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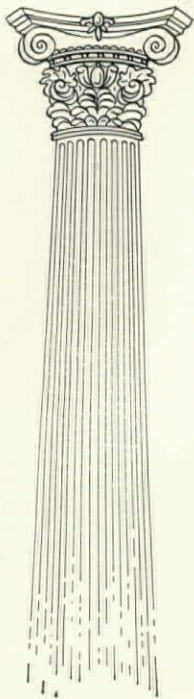
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NOVEMBER 1956



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Grand Rapids, Mich.
Architects: Skidmore, Owings & Merrill
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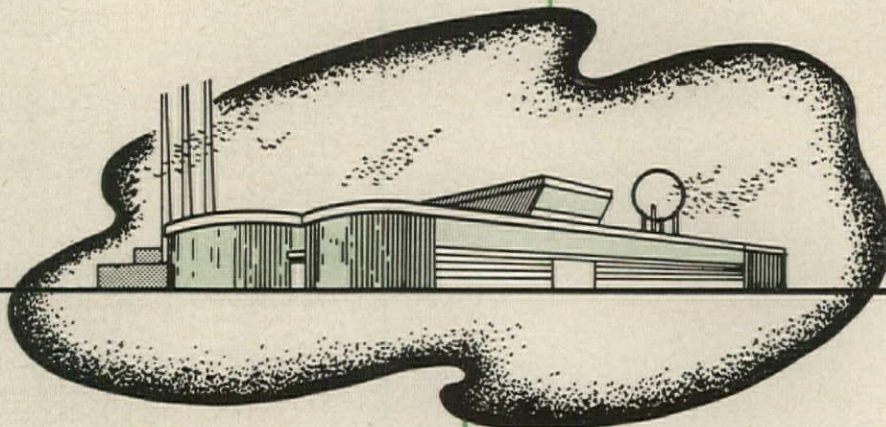
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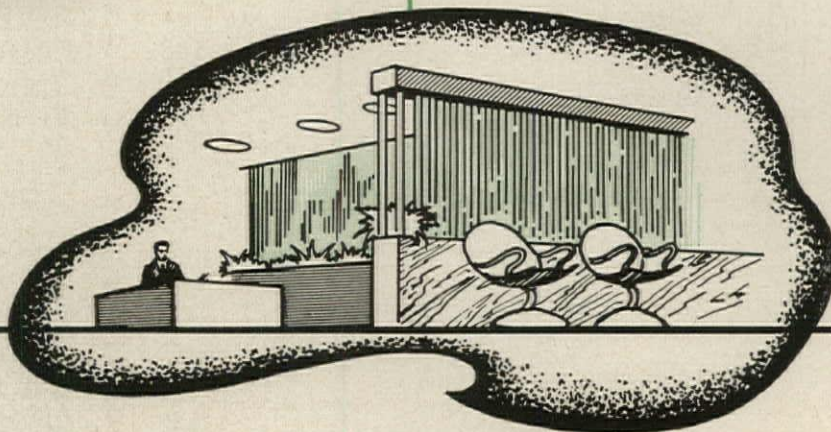
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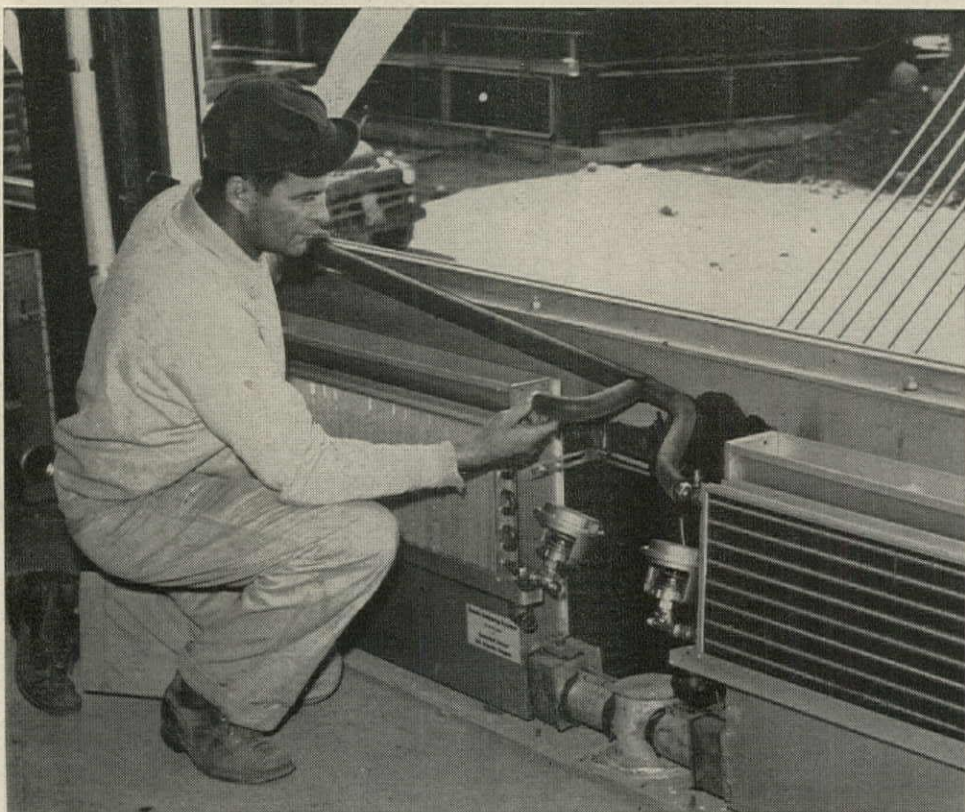
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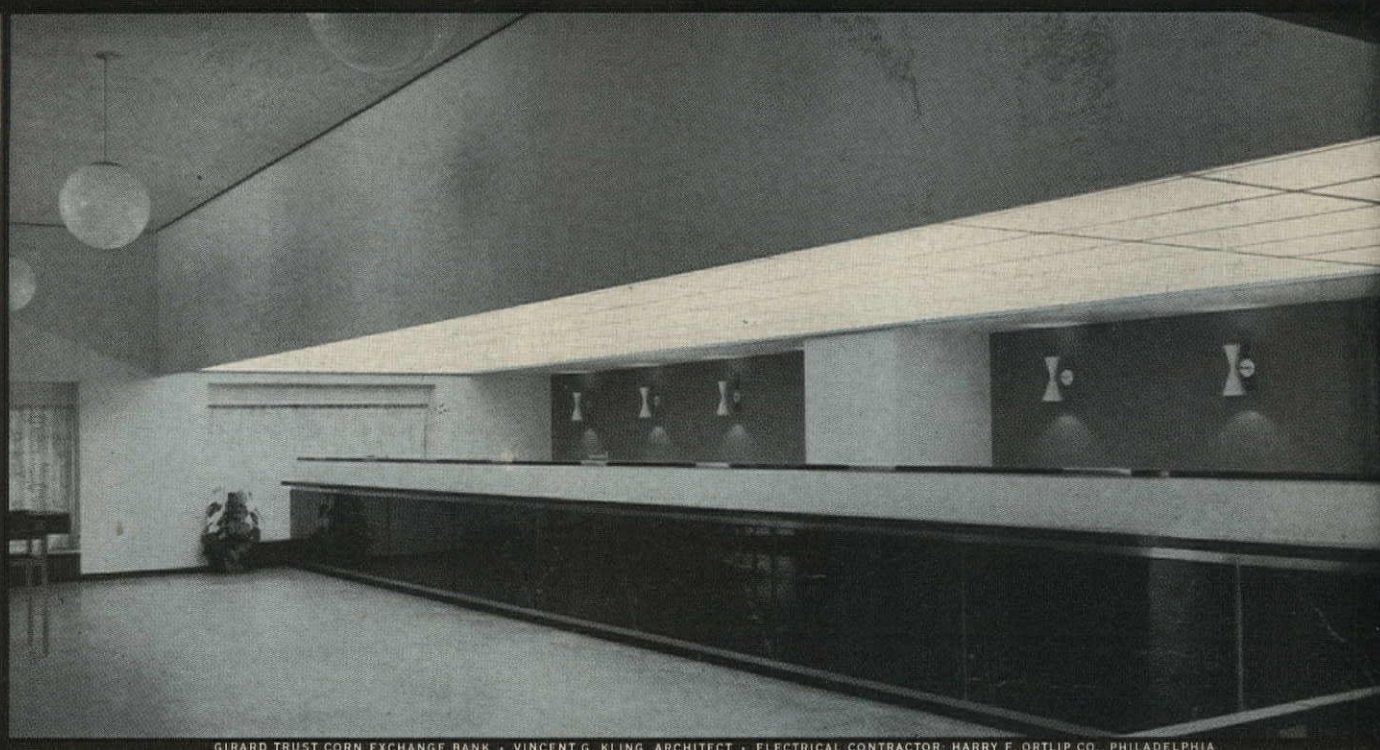
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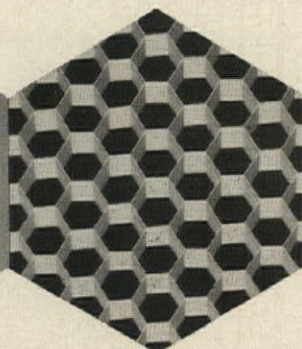
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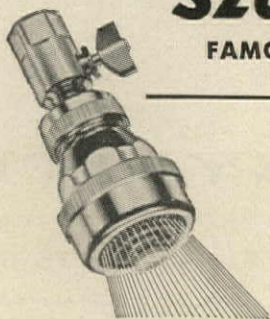
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FHA "220" rules allow city builders 10% profit—but initiate new deterrent

FHA Commissioner Norman P. Mason, an affable, appealing speaker who often enlivens his formal addresses with delightful, pointed, folksy stories, released last month the new Sec. 220 regulations under the latest Housing Act amendments. Covering urban renewal rental housing built through 90% FHA mortgages, Mason's new rules repeated a story told pointedly and succinctly long ago in Job I; 21: "The Lord gave—and the Lord hath taken away."



MASON

The Sec. 220 "giving" was proclaimed in the second paragraph of the Commissioner's press release announcing the regulations: "The new rules," he said, "carry out the will of Congress as expressed by the Housing Act of 1956 by making possible increased 'profit and risk' allowances for the builders of urban renewal housing projects by privately advanced, federally insured mortgage loans." The so-called "increase" was an allowance of a 10% profit and risk rate in calculating builders' costs for mortgage purposes. This could have been granted builders before the latest Housing Act changes, but was administratively barred by FHA.

The "taking-away" was proclaimed in the press release's very next paragraph: "At the same time," Commissioner Mason said, "the rules give assurance of adequate equity investment by sponsors of the projects. A permanent cash investment amounting to at least 3% of the actual cost will henceforth be required of sponsors . . . under Sec. 220."

Single-title integrity. Explaining the introduction of this permanent, 3% cash, escrowlike requirement, FHA said: "This provision, coupled with requirements for cost certification and the use of independent cost accountants, will serve to assure the integrity of Sec. 220 operations."

But no explanation was offered why Sec. 220 alone, of all FHA's several rental housing titles, required some form of back-handed bonding, in effect, to assure "integrity." Nor was there any explanation for an additional comment that "Mr. Mason pledged the FHA to see to it that this free enterprise approach to urban renewal would be carefully supervised to avoid the possibility of questionable practices."

What made the latter comment stand out awkwardly was its appearance without any further elaboration right in the middle of a portion of the Commissioner's press release that gave his benediction to Sec. 220 and its tremendous renewal stimulation potential in the most glowing

terms: "Section 220 is described as the heart of the Eisenhower Administration's broad scale approach to urban renewal which brings the resources of private investment to the fore as a previously untapped arsenal in the war to wipe out slums and blight. . . . 'This approach,' Mr. Mason said, 'is one of the brightest hopes held forth to the nation's communities striving to blot out the evils of urban decay and to rebuild for a promising future.'"

Builders unsurprised, unimpressed. Realistic, earthly apartment builders were scarcely surprised that the new Sec. 220 regulations authorized an "increased" profit and risk allowance—coupled with an offsetting 3% frozen capital requirement. Previously, under its discretionary authority, FHA had allowed about 7% for profit and risk in the handful of Sec. 220 applications it had processed, each project being judged individually on this point. Under the new rules a builder's setup would look a little different, but for practical purposes still work out just about the same as previously required by FHA.

Largely as a result of FHA's refusal to approve projects with a 10% profit and risk incentive, virtually no city apartments were started under Sec. 220 during the first two years of its life, beginning in 1954. In effect, the housing bill enacted by the last session of Congress practically "directed" FHA to stop dragging its feet and to process Sec. 220 mortgage insurance applications at this rate, to facilitate urban renewal rental housing construction—or else certify definite reasons for refusing to allow 10%.

Under earlier Sec. 220 regulations (and those for other FHA titles), industry observers pointed out, a builder also might end up with as much as 3%, or even more of his cash in a project at its completion. But in those cases such funds could be in the form of loans, evidenced by notes, rather than treated as capital investment. As loans, such funds could be repaid out of earnings, and the repayments would not be taxed when returned to the lender-owner. Not so under the new permanent capital investment requirement: in this case any recovery of the owners' advances as distributed "earnings," instead of as repaid advances, would be fully taxable.

Net result of it all?—Most builders viewed the permanent 3% investment "integrity" rule simply as an indication that if FHA found itself forced to act more liberally than it wanted to on one score, in its own fashion it was quite determined to tighten up just about as much on some other score. Just about as much Sec. 220 construction could be anticipated under the "increased" profit and risk allowances as under the old, restrictive rules. Or as one nationally known builder commented: "A

guy would need to have his head examined"—if he thought he was going to gain anything under the new rules.

Intent of Congress? As for how well the new Sec. 220 rules truly carried out the "will of Congress," it seemed quite clear that the nation's legislators last summer, for better or worse, but with their eyes open, by approving Sec. 220 mortgages for 90% of replacement costs and virtually directing a 10% profit and risk allowance if necessary, had deliberately handed FHA a "mortgaging out" program to administer. They relied on "cost certification" to prevent any actual cash windfalls in excess of mortgaging out.

As noted in these columns in September, the *Congressional Record* contains a formal summary of the new Sec. 220 amendment's purpose that Rep. Albert Rains (D, Ala.), chairman of the subcommittee in charge of the legislation, read to the House: ". . . providing for a profit and risk allowance of 10% of project cost—excluding land—for sponsors of urban renewal insurance projects, although the FHA Commissioner is authorized to prescribe a lesser percentage if he certifies that a 10% allowance is unreasonable . . ."

"Our report pointed out that the FHA has taken an overly conservative position [on profit allowances]. The FHA adopted a sliding scale approach under which allowances varied from perhaps 5 to 9% from project to project. This approach has not operated to facilitate construction."

Public housing chief chides FHA on city apartment rules

FHA has learned to expect criticism of its policies from affected private construction interests, including urban apartment builders who would like to obtain FHA-insured financing with as little difficulty as suburban, single-family homebuilders.

But last month FHA drew some barbed criticism from an unusual source—from the boss of the nation's largest individual public housing program. In his latest annual report, N.Y.C. Housing Authority Chairman Philip J. Cruise noted that "there is rightly great concern about the continued flight of middle-income families to the suburbs . . . [But while some leave willingly,



CRUISE

the city cannot afford] to lose by default the many families who wish to stay." Among Cruise's recommendations covering "some of the things that can be done" to remedy this situation and develop "new ways to induce the investment of private initiative and capital in slum clearance" and middle-income city apartment construction, was this pointed paragraph:

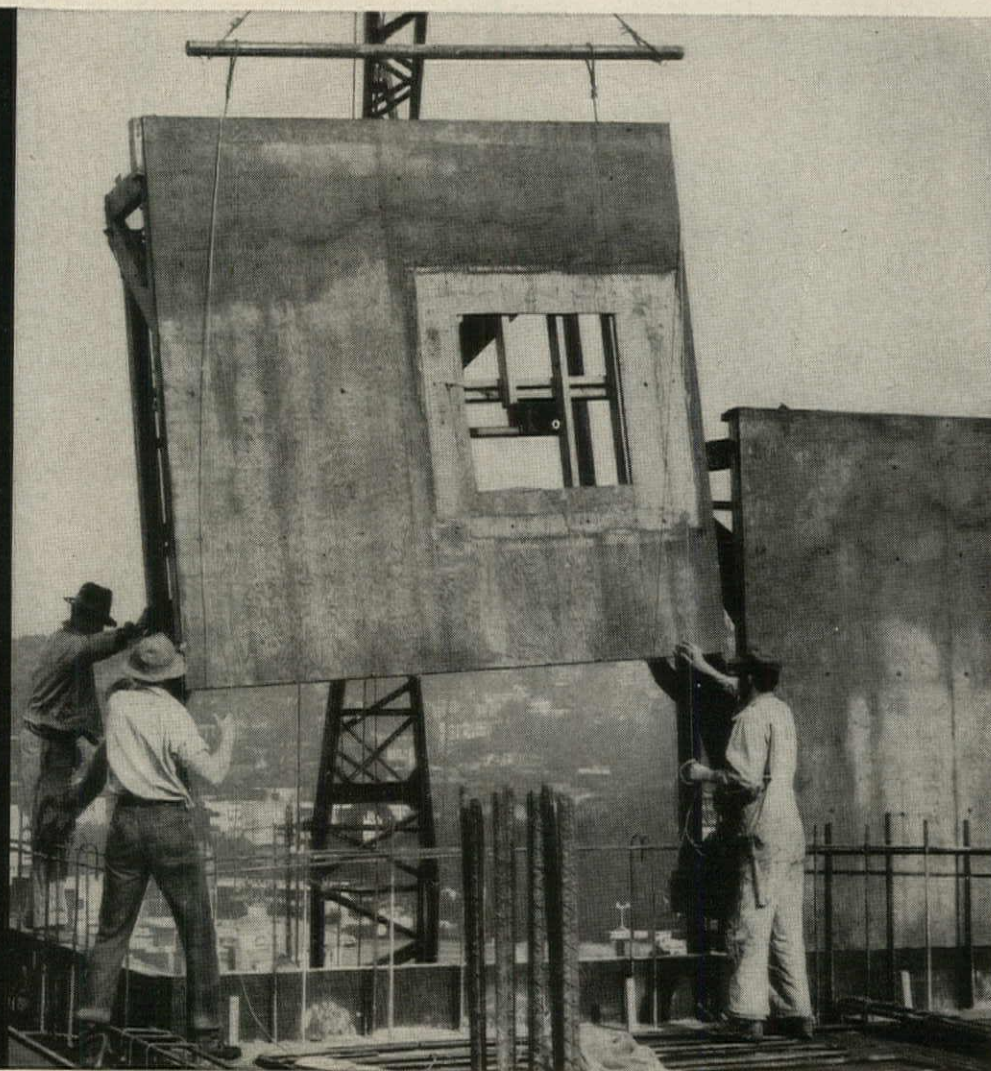
"There is need for far more boldness in devising and administering FHA mortgage-

continued on p. 12

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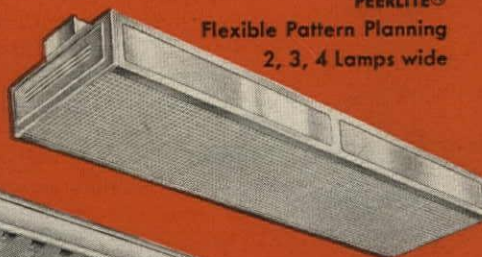
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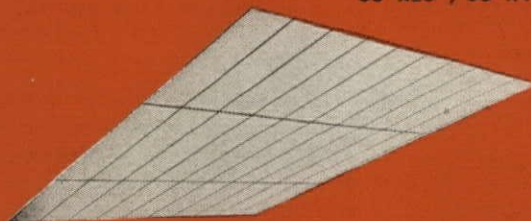
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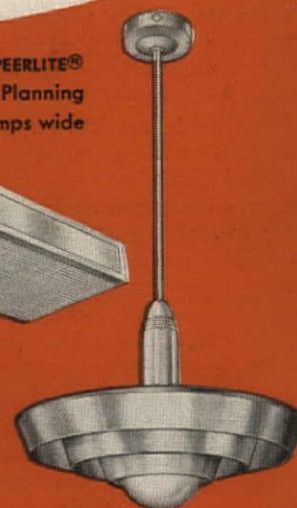
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insurance programs aimed at stimulating construction of rental and cooperative apartment dwellings. The exodus to the suburbs has unquestionably been abetted by the disparity between the easy financing of small homes made possible by liberal VA and FHA programs and the relatively difficult financing of apartment buildings. While I recognize the advantages and desirability of small-home ownership, I think we would be foolhardy to ignore the realities of the midtwentieth century. Insuring an adequate supply of the kind of housing necessary to the well-being of the large cities which contribute so greatly to the national economy is as legitimate and necessary a function of the federal government as insuring a supply of small homes."

The administrator of no small building operation, Cruise directs an authority that currently has projects under construction that will send its apartments over the 100,000 mark. Since 1946, according to Cruise, fully one third of all new housing in New York City has been built under public or quasi-public programs, with his own agency's 66,700 starts in this period accounting for almost 25% of the city's total.

Newest ACTION presentation stresses urban renewal needs

Two-year-old ACTION (The American Council to Improve Our Neighborhoods) is apparently switching its emphasis from improvement of individual homes and neighborhoods to the broader aspects of urban renewal and what it calls "the new three R's for American cities—Replanning, Renewal and Rebuilding."

A new 90-minute documentary lecture-show, *Our Living Future*, prepared by LIFE Magazine as a public service contribution to the ACTION program, started out on an eight-months, 90-city nation-wide tour. As described by ACTION Executive Vice President James E. Lash, this presentation "portrays the problems cities face, ranging through slums and blight, traffic, streets, playgrounds, recreation facilities, congested downtown areas and the problems created by mushrooming suburbs. It stresses the positive story of what cooperative citizen action is accomplishing toward solving these problems and concludes with the theme that such cooperation is the key to the solution of these problems."

Producer David Keith Hardy, writer and lecturer, narrates *Our Living Future* standing in front of a giant 30' x 15' screen. Between regular lecture portions of the presentation he directs the showing of its different motion picture, still photo and animated cartoon sequences by means of an intricate podium keyboard controlling projectors, lights and sound.

ACTION and LIFE make no charge for the program, but local sponsors are allowed to collect admission fees if they wish. In many cities the showing is being made part of an entire "Community Action Week" campaign to stimulate greater public interest and support for broad improvement and urban renewal programs.

Baltimore begins realigning agencies for another pioneering renewal scheme

Although it pioneered the "Baltimore plan" and other rehabilitation efforts imitated in many other cities, Baltimore itself ultimately became dissatisfied with the inadequacy of fix-up programs that did little more than sanitize its slums and achieved little real urban renewal.

Sparked by Mayor Thomas D'Alesandro, the city last winter engaged six noted independent consultants (all non-Baltimoreans) and gave them a free hand to draft a more effective, dynamic urban renewal plan that would have positive, desirable objectives instead of only the uninspiring prospect of perpetual slum policing.

Late in September this Urban Renewal Study Board, headed by hardworking Prof. L. C. Wheaton of the University of Pennsylvania, submitted its 99-page report. Last month various city agencies were busy preparing to put it into effect.

Super renewal agency. Key element of the plan is a sweeping reorganization of the multiplicity of city departments concerned with rehabilitation, conservation, city planning, renewal and redevelopment. Objective: one coordinated organization and one responsible chain of command. The method: abolition of the present Housing Authority, Redevelopment Commission and the Health Department's housing bureau (in charge of code enforcement); to replace them, a new Renewal and Housing Agency with greater, more effective authority.

Mayor, press and civic organizations were virtually unanimous in approving this proposal. At the Mayor's request the City Solicitor promptly started drafting the necessary ordinances for such reorganization, which were expected to be enacted without any real opposition before Jan. 1. Last month the members of all affected agencies (except the planning commission) had given their resignations to the Mayor, to be accepted at his pleasure, so he could have a free hand in making all appointments under the new plan of organization, as soon as adopted.

Would raze 65,000 dwellings. Assuming the creation of this new, modern municipal agency for urban renewal, Baltimore would then embark on a comprehensive 20-year, \$900 million program aimed at razing or improving 45% of the city's dwellings. This would mean the leveling of 65,000 homes—62,500 of them in the inner city. Another 80,000 would require rehabilitation—28,000 of these in the inner city. Mayor D'Alesandro aptly said: "This plan is without doubt the most ambitious and essential project ever undertaken by the city. If carried out as proposed the entire city can be restored and revitalized. If we fail, we will find blight infecting, touching or threatening every section of our city."

He also summarized the prospective financing: "With US urban renewal aid available to Baltimore, upward of \$600 million in federal funds can be obtained. The remaining \$300 million is well within Baltimore's capacity to finance, since most of it can be met by public works expenditures—which will be made in any event."

Perpetual US funds? Two points in connection with the "new Baltimore plan" will be studied by renewal experts everywhere:

► Some of the frank statements in the report might seem to mock the previous federal certification that Baltimore already has a "workable program" for urban renewal. "Baltimore's renewal activities," it said, "are not keeping pace with the steady deterioration. Redevelopment is administratively bogged down . . . Code enforcement has never been adequately tied into other renewal activities . . . City planning has failed to keep pace with development of renewal concepts." Countering the incidental point, however, no one could dispute that the city had been "trying" to halt its slum growth, and under the new plan, at least, does have a "workable program" now—if put into effect.

► The contemplated \$600 million of US financing (under the formula for federal grants to cover two thirds of a city's net costs of federally approved renewal projects) would soon bump into the present ceiling that limits such grants within a single state to 10% (\$90 million) of the total federal appropriations for this purpose, or in special cases to a maximum of \$100 million. In this respect, of course, the plan assumes indefinite continuation of the federal program and ever larger federal appropriations. It gives no consideration to the possibility of Congressional brakes being set on such spending, particularly if very many cities imitate the new Baltimore technique. Nor does it consider the possibility that Congress might balk at the immense appropriations that would be required, or, at the prospect of indefinitely giving cities \$2 for every \$1 they



CARTOON FROM "ACTION" PRESENTATION

spend for public works they would build "in any event"—in effect 100% US financing of any renewal programs simply "tailored" to fit regular local public works outlays.

But all for the good. The duration and extent of future US financing, of course, detracts in no way from the basic merits of the Baltimore plan. The city can tap federal grants for as long and as much as possible. And if this help is ever curtailed, the city's reorganized administrative set-up will still be ready to push effective urban renewal regardless of whatever financing means are used.

As a matter of fact, none of the city's realistic consultants regards the Baltimore plan as a complete or "final answer" to urban renewal's uncountable, complex problems. Rather it is offered as a broad outline showing the direction Baltimore can take best under present laws.

The consultants who comprised the Urban Renewal Study Board—selected by Oliver C. Winston, head of the Baltimore Housing Authority, former NAHRO pres-

ident, and the city's interim Urban Renewal Coordinator—were: William L. C. Wheaton, chairman, director of the Institute for Urban Studies at the University of Pennsylvania; City Manager L. P. Cookingham of Kansas City, Mo.; Carl Feiss, Washington, D.C. planning and renewal consultant; Luther Gulick, president of the Institute of Public Administration, New York City (and former city administrator); John T. Howard, associate professor of city planning at M.I.T., and Coleman Woodbury, West Cornwall, Conn. consultant on planning and metropolitan problems, author of the monumental "The Future of Cities and Urban Redevelopment."

Other specialists who served as the staff for the board were: B. T. Fitzpatrick, former deputy HHFA administrator; Jack Meltzer, director of planning for the Southeast Chicago Commission, which has been fighting slums in Chicago's embattled Hyde Park neighborhood; George Duggar, University of California public administration expert; Louis P. Dolbeare, Philadelphia planning consultant.

lesser part of the ground was a "predominantly residential" redevelopment. Therefore, only the uninformed doubted that he would obtain a similar subsidy to reduce the land costs for the developers of the Performing Arts Center. According to a N. Y. Times report, this subsidy would amount to about \$24 million from the US and \$12 million from the city.

Collapse in Jackson, Mich., kills ten building workers

Ten workers met sudden death last month in Jackson, Mich., in one of the worst building construction collapses in many years. Without warning the first three floors for a 10,000 sq. ft. section of a \$3 million reinforced concrete power company office building plunged through to the basement along with fresh concrete that had just been placed in its fourth (top) floor forms. Ironically, the structure, by Architects Black & Black of Lansing, had been designed to withstand the shock of an atomic blast, with floors 10" thick. Interior columns still stood erect after the floor sections around them had fallen away.

About 130 men were at work on the structure when the collapse occurred, and among those who escaped with their lives were two cement finishers who rode the plummeting top floor all the way to the basement. Consulting Engineer Ray W. Covey, of Detroit, was structural designer for the project, and the Herlihy Mid-Continent Co., of Chicago, the general contractor.

To month's end, no official reasons were given for the collapse, but a series of investigations, including a legislative committee probe to start Nov. 9, were in the offing. Governor Williams appointed three engineering school chiefs to conduct hearings—Dean George R. Brown of the Uni-

continued on p. 17

Noted architects study New York opera-theater plans

As plans for New York's colossal \$175 million Lincoln Square housing, university and cultural redevelopment project were steadily advanced, a group of some of the world's most eminent architects and acoustic engineers met last month for a two-week seminar to review designs for its Center for Performing Arts—tentatively slated to embrace a "perfect" house for the Metropolitan Opera, a concert hall for the New York Philharmonic-Symphony, a repertory theater for the dramatic classics, a theater and dance branch of the N. Y. Public Library.

Design conferees came to New York at the bidding of John D. Rockefeller, 3rd, president of Lincoln Square, Inc., Metropolitan Opera President Anthony A. Bliss, and Wallace K. Harrison, of Harrison & Abramovitz, who have been developing the opera house plans. Participants in these design discussions in addition to the group pictured (right) in the Harrison & Abramovitz offices included: Architect Henry Shepley, of Boston; Richard Bolt, professor of physics at M.I.T.'s acoustics laboratory, and Richard Newman, Boston acoustical specialist.

Late in September the Board of Estimate authorized the city's Slum Clearance Committee, headed by City Construction Coordinator Robert Moses, to proceed with negotiations for a federal Title I subsidy contract for this immense 52-acre project, but subject to further consideration of more detailed plans at a later date before "final approval" for the project. Except for about 21 acres for housing to cost about \$65 million, including land, no detailed costs have been released on other phases of this huge venture. Unofficial reports, however, have placed the cost of the opera house alone as high as \$46 million and by one account an

incredible original estimate of \$60 million.

Loud opposition has arisen among the thousands of residents who would be displaced from the area, and when a CBS-TV public affairs program scheduled a debate on the project in September the city administration declined to send a representative. A City Hall spokesman said the subject was "too emotional."

A few years ago, to obtain a \$6 million US subsidy for New York's new Coliseum, the resourceful head of the city's redevelopment agency convinced Title I officials that this \$26 million hall on more than half the site, with some \$6 to \$10 million of apartments on the



DESIGN REHEARSALS for the proposed "perfect" new Metropolitan Opera House and other Lincoln Square Performing Arts Center buildings brought together a troupe of noted architects. The seated audience for Sweden's Sven Markelius (r) was composed (l to r) of Marcel Breuer, Pietro Belluschi, Wallace K. Harrison, Finland's Alvar Aalto,

and Philip C. Johnson. The standees—Max Abramovitz; England's Hope Bagenal, architect and acoustical consultant for the Royal Festival Hall, London; Illustrator Hugh Ferriss; Metropolitan Stage Director Herbert Graf, and German theater Architect Walter Unruh. Scene: The New York offices of Harrison & Abramovitz.



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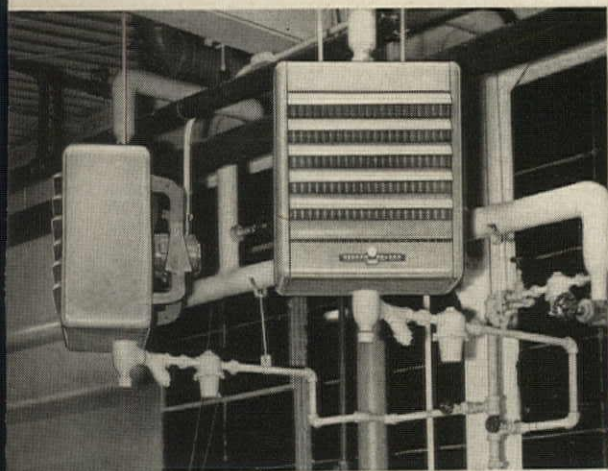
Centrifugal Fans

Exhausters

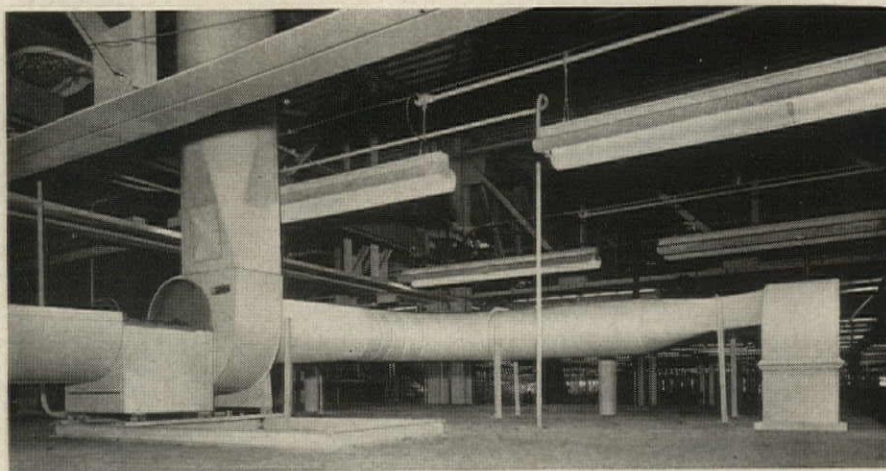
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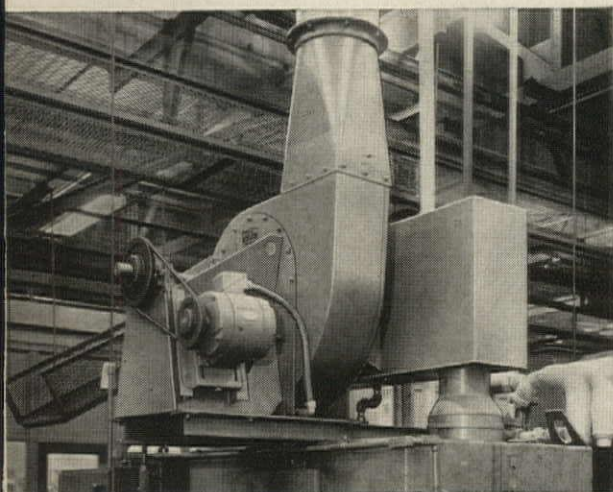
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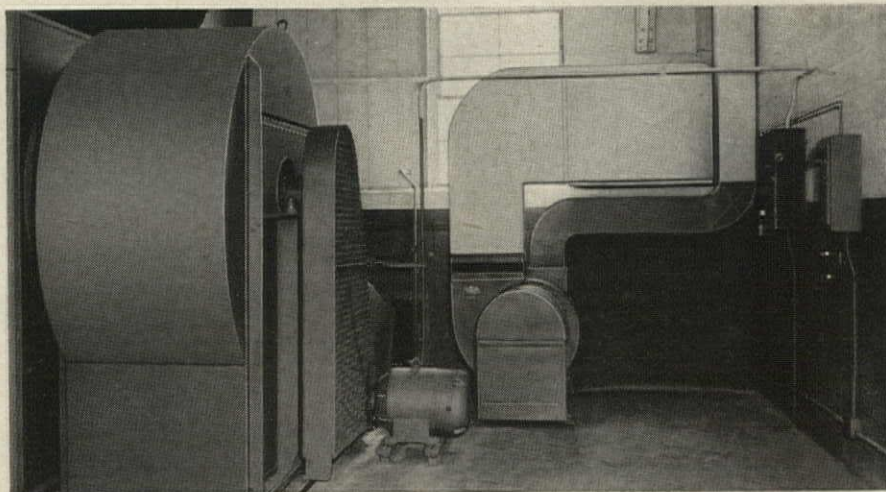
2. A PAIR OF HERMAN NELSON HORIZONTAL UNIT HEATERS blanket a window area in the penthouse storage area at the Kokomo, Indiana, plant. Using either steam or hot water, compact in design, these heaters are available in 18 sizes.



3. HERMAN NELSON UNIT BLOWER used for exhausting the manufacturing area. A completely "packaged" blower, easy to install, the unit features a hinged drive-side cover and outboard sheave that permits complete, easy-to-get-at servicing of belt and motor.

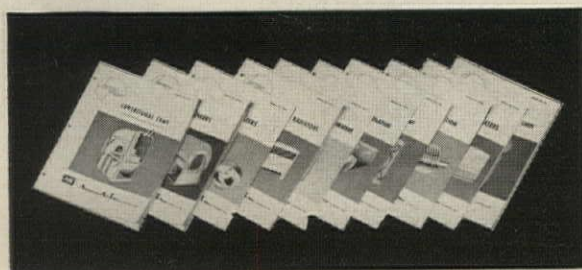


4. A NEW AAF TYPE K INDUSTRIAL EXHAUSTER provides high efficiency in various heat treating operations at the Kokomo plant. Exclusive Taper Lock Hub Assembly on this completely "packaged" unit allows fast, easy changeover on heavy-duty applications where periodic wheel replacement is anticipated. Eliminates the problem of impellers freezing to shafts.



5. HERMAN NELSON CENTRIFUGAL FAN supplying filtered and heated air to main factory area (hot blast system) at the Chrysler plant. AAF air filters and Illinois Engineering steam traps in system were included in this installation. The smaller unit in illustration is a Herman Nelson Unit Blower Size BBZK-1800, exhausting toilet space in penthouse.

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versity of Michigan; Charles E. Cutts of Michigan State, and Elihu Geer of Detroit U.—to be joined by three construction representatives to be named by the Michigan Society of Architects, the AGC and the Conference of Building Trades Unions.

The Jackson collapse made grim punctuation for two recent construction industry safety reports. In one of these, Otto Holmskog, construction insurance specialist for the Employers Mutuals of Wausau, credited safety training campaigns with a

75% cut in the accident rate, and a 50% cut in the number of severe injuries in construction since 1932. The second, however, a study in the *Bulletin* of the AFL-CIO construction and building trades department, noted that the accident frequency rate for construction workers is still three times greater than for workers employed in manufacturing, and on the average injuries in the industry keep workers out of employment $3\frac{1}{2}$ times as long as injured workers in manufacturing.

Eleventh-hour rescue plans fail; road will screen San Francisco shrine

San Francisco was forging ahead with its various bold redevelopment plans and projects last month, but not without disappointing results for some citizens reluctant to obliterate some of their structural ties to the past. And, in San Francisco's plight is a lesson for other cities: architects should participate from the start in the planning of large urban redevelopment schemes. Otherwise it may prove to be impractical (or futile) and very costly to try to revise large redevelopment plans once they are ready or underway.

Many San Franciscans, for instance, revere their celebrated municipal Ferry Building (a visitor who calls it a "ferry house" does so at his peril) with a love akin to that of Londoners for St. Paul's. For such natives the greatest civic catastrophe since the 1906 "fire" (earthquake) has been a plan to erect a two-level, 50'-high expressway along the Embarcadero directly in front of the 61' high Ferry Building, and its 235' high landmark clock tower.

Twice within a year last-minute schemes to relocate this expressway so it would not screen the Ferry Building from view have soared like Roman candles, and then as abruptly fizzled.

Swerve plan in December. Under the first façade-saving scheme proposed last December, the freeway would have been curved inland for several blocks in front of the Ferry Building, and a small elliptical park created in front of the old structure, at the foot of Market St., which now houses a World Trade Center. Many leading San Francisco architects, including California University School of Architecture Dean William W. Wurster backed this eleventh-hour planning idea. City Planning Director Paul Opperman said the construction of the elevated roadway right in front of the Ferry Building would destroy it both functionally, esthetically.

Assistant State Highway Engineer B. W. Booker temporarily delayed calling for bids on the section to run in front of the building. But despite strong newspaper and popular support, the city Board of Supervisors balked, more at the prospect of a $2\frac{1}{2}$ - to 3-year delay in getting the sorely needed expressway completed if plans were revised in this manner than

at an extra cost of about \$2.8 million. On Jan. 3 it voted to have the project expedited according to original plans.

Tunnel plan in August. Under the second rescue scheme proposed last summer, the expressway would have been run underground for the stretch in front of the Ferry Building. This belated proposal originated with the 11-man Zellerbach-Blyth Committee of top financial and business executives who have been taking a leading role in promoting and assisting urban renewal and redevelopment. It won the praise of Redevelopment Agency Chairman Joseph L. Alioto: "We are trying to clear blight. From our point of view, an elevated freeway is a producer of blight." It likewise was approved by State Park Commission Chairman Joseph R. Knowland, who indicated he would gladly certify a \$2 million grant of state funds for the prospective Ferry Building park, provided no elevated expressway marred the scene.

Once more the prospect of saving the view of the Ferry Building became the main topic of conversation throughout the city, and for a few days it almost eclipsed the Republican convention in the papers. At the Mayor's request, state highway officials temporarily held up construction, by then under way, while the Mayor scheduled a "crash" study of the feasibility of the underground proposal.

In an effort to clarify or reconcile conflicting "expert" reports on the time and expense that would be involved, the Mayor conducted a hearing on Aug. 13 that was attended, according to the *Examiner* by "the most distinguished group of civic and public officials to gather at City Hall this year." At this session there was some marked difference of opinion on prospective costs:

► Architect Nathaniel Owings, of Skidmore, Owings & Merrill, employed by the Zellerbach-Blyth committee, declared the extra cost for the city to go underground would only run about \$4 million. He also submitted reports of a contractor, soil engineer and a piling expert saying the tunnel would pose no construction problems.

► Engineer Booker, however, estimated



UNITED PRESS

FERRY BUILDING TOWER AND MID SECTION

that actual costs would run about \$15 million, and in addition, noted that such a change might jeopardize further allocations of state funds in the area as well as \$7 million in federal highway grants. Schedulewise, he added, it would delay completion of the expressway four years (rather than 18 months) by the time new engineering studies, new appropriations, new approach acquisitions and all other technicalities were ironed out. At present the expressway is scheduled for completion late in 1958.

To resolve the compounded confusion that came out of this clarification hearing, the Mayor asked for a report within two weeks from a special advisory committee headed by City Public Works Director Sherman P. Duckel. On deadline day, Duckel sent the Mayor a preliminary report saying he believed extra costs for the city might be \$8.3 million, or even \$13 to \$15 million if certain state and federal contributions were lost. Late in September a fuller, formal report from this committee said that going underground would be "uneconomic and unfeasible," cost \$14 to \$17 million extra. Last month it appeared permanently resolved that the view of the Ferry Building would be lost for good as the elevated expressway construction progressed over the next two years.

Electronic peepholes planned in new Milwaukee apartments

Two offbeat examples of champagne living have popped up in the nation's beer capital:

► For one of Milwaukee's new luxury apartment buildings, a closed-circuit television system will let each tenant see who is in the ground-floor lobby or who is ringing his bell at any time—with no need even to acknowledge being home to an unwelcome caller. This electronic peephole technique was developed by Boswell & Villa, architects and engineers, for a corporation headed by Harry L. Schlaeger.

► In a recently annexed area embracing several new subdivisions, Milwaukee firemen have moved into a new \$17,000 contemporary residence purchased by the city as a temporary fire house. Twelve men

continued on p. 21

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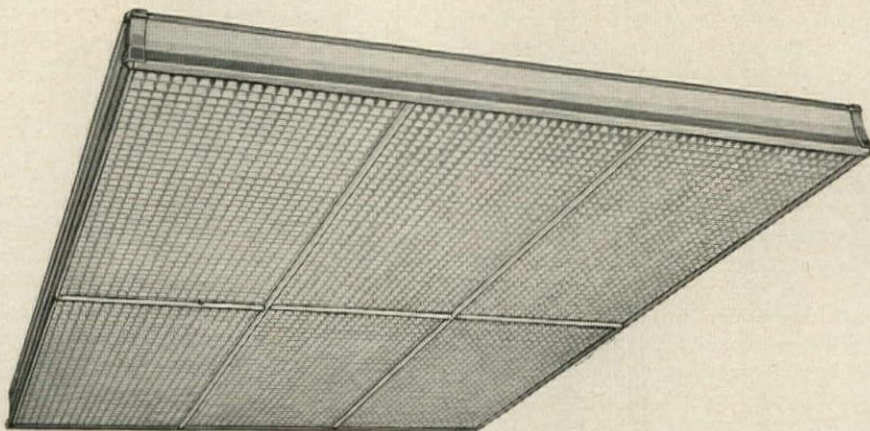
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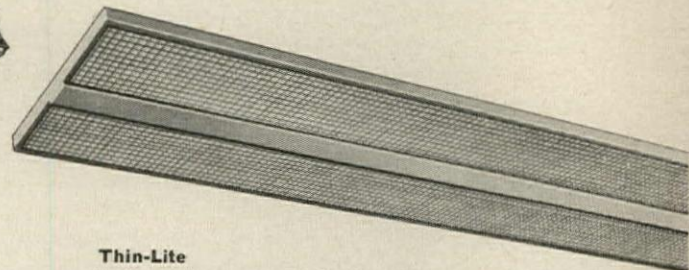
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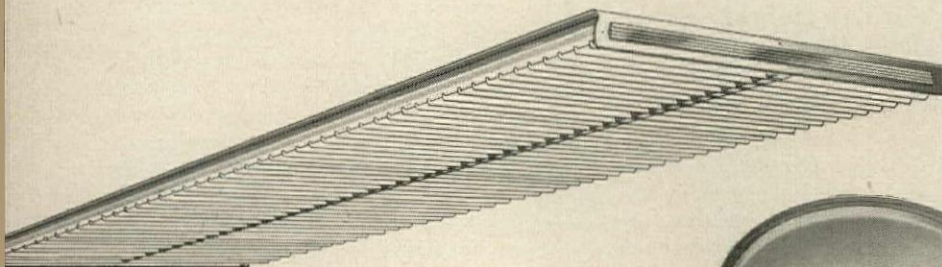
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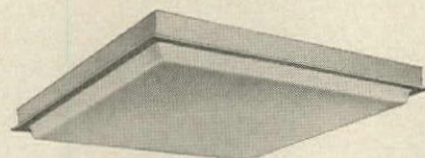


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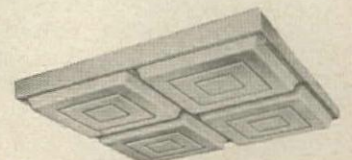
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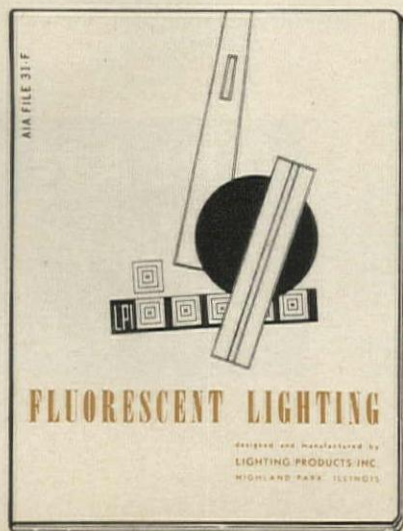
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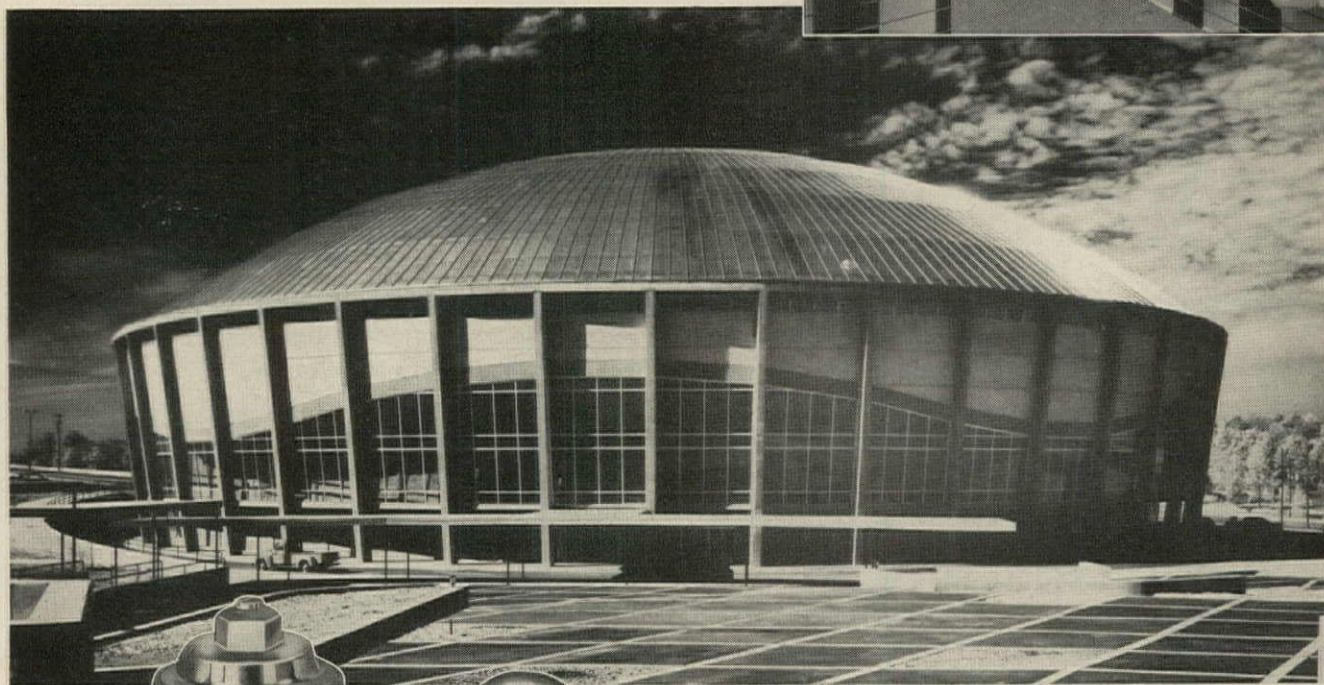
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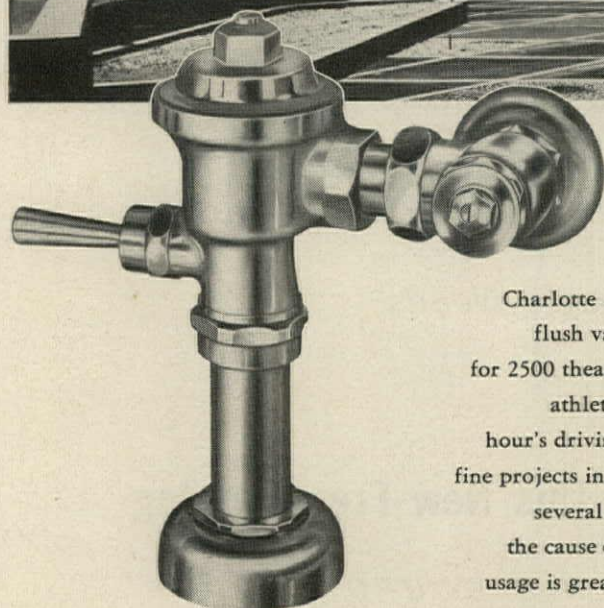
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Producers' Council hears bright materials forecasts

Optimism for continued high production and sales of building materials was the keynote at the Producers' Council annual fall meeting in Cleveland a month ago.

Walter W. Schneider, Department of Commerce construction statistics chief, said it was highly probable 1957 new construction expenditures will exceed \$46.5 billion, and "it is possible they may go as high as \$48 billion"—depending on the availability of credit, the momentum the new highway program gains, and how much higher industrial, commercial and public utility building soars.

US Plywood President S. W. Antoville said building materials marketing and distribution techniques have not kept pace with production advances. "Marketing research," he declared, "has been inadequate. Too many products are offered without sufficient research to determine their need and acceptance. Distribution costs are too high. Sometimes the cost of manufacturing is a small part of consumer costs."

Cleveland Fred M. Hauserman, 47, president of E. F. Hauserman Co., producers of prefabricated movable interior walls, was elected Council president succeeding Detroit William Gillett, of Fenestra, Inc., and H. Dorn Stewart, of Armstrong Cork, was advanced from second to first vice president. Hauserman started work as a toolmaker's apprentice in his family's firm after attending Cornell and Harvard's Graduate School of Business Administration, and later moved into production, cost analysis, estimating and sales. He was elected secretary in 1939, and in 1944, at the age of 35, became president. He has been a leading sponsor of organized, cooperative industry research; for-

merly was Building Research Institute president, and last spring received the Modular Measure Award of the American Standards Assn.

Commission starts study of White House office needs

Three appointments by the President completed the membership of a new advisory commission that hopes to solve critical White House office space expansion requirements with a minimum of architectural or political dispute.

Presidential appointees were former AIA President Douglas William Orr of New Haven, Conn., GSA Administrator Franklin G. Floete, and Robert V. Fleming, president and chairman of the Riggs National Bank, Washington. The commission's four other members are Senators Chavez (D., N. M.) and Hruska (R., Neb.) appointed by the Vice President, and Representatives Smith (D., Va.) and McGregor (R., Ohio) appointed by the Speaker of the House.

The commission, established by Congress with a \$50,000 expense appropriation, is to submit its report to the President by February. In 1946 Congress rejected a proposal to triple the size of the executive office west wing of the White House, and a 1954 report estimated that the White House staff then needed at least another 120,000 sq. ft. of work space. Some White House administrative workers now occupy space in the old, adjacent State Department Building, and the advisory commission's studies will include consideration of the possibility of erecting a separate White

House staff building off the White House grounds rather than any further enlargement of the present building. When the House public works committee approved the creation of the commission, Subcommittee Chairman Robert E. Jones (D., Ala.) observed: "When it's the White House [that is likely to be altered] every organization in the country has its ideas; every editorial writer has something to say."

Fermi pavilion competition for Fort Dearborn project

An international architectural competition for design of an Enrico Fermi Memorial Pavilion in the heart of the proposed Fort Dearborn governmental and institutional redevelopment project in Chicago (AF, April, '54) has been announced by the Chicago Junior Chamber of Commerce and Chicago Joint Committee of Italian-Americans. Awards totaling \$10,000 will be announced in February, after judging by architects Mies van der Rohe, Gordon Bunshaft, Jose Luis Sert, Italian Engineer Pier Luigi Nervi and Physicist Dr. Lancelot Law Whyte.

In the research for the creation of the atom bomb, Fermi was in charge of the first controlled nuclear chain reaction, in Chicago, in Dec. '42. The competition for the pavilion to memorialize him requires the design of exterior and interior spaces for permanent and temporary science and art exhibits, a 300-seat lecture, music and motion picture auditorium, and parking and service facilities. Complete details can be obtained from John O. Merrill (of Skidmore, Owings & Merrill), professional advisor, 100 W. Monroe St., Chicago 3, Ill.

Frank Lloyd Wright Day proclaimed in Chicago; Taliesin endowment begun

Chicago's Mayor Richard J. Daley by official proclamation designated Oct. 17 as Frank Lloyd Wright Day. Sharing this personal honor with his profession, Wright said the greatest significance of the event was that it marked the first time a city had ever formally honored an architect in such fashion.

The Day's celebration was marked with a series of affairs: the opening of an impressive exhibition of his works that drew large and enthusiastic audiences in Chicago (later will be available for exhibition elsewhere); the unveiling of a rendering and the disclosure of details about the mile-high, 528-story office tower he has designed for a Chicago lakefront site (p. 106), and a testimonial dinner that also launched a campaign for \$4 million for an Endowment Fund that eventually will take over the operation of his two Taliesin architectural schools. Robert Moses, who was unable to attend the dinner, proposed in a message to the gathering that New York likewise soon would honor the 87-year-old designer, 65 years an architect, with another official Frank

Lloyd Wright Day there.

Standing before the dramatic 22' rendering of his proposed "cloudscraper," Wright said he was "never more in earnest" than when he designed it. He said it would cost only \$100 million (a record \$5 per sq. ft.—Ed.) and "be as utilitarian as a pair of shoes . . . and, socially, just what cities need, inaugurating a new move to centralization that would free men to decentralize their homes." Ten such buildings, he estimated, would be enough to rehouse almost the entire office population of Manhattan, free surrounding property for parklike living uses.

A leading elevator manufacturing company had studied the vertical transportation problems connected with such a building, said Wright, and found that its elevating would be perfectly feasible.

On the following day, at the Chicago convention of the Architectural Woodwork Institute, Wright was scheduled to receive still another honor, the Award of this institute as "the member of his profession who has contributed most to the creative use of architectural woodwork."



PRESIDENTIAL PLEASANTRIES were swapped at the Producers' Council fall meeting by Fred M. Hauserman (l), new Council chief, and AIA President Leon M. Chatelain Jr.



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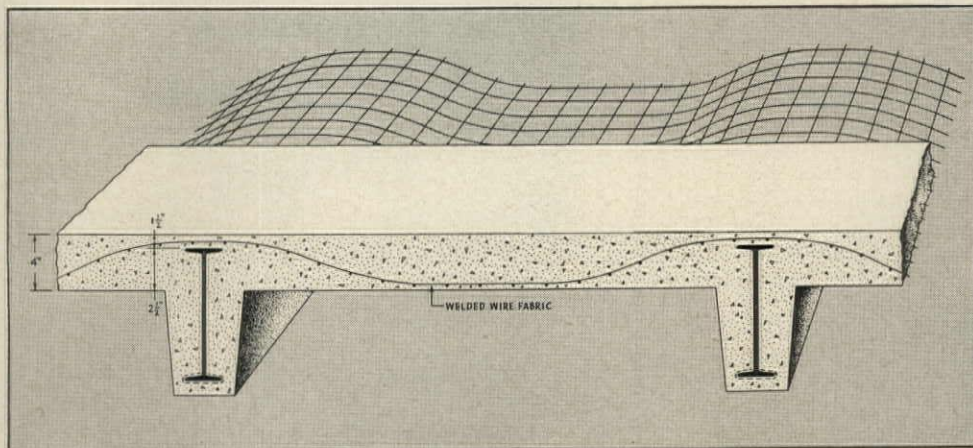
... beam-and-slab concrete floors reinforced with USS American Welded Wire Fabric

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 con-

crete 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



28-STORY GLASS SHOWCASE FOR FIFTH AVENUE

Wallace K. Harrison of Harrison & Abramovitz, designers of this "Tower of Glass" for Corning Glass Works, says this building will carry the use of glass further than any commercial building in existence. The tower will rise directly from street level without a setback, the first of its kind on

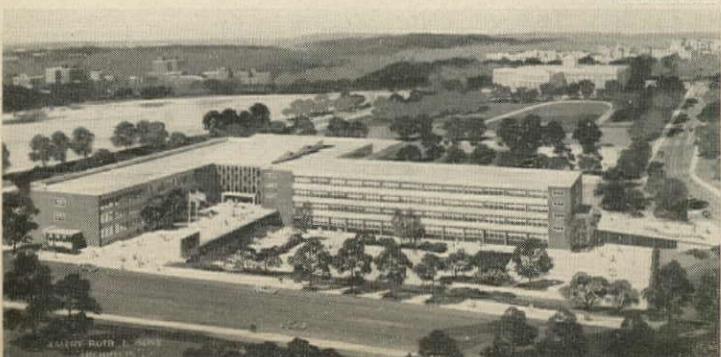
New York's Fifth Ave. The landscaped plaza at the base of the tower will contain a sunken garden and pool. Special flood-lighting effects are planned to dramatize the glass facade of the tower itself. George A. Fuller Co. is in charge of construction, scheduled for completion late in 1958.

ROOFTOP GREENHOUSES ON SCIENCE HIGH SCHOOL

Botany students at the Bronx High School of Science, New York, will have rooftop and ground-level greenhouses. More conventional laboratories for the study of chemistry, physics, and biology will be inside the 42-classroom, \$6 million building. The facade will have a combination of white horizontal brick spandrel bands,

strip windows, and terra-cotta colored masonry. A closed-circuit television loop with outlets throughout the building will enable students and teachers to watch either standard or closed-circuit broadcasts on the same receiver. Architects: Emery Roth & Sons of New York, known for a large number of postwar office buildings.

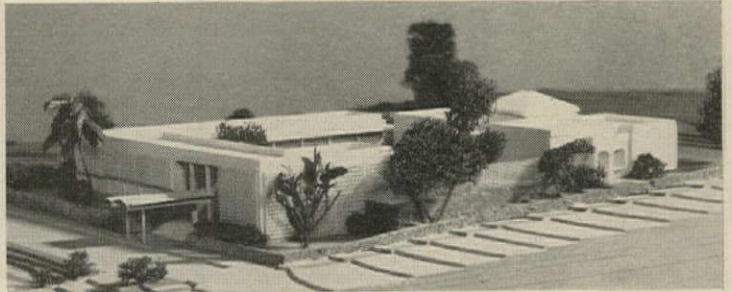
ADOLPH STUDLY



NEW BUILDINGS

A roundup of significant proposals

M. E. WARREN



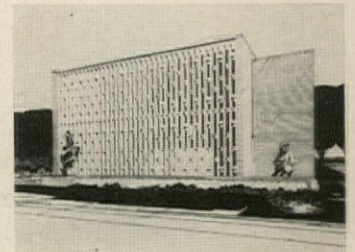
TROPICAL EMBASSY ON STILTS

Reinforced concrete stilts and screens distinguish the American Embassy planned for Ciudad Trujillo, Dominican Republic. The stilts give firm footing on the steep site; ex-

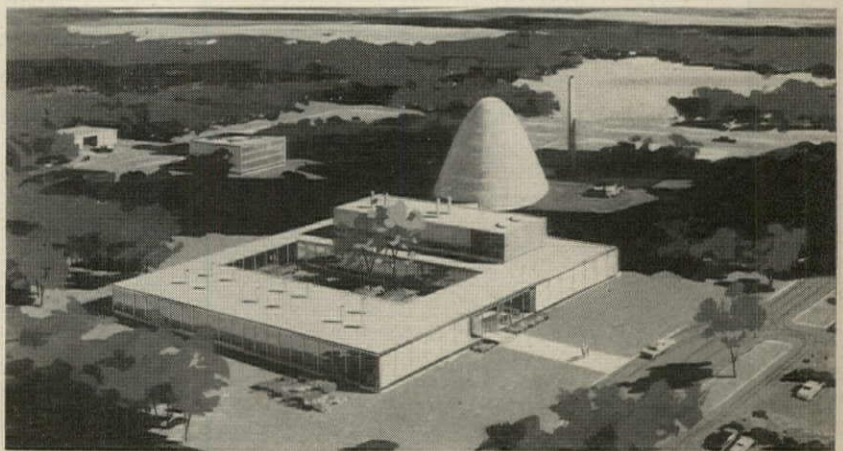
terior screens filter tropical sunlight. The embassy is enclosed in window walls behind the screen and is air conditioned. Architects: Rogers & Taliaferro.

WEATHERED OAK GRILL

Vertical members of the grill on this St. Louis office building will be left their natural oak color, shielded from the elements by a protective compound. Connecting oak blocks will be painted blue-green and white. As occupants of the completed building, Architects Fischer & Campbell will be



able to watch the weathering process, which they hope will turn the oak silver-gray.



NUCLEAR REACTOR FOR INDUSTRIAL RESEARCH

Ten large corporations in unrelated fields have joined forces to form the Industrial Reactor Laboratories, Inc., at Plainsboro, N.J. Each of the member companies will have space to work on its own projects, with a permanent staff of about 30 handling over-all operations. The reactor is of the "swimming-pool" type. Skidmore,

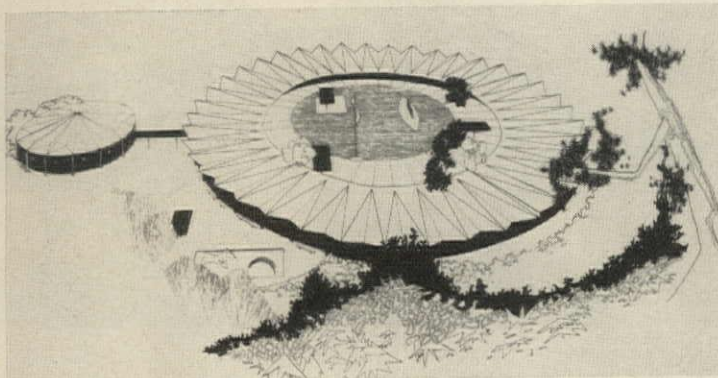
Owings & Merrill designed the research center above; American Machine & Foundry (one of the ten member companies) will build the reactor. Work has already begun, and completion is planned for Dec. '57. Estimated cost of reactor alone: \$1,500,000. The site is a 300-acre wooded tract near Princeton.

announced last month



\$20 MILLION SKYSCRAPER

Forty-second Street and Second Avenue in New York will be the site of a 31-story office building designed by Pomerance & Breines for Joel W. Schenker in association with Herbert Tenzer and Louis Greenblatt. The rentable area will exceed 500,000 sq. ft., plus a three-level garage, and off-street delivery and loading areas. A former apartment builder, Schenker says he finds office construction far less productive of ulcers.



LITTLE ROUND SCHOOLHOUSE IN CALIFORNIA

Architect Mario J. Ciampi of San Francisco wanted to make the Vista Mar School in Daly City as attractive to passersby at street level (60' above the site) as it would be to children in the schoolyard. The round

plan above is the result. Twelve classrooms, two kindergarten rooms, and a sheltered court form the larger circle, with a separate assembly room at the left. The composition roof will be cast in sections at the site.



ILLINOIS STATE HOSPITAL

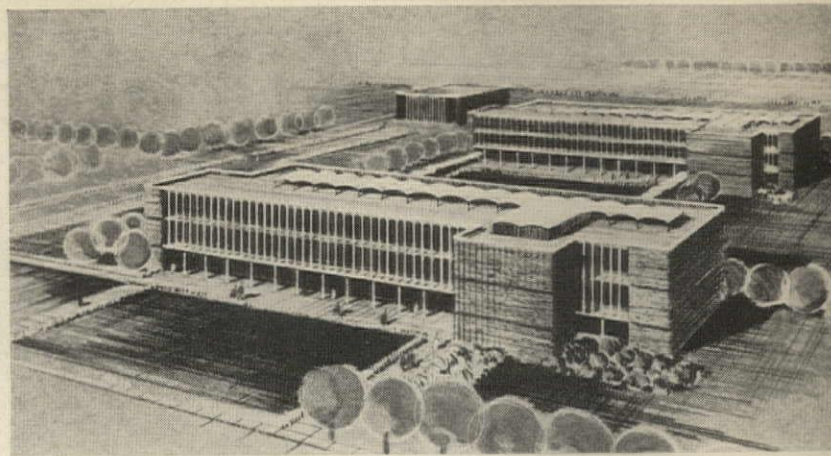
An \$8 million Psychiatric Institute (left) has been approved for Chicago's West Side Medical Center. Shaw, Metz & Dolio of Chicago, architects.

HIGH-RISING MIAMI BANK AND OFFICE BUILDING

The First National Bank of Miami will occupy the first



three floors of this \$5 million, 17-story building designed by Weed, Russell, Johnson Associates. The 14-story tower will be rental office space. Facing for the entire building: precast concrete panels covered with tile. Wide overhangs between floors on east and west elevations will afford sun protection for tower occupants.



PINK SCIENCE BUILDINGS FOR RICE INSTITUTE

Interior corridors are almost entirely eliminated in the designs for biology and geology buildings at Rice Institute, Houston. Instead, the architects used outside balconies to provide access to classrooms. Vertical stone louvers keep out sun and rain. Pink sand mold

masonry was chosen to match brick of older college buildings in the Italian Romanesque style. Roofs will be flat; canopies shown on top have been eliminated. Architects: George Pierce Jr. and Abel B. Pierce Jr. Combined area of both buildings: 95,000 sq. ft.

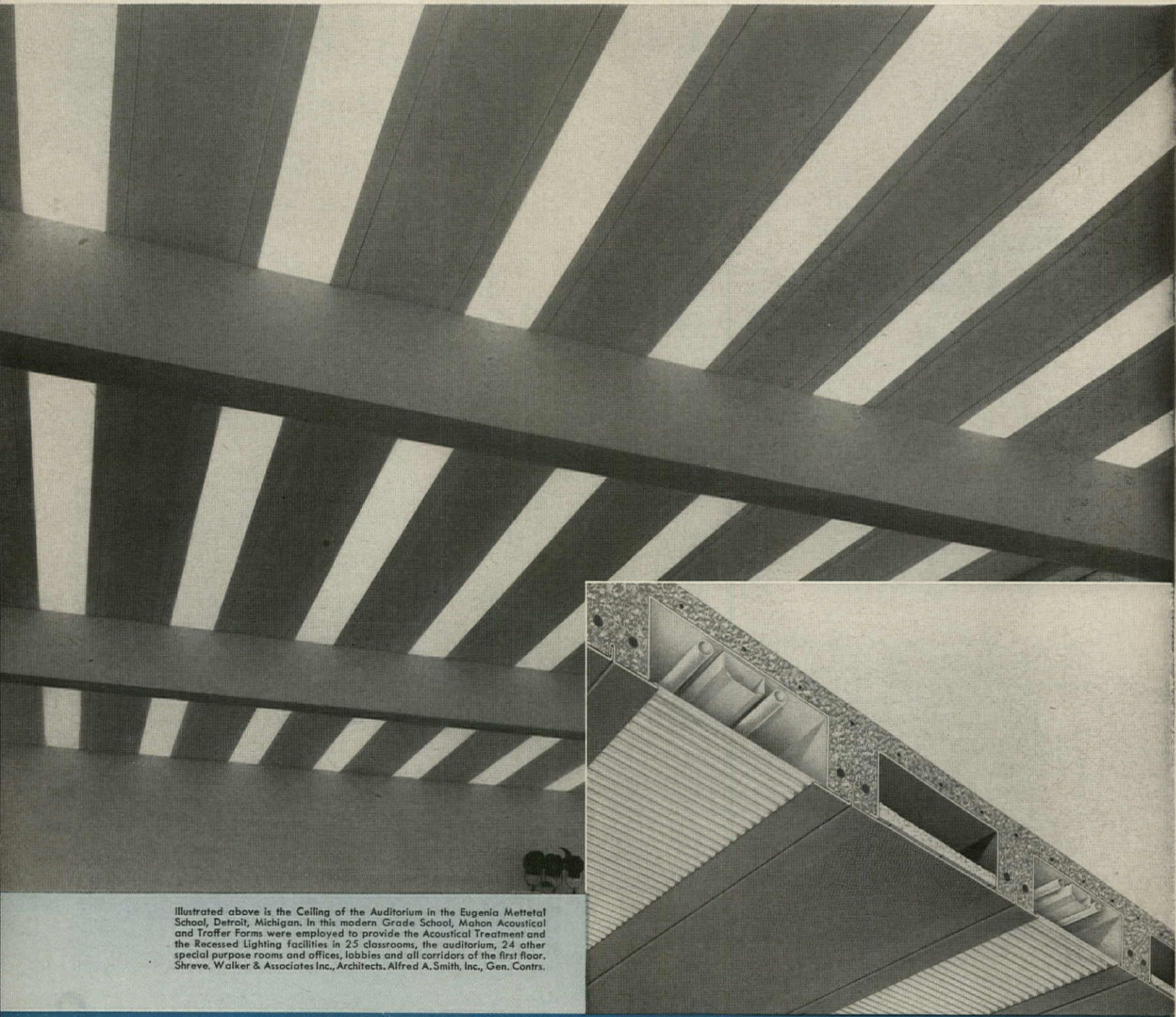


COOPER UNION SCHOOL OF ENGINEERING

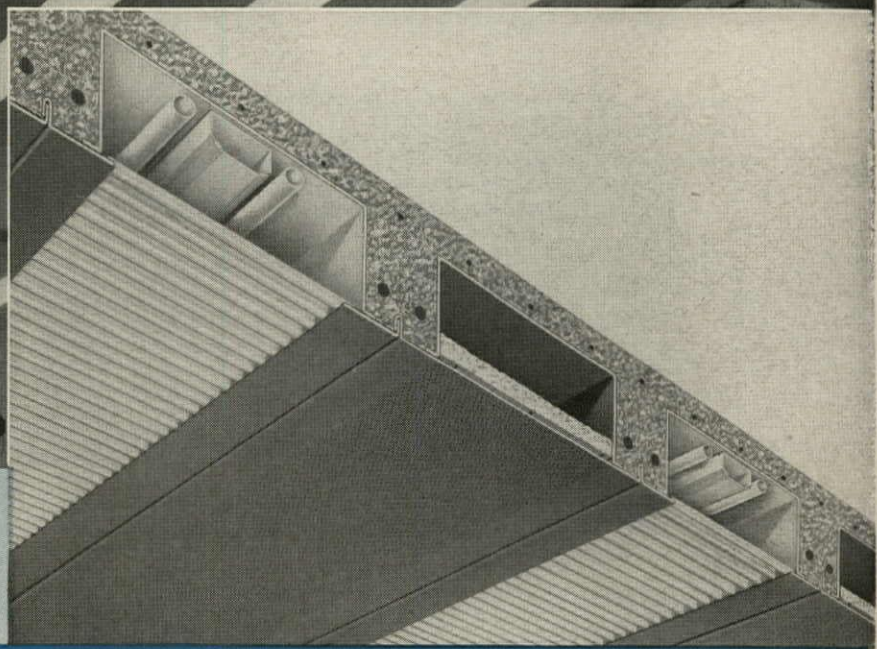
In conjunction with the observance of Cooper Union's founding 100 years ago, the trustees announced plans for an engineering building in the Greenwich Village section of New York. This new building of 92,000 sq. ft. will house the departments of civil, chemical, electrical, and mechanical engineering, and the department of physics. A special provision of the design is that each de-

partment's laboratories, classrooms and offices are grouped together on the same floor, with heavy equipment for the chemical, civil and electrical engineering departments in the basement. The separate wing in the foreground will contain two lecture rooms of 160 seats each. Harrison & Abramovitz were the architects, with Prof. Esmond Shaw of Cooper Union as associate.

ACOUSTICAL and TROFFER Ceiling



Illustrated above is the Ceiling of the Auditorium in the Eugenia Mettetal School, Detroit, Michigan. In this modern Grade School, Mahon Acoustical and Troffer Forms were employed to provide the Acoustical Treatment and Recessed Lighting facilities in 25 classrooms, the auditorium, 24 other special purpose rooms and offices, lobbies and all corridors of the first floor. Shreve, Walker & Associates Inc., Architects. Alfred A. Smith, Inc., Gen. Contrs.



INSULATED METAL WALLS

Three exterior patterns with a "U" Factor equivalent to or better than a conventional 16" Masonry Wall. Constructed up to sixty feet in height without a horizontal joint.



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Standard Double Rib, Wide-Flange Double Rib, and Long Span M-Decks, which can be furnished perforated and fitted to provide an efficient acoustical ceiling.



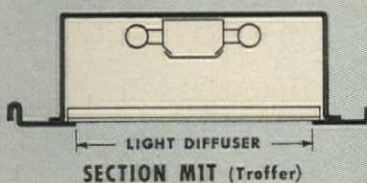
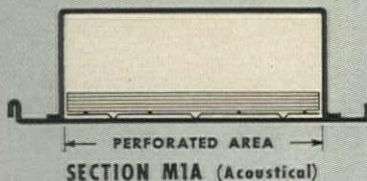
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Standard Manually, Mechanically or Power Operated Rolling Steel Doors and Grilles. Underwriters' Labeled Automatic Rolling Steel Fire Doors and Fire Shutters.

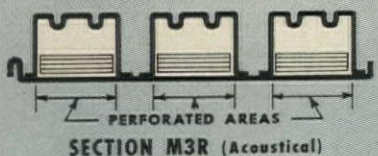
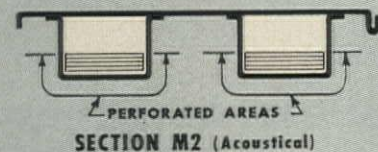
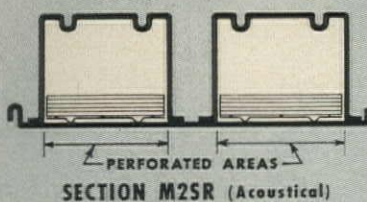
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for Structural Roofs and Acoustical Ceilings Combined

MAHON ACOUSTICAL and TROFFER FORMS



MAHON ACOUSTI-STRUCTURAL LONG-SPAN M-DECK SECTIONS



Mahon Acoustical and Troffer Forms provide an effective acoustical ceiling and recessed lighting as well as serving as the permanent forms for concrete joist and slab construction of floors and roofs. These are long-span units which are integrated with and supported by conventional concrete beams at each end. Only a minimum of temporary shoring is required at mid-span during pouring and curing of concrete.

This is permanent, fireproof construction which has a broad application in modern buildings . . . it is used extensively for school classrooms, auditoriums and in other rooms where an acoustical ceiling with recessed lighting is desirable. Either plastic or glass diffusers may be inserted in the Troffer unit.

M-Decks Serve as the Structural Unit, the Interior Finish Material and the Acoustical Treatment—all in One Package

Mahon Long-Span M-Deck Sections are designed and engineered to provide a structural roof and ceiling unit which may also include the acoustical treatment. These M-Deck Sections are ideal for long-span roof construction in such structures as auditoriums, armories, sports arenas and other buildings where it is desirable to eliminate roof purlins and span from truss to truss. This produces a neat, continuous flat metal ceiling surface—all or any percentage of which can be acoustically treated. If recessed lighting is desired, Troffer Sections can be included in this type of roof construction in any ratio to meet specific lighting requirements.

All Mahon Long-Span M-Deck Sections can be furnished with bottom metal perforated and sound absorbing material inserted to provide excellent acoustical ceilings. Noise Reduction Coefficients range up to .85 in Mahon Sections recommended for this use.

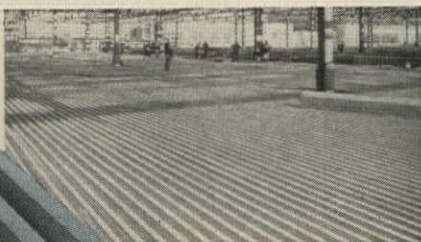
Mahon Acoustical and Troffer Forms, and all Mahon M-Deck Sections, are roll-formed from Galvanized, Structural Quality Steel. Exposed surfaces in ceilings can be readily painted to harmonize with the interior decor.

Some of these Mahon Forms and Structural Sections do not appear in the current Sweet's Files. Why not have a Mahon sales engineer call and bring you up to date on Mahon products now available for Floor, Roof and Ceiling Construction?

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BUILDING VOLUME: record 3rd quarter outlays total almost \$12.8 billion; public works prospects especially bright

In spite of financing difficulties, construction is pushing on to record heights. In September, the Commerce and Labor Depts. estimated, expenditures exceeded \$4.2 billion for the third consecutive month, to round out the most active calendar quarter on record.

Reaching a total of almost \$12.8 billion, July-September expenditures were 3% greater than outlays in the comparable 1955 quarter. They also reflected the greater midyear increase over 1955 activity than occurred earlier in the year: for the first nine months of 1956, total expenditures were still only 2% greater than during the same 1955 period.

In construction spending for the first three quarters of this year, the outstanding increases occurred in industrial building, up 29%, which together with a 13% gain in commercial building, and a 10% spurt in other categories, brought total private nonresidential outlays 17% ahead of comparable 1955 spending. Despite these substantial advances, private construction's total advance was less than 1% over 1955's first three quarters. The reason, of course, was the 9% slump in expenditures for new residential work.

Bright prospects. Aside from the gloom among homebuilders (whose predictions of a possible decline to 800,000 starts in 1957 were not accepted in all quarters), optimism among construction industry observers seldom ran higher. Commerce Dept. Construction Statistics Chief Walter W. Schneider made a personal forecast before the Producers' Council fall meeting, saying he expected next year's new construction outlays would probably exceed \$46.5 billion, and "may go as high as \$48 billion" under particularly favorable conditions (p. 21).

Reviewing this year's booming public construction (up 6% so far) and the outlook in this field for 1957, Schneider said: "It is possible this year's public volume might have been even greater had other demands on the money supply not been so

great. Nevertheless, despite spot bond money shortages, and other delays such as lags in planning and condemnations, the public awards and starts this year are also an encouraging signal for 1957. With municipal bond election approvals in 1955 setting a new high of \$2.9 billion, and in the first eight months of this year exceeding comparable approvals last year by 4%, can there be much doubt about our confidence in the future?"

"Contract awards for state-local construction in July set an all time monthly high, close to \$1 billion, and for seven months were 16% above the same period last year. . . . All in all it is difficult to see how 1957 public construction can fail to exceed the \$13.5 billion record expected this year by at least another \$1 to \$1.5 billion."

Building products companies boost outlays for new plants

Building material and equipment manufacturers are contributing their own share to this year's boom in new industrial plant construction.

Last month, for instance, Trane Co. announced plans to erect two new manufacturing plants, and two more structures to double its research and testing facilities, thus boosting to \$13 million its 1956

EXPENDITURES BY BUILDING TYPES

(millions of dollars)

	Sept. '56	1956	1955	%±
PRIVATE BUILDING				
Residential (nonfarm)	1,416	11,306	12,388	-9
Nonresidential	784	6,436	5,497	+17
Industrial	273	2,236	1,733	+29
Commercial	289	2,454	2,170	+13
Offices; lofts;				
warehouses	126	973	809	+20
Stores; restau-				
rants; garages..	163	1,481	1,361	+9
Religious	72	545	538	+1
Educational	49	394	358	+10
Hospitals; institutions	30	233	265	-12
Public utilities	480	3,744	3,391	+10
*PRIVATE TOTAL.	2,840	22,758	22,664	**

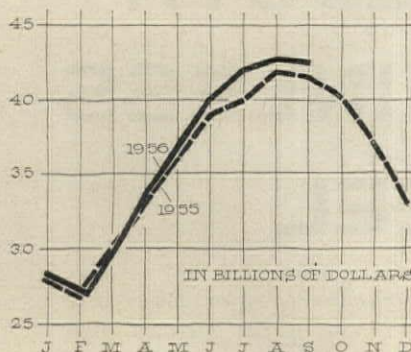
PUBLIC BUILDING

Residential	24	189	199	-5
Nonresidential	383	3,046	3,270	-7
Industrial	43	325	613	-47
Educational	229	1,909	1,844	+4
Hospitals; institutions	32	234	258	-9
Military	148	1,008	948	+6
Highways	615	3,780	3,328	+14
Sewer; water	123	950	819	+16
*PUBLIC TOTAL..	1,427	9,933	9,330	+6

***GRAND TOTAL...** 4,267 32,691 31,994 +2

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

**Less than one per cent.



TOTAL CONSTRUCTION EXPENDITURES

tember declined imperceptibly to \$4,267 million from their alltime record monthly high of \$4,279 million (revised) in August, according to Commerce and Labor estimates.

and 1957 building and expansion programs at LaCrosse, Wis. and Scranton plants.

At Lexington, Ky., work has been started on a 150,000 sq. ft., \$2 million plant (plus \$1 million for equipment) for the Square D Co., as part of a \$9 million expansion program this year that also includes new buildings in Milwaukee, Atlanta and Denver.

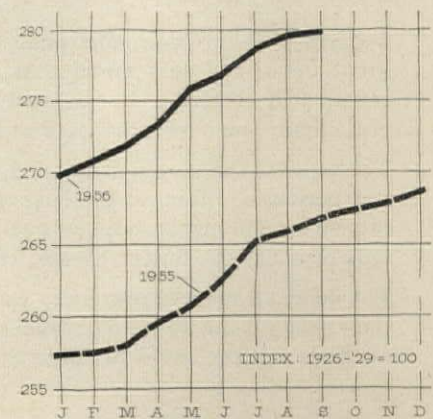
On a 285-acre site near Spartanburg, S.C., grading has been completed and erection of steel would soon start on a \$5 million, 500,000 sq. ft. vitreous enamel plumbing fixtures plant for the Kohler Co., of Kohler, Wis., scheduled to be ready for the start of production late next summer.

BUILDING COSTS: uptrend slowed temporarily in Sept.

