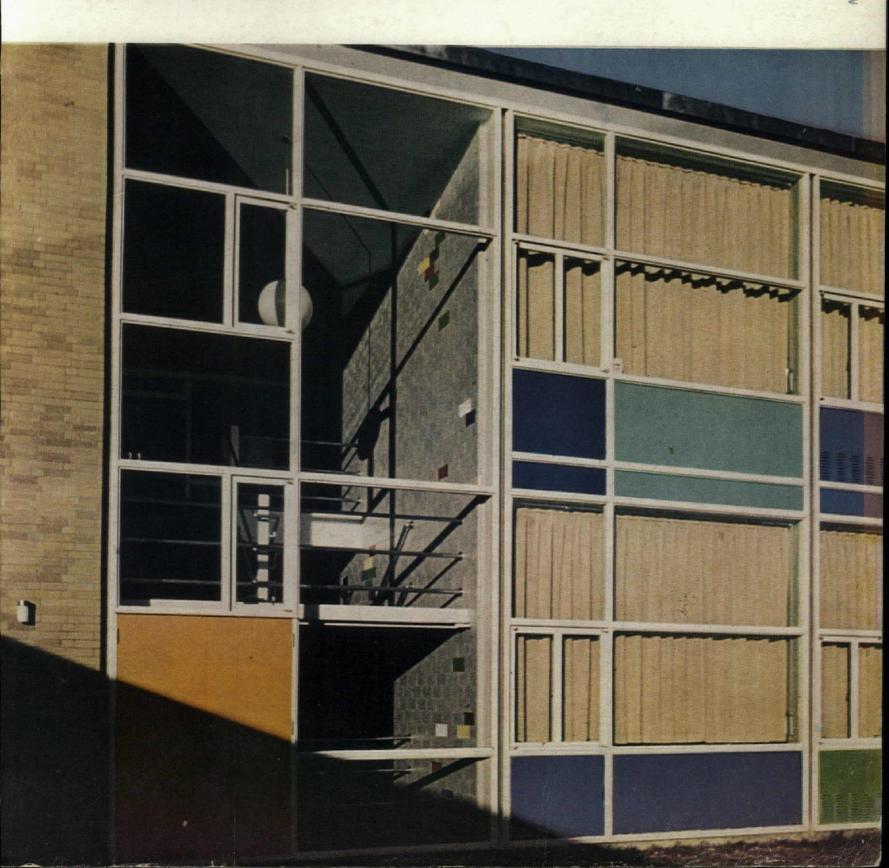
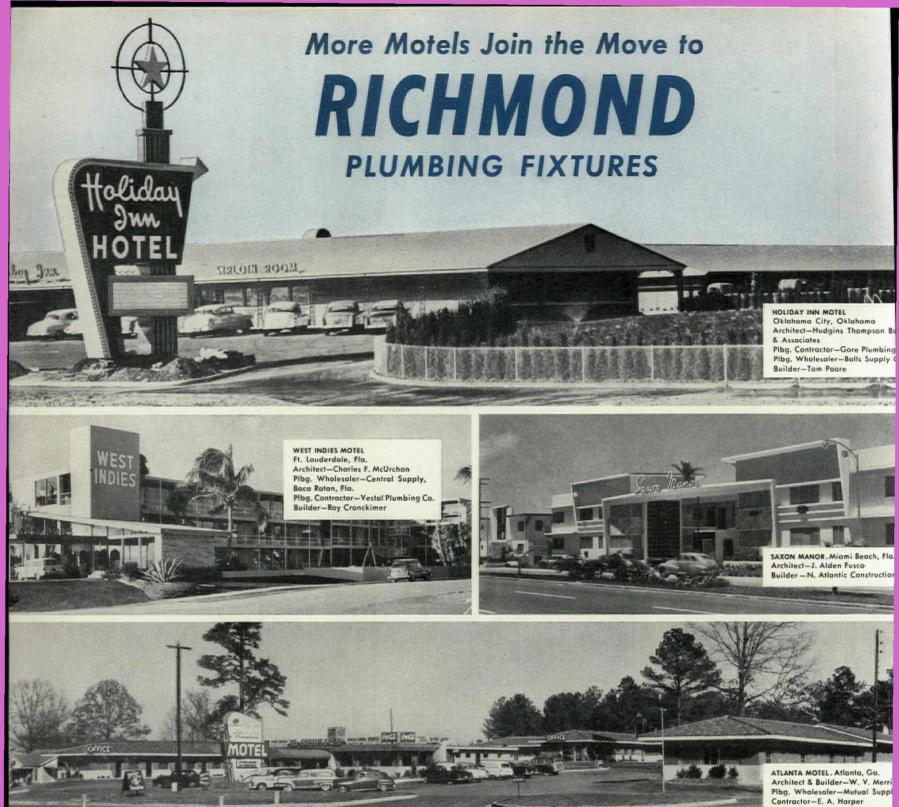
MARCH 1955

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orcelain enamel adds the delight of color to the strength of steel (p. 166)





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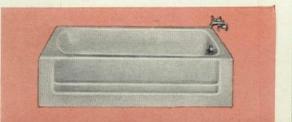
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the magazine of building

MARCH 1955

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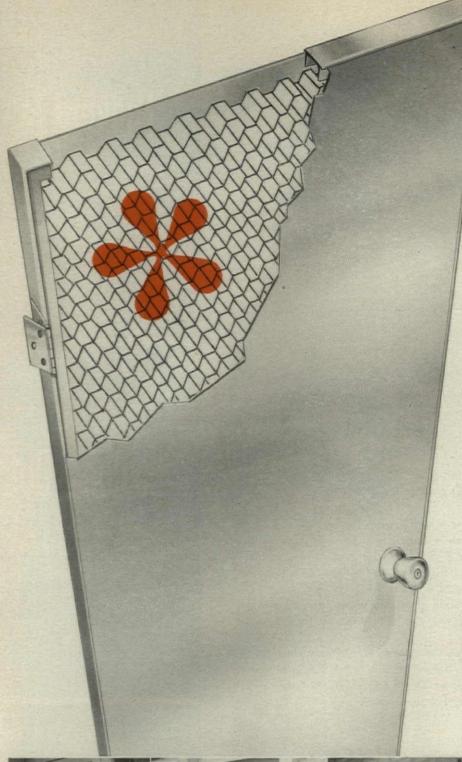
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Edison Jr. High School, Miami, Fla. Architect: Edwin T. Reeder & Associates



Sliding Doors for Grables Bakeries, Miami, Fla. Architect: Petersen & Shuflin



Flush Exterior Doors for Elementary School, North Miami, Fla. Architect: Wahl Snyder



Tilt Doors for Golden Gate Hotel Miami Beach, Fla. Architect: Polevitsky, Johnson & Associates.

