiet environment can be specified in advance, along with the requirements for structure, lighting or air conditioning. Noise problems are almost always more easily and less expensively solved in the planning stages. Noise control is in every sense an important consideration from the architect's planning table to the administration of the living and working hospital.

Distance between the noise source and the listener is not always practical from an operational point of view. An additional physical barrier is almost always required to control the passage of sound in air from one space to another.

Besides weight, another characteristic of a barrier which determines its resistance to the passage of air-borne sound is its imperviousness to air flow. A cinder block partition, for example, is reasonably heavy, but interconnecting air spaces within the material from thousands of tiny air passages from one side of the partition to the other, allowing a convenient passage for sound. Sealing up one or both sides with a coat of plaster can immensely improve the sound insulation of such a partition.

Sometimes it is possible to use much less total partition weight with two lightweight impervious barriers structurally separated from one another. When a sound wave moves the first barrier, only the reduced reradiated sound wave in the air space between is available to move the second barrier, with the result that the reradiated sound wave from the second barrier is considerably weaker than the initial sound.

Mechanical equipment is the most notable source of structure-borne noise transmission. All rotating and reciprocating equipment (fans, pumps, compressors) must be isolated from the building structure by resilient connections not only under the vibrating equipment but along connecting pipes, electrical conduits, etc.

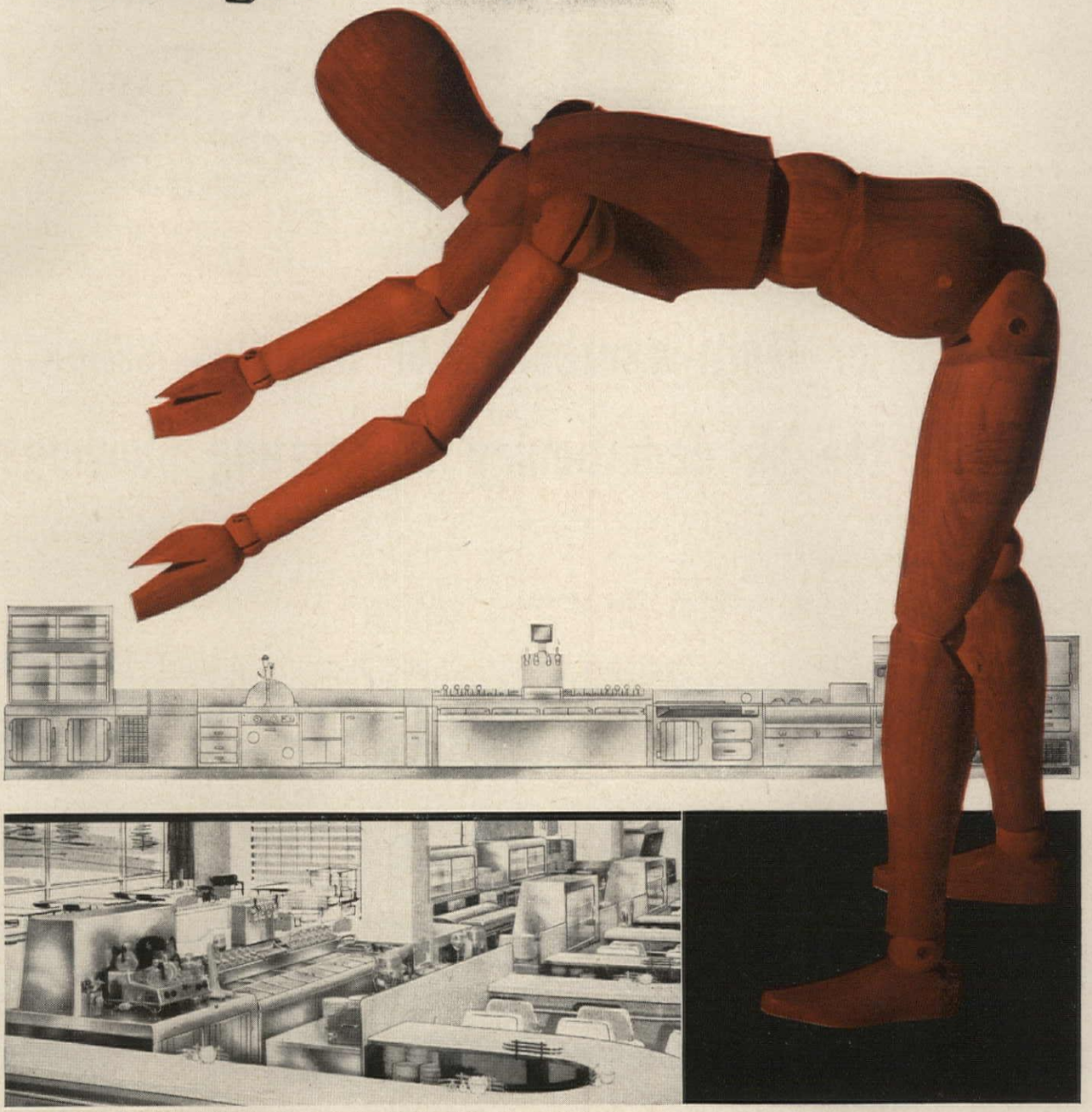
Mechanical equipment rooms are always less difficult to handle from a noise control standpoint if they are located in the basement and not above critical spaces. Noise control principles involved are essentially the same for penthouse locations, but the control measures are inevitably more complicated and more costly. The "best" conference rooms or patient rooms on the top floor of a hospital can quickly become the least desirable if some types of air-conditioning compressors are located in a penthouse above, even with the best vibration isolation techniques available.

Control of noise within a given space itself presents still another problem.

But most spaces in a hospital cannot, of course, be furnished with draperies, carpets and overstuffed furniture to absorb sound. The use of specially manufactured sound-absorbing materials on the ceiling or wall surfaces is generally required to control sound within such areas. There are available a large variety of acoustic tiles and perforated sheet materials with glass or mineral wool pads behind. All of these products have basically a porous, fuzzy core which absorbs sound energy by converting it to heat energy.

Sound readiy passes through most materials—they are not, in themselves, effective sound barriers. Sound-absorbing material added to a noisy room can reduce the amount of sound energy available to act on the enclosing walls. Likewise, some of the sound energy that penetrates a wall can be absorbed in the adjacent room. However, the most significant reduction of sound between spaces still is provided by solid impervious barriers. In general, *sound absorption* must not be confused with *sound isolation.*

How right is a reach?



Gimbels, Cross County Shopping Center, Yonkers, N.Y., a Bastian-Blessing Installation.

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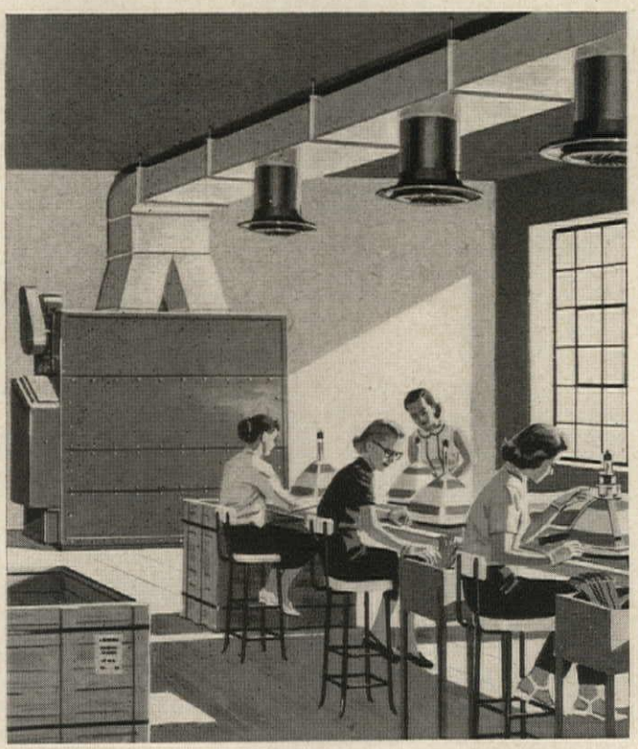
How Carrier Multi-Weathermaker Systems simplify the air conditioning of existing buildings

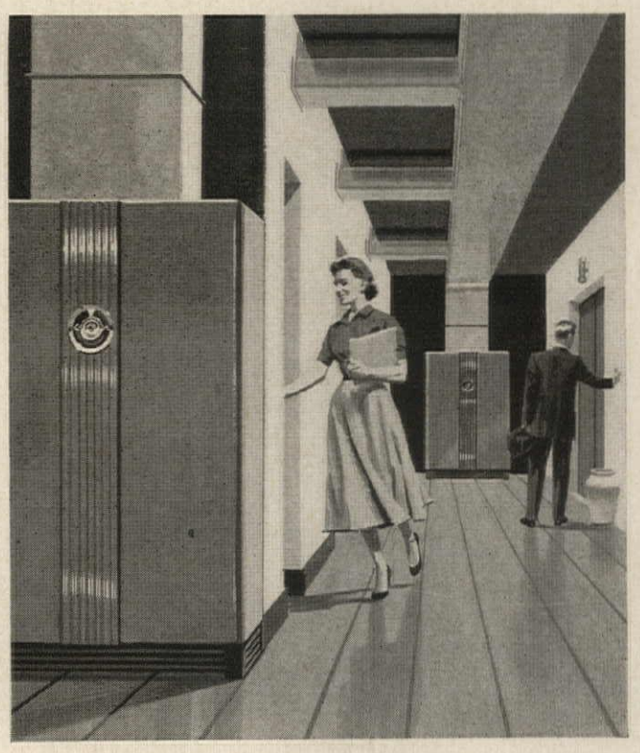
The Carrier Multi-Weathermaker System is a flexible method of air conditioning with self-contained units. It can be adapted to any building regardless of its size, age and use. The system uses air or water cooled Carrier Weathermakers that can be installed with little or no interference to regular business routine. Where cost is a problem, the system can be installed floor-by-floor according to a pre-engineered plan. Or the entire system can be put in at one time. Four of the many applications that can make up a Multi-Weathermaker System are shown on the right. Each has its own advantages. For complete details call your Carrier dealer, listed in the Classified Directory. Or write Carrier Corporation, Syracuse, N. Y., for a new 24-page booklet about the Multi-Weathermaker System.

In a department store, the Carrier Multi-Weathermaker* System can air condition a floor at a time or a section at a time. These quiet, efficient units were installed without ductwork after store hours so that there was no interference with store traffic.

In a building with open offices, Weathermakers installed in the space provide quiet, draft-free air conditioning. With a Multi-Weathermaker System, employees working late in one zone can have air conditioning while the system is shut off everywhere else.



In the production area of a factory, a high-capacity Commercial Weathermaker using special ductwork provides spot cooling to keep working conditions comfortable for employees. Other sections and offices are air conditioned by smaller Weathermaker units.



In a building with individual offices, the Carrier Multi-Weathermaker System can economically air condition each office. Weathermakers, connected to inexpensive ducts, furnish conditioned air to each office. Units can be recessed in a wall or storage area.

*Reg. U.S. Pat. Off.

NIBROC®

CABINETS and TOWELS

Speed Washroom Traffic in Towering Socony Mobil Building

Socony Mobil Bldg., N. Y., N. Y.,
Galbreath Corporation. John W. Galbreath—
Peter B. Ruffin, Owners.
Associated Architects: Harrison & Abramovitz
and John B. Peterkin.
General Contractor: Turner Construction Co.
Plumbing Contractor: Eugene Duklauer.

See Sweets Catalog for information about Nibroc Cabinets—wall, floor model and recessed.

FAST AND EFFICIENT handling of washroom traffic was a major consideration in planning the Socony Mobil Building . . . sixth largest office building in the U. S., and housing more than 7,500 people.

Following critical appraisal, Nibroc Recessed Dispensers were specified by the architects. It was found they met every requirement for functional efficiency and durability.

Nibroc Recessed Dispensers load faster, hold more towels; are handsomely constructed of 22-gauge stainless steel. For staggered installation, dispenser and waste receptacle are obtainable separately. Wall cabinets available in white enamel, chromium plate or stainless steel.

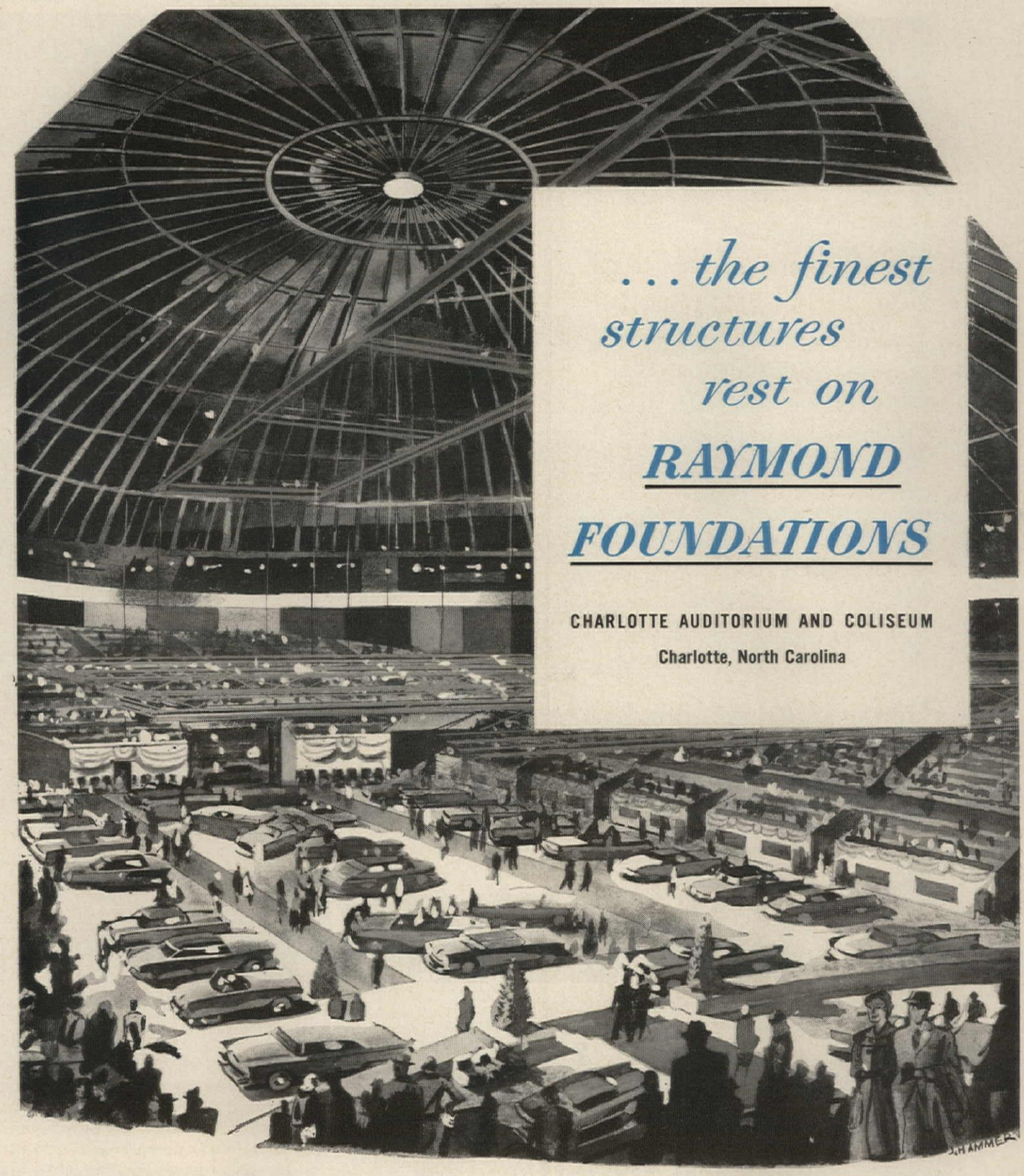
NIBROC TOWELS are the perfect companions for Nibroc Cabinets. Highly absorbent, strong, sanitary, soft textured, one Nibroc dries both hands; cuts waste. America's first wet-strength towel and still the finest, they are the most widely used by industry, institutions and general business.

When planning your next building specify Nibroc Cabinets and Nibroc Towels. Look in the Yellow Pages, under Paper Towels, for nearest distributor. Or write Dept. NU-6, Boston.

BROWN QUALITY COMPANY

Berlin, New Hampshire

General Sales Office: 150 Causeway Street, Boston 14, Mass.



. . . the finest structures rest on

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Charlotte, North Carolina

GENERAL CONTRACTOR: Thompson & Street Co.
STRUCTURAL ENGINEERS: Severud-Elstad-Krueger
ARCHITECTS: A. G. Odell, Jr. & Associates

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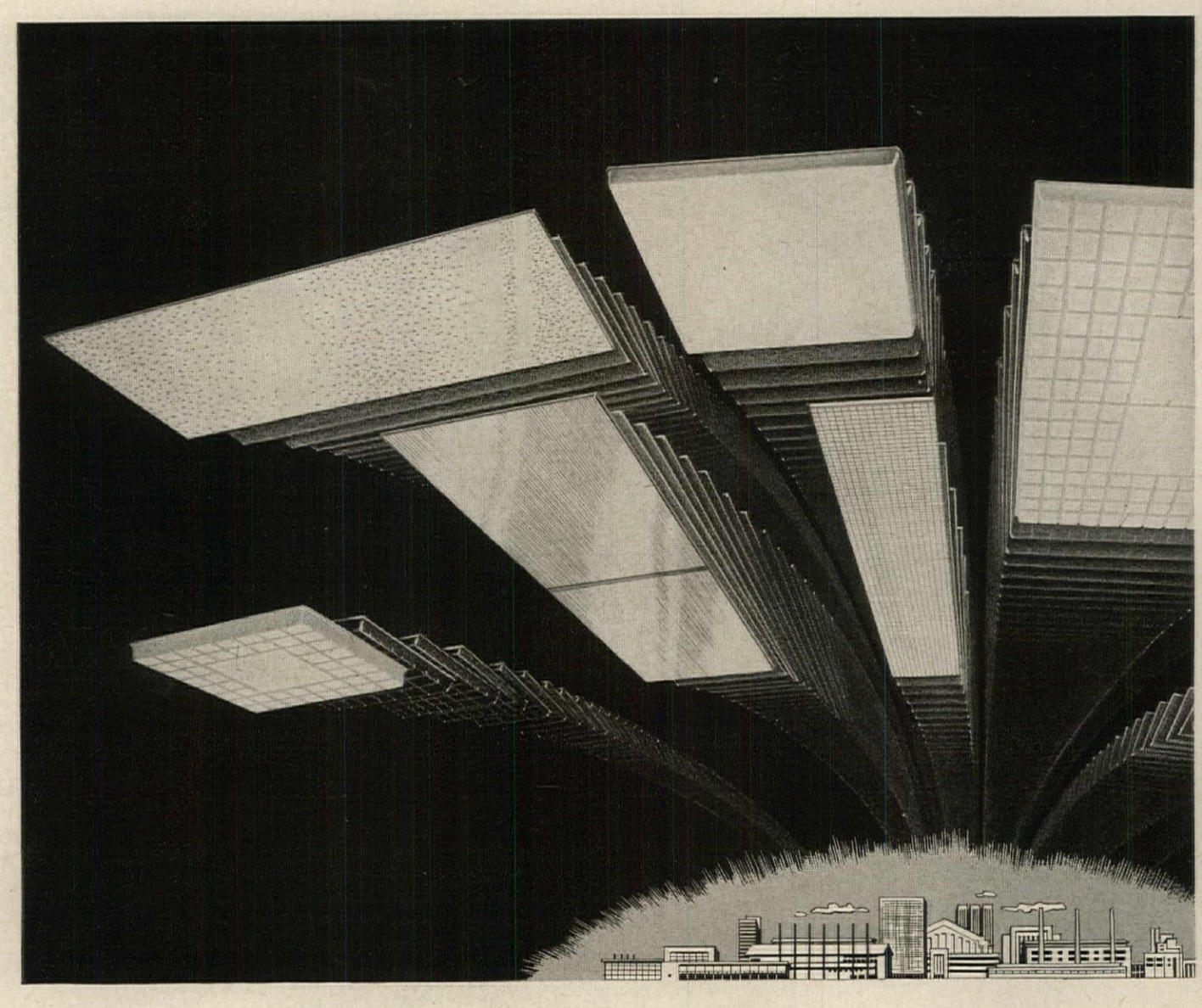


NEW ZENITHS Predicted for

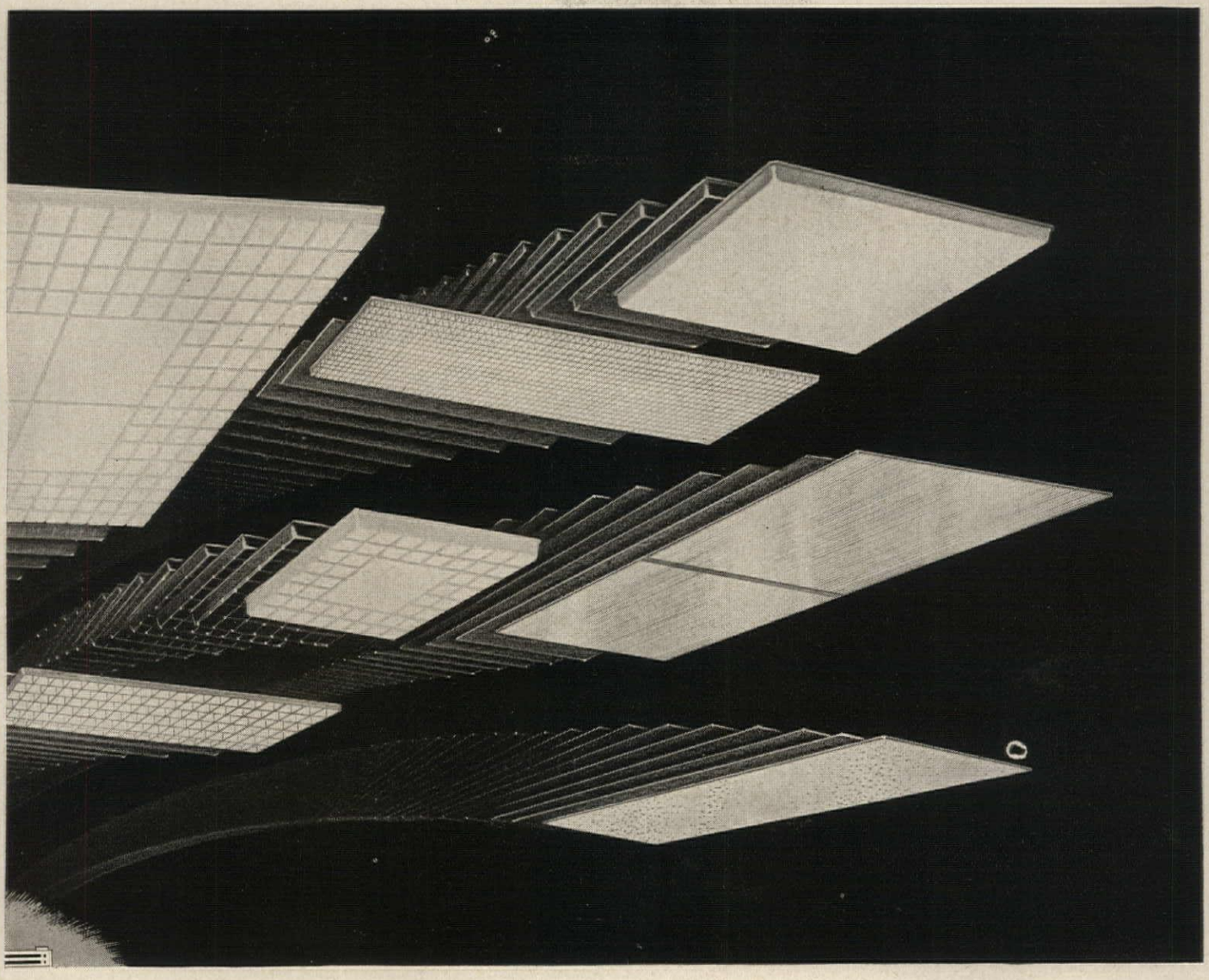
MAINLINER LUMINAIRES

created by Westinghouse provide Myriads of New Decor Opportunities... New Esthetic Appeal... Maximum Lighting Efficiency with Untold Ease of Installation and Maintenance

Here—now—are luminaires accommodating—*and conducive to*—new ceiling design consistent with the finest architectural planning today!

They are the new Mainliner Luminaires, by Westinghouse, themselves contributing fresh, decorative excellence to the lighting design for any type of large area room. Yet functionally so superior, both in application and service, that they tend to obsolete most previous thinking on conventional luminaire installations!

Mainliner Luminaires afford more than 1,000 all different combinations—including surface mounting and 3 recessed



Design of Interior Lighting of All Types!

mounting types—in 13 selected shielding styles—and 6 basic variations in size!

Mainliner Luminaires are completely modular—with precise dimensional correctness, ideally "matching" any type of "squared" ceiling material whatsoever! They embody every refinement of advanced construction detail. They exemplify the simplest possible application, installation and maintenance characteristics.

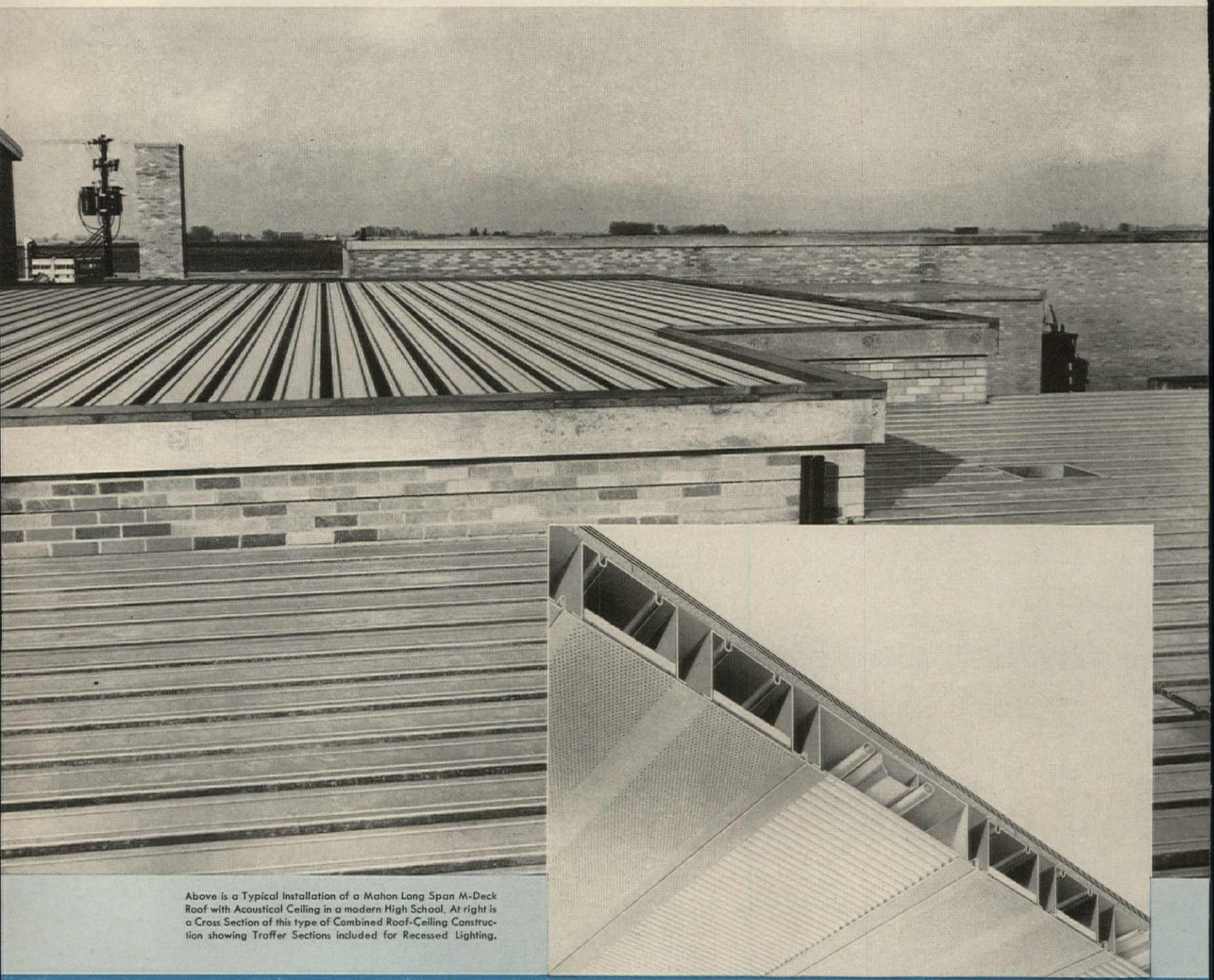
Mainliner Luminaires will give *your* interior lighting designs—for *any* large area—new *distinguished* pre-eminence!

J-04412

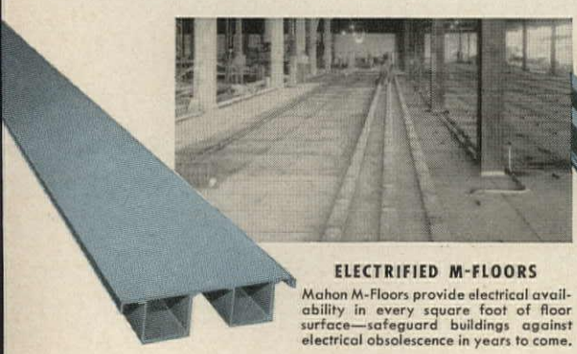
Get your copy
of the newest, full-color
PLANNING GUIDE FOR
LARGE AREA LIGHTING
from your nearest Westinghouse representative.
You'll *want* to employ Mainliner Luminaires *now!*

YOU CAN BE SURE... IF IT'S Westinghouse

M-DECKS Broaden the



Above is a Typical Installation of a Mahon Long Span M-Deck Roof with Acoustical Ceiling in a modern High School. At right is a Cross Section of this type of Combined Roof-Ceiling Construction showing Troffer Sections included for Recessed Lighting.