In September, for the first time this year, there was a slight abatement in the steady upward movement of construction costs. While the Boeckh nonresidential index advanced only 0.1% from August to September (see chart), the Boeckh index for residential costs declined by 0.2%, and *Engineering News-Record's* building and construction cost barometers also each dropped 0.1%. The American Appraisal index, however, advanced 0.1% for the month.

For the quarter ended Sept. 30, the industrial building cost index of the Aberthaw Construction Co. of Boston advanced 4.8%, and the similar quarterly index of the Austin Co. of Cleveland moved up 2.8%.

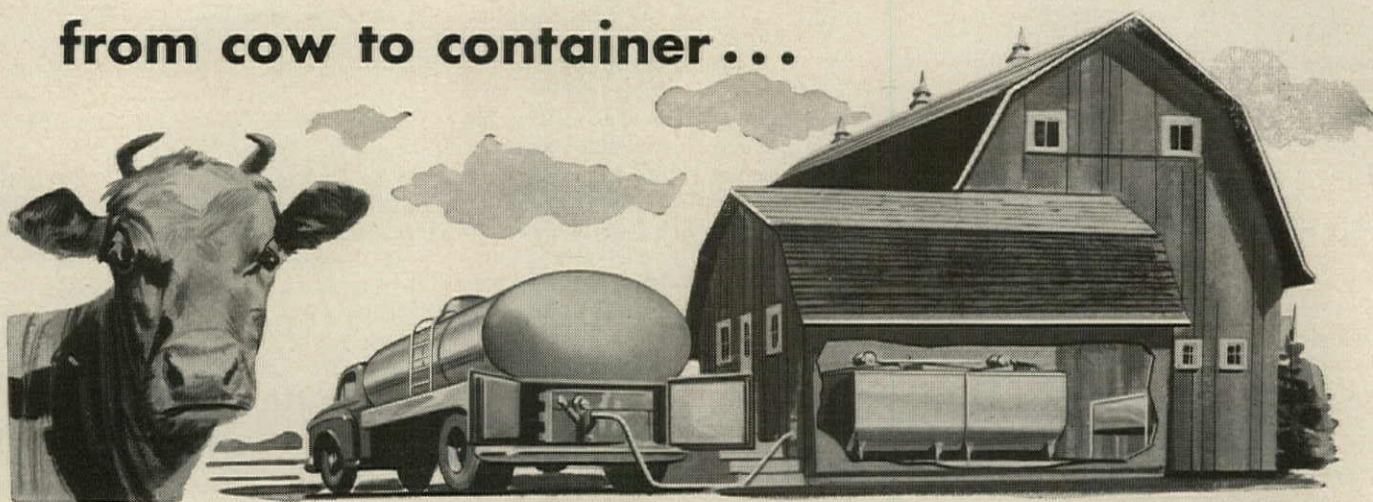
With an increasing number of industries committed to progressive wage increases periodically under long-term contracts, continued building cost increases are inevitable, declared Austin President George A. Bryant. "But most companies are going right ahead with expansion plans in spite of rapid rises in costs and interest rates," he added. "They recognize that new equipment and more efficient layouts and distribution techniques offer the only hope of combating long-term threats of inflation that are being built into more and more new wage contracts."



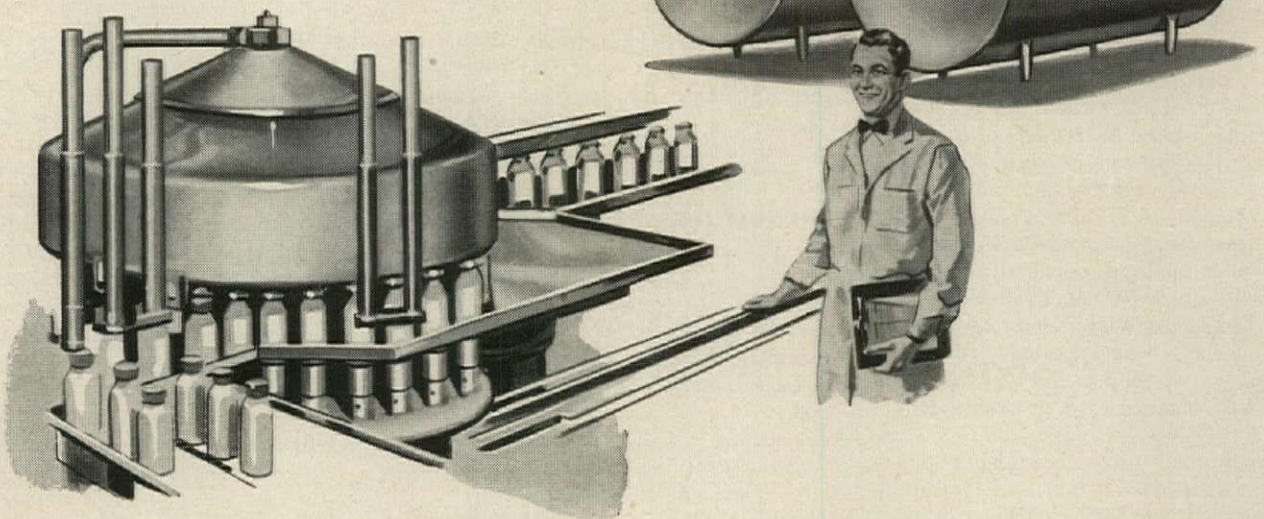
CONSTRUCTION COSTS for nonresidential buildings rose from 279.3 in August to 279.8 in September, an increase of 0.1% and the smallest advance registered since February-to-March, 1955, on the E. H. Boeckh index.

TRENDS continued on p. 32

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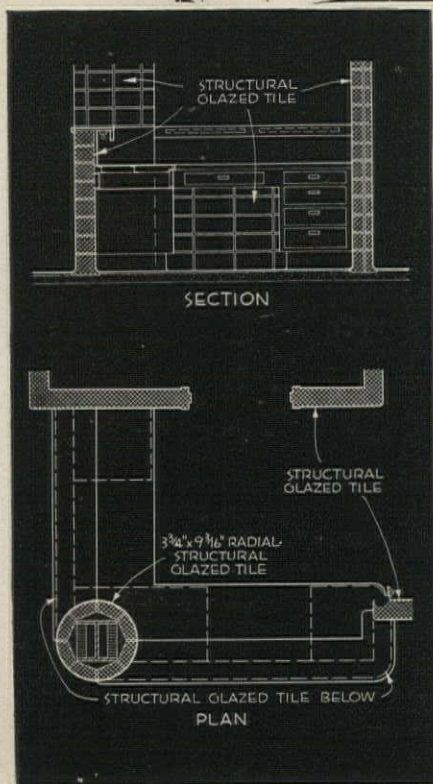
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BUILDING MONEY: continuing boom makes loans progressively tighter, complicates government lease-purchase program

There was no sign that the nation's economic boom was letting up—or that it would do anything but climb higher in 1957.

As a result, financing rates for building (and all other purposes) continued upward. The Treasury last month had to pay 3.024% to borrow 91-day money, its stiffest cost for short-term funds since the March, 1933 "bank holiday." The New York Federal Reserve reported that the average short-term rate New York banks charged business borrowers reached 4.14% at the end of September, the highest rate since Aug. 1932.

For the homebuilding industry, hard put to obtain all the funds it would like for maintaining sales with price-fixed (4½%) FHA and VA financing, the White House announced four minor credit policy changes for the benefit of "home buyers of modest means." The main one reduced down payments from 7% to 5% on houses sold for less than \$9,000 with FHA financing; the other three were technical changes in Fanny May and Federal Home Loan Bank regulations. But at the MBA convention in Chicago, HHF Administrator Albert Cole indicated the administration had no intention of exercising its authority to free FHA mortgages from this hampering price control. With FHA and VA rates currently the same, he explained, "I do not believe we could do anything about one without doing something about the other. Only Congress can take the kind of action that would be equitable." And the new Congress will not convene until January.

Lease-purchasing snagged. If homebuilding was dissatisfied with the scant credit relief it obtained from the administration, it could take some grim satisfaction observing the plight of a federal agency also having its huge building program seriously impeded by high money costs. This was the General Service Administration's extensive lease-purchase construction pro-

gram, and the stumbling block was the Budget Bureau's 4% ceiling on its financing.

No bids were received for the financing of a \$1.6 million Post Office-Court House in Council Bluffs, Iowa, and a \$12.3 million communicable diseases center in Atlanta when offers were invited in September. And to complicate matters, in each case alternate type bids for construction alone, and for both construction and financing together, exceeded available funds for each job.

Last month GSA officials were trying to negotiate special solutions in each of these cities and optimistically proceeding with plans to advertise for bids on about a dozen more of these large lease-purchase projects by year's end. Public Buildings Com-

missioner F. Moran McConihe reiterated the government position that its lease-purchase financing contracts should not provide for yields exceeding 4%, because they should be regarded "almost on a par with government bonds"—the same argument housing officials have sometimes used ineffectively when yield-motivated lenders were spurning fixed-rate FHA and VA loans in favor of other investments at rates that had become relatively more attractive.

McConihe also detailed what he regards as special advantages of federal lease-purchase contracts over mortgages or building ownership: "The investors have the full faith and credit of the US, and have none of the servicing work they would have in the case of mortgages. Neither are they required to operate, or maintain the buildings, or even supervise the job during their construction."

But how good a salesman he was would be much clearer by January.

BUILDING MATERIALS: lumber, wood product prices slide again; cement prices given second boost, face continued pressure

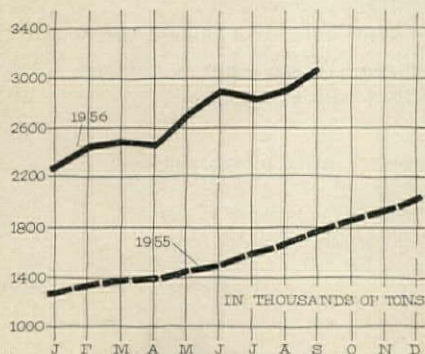
Steadily declining lumber and wood products prices were mainly responsible for pulling down the BLS index of average wholesale prices for building materials in September to 131.2, an 0.2% decline from its August reading of 131.5.

Many Northwestern plywood producers, who have seen their prices tumble from \$90 per thousand square feet in March to \$67 in September, were ready to shut down before lowering their prices any farther. Mainly they blamed curtailed homebuilding for the slump in plywood and other lumber and wood products prices, but a considerable increase in production capacity also had contributed to their difficulty.

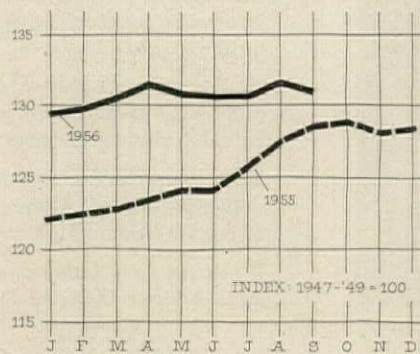
Moving upwards were wholesale paint prices, boosted 25¢ to 30¢ a gallon, or 3

to 4.5% last month, and cement jumped 15¢ to 20¢ per barrel in most areas, its second general increase this year. In most places it is now about \$3.20 per barrel, in a few as high as \$3.40.

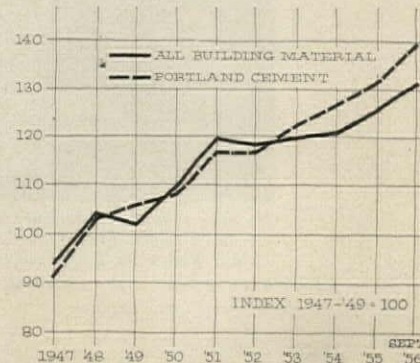
Pressure on cement supplies and prices would increase sharply as the huge federal highway construction program got into stride. For highways alone, a Bureau of Public Roads-Commerce Dept. study reported, cement requirements are expected to rise from about 60 million barrels annually last year to nearly 115 million annually by 1964. "The need for almost 50 million barrels more per year," said this study, "should be met by increases in productive capacity which are now planned and underway, and which will increase the industry's total capacity from 311 million barrels per year at the end of 1955 to 381 million by the end of 1957, and 392 million by the close of 1958."



STRUCTURAL STEEL unfilled orders on Sept. 1 climbed to a new peak of 3,076 thousand tons, according to the American Institute of Steel Construction. The portion scheduled for fabrication through Dec. 31 was approximately 1,191,000 tons.



BUILDING MATERIALS PRICES changed direction and declined very slightly in September for the second time this year on the index of average wholesale prices compiled by BLS. From 131.5 (revised) in August, this index declined to 131.2, a dip of 0.2% caused mainly by continued reductions in lumber and plywood prices. Minor increases were recorded in prices for heating equipment, metal doors, sash and trim.



PORTLAND CEMENT average wholesale prices, as compiled by BLS, have advanced more than the index for all building materials prices since 1952. In September the all-materials index stood at 131.2, the Portland cement index alone at 139.8.

100,000 amps gets a new boss— the Westinghouse Tri-Pac breaker

The Westinghouse Tri-Pac breaker is the smallest protective device that can be used where 100,000 amps can be poured into faults. It combines the inherent advantages of both the molded case breaker and fusible current limiters to positively protect electrical circuits—throughout the range from overloads to fault currents that could build up to 100,000 amperes, if not stopped.

Co-ordinated triple circuit protection—thermal, magnetic, and current limiting—in one compact breaker. At much less cost than larger air circuit breakers of equivalent ratings and with more safety and convenience than switches combined with fusible elements. That's why Tri-Pac offers the most practical and economical solution to the constantly increasing interrupting requirements of network systems and those fed by large transformers.

The breaker trip portion of Tri-Pac handles overloads and moderate faults—eliminating fuse replacement headaches and costs. On higher currents, the current limiters in Tri-Pac trip faster, insuring the prompt protection required at those high currents. In Tri-Pac the current limiters and the breaker are co-ordinated so that the current limiter will trip at and above a point slightly under the interrupting capacity of the breaker. Below that point, the limiters remain undamaged, letting the breaker do the work.

Fault single phasing—a drawback of fuses—is averted by Tri-Pac breakers. The blowing of a current limiter actuates the breaker trip bar and all poles of the breaker open simultaneously. And when a high fault current is interrupted, indicating buttons on the current limiters clearly designate the troubled phase.

← NETWORK SYSTEM PROTECTION

With today's increased use of network systems, the possibilities of 100,000-amp fault currents are not uncommon. New Tri-Pac breakers insure positive protection against all system current faults—large or small—at a new and greater economy.

HERE'S MORE INFORMATION ON TRI-PAC

A Westinghouse sales engineer can show you additional reasons why the new Tri-Pac breaker is your best buy for powerful circuit system protection. Call him today.

J-30215-X

WATCH WESTINGHOUSE!

WHERE BIG THINGS ARE HAPPENING FOR YOU!

DATES

"Louis Sullivan and the Architecture of Free Enterprise," special exhibit, through Dec. 2, Art Institute, Chicago

"New York City School Buildings: 1806-1956," special exhibit through Nov. 12, Metropolitan Museum of Art, New York City

Smithsonian Institution Traveling Exhibits, Nov. 4-25: "Contemporary Finnish Architecture," George Thomas Hunter Gallery of Art, Chattanooga, Tenn.; "A Half Century of Architectural Education," Dept. of Architecture, Univ. of Florida, Gainesville; "San Francisco Bay Region Architecture, Lamont Art Gallery, Exeter, N.H.; "Landscape Architecture Today," Dept. of Architecture, Univ. of Kansas, Lawrence; "German Architecture Today," Dept. of Architecture, Pennsylvania State Univ., University Park

19th Ceramic National, exhibition open to architects, sculptors, enamelists, and potters, Nov 4-Dec. 2, Museum of Fine Arts, Syracuse

AIA Regional Meetings: Florida, Nov. 8-10, "Planning for the Automobile," Seville Hotel, Miami Beach; Mid-Atlantic and Penn. Society of Architects, Nov. 14-16, Hershey Hotel, Hershey, Penn.

National Assn. of Real Estate Boards, annual convention, Nov. 11-16, Jefferson Hotel, St. Louis

American Concrete Pressure Pipe Assn., annual convention, Nov. 11-18, Castle Harbour Hotel, Tucker's Town, Bermuda

American Public Health Assn., annual convention with special reports on municipal planning, Nov. 12-16, Convention Hall, Atlantic City, N.J.

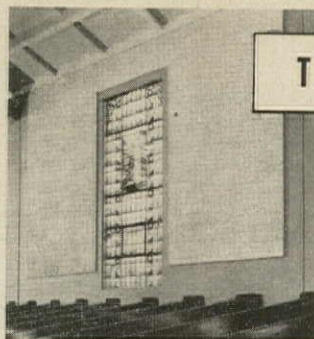
Structural Clay Products Institute, annual convention, Nov. 12-14, Boca Raton, Fla.

National Paint, Varnish and Lacquer Assn., annual convention, Nov. 12-14, Statler Hotel, Los Angeles

National Hotel Exposition, Nov. 12-16, Coliseum, New York City

"Windows and Glass in the Exterior of Buildings," conference conducted by Building Research Institute, Nov. 14-15, US Chamber of Commerce Building, Washington, D.C.

continued on p. 47



THE PANEL: FORESTONE

First Baptist Church
Compton, California
Architect:
Denver Markwith
Contractor:
Buttress and McClellan
Acoustical Contractor:
Coast Insulating Products

Economical Forestone is available through the following
Simpson Certified Acoustical Contractors:

ALABAMA

Badham Insulation Company, Inc.,
Birmingham
Stokes Incorporated, Mobile

ARIZONA

Fiberglas Engineering & Supply, Phoenix
Hall Insulation & Tile Co., Tucson

CALIFORNIA

Coast Insulating Products, Los Angeles
Cramer Acoustics, Fresno and
San Francisco
John K. Haas Company, San Diego
H. W. Rivett Company, Sacramento

COLORADO

Construction Specialties Company, Denver

CONNECTICUT

Wilson Construction Company, Hartford

FLORIDA

Anning-Johnson Company, Miami

GEORGIA

Anning-Johnson Company, Atlanta

IDAHO

Fiberglas Engineering & Supply, Boise
Idaho Acoustical & Building Specialties
Co., Boise

ILLINOIS

General Acoustics Company, Chicago
George S. Grimmett & Company,
Champaign, Decatur, Mattoon and
Springfield

INDIANA

The Baldus Company, Inc., Fort Wayne
E. F. Marburger & Son, Inc., Indianapolis
Parkinson Brothers, Evansville

IOWA

Lamoreaux and Associates, Inc.,
Marshalltown

KANSAS

Ecoff & Co., Wichita

KENTUCKY

Atlas Plaster & Supply Company, Louisville

LOUISIANA

King & Co., Inc., New Orleans

MARYLAND

Lloyd E. Mitchell, Inc., Baltimore

MASSACHUSETTS

Acoustical Contractors, Inc., Brighton

MICHIGAN

Detroit Acoustical Contracting Co., Detroit
Grand Rapids Acoustical Co., Grand Rapids
and Lansing

MINNESOTA

Dale Tile Company, Minneapolis

MISSISSIPPI

Stokes Incorporated, Jackson

MISSOURI

Hamilton Company, Inc., St. Louis
B. J. Lutz, Inc., Kansas City
Midwest Services, Inc., Joplin

NEBRASKA

Kelley Asbestos Products Co., Omaha

NEW JERSEY

Connor & Company, Inc., Kenilworth
Kane Acoustical Company, Inc., Fairview

NEW MEXICO

Fiberglas Engineering & Supply,
Albuquerque

NEW YORK

The Cronin Acoustical Company,
Stony Point
Davis Acoustical Corp., Albany
Davis-Fetch & Company, Inc., Buffalo and
Jamestown
Robert J. Harder, Inc., Lynbrook, L. I.
James A. Phillips, Inc., New York
Rochester Davis-Fetch Corp., Ithaca and
Rochester

NORTH CAROLINA

The Bonitz Insulation Co., Greensboro and
Goldsboro
Bost Building Equipment Company,
Charlotte

OHIO

Acoustical Contracting & Supply Corp.,
Cleveland
Cincinnati Floor Company, Cincinnati
Riethmiller Acoustic Company, Columbus

OKLAHOMA

Denman Floors Company, Oklahoma City
Midwest Marble & Tile Company, Tulsa

OREGON

Commercial Tile Company, Eugene
R. L. Elfstrom Company, Salem
Johnson Acoustical & Supply Co., Portland

PENNSYLVANIA

Selby, Battersby & Company, Philadelphia
Standard Floor Company, Pittsburgh

SOUTH CAROLINA

Bonitz Insulation Co. of South Carolina,
Columbia

TENNESSEE

Alexander Marble & Tile Company, Memphis
Anning-Johnson Company, Knoxville
Nelson Baird Company, Inc., Nashville

TEXAS

Blue Diamond Company, Dallas
Builders Service Company, Fort Worth
General Supply Company, Inc., Houston
Houser Resilient Floors Co., El Paso
Raymond Rambo Materials Co.,
Corpus Christi
Rufus A. Walker & Co., San Antonio

UTAH

Utah Pioneer Corporation, Salt Lake City

VIRGINIA

Anning-Johnson Company, Alexandria
Manson-Smith Company, Inc., Norfolk and
Richmond

WEST VIRGINIA

Asbestos & Insulating Co., Charleston

WASHINGTON

Elliott Bay Lumber Company, Seattle
Fiberglas Engineering & Supply, Spokane

WISCONSIN

Building Service, Inc., Appleton and
Milwaukee

CANADA

F. Drexel Company Limited, Calgary,
Alberta, Vancouver, B. C. and Victoria,
B. C.
Hancock Lumber Limited, Edmonton,
Alberta

HAWAII

Hawaii Builders Supply Company, Limited,
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*The Contractors above also install these
other Simpson Acoustical Materials:
Hollokore Perforated Acoustical Tile
Regular and Scatter-drilled, Acoustical
Roof Slab, Forestone Ceiling Board,
Fissured Mineral Tile, Metal Acoustical
Units, Perforated Hardboard, Perforated
Cement Asbestos Board.*

SIMPSON LOGGING COMPANY

SHELTON, WASHINGTON

AC-648

THE PANEL: FORESTONE



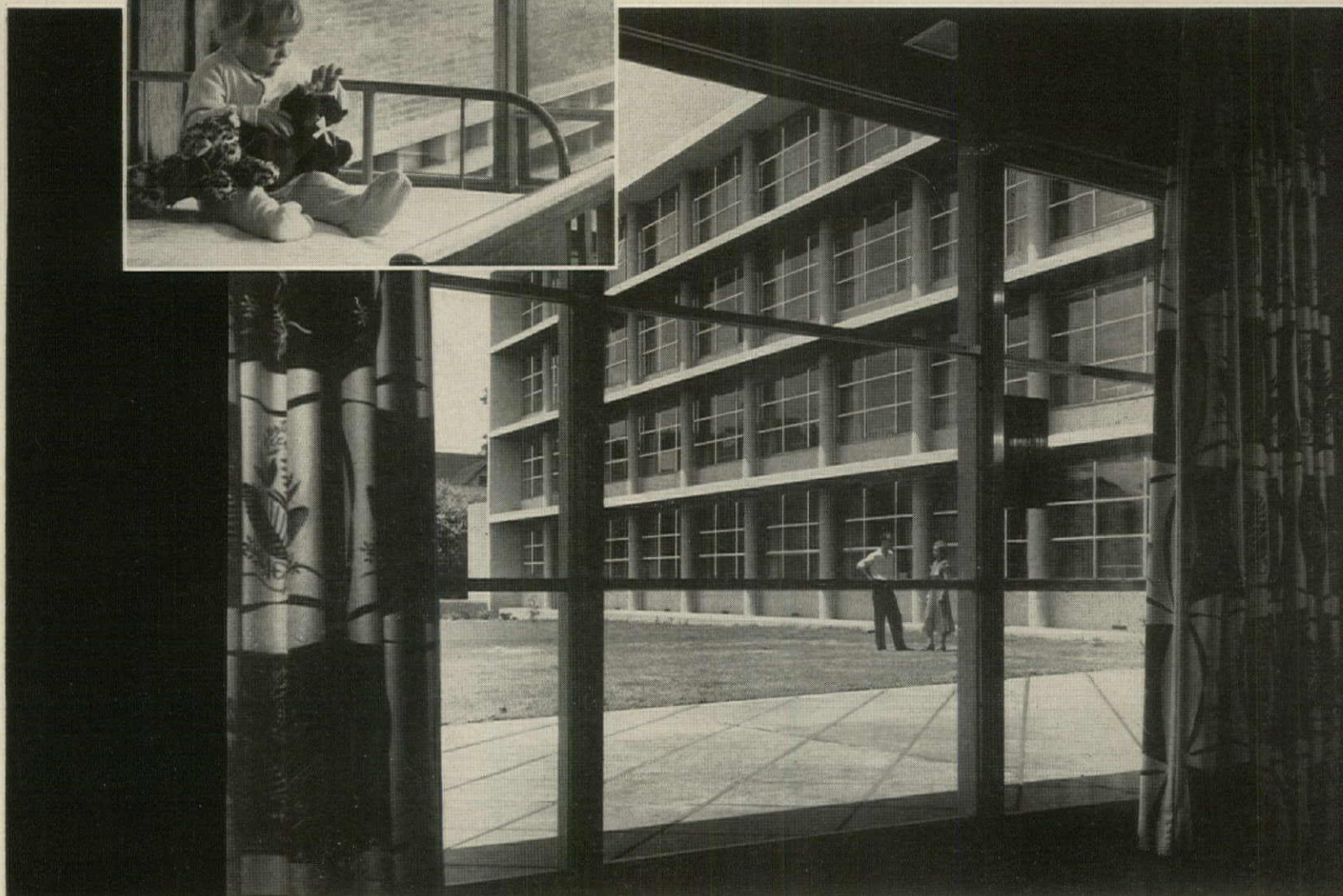
FORESTONE: Fissured beauty at far less cost than mineral acoustical tile.

Ask one of Simpson's skilled acoustical contractors (listed on opposite page) for FREE estimate.





"SHUT-INS" ARE LET OUT



Le Bonheur Children's Hospital, Memphis, Tenn. Architects: J. Frazer Smith and Associates, Memphis.



Thermopane
INSULATING GLASS

NOW ON A NORMAL DELIVERY BASIS

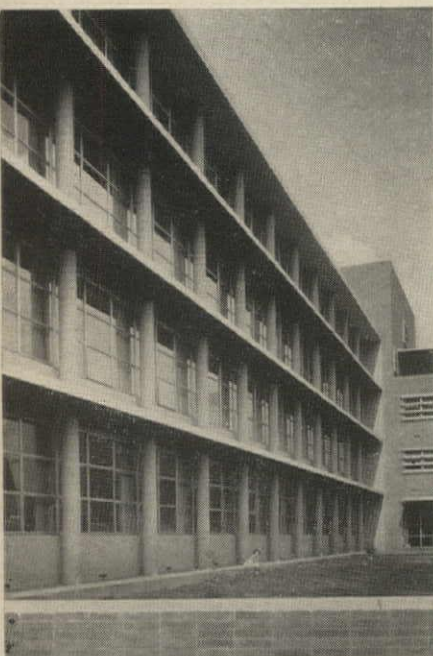
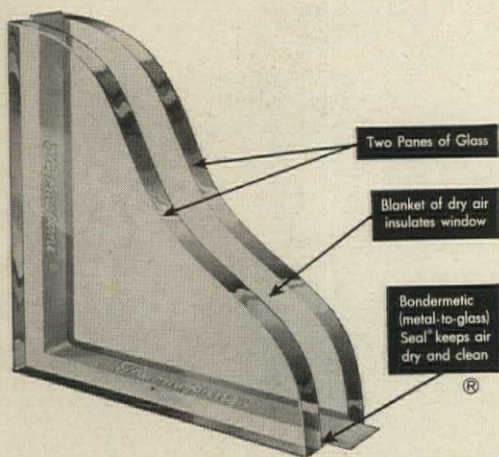
LIBBEY • OWENS • FORD... *a Great Name in Glass*

WITH THERMOPANE®...

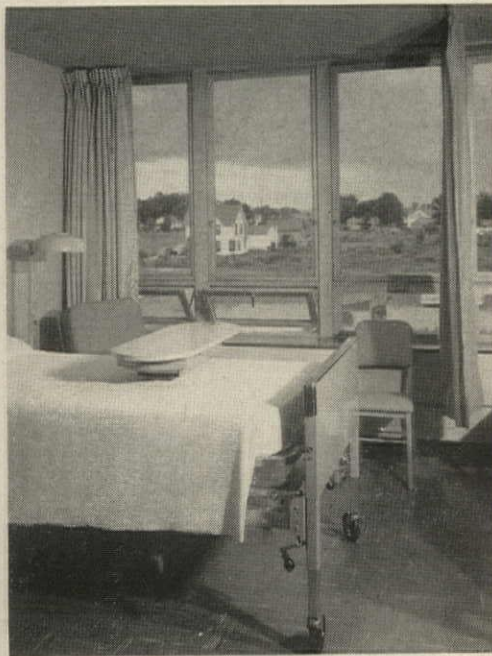
And Maintenance Efficiency Increased

"*Thermopane* insulating glass appealed to us", states Architect Zeno L. Yeates of J. Frazer Smith and Associates, "because it permitted an open, airy plan which admits maximum light and sunshine with a minimum loss of heat in winter and air-conditioned comfort in summer. It also decreases the amount of condensate."

Thermopane reduces drafts near windows, deadens outside traffic noise to further aid patients' comfort. Want to know more? Read column at right.



Exterior view of Le Bonheur Children's Hospital shows large expanses of *Thermopane* insulating glass.



Rockford (Ill.) Memorial Hospital is glazed with 2,178 *Thermopane* units. Architects: Perkins & Will, Chicago; Associated Architects: Hubbard & Hyland, Rockford, Ill.

Thermopane FACTS

Technical information is available to help the architect and engineer design for the most effective and economical use of *Thermopane* insulating glass. It is all in our *Thermopane* Manual which will be sent on request. (See coupon below.)

The following brief data are excerpts from the manual:

ADVANTAGES OF THERMOPANE

1. Savings in fuel
2. Increased usable room space
3. Reduction of condensation
4. Reduced air-conditioning initial equipment needs and operating costs
5. Quieter interiors

INSULATING EFFICIENCY

Thermopane with $\frac{1}{4}$ " air space— $U = .65$

Thermopane with $\frac{1}{2}$ " air space— $U = .58$

Single $\frac{1}{4}$ " glazing— $U = 1.15$

KINDS OF GLASS

Thermopane is made with plate glass for maximum clarity, or with sheet glass when economy is main consideration. Units $\frac{1}{2}$ " thick have $\frac{1}{4}$ " air space, units 1" thick have $\frac{1}{2}$ " air space. *Thermopane* can also be made with Heat Absorbing Glass, *Tuf-flex*® tempered plate glass, or several types of Blue Ridge Patterned Glass.

STANDARD SIZES

More than 90 standard sizes are made to permit economy in use with most popular types of sash. The *Thermopane* Manual provides a list of sash types and standard sizes for them.

OTHER DATA IN THERMOPANE MANUAL

Heat Loss Data
Warm Side Surface Temperatures
Condensation Points
Sound Insulation
Light and Solar Radiation Transmittance
Reduction of Cooling Load
Strength of *Thermopane*
Wind Load
Weight Per Sq. Ft.
Glazing Instructions
Framing Details
Suggested Specifications

Thermopane is sold by local L·O·F Glass Distributors and Dealers (listed under "Glass" in the yellow pages).



Libbey-Owens-Ford Glass Co., Dept. 51116

608 Madison Ave., Toledo 3, Ohio

Please send me a copy of the *Thermopane* Manual

Name _____
(Please Print)

Street _____

City _____ State _____



how to bring the aisle out on the sidewalk

This store puts no visual barrier between its prospects and its merchandise. It looks easy to enter, so more people do.

Smart design. Smart merchandising. And satisfaction to both designer and owner.

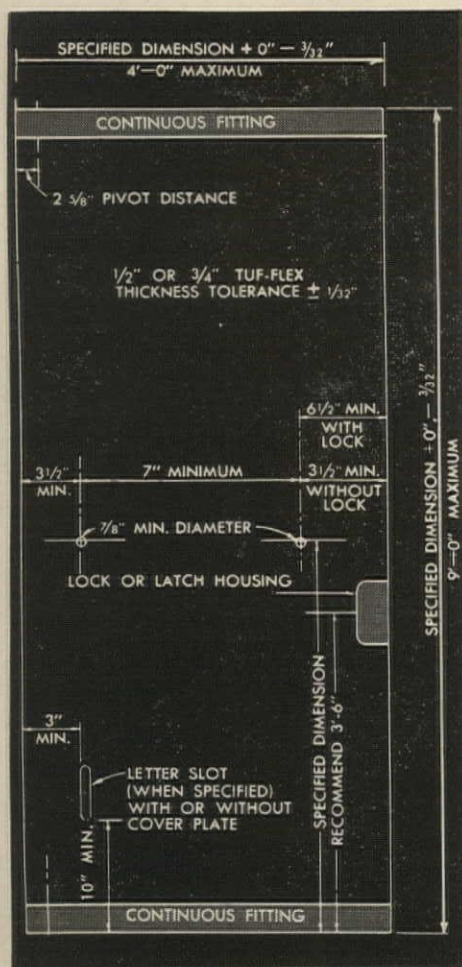
Tuf-flex® Doors are rugged . . . 3 to 5 times stronger than regular plate glass of the same thickness. They're now available in good supply.

For further information, read the column at the right. To order, call your L·O·F Glass Distributor or Dealer (listed under "Glass" in phone book yellow pages).



TUF · FLEX DOORS

LIBBEY · OWENS · FORD *a Great Name in Glass*



TUF-FLEX DOOR FACTS

Here is a typical *Tuf-flex* Door showing design limitations and hardware.

Standard sizes:

30" x 84"	29 ¹³ / ₁₆ " x 83 ¹¹ / ₁₆ "	*29 ¹³ / ₁₆ " x 83 ³ / ₁₆ "
36" x 84"	35 ¹³ / ₁₆ " x 83 ¹¹ / ₁₆ "	*35 ¹³ / ₁₆ " x 83 ³ / ₁₆ "
42" x 84"	41 ¹³ / ₁₆ " x 83 ¹¹ / ₁₆ "	*41 ¹³ / ₁₆ " x 83 ³ / ₁₆ "

*Used with threshold

For complete information, mail the coupon below.

Dept. 34116

Libbey-Owens-Ford Glass Company
608 Madison Avenue, Toledo 3, Ohio

Send me *Tuf-flex* Door Booklet—TF-1.

Name _____
(Please Print)

Address _____

City _____ State _____

DATES *cont'd.*

American Society of Mechanical Engineers, annual meeting, Nov. 25-30, Hotels Statler and McAlpin, New York City

American Municipal Assn., annual meeting, Nov. 25-28, Park Plaza-Chase, St. Louis

National Exposition of Power and Mechanical Engineering, Nov. 26-30, Coliseum, New York City

American Association of State Highway Officials, annual meeting, Nov. 27-30, Traymore Hotel, Atlantic City, N.J.

National Warm Air Heating & Air Conditioning Assn., annual convention and committee meetings, Nov. 27-30, Netherland Plaza Hotel, Cincinnati

Society of the Plastics Industry, Inc., Sheeting and Coated Fabrics Division Conference, Dec. 4-5, Commodore Hotel, New York City

Modern Builders Conference, sponsored by Armour Research Foundation of Illinois Institute of Technology, Dec. 6-7, Prudential Building, Chicago

Society of Plastics Engineers, Inc., annual technical conference, Jan. 16-18, Hotel Sheraton-Jefferson, St. Louis

American Institute of Electrical Engineers, general meeting, Jan. 21-25, Hotel Statler, New York City

Society of Architectural Historians, annual meeting, Jan. 24-26, Detroit Institute of Arts, Detroit

Plant Maintenance & Engineering Show, Jan. 28-31, Public Auditorium, Cleveland

Industrial Heating Equipment Assn., Jan. 28-29, Washington, D.C.

American Road Builders' Assn., annual convention, Jan. 28-Feb. 2, Amphitheater, Chicago

American Society of Heating and Air-Conditioning Engineers, Inc., annual meeting and exposition, Feb. 25-Mar. 1, Chicago

International Heating and Air Conditioning Exposition, Feb. 25-Mar. 1, Amphitheater, Chicago.

More
Usable Space
in the Very
Same Place!



with

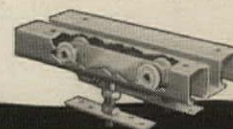
Kennatrack®
SLIDING DOOR HARDWARE

SLIDING DOOR HARDWARE

Plan more room in every room the Kennatrack way. Kitchen, bedroom, bath — all through the house Kennatrack's complete line answers every need.



Take the guesswork out of Sliding Door Installations. Select the right hardware for every interior use from Kennatrack's easy-to-use Buyer's Guide. Write for your free copy.



Kennatrack®
CORPORATION
ELKHART, INDIANA
In Canada: Toronto, Ontario



WINDOW TREATMENT IN A HOSPITAL

...BUILDS PATIENT MORALE

ONE WHOLE WALL OF EVERY ROOM IS MADE INTO A PICTURE WINDOW BY COMBINING CECO-STERLING ALUMINUM DOUBLE-HUNG AND FIXED WINDOWS . . .

The therapeutic value of sunshine and view had much to do in guiding Pereira & Luckman, planners, architects and engineers of Los Angeles and New York City, in designing the Grossmont District Hospital. To give patients a better outlook they made the whole side of each room into a wall of glass—a picture window bringing in sunshine and acres of view.

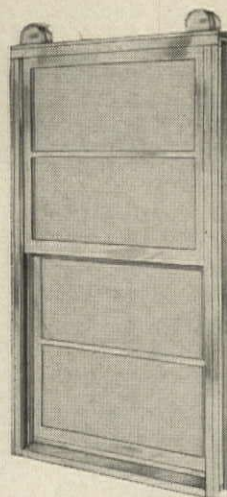
Ceco-Sterling Aluminum Double-Hung and Fixed Windows accomplished the desired effect. Maximum glass was possible because of slender sleeving mullions and narrow sash sections. And important, too, was the tight weather-seal provided by Ceco Windows. On your next building project, consult Ceco Engineers. They will help you make effective use of metal building products.

CECO STEEL PRODUCTS CORPORATION

Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 West 26th Street, Chicago 50, Illinois

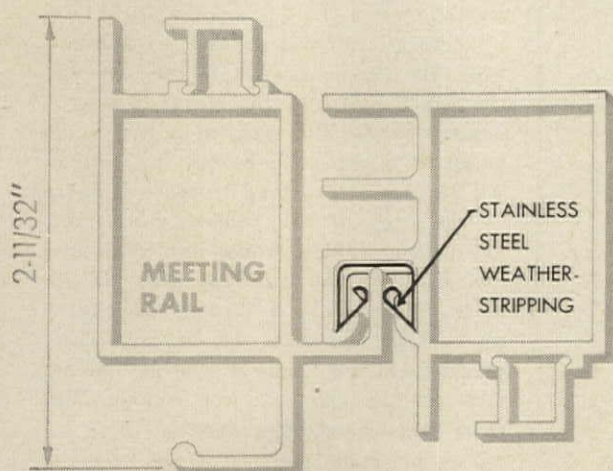
IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

Windows, Screens and Doors / Ceco-Meyer Steelforms / Concrete Reinforcing / Steel Joists / Metal Roof Deck / Metal Lath

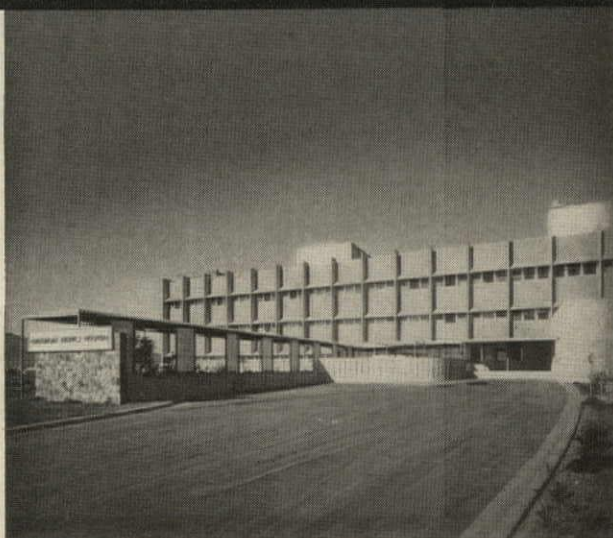


There's minimum air infiltration with the use of Ceco-Sterling Double-Hung Monumental and Commercial Windows, Series 200-B. That's because the sash float on stainless steel weather stripping, assuring tight, freely operating, vertical sliding windows. They operate silently, so necessary in hospital windows.

Front elevation of Grossmont District Hospital, San Diego, California presents interesting pattern of light and shade, with Ceco-Sterling Aluminum Double-Hung and Fixed Windows and Screens providing echo accents for the main motif. Pereira & Luckman, planners, architects and engineers.



Note the heavy extruded box sections for rugged performance, and the double-contact stainless steel weather stripping for tightness. Similar weather strip at jambs provides a spring cushion contact, holds sash clear of frame for easy sliding.



The sweep and pattern of the window treatment lend stately drama to Grossmont. Visors over the windows and right-angle fins control glare while admitting abundant light.

what's **your** garbage problem?



Assem. Model HC-4-9-18 shown

there's a **WASTE KING** for every School need!

It's a fact that messy garbage cans take up space...slow down the work of cooks and dishwashers...cost money to buy, empty and clean...invite loss of silver...cause odors and attract vermin.

It's a fact too, that regardless of what garbage problem you have, an automatic Waste King Pulverator can solve it more efficiently and economically than any other method.

You get more from **WASTE KING!**

1. Dependability. Rugged design and efficient operation proved in over 30,000 commercial installations. Years of trouble-free operation.

2. Superior Engineering. All models designed to give more grind per horsepower than any other make. Featuring anti-jam action, clogproof design and "Hush-Operation."

3. Experience. Waste King, pioneer and world's largest manufacturer of commercial garbage disposers.

4. National Service. Expert factory service agencies in all principal cities. No shut-down worries.

Various models grinding from 200 pounds to over 2,000 pounds per hour. Ask your dealer to estimate your volume and recommend Waste King models needed.

Get the facts now!
Send for free Literature.



WASTE KING CORPORATION

3301 Fruitland Ave., Los Angeles 58, Calif.

ARR8-9



Models for Restaurants, Hotels, Hospitals, Schools and Institutions.

(SOLID)

It is with great enthusiasm and some inaccuracy that most general consumer magazines examine our industry. One weekly took an editorial look at "Building on Manhattan" not long ago, complete with color photograph on the cover showing steelworkers aloft, etc. An architect friend, Bob Bien, read this story with considerable interest. "Even rock-solid lower Manhattan resounds to the roar of the riveter," it said.

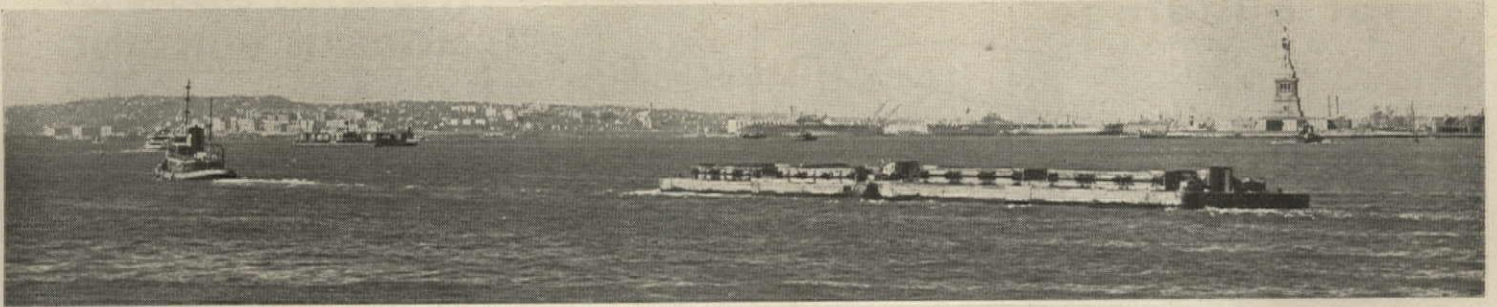
Bien sighed. His firm has designed a large slice of the big postwar buildings on Manhattan, and is just beginning a new office building on William Street. They have found they'll have to push piles down through 96' of soupy subsoil to find a good rock base. And recently they completed a building on 47 St. between Fifth and Sixth; an underground stream complicated the foundation there. "Rock-solid," he said. "You writers."

(THE PAST)

One of the side problems of the immense amount of demolition going on in Manhattan recently to make way for new, bigger, taller, deeper structures (boom, boom, boom went the big bass building index) has been a problem of disposing of the old brick and other debris. For decades the grateful recipient of all old fill in New York City was the city or state (the East River Dr., for instance, is built on it), but they have been surfeited recently. Some material is salvaged for reuse, of course, but the cost of salvaging is frequently higher than the worth.

There is always a solution on Manhattan. The classic answer to this one was the establishment by the Moran Towing & Transportation Co., Inc., of a new dump board at E. 37th St. on the East River. All day the contractors' trucks rumble up to the edge of the chutes, yawn their gates, drop rubble, whine into gear, and roll back to the building sites to get more. Periodically a Moran tug churns up to 37th St., takes one of the barges of debris in tow, pulls it way out to sea, and lets the fish have the contents—all those winesoaked old mansions, those intricate old stone façades of the twenties, teens and tens, back when the *swami* of real estate was not Zeckendorf, but Fred F. French. There is no ceremony when the barge drops its cargo out there, several miles offshore (shown, en route, above). For all anyone knows, the rubble may be

PARENTHESES)



dropping dreamlike through the water and landing on Atlantis with a thump, breaking ivory windows. The Moran Co. charges contractors about 90¢ per cu. yd., truckload measurement, to dispose of the past—little enough.

(HEATING)

As good stonemasons slowly evaporate from the construction scene, the iron stove has become a charmingly anachronistic part of modern architecture. Franklin Stoves are favorites, and some of the old pot-belly stoves have become sentimental collectors' items. Here is the latest, from France, with piping for Celtic music rooms.



(P. R.)

We have an architect friend who has, he says, a recurring dream about being in a comic strip. He feels a string in his mouth, and looks up and sees that it is trailing a balloon emblazoned with his innermost thoughts. They all have exclamation points after them. For some reason this embarrasses him.

Here is something that might curdle

this reticent architect, but probably is nonetheless effective public relations—a comic strip from the *Texas Architect* by

David C. Baer, II, titled *Jeff Johnson, Architect*. (Or, *John's Other Entablature?*)—W.McQ.

Jeff Johnson, Architect

By David C. Baer, II



© TEXAS ARCHITECT

for buildings

Designed
to do business

Specify **STANLEY** magic door controls



Automatic door openings make it easy and pleasant to do business with this laundry . . . give it an edge over competition!

The clients for whom you design stores, banks, restaurants, hotels, and other commercial buildings, will appreciate this automatic, functional feature that makes buildings more profitable for owner and tenant.

Improve property values and increase utility of buildings by providing for Stanley Magic Door Controls in construction plans and specifications.

Without obligation, call in the Stanley Representative nearest you to make recommendations for your next business building. Mail coupon for informational literature on the Magic Carpet Control and the Magic Eye Control (photoelectric).



Albert B. Adelman, president of the Adelman Laundry (above), Milwaukee, Wisconsin, says of his establishment's Stanley Magic Carpet Controls " . . . the comments from our customers have been most pleasing. The convenience . . . as well as the safety are other important factors."

ARCHITECT:
Grassold-Johnson & Associates
Milwaukee, Wisconsin

INSTALLATION CONTRACTOR:
Jed Products, Royal Oak, Michigan

STANLEY

Magic Door
CONTROLS

REPRESENTATIVES
IN PRINCIPAL CITIES

THE STANLEY WORKS, MAGIC DOOR DIVISION
Dept. K, 1002 Lake Street, New Britain, Conn.

Gentlemen: Please send me complete information about Stanley Magic Door Controls.

Name _____
Position _____
Firm _____
Address _____
City _____ Zone _____ State _____

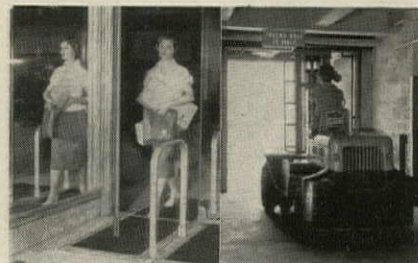
STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

INS AND OUTS OF MODERN BUILDING

There are two elements of a building used by every building occupant and visitor . . . entrances and exits. Used the most, they should be the most attractive . . . the most functionally efficient. So it's good news for



architects that the Magic Door Division of The Stanley Works, New Britain, Conn. has labored and brought forth the perfect combination of beauty and functional efficiency in automatic door controls . . . Stanley Magic Carpets in a range of weather and traffic-resistant colors to beautify as they serve. For more than 25 years Stanley Magic Door Controls have been famous for functioning quietly, safely and dependably in opening and closing doors automatically for many of the nation's finest buildings — hotels, restaurants, stores, offices, airport terminals, hospitals, banks and industrial plants.



ALL-ROUND PERFORMERS

It's not only at entrances and exits that Stanley Magic Carpets and other Magic Door Controls keep people, materials and equipment on the move. Located between kitchens and dining areas, they speed service and prevent kitchen noise and odors from annoying diners. Installed in warehouses and other parts of industrial plants, Stanley Magic Door Controls keep traffic flowing smoothly, save time, minimize loss of conditioned air and reduce door damage and maintenance costs.



Whether doors swing, fold or slide, they can be opened and closed automatically . . . economically . . . by Magic Door Controls that meet architectural requirements for appearance and space . . . are easy to install and maintain. It's worth remembering when planning your next building.

Information about Stanley Magic Carpets in Color and other Magic Door Controls may be had by writing to the Magic Door Division, The Stanley Works, Dept. K, 1002 Lake St., New Britain, Conn.



UNIT WALL FOR 1 & 2 STORY BUILDINGS—A new modular assembly with unique adaptability, wide

selection of color, unit types, sizes and proportions. See Kawneer, Sweet's Catalog ^{3d}/_{Ka} for details and

description. *Branch Office & Warehouse, Upjohn Co. Washington, D.C., Engineers & builders: The Austin Co.*

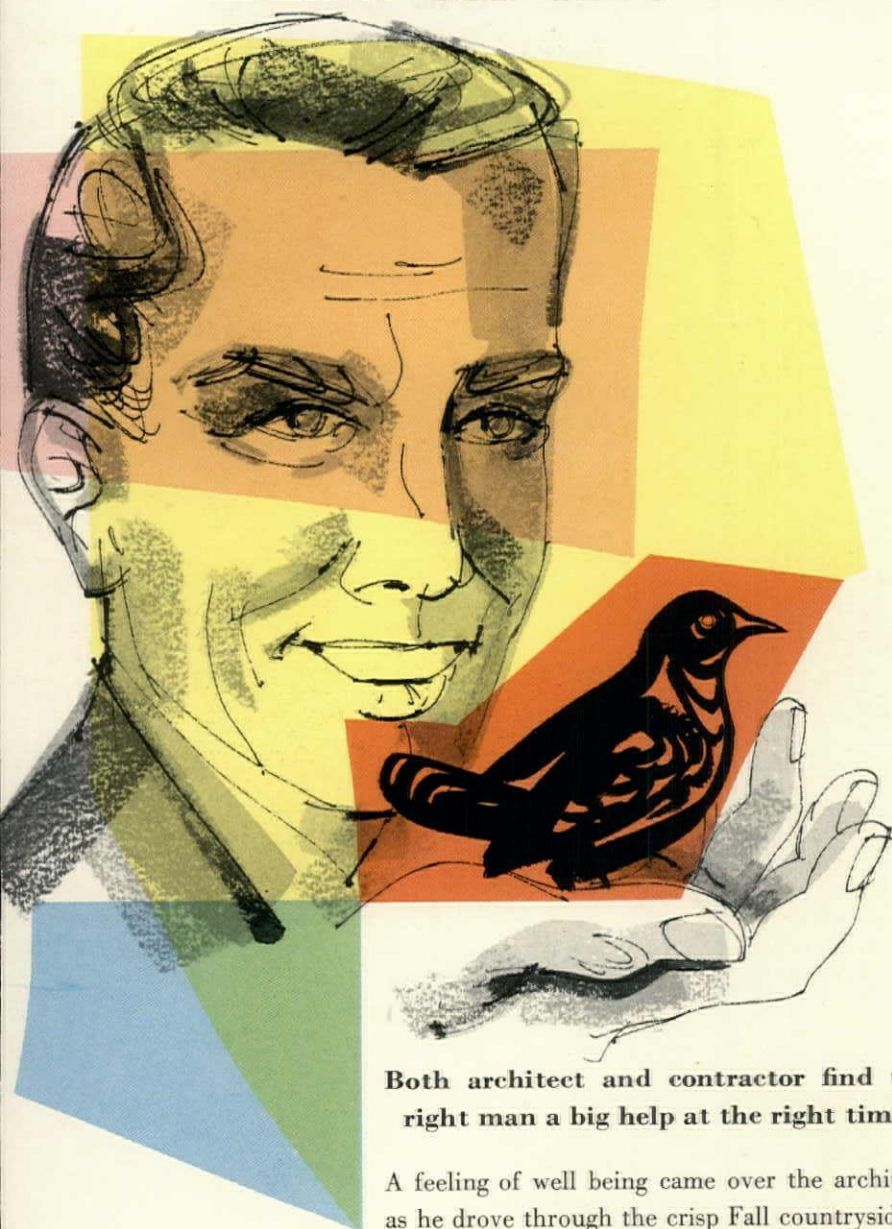
METAL CURTAIN WALL—Kawneer will engineer your design to insure integrity of reproduction and will manufacture and install "shop-prefabricated" metal wall units. See Kawneer, Sweet's Catalog ^{3d}/_{Ka} for more information. *Mutual Benefit Life Insurance Co. Building, Newark, N. J. Architect: Eggers and Higgins. Contractor: George A. Fuller Co.*

STORE FRONTS—Kawneer sash is designed and engineered for safety and long life. The resiliency of the most popular assemblies permit the use of large glass areas. See Kawneer, Sweet's Catalog ²¹/_{Kaw} for complete details. *Elm Farm Super Market, Dorchester, Mass. Architect: Sumner Schein, Boston. Contractor: J. J. Powers Co., Cambridge.*

ENTRANCES—Durability with lightweight and trim appearance describe the new Kawneer narrow-stile doors. These doors feature the new Kawneer interchangeable hardware, two types with identification push plates. See Sweet's Catalog ^{16a}/_{Kaw}. *Palms Shopping Center, Houston. Architect: Irving R. Klein & Assoc. Contractor: Fisher Construction Company.*



A bird in the hand



Both architect and contractor find the right man a big help at the right time.

A feeling of well being came over the architect as he drove through the crisp Fall countryside.

He was on his way to make a final inspection of his school job.

Contractor had just telephoned to report he was ready to turn over the key.

Job looked pretty good he said. Almost exactly like the rendering.

The architect whistled soundlessly. One of those few times when everything looked right.

Should be right. He'd planned everything carefully and completely and then stuck firm on details of materials and equipment. Careful selection of suppliers paid off.

Like that time when he had been making his periodic inspection of the job and was told that some louvers for the Kawneer Aluminum Canopy had been damaged on the job. The Kawneer dealer had checked around the area for replacements. No luck—no louvers available.

Then a guy he thought he recognized drove up. "Where have I seen him before?" he'd asked the contractor.

"Kawneer field sales engineer," the contractor answered. "Comes around to check their products and installation. Kawneer dealer called him on those louvers."

"Where's the phone?" the sales engineer asked.

"Won't do any good to call," the contractor observed. "Nobody around here has any."

"I guessed the dealer had already checked that possibility," said the Kawneer man. "I'm going to phone our warehouse."

The contractor flatly ruled. "We can't afford to wait until they get here from the plant!"

"I'm not calling headquarters," the Kawneer man pointed out. "I'm going to order replacements from one of our Factory Assembling Warehouses. We've got 'em spotted all over the country."

He turned to the phone, talked to the warehouse, describing requirements. Hanging up, he turned to the Kawneer dealer.

"That's it," he announced. "They'll be here in three to four hours."

Then he walked over to the job to go over the installation with the men.

When he was beyond earshot, the contractor turned to the architect.

"I guess a bird in the hand saves money and time at that," he cracked.

"Especially when you don't have to put salt on its tail to get service," the architect had agreed.

Driving up to the site of his finished school, the architect reflected further on the Kawneer incident. The cost of a product doesn't tell the whole story in this business, he thought.

"Installed cost is what really counts," he said through the windshield.

The gravel slithered under the tires as he pulled into the schoolyard.

He whistled again—this time out loud.

His new school building settled into the landscape as if it had grown there by itself. Just as a school should look—light, bright and cool. Spaciously inviting.

Good job, he thought.

With a big boost from modern, factory-engineered materials and first class service from the manufacturer, he amended.

Another one of those few times when everything, somehow, went right.

All because of a bird in the hand. The End

BAYLEY

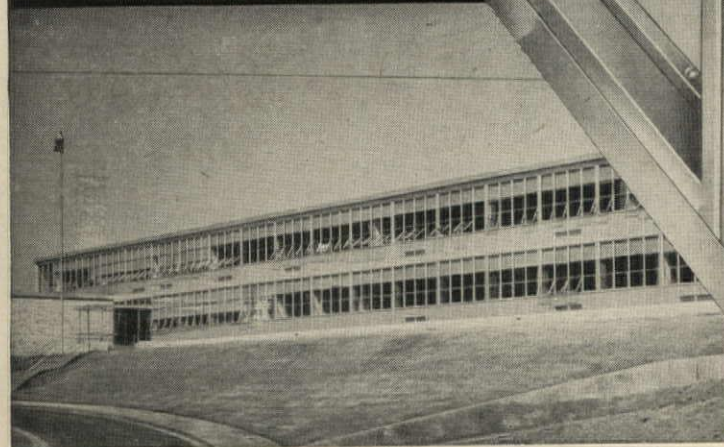
Curtain Wall Systems

The Bayley Curtain-Wall System represents the latest advance in fundamental designing, based on Bayley's 30 years of performance-proved experience in engineering curtain-wall installations. It offers versatility of application that affords you wide latitude of building design with the economy of standard details. A thorough study of the illustration below

reveals the soundness of its engineering. It is also quickly apparent that through the use of a Bayley System you gain the advantages of proved structural sections; the economy of Bayley standard materials and a savings in time in approving designs and manufacturing to your requirements.

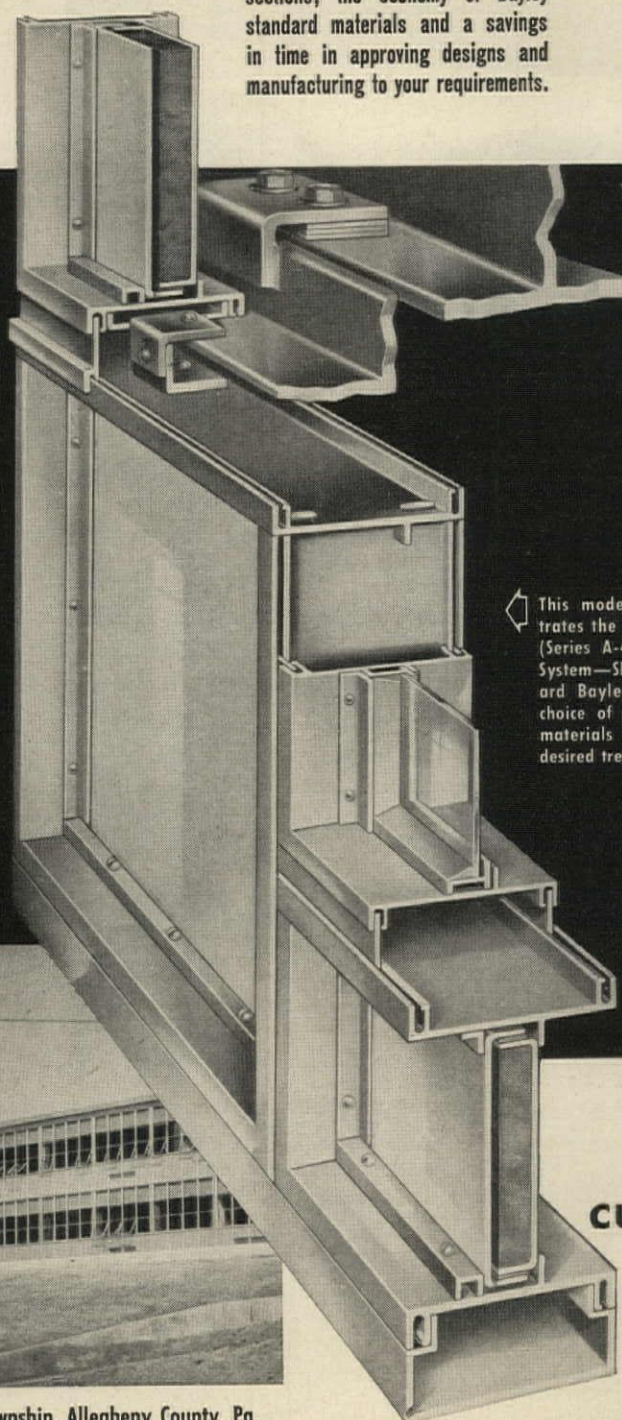
With Bayley's sub-frame designs you can achieve distinctive, individualized curtain wall treatments, of almost unlimited variety, without the costliness of special window designing. Standard Bayley Aluminum Projected Windows, with heavy channel frames and a choice of ventilator arrangements, serve as the basic unit . . . and at the same time afford the maximum in air, light and vision. Combining versatility of application with standard details and sections, Bayley can help you accomplish some surprising and exciting things.

If consulted in the early stages of your project, giving Bayley an opportunity to properly pre-engineer your job you will be assured of maximum ultimate satisfaction in both design appearance and integral building construction.



WHITEHALL JUNIOR HIGH SCHOOL—Baldwin Township, Allegheny County, Pa.
Architect—Altenhof & Bown, Pittsburgh, Pa.
Builder—Brownsville Construction Co., Brownsville, Pa.

See Bayley's catalogs in Sweet's . . . aluminum windows 17a/Bay; and steel windows 16b/Ba; or ask us for individual reference-file copies. Write for special file on Bayley Curtain Wall Ideas, Designs and Details.



This model assembly illustrates the Bayley Sub-frame (Series A-450) Curtain-Wall System—Showing how standard Bayley Windows or a choice of panel-decorating materials can achieve any desired treatment.

30 years of
experience
in design of
CURTAIN WALLS

76
Years of
Reliability

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And, most important, you can be assured that your client will be satisfied with his system for years to

come . . . because Kellogg quality assures a minimum of maintenance, and because Kellogg guarantees availability of service forever.

Call in your Kellogg dealer, or send coupon for the Kellogg Planning Kit today!



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KELLOGG PLANNING KIT
Contains complete technical data. Ask your Kellogg Intercommunications Dealer or use this coupon to send for your copy.

LETTERS

CITY PATTERN

Forum:

Your article "By 1976 What City Pattern?" in the September issue is outstanding. It will be a guide for smaller towns and cities for many years. Thank you for its preparation and publication.

WALLACE P. BEARDSLEY, JR.
Beardsley & Beardsley, architects
Auburn, N. Y.

Forum:

Congratulations on your presentation of "City Patterns" in the September issue. I hope that you will find space in later issues for additional variations on the same theme. It is an important story and needs repetition if it is to be persuasive.

DENNIS O'HARROW, executive director
American Society of Planning Officials
Chicago, Ill.

Forum:

Your excellent articles regarding planning in the September issue make this issue a *must* on the reading lists of my Planning Commission members. Please forward a dozen additional copies.

We are a Planning Commission on the outskirts of the Seattle metropolitan area and are experiencing many of the discomforts therefrom. To many of our members the planning business is new and awe-inspiring and I believe your September issue states, in layman's language, the many issues and problems uppermost in our minds today.

Congratulations.

ROBERT J. BROWN, planning director
Snohomish County Planning Commission
Everett, Wash.

Forum:

Congratulations.

JOHN W. CONE, planning officer
City of Sunnyvale
Sunnyvale, Calif.

Forum:

Your article is the best resume of where we stand and with what we are faced that I have ever come across. This is going to be invaluable to me in my course on regional planning. Could I have 30 reprints of this article for distribution to my class?

ROBERT P. DARLINGTON, assistant professor
Department of Architectural Engineering
The State College of Washington
Pullman, Wash.

• Reprints in limited quantities are available at 40¢ each.—ED.

THE REAL ESTATE OPERATOR

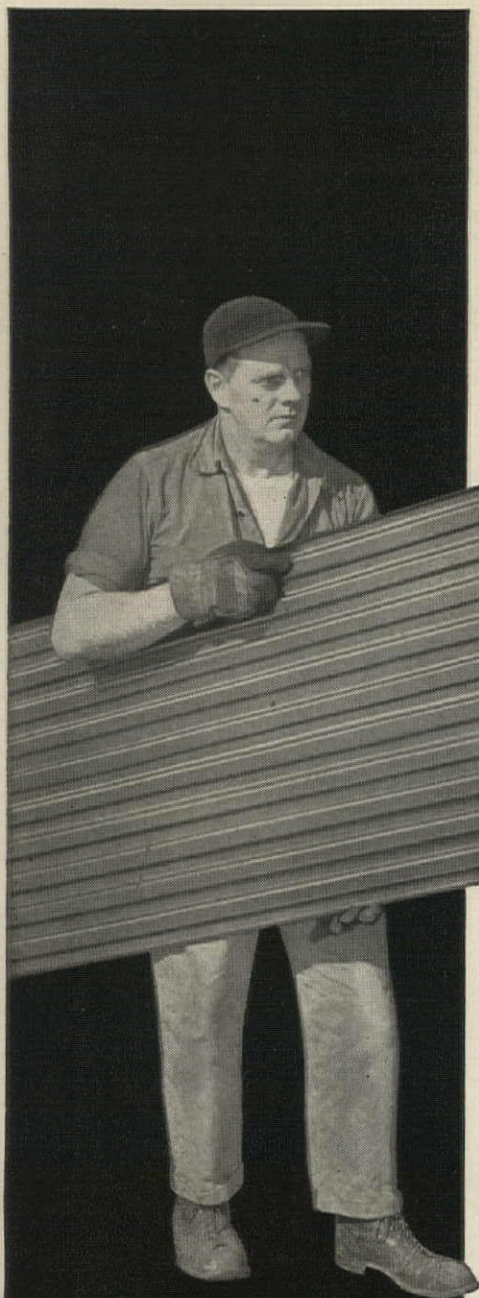
Forum:

I take mild issue with certain facets of your article on "The Real Estate Operator" (AF, Aug. '56). When, with such finality, you ascribe all motivation of the real estate man—broker and operator alike—to the single premise of profit, it seems to me that you omit to render due

continued on p. 68

Announcing **Milcor Ribform**

...a new, stronger form for short-span concrete slabs



Milcor Ribform is a new, permanent, high-strength steel form for concrete floor-and-roof-slabs poured over steel joists or beams. It is quickly laid in sheets and welded to the steel supports where it becomes a rigid, non-porous base for the concrete.

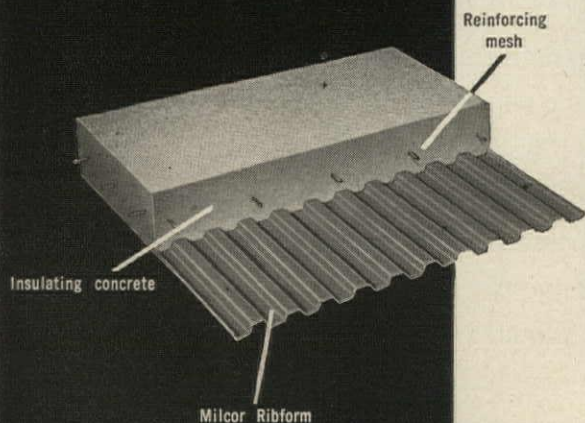
This newest addition to Milcor's growing family of quality building products is fabricated from a high-tensile steel and has a unique ribbed shape that is stronger than ordinary corrugated patterns.

Being a rigid-type of centering, Ribform never need be stretched during installation. It cannot twist or deform the joists. No expensive temporary bracing is required.

Ribform can be used to form concrete slabs over pipe trenches or other inaccessible locations where it is impractical and expensive to "strip" wood forms.

Sorry, Ribform is too new to be found in Sweet's. Send for Technical Bulletin 2.5.11.

MILCOR[®] Ribform



Ribform is easy to handle. Just weld it to the joists — the rigid sheets need no supplementary bracing.



INLAND STEEL PRODUCTS COMPANY

DEPT. K, 4031 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN
BALTIMORE • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS
DENVER • DETROIT • KANSAS CITY • LOS ANGELES • MILWAUKEE
MINNEAPOLIS • NEW YORK • ST. LOUIS

M-176

THE MARK OF QUALITY



uni-flo

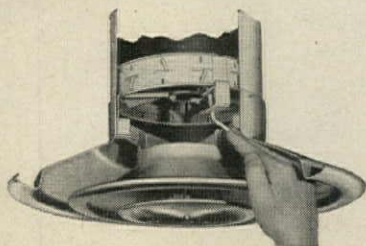
Engineered
Air Distribution

Get *Guaranteed* performance with Venturi-Flo ceiling diffusers

BARBER-COLMAN 1020 MODEL JS VENTURI-FLO
VELOCITY-TEMPERATURE TRAVERSE THROUGH VERTICAL PLANE

A	B	C	D	E	F	G	H	I	
Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	Vel-Temp.	
30 73.0	55 71.5	55 70.8	55 70.4	25 72.0	70 69.5	55 70	55 70	30 71.5	9'-6"
									9'-0"
40 71.2	25 72.0	30 72.5	30 72.5	25 72.0	25 72.0	35 71.5	30 71.6	35 71.5	7'-6"
50 71.5	25 72.3	25 72.0	25 71.9	40 71.9	30 71.9	30 72.0	30 72.2	50 71.9	5'-0"
40 72.2	35 71.9	35 72.2	30 72.0	35 72.0	35 72.0	30 72.5	35 72.0	50 71.9	2'-6"
50 72.5	60 71.5	45 71.2	45 71.5	30 72.0	45 72.9	50 72.5	40 72.9	50 71.9	6"

SUPPLY AIR VOLUME — 545 CFM
SUPPLY AIR TEMPERATURE — 51.8°F
AVERAGE ROOM AIR TEMPERATURE — 72.0°F AT THE 5' LEVEL



Opposed-blade volume control is easily operated through face of diffuser.

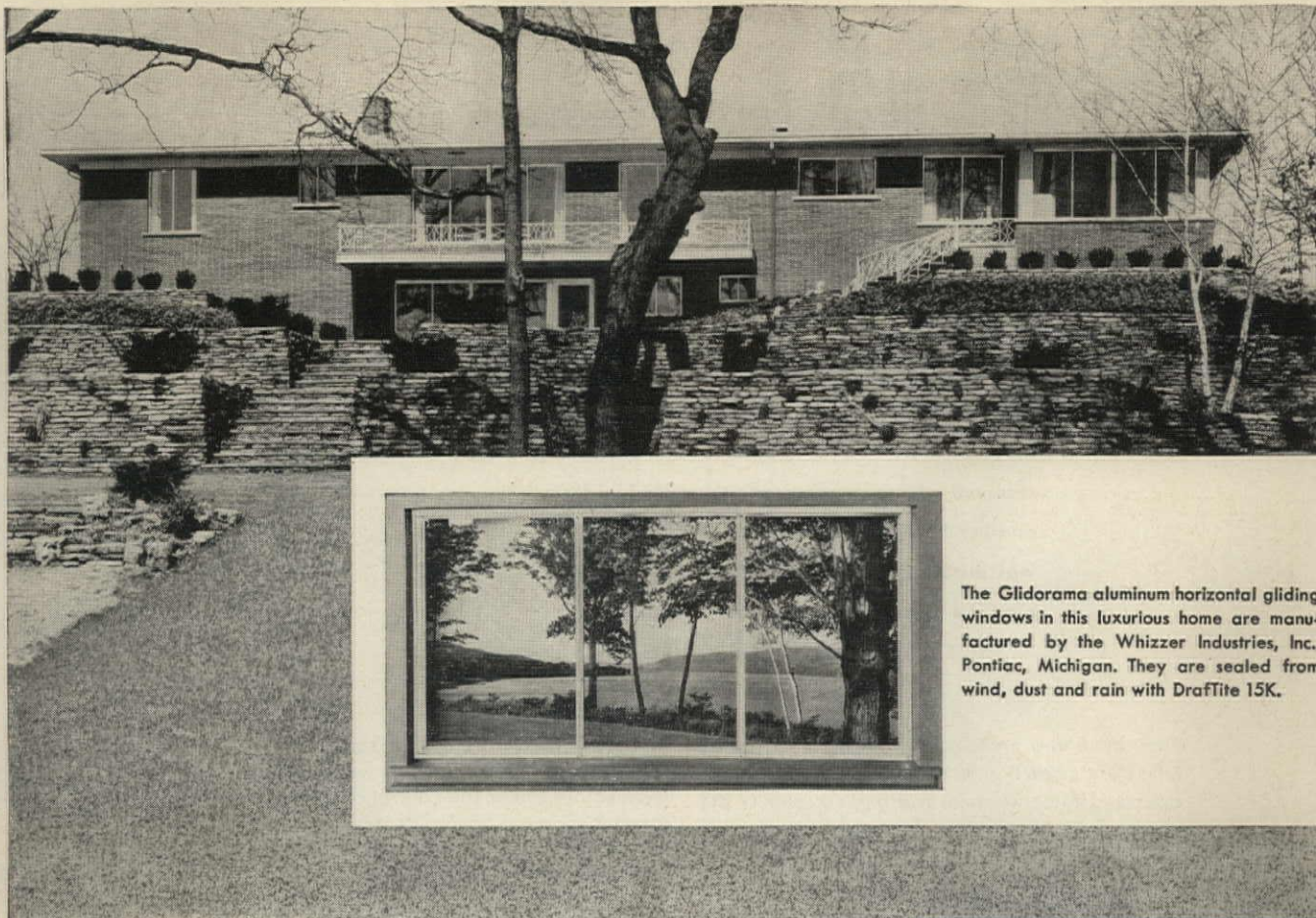


Simple adjustment provides air patterns from horizontal to vertical.

The uniform, draft-free air distribution pattern charted above is typical of the results you can predict with Venturi-Flo Ceiling Diffusers. With Venturi-Flo, the mixing of primary air with room air takes place throughout the entire length of the throw. This permits even higher temperature differentials than shown in the traverse above. Barber-Colman guarantees performance of Venturi-Flo Ceiling Diffusers when they are used according to published data. Contact your nearby Barber-Colman field office or write . . .

Barber-Colman Company

DEPT. K, 1135 ROCK STREET, ROCKFORD, ILLINOIS, U. S. A.



The Glidorama aluminum horizontal gliding windows in this luxurious home are manufactured by the Whizzer Industries, Inc., Pontiac, Michigan. They are sealed from wind, dust and rain with DraftTite 15K.

FOR QUALITY AND PROTECTION

SPECIFY DRAFTTITE*

wool pile weatherseal for aluminum windows

When the architect specifies quality aluminum windows, he makes sure there is a satisfactory seal around the perimeters. For a permanent seal...leakproof, friction-proof and positively wind resistant...there's nothing better than DraftTite *wool pile* weatherstripping. Nationally recognized as the leader in the field; annual current production is over 250 million feet.

That's why manufacturers of quality metal windows are adopting DraftTite. It will pay you to specify DraftTite *wool pile* weatherstripping. It's a guarantee that your clients' windows won't stick, will slide easily and quietly, will always be airtight.

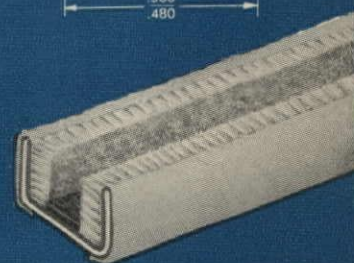
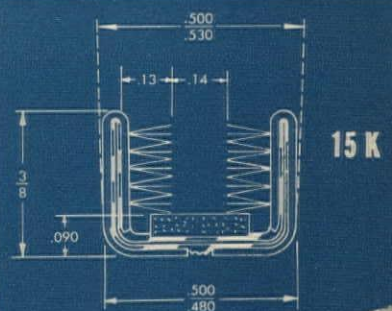
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...illustrating DraftTite standard sizes and shapes for every type of metal window or door.

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The Standard Products Co.

BUILDING PRODUCTS DIVISION, P. O. BOX 678, LEXINGTON, KY.
STANDARD PRODUCTS (CANADA) LIMITED, WINDSOR, CANADA



CHANNEL SEAL 15K... Dense wool pile secured over stainless steel core; a positive seal against air infiltration around the perimeters of horizontal sliding windows.



POWERS Temperature Control

in 1915 and POWERS AGAIN in the
new Highland Park High School

"Because of the many years of dependable control obtained from Powers equipment and the prompt service received whenever required in our old buildings, another Powers temperature control system was installed in our new high school which was planned to meet the needs of 2,000 students"
... Mr. E. W. Zaeske, Supt. of Buildings and Grounds.

Functional and architectural features of Highland Park's new high school have been carefully executed to conform to the highest quality of modern school design and to meet the stipulation of keeping future maintenance costs at a minimum.

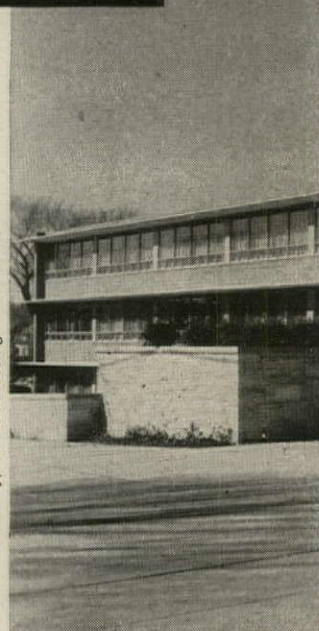
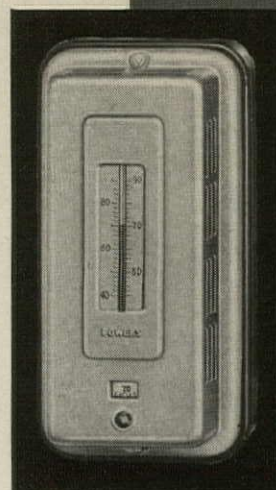
Since 1891, Powers temperature control systems have been noted for their low operating and low maintenance cost. 25 to 50 years of dependable operation with a minimum of repairs is reported by many satisfied users.

Comfort and Fuel Economy in the 87 classrooms and other spaces here are provided by a Powers control system which regulates the following heating and ventilating equipment:

A Powers MASTROL system regulates the temperature of the forced hot water supplied to convectors under the control of a Powers thermostat for each space. Ventilation is provided by Powers controlled fan units located throughout the buildings.

Natatorium is Unique in that provision is made for the comfort of spectators as well as the swimmers. Convectors in the pool area maintain air at 86° F. while spectators are blanketed with air at 76 to 78° F.

If You Are Planning a New School or remodeling an old one, ask your architect or engineer to include a Powers Quality system of temperature control. You will help insure utmost comfort and lowest upkeep cost.



Photos: Hube Henry, Hedrich-Blessing

THE POWERS REGULATOR COMPANY

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65 Years of Automatic Temperature and Humidity Control



Symbol of Economy
and Quality Control

(c81)



Typical Classroom



Library



Band Room in Music Dept.



Highland Park, Illinois, High School

Loebl, Schlossman & Bennett, Architects
Samuel R. Lewis, Consulting Engineer
Gust K. Newberg Co., General Contractor
Adelman Heating Corp., Heating Contractor
 All of Chicago, Illinois

Photos below show one of the 87 classrooms and some of the other spaces controlled by POWERS



Cafeteria and Multi-Purpose Room



Exhibition Gymnasium



Swimming Pool 50 x 75 ft.

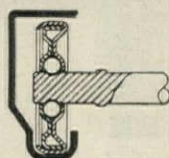


**Quality features that
live up to your reputation**

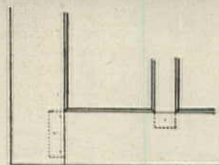


Rō-WAY

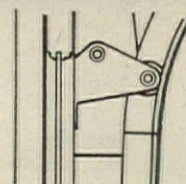
overhead type commercial doors



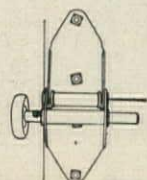
BALL BEARING ROLLERS
with double-thick steel tread
—smooth, quiet



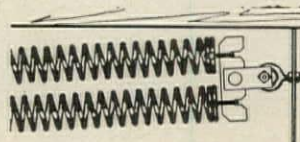
**MORTISE AND
TENON JOINTS**
waterproof glued and steel
doweled—extra strong



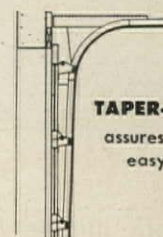
SEAL-A-MATIC HINGES
graduated for weather-tight
protection



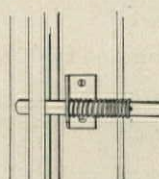
RO-WAY HARDWARE
Parkerized and painted for
maximum rust prevention



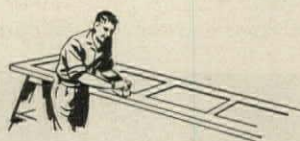
POWER-METERED SPRINGS
perfectly matched to counterbalance
weight of each door



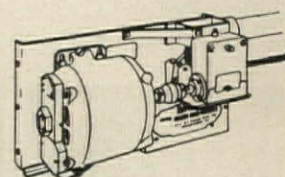
TAPER-TITE TRACK
assures firm closing,
easy opening



LOCKED AT BOTH SIDES
Rugged lock bars fit slot in
each vertical track



PRECISION-FIT MILLWORK
both drum and hand sanded
for smoothest finish



ELECTRIC OPERATION
optional at slight extra cost

*free
architect's
manual*



Complete details,
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Especially helpful in
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Ask for Manual 55.

Rō-Way

**OVERHEAD TYPE
DOORS**

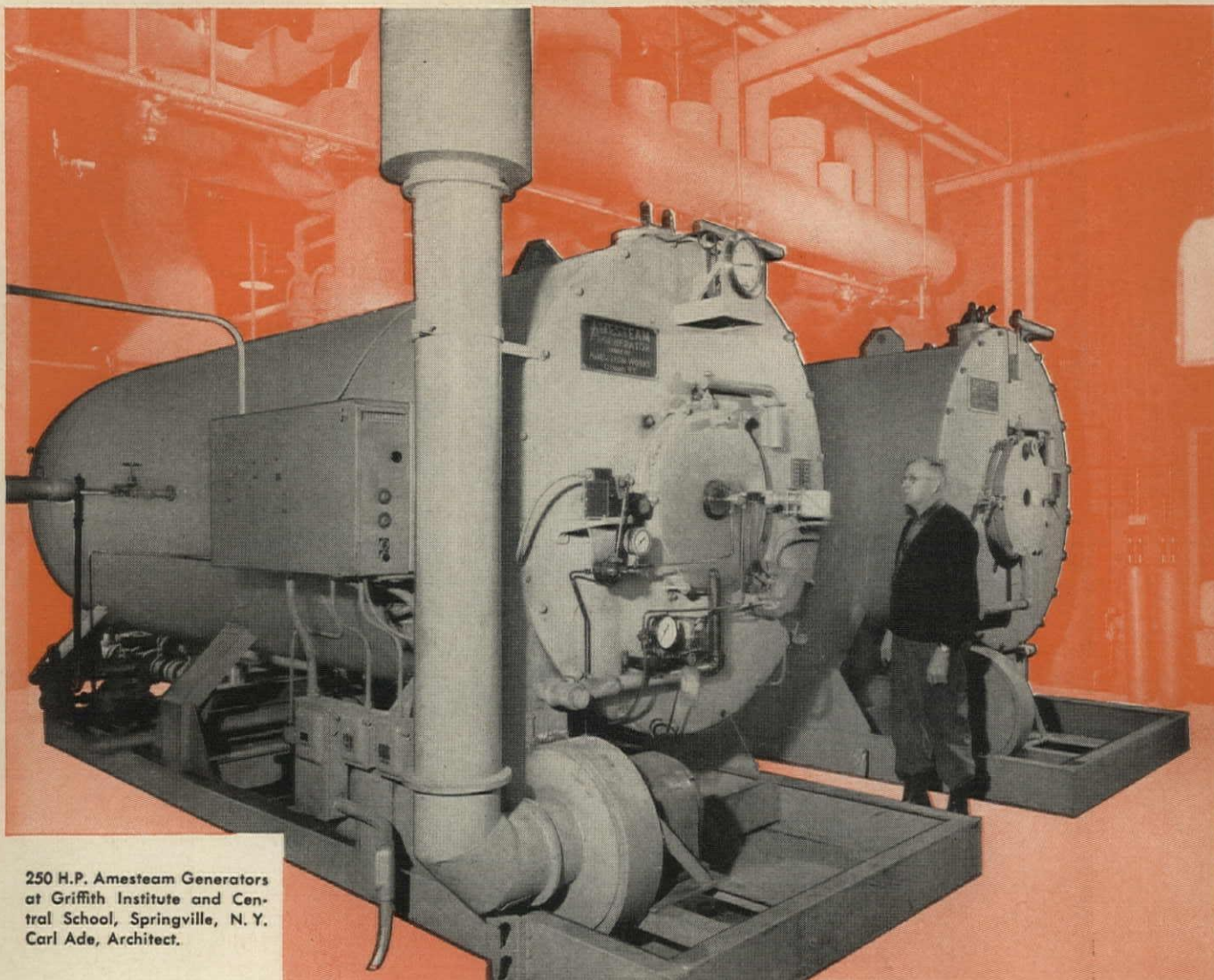


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installation service. See your
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there's a Ro-Way for every Doorway!