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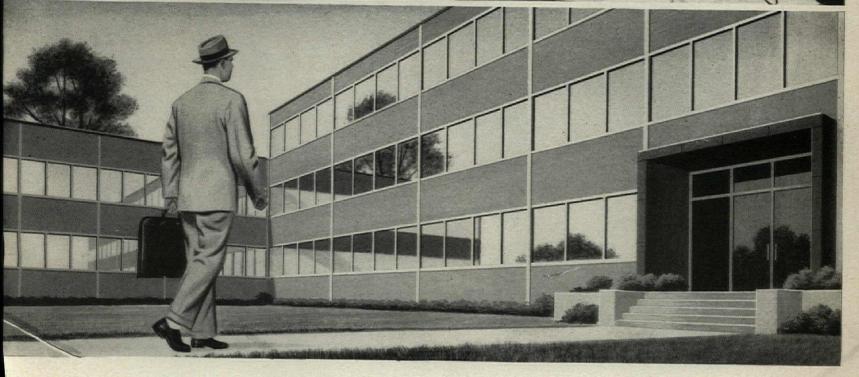
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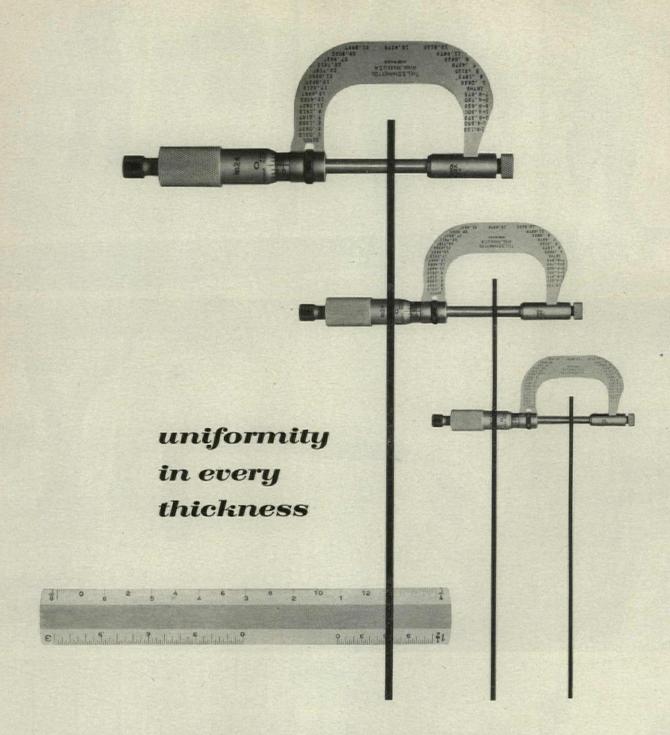
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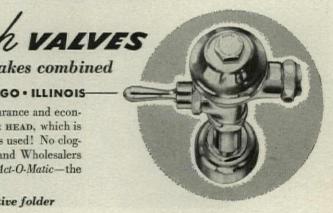


SOUTHEAST'S TALLEST OFFICE BUILDING

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA the building are ultra-modern: automatic high speed will soon occupy its new 22-story South-Central Home Office at Jacksonville, Florida. This stately, 300-foot structure of steel, cloaked with Alabama limestone, North Carolina pink granite and Georgia white marble, is situated on 13 acres of luxuriant gardens bordering beautiful St. John's River, and rises higher than any other on the magical South Atlantic coast. The gleaming building can be seen from points 30 miles distant and an unparalleled panorama can be viewed from its roof deck. Service facilities within

elevators, high capacity escalators, complete air conditioning, acoustical ceilings, recessed fluorescent lighting. On the main floor is an auditorium and lounge, separated by folding partitions. Combined, the two can accommodate 1000 persons. Public facilities include banking, shopping, eating, and parking for about 1000 cars. As are thousands of other fine buildings, including the new Prudential Building in Chicago, this one is completely equipped with SLOAN Flush VALVES-additional evidence that explains why ...





Compromise to boost grants likely on school-aid program

After the President sent Congress his special message for federal help for school construction last month, typical headlines summarized it along the same lines as the *New York Times*: "Eisenhower Asks \$7 Billion Program to Build Schools."

But closer examination showed real federal spending or contributions in his recommendations would total only \$220 million over three years, or \$73.3 million per year. By contrast, the administration's current recommendation for federal hospital construction help was \$125 million per year. The President also urged federal mortgage insurance "to stimulate construction of additional health facilities" and hospitals—but no such program for schools.

The President's school help message also proposed US support for school building by loans or bond purchases estimated to total \$300 million a year for three years, making gross federal grants and loans of \$1.1 billion over this period. The other \$5.9 billion encompassed in the President's observation that his program "envisages a total of \$7 billion to be put to work building badly needed new schools" would not entail any federal funds at all-either loans or grants. This would simply represent an estimate of the building that the administration hoped would materialize if the President's recommendation that states establish special agencies or "authorities" to develop lease-purchase construction programs backed by state credit, or state school bonds, worked out favorably.

AlA objections. Critics lost no time in attacking the measure, with Democratic congressional leaders labeling it "paltry," "makeshift," a program offering "interminable delay on one hand or a meager dole on the other." (The program's matching grants would only be available to impoverished school districts on state certification of emergency need for new facilities and the district's "inability to finance the total construction cost through borrowing or a rental arrangement"—with a state agency.)

Testifying before the Senate labor and public welfare committee, AIA objections to encouraging the creation of any more state agencies was registered by Lee Cochran (of Perkins & Will, noted Chicago school architects) speaking for AIA's national committee on school buildings. Cochran said architects foresaw a "considerable waiting period" before many schools could be started under this system. Experience with the several existing state "authorities," he said, has demonstrated that their reviews and approvals can cause "excessive" delays, and an additional layer of negotiation between such agencies and a federal office would slow up their processing even more.

Open-end compromise? At the hearings before the committee, headed by Sen. Lister Hill (D, Ala.), author of another bill signed by 29 other senators that would give states \$1 billion in direct aid over a two-year period, Sen. Irving M. Ives (R, N.Y.) made

a suggestion that seemed to point to a possible compromise by removing the Eisenhower program's three-year \$200 million ceiling on building grants. (The other \$20 million direct help was for administrative expenses.)

Ives asked Health, Education and Welfare Secretary Oveta Culp Hobby how she would regard the bill embodying the President's program if the committee removed the \$200 million limit and substituted an "open-end" provision—so Congress could provide any sum it thought best when it got around to actual appropriations. Secretary Hobby tactfully replied that her department would do its best with whatever bill Congress passed.

The Republican senator's questioning, however, looked like a feeler to find some way to steer around the controversy and perhaps allow for greater direct federal help in an administration bill. If the administration's measure was amended in this fashion, the way would still be clear to enact its other proposals too, leaving it an academic matter whether much use was made of them in addition to the direct help provisions.

The alternative prospect was a serious possibility of complete rejection of the President's program in Congress, and in its place a New Dealish Democratic bill providing liberal US grants, and then the President's dilemma whether to sign or veto it.



WORLD'S TALLEST BUILDING has been projected for the 1958 Brussels World's Fair. It would be a 2,034' chimney-type prestressed concrete tower, 340' higher than the Empire State building, and would house TV studios, exposition halls and a skyperch cafe. It was designed by Ghent University Professor Gustave Magnel. Last month the Belgian Cabinet announced "agreement in principle" for construction, although it has not yet determined how to finance its \$20 million cost. It is hoped, however, that admission charges would cover its entire expense. Vociferous critics have lambasted its "suppository style" and claim it would be dangerously near the Meisbroek national airport.

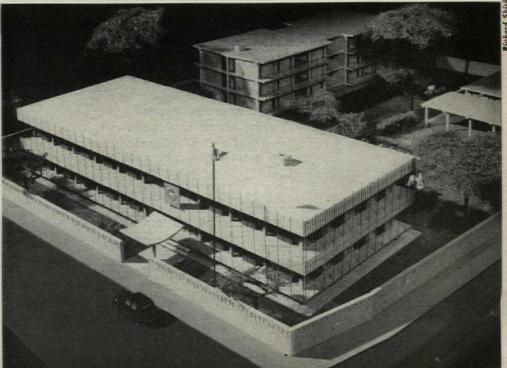
House committee studies bill for 20 overseas buildings for State Department

The Bureau of the Budget was kindly disposed toward the State Dept.'s foreign building operations, and approved a request sent to the House appropriations committee for \$9.2 million for this work in the fiscal year to start July 1, compared with only \$3 million in the current year. The bureau also approved a request for an appropriation of \$250,000 for preparation of preliminary

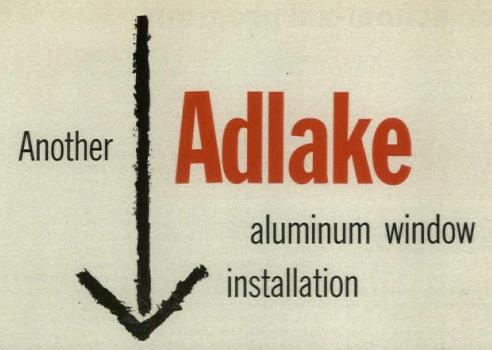
architectural plans for additional overseas structures, compared with current \$150,000.