ELECTRIFIED M-FLOORS

Mahon M-Floors provide electrical availability in every square foot of floor surface—safeguard buildings against electrical obsolescence in years to come.

CONCRETE FLOOR FORMS

Mahon Permanent Concrete Floor Forms in various types meet virtually any requirement in concrete floor slab construction over structural steel framing.

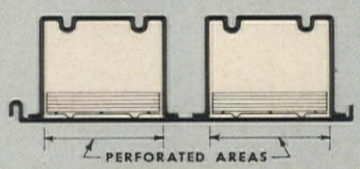
ACOUSTICAL and TROFFER FORMS

Provide an Effective Acoustical Ceiling with Recessed Troffer Lighting—Serve as Permanent Forms in Concrete Joist and Slab Construction of Floors and Roofs.

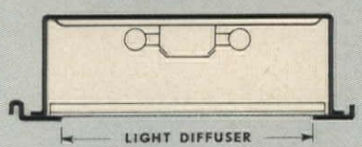
Functional Potential of a Modern Roof

. . . Mahon Long Span M-Decks Expand the Structural Roof's Function to Include the Finished Ceiling Material, Acoustical Treatment, and Recessed Lighting as Well!

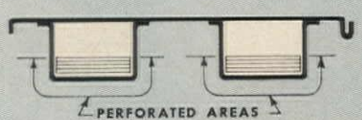
MAHON
ACOUSTI-STRUCTURAL
LONG-SPAN M-DECK SECTIONS



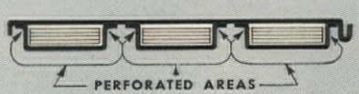
SECTION M2SR (Acoustical)



SECTION M1ST (Troffer)

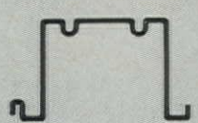


SECTION M2 (Acoustical)



SECTION M3 (Acoustical)

MAHON
LONG SPAN OPEN BEAM M-DECK


SECTION M1-OB

In auditoriums, armories, sports arenas, field houses, churches, or any other type of building where exposed truss or rigid frame construction is employed, Mahon Cellular Steel M-Decks provide the structural roof and ceiling combined . . . the structural M-Deck Sections span from wall-to-wall or from truss-to-truss. This eliminates the cluttered effect of roof purlins and produces a neat, continuous, flat metal ceiling surface—all of which can be acoustically treated. If recessed lighting is desired, Mahon Troffer Sections can be included in this type of roof-ceiling construction in any ratio to meet specific lighting requirements.

Mahon Long Span M-Deck Sections and Mahon Troffer Sections are roll-formed from galvanized, structural quality steel . . . they are permanent, cellular structural units which also provide an indestructible ceiling. Exposed metal surfaces which form the ceiling can be readily painted to match or harmonize with any interior decor.

All Mahon Long Span M-Deck Sections can be furnished with bottom metal perforated and sound absorbing material inserted to provide a highly effective acoustical ceiling . . . Noise Reduction Coefficients range up to .85 in the various Mahon M-Deck Sections recommended for this use.

Some of the newer Mahon Sections do not appear in the current Sweet's File. Why not have a Mahon sales engineer call and bring you up to date on new Mahon Cellular Steel Sections now available for Floor, Roof, and Combined Roof-Ceiling Construction.

THE R. C. MAHON COMPANY • Detroit 34, Michigan
Sales-Engineering Offices in Detroit, New York and Chicago
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MAHON


INSULATED METAL WALLS
Three Distinctive Patterns with "U" Factor Superior to that of Conventional Masonry Wall with Lath and Plaster. Erected up to 60 Ft. in Height without a Horizontal Joint.


UNDERWRITERS' RATED FIRE WALLS
Mahon Metalclad Fire Walls carry two Hour Rating by Underwriters' Laboratories, Inc., for Use as Either an Interior Dividing Fire Wall or an Exterior Curtain-Type Fire Wall.


ROLLING STEEL DOORS
Standard Manually, Mechanically or Power Operated Rolling Steel Doors and Grilles. Underwriters' Labeled Automatic Closing Rolling Steel Fire Doors and Fire Shutters.

TROFFER: A RECESSED FLUORESCENT LIGHTING UNIT

THE NEW WAKEFIELD TROFFER 490 IS A STANDARD PACKAGED UNIT THAT OFFERS 490 COMBINATIONS

THE OVER-ALL DEPTH OF UNIT IS 4-7/8 IN.

ALL ELECTRICAL COMPONENTS BALLASTS, SOCKETS AND WIRE ARE THE HIGH WAKEFIELD QUALITY

THE BODY IS ONE PIECE AND IS THE STANDARD WAKEFIELD 20 GAUGE CONSTRUCTION

REFLECTING SURFACES ARE INFRA-RED BAKED ENAMEL WITH 0.85 REFLECTION FACTOR

THE WAKEFIELD

ALL UNITS ARE AVAILABLE FOR FLANGE, SNAP-IN AND LAY-IN TYPES OF CEILINGS

THE UNITS ARE IN COMPLETE PACKAGES WITH HANGER YOKES

WIDE RANGE OF REASONABLE PRICES

MODULAR UNITS DO NOT GROW IN LENGTH WHEN UNITS ARE USED IN CONTINUOUS ROWS

7 TYPES OF LIGHT CONTROL NO. 70 CORNING LOW BRIGHTNESS LENS—ACRYLIC AND STYRENE DIFFUSING PLASTICS—VINYL PLASTIC—STYRENE LENS—35x35 DEGREE LOUVERS AND SKYTEX DIFFUSING GLASS

490 OFFERS YOU COMPLETE FLEXIBILITY IN THE DESIGN LAYOUT AND MATCHING COST BUDGETS

TROFFER 490

FAST ACCURATE UNIT INSTALLATION 2 LEVELING BOLTS ON EACH YOKE

THE WAKEFIELD COMPANY OF VERMILION OHIO USA AND LONDON ONTARIO

NO LIGHT LEAKS AROUND DIFFUSER

A MOST DISTINGUISHED SETTING . . . . .

The new Motor House *at*

Colonial Williamsburg

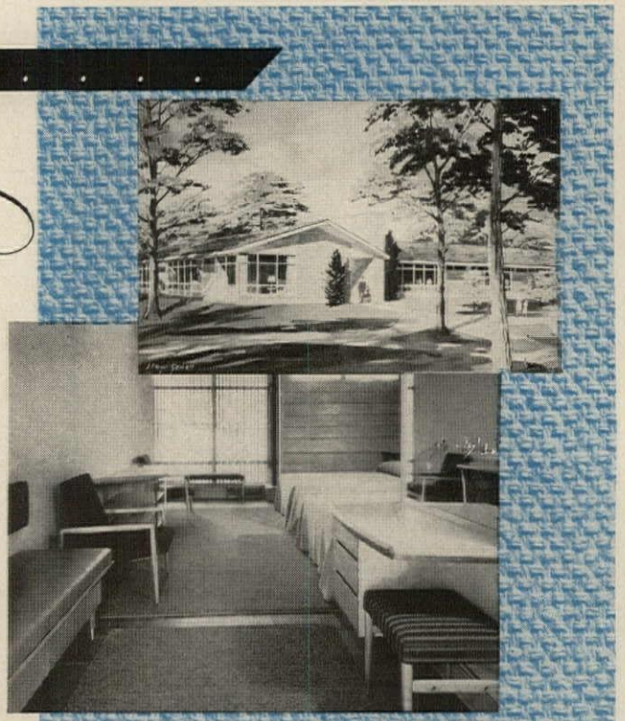
WILLIAMSBURG, VIRGINIA

FOR A MOST DISTINCTIVE WALL COVERING

chandler *fab-rik-o-na*®

the washable
CLOTH WALL COVERING

Few architectural projects have required greater over-all vision, coupled with meticulous attention to the quality and suitability of materials employed, than the Williamsburg Restoration. This same careful planning has been conspicuous in the new Motor House where the walls of all 188 units are covered with Fab-rik-o-na Amerspun. Fab-rik-o-na's textural warmth and variety of colors, its long wearability and its sound-absorbing qualities make it an ideal choice in providing a comfortable, homelike atmosphere for overnight guests at Williamsburg.



Fab-rik-o-na is available in 3 distinctive weaves. AMERSPUN (shown here) a strong tweed-like weave. TAPESTRY BURLAP, rugged and strong with interesting textural variations and LYNTON which has the delicacy of hand-woven linen. All are available in many decorator colors. Send for FREE samples and color swatches.

the chandler mfg. co., inc.

EAST TAUNTON · MASSACHUSETTS

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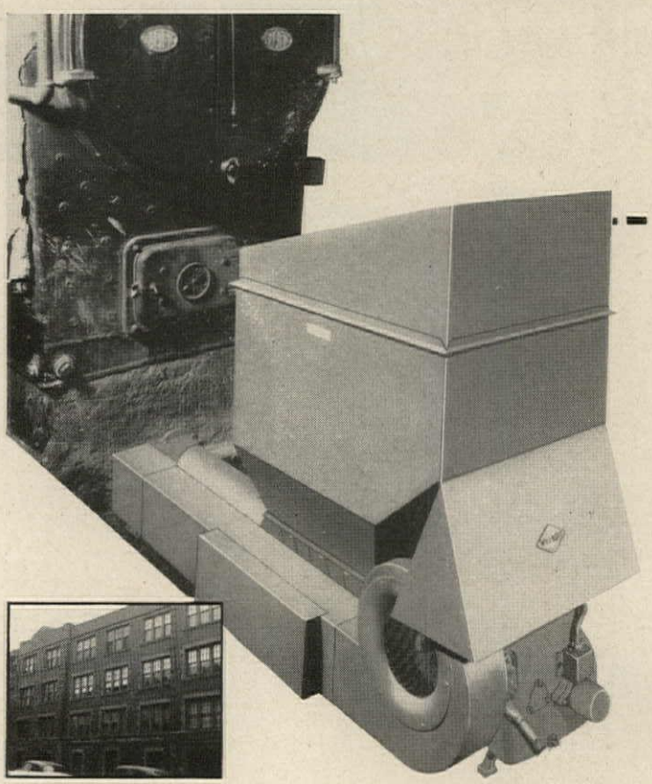
Performance Proves it...



the modern method to more heat per fuel dollar . . .

. . . . fuel saving 25%!

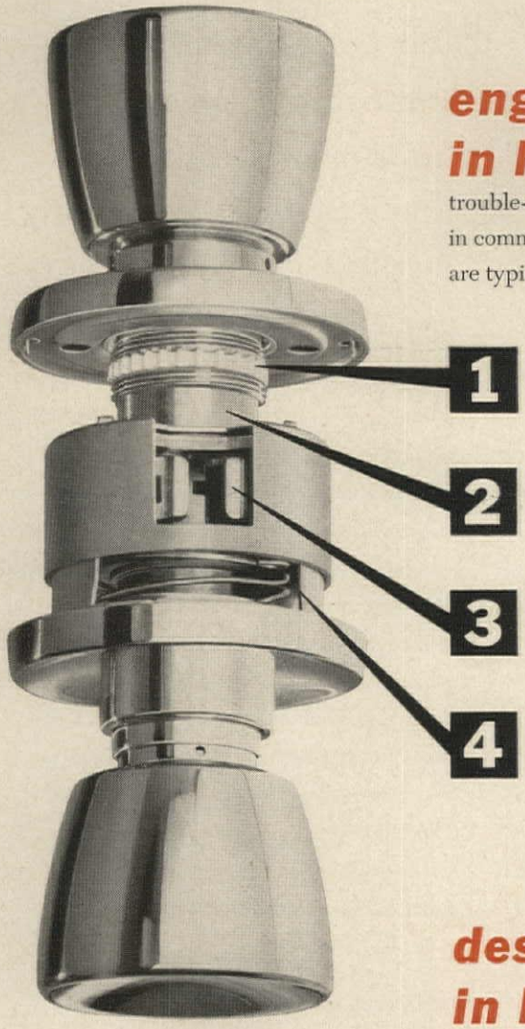
WILL-BURT
STOKERS
ORRVILLE, OHIO

This Will-Burt Hopper Stoker Model is used in a large apartment in Chicago. Installed approximately one year ago it has already produced fuel savings of 25%!

Added benefits . . more uniform temperature control, less custodian supervision.

Write for literature. Engineering and advisory services available.

SCHLAGE HEAVY-DUTY SECURITY



engineered by the leaders in lock science

. . . Schlage locks offer trouble-free lock performance under the heavy traffic conditions found in commercial and institutional buildings. The following features are typical of the many plus values received when you specify Schlage:

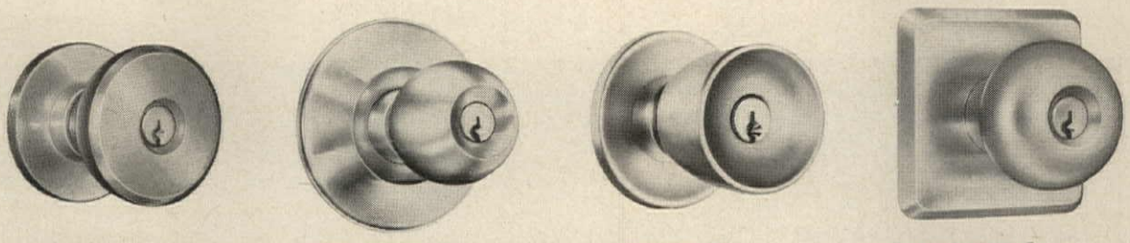
1. A unique vinyl "friction ring" prevents loosening of inside rose and maintains rigidity of installation.

2. Heavy-gauge spindles are held in position by long bearings for perfect alignment.

3. A heavy cast brass slide guarantees balanced knob action with smooth, efficient retraction of the latch.

4. Mechanisms are available in your choice of several materials to meet the atmospheric conditions of each particular installation . . . in bronze and monel, stainless steel, or zinc-plated and dichromated steel.

designed by the leaders in lock science . . .



CUPRA *design* **MERCURY** *design* **TULIP** *design* **HANOVER** *design*

Illustrated above are a few of the many Schlage heavy-duty lock designs available. From Schlage's complete line of heavy-duty locks, there's a Schlage lock design to meet the specialized requirements of the most discriminating architect.

For the latest information on Schlage heavy-duty locks, contact your Schlage representative or write to Dept. EE-6.

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SCHLAGE LOCK COMPANY, SAN FRANCISCO • NEW YORK • VANCOUVER, B. C. • *Address all correspondence to San Francisco*

FOUR FREEDOMS

Ceco Curtainwall Construction Gives You Freedom of Originality ... Flexibility ... Versatility ... Utility

Every architect wants to design a structure that bears the unmistakable stamp of his creative ability.

There's an unbeatable team that can help you realize that ambition: *Curtainwall* . . . the modern miracle in building—and *Ceco*, for 45 years a leader in the engineered building-products-and-service industry.

Curtainwall by Ceco offers architects the greatest opportunity for unlimited use of color and pattern. The reason is simple. Ceco offers you *either* aluminum or steel sections. Couple that with your choice of panels in stone, marble, glass or coated metals . . . and you find you have the widest possible range to stimulate your creative urge.

With Curtainwall the exterior surface of the structure is precision built in the factory... tailored to your design. And Ceco Curtainwall is tailored to your budget, engineered to save materials and construction time. All this means early building occupancy, permitting client-invested dollars to start paying dividends faster. Then too, Curtainwall provides 4 to 6% more floor space for use or rental.

So, call on Ceco . . . a company honored not only as a Curtainwall supplier but also for its pioneering in floor and roof framing. Here Ceco's unique background will assist you to obtain the best structural Curtainwall. For among Curtainwall suppliers only Ceco has experience in floor and roof construction—to which all Curtainwalls must be properly anchored. So Ceco can best coordinate your Curtainwall with your structural plans. Ceco Steel Products Corporation—general offices: 5601 West 26th Street, Chicago 50, Illinois—offices, warehouses and fabricating plants in principal cities.

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

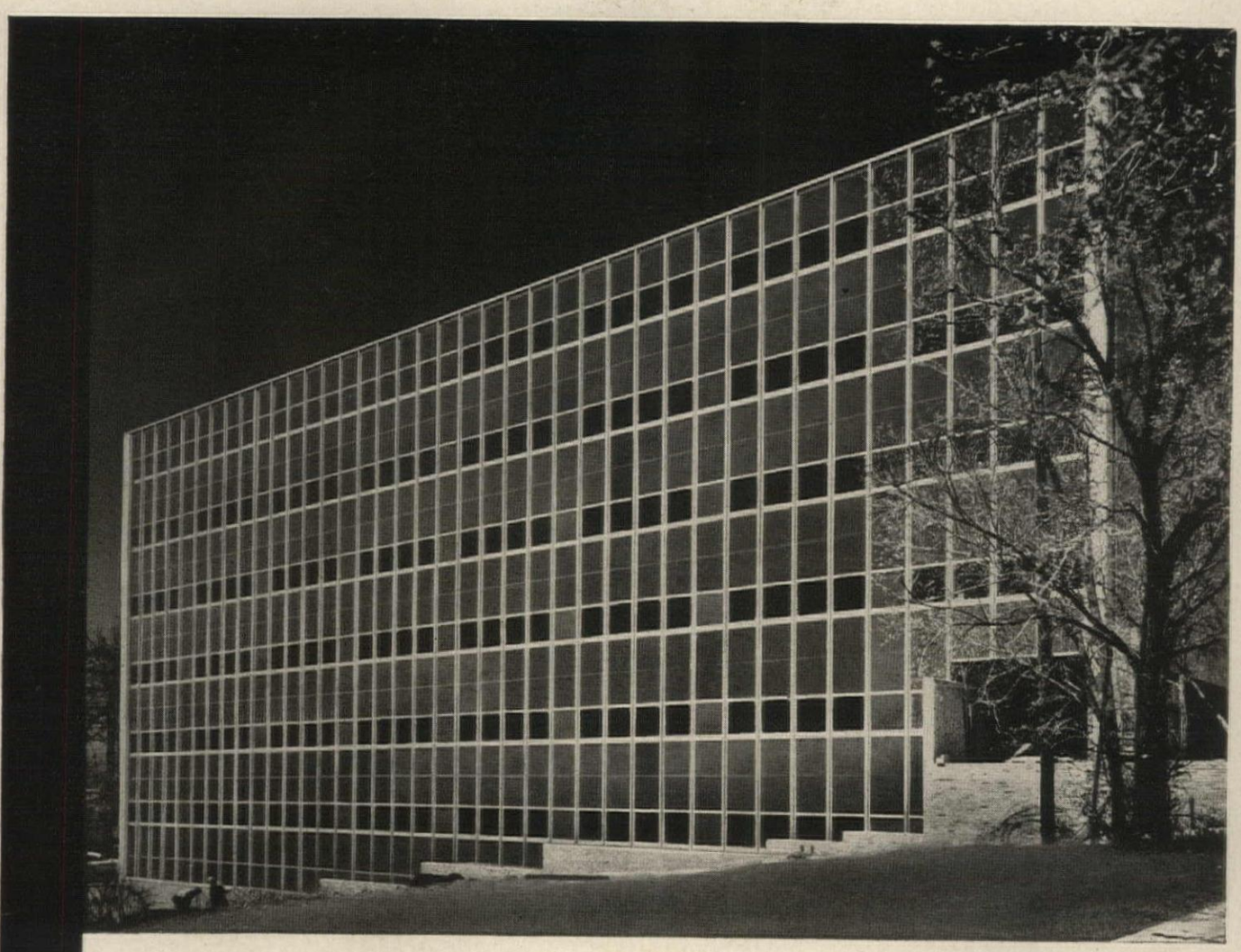
Windows, Screens and Doors / Ceco-Meyer Steelforms / Concrete Reinforcing / Steel Joists / Metal Roof Deck / Metal Lath

HERE ARE TYPICAL CECO HIGH-RISE AND CURTAINWALL BUILDING INSTALLATIONS:

Amoco Building, New York, New York
Emery Roth & Sons, Inc., Architects.

Harbor View Apartments, Chicago, Illinois
Irwin G. Fredrick, Architect.

Phillis Wheatley Elementary School, New Orleans, Louisiana
Charles R. Colbert, Architect.

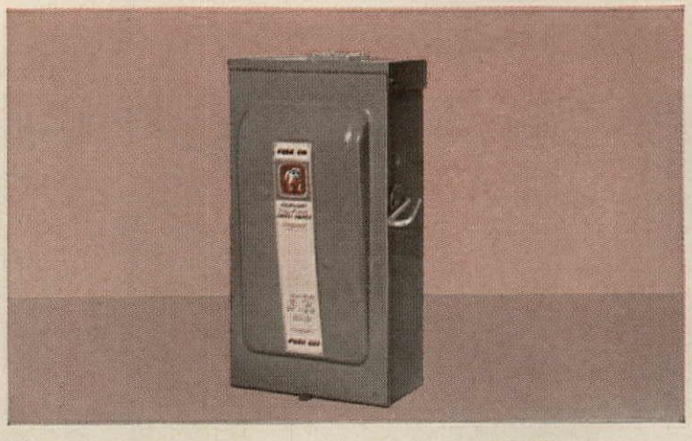


A monument to the beauty and functional design achieved with Ceco Curtainwall is the Meramec Building, Clayton, Missouri. Architects Benjamin Shapiro and Robert Tisdale and Contractor Manuel Lasky obtained this effect with Ceco Aluminum Projected Windows and porcelain panels.

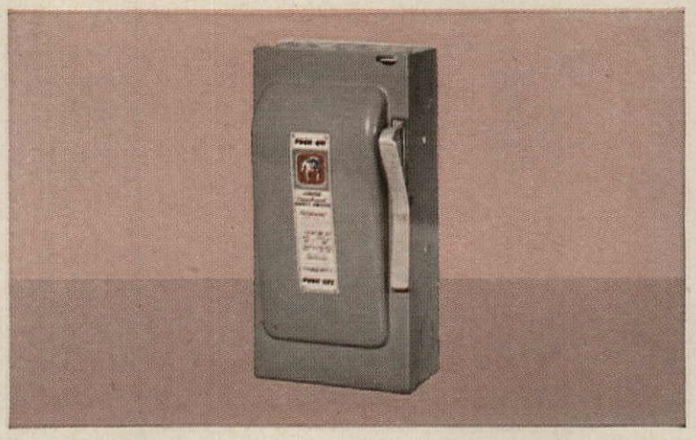
CECO STEEL ®

What to look for and look out for in Curtainwall construction: It is especially important to make proper allowance for expansion and contraction of metals. Windows and caulking must move together with expansion and contraction to ensure a tight seal. Part of the solution is in engineering know-how and part in the right choice of caulking materials. There must be proper structural design of window-wall mullions to meet varying wind load conditions. There must be adequate anchorage of the wall to the skeleton of the structure. Panel installations must be weather-tight.

Palms Shopping Center, Houston, Texas
Irving L. Klein, Architect.



Raintight Clampmatic Vacu-Break—a fusible or nonfusible switch completely weather-proof. Ratings from 30 to 200 amps.



Junior Clampmatic Vacu-Break—a high-quality, fusible, general-purpose switch. Ratings range from 30 to 600 amps.

Master Clampmatic Vacu-Break—unequaled for quality, dependability and performance. A fusible or nonfusible heavy-duty disconnect for applications up to 1200 amps.

Get safety firsts with Clampmatic Vacu-Break Safety Switches

Three exclusive *safety firsts* are the mark of *all* BullDog switches. They assure top efficiency and performance . . . bring *extra* protection and longer life.

Vacu-Break® arc control, for one, smothers arcs instantly . . . minimizes burning and pitting. Unique Clampmatic® action provides *bolt-tight* contact pressure. And the dependable Bull-Dog switch mechanism guarantees positive switching.

In *every* way—for *any* application, one of BullDog's big 3 safety switches will meet your exact requirements. *And with less maintenance.* Your electrical contractor or BullDog field engineer can give you all the facts.

BullDog Electric Products Company, Detroit 32, Michigan • A Division of I-T-E Circuit Breaker Company • *Export Division:* 13 East 40th St., New York 16, N.Y. *In Canada:* BullDog Electric Products Co. (Canada), Limited, 80 Clayson Rd., Toronto 15, Ontario.

IF IT'S NEW... IF IT'S DIFFERENT... IF IT'S BETTER... IT'S

BULLDOG

ELECTRIC PRODUCTS COMPANY

A DIVISION OF I-T-E CIRCUIT BREAKER COMPANY

Architects: Creer, Kent, Cruiser & Aldrich
Providence, Rhode Island

Parkview School
Cranston, Rhode Island

Marmet curtain walls are now actually employed as part of the planned exterior of the modern school building. Amazingly sturdy . . . they provide the architect with a structural medium that reduces labor installation time per square foot . . . yet permits almost unlimited versatility in design. This easy installation enables the architect to achieve a practical solution to the general problem of rising cost per schoolroom. The successful result is apparent in the graceful facade of the Parkview School, illustrated above.

A pioneer in this type of construction, Marmet now offers two series of curtain wall . . . Series 600 for single and double level structures . . . Series 1400, designed essentially for multi-story buildings.

Marmet Church windows are designed to lend beauty of line through extreme simplicity, to both ultra-modern and traditional church structures. The gleaming luster of either the alumilited or satinized finish is permanently protected by a special Marmet dip treatment in the world's largest etching tanks, preventing any discoloring for the life of the window

Series 100 Windows as used in Our Lady Queen of Peace church, (illustrated below) have a frame thickness of 1/8 inch extruded alloy. Special snap-on glazing bead retains a smooth surface unbroken by screws . . . accommodates up to 3/8" leaded glass.

Marmet's precision aluminum fabricating is available in a wide variety of structural components . . . each one contributing to the successful execution of any plan. For structural strength with lasting beauty . . . specify MARMET with confidence!

- **Two architectural projected series**
- **Two series of curtain wall**
- **Standard and custom entrances**
- **Complete custom line of windows**
- **Glass block ventilators and aluminum doors**

Our Lady Queen of Peace
Madison, Wis.
Architects: Weiler & Strang
Madison, Wis.
Milwaukee Journal Photo

For detailed information and specifications on the complete line of MARMET windows—consult Sweet's Catalog, File No. 17a . . . or write to the MARMET Corp. for Catalog 57-A.

MARMET CORPORATION
302e Bellis Street, Wausau, Wisconsin

RESEARCH DATA RELEASED BY DUR-O-WAL

Independent Study Now Available to Industry

In an effort to obtain pertinent information as to how joint reinforcing actually affects the strength of masonry construction, Dur-O-waL sponsored a program of research carried on by the Research Foundation of the University of Toledo in 1956.

A total of 39 walls, 9'-4" x 4' were built and tested. More than two dozen tension tests were made on plain and deformed wires; 80 pull-out tests were made to determine bond characteristics.

Guide for Comparison

Three points of importance in comparing quality —

1. Weight of material
   a. Comparison of actual weight per 1000 lineal feet.
   b. Flexural strength in relation to weight of steel in wall.
2. Deformation
   a. Report of tests
3. Mortar Locks
   a. Report of comparative tests

You are invited to send for your copy of the research findings to learn how this truss design member provides superior lateral and horizontal reinforcing.

Manufacturing and Distributing Facilities

More than 8,000 dealers stock Dur-O-waL, which is distributed in key markets throughout the United States. It is readily available in your area now.

Dur-O-waL is manufactured by the Dur-O-waL Division, Cedar Rapids Block Company, Cedar Rapids, Iowa; Dur-O-waL Products, Inc., Box 628, Syracuse, N.Y.; Dur-O-waL of Illinois, 119 N. River Street, Aurora, Illinois; Dur-O-waL Products of Alabama, Inc., Box 5446, Birmingham, Alabama; Dur-O-waL Products, Inc, 4500 E. Lombard St., Baltimore, Md.; Dur-O-waL Div., Frontier Mfg. Co., Box 49, Phoenix, Ariz.; and Dur-O-waL, Inc., 165 Utah St., Toledo, Ohio.

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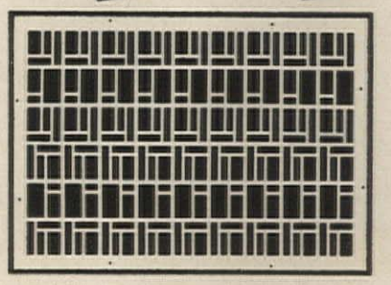

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acceptance of large-scale urban improvement and established the legal base for it. It proved that slum dwellers were honest folk who, given a chance, pay their rent and keep their bathtubs coalfree; that housing bonds are AAA investments; that public provision of shelter is a government duty; that the housing authority mechanism can at last operate without graft. All this is no small accomplishment.

As for public housing design—it is the product of finance and legislation more than of the drawing board.

Public housing can be gradually disposed of to tenant co-ops and New York's higher rent projects can point the way. More state-wide authorities should be formed to help build in outlying areas—and this should include home ownership by the less privileged at 0 to 3% interest rates in the suburbs. The private contractor can be fitted into the formula. Income limits on urban projects can be raised so as to encourage mixed communities and discourage economic and social stratification. Urban renewal should embrace vacant land development simultaneously with slum clearance. Public housing should emphasize vacant and underdeveloped sites as well. Cost maxima should be revised upward to invite imagination in design. Federal and state loans and grants should be conditioned on regional planning which should include consideration of population distribution and freedom of movement for all. Restrictive zoning should be checked by state agencies, and adjoining communities given a hearing where it affects them.

CHURCHILL

Abolish separate housing empires

Every aspect of public housing needs rethinking, not retinkering. What is it, what is its purpose, what is its relation to the total urban scheme—physical, administrative, social?