COMMERCIAL • INDUSTRIAL • RESIDENTIAL

ROWE MANUFACTURING CO.
977 HOLTON ST., GALESBURG, ILLINOIS



250 H.P. Amesteam Generators
at Griffith Institute and Central School, Springville, N. Y.
Carl Ade, Architect.

ANOTHER FINE SCHOOL REPORTS SATISFACTION WITH

AMESTEAM GENERATOR

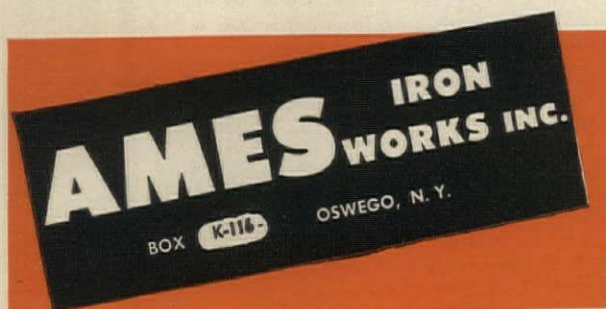
Beautiful new Griffith Junior-Senior High School represents the finest functional educational design in the distinguished 126-year history of Griffith Institute at Springville, N.Y. Thoroughly in keeping with the modern facilities are the two 250 h.p. Amesteam Generators. These fully automatic "package" boilers, installed as complete units without complicated on-the-job assembly work, require a minimum of space.

Writes Principal Charles Knapp:

"Now that the two Amesteam Generators have been in operation in supplying heat for the new Junior-Senior High School building at Griffith Institute and Central School, I should like to tell you how pleased we are with them.

We find them much cleaner, of course, and we are also well pleased with their very dependable and economical performance. As you know, we still have coal-fired boilers in the older buildings, so we have a chance to make a direct comparison. I can assure you that whenever these coal-fired units need replacing, our first consideration will be Amesteam Generators."

Letters like this tell us of the satisfaction with Amesteam Generators in institutions, plants and public buildings throughout the country. In fact, an Amesteam Generator on the job is our best salesman! If you want the economical, dependable operation possible only with a quality boiler, mail the coupon below.



AMES IRON WORKS, INC.

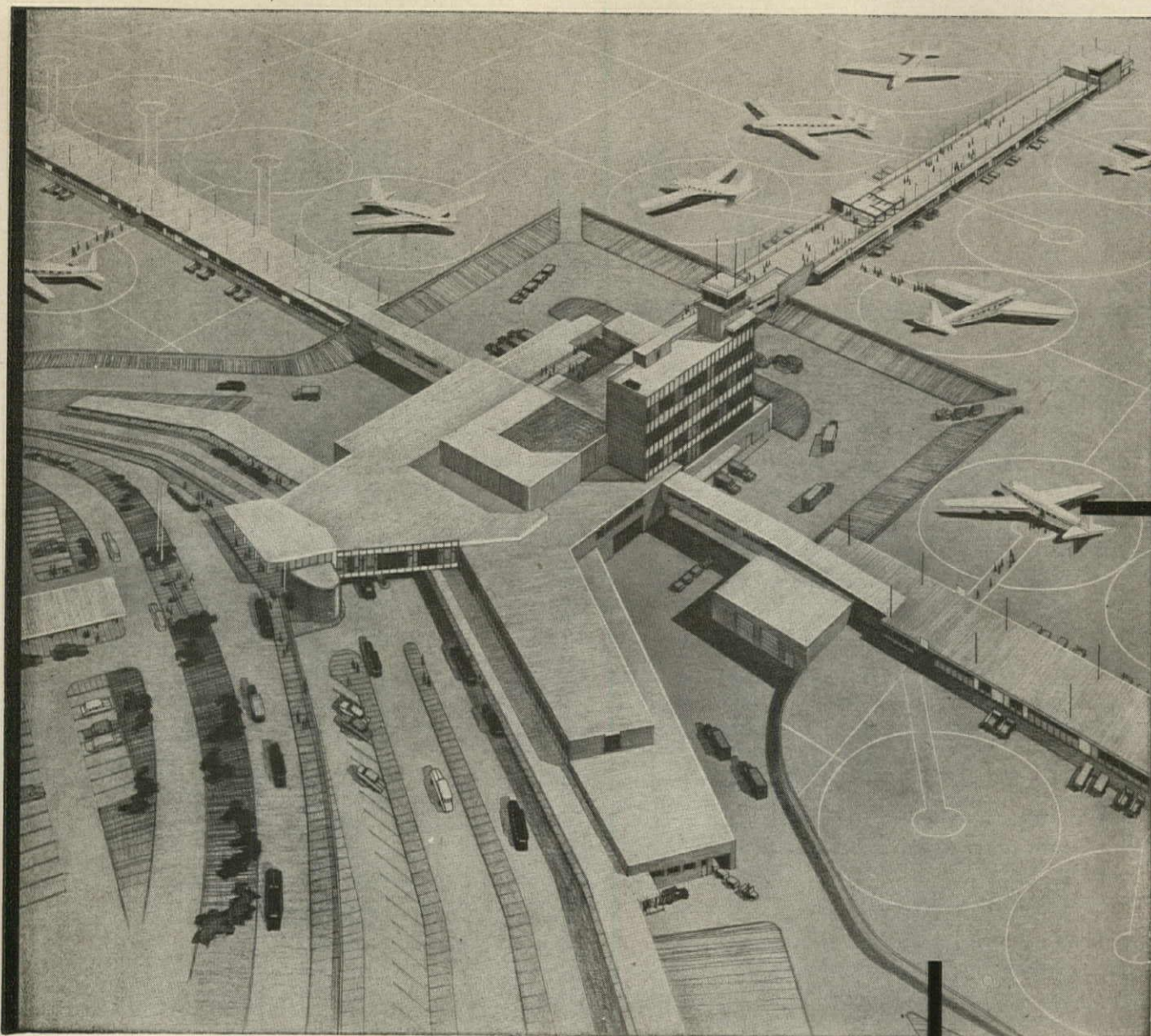
BOX K-116, OSWEGO, N. Y.

Please send me engineering details on AMESTEAM GENERATORS and name of nearest AMES representative.

NAME

COMPANY

ADDRESS



All nine airlines using Cleveland's fine new airport agree that it's the nation's most efficient . . .

First for efficiency . . . by design! From the ground up, planned by architects Outcalt, Guenther & Associates around the most efficient flow of traffic. Passengers (2½ million last year!) walk a minimum of distance . . . travel to and from planes in far less time . . . pick up and check baggage much faster . . . find quick relaxation in the spacious restaurant, coffee-shop and drug store. And . . . looking to the future . . . it's designed to efficiently accommodate ever-increasing numbers of planes and passengers.

Beautifully modern . . . it's constructed of aluminum, brick and granite . . . with striking terrazzo floors and liberal use of glazed ceramic-faced brick in various colors. Yet, for all its beauty, the entire terminal is designed for the lowest maintenance possible.

And . . . for the quick refreshment of passengers and airlines personnel . . . the architects specified *Westinghouse Water Coolers*.



FIRST...by design

*Cleveland Hopkins Municipal Airport, Cleveland, Ohio
Designed by Outcalt, Guenther & Associates
Built by R. S. Ursprung Company*

WESTINGHOUSE WATER COOLERS

Were specified by architects Outcalt, Guenther & Associates for Cleveland's great new airport because, by design, they're . . .

First for Efficiency! Deliver up to 60% more cool water at less cost . . . with Patented Pre-Cooler and Super Sub-Cooler that use cold water to pre-cool incoming water and sub-cool the hot liquid refrigerant.

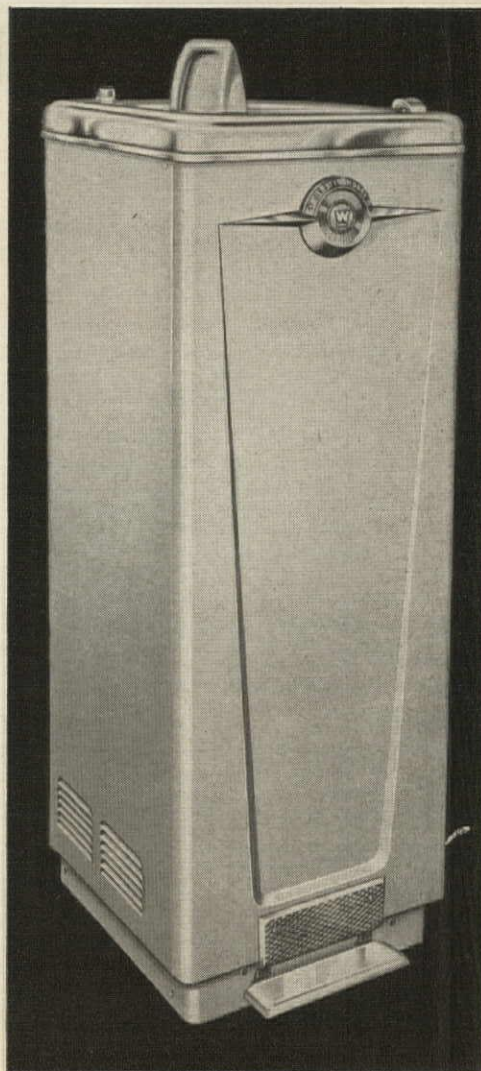
First for Convenience! Only Westinghouse offers Dual Electric Control—both finger-tip and toe-tip control—at no extra cost. Plus Automatic Stream Height Regulator for no-spurt, no-splash drinking. Compact, space-saving design occupies only 14 inches square of floor space. Stainless steel, splash-proof top is sanitary, unbreakable.

First for Dependability! New Solenoid Water Valve eliminates all possibility of leaks . . . Hermetically sealed Refrigeration System assures more years of trouble-free performance . . . plus E-Z Clean Strainer that prevents water stoppage due to pipe scaling. All models backed by Westinghouse 5-Year Guarantee plan.

Put Westinghouse in your plans . . . just as more and more leading architects are now doing. Specify the *newest* and *finest* of water coolers for your clients. 18 handsome models to choose from. Call your Westinghouse Water Cooler Distributor today. He's listed in the Yellow Pages of your telephone directory. Ask him about the new PAY-WAY PLAN . . . and learn how Westinghouse Water Coolers pay for themselves.

NEW IDEA! PUT "COFFEE-BREAK AREAS" IN YOUR PLANS!
New Westinghouse HOT-and-COLD . . .

a brand-new kind of water cooler that not only serves refreshing cold water but plenty of piping hot water, too, for instant coffee, tea, soups. Surveys show that the coffee-break promotes greater efficiency, increases production, improves employee morale. Why not include the HOT-and-COLD Cooler in your plans for your clients and your *own* office?



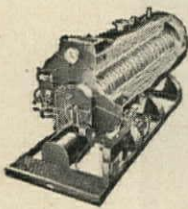
WATCH WESTINGHOUSE WHERE **BIG** THINGS ARE HAPPENING FOR YOU

DEAD WEIGHT



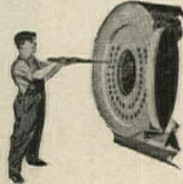
NEVER BOILED A KETTLE!

THERE'S no practical use for the excess weight and bulk of the conventional steam and hot water generator, with its maze of tubes, passes and refractory baffles. The Cyclotherm design incorporates just 2 passes to give you a guaranteed minimum efficiency of 80%. Complete combustion with uniform heat-transfer in the first pass utilizes approximately 65% of your fuel value; the balance is transferred in the second pass. Fifty passes would accomplish no more. Cyclotherm is compact—up to $\frac{1}{3}$ smaller than other packaged steam generators.



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LETTERS *cont'd.*

recognition to the biggest single element of collateral compensation—personal satisfaction—which frequently outweighs the direct monetary benefits attendant upon the fruitful employment of imagination, ingenuity and know-how.

Since the individual components of what we loosely term "real estate" comprise everything conceivable in the way of land and structure, and since these multitudinous units range from hovel to hotel and from Quonset hut to quantitative cubic content in every form of architecture, or its absence, and since almost all of these from time to time cease to fill the purpose for which they were created and it becomes essential to preserve their remaining economic lives—therein lies the need for the ingenious and the imaginative. And thus the broker!

It is altogether natural that a treatise on the subject should emphasize the glamour and drama of new construction and of the creation of sparkling centers where none had existed. But fail not to note that the very advent of these innovations serves to render more necessary than ever before the utilization of the units which they have supplanted. It is in this area of preservation and utilization of the old that the thoughtful members of the real estate brokerage fraternity are confronted by their greatest challenge. For the composite represents many billions of dollars of investment which must, somehow, be preserved.

To the dedicated broker, every instance wherein he has accomplished a new and continuing use for a property is a rewarding experience, compensatory beyond the monetary factor, in a sense of personal gratification deriving from a job well done. The true broker, as distinguished from the operator, employs his talents solely in the interest of his client, and never buys or sells for his own account.

RALPH G. SCHWEBEMEYER
Ralph G. Schwabemeyer & Co., real estate
Newark, N.J.

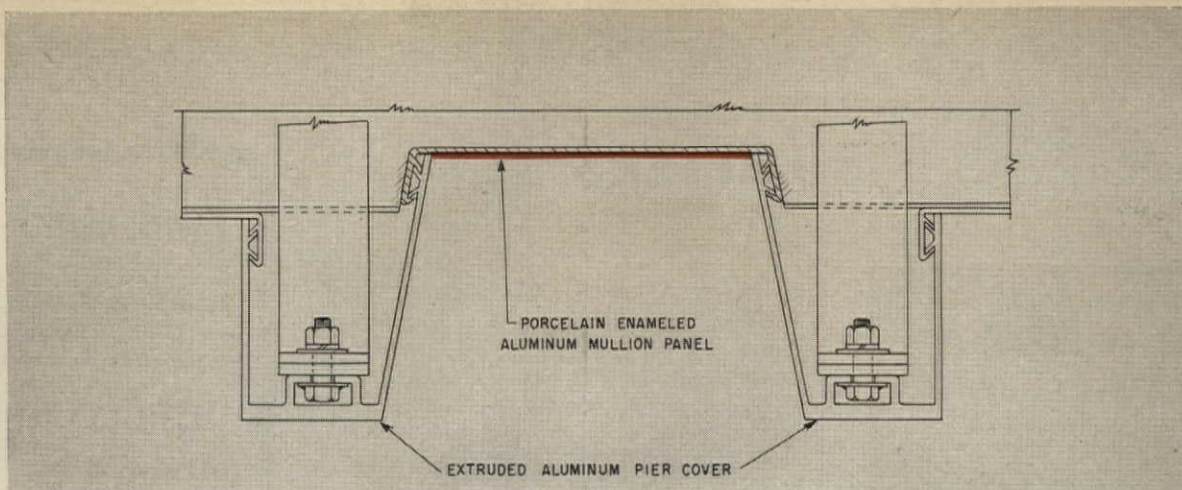
DESIGN AVERAGES VS. PEAKS

Forum:

It has not been my privilege to hear Dean John Burchard's lecture: "Architecture for the Good Life," at the 1956 AIA convention. But your report (AF, June '56) seems to present a concise summary. It is with trepidation that I voice my concern about some of the ideas expressed, because I admire Dean Burchard's leadership in education as of immeasurable value to us all. The very urgency of the issues involved will have to serve as excuse for my remarks.

"It is not so much a matter of averages but of peaks that provides the architecture for the good life. . . ." said Dean

continued on p. 70



BANK OF THE SOUTHWEST—Trimmed with 6.2 miles of color-matched porcelain-enameled aluminum



Recently completed, the Bank of the Southwest stands as the tallest welded structure in Houston, Texas. One of the many interesting features of this building is the extensive use made of lightweight materials in the superstructure—especially in the vertical trim on the mullion panels. Here, 32,892 linear feet of aluminum, finished with Du Pont porcelain enamel, were used with color selection to harmonize with the red granite base.

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LETTERS *cont'd.*

Burchard. And "High averages do not define the good life which is 'a matter of things that uplift the spirit.' . . ." He then asserts that "the Arch of the Etoile and the tree-lined streets coming to it . . . are more important for the good life of the poorest Parisian than a tenth of one per cent improvement in his substandard dwelling."

If this were so, we would have little cause for alarm, bordering on panic, because most of our urban renewal schemes are failures (brilliantly and bitterly analyzed by Henry S. Churchill in the same issue of your magazine). American cities do not lack in outstanding civic show pieces, of which many approximate the Etoile. Chicago has a magnificent lake front and beach; the slum jungle of Washington is a mere stone's throw from the inspiring vista of the Mall, and Brooklyn's Grand Army Plaza is an impressive terminus for Prospect Park and four major boulevards. It was with these stage settings, resplendent with the work of famous sculptors, that the town planners of the nineteenth and early twentieth centuries diverted attention from the lofts and rookeries of the speculators.

The good life, if I may venture a definition, is a harmonious existence in which the inviolate individuality of each citizen is in equilibrium with the demands and ideals of community and epoch. Taking a quick glance down the long Main Street of history, it seems that the few Golden Ages that realized this good life expressed themselves architecturally less in peaks than in high averages. Anyone seeing the tiny Treasury of the Athenians, standing proudly and forlornly in the Parnassus Mountain wilderness, must be moved by the exquisite and conscientious adherence of its design to the established average of the Greek public building. Each fractured wall, gate and theater in Dalmatia or North Africa is a close-up of Roman building standards, and we admire the Renaissance less for St. Peter's than for the continuous city square and the balanced façades of Innsbruck or Bath. In this country the only architecture still signifying the good life survives on Salem's Chestnut St., in a few blocks of Providence, Beacon Hill and Charleston, and in such anonymous towns as Lititz, Pa., or Galena, Ill.

Our architectural students make pilgrimages to these places as if they were going to Paestum or Nimes because for them this architecture for the good life belongs to the distant past. The "spirit-of-throw-away-before-used-up which Dean Burchard so rightly denounces has killed in them the obligation to strive for high universal design averages. They all specialize in peaks. Anyone familiar with senior group projects and graduation the-

continued on p. 74

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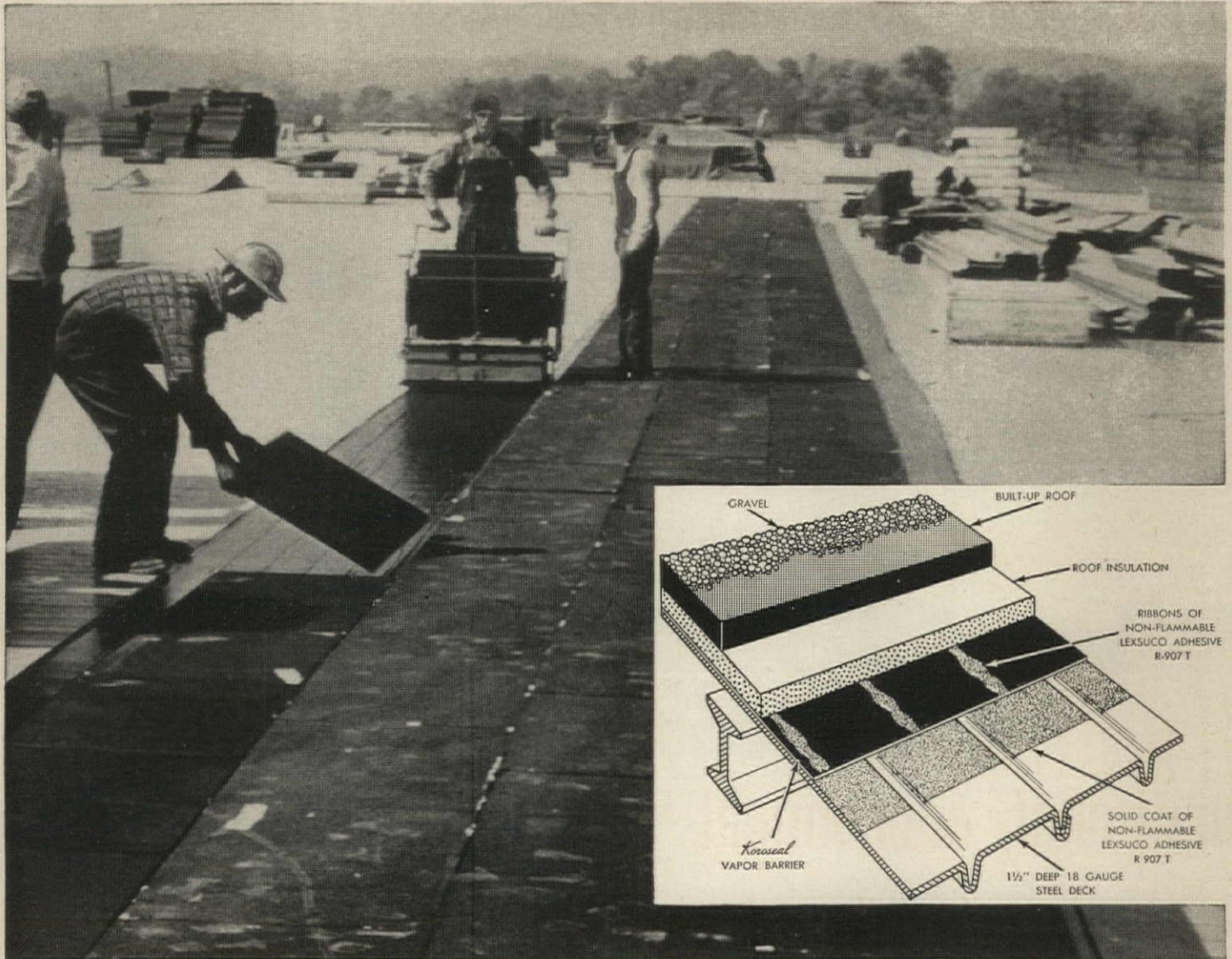
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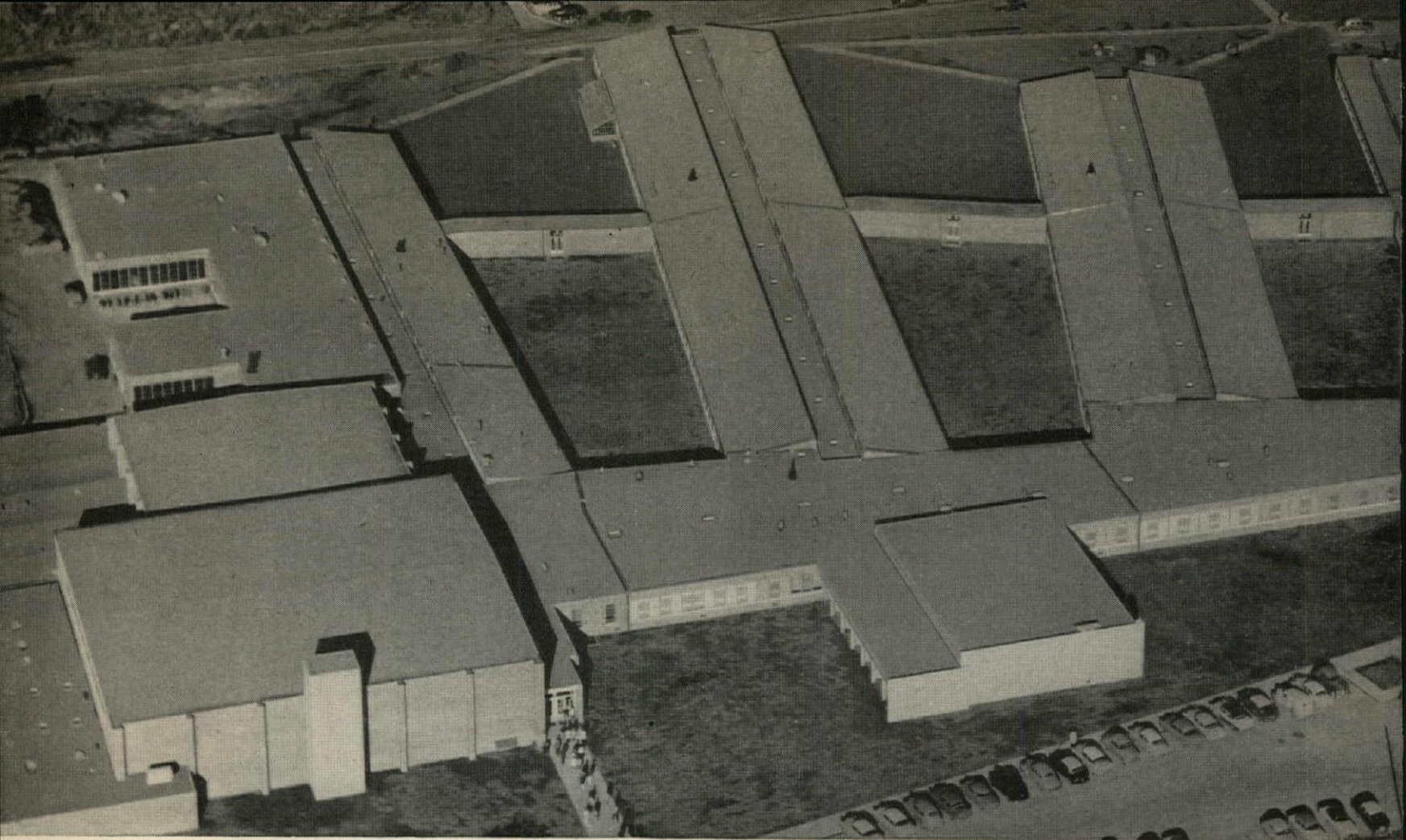
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SENIOR HIGH SCHOOL, GRAND ISLAND, NEBRASKA. Architect: McNett, Stanage & Company, Grand Island, Nebraska. General Contractor: H. S. Holtze Construction Company, Sioux City, Iowa. Steel Fabricator: Paxton & Vierling Steel Company, Omaha, Nebraska.

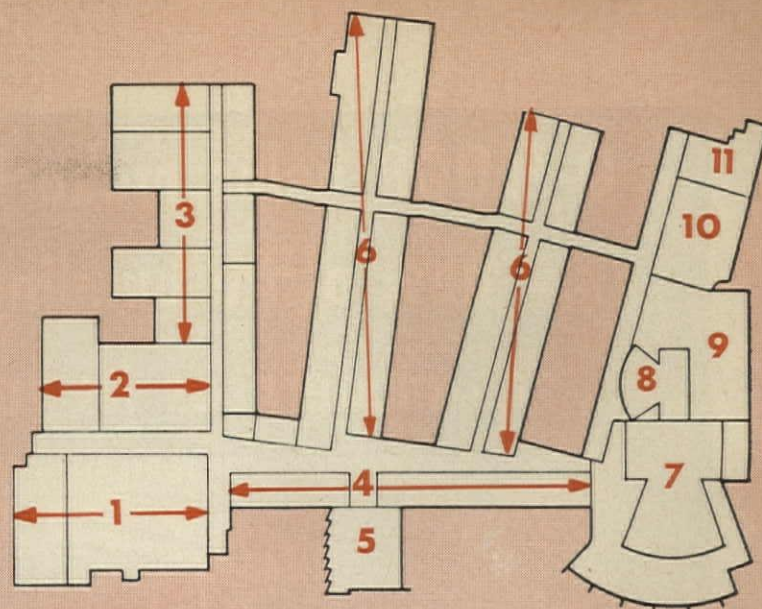
Functional, economical "finger plan" of Grand Island

THE STRUCTURAL STEEL FRAMEWORK NEARING COMPLETION. Starting date for the school was October, 1953, and it was completed in July, 1955. Total cost of the school was \$2,622,795.00.



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| 1. Boys' Gymnasium | 6. Academic classrooms |
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| 5. Library | 10. Cafeteria |
| | 11. Kitchen |

High School *again illustrates versatility of Structural Steel!*

The basic design of the new senior high school in Grand Island, Nebraska, consists of four "fingers," or wings, containing classrooms, radiating from a main administrative area. The "fingers," which extend toward the west, are oriented at slightly different angles from each other in order to secure the best lighting and ventilating situations. And, in addition to being connected to the administration area, each "finger" is joined to the others by means of a corridor—for quick passage from one wing to another. The school is sized to accommodate approximately 1,400 students. All areas are of one-story construction.

The unique building houses two gymnasiums, one of which will seat 2,600 spectators for varsity basketball games. The main auditorium will accommodate 1,500 people comfortably, and the Little Theater can seat 300. In both, stages are equipped to handle even the most intricate of productions. The ultramodern cafeteria, which turns out 600 to 700 meals with ease during the short lunch period, may be converted quickly into a study hall through the use of motorized rolling doors. The whole effect of the school is one of efficiency coupled with luxury. Yet, it was built at a cost of only \$10.96 per square foot.

Approximately 1,017 tons of Structural Steel were used in the framework of the new building—contributing greatly to the economy of construction. As is usually the case, when economy must go hand-in-hand with imaginative architectural ideas, Structural Steel is called upon. And why not? Structural Steel is versatile.

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LETTERS *cont'd.*

ses must have noticed the obsession with mammoth schemes. Architectural Utopias are a dime a dozen. Everything is possible on paper. This megalomania seems to be caused by American architectural history which I can only interpret in exact opposition to Mr. Burchard's statement that "US architecture has achieved so high an average but such a lack of mountain peaks." Taking the twenties as the beginning of the modern era in this country, we did produce peak buildings in excess of Europe whose few exemplary achievements on a large scale were publicized out of all proportion. Albert Kahn's factories, the Philadelphia skyscraper by Howe and Lescaze, Hood's Daily News, Rockefeller Center, Neutra's Channel Heights, the Johnson Wax Factory, or the unjustly forgotten buildings of the Tennessee Valley Authority, all more than 20 years old, are random examples that come to mind at first thought. American architecture put itself on the map with peaks. But where is "the high average"? Where is anything equalling the creative level of modern communities in Holland, Sweden, England or Germany? Our subsidized housing is a scandalous failure; our suburbs of private homes are a hoax architecturally speaking; to this very day apartment blocks are thrown together under the sole aspect of minimum investment at highest return, and our universities continue brainlessly to imitate Gothic and Georgian prototypes. Spurred by seven- and 8-figure estimates and the excellence of Photographer Ezra Stoller's handiwork, there is no lack of ambition in our young architects to attain peaks. Burnham's admonition "to plan big" did fall on fertile ground. If anything, we shall have more spectacular multimillion structures, and there is justified hope that the new interest of architecture in the Fine Arts might produce a few integrated masterpieces. But the good life does not generate from administrative skyscrapers, airports with gothic vaults, factories or hotels—no matter how outstanding their architectural concept. The average man is affected but little by their success or failure. The good life is lived in streets, neighborhoods and public squares of the small- and middle-sized towns, made up of individual homes, shops, restaurants, offices and schools. It is their "ephemerality" that has made life ugly. Only a new adequacy, permanence and beauty—attainable through a raised standard of architectural design—will make them "things that uplift the spirit." The genius who creates true peaks is rare, timeless and uneducable. *It is the highest level of the designed average that will ultimately present the true credential of American culture.*

SIBYL MOHOLY-NAGY, associate professor
School of Architecture
Pratt Institute
Brooklyn, N.Y.



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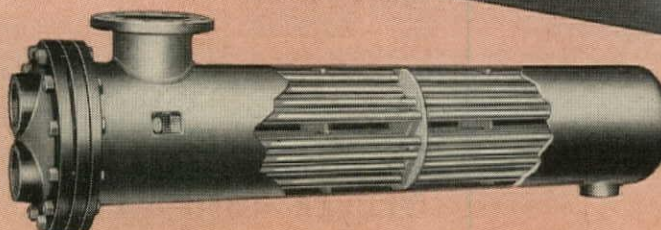
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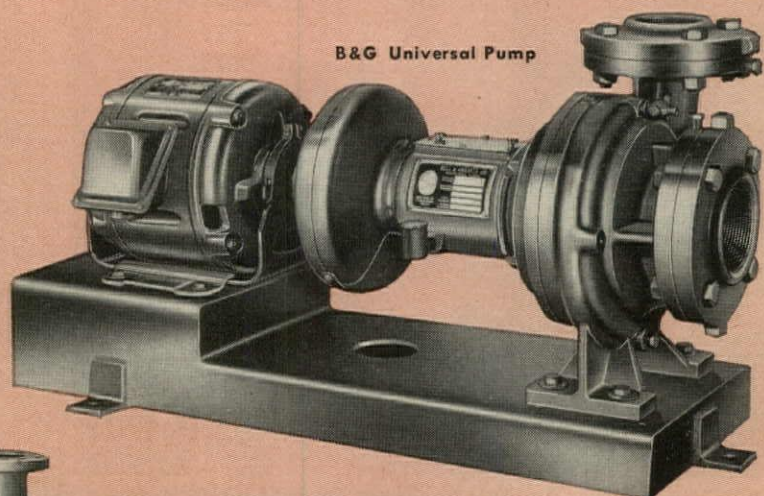


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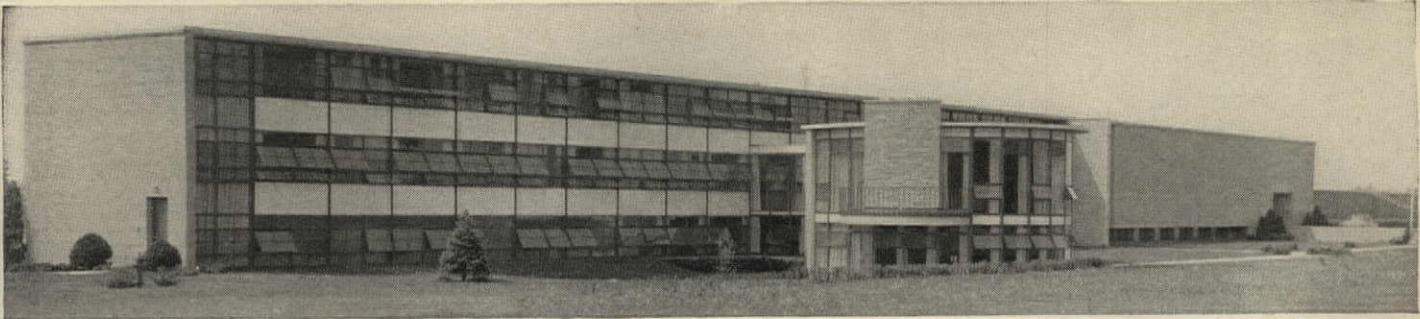
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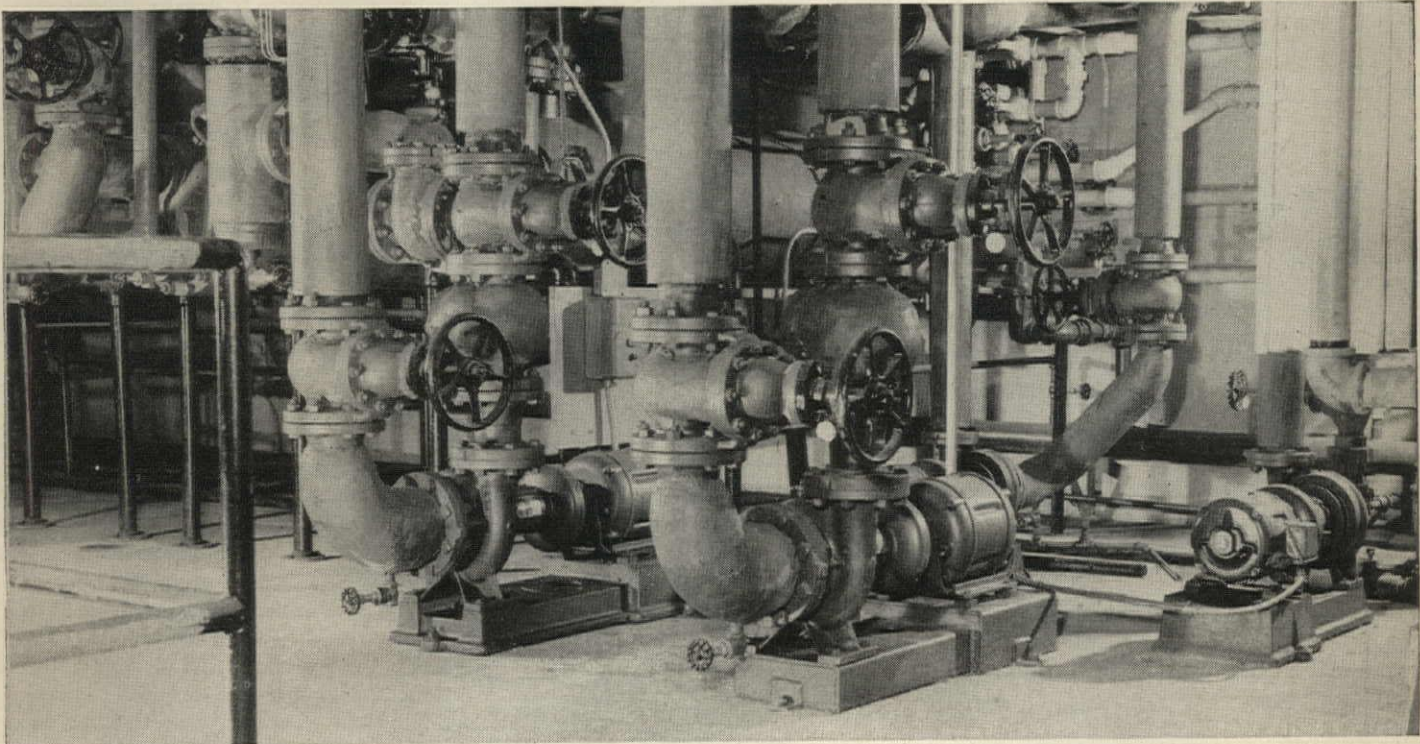
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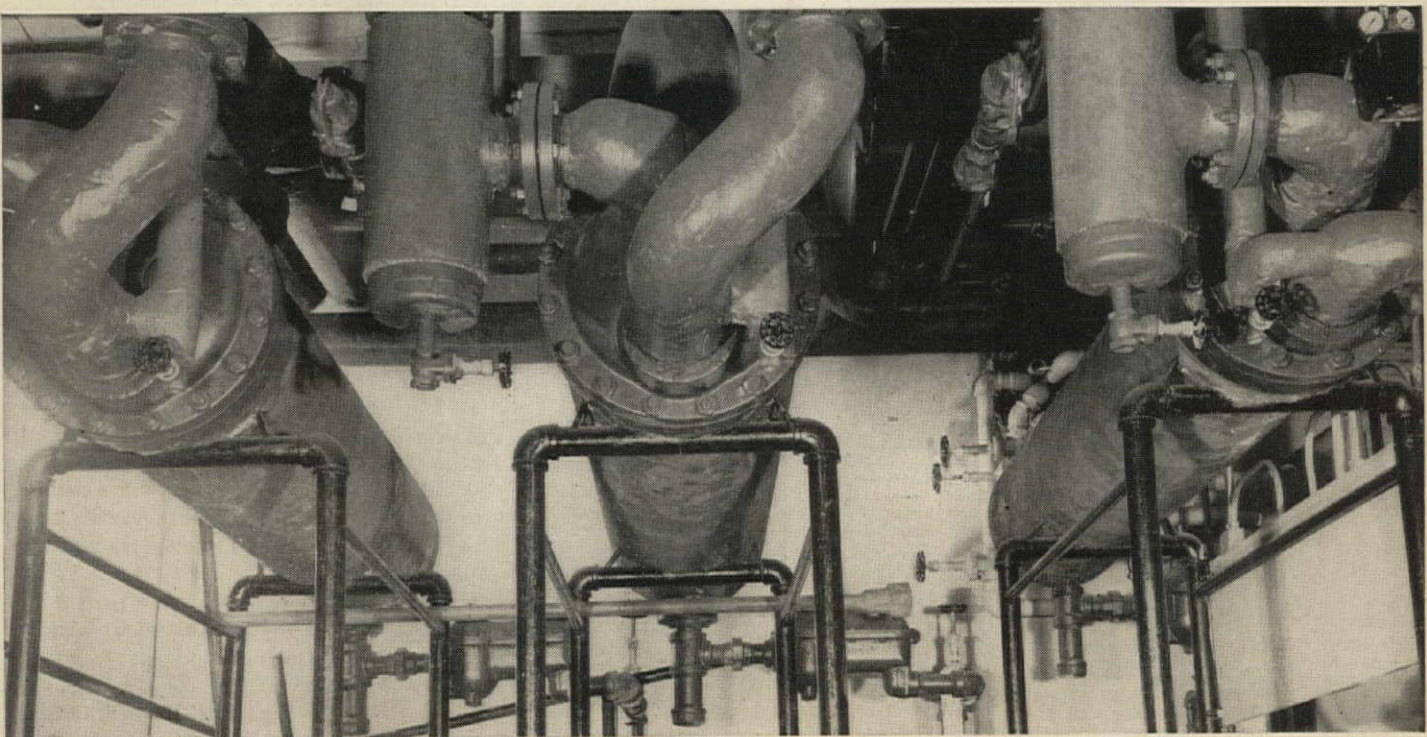
B&G Universal Pump



Notre Dame High School, Niles, Illinois



*(above) Battery of B&G Universal Pumps circulate a two-pipe, reverse return hot water heating system.
(below) Water is heated in these B&G "SU" Convertors connected to two low pressure boilers.*





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In constructing this new 22-story apartment house in Chicago, architects LOEWENBERG & LOEWENBERG specified spray application of Plaster-Weld to assure lasting adhesion of white coat directly on concrete ceilings. Plastering Contractor — Michael Grady, Inc.

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HOTEL LINCOLN, New York — Plaster-Weld sprayed on oil painted and concrete walls prior to application white coat in remodeling 23 stories, 1400 rooms. GEN'L CONTR: Webb & Knapp, Inc.



EXCERPTS

Opinions expressed in these excerpts are not necessarily those of FORUM's editors

Colossus of roads

Excerpts from Business Review, published by the Federal Reserve Bank of Philadelphia

Late in June, Congress passed a monumental \$33 billion road-building bill. Keystone of the program is a 41,000-mile network of modern highways linking 42 state capitals and 90% of all the cities of more than 50,000 population. Federal outlays of \$26 billion are authorized to meet 90% of the cost of completing the interstate system over a period of 13 years. State highway departments will do the actual construction and states will bear 10% of the cost—almost \$3 billion.

The question is, will \$33 billion and 13 years break the traffic jam? This depends upon whether the money is spent at the right places. If most of the money goes into the construction of great intercity superexpressways without opening the congested streets and highways in metropolitan areas, we shall be little better off than we are now.

We do not need high-speed, transcontinental highways nearly so much as we need wider streets and open roads in and around our cities where most of the motor traffic is constantly milling around. The possibility of long-distance motor trips unobstructed by traffic signals and intersections has glamor and dramatic appeal, but the records of toll collection on our turnpikes show an overwhelming predominance of shorter trips. The heaviest traveled section of the New Jersey Turnpike is the 17-mi. stretch between the tunnel and ferry discharge points on the Hudson River and the Secaucus interchange near Newark. This short stretch accounts for almost half of the revenue of the entire 118-mi.-long toll road.

One of the major defects of our highway system heretofore was the diffusion of highway-user funds; that is, spending on the wrong roads. What really happened was that the lightly traveled roads were subsidized by the heavily traveled roads. The latter produced a "profit" in the sense that they yielded user revenue in excess of their cost, and the "profit" was used for the construction and maintenance of the lightly traveled roads that operated at a "loss."

The heavily traveled roads will continue to be those in our metropolitan areas, and they are the ones that should receive the major overhauling.

In the next 13 years the motor industry can put a great many additional vehicles on the roads. During the past 13 years the number of motor-vehicle registrations increased 100%. Continued growth at that rate would give us 124 million registra-

continued on p. 84

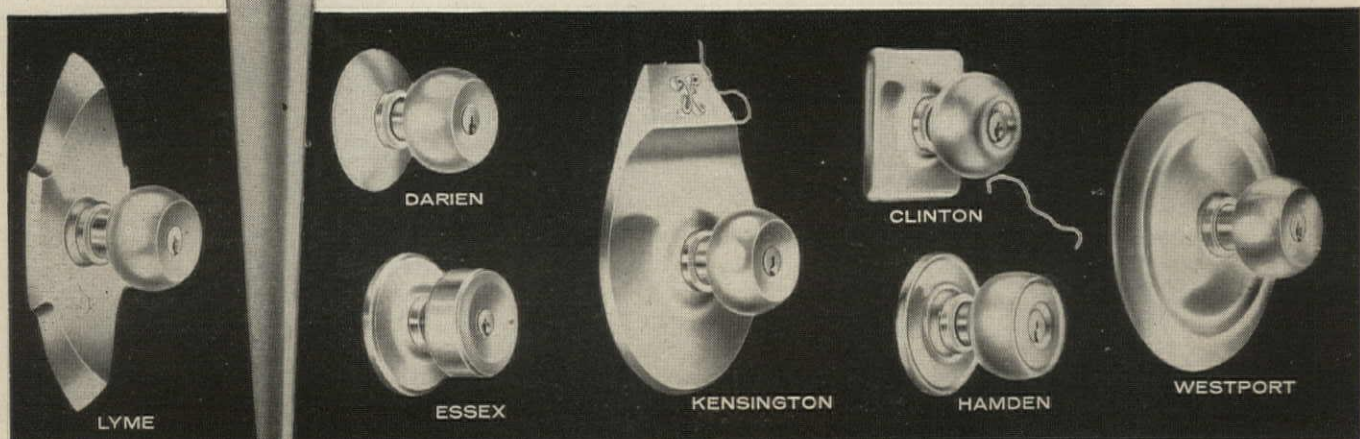
You have so much more to offer in new Sargent SENTRYLOCKS!

...more design possibilities than you ever imagined! A thoroughly satisfied client with every specification!

...19 lock functions! 5 beautiful finishes! 7 new features that simplify installation!

The new Sentries conform to Federal Spec. FFH 106A, Type 160 for bored lock and latch sets.

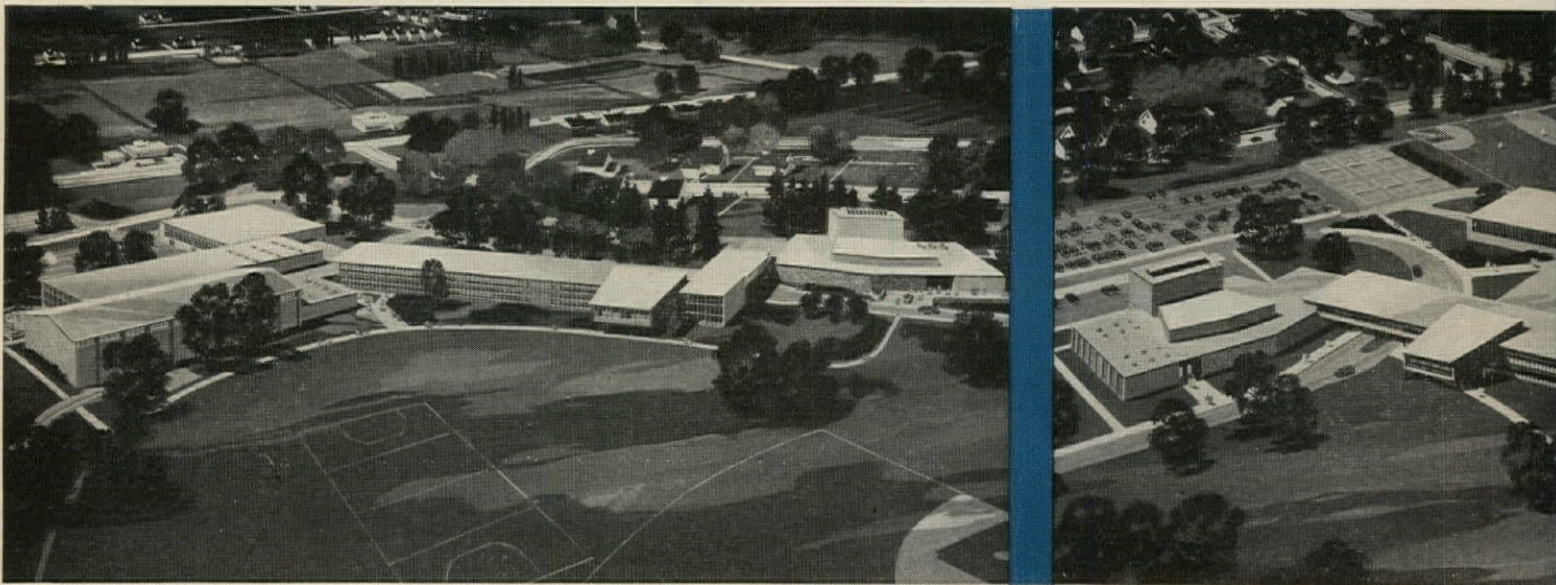
Ask your Sargent Representative to show you this great new Sargent line. Or write direct to Sargent & Company, New Haven 9, Connecticut, Dept. 8-L.



SARGENT LOCKS ... "Sign of a well built house"

ITEM: \$10,200

by switching from copper to Kaiser Aluminum



This pair of high schools—designed and constructed simultaneously—is the crowning achievement of the ambitious Cedar Rapids, Iowa school building program. LEO A. DALY COMPANY, Omaha, Nebraska: Architect; R. F. BALL—SOUTHWEST BALL CONSTRUCTION COMPANY, San Antonio, Texas: General Contractor; POWER ENGINEERING COMPANY, Sioux City, Iowa: Electrical Contractor.

THESE SCHOOL BUILDING MATERIALS ARE TYPICAL OF HUNDREDS NOW BEING PRODUCED AND OFFERED BY MANUFACTURERS USING KAISER ALUMINUM.



Doors made of aluminum assure lasting strength and beauty, minimum upkeep.

Mullions made of aluminum will not warp or rust; lightweight—easy to install.

LIKE virtually every other American community, Cedar Rapids felt a pressing need to reduce school construction costs.

In their original designs, the architects considered copper for the schools' electrical systems. But when their cost studies showed that aluminum would give them a substantial saving, the specifications were changed.

Imagine the satisfaction of *both* school board and architects when the Kaiser Aluminum electrical conductors used produced a \$10,200 saving—and an improved electrical system as well! Of course, the same

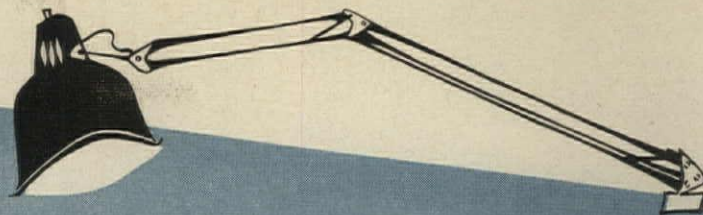
economies can be realized in other structures.

More Advantages of Aluminum. Lower material cost is only one of the advantages you gain with aluminum electrical conductors. Light weight and flexibility return important additional savings in handling and installation.

More Ways Aluminum Cuts Costs. Besides electrical systems, many more aluminum architectural items are contributing to the efficiency and economy of modern structures. For example, the six items shown above—made of Kaiser Aluminum—are recommended for school construction.

SAVING

electrical conductors!



Here is a comparison taken from the cost studies for the two new high schools now nearing completion in Cedar Rapids, Iowa:

COMPARATIVE COST STUDY:

Copper Conductor	\$70,000.00
Aluminum Conductor	45,000.00

Gross Savings Using Aluminum \$25,000.00

Less additional costs incurred in using aluminum:

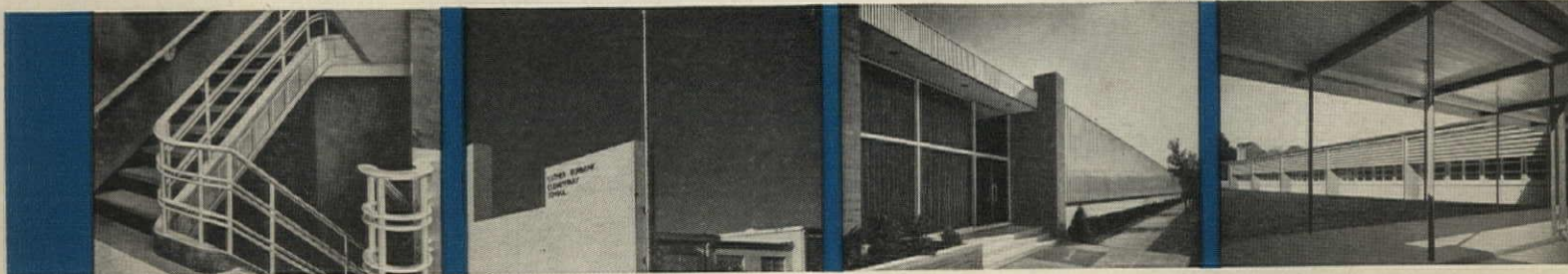
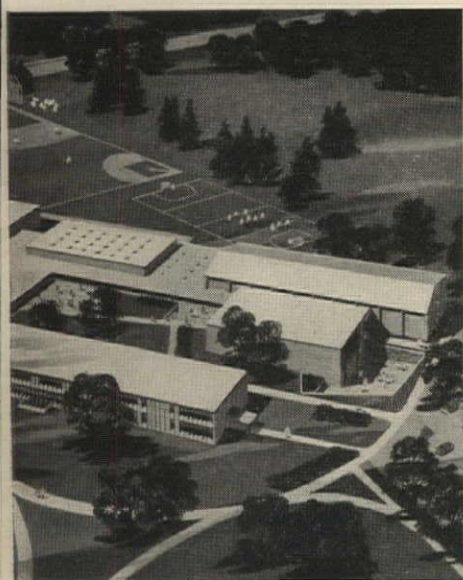
Conduit	\$ 6,500.00
Connectors	850.00
*Tools	1,500.00
*Training	1,000.00
Switchboard equipment modification	2,000.00
Reserve for contingencies	2,950.00

Total additional costs \$14,800.00

NET SAVINGS

\$10,200

*First job costs only.



Railings made of aluminum stand up under the hardest kind of treatment.

Flagpoles made of aluminum stay bright and will never need painting.

Curtain walls made of aluminum eliminate maintenance costs due to constant exposure.

Sun Shades made of aluminum add exterior beauty, assure interior comfort.

Kaiser Aluminum architectural representatives are ready to give you counsel and assistance on the proper applications of aluminum.

Contact the Kaiser Aluminum sales office listed in your telephone directory, or write Kaiser Aluminum & Chemical Sales, Inc., *General Sales Office*, Palmolive Bldg., Chicago 11, Illinois; *Executive Office*, Kaiser Bldg., Oakland 12, California.

Kaiser Aluminum

See "THE KAISER ALUMINUM HOUR." Alternate Tuesdays, NBC Network. Consult your local TV listing.

☐ Please have your Architectural Representative call.

☐ Please send me more information about building applications of Kaiser Aluminum electrical conductor.

KAISER ALUMINUM ARCHITECTS' SERVICE
919 N. Michigan Avenue
Chicago, Illinois

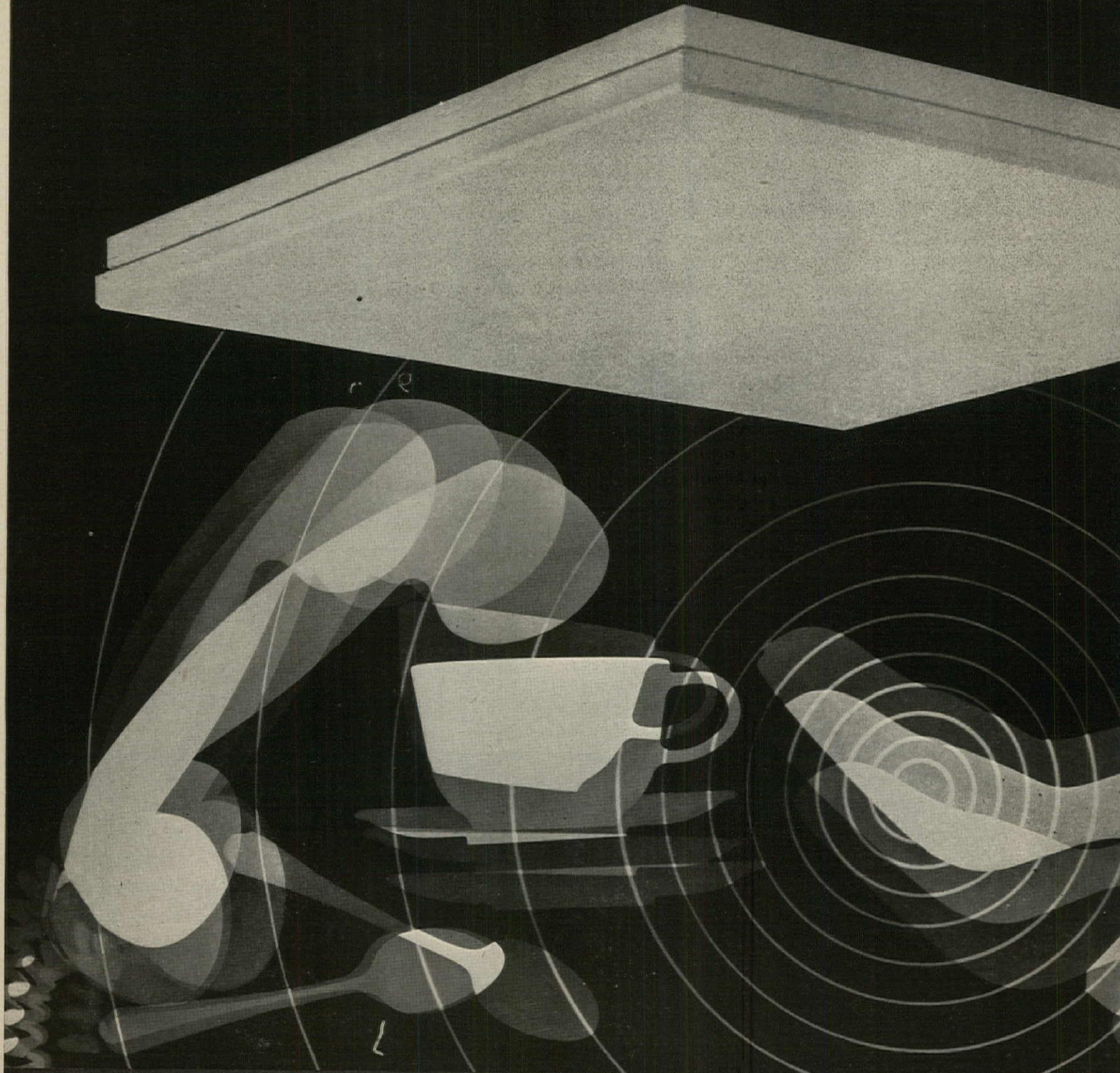
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ORGANIZATION

ADDRESS

CITY & STATE

Where silence is



EBBTONE Acoustical Tile is available factory kerfed, beveled and backcut for suspension systems, or may be applied with approved adhesive according to manufacturer's specifications. Available in 12" x 12" and 12" x 24" sizes.





golden

EBBTONE

ALL
MINERAL

Acoustical Tile

EBBTONE does *more* than put a ceiling on sound. It is a decorative medium of chaste, classic beauty—an elegant crown that reflects the light and mood and color of its setting with fabric-like depth and softness. Here, in a velvet glove, is a triumph of acoustical engineering—sound control, incombustibility and insulation virtually unmatched. Richly striated or regally plain, EBBTONE provides the hush that is plush.

EBBTONE tile is a foamed, completely mineral composition, naturally white, and with a light reflectant value of 81%. With maximum acoustical and insulating efficiency, EBBTONE's fire hazard classification (as per Underwriters' label shown) is rated incombustible by building codes and insurance rating bureaus. Should painting ever be required, EBBTONE can be painted with a non-bridging paint without materially changing its acoustical characteristics.

Specify it wherever quiet beauty must be part of the beauty of quiet. For client presentations, request matched panels exhibiting the several EBBTONE finishes available

FOR IRREGULAR SURFACES SPECIFY
CORALUX ACOUSTICAL PLASTER, THE
PERFECT COMPLEMENT TO EBBTONE.

ABSORPTION COEFFICIENTS OF EBBTONE ACOUSTICAL TILE

Test Number	Unit Size Tested	Wgt. Lbs. Per Sq. Ft.	Surface	Thick-ness	Mount-ing	Coefficients						Noise Reduction Coef**
						125	250	500	1000	2000	4000	
A56-251	12" x 12"	1.2	Striated	3/4"	7*	.62	.69	.64	.72	.83	.86	.70
A56-252	12" x 12"	1.2	Grained	3/4"	1	.19	.28	.67	.86	.76	.73	.65
A55-296	12" x 12"	1.22	Natural White	3/4"	7	.57	.58	.60	.70	.86	.86	.70
A56-17	12" x 12"	1.28	Natural White	3/4"	1	.10	.34	.68	.87	.79	.83	.65

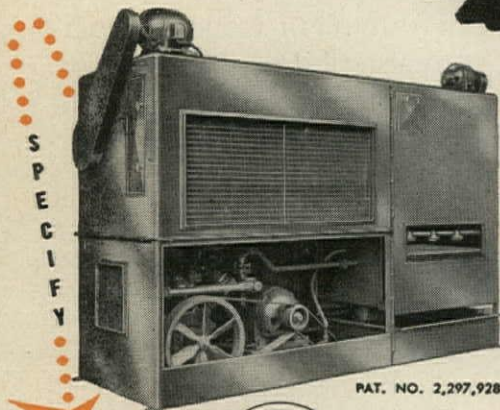
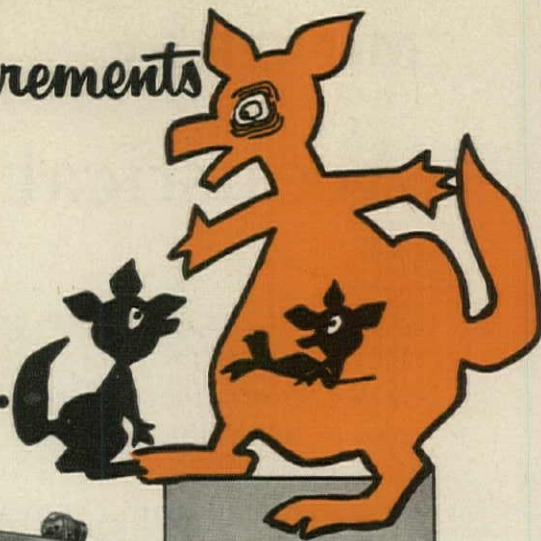
**The noise reduction coefficient is the average of the coefficients at frequencies from 250 to 2000 cycles inclusive, given to the nearest 5%. This average coefficient is recommended for use in comparing materials to be applied in offices, hospitals, banks, corridors, etc.

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If unusual loads or
space requirements
are your
problem...



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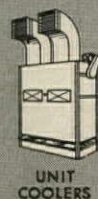
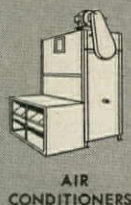
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EXCERPTS *cont'd.*

tions by 1969; sustained growth at only half the rate would give us 93 million motor vehicles. That would be bad enough even with a \$33 billion improved highway system.

The common carriers—the street railways and bus lines—are an integral part of the entire metropolitan network of transportation. In many instances the common carriers are fighting a losing battle with the private motor car. The common carriers face ever rising costs of operation and they are constantly losing traffic to the private motor car, with the result that they are forced either to raise fares or curtail service—policies ill-designed to attract traffic. Strategically located bus garages, truck terminals, railway stations, streetcar and bus lines, and transfer points are at best temporary palliatives. The skyscrapers are too far ahead of the road scrapers.

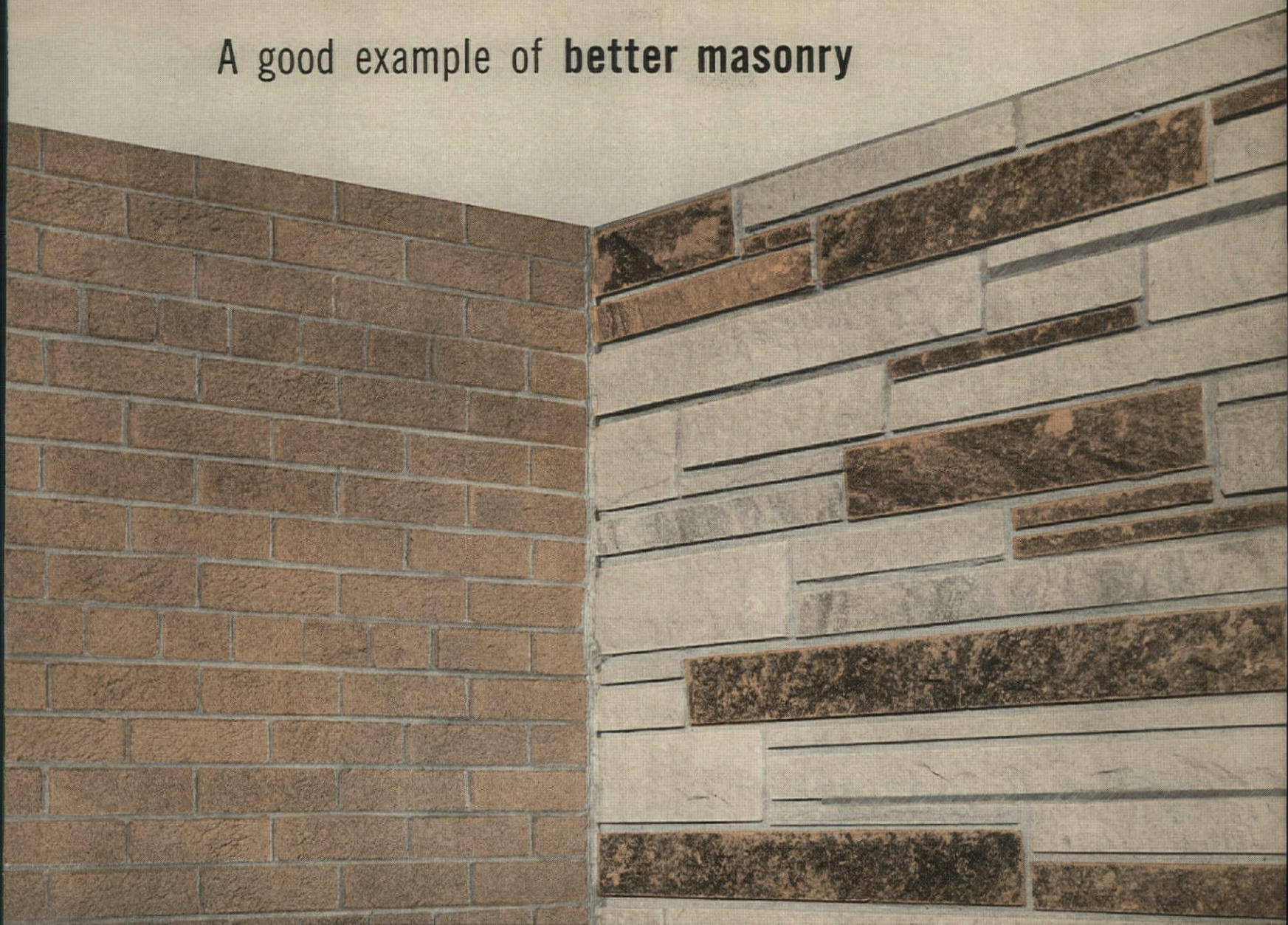
What shall we do then—tear down our cities and rebuild them to accommodate the motor age? That is obviously impossible, but it does raise some very basic questions. Should new urban buildings be required to provide parking facilities for the motorists they will be housing? Do new facilities like vehicular tunnels, off-street parking, limited-access expressways, and parkways relieve traffic congestion in urban areas, or attract more traffic making for bigger traffic jams in the future? Are we spending too much for roads and not enough for other forms of transportation?

The motor car is one of the most powerful forces hastening the obsolescence of cities. The evidence is readily apparent on comparing the stunted growth of cities with the lush growth of their suburbs. Since 1920, the population of Philadelphia grew 18%, but the population of the seven surrounding counties grew by amounts ranging from 54% in Chester County to 183% in Delaware County. Commercial and industrial activities are also spilling over the city limits. Industries that formerly flourished in the city, increasingly cramped for space, moved out into the neighboring counties where there is more "elbow room." The situation in Philadelphia is not unique; it is typical of all big cities.

The planning of urban highways and approaches cannot or should not be considered apart from the over-all problem of city planning. The street system, which ordinarily takes up about one third of a city's land area, is part of the larger problem of land use. A city, however, is more than a heap of concrete, steel and glass. It is also a heap of living together with diversified activities—industrial, commercial, financial, cultural, civic, religious, educational and political. But in giving maximum expression to all of these activities, the street system plays a very essential role.

continued on p. 92

A good example of better masonry



DURABLE, WEATHER-RESISTANT JOINTS improve appearance of stone, brick, or block; pleasing color can also be achieved with uniform Atlas Mortar Cement. Illustrated is brick and stone masonry of Nicolet High School (below), Glendale, Wis. Architect: Fritz von Grossman, A.I.A. Contractor: Becker Construction Co., both of Milwaukee, Wis.

...and the contractor used **Atlas Mortar Cement**


"We are well satisfied with Atlas Mortar's workability in all weather conditions, and its weathering and final appearance," says Mr. Fred Becker, Vice President, Becker Construction Co., Milwaukee, Wis.

In specifying Atlas Mortar Cement for jobs large and small, architects help builders obtain a long-lasting good appearance in finished masonry. Because Atlas Mortar Cement is of uniform quality, it gives dependable performance, bag after bag, along with durability in freezing-thawing weather.

Atlas Mortar Cement is famous, too, for its smoothness, water retention and workability retention, which are necessary for good masonry craftsmanship.

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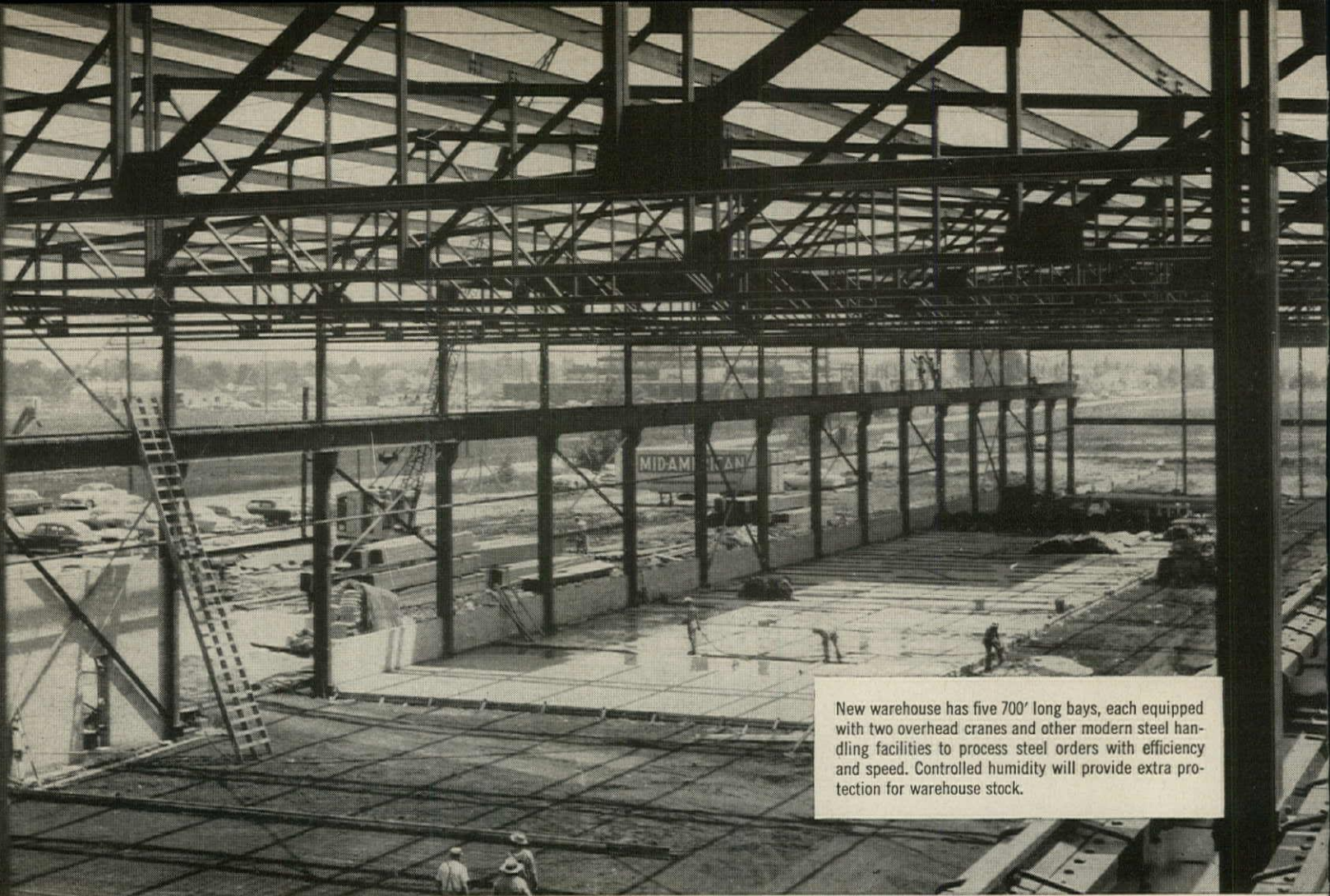
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New warehouse has five 700' long bays, each equipped with two overhead cranes and other modern steel handling facilities to process steel orders with efficiency and speed. Controlled humidity will provide extra protection for warehouse stock.

Junior Beams as roof purlins speed erection of ultra-modern A. M. Castle & Co. steel warehouse

Two hundred tons of 10" lightweight J&L Junior Beams are used as roof purlins in the new \$4,500,000 Franklin Park, Ill., warehouse of A. M. Castle & Co., nationally known steel distributor.

Erection is simple and fast. Junior Beams are cut to length and punched for bolts prior to arrival on the job. Their light weight makes them easy to raise and position. Connections are made with end plates and high tensile bolts.

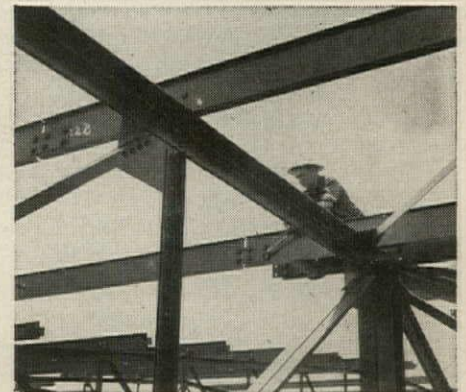
This ultra-modern warehouse provides an outstanding example of



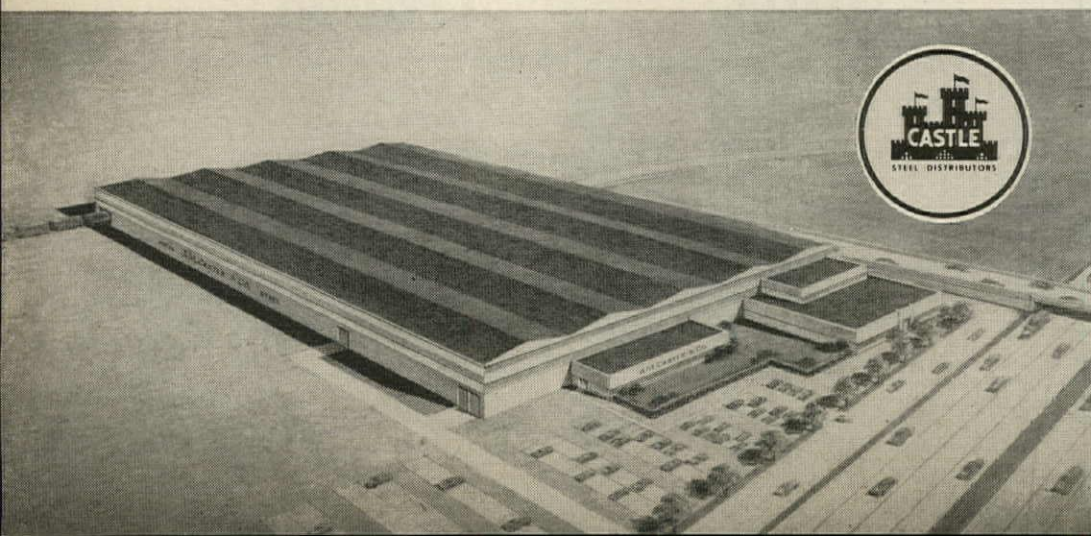
one type of structure where J&L Junior Beams are employed to advantage. Other applications include almost every type of light occupancy buildings. Architects and builders use Junior Beams to develop functional, permanent, safe structures that are low in over-all costs.

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STEEL CORPORATION · PITTSBURGH



The Junior Beams are installed on 8' centers over 24' spans. To save steel, 9 lb., 10" Junior Beams are cantilevered beyond the main trusses.



Over 2,200 tons of structural steel, fabricated and erected by Allied Structural Steel Companies, are being used in this new \$4,500,000 steel warehouse at 3400 North Wolf Road, Franklin Park, Illinois.

ARCHITECT AND BUILDER:

Clearing Industrial District, Inc.
Architect, J. S. Cromelin

FABRICATORS: Gage Division

Allied Structural Steel Companies

ERECTORS: Industrial Construction Co.

Division of Allied Structural Steel Companies



Light flows into this reception room through the decorative Blue Ridge Patterned Glass panels and matching SECURIT® Interior Glass Door. Translucent glass is so versatile... blends so well with other materials. Beautiful yet practical! The door is tempered glass...for hard use. "At home" in new construction...perfect for modernizing. So many design problems work out so well with patterned glass.



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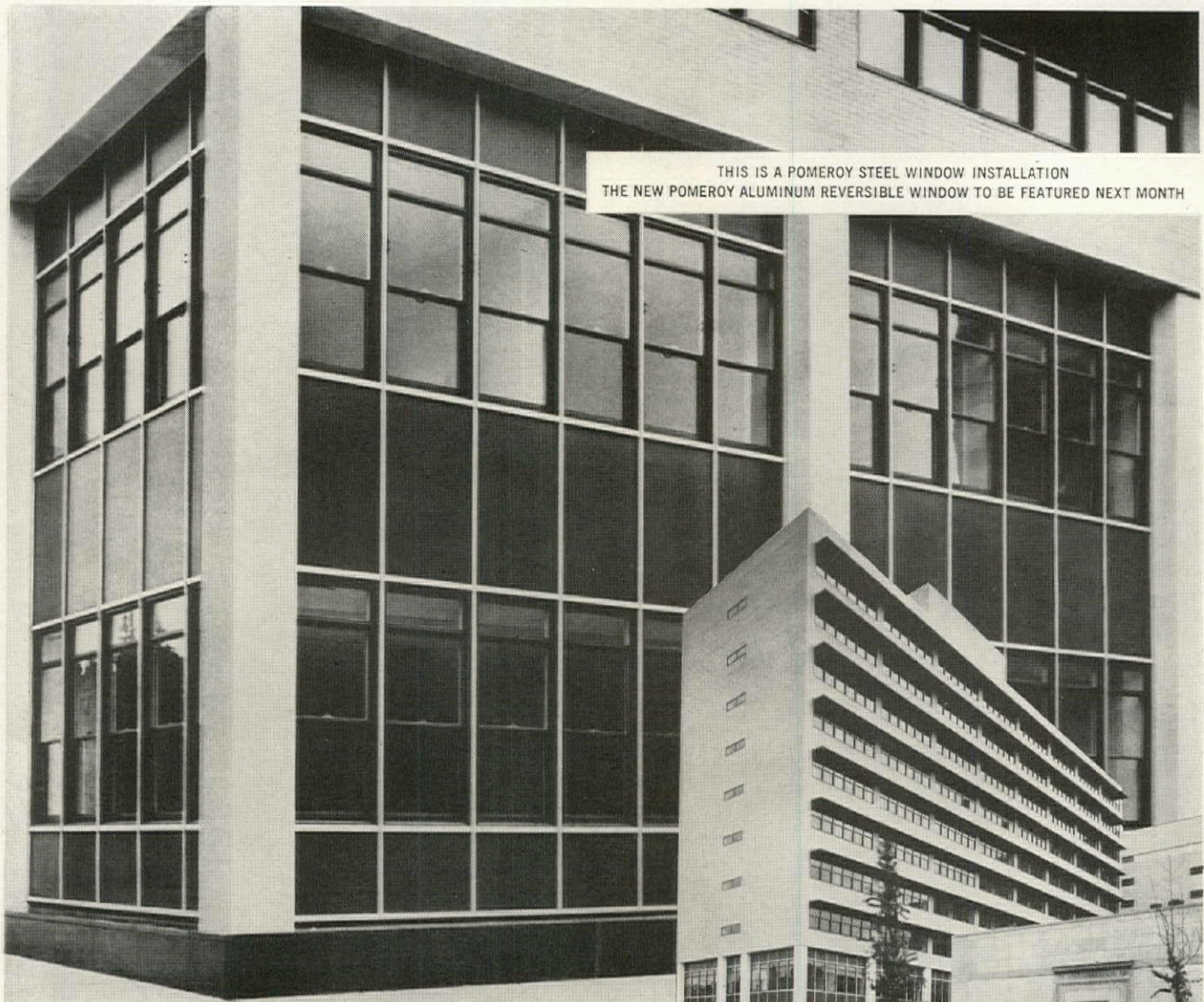
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Please send me your folder "Blue Ridge SECURIT Interior Glass Doors."
I would also like a booklet of ideas for using Blue Ridge Patterned Glass
in ☐ homes... ☐ other buildings. (Check one or both.)

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THE NEW POMEROY ALUMINUM REVERSIBLE WINDOW TO BE FEATURED NEXT MONTH

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ARCHITECT: Skidmore, Owings & Merrill
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INSTITUTIONAL WINDOWS CALL FOR POMEROY

Hospitals and schools by necessity have to be *more critical* and *more aware* of the greater importance that windows play in comfort and convenience. POMEROY windows long recognized for their superior qualities *now* offer advanced designs with important features to complement today's modern construction methods. Call in our engineers for special window treatments to help with your next project.



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FABRICATION IN ALUMINUM — STAINLESS STEEL and COATED STEEL

...for a touch of Glamour that lasts and lasts!



Young Miss Department of Snellenburgs of Philadelphia—one of two large areas floored with 1/8" "Sequin" linoleum in a big store modernization program.

NEW, EXCLUSIVE Gold Seal SEQUIN® 1/8" INLAID LINOLEUM

Now, with new 1/8" "Sequin" linoleum, you can offer commercial clients a truly luxurious, high styled heavy-duty floor. Here is rich, beautiful coloring . . . a terrazzo type design that fairly scintillates before the eye . . . excellent resilience—for exceptional quiet and comfort underfoot. Seven decorator colors provide ample selection for matching *any* decor.