Based on budget approval, State Dept. officials allowed architects to release details about preliminary plans for proposed projects covered by the measure now before the House committee. They stressed, however, that all such plans would be subject to continued on p. 13

PRELIMINARY MODEL FOR KOBE CONSULATE BY LEINWEBER, YAMASAKI & HELLMUTH



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Complete analytical water surveys of choice plant sites in the Southeast and Southwest

Industries whose water requirements are exceptionally large will find vital information in a new series of water studies now in preparation by the Frisco Railway. The studies cover industrial sites 50 to 3,000 acres in size, and water capacities from 10 million gallons daily to as high as 37 billion gallons daily. Industrial manufacturers planning a new plant or seeking to relocate near abundant water sources will find these studies invaluable.

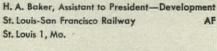
Each Water Survey Brochure covers a separate potential industrial site, detailing industrial water sources, chemical content, minimum recorded flow, etc. Also shows site and topographical maps, information on utilities, raw materials, roads, rail and highway transportation.

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revision as they advanced to final planning (assuming they would clear all the customary hazards that beset every appropriation bill). Under these conditions it was impossible to judge the merits of any as if they were sure to be final plans.

Some 20 proposed buildings to provide office or housing for bustling diplomats abroad were on the list that cleared the budget bureau. They ranged far and wide in such scattered locations as Dublin, the Hague, Milan, Oslo, Bombay, Sao Paulo, Caracas.

If and when requested construction funds are approved by Congress, State Dept. under its new policy of negotiated contracts with qualified private architects will order complete designs for each building. When it is actually voted more preliminary planning money it will sign more contracts for initial designing service for further buildings.

home by any probers. Prosecutions were "slow and disappointing," he observed, and HHFAdministrator Cole, he said, has acted "in what seems to be extremely few cases."

On another front, FHA was gaining ground. Its new industry advisory committee on management and disposal of its distress properties held its first meetings last month and gave the agency some practical recommendations for revising sales policies. For large apartment projects it suggested that more attention be given to setting both prices and terms to assure that a property would "stay sold" without reverting to FHA a second time. Members pointed out that under present procedures sealed bids tend to limit the market, and to a large extent a maximum mortgage (in dollars) automatically controls price. With adequate safeguards, they noted, better sales might be made through negotiated deals.

FHA probes: US costs pass \$1 million; government loses 'windfall' tax suit

In Washington last month FHA received six bids for a foreclosed 608 apartment project in Patchogue, L.I. They ranged from \$528,000 (\$3,000 over upset price) to \$552,600. The 84-unit project, approved in 1949, for a \$723,900 insured mortgage (based on estimated cost of \$804,444) was taken in by FHA in 1952. If the high bid was accepted, FHA loss would be in the neighborhood of \$170,000.

As the FHA 608 probes neared the yearold mark next month, two developments added to a picture of mounting investigation costs, but little tangible pay-off.

The Senate banking and currency committee was requesting \$100,000 for further

FHA digging, supplementing \$225,000 it received last year. Late in January HHFA and FHA were voted \$125,000 for their own additional probing, on top of \$800,000 last year (\$500,000 of it allocated to the FBI). Total probe funds appropriated: \$1,150,000, and \$100,000 more being sought. "Recoveries" to date, or in early prospect: zero.

In the US Tax Court in Washington the Bureau of Internal Revenue's main test case to assess 608 "windfall" distributions at regular income tax rates, instead of capital gain rates, was turned down unanimously by the 16-man court. BIR planned to appeal. Its chances of success appeared slim. Senator Harry Byrd (D, Va.) said "no one can quarrel very much" with the tax court's decision, but added some caustic remarks on the lack of any scalps or trophies brought

At Columbia—consultants; Princeton, thermoheliodon

Columbia University School of Architecture announced a teaching innovation. Beginning next September, graduate students will be able to develop their design projects with the personal "advice, assistance and criticism" of a board of consultants consisting of 22 outstanding architects for all types of buildings. On approval from Dean Leopold Arnaud's office, graduate students will have

continued on p. 17







Arcades, windowless base, dual occupancy, distinguish newest metropolitan buildings

To design a 36-story, \$40 million office tower for a 60,000 sq. ft. Fifth Ave. blockfront one block north of Rockefeller Center, New York's Tishman Realty & Construction Co. engaged Carson & Lundin, the Center's resident architects. Plans released last month provided for a stone-skin structure harmonizing with the Center (in place of the aluminum coats on the Tishman's two previous buildings). Windows, however, will be 6' wide, will allow floors to be divided with some efficient offices of only that width. To obtain greater store frontage and pass-through pedestrian traffic, there will be three completely open arcades, each 30' wide, leading to the main lobby, 100' back from the avenue.

Maroon concrete will cover the four-story base of the 24-story aluminum-covered Second National Bank building being erected in Houston. To save on building, air-conditioning costs this 250' x 252' full-block base will be windowless. The bank's main quarters will occupy the second and third floors, and in Texan tradition the second-floor space (including 37 tellers) is being advertised as "the largest banking lobby in America . . . over 1½ acres in area." The \$16 million structure, designed by Kenneth Franzheim, will also have drive-in banking facilities on the ground floor, and underground connections with the neighboring Commerce Building and a modern garage to be built nearby.

Alternate floors of eight office-showrooms and eight studio apartments, which will be rented only as joint business-living duplexes, will comprise 12 of the 15 stories of this \$2 million, X-shaped, glass-and-concrete Chicago building to be erected this summer for Frank Katzin by Realtor-Developer Arthur Rubloff. The ground floor will house stores and office service establishments; the second floor will provide garage space for 65 cars; the 15th will be an extra floor of office space only. Rent for a 595 sq. ft. office and an equal size apartment, with private stairway connection, will be \$225 a month. Architect: Bertrand Goldberg, with Pace & Associates as consultants.

"Two-Way Stretch"

THE MANUFACTURERS TRUST COMPANY

New Fifth Avenue Office

Architect: Skidmore, Owings & Merrill.

Consulting Engineers: Weiskopf & Pickworth.

General Contractor: George A. Fuller Company

Structurals fabricated by Ingalls Iron Works Company.



A Engineering complication in the construction of the new Manufacturers Trust Company Office in New York dictated the need for an unusual cantilever application. Girders, 70 feet long and weighing seven tons each, stretch in two directions from the supporting columns, which are set back from the building line. The 43rd Street cantilever extends 20 feet 5 inches from the column line. Only eight exposed columns are on the main banking floor—an area of 11,000 square feet.

Exterior glass walls, offering no support to the structure, hang curtain-like from the cantilevers. With the second floor set back 10 feet from the exterior wall, the effect is a 32-foot high expanse of glass running from the ground level

to the third floor.

Exciting architectural ideas like this unique cantilever application are always possible with USS Structural Steel. It is picked to do the job because it is strong-will withstand more abuse than other structural materials. It resists tension, torsion, compression, and shear. Enclosed in buildings, Structural Steel will last indefinitely - requiring no maintenance. Equally adaptable to riveting, welding or bolting, it can be erected in any weather in which men can work. And, since steel members are fabricated indoors, weather can have no effect on the quality of workmanship. Last, but by no means least, Structural Steel is the most economical of load carrying materials.