Physically it is part of a process, not a thing by itself. That process is the orderly, guided direction of urban change—call it Redevelopment yesterday, Renewal today, Regurgitation tomorrow, or whatever. The process is inevitable, but it can be made orderly, and to maintain order public housing is needed.

If public housing is to become a part of an orderly process, the vested interests in the *status quo* of local authorities will have to be not too gently slugged out of their sluggishness. They should be abolished and their function merged with a municipal department of physical control that will deal with *all* phases of physical change. That includes highways and transportation as well as everything having to do with real estate, land use and matters in the charge of local redevelopment agencies. The planning commission, its uselessness now well demonstrated, would disappear and its staff become an effective arm of the department.

Out of public housing should come public homes. Homes for people, not projects for clients. There is no sound reason why a public home should be in any way distinguishable from a private home in looks, location, color, method of construction or anything else except the subsidy necessary to make it available to those who need it.

Federal assistance should be given on a basis of local need as determined by market analyses, with periodical federal audits but no reviews of sites or plans, no reviews of reviews by PHA, because there should be no federal regulations to review. Not any. None.

There should be graded rents, to a fairly high maximum.

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THE BAUER PROPOSAL:

Begin a federal-local pilot program

A great many communities are not prepared to take on the job of deciding what their over-all housing needs are, or how they might best be met. But some are, or would be in short order if they thought they had half a chance to guide their own housing destinies with sympathetic federal support. It should be prime national policy to encourage these progressive communities as an example for the rest.

Therefore I propose that the HHFA be empowered to initiate a pilot program, in cooperation with qualified communities, to tackle housing problems on an experimental basis, subject to local guidance rather than to established federal policies and procedures.

The qualifications for local participation would be: 1) the existence of a thorough over-all analysis of housing needs and the current housing market; 2) the existence of a comprehensive, general, long-term plan for the physical development and redevelopment of the community, advanced enough in preparation so that the main outlines are clear, widely understood and offically accepted; 3) any proposal for federal aid—whether for public or private housing, rehabilitation, land acquisition, community facilities, or whatnot—to be clearly justified by the housing study and related to the local plan.

Under such conditions HHFA would be empowered to make available any of the forms of assistance administered by its agencies—mortgage insurance, mortgage purchase, yield insurance or other devices for attracting capital, as well as direct loans, annual contributions and grants—subject only to controls for insuring that the desired ends are achieved with reasonable efficiency and economy. In short, performance standards.

Experimental projects, instead of being turned down on principle, would be favored in such a program, particularly in cases where federal aid might help initiate programs which could later be expected to continue, if succesful, without any special federal assistance. Cooperatives, self-help projects, housing for minority families or mixed groups, housing suitable for old people, might fall in this category.

Such a program would be worth trying, even as a strictly administrative experiment within the framework of existing legislation. All our housing laws are much more flexible on paper than they have ever been in practice.

Ideally, however, this pilot program would be initiated under special authority from Congress, with maximum freedom within a limited period and a total expenditure, and with instructions to make a detailed report later.

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We need an amendment to the Act, declaring the use of the word "project" not only unconstitutional but wicked.

Efforts should also be made to make the renewal program workable. Until that is done the public home program cannot work, nor should it. A workable program is one which would permit private builders (small as well as large) to build something as part of an orderly process of urban change—including public homes built by private builders for the public account.

Let's face it: we need a new federal program, that will wipe out, ideationally and practically, that split-level, cathedral-ceilinged slum called HHFA, and its component, conflicting parts. This is all one problem and should be all one program.

WEINBERG

TANKEL

Work from the neighborhood up

Why is it just occurring to us to see if the slums themselves have some of the ingredients of a good housing policy? We are discovering suddenly that slums are human in scale; that slum families don't necessarily move when their incomes go up; that independence in slums is not stifled by paternalistic management policy; and finally (incredible!) that slum people, like other people, don't like being booted out of their neighborhoods. We are coming to realize that it is not people and social institutions which are properly the subject of attack, but their housing conditions.

The next step will require great humility, since we are now so prone to confuse big building projects with big social achievements. We will have to admit that it is beyond the scope of *anyone's* imagination to *create* a community. We must learn to cherish the communities we have; they are hard to come by. "Fix the buildings but leave the people." "No relocation outside the neighborhood."—These must be the slogans if public housing is to be popular.

Social services administered in big cities by city-wide agencies are, at best, standardized benevolence. While regions are the rage nowadays and while certain aspects of housing may best be handled at that level, we must work from the other direction at the same time. This implies decentralized municipal administration and even more local decision-making—more time, more money and more patience.

MONTGOMERY

Consider the purchase of older houses

High land costs and other site selection difficulties have forced large projects, high-rise structures, excessive population densities, isolated living and so forth. Should we not then ask ourselves whether new construction is the only way of meeting the needs of low-income families? The alternative is almost too simple: public housing agencies could purchase existing individual houses on the open market. Sound structures, located in neighborhoods which provide a suitable environment for family living, could be bought and rented to low-income families under the present subsidy formula.

This proposal has been explored in Philadelphia, and it has been concluded 1) that the purchase and operation of individual houses is within the scope of state and federal statutes; 2) that there would be no obstacles to the sale of local authority bonds as long as the usual guarantee of federal annual concontributions is present; and 3) that houses are available in suitable locations at reasonable costs.

There are two disadvantages. This would not add to the housing supply directly, although it would accelerate the filtering-up process and indirectly would stimulate new construction. It would not produce completely new communities or alter the environment of neighborhoods. Neither disadvantage seems important if the role of public housing in urban renewal is seen as providing housing for low-income families that is satisfactory both physically and socially. As for advantages, this method would remove the institutional character, the charity stigma, the separateness from the community, the concentration of a single income group. Above all, it would be more nearly in keeping with the way people want to live—and it would be cheaper.

Opposition is inevitable. It has already been suggested that room sizes in existing houses may be too large or too small to meet PHA standards! Management difficulties have also been cited, although scattered houses are managed by private landlords. For instance, Philadelphia's Octavia Hill Assn. has successfully operated low-rent houses around the city for 60 years.

Other financial formulas, even rent certificates, should also be studied and experimented with.

The second critical area of public housing failure is in management. Reform should aim at a people-oriented approach. The characteristics of the occupants have changed enormously and there will be more problem families still when housing authorities fully accept their mandate to give priority to families displaced by urban renewal.

Public housing management must accept a role beyond that of a rental agency. Personnel is the key, and somehow, somewhere, housing authorities must find and train management personnel to combine business competence with skill in handling people.

Catherine Bauer's proposal for a federal-local pilot program should be given an early trial, and a bid is herewith entered on behalf of Philadelphia that it be the first city chosen with which to experiment.

PETER FISH STUDIOS

WOOD

Let's face the fact that tenants differ

The key fault of public housing is that, neither by concept nor by operation, does it fit the people it is supposed to house. Since 1949 public housing has had to house two different kinds of people: first, the normal families, looking only for a home that they can afford; second, a whole influx of people

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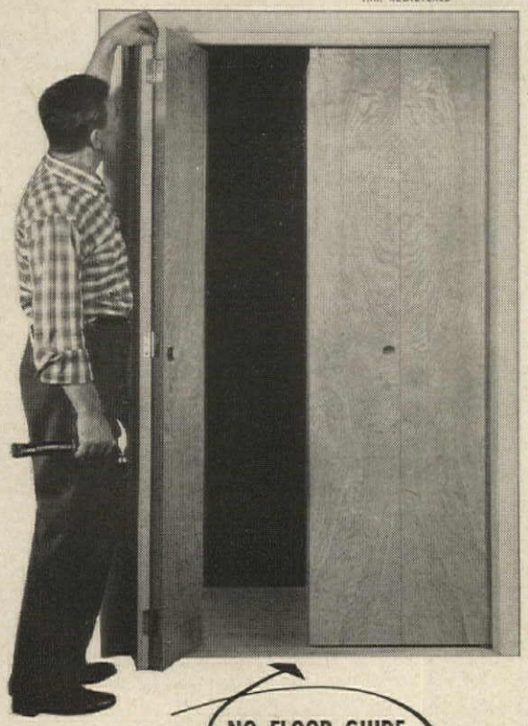

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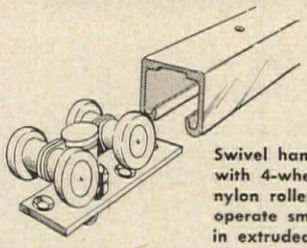

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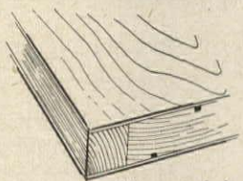

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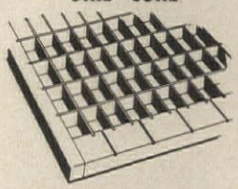

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who, having come directly from rural or urban slums, do not automatically accommodate themselves to urban standards of living. This second group ranges all the way from those who need only a little education about flush toilets and the washing of paint, to those who need social services in small or large amounts.

Public housing management has handled neither group appropriately. It uses welfare investigation procedures as a prime tool of management. This is repugnant to normal families, and unendurable when it interferes with a family's right to earn as much as it can. Meantime, it does not provide or secure the educational or social services necessary for the nonurbanized families. A housing program that is acceptable to the first group can have no social welfare procedures. A housing program for the second group must include educational and welfare services.

Geographical separation of these groups is intolerable socially, and it is uneconomic. The first group is a major resource for the city's labor pool; the second cannot be ignored in a city that is clearing slums.

I hate to express my distrust for Catherine Bauer's pilot operation but it is a waste of time as long as an iron curtain is built into present legislation. Eviction of families for high income is an administrative policy irreconcilable with the American concept of home.

A first need is an examination of the uses a city has for housing—subsidized both more and less—in an era of urban renewal and high employment.

DEMARS

Try subsidized rentals for developers

It is obvious there are two problems here. One is the removal of slums and the other is the housing of people who cannot pay economic rents.

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PUBLIC HOUSING *cont'd.*

These problems are enmeshed yet they are not one and the same. We might have more luck if we tackled them independently.

I think that I am against individual ownership in public housing because there is a danger in crystallizing minimum standards. We in the US build the best single-family houses in the world and a large part of the population is able to own them. But many people must, and should, rent for part of their lives, and we seem to build the worst and most expensive rental facilities for this part of the population.

I propose a system similar to that used in Sweden: stimulate the production by private enterprise of a large volume of adequate, attractive but essentially modest rental housing, available to anyone for a modest *economic* rent. Give the tenants of public housing the assistance necessary to meet these rents.

Production and financing might be handled in the manner of the present FHA Title 213 which allows builder or tenant-group initiative. The builder should make a comfortable profit, not a killing. All the incentives and devices that we know of should be used to get such a program under way: low interest rates, long-term financing, yield insurance, etc. Federal subsidies might at least match those now assumed on the production side of public housing. In exchange for all this, reasonably low rental levels and reasonably high standards of design and construction should be demanded. But the designs will be no better or worse than the level that citizens and professionals will demand.

The projects (I hesitate even to use the word) should be relatively small and scattered throughout the community. They would have great variety, there being no standard plans, or even fixed income level. A builder might well receive additional financing assistance according to the percentage of modest rental units he can judiciously mix into any development. Additional incentives might be used to get guarantees that units would be made available to public housing clients who would never be placed all in one development.

Now for the people. Anyone is eligible. The housing authority would continue to operate its application office

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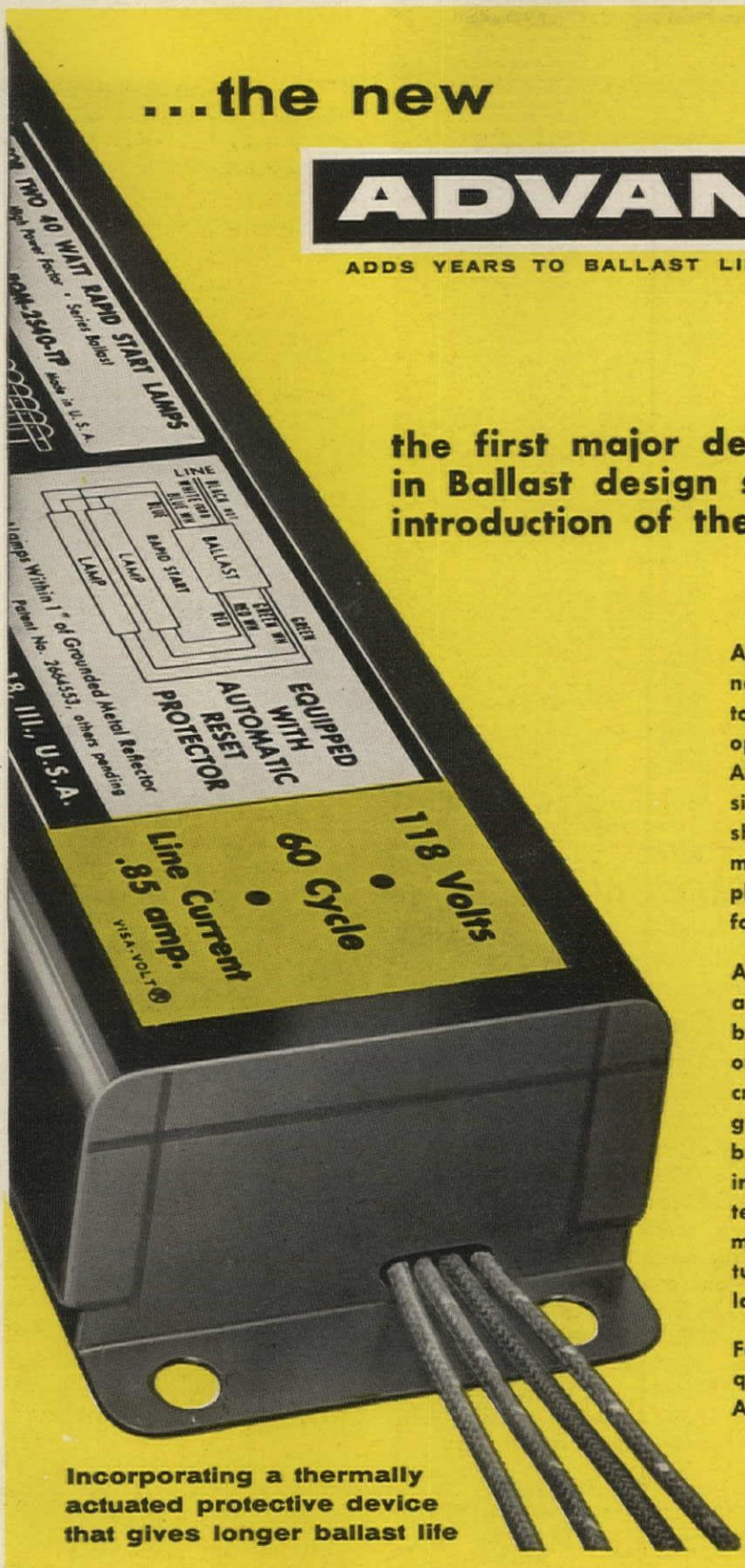

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very much as it does now. The same check-up on family income would be necessary. They would issue script to make up the rent differences and the amount received would vary with family need, as it does now. This script might be used for approved remodeled units as well. When a family's income went up, they could pay full economic rent like anyone else and go on living in the same place.

Families would not be living in economic ghettos. In fact, no one should need know that they are getting rent assistance, any more than neighbors now know who clips coupons, lives on a pension, or is getting help from Uncle Ned. This comes closer to the American ideal of class mobility and it shouldn't cost any more—or any less—than what we now spend per tenant in public housing.

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JOHNSON

Let the subsidy go to the family

If slums are to be eliminated, the task will tax resources of both private and public interests. A good starting place is to bring those interests together.

The local housing authority must become the community's clearing house for both private and public interests in housing. It must have a continuing responsibility to aid families of low income, and it should serve also as a constant reservoir of families that have improved their economic status to a point enabling them to seek homes supplied through private enterprise, either for rent or purchase.

Full responsibility must be lodged with local officials as to planning, design, management and continuing use of low-rent homes, to conform to local customs and needs. A local authority should be able to purchase and rehabilitate existing housing for low-rent use. It should be permitted to build free-standing, single or duplex homes in various parts of its community. It

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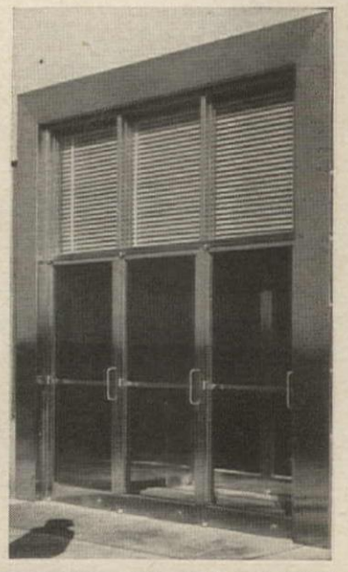

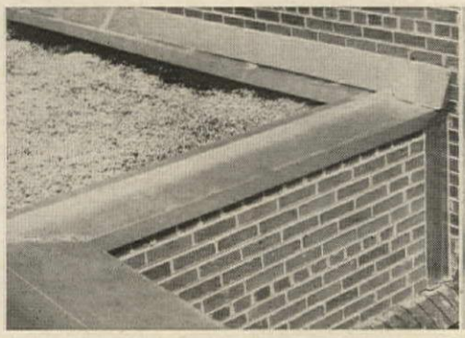

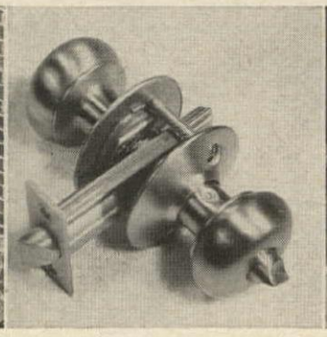

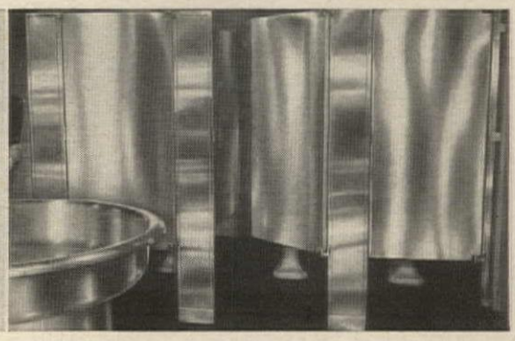

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should be permitted to purchase individual homes within new projects built through normal private channels. The public housing law should permit low-rent tenant families to purchase their homes as incomes rise. Interest rates to such families would be adjusted to income, stopping at a rate comparable to that charged under other special assistance programs, such as cooperative or college housing. As homes are transferred to ownership, payments of principal should be returned to a revolving fund for further low-rent use.

Consideration should be given to expansion of cooperative and nonprofit housing corporations, taking a chapter from the housing experience of northern European countries. The federal government might well buy second or third mortgages at very low interest rates, with 60-year amortization, and perhaps waive interest charges for the first 20 years. First mortgages of 20- to 25-year duration would be offered through conventional financing. In such housing, where consumer costs are controlled, low-income tenants would be eligible, with the public housing subsidy running to the family rather than to the project, until the family is able to pay nonsubsidized rents or costs.

H. T. CARBETT

FEISS

Begin with an inventory

The dilemmas of public housing are tied in with other dilemmas of total national housing and urban development. The article "Our Confused Housing Program" (AF, April '57) should be read in conjunction with the Bauer article because unless one understands the lack of relationships between the public housing program and other programs for housing finance and for urban renewal, it is almost impossible to pass judgment.

A new combined comprehensive national housing act is imperative. Instead of retreading the badly worn old

continued on p. 232

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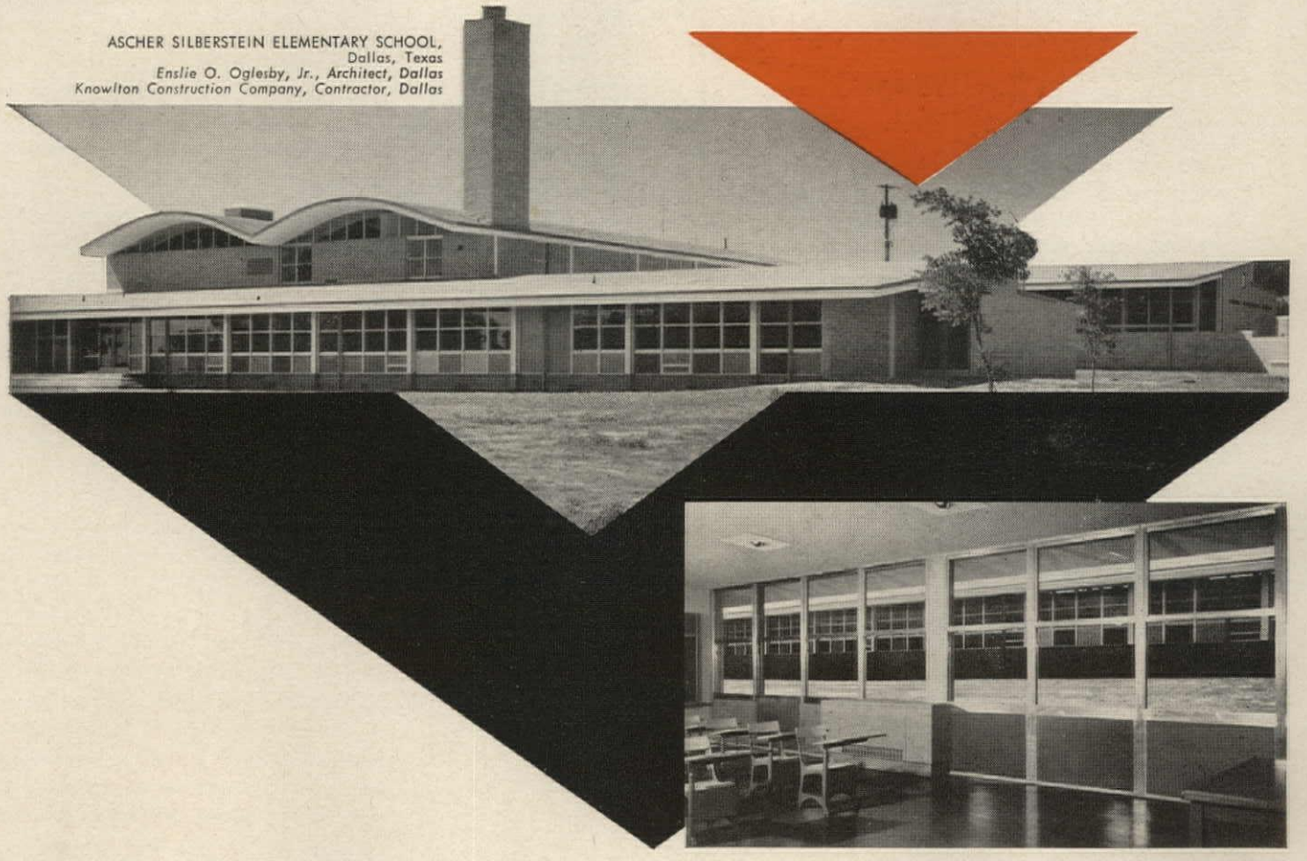
CUPPLES



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tire, we need to get a brand new one.

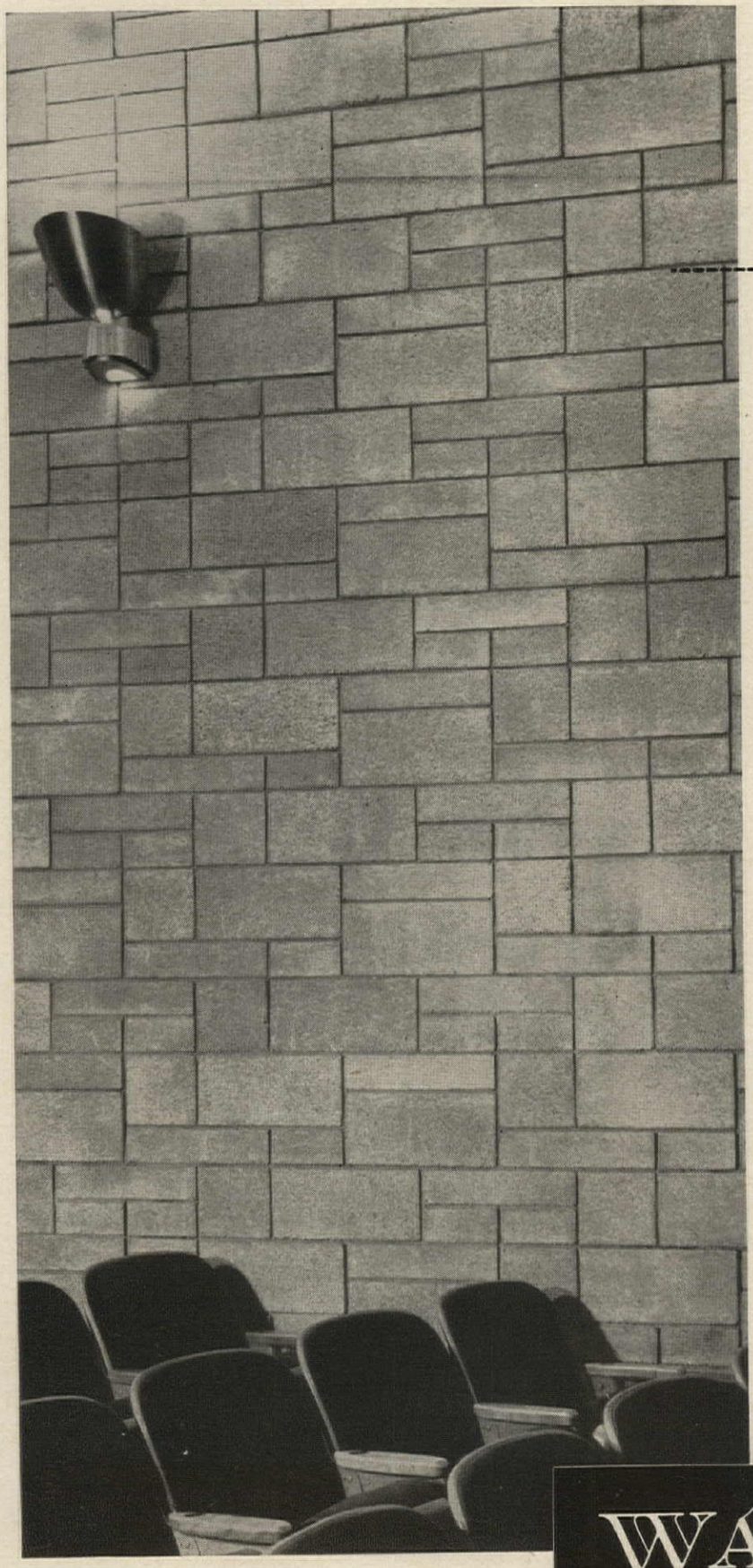
A continued housing inventory at all income levels and all locations for the entire US should be established to guide Congress, the administration, market analysts and the building industry as to the quantity, type and character of a continued national housing program. This would serve as a basis of judgment as to the amount of public housing needed at any one time and place and the scheduling of such public housing in relation to urban renewal project planning, to mortgage insurance programs and to housing constructed through standard financing systems. This is no different from traffic counts and projections made before scheduling a national highway program.

All public housing should be considered self-liquidating. No family should be evicted because of over-income. Income can be prorated against an economic rent. When a project is capable of paying its own way by the upgraded economic status of tenants, it should be sold to private enterprise with proper controls on the sale. Tenant cooperatives or limited dividend projects may develop for this purpose. The disposal method should be determined locally. As public housing projects are liquidated, new public housing would be constructed. There is no reason why present public housing should not be occupied by people of mixed income. One of the great tragedies inherent in present policy is the instability and turnover of tenancy, plus economic segregation.

The public housing authority concept should be eliminated from local government and integrated with municipal development agencies, whatever their names. No public housing project should be located, developed, designed, and no density determinations made for public housing purposes without full conference of a local city planning commission and without relationship to a general plan for the locality.

A federal study should be made of the aged and of socially undesirable or pathological families and individuals, in relation to the housing problems they create. It is obvious that the present inhuman and nonsensical treatment which is accorded such families and individuals by tossing them out is as bad as evicting tenants for over-income. Man's inhumanity to man takes most peculiar forms.

Above all, we must reject the project concept.



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Secondary School, East Windsor, Conn., Olson & Miller, Architects

WAYLITE

MASONRY UNITS

FITCH ON SYMBOLISM

continued from p. 153

least, one had always thought of as the central function) of a memorial — i.e., the celebration in intelligible, and hence moving, terms of some person or event. Yet, in all fairness, it is easy to understand the attitudes of both architect and jury. They are all prisoners of a larger fact —namely, that vibrant, vivid symbolism can grow only from a community of feeling, of concepts deeply felt and widely shared. American life today offers few areas in which this sort of agreement exists —least of all, in that Pandora's Box of nuclear physics, with all its buzzing bees of threat and promise. Poor Fermi himself stands in the center of this paradox. Called "the architect of the A-bomb," he can symbolize either the frightful erasure of Hiroshima or the peaceful application of atomic energy. It depends upon one's point of view. Even the facts of his death are anomalous: as far as the layman is informed, cancer seems to be both caused and cured by products of nuclear fission.

Little wonder, then, that most of the permeated designs in this competition shy away from any explicit symbol. Only two venture to employ sculpture at all and neither of these makes any direct visual reference to the man or his field of work. One sculpture is a sort of sunburst: a fission-fusion blast? The other is a huge pair of human hands: begging for a peaceful future? Pontius Pilate's clean hands? Lady Macbeth's "damned spot"? Merely to enumerate the possible interpretations is to indicate the hazards of symbolism in this area of human activity. One can only sympathize with the jury in sidestepping such a responsibility. And one can only admire the dexterity with which they transferred the task of symbolizing Fermi's life right out of their own domain into that of the acoustical engineer or the music critic.