And new "Sequin" is as rugged and easy to maintain as it is beautiful! Colors are inlaid *clear through* to the backing. Its satin-smooth surface seals out dirt, resists

stains . . . makes cleaning easy! Grease, grime and spills just wipe off with a damp cloth! And "Sequin" needs less buffing—for scuffs "disappear" in the design. See new Gold Seal 1/8" "Sequin" linoleum at your Gold Seal Dealer.

SPECIFICATIONS: 6-ft. wide yard goods. 1/8" gauge, bur-lap backed. Install over suspended wood or concrete subfloors. Available in: Grey mix, Grey, Green, Dark Brown, White Multi, Taupe, Beige. Also made in standard gauge for residential use—in 16 colors.

Abrasive Wheel Test proves "Sequin" will "look like new" through long service life!



The circular "After Test" area is the result of applying the abrasive wheel to the "Sequin" sample. See how it has worn well through the linoleum—and yet the pattern is still there, as clear and sharp as ever! Compare it with the "Before Test" area. You can't tell the difference! Write to Architects Service Department, Gold Seal Floors and Walls, Congoleum-Nairn Inc., Kearny, N. J., for further information.

FOR HOME OR BUSINESS:

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Save Space and Money with **MENGEL Closet Walls!**

Mengel Closet Walls are factory-built modular units, shipped K.D. in individual cartons, in 2', 3', 4', 5' and 6' widths. They are all 91½" high, to permit tilt-up installation with 8' ceilings.

They are easily installed in almost any combination in place of conventional walls, thereby saving floor space and money. They are also widely used as *extra* closets in existing buildings.

► Provide more living space without loss of closet space!

► Cost less than conventional plaster or dry wall closets!

Interiors equipped with rods, divider partitions, shelves and drawers, as desired. Built-in chest and desk units available on quantity orders!

► Mengel's exclusive roller hanger is easily and quickly adjusted with one screw!

Hardwood frames with Gum, Birch or Mahogany plywood exteriors!

► Field-proved in thousands of institutions, apartments and homes!

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Gentlemen: Please rush me full details about Mengel Closet Walls.

Name _____

Firm _____

Street _____

City _____ State _____

this

dramatic fireplace

keeps its "new look"

forever...

it's Stylon ceramic tile

Typical of the interesting, unusual and practical effects you can achieve with ceramic tile is this stunning fireplace.

Here the imaginative use of Stylon soft-hued Natural Clay Tile, with pink accents of Stylon Glazettes — in the semi-circular fireplace wall — blends beautifully with the natural copper of the fireplace hood. The result: high drama . . . and high practicality, too, since Stylon Ceramic Tile will not discolor, blemish or fade; and soot accumulation can be wiped clean in seconds.

Framing the fireplace, and lining the woodbox, is Stylon Wall Tile in Persian Brown — the correct touch of color, carefully selected from Stylon's wide range of harmonizing colors.

Lastly, Stylon's new 12" x 16" Magna-Tile is chosen as a practical, easy-to-care-for surface beside the hearth.

Stylon Ceramic Tile is offered in a wide range of sizes, shapes, textures and colors. Consult the "Yellow Pages" for your nearest Stylon franchised distributor who stocks and displays the complete line . . . or write Stylon Corporation, Summer Street, Milford, Mass. For Stylon catalog, information on design service, mail coupon.

MEMBER,
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OF AMERICA, INC.

Stylon



Stylon Corp., 16 Summer St., Milford, Mass.

Gentlemen:
Please send me your latest catalog describing the complete line of Stylon Ceramic Tile.

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Firm.....

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A Drafting Room Needs the Best Light It Can Get ...It Gets It Here with Lighting by **LITECONTROL!**

This large area of The Clarkeson Engineering Company, Inc., Boston has all the working light required without excess brightness at desk and drawing board level. Intensity is 61 footcandles average, a year after installation.

The two lamp louvered fixtures by Litecontrol in addition to assuring low brightness, feature trim appearance and easy installation and maintenance. Yes, and because these are *standard* fixtures, they will meet the budgetary requirements of almost any firm or company seeking quality lighting at moderate cost.

Louvers are hinged from either

side for servicing without the need for tools. The frame around the louver's sides provides rigidity, eliminates sharp edges.

Next time you have a large commercial area to illuminate (or a smaller one) where you want the right amount of light in the right places — in any intensity or combination of intensities, call on Litecontrol. We have a standard fixture which will do the job — and save money in addition.

INSTALLATION: The Clarkeson Engineering Company, Inc., Boston, Massachusetts

AREA: Drafting Room

ELECTRICAL CONTRACTOR: Gaston Electric Company, Boston, Massachusetts

FIXTURES: Litecontrol #5328 and #5324 2-lamp louvered fixtures, 8 ft. and 4 ft. long, pendant mounted on 18" stems.

MOUNTING HEIGHT: Approximately 9'-0"

FIXTURE SPACING: 9'-0" on centers

INTENSITY: 61 footcandles average, after one year's service


LITECONTROL *Fixtures*

KEEP UPKEEP DOWN

LITECONTROL CORPORATION, 36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS



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You can do just that — by specifying an International Standard Swing Door Entrance. It comes as a complete "package," with the ageless beauty that is inherent to stainless steel . . . and with flawless fit and performance pre-proved before it leaves International. These are doors that laugh at weather and wear, kept ever-new with a minimum of care. These are entrances that are adaptable to an almost unlimited range of installations, ever smart and dependable under every service condition. These are the answer to your entrance requirements, however exacting your specifications!

See Catalog in Sweet's Architectural File No. 16d
Or Consult Classified Section of Your Telephone Directory

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EXCERPTS *cont'd.*

The office building boom

Excerpts from an article by Norman Tishman, president of Tishman Realty & Construction Co., in the New York World-Telegram and Sun.

The big rush to fill New York City's new office buildings has been a constant source of wonder to many. No sooner does a new skyscraper take its place on the skyline than its every inch of interior space is taken. Building after building goes up but the stream of tenants continues without letup. Where tenants are coming from is often asked.

Of course, some come from other cities, but the majority come from only one place—older buildings. However, this answer still leaves unexplained the reason for the phenomenon. A more meaningful and significant question would be, "Why the big rush?"

The answer to this is threefold: 1) the need for additional space to keep pace with company growth, 2) the need for the kind of space which will spur company efficiency and 3) the need for the kind of building which will reflect favorably on the company's stature.

Furthermore, since rent is one of the smallest expenses of a company, and since higher rentals in new buildings are largely offset by greater efficiency, increased employee satisfaction and heightened company stature, the logic of a move to a new skyscraper is overwhelming.

Architecture of tomorrow

Excerpts from an address by the famed Italian Structural Engineer Pier Luigi Nervi before the Southeastern Regional Conference of the Association of Collegiate Schools of Architecture at the N.C. State College School of Design and first printed in the school's Student Publication

Try to compare the height of genius, the power of intuition, the unending meditations and the courage required by Brunelleschi to conceive the construction of the dome of S. Maria del Fiore in Florence with the ease with which we may verify the stability of much more complex structures today. The great freedom of structural invention available to us today will then be quite obvious.

At the same time, we cannot help but notice the negative aspects of this democratization of structural knowledge, which

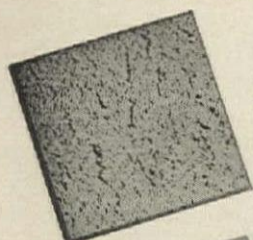
continued on p. 96

**Quiet
is a
modern
necessity**

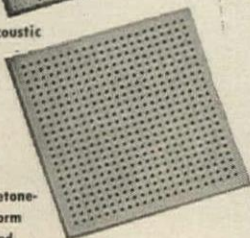


The handsome, efficient Johns-Manville Sanacoustic ceiling in this Ohio Fuel Company office in Columbus, Ohio, muffles the noise of business machines. Architects: Karlsberger, McClellan & Gallogly, Columbus, Ohio.

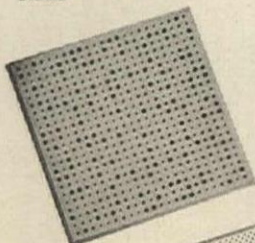
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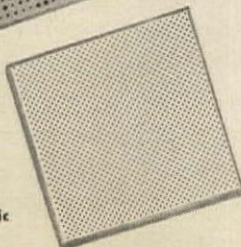
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of a library. Herculite is Polished Plate Glass subjected to a special tempering process which makes it four times stronger than ordinary glass of the same thickness. In this entrance, the Pittcomatic Hinge, "the nation's finest automatic door opener," also was included (see description of the Pittcomatic here). Architects: Johnson, Hatch & Wulff, San Diego, California.

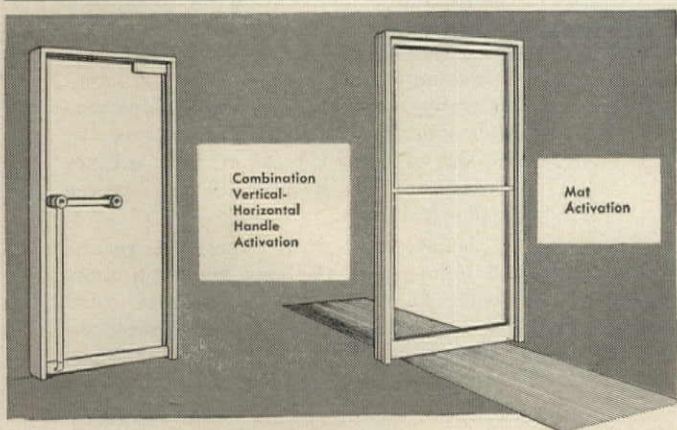
For detailed information on Pittsburgh Doors, see Sweet's Architectural File . . . Sections 16a and 16d . . . or write to Pittsburgh Plate Glass Company, Room 6404, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.



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In this entrance of the Housing Development Corporation, Silver Spring, Maryland, Pittsburgh Tubelite Doors add a telling note to the general modern feeling of this building. Tubelite tubular frames and doors mark a distinct advance in hollow metal entrance design. Their clean, simple lines make them extremely adaptable to any type of con-

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EXCERPTS *cont'd.*

is so valuable from a practical standpoint.

The facility with which we can now tackle a large number of structural problems and the cold objectivity of the methods of analysis, as compared with intuitive mental processes, have unavoidably lowered the level of our realizations. I am afraid that humanity will not be able to repeat the technical and architectural miracle of the great Gothic cathedrals.

During the last 100 years all the factors which directly or indirectly influenced construction have been harmoniously directed towards a new architecture which has no real connection with the past. It may be well to ask ourselves what will be the direction of this new architecture. The increasing importance of the structural aspects of the new themes (like long-span bridges, great halls, stadiums, railroads, maritime and air terminals, large factories and large office and storage buildings) require a strict adherence to what I like to call "static" truth in order to obtain economical and constructionally possible solutions.

Any structure of large dimensions is strictly limited by structural requirements, both in its form and in its resisting skeleton.

The freedom of form of the head of a window or the arch of a cloister, the structural elements of the architecture of the past, disappear completely when we are confronted with large dimensions or exceptionally heavy loads. A bridge more than 100' in span has already a limited number of solutions; if the span is over 150', the number of possible solutions decreases and there may be only one or two solutions left when the span is over 300'. The profile of an arch-bridge of more than 300' or 400' span cannot differ much from the curve of the resultant pressures of the permanent load. Therefore its shape will be very near the shape of a parabola.

Every important piece of construction will therefore have a tendency to express, more and more, the structural scheme which determines it. Actually an honest expression of such a scheme will be architecturally eloquent. Airplanes, ships and automobiles have gradually abandoned the freedom of form typical of their infancy to reach uniform, standard shapes imposed by physical laws.

I believe that such functional results will influence in the long run even those smaller buildings which otherwise could still conserve, because of their limited dimensions, a certain amount of freedom.

It is therefore foreseeable that both because of the direct influence of the structural problems of large structures and because of the direct influence of other technical and mechanical realizations and, finally, because of the ever increasing influence of economic factors, the entire architecture of the future will be directed toward a more truthful style. All super-

continued on p. 100

Sikorsky Aircraft's "Plant of the Year"



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This spacious new helicopter plant recently built by Sikorsky Aircraft, division of United Aircraft Corporation in Stratford, Conn., covers nearly 18 acres and can easily be expanded to meet future production needs. A model plant in every respect, it has been cited by *Factory Management & Maintenance* as one of the top ten in the nation for 1956.

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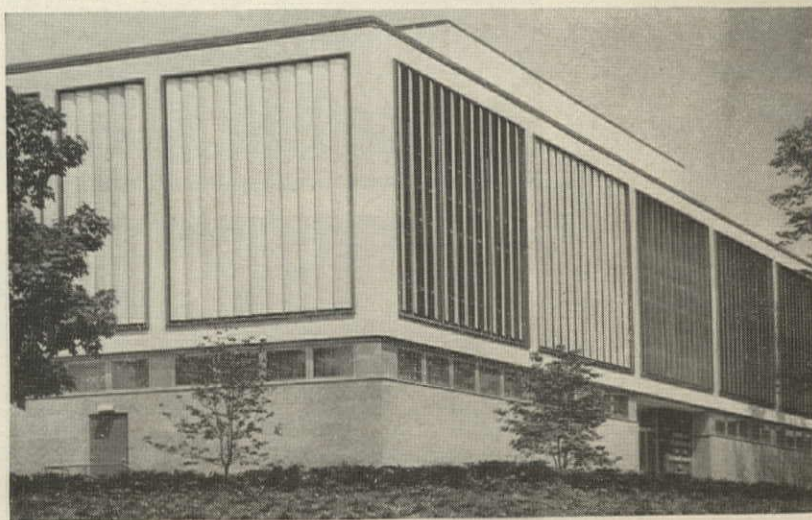
Louvers electrically operated and clock controlled to follow the movement of the sun are the latest refinement in sun control for monumental buildings. Appropriately enough, this newest technique is applied to the handsome new headquarters for the American Association for the Advancement of Science in Washington, D. C.

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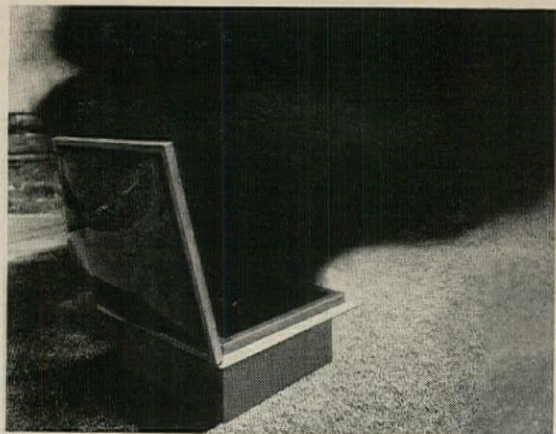
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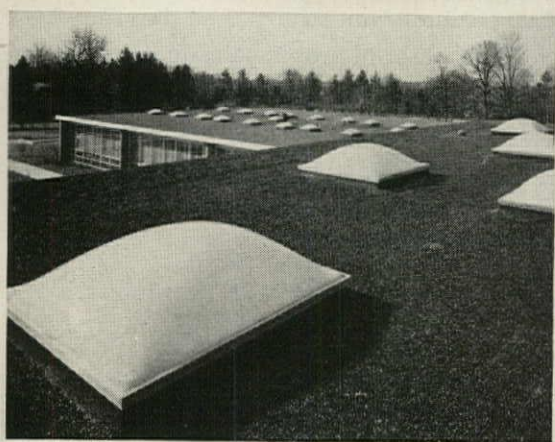
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EXCERPTS *cont'd.*

fluous decoration and all sculptural characteristics will be abandoned.

This new direction which tomorrow's architecture must inevitably take (unless all the fundamental technical aspects of our new culture should suddenly be revolutionized) will not lead us necessarily to cold and standard architectural expressions. First of all, the structural forms of great works are in themselves rich and beautiful. Moreover, entire fields of architecture will always be free from the cold and purely technical requirements of structuralism. For example, the solution of urbanistic problems in the residential sections of our cities can still be quite free and may express in the serene joy of their green areas the needs for romanticism and poetry which, I hope, will still be felt by future generations.

The change-over from the traditional constructional themes and their solutions to those of today has been too fast and has taken place during an interval of time shorter than the professional life of a designer. The substance of the new structural and architectural possibilities did not have time to mature and to become deeply understood. Hence, the new solutions reveal the absence of a deep conviction and, because of this, are often inexpressive and anti-architectural. We must denounce the danger of an academic structuralism which may be even more damnable than the old academic decorativism.

The answer lies in the preparation of the designer and in his understanding of the static problem. Therefore the problem is essentially an educational one and must be solved by the faculties of architecture.

One of the worst mistakes we can make is to assume that the architect may get by with a knowledge of structures which is inferior to the knowledge of a structural engineer. To be able to invent and proportion even approximately the new and grandiose structural schemes required by the architectural themes of today, the architect must have an understanding of structural concepts so deep and well integrated as to transform these concepts—originally based on physical premises, mathematical theorems and experimental data—into a unique synthesis and into an intuitive and spontaneous sensibility.

A complex structure cannot be designed starting from the formulas and mathematical developments of the theory of structures. These formulas and developments will become necessary during the second phase of design in order to proportion the elements of the structure. It is the capacity to feel a structure in an intuitive way, as one feels a ratio of volumes or a color relation, which represents the indispensable basis for structural design.

A serious structural training of the new architect is fundamental for the development of the architecture of tomorrow.

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By Edwin L. Saxer: Professor and Chairman, Civil Engineering Department, University of Toledo



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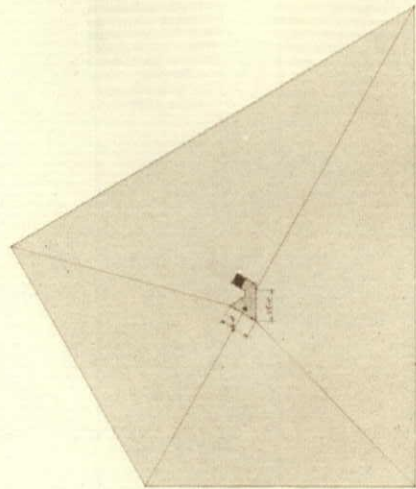
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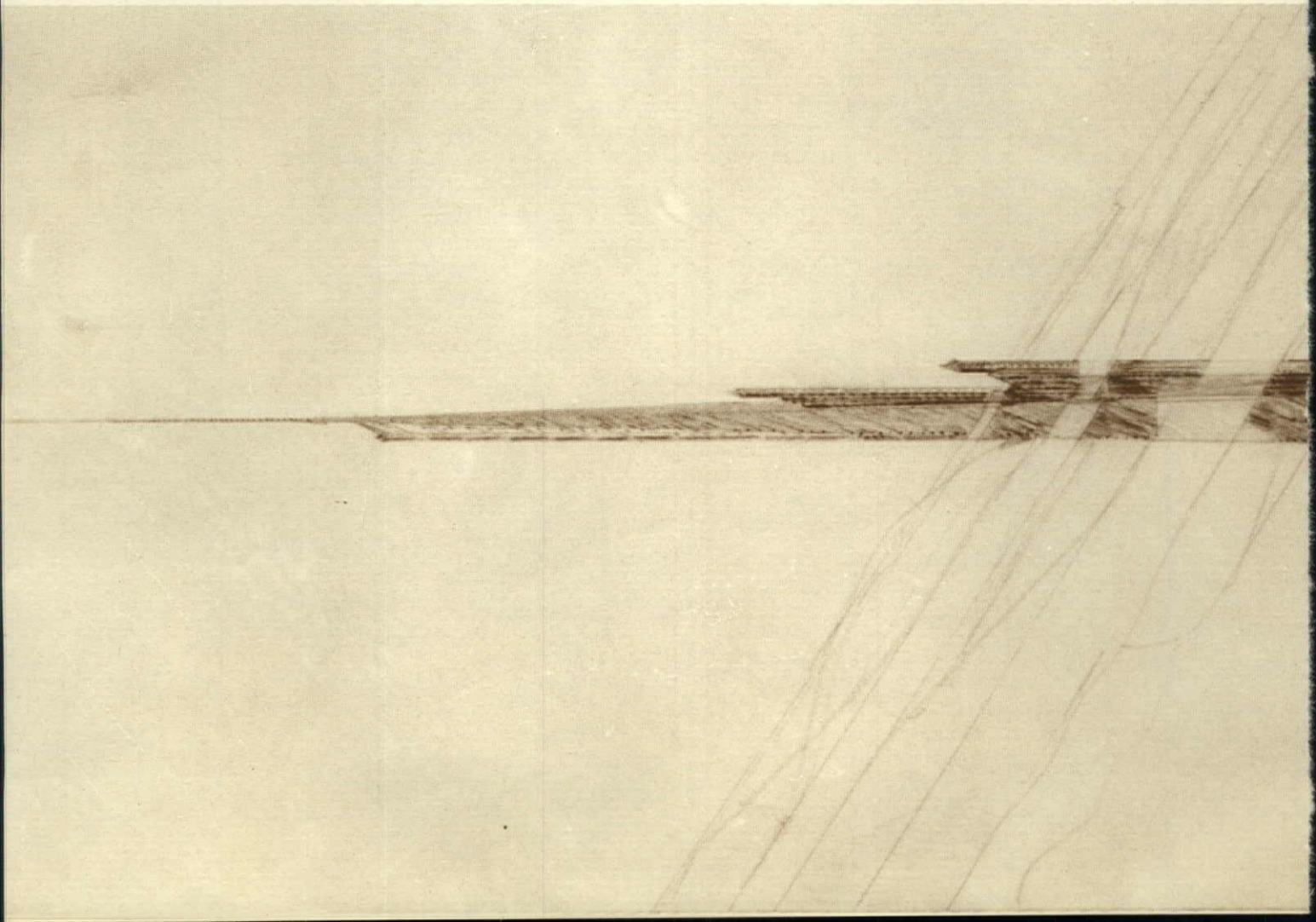
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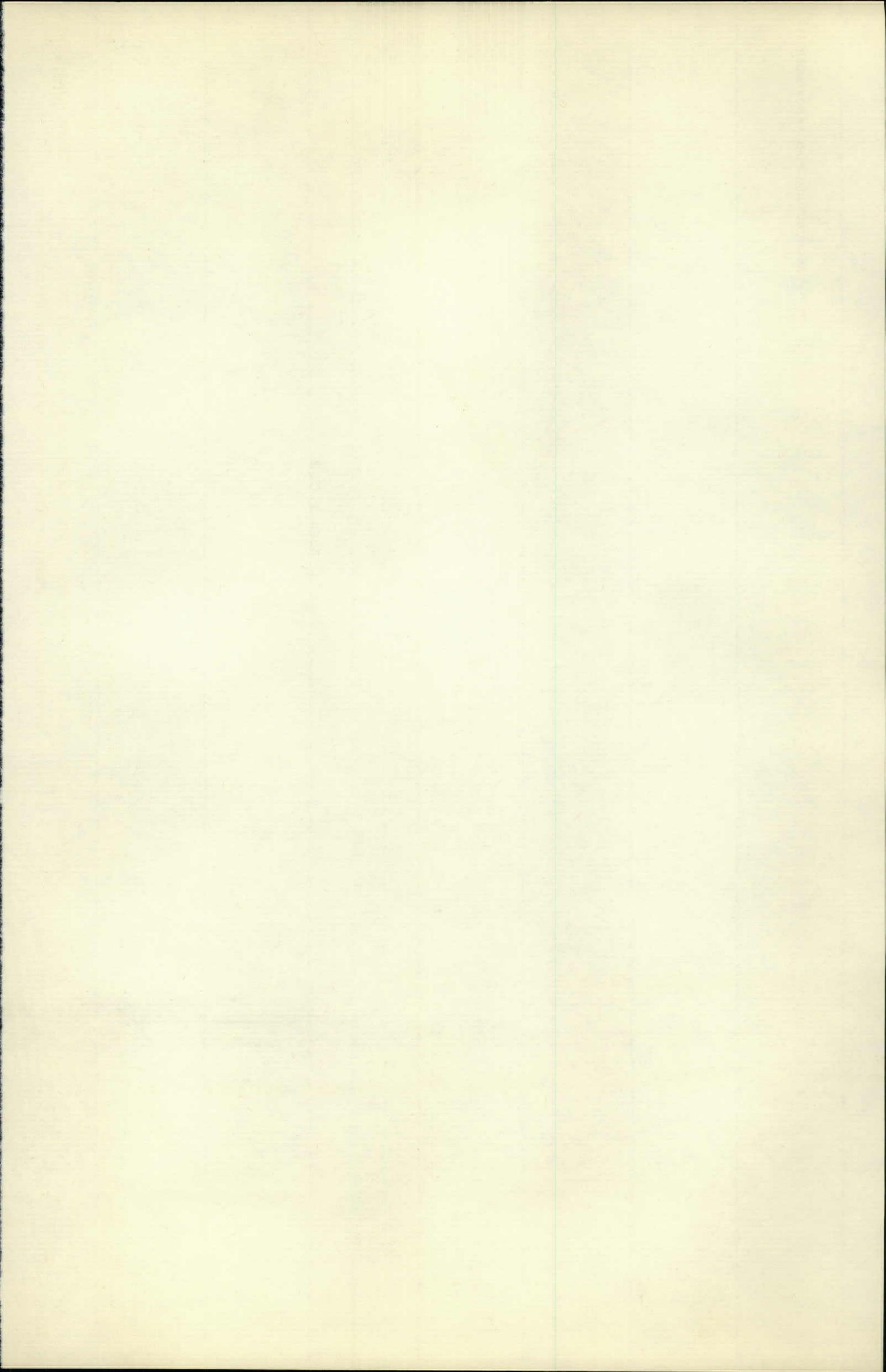


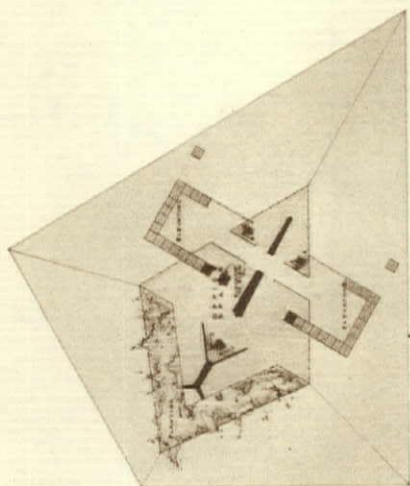
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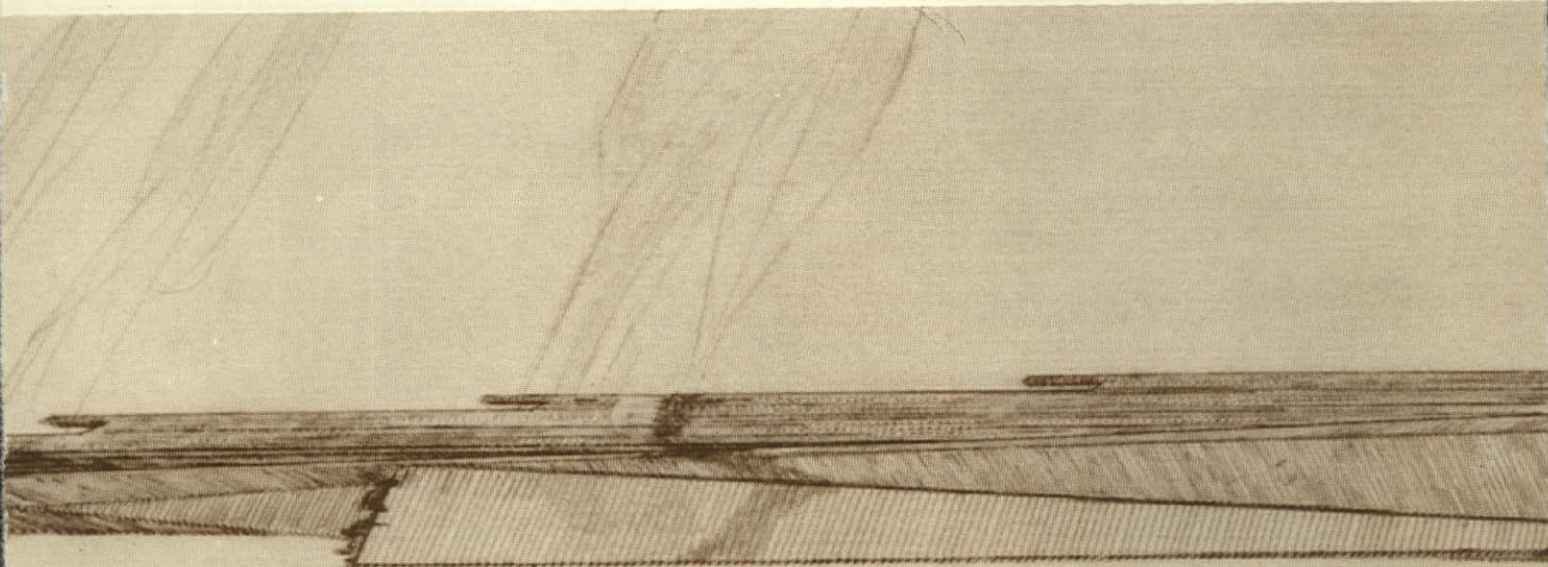
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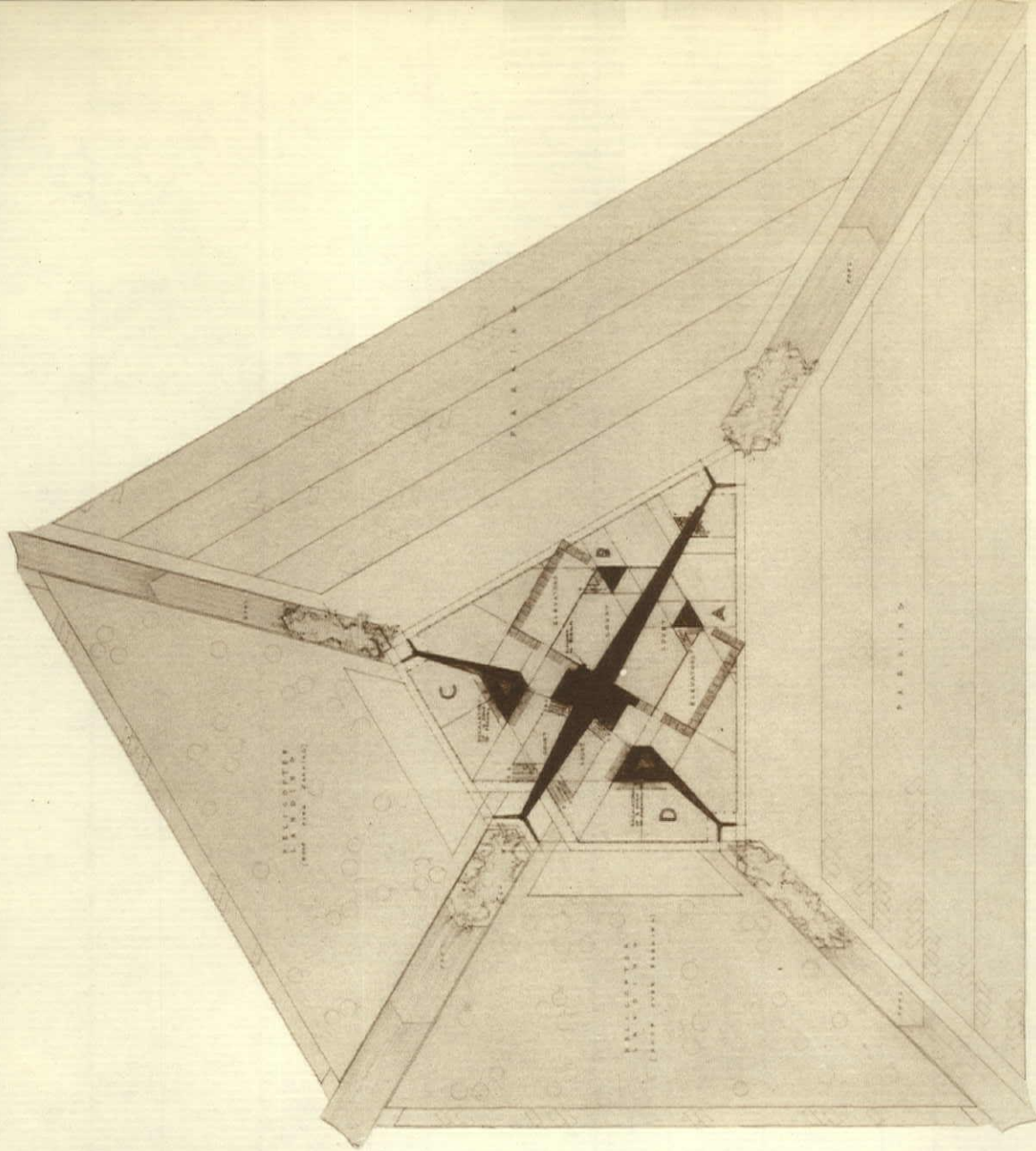
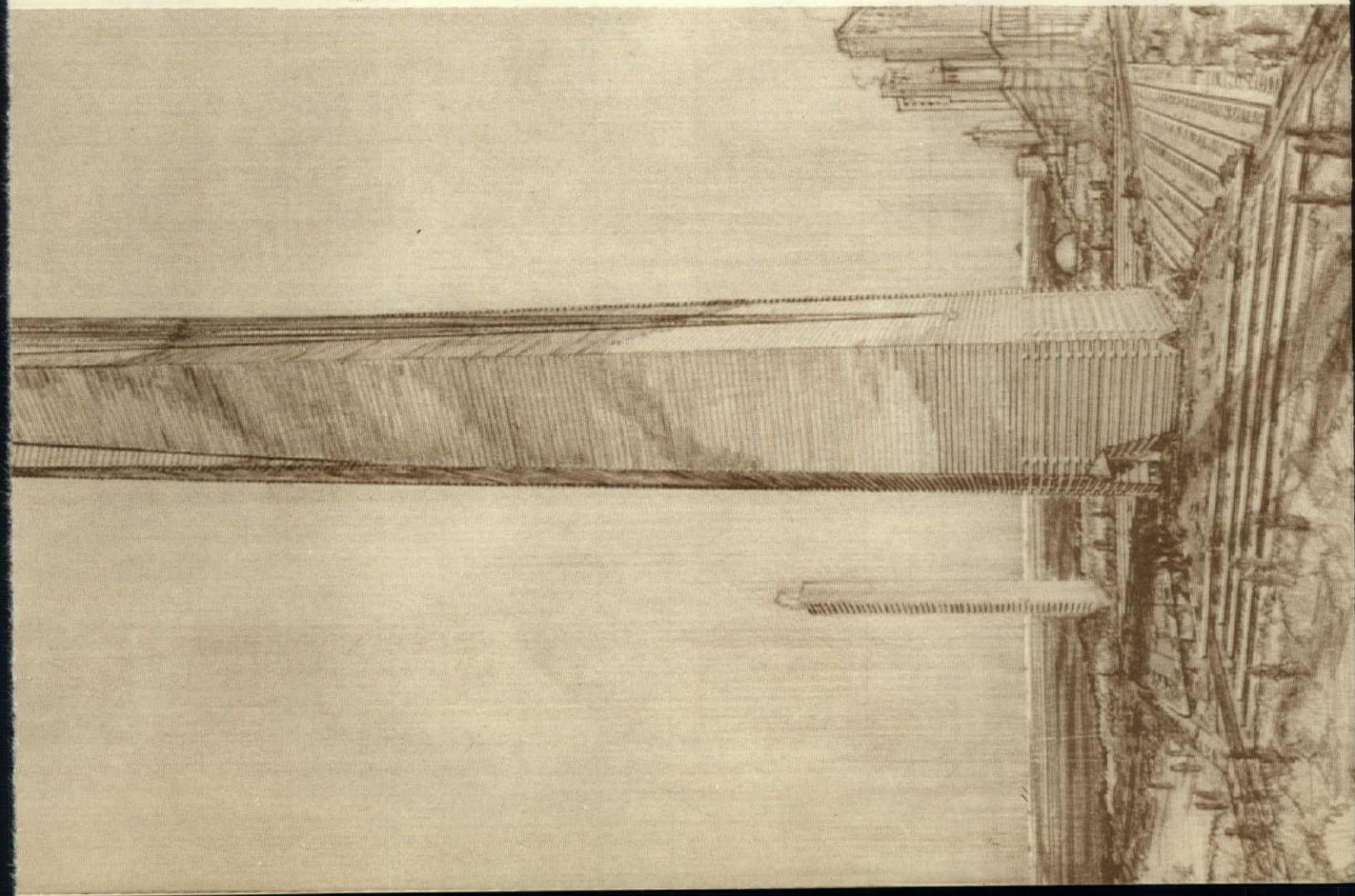






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FRANK LLOYD WRIGHT:

■ Most stable of all forms of structure is the tripod. Pressures upon any side are immediately resisted by the other two. For general stability at great height this form is combined with new principles of cantilever-steel in suspension in my proposed mile-high office tower for Chicago, the "Illinois."

■ The exterior is entirely metal-faced, carried by steel wires suspended from a rigid steel core buried in lightweight concrete. The building is thus designed from inside out instead of the usual construction from outside inward. The entire structure is more airplane in character than the usual heavy building construction. For instance, the support of the outer walls and the outer part of the floors is pendant, and the science of continuity is everywhere else employed from inside outward. All floor slabs otherwise are extended across the central core and balanced. This is the type of construction used in the airplane, the ocean liner, the Imperial Hotel in Tokyo and in several of my other buildings. It is a "natural" for either great spans or great heights. Typical weights are little more than half those in customary building practice.

■ This interior system of building construction is new: tension here involved in the Illinois was first used by myself (horizontally) in the Imperial Hotel (built in 1915 and proved earthquake-proof in 1922). The same general system has now been repeated vertically—and successfully—in the Johnson Heliolaboratory at Racine, Wis. (AF, Jan. '38), and in the 19-story, 40'-square Price Tower at Bartlesville, Okla. (AF, Feb.

'56). In the Illinois the same principles of steel in tension (cantileverage) centralize loads over the giant core of steel and concrete. So the framework of the Illinois is like a tree; the horizontal floor slabs (branches) are integral with the vertical core (trunk), making the total structure light and rigid.

■ The light floor slabs are tapered hollow from the core to carry air conditioning, lighting and appearance systems. These cantilevers are formed by special high-tension steel, diamond mesh reinforcement cast into light concrete slabs. All exterior surface features of this structure, excepting the vertical elevator enclosures, are suspended from the sloping corners of the core as are certain areas of the floors. All outer glass surfaces are set 4' back under the metal parapets to avoid glare and to afford a human sense of protection at such enormous heights as characterize the Illinois Sky-city.

■ Transit is by atomic power. Serving the five divisions of 100 floor heights each, 56 tandem-cab elevators five units high begin to load at the fifth floor, where the escalators leave off. These elevators are to be entirely independent of ordinary suspension systems. As they rise and emerge on ratchet-guides independent of the tripod into the outside air, they appear as graceful vertical features of the Illinois. The entire elevator system thus rises perfectly upright to five different story heights. Special through-service is provided to the upper stories and to the very top floor one mile above the ground floor level. All elevators are motivated by

atomic power engines on the cabs engaging ratchet-tracks and moving at various speeds much as an automobile runs on the level. Approximate speed: a mile per minute. Additional private lifts connect various departments independently of the main elevators. Some cars are set aside for nonstop emergency service. This combination escalator-elevator service should fill or empty the entire building within the hour.

■ The Illinois employs again the proved system of taproot foundation sloping to hardpan or bedrock and let into bedrock as was the foundation of the Johnson Heliolaboratory and the Price Tower. It is similar in principle to the foundation system that saved the structure of the Imperial Hotel. To make possible rigidity at the extreme heights of the Illinois, this type of taproot foundation continues the main core into the ground to reach rock formation beneath. The foundation has spaces within it for utilities and, owing to its tapered form, is not difficult to construct.

■ Finally, throughout this lightweight tensilized structure, because of the integral character of all members over a staunch upright interior steel and concrete core, loads are in equilibrium at all points, doing away with oscillation. There would be no sway at the peak of the Illinois.

■ Elevators, parapets and all exposed vertical members are of gold-colored metal. Window walls, being set back under the steel parapets to avoid glare, give the building emphasis as an all-metal structure.

■ Covered parking for about 15,000 cars is reached by ramps connected to one level below grade and four levels above. These lower levels and the parking beneath the building itself have direct access to and from escalators. There are also two decks for 50 helicopters each. Gross floor area: 18,500,000 sq. ft. Net rentable area: 13,000,000 sq. ft. Population in spacious comfort: 130,000.

■ The Illinois is entered at four points and is reached by four, four-lane approaches. Fountain features and green-planted parterres are related to the building each independent of the other.

■ All this well done, the building will be centuries more permanent than the Pyramids.

■ A rapier with a handle the breadth of the hand set firmly into the ground, blade upright, the Illinois will be five times the highest structure existing in the world.

Note: plans for this building were unveiled at a testimonial dinner to the architect on "Frank Lloyd Wright Day" (Oct. 17) in Chicago—for details, see News.

FRANK LLOYD WRIGHT'S MILE HIGH OFFICE TOWER



A century of building at one leap: Mine Workers' hospital in the Kentucky mountains

HOSPITALS

Pioneering chain of ten UMW hospitals (above and p. 108)

Unstacked nursing floors for economy (p. 118)

Esthetic dividends of the horizontal hospital (p. 120)

A new pinwheel plan to outfox geometry (p. 123)

Into an area so deprived that the town water supply
is sometimes one pipe and a puddle,
John L. Lewis' United Mine Workers have built a hospital chain
that sets some new highs in hospital design
and regional medical planning

PHOTOS: PAUL SCHUTZER—LIFE



OWNER:

Miners Memorial Hospital Association

(F. D. Mott, M.D., medical administrator, John Newdorp, M.D., deputy medical administrator)

FINANCED BY: United Mine Workers' Welfare & Retirement Fund

(Josephine Roche, director, Warren F. Draper, M.D., executive medical officer)

ARCHITECTS*:

Isadore & Zachary Rosenfield

Sherlock, Smith & Adams

Office of York & Sawyer:

Architects Kiff, Colean, Voss & Souder

HOSPITAL CONSULTANT: E. Todd Wheeler

GENERAL CONTRACTOR:

J. A. Jones Construction Co.

*Their consultants—Rosenfield: General Engineering Assoc., structural; John D. Dillon, mechanical & electrical. Sherlock, Smith & Adams: James A. Evans, mechanical; J. L. Phillips, electrical; Charles I. Sayles, kitchen; Lawrence Halprin, landscaping. York & Sawyer: Di Stasio & Van Buren and Froehling & Robertson, structural; Krey & Hunt, mechanical; Howard K. Bell Assoc., water & sewage.

UMW'S CHAIN OF TEN HOSPITALS

Seldom do planners of any sort get a chance to build from scratch on a regional scale.

The planners of this chain of ten hospitals in the mountains of Kentucky, West Virginia and Virginia had that once-in-a-lifetime chance because this stretch of remote and tumbled country, pocked with pathetic mining hamlets, was almost a medical wasteland. Of what hospitals there were, many (now closed) were dirty, dismal, evil holes into which the UMW Welfare Fund was dribbling its money in a frustrating attempt to get good medical care for its beneficiaries.

So well did the planners use the chance for a fresh, rational start that this 250-mi. (by road) stretch of mountains now has ten hospitals which individually are proud demonstrations of hospital design, and as a group of coordinated central and satellite hospitals are unexampled. One test of pioneer planning is the kind of personnel it can attract to carry on. Staff for these hospitals has come from top-notch professional positions throughout the US, many from university teaching hospitals. So research-minded are they that there is already pressure to enlarge the laboratories.

Full plans for these ten hospitals were previewed three years ago (AF, Aug., Sept. & Nov. '53). Between that presentation, and construction, came a cost crisis. The way that crisis was handled is one of the most instructive aspects of the projects.

These hospitals and their associated staff housing and schools of nursing did not go out for bid in the usual way. Instead a general contractor was picked in the planning stage to work with client, architects and consultant as part of the planning team. This also permitted construction on the first buildings to start before designs of the last were complete. The job was full of cost imponderables, exorbitances and oddities, inherent in its location. For instance, there was the outlandish cost of site development in areas with no sewage systems or other utilities to tie into; the hard-to-calculate cost of labor where most skilled workmen had to be moved in and many helpers had to be trained from recruits who had never watched bricks laid or seen a carpenter's power tool. (On this last point, the client was determined that these mining mountaineers should feel the hospitals were theirs; in tangible terms this meant people from the area working on them, and later in them.) Transportation costs were high. Architects York & Sawyer, working simultaneously on a hospital in Knoxville and on four hospitals in the mountain chain, calculated the construction cost differential was 30%, a point to keep in mind when looking at the cost figures overleaf.

One black day, as these and other imponderables began to become ponderable, the probable bill was toted up. It was a staggering \$34 million against a budget of \$27 million, and this in the red-ink year of '54 when coal production—and therefore the 40¢-per-ton welfare fund—hit bottom.

Staff housing (with some foundations already poured) took a drastic cut. The central manufacturing and processing center for the chain and its fleet of trailer-trucks was postponed. But even so, almost \$4 million had to be cut from the hospitals themselves, and they were far from extravagantly designed. Every subtraction was a pang, so two basic criteria were laid down: 1) what would the effect of this cut be on patient care? 2) Can the decision be reversed eventually if operating costs or personnel factors indicate?

Thus, no beds were omitted, but the entrance canopies and landscaping went, the parking lots got gravel instead of paving. The top-grade nurse-patient communication system remained, but the public areas lost their floor coverings, are sealed concrete. The air conditioning was cut back except for special areas, but the costly surgical and medical equipment remained. The food conveyor system stayed in the big hospitals, but the small ones cut back to dumb waiters.

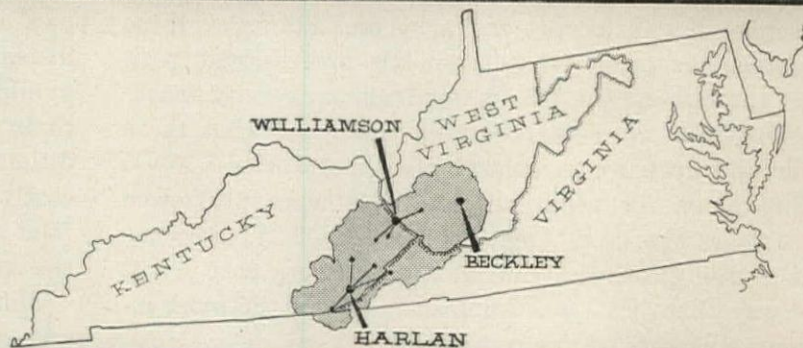
Many items sacrificed are highly desirable for appearance or maintenance because these cuts had to go far beyond "fat," but not a single cut was made in hospital space, beds or vital workings. It was a remarkable job on the part of architects, client and contractors of keeping the hard sacrifices always in perspective against the end purpose. In the end, the trimming went a little below budget, so one cut—sunshades on south windows—is now being restored.

All this brings up the question of whether it was wise to select a contractor on a cost-plus-fee basis and start building before the full cost story was known, or whether it would have been better to wind up the entire design job, then send the whole works out for bid. The contractor, says the client, worked nobly to save money from beginning to end. Undoubtedly, if the normal bid system had been used, the sums spent on aborted housing starts (later cut) would have been saved. But these were a relatively small part of total cost, and against this must be balanced the saving of a year in time. It is hard to put an economic value on that. These hospitals are called Miners Memorial Hospitals because they are dedicated to the memory of miners who lived and died in these hills without proper medical care. Who can say what another year is worth in those terms? It is another enormous imponderable.



Williamson by Architects York & Sawyer is central hospital with three satellites, also serves as central point of whole chain.

Harlan by Architects Sherlock, Smith & Adams is central hospital for four satellites, forming largest group in chain.

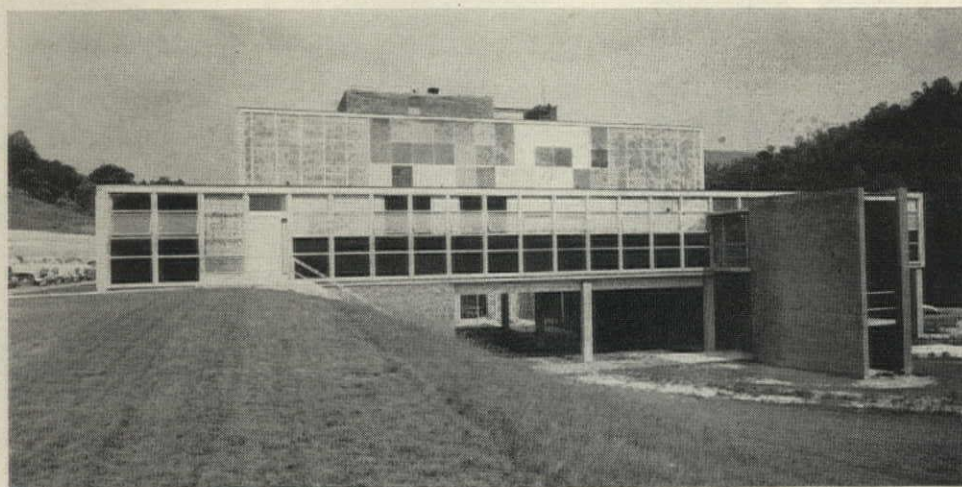




Beckley by Architects Rosenfield is a major hospital without satellites. Fore-ground wall is practical nursing school.



Whitesburg by Sherlock, Smith & Adams is a satellite hospital. This is a square building (see also frontispiece).



UMW's 250-mi. string of ten hospitals is the first big regional coordinated chain

For almost 20 years, US public health experts have advocated coordinated hospital groups. This is the first large and thorough-going example to date. The chain has three central base hospitals, two of them with satellite hospitals (see table). Central hospitals provide specialized staff and equipment for the satellite hospitals and take cases referred from satellite units along with their own local cases. The three central hospitals interchange highly specialized services. Harlan has facilities for a registered nurses' training school, Beckley and Williamson have already active practical nursing schools. All ten hospitals draw on graduates. All ten administrators meet regularly at Williamson to smooth co-ordination and learn from each other. Personnel recruiting, purchasing and accounting are all handled centrally. The building shell for central laundry, sterilizing and manufacturing pharmacy at Williamson was erected but has not yet been equipped because of cutbacks.

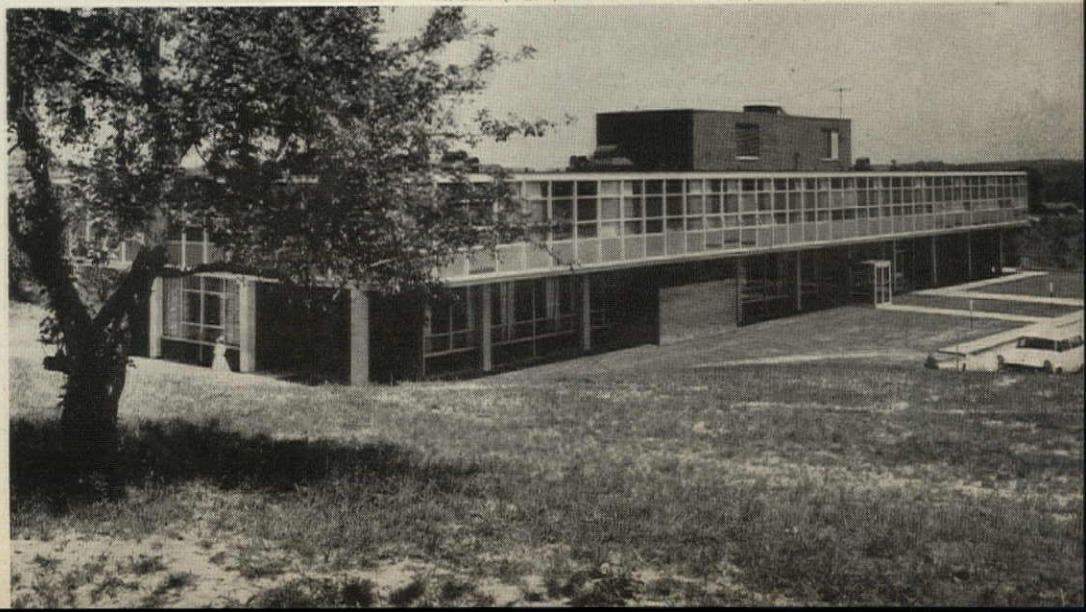


Wise by Architects Sherlock, Smith & Adams is among smallest hospitals. All are expandable, this one by 125%.

<i>hospital</i>	<i>beds</i>	<i>cost*</i>	<i>sq. ft.</i>	<i>sq. ft. cost</i>	<i>architects</i>
BECKLEY, W. VA.	207	\$2,501,908	120,070	\$20.84	THE ROSENFIELDS
WILLIAMSON, W. VA.	153	2,066,374	90,816	22.75	
Man, W. Va.	87	1,372,370	55,498	24.73	
McDowell, Ky.	62	1,174,855	42,055	27.94	
Pikeville, Ky.	52	1,151,339	41,740	27.58	
HARLAN, KY.	203	2,500,806	133,496	18.73	SHERLOCK, SMITH & ADAMS
Whitesburg, Ky.	94	1,565,197	70,211	22.29	
Hazard, Ky.	86	1,558,685	62,356	25.00	
Middlesboro, Ky.	79	1,414,497	61,100	23.15	
Wise, Va.	62	1,187,394	46,696	25.43	

* Including group I equipment but excluding fees

PHOTOS: (BELOW) PAUL SCHUTZER—LIFE; (OTHERS) ALEXANDRE GEORGES

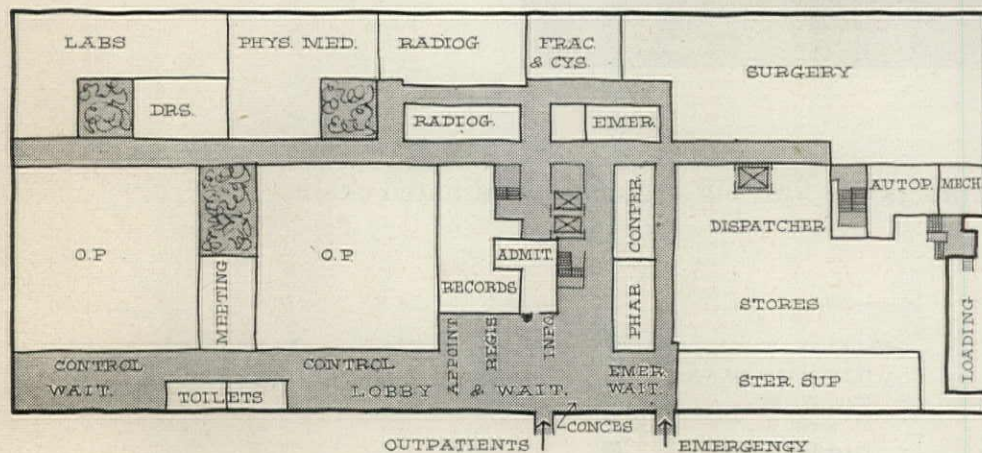




Main lobby has information and appointment desks and sound-treated registration booths opposite entrance. Shoulder-high screen at far rear separates emergency vestibule from lobby.



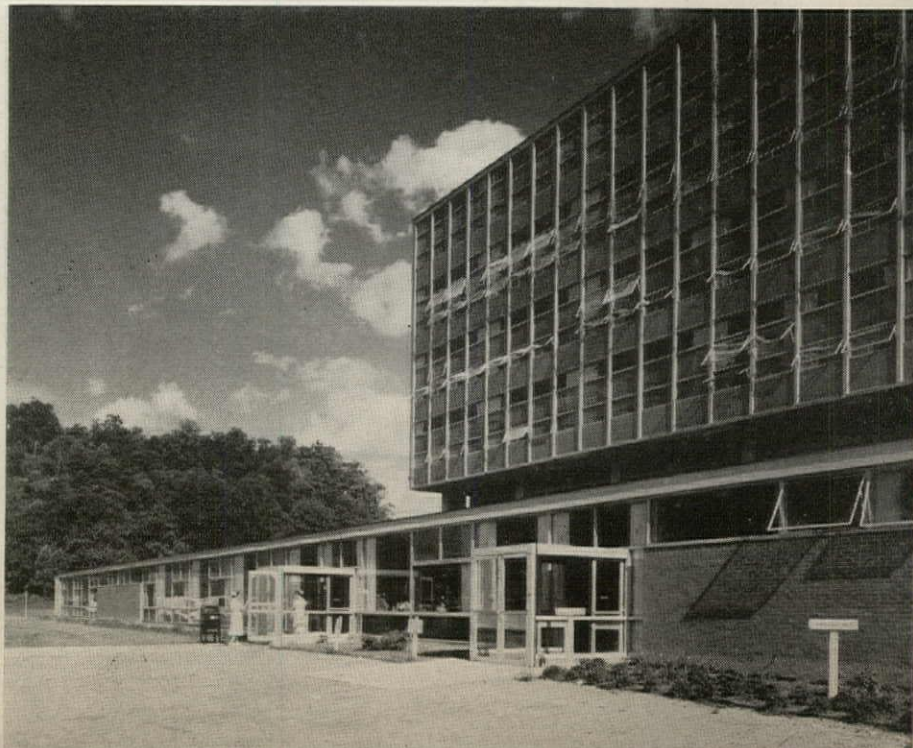
Outpatient waiting and control desks are farther up the lobby; screen at rear of this photo is in right foreground of main lobby photo. For patients, relationships could not be simpler.



UMW's entrances are easy to find, unconfusing inside

Many a miserable would-be hospital patient has spent what seemed an eternity finding a back-door outpatient or emergency entrance. There will be no such trouble with these hospitals. The program specified that emergency entrance must adjoin the main entrance and outpatient circulation must connect with main lobby. In most of the ten hospitals this was achieved and so well that it ceases to look like the complex planning problem it actually is. At Harlan, the example shown, main and emergency entrances are side by side, separated on the interior. Outpatient controls are in direct line with the main lobby. Scheme keeps the emergency entrance always manned, simplifies all circulation control.

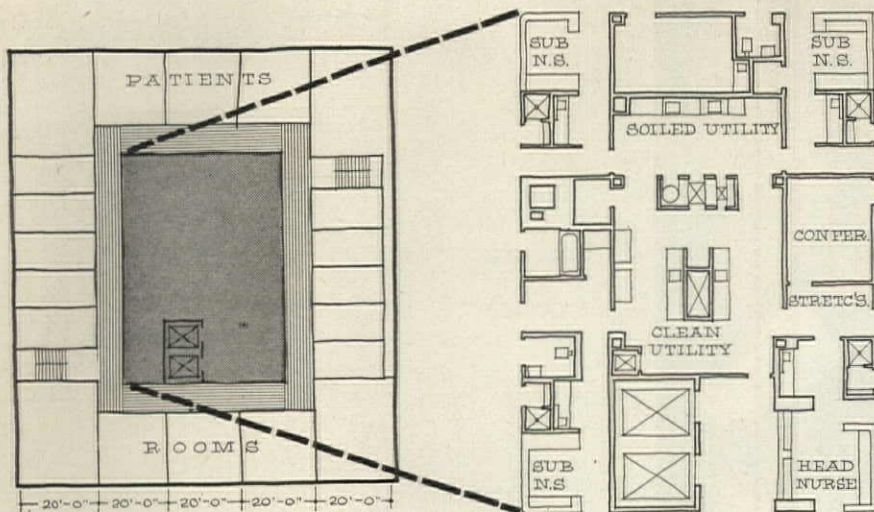
Twin entrances at Harlan are for emergency and general traffic. Fluted concrete canopy to have covered both entrances was a cost sacrifice. Notched second floor has cafeteria and kitchen.



Supply carts serve as storage in utility rooms, shown here at Whitesburg hospital. System depends on carefully worked out detail anticipating needs. Unused and soiled supplies return to dispatcher.



PHOTOS: ALEXANDRE GEORGES



UMW's supplies all move from one dispatcher and most shelving is on wheels

The central dispatching system and the cabinets-on-wheels of these hospitals are already being copied elsewhere because of speedy service, control of supply levels and elimination of requisition red tape. All supplies other than food and drugs come from a single dispatch office which stores and issues everything. Service departments simply prepare materials, have no issue responsibilities.

Routine supplies go out to consumer departments on wheeled enameled steel carts, which remain in the department as supply cabinets until depleted, then are wheeled away with whatever remains in them and replaced. Although all needs are anticipated as far as possible, an intercom and dumb waiter between nursing stations and dispatcher take care of occasional special requests. The system, which was a concept of Hospital Consultant Gordon A. Friesen, is reported to work splendidly, particularly in the larger hospitals. In the smallest, a 24-hour dispatcher service is not necessary, which means moving the ice-making machine from that area to the kitchen.

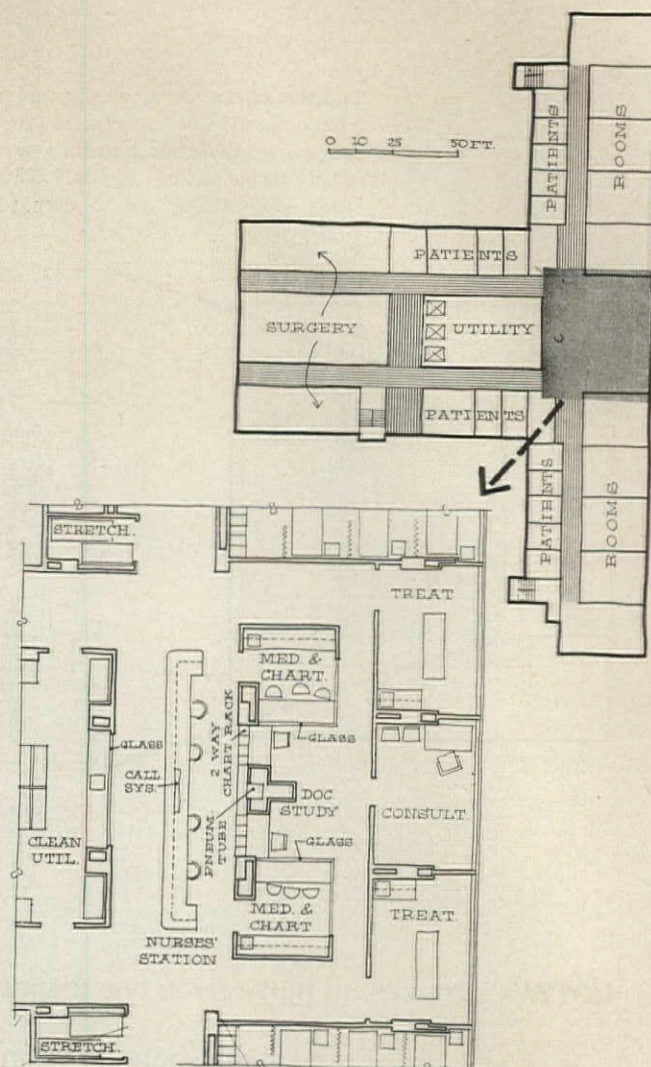


Dispatcher (below) loads carts at central stores. A clean utility room gets a house-keeping cart for each 20 patients; also sterile, nonsterile, solution and miscellaneous carts. Soiled utility gets empties.





PHOTOS: (ABOVE) PAUL SCHUTZER—LIFE; (OTHERS) ALEXANDRE GEORGES



Double-sized station at Beckley serves floor of 70 beds, can operate alternatively as two 35-bed stations. Glass-fronted utility suite faces station.

UMW's nursing stations are well-knit floor headquarters

Head nursing station at square Whitesburg hospital (plan, p. 113) takes whole 54-bed floor at night. Three team substations (photo, left) operate by day.



There is nothing makeshift about these nursing stations. They are designed with the full understanding that a nurse's station is also the nursing floor headquarters of doctors and interns, and they therefore provide for doctors' charting and dictation too, and for a close relationship to floor treatment, examining and consulting rooms.

The consulting room also serves as a conference room for the chief of service with house staff, and as an informal training and conference facility for nursing teams. It earns its space.

At the desk, a medical clerk handles much of the paperwork routine, and the supply system described on the preceding page cuts down paperwork for everybody.



Cafeterias in all ten hospitals serve visitors, outpatients and public as well as staff. Facility like this is incredible to people accustomed to old hospitals in area. Photo shows Beckley cafeteria.

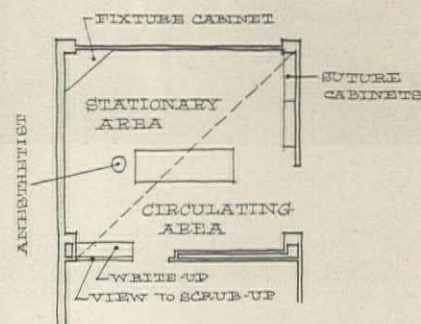
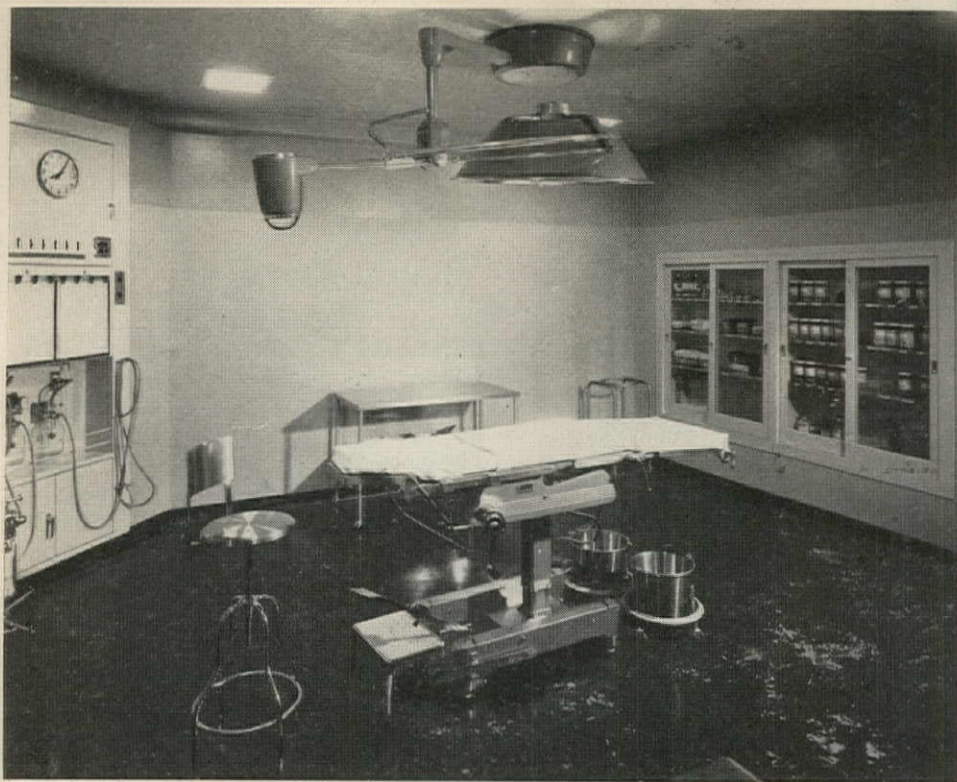
UMW's central hospitals move patient meals by conveyor

Vertical conveyor (right) carries trays to floors where nurses, maids and aides dispense them. Down conveyor carries soiled trays to garbage and dish-wash. Smaller hospitals use similar system with dumb waiters instead of conveyors.

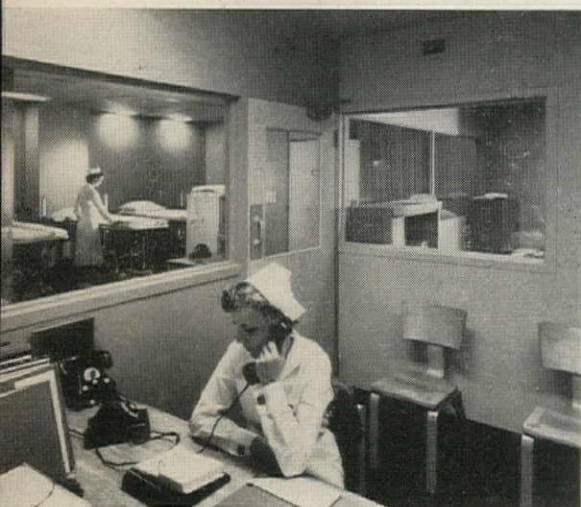


The food conveyor system installed in the three big hospitals is a huge success. Here is how it works: menus, with choices checked by patients, are collected on each floor, sent by pneumatic tube to the dietician's office, checked there and turned over to the kitchen. On either side of a horizontal conveyor in the kitchen, the foods for the day and their servers are lined up. An empty tray is placed on the conveyor, the menu placed on the tray, and the order filled as the tray moves along. At the end of the line, the trays shunt into a vertical conveyor which carries them upward to nursing floors. A signal at the nurses' station reports the trays are on their way and thereupon the floor staff turns to, speeding them to patients. One floor after another is supplied, with only a few minutes elapsing from serving to eating. In 26 minutes from the time the first empty tray is placed on the conveyor, the last of 160 patients has received his food. These results, taken from actual operation, demand good personnel organization, as well as good equipment. Only flaw: serving counters (photo, left) are a little too wide for comfort.

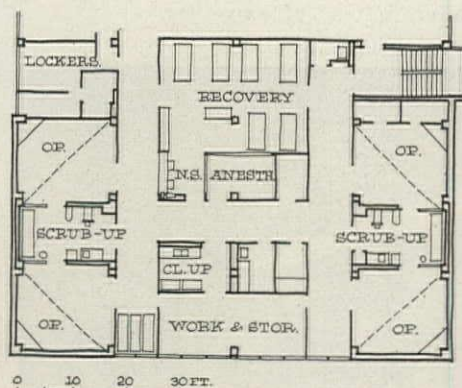




Operating rooms divide into stationary and mobile areas. Cabinet at left in photo (stationary side) has X-ray illuminator, suction apparatus, solutions, transformer.



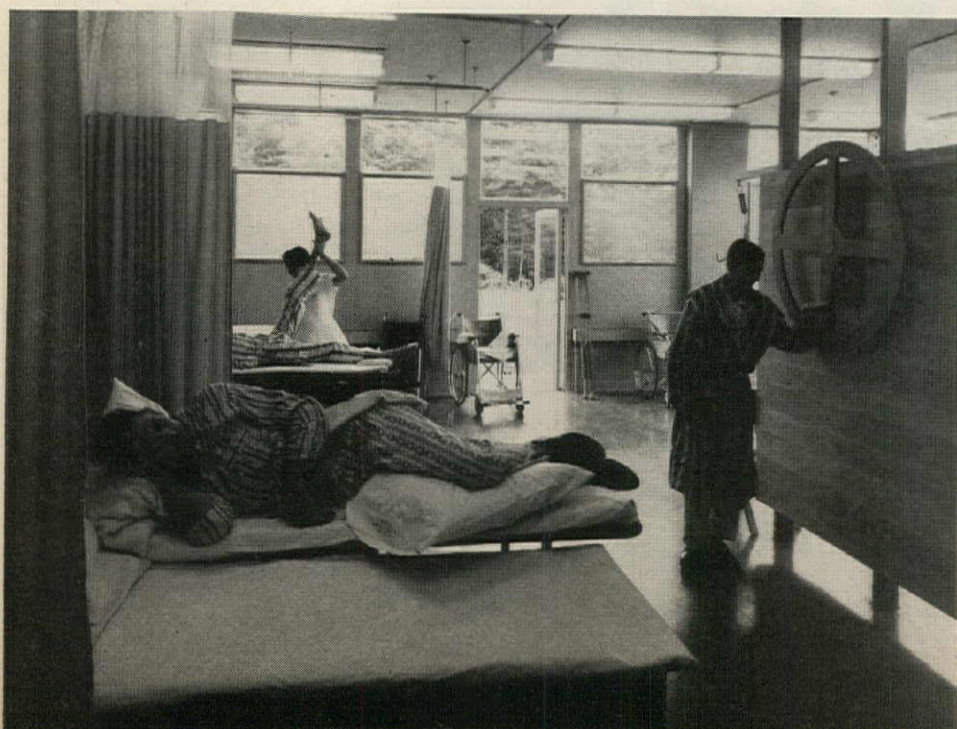
UMW's surgical suites are full of ingenious details



Here is an operating suite plan (Beckley hospital) with a recovery room which is a model of what such a facility should be. It is under surveillance by the anesthesiologist, who gets the ample office he needs. It is also under constant check and control from the surgery nurses' station. Photo is taken from nurses' control point with recovery room to left, office to right.

All ten hospitals use the operating room plan which sorts the personnel and equipment that are stationary during an operation from those that move.

UMW's rehabilitation facilities are geared to a tough job



Accidents—bad accidents—are all too familiar in the mine fields, and most careful attention was given in these hospitals to physical rehabilitation. This photo taken at Beckley shows a corner of the exercise room. Adjoining it is equipment for patients learning to walk again, curtained booths for treatment, and a hydrotherapy room. One of the excellent features of the Beckley suite is the access to outdoors from this area, with its opportunity for outdoor exercise and gymnastics.



PHOTOS: (ABOVE) PAUL SCHUTZER—LIFE; (OTHERS) ALEXANDRE GEORGES

UMW's room sizes were determined by need, not ability to pay

These hospitals run counter to the recent trend of making most patient rooms two-bed, with a few one-bed. In these hospitals about 20% of the beds are in single rooms, a figure arrived at by analysis of cases requiring privacy or isolation for medical reasons. For the remainder, flexibility of two-bed rooms was weighed against ease of

nursing, step savings and space savings of larger rooms, and four- and six-bed wards were chosen. Also recognized was the often overlooked fact that there is actually no such thing as "semi-privacy," the euphemism tacked to two-bed rooms; either a room is private or it is not. All hospitals use same steel wall units. Photos are from Beckley.



UMW's nursing floors have ample dayrooms

In line with progressive modern practice, visiting times at these hospitals are almost all day instead of during a few intervals. Dayrooms are much used for visiting with patients, as well as by patients alone. The balconied room photographed at Beckley is glazed on two sides and along with a glass stair tower it stands outside the wing's brick "end wall."

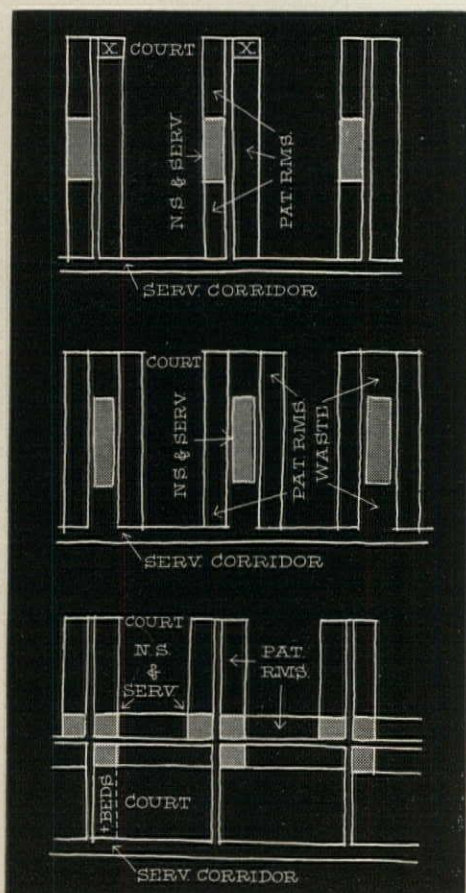




HOSPITALS

This hospital unstacks its top six stories and spreads them on the ground

LOW-COST WINGS FOR HIGH-POWERED CORE



This 250-bed general hospital, now under construction, is an outgrowth of a Canadian Ministry of Health analysis of hospital illness. Contrary to the common assumption that most hospital patients in these days of antibiotics and early ambulation are acutely ill, the analysis showed a high proportion of general hospital beds occupied by the convalescent, the chronic and the non-acute, including normal maternity. So in this hospital, only a 50-bed acute nursing unit is tied vertically to the high-powered treatment core. All other classifications of patients go into one-story wings with longer horizontal connections to the core. And because more than half the hospital area thus consists of single-story, basementless, elevatorless, bearing-wall construction, cost including Group I equipment is a phenomenally low \$2,735,000; \$17.45 per sq. ft.

Actually, because horizontal travel consumes so much less time than vertical travel in the usual hospital, the patients in these horizontal wings are more closely tied—in time—to the central core than they would be stacked up above it.

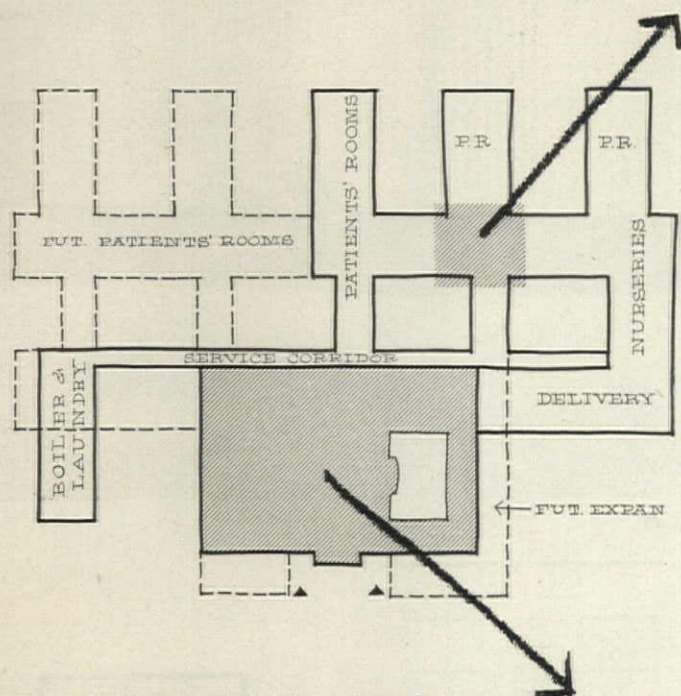
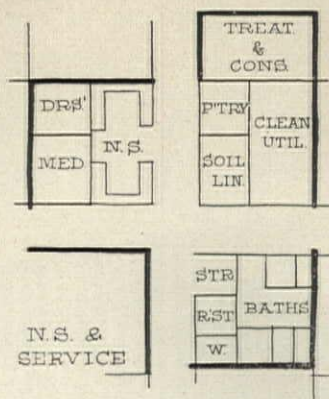
The main planning problem was to place processing and supply departments to service both the vertical and the horizontal portions. This was solved by placing services under the central core, as in many hospitals, and then running alongside it a wide service corridor to the outlying wings.

The diagram at left shows schemes considered by the architects for the one-story wings. In the top scheme, corridors were too long, nursing stations too far from visitors' entrance, courts unpleasantly long, and walking distance between points marked "x" outlandish.

Shortening the units by means of a double-corridor nursing-services arrangement, as in the middle scheme, was also unsatisfactory because it left wasteful, unused central space and narrowed the courts too much.

In the final scheme, which overcame these problems, the units were bent and carried across the court, with nursing services put at the angle. The scheme is also more flexible because the four-bed rooms in the transverse blocks can be shifted between one nursing service and the next as needs vary.

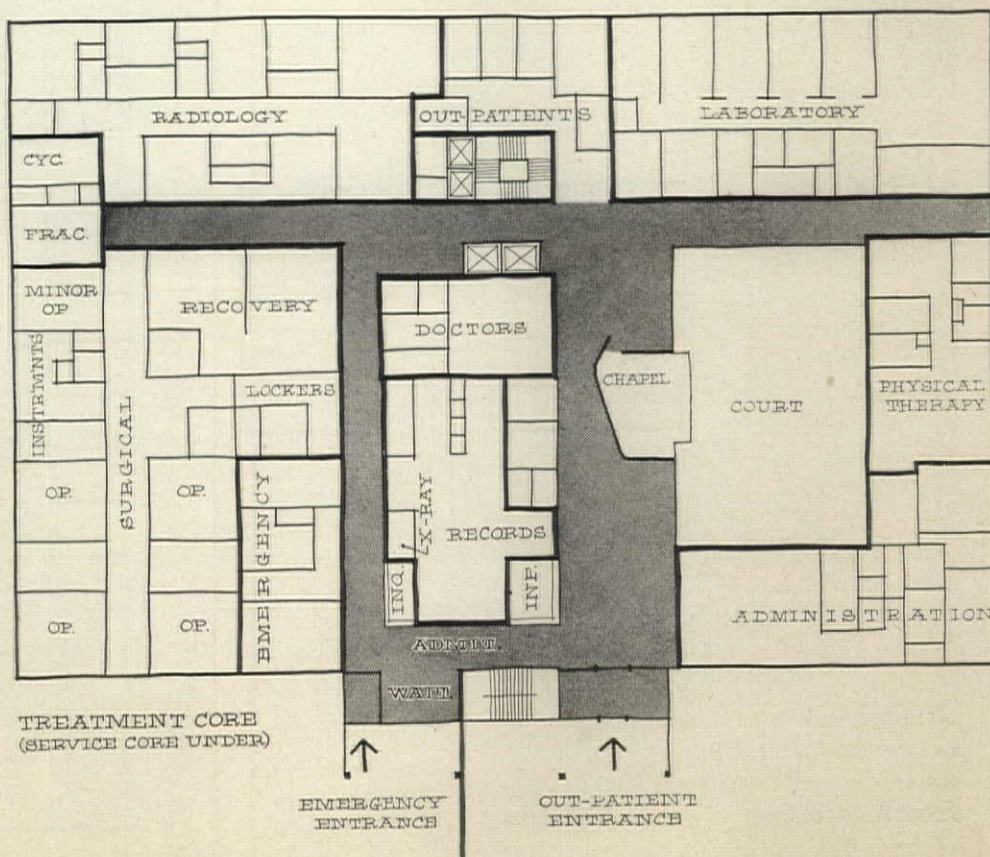
GREATER NIAGARA GENERAL HOSPITAL, Niagara Falls, Ont.
 ARCHITECTS & ENGINEERS: John B. Parkin Assoc.
 GENERAL CONTRACTOR: Smith Bros. Construction Co., Ltd.

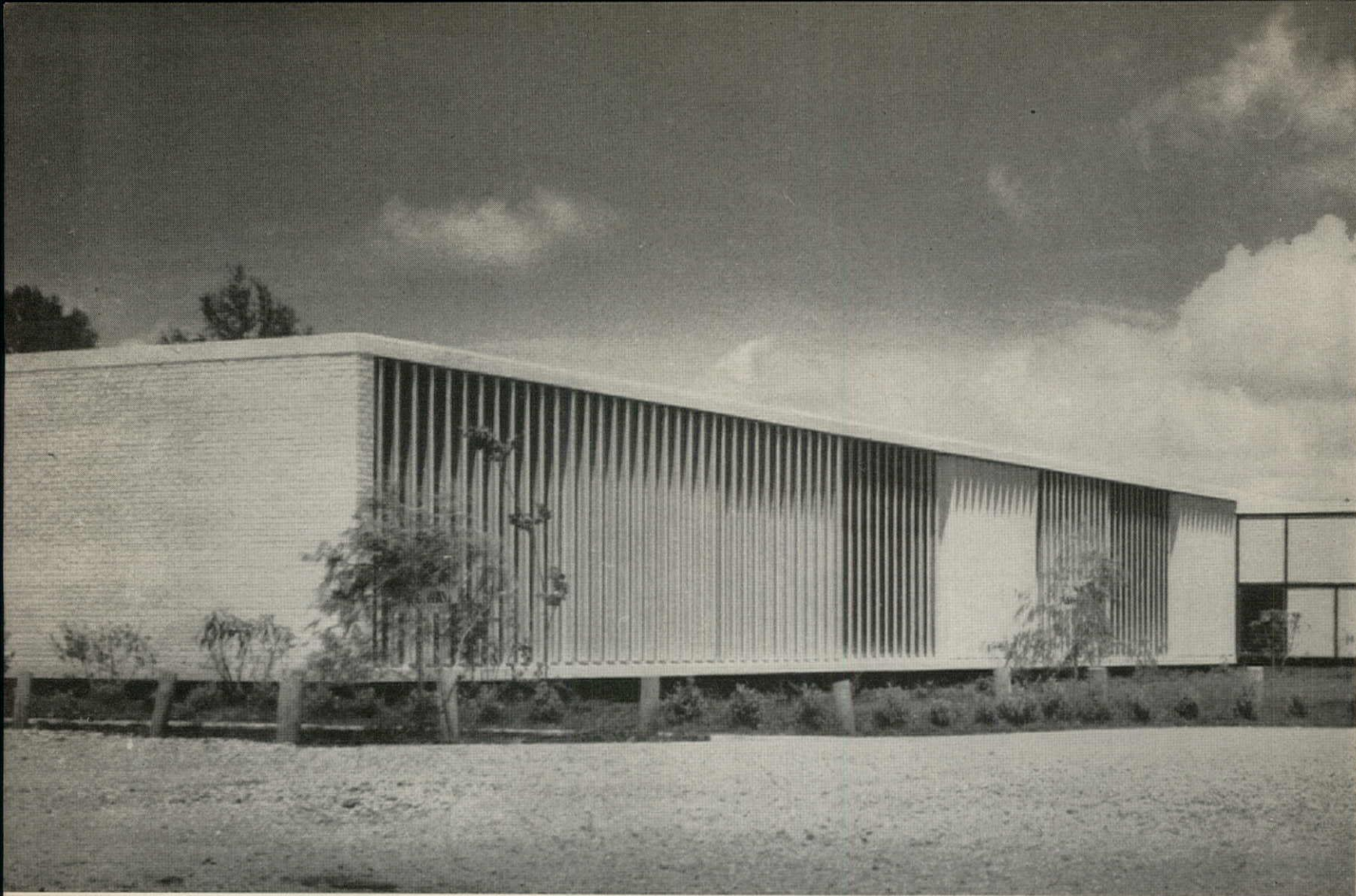


Nursing stations in one-story wings are strategically placed at corridor intersections; each station serves about 65 beds in one-, two- and four-bed rooms. Unit at far right on key plan is maternity, with nurseries and delivery suite enclosing adjoining court. Next wings are medical-surgical and pediatric. Future wings bring capacity of 250 beds to more than 400. Core, now sized for 300 beds, will expand horizontally.