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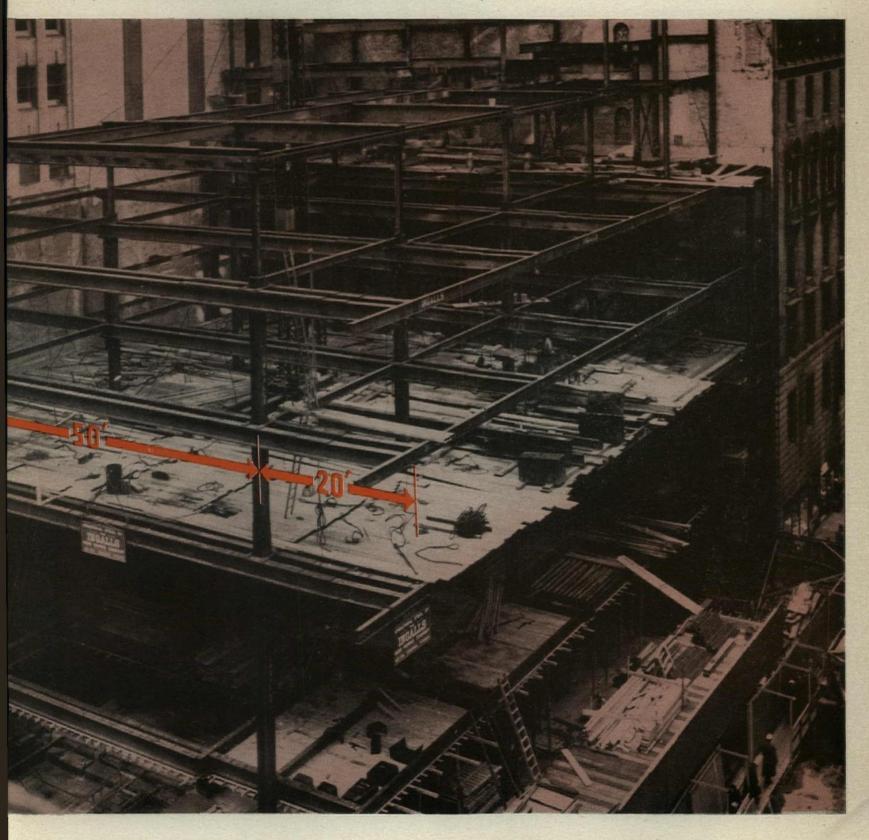
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UNITED STATES STEEL

cantilever construction featured in new Manufacturers Trust Building

FOR THE LONG GIRDERS the rolling mill furnished 70-foot cambered beams. Ingalls Iron Works Company then fabricated the reversed camber required in the 20-foot cantilever portions.





New Life library planning focuses its attention simultaneously on these 4 major points. Using scale models as shown here, our planning engineers put emphasis on economy, compactness and control, and solve interrelating problems before submitting photos. The question of appearance is solved beforehand: New Life furniture is famed for its cheerful elegance.

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2 CATALOG

(3) CONTROL

Shelving must be planned with consideration for book capacity, wall space, traffic pattern, natural lighting, etc. Slanted bottom shelves and pleasant, light finish are among New Life shelving's many advantages. 2 Catalog files, the key to the books on the shelves, should be placed strategically for readers' convenience. New Life's index drawers have exclusive features such as one-hand-operated snap lock rods and edge-grain wear surfaces. 3 Control is maintained at the charging desk, from where no line of vision should be blocked. Placed close to administrative core, it controls entrance and exit. New Life charging desks are noted for their elegance and operational efficiency. 4 Reading area should provide ample, comfortable seating facilities, should utilize best means of lighting, and have an inspiring, flexible table pattern. The Freeline table is gracefully designed to give the reader unhampered freedom of movement.

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the privilege of personal conferences in their own offices, or at their own appropriate projects, with such distinguished design experts as Max Abramovitz, Gordon Bunshaft, Philip Johnson, William Lescaze, George Nelson, Isadore Rosenfield, Fred Severud and Julian Whittlesey.

Princeton University School of Architecture announced it is going to build a thermoheliodon, thanks to a \$19,100 grant from the National Science Foundation for research on the architectural shaping of buildings to fit different climates. "A thermoheliodon," explained the university, "is a 'machine' to test building models on an accelerated time schedule, under various climatic conditions." The Princeton University one will have a clear plastic dome 6' in diameter, beneath which heat, cold and wind effects will be created. Another heat-light source, simulating the sun, will operate outside of the dome. Preparations for the thermoheliodon have been under way for two years under direction of Research Associates Aladar and Victor Olgyay, whose architectural-climatic studies have been news before (see p. 234 and AF, March and Aug. '54).

City realty value seen sliding, despite price rise

Decentralization has been sending the trend of central city real estate values down, according to Dr. Herbert B. Dorau, chairman of the Real Estate Dept. at New York University. Of course, dollar prices have usually risen in recent years, he hastens to point out, but whenever increased prices have not been greater than the inflationary decline in the value of the dollar, owners have suffered a net loss, despite seeming bookkeeping gains. Addressing a management division meeting of the New York Real Estate Board last month, Dorau suggested that on a rule-of-thumb basis any property that had not doubled the price that it could command in 1940 had slipped in value.

Speaking on the impact of decentralization on urban property, Dorau explained that high values for central city real estate stemmed from the intensity of use to which it could be put. Previously cities usually expanded only because of pressure from within, so central city values were not affected when growth that could not be accommodated in the central city took place on its outskirts, said Dorau. But today, he noted, there are external pressures drawing residents, business and industry out of the cities-mainly bridges, tunnels and highly flexible highway transport for materials, workers and shoppers alike. Except in special locations, there is no longer the need, nor the demand, to use central city land as intensely as before-and the effect of this on its value is inescapable.

To check New York deterioration and reestablish it as the "first and most desirable place" to live, work and trade, Dorau suggested immense redevelopment projects by agencies with power and resources enough to "rearrange" most of the city, remake six or eight blocks, or entire neighborhoods, at a time. Commenting on the role of trade and industry in sustaining the city he declared: "Commercial redevelopment is more important for New York than all this piddling around with housing."

Idlewild Airport plan: eight separate terminals—parking for 6,000 automobiles

The master plan for a five-year, \$60 million development of New York's huge Idlewild Airport was unveiled last month by the Port of New York Authority. Ten major buildings will cost about \$45 million; landscaping, parking fields, taxiways, service roads and utilities about \$15 million.

The largest building will be a \$15 million, three-story international travel terminal that will handle all incoming passengers on its ground floor, all outbound passengers from the second floor. This is scheduled to be started this fall and in operation by 1957.

The airport's principal innovation will be the dispersal of domestic airlines into seven other separate terminal buildings around a big 655-acre oval development on the 5,070-acre field. These smaller buildings will each be about 400' wide, will be built in stages between now and 1960, and will cost a total of about \$30 million.

As described by Port Authority Executive Director Austin J. Tobin, no one will need to walk more than 400' from any part of three huge parking fields to reach one of the terminal buildings, from which frequent inter-airport "jitney" service to all other buildings will be available. Taking special note of the 6,000-car capacity of the 50 acres covered by the three parking fields at the terminal, the New York Times commented editorially: "The accomplished marriage of the automobile and the airplane in the travel pattern is thus accommodated."

OVAL LAYOUT for Idlewild Airport will be dominated by International Arrivals building (center background), which will be 2,200' long, including two wings for foreign airlines' offices and lobbies. Three-story central section will include Customs, Immigration, Public Health quarantine and Weather Bureau space; stores, a luxury restaurant and cocktail lounge, and a private lobby for VIP receptions. The master control tower (at right) will stand a short distance in front of the main entrance to the international terminal complex, at the point indicated on the over-all plan. Around the oval will be seven separate domestic airline terminal buildings, each about 400' wide, and a larger operations building (left foreground).

Design objectives. By separating the international terminal and the various domestic airlines, said Port Authority Aviation Director Fred M. Glass, Idlewild will be able to accommodate 140 giant air liners loading or unloading simultaneously, compared with a maximum of only 29 at present, and only 15 at once at New York's LaGuardia Field. A single building to handle 140 planes at once, he observed, would have had to be 2 mi. long. The projected Idlewild layout, he added, was designed to provide "flexibility, versatility, expansability and adaptability" without any "conflict between the flow of passengers, and the flow of baggage, freight, mail and apron service."

Most important of all for the Port Authority, Tobin predicted that the new facilities would turn Idlewild's present haunting operating deficit into a profit.

Design credits. Wallace K. Harrison has been engaged by the Port Authority as design consultant and coordinator of exterior continued on p. 21







John Moses Veterans Administration Hospital, Minot, North Dakota Contractor: McGough Bros., St. Paul, Minn.