Yet not one building in 10,000 confronts the architect with so poignant a problem as that of the Fermi Memorial. Most buildings, if they have any symbolic or commemorative function, deal with issues less complex and thorny. Surely the forms of art could be useful here? And many other buildings —schools, housing projects, theaters— could employ art in simple celebration of their function. Yet the sad fact is that most contemporary architects tend to follow the reasoning of the Fermi jury: the policy of saying nothing, artistically, seems to them the safest course. Say nothing, and you won't regret it. Don't move, and you won't be caught off base. The result is an architecture which, whatever its other merits, must rank among the most neutral and noncommittal expressions the world has ever seen.

American architects are not using art today because they are simply afraid of it. One might guess that this fear exists at two different levels: the general one of fearing to make a statement; and the specific one of not being sure what kind of a statement to make or how best to make it. The first fear is an expression of our times, when experiment or dissent seems often to verge on treason —architects, after all, are not the only group in America who are keeping their mouths shut when they might better speak up. The second fear is that of a whole generation of architects which has grown up without any contact at all with painters and sculptors. This dilemma is almost a technical one, that of not knowing *how* to use art even when they want to.

Whatever the cause and whatever the cure, it seems apparent that contempo-

continued on p. 236

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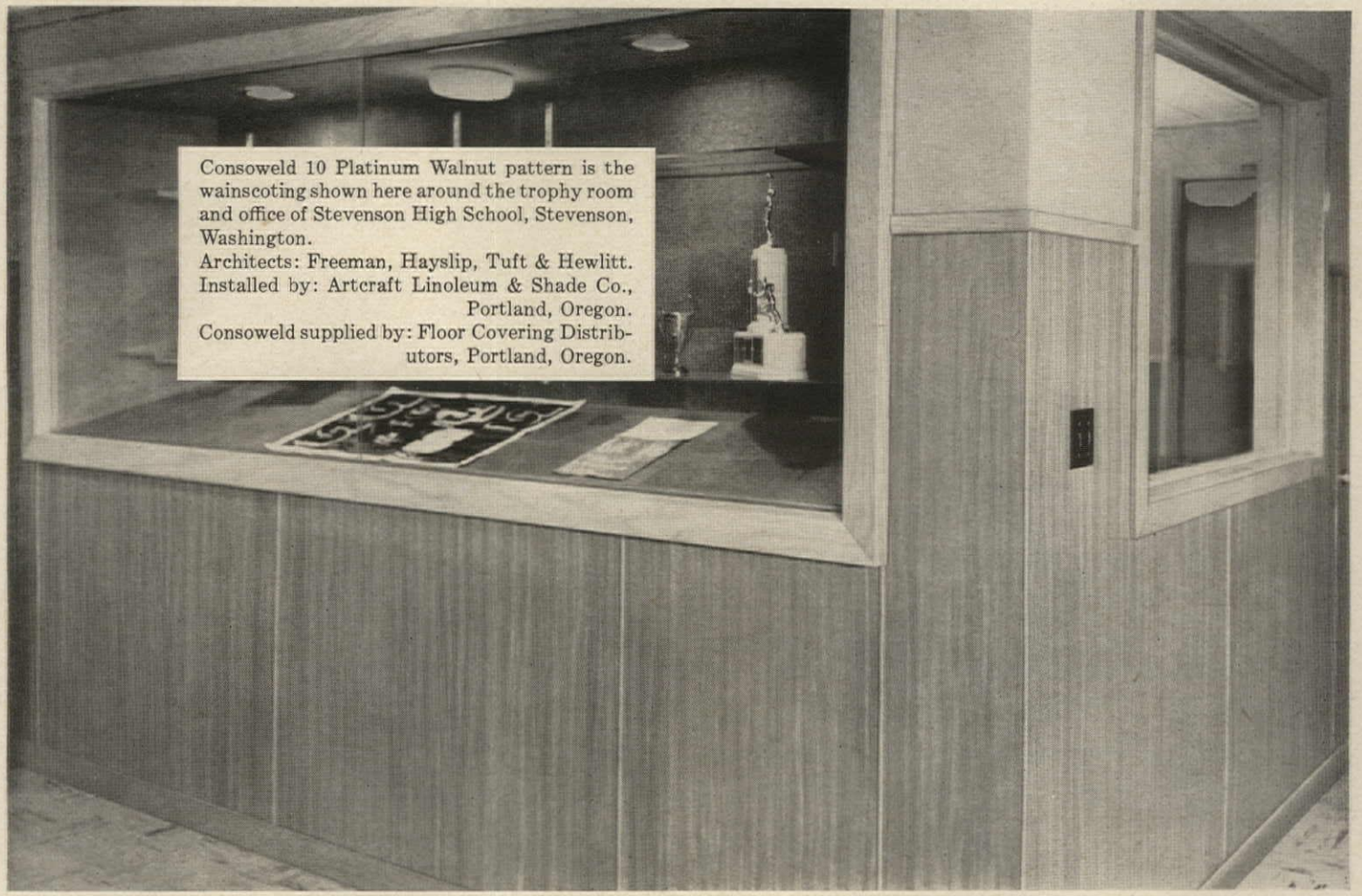
FITCH ON SYMBOLISM *cont'd.*

rary architecture cannot indefinitely continue this policy of artistic neutralism. Signs are abundant, at both professional and popular levels, that more and more Americans are finding it unsatisfactory. In the profession itself, there is a sizeable element which has never reconciled itself to the complete banishment of art and ornament from architecture, even if that art and ornament were only an eclectic rehash of historic forms. Though these men get little attention in the architectural press today, they remain active in church and war memorial design—in fact, as *Art News* pointed out last year, they dominate the latter field altogether. While much of this work is trite and platitudinous, it must at least be given credit for tackling an esthetic problem, which contemporary design, as in the Fermi award, refuses to face at all.

And the public itself has its means of expressing its discontent in the objects it buys: the preposterous tail-finned cars; the lamps and "art objects" in the picture windows; the weathervanes, wagon wheels, Walt Disney figures and birdbaths in the gardens. By any reputable artistic standards, as FORUM recently pointed out ("The Debacle of Popular Taste"—AF, Feb. '57), this work is dreadful. But the money expended on it is sufficient proof of the public's hunger for something it thinks of as art.

One often hears the fear expressed, nowadays, that contemporary design is in danger of being submerged in a new flood of baroque eclecticism. And so it is: this is precisely the aim of such self-annointed crusaders as Henry Hope Reed, who regards the whole modern movement as an historic "mistake" and campaigns for a return to the beauties of the McKim, Meade & White Renaissance. If Mr. Reed has won the attention of the lay press, it is not because of the correctness of his diagnosis (which, actually, would kill the patient as effectively as Pugin and Ruskin did a century ago) but rather because wide circles are aware of the current crisis in contemporary design. To the solution of this crisis, the policy of the Fermi jury contributes nothing, since it leads us to believe either that no crisis exists in the visual arts or else that it is to be resolved in non-visual terms.

And yet our reaction to any criticism of this artistic neutralism is, unfortunately, simple anger. We not only cling to it: we demand that others do likewise. The hostility with which the new campus of the University of Mexico has been greeted by some American critics is significant here. It is an esthetic development of first-rate importance. Not one but dozens of architects and artists are involved in its design; and far from trying to walk some tightrope of impeccable "good taste," they are intent on creating a new artistic idiom commensurate with the demands of their country. Whether one likes or dislikes their buildings or art is really irrelevant here. What we ought to be able to admire —or at least to *understand*— is the process in which Mexican architecture is engaged: that of consciously grappling with the problems of heritage and future, of art and technology, of national and international virtues. This necessitates commitment. Like all action, it runs the risk of error. But until we have demonstrated our own competence to handle the similar problems which confront us here, we are in no position to lecture our Mexican colleagues. They at least understand that, if to move forward is dangerous, to stand still is death.



Consoweld 10 Platinum Walnut pattern is the wainscoting shown here around the trophy room and office of Stevenson High School, Stevenson, Washington.
Architects: Freeman, Hayslip, Tuft & Hewlitt.
Installed by: Artcraft Linoleum & Shade Co., Portland, Oregon.
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Consoweld 10 on School Corridor Walls Will Save $200 A Year, Says Architect

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At Stevenson (Wash.) High School, the architects used about 7600 square feet of Consoweld 10, the extra-thick (1/10-inch) laminated plastic panels. This was installed directly over gypsum lath, with Consoweld's Twin-Trim matching mouldings at seams. A two-man team installed about 700 square feet per day. Men who installed the panels said that even though this was their first experience with it, they had no trouble whatever installing Consoweld—in fact, said "it was fun to install," and it required no bracing or shoring.

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at night with less numerous messages from another realm of being. Within that frame of scientific thought where Freud placed them, their role is that of speechless messengers from that subconscious strata of the mind which is the greater part of ourselves. Symbols are windows opening upon meanings of which we were, for the time being, unaware. That forthright humanism does not, I think, deprive symbols of their universal ministry or of their essential dignity.

The flag that leads our fleet into action still kindles a courage more tenacious than all the thunder of our guns. The cross that shines on the distant altar still tells us more of God than all the splendor of Catholic ceremony. And if we would know Washington we must look for him, not in the sugared rhetoric of Parson Weems and his thousand and one successors, but in the silent obelisk at the end of the great mall.

And architecture? We know how the architects of our day defend the form and logic of their structures from these sudden devastating intrusions of the heart. Symbols are little distillations of romance; they can have no commerce with pure architecture; and, if our expression rests upon function (and what other expression will be tolerated?), experience confirms our fear that our audience, or at last that mass-audience which architects cannot afford to despise, will take to itself the symbol and not our reasonable meaning. And that fear leaves a magical wand unexercised in our hand.

It seems to me that the distinguished architects who formed the jury for the Fermi competition, all of whom may be supposed to know something of form and logic, have suggested in their award a possible solution of this dilemma. Architects may admit symbols provided these are consonant with their technologies of plan and structure; consonant also with the temper and opinion of their time; so that, thus apprehended in a visual and emotional harmony, they may speak to us without contradicting the meanings which are addressed to the mind.

Almost all of our architectural symbols are bound up with antique crafts and an outmoded way of life and oppose all contemporary expression with a competitive eloquence. Those four columns of unimpeachable granite, for example, which in every town and village certify the solvency of our banks, would shine with a questionable harmony if placed against the glass facade of the Manufacturers Trust Co. If we wish to build a church of naked iron — in order to express with all candor the kinship of our religion and our machines—we shall not make our candor more convincing by adding a white spire brought from a New England common. Nor are our symbols less perilous if we make use of that realism in sculpture which the nineteenth century bequeathed us; these too oppose the meanings of architecture with seductive irrelevancies. That golden Prometheus who brings preposterous fire to a skating rink will yet bring down the cathedral-like walls of the RCA building.

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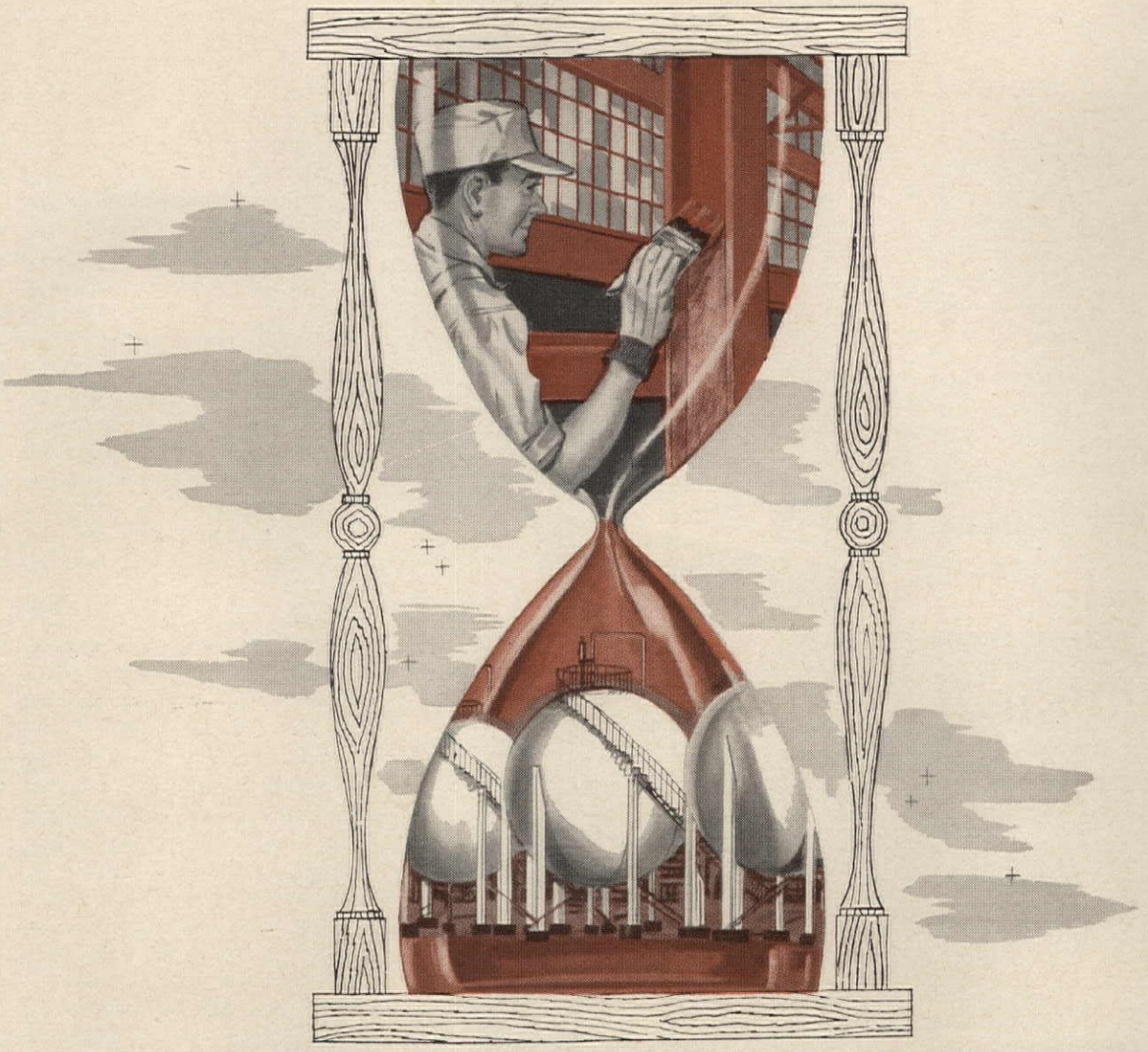

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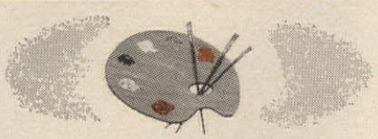

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We are well advised to recognize the dangers inherent in such symbols. And yet I would not leave my building to be clothed with sentiments brought to it by the changing course of popular awareness and understanding. We know how atoms of prejudice and aversion — or of insight and delight — begin to cluster, as soon as it is built, about a building which engages the popular mind; how these presently crowd into a haze; and how the building, thus steeped in opinion or conceit, becomes itself a symbol—often a symbol of ideas wholly alien to the mind of its author. An architect's audience is at best a slender one; its comprehensions are in the most favorable circumstances perilous; and it is hungry for symbols. Logic is a very uncertain reed upon which to rest the social and political art of architecture.

Of course, I know that modern architects do sometimes make use of symbols and make these integral to their patterns. Buckminster Fuller, like Kubla Khan, a sunny pleasure dome decreed, fit symbol of man's triumph over the monument. Eero Saarinen, at M.I.T., sheltered the assembly place of scientists with a domed canopy, dramatic symbol of their congregation. Minoru Yamasaki, at the St. Louis Airport, placed three domes together so that, seen from the field, their eggshell grace invites the thoroughfares of the skies. We should use such symbols less infrequently. We should be less afraid of them.

Thomas Jefferson once decreed a dome to crown the Capitol at Washington where it still secures the loyalties of our people—who, by the way, take little note of its clumsy classicism or its mean material. And, if those zealous architects who are now improving our Capitol should, considering the need for office space, replace that dome with a tower in the style of the House of Seagram, there would be few of us — so illogical is the mind of man— who would not prefer the cast-iron symbol to the bronze utility. And all of the superb technologies which we laid at the feet of the United Nations may yet prove less moving in the cause of peace than the symbol which the architects forgot—the symbol for which the nations waited with a longing not unlike despair.

BILL ENGDAHL, HEDRICH-BLESSING

Honorable mention in Fermi competition went to Herbert Rimpl, Heinz Krochmeyer and Robert Rathai of Weisbaden, Germany, for this sculptural shell. Another mention was given Giuseppe Perugini, Tommaso Valle and Gino Parolini of Rome, Italy.

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STATISTICS

continued from p. 133

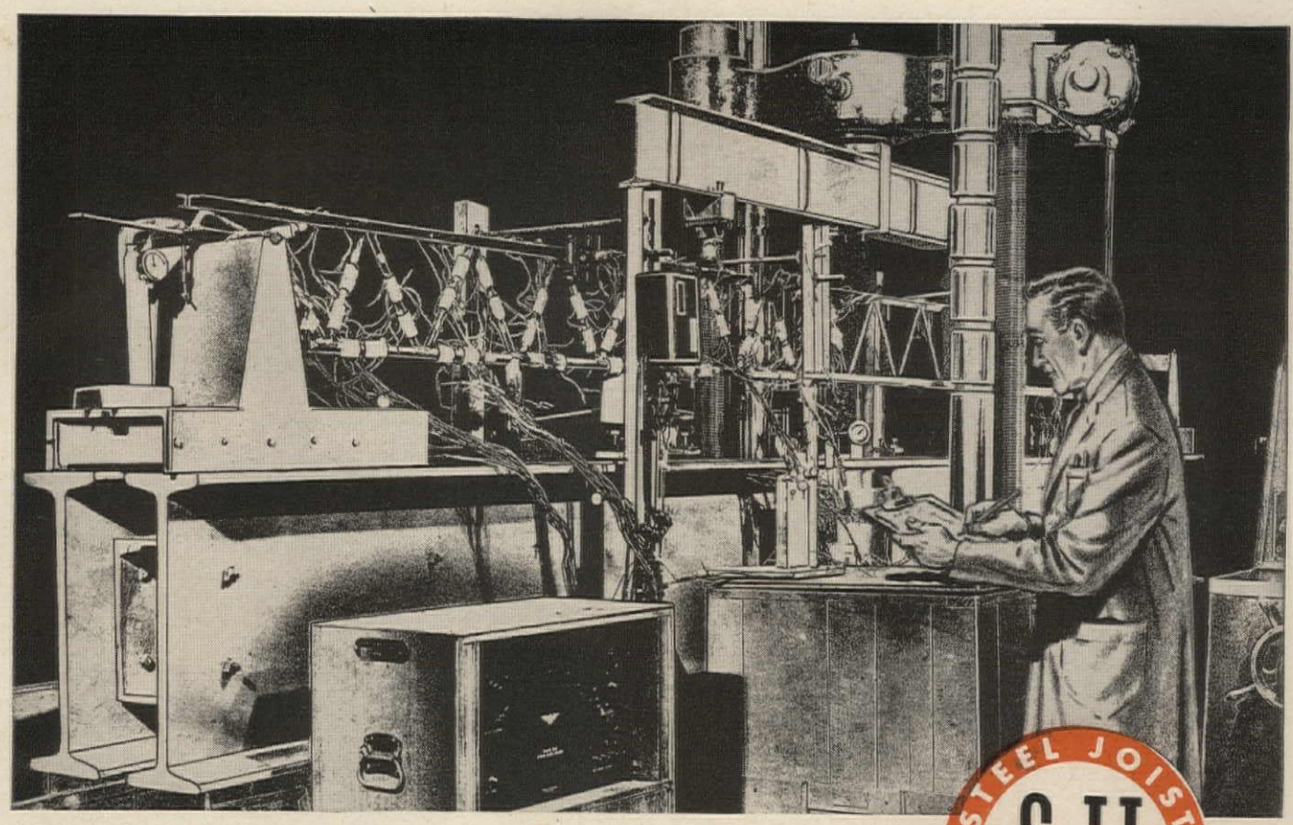
Home Loan Bank Board, which publishes a monthly series on nonfarm mortgages of $20,000 or less, are notoriously poor. Reporting is weak in nearly half of the states, and figures neither represent all residential building nor are they exclusively residential. Nothing is available in the way of a monthly or quarterly index of mortgage rates which might reflect changes in discounts and fees.

Though figures on the backlog of planned construction would be of tremendous help in estimating capital spending (they could be had, as Miles Colean has pointed out, from architects' boards or mortgage commitments), none is available. Neither are there facts on conversions and demolitions; on vacancies for commercial buildings (a particularly sensitive business barometer); on rents under new leases. In real estate, there is no government price series at all, and it is practically the only major sector of the economy without one. Current operating experience on income real estate is an almost complete blank, and there are no comprehensive data on market activity, rate of turnover or inventory and use of standing stock in nonresidential buildings.

Basic benefits

Most economists agree that even a portion of these facts would open up tremendous areas now barred to systematic examination. Ernest Fisher, for one, believes that with a stock of basic facts we could begin to make the studies needed to determine cause and effect in real estate markets, which must come before we can tell anything about the market's direction of change.

Nor are the potentials solely economic. "We can never understand or resolve urban traffic problems [see p. 108]," Fisher says, "until we have unraveled the relationships between urban establishments and the character of the traffic web which is woven between these establishments." We need a far greater understanding of this pattern and of the kind of character of activities that tend to cluster in the urban center. Until we have it, we shall be building office buildings and developing shopping centers, industrial districts and residential areas on the periphery in the hope that people will want to use them and locate in them. But, as Fisher pointedly remarks, "we can have no assurance that the decision is intelligent."



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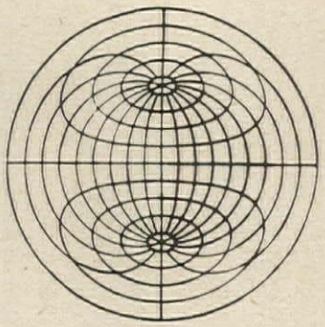

An announcement

to the business communities in the United States and throughout the free world

In San Francisco, California, the International Industrial Development Conference will meet October 14 through October 18 to explore further investment possiblilities for private capital in all countries of the free world.

TIME-LIFE International, publishers of the four International Editions of TIME, LIFE International and LIFE EN ESPAÑOL, and Stanford Research Institute are the co-sponsors.

The International Industrial Development Conference is a logical expansion of the Inter-American Investment Conference held in New Orleans in 1955. That Conference was so uniquely successful in fostering cooperation between private businessmen of the Americas that the sponsors have good reason to hope the Conference at San Francisco will have similarly dramatic results in the world as a whole.

The sponsors and organizers of the International Industrial Development Conference intend to provide in San Francisco a forum on equal terms for businessmen from all capital-exporting and capital-seeking countries. As in New Orleans, the Conference in San Francisco is premised on the firm belief that the prosperity and strength of the free world—both within nations and between nations—are chiefly products of the creativeness, initiative and resourcefulness of the individual working through the institutions of private enterprise. No government is or will be involved in the organization of the Conference, although it is endorsed by many important government leaders in the United States and elsewhere.

Invited to the Conference is a limited number of chief executive officers representing the leading industrial companies and financial institutions of the free world, each of them selected for invitation because of his wide international business experience and his record of economic statesmanship.

The International Industrial Development Conference has the wholehearted endorsement of the following organizations now actively cooperating with the sponsors: The International Bank for Reconstruction and Development, the International Finance Corporation, the Organization for European Economic Cooperation, the Federation of British Industries, the Federation of German Industries, the Japanese Federation of Economic Organizations, and numerous others.

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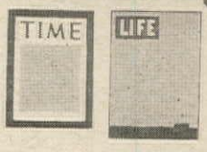

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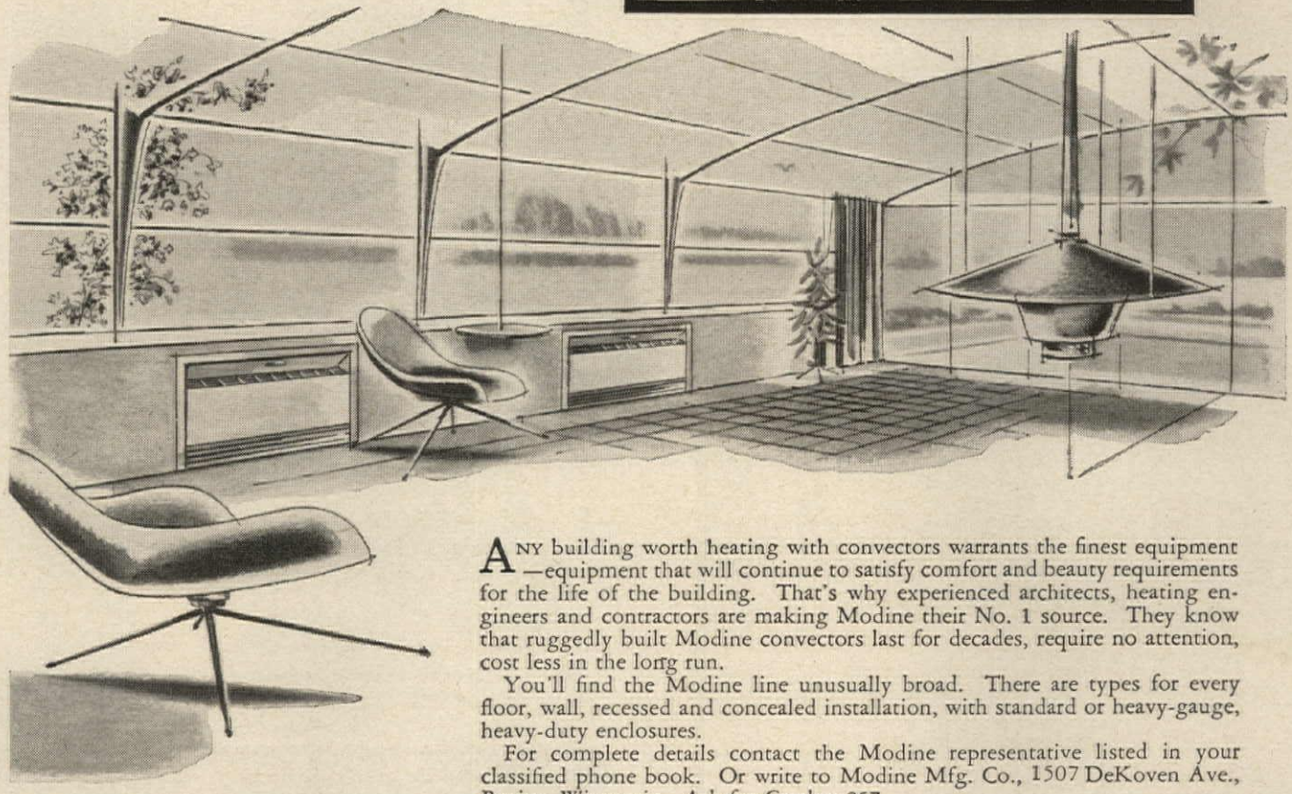

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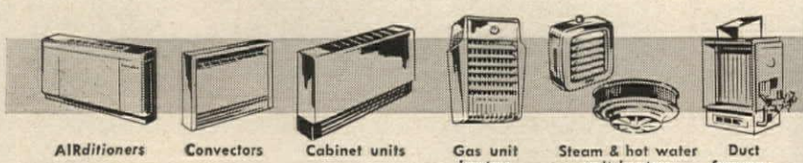
You'll find the Modine line unusually broad. There are types for every floor, wall, recessed and concealed installation, with standard or heavy-gauge, heavy-duty enclosures.

For complete details contact the Modine representative listed in your classified phone book. Or write to Modine Mfg. Co., 1507 DeKoven Ave., Racine, Wisconsin. Ask for Catalog 257.

R-1352

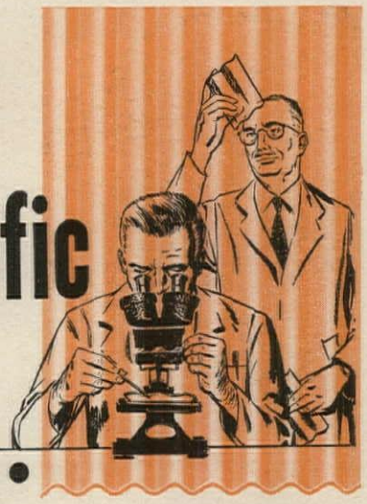


AIRditioners | Convectors | Cabinet units | Gas unit heaters | Steam & hot water unit heaters | Duct furnaces

In Canada: Sarco, Ltd., Toronto

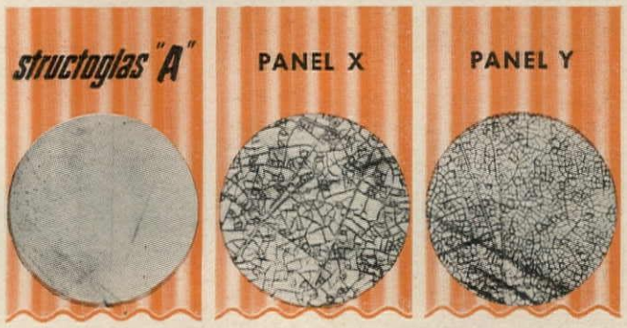
Modine
MANUFACTURING COMPANY

Here's Scientific Proof...



structoglas® "A"

outlasts other "quality" plastic panels in 2-year exposure test!



PHOTOMICROGRAPHS PROVE STRUCTOGLAS "A" HAS OVER 300% GREATER EROSION RESISTANCE

Here's why independent laboratory tests prove STRUCTOGLAS "A" plastic panels outlast all others . . . assure lasting beauty in both outdoor and indoor applications:

STRUCTOGLAS "A" is made from a new extra-tough resin*, molded by an exclusive process and finished with a "Pebble Grain" surface for added erosion resistance. Competitive panels "X" and "Y", made from good, light-stabilized conventional resins, quickly lost their surface gloss and color . . . "alligatored" so badly the glass fibers were exposed . . . light transmission was sharply reduced.