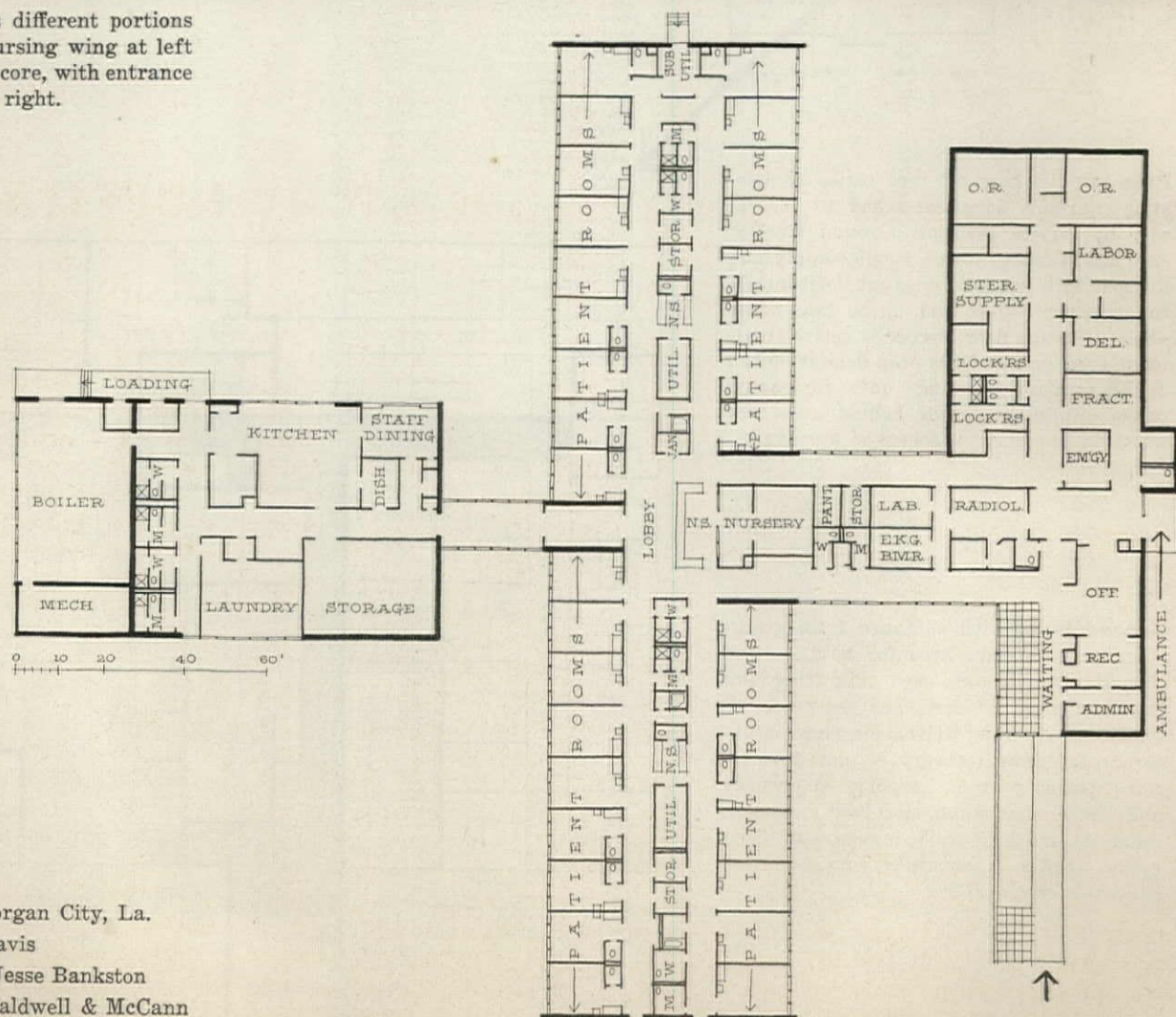
Plan divides hospital into series of one-story nursing wings attached to central core by service corridor. Ground level of core has laundry, stores, sterile supply and kitchen with goods feeding out horizontally to one-story wings and up to two floors above. Second floor of core is active treatment area (plan right); top floor is 50-bed double-corridor nursing unit for acute cases. Building shown behind one-story wings in rendering is school of nursing.

Second floor, with entrance from grade, is active treatment area for both in- and outpatients. Records and admitting are "nerve center" of core, convenient to all traffic. Note how well emergency is incorporated, how recovery is placed to receive patients from surgery, emergency and dental operating, and how stretcher, inpatient and staff traffic is separated from public traffic in separate corridors and back-to-back elevators.

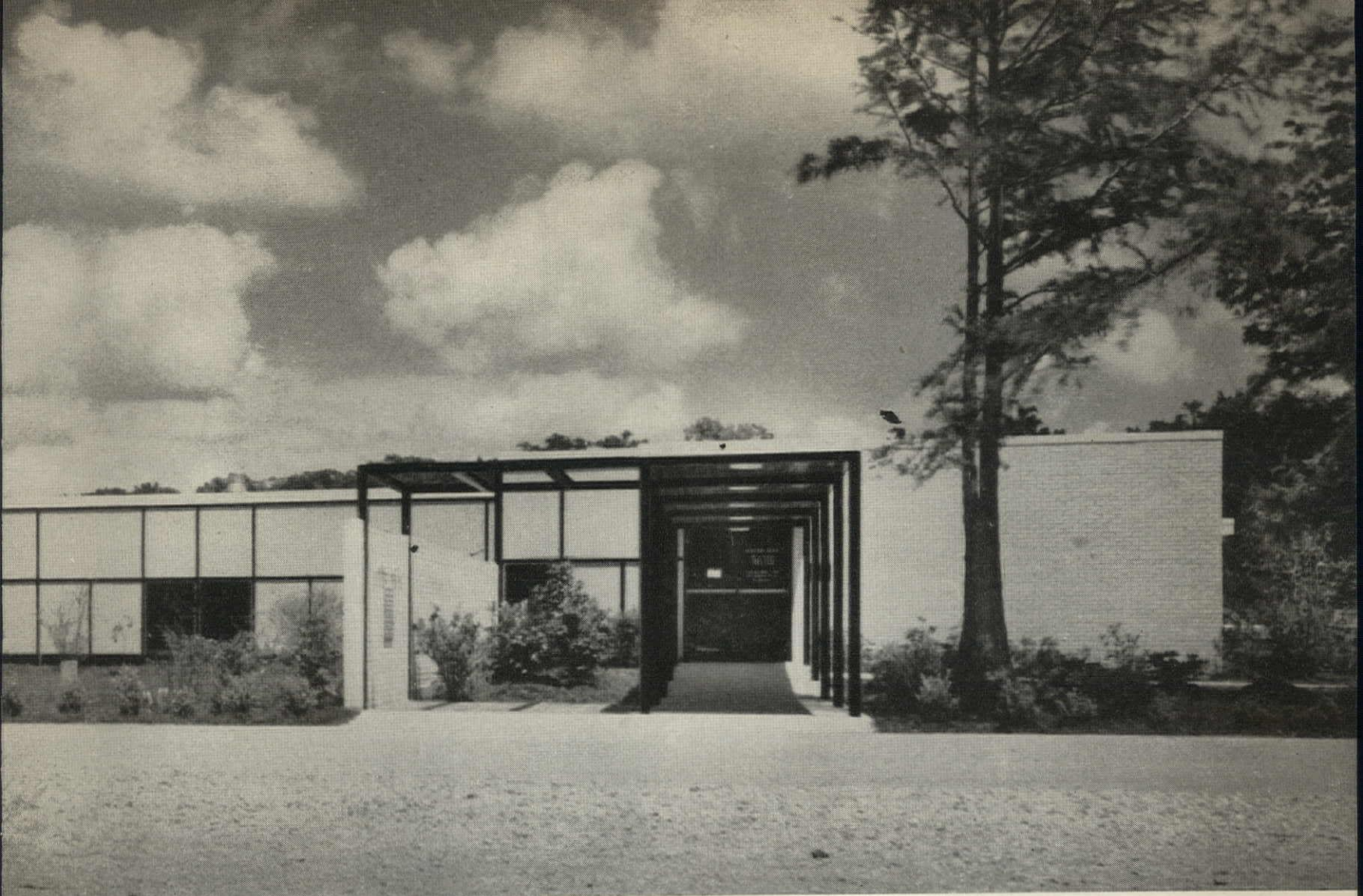




Exterior walls express different portions of hospital: louvered nursing wing at left joins paneled diagnostic core, with entrance and administration, far right.



LAKEWOOD HOSPITAL, Morgan City, La.
 ARCHITECTS: Curtis & Davis
 HOSPITAL CONSULTANT: Jesse Bankston
 GENERAL CONTRACTOR: Caldwell & McCann



PHOTOS: FRANK LOTZ MILLER

HOSPITALS

Thanks to a logical floor plan, this hospital looks as well as it works

AN ARGUMENT FOR THE ONE-STORY HOSPITAL

Savings in cost and in travel time are two main reasons why the horizontal hospital is now finding great favor. But there is still another argument for the horizontal plan: because of the growth in size and complexity of hospital medical cores, and because the number of beds which can be handled efficiently under one supervisor has increased, all but the largest hospitals now have a relatively small proportion of plant in repetitive elements. Vertical schemes are apt to force a specious repetition of form, but horizontal schemes can release the elements of the plan to be themselves.

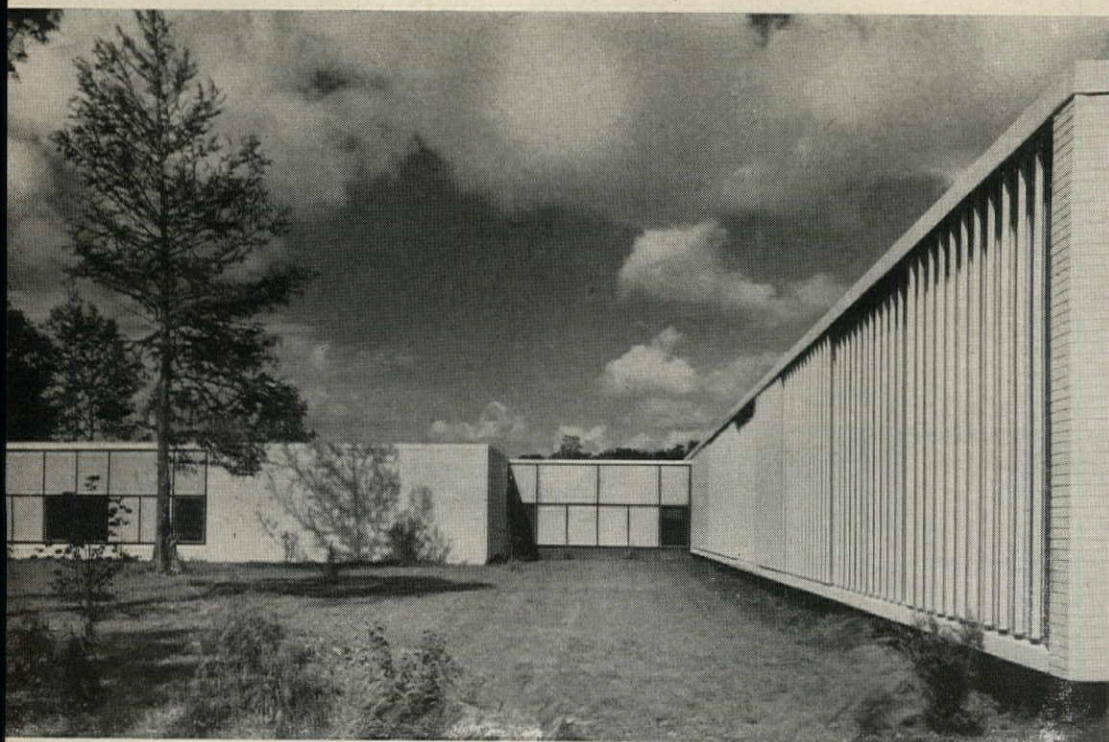
This 50-bed community general hospital is a splendid illustration of the functional and visual clarity the horizontal hospital can attain in skilled hands. The plan looks clear, with its three blocks and their central links, because function is so clearly analyzed. Services are separated out in one block,

and joined by a short corridor to the principal "consumer block," the nursing wing. On the other side, the nursing wing links to a diagnostic core, which in turn links to the surgery-delivery and administrative block. One control point gives supervision of the main waiting room, the ambulance entrance and outpatient traffic. The two-corridor diagnostic link, admirably situated for both inpatients and outpatients, separates public from staff circulation. The nursing administrator controls both the nursing wing and the medical core traffic originating there.

This hospital also has an unusual solution to the problem of the nursing wing window. Every room opens out visually to the lawn with a wall-to-wall expanse of glass 9' high. Each patient controls ventilation with crank-operated glass jalousies, and controls sun or glare with adjustable vertical louvers. If the patient wants darkness or com-

plete privacy, he can close the louvers completely. The architects report that this feature, eliminating draperies and blinds, has considerably lowered nursing-wing housekeeping costs.

The entire building is raised above ground with continuous grade beams, on spread footings, supporting the raised structural slab. Framing is fire-proofed steel with lightweight concrete roof slab on steel decking. Construction cost, excluding fees but including Group I equipment, was \$551,872.11 or \$20.06 per sq. ft. This is a very creditable figure for a small hospital with high-quality mechanical equipment and construction and good, low-maintenance finishes. It is another demonstration of the considerable space and cost savings permitted by the horizontal hospital. Elevating the floor slab also cut grading and foundation costs. Federal financing aid was given through the Hill-Burton hospital construction program.



Service block at rear of hospital (left, above) isolates noise and bustle of laundry, kitchen and unloading but keeps these elements conveniently close to nursing wing.

Nursing wing (right, above) has exterior louvers of aluminum with baked enamel finish. From inside room, patient controls louvers, also glass jalousies. Jalousies can be left open during rain, important comfort feature in Louisiana climate.



Nurses' substations (right) are located in double-corridor core, one for each end of 25-bed wing. (Supervisor's station is at center of wing.) This part of the hospital—the attenuated nursing service core—runs into some of the troubles with geometry discussed on the opposite page.



PHOTOS: FRANK LOTZ MILLER



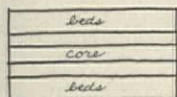
Planted entrance (left), screened from nursing wing by brick wall, is attractive introduction to hospital, and the spacious, cool-looking waiting room (below) is no letdown. Panels, set in aluminum, are brick, glass and cement plaster.



A scheme for freeing the double-corridor plan from the tyranny of geometry

THE PINWHEEL NURSING FLOOR

The idea behind the double corridor nursing unit—as worked out by Hospital Consultant Charles F. Neergaard 15 years ago—is simple: group the services into a compact, central core; save steps, save perimeter.

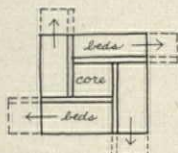


Slow to catch on for a decade, double corridors are the fashion now. But as Architect Isadore Rosenfield points out: "The form produced by the principle has been confused with the principle itself." As number of beds per unit has increased, double corridor schemes have tended to lengthen out, like the one shown on p. 120. Elongation negates advantages of the chunk core.

Countering this difficulty are numerous recent schemes for round, semi-circular, square and almost-square floors, with bedrooms surrounding core. Square scheme may be seen on p. 113.

Pondering a hospital addition on a tight city site in Worcester, Mass., the architects were struck by the disadvantages of *any* inflexible geometrical relationship between core and perimeter. "A small core generates a short perimeter, hence few rooms; a large core generates more rooms. Or putting it conversely, a lot of rooms generate a big core," says Isadore Rosenfield. "But in real life the number of beds per floor often has little to do with the nature of the core services."

To break this impasse, the Rosenfields devised the pinwheel plan:



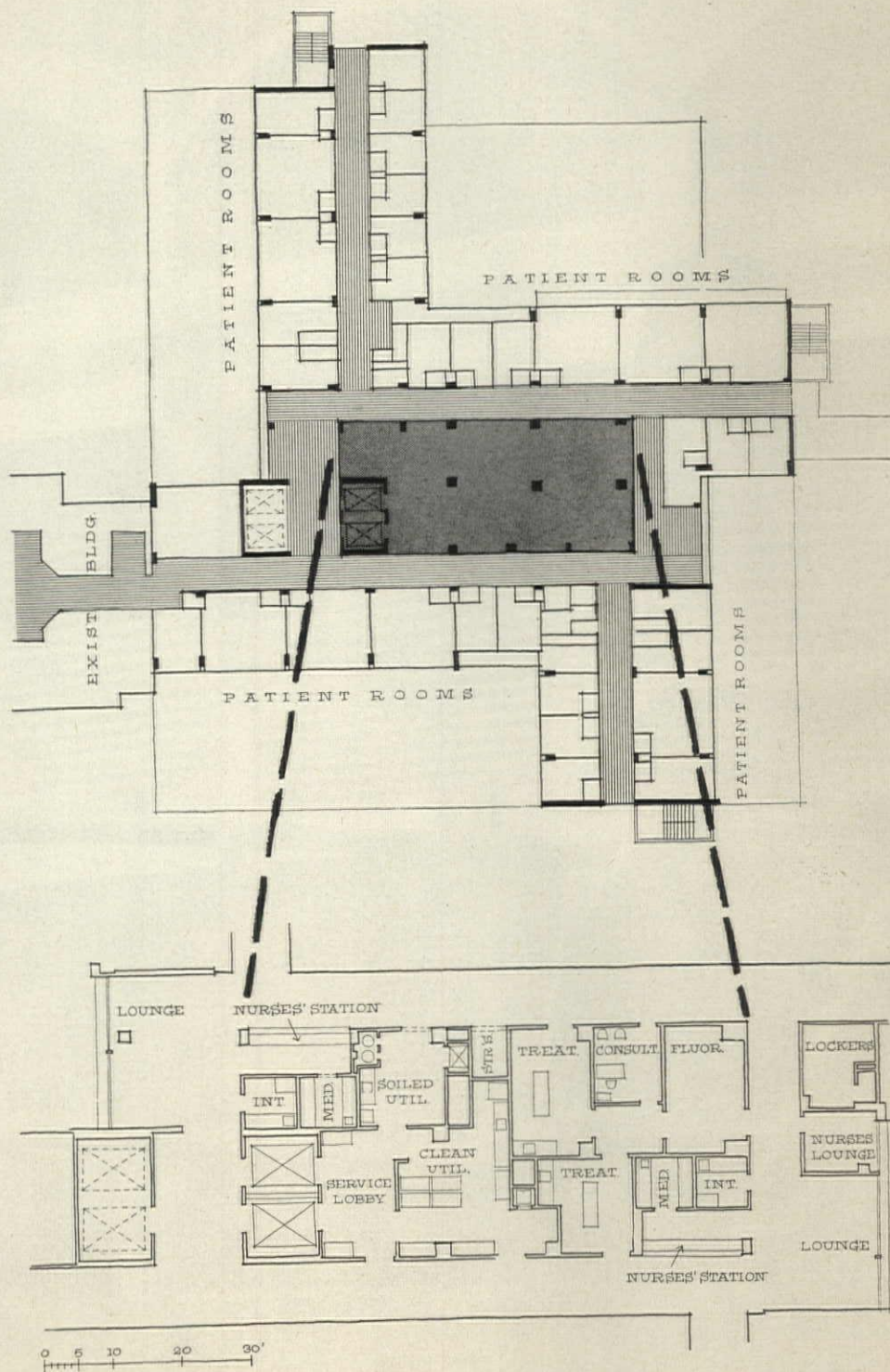
Each of the four groups of rooms can extend a reasonable distance beyond the central rectangle.

For the Worcester pinwheel, a relatively heavy core was wanted. Note convenience and space economy of its internal relationships. This is a mark of the good chunk core. Note also the fine feature of nurses' lockers and lounge on nursing floor, and the day-rooms which have blossomed forth as open lounges.

ADDITION TO WORCESTER CITY HOSPITAL, Worcester, Mass.

ARCHITECTS: Isadore & Zachary Rosenfield and E. Todd Wheeler

CONSULTANT: Albert W. Snoke, M.D.



TWO NEW SHAPES IN CONCRETE

An immense teacup arena and a limpet shell restaurant

DAMORA



1. Giant-size teacup grows upward and outward to form columnless stadium

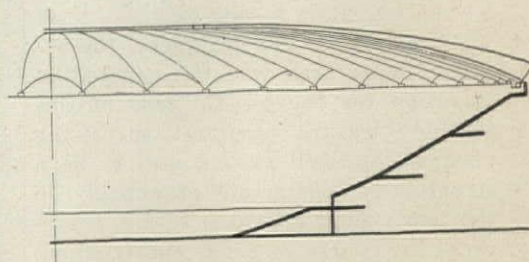


This sensational design for a stadium to seat 99,000 has eliminated all the usual vertical supporting members. Conceived six years ago (AF, Dec. '50), and now perfected in design, the great cup has a series of tension rings arranged in concentric circles expanding outward from the playing area. Winding up to the stepped seats are exterior ramps suspended from the frame. Space underneath almost up to the basic circle is freed for parking and circulatory use.

Structure of the bowl—whose outer edge would overhang 150' clear without vertical support—would be big reinforced concrete spokes opening petal-like, resting on the tension rings and supporting precast seats. The designers envision a roof of shell concrete barrels, tapering toward the center. It could be built in stages, each tension ring marking a logical point to pause in construction until more capacity was needed.

In basic theory this structure resembles a dome turned upside down, reinforced in the same general way Brunelleschi in 1420 reinforced the dome of St. Maria del Fiore in Florence. Brunelleschi used an iron chain to take ring tension; Paul Weidlinger and Mario Salvadori, engineers for this design, would use steel rings encased in concrete, running all the way around the stadium. The highest, up on the lip under the multivaulted roof, would be more than 2,000' around and have 70 sq. in. of steel in section.

Still awaiting a client, the design was shown recently in the Atlas Co. consumer magazine advertisements.



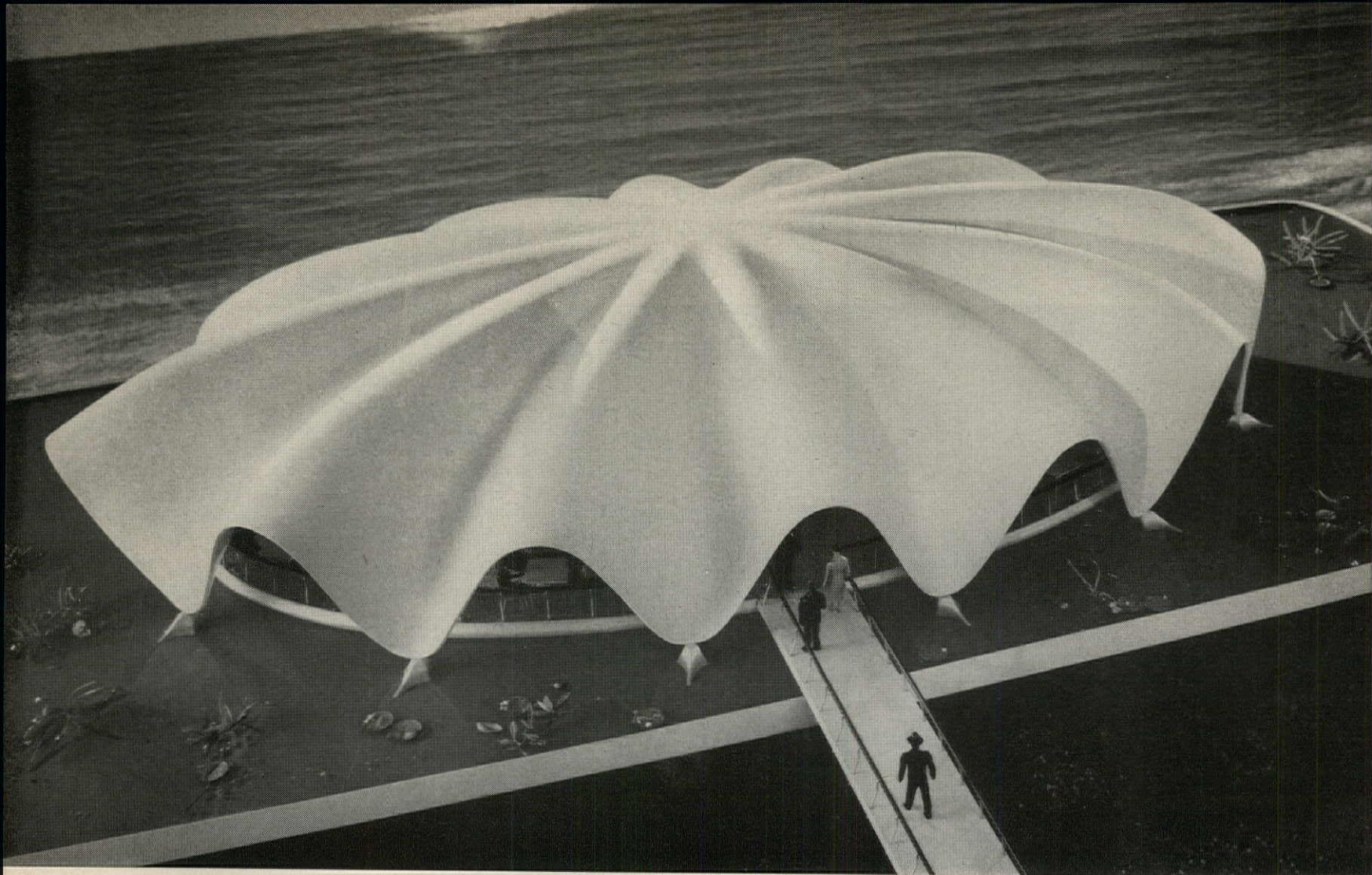
ARCHITECTS: Raymond & Rado

ENGINEERS:

Paul Weidlinger and Mario Salvadori

RECREATIONAL PLANNER:

F. Ellwood Allen Organization



ARCHITECTS: Toro-Ferrer

CONSULTING ARCHITECT: Charles H. Warner Jr.

STRUCTURAL CONSULTANTS: Paul Weidlinger and Mario Salvadori
Foundation Engineering Co.

MECHANICAL CONSULTANTS: Zumwalt & Vinther

Entry to shell supper club from hotel will be over two walkways (see plan, right) rather than the single bridge shown in the model photograph.

2. Man-made seashell roofs supper club beside the sea in Puerto Rico

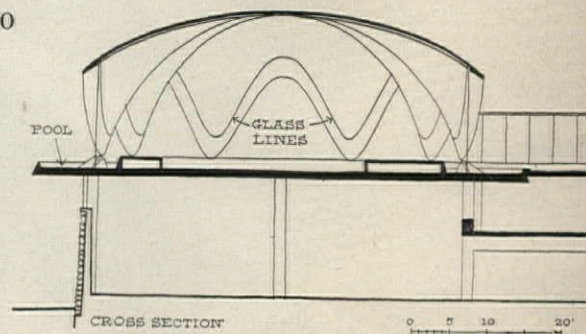
The supper club of the new LaConcha Resort Hotel, now abuilding on the booming beachside in San Juan, is not an exact replica of any sea shell, but there is no doubt that it will look like one, turned upside down, sitting in shallow water. It is meant to.

According to the designers, the voluted limpet shell was the general inspiration for the playful roof of this seaside pleasure pavilion; surprising no one, the shell proved also to be a structurally feasible one organically, in the newly fluid approach of US engineers to concrete shell construction. Shaped like a shell, the concrete gathers strength.

Featured as one of the parade of imaginative designs in the Atlas Co.'s series of consumer advertisements, the roof will jut from the side of the parent hotel in a cantilevered pool overlooking the natural beach (see section); it is placed so that the edge of the hung pool will merge into the seascape.

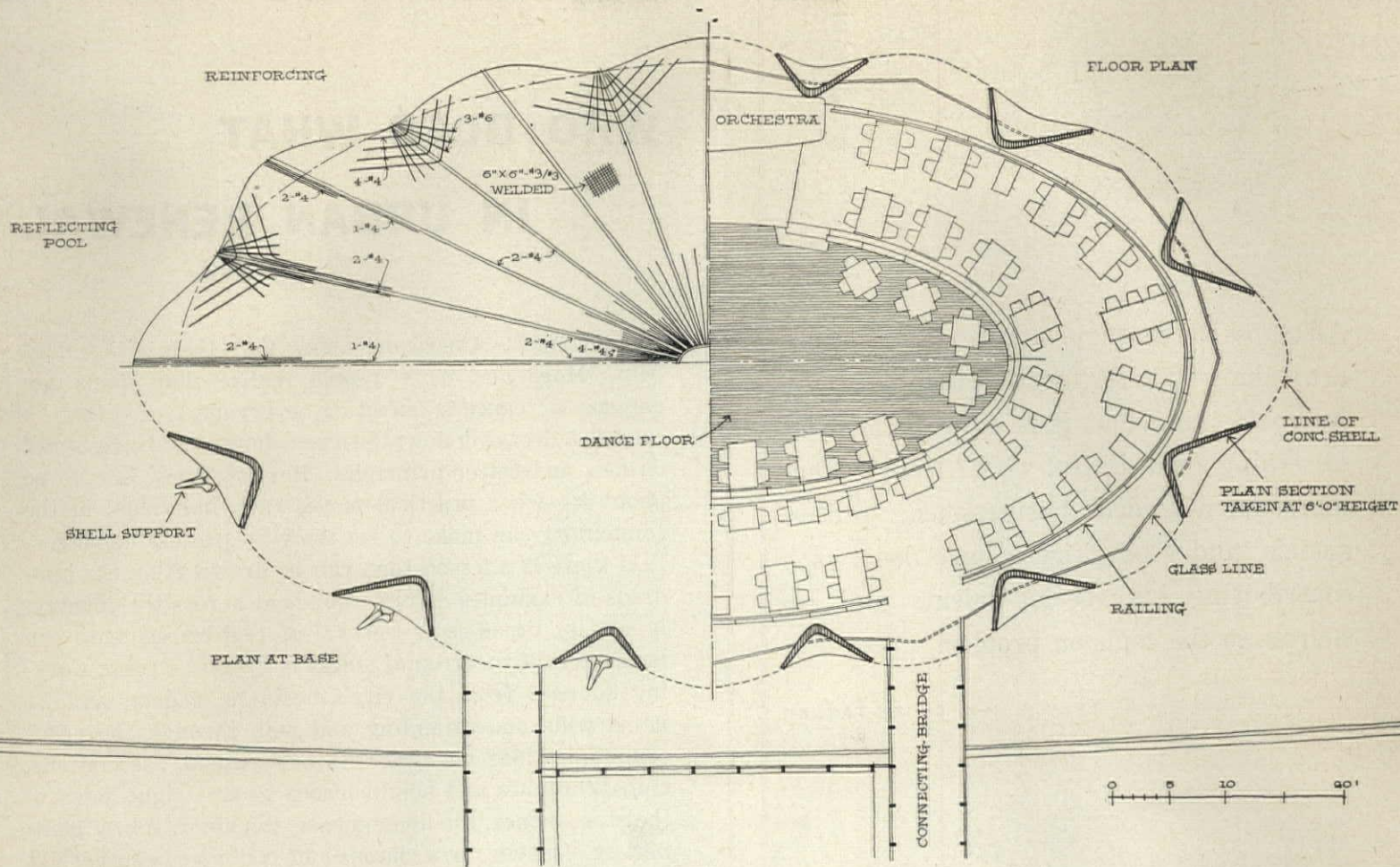
in the view of people inside the supper club (the pool will be floored and edged with old blue tile to help gain this effect). Under the supper club, and its pool, is a big space for mechanical equipment of the hotel, principally air conditioning.

The big concrete hood will vary from a thinness of less than 3" to a thickness of 8" (at the base of the volutes). Inside, it will be sprayed with acoustical absorbent to unfocus the reverberations of the dance orchestra. The man-made shell will vary from its organic ancestor in that its volutes will be much bigger, so that areas of glass can be inserted. These floor-to-ceiling windows will have to accommodate considerable expansion in the shell. Slip-joints will make the accommodation, permitting a rise and fall of 1½" at the crown of the volutes. In construction the concrete may either be sprayed on the placed reinforcing, or poured very dry on bent plywood forms.

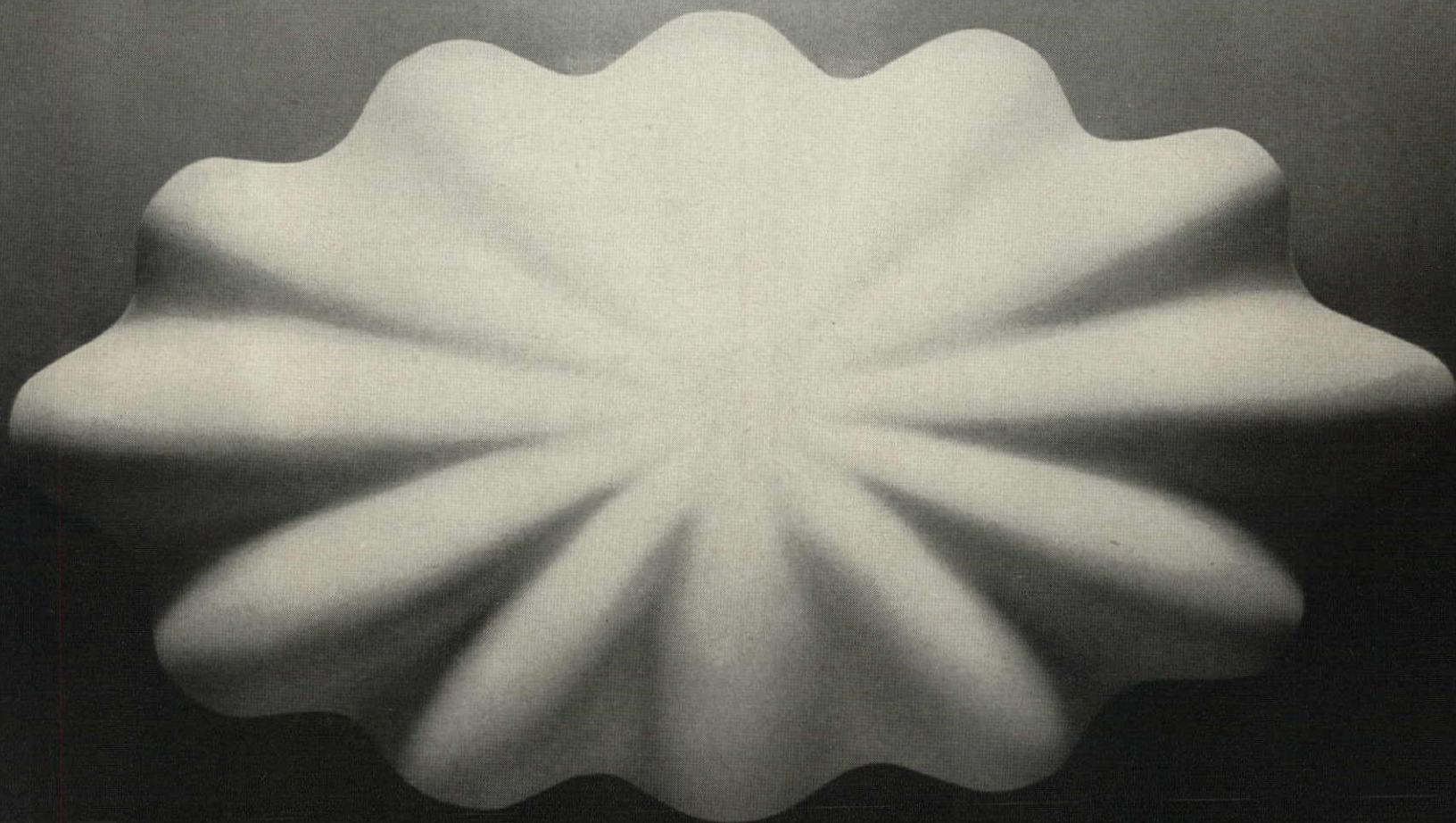


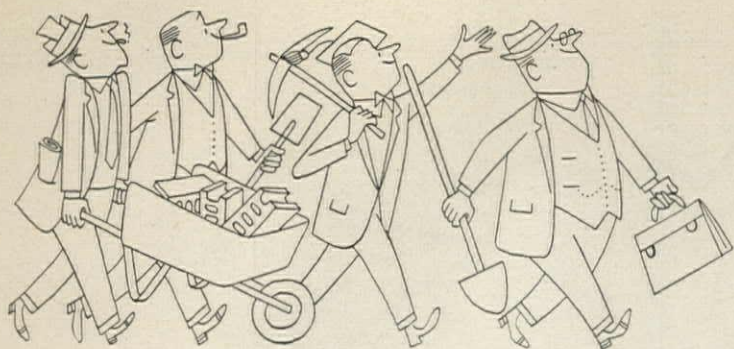
Section shows how shell will sit in pool above utility space for hotel. Cantilevered out over beach, pool will be lined with blue tile, and sight lines will project its edge out over ocean from inside shell.

View from above shows shell's generally oval shape. The character of the reinforcing of the supporting volutes is shown at the top left of the plan (right, above).



DAMORA





All across the country, more and more people are waking up to the fact that their cities are in trouble, and that it is up to them to do something about it. But what? Here is what some hard-headed businessmen, professionals, and good citizens have done, each contributing his special talents and resources to the common problem

—by OGDEN TANNER

WHO DOES WHAT IN URBAN RENEWAL

By now most Americans know that their cities need help. More and more people realize that slums are dangerous cancers affecting everyone, and that a crowded, decaying downtown somehow must be reshaped on new and better principles. But few know how to go about it—what practical moves each individual in the community can make to get the vital process moving.

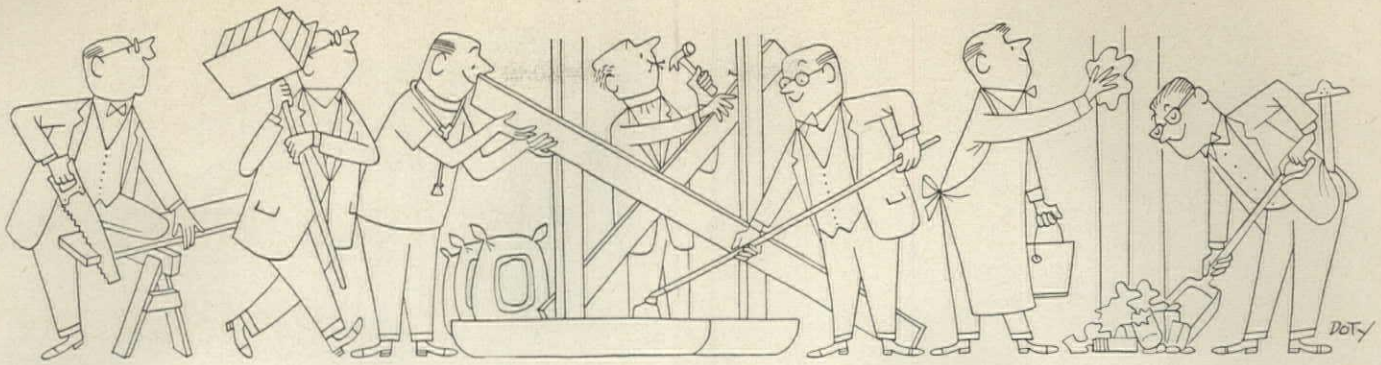
If there is a lesson than can be drawn from the hundreds of examples of redevelopment across the country, it is this: broad-scale renewal of real consequence can never get off the ground unless it 1) gets strong, working support from the city's business leaders, and 2) gains wide understanding and help through the city's communications network—its newspapers, associations, clubs, churches and neighborhood groups right down to the store-owner, the home-owner, the voter. A city planner, or a mayor, or a chamber of commerce can not get it done alone.

The great surge of interest in renewal in the US is not just a sudden coincidence of civic virtue. It is growing out of the business facts of life in every lagging community: the mounting distribution costs of inefficient traffic patterns, the loss of trade to the suburbs and to newer cities, the headaches of manufacturers, the bad living conditions of employees. These were the reasons behind such classic transformations at Pittsburgh's, where the Mellons and other bankers and businessmen formed the Allegheny Conference to pitch in and clean up and persuade business to stay. These were the reasons behind St. Louis' equally famous Civic Progress, Inc., a smaller spearhead of 21 leaders who joined with the mayor and patiently dramatized the issues of renewal for two years before letting \$100 million in bonds be put to a vote.

What businessmen can do

The experience of Pittsburgh and of St. Louis and of Cleveland, Kansas City and other alert cities suggest some practical steps for any smart businessman interested in his own future and the future of his town, large or small:

► Get into the parts of government whose proper functioning depends on the part-time service of responsible citizens: the planning commission, the zoning board of appeals, the housing or redevelopment authority, the



board of education, the board of health.

- ▶ Publicly support those local officials who are doing a good job for the community. These men are often under attack from special interest groups, and sometimes their worthwhile projects are politically unpopular. Unless community leaders back good officials, government becomes tired and timid; its projects become those which will bring the least amount of criticism.
- ▶ In particular, get acquainted with the people in the city planning office, find out what the city looks like from their trained, over-all point of view, where blight exists and where it will strike next, what movements are underway or expected. Eventually, this is where renewal must fit into a comprehensive plan.
- ▶ Work on Chamber of Commerce city planning committees, use the National Chamber of Commerce's growing fund of advice and literature on urban renewal.
- ▶ Help set up a citizen's urban renewal committee that can enlist and coordinate the myriad organizations and interests of the city through a representative cross-section of its leaders.
- ▶ Join with fellow businessmen in creating a revolving fund and a redevelopment corporation. Without these financial tools, renewal can never get started (see Cleveland, below).
- ▶ Pay top architects and planners to draw up rebuilding schemes that not only will work, but ones that are capable of firing the public imagination.
- ▶ Publicize to reach all elements of the community. Enlist the thinking and support of newspapers, and of those trained in advertising and promotion. *Do it in the beginning*, rather than coming in later with a "story" and expecting it to be worthy of printing. Donate advertising space, billboards, spot announcements on radio and TV. Make short, hard-hitting films on renewal and urge theaters and TV stations to show them as their contribution to the citizen effort.
- ▶ Focus first on one outstanding issue that can unite the whole community and create a climate in which the rest of the issues can be brought up and carried out. In Pittsburgh, this theme was soot; in St. Louis, soot and blight; in St. Louis and Chicago, rat-bitten children; in Cleveland, the slow and painful loss of standing among the first rank of US cities. Things like Los Angeles' famed smog could become a useful banner for a broader battle.

▶ Get other citizens out to renewal exhibits and meetings. Some 90 cities are now focusing attention on big citizen gatherings to see a wide-screen slide and movie show made by LIFE magazine and now touring the country as a contribution to ACTION (the well-publicized American Council To Improve Our Neighborhoods, which is rapidly moving in its own thinking from "fix-up" to include over-all city planning redevelopment and rebuilding).

Some examples:

In Detroit, a "Detroit Tomorrow Committee" of 100 business and professional men is giving Mayor Cobo invaluable advice and support on slum clearance, civic center redevelopment, park programs. Businessmen have raised a \$16 million Metropolitan Detroit Building Fund to finance capital improvements for 43 health, welfare and recreational agencies. The nonprofit Citizens Redevelopment Corp., conceived by Mortgage Banker Walter Gesell and other community leaders (including the UAW's Walter Reuther), raised an initial \$400,000 from industry and labor, helped a big developer start on 53 acres of the long-delayed Gratiot-Orleans clearance and rebuilding project (AF, April '56).

Fort Worth's famed downtown plan by Architect Victor Gruen (AF, May '56) was commissioned by a utilities man, J. B. Thomas of Texas Electric Service Co., who was understandably concerned about the long-term growth of the whole area in which his power lines and lights were permanently built in.

In Indianapolis, a group of downtown businessmen have formed the Civic Progress Assn. aimed at rehabilitation and erection of new office buildings, a new civic auditorium, demolition of blighted areas, new walk-to-work apartments developed with private capital.

In Cleveland, the new Garden Valley planned community offers a close-up study of how renewal can get started and the roles that various business and professional men can play. Four years ago, a *Plain Dealer* writer assigned full time to cover urban renewal reported to his Editor Paul Bellamy that redevelopment would never get moving unless it had strong support from the City's industry and commerce. At his suggestion, Bellamy called a meeting of prominent citizens, including the mayor, the Chamber of Commerce president and Utilities President Elmer Lindseth of Cleveland Electric Illuminating Co. Lindseth proposed a



development committee, suggested it be headed by John C. Virden, then a lighting fixtures manufacturer and board chairman of Cleveland's Federal Reserve Bank. When City Planning Director James Lister came up with 247 acres of industrial wasteland owned by Republic Steel as the only available site for a needed housing project, the "Virden Committee" turned itself into the Cleveland Development Foundation, a nonprofit group of industrialists who put up a \$2 million revolving fund for this and other renewal projects. Working with the Chamber and with five company presidents, Virden campaigned to raise the money from some 100 companies. Republic Steel's Thomas Patton got his company to sell the land to the Foundation at cost and fill in a deep gully traversing it. (The Foundation in turn has sold the land to the city and will get its money back as it is purchased by private developers and the Metropolitan Housing Authority.) Construction company President A. M. Higley donated engineering studies and construction advice estimated at \$25,000. Lawyer Seth Taft worked at cost as the Foundation's counsel, supported by Republic's Patton, also a lawyer. Through Lister the city planning department did the site planning. Board Chairman A. A. Stambaugh of Standard Oil of Ohio released his assistant, Upshur Evans, to become executive director of the Foundation. So concerned was Cleveland's business community about the need for redevelopment all over the city that Newspaper Editor Louis Selzer tried to get Planner Ernest Bohn to run for mayor on a renewal platform. (Bohn insisted he could serve the community better in his role as planning and housing expert.)

In Oakland, Calif., the Henry J. Kaiser Co. helped get renewal back on the track by heeding the call of an embryo citizens' committee, lending the full-time administrative help of its vice president in charge of community relations. Under Norris Nash, the committee has coordinated the city offices concerned with renewal, obtained a budget for its official coordinator, got Oakland designated as a pilot city by the federal government and is now making a sample survey of a 78-block slum area with the help of the University of California. Nash sees the work of his committee as "priming the pumps so that private enterprise can go ahead and do the job."

In neighboring Vallejo, Bank of America Branch Manager Leon Coleman picked up an earlier redevelop-

ment survey, and working through Vallejo's downtown association got a redevelopment agency appointed, the first big step toward rebuilding downtown. In nearby San Leandro Coleman's opposite number, A. J. Oliveira, helped bring together 52 community leaders aimed at forming a redevelopment agency.

Across the bay in San Francisco, Paper Manufacturer J. D. Zellerbach got into the fray after looking downtown for an office building site and finding the foot of Market St. almost entirely blighted. After talking to Mayor George Christopher, Zellerbach and Investment Broker Charles Blyth formed a group of 11 businessmen which has advised on the problems of a product market and an Embarcadero Freeway, and helped persuade Architects Skidmore, Owings & Merrill to contribute a study of freeway costs to the city for a nominal fee.

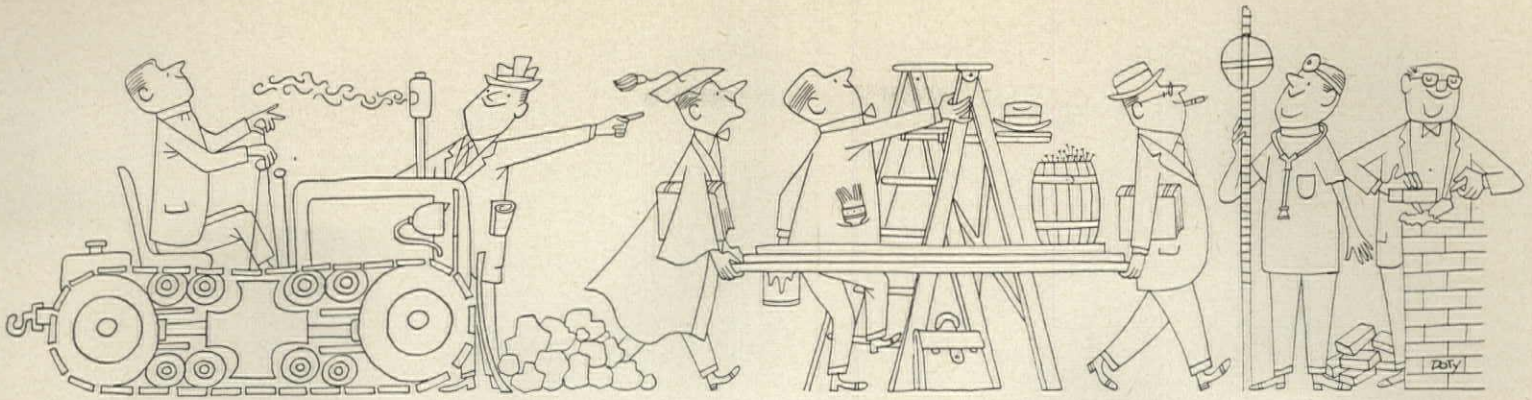
In East Chicago, Ind., Inland Steel, Cities Service, du Pont, Socony Vacuum, Standard of Indiana and Youngstown Sheet and Tube joined Purdue University in a \$1 million foundation for slum clearance, neighborhood rehabilitation and conservation.

What big companies can do

Companies with a nation-wide interest in healthy communities and their buying power are adopting urban renewal as a major policy. Recently some 60 General Electric branch plant executives met in New York with ACTION executive vice president James Lash and his staff for a second workshop session to swap ideas on how GE could participate in the dozens of communities in which it is involved.

Some of the reports:

In Cicero, Ill. Hotpoint Executive R. H. Thomas heads a citizens' action committee which has torn down 65 shacks in various parts of town, turned a municipal dump into a drive-in theater, persuaded the railroad to demolish 30 railroad workers' shacks and find them decent housing elsewhere, organized high school students into block-by-block surveys to photograph substandard houses for later evidence, encouraged Boy Scouts to clean up vacant lots, cooperated with the Cicero *Light* on a series of renewal articles, made renewal films available to other local organizations. Next steps: a Cicero ACTION information center and staff, a profes-



sional planner for the city's staff, renewal films and lobby displays in local movie houses.

In Brockport, N. Y., a town of about 5,000, GE Appliance Executive Joseph Orbin has taken the lead in the new Chamber of Commerce, spoken on urban renewal to a handful of community organizations, helped the Chamber beat the drum for a new planning commission. Orbin faced the typical attitudes of old, tightly bound communities, had to work carefully and quickly, in part to divert the idea that it was all a conspiracy between big business and local realtors. He found his civic job easier after a blue-sky planner from out of town had aroused the citizens ire by proposing that Main St. be turned into a huge pedestrian mall. The day after that appeared in the news, the paper was full of letters to the editor and the next Chamber of Commerce meeting was packed to the rafters with fearful and angry property owners. Brockport had started to think about its future. Says Orbin of his civic work: "We're trying to show a small town that we're not in here as a carpet-bagger, but that industry and community need each other."

In Bloomington, Ill. GE Executive Richard Ehrman is chairman of the 50-member Citizens Advisory Committee and a member of the City Planning Commission. The CAC membership was made purposely large to get as many people as possible interested in studying the new city plan report by Planner Harland Bartholomew. Especially effective in stimulating public support and understanding was a series of 15 four-page special tabloids published by Bloomington *Daily Pantagraph* (whose publisher is also the chairman of the city planning commission). These profusely illustrated special editions, one a week, examined each aspect of Bloomington at close range. Sponsors of the tabloids, along with the *Pantagraph*, were 105 local businesses, ranging from the big GE plant down to the smallest local drug store. The CAC also raised \$50,000 in subscriptions to remodel the YMCA, got local labor organizations to donate free labor, local suppliers to give free materials. Every major lumber company in town now has a free advisory service which includes plans for new houses or remodelings.

Sears, Roebuck, with 700-odd stores around the country, has its own Director of Urban Renewal, Harry N. Osgood, encourages its local representatives to take

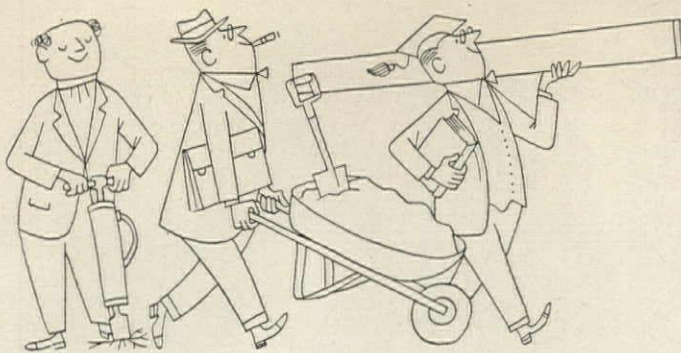
an active personal part in local programs. Sears, like GE, held an ACTION workshop to acquaint its field men with techniques, has provided them with such tools as urban renewal glossaries and legislation manuals. The effects are already being felt in such towns as Columbia, S.C., Greenboro, N.C., and near Sears' big Chicago plant, where the company has backed the Greater Lawn-dale Conservation Commission by sponsoring a contest for home improvement. Says Osgood: "We can help arrest a million houses a year from sliding into slums. And in bringing about better communities, Sears will make money too."

What merchants can do

In any city, store owners obviously have a big stake in a healthy community, especially in its downtown business district. Some of the contributions merchants have made are mainly self-interested, such as the promotion of downtown expressways and parking. Others, showing a broader awareness of civic problems, have:

- ▶ Contacted their own national associations for renewal information. The National Retail Dry Goods Association, like its counterparts in the real estate and building fields, has accumulated considerable data, and the chain druggists and others are on the verge of their own programs.
- ▶ Stirred up whatever local bodies they belong to or can join.
- ▶ Campaigned for *peripheral* parking near downtown to keep traffic from snarling the very heart of the city.
- ▶ Put on a bright front by remodeling their stores and encouraging other owners to follow their example.
- ▶ Initiated area competitions among architects and planners, with the help of city planning departments and local AIA chapters.
- ▶ Given over display windows and inside store space to these and to other city planning and architectural exhibits.
- ▶ Donated some of their large budgets for newspaper advertising space to periodic backing of renewal projects.
- ▶ Encouraged editors to give editorial support to these projects.

In Chicago, Marshall Field, which has a special vice president in charge of civic affairs (Earl Kribben),



backed the Ft. Dearborn renewal project. Carson, Pirie, Scott & Co. celebrated its 100 birthday by sponsoring a \$32,500 competition to redesign the Loop area for the coming 100 years; the contest drew 106 professional entries and provided the city with invaluable data and ideas (AF, Nov. '54).

In Detroit, the J. L. Hudson Co., working with the citizens' committee and the city planning department, donated its display staff and auditorium to stage a big "Detroit Tomorrow" exhibit.

In Denver, renewal got started when Developer William Zeckendorf was prodded into making good his intentions of major development in Mile High Center and following projects. Another step forward came when Joseph Ross, president of Daniels & Fisher department store, became president of the city's new Urban Renewal Commission as well as director of the executive committee of the Downtown Denver Improvement Association. Ross, who had headed a big Dallas rehabilitation project while at Niemann-Marcus, is now looking to a ten-year program for Denver that includes three pilot projects in renewal, a downtown plan for blight elimination and a new expressway, two more major slum clearance projects. Says Ross: "The first important thing in urban renewal is a good housing code, enforced humanely, flexibly, and patiently. You must prepare neighborhoods for it by working with local ministers, school principals and other leaders and helping them form neighborhood councils to advise the central citizen group." Ross' citizens' commission is a good cross-section of community skills: a merchant, a banker, a private developer, an insurance man, a lawyer, a professional planner, a labor leader, a city councilman and a newspaper publisher.

What bankers can do

As a financial expert a banker, mortgage banker or insurance executive can contribute valuable experience to a citizens' committee in setting up redevelopment corporations to deal with federal, state and city governments and with private developers. He can also set aside a portion of regular funds for low-cost home-improvement loans, always a desperate need in a tight money market. For example:

In Kansas City, Mo., Banker James Kemper helped

form and head up the Downtown Redevelopment Corp., a group of 98 businessmen which bought part of the city's "skid row" prepared under Title I, turned it into the 1,850-car Northside Parking Project just inside Kansas City's ring-road redevelopment (AF, Nov. '55).

In Cleveland, five banks backed up "Operation Demonstrate" by extending home-improvement loans from three to eight years, offering to consolidate any old mortgages with new ones to reduce monthly payments.

In Memphis, Mortgage Banker William Galbreath, besides serving on the city planning commission, has worked to get other bankers interested in Title I loans for rehabilitation.

What realtors can do

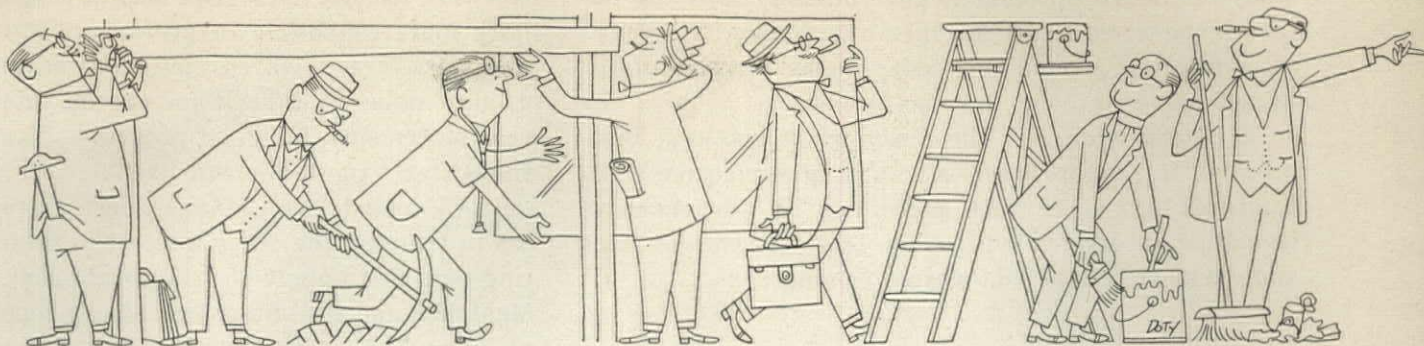
Any citizens' group needs real estate men to point out where blight is coming, to advise on land values, trends, taxes, costs. When renewal gets underway, they can also set up a relocation bureau to help small businesses in the path of redevelopment find new space or building sites elsewhere in town. Other contributions:

In Norristown, Pa., a committee of the local real estate board surveyed every property in town, notified owners of unsightly conditions, got them to bring 500 units up to standard and demolish 50 others.

In Memphis, Realtor-Developer Russel Wilkinson helped his local real estate board establish a loan and advisory group to help home owners finance improvements.

In San Francisco, Realtor Lloyd Hanford spearheaded the formation of a Citizens' Participation Committee which has set off hot and healthy public debates over San Francisco's freeways, produce market and other redevelopment projects. Hanford's committee also circulates among property owners, showing them how things are financed, what it will cost them to do and what the committee thinks they must get to do eventually, sketching out for them how to work with city departments, architects, contractors.

In Atlanta, Real Estate Developer Frank M. Etheridge helped prod the Georgia legislature into urban renewal laws, pushed for a slum redevelopment program for a downtown area near the Capitol. The real estate board has agreed not to lease property designated as slums by the city building inspector, and insurance men have ceased to write slum fire insurance.



What architects can do

As the trained professionals most needed to shape actual redevelopment, too many architects are still busy deploring wrong solutions among themselves instead of getting out and starting right ones. On the lists of various groups sponsoring urban renewal—in big towns and small, at the state house and on Capitol Hill—the number of architects' names is distressingly small. Not enough of them know their public officials, inform themselves on prospective redevelopment jobs or go out and find developers to promote and build their ideas. Few are able to present a clear, dramatic picture of urban design and renewal to the general public. Some notable exceptions:

- ▶ Nathaniel Owings of Chicago, former planning director for the city and now a participant in several large projects for its renewal.
- ▶ Oskar Stonorov of Philadelphia, who helped set up a remarkable city planning exhibit at Gimbel's store and has worked endlessly for rehabilitation projects sponsored by the Friends' society.
- ▶ Harry Weese, also of Chicago, who has helped on plans for both the north and south sides of town and has stimulated Chicago's vision of what it might do in the middle—create islands off the downtown lakefront.
- ▶ Edmund Bacon of Philadelphia, a planning director with a broad architectural background and an active liaison with the city's leaders.
- ▶ Kenneth C. Welch and Victor Gruen, two architects who trained themselves in planning and merchandising, have not only built outlying shopping centers but have developed challenging schemes for whole commercial districts downtown (Gruen at Fort Worth, Welch at Grand Rapids).

Other recent examples:

In San Francisco, Wayne Hertzka led the local AIA chapter in a successful attempt to get a coordinated plan for civic center expansion, something the chapter had been trying to achieve for seven years. Guided by the architects, the center will now enjoy a new exhibit hall, and underground garage topped by a park with property laid out fountains and floral displays.

In Tulsa, members of the Architectural League went to the city with a proposal to design, at cost, a brand new civic center of public buildings linked by plazas

and underground parking. Developed step by step with the practical advice of a major's committee of leading citizens and a six-man staff paid for by the city, the \$28 million scheme has been well publicized and made part of the city's master plan (AF, Feb. '56).

In Springfield, Mass., Planner Reginald Isaacs used the town as a case study for his Harvard students, got the citizens aroused enough to consolidate groups and go to work on urban renewal problems (AF, July '56).

In Elyria, Ohio, 31-year-old Architect Richard Miller came back from a Harvard conference on urban planning, wrote a dramatic series of ten sharply worded, well-illustrated articles showing how other cities were handling their problems and how Lorain County's new planning commission and citizens' groups could work together to get action at home. The windup: a full-page, four-color sketch plan, complete with ring roads and radials, parks and parking, for an Elyria of Tomorrow.

What newsmen can do

As Publisher Otto Schoepfle of the *Chronicle-Telegram* did with Miller's series in Elyria, other newspapermen have lead their cities in the first steps toward urban renewal. In Washington, both the *Post* and the *Star* have not only given full-time coverage in news, features and editorials, but have in fact assembled so much valuable data that they are continually sought out for vital information—and for speakers. The famed St. Louis *Post-Dispatch* series "Progress—or Decay?" was invaluable in getting broad-gauge support. In addition to editorial support, the *Detroit News* actually sponsored a panel study of the city's problems by local leaders and an Urban Land Institute team of experts. In Cleveland, both the *Plain Dealer* and the *Press* got into renewal in the early, talking stages, have full-time reporters and occasionally help coordinate action. (Said one Cincinnati leader: "If we had the kind of newspaper support Cleveland is getting, we'd be twice as far along in our program.")

In Fresno, Calif., the *Bee* ran 18 articles under a "Community Crisis" headline, later compiled the pieces in a special tabloid edition that went like hot cakes. Since then a volunteer committee has drawn up a new building code, others are improving county zoning and

studying metropolitan-area government. Says the author of the series, *Bee* reporter Gordon Nelson: "In political campaigns around here today, being for planning is as necessary as being for motherhood."

In Bloomington, Ill., the *Pantagraph* got local businessmen to support a series of special supplements. In St. Louis and other cities radio and TV stations have broadcast interviews with slum-fighters, renewal films and cartoons, round tables, spot commercials.

What the professions can do

► *Educators* are bringing the story of slums, renewal and planning to school children, through children to their parents, and to parents directly. Schoolbooks like Chicago's famed old *Wacker Manual*, a child's primer on community planning, have appeared in Atlanta and other cities. High school civics teachers are sitting in on briefing sessions with citizen committees, taking current programs back to class.

In Memphis, Dr. Laurence Kinney of Southwestern University turned adult-education studies into a highly successful series of nine television programs called "The City is You," with the help of a small grant from the Twentieth Century Fund. Timed with the presentation to the city of a new master plan report, the series showed how each citizen could get into the urban renewal act, ended with a picture of what Memphis could be in 1984.

In Sioux City, Iowa, John Schmitt of the local adult education center obtained a grant from the Fund for Adult Education, used TV and other media to mobilize citizens behind community improvement.

In Newark, N.J., the city's education department followed up a citizen's rehabilitation program with neighborhood studies by high school juniors and seniors, has included slum prevention in its adult education program as well.

On New York's west side, other schools are following the lead of Joan of Arc High School in teaching housing problems and slum prevention.

► *Doctors* and health departments have provided urban renewal groups with data on sanitary facilities, health figures and hospital needs and have given valuable appraisals of the group health and mental health aspects of urban programs.

► *Lawyers* have proved indispensable members of citizen groups in studying existing laws and codes at city state and federal levels, recommending enabling legislation, revisions and new laws to implement urban renewal. Lawyer-volunteers representing the citizens can serve as a valuable check on the city attorney's office, can also help set up a speakers bureau to explain renewal, a pool of free or low-cost legal advice for property owners and tenants in the path of redevelopment projects.

► *Ministers* have been invaluable on the board of citizens' organizations, both as advisers and as spreaders of

the word to their flocks. Not only do neighborhood people have more confidence in projects affecting them when ministers are involved, but the backing of church groups makes it difficult for special interests to attack real movements for civic progress. The church sometimes starts the movement itself:

In Cleveland, two Catholic priests have been the leaders in winning the city's interest in their area and getting officials to apply for a federal grant. Rev. William McMahon and Rev. Stephen Radecky repeatedly stressed neighborhood improvements from the pulpit, insisted that parishioners attend meetings of the West Side Civic Council to talk about them. They met with residents, street by street, to explain proposed zoning changes. Result: when public hearings on the zoning changes were held before the City Planning Commission, the people were prepared and the proposals moved along smoothly. McMahon also wrote to over 100 cities and agencies all over the country to collect available literature or urban renewal for distribution among West Side Civic Council members.

Another minister who has played a vital role in Cleveland's renewal is Rev. Robert L. Fuller, Negro pastor of Mt. Hermon Baptist Church. When Fuller learned that his church was to be demolished in clearing a central slum area, he came in to discuss the redevelopment plan with Cleveland's urban renewal chief, James Yeilding. He studied it and became convinced that it would work to the advantage of his church and his parish. Then he went about interpreting and selling the plan to his people, dispelling the fears that could have built up to solid resistance of the program.

Still another spark plug for renewal just getting underway in downtown Cleveland is Reverend John Bruere, pastor of Calvary Presbyterian Church and leading member of the Hough Area Council. In this area, where fine old residences have been allowed to run down as absentee landlords cut them into suites and crowded them with low-income minority groups, Bruere has worked doggedly with street clubs comprising the Council to get members to do voluntary rehabilitation. After ten years of hounding city hall to enforce building codes and save the area, Bruere has finally been able to get the City Planning Dept. to make a comprehensive study of the area, concerned not only with which buildings should be rehabilitated and which demolished, but also with entire neighborhood problems of overcrowding, traffic, parks, playgrounds and zoning. Volunteers are helping out by making house-to-house surveys to get planners valuable information on size of families, income, number of autos, etc.

Says Bruere, summing up the grass-roots problem and, in a sense, the whole nature of urban renewal: "Individually, people feel they are alone and nothing can be done about their problems. When they are brought together in a common cause, they find they had been thinking along the same lines after all. Things begin to happen. They take action—and city hall listens."

WHO DID WHAT FOR NILES, MICH.

What is happening in this energetic little community can happen in any city, large or small. Here is a close-up of urban renewal at work—the people and the process



Industrialist Dave Miller of Kawneer Co. (left) set up planning commission with aid of Mayor Mowitt Drew, Chamber of Commerce Manager Bill Bott.



Citizens of Niles meet to see film of planning report in new high school cafeteria.



Camera fan Roger Lorenzen, a machine-shop owner, donated services to make color movies on town's problems and progress.

Like hundreds of US communities, Niles, Mich. is in the under-15,000 population bracket. But unlike most of them it has a humming ten years of experience in warding off urban obsolescence that other cities might well learn from. Niles also has its business leaders, who are helping their town catch up with the present and start planning for the future.

Like a lot of cities, Niles started out as a place where farmers met to swap supplies and small talk down by the railroad—in this case where the main line between Detroit and Chicago crosses the lazily winding St. Joseph river. Niles became the trading center of a region rich in peaches, plums and vegetables. More and more stores and factories moved in, and more and more houses and schools and roads were built. Before long, Niles was feeling the first pains of disorder and decay.

Toward the end of World War II, the biggest of Niles's 30-odd industries, the Kawneer Co., got the idea of promoting some long-neglected modernization along America's Main Streets. Kawneer, which makes metal parts for store fronts (as well as for airplanes), decided the best way to get the idea going was to build it, and the most logical place to build it was in its typically American home town of Niles. Kawneer called on its architectural consultants, Ketchum, Gina & Sharp of New York, to produce a coordinated face-lifting scheme for a dozen stores along Niles's own Main St. (AF, Oct. '44).

The Kawneer-Ketchum plan didn't transform Niles overnight, but it did start people thinking. A few stores went along, with remodelings less expensive and less sophisticated than the Ketchum suggestions. But, as has happened in other towns, the real renaissance didn't start until a much more fundamental defect than appearances had been attended to.

Almost since his arrival in Niles the new manager of the Chamber of Commerce, an ebullient young Michigan State graduate named William J. Bott, had been pointing to the ever increasing flood of automobiles downtown and crying for foresighted measures. The curb parking meters the city had installed were not enough to cope with the problem, said Bott: what Niles had to do was raze some old buildings for off-street parking. As in other towns, the Chamber became the rallying point for people who wanted to get something done. Finally the city issued \$220,000 in revenue bonds for five parking lots, with space for 225 cars and meters to pay them off.

A few months later Niles celebrated its new parking lots—and new fluorescent lights along the streets—with a bang-up parade of floats and bands marching down Main to the background of cannon and fireworks. At the "Brighter Niles Days" fiesta nearly everyone was optimistic about the future. It was not long before the



Corner drug, remodeled when the new parking lot opened behind it, enjoyed a 30% sales rise in the next two years, a steady 12% per year since.

Backsides of Main St. stores, spruced up to face new parking lot, show what can be done with individual pride and a little paint. At right, Montgomery Ward and one entrance of Penney's enjoy prime locations across side street from new parking lot.



Jewelry-appliance store saw sales jump 40% in year after remodeling while national sales volume for same goods rose only 10 to 15%.



children of Niles had five new grade schools and a bright modern high school and the town's hospital had been expanded from 74 to 119 beds.

Equipped with new street lights, new parking lots and a new spirit downtown, businessmen began to take up remodeling in earnest. To help them, Kawneer set up a new contract department under Frank J. White, on a strict business basis devoid of any home-town paternalism. White's argument: if an amortization of, say, 65¢ a day yields a 50% increase in sales (as it had in earlier cases), is a remodeled Main St. anything but good business? The result: today some 60 of the 100 buildings in downtown Niles have been modernized, and the work is still going on.

But a new face for downtown was really just the beginning. People had got their feet wet in planning and rebuilding, and they began to look around with sharper eyes. As Niles itself had expanded, it had suffered increasing competition for industry and commerce from South Bend, Ind. only 11 mi. to the south, from Benton Harbor-St. Joseph 25 mi. north and even from Chicago 90 mi. west. Attempts to lure new industry had been helter-skelter. Zoning needed revision. There was no blueprint of growth for Niles and its surrounding townships.

The stage was set for still broader leadership. Kawneer's executives, like the rest of Niles, had become more interested in their town, and by 1954 they were speaking out at Chamber of Commerce meetings. An Economic Development Committee was set up under David Miller, Kawneer's sales vice president, who started out with 15 other citizens to make a complete inventory of all facets of Niles's life from agriculture to religion. It was not long before Miller and his citizens' committee had documented their studies and came up with the inevitable: Niles had to have a comprehensive area plan, one that went beyond the artificial boundaries of city and townships to embrace the whole region. They urged the city council and the township boards to join forces in an Area Planning Commission. The officials reply: we can't act until you show that public opinion is behind the idea.

Miller and Bott needed a movie—everybody in urban renewal does—but they hadn't the \$20,000 or more that professional documentaries come to. Their salvation was Roger Lorenzen, a local machine shop operator and camera hobbyist, who volunteered to shoot the footage, in color, if they would supply the film. After collaborating on a shooting script, Lorenzen got his downtown scenes from atop the tallest building, the Four Flags Hotel, and then to cover the whole Niles area borrowed a Piper Cub from the airport. While the pilot tilted the Cub on its side, Citizen Lorenzen hung out over space filming highways, schools, industry and slums through

the plane's open door. On the ground, he took special precautions in the shanty area of town by painting his tripod with red and white stripes and telling inquisitive owners he was making a "survey." When the local Negro leader found out what was really going on, he told Lorenzen: "We want to be in this thing. We want to help."

After 75 hours of shooting, the team spent their evenings in the basement of the Chamber offices editing and splicing while Kawneer's assistant advertising manager, Bob Baker, wrote the script. Miller, who has a good baritone voice, was kidded into doing the narration, to the classical recorded strains of "Pines of Rome." For their ultimate 30 minutes of sound-dubbed film, they had paid only \$78, not \$20,000, and had had a lot of fun. What they got was vastly better than many a documentary, closely equal in finish and superior in directness and hometown appeal.

The film, called "The 25-Year Look," has been shown to more than 6,000 people at club and lodge meetings, at PTA gatherings and church socials. Meanwhile Editor John Scamehoran of the Niles *Daily Star* kept up a supporting barrage of news and editorials. They stressed the need for area planning, not mere central-city planning. And an area planning commission was what the city council unanimously voted.

The first job of the new nine-man area planning commission, constituted under state law and chaired by Miller, was to look into professional planning consultants. After several months Harland Bartholomew & Associates of St. Louis were picked, and given a \$20,500 budget. To get the broadest possible participation, the commission appointed a citizens' advisory committee of 89 persons, including representatives of the surrounding townships, to help develop the comprehensive plan.

When Niles finally sprang its big show last September, it was able to get HHFA Administrator Albert Cole as one of several guest performers supplementing its own efforts. To 200 officials—and citizens—gathered in the spanking new high school cafeteria, Cole offered federal help if Niles kept moving forward as it had been. Said Cole: "All you have to do is give us the word."

At the meeting a second film by Lorenzen helped unveil the first chapters of the Bartholomew report, which from here on out will get thorough discussion by all of Niles's citizens. By June, 1957 a final version will supply Niles with statistics, guide lines and a proposed sequence of redevelopment for the worst areas. Whether this report is the best that can be done awaits testing—by an alert public. But indications are that the endless vigor of errand-running by Bott and the steady thoughtfulness of Miller and the rest have come through to the rest of the townspeople. Chances are they will give solid support to the constant renewal so vital to cities.



Renewal spreads off Main St. to Daily Star building, where dingy stores and offices got thorough face-lifting.



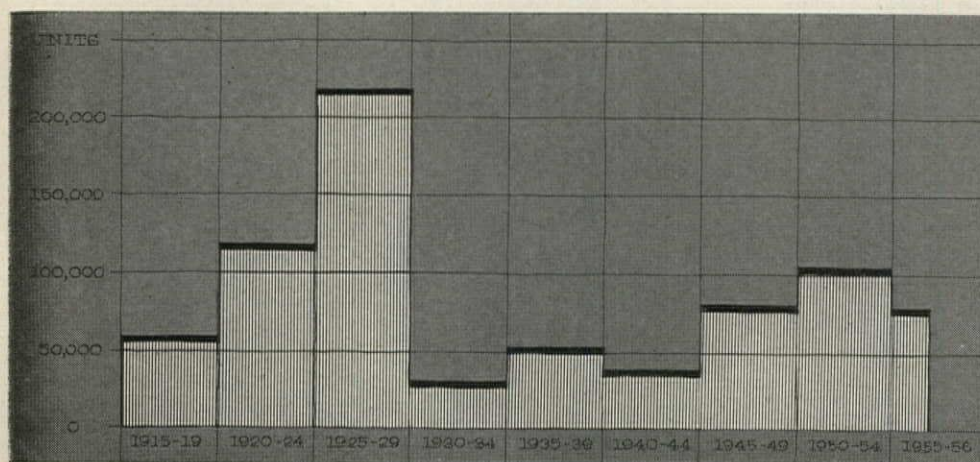
Chain stores unite in one of the simplest and best new fronts in town (top). Managers report sharp increase in new shoppers who used to go to South Bend and other communities. Penney's former space (bottom) is now ugly and vacant. Like many run-down parts of Niles and other cities, this can be traced to an absentee owner who didn't bother to keep in touch.

Bright front, invitingly open, shows how little shopkeepers can give big ones tough competition. This is one remodeling that followed Architect Ketchum's original designs.



WHY APARTMENT BUILDING LAGS

Builders of FHA insured projects are required to become junior partners with a government agency which reserves the right to change the rules in the middle of the game. Here is a close look at some of the fuzzy fine print in FHA's book of rules



Rental housing production, 1915-1956, plotted in five-year averages. Level today is far below that of twenties and only modestly above that of Depression years when building was at virtual standstill. Figures cover all privately owned buildings containing three or more dwelling units.

* Congress this summer liberalized the FHA apartment mortgage insurance program in four ways: 1. It raised the mortgage limit from 80% to 90% of appraised value for the regular Section 207 apartment construction. 2. It recognized items of reasonable overhead as elements of a sponsor-builder's cost under both Section 207 and Section 220 which covers apartment building in urban renewal projects. 3. It liberalized the cash equity requirement for Section 220 projects by encouraging FHA to recognize as cost "an allowance for builder's and sponsor's fee and risk" up to 10% of all costs except land. 4. It eliminated one possibility of future controversy by making FHA's cost certification incontestable—a ruling that would have precluded the Section 608 "scandal" (for further details see AF, Sept. '56).

Apartment builders are dragging their heels. This year they will produce only about 77,000 dwelling units, compared with about 162,000 in the peak postwar year of 1949, when FHA's lenient "Section 608" financing sparked a boomlet. And, compared with the all-time high of 257,000 way back in 1927, this year is indeed a dud (see chart).

Why?

Part of the answer lies in the government's failure to recognize the realities of today's real estate investment (a subject which has already been explored in detail on these pages by Economist Miles Colean—AF, April '55, *et seq.*) and more specifically in FHA's failure to allow the apartment builder-owner the lenient financing terms necessary to attract interest in this highly speculative field (AF, April '56).

Some of these deficiencies have been recognized and belatedly corrected by Congress.* But there is still a major obstacle to the needed expansion of rental housing. This is the unhappy relationship between FHA and the apartment owner (who usually is also its sponsor and builder). This relationship should be a friendly one, for the builder-sponsor usually lives with FHA for a long time. Unlike the housebuilder whose ties with FHA are cut when his house is completed and sold, the apartment builder-owner lives legally with FHA for the duration of the mortgage—for as much as 30 years.

Apartment builders today look forward to living with FHA about as much as they relish a 30-year visit from a domineering in-law. They have learned that FHA's decisions and agreements are subject to change and that it has a bulging briefcase of legal opinion to prove that its vacillation is justified.

A lopsided partnership. When a builder agrees to sponsor an FHA-insured apartment project, he enters into a partnership with FHA, the terms of which are set in the project's certificate of incorporation, a standard

FHA form. This document gives FHA general authority over the project, including the right to set rents and to control replacement expenditures from reserves and the distribution of other corporate funds. And, under the new Housing Act amendments, FHA will also keep a close watch on actual construction costs for the purpose of certifying costs and determining the mortgage limit.

Even though its interests are amply protected by the security of the real property, FHA considers itself the senior member of the partnership with the right to treat the property almost as if it were the owner. As a result, the rights of stockholders in these apartment projects are subordinate to FHA's.

This lopsided relationship between FHA and the owner-builder does not merely reflect the attitude of the agency's present staff; it has become an integral part of the administration itself and has been reinforced by court interpretations of the law. FHA legally established its position as the senior partner in the courts during the recent Shirley Duke apartment ("windfall profit") case. And, in a Supreme Court case concerning the real estate taxation of military housing built by private builders under the Wherry Act, Justice William O. Douglas in a minority opinion confirmed FHA's senior-partner role.

A double standard. FHA is now going to the court for further extension of its rights—perhaps to the point that it will no longer be governed by ordinary law applicable to private individuals and business corporations. For example, FHA officials apparently do not consider themselves bound by previous FHA approvals or policies or by approvals they themselves may have previously issued. They claim the right to repudiate even written approvals and authorizations accepted in good faith by project builder-owners. They make claims against project owners without

regard to the statute of limitations which bars such claims between individuals and between corporations.

In the so-called "608 enforcement program" FHA is retroactively applying interpretations of regulations and procedures never contemplated at the time by FHA and the project sponsors. In these 608 projects it retroactively refuses to recognize items of cost which it now recognizes as items of cost in present-day projects. (And the 608 mortgage was intended to be liberal financing to help meet the emergency housing shortage.) If today's cost rules governing Section 220 housing were applied to yesterday's Section 608 projects, a good many of FHA's present claims against the 608 sponsors probably would not stand up.

FHA's double standard is bad enough for a 608 owner, but is even worse for the sponsor of a new apartment project. It means that, even if he understands all the conditions of his contract, he must realize that the conditions may be changed at FHA's convenience or that FHA may apply against him the strictest interpretation of the rules.

A new series of loopholes. FHA has revised its model form of certificate of incorporation but, it still contains several one-way loopholes through which FHA may wriggle when and if it wants to. Examples:

► It gives FHA the right of final decision over a project's operating policies but does not require that FHA make this decision in accordance with any specific policy or pattern. The wording is so loose that it can be argued that FHA has the right to override any decision of the officers, directors and stockholders of the corporation. Thus, the model contract states that the purpose in issuing a corporation's preferred stock to FHA is "to enable the commissioner to protect the contingent liability of FHA as insurer or holder" of the mortgage. According to legal experts, this loose wording

might be used by FHA to justify almost any action it might want to take in the future.

► It grants the project directors permission to use "surplus cash" as they see fit, but in another paragraph seems to restrict its use and specifically subjects its use to the provisions of state law.
► It gives FHA the right of decision in numerous instances without spelling out clearly the basis on which the decisions will be made. For instance, it gives FHA unlimited authority to pass on the redemption of common stock, regardless of whether or not the provisions of redemption have been met.
► It does not set a time limit within which FHA can object to actions taken by project officers and directors.

A pair of palliatives. So long as these fuzzy details characterize FHA's new model certificate of incorporation, apartment builders and investors will be somewhat less than enthusiastic about dealing with FHA; and apartment construction will continue to lag. Before more interest, effort and money can be attracted into this field, two major changes in the government's rental housing policy are indicated:

1. FHA's certificate of incorporation should be made a fair contract with the rights and responsibilities of all parties clearly defined.

2. The National Housing Act should be amended to make FHA's contract with the sponsor-builder as iron-clad as its contract with the mortgagee. Just as the insurance contract with the mortgagee is incontestable (except in the case of default), so should FHA's contracts and agreements with owner-sponsors be protected by law from subsequent changes of mind by FHA officials.