Architectural concrete made with Duraplastic* does double duty

serving as structural material and facing, architectural concrete held down construction costs on this new government hospital. Naturally architectural concrete requires something extra in surface appearance. And that's one reason why contractor E. V. McGough used Duraplastic air-entraining portland cement. Well satisfied, he reports, "It gave us a very good finish... required less water and vibration."

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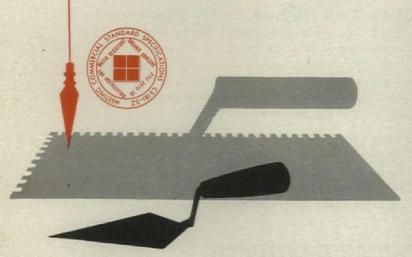


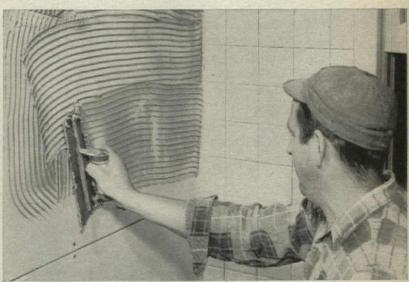
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architecture for the entire project, and has already helped design the roadway layout and building locations for the central area, and laid out the landscaping of the plaza and a large reflecting lagoon inside the oval.

Buildings are being designed by Skidmore, Owings & Merrill in collaboration with the Port Authority staff, and the authority's aviation planning division, headed by Thomas M. Sullivan, is carrying on functional and physical studies of the terminal area. Funds already allotted for final design plans for the project total \$2 million, said authority officials.

GSA lease-purchase rules circumvent promoters

Under its new lease-purchase program, the General Services Administration will retain tight control over the design and construction of all buildings it acquires in this manner. In effect, it will practically erect its own buildings and then sell them to investorowners under what might better be termed lease-repurchase contracts, with the nominal owners supplying virtually nothing but financing.

The procedures GSA disclosed last month apparently will freeze out any deals speculative realtors and builders had hoped to promote. But private architects and engineers should fare much better: GSA will seek their services on a negotiated contract basis to design each project and will give preference to local organizations.

After GSA obtains Congressional approval for each project it will follow these steps:

1) have Washington headquarters of Public Buildings Service (its subagency) contract for a local architect to design the entire project from scratch; 2) call for construction bids and determine the contract winner; and then 3) invite bids from investors for the financing—through a lease-purchase contract. In actual practice, GSA itself will let

the building contract, supervise construction and take over the building in its entirety as soon as it is completed.

Because the nominal "owner" will be little more than the holder of a "riskfree," amortizing mortgage loan, with no supervisory or maintenance responsibilities, PBS expects to obtain this financing below ordinary mortgage loan rates. Said PBS Commissioner Peter A. Strobel: "If we don't get the money at less than 3½ or 4%, we will reject the bids." Another tough hurdle that every project will have to clear: approval from the Bureau of the Budget.

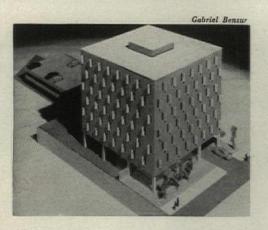
The first four projects on the verge of clearance: an \$8.4 million home office for AEC in the Washington area, and three Court House-Post Offices in Kansas City, Kan. (\$4.5 million), Rock Island, Ill. (\$2 million) and Green Bay, Wis. (\$1.6 million).

Navy shows atom-resistant building for 5% extra cost

Maximum protection from ABC (atom-biological-chemical) attack at an additional cost not exceeding 5% of total construction cost was one requirement for a Navy chemistry building at its research laboratory in Washington, D.C. This extra cost limitation ruled out underground construction.

Last month, announcing completion of the building, the Navy thought it had the answer to this ABC safety requirement: a fireproof, windowless structure of monolithic reinforced concrete. The \$335,000 lab, in which chemical research will be done under simulated shipboard conditions, has bacteriological and chemical filters in its air-conditioning system and revolving doors with airlocks on its second floor to keep pressure (needed for experiments) up and contamination down. Washrooms can become decontamination shelters in emergencies.

The 5% extra cost limit was Navy recog-





Southern motel and medical building will be on stilts

A \$1 million medical building in Atlanta, seven stories high, cooperatively owned by the doctors who will uso it, was designed by Atlanta Architect John Portman without front or back, with common facilities in a central core, to give all occupants equally desirable space. Patients' and doctors' cars will be driven under the building. Three levels of parking space are beyond the structure. Wall surface will be of red brick and the comparatively small (2' x 6') windows of the air-conditioned building will have vertical sunshades of Georgia marble.

A seven-story motel (an appellation in the realm of the multifamily cottage, or four-room mansion) was begun last month in New Orleans. Access to patrons' rooms will be by means of open balconies on each floor, serviced by a pair of elevators and stairs in twin towers connected by bridges to the balconies. The street wall of the \$700,000 building, designed by Curtis & Davis, New Orleans architects, will be of porcelain enamel (70%) and glass (30%). End walls will be reinforced concrete, textured in pouring by rough-sawn, unsanded form boards.

nition of the futility, long known to civil engineers, of designing buildings to resist even a fraction of the blast near the heart of a nuclear explosion.

NAREB votes \$25,000 for Build America Better work

At their winter Washington meeting the board of directors of the National Assn. of Real Estate Boards voted \$25,000 to support their Build America Better program this year, compared with about \$10,000 in 1954. Plans to allocate about \$100,000 for this urban rehabilitation program were deferred when continuing efforts to increase each realtor's national dues \$5 a year were sidetracked again until May.

New President Henry G. Waltemade appointed Long Island Realtor Walter S. Dayton chairman of the Build America Better Council, succeeding Los Angeles Realtor-Builder Fritz Burns. He has appointed Arthur P. Wilcox of Boston chairman of the Realtors Washington Committee (headed by Waltemade last year), and New Yorker Durand Taylor as chairman for the committee arranging the national convention there next November.

Main unfinished business at the directors' meeting: selection of a successor to Executive Vice President Herbert U. Nelson, slated to retire June 30. Most interesting corridor talk: growing sentiment for consolidating all NAREB headquarters' activity in Washington (rather than transferring more of it to Chicago). Reason: to be "closer to the government," which seems bound to exercise a larger and larger control over real estate as time goes by.

Soviet program pushes prefabbed concrete parts

Russia is going to have a building boom. It will not be the voluntary business-and-consumer-kind that the US has known for the past decade; Russia's construction surge will occur by government and Party fiat.

Two months ago, Party Secretary Nikita S. Khrushchev, who has become the country's strong man, ordered an end to the skyscraper era of Russian architecture and decreed simplification and standardization of building methods. Soviet architects and builders wondered what shape their future works would take.

Last month they knew, as they moved among new display buildings of prefabricated, reinforced-concrete parts at Moscow's Permanent All-Union Building Exhibition. There were wall panels, pillars, beams, floors and window frames, all made of concrete and all interchangeable, using steel only where pillars and beams must be welded together, and using wood not at all. There was ornamentation, the Russian architects discovered: prefab exterior slabs of ceramic tile and mass-produced decorative columns, plaques and door frames. Plumbing, and even radiators, special interests of former pipe-fitter Khrushchev, were integrated into slabs.

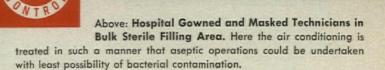
The Soviet plan will sprinkle all of Russia with standardized factories, apartments,

continued on p. 25

ARMOUR'S NEW LABORATORIES producing



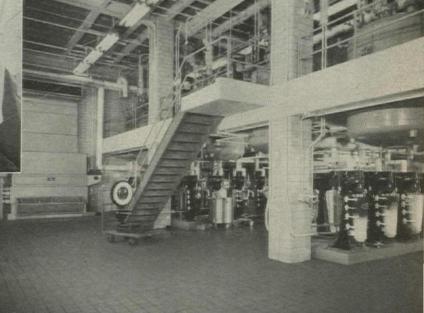
Left: Parenteral Packaging Department.
One of the areas completely air conditioned.