Specify the panel that retains its "like new" look for years. Insist on STRUCTOGLAS "A" . . . it costs no more than other "look alike" plastic panels.

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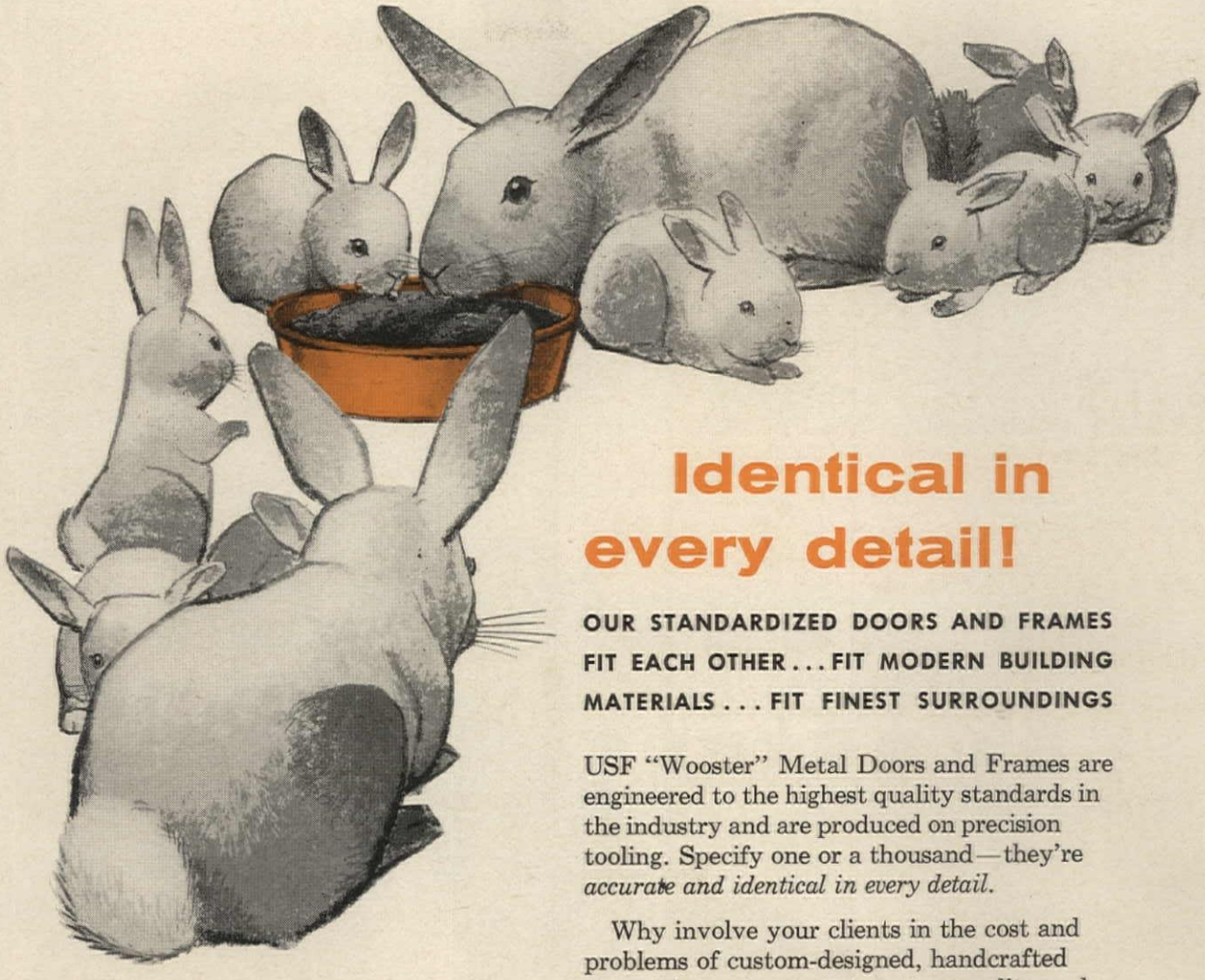

Identical in every detail!

OUR STANDARDIZED DOORS AND FRAMES FIT EACH OTHER... FIT MODERN BUILDING MATERIALS... FIT FINEST SURROUNDINGS

USF "Wooster" Metal Doors and Frames are engineered to the highest quality standards in the industry and are produced on precision tooling. Specify one or a thousand—they're *accurate and identical in every detail.*

Why involve your clients in the cost and problems of custom-designed, handcrafted doors when you can get custom quality and mass production economies in the USF "Wooster" line? There is a USF design for every type of opening. SEE us in Sweet's.

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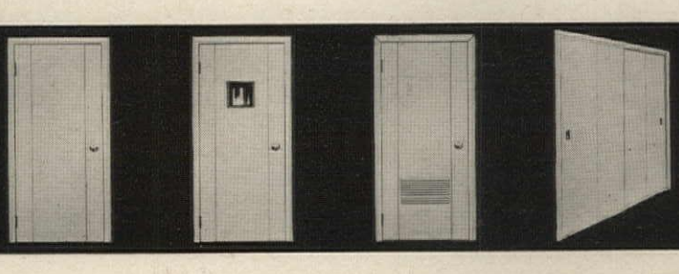

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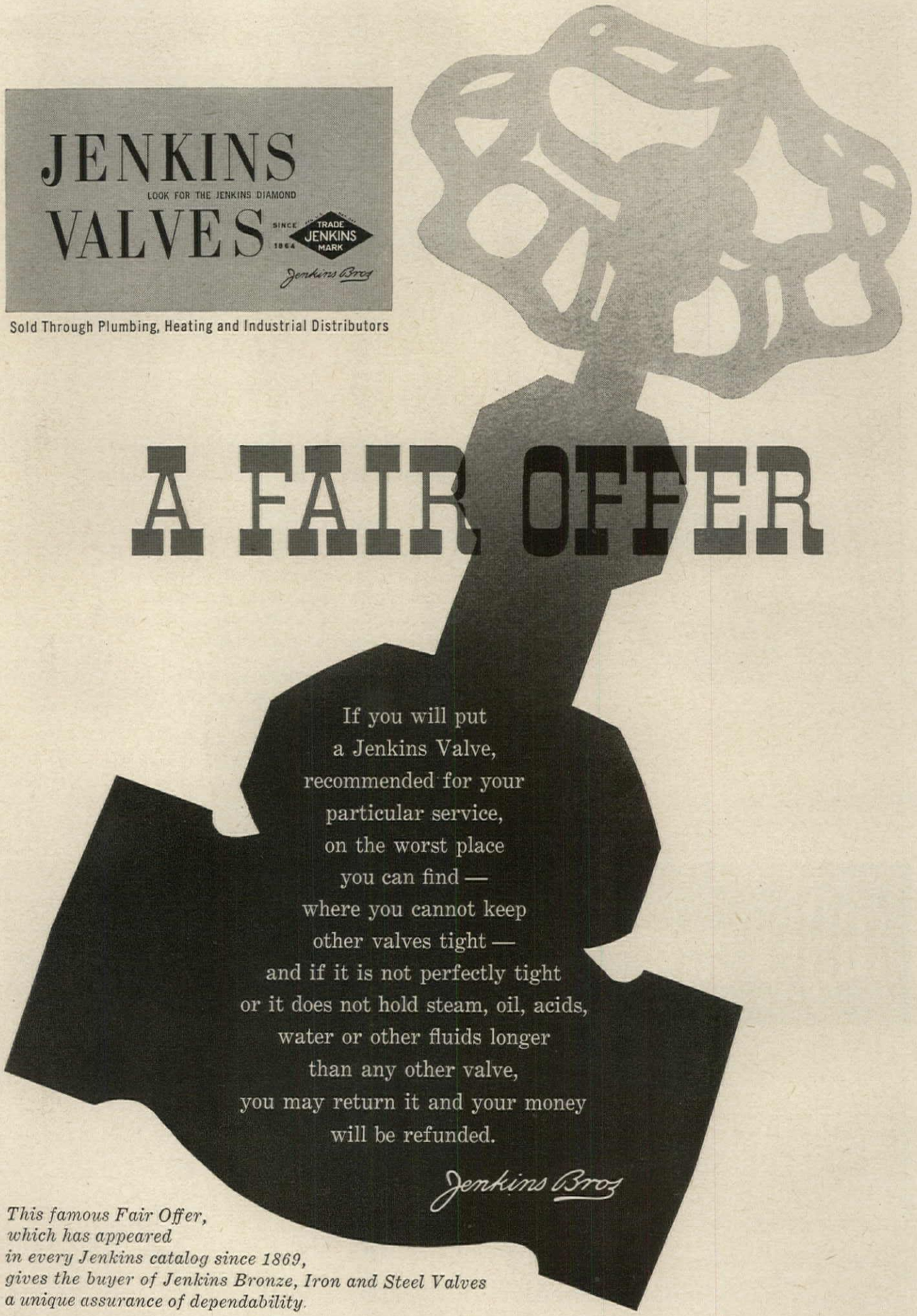

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other valves tight —
and if it is not perfectly tight
or it does not hold steam, oil, acids,
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This famous Fair Offer,
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gives the buyer of Jenkins Bronze, Iron and Steel Valves
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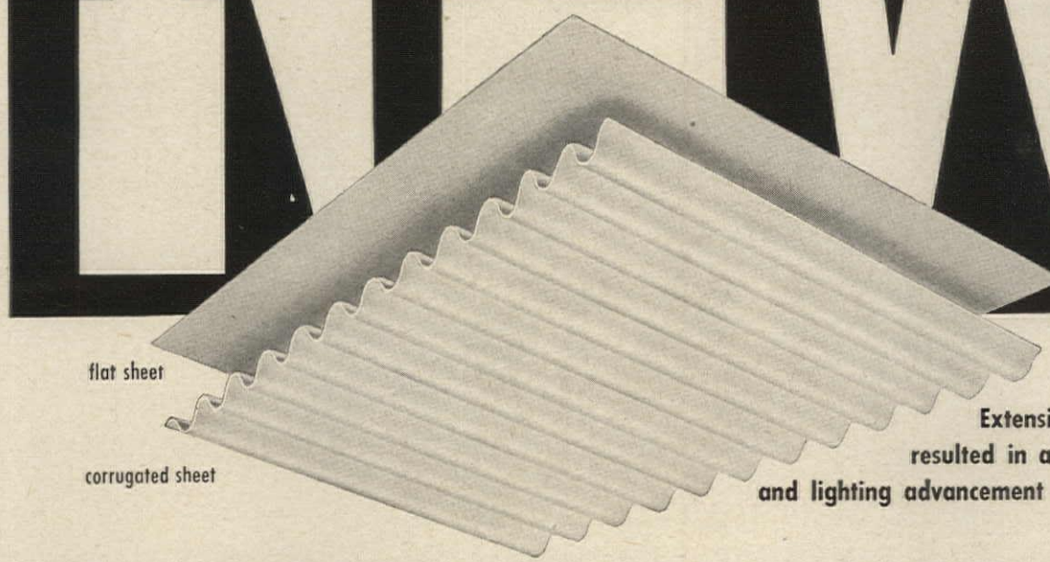


PATENT APPLIED FOR

Extensive research has now resulted in a combined acoustical and lighting advancement of great significance

SOUNDSHEET TRANSLUCENT ACOUSTICAL ELEMENT For Over-all Lighting Systems

For the first time, efficient *acoustical* properties have been combined with top quality illumination characteristics in a good-looking plastic laminate! Soundsheet by Contrex Company supplements other acoustical treatments, and can be effectively used with most wall-to-wall or area lighting systems now in existence or in the planning stage. Here are just a few advantages of Soundsheet:

- ★ BALANCED SOUND ABSORPTION — more at low frequencies than the average of commonly used types of acoustical treatment. Good absorption at the higher frequencies. N.R.C. — 0.70 by independent test for corrugated Soundsheet.
- ★ QUALITY ILLUMINATION — softly diffused lighting free of shadows and reflections at high efficiency.
- ★ EASY TO INSTALL — available in all standard widths; adaptable to most available over-all ceiling equipment, now installed or on order.
- ★ AVAILABLE NOW — in either corrugated or flat sheet — consult your lighting equipment manufacturer for use with his equipment.
- ★ LOW COST — initial and operating expenses — very little maintenance necessary — Soundsheet is completely washable.

Soundsheet harmonizes perfectly with any of today's architectural interior concepts. Contrex Company invites you to examine this new plastic laminate — Soundsheet — and learn more about its advantages and how they can benefit you.

Developed for Contrex by Bolt Beranek and Newman, Inc.

CONTREX

CONTREX COMPANY
CHELSEA 50, MASSACHUSETTS

MAIL TO:
CONTREX COMPANY
CHELSEA 50, MASS.

☐ Please send me literature and a sample of Soundsheet.

☐ Please have your representative call.

NAME_____

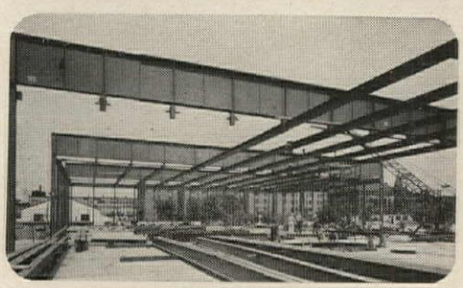
Company_____

ADDRESS_____

CITY_____ STATE_____

AF-6

A triumph of Structural Steel...



IN CONSTRUCTION—the immense exposed plate girders in place, with purlins being hung.

ARCHITECT:
Ludwig Mies van der Rohe

ASSOCIATE ARCHITECT-ENGINEER:
Pace & Associates

STRUCTURAL ENGINEER:
Frank J. Kornacker

STRUCTURAL FABRICATOR:
Hansell-Elcock

ERECTORS:
Cragin Construction Co.

LANDSCAPE DESIGN:
Alfred Caldwell, Architect

VIEW from main entrance, overlooking entrance terrace. All walls are panels of obscure and clear glass framed in steel.

..CROWN HALL

26,000 sq. feet without a single interior column!

CROWN HALL, at Illinois Institute of Technology, marks a milestone in the use of Structural Steel—a classic example of strength, economy, and honest, simple beauty.

The main floor of Crown Hall is a single room, 220 ft. long, 120 ft. wide, and 19½ ft. high. Yet, in this immense room there is not one structural column.

The vast roof is suspended from 6'-deep plate girders, which project out of the building as an exterior skeleton. These girders were shop-fabricated, and each was delivered to the building site in two 60-ft. sections. There, they were spliced and hoisted into place. Purlins are hung beneath the roofing.

This huge, open hall, which could be used for virtually anything from a factory to a theatre, was built at a cost of $13.71 per sq. ft.

Strength . . . economy . . . versatility . . . simple, vigorous beauty—these are the qualities offered by Structural Steel; qualities proved time and again in structures that range from mighty, bustling skyscrapers to serene, single-story panoramas of steel and glass like Crown Hall.

Structural Steel is easily the most economical of load-carrying materials—and the strongest. It will take more abuse than other structural materials, effectively resisting tension, torsion, shear and compression. Enclosed in buildings, it lasts indefinitely, needing no maintenance. Structural Steel may be welded, riveted, or bolted, and can be erected in any weather. Since steel members are fabricated indoors, weather cannot affect the quality of workmanship.

◀ **CROWN HALL** houses the Dept. of Agriculture, Institute of Design and Planning Dept. The entrance terrace is a gathering place for students between classes. The basement houses shops and classrooms.

USS
STRUCTURAL STEEL

UNITED STATES STEEL CORPORATION, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
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20,000 FL* REDUCED TO 50 FL PROVES

HONEYLITE® ELIMINATES GLARE!

Right after this photograph was taken an illuminating engineer from an independent laboratory took Footlambert readings. His findings are as follows: each of the battery of photographer's floodlights produced 20,000 FL; the six Honeylite panels gave overall 340 FL readings; the little girl's face showed 120 FL; and the page in her picture book was all the way down to 50 FL . . . a light soft enough for the youngest eyes!

HONEYLITE®

LIGHT-DIFFUSING ALUMINUM HONEYCOMB

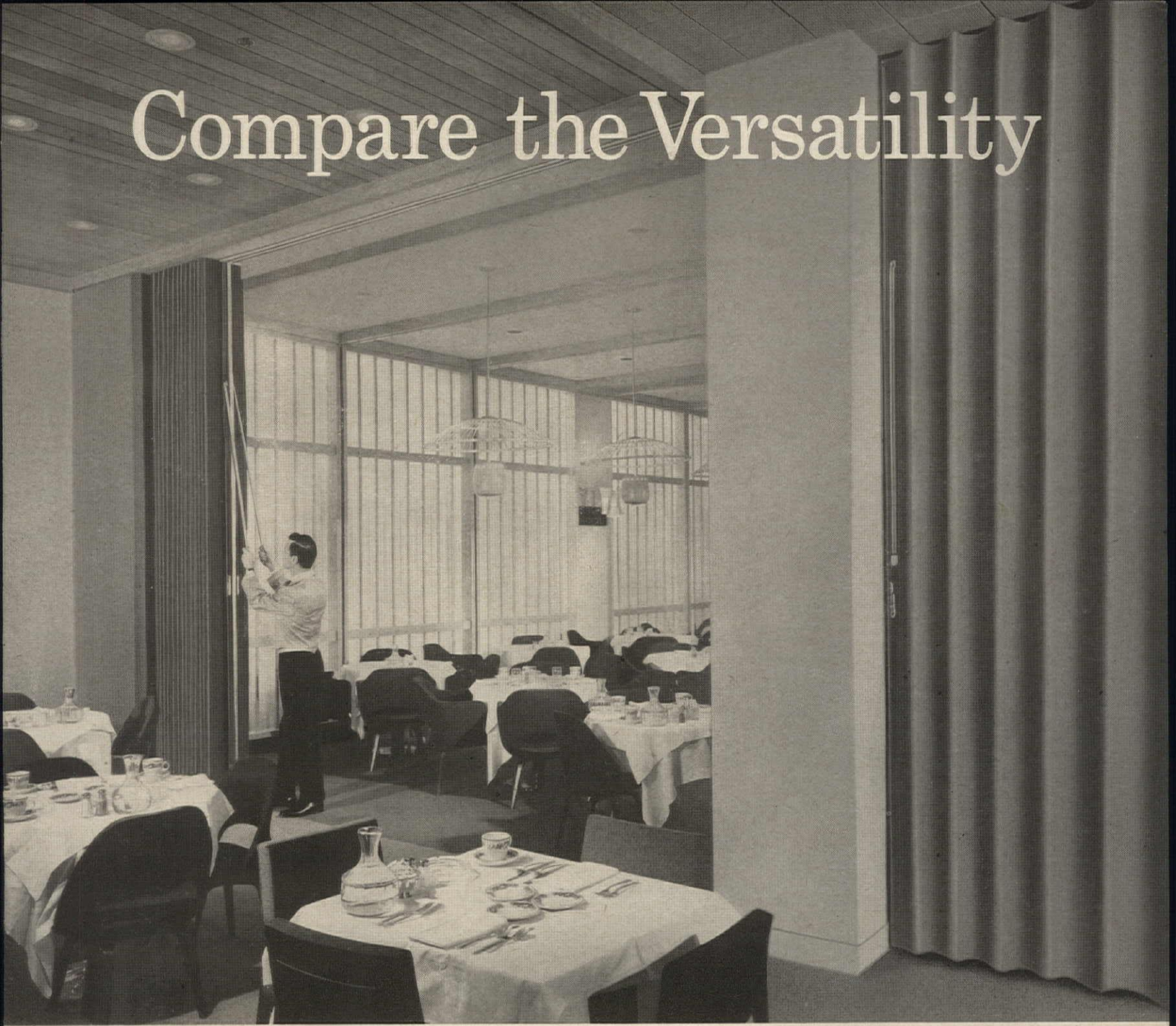
A DEVELOPMENT OF HEXCEL PRODUCTS INC.

951-61ST STREET, OAKLAND 8, CALIFORNIA

See our Catalog in Sweet's file 31a/He

* Footlambert — the standard unit of surface brightness — as measured with a Spectra Brightness Spot Meter. Name of testing laboratory available on request.

Compare the Versatility



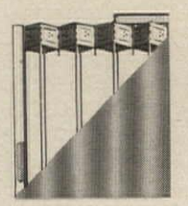
There's no other door that can measure up to Modernfold

For creating space...or for saving space in homes, commercial installations and institutions, there's no other folding door that can measure up to MODERNFOLD for versatility.

Anytime you specify MODERNFOLD, you are specifying the finest for your clients. Because of MODERNFOLD'S inner framework of double-strength steel it lasts a lifetime. And its beautiful, sturdy vinyl fabric needs only soap and water to keep it clean. Not only that, but you can specify almost anything you want in a MODERNFOLD from the world's most complete selection of colors, finishes, sizes, tracks and switches. You'll find out why, in detail, when you refer to Sweet's Catalogue.

Only MODERNFOLD, among all folding doors, can serve every need so well. In new construction or remodeling, check your nearest MODERNFOLD distributor; he's listed under "Doors" in the Yellow Pages.

Vinyl covered, wide range of colors. Easily washed while in place. Inconspicuous overhead track needs no unsightly cornice. Double strength, all-steel framework. Available in standard or custom sizes.



MODERNFOLD DOORS HAVE BEEN USED BY 97% OF ALL ARCHITECTS

"Spacemaster" Line..."Custom" Line

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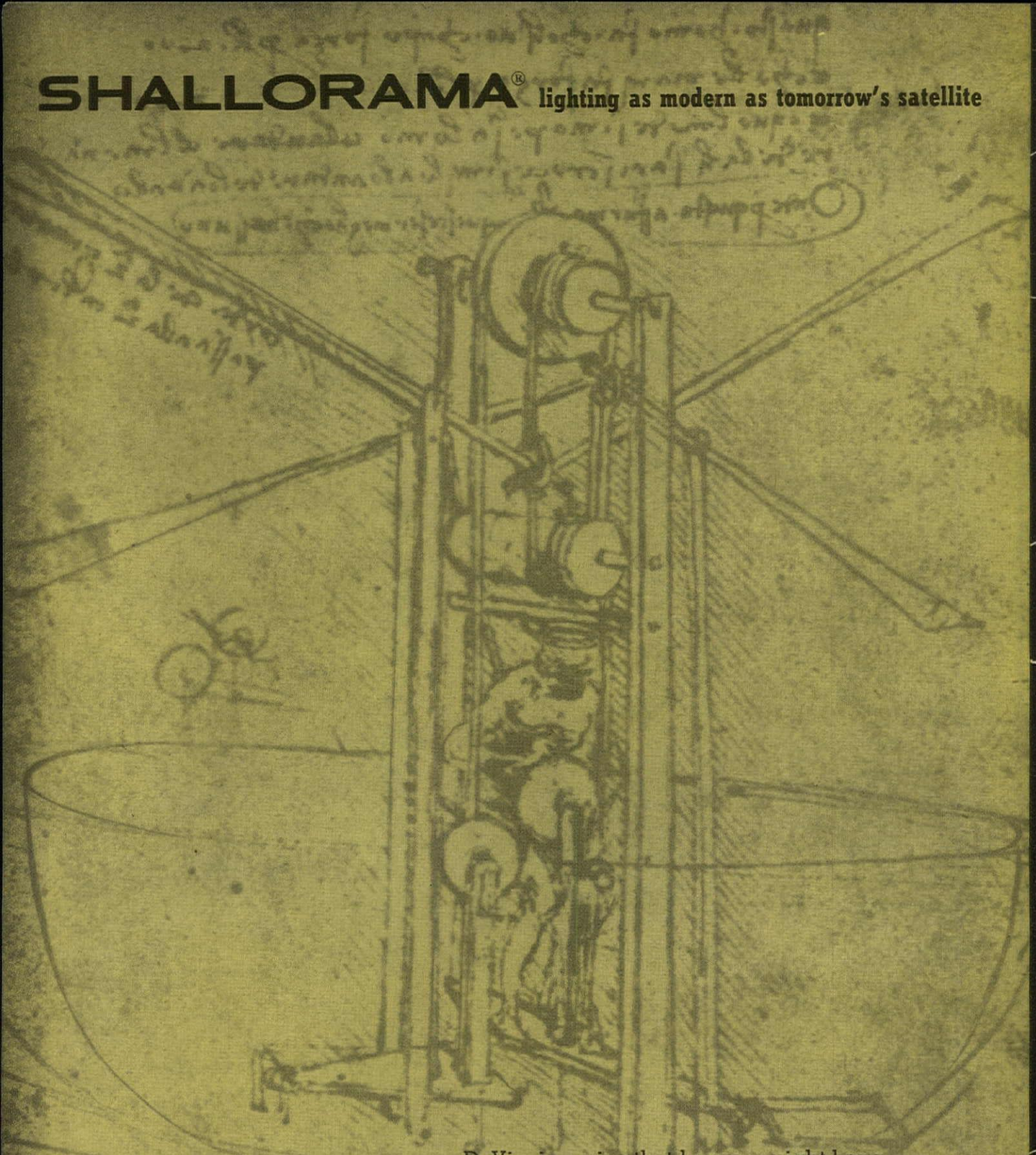
DOORS

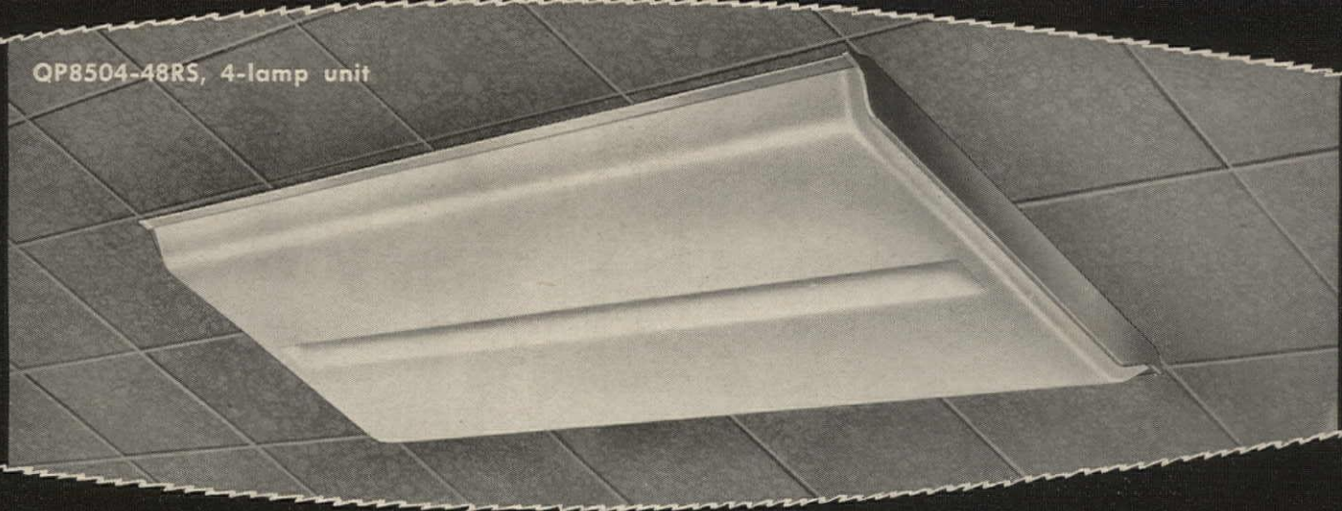
THE FIRST AND FINEST IN FOLDING DOORS

NEW CASTLE PRODUCTS, INC., Dept. F32 New Castle, Indiana. *In Canada:* New Castle Products, Ltd., Montreal 23. *In Germany:* New Castle Products, GMBH, Stuttgart. Available in over 60 countries throughout the world.

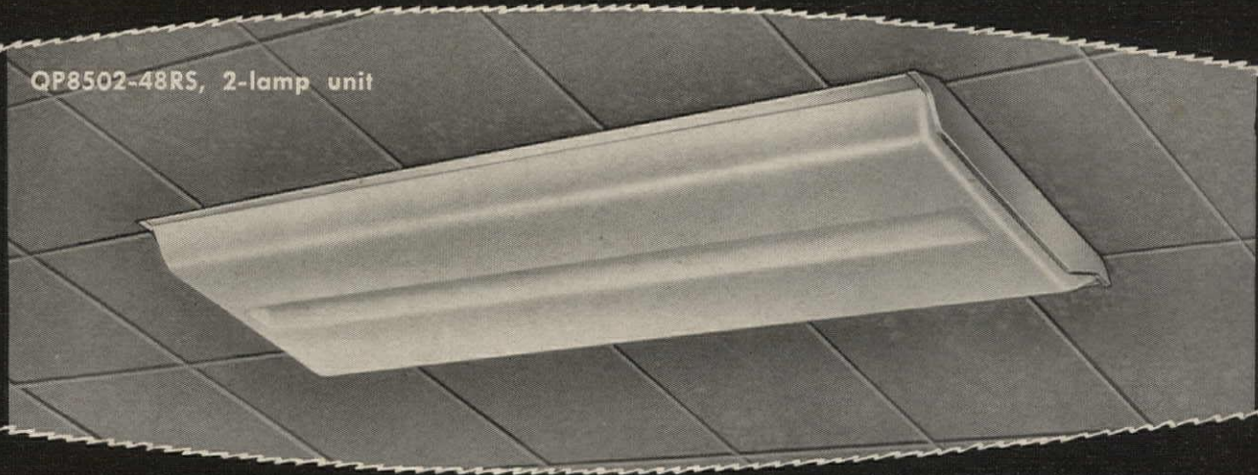
SHALLORAMA® lighting as modern as tomorrow's satellite

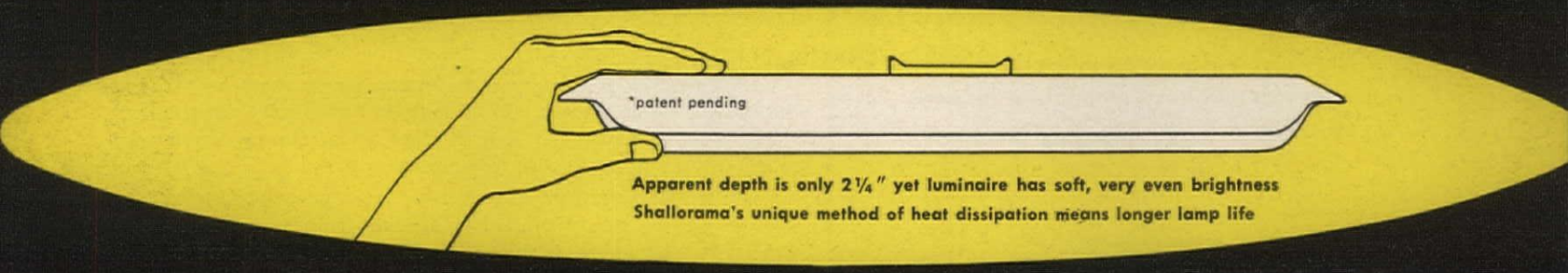


DaVinci, genius that he was, might have anticipated the earth satellite project. Yet, did he ever dream of lighting as modern as the SHALLORAMA! Extremely shallow in appearance (2¼"), this new, meticulously engineered, surface-mounted Sunbeam Lighting Company Visionaire looks more like a custom-styled, recessed luminous cell forming an integral part of the architecture. The simplicity with which the SHALLORAMA may be installed and maintained combined with the many quality features for long, efficient life means real, money-saving satisfaction to building owners. Normal two-screw mounting over existing outlets makes this unit the perfect answer to any modernization or relighting project. Now available in two-lamp width as well as four, the SHALLORAMA offers the finest lighting and the widest range of application. Write for bulletin A66 to help you plan lighting which will remain as modern as the future.