The need for such changes becomes even more urgent now that FHA has shifted responsibility for the supervision of all insured rental housing projects from the central office in Washington to local FHA offices and to a staff of roving supervisors.

FOUR OFFICES OF DISTINCTION

1. A downtown headquarters for an insurance company (right)
2. A suburban administration building for a window factory (p. 144)
3. A demonstration suite for a metal maker (p. 146)
4. An idyllic workshop for an architect (p. 148)

HEDRICH-BLESSING



1. ART ON MAIN STREET

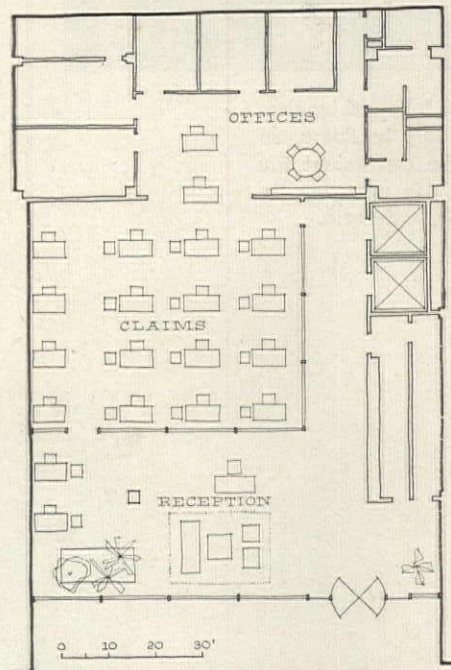
A mosaic frieze helps a new glass building make friends with its old neighbors

Fitting neatly into the common front of an old business block of Grand Rapids, this trim, quiet, owner-occupied building carries its newness and quality in a cool, unostentatious way. But its design was governed as much by the proportions of the typical working girl as by the proportions of the neighboring buildings. Everything inside and out is organized around a 5' x 5' module, the space occupied by an insurance company office worker and her desk. One exception: into the grid of 5'-wide panels of glass bounded by stainless steel mullions, the owner and architect obviously took pleasure in introducing a wide belt of mosaic, stretching all the way across the building. To the few, large simple materials of the façade this warm mosaic adds more than a million little elements of tile, with a single, gathered impact of life and pleasure to fill out the personality of the architecture. Margaret Wentworth designed the mosaic to express, abstractly, the air view of a great river cutting through the land; it was put together in Mexico. The insurance company owner thinks of it as a signature across the land; like the building itself, a symbol of its stability and vision. The mosaic is tilted down toward the pedestrian, for easy looking.

Inside, the building is mostly open office space. Hanging like a pleasant haze inside the glass front are delicate-looking aluminum vertical blinds, which provide afternoon sun-shielding.

West facade is mainly of heat absorbing glass. Vertical mullions in this nonopening window wall are designed to provide thermal expansion as well as guides for suspended window-washing equipment.

Reception lobby on first floor has wall-to-wall ceiling of light. Frame of building is structural steel, fastened with bolts.



GERALD GARD

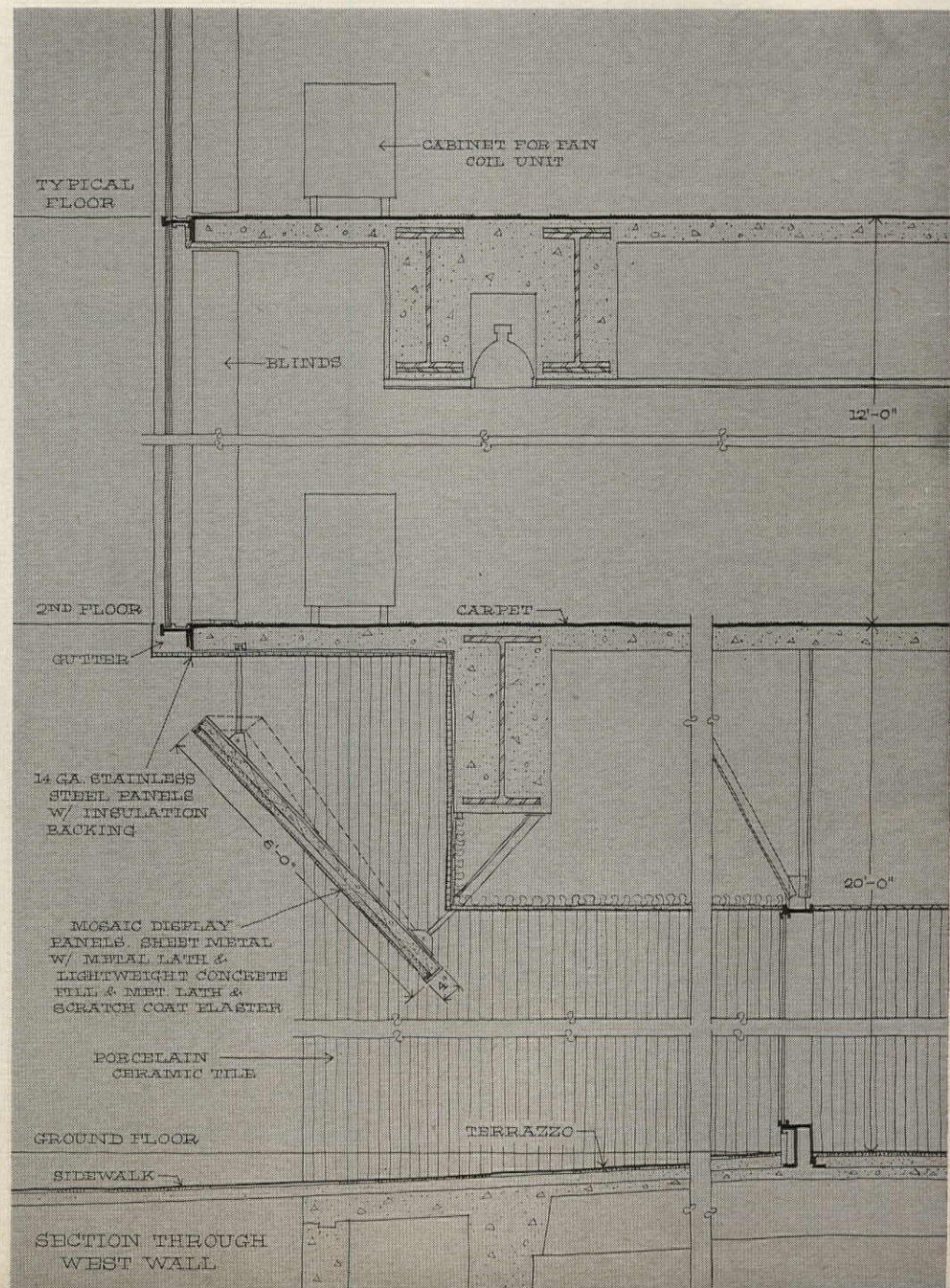




Module of 5' squares is followed by electrical and telephone conduit in floors, so connections will always be convenient for intercommunication and for plugging in business machines. Right, cafeteria.



PHOTOS: GARD



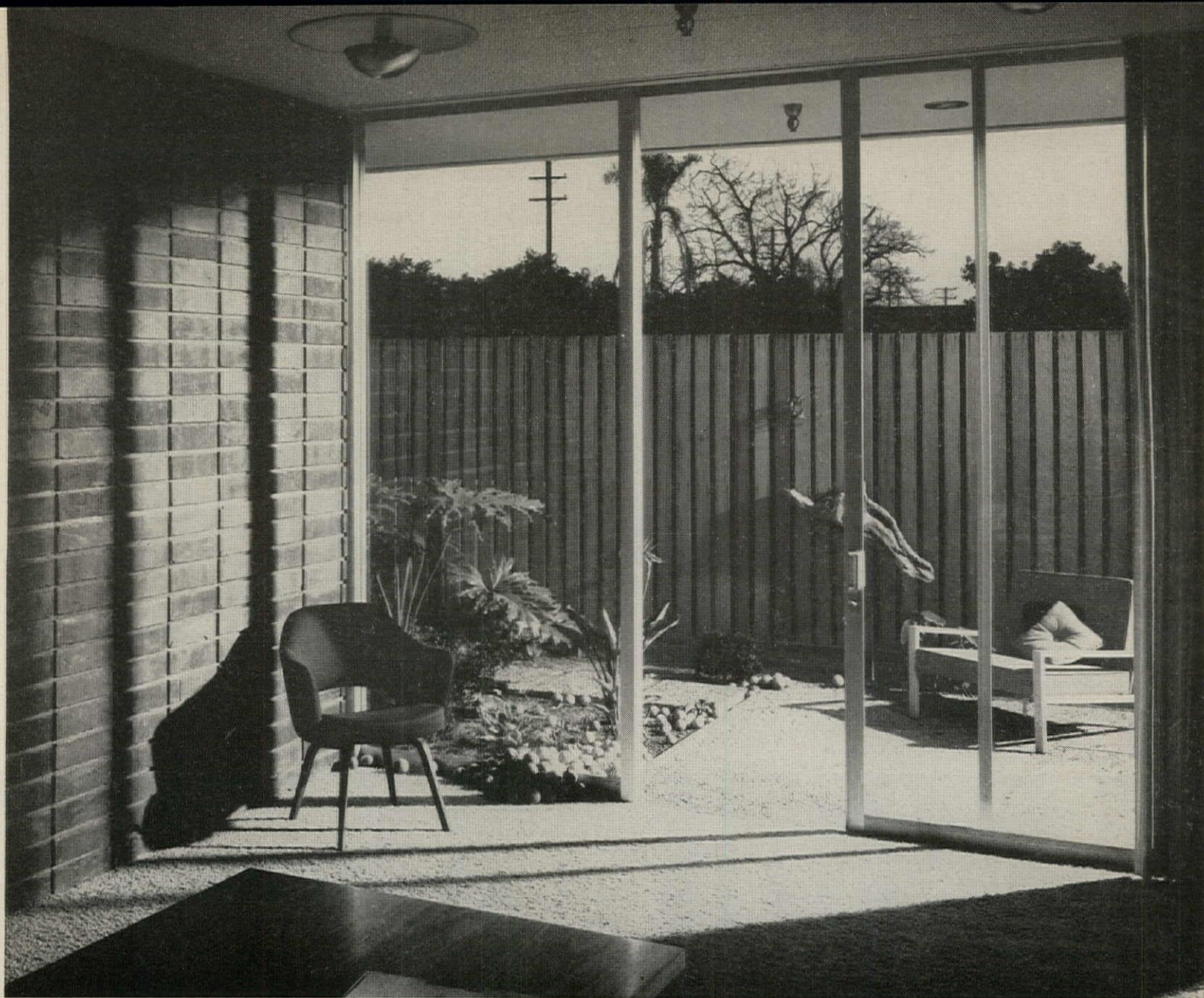
PREFERRED INSURANCE CO., Grand Rapids, Mich.
 ARCHITECTS AND ENGINEERS:
 Skidmore, Owings & Merrill
 GENERAL CONTRACTOR: Owen-Ames-Kimball Co.



Claims department is on first floor, convenient to visitors. Plot size is 66' x 100'; gross floor area is 50,500 sq. ft.

Facade wall is cantilevered out from steel frame on concrete slab. Radiant heating panel protects mosaic from violent temperature changes.





PHOTOS: DALE HEALY

FOUR OFFICES OF DISTINCTION

2. INDOOR-OUTDOOR OPENNESS

Glass panels and courts create spaciousness and pleasant views for a factory headquarters



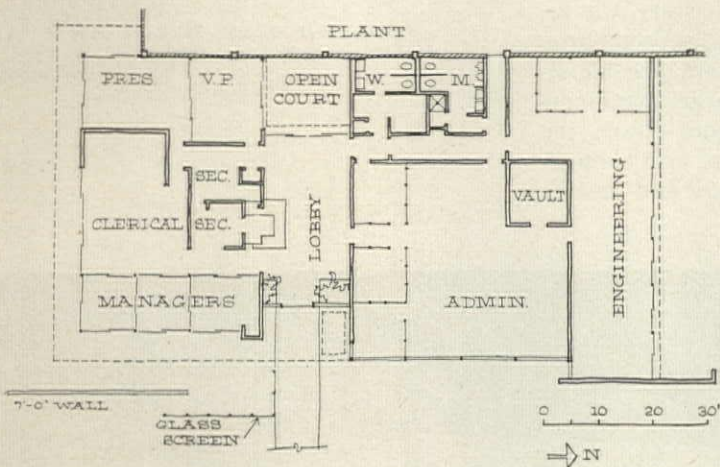
It is appropriate that this manufacturer of sliding glass doors should have surrounded his new factory administration building with garden courts, nooks and planting spaces—all fine to contemplate through sliding glass doors. More important, he also shows other manufacturers how to create a pleasant office outlook in a flat, industrial neighborhood. To contain the outdoor rooms, his architects used masonry garden walls, wood fences and obscure glass screens; to continue the feeling of carpeting into them they floored some courts with rough aggregate. In other floors, like that of the reception room, the bricks under foot simply march on

indoors from the outer terrace.

The walls of the building, when they don't slide, are made of steel-tied solid brick, with similar finish inside and out. The module is 10'—derived from the product, allowing for use of sliding glass doors as wide as 20' in some places, floor to ceiling in height. The roof is a slab on steel posts, with overhangs of 5' on the south side for shading the glass in hot weather.

The lighting is as lively as the rest of the design, with daylight spilling into the building from all directions, including the central garden court. Cotton *bouclé* hangings help control the bright days.

ARCADIA METAL PRODUCTS ADMINISTRATION BUILDING, Fullerton, Calif.
 ARCHITECT: A. Quincy Jones and Frederick E. Emmons
 LANDSCAPE ARCHITECT: M. Purkiss
 INTERIOR DESIGN: Harry Saunders
 ENGINEERS: Richard R. Bradshaw, structural
 Richard Greyson, Donald R. Warren Co., mechanical
 Arthur McReynolds, Donald R. Warren Co., electrical
 GENERAL CONTRACTOR: Chotiner & Gumbiner, Inc.

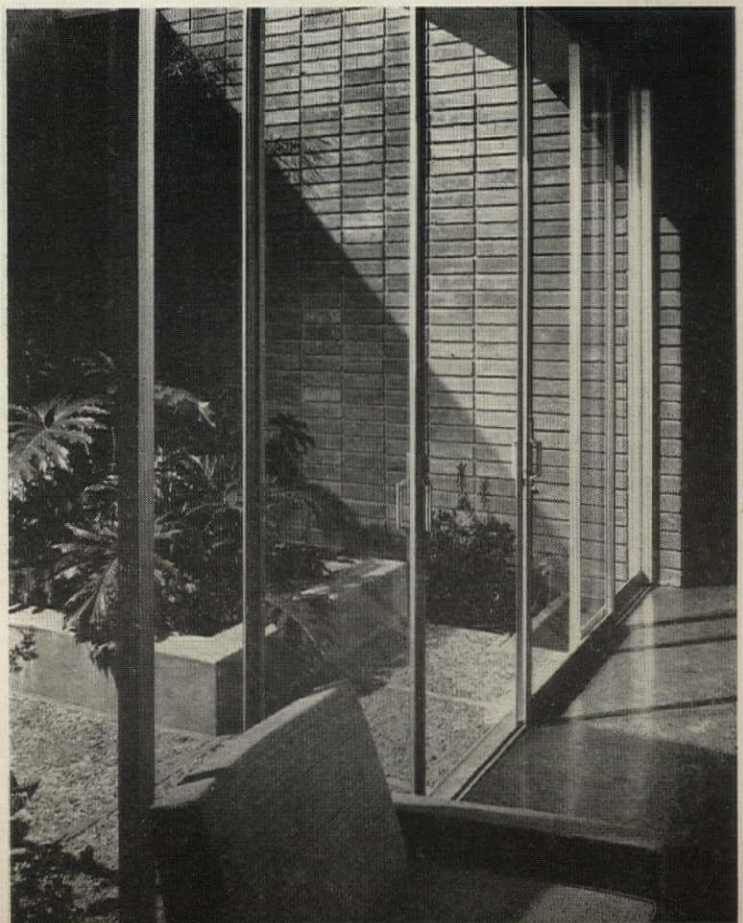


Obscure glass in sliding panels partitions the offices of sales executives along the front of the building. The other side of these offices opens to terraces.



Planning is open. View above is from outdoor terrace through president's office into vice president's office and through to interior garden. Sliding screen, double-glazed and obscured, can segregate offices.

Interior court is a decoration, a light well, an extension of the room and a demonstration of the manufacturer's product. Some of the sliding glass walls are motorized.



FOUR OFFICES OF DISTINCTION

3. DEMONSTRATION IN ALUMINUM

A metal-maker puts his product to use in some unexpected places

Currently the most industrious of Henry Kaiser's industries — metals, housing, gypsum, engineering, hospitals, housewares, aircraft, electronics, shipping, chemicals—is aluminum, and this fact is reflected in the gleaming finish of the Kaiser offices in New York. Aluminum peeps forth everywhere. In the Kaiser tradition there is dramatic intent in this, and caniness, too. Other aluminum companies have proved that conspicuous consumption of their own product in their own buildings breeds new business surprisingly fast.

The bright metal, in one or another color or finish, can be mined from all surfaces of this office: floor, ceiling, walls and furniture. Most doors, including elevator doors and frames, are aluminum, with aluminum louvers and locks. The drapery has aluminum foil in it, and so does the upholstery. Clocks, wastebaskets, lamp shades, sculpture, letter trays, ash receivers are aluminum, and so are a large, handsome mosaic (colored aluminum tiles), the baseboards, switchplates, pan ceiling, lighting fixtures, diffusers and desks.



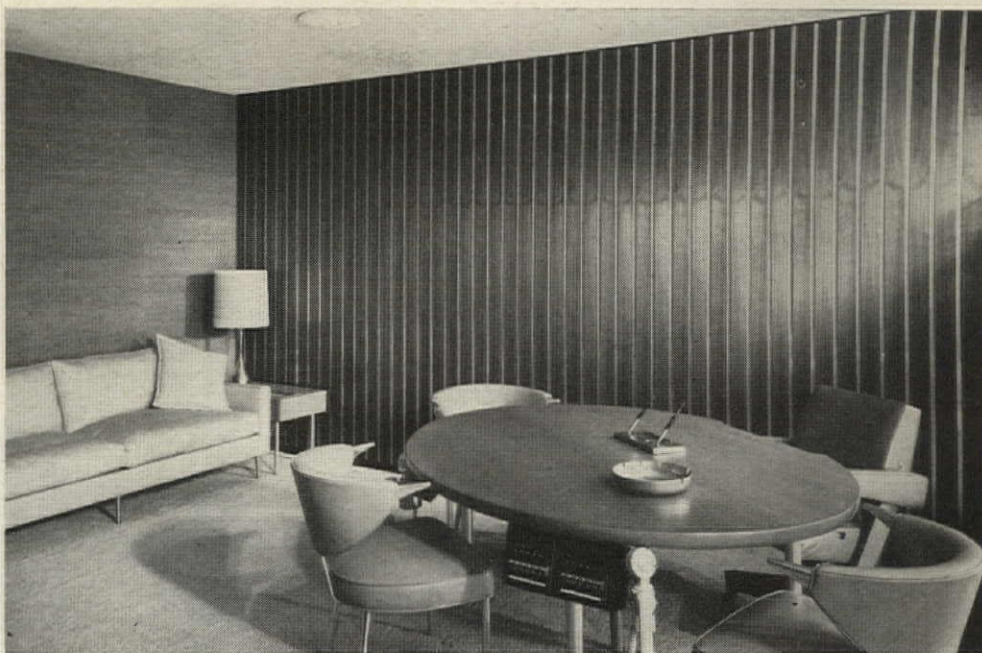
Offices are in Colgate-Palmolive building;
Achitect: Emery Roth & Sons.

ser Aluminum



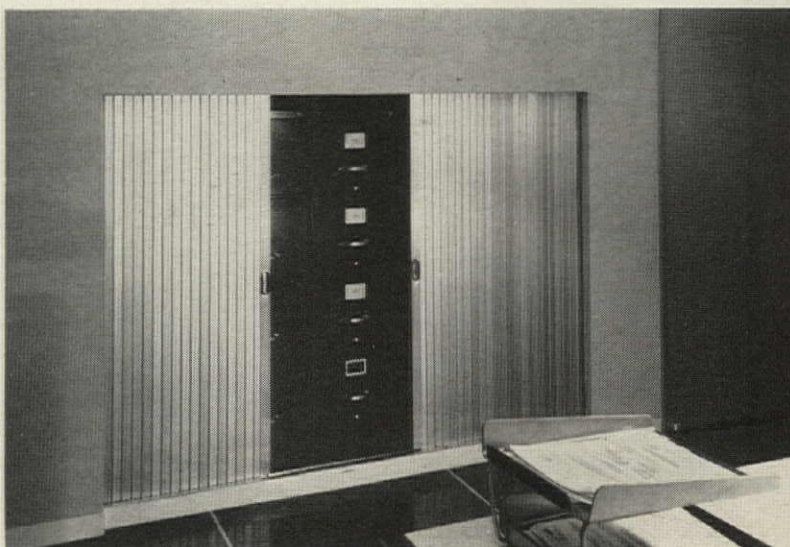
OFFICES FOR KAISER INDUSTRIES CORP.,
New York City
ARCHITECT: Welton Becket & Associates

➡➡➡
Private office has wall of wood battens on aluminum and a table-style desk. Furniture frames, lamps, ash tray, upholstery, and pens also display the metal.

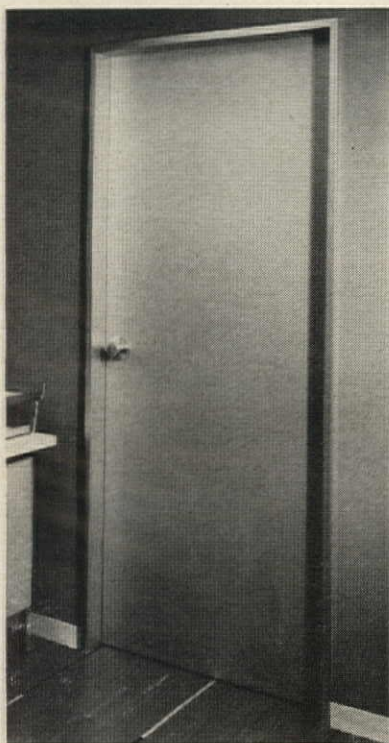


PHOTOS: BEN SCHNALL

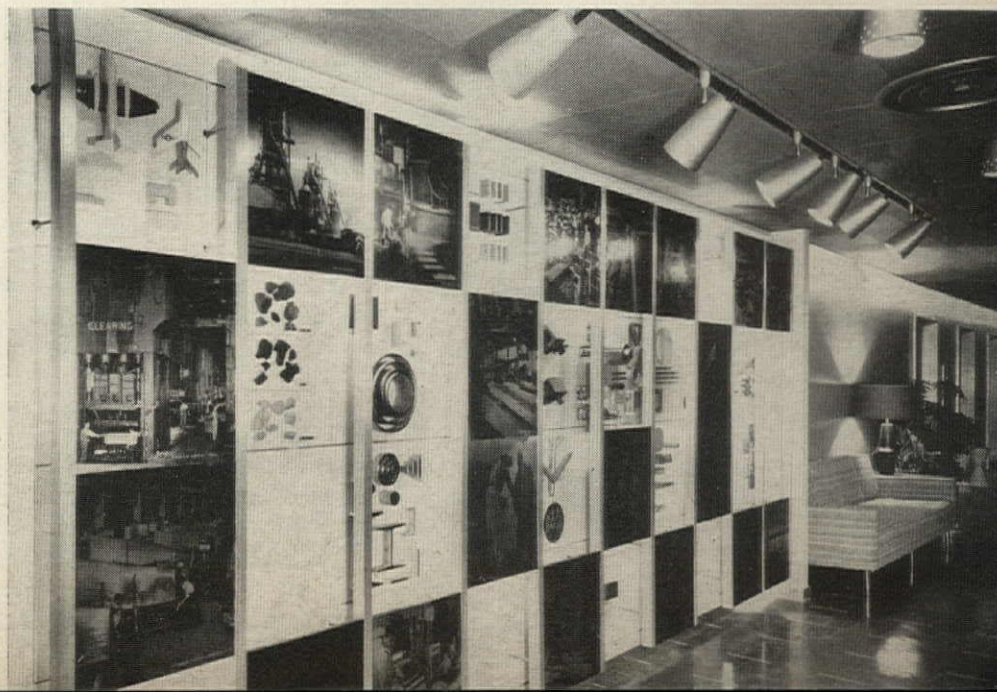
←←←
Entrance to sales service department displays desks designed by the architects. They are of anodized aluminum with either plastic or aluminum veneered tops.

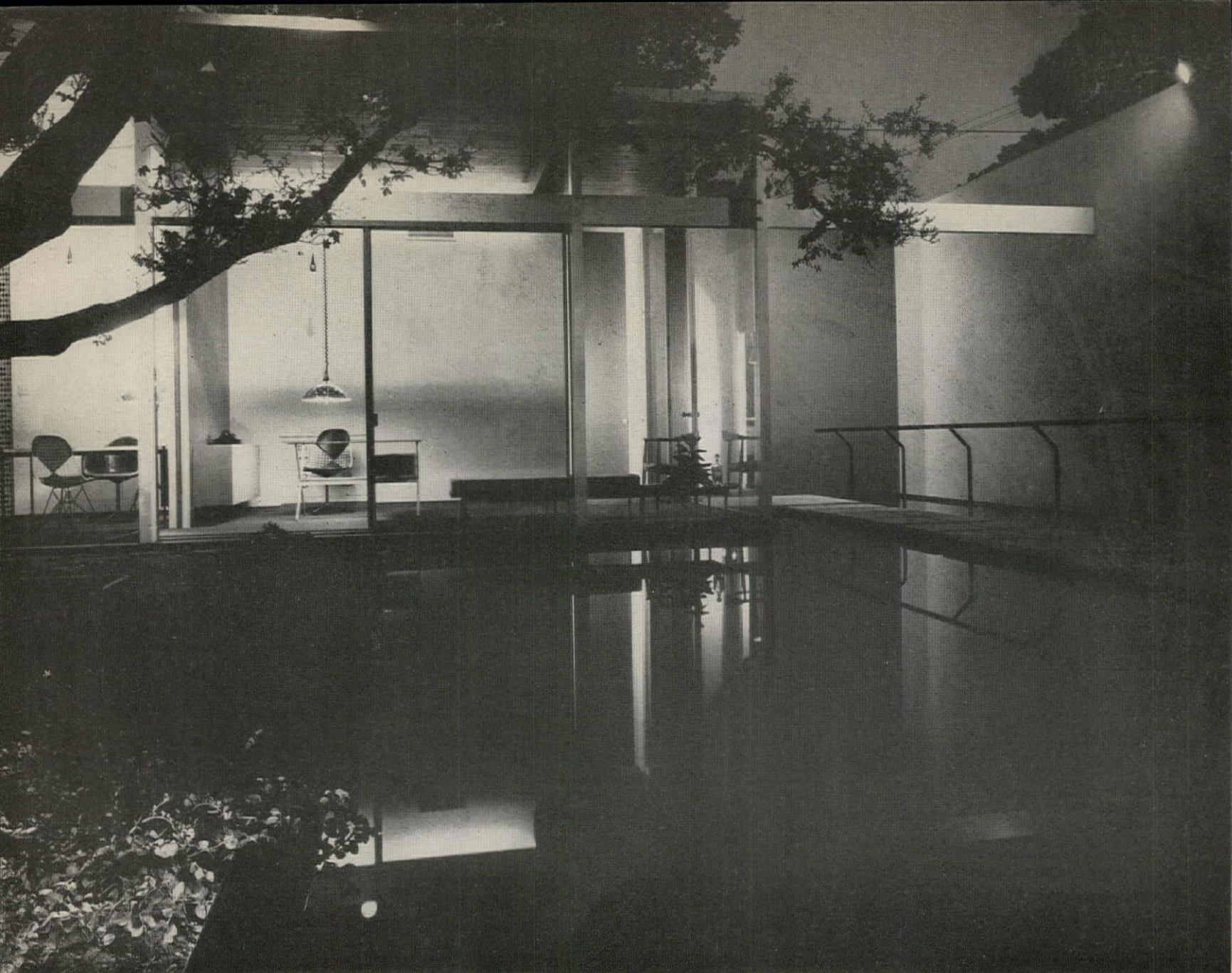


Sliding doors of aluminum (right) close off recessed bank of file cases. Lightweight flush doors (below) are paneled with aluminum sheet.



Display board shows samples of all Kaiser Industries' diverse output, with photographs of plants and processes.





PHOTOS: MARVIN RAND

FOUR OFFICES OF DISTINCTION

4. DESIGN FOR DESIGNERS

An architect produces an office to suit himself and influence clients

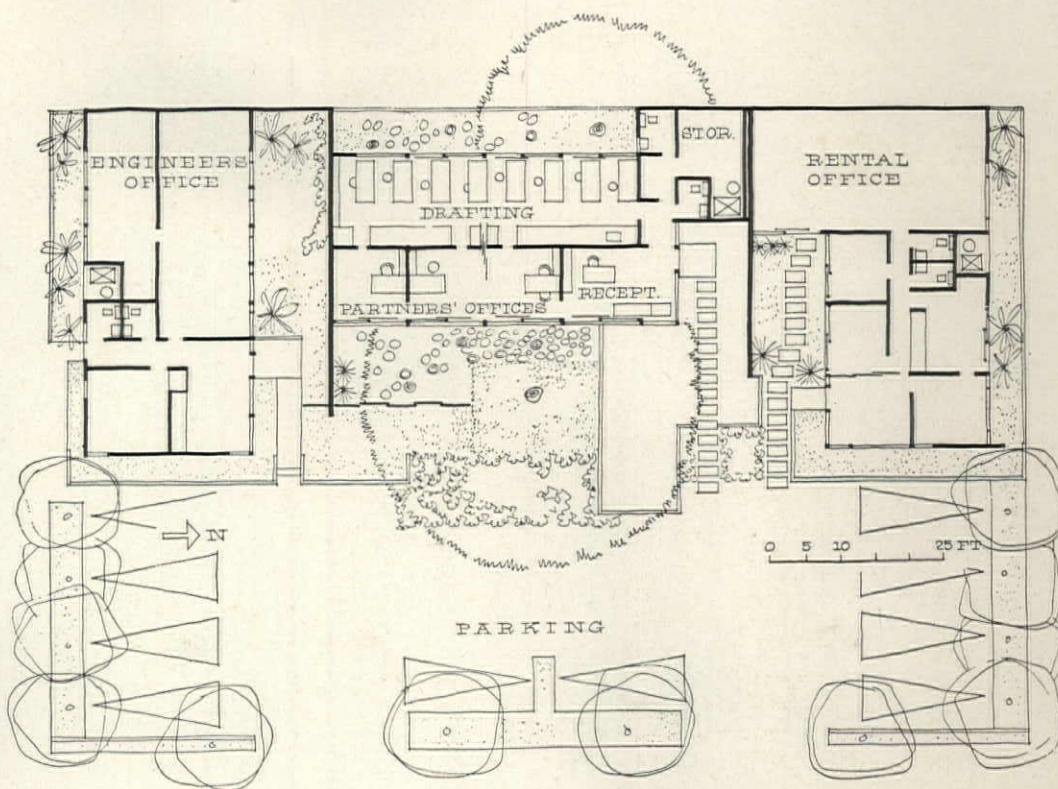
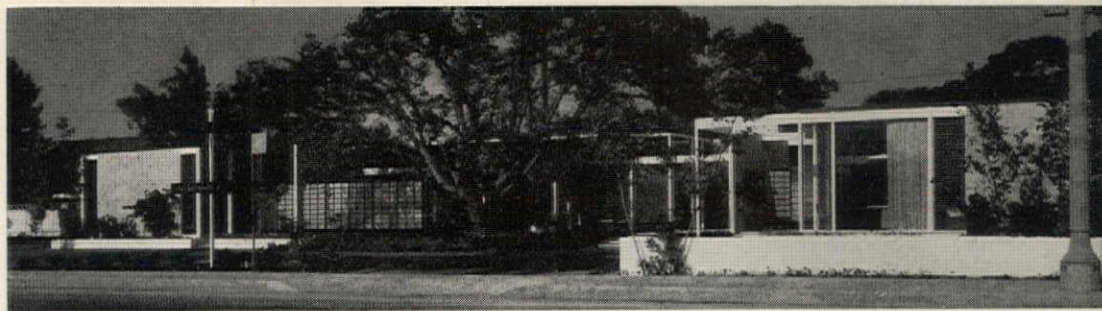
After many a late work night has drawn thinly to an end, after the last tired fluorescents have been stuttered off in the drafting room, and a *charette* has been closed with a drink at the restaurant across the street, architectural partners all over the world have sketched uninhibited plans on tablecloths for their own buildings.

Here is a busy young firm of architects in California who got their sketches off the tablecloth on to blueprints, complete with pools, stepping stones and a rent-paying tenant. (The structural engineer joined them too; he

owns his wing of the building.) They bought a long, shallow lot on a major boulevard, laid out things to save a pair of magnificent old oaks, and built. Today, when a potential client walks (carefully) into their environment, he is instructed tangibly that he can have a very elegant, exciting building if he lets these architects design it for him.

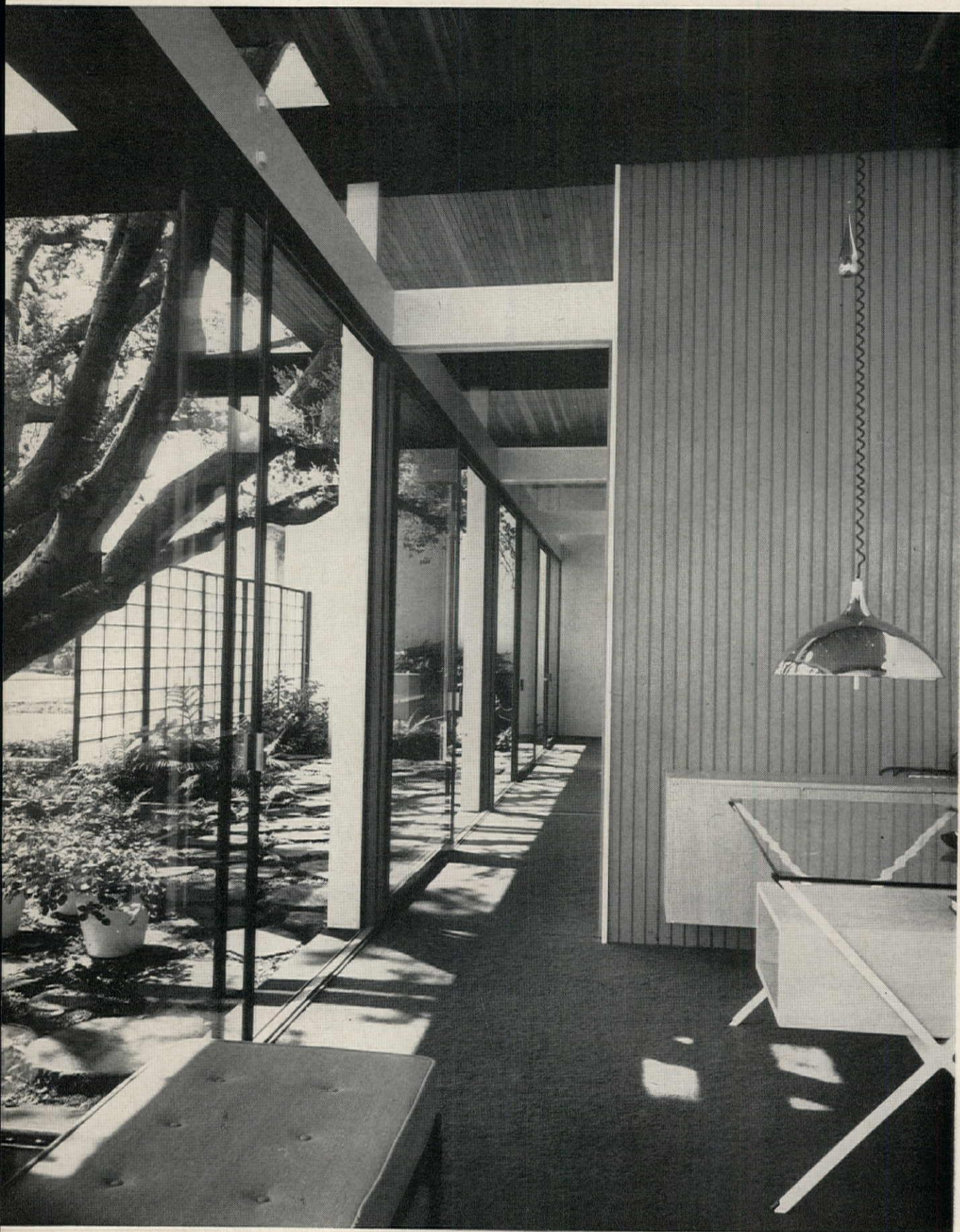
The architectural offices cost \$19,500 to build and \$1,300 to landscape—a total of \$20,800 including fees and built-in equipment, or \$16 per sq. ft. The office of the engineer and the rental unit cost \$14 per sq. ft.

Architect's own offices are in center of group, behind common parking space. South office is owned by structural engineer, and north is a rental investment by the architects into which they can expand when their firm grows.



Stepping stones lead to reception room of architects' offices across pool (photos left and below). Steps at right lead to a separate office. Rigid frame timber structure was determined not by loading but by seismic considerations. Beam is set behind columns; wing connectors create the bolted joint.





Partner's offices are lined up along front glass wall, shielded from parking space by the pools, the oak, various potted plants and shoji-like fences. This view is into the partner's area from reception room.

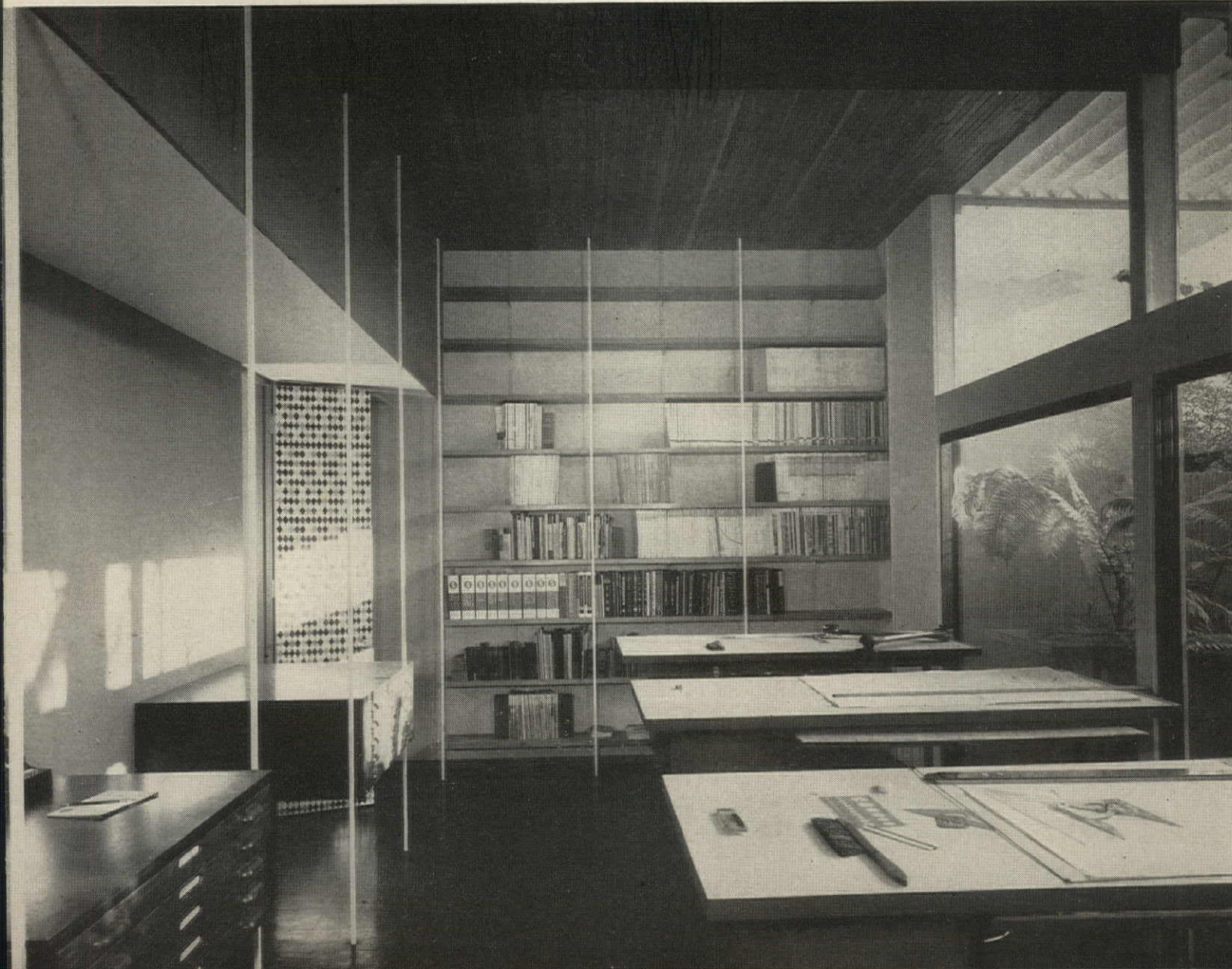
LOCATION: Long Beach, Calif.
 ARCHITECTS: Killingsworth—Brady—Smith
 ENGINEERS: C. G. DeSwarte, structural and electrical
 R. L. Thompson, mechanical
 GENERAL CONTRACTOR: Stromberg & Son

Slim doors, 1'-10" wide, to partners' offices, are covered with patterned fabric, which continues up to ceiling, including grilles of hi-fi speakers. Doors were kept narrow to discourage easy access, emphasize work.



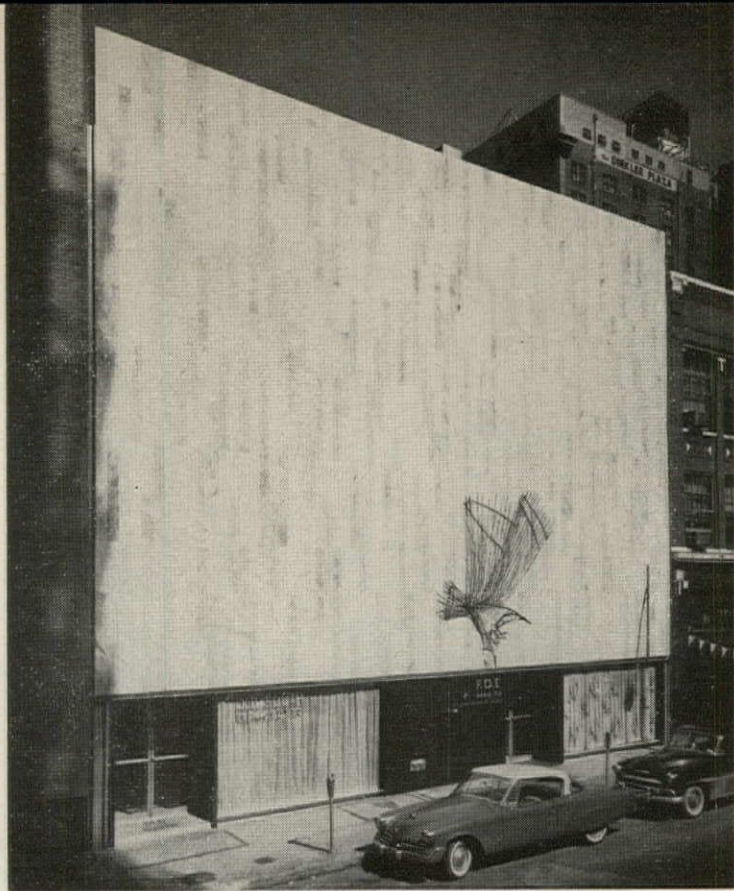
Drafting room faces on private fern court, past sliding glass walls. Cabinets are hung from $\frac{5}{8}$ " x $\frac{5}{8}$ " square rods. More cabinets can easily be added.

PHOTOS: MARVIN RAND



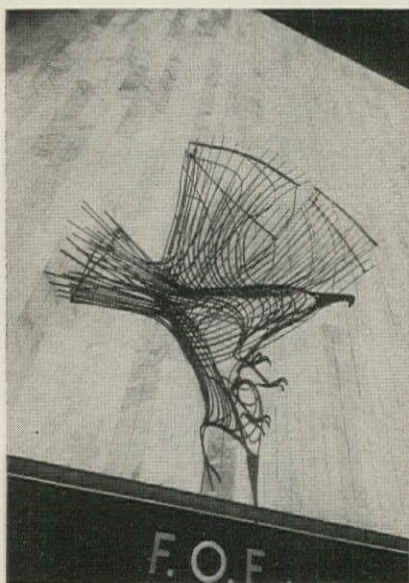
BUILDINGS IN BRIEF—OFFICES

A quick look at nine new office buildings of various kinds which make significant contributions to the proving ground of ideas



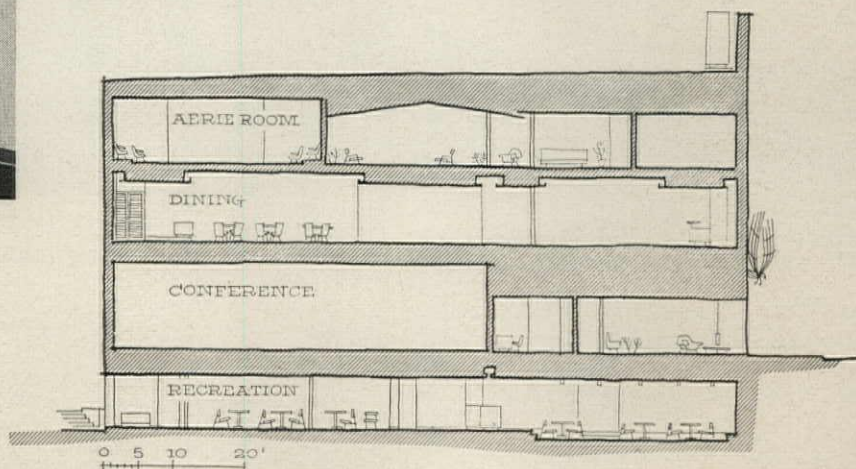
PHOTOS (ABOVE & BOT.) : GABRIEL BENZUR

MARBLE MOSAIC FRONT FOR REMODELED OFFICE



The Fraternal Order of Eagles has no trouble spotting its new aerie among Atlanta's cluttered façades and neon signs. Its front is a striking mosaic of gray, white and pink Georgia marble slabs (6" x 8") arranged vertically in a random color pattern. To add texture and interest and to break down the scale of the four-story front, each marble slab is grooved down the center. Against this

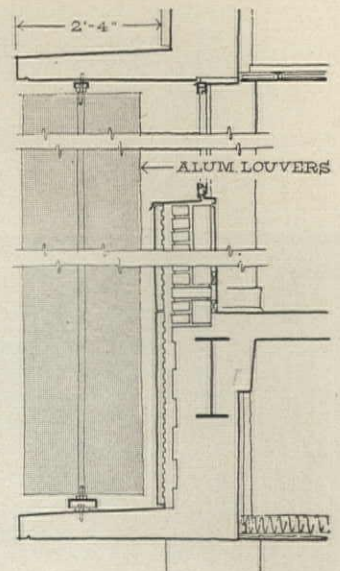
backdrop is mounted an eagle sculptured in metal. Inside, the most interesting room is the cocktail lounge (below). It features a pitched tentlike ceiling of birch slats suspended beneath the structure and the fluorescent lighting. Cost: \$217,000, or about \$17 per sq. ft. Architect: John Portman. Sculptors: Elbert Weinberg & Robert Engman. Contractor: Bickstaff Construction Co.



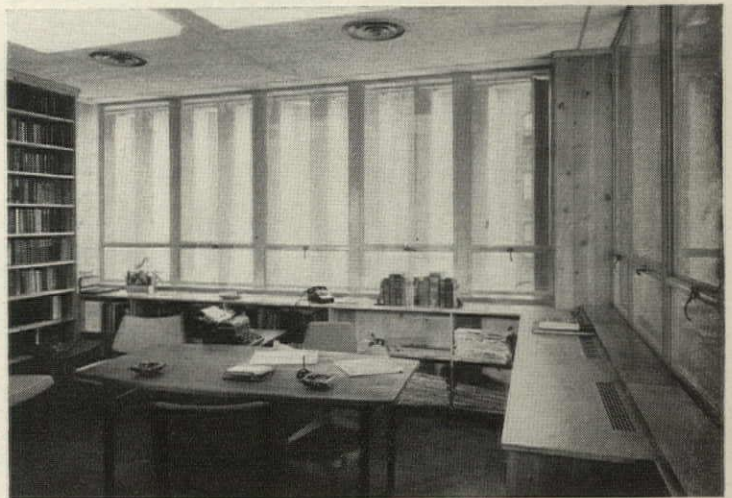
ADJUSTABLE LOUVERS FOR GLARE CONTROL

This new office building for the *News and Observer* Publishing Co. makes several important contributions to better commercial living in Raleigh, N.C. In the first place it sets back a generous 40' from the building line to enhance the openness of the city park across the street and to create a two-lane drive-in refuge for short-term visitors. In another welcome contribution to the solution of Raleigh's downtown problems, the building gives up two thirds of its ground-floor space to parking.

The two office floors are shaded on the west and south sides by operable banks of aluminum louvers. They cost \$1,700 installed but reduced the air-conditioning equipment requirements by about 20 tons, 25% or \$15,000. In addition, they replaced \$2,000 worth of interior Venetian blinds and should reduce annual air-con-



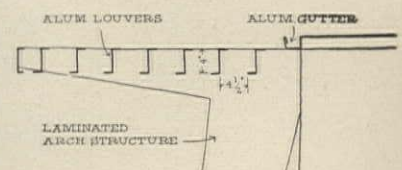
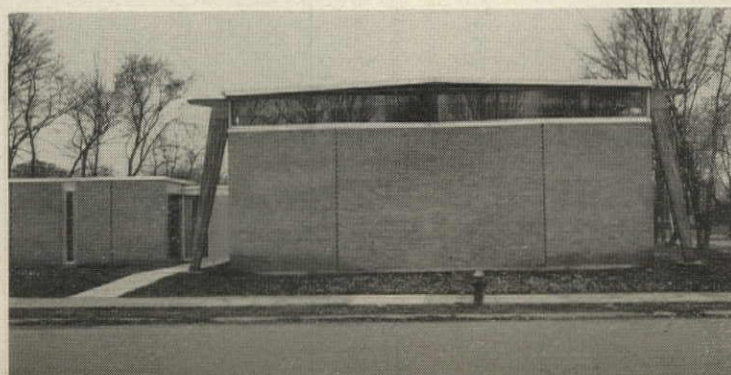
ditioning costs by 25%, or \$500. Thus, the offices enjoy the benefits of shaded, glarefree windows at no cost. Total cost: \$607,409, or \$14.70 per sq. ft. Architects and engineers: William Henley Deitrick, John C. Knight & Associates. Contractors: Strong & Harmon.

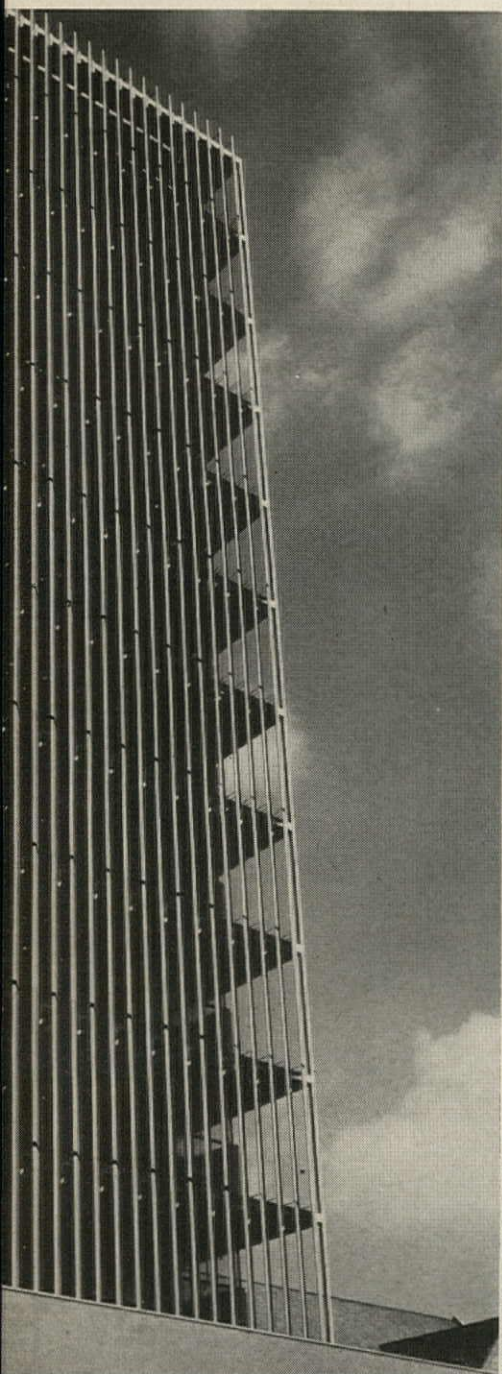


PHOTOS (ABOVE): JOSEPH W. MOLTOR

WOOD ARCHES FOR EXTERIOR FRAMEWORK

There are two good reasons for the spreading wooden arches of this office for Thomas A. Schutz Co. in Morton Grove, Ill.: 1) they stand outside the building to create completely flexible, easily expandable space inside, and 2) they help express architecturally the point-of-purchase advertising company's motto—"design." Other noteworthy details include the insulated cavity brick walls which are angled for rigidity (they are only 10" thick but 14' high) and the aluminum louvers which are set between the arches to shield at least partially the glass walls. Cost: \$140,000, about \$13.25 per sq. ft. Architect: Seymour S. Goldstein. Contractor: B. Stromberg & Co.





GORDON SUMMERS PHOTOGRAPHY



WALL OF LOUVERS FOR AN 11-STORY BUILDING

This is the second of two somewhat similar office buildings built for rent in Los Angeles by the Tishman Realty Co. To reduce air-conditioning requirements (about 10%) and to increase tenant comfort the second building was wrapped in louvers. Huge vertical vanes screen the entire east and west walls, and eyebrows of horizontal louvers protect all north and south windows. Both sunshading devices are aluminum. The vertical ones are suspended 4' out from the glass wall to make room for window washers.

How they look, inside and out, is shown in the pictures. How they work is indicated by the generally favorable comments of the building's occupants—such as these:

An attorney: "Thanks to the louvers and air conditioning, the offices are wonderfully cool in summer."

An office girl: "We don't mind the one-way view because the view is of the beautiful Hollywood hills."

An insurance man: "We have more fun with these louvers. Everyone who comes into the office wants to know what they're all about. I tell them they are electronically controlled and move with the rays of the sun. But, of course, they're stationary."

A secretary: "Have you ever seen this building at night? With the lights on, the building looks like a beautiful icicle reaching into the sky."

Among the minority are those who do not like the louvers and who have made such comments as these:

A switchboard operator: "I don't like them because I can't stare off into space in my spare moments."

An attorney: "Most of the time I'm so busy I don't pay much attention to the louvers, but every once in a while I look up, and it feels strange to see those gray metal louvers facing me."

The payoff: Tishman will build a third building in the same area, and it will be similarly louvered.

Cost of the louvers: about \$5 per sq. ft. installed. Architect: Victor Gruen & Associates.





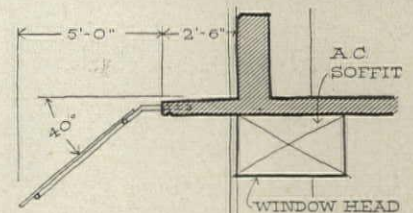
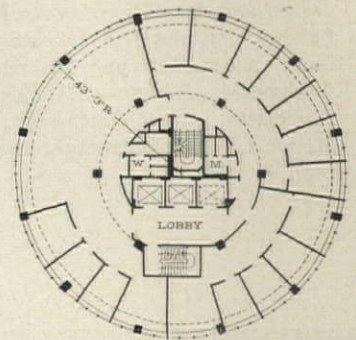
PHOTOS (ABOVE & TOP RIGHT): ROBERT C. CLEVELAND

BUILT IN THE ROUND FOR ECONOMY

Believe it or not, a stack of phonograph records did not inspire the shape of Capitol Records' new Hollywood office tower. "Our design department," says the architect, "had long dreamed of doing a round building because we saw several advantages in it"—13% to 20% less wall area, with a corresponding saving in heat loss or gain; shorter lateral air-conditioning lines (the building shape saved about 60¢ per sq. ft. in air-conditioning costs alone); shorter hall distances and quicker interoffice travel; compact service facilities in the central core using only 14% of floor area, compared with 20% in a rectangular building. (The building's diameter is 90', considered ideal by the architect after considerable study of round plans.)

A more obvious reason for the building's circular shape is simply that most other office buildings are rectangular.

Total cost: about \$1,750,000 or \$19 per sq. ft. including expensive sound recording studios in the base. Office tower costs: \$17 per sq. ft. Architects: Welton Becket & Associates. Structural engineer: Murray Erick & Assoc. Contractor: C. L. Peck Construction Co.



SECTION THROUGH SUN SHADES

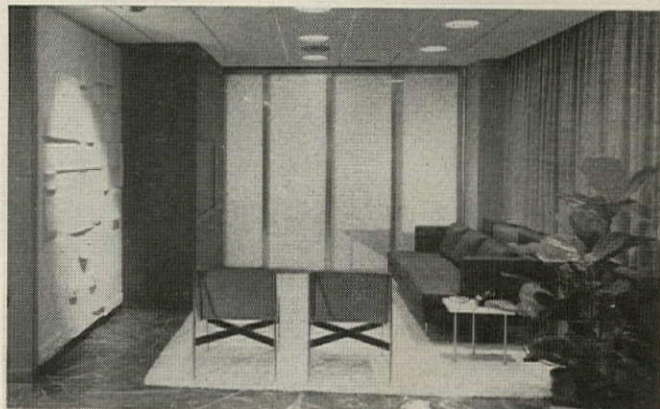
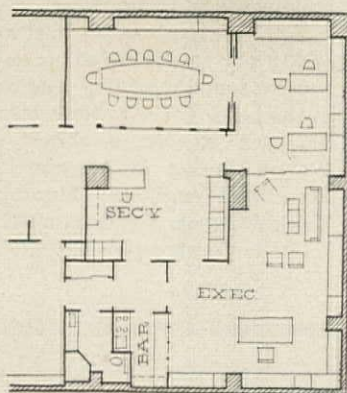
GLASS TOWER FOR THE COUNTRY

This new central office building of the Ford Motor Co. is outstanding in several respects—not the least of which is the space around it. It stands in a 90-acre tract of countryside in Dearborn, Mich. And the building is designed to enjoy its rural amenities: its 12 stories are walled completely in glass, blue tinted to cut sky glare and sun heat and further shielded by aluminum Venetian blinds or glass-fiber draperies. Other noteworthy elements: luminous plastic ceilings in all office space, two-way escalators between the lobby and eighth floor, a three-level employee service annex. Architects & engineers: Skidmore, Owings & Merrill. Interior designers: W. B. Ford Design Corp. Contractor: Bryant & Detwiler Co.



ART AND FLEXIBILITY FOR AN EXECUTIVE SUITE

These offices for the president of Herbert Charles & Co., New York realty firm, feature a sculptured wall by the noted artist, Constantino Nivola, and two movable partitions. The latter subdivide the space in variable ways and permit the executives to reach each other or enter the conference room without passing through the central reception room. In the event of large meetings or parties, the suite can be converted into one large assembly area which enjoys a unity of design and decoration. Cost of finishes, fixtures and furnishings: about \$14 per sq. ft. Designers: Michael Saphier Associates, Inc. Decorator: Melvin Dwork. Contractor: Joseph P. Blitz, Inc.



PHOTOS (ABOVE): J. ALEX LANGLEY

NEW OVERCOAT FOR AN OLD BANK BUILDING

These pictures show the City National Bank Building of Lawton, Okla. putting on its new overcoat of expanded aluminum, selected for its light weight, transparency and sunshading effect. Moreover, it

permitted exterior modernization with minimum alteration to the ornate building — it simply covered it up. Cost of the coat: \$12,000 in place. Architect: Paul Harris. Contractor: Anderson & House.



A GLITTERING TOWER FOR NEW YORK'S SKYLINE

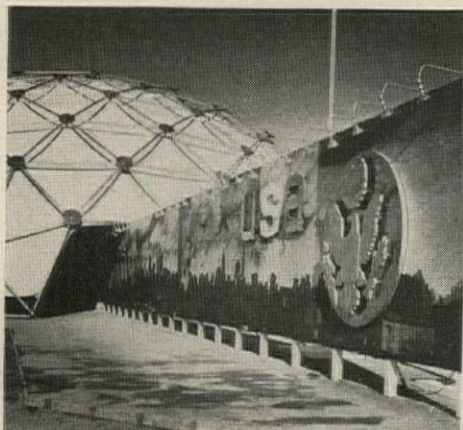
Ever since the design for New York City's huge Socony-Mobil building was first made public (AF, Jan. '55), people have been arguing about the embossed pattern of its stainless steel skin. Some dislike it because it reminds them of the metal ceiling of an old store. Others like it because it reminds them of the metal ceiling of an old store. Some who disliked it to begin with are now pleased with its sparkle. Some like it less now that the building is finished. Meanwhile, awaiting the judgment of history, the building's shiny, many-faceted armor presents each day an ever changing appearance which varies with changes in the weather and the time of day.

There is one aspect of the building which no one argues about: its size. Even in New York City, it's big. Architects: Harrison & Abramovitz and John B. Peterkin. Structural engineers: Edwards & Hjorth. Contractor: Turner Construction Co.



©EZRA STOLLER

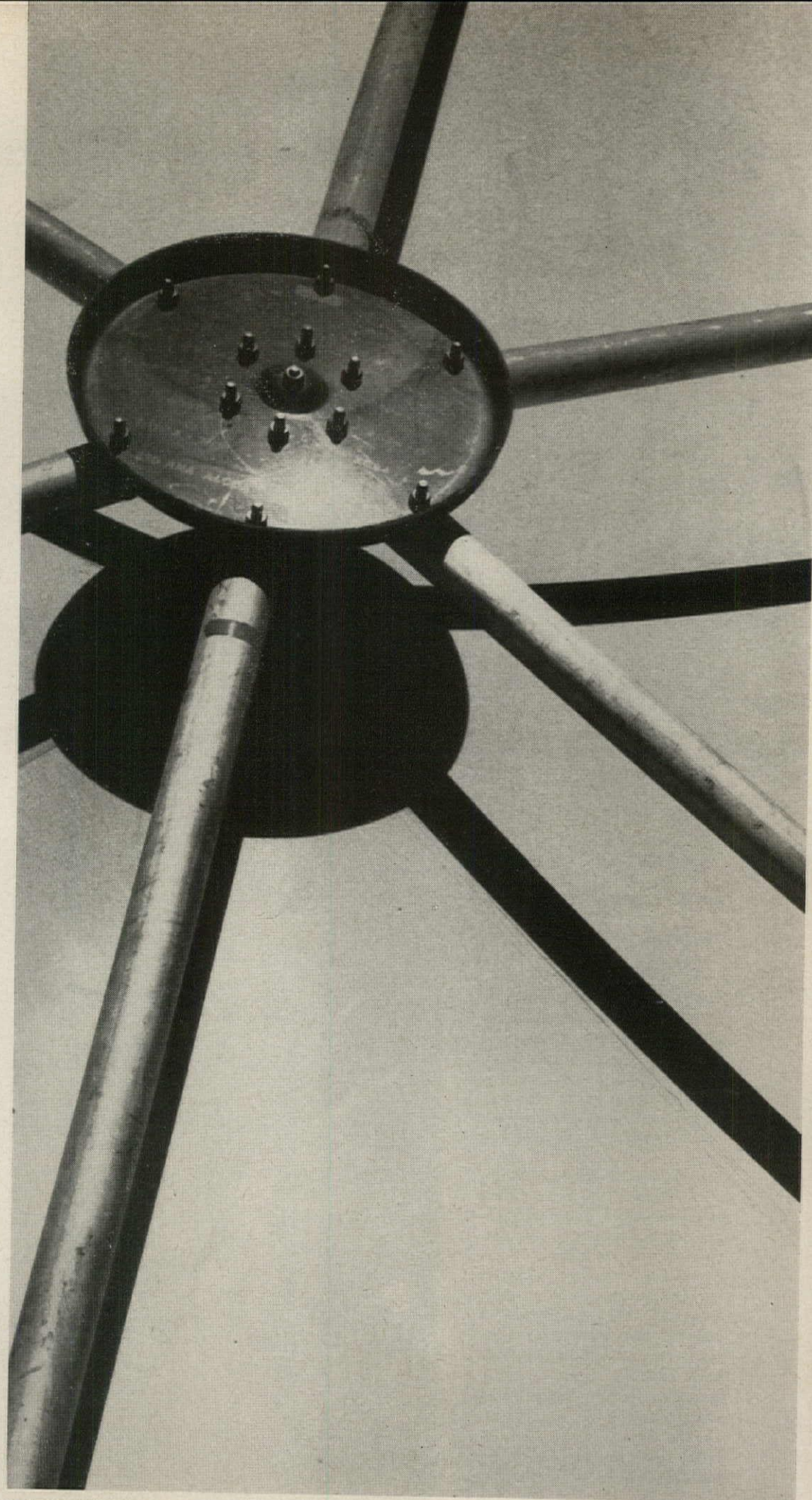
TECHNOLOGY



IN AFGHANISTAN Fuller dome was star of International Trade Fair. US Government used it as pavilion for American exhibit. Same dome will be flown to many fairs during 1957.



INTERIOR is huge, with 8,000 sq. ft. of unimpeded floor area. Weight per sq. ft. of enclosure is extremely low: 1.34 lb. Aluminum frame weighs 9,200 lb.; nylon skin, 1,300 lb.



SIMPLE CONNECTION consists of aluminum saucer and 13 bolts.

FOOT of nylon skin is pulled tight with rope. Pagoda beyond belongs to Chinese exhibit. Russians showed keen interest in dome, swarmed around it making sketches of details.

BIGGEST IN WORLD when it was built, 100' diameter Trade Fair geodesic dome is now second to 117' diameter dome built by Fuller for Marine Corps installation.

BUILDING WEIGHT CUT TO 1 LB. PER SQ. FT.

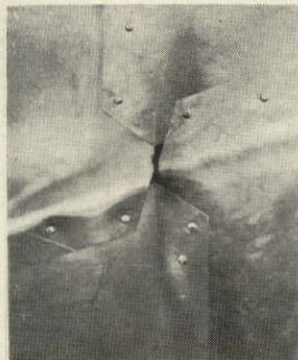
The geodesic dome, Buckminster Fuller's spidery frame, pops up twice again: at a trade fair in Afghanistan and, in Montreal, as a shoestring project by an eager group of architecture students

Since 1951, when he first talked about the skeletal enclosure of space, Richard Buckminster Fuller has seen his dome idea take root in many places, seldom for the same purpose: as a museum rotunda in Michigan, a restaurant on Cape Cod, a radar shelter in the Arctic, a theater in British Columbia.

No two of Fuller's "geodesic" domes ever look quite alike, as two of the newest show clearly. One is huge and showy: 100' in diameter, made of aluminum tube with a nylon skin (pictures, left). The other is small and strictly low-budget: 28' in diameter, made of aluminum sheet and paper board. But both are distinctly Fuller, and during construction each provoked the same extraordinary enthusiasm that seems to go with geodesics.

The big dome, largest geodesic ever built, was the US Government Pavilion at this summer's International Trade Fair in Kabul, Afghanistan. It was flown to Kabul from North Carolina, probably the largest complete building ever loaded aboard a single plane. At the Fair, Russian engineers kept busy with sketch pads at the US exhibit, recording details of the American dome. (In contrast with the dome, which was put up over a week end by a four-man crew, the Russians built a more traditional structure, with a 200-man crew.)

The 100' dome, which now will be flown by the US to other international fairs during the next year, is made of 480 aluminum tubes, joined by some 2,000 bolts to 143 hubs. Its frame weighs 9,200 lb., the skin 1,300 lb., or about 1.34 lb. per sq. ft. of enclosure. It covers 8,000 sq. ft. of floor.



PHOTOS (ABOVE & RIGHT): ARNOT & ROGERS

Dome No. 2. In Montreal, where some of Fuller's first experimental structures were built, 29 students from McGill University's school of architecture cut short their summer vacations this year for a two-week session in geodesics. Said one observer: "The campus buzzed. The convinced argued with the outraged." The upshot was a 1,000-lb. dome (pictures, right) designed by the young architects, under Fuller's keen eye, and made mostly of paper with a thin aluminum skin. Three mathematicians worked out structural requirements; two researchers worked out a practical way to fold and assemble the pieces; a 13-man production crew worked in shifts around-the-clock to complete the dome in four days.

Early one September morning the last strip of tape went onto the aluminum skin, and a pair of finance committee members sat down to calculate the experiment's cost. Despite a generous gift from industry, plus \$25 from each student, the project showed a deficit of several hundred dollars. Before he boarded the noon train, Fuller chopped by half his two-week lecture fee to make the books balance.



IN MONTREAL Fuller dome was designed and put together by architecture students at McGill University. Dome has aluminum skin, backed by paper-board boxes. Total weight: 1,000 lb. Left: detail of panel joint.



SUPERINTENDENT at site was Fuller himself. Young architects worked around the clock during construction. From Monday till Friday, Superintendent Fuller got only five hours of sleep.



ALUMINUM IGLOO looked like this on Saturday morning. Students built it to serve no special purpose, only as exercise in creative thinking, using geodesic idea as a basic framework.

TV PUTS ONE TEACHER IN SEVEN CLASSROOMS

New York University tells how much it costs to install a closed circuit system and Maryland conducts a more advanced experiment

One of broadcast television's first real flops was in the field of education. Many a brilliant educator discovered that people would willingly forego his lecture on anthropology when they found that they could learn so much more simply by watching "The \$64,000 Question."

But television in a slightly different form has crept into the classroom: More than 100 schools are experimenting with closed circuit television, using this medium to teach everything from grammar school arithmetic to college chemistry.

The great need, of course, has been for experience. Those schools which have been at the front in television teaching have had to teach themselves the secrets, for little information was available to them on such things as cost, space requirements and effectiveness of televised teaching.

The experiment at New York University (pictures) is one of the first from which other educational institutions and school designers can benefit, because NYU, throughout its two-year program in closed circuit television, has kept—and now makes public—detailed records: cost of studio equip-

ment, cost of operation, cost of converting existing classroom facilities to television.

To the designer and educator with no experience in televised teaching, the cost of the NYU program may well seem high: just over \$105,000. For this, the school was able to equip one studio and seven classrooms. For another \$20,000—most of it for technical personnel to operate the equipment—it was able to teach two courses by closed circuit for one year.

The purpose of the NYU installation, like most others, was to teach several large lecture sections at a time. NYU felt that television would make it possible to present outstanding lecturers to a greater number of students. During the first year of the experiment, in 1955, the televised courses were Freshman English Composition and the Literature of England. During the past year, certain other courses have been added, including courses in acting, directing, and producing for television.

Facilities. In its 19' x 35' studio NYU has three cameras—two for live pickup, one for film—which cost around \$33,000. Additional equipment pulled the total price for all studio equipment to more than \$46,000—\$3,400 for lighting, \$2,800 for audio, \$2,000 for test equipment, \$2,100 for the distribution system, \$2,700 for furniture, clocks and miscellaneous items, and \$400 for two studio monitors. Construction costs — \$45,000 — brought the total

studio cost to just under \$92,000. The television receiver sets were worth another \$13,500, for a total cost figure of around \$105,000.

This does not represent the sum which the university had to pay itself, because some of the equipment was given to the school by several manufacturers and the cost of much of the other equipment was underwritten by the Fund for the Advancement of Education. But it is a realistic measure of the cost of a fairly modest closed circuit system.

Construction. Acoustics and lighting received close attention within the NYU studio. Three exterior windows were sealed and completely sound insulated. The floor was covered with a 3" layer of fibrous glass and the glass was covered with a 1/8" tempered hardboard; over this was poured a 3" concrete floor, which was covered with a finish layer of asphalt tile.

The walls were made even thicker, with as many as nine layers of acoustical material in some sections to achieve a floating wall with proper acoustical properties. The ceiling, too, was floated and treated acoustically, though with fewer layers of insulation.

NYU's Technical Service Dept. designed the studio and classrooms; E. S. McCann & Son, Inc. was general contractor. The television installation was engineered by General Precision Laboratory Inc., with Adler Communication Laboratories as consultants.



AT NYU, closed circuit television takes one instructor into seven classrooms. But cost is high: \$105,000, even though frills are trimmed to minimum. More than 100 other schools are experimenting with television.



Other schools. The fact that as many as 100 schools have experimented with closed circuit television indicates that there is more than a casual interest in this new teaching device, though there are few instructors who are excited about its prospect. The academic dislike, of course, is that television destroys the intimacy between teacher and student. But swelling enrollments and a dwindling proportion of qualified teachers seems almost to compel educators to consider seriously the use of such a mass-teaching method as television.

This has been the reason for the interest of the Fund for the Advancement of Education in such projects as the one at NYU. The most ambitious experiment to date has been at the public school level, with 6,000 children of Hagerstown, Md. With the beginning

of this school year, those children have been exposed for an hour each day to instruction by closed circuit television, with the Fund paying the cost of training school personnel and of supervising the project. During the current year, instruction will be limited to two high schools and six elementary schools in Hagerstown; next year's program will be extended to include 12,000 children in 23 schools.

By 1970, many colleges will be trying to educate twice as many students as their already-bulging facilities now handle. In the public schools, too, the numbers problem is sure to exist in 1970, just as it does today. Even if the experiments now underway at such places as NYU and Hagerstown prove to be only moderately successful, television will be an inevitable choice—not for every subject, of course, but for

many. To the builders of new school plants, this should be a consideration today. But such consideration is rarely given to future teaching methods. As was stated in one report, written by the Instructional Film Research Program for the Fund for the Advancement of Education: "It is almost alarming to observe extremely conservative and traditional academic buildings being constructed when radically new and different physical space might be needed in the near future to meet the requirements of new demands and new methods of teaching. . . . Closed-circuit television cannot substitute for buildings and laboratories, wherever needed and justified, but this audiovideo projection system should be objectively evaluated and taken into consideration in the planning of future physical facilities."

TECHNICAL NOTES



LIGHTWEIGHT LIFT SLAB

Cardboard boxes cut the cost of concrete floors for a research building

When the lift slab idea was born about eight years ago, the construction industry had itself a real time-saving device. Reinforced-concrete slabs, which would serve as roof and floor, could be cast on the ground, one on top of another, then lifted into place by hydraulic jacks. Thanks partly to lift slab, companies like RCA (AF, Aug. '55, p. 148) were able to make substantial savings in their new buildings.

Next year, near Chicago, the Automatic Electric Co. will have a lift slab building for its manufacturing and research activities. It will be slightly larger than RCA's, which was the record-holder when it was built, but

more than that, the Chicago structure shows how lift slab has matured in the past two years.

For example, the slabs themselves are of giant sizes: 15,000 sq. ft. (pictures). Special box-board waffles, 4'-7½" square, are formed into the slabs to reduce their weight and, thus, to make it possible to lift slabs of such size.

Another feature of the building: Its second floor cantilevers 14' around the building's perimeter. Says J. K. Gannett, vice president of Austin Co., builders of the structure, "The absence of exterior columns gives freedom in establishing the width of any room and simplifies the installation of perimeter heating."

In addition to the lift slab floors and roofs, the building will have precast concrete tilt-up walls. It is scheduled to be completed by next summer.

NEW KIND OF HEAT PUMP

Philadelphia building uses year-around heat pump, first in North

Philadelphia's new Ballinger building, which is the new headquarters of the Ballinger Corp., an architect-engineer firm of Philadelphia, has had quite a lot of attention in recent weeks. It contains the first economical heating-cooling system to use below-freezing outside air as a heat source.

The principle of using outside air as a heat source has been used many times before, but earlier systems required expensive supplementary electrical resistance heating that went to work when outdoor temperatures went below 32° F.

The Ballinger building system uses the basic idea of the heat pump—which was conceived more than 100 years ago by Great Britain's Lord Kelvin—plus the principle of compound compression—used for years in ice cream plants. This added element makes the air-source heat pump practical for large-scale installations in northern climates.

With this system, enough heat can be removed from the outside air, even in cold weather, to keep the building warm. The heat which is taken from the air is used to heat water, which

continued on p. 182



for all concerned

THE NEW ESPLANADE

To be a leader in the New York building procession, you nowadays have to put your tall new building back a distance from the street line. To be really smart you have to put the whole thing over an esplanade and if possible put the sunny side under an arcade.

If this excellent development continues, it will restore to New York some of the leadership which that metropolis lost when it misled the whole country into building wedding-cake skyscrapers with the setback abomination. And the large establishments that own these more spacious corners will have generously given back to the public some of that light and air and urban amenity of which shortsighted building has been robbing it.

Lever House started the new postwar idea, when Architect Skidmore and Architect-client Luckman got their heads together, and now it is catching on all over. Diagonally across from Lever's esplanade (most of it under the building), Seagram's architects, Mies van der Rohe and Philip Johnson, are

planning a court and fountains on a level podium or platform, and now the Astor Plaza by Carson & Lundin proposes giving a famous old name some new pre-eminence by leaving a ground-level court in front of the Astor building. Meanwhile Skidmore, Owings & Merrill have carried the idea downtown where the Chase bank is projecting its 2½-acre piazza; Corning is leaving part of its Fifth Ave. corner open, according to preliminary plans by Harrison & Abramovitz. Meanwhile Equitable Life, which put skyscrapers in a park in Pittsburgh, and the Rockefellers, whose Rockefeller Center started the whole new open-planning idea in the thirties, are initiating building projects which will in effect extend the Center area to the northwest; and what they may do is eagerly awaited. They can hardly afford, it would seem, to fall behind the procession they helped start with such signal efforts.

One of the most noteworthy results of these praiseworthy moves is that whole areas gain in prestige, based on their pleasant nature. The effect is

cumulative. When Lever first broke open the solid street wall which lined the west side of Park Ave., by erecting an airy slab-type tower on an esplanade base, there were people who complained about the disruption of Park Ave.'s former excellence. Park Ave. had been a "rue corridor" closed off picturesquely by the Grand Central tower; now it was said to have lost character. Yet a wholly new character has since been gained at the 53rd St. intersection, which might well be called "Esplanade Corners."

This could not have occurred through a single action. It was an evolution.

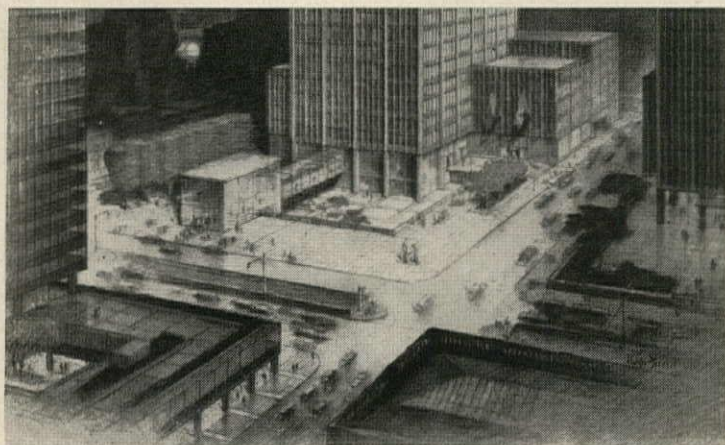
The lessons from this for the rest of the country are manifold.

One lesson is that in this pragmatic country progress is often made in this evolutionary way, which is less characteristic of Europe. There, manifestoes are likely to come first. They announce great principles of which some part gets executed. Here, the new conception is likely to grow step by step out of accumulating experience. Some farseeing architect persuades a smart client to make

a new move. Others then follow his example. Suddenly an analytic observer notes that the total effect is bigger than the sum of all the individual parts, and when he describes it a new concept is launched. In other words the process here is not one of didactic planning but of helping along the plan that is trying to happen, and getting the most out of it.

Another lesson is that the most effective innovator, the strongest influence behind finer cities, can be the private organization including the sizable business organization. In New York, for example, the architecture of public buildings has been recently going rapidly downhill, especially in site planning, wherein government building was once strongest. Until something can be done about that, our most rapid civic progress will be made in building projects by unofficial citizens.

Still another lesson is that the finer arrangement of buildings on the ground, the more spacious handling of sites, is economically the soundest move possible, staving off obsolescence. For example, Rockefeller Center, with its plaza and its openness, has been able, with nothing more than remodeling, to stand up to the competition of the new office buildings with built-in air conditioning, while others among the older buildings have lost out. This is probably because people feel so much better in the Center's richer surroundings. A finer life is what people love, and they still reward those buildings and those cities which give it to them.



Douglas Haskell



in construction . . . no substitute can do what copper does!

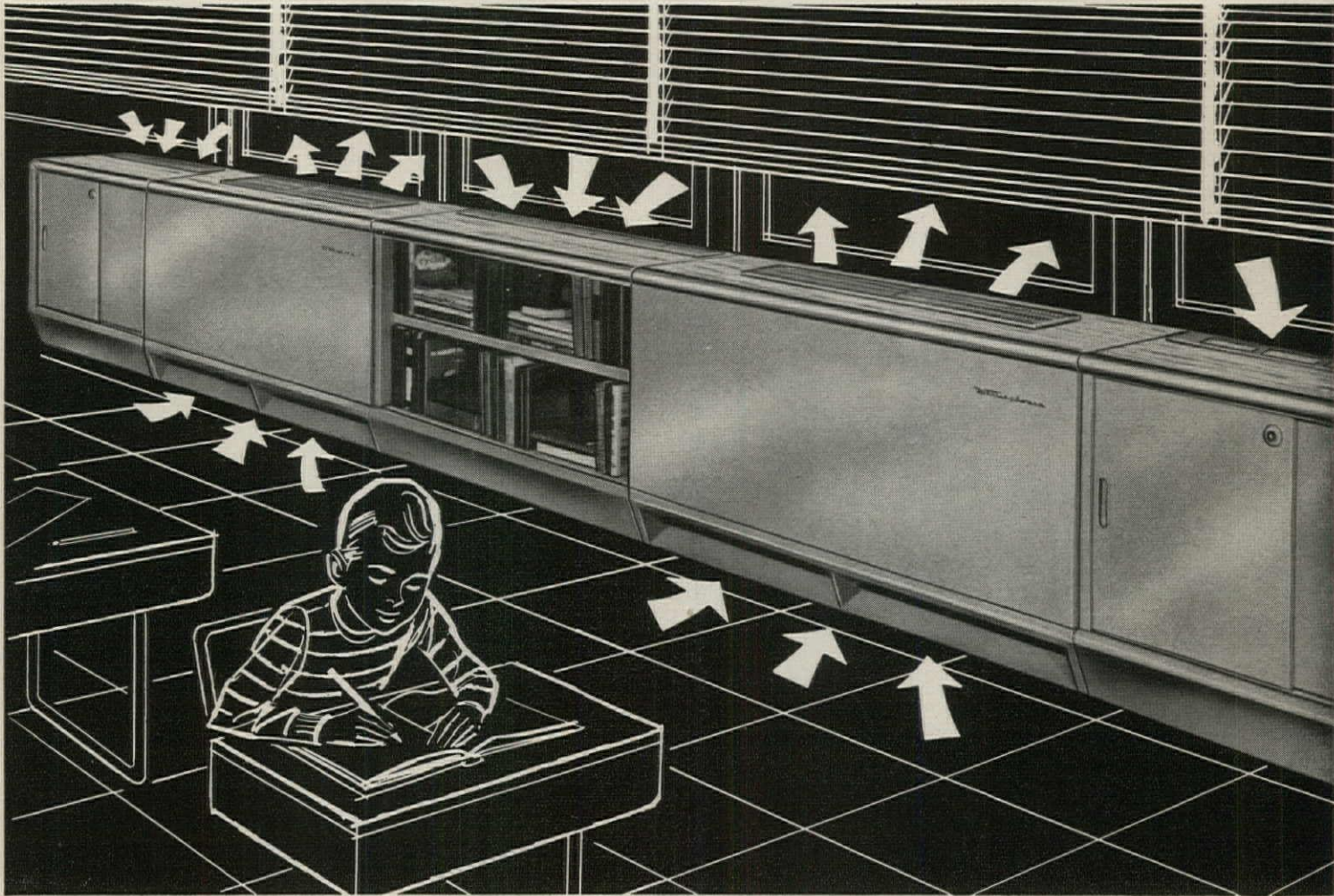
Copper best carries the light and power that give life to buildings and homes. Copper water and drainage lines combine ease of installation, rust and corrosion resistance, durability, far better than any other type of piping. Copper's superb heat conductivity assures most efficient operation of radiant heating and cooling systems. Copper roofs and roofing products traditionally outlast all other kinds. In construction—and in scores of other fields—you'll find no substitute can do what copper does!