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Above: View in Parenteral Manufacturing Building No. 4 where ACTHAR, Insulin, and Intrinsic Factor (BIO-PAR) are processed. Processes here are also controlled by Powers V-Port FLOWRITE Valves.



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Above: View in Solvent Extraction Building No. 5 where Insulin, Intrin-

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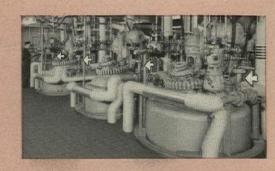
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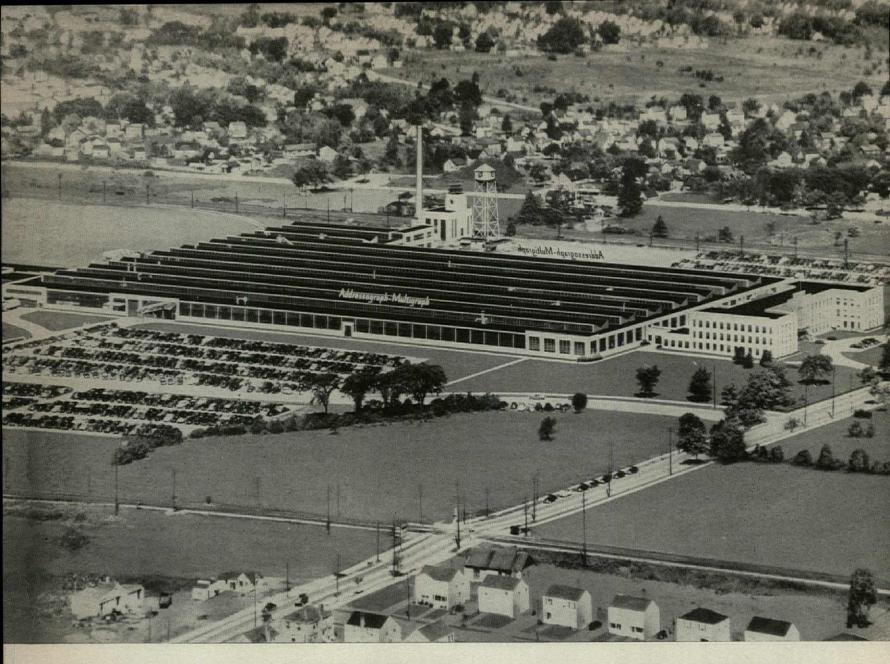
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buildings and public structures for the next five years, at least. It calls for a 500% increase in production of prefab concrete building parts, a 150% boost in cement output and recruitment of vast construction brigades. Some 100,000 Russian youths already were being recruited to operate factories making prefab concrete parts.

Philadelphians scrap over building facing new mall

Revised plans for a \$6 million, 12-story sheer-walled glass and aluminum office building facing the new Independence Mall were brewing a combination design and zoning tempest in Philadelphia at month's end.

On the offensive, hoping to bring into effect a set-back ordinance signed five days after issuance of an initial building permit for a nine-story version of the building: the Philadelphia AIA chapter, city art commission members led by President Roy F. Larson, the Philadelphia *Inquirer* editorial page and influential and energetic Advertising Executive H.A. Batten, board chairman of N.W. Ayer & Son.

On the defensive: prominent Philadelphia Realtor Frank G. Binswanger, sponsor of the project, and the Shelby Construction Co. of New Orleans, which would be the ownerbuilder of the structure (see cut) designed by New Orleans Architect Charles R. Colbert, hitherto known for his forward-looking schools.

Main complaint of the objectors: if built without a setback, particularly if approved for an increase to 12 floors, the new structure would violate the spirit of the building height ordinance intended to control redevelopment around the new National Park mall being created as an appropriate setting for Independence Hall, the old Customs House, Carpenters Hall and Benjamin Franklin's old red brick printing shop (which would be right beside the new building).

On less firm ground, some critics also complained of the prospect of a mixture of colonial and modern architectural styles around the mall, although on this point Larson made it clear that the art commission was not "insisting on another Williamsburg," as has been charged. The commissioners, he said, "are not opposed to good contemporary design and believe it would be a questionable

Adolph Study

INDEPENDENCE MALL BUILDING-REVISED

use of the commission's power to insist that all buildings be in the strict tradition of the 18th and early 19th centuries. The new and old can very well be side by side, the new enhancing the charm and distinct quality of our historic buildings." Nevertheless, he also expressed his hope that no new buildings would "do violence to the historic area."

Officially, the AIA chapter sent the mayor and the art commission an adroitly phrased resolution as follows: "In order to have the first building adjacent to the national park conform with the intent of the ordinance . . it is urgently recommended that every effort be made to influence the developers ... to adhere to the provisions of the zoning ordinance which established a 45' cornice line, a 25' setback above that line." In addition, it named a committee of three AIA Fellows to formulate a policy to promote architectural harmony around the mall: G. Holmes Perkins, dean of the University of Pennsylvania School of Fine Arts; Fiske Kimball, retired director of the Philadelphia Art Museum, and George Howe.

AIA chapter President John F. Harbeson in discussing the ruckus said the city's architects feel "that the design as proposed is

of a commercial, commonplace nature, not suited to the location and not produced with a knowledge of architectural refinement." Harbeson, who also denied the architects are insisting on a new "Williamsburg," is a member with art commission President Larson in the firm of Harbeson, Hough, Livingston & Larson.

Next developments? After disclosure that the owner-builders contemplated asking for an adjusted or substitute permit for a 12-story rather than a nine-story structure, the big unanswered question was whether this would make the entire building subject to the new ordinance. Larson went so far as to say that regardless of the permit situation "it now appears that the art commission may have jurisdiction... The intent and purpose of the ordinance giving the commission jurisdiction [and setting height limits] was generally known prior to issuance of the permit."

But shrewd Binswanger countered any suggestion that the permit was sought hurriedly to beat the ordinance. He said it was his understanding that it was the city that rushed through its ordinance in an attempt to block the building.

Mutual Benefit plan to build in Newark touches off a 'rebirth' for city center

Mutual Benefit Life Insurance Co. (the nation's 12th largest) announced a home office redevelopment project in Newark, N.J. last month that promised to become noteworthy on several scores:

▶ Its decision to stay in the heart of the city, after an intensive study of all factors connected with relocating in a suburban area, was touching off a "rebirth" of Newark and a strong "inrush" of companies seeking new in-city quarters, according to Financial Vice President Milford A. Vieser, in charge of Mutual Benefit's project.

▶ Close on the heels of its initial announcement, for instance, the company was about ready at month's end to announce plans for additional twin rental buildings at the adjacent intersection of Broad and Bridge Sts. These would each have about 100,000 sq. ft. of floor area, and it was understood one was almost entirely rented already.

▶ The 20-story, 350,000 sq. ft. floor area, \$10 million building for Mutual Benefit's own occupancy was being designed to provide 1) floor flexibility, and 2) both horizontal and vertical interoffice communications that would save dollars and cents by drastically cutting the time required for the vast volume of paper-shuffling inherent in the business.

Eggers & Higgins of New York were architects for both the rental buildings and Mutual Benefit's home office, which will have a tower of blue-green glass framed in white limestone, and will overlook Washington Park, now surrounded almost entirely by institutional buildings. Behind the home office building Mutual Benefit has acquired a plot of more than two acres, which will be available for parking or for a multilevel garage to serve all three of its new structures. It has entrances from three different streets.

Mutual Benefit officials admitted they were "exploring" possibilities of participating in a Title I redevelopment project two blocks farther north on Broad St., just beyond the adjacent Lackawanna R.R. station. They declined to comment, however, on the ultimate scope of redevelopment they might undertake in this over-all area, on the northern side of the city close to a proposed East-West Freeway.

Meanwhile Newark's new reform government named a civic committee (including AFL and CIO members) to draft an extensive city improvements program. Last year this administration reduced taxes for the first time in many years, which was one of the several reasons that led Mutual Benefit Life to decide to remain in Newark rather than relocate elsewhere.