No latches, no hinges, no visible hardware mars the beauty of the SHALLORAMA®





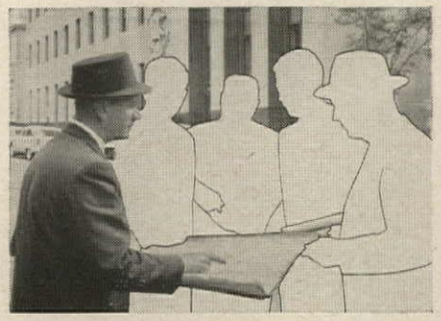
Apparent depth is only 2¼" yet luminaire has soft, very even brightness
Shallorama's unique method of heat dissipation means longer lamp life

Long-life Plexiglas diffuser opens on continuous hook-on support from either side by one hand.

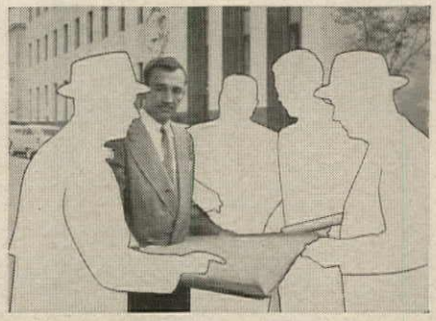
SUNBEAM LIGHTING COMPANY

777 East 14th Place, Los Angeles 21, California

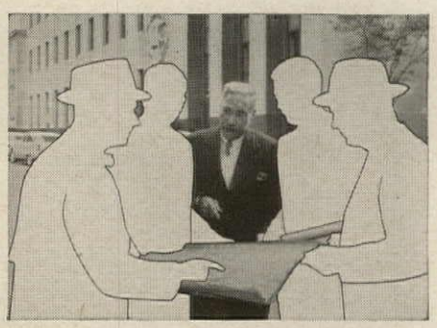
See the SHALLORAMA at the Golden Anniversary Convention of the Nat. Assoc. of Building Owners & Managers, Booth #50.



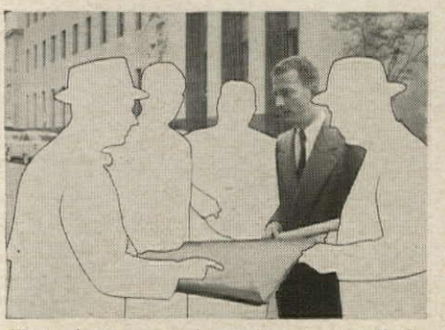
"Here's Tonrac, heart of the air-conditioning system."
— I. A. Lindberg, American Blower Representative



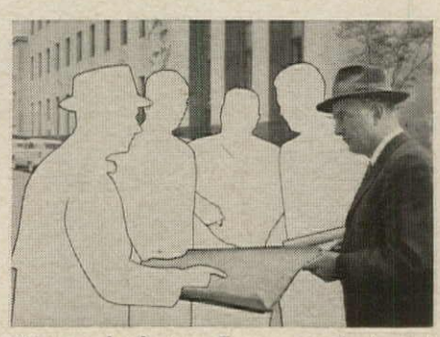
"All the equipment must meet government specifications."
—G. M. Graf, Group Supvr., Gen. Serv. Admin.



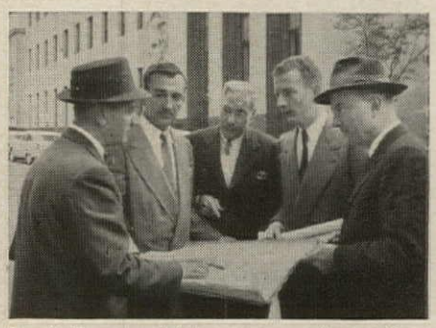
"Load variations, 0 to 100%, are easy to handle with Tonrac."
—E. A. Stack, Chief Engineer, Federal Building



"It took 8 men only 3 days to install the two Tonrac units."
—G. A. Hero III, Comfortair Company, Inc.



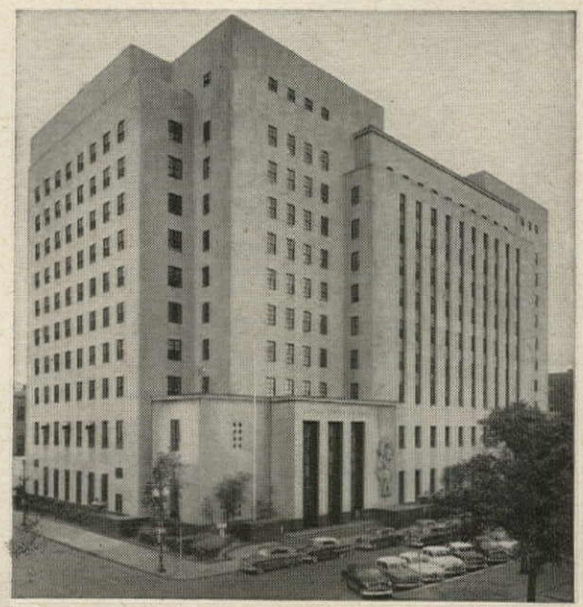
"Feature for feature, Tonrac was the logical choice."
—A. A. Hero, President, Comfortair Company, Inc.



Result: Teamwork brings new comfort to New Orleans.

Conference on comfort in New Orleans

Here's how American Blower's advanced air-conditioning equipment helped provide a temperature-perfect indoor climate for New Orleans' block-square Federal Office Building.



The teamwork that brought effective air conditioning to the Federal Office Building, New Orleans, La., can help make your system a success. Why not call in an American Blower man when you reach the planning stage?

Conferences like this occur in every city in America, as building owners, engineers and contractors search for the best way to control indoor climate when summer temperatures soar and employee efficiency drops.

To provide comfort, and to raise efficiency, the United States Government installed an air-conditioning system in its New Orleans Federal Office Building. The heart of the system consists of two 300-ton American Blower Tonrac® centrifugal refrigerating machines which, states Alvin Hero, president of Comfortair Company, Inc., New Orleans air-conditioning contractors, "were selected primarily on the basis of flexibility — their ability to adapt to varying load conditions, and operate at zero load capacity when needed. And we knew from the reputation of American Blower that Tonracs would give efficient, trouble-free service."

If your building or remodeling plans include air conditioning, it will pay you to call an American Blower representative. His product knowledge can prove invaluable to you. American Blower Division of American-Standard, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ont.

AMERICAN BLOWER

Division of AMERICAN-Standard

Air-conditioning equipment for every business

This plant gets roof insulation value that stays!

Gold Bond Insulation Roof Board safeguards your roof specifications, too!

Townsends, Inc., raises broiler chickens in Millsboro, Del. — 1,000,000 at a time! They used Gold Bond Insulation Roof Board when they expanded their plant. Here's why:

1. Roof insulation value gets maximum protection because Gold Bond Insulation Roof Board resists compression from workmen's feet and wheelbarrows during construction . . . and cuts "soak-in" of hot pitch or asphalt to a minimum.

2. Roofs cost less to build because Gold Bond's smooth surface lets workmen mop faster and more easily—and get maximum coverage. Gold Bond's unique "Fiberlok" fabricating process makes this insulation roof board strong, rigid, easy to handle and long-lasting.

3. Gold Bond Insulation Roof Board is moisture-resistant because the fibers are treated with water-resistant rosin or asphalt. Available with full asphalt coating for still more moisture-protection if needed. You can specify square, shiplap or offset edges . . . thicknesses to meet any specified *"C"* value.

For further information, call your Gold Bond® representative or write National Gypsum Company, Dept. AF-67, Buffalo 2, New York.

INSULATION ROOF BOARD

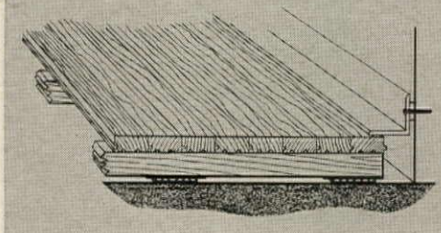
NATIONAL GYPSUM COMPANY

Gold Bond
BUILDING PRODUCTS

new permaCushion† rock maple gym floor

Rosedale High School Gym, Kansas City, Kan.
Architect: Jos. W. Radotinsky, Kansas City, Kan.
Installer: Austin Flooring Co., Kansas City, Kan.

Architect Jos. W. Radotinsky says the installation is "proving very satisfactory. Coaches and players as well as visiting coaches, players and officials have commented quite favorably on the resiliency of the floor . . . it is a first-class installation. As architects, we will be pleased to recommend this floor to clients." Similar comments on the nearly one-half million feet of PermaCushion floors now in use attest to its acceptance.



Air channeled GRS cushioned pads assure uniform, permanent resiliency, prevent sleepers from contacting slab and allow for cross ventilation under entire floor. With void between flooring and wall, plus the fact that no part of the floor is anchored to slab, floor system expands and contracts without "cupping" or "buckling." Power nailing method of installation assures perfectly nailed floor, eliminates hammer marks and broken tongues.

the only truly resilient free-floating floor with dimensional stability.

Here's the floor that has permanent resiliency and dimensional stability built right into it. It's the new PermaCushion* system, the floor that actually floats on GRS resilient pads and is entirely separated from slab and other structural members. The unique construction of the specially engineered and compounded pads *cushions* the floor to assure uniform, permanent resiliency. And since no part of the floor is anchored to slab, the entire system can expand and contract without warping, "buckling," or "cupping." This ability to relieve stress results in dimensional stability unmatched by virtually any other floor.

Besides its resiliency, stability and the natural beauty and warmth of wood, PermaCushion offers such benefits as elimination of moisture transmission from slab, a warm, dry subfloor assured by cross ventilation under the floor, unusual long-wearing qualities and great structural strength. And compared to substitute floors, it's remarkably economical in the long run.

For your next gymnasium or auditorium job, look into the advantages of PermaCushion. For full details, and the name of your nearest authorized contractor, write Robbins Flooring Company, Reed City, Michigan, Attn: Dept. AF 657

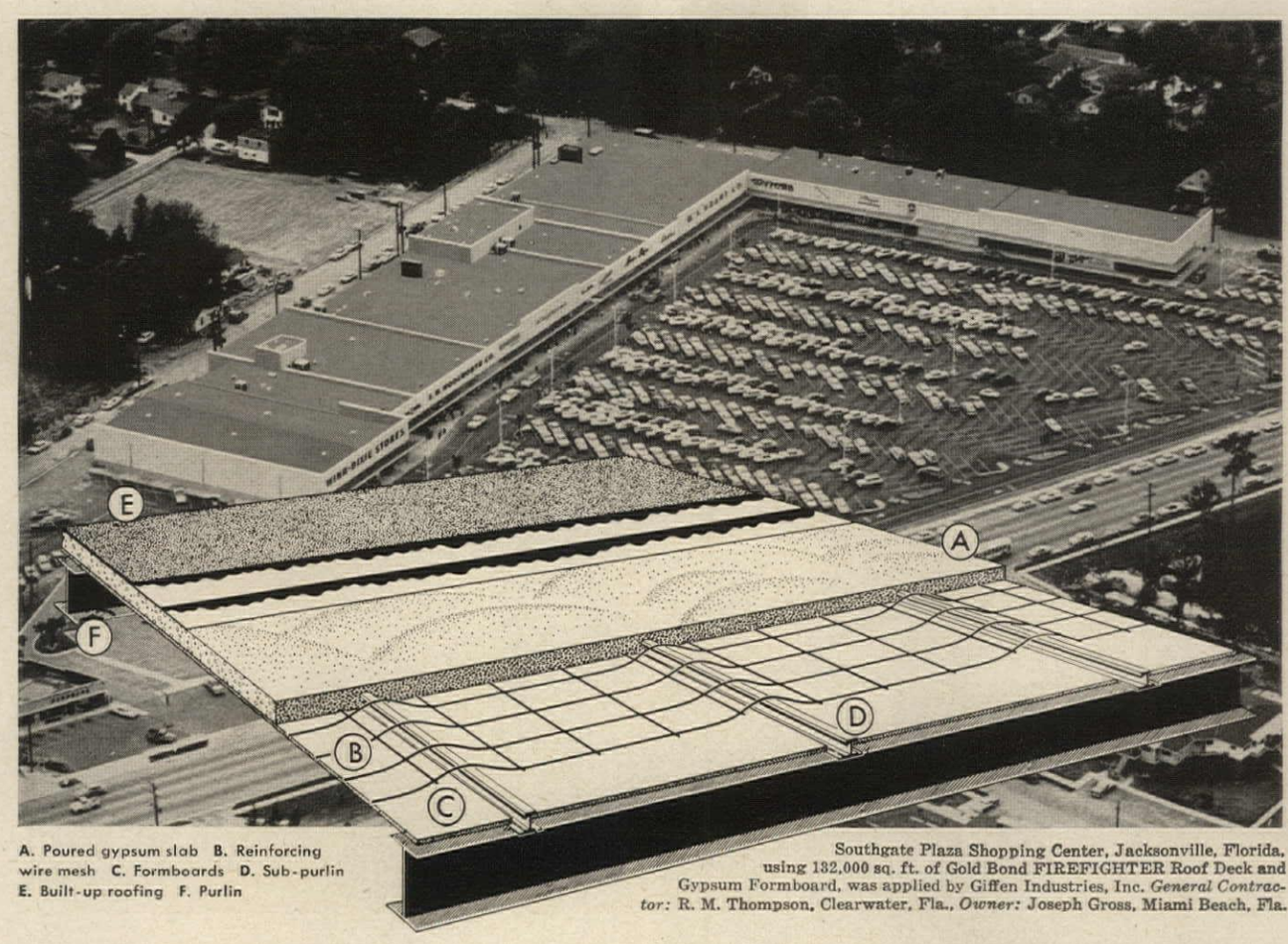
Developed especially for the PermaCushion floor system, Dri-Vac vacuum preservative treatment is available on all Robbins flooring for economical protection against moisture absorption, shrinking, swelling, grain raising and checking plus complete protection against termites and fungi attack.

ROBBINS FLOORING COMPANY

† Patent Pending
*T.M. Reg. U.S. Off.

Reed City and Ishpeming, Michigan

Manufacturers of the popular Ironbound* Continuous Strip* Hard Maple Floor



A. Poured gypsum slab B. Reinforcing wire mesh C. Formboards D. Sub-purlin E. Built-up roofing F. Purlin

Southgate Plaza Shopping Center, Jacksonville, Florida, using 132,000 sq. ft. of Gold Bond FIREFIGHTER Roof Deck and Gypsum Formboard, was applied by Giffen Industries, Inc. *General Contractor:* R. M. Thompson, Clearwater, Fla., *Owner:* Joseph Gross, Miami Beach, Fla.

The fastest way to a finished roof...

POURED-IN-PLACE GYPSUM DECK

Gold Bond FIREFIGHTER Roof Deck is poured gypsum . . . *goes up faster than any other type of deck.* Up to 20,000 square feet of FIREFIGHTER can be poured in a single day—twice as fast as steel . . . ten times faster than reinforced concrete, precast slabs or tile.

This roof construction means lower cost . . . *two ways.* Labor costs are cut because construction is faster . . . and materials costs are cut because FIREFIGHTER's low dead load permits use of lighter structural supports.

Here are other FIREFIGHTER features:

INCOMBUSTIBLE—Gypsum is the *natural* firefighter because it's the rock with a "locked-in" water supply. Gold Bond FIREFIGHTER Roof Deck, poured over Gold Bond Gypsum Formboard, is usually rated as incombustible *because gypsum won't burn.*

LOW MAINTENANCE COSTS—Gypsum is chemically inert—won't rot, burn or decay. Alterations are easy because gypsum can be cut, nailed or patched economically.

FAST SETTING ACTION—Under normal conditions, Gold Bond FIREFIGHTER® Roof Deck enables roofers to follow with built-up roofing 30 minutes after pouring.

Features like these sold more than 100,000,000 square feet of Poured Gypsum Roof Decks last year on pitched, barreled and flat roofs. For more information, call your Gold Bond® representative or write National Gypsum Company, Dept. AF-67, Buffalo 2, New York.

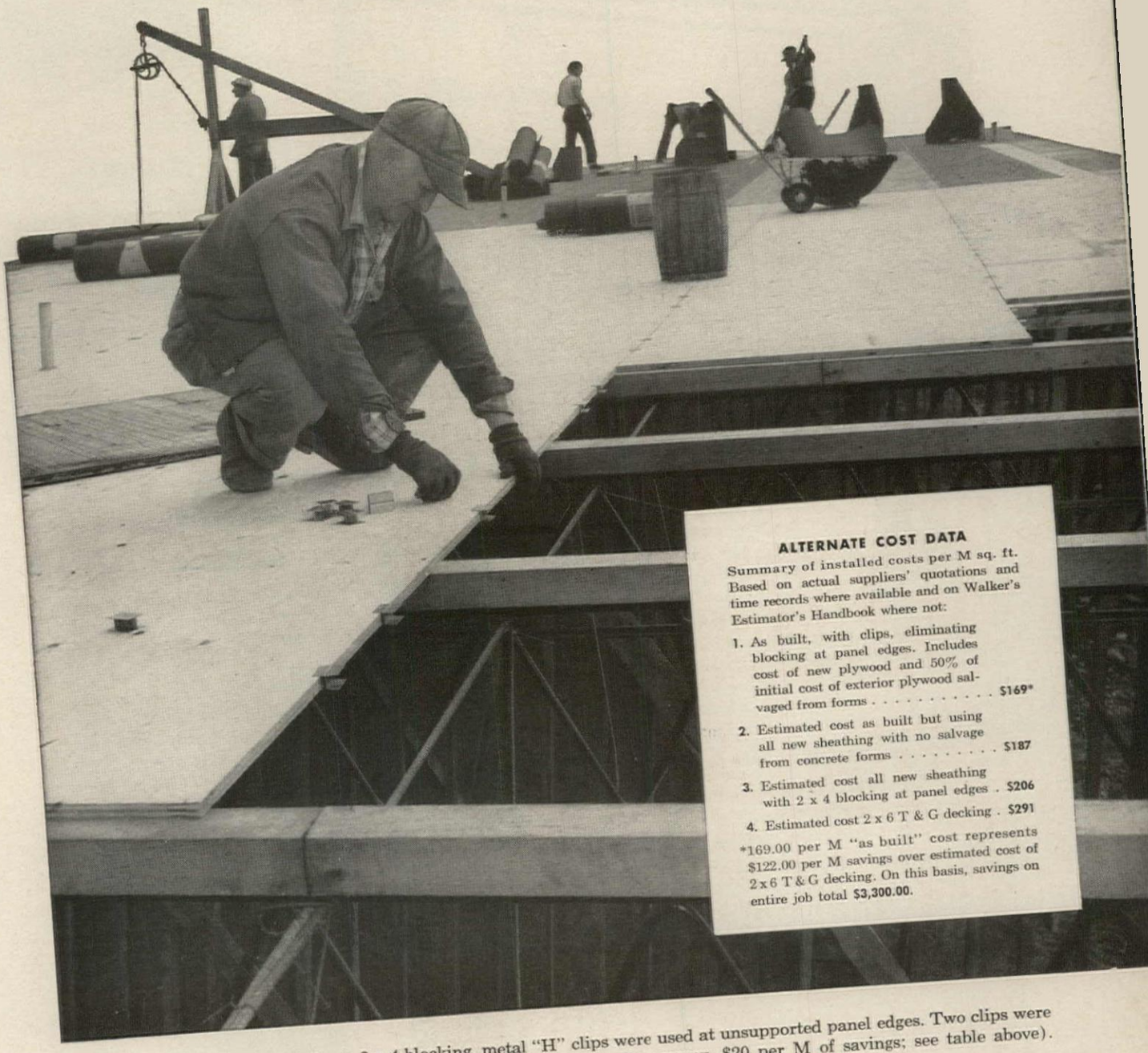
"FIREFIGHTER" GYPSUM ROOF DECK

NATIONAL GYPSUM COMPANY

Gold Bond
BUILDING PRODUCTS

On James Sales Elementary School, Tacoma, Washington

Fir plywood roof deck helps save $3,300.00



ALTERNATE COST DATA

Summary of installed costs per M sq. ft. Based on actual suppliers' quotations and time records where available and on Walker's Estimator's Handbook where not:

1. As built, with clips, eliminating blocking at panel edges. Includes cost of new plywood and 50% of initial cost of exterior plywood salvaged from forms $169*
2. Estimated cost as built but using all new sheathing with no salvage from concrete forms $187
3. Estimated cost all new sheathing with 2 x 4 blocking at panel edges . $206
4. Estimated cost 2 x 6 T & G decking . $291

*169.00 per M "as built" cost represents $122.00 per M savings over estimated cost of 2 x 6 T & G decking. On this basis, savings on entire job total $3,300.00.

To eliminate 2 x 4 blocking, metal "H" clips were used at unsupported panel edges. Two clips were used for each span. (Clips were responsible for approx. $20 per M of savings; see table above).

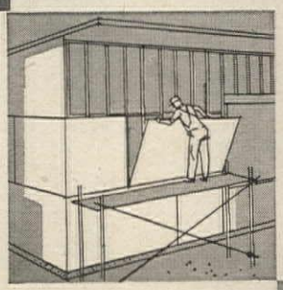
JAMES SALES ELEMENTARY SCHOOL;
Tacoma, Washington
ARCHITECTS: Lea, Pearson and Richards
CONTRACTOR: Nelson Construction Company
STRUCTURAL ENGINEERS: Smith and Murray

5 ways Fir Plywood builds better schools

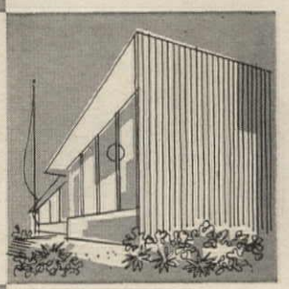
AN EXCELLENT EXAMPLE of how fir plywood roof decking sharply cuts costs as well as provides markedly superior construction is this new U-shaped, 1-story reinforced concrete school.

The contractor estimates ¾" fir plywood saved a total of $3,300.00 on the job; $2,800.00 in actual installed cost, plus an additional $500.00 by amortizing costs of some of the panels previously used for forms. A total of 27,000 sq. ft. were used on the job. Design calculations by the architects show plywood superior in resisting racking forces such as wind loads and earthquakes.

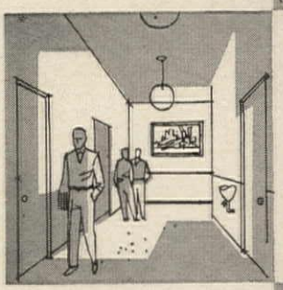
Although many home builders have found thick plywood over wide rafter spacing saves money, this is one of the first detailed cost analyses for a larger building. The idea points the way to new opportunities for reducing costs on commercial and industrial buildings as well as schools.



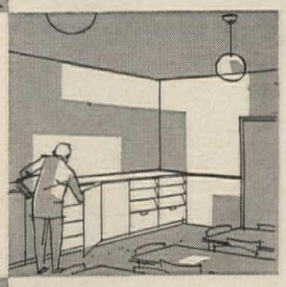
1. Strong, rigid, easy-to-apply wall and roof sheathing.



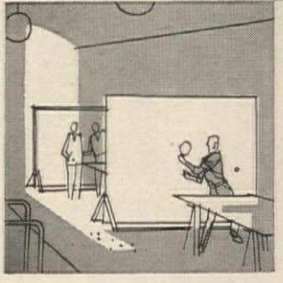
2. Smart, durable siding, soffits and exterior trim.



3. Attractive, damage-resistant paneling and wainscoting.



4. Good-looking wardrobes and storage lockers.



5. Inexpensive, easy-to-build screens, movable partitions.

DFPA TESTED QUALITY

Fir Plywood

means quality construction

FOR YOUR FILES: A new portfolio assembly of basic plywood design and application data for schools, homes, commercial buildings. Includes detailed information about job described above.

DOUGLAS FIR PLYWOOD ASSOCIATION, Tacoma 2, Wash.
(Good USA Only) Dept. 113
Please send fir plywood construction portfolio.

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*Firm*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

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Model for
Modern Motoring

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One of the requirements for the Turnpike tunnels, interchanges, approaches and portal buildings was an electrical system of the highest quality. That's why Phelps Dodge building wire and rubber insulated, neoprene-jacketed cable was installed. For 17 years, this wire and cable has been giving the Turnpike dependable, trouble-free service.

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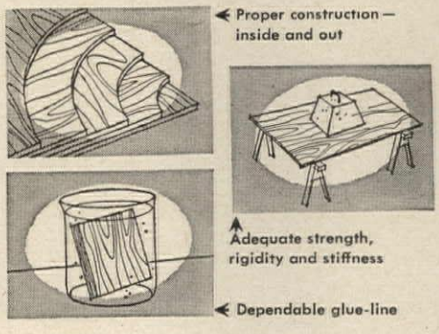
you know you're right when you specify by DFPA* grade-trademarks

factory-inspected, laboratory-tested

To qualify for DFPA grade-trademarks, manufacturers must pass rigid and *continuous* inspection of current plywood production. In addition to these on-the-spot mill checks by DFPA quality supervisors, thousands of samples undergo scientific testing in DFPA laboratories. *Use of grade-trademarks may be withdrawn if quality is not satisfactory.*

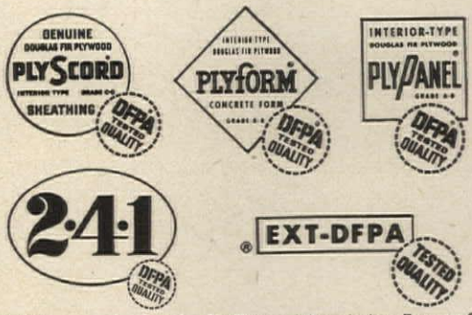


right grade, right quality for every job

DFPA grade-trademarks are specification guides to the *right* grade for a specific job. Only genuine DFPA quality-tested panels bear DFPA registered grade-trademarks. *There are imitations. Don't be misled!*

Be sure you can tell the difference.

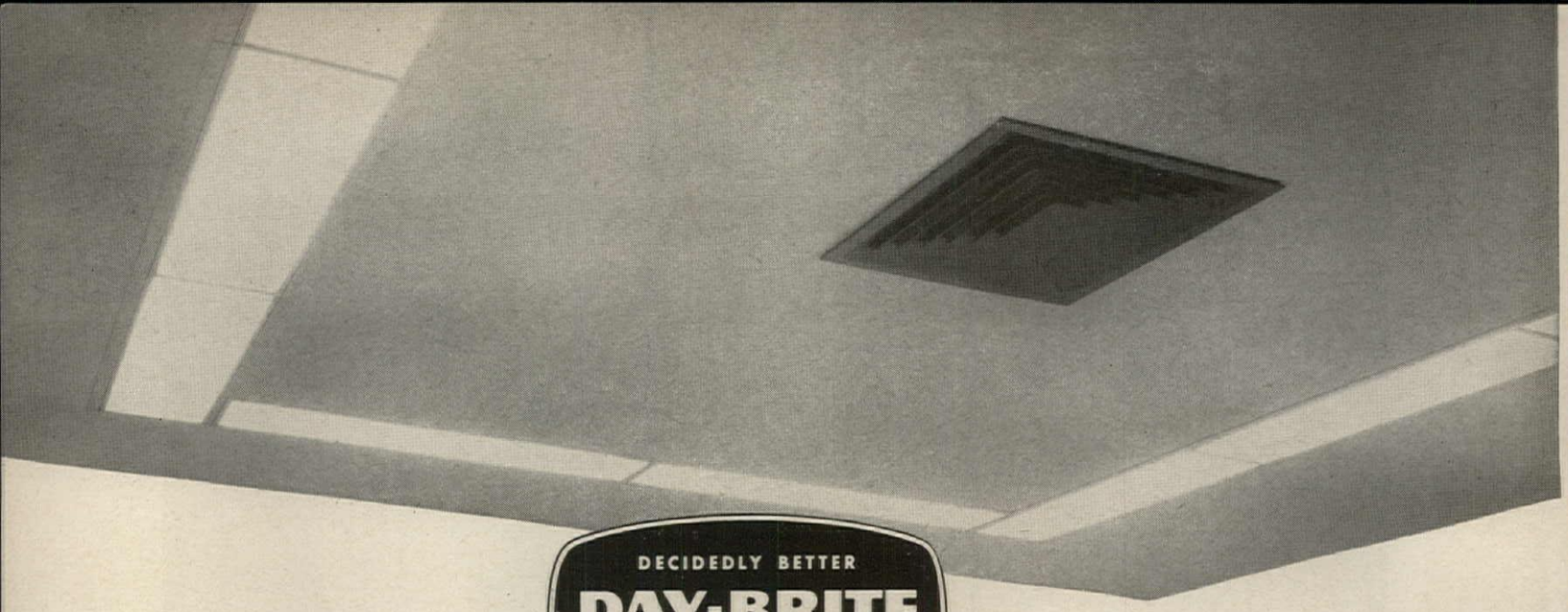
Send for the *DFPA Quality Story*—a portfolio of grade-use data and a step-by-step description of the DFPA quality control program. Write Douglas Fir Plywood Association, Tacoma 2, Washington. (Offer good U.S.A. only)



*DFPA stands for Douglas Fir Plywood Association, Tacoma 2, Washington—a non-profit industry organization devoted to product research, promotion and quality maintenance.