Kennecott Copper Corporation

Fabricating Subsidiaries: Chase Brass & Copper Co. • Kennecott Wire and Cable Co.

Announcing in Heating, Ventilating



**Westinghouse Air Blender system provides
an improved—less costly method of classroom
heating, ventilating and cooling!**

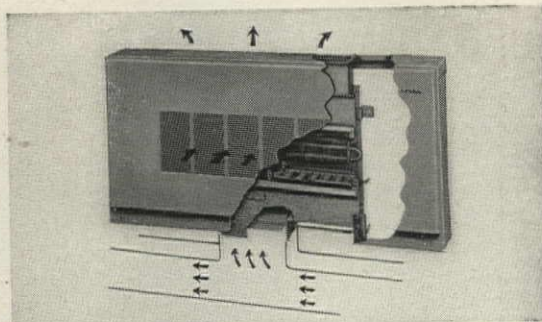
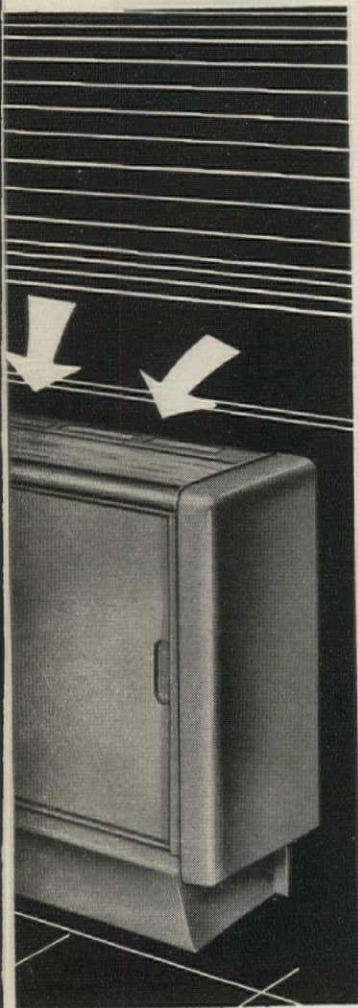
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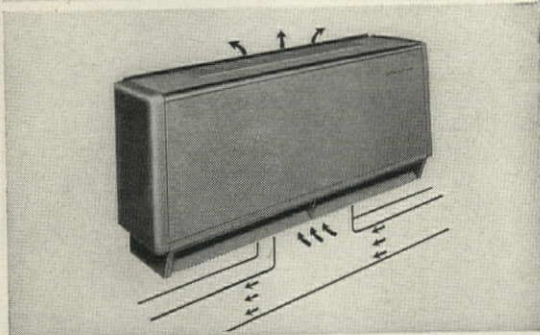
J-80600

WATCH WESTINGHOUSE WHERE BIG

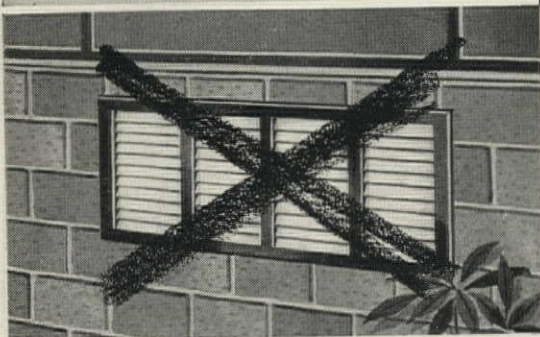
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weather-proof!

New exterior latex paints weather-proof in twenty minutes

Just twenty minutes after exterior latex paints made with LYTRON 680, a new Monsanto latex vehicle, are applied to masonry or previously painted wood, the surfaces are resistant to rain or moisture. Thus, these new latex paints eliminate blistered surfaces and costly repaint jobs caused by sudden cloudbursts, dust or insects.

Exterior paints made with LYTRON 680 are quick and easy to apply over cinder block, brick, stucco, cement block or previously painted wood. These paints flow smoothly in weather close to freezing, dry quickly with a tough film

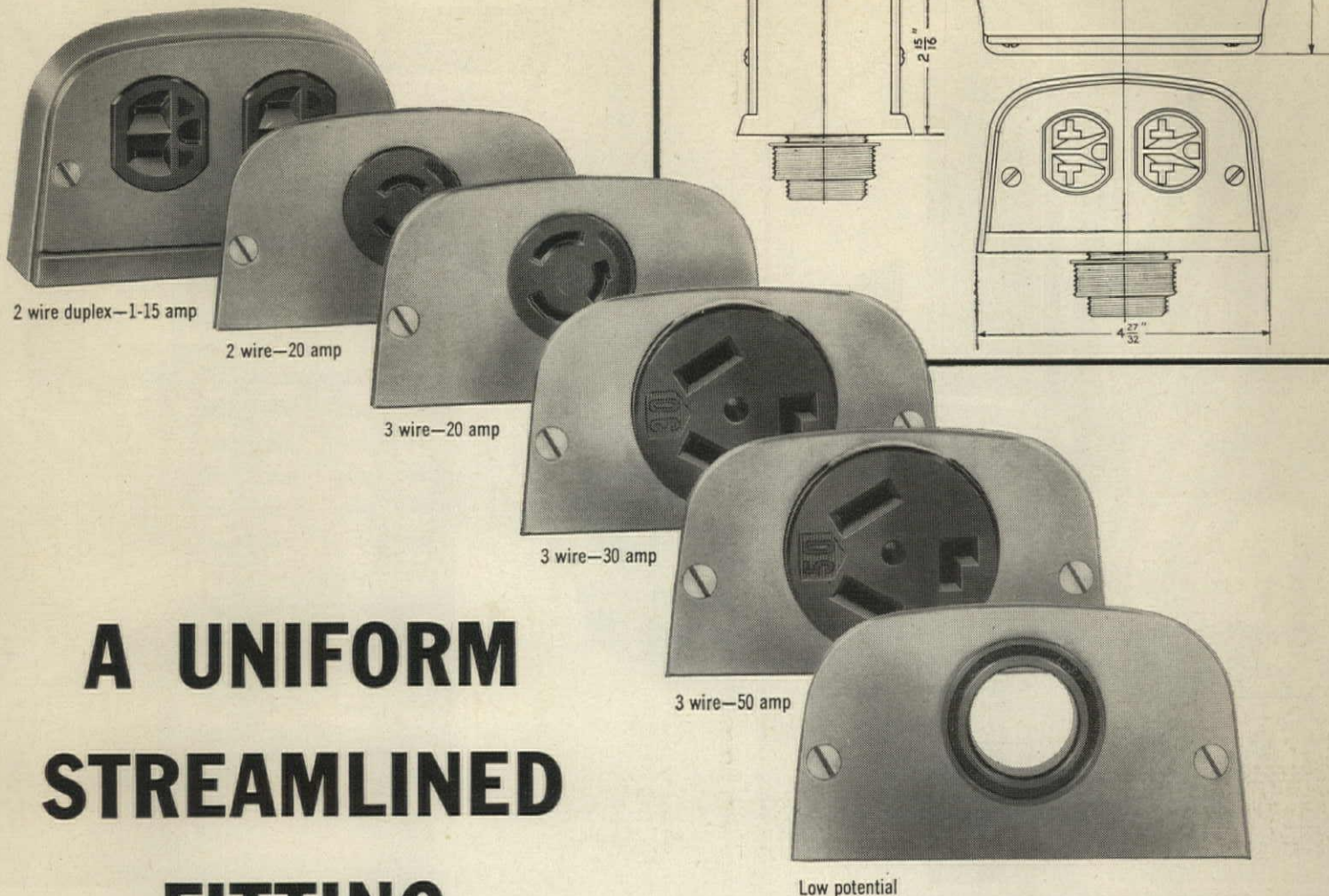
that resists sun, fog, mildew or salt air. They resist burn through or peeling—even over green plaster. Latex paints made with LYTRON 680 chalk gradually, age gracefully. They're washable. No water-spotting, no alkali stains.

Monsanto—a major supplier of resins, latices, and other basic ingredients for the paint manufacturing industry, has been an active partner in the development of latex and other improved types of paints. For sources of supply, write Monsanto Chemical Company, Plastics Division, Room 226, Springfield 2, Mass.

Where creative chemistry works wonders for you

LYTRON: REG. U. S. PAT. OFF.





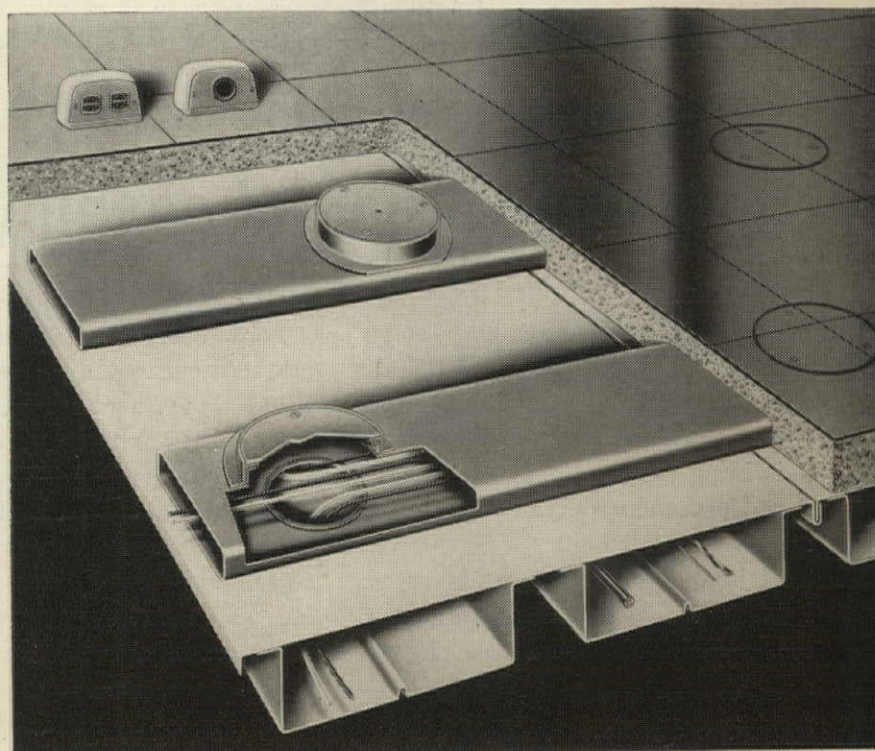
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National Electric's complete line of Service Fittings for installation with underfloor electrical distribution provides uniformity of outlets in the finished installation. Every unit can be quickly installed even where the height of the fitting is restricted to less than 3" by modern desks or other free-standing equipment.

All housings are made up of bright, smooth die-cast aluminum that presents an attractive, modern appearance. Nepco Service Fittings have a shock-resistant one-piece housing that cuts installation time and simplifies replacement inventory because the housing is designed to accommodate cover plates for a wide range of services. They are designed to be interchangeable with National Electric's underfloor duct systems and with concrete floor boxes.

When your building's plan calls for cellular steel floors, make sure you include a specification for NE Service Fittings and a National Electric Header Duct System.



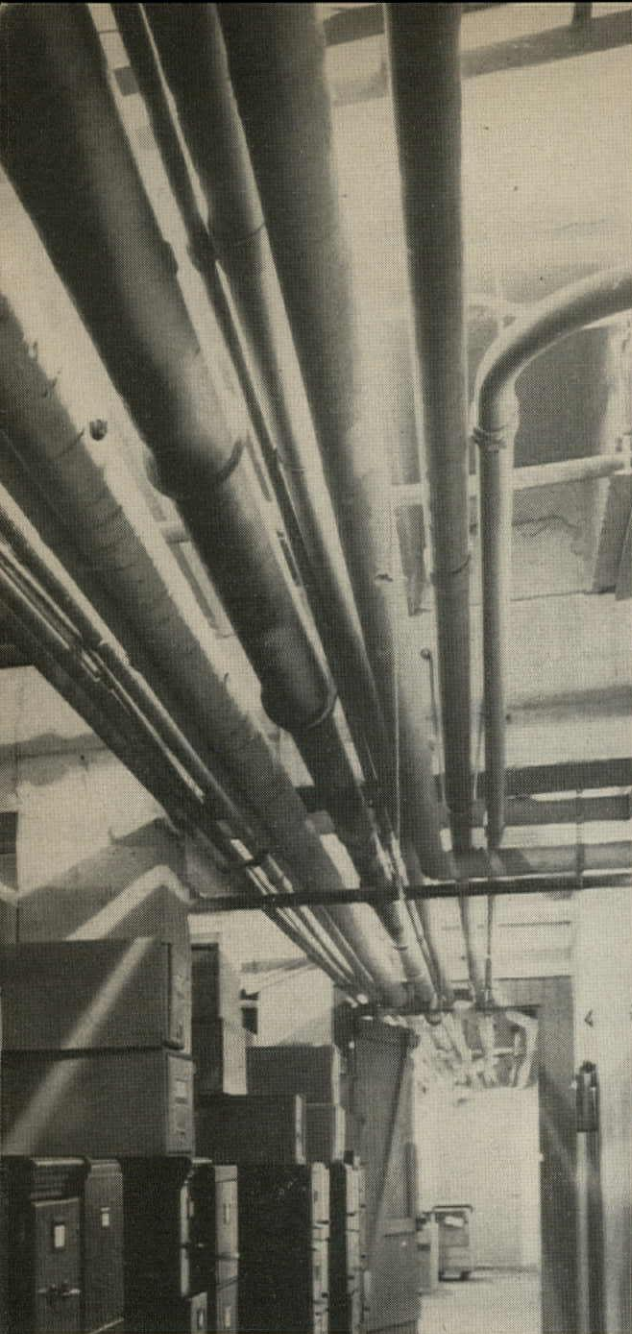
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Used with cellular steel floor construction, National Electric Header Duct makes it possible to energize selected floor panels to accommodate any requirement for power, light, telephone, or communication.



"Acousti-Lux" translucent ceiling panels for Stauffer Chemical Company building, San Francisco, are made of BAKELITE Rigid Vinyl Sheet by The Celotex Corporation, Chicago 3, Ill. Kitchen & Hunt were the architects.


with illuminated vinyl ceiling unsightly basement becomes bright modern office

Lightweight, translucent ceiling panels made of BAKELITE Brand Rigid Vinyl Sheet make modernizing jobs like this easy. The ceiling panels fit into channels hung below pipes and wiring. Sprinklers can be concealed *above* (UL approved installation).

Lighting is more uniform, and better lighting is achieved with less power consumption. The panels may be removed easily and quickly for replacement of lamps, access to pipes, or for periodic washing. They are not harmed by cleansers . . . dirt washes right off.

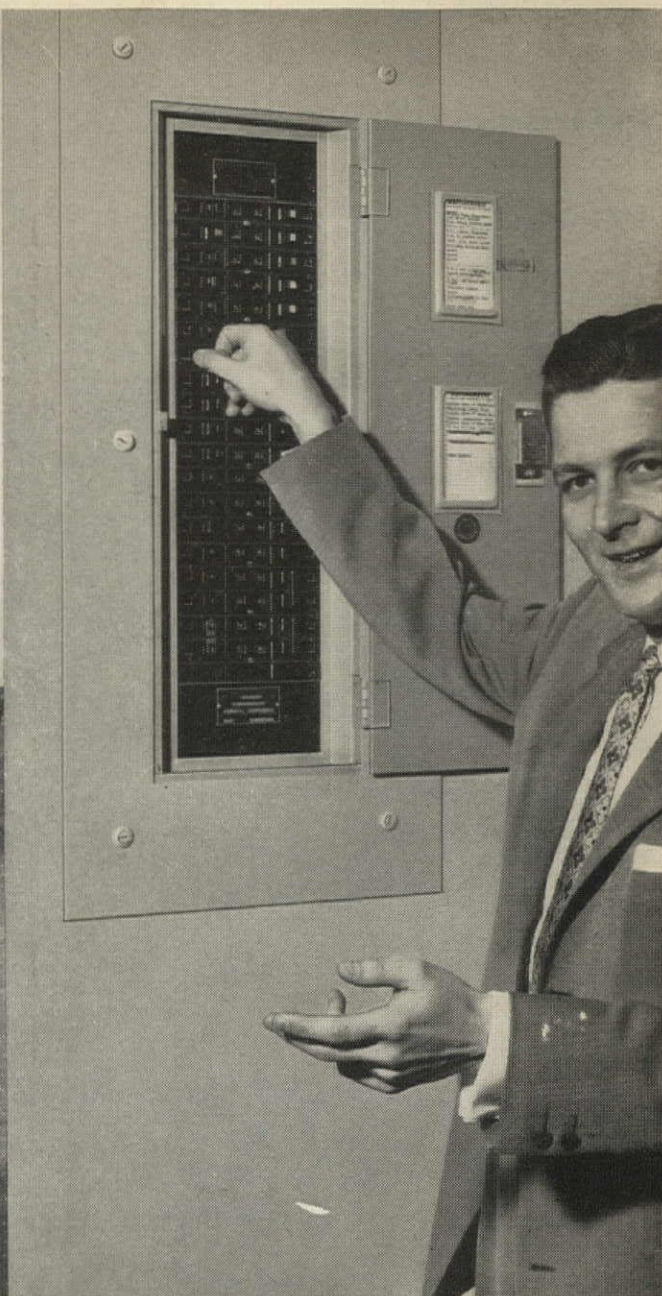
For remodeling or new building, illuminated ceilings made of BAKELITE Rigid Vinyl Sheet are a surprisingly economical way to obtain very decorative and practical effects. Look into the many products made of BAKELITE Brand Plastics that can help you design and build better—flooring, wall coverings and upholstery, paints and masonry coatings, molded drawers, wall tile, moisture barriers, insulation and many others. Write for our comprehensive booklet, "BAKELITE Plastics for the Building Industry," to Dept. VF-2.



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Today's buildings—with a wide range of electrical equipment from fans to floodlights—require positive insurance against overloads and short circuits. And when overloaded circuits go dead and business stops

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J-30193

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WHERE **BIG** THINGS ARE HAPPENING FOR YOU

RESEARCH

A spotlight on new tests, new standards, new studies

Weathering of plastics

The great problem in the use of the new plastic materials in construction has been to anticipate accurately their performance when exposed to weather. A six-year study

has recently been completed by the Plastics Research Laboratory, Picatinny Arsenal.* This program included outdoor exposures of up to three years for about 80 plastics compositions. The exposure sites were Panama (tropical); White Sands (hot-dry, with maximum ultraviolet radiation); New York and Dover, N.J. (temperate); Fort Churchill, Canada (arctic-dry); and Point Barrow, Alaska (arctic-damp).

The results of these tests are quite

favorable with respect to the polyester-bonded, glass-reinforced laminates which are having the greatest structural application in building. It is possible to generalize that a 20% allowance for deterioration of strength due to weather is safe and a 30% allowance is conservative. Tests with these laminates employed unpigmented samples and were therefore even more seriously affected by ultraviolet radiation than would be the case with pigmented materials usually preferred for most architectural applications. Aluminum and carbon black are the most satisfactory pigments, but others are effective to some degree. It has also been established that exposure of glass fibers at a worked edge or drilled hole will not provide passage for moisture into the plastic material. The problems of the effect of weathering on the plastic when under stress were not explored.

The weathering test results of phenol-formaldehyde materials were not as favorable as for the polyester laminates. A marked loss of toughness developed in the exposed phenolics. Weathering tests of polymethylmethacrylate (lucite, plexiglass) substantiated the generally favorable experience with these materials. There was some loss of light transmission (original, 92%; after three-year exposure, 87%) and some increase of haze (6.1%). Only under the most extreme weather conditions was there any loss of flexural strength. Polystyrene can be regarded as quite unsatisfactory for use out of doors, as it hazes rapidly and develops cracks and scratches.

One plastic material was found to be totally unaffected by outdoor exposure at all of the sites for the full period of exposure. This material was polytetrafluoroethylene (teflon). Two other compositions were found to be relatively unaffected by weathering if they were pigmented with carbon black. They are polyvinylchloride and polyvinylchloride acetate.

The silicone rubbers, as a class of materials, were found to be little affected by weathering. These materials are useful for gasketing and as sealants. Other data developed in these studies reveal the surprising fact that glass-reinforced laminates actually increased in strength, elongation, and toughness after exposure in the arctic.

Another study† has been completed recently that substantially agrees with the general observations made by the Ordnance Corps about glass fabric base plastic laminates.

continued on p. 178

Quicker Washing Service

Excerpt from article
in MODERN SANITATION
MAGAZINE

— more users can be served in quick succession so that one such fixture is the equal of eight to ten individual (so-called) fixtures.

Economical Choice

AMONG its other advantages, the washfountain requires less floor space, leaves walls clear, and has only two water lines and one drain and vent in contrast to the sixteen lines and faucets and the drains and stoppers on eight lavatories. Initial installation of rough plumbing is simpler and less costly; the routine cleaning of the fixture is easily and quickly done. The water temperature can be thermostatically controlled if there are serious fluctuations in hot water temperature or pressure. The saving of about 25 per cent in floor space and the substantial savings in daily maintenance through the life of the equipment therefore make the washfountain an economical choice.

*and
so sanitary!*

As the writer in "Modern Sanitation" says—one Washfountain with its large self-flushing bowl and foot-control serves more users quickly, being equal to 8 to 10 individual basins.

Space is saved, installation time and costs are reduced because only three piping connections are required—two supply lines, and one drain and vent. There are no faucets to touch, and the self-flushing bowls guard against collection of used water.

New Catalog 5601 shows all models complete with specifications. Copy will be mailed gratis. **BRADLEY WASHFOUNTAIN CO.**, 2235 W. Michigan Street, Milwaukee 1, Wisconsin.



Catalog 5601
containing
full data and
specifications,
sent on request.

BRADLEY
Washfountains

Distributed Through Plumbing Wholesalers

* Barrett, Report No. 2102, Ordnance Corps Plastics Laboratory, Picatinny Arsenal; available through the Office of Technical Information, Department of Commerce, Washington 25, D.C.

† Werren and Heebink, *Weathering Glass-Fabric Base Plastic Laminates*, Forest Products Laboratory, Madison, Wis., WADS Technical Report 55-319, May '56.

WERE THE STRUCTURAL DESIGNERS AND CONTRACTORS
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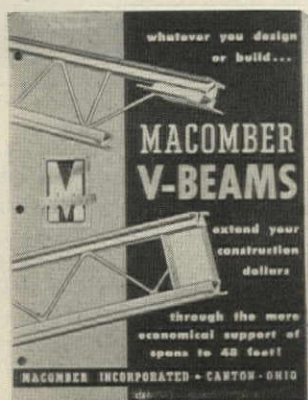
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Send for the V-BEAM Catalog. Consult the Loading Table. Then contact your Macomber Representative and you will be convinced—as others have—that V-BEAMS have no equal as steel framing members.



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Broadlite used in general offices of W. P. Fuller & Co., San Francisco, diffuses daylight deep into interiors.



Glass in Trimview Aluminum sliding doors saves space, maintains unbroken line of light.

Used on all sides of these cheery offices, Mississippi Broadlite wraps them in a wall of living light... floods adjoining areas with copious quantities of softened, eye-easy "borrowed light". Sliding doors of Broadlite save valuable office space, complete the bright, modern look. Translucent without being transparent, figured glass makes better room dividers all around... gives any office a more pleasant atmosphere, a more spacious feeling that boosts morale and efficiency. And glass is so practical, never loses its new look, never requires painting or redecorating. Glass is easy to maintain, wipes shining bright with a damp cloth.

When you build or remodel, use translucent, light diffusing glass, the perfect partition. Specify glass by Mississippi. Available in a wide variety of patterns and surface finishes everywhere.



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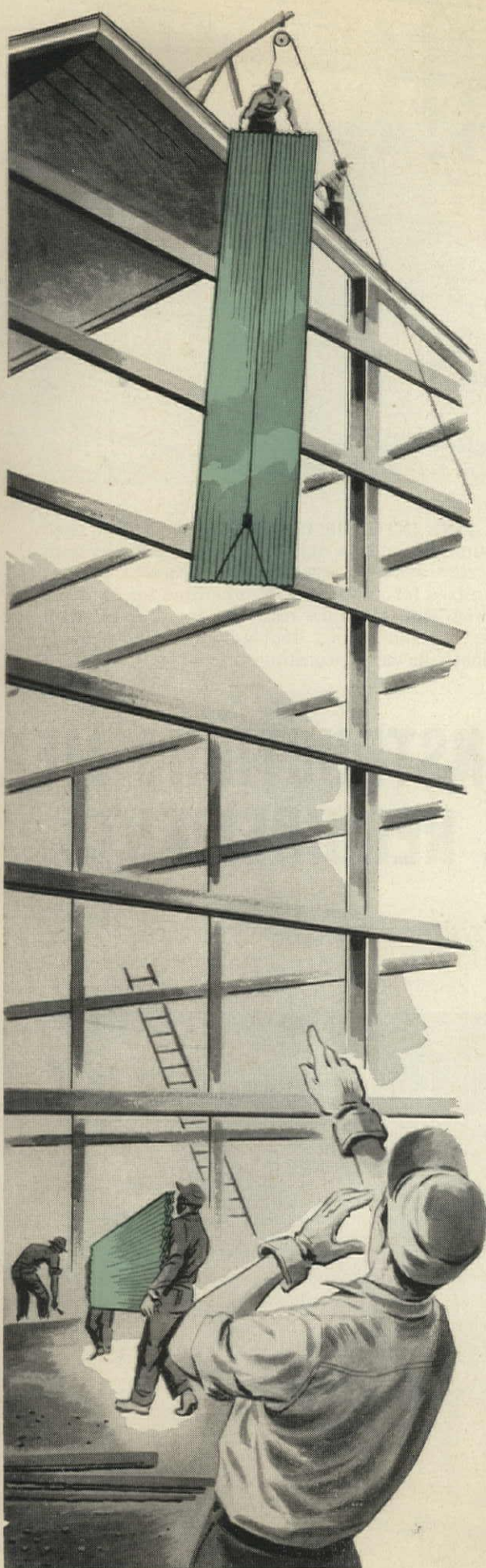


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Architectural Alodine is protective because it further improves the good weathering characteristics of aluminum. It provides unusually effective protection at the seaside and in industrial areas. Architectural Alodine is decorative because it chemically forms an attractive green color which enhances the appearance of the aluminum. The coating formed is integral with the metal and the color is sunfast. Architectural Alodine is glare-reducing because the chemically formed coating materially reduces the natural reflectivity of aluminum. And the process is inexpensive, compared to other commercial finishes. Write for samples of aluminum which has been Architectural Alodine treated—no obligation.



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ONE- TO FOUR-HOUR FIRE RATING for floor-ceiling constructions is achieved with BRACE-TITE® Lathing System. ROCKLATH® gypsum lath is attached to standard metal grillage, forming an ideal base for plaster or acoustical tile. Pressure action of clips supports the lath across its full width. Easy, quick and economical to install—no special tools required.



FOR FINE INTERIOR FINISHING specify new USG® 3/8" RIBLATH, now a full 27" wide—plastered with RED TOP® STRUCTO-LITE® gypsum basecoat plaster, mill-mixed for uniform set and perlited for 50% less framing load. More fire-resistant, too. Top off with IVORY® finishing lime, double-hydrated to provide a smooth, flawless decorating surface.

VERSATILE INTERIOR CONSTRUCTIONS MEET RIGID PERFORMANCE REQUIREMENTS

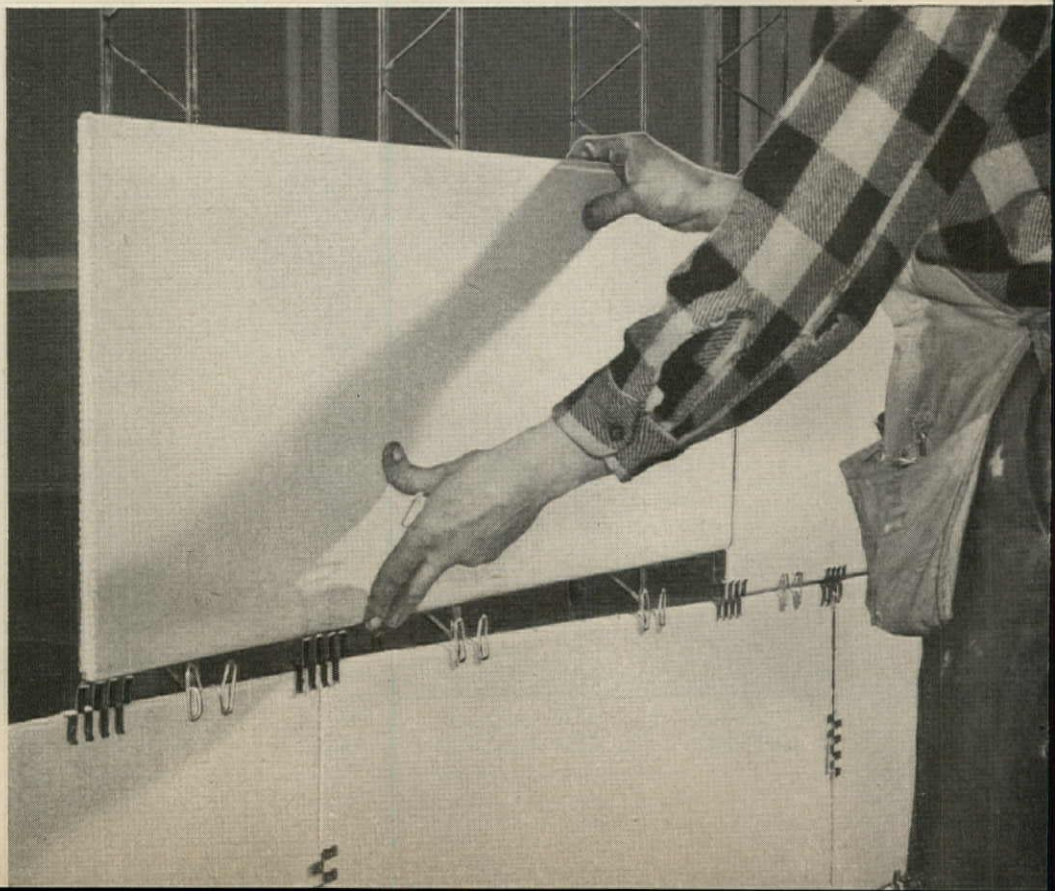
Time-proved partition systems and lathing systems serve a variety of needs

Designing and specifying are simpler, yet more precise, with U.S.G. products and systems. They're made to work together, giving you top performance and quality backed by one dependable manufacturer. For details on these U.S.G. interior constructions, see Sweet's Sections ^{12a}/_{Un} and ^{12b}/_{Un}.

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FAST-ERECTING HOLLOW PARTITION of TRUSSTEEL* studs (above) and ROCKLATH plaster base offers more open space for utilities than other comparable assemblies. Simplifies concealment, cuts costs of installing ducts, conduits, wiring. Lightweight, only 10-15 lbs. per square foot; yet strong, like the open-web struts of aircraft wings.

NEW SNAP-ON ATTACHMENT CLIP (left), called TRUS-LOK*, secures plain or perforated ROCKLATH to TRUSSTEEL studs. Reduces lathing costs, helps increase sound resistance. Complete assembly provides a sound transmission rating of up to 46.5 decibels. It's fireproof too—typical 5¼" partition has a fire rating of one hour. Stud widths vary from 2½" to 6".

*T.M. Reg. U. S. Pat. Off.



For complete information on products shown here, fill in this coupon and mail to United States Gypsum, Dept. AF-65, 300 West Adams Street, Chicago 6, Illinois.

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Plastic insulations

The possibility of foam-in-place insulation in building construction is one of the challenging new opportunities being developed by the plastics industry. Although still in the development stage it is now practicable to consider pouring some liquids into a wall cavity or ceiling-roof assembly and having the liquids foam up to completely fill the complex spaces, nooks, and

crannies with thermal insulation. Such methods are now being successfully employed in the construction of trailer truck bodies, and the special problems still to be solved before location in buildings are under study by both the Bakelite Co. and DuPont organizations. The success of these developments might result in changing the insulation supply business to the supply of chemicals that are mixed at the site.

Foam-in-place insulating plastics are

being developed with phenol formaldehyde, urea formaldehyde and polyurethane. The polyurethane foams are likely to be the most costly of the three but also possess a unique combination of properties which should stimulate the imagination of every architect and builder.

Polyurethane insulation is the result of a reaction between a highly reactive chemical called an isocyanate and liquid materials known as prepolymers. Isocyanates also generate carbon dioxide very rapidly when combining with water. By bringing isocyanate, prepolymer and water together at the same time, the carbon dioxide foams the tough resin as it is formed and the whole mass expands to over 30 times its original volume. Polyurethanes are excellent adhesives. A small building has already been designed in which the space between two aluminum skins or two reinforced glass-fiber laminate skins is filled with foamed-in-place polyurethane. In this building the foam becomes insulation, support for the two skins and bonding agent.

Among the problems still to be solved is mixing polyurethane insulation in the field. Laboratory equipment has been developed and some manufacturers are experimenting with factory-prefabricated assemblies, such as refrigerator doors. Spray guns have been developed that can produce a mixed plastic film which foams to insulation at a rate of 100 bd.-ft. per minute. Other problems are the conception of the unique building constructions that will utilize foamed-in-place insulation capabilities. Polyurethane burns slowly when in direct contact with flame but is self extinguishing when the flame or high temperature source is removed. There is considerable latitude in the range of physical properties possible, and k factors fall in the range of 0.26 to 0.40.

Phenol formaldehyde and urea formaldehyde pose special problems as foam-in-place materials. They are formed in extremely high speed reactions and must be introduced to the space they are to fill in such a way that the foam need travel but a short distance to fill the cavity. As an example, they could not fill the space in a curtain wall panel while the panel was in a vertical position because the foam would harden before reaching the top; however, if the panel were horizontal, the plastic might be applied to the large surface inside one skin and the foam could be expected to expand and fill up the void to the opposite skin. This group of materials favors factory installation rather than site foaming. Polyurethane foams slowly enough to fill large and irregular voids.

Phenol formaldehyde foams can be formulated so that they will not propagate flame. The formaldehyde resins can be foamed to various densities to provide a wide range of strength properties, and k factors fall in the range of 0.25 to 0.35.

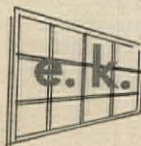


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Geyser windows can be built to heights up to 21'0" without horizontal structural supports, and to any width in multiples of 3'6" or 4'0".

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There's a big saving in heat loss (or heat gain) due to ULTRALITE's superior thermal efficiency. There's a big saving in application cost, too, because blanket rolls of ULTRALITE glass fiber insulation wrap quickly around ducts of every size and shape . . . and because ULTRALITE's long-fiber strength makes it easy to secure in place by methods not practical with ordinary glass fiber blankets.

Easy application and low applied cost are also highlights of ULTRALITE Duct Liner, an outstanding acoustical product specifically designed to silence duct noise. Both ULTRALITE Duct Insulation and Duct Liner are available through a nationwide network of distributors. Your local distributor is listed in the Yellow Pages under "G-B Insulations"—or see Sweet's File Architectural.


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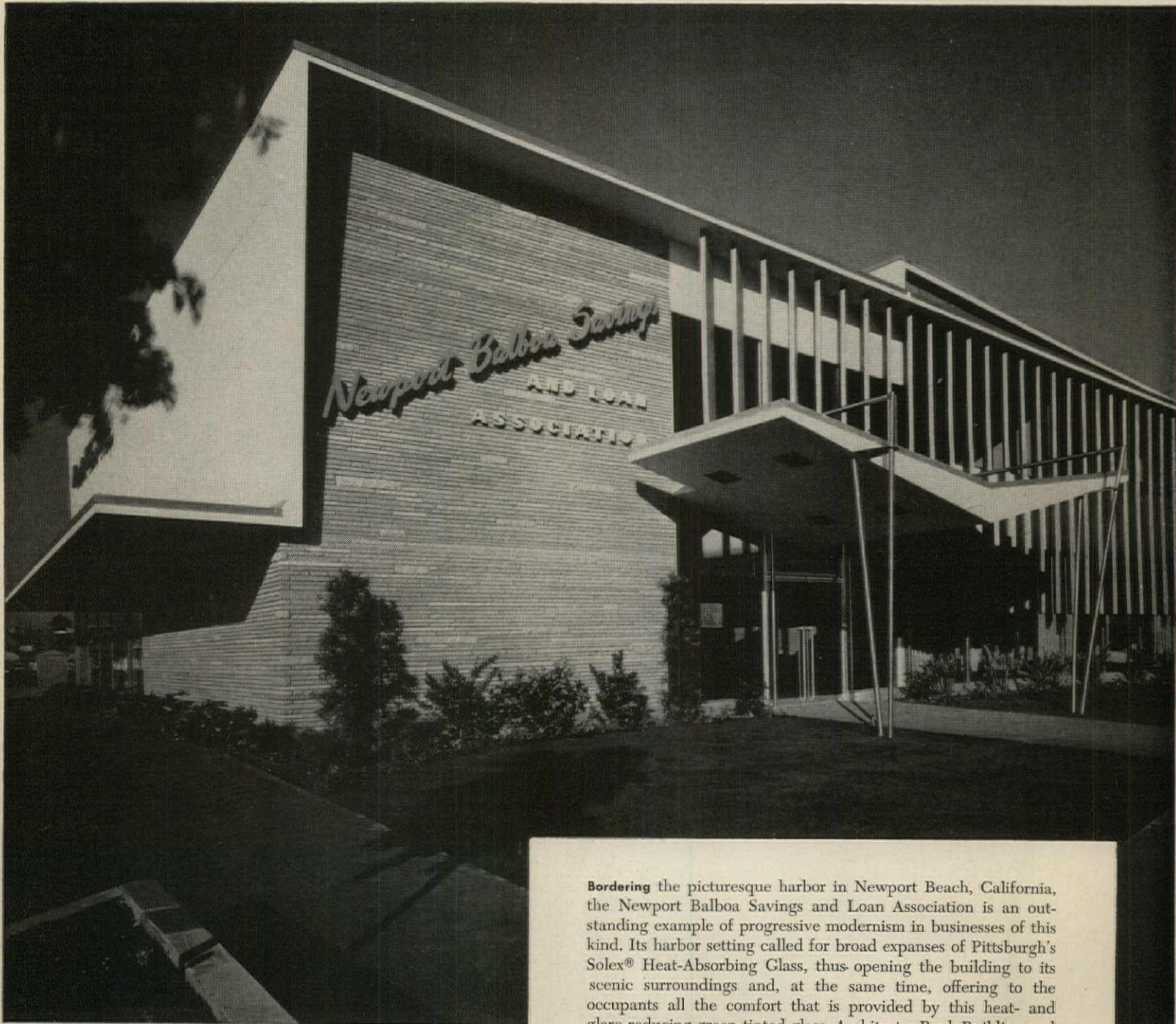
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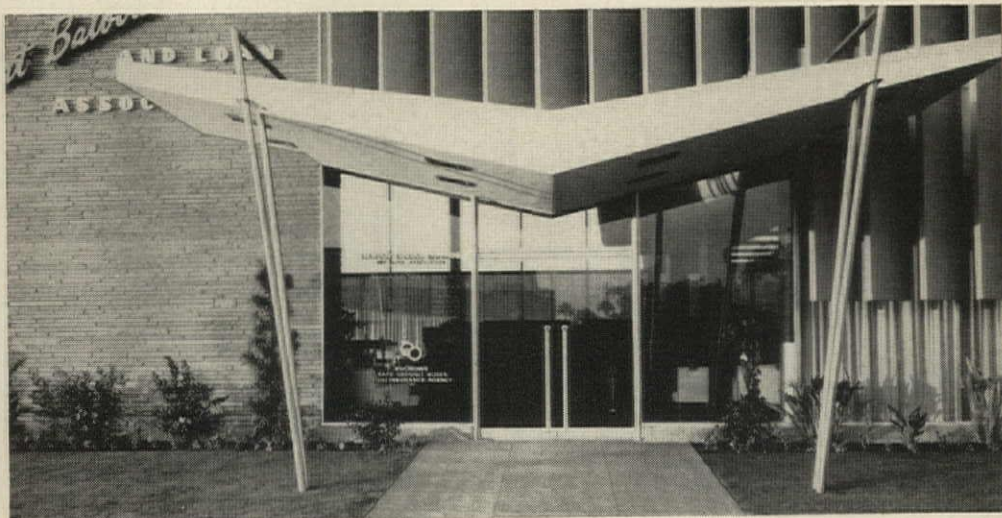
Bordering the picturesque harbor in Newport Beach, California, the Newport Balboa Savings and Loan Association is an outstanding example of progressive modernism in businesses of this kind. Its harbor setting called for broad expanses of Pittsburgh's Sollex® Heat-Absorbing Glass, thus opening the building to its scenic surroundings and, at the same time, offering to the occupants all the comfort that is provided by this heat- and glare-reducing green-tinted glass. Architects: Bank Building and Equipment Corporation of America, St. Louis, Mo.

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Here is a view of the employees' cafeteria, located on the second floor of the building, facing the harbor. This entire west wall is glazed with Solex, which makes it possible to take full advantage of the natural beauty of the outdoors while keeping room interiors cooler and glare at a minimum.



Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 6a, 15d, 20, 12e, 15a.



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circulates through the building.

The basic principle of the heat pump is this: If air can be made to drop in temperature, it will release heat as its temperature drops. Thus, if air at 0°F. is made to drop to -20°F., a certain amount of heat will be extracted from the air. This is the heat which is used to warm the building. In warm weather, the process is reversed: Air

is made to rise in temperature; as its temperature rises, it consumes heat. This heat is taken from within the building during the summer, and this keeps the building cool.

Although a system such as the one in the Ballinger building can be operated economically, its initial cost will be higher than a conventional heating-cooling system.

PRESTRESSED RUNWAYS

Initial cost is high, but maintenance will be low for new concrete slabs

Prestressed concrete has had more attention from structural designers during the past ten years than in all the years since the first patent on the process was issued back in 1888.

Today, prestressing is more than a substitute for steel. Engineers are finding that it can be used to advantage in other areas too. For example, scientists at Southwest Research Institute have developed a prestressed slab for airport runways which can withstand loads that would make conventional runways buckle.

San Antonio's International Airport had first chance to try prestressing. Its runways were breaking. Airport officials had either to remove those runways and replace them with new concrete of greater strength or to put concrete overlays onto the runways to increase their load capacity. They decided to try overlay.

Southwest Research tested two different methods: One was a conventional overlay of thick concrete; the other was the prestressed slab, of 4" thickness. Both were placed on the airport's most heavily used runway.

The prestressed slab cost somewhat more initially than the thick concrete, but M. M. Lemcoe, manager of structural research and development at Southwest Research and director of the airport test, says that the greatly increased service life of the prestressed pavement and its lower maintenance cost will "more than offset the higher installation expense."

WALL COSTS COMPARED

Analysis reveals cost data for various types of walls, including glass

Turner Construction Co. has probably had as much experience with curtain wall construction as any contracting company in the US. At a conference on masonry construction, conducted recently by the Building Research Institute in Washington, Turner Engineer H. T. Noyes put forth cost comparisons for a variety of wall materials: brick, limestone, stainless steel, aluminum.

Noyes's main point: Wall costs have increased over the years, but their pro-

continued on p. 186

Permanent Efficiency!

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A final silver-gray, satin finish gives added protection, blends with all interiors.

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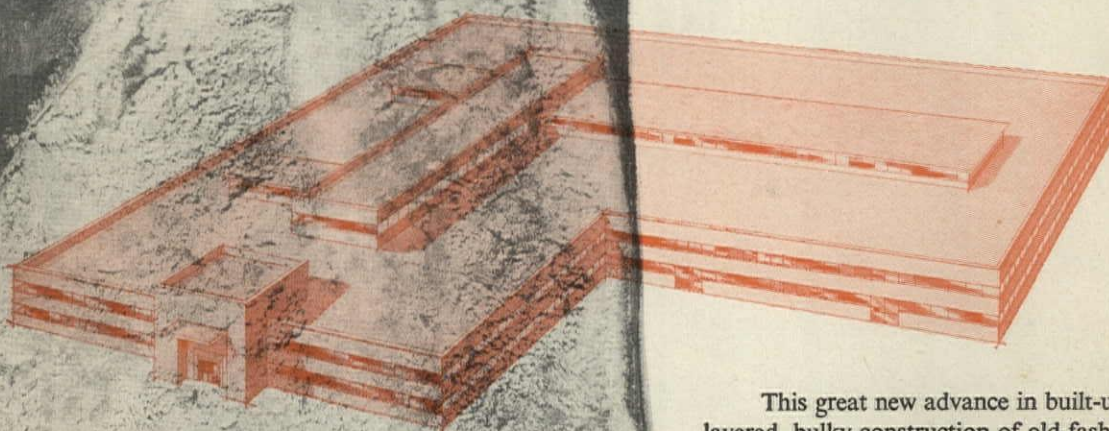
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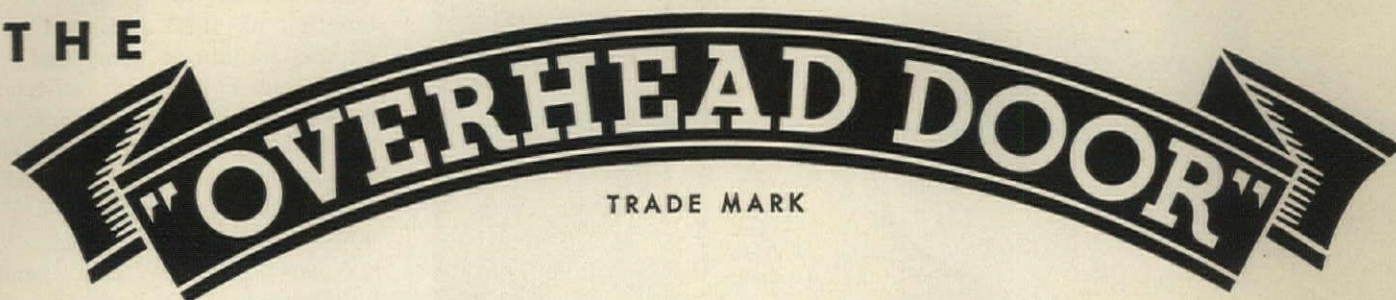
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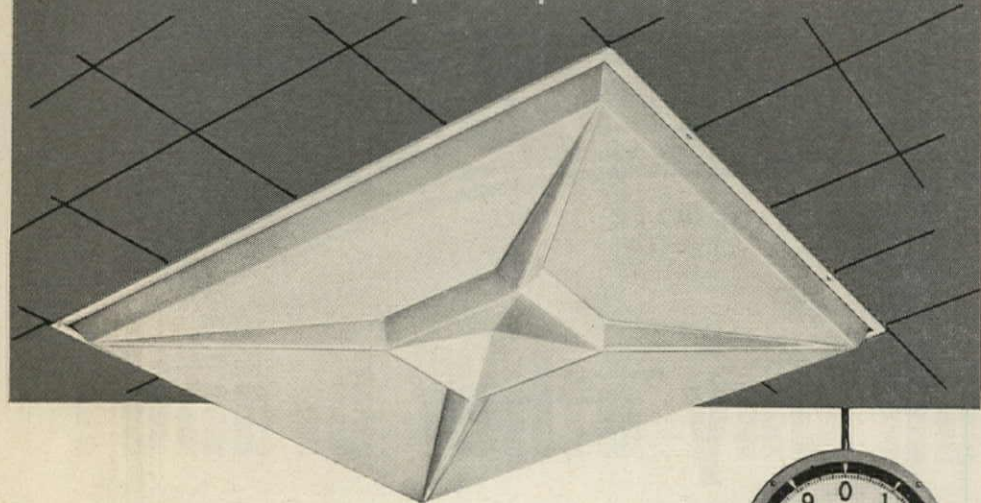
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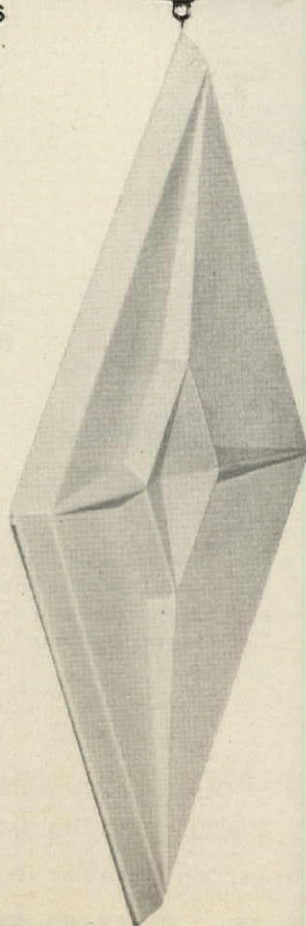
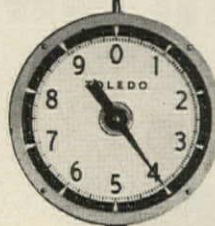
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TECHNICAL NOTES

cont'd.

portion of the total building cost has generally gone down. The reason: Electrical and mechanical work (particularly air conditioning and electrical system) has become more complex and more expensive. He cited this example: The wall cost of a brick and stone building of 1927 amounted to 19.8% of the building's total cost; similar walls, on a building constructed 22 years later, amounted to just 8.3% of the building's total cost. But electrical and mechanical increased from 27.5% of the old building to 44.5% of the new building.

Noyes selected four multistory buildings in New York City to illustrate the variations in wall prices. He cautioned that his figures were only approximations and that changes in location or condition might make appreciable differences. Noyes figures:

▶ A 32-story office building of face brick and aluminum sash—price of wall: \$5.20 per sq. ft.

▶ A 25-story office building of limestone, with aluminum sash and spandrel—price of wall: \$7.40 per sq. ft.

▶ A 25-story office building of limestone, with limestone spandrels and steel windows—price of wall: \$6.15 per square ft.

▶ A 42-story office building of stainless steel, with reversible sash—price of wall: \$7.20 per sq. ft.

What does glass add to the air-conditioning load? Noyes calculates it this way: An additional ton of refrigeration is required for every 130 sq. ft. of 12" brick wall (with metal lath and plaster furring) which is changed to glass. If added refrigeration cost is \$500 per ton, a change from masonry to glass costs about \$4 per sq. ft.

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Denver plants plastic pipes in its parks to cut the cost of maintenance

With only 14" of rainfall and 30 parks to care for, Denver has decided to spend \$1-million for an automatic watering system in its 30 parks. With an automatic system, Park Director David M. Abbott estimates that he will reduce water consumption by 30%, labor costs by 80%. To date, the city has installed nearly 25 mi. of polyethylene pipe throughout its park system, in diameters ranging from 3/4" to 2". For large arterial lines, 3"-diameter asbestos-cement pipe is used.



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Comfort story of a modern restaurant

Honeywell Electronics makes operation of small-



Bob's No. 3 Restaurant, Glendale, Calif. Architect: S. David Underwood, A.I.A. Designer and contractor: Don C. Glenn Heating & Air Conditioning Co.

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BOOKS

SHAPING AMERICA'S PRODUCTS. By Don Wallace. Published by Reinhold Publishing Corp., 430 Park Ave., New York, N.Y. 193 pp. 8½" x 10½". Illus., indexed, biblio. \$10

Almost anyone in the broad fields of design and business might learn something about their marriage from this thoughtful book. It is a collection of 31 case studies, by an industrial designer, of familiar everyday products—why and how they got designed and produced for mass consump-

tion. Among larger manufacturers, there are the stories of the new Bell telephone, Revere and Pyrex cooking ware, GE's wall-hung refrigerator, Hallicrafters radios, Jantzen bathing suits, Amelia Earheart luggage and Gerber knives. There are also examples of the artist-craftsmen—potters, weavers, woodworkers, jewelry makers—who both serve the "quality" market and pioneer new design concepts. This is not only a handsome picture book,

but a deep exploration of the problems and processes of good design—and how it pays off.

ARCHITECTURAL GRAPHIC STANDARDS, 5th edition. By Ramsey & Sleeper. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y. 758 pp. 9½" x 12". Illus. \$18.50

This is a timely resharping of one of the architect's most useful tools. The revisions include 286 new plates (the most notable of which cover the subject of curtain walls), 236 revisions of plates, a more useful index (which itself is about 30 pages in length), a more coherent arrangement of subjects and lighter weight paper. Thanks to this last change, the added material has not noticeably increased the size or weight of the book; it is still of very manageable proportions.

ARCHITECTURAL BEAUTY IN JAPAN. By Kokusai Bunka Shinkokai. Published by Studio Crowell, 432 Fourth Ave., New York 16, N.Y. 164 pp. 11¾" x 11¾". Illus. \$15

A pictorial review of Japanese architecture in two parts: one covers the country's architectural heritage; the other, its outstanding buildings of the postwar period.

ARCHITECTS' HOMES. By Robert Winkler. Published by Reinhold Publishing Corp., 430 Park Ave., New York, N.Y. 222 pp. 9" x 11¼". Illus. Photos, plans, sketches. English, French and German texts. \$10

The idea of watching an architect solve his own housing problem is always an interesting one. This handsome book, printed in Switzerland, shows the solutions of 44 architects from 13 countries, the first 15 by the author and fellow Swiss professionals. Next largest representation is the US with seven houses by Marcel Breuer, Philip Johnson, John P. Clark, Albert Frey, Walter Gropius, Elmar Schniewind and Jose Sert. There are five each from Germany and Scandinavia (including Alvar Aalto and Aarne Ervi), one or two apiece from England, France, the Netherlands, Italy, Portugal, Brazil (Oswaldo Bratke), Mexico (Victor de la Lama) and Japan (Kenzo Tange). Some readers may be disappointed that more of today's leading architects were not included and that little attempt was made to dramatize and compare ideas.

OTHER BOOKS RECEIVED

DEAD TOWNS AND LIVING MEN. By Sir Leonard Woolley. Published by Philosophical Library, Inc., 15 E. 40th St., New York 16, N.Y. 220 pp. 5½" x 8¾". Illus. \$6

MICHELANGELO A STUDY IN THE NATURE OF ART. By Adrian Stokes. Published by Philosophical Library, Inc., 15 E. 40th St., New York 16, N.Y. 154 pp. 5½" x 8¾". Illus. \$7.50

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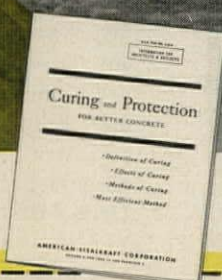


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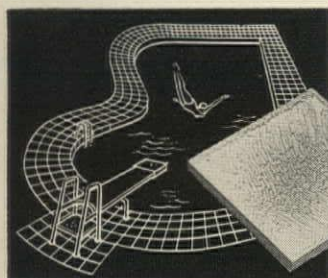
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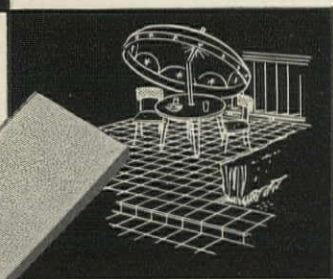
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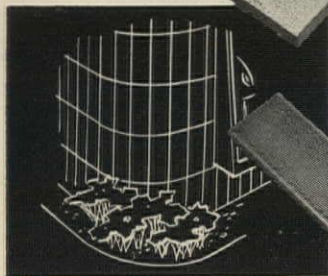


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walls**



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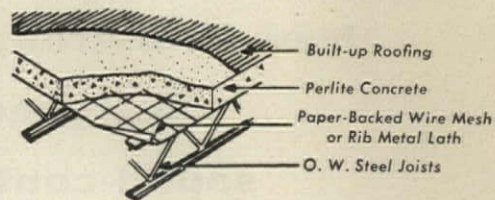
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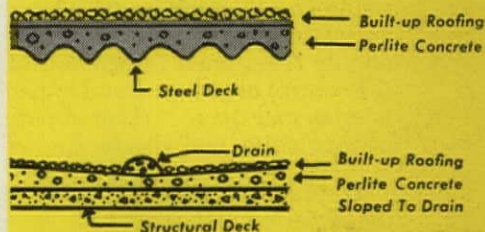
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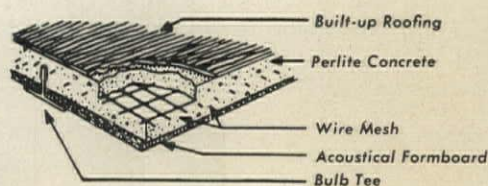
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To provide the best possible test conditions, the experimental areas have been constructed essentially free from outside noise and vibration. The two-story building is enclosed by a heavy masonry shell with its own independent foundation. Ground floor reverberation and receiving rooms are erected on separate, columnar foundations, disconnected from the exterior shell. Contact points between the rooms and foundation are kept to a minimum,

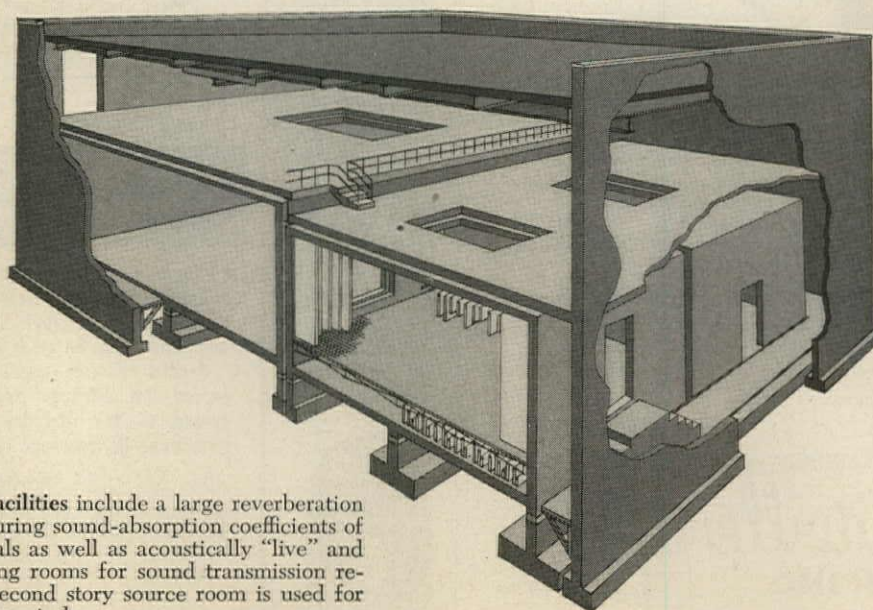
with shock-absorbing pads used to further reduce the transfer of sound.

The floor of the second-story source room is suspended from the outside shell. All rooms are interconnected by special openings into which ceiling, floor, and wall panels can be inserted for sound transmission evaluation. Instruments for producing and measuring sound are housed in an adjoining wing.

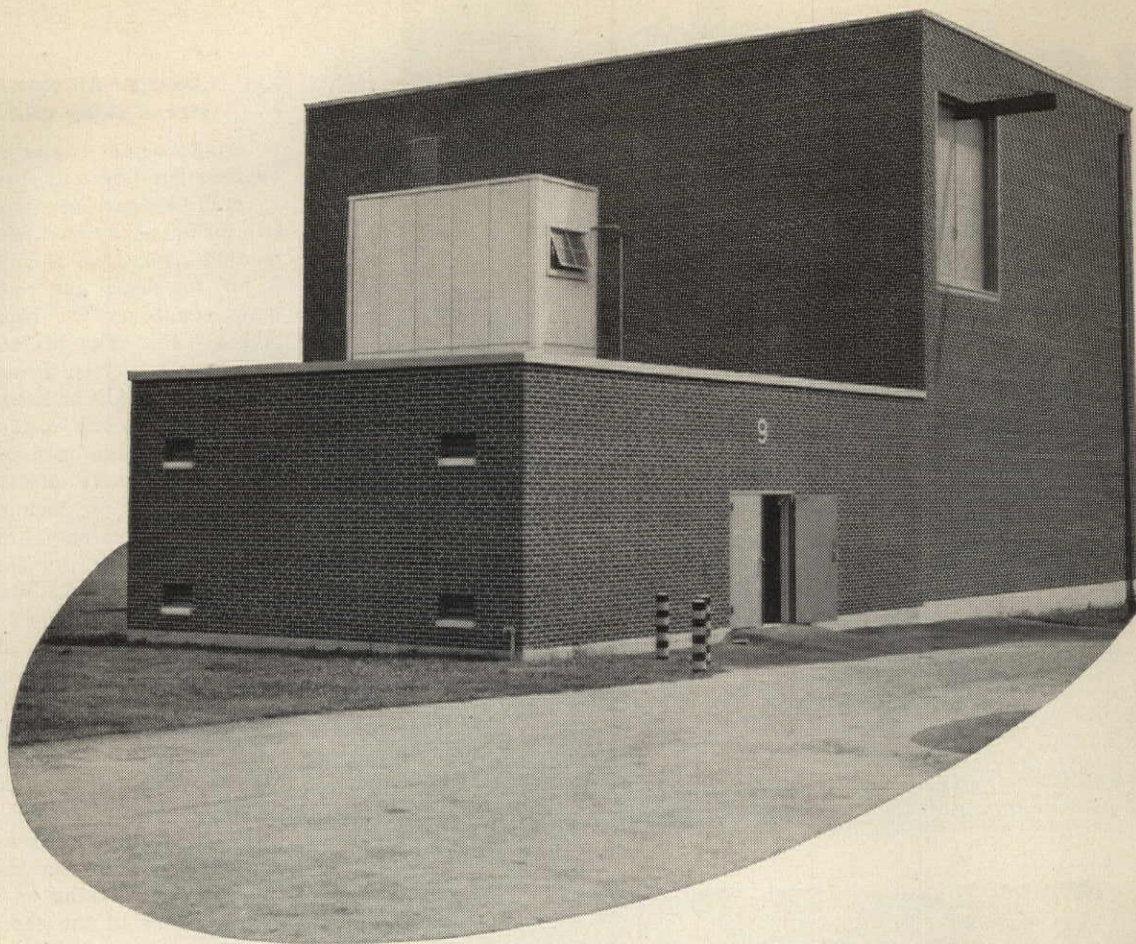
The knowledge gained from the use of these new facilities will help Armstrong to better serve both its own customers and the acoustical industry as a whole.

For full details on how the Armstrong line of acoustical materials can best serve your present sound-conditioning needs, call in your Armstrong Acoustical Contractor.

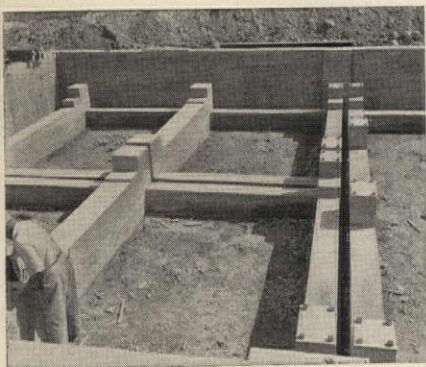
For the free booklet, "Armstrong Acoustical Materials," complete with data on the latest methods and materials, write Armstrong Cork Company, 4211 Rooney St., Lancaster, Pa.



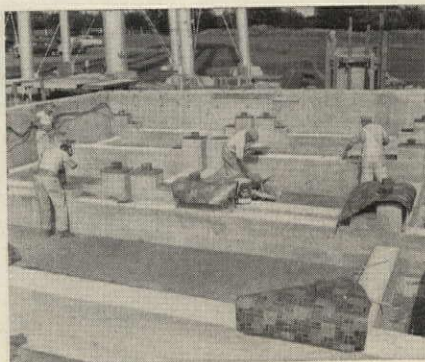
Ground floor facilities include a large reverberation room for measuring sound-absorption coefficients of various materials as well as acoustically "live" and "dead" receiving rooms for sound transmission research. The second story source room is used for floor transmission study.



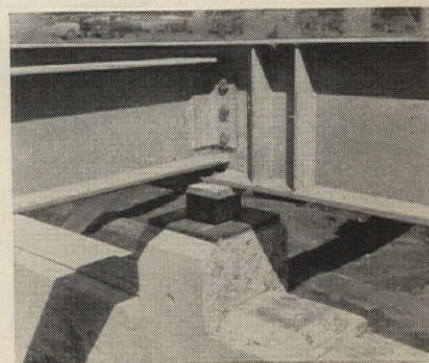
The special construction of the new Armstrong Acoustical Research Building prevents outside noise from interfering with tests. The entire facilities rest on separate foundations and are enclosed by, but independent of, a masonry shell — 51' long, 36' wide, and 36' high.



A separate columnar type foundation, with a minimum number of contact points, helps eliminate vibration and reduces coupling between earth and the building.



Steel block support points, on which rooms were erected, were used for construction purposes. They have been replaced by resilient pads to reduce sound transfer.



16", 14", and 12" beams were used as framing for concrete slab construction. Facing steel plates contact resilient pads for maximum acoustical isolation of the building.

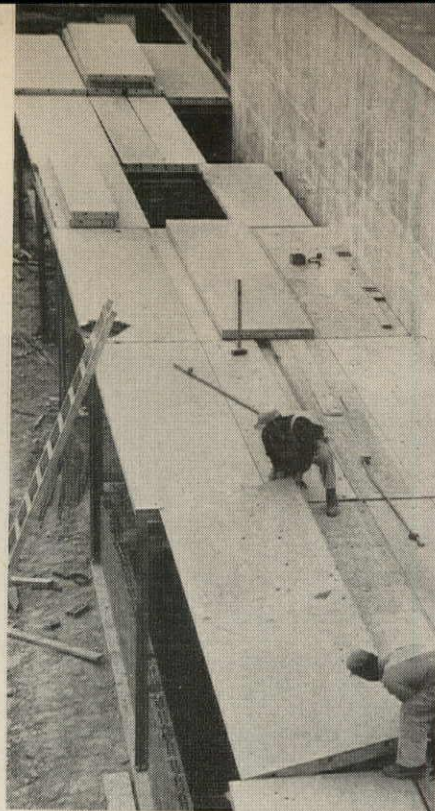
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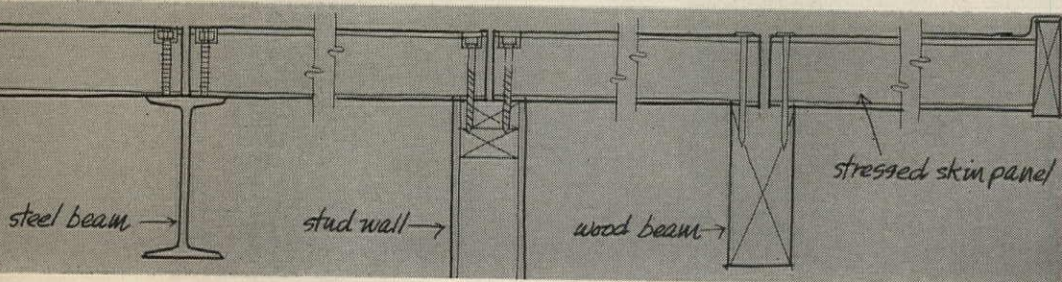


(1) LONG SPAN PANEL has plywood stress skins glued to frame

Offering custom engineering service in a bargain building unit, Industrial Designer Peter Bilder currently is adapting his king size insulated plywood panels to light commercial structures. Spanning distances up to 16' for floors and roofs, the *Panelbilt* units can carry five times the usual required loads. The prefab floor, roof and wall panels, evolved through research with the Forest Products Laboratory and from field experiences in residential and school construction, take on many forms. Architects may specify almost any available sheet material for facings and determine window heights; only limitation is the 4' width—maximum dimension of almost every plywood mill. Wall panels made with 1" x 1 1/2" perimeter framing run about 75¢ a sq. ft. Inexpensive and easy to apply, the flat 8'-to 20'-long roof units consist essentially of Douglas fir plywood sheets glued over simple wood framing for a total thickness of 4 1/2". (Recently, Bilder and Forest Products developed a 1 1/2"-thick curved roof panel with an impregnated paper honeycomb core and 1/4" plywood skins that could bridge the same distance, and now are working on somewhat thickened versions of the same curve to arch across 30' to 60' in three hinged sections without intermediate supports.)

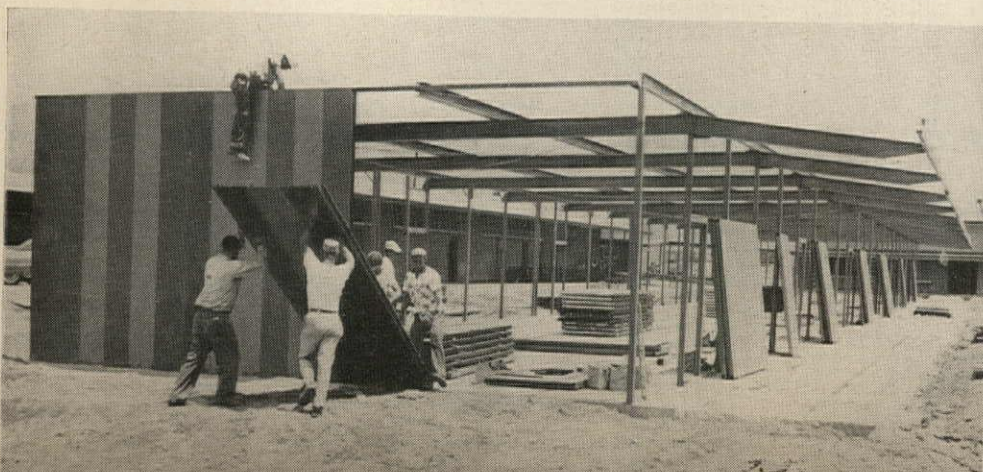
Roof panels with 1 1/2" factory-applied insulation, such as the 2'-wide panel used over 12' breezeway on the Puyallup, Wash. school (photo upper right) cost about 65¢ a sq. ft. Exterior grade 3/8" plywood is used on top, and smooth plastic-overlaid plywood laminated to the underside. A three man crew laid 2,200 sq. ft. of roof panels in an 8 hr. day. A tongue-and-groove effect is achieved by butting overlapping edges against recesses in adjacent panels, and built-up roofing can be applied directly on top. Space in the longitudinal groove allows for variations in placement of supporting members and also can act as wiring chase. On a Tacoma clinic building Architects Lea, Pearson and Richards laid out concrete footings on 14' centers to double as supporting members for the floor panels without additional framing.

Manufacturer: Panelbilt Systems.



(2) PREFAB CLASSROOMS can move with shifts in students

Two prefabrication-oriented architects had major parts in the manufacture and design of these transportable school buildings. The first, AIA Vice President Earl Heitschmidt, consultant for Calcor Corp., worked with Calcor Engineer Bernard Perlin to develop a basic program and pilot plans for low cost, lightweight, incombustible



continued on p. 198

another

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aluminum window installation



New South Manufacturing Building, Kellogg Company, Battle Creek, Michigan
Associated Engineers & Architects: Giffels & Vallet, Inc. L. Rossetti
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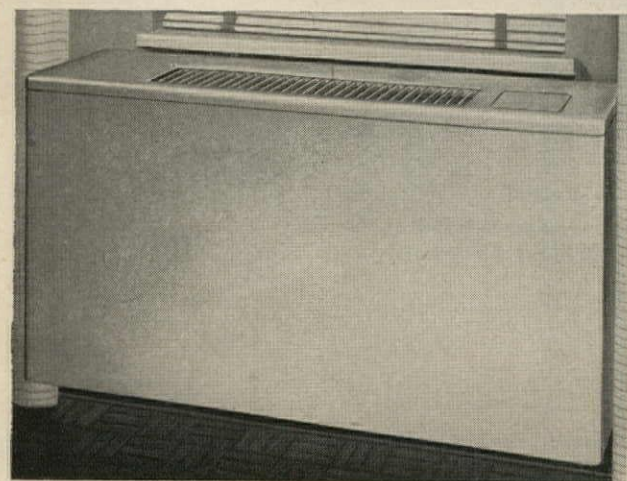
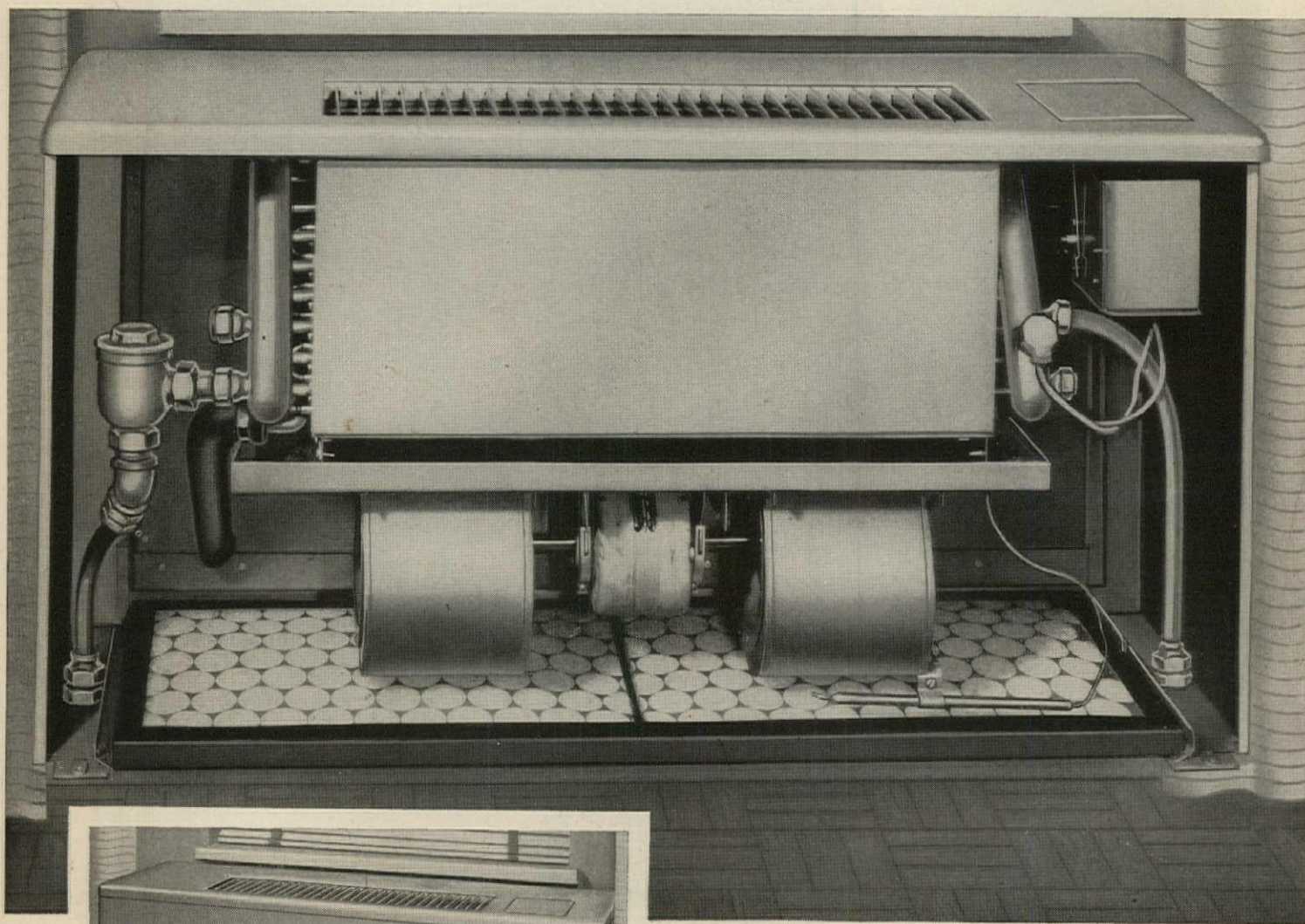
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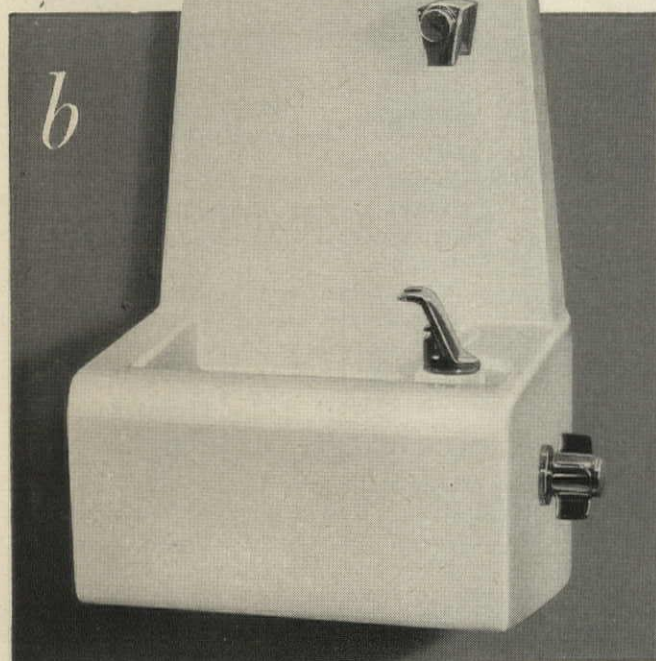
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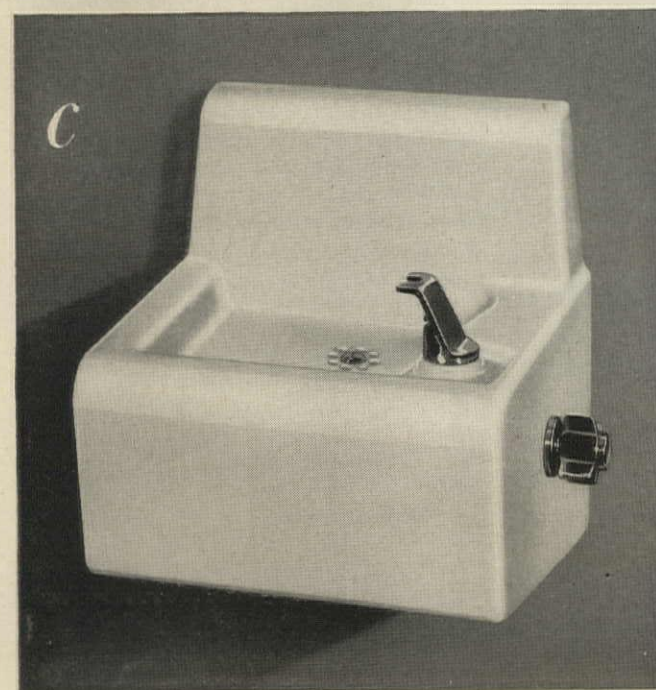
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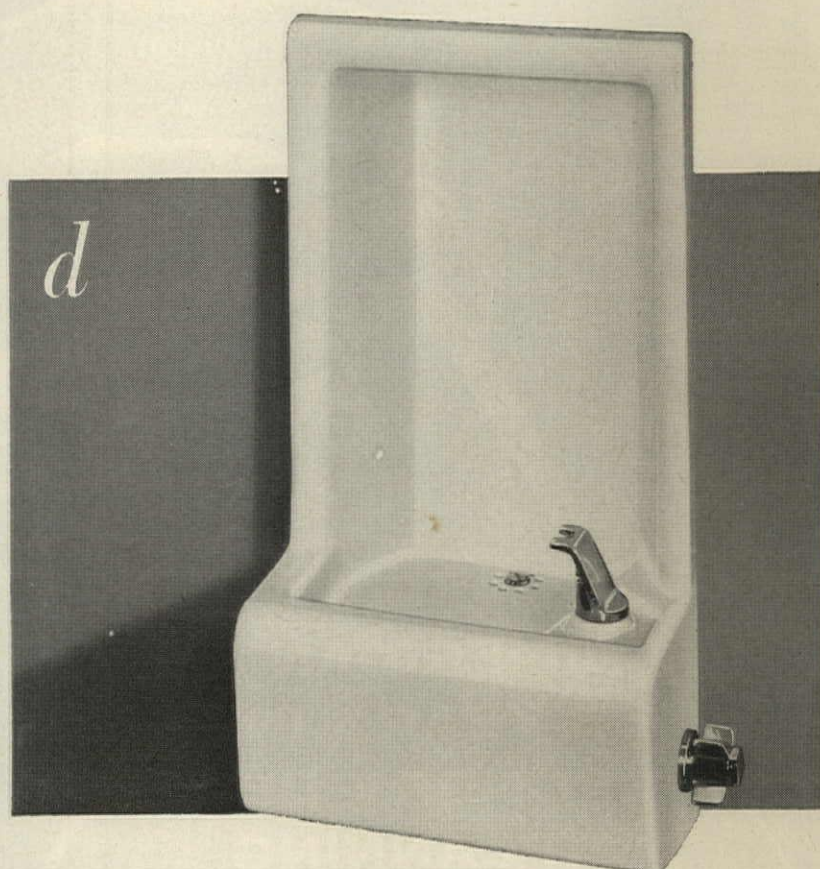
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NEW AMERICAN-STANDARD FOUNTAINS have a simplicity of design that fits perfectly with the modern architectural trend. They are available in a wide variety of sizes, styles and colors. Examples shown here are (a) Sharon, (b) Calistoga, (c) Saratoga, and (d) Tioga. They'll not only add to the appearance of the buildings you plan, but also afford extra years of service for your clients. The one-piece bubbler of non-tarnishing Chromard allows easy cleaning, and is designed to prevent squirting or direct contact with the nozzle.

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PRODUCTS *cont'd.*

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tible panel structures that could be 80% factory assembled and still meet stiff California codes on earthquake resistance. This spring C. K. Allen, staff architect for the San Bernardino schools modified the Calcor system to his city's urgent needs for extra classrooms that could function like permanent buildings but could be demounted and salvaged when population shifts demanded relocation. In 90 days 38



classroom buildings were ready to accommodate the San Bernardino youngsters and, at \$9.43 a sq. ft., are the pride of the school board.

The structure is based on a 28' x 32' single classroom running in multiples of the length (kindergartens are 40' x 32'). Its 3"-thick sandwich panels have 20-ga. steel inner and outer faces. Insulated with glass fiber for a U value of 0.106, the wall weighs 4½ lb. per sq. ft. The interlocking flanges which weatherproof the 4' sections and allow them to be taken apart, stored or put up elsewhere also help give them necessary rigidity and shear strength (250 lb. per lin. ft.) required by the Los Angeles board. No framing is used for the self-supporting walls; light steel on 12' spacing has to hold up only the roof made of 18 ga. galvanized steel sections, and a suspended acoustical ceiling of 1¼" glass-fiber board. The cost of under \$10 a sq. ft. (25% less than bids submitted on wood frame construction) includes everything except unfurnished furniture: doors, cabinets, canopy, chalkboards, electrical and utility tie-ins, asphalt tile floors, heaters, sash, and slab.

Manufacturer: Calcor Steel Building Div., Calcor Corp.

continued on p. 202



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Miss Foster believes in looking ahead

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She may be premature but Miss Foster believes in getting on the job early when it comes to electrical planning. Like so many other people working in commercial buildings today, she just can't get her work out in an office that lacks sufficient and convenient outlets for typewriters, dictating machines, calculators, telephones, intercoms, and other electrically operated equipment.

Today's and tomorrow's electrical problems can be answered with sound electrical planning . . . with General Electric Q-Floor wiring. This system makes every square foot of floor space (not just walls and columns) available for outlets. It is designed for installation with cellular steel subflooring. Every cell is a raceway. This means that every six-inch area of the floor is a potential location for an electrical outlet. Changes can be made easily to meet shifting requirements. No costly

alterations, no disruption of office efficiency, no tie-up of space are necessary.

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General Electric specialists have had years of experience in planning thousands of cellular steel underfloor wiring installations. These buildings are still as up-to-date electrically as they were when first planned. Let General Electric specialists use their "know-how" to help you select and apply the best system for your particular needs.