NEW HEADQUARTERS FOR MUTUAL BENEFIT LIFE

for news about PEOPLE-p. 29

MITCHELL Lighting chosen

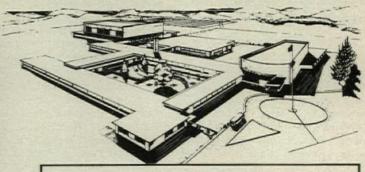
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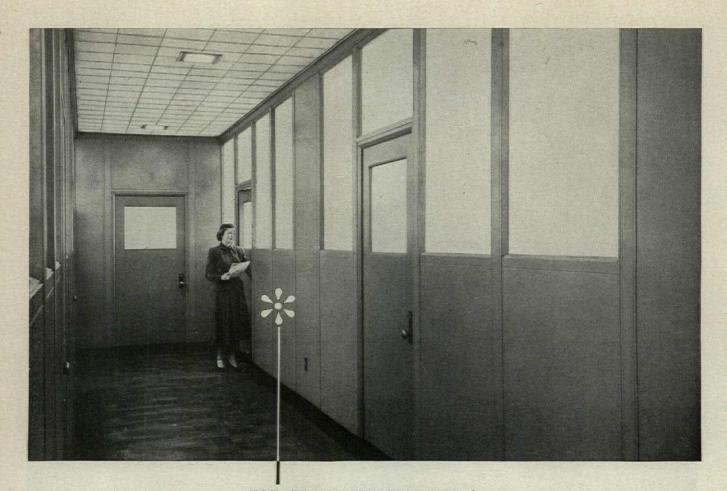
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HAUSERMAN MOVABLE WALLS

Pay a \$14,558 Dividend

TO THE SEIBERLING RUBBER COMPANY

When the administrative office building of The Seiberling Rubber Company was built near Akron, Ohio, in 1945, Hauserman Movable Walls were installed throughout. Already, reallocations of office space have been required to accommodate additional employees and changing work routines. Result: Savings of \$2,273 over comparable tile and plaster wall remodeling costs.

Even more important, however, are the \$12,285 maintenance savings since 1945. These substantial savings were made possible through the elimination of repainting expense. Just routine washing preserves the

beauty of the exclusive Hauserman lifetime wall finish.

There will be more floor plan changes at The Seiberling Rubber Company as time goes by, and Hauserman walls will be moved quickly and economically to meet changing needs. Of course, maintenance dividends will continue, too. Isn't there an idea here for you?



Provide Earlier Occupancy • Fire Resistance • Sound Control • Utility Access In Offices • Laboratories • Hospitals • Industrial Plants



Free Data Manual 55

New 100-page guide for architects contains complete technical details, stock sizes and specifications on all types of Hauserman Movable Interiors. If you do not already have this new data manual, send for your copy today!

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Please send your new	Data Manual 55	to:		
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PEOPLE

Col. Albert E. Stoltz will oversee Air Force academy construction;

Wright stays in Wisconsin, son loses round in license dispute

Col. Albert E. Stoltz, 44-year-old airbase construction veteran, has been named director of the Air Force Academy Construction



STOLTZ

Agency, replacing Col. Leo J. Erler, retiring next month, as top man directing design and construction of the nation's new air academy at Colorado Springs, Col. Stoltz has worked on construction of some of the major airbases in this country (Barksdale Field, La. and Ran-

dolph Field, Tex., and others in Germany and France). More recently he has been assistant chief of staff for installations for the Air Force in Europe and deputy director of the Joint Construction Agency, assigned to the agency's Paris office.

NAMED: Leffert Holz, realty lawyer, vice president of the New York Real Estate Board and chairman of its municipal affairs



HOLZ

committee, as New York State superintendent of insurance, a post in which he will supervise some of the nation's biggest insurance companies, replacing Alfred J. Bohlinger, who last year had a major role in effecting the resignation of Thomas I. Parkinson as president of

the Equitable Life Assurance Society; William O'Dwyer, former mayor of New York and former ambassador to Mexico, as president (for his important Mexican contacts) and William H. Bauer as board chairman (to continue directing operations) of Cia Mexicana de Construcciones Maritimas, subsidiary of a US firm, Bauer, Smith Dredging Co.; B. T. Fitzpatrick, until last December general counsel of HHFA, as a special housing consultant to New York City; Henry A. Jandl, associate professor of architecture at Princeton University, as consultant to US Steel Homes, Inc.

Frank Lloyd Wright decided his home state, Wisconsin, likes him after all. Last fall he announced he would unroof famed Taliesin and leave Wisconsin for good, after the state supreme court ruled that his Taliesin Fellowship was not an educational institution and therefore was taxable (AF, Dec. '54, News). Last month Wright listened to harp music and two hours of tributes at a \$25-aplate testimonial dinner at the University of Wisconsin at Madison. He also accepted a \$10,000 check to help pay Taliesin's back taxes of \$18,000, and announced he would stay in Wisconsin, where he was born nearly 86 years ago. Wright and his wife were guests of Gov. Walter Kohler the night of the dinner.

In California, Architect John Lloyd Wright won a minor battle against the California board of engineers, but must continue his legal war with the state's board of architectural examiners. The appellate department of the San Diego County Superior Court affirmed last month the dismissal of complaints against Wright under the civil engineers act. But it ruled that the architects' practice act, under attack by Wright and a good many unlicensed designers in California, was constitutional, and sent back two of several counts against Wright under this act for trial in Oceanside Municipal Court. Charges against Wright were that he displayed a sign that "might indicate" to the public that he was an architect licensed in California, and that he failed to tell a client in writing that he was unlicensed (AF, Aug. '54).

ELECTED: John E. Haines, vice president of Minneapolis-Honeywell Regulator Co., as president of the American Society of Heating and Air-Conditioning Engineers (formerly heating and ventilating engineers); Wayne F. Strong, vice president for manufacturing, as president and board chairman of Iron Fireman Manufacturing Co.; Douglas L. Elliman and John F. Hamlin as board chairman and president of Douglas L. Elliman & Co., one of New York's leading realty firms; Executive Vice President T. C. Williams of Stone & Webster, as president of the National Constructors Assn., and C. D. Haxby of Pittsburgh's Rust Engineering Co. as vice president.

MARRIED: John W. Galbreath, principal sponsor of the new Socony-Vacuum building in New York and past president of the Na-

"Capital Times"-Tom Barlet



HAPPY GOVERNOR (L) AND LOYAL WISCONSAN

tional Assn. of Real Estate Boards, to Mrs. Dorothy Bryan Firestone, widow of Russell A. Firestone, son of rubber company founder Harvey Firestone, Feb. 17 at Miami Beach.

Dana Young, civil engineering department chairman, has been made dean of Yale University's Engineering School, succeeding



OUNG

Walter J. Wohlenberg, who is retiring to devote his time to research and teaching. Young, a specialist on vibration and elasticity of building materials, will begin his new duties July 1. During World War II he worked on guided missiles for the Navy's ordnance bureau and did

research at the Johns Hopkins Laboratory of Applied Physics.

CONGRATULATIONS:—to Madison's John J. Flad & Assoc., and Milwaukee's Maynard W. Meyer & Assoc., and Grassold, Johnson & Assoc., for winning the biennial design awards of the Wisconsin Architects' Assn.; to New York Realtors Anthony J. and Leone J. Peters, brothers, for winning the 1954 "most ingenious real estate transaction" prize of the Real Estate Board of New York (the transaction: fostering the first new skyscraper in Manhattan's financial district in nearly 25 years).