DFPA® TESTED QUALITY

DFPA grade-trademarks mean quality **Fir Plywood**



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Lighting Fixtures

Lighting that has no "or equal"

How do you feel about substitutes?

If alternate "or equal" fixtures are offered when you've specified Day-Brite, do you readily accept them?

More and more top architects don't. They've learned from experience that the design and quality of Day-Brite fixtures have no "or equal."

All fluorescent lighting fixtures may look good and sound good—on paper. But the safe and sure way to satisfy your clients and yourself is to make a point-by-point comparison of all fixtures *before* you specify.

Then you're sure to do as most experienced architects do, namely, to specify *and insist on* Day-Brite . . . the one lighting fixture that enhances both the job and your own reputation.

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DAY-BRITE LIGHTING, INC., OF CALIFORNIA, 530 MARTIN AVE., SANTA CLARA, CALIF.
IN CANADA: AMALGAMATED ELECTRIC CORP., LTD., TORONTO 6, ONTARIO

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OR WRITE FOR COPY

NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

DAY-BRITE LIGHTING MAKES THE BIG DIFFERENCE HERE

"White Columns" is the new home of WSB Radio and WSB-TV in Atlanta, Ga. It was designed and constructed by The Austin Company. Electrical Contractor: Eckardt-Ness Electric Co., Atlanta.

Conference Room. Day-Brite recessed troffers enhance the quiet dignity of this important gathering point.

Employes' Lounge . . . a room designed for relaxation. No harsh brightness from these Day-Brite recessed Mobilex® and troffers.

8 to 12 feet tall—easy to install

Johns-Manville TRANSITOP® prefabricated panels meet the trend to curtain wall construction in modern buildings

WHEN used as curtain walls, J-M Transitop insulated structural panels often pay their own costs for economy, speed of installation and permanence, in buildings of heavy or light construction.

For instance, a Transitop 1 9/16-inch-thick curtain wall has the equivalent insulation value of a 24-inch thick brick or masonry wall. Because these Transitop panels weigh only 4.7 lbs. per square foot, they reduce the dead load factor. They permit lighter wood or steel framing and make for less expensive foundations.

Comparative cost figures will show clearly that Transitop structural panels can cut dollars from total building costs. You'll note big savings in steel, lumber, labor and time.

Attractive in appearance yet amazingly durable, Transitop panels cannot rust or corrode. They require no painting or other preservative treatment.

J-M Transitop is a prefabricated panel of integrally impregnated insulating board, faced on both sides with noncombustible Asbestos Flexboard sheets. Available in panels 4′ wide by 8′, 9′, 10′ or 12′ long; and 11/16″, 1 1/8″, 1-9/16″ or 2″ thick.

For complete information send for a copy of "J-M Asbestos Transitop." Write: Johns-Manville, Box 111, New York 16, New York. In Canada, write: 565 Lakeshore Road East, Port Credit, Ontario.

THE AMERICAN INSTITUTE OF ARCHITECTS 1857-1957 CENTENNIAL CELEBRATION

Johns-Manville congratulates the American Institute of Architects on its 100th Anniversary.

—Consult an architect—use quality materials.

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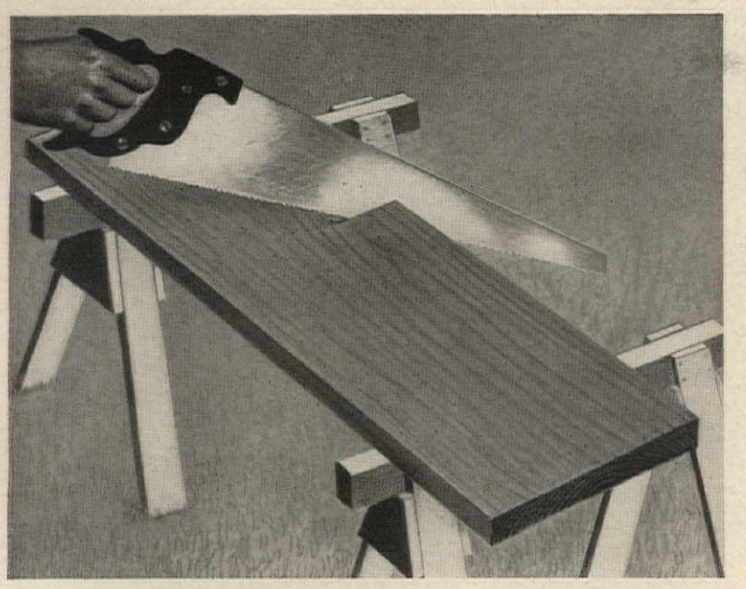
Johns-Manville



REPAIR
your home

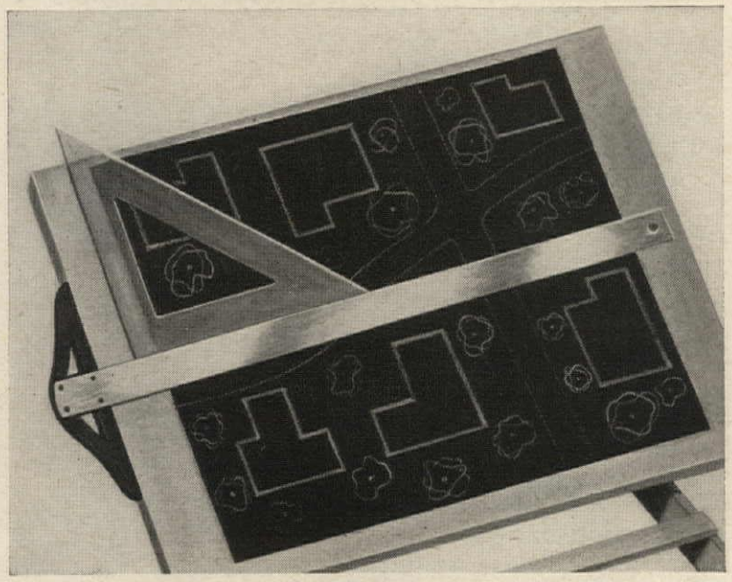
Take pride in your property: Realize that blight breeds from small beginnings. It spreads outward from one home to menace entire neighborhoods. By making timely repairs you protect both your home and neighborhood, and set an example for others. Always stay alert for signs of blight.

Make sure floors and foundations are firm, kitchen and toilet facilities adequate.

Roofs may leak, wiring can become overloaded.

Grounds should be kept up, property frequently painted.

Keep the simple things from becoming serious. It pays to correct minor flaws before they cause major damage.



REPLAN
your neighborhood

Take pride in your neighborhood: You can help refresh and revitalize your area by protecting and improving your local living conditions. Watch for signs of neighborhood blight.

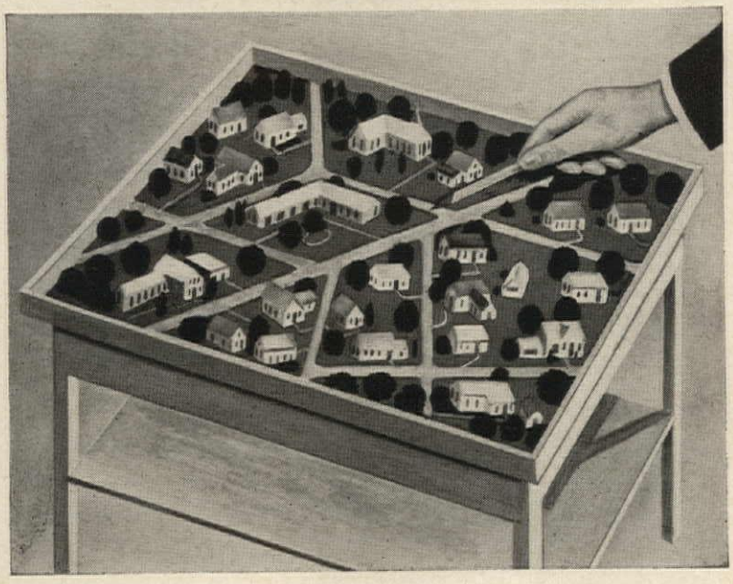
Are streets and sidewalks in good repair, well lighted, free of heavy traffic?

Are there good schools, safe parks and playgrounds nearby?

Are vacant lots kept clear of refuse?

Are zoning laws adequate, properly enforced?

Act as a responsible individual citizen. Work with your neighbors for the common good. Support the local groups which seek better living conditions for all. Your own way of life is greatly influenced by general neighborhood conditions.



RENEW
your community

Act in your home, act in a group: You can help organize a community improvement group, or join an existing organization. If you have any problem or questions, get the local facts first from your own civic officials such as these:

Planning Director or Elected Officials.

Housing, Redevelopment and Renewal Officials.

Local Business Groups, Realtors, Builders and Building Material Suppliers.

Civic Affairs Groups, Health and Welfare Officials.

If you need further advice on a specific home or group improvement project, write ACTION for information. Play your part by improving your own home, then interest your neighbors in whatever group projects are necessary.

Write ACTION for information:

Try to get the local facts first. If you need further information on how you can improve your home or work with your neighbors for the common good, write a letter explaining the exact information you need to **ACTION, Box 500, Radio City Station, New York 20, N. Y.**

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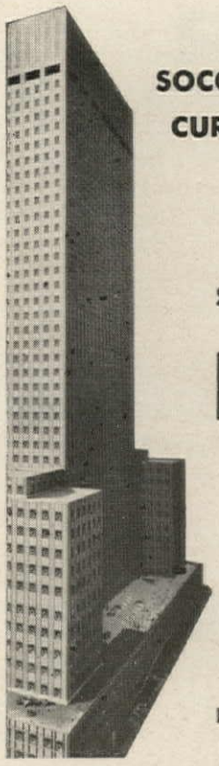
ACTION

American Council To Improve Our Neighborhoods

Published in the public interest to inform you of the 1957 national A.C.T.I.O.N. program. Similar material is available for your business publications, local newspapers, radio and television stations.



SOCONY-MOBIL
CURTAIN WALL

Sealed with

PARFLEX

Extruded Calking
COMPOUND

This handy, extruded calking ribbon helped speed erection . . . assures a lasting non-shrinking weather seal. Available in a wide range of standard widths and thicknesses.

Like a sample? Write today!

Socony-Mobil Building, New York: Architects, Harrison & Abramovitz; General Contractor, Turner Construction Co.; Panel Erector, F. H. Sparks Co.; Owner, John W. Galbreath Corp.

The PARR Paint & Color Company
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make a STRUCTURAL FUNCTION an architectural feature!

de Ville Motel, New Orleans, La.
C. R. Colbert, Architect. Photo by Leon Trice.

Specify round columns of concrete formed with Sonoco SONOTUBE® Fibre Forms!

The round concrete column supports for this ultra-modern motel are architecturally appealing as well as structurally functional.

The design of the 150-room building permits the ground floor area to be used for parking space. The columns were formed economically and quickly with Sonoco SONOTUBE Fibre Forms.

Combine structural functions with architectural features . . . plan for round columns of concrete in churches, banks, schools, hotels and other buildings. Specify Sonoco SONOTUBE Fibre Forms.

These low-cost fibre forms can also be used for quarter-round, half-round and obround columns. They are lightweight, easy to handle and require minimum bracing.

Sizes to 48" I.D. and 48' long.

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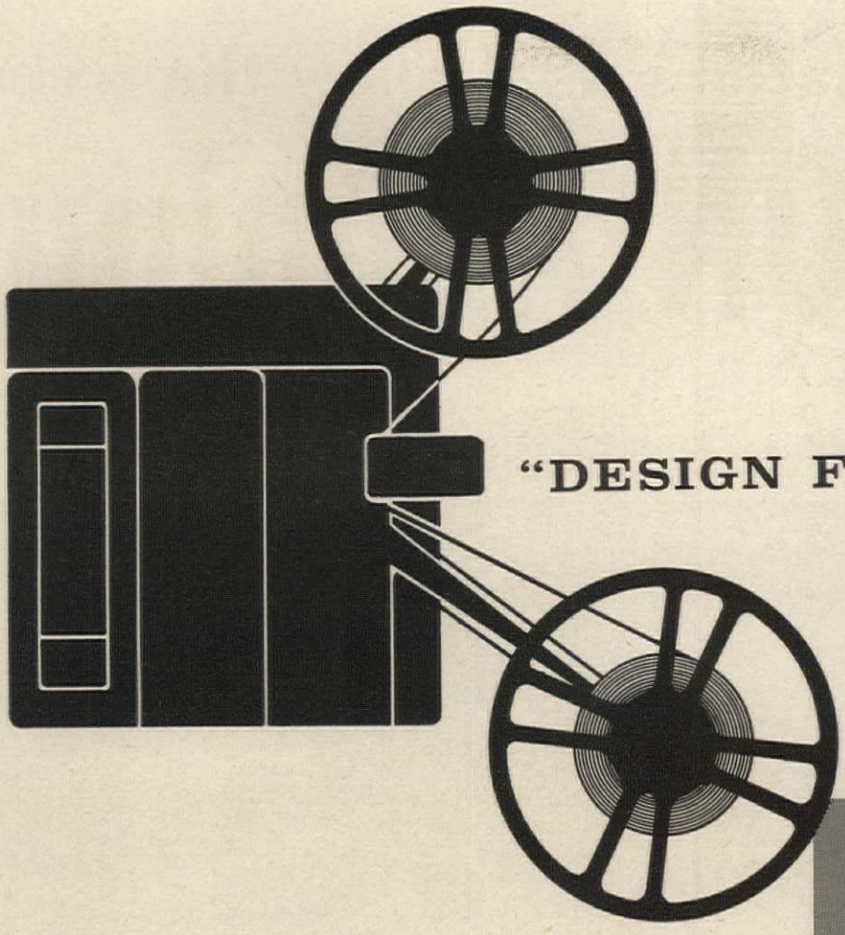

"DESIGN FOR BUILDING WISELY"

A KENTILE, INC. FILM TO BROADEN PUBLIC AWARENESS OF THE SERVICES OF THE ARCHITECT

To help increase public knowledge of architectural services, Kentile, Inc. has produced a full-color, educational film, "Design for Building Wisely."

This 5-minute, non-commercial film was supervised by the American Institute of Architects, approved by the National Congress of Parents and Teachers, and the National Federation of Women's Clubs. It shows the help an architect can give a prospective homeowner from initial planning to final construction.

Currently, the film is being distributed to TV stations for use on their Women's Home, Interior Decorator and Farm shows. The A. I. A. is also arranging with local chapters to show the film to their members.

If you, or any group in your area, would like to show this film, prints may be obtained at no cost by writing to Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.

A SERVICE TO ARCHITECTS FROM

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Three installations that show the trend to

LUPTON Aluminum

COLGATE-PALMOLIVE BUILDING, New York City. Architects: Emery Roth & Sons. Contractors: Uris Brothers. Lupton Aluminum Curtain Wall, Type "H", with 4′5″ width module.

MALL BUILDING, Philadelphia, Pa. Architect: Charles R. Colbert. Contractors: Shelby Construction Co., Inc. Lupton Aluminum Curtain Wall, Type "H", with 5′ width module.

Curtain Walls
and Windows

3 PENN CENTER, Philadelphia, Pa. Architects: Emery Roth & Sons. Contractors: Caldwell-Wingate Construction Co. Combination fixed and ventilator windows adapted from a standard Lupton design.

These three new high-rise buildings exemplify modern planning and construction. All three were designed with famous LUPTON components. Indeed, LUPTON has always been in the forefront of the curtain-wall movement... and for good reason:

The characteristics of LUPTON Aluminum Curtain Walls and Windows result in unusual planning flexibility with either stock or custom units. The wide range of LUPTON styles, in both metal windows and curtain walls, frees you for truly creative planning with utterly reliable materials. *You* design LUPTON-made installations; LUPTON executes your wishes, in manufacture and frequently even in erection. LUPTON's undivided responsibility for the job assures you exact compliance with your instructions, and effects multiple savings for your clients.

SEE SWEET'S (Sections 3 and 17) for the Michael Flynn Curtain Wall and Metal Window Catalogs, and write for further specific information. A call to the nearest LUPTON representative (see the Yellow Pages under "Windows — Metal") will bring fast action—without obligation.

LUPTON

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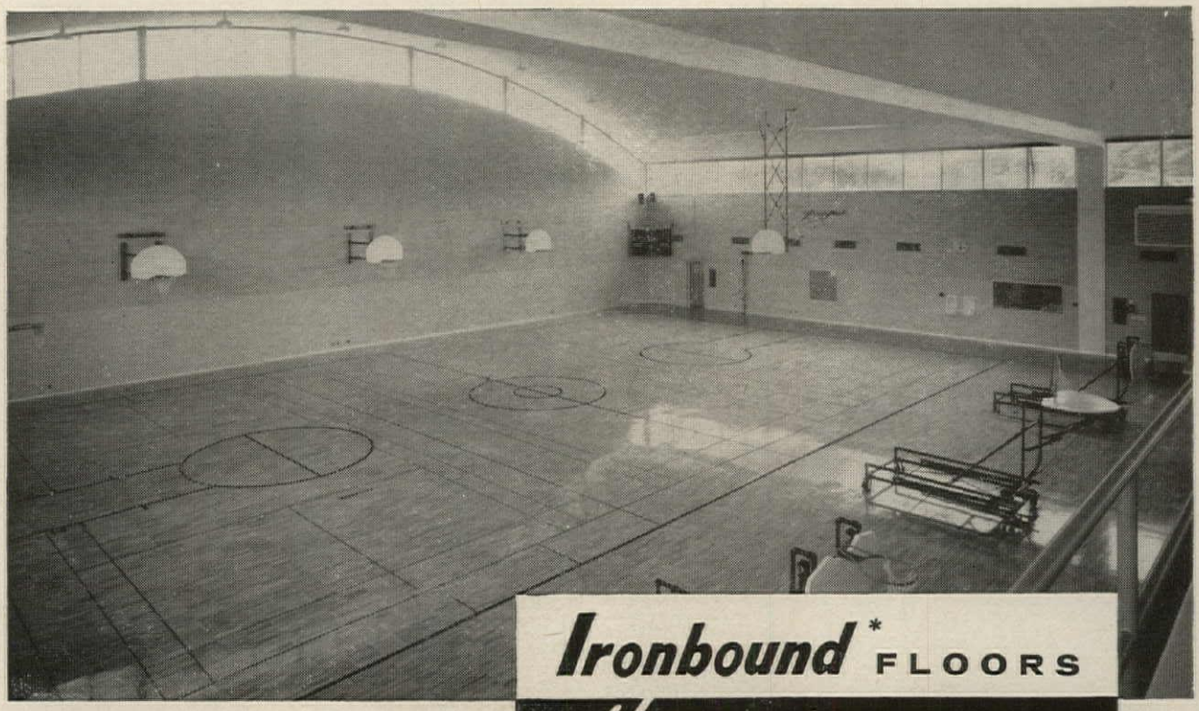
MICHAEL FLYNN MANUFACTURING COMPANY

Main Office and Plant: 700 E. Godfrey Ave., Phila. 24, Pa.



Edsel Ford High School, Dearborn, Mich.
Architect: Eberle M. Smith Assoc., Inc.
Robbins Ironbound* Continuous Strip* Maple Floor
installed by: Whitcomb-Bauer Flooring, Inc.
and finished with Hillyard Floor Treatments

*Ironbound** FLOORS
Hillyard FINISHES

✶ *a combination that can take it!*

Manufacturers and installers agree, famous *Ironbound** floors are best conditioned for lifetime service by the application of Hillyard finishes. Superlative Hillyard treatments help these fine floors retain their original beauty, smoothness, toughness, and ease of maintenance over literally *generations* of hard wear.

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Canton Floors, Inc. Canton, Ohio	Federal Hardwood Floor Co. Philadelphia, Pa.
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Austin Flooring Co. Chicago, Ill.	Yaeger Floor Company, Inc. Rochester, N. Y.
The Ironbound Co. of Cleveland Cleveland, Ohio	Missouri Floor Company St. Louis, Mo.
Whitcomb-Bauer Flooring, Inc. Detroit, Mich.	Acme Floor Company San Francisco, Calif.
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* T. M. Reg. Robbins Flooring Co.

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Robbins FLOORING COMPANY

GENERAL OFFICE: REED CITY, MICHIGAN

* HEAVY DUTY and INDUSTRIAL WOOD FLOORS

NOVEMBER 10TH, 1954

REED CITY, MICHIGAN

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"It may be of interest to you that we have in our personal contacts over the past several years, always recommended the Hillyard Products and Hillyard Service, not only to our floor installers across the country, but to architects, owners and the like. I know several of our Ironbound installers use Hillyard's exclusively. We always feel perfectly confident when we recommend Hillyard's, as we know our customer will be getting the best."

HILLYARD, St. Joseph, Mo.

Without obligation, please have my nearby Hillyard "Maintaineer®" (trained floor expert) show me the treatments that will do most for my floors, while **cutting** maintenance costs.

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Institution.....

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

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You're sure to please cost-conscious clients — and simplify your own job — when you include Steelcraft all-steel doors in your building plans.

Steelcraft doors are **standard** doors — mass-produced for low first cost and low maintenance . . . factory-stocked for immediate delivery.

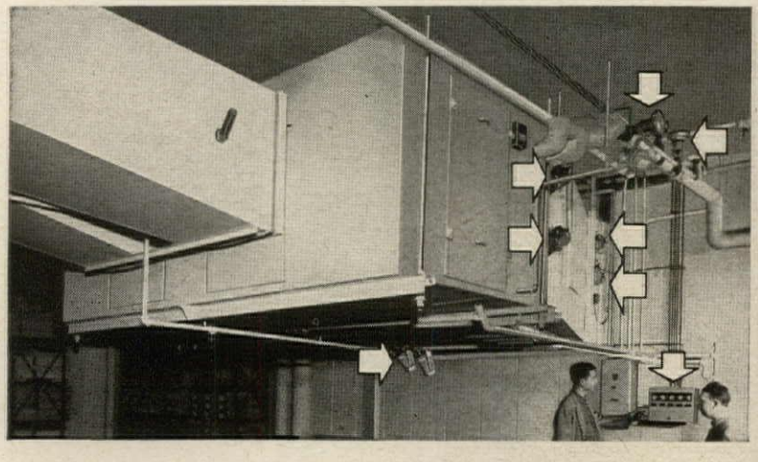
Steelcraft standard steel doors also eliminate costly detail in planning and specifying. Each door is shipped complete with frame and all hardware prepared for fast installation. And they are available in a wide variety of standard and heavy-duty styles for any commercial, institutional or industrial application. See Sweets' Catalog or write for details.

standard steel doors by STEELCRAFT

The Steelcraft Manufacturing Company • Rossmoyne, Ohio

STEEL Craft

THE INDUSTRY'S MOST COMPLETE LINE OF STANDARD STEEL DOORS



Conditioned air is supplied by 45 single-zone and 10 multi-zone units. Johnson equipment is shown above controlling outdoor air and return air dampers and hot and chilled water supplies on a typical production area unit. Space conditions are controlled by Room Thermostats and Room Humidostats.

Refreshing, perfectly regulated temperatures add to the efficiency of Hallmark's all-important creative staff. Many companies report that properly controlled air conditioning not only improves worker performance but helps reduce absenteeism and turnover and makes recruiting easier.

Fast response to load shifts is a must in the 600-seat cafeteria. Sensitive Johnson Thermostats and Humidostats quickly compensate for changes in occupancy, hold temperature and humidity at ideal comfort levels. Stage and projection equipment permit the dining area to be used also for company functions.

YOU CAN DO IT BETTER with JOHNSON PNEUMATIC CONTROL

1. Greater Simplicity—pneumatic control involves far fewer and much simpler components than anything else you can use.

2. Ease of Operation—inexpensive control pressure gauges, exclusive with pneumatic systems, give you unlimited freedom to observe and direct system operation.

3. Choice of Features—widest choice of operating features to match your needs. Johnson makes the most complete line of pneumatic temperature, humidity and pressure control equipment.

4. Less Upkeep—there are fewer components to check, fewer parts subject to failure.

5. Reliable Performance—Johnson Pneumatic Control is unaffected by short circuits, electrical overloads, voltage variations and humidity. You get continuous, accurate control.

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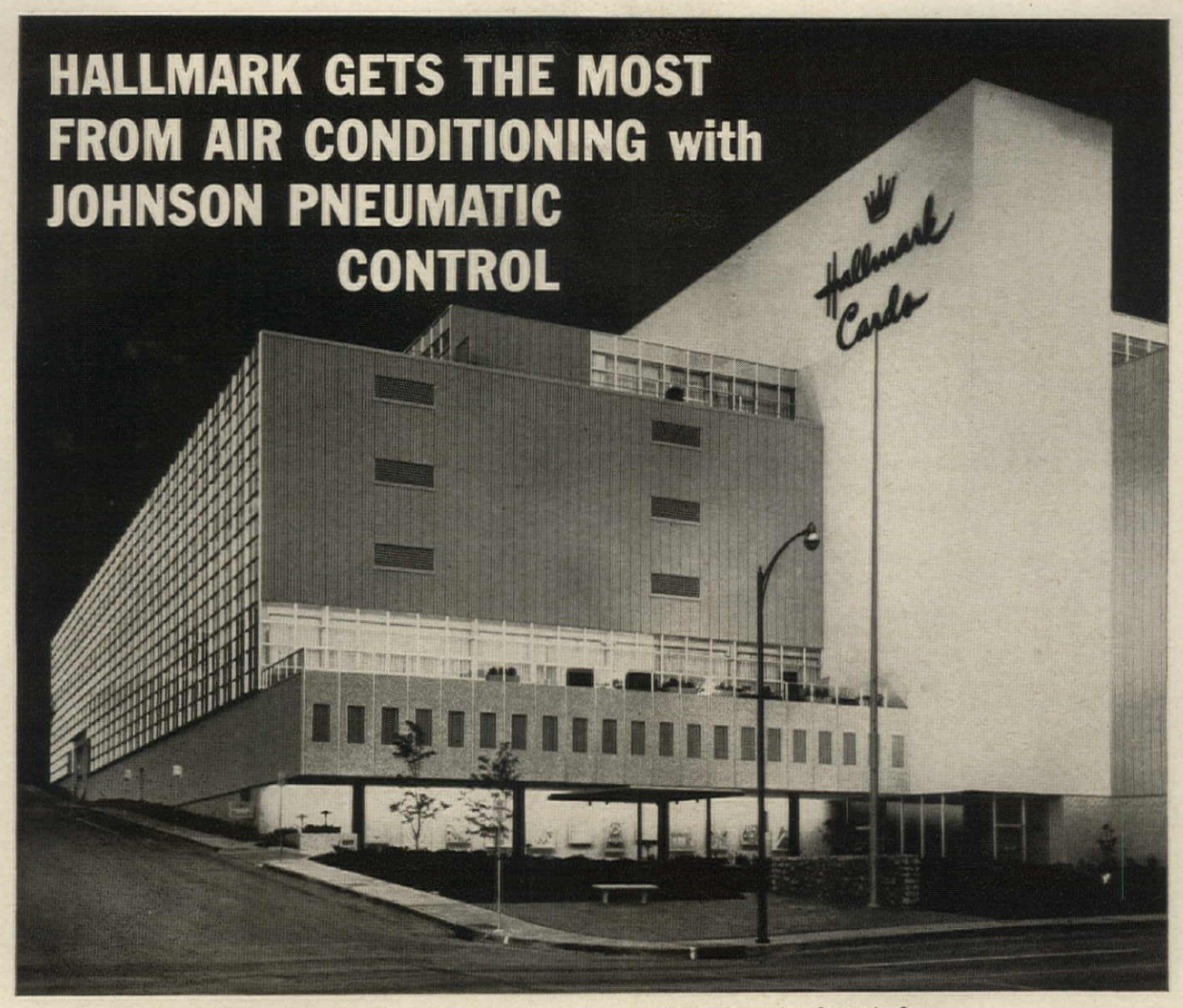
7. Maximum Flexibility—a big "plus" value in industrial work. No matter how exacting your needs, Johnson Pneumatic Control can produce the results required. It can be applied to any type or make of air conditioning, heating or ventilating system. Each Johnson System is engineered and installed to suit the requirements of the individual installation.

HALLMARK GETS THE MOST FROM AIR CONDITIONING with JOHNSON PNEUMATIC CONTROL



Hallmark Cards, Inc., Kansas City, Missouri. Welton Becket & Associates, architects and engineers; Long Construction Co., general contractor; Interstate Heating & Plumbing Co., mechanical contractors; all of Kansas City.