For more information on G-E Q-Floor wiring or other General Electric underfloor systems—Fiberduct wiring, or the new two-level steel underfloor wiring system—call your G-E Construction Materials District Office, or write to Section C63-114, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

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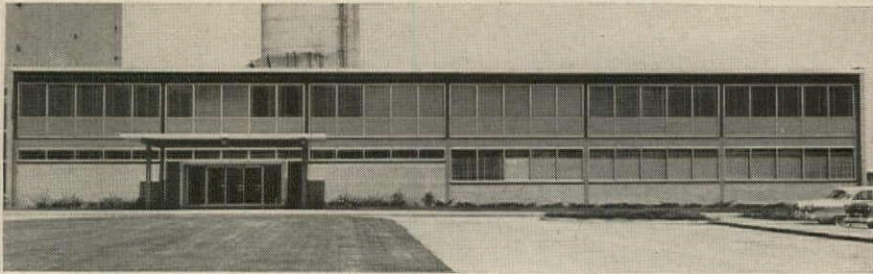
GENERAL  ELECTRIC

PRODUCTS *cont'd.*

For more data use coupon, p. 250

(3) CURTAIN PANELS with neoprene expose no expansion joints

Custom-Line is a well-detailed curtain wall system that is flexible enough to work with different metal skins, sash and spacing in various kinds of structures and designs. The neoprene gasketed panels, direct descendants of those fabricated for the GM Technology Center, reflect the architectural talent and automotive savvy that went into



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INDIANA LIMESTONE lends its beauty and permanence to buildings throughout America.

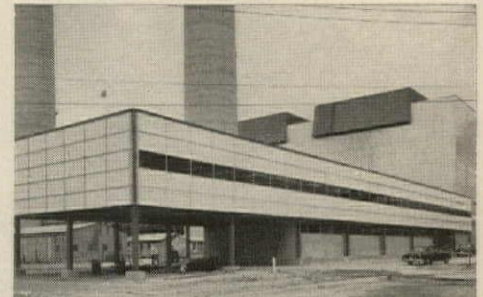
Every architectural style has its outstanding examples of the use of Indiana Limestone. The Pentagon, Empire State Building and Prudential's Mid-America Building serve to illustrate the ever-new versatility of this material so highly valued for its distinctive appearance and almost complete freedom from maintenance.



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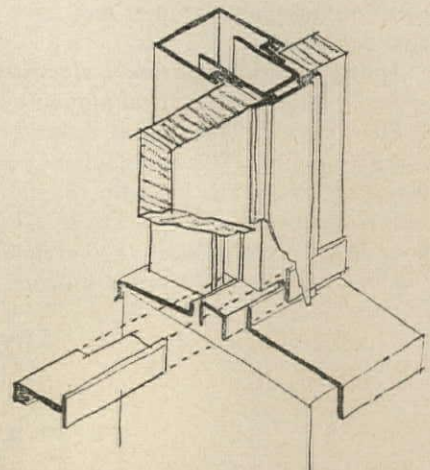
the original GM wall (photo top right).

The *Custom-Line* system has no exposed joints; calking is applied in the field only in protected spots not subject to building movements. Other notable details: expansible mullions take fixed or operating sash and aluminum faced or porcelain-on-steel panels 1½" to 3" thick; spandrels or sash come out individually for any necessary repair after the wall is erected; bottom moldings and the spandrels are vented to drain away condensate; steel anchorage, slide-fit framing and the neoprene extrusions all work together to compensate for building movements.

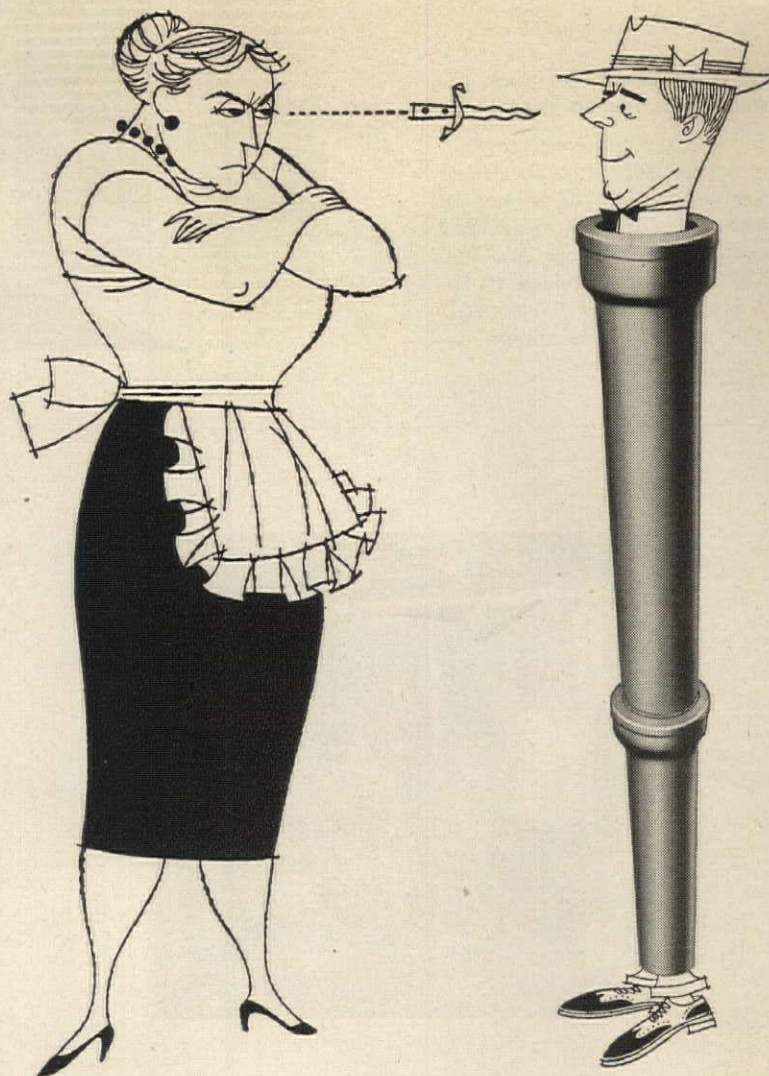
For low-cost industrial buildings, an economical version of the panel without trim or sash can be mounted directly on structural members (bottom photo). A variation of the *Custom-Line* preassembled wall called *Moduline* is designed to fit all standard window and panel modules, but is limited to 2"-deep panels. Costs vary according to specifications but Newman reports that both wall systems compare favorably with less flexible wall systems.

Manufacturer: Newman Brothers Inc.

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RESISTS
CORROSIVE
ATTACK



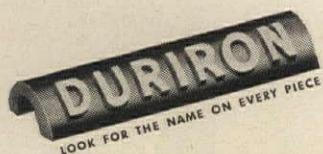
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A complete stock of Duriron pipe and fittings is carried by leading wholesalers in principal cities.



THE DURIRON COMPANY, INC. | DAYTON, OHIO

PRODUCTS *cont'd.*

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(4) **RIBBED STEEL acts as deck for workmen, base for concrete**

Staying in place after the concrete floor or roof slabs are poured, Inland's *Milcor Ribform* makes an inexpensive permanent short-span form. Made of high-tensile steel the rigid, square-ribbed sheets are laid across joists or beams and welded to the structure (25 plug welds per 100 sq. ft.). Supporting the pour with minimum de-



You may remember this picture that illustrated an advertisement we ran back in early summer. When we photographed the kids, wide vistas of a long summer of unregimented fun danced in their eyes. You just couldn't see the Fall through the haze of swimming, fishing, camping, playing.

But time came around . . . swiftly, inexorably. The day came when the school bell shrilled its dirge. And classes, as they must to all kids, enveloped them in blackboards, potted plants and primers.

On the right are the same kids. We thought we'd better tell you. You'd never know it.

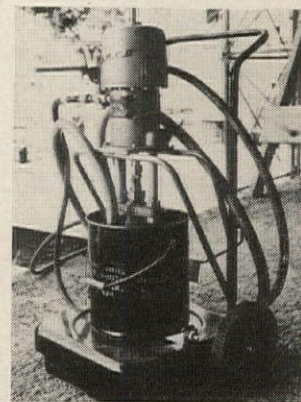
flection, *Ribform* needs no temporary bridging and requires 20% less concrete than is used over flexible, removable formwork. Standard sheets are designed for spans up to 3'-6" and heavy duty for 5' stretches. The lighter weight comes in lengths up to 12'-3" and has 3"-wide ribs, $\frac{3}{4}$ " deep. The heavier is produced 16'-3" long with ribs 2'-3/16" wide and $\frac{1}{2}$ " deep. Both are available in uncoated black or galvanized steel. Used on specified spacing, *Ribcor* easily takes on the 20 lb. per sq. ft. load required for the wet concrete and live load of workmen. *Milcor Ribform* costs 15¢ to 17¢ a sq. ft.

Manufacturer: Inland Steel Products Co.

(5) **CALKING RIG keeps pace with curtain wall construction**

The faster most curtain panels go up, the more joints they leave in their wake to be weatherproofed. Now one man, armed with this portable calking equipment can keep plug-up procedures in step with prefab panel installation crews. The rig com-

continued on p. 214



And now! Another GOLDEN DOWEL lifetime masterpiece

Roddiscraft announces

first all-wood B-Label fire door

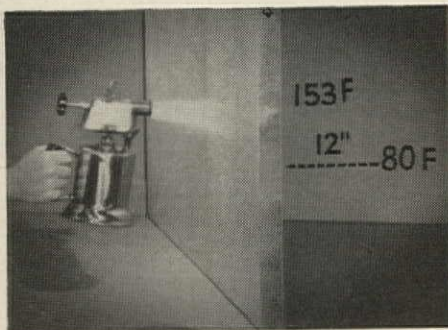
Once again, Roddiscraft makes history with doors. Cutaway model illustrates this dramatic new development — a one-hour flush veneered fire door (B-Label) in which the core is composed of millions of fireproofed wood particles . . . bonded forever with phenolic adhesives under heat and pressure. This all-wood fire door is fully approved by Underwriters' Laboratories, Factory Mutual and the New York Board of Standards and Appeals.

This new core construction is significant in terms of both present function and future promise — because it offers a sure, new way to tailor door characteristics to particular applications.

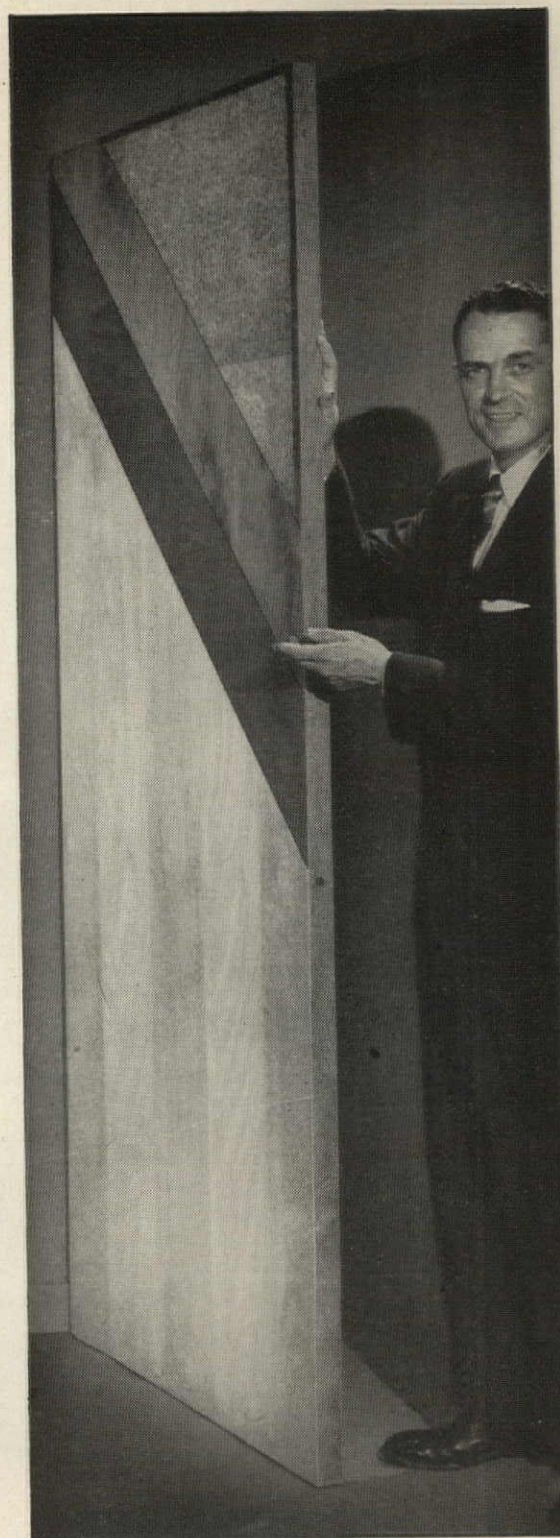


HIGH-DENSITY CORE — EXTRA STRENGTH —
Weighs about 50% more than conventional mineral-core fire doors. Core assures exceptional screw-holding power. Asbestos lock block position indicated on rail with golden dowel.

ONE-HOUR FIRE RETARDANT — UL tests show unexposed surface temperatures at end of 30 minutes average 153F. Heat radiation temperatures at 12 inches average only 80F — considerably lower than those of mineral-core fire doors.



LIFETIME GUARANTEE IN WRITING — Owners of new Golden Dowel One-Hour Fire Doors are fully indemnified against loss for the life of the installation — by a policy with one of the nation's leading insurance underwriters.



Roddiscraft

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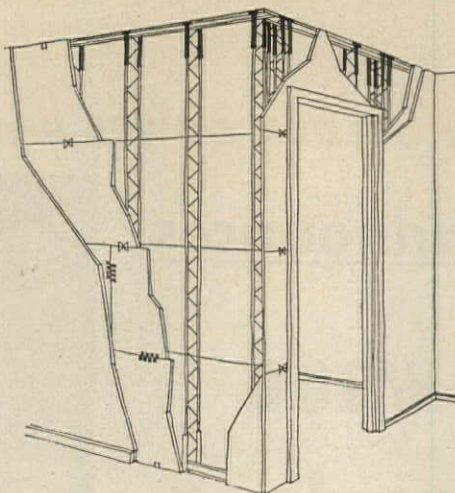
Contact your nearest Roddiscraft warehouse for full details. Or write Roddis Plywood Corporation, Marshfield, Wisconsin. When in New York, visit the Roddiscraft Rockefeller Center Showroom, 620 Fifth Ave.

PRODUCTS *cont'd.*

For more data use coupon, p. 250

prises a *Graco Powerflo* pump linked by hydraulic hose to a 5 gal. pail of caulk at one end, and to a gun-toting operator on the erection scaffold at the other. High-pressure wire braid hose is used to pull the heavy viscosity sealant from the container and feed it in a continuous narrow ribbon through the gun's extended nozzle into the joints. The rig costs \$420.

Manufacturer: Gray Co., Inc.



(6) DRY-WALL SYSTEM clipped and glued to hollow metal studs

Adaptable for both ceiling-high and free-standing partitions, the *Sheetrock-Trusstud* System is economical for new construction and renovation work. One product that speeds assembly of the dry wall is *Baxboard*, a $\frac{3}{8}$ "-thick base panel in an easy-to-handle 2' x 8' sheet. Six other components complete the partition: metal studs, attachment clips, tracks, stud shoes and 4' x 8' wallboard. After the metal frame is set up, *Baxboard* is clipped to the studs in horizontal courses, and $\frac{3}{8}$ " *Sheetrock* laminated vertically over the base layer. (Starter clips at the ceiling line hold the face board in place until the adhesive sets.) Electric conduits and pipes can be run up through the space between the faces, and across through the hollow metal studs. Built of noncombustible materials, the assembly has a 45-minute fire-endurance rating. Its sound insulation value is 45 db.

Manufacturer: US Gypsum Co.



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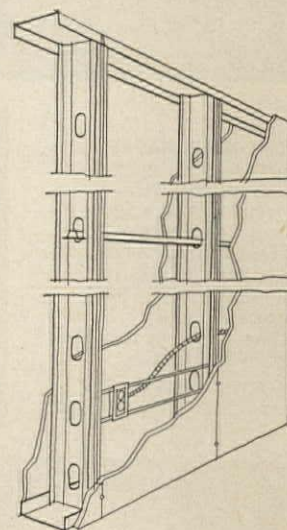
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(7) STEEL STUD bites nails in non-bearing, incombustible wall

Permalok is a sensible indoor counterpart of Penn Metal's nailable metal building framing. The new partition system consists of light steel studs, track, bridging and washers. The studs have spring-lock grooves on each $1\frac{1}{4}$ "-wide flange so that materials such as metal or gypsum lath, hardboard, plywood or gypsum board can be secured with ratchet nails or screws. Track sections fit over studs and their flanges are crimped into the nailing groove



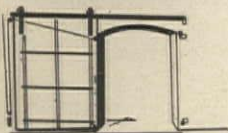
of the stud. Bridging is inserted between $3\frac{5}{8}$ " studs to assure accurate stud spacings of 16" or 24". All metal members are galvanized for corrosion resistance. *Permalok* studs come in 6' to 16' lengths, in two depths: the $2\frac{1}{2}$ " has a solid web and the $3\frac{5}{8}$ " is punched with holes 6" o.c. for passing through pipe and conduit. Put through fire and hose stream tests, a partition built with $3\frac{5}{8}$ " studs 2' o.c.

continued on p. 220

PEELLE-RICHMOND

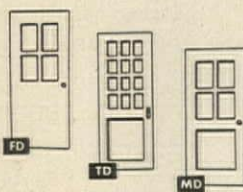
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UNDERWRITERS' FIRE DOORS



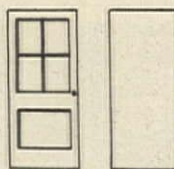
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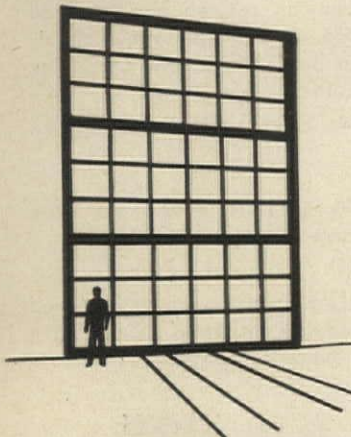
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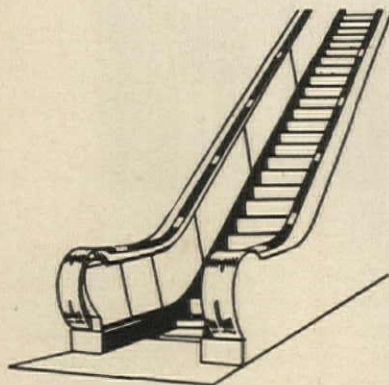
Peelle design, engineering and installation of such products as soundproof doors for jet engine test cells, large hangar doors, special doors for terminals and warehouses and motorized partitions reflect the resourcefulness born of long experience.

This division also does a large volume of classified defense work.

Manual or motorized four-fold doors are manufactured by the Richmond Fireproof Door Division. These doors require low overhead and small returns and are particularly suited for large truck and railroad entrances.

3 section vertical lift door, motorized stainless steel and glass, 24 x 35 feet.

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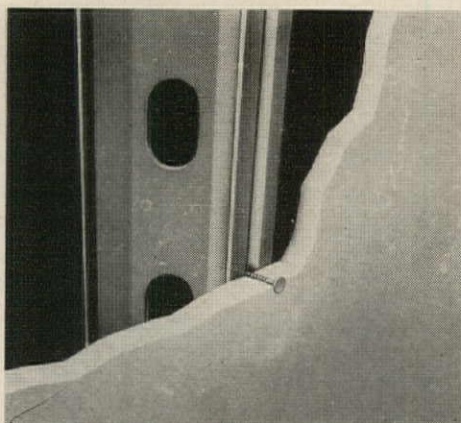
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PRODUCTS *cont'd.*

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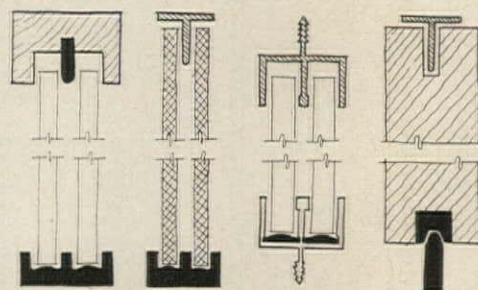
and faced on both sides with $\frac{5}{8}$ " gypsum wallboard was accorded a full one hour rating. A similar partition met the impact test specifications called for by the New York City Board of Standards and Appeals. Materials for 3- $\frac{5}{8}$ " Permalok run \$220 per M ft. for studs, \$110 for track; 16" bridging costs \$155 per M, and the 24", \$195.

Manufacturer: Penn Metal Co.



(8) GUIDES AND TRACKS for sliding doors made of vulcanized fiber

A popular industrial material, vulcanized fiber is now putting its physical properties to good use in a line of quiet-operating sliding door hardware. The hard-polished fiber material can be machined to close tolerances. It resists wear and corrosion and has good shock resistance, high flexural and tensile strengths. Solid gray fiber tracks with friction-reducing bevelled surfaces are made in 4', 5' and 6' lengths. They are available at about 36¢ and 72¢ a lin. ft. with a single groove for sliding panel or double groove for bi-passing glass doors. A fiber guide cemented into poplar wood to eliminate passing panel chatter costs 48¢ a ft. Another track variation for display case

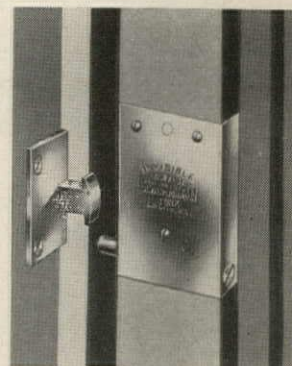


doors is made of extruded aluminum with fiber inserts. Prices run 98¢ to \$1.03 a ft. All tracks can be cut on the job and easily installed. Doors and glass panels may be taken out at any time by lifting them off the fiber guides.

Manufacturer: Engineered Products Co.

(9) SPRING LATCH gives no clue to hidden storage place

A G-J Invisible Latch helps a private door pass innocently as wall paneling. No knob or handle protrudes to reveal an executive suite storage place for papers, projection



screen or bar. A push on the panel releases the latch to swing the door open. Strike, plunger and case are designed to allow for wood shrinkage or warpage. Two sizes are available in bronze, nickel or chromium at \$5.30 to \$7.90 each. (The manufacturer recommends use of Soss invisible hinges to complete the camouflage.)

Manufacturer: Glynn Johnson Corp.

continued on p. 226

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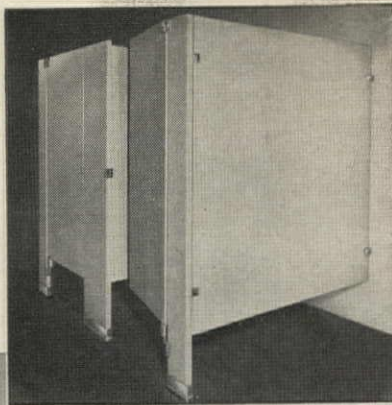


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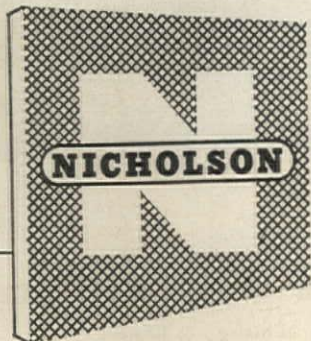
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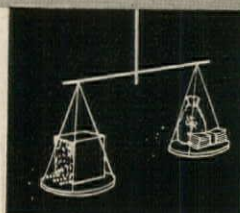
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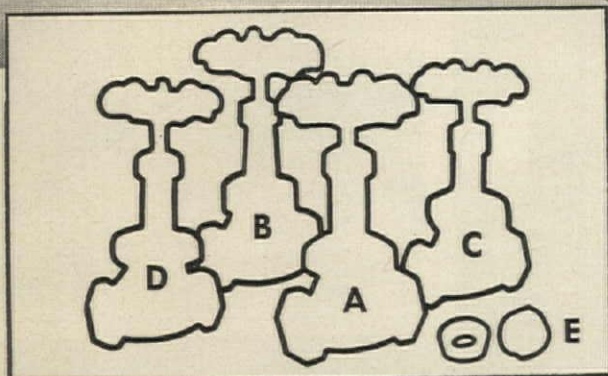
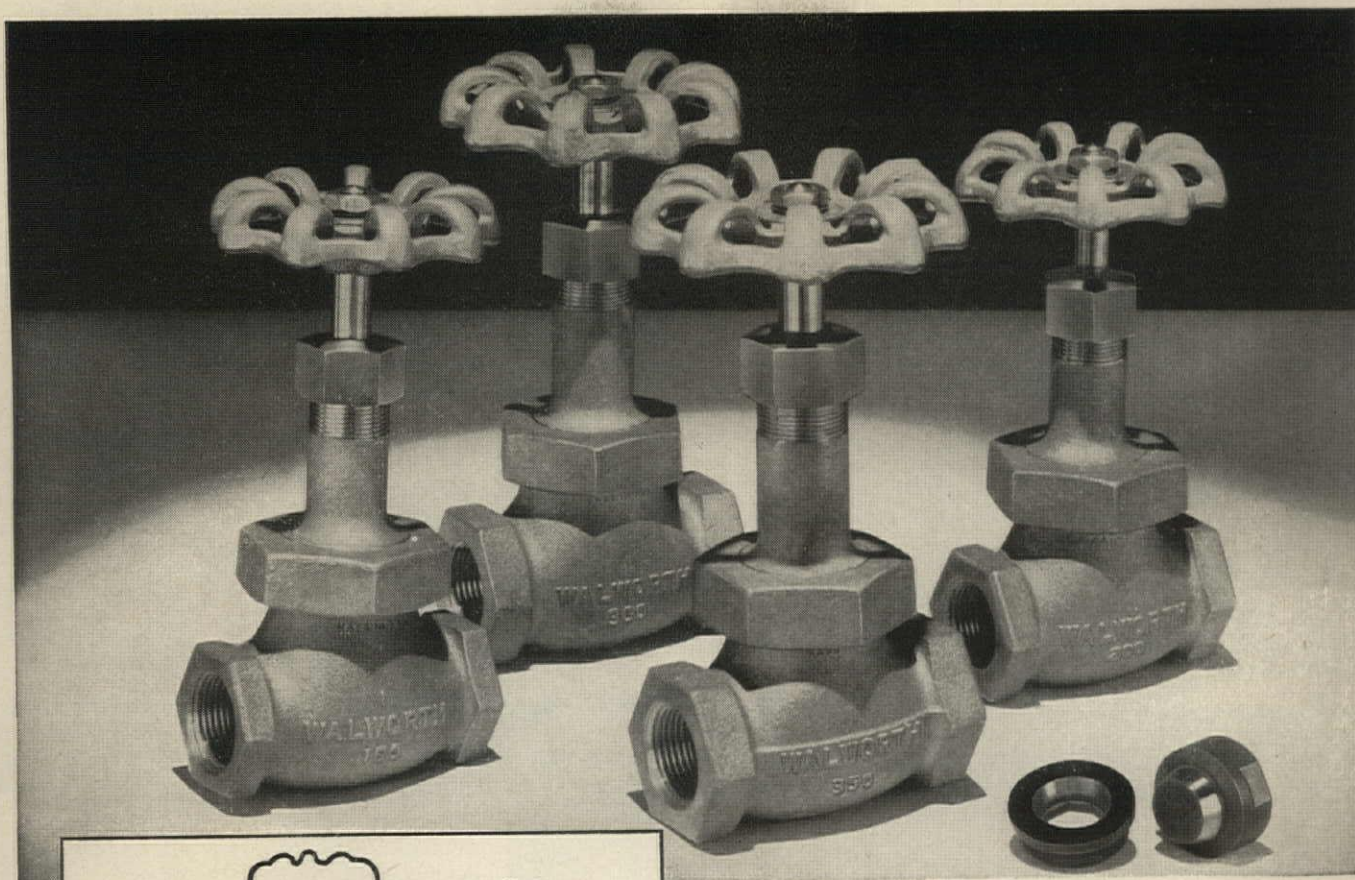
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For Longer Bronze Valve Life . . .

"500 BRINELL" PLUG-TYPE STAINLESS STEEL SEATS AND DISCS

150 lb. 200 lb. 300 lb. 350 lb.

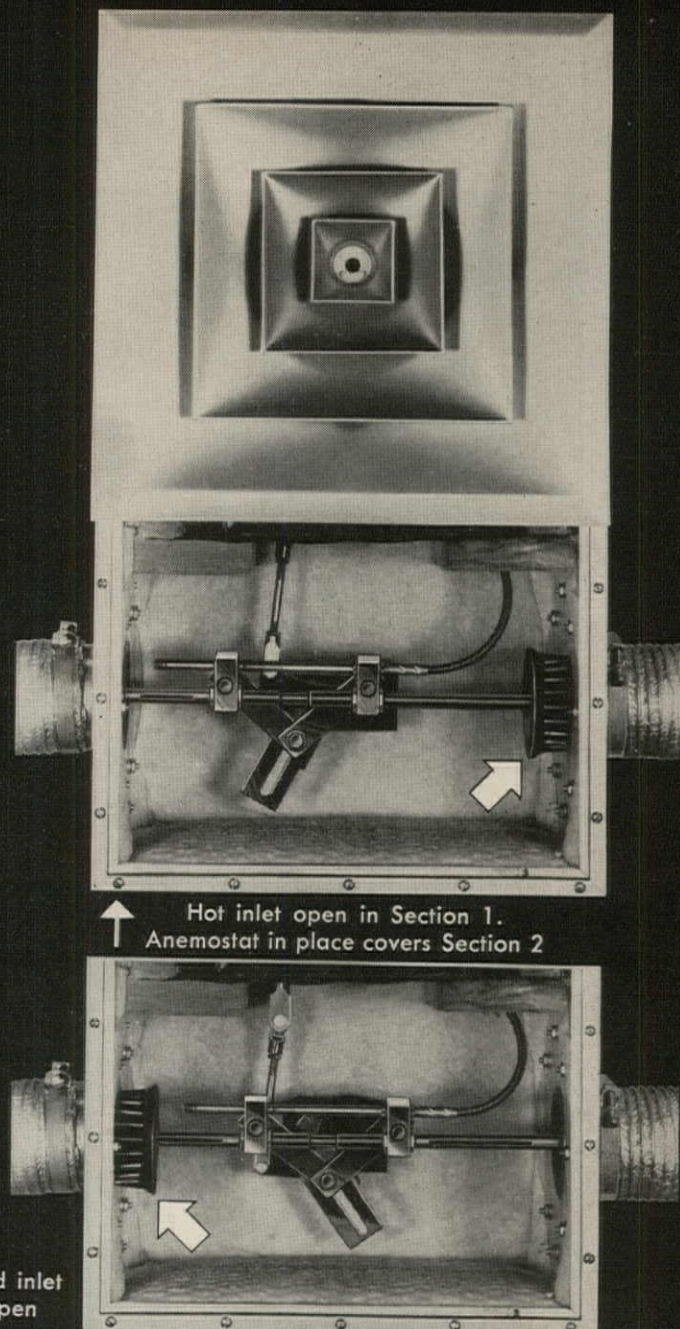
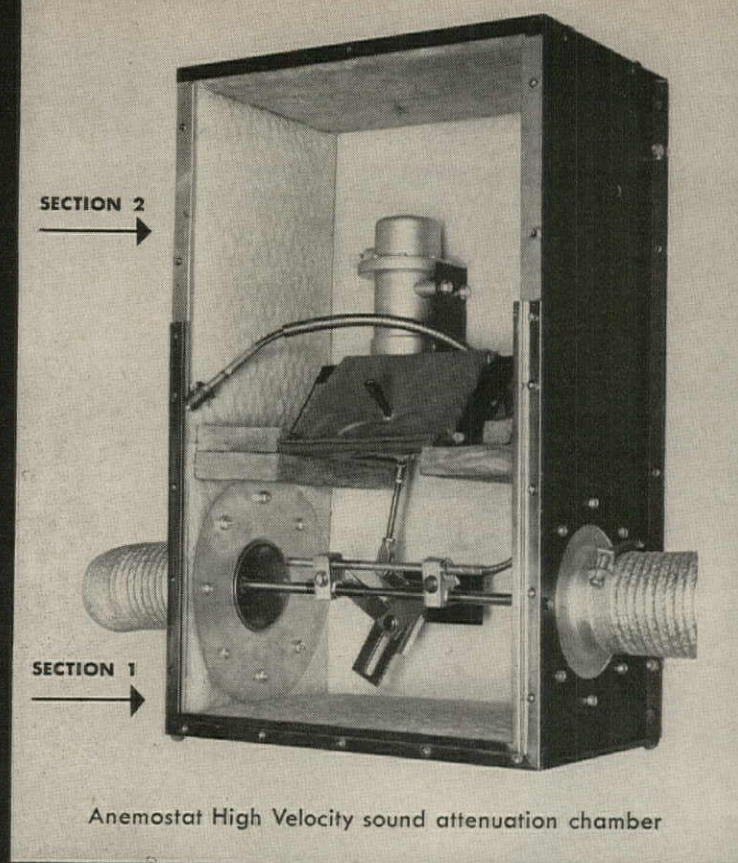
- **Oversize Stems**, made of high tensile strength silicon-bronze, assure long life.
- **Rugged Body Hexes**, are flat on top; do not interfere with wrench gripping body-to-bonnet union ring connection.
- **Bodies**, made of Composition M bronze (ASTM B61), have ample wall thickness to provide high safety factor.
- **Patented Handwheels** are air-cooled and designed with a "finger-fit grip." Makes turning easy even when wearing greasy gloves.
- **Identification Plates** secured by lock-washer under stem nut, show Figure Number of valves and make re-ordering sure and easy.

FOR COMPLETE INFORMATION, SEE YOUR WALWORTH DISTRIBUTOR OR WRITE FOR ILLUSTRATED CIRCULAR

WALWORTH

60 East 42nd Street, New York 17, New York

SUBSIDIARIES: ALLOYCO ALLOY STEEL PRODUCTS CO. CONOFLOW CORPORATION M & H VALVE & FITTINGS CO.
 SOUTHWEST FABRICATING & WELDING CO., INC. WALWORTH COMPANY OF CANADA, LTD.



How to mix and diffuse high velocity air automatically

The Anemostat High Velocity sound attenuation chamber is divided into two sections. Both hot and cold air from the main risers enter Section 1, which is an acoustically lined blending chamber, in which the volumes of air are controlled by the Anemostat serrated rocket-socket valves. When the thermostat is set, the rocket-socket valves move slowly back and forth, thereby adjusting the volume of air supplied through the hot and cold inlets. The velocity of the air which enters Section 1, at from 3500 to 6000 fpm, is automatically reduced by expansion.

As the blended air meets the temperature

requirements of the thermostat, it passes through a baffle arrangement into the acoustically lined Section 2 of the chamber, further reducing the db rating of the air.

The air then passes through the Anemostat Air Diffusers, where the aspiration effect causes mixing of room and supply air within the diffuser, resulting in further temperature equalization. The diffuser then delivers to the occupants of the room draft-free air at the desired temperature.

The Anemostat All-Air High Velocity distribution system offers other important advantages. It can be used with smaller

than conventional ducts. It can be installed faster and at less cost. It requires no coils, thus eliminates leakage, clogging and odors. Furthermore, Anemostat round, square and straightline diffusers with high velocity units blend into a wide variety of architectural designs.

Write for 1956 New Products Bulletin and Selection Manual 50 to Anemostat Corporation of America, 10 E. 39 Street, New York 16, N. Y.

Anemostat: The Pioneer of All-Air High Velocity Systems





You can make hospital interiors bright, cheerful and efficient with **Movable Hauserman Interior Walls**

All of these benefits are making Movable HAUSERMAN Interiors a fundamental consideration in a new concept of hospital design...

EARLIER OCCUPANCY—HAUSERMAN partition construction involves just two planes: the finished floors and ceilings. With no obstruction to slow work, the HAUSERMAN Walls (fabricated while the building exterior is going up) literally flow into place as experienced HAUSERMAN crews erect hundreds of feet of walls and wainscot a day.

BEAUTY INEXPENSIVELY MAINTAINED—Refinement of detail, precision-fitted parts and true flat surfaces permit easy and low-cost maintenance of hospital sanitary standards. The factory-applied, baked-enamel finish retains its original beauty indefinitely with mild soap and water washing. A choice of 150 standard colors or a variety of wood grain finishes is offered.

EASY UTILITY ACCESS—A special six-inch, built-in service panel strip provides access to oxygen connections, electrical outlets, call signals and telephone connections. Concealed lay-in wiring channels are standard in the bases and posts of all HAUSERMAN Interiors.

COMPLETE FLEXIBILITY—As hospital routines or space allocations change, a Movable HAUSERMAN Hospital Interior can be rearranged or relocated quickly by skilled HAUSERMAN erection crews and with virtually no inconvenience to patients or staff. Because there is no demolition, there is no dust or dirt. All materials are completely reusable.

FIRE SAFETY AND SOUND CONDITIONING—Built of reinforced steel and fully insulated, a HAUSERMAN wall will not burn... will stop more sound than a 5½" tile and plaster wall.

HAUSERMAN MOVABLE INTERIORS

"A RECORD IN MODERN HOSPITAL CONSTRUCTION"

Here is a graphic presentation of the vital role of Movable HAUSERMAN Interiors in the design and construction of St. Alexis Hospital in Cleveland. Erected in record time, St. Alexis began serving the community a full six months earlier as a result of using Movable Steel Interiors. Send for your free copy today.

THE E. F. HAUSERMAN COMPANY
7113 Grant Avenue • Cleveland 5, Ohio
Please send your hospital literature to:

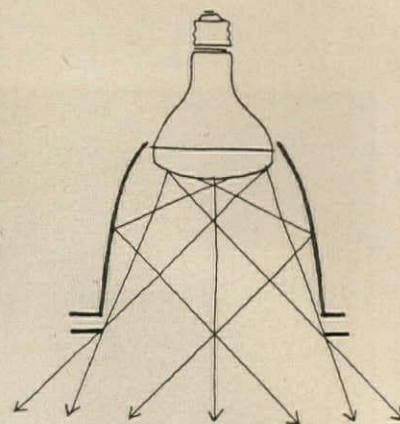
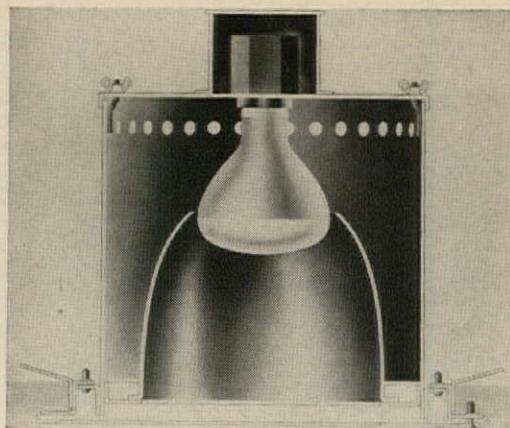
Name _____
Company _____ Title _____
Street _____
City _____ Zone _____ State _____

PRODUCTS *cont'd.*

For more data use coupon, p. 250

(10) DOWNLIGHT yields high light output without annoying glare

Century's new recessed downlight for tall-ceilinged rooms gives a high degree of illumination only where it can be useful. The fixture achieves an 82% of efficiency by means of an Alzak reflector which concentrates all the brightness in a 90° cone. There is no glare spill beyond the ordinary 45° viewing angle. Accessible for main-



tenance from top or bottom the series No. 980 downlight takes a 300 to 500 w. R-40 lamp. It is available with gold or pink reflector and sells for \$44.

Manufacturer: Century Lighting Inc.



Aquinas College
Grand Rapids
Michigan

Sister M. Angus, O.P.
Manager, Cafeteria

Architect
D. A. Bohlen
Indianapolis



Aquinas College "delighted" with Van help and equipment

★ When Aquinas College and its architect were confronted with the problem of modernizing the inadequate cafeteria, they made use of Van's experience. They now have efficient food service for 300 at one time . . . could serve 400.

★ The College is "delighted with the new Van equipment" . . . found Van "most helpful in planning cafeteria kitchen and serving counter . . . in keeping down cost."

★ When you have food service equipment needs . . . new, expansion or modernization such as Aquinas College . . . use Van's century of experience.

The John Van Range Co.

EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

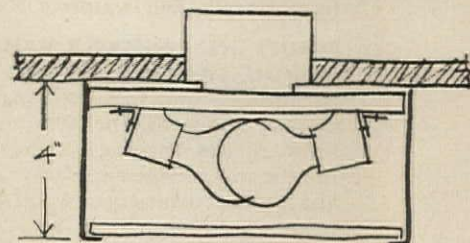
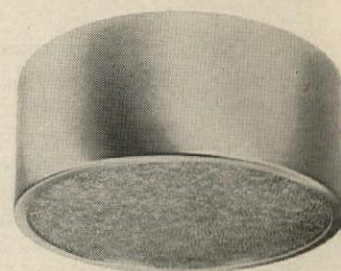
Branches in Principal Cities

328 EGGLESTON AVENUE

CINCINNATI 2, OHIO

(11) ACCENT LIGHTS fashioned for modern commercial interiors

While contemporary store interiors find recessed lights easiest to digest, many conditions call for surface mounted fixtures. Miller Co. has a new line that includes both types, and a few in between. High hats with fixed and adjustable lamps and semirecessed units with ring shields of perforated or polished aluminum complement the richly simple tapered and straight pipe and drum fixtures. The 10" diameter satin aluminum shallow drum with an Albalite glass lens (photo below)



is \$21.60; with a Holophane lens, \$27. Pipe accent lights are about \$8 apiece. A 6½"-deep recessed high hat with 2" skirt is \$9.

Manufacturer: The Miller Co.

(12) AIR CONTROL balances dual duct delivery with balloons

Tough neoprene balloons are the only things that move in Minneapolis-Honeywell's blender for high-velocity air conditioning. Actuated by changes in temperature and pressure rate, the control is governed only by the air passing through.

continued on p. 232



A steel access door for less than the cost of wood!

Milcor Steel Access Doors need no special framing, cutting, or fitting

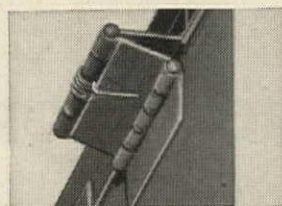
You help save labor costs and building time, when you specify Milcor Steel Access Doors — to provide quick, convenient servicing of plumbing, heating, electrical, and refrigeration systems in homes and public and commercial buildings.

Milcor Steel Access Doors are delivered to the job complete with framing. They're ready to install at once in either plaster or non-plaster construction, flush with the wall or ceiling surface. No old-fashioned frame protrudes to mar the appearance of your interior.

Paint or wallpaper can be applied right over Milcor Steel Access Doors. All doors are factory-primed and one finish coat usually covers. No sanding or filler coats are needed.

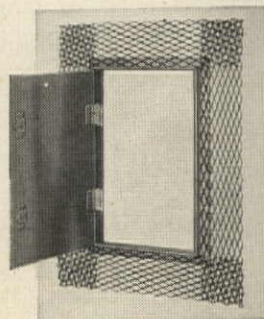
Three types are available for use with plastered or unplastered surfaces. Sizes — 8" x 8" to 24" x 36". See Sweet's File or write for latest literature.

MILCOR[®] Steel Access Doors

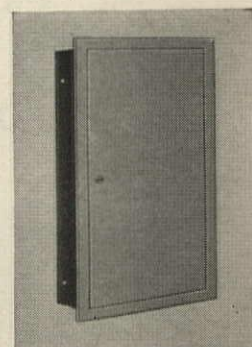


Exclusive spring hinge lets door open 175°. Door is removed quickly by extracting hinge-pin.

Style "L" Access Door for plastered walls. Without expansion wings.



Style "K" Access Door for plastered walls. With expansion wings.



Style "M" Access Door for masonry, brick, stone, tile, wallboard, etc.



INLAND STEEL PRODUCTS COMPANY

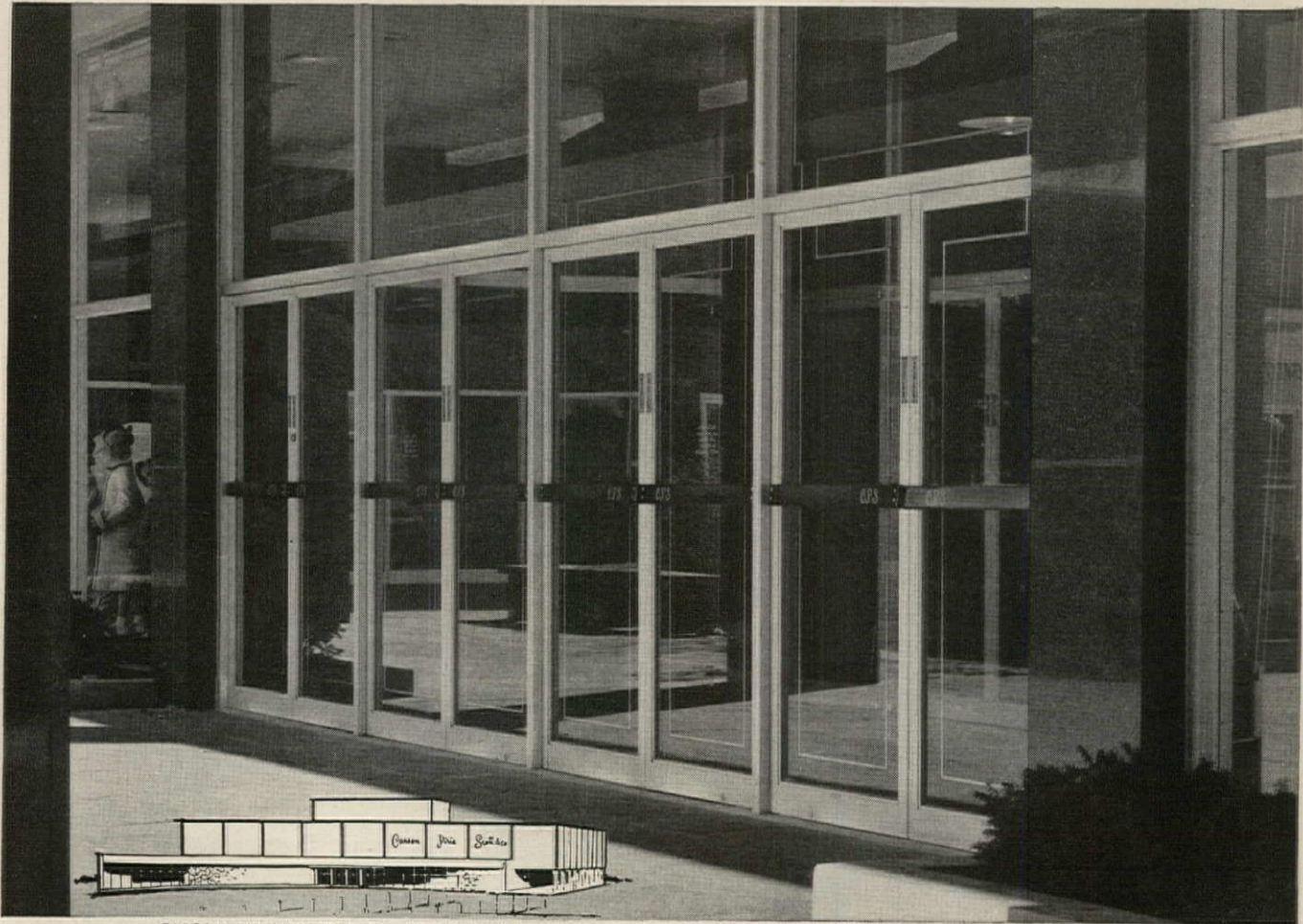
DEPT. K, 4031 WEST BURNHAM STREET

MILWAUKEE 1, WISCONSIN

OFFICES IN: BALTIMORE • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT
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M-175

when only the finest is adequate...



CARSON PIRIE SCOTT & CO., EDENS PLAZA
Architects and Engineers: Welton Becket & Associates, Los Angeles
Graham, Anderson, Probst and White, Chicago

equip **ENTRANCE DOORS** with **RIXSON** for durability and appearance

CONCEALED floor type CLOSERS

for single acting doors
wood, metal or glass

- offset hung
- center hung
- butt hung

for double acting doors

- wood or metal doors
- glass doors

Entrance doors create the first impression of a building. Openings should be smooth and gentle, closings silent and safe. Still the door must withstand great abuse and be under complete control at all times. This requires an efficient, rugged, durable closing mechanism. RIXSON is world famous as the originator of concealed floor type closers with more than half a century's experience in engineering, testing, and development. There are installations over 45 years old in which RIXSON "floor checks" continue to function satisfactorily.

RIXSON floor type entrance closers give maximum strength of installation and *complete* concealment of the mechanism—including the arms, on offset hung and center hung doors.

THE OSCAR C. **RIXSON COMPANY**

9100 west belmont ave. • franklin park, illinois



**STATLER HILTON HOTEL
DALLAS, TEXAS**

OWNER:

Hilton Hotels Corp., New York, N. Y.

ARCHITECT:

William B. Tabler, New York, N. Y.

GENERAL CONTRACTOR:

Robert E. McKee, Dallas, Texas

ROOFING CONTRACTOR:

The Lydick Roofing Co., Dallas, Texas

On the new Dallas Statler Hilton Hotel...

A RUBEROID BUILT-UP ROOF

Engineered to the job!

The Statler Hilton is the newest member of the family of fine Hilton hotels . . . and a striking, colorful addition to the fast-growing Texas skyline. On top of the Statler Hilton—63,000 square feet of Ruberoid Built-Up Roofings!

Here is an excellent example of the versatility of Ruberoid Built-Up Roofings in solving varied problems. The design of the Statler Hilton called for three separate roofs:

1. **A UNIQUE HELIPORT DECK** — Ruberoid specification #206 — Coal Tar Pitch and Tarred Felt overlaid with promenade tile — was selected to provide a roof that would stand up under rugged service conditions.
2. **COURT AND LOWER ROOF AREAS** — These areas, visible to hotel guests, required roofing that

would harmonize with the over-all appearance of the hotel exterior. Ruberoid Specification #203A — Special Roofing Bitumen with green mineral surfacing was selected.

3. **HIGH SUPERSTRUCTURE AREAS** — Here, Ruberoid Specification #203—Coal Tar Pitch and Tarred Felt with gravel surfacing—was selected for its economy and proven record of long, trouble-free service.

No matter what *your* built-up roofing problem, there's a Ruberoid specification that will give you the answer. They're all explained in detail in the Ruberoid Built-Up Roofing Specification Book. It's your guide to the best in any type of built-up roofing. For more information write: The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.



The RUBEROID Co.

Asphalt and Asbestos Building Materials

NATIONAL SEAMLESS PIPE

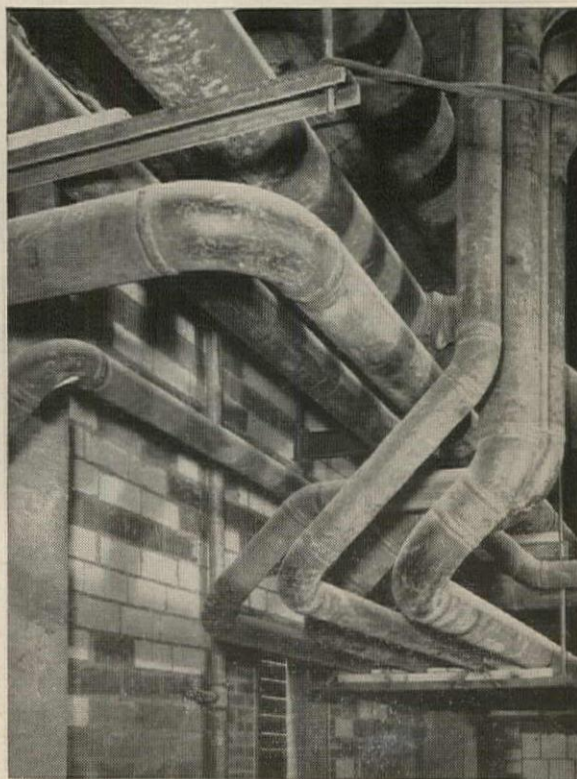
used for heating and air conditioning system
of new Texas National Bank Building



USS National Seamless Pipe, in sizes from 4" O.D. to 16" O.D., was utilized in the heating and air conditioning system of this new Houston, Texas, building, owned jointly by Texas National Bank and Continental Oil Co., as follows:

Sizes 4", 6", 8", 10" and 12" are used for combination hot and chill water lines to the primary and zone conditioners as well as the perimeter units. The 16" O.D. pipe is used for handling condenser water.

The 14" O.D. pipe is part of the steam piping system which in turn converts the water into hot water for heating through the use of converters.



USS National Seamless Pipe is consistently the number one choice of engineers and contractors throughout the country for air conditioning, heating and power installations. Its ability to render efficient, trouble-free service under all types of pressure and temperature conditions has given National Seamless a reputation for safety and dependability excelled by no other pipe. For further information, or assistance with your pipe problems, get in touch with our engineers.

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.

COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

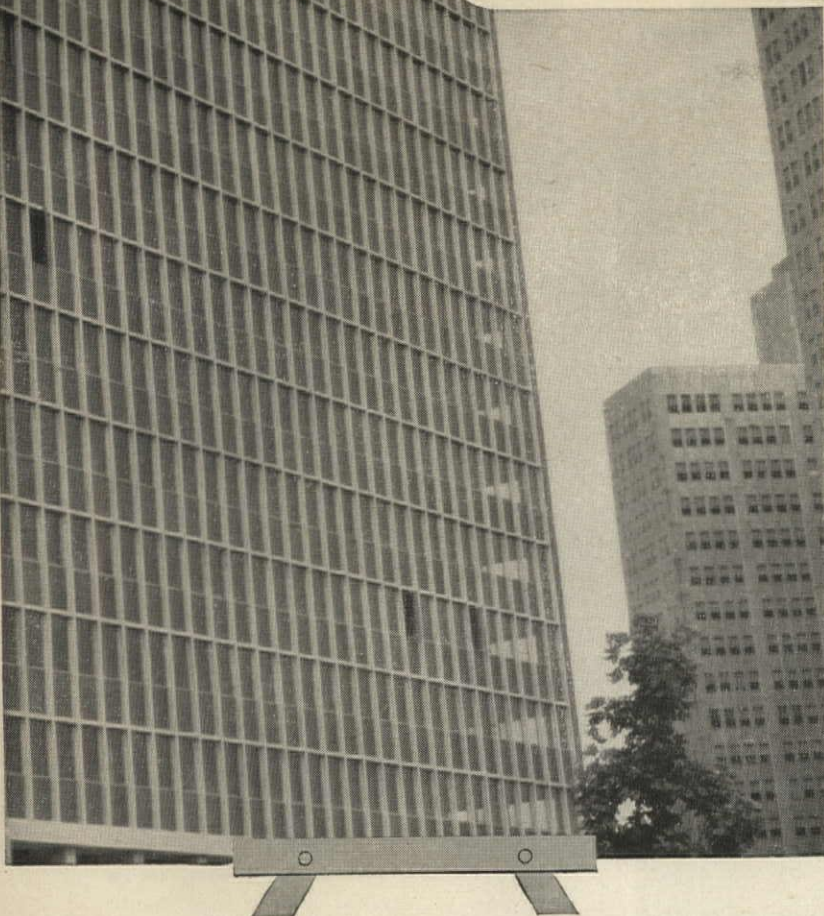


NATIONAL Seamless PIPE AND TUBES

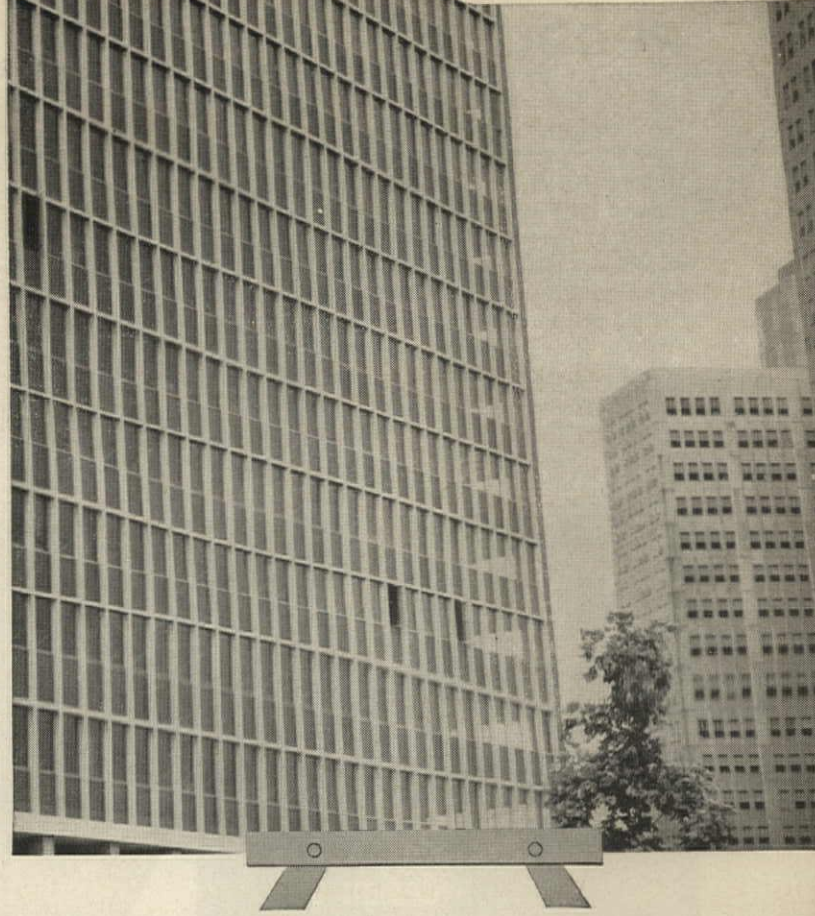


UNITED STATES STEEL

Reflection #1
Plate Glass

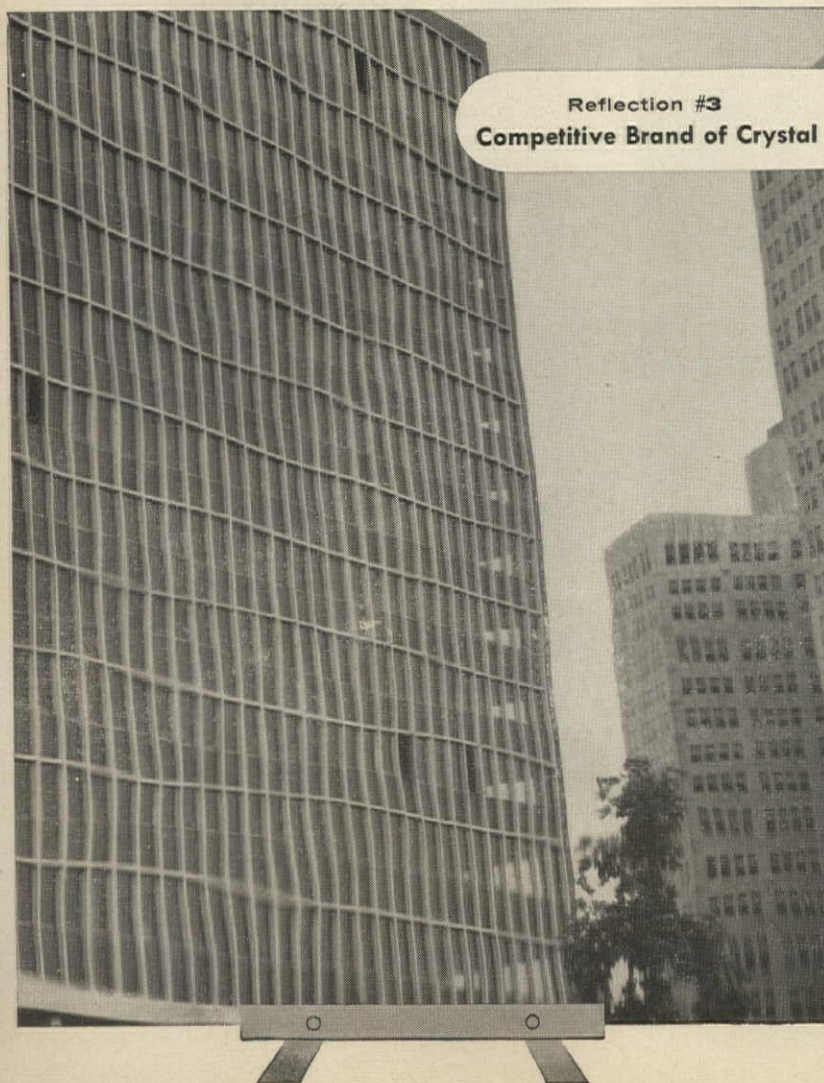


Reflection #2
American Lustracrystal



Is the slight difference in distortion* between plate glass and **American Lustracrystal** worth a 40% premium?

Reflection #3
Competitive Brand of Crystal



Ask this question of the architect who installed an air-conditioning system with the money saved by using AMERICAN LUSTRACRYSTAL instead of plate glass. Despite its substantially lower cost, AMERICAN LUSTRACRYSTAL is a more dependable structural glass than equal-size plate glass:

- v More resistant to breakage from impact
- v More resistant to breakage from constant pressure
- v More resistant to surface abrasion

Only very limited application of plate glass is found necessary by architects within the 6' x 10' x 1/4" limits of Lustracrystal.

Check the advantages of AMERICAN LUSTRACRYSTAL fire-polished heavy sheet glass—minimum distortion, greater strength, clarity, luster, and lower cost.

Write us today for our new 1957 Architectural Catalog No. 7-A, containing technical data. Or ask our Architectural Consulting Department to contact you.

***LEGEND:** The types of glass tested were mirrored so that reflections could be photographed to show relative amounts of distortion. All three photos were taken under identical conditions.

MODERN GLASS
Best at a Glance



American
WINDOW *Glass* COMPANY
PITTSBURGH, PA.

PLANTS: ARNOLD, PA. • ELLWOOD CITY, PA.
JEANNETTE, PA. • OKMULGEE, OKLA.

PRODUCTS *cont'd.*

For more data use coupon, p. 250

It has no electric wiring, motor, compressed air supply or other mechanical device, and yet gives exact individual room or office temperature for dual duct air delivery at velocities of 4,000 up to 8,000 cu. ft. per minute and keeps the flow at constant levels. The control's dial is turned to the number of cubic feet of air per minute required, and its thermostat set to the proper temperature. A valve on one of



OILED WALNUT

A new
Parkwood
design of
incomparable
richness
and
versatility

All the satiny richness, fine grain and depth of color of beautiful hand-rubbed oiled walnut are here—reproduced with exquisite fidelity in Parkwood's *Rotowood*, protected for life by lamination with genuine Melamine.

Oiled Walnut Rotowood is available in a wide range of sizes. Write us today for samples and the name of the distributor nearest you.

Parkwood
Laminates, Inc.

30 Water Street
Wakefield, Mass.



Reach for the Parkwood Chain
— an inspiring collection of more than 80 in-stock patterns, solid colors, Rotowoods and Genuwoods ... yours for the asking.

the balloonlike diaphragms responds to the thermostat regulating the amount of heated air coming in from the hot duct. The other diaphragm reacts to the dial settings by adjusting the cold air flow so that the preset total delivery rate is maintained.

Unusual in its simplicity, this self-powered valve system capitalizes on a basic law of physics: a drop in pressure is a measure of flow. When cooler air is called for by the thermostat, the flow regulator on the hot duct diaphragm automatically cuts the amount of heated air entering the chamber. The change in pressure is detected and instantly compensated for by the flow regulator on the cold valve. The system can be used with ceiling, wall or underwindow air outlets. M-H engineers say that the same operation principle would work with single duct high-velocity cooling.

Manufacturer: Minneapolis Honeywell Regulator Co.

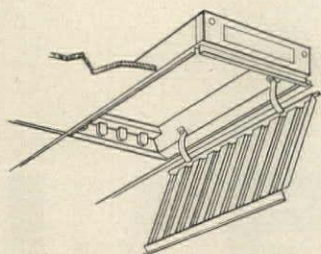
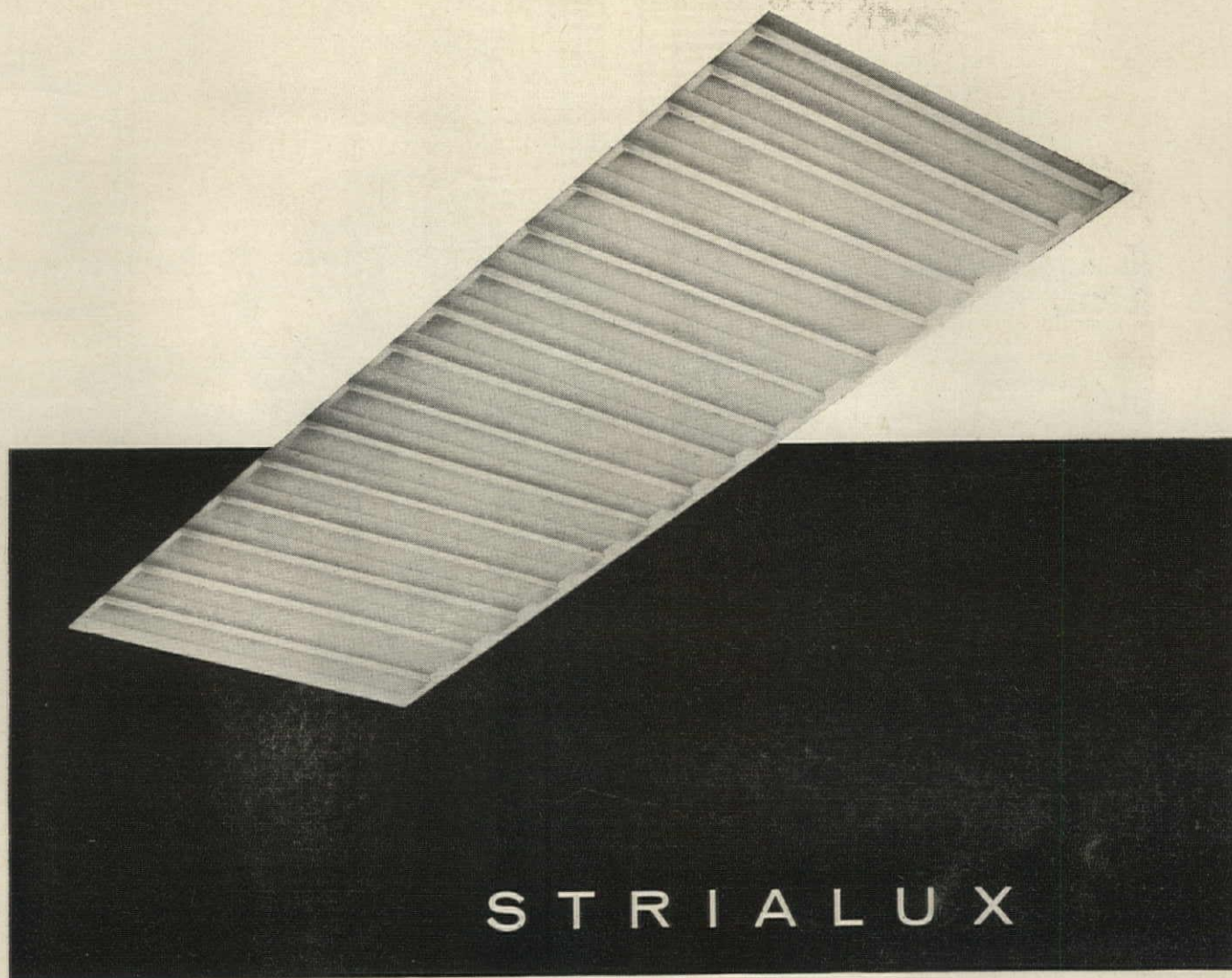
(13) **WATER DISPENSER sized for children, styled like grownups'**



The 31"-high *Cooler-Tot*, a safe practical water dispenser for children, also makes for good junior public relations. Creating a delightful child's spa in a store, park or school, the adult-style fountain attaches to any water cooling system or outlet. Construction and performance are quite untoylike. Furnished with a splashproof bubbler and kick-resistant stainless base, the unit has no motor to service. *Cooler-Tot's* price is proportionate to its size: \$50.

Manufacturer: Sunroc Corp.

continued on p. 238



This precision-engineered modern module is Lightolier's newest solution to the problem of efficient, evenly diffused lighting for public and commercial interiors. It is designed for swift installation in the modular pattern of almost all suspended 2' x 4' acoustical and plaster ceilings. The clean-lined structural vinyl diffuser spreads optimum glare-free illumination over a broad area. It swings down on hidden hinges for speedy, economical cleaning and relamping. Available in 2' x 2' and 2' x 4' sizes for individual, continuous or pattern mounting. For more detailed information, write Dept. AF-116.

THE ARCHITECTURAL LIGHTING DIVISION OF

LIGHTOLIER X

ARCHITECTURAL LIGHTING • PORTABLE LAMPS • RESIDENTIAL FIXTURES
Jersey City 5, New Jersey



Excellent use is made here of Truscon Intermediate Projected Steel Windows. Fontenelle Elementary School, Omaha, Nebraska; Wallace & Burrill, Inc., Architects; Parsons Construction Company, Contractors.



Floors in the Dutch Broadway High School, Elmhurst, N. Y., are made lightweight and fire-resistant with Truscon "O-T"® Open Truss Steel Joists. Here are strength and safety at low cost per square foot. Do you know about Truscon's new Clerespan® Steel Joist, 96 feet long? Send coupon for details.



These Republic Standard Single-Tier Lockers serve students in the Abraham Lincoln High School in Philadelphia, Pa. Fabricated at Republic's Berger Division, they're part of a big line of steel lockers for every school or factory requirement. Mail coupon for complete data.

REPUBLIC



World's Widest Range of Standard Steels

TRUSCON STEEL WINDOWS

Daylight Omaha's New Fontenelle School

Classrooms today are brighter, lighter, and more cheerful thanks to the increased use of windows in school construction. Outside walls, once with limited glass area, are now fabricated almost entirely from windows with the *strength of steel*. The result is better over-all illumination—and vastly improved ventilation.

A splendid example of this new trend in school design is Omaha's beautiful Fontenelle Elementary School, in which two important Truscon Steel Window types were used.

The classrooms, for example, were well-daylighted by Truscon Intermediate Projected Windows that can be custom-built to exact specifications. Specially rolled solid steel sections of original design provide advantageous weathering and attractive appearance. Upper lights can be glazed with one of several types of light-diffusing, glare-reducing or heat-absorbing glass.

Fontenelle's beautiful new gymnasium is equipped with Truscon Donovan Awning Windows that offer superb lighting and ventilation without drafts. Ventilators which operate in unison, either by mechanical control or completely concealed operators, permit ventilation in inclement weather.

These are but two of the many types of Truscon® Steel Windows currently being specified for school construction. Others are: Double-Hung Steel Windows; Intermediate Combination Windows; Maxim-Air® Steel Windows; Truair® Windows; Architectural Projected Windows. Ask your Truscon representative or send coupon below for details and specifications. Also in Sweet's File.



These handsome Donovan Awning Windows are perfect for gymnasiums. Teacher at Fontenelle Grade School in Omaha is shown regulating them for proper ventilation.

STEEL

and Steel Products

REPUBLIC STEEL CORPORATION

Dept. C-1378

3108 East 45th Street

Cleveland 27, Ohio

Please send me additional information on the Republic Steel Building Products indicated:

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Intermediate Projected Windows | <input type="checkbox"/> Steel Joists |
| <input type="checkbox"/> Donovan Windows | <input type="checkbox"/> Lockers |

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

GENERAL ELECTRIC BUILDS THEM

trim

Modern, goodlooking styling. Hammered soft gray finish lends itself to any interior of stores, institutions, offices or factories.

tough

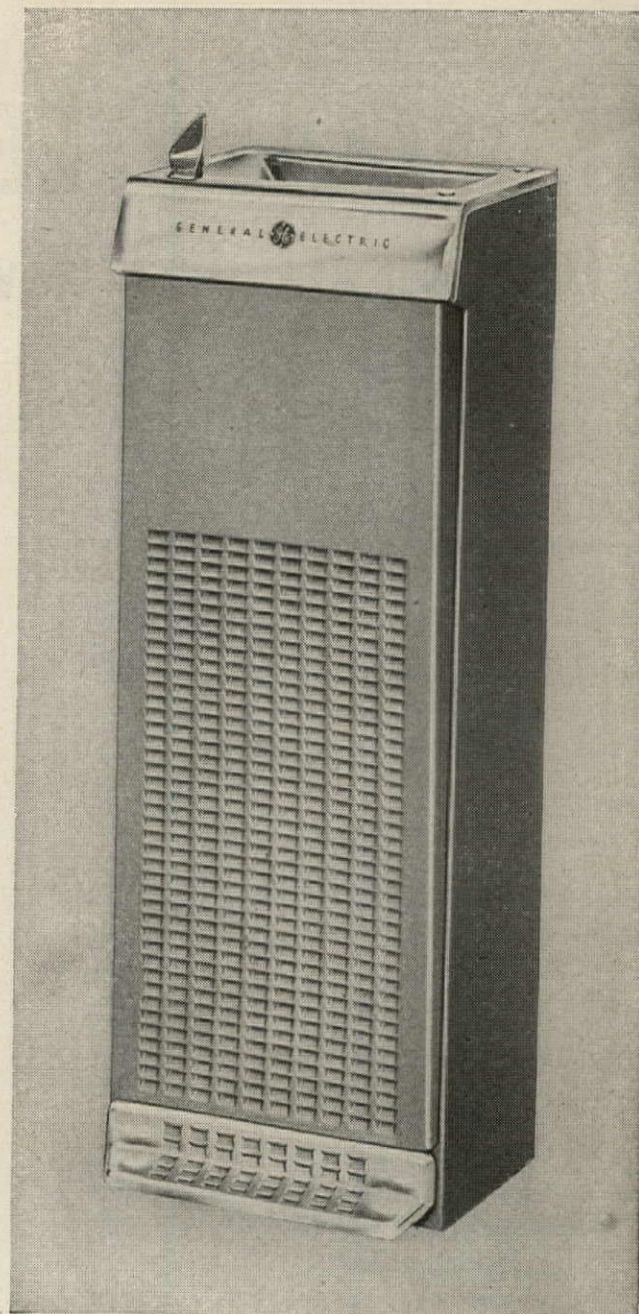
Equipped with time-tested compressors—the same used in millions of General Electric home refrigerators. Heavy gauge steel cabinet.

tidy

Anti-splash basin avoids splattering of bubbler stream. General Electric's full-width, curved foot pedal provides easy water control without scuffing shoes or stubbing toes.

and tiny

Take up to 30% less floor space. Fit easily in shallow corners. Over-all depth is up to 5" less than other foot-operated coolers. For easier maintenance and adjustment the front panel snaps on and off.



WATER COOLERS

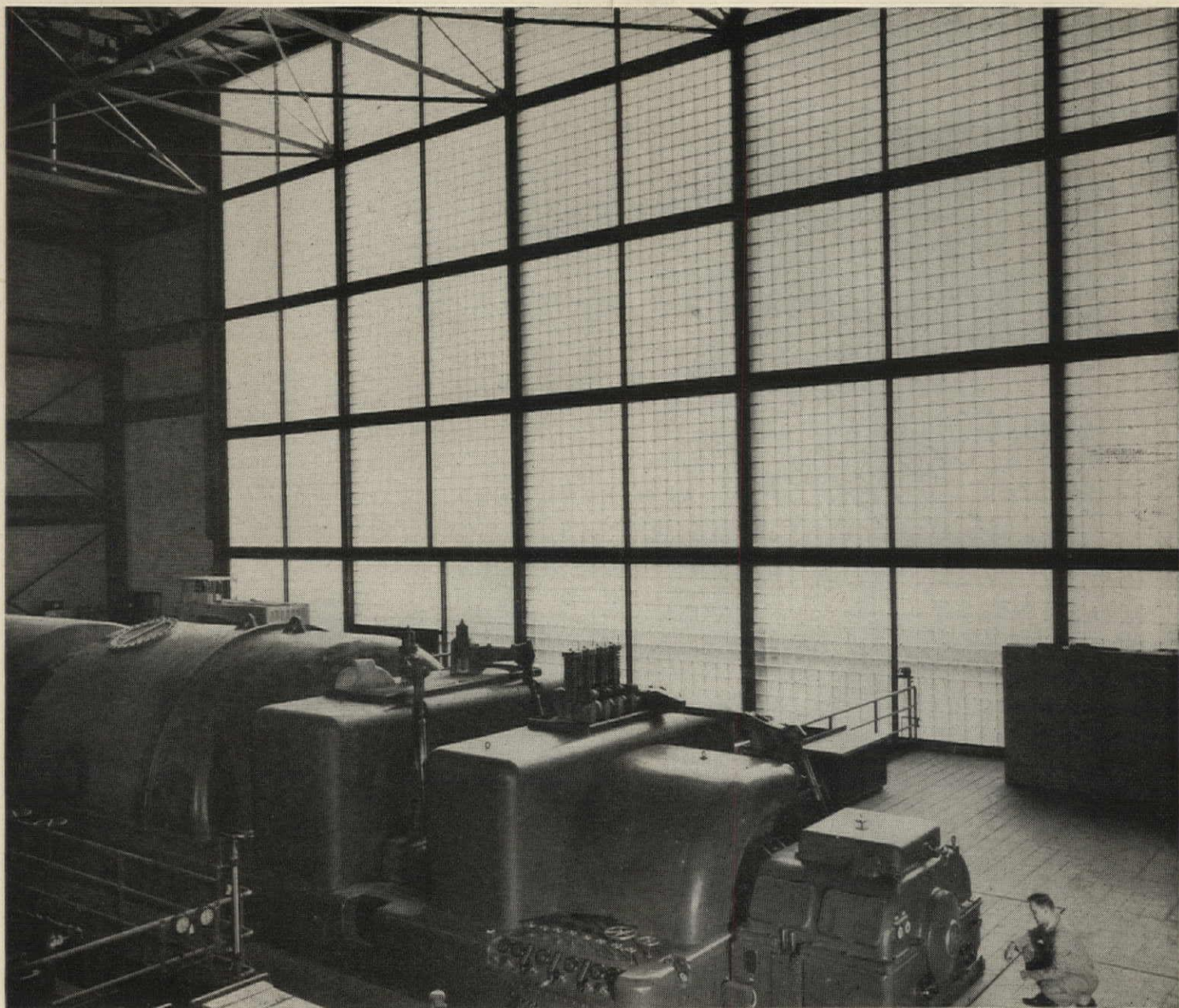
for offices, stores, institutions and factories

These up-to-date engineering features of General Electric Water Coolers assure dependability and economy for the owner, ease of operation for the user and compact design for the architect. This quality is backed by the standard General Electric product warranty plus 5-year replacement agreement. And it is easy to specify General Electric Coolers—they come in capacities from 2.85 to 21.5 gallons per hour. So, whenever you include water coolers in

your floor plans, be sure to call your local General Electric Water Cooler dealer or write to General Electric Company, Commercial and Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, New Jersey.

Progress Is Our Most Important Product

GENERAL  ELECTRIC



Major wall areas of Glass Blocks provide maintenance-free daylight

When the designers of Philadelphia Electric Company's Cromby Station considered plans that called for a quarter acre of daylighting, they immediately recognized the need for minimizing maintenance. With such a vast area, sash repair, window cleaning, storm damage, painting, or any other type of maintenance could present major cost items.

They found the answer in PC Glass Blocks. Installed in giant panels on the north and south elevations, the

12-inch *light-diffusing* glass blocks provided other benefits, too. Daylight is glare-free. Excessive heat gain, which could hamper operations, is controlled. And the bold use of the blocks creates an attractive and modern exterior.

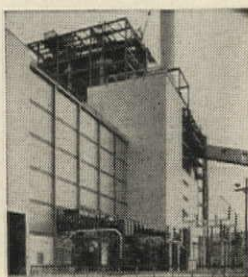
For product information, write or see us in Sweet's. Pittsburgh Corning Corporation, Dept. E-116, One Gateway Center, Pittsburgh 22, Pa. In Canada: 57 Bloor Street West, Toronto, Ontario.

Philadelphia Electric Company's new
350,000 kw Cromby Station, Cromby, Pa.

Consulting Architects:
Harbeson, Hough, Livingston, & Larson, A.I.A.
Philadelphia, Pa.

Engineering and Design:
Philadelphia Electric Company
Philadelphia, Pa.

Mason Contractor:
John B. Kelly, Inc.
Philadelphia, Pa.



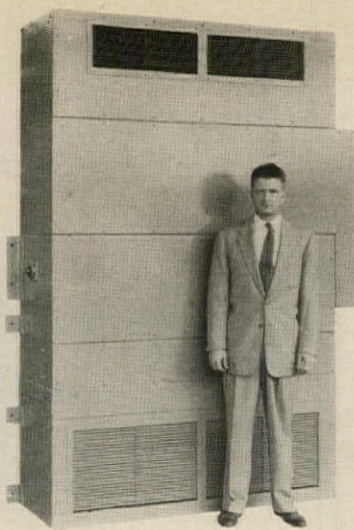
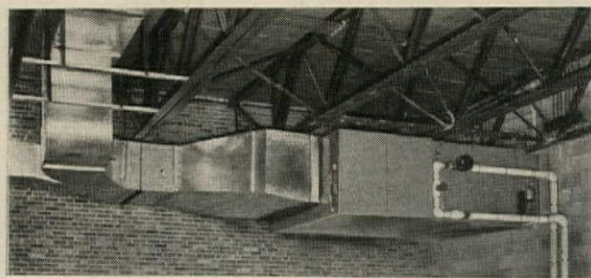
PC Glass Blocks



Also manufacturers of FOAMGLAS® insulation

PRODUCTS *cont'd.*

For more data use coupon, p. 250



(14) UNIT VENTILATOR for large rooms shushes air delivery

The *AUDIvent's* quiet behavior should make the new self-contained ventilator welcome in many auditoriums, churches and libraries. Operating on steam or hot water, the unit can be fitted with an outdoor air intake for installation directly in the space it serves. Low outlet velocities, precision parts and thorough insulation all contribute to the big ventilator's serenity but do not impede its effective distribution of filtered air for heating, cooling or ventilation. Upright and horizontal models are made in nine capacities from 1,250 to 15,000 Cfm. Prices range from about \$600 to \$2,500.

Manufacturer: Herman Nelson Unit Ventilator American Air Filter Co., Inc.

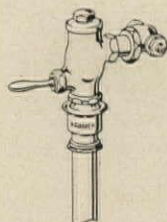
ANOTHER *Design* ACHIEVEMENT

HAWS *Model* 1505



Another HAWS product of modern styling is now available for free adaptation to your architectural designing. Finished in gleaming white vitreous china, Model 1505 is securely mounted with cast iron wall bracket.

ALL of the dependable sanitation features long associated with HAWS Drinking Fountains are included: Angle-stream, anti-squirt fountain head is raised and shielded; Head of chrome plated brass is vandal-proof mounted to bowl; Water pressure is automatically controlled through self-closing valve. This model conforms to government specifications for cantonment-type drinking fountains.



The new 72-page HAWS Catalog is out!

It describes Model 1505 and all of the latest designs in HAWS Drinking Fountains, Electric Water Coolers, Eye-Wash Fountains, and KRAMER Flush Valves.

If you haven't already received your copy, write today!



HAWS

DRINKING FAUCET CO.

1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA



(15) RECIPROCATING SAW powered by gasoline motor

The safe and versatile *Wright Power Saw* is useful for countless construction jobs—from cutting pile supports and sheathing to felling small timber. Slicing smoothly through wood at a speed of 173 strokes per second, the 25 lb. tool is balanced for use in any position, even upside down. It is reported to be vibrationfree and kickless. A safety guard protects the user while it guides the blade, and the cut-off can be switched with one finger. Blade changes take less than a minute. The motor starter rewinds automatically and starts the saw easily and smoothly at all temperatures. Retail price: \$179.50.

Manufacturer: Wright Power Saw Div., Thomas Industries, Inc.

(16) RECESSED TROFFER is nesting place for draftless diffuser

Installable in any suspended ceiling, the *Multi-Vent Trofferlite* provides two diverse services: lighting and air distribution.

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