Multi-Purpose Pneumatic Control System Helps Solve Diversified Production Problems, Insures Made-To-Order Working Climate

Precision regulation of temperatures and humidities makes important contributions to production efficiency in the new air conditioned home of Hallmark Cards. The "brainwork" for the air conditioning system is done by a Johnson Pneumatic Control System that matches temperature and humidity conditions to the exact needs of the work carried on in each room and area of the 760,000 sq. ft. building.

Effective control has simplified numerous problems of handling temperature- and humidity-sensitive paper stock and helps make possible consistent, high speed, quality production of famous Hallmark greeting cards.

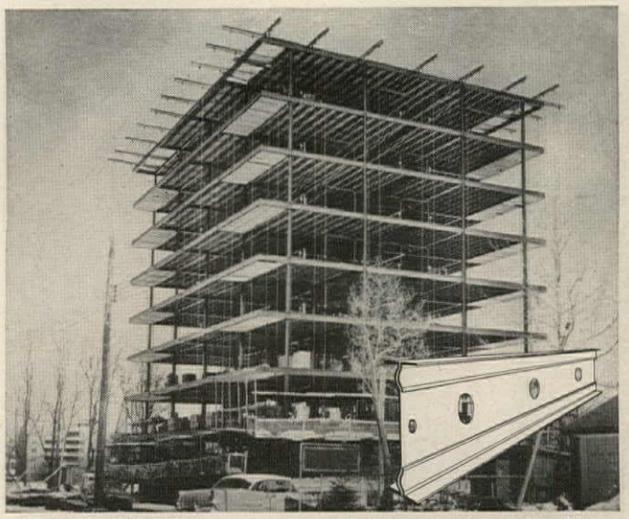
Equally important is the provision of an ideally controlled environment for Hallmark's creative staff and office employees.

Proper control of industrial air conditioning, heating and ventilating systems is becoming increasingly important as a means of improving production, cutting costs and adding to worker efficiency. Johnson's experience in planning and installing the pneumatic control systems of countless industrial buildings can be applied profitably to your problems. An engineer from a nearby branch office will gladly give you his recommendations without obligation. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

JOHNSON CONTROL

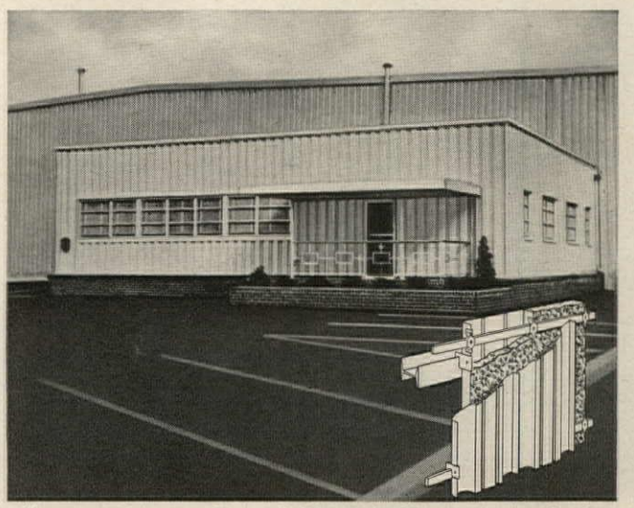
PNEUMATIC SYSTEMS

PLANNING • MANUFACTURING • INSTALLING • SINCE 1885

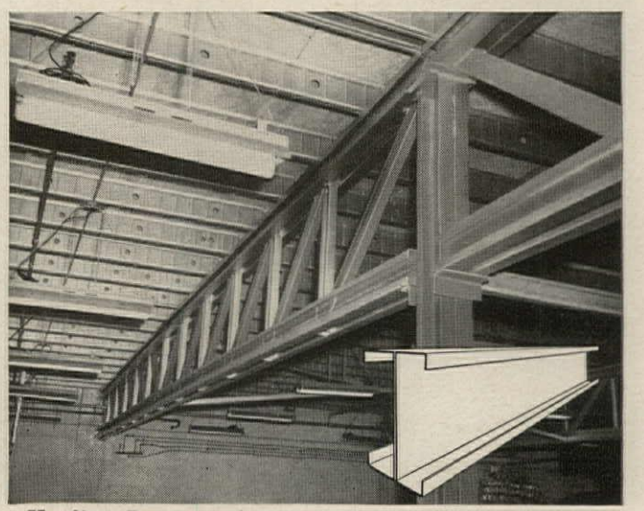


Forty-building luxury apartment development located in New York City gained 160 extra rental units using nailable joists. Builder: Alfred Levitt.

Cleveland's Parkland, $50,000,000 residential and shopping community, gets its good looks with ribbed decking. Project developer: Don Loftus. Architect: W. E. Harris.



Large modern warehouse, Oakland, California, is completely enclosed and insulated with curtain wall panel. Owner: Bigge Drayage Co. Engineers: D. Y. Long Co.



Kemline, Inc., manufacturing plant in Edgely, Pennsylvania, uses specially fabricated "C" section trusses for wide-span flat-roof structure.

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Stran-Steel joists, columns, decking and curtain wall

Stran-Steel now offers a complete structural system with fully integrated components—nailable joists and studs, structural columns and beams, new wide flange structural shapes in eight sizes, roof decking and the beautiful new metal curtain wall panels with *Stran-Satin* finish.

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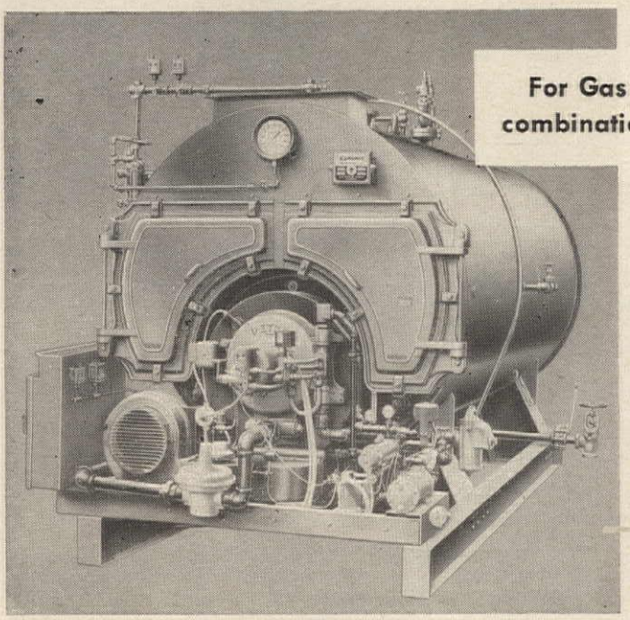
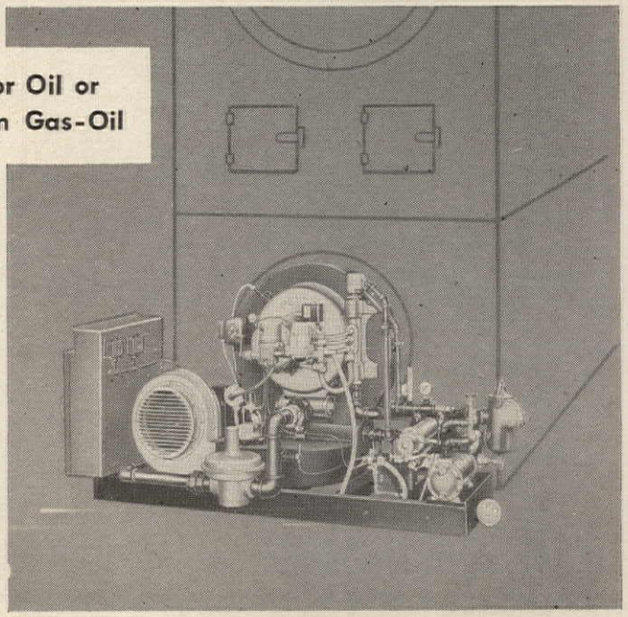
57-SS-40 A

How to use a Petro forced draft firing system



For Gas or Oil or combination Gas-Oil



1 Petro firing unit integrated with matched Scotch boiler as a complete boiler-burner unit

Here is a complete firing system available in a single unit. Installation consists of little more than securing the unit to the boiler and attaching fuel and power lines. No pitted boiler settings; no high stack. It is a thoroughly engineered unit, with all vital components matched and mounted on a single base. Includes burner (for gas, oil, or dual-fuel), factory mounted, refractory tile burner throat, secondary air volume control, motor driven forced draft fan and electrical control panel.

2 Petro firing unit can be applied to all types of boilers. Entire system factory built, wired and tested.

This is not a simple conversion burner—it is a complete firing system. Units are engineered to operate either under normal firebox draft conditions, or under positive pressure in sealed firebox boilers which are designed for operation under furnace pressure. A wide range of sizes is available for high or low pressure steam, or hot water for heating, processing and power requirements. Models are available for firing No. 6 or lighter fuel oils, and all types of fuel gas.

A Petro engineered system brings maximum dependability and operating efficiency

Savings in installation time, fuel, maintenance and operating costs are the result of Petro's half century record of thorough DEPENDABILITY. The most wanted features in a modern firing unit are contained in a Petro *complete* packaged forced draft burner system. Engineering service covers the nation.

Send for this PETRO® catalog

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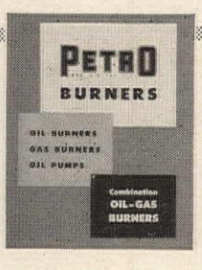

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Please send me literature and specification sheets on the money-saving Petro forced draft firing system.

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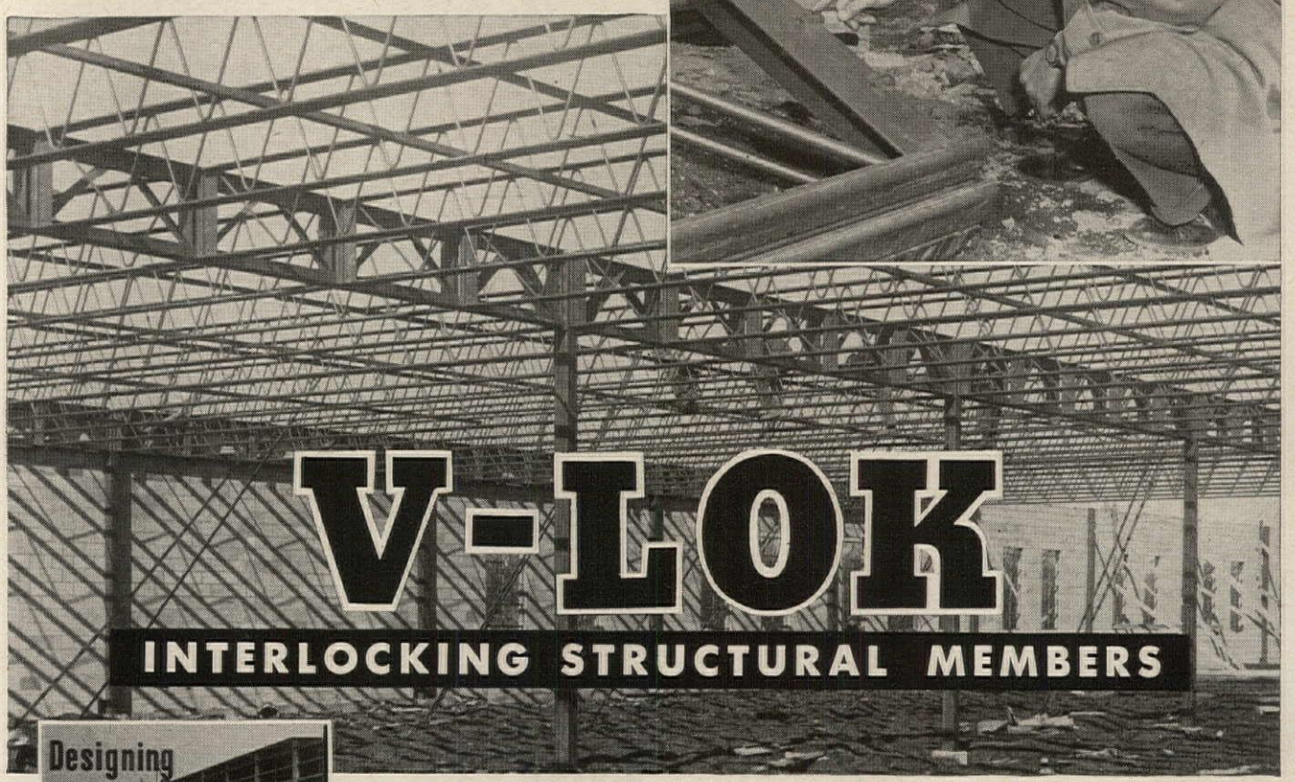
Joseph O. Divell, Perry Truck & Erection Co., Erie, Pennsylvania
Roland A. Ketzel, General Contractor, Erie, Pa.



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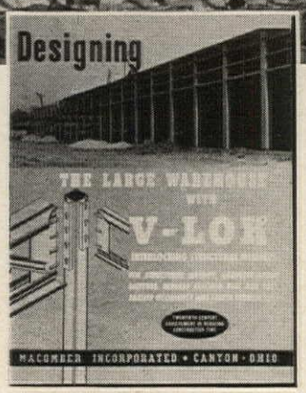

EVERYONE BENEFITS WHEN YOU DESIGN WITH V-LOK

And the new Design Manual shown opposite has complete details of wall sections for every type of solid and window wall, plus representative framing plans and side elevations.

For the organization designing industrial or commercial expansion structures, this usable summary of all essential details will be most welcome. Drop us a card for your free copy. Turn down the corner of this page NOW.

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Over 150 tons of G-E Zone-by-Zone Air Conditioning serve the entire Louise Obici Memorial Hospital in Suffolk, Va. In all, 26 General Electric Packaged Units were installed with no major alteration or structural changes.

Linen closets house and conceal compact General Electric Air Conditioners providing service to another area.

Basement storeroom also houses General Electric Units. These four units serve a section of first floor wing.

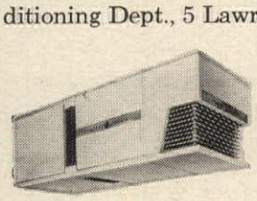
Installation by
Mechanical Engineering Corp., Norfolk, Va.

GENERAL ELECTRIC ZONE-BY-ZONE AIR CONDITIONING

Selected as most practical method for modern hospital

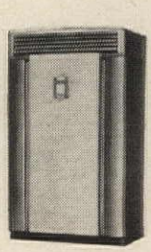
Nobody would ever guess that General Electric Air Conditioning was installed *after* this hospital was completed—so well concealed are the quiet General Electric Units.

Zone-by-Zone Air Conditioning is also a sure way to solve budgeting problems. It is easy to install—no costly interruptions—no major alterations—no heavy initial outlay. Operation is economical and space problem is minimized. Indeed, more and more architects are specifying General Electric Zone-by-Zone Air Conditioning as the most practical answer for every requirement. General Electric Company, Commercial and Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, N. J.



Ceiling-mounted units use no floor space—air-cooled and water-cooled.

Floor-mounted units may be stationed in or away from area served.



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In Canada, Canadian General Electric Co., Ltd., Montreal.

Here's Another **LITECONTROL** *"Bank Statement" about High Efficiency Lighting*

The work areas . . . the traffic areas, *even the pictures on the wall*, are glarelessly illuminated in this bank installation at Greenfield, Mass. Our brand new Litecontrol 7300RS series fixture with the Holophane #6024 lens was used to assure high efficiency, low brightness and ease of maintenance by means of the hinged door.

An intriguing special note is the absence of the plastic side panels usually in evidence. This accents the attractiveness of this installation . . . lending a belief that the fixtures are recessed instead of surface mounted. Deluxe cool white lamps provide the light source.

So once again, *imagination in illumination* pays off *without* a high lighting budget. *You* can obtain similar results with standard Litecontrol fixtures. For banks, offices, stores, schools, libraries — *any* public building.

INSTALLATION:
Greenfield Savings Bank, Greenfield, Mass.

AREA:
Main Banking area.

ARCHITECT:
Howe, Prout & Ekman, Providence, R. I.

GENERAL CONTRACTOR:
Thomas J. Gass Company, Inc., Greenfield, Mass.

ELECTRICAL CONTRACTOR:
Clark Electric Company, Greenfield, Mass.

LIGHTING ENGINEER:
C. J. Forster, Jr., Western Massachusetts Electric Company, Greenfield, Mass.

CEILING HEIGHT:
9'-6".

FIXTURES:
Litecontrol No. 7344RS 4 lamp surface mounted, with steel sides, using Holophane No. 6024 acrylic lenses and deluxe cool white lamps.

INTENSITY:
Average 80 foot-candles initially.

LITECONTROL *Fixtures*

KEEP UPKEEP DOWN

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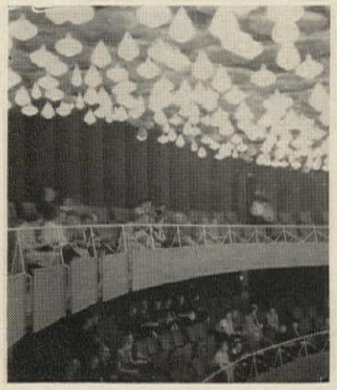
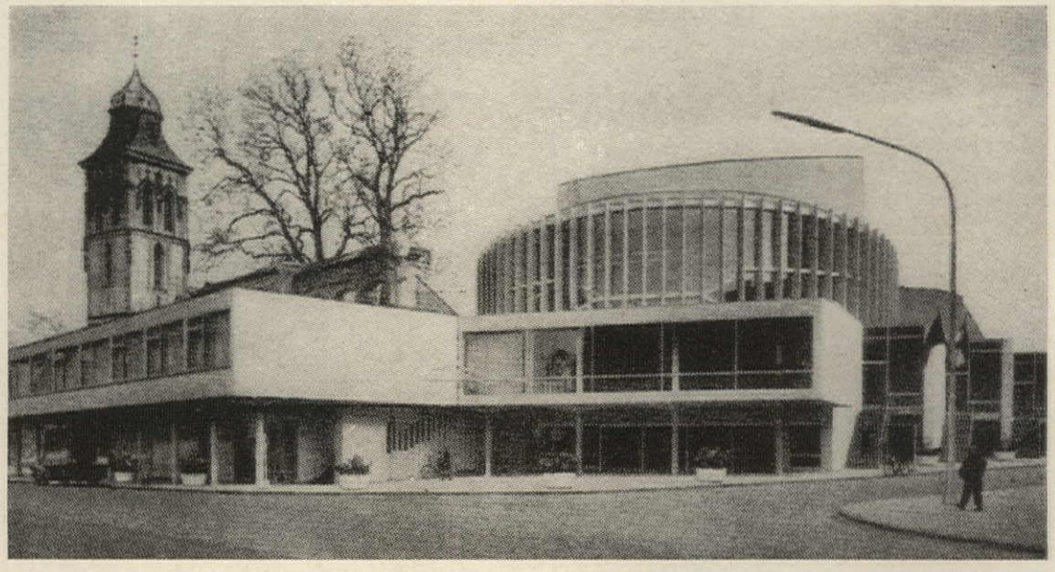
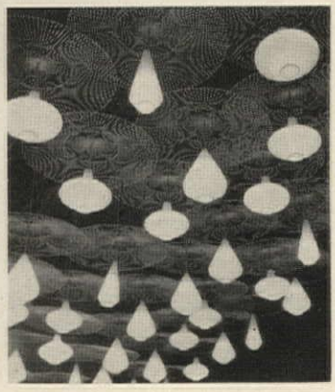
A continuing review of international building







MUENSTER CITY THEATER

The unofficial and sometimes unfriendly contest between German cities to determine who might build the best post-war concert hall or theater appears to have been won—by a near-masterpiece in Muenster. It is the work of Architects Deilmann, von Hausen, Rave and Ruhnau. The theater is diagonally oriented; only the restaurant (above, left) squarely faces the street. Between the restaurant and the theater, tucked into an interior court, are the dramatic ruins of an eighteenth-century castle. Dramatic effects follow into the interior, where balcony boxes cling to the curved back wall like cliff-climbers. Above the heads of the boxholders are lamps whose gala shapes and illusory reflectors make a more appropriate "ceiling" than reality could have supplied.

FINSLER HANS
GRAFIK

GRENCHEN COUNTRY COUSIN

For many years Grenchen, like other small towns in Switzerland and around the world, had to "make do" by putting on plays in the movie theater, exhibits in the gymnasium, concerts in the library. But by basing a plan and a campaign on the appeal of a regional, unified culture center, Zürich Architect Ernst Gisel was able to give Grencheners what they had always wanted. His many-gabled design of wood and glass contains a theater-auditorium, a small hotel, an assembly room, studios, galleries, offices and an indoor and outdoor restaurant.

DE SANDALO

FRANKFURT WALK-UP

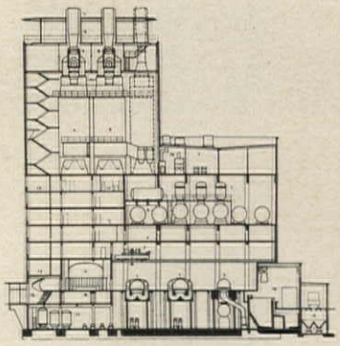
Fully equipped with elevators, central heating and other civilized amenities, Architect Hans Koehler's new office building in Frankfurt nevertheless allows its staffers some contact with surrounding nature. If they choose to walk between the floors of the 11-story, tile-clad building, they can get 180° views of the local countryside. Management also likes the arrangement, even enjoys the "constitutional" hike to the aloof conference wing (right), connected by glass corridor.

PAUL FORSTER

MAX PRUGGER

MUNICH POWER TOWER

Urbane grumbles were heard in Munich when plans were announced to build a steam-generating plant in the middle of the city. That was in 1955, before Architect Albert Heichlinger got down to the problem with a task force of city planners and civil engineers. The final design (left) presents a face sophisticated enough for any midcity dweller and a form that nicely disguises the awkwardness of industry (right).



PAOLO GASPARINI

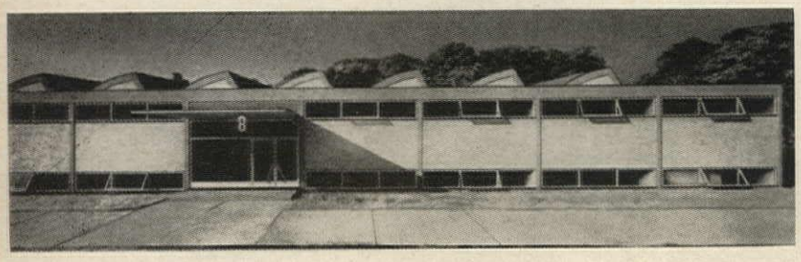
CARACAS TREEHOUSE

The hillsides above Caracas, long noted for their lush greenery, are now even more renowned for their brilliant new forests of apartment buildings. When designing the 15-story residential unit, "El Paraiso," the architectural team of Carolos Raul Villanueva, Carlos Celis & Jose Manuel Mijares was eager to retain the natural gregariousness of Latin neighborhoods. For this and other, more functional purposes, a leisurely winding ramp was built up from the three lower parking floors to the shaded ground-floor entrance.

ARNHEM PALAZZO

Not content to let an adjoining ruin take care of history, Dutch Architects J. J. M. Vegter and J. F. Berghoef designed a palazzo in the renaissance manner for Arnhem's new district hall. The building is laid out as an elegant quadrangle; a pair of left-over columns summon you through a kind of portcullis into the courtyard. There, looming ahead is the striped height of the assembly hall block, flanked on either side by the brutally modern offices of the district officials. There is also the option of going around the corner to the friendlier, more authentic medievalism of the "Duivelshuis."

PHOTOS COURTESY (ABOVE) "L'ARCHITETTURA"; (BELOW) "BAUEN & WOHNEN"



BRUNSWICK SPECTACLES

The firm of Franke & Heidecke is known far beyond Brunswick, West Germany, for its contributions in the particularly Germanic field of optics. From telescopes and spectacles to cameras (the "Rollei"), their reputation is good, their lenses ground to perfection and their design clean. Translating this impression into glass and steel was the assignment for Architect Friedrich Wilhelm Kraemer. He set up the factory equipment (lathes, stamping machines) in seven precise, east-west divisions, put seven wavelike roofs over all. At the eastern end of the sheds is a finely detailed warehouse; on the southern wall is a stretch of unbroken glass which allows workers to gaze out at a well-tended fruit orchard. Entire effect is that the world *can* be worth looking at.

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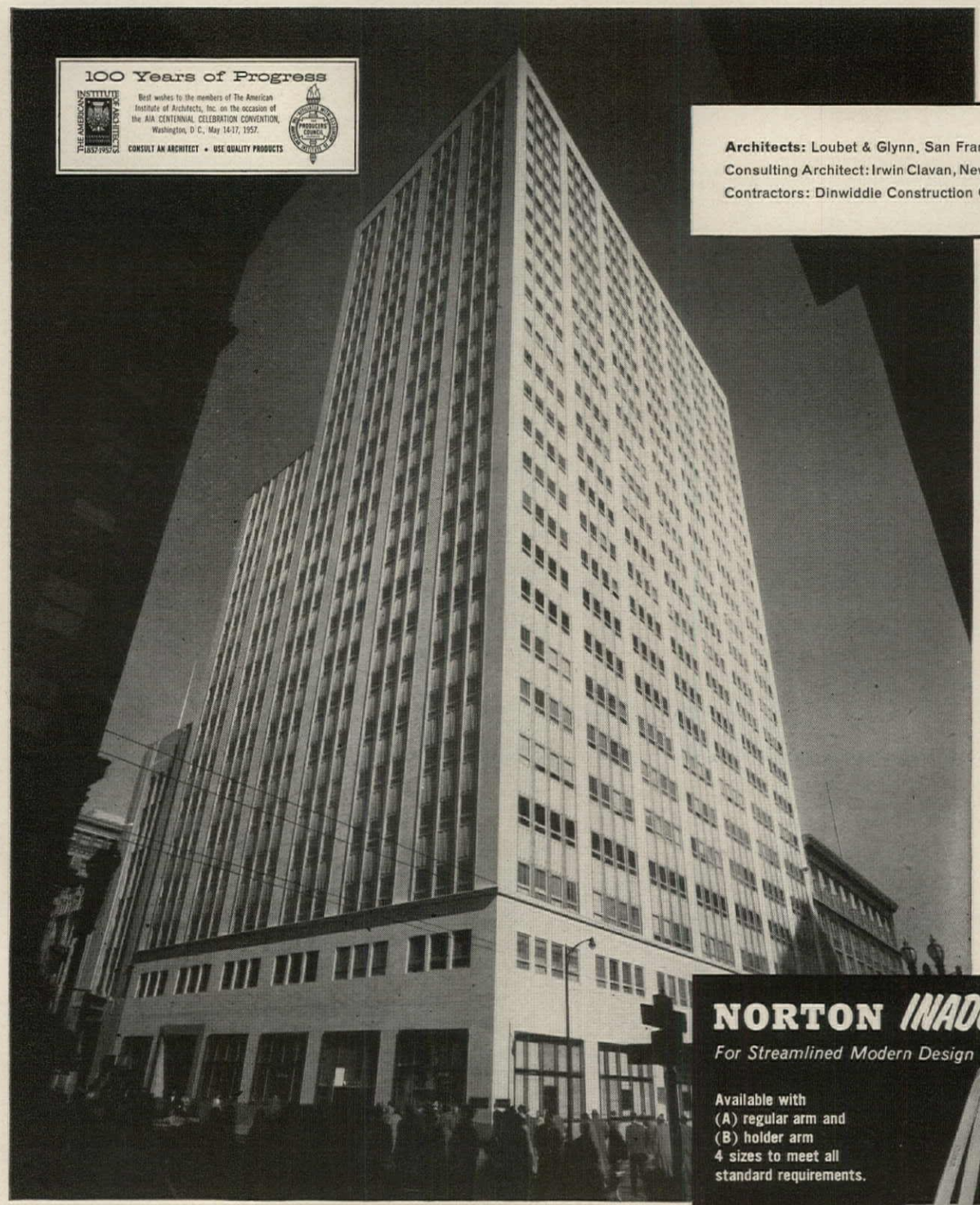

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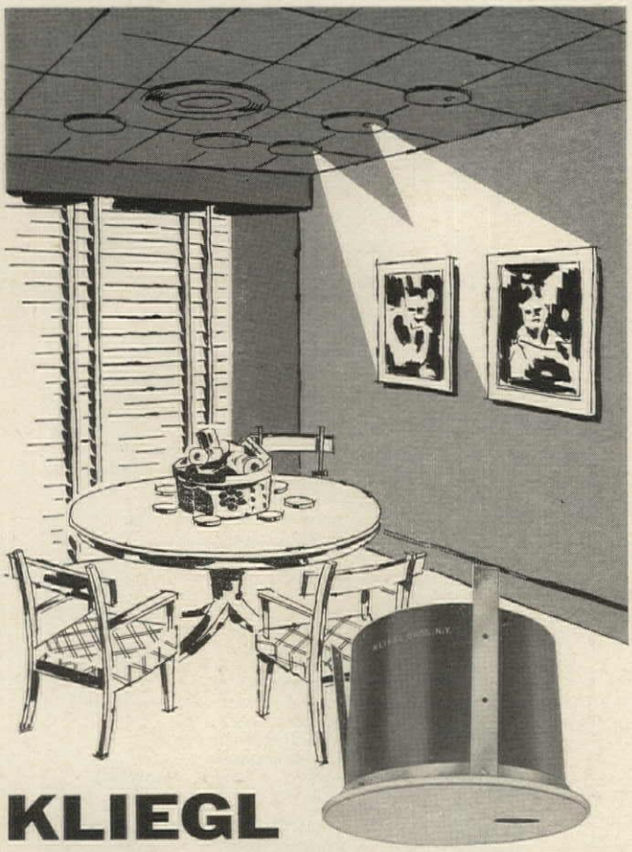

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