DIED: noted church designer and speaker Charles D. Maginnis, 88, of Maginnis & Walsh & Kennedy, Boston architectural firm, presi-

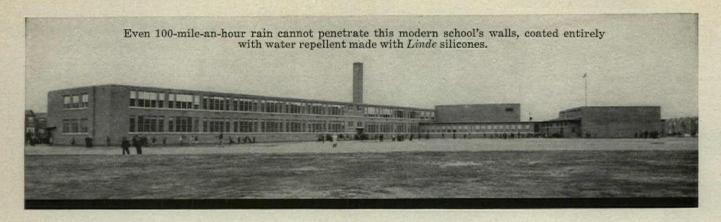
dent of AIA in 1937 and 1938, recipient of the AIA Gold Medal, the Laetare Medal from Notre Dame University, and rank of Knight of Malta from Pope Pius XII, Feb. 15 in Boston; Harry A. Brandt, 64, designer of B'nai Israel Synagogue in Washington, and federal public



MAGINNIS

housing consultant to the federal government, Jan. 24 in Washington; Sullivan W. Jones, 76, state architect of New York State, 1923-28, chairman of the National Construction Planning Board, 1934-35, and consultant on veterans' hospitals, Jan. 26, in New York City; Julius Miller, 75, president of Manhattan Borough in New York City, 1921-30, and builder of the borough's West Side elevated highway, Feb. 3, in New York; Gen. Brehon B. Somervell, 62, head of Koppers Co. Inc., commander of Army Service Forces during World War II, and New York City WPA director in 1936 (major project: La Guardia Airport), Feb. 13, in Ocala, Fla.

for news about TRENDS-p. 32



Huge school system approves water repellents made with LINDE silicones for above-grade masonry

"Invisible Raincoat"

Protects City's Schools

In one of the nation's largest cities, the abovegrade exterior brick and concrete of school buildings is being coated with water repellents made with LINDE Silicones.

More than thirty of the school system's close to 300 older buildings have already been treated. New schools are being treated as erected. To date, 500,000 sq. ft. are done.

Board of Education maintenance engineers say that rain leaks and seepage that once caused costly



Leaks were serious in this older school, so brick was repointed, then coated with silicone repellent. Result: No more problems from moisture.

damage to interior plaster, paint, and woodwork, have been eliminated.

Masonry spalling and cracking caused by water absorption and freezing have been completely stopped. Unsightly efflorescence is a thing of the past. And buildings stay cleaner because rain simply washes dirt down the walls.

Why you, too, should specify "Linde" silicones

Above-grade masonry water repellents made with LINDE silicones mean . . . longer life for concrete and brick . . . reduced maintenance inside and out . . . better appearance.

More and more architects are specifying masonry water repellents made with LINDE silicones. They alone provide all these advantages:

- Clear and Invisible Cause no change in color, no
- shine.

 One Coat
- For complete water repellency.
- Penetrating Reach correct depth for maximum effectiveness.
- No Seepage Even rain driven 100 miles an
- Non-Sealing and Pressure
 Resistant
- Permits masonry to "breathe."

- Fast-Working
- Dry in 3 hours to complete water repellency.
- Applicable the Year Round Can be applied even at 15 degrees Fahrenheit.
- Long Lasting
- Tests indicate dependable service for 10 years!
- Easy to Apply
- Either low-pressure spray or brush.
- Can Be Painted Over With oil-base paints.
- CALL OR WRITE LINDE—for the full story on water repellents made with LINDE silicones for above-grade masonry, and a list of representative suppliers. Address Dept. A-3.

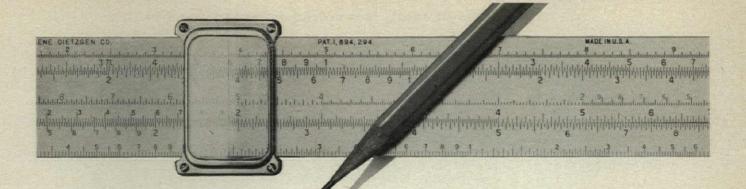
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IN CANADA: Dominion Oxygen Company, Division of Union Carbide Canada Limited

The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation



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help you design to practical standards and benefit from precision quality

You can benefit by designing to USF standardized modular Flush Panel Steel Doors and matching frames. They fit!

—Yes, they fit each other and fit with all other modular building materials.

Made better!—Manufactured on jigs and fixtures, they give you positive, known quality, in one or a thousand doors, and accuracy of dimensions, square and plumb not possible in 'specials'.

USF is geared to produce precision quality in standardized, modular 13%" Wooster Doors or 134" Commercial Doors and frames. Make these your standards—help yourself and your client.

United Steel Fabricators,

Incorporated

WOOSTER, OHIO



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- Prefabricated Steel Buildings
- Steel Bridge Flooring
- Highway Guard Rail
- Corrugated Metal Drainage Products



\$1,000,000 WORTH OF TOOLS, JIGS, FIXTURES GUARANTEE PRECISION

USF has developed approximately \$1,000,000 worth of special tools, jigs and fixtures to guarantee the precision manufacture of *standardized* modular steel doors and frames that meet and exceed industry standards for quality and accuracy.

Perfected design, proved manufacturing methods and years of field service records are assurances of the quality and easy installation USF Steel Doors and Frames lend to every project.

TRENDS

New York again leads in building activity; metropolitan areas do 80% of total; commercial is concentrated in cities

Building permit valuations increased last year in 12 of the 23 cities with the largest volume, with Seattle showing the great percentage gain. New York and Los Angeles showed declines, but remained in first and second place in total volume. These reports cover only permits for construction within city limits, rather than "metropolitan areas."

The score in thousands of dollars:

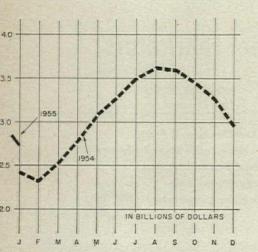
City	1954	1953	% change
New York	546,570	556,935	-1.8
Los Angeles	408,672	430,257	-5.0
Chicago	229,881	226,548	+1.5
Houston	165,338	130,213	+26.9
Dallas	142,690	106,243	+34.3
Philadelphia	137,509	125,537	+9.5
Detroit	126,511	172,925	-26.8
Milwaukee	102,241	80,509	+27.0
Denver	100,569	93,150	+8.0
Baltimore	89,123	98,950	-9.8
Atlanta	87,542	80,951	+8.1
Seattle	77,188	52,190	+47.9
San Diego	72,379	78,621	-7.9
Cleveland	62,255	86,799	-28.3
St. Louis	60,683	49,323	+23.0
Kansas City	58,674	45,388	+29.2
San Antonio	58,308	48,231	+20.9
San Francisco	57,746	61,493	-6.1
Washington, D.C	55,688	73,471	-24.2
New Orleans	54,948	72,690	-24.4
Cincinnati	53,773	58,165	-7.5
Portland, Ore	50,526	51,743	-2.4
Memphis	49,178	48,288	+1.8
Source: Dun & Bradstre	et		

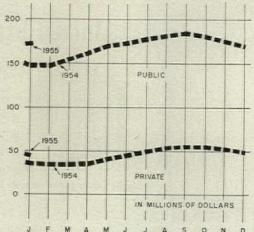
Last year the Bureau of Labor Statistics started a new continuous analysis of building permit activity to measure the extent of construction by location—either within central cities or in the outer portions of "metropolitan areas" (the commuter zone suburbs) beyond city limits. Last month its data for the first nine months of 1954 became available. It showed metropolitan area building permits accounting for four fifths (79.6%) of all new building.

In the breakdown by different building types, the data showed that only 30.1% of the dollar volume of new residential construction in metropolitan areas took place within city limits (69.9% in the suburbs). Central cities, however, accounted for 67.8% of the metropolitan area dollar volume of new residential buildings for five or more families, and 93.5% of new public housing.

The BLS' permit data showed that central cities in the first nine months of 1954 received 49.8% of the dollar volume of all new nonresidential building in metropolitan areas. The breakdown:

Commercial buildings	55.8%
Amusement buildings	57.3
Commercial garages	77.8
Gas and service stations	46.1
Office buildings	69.9
Stores and mercantile buildings	46.7
Community buildings	51.8
Educational buildings	46.0
Institutional buildings	70.9
Religious buildings	51.9
Industrial buildings	34.7
Public buildings	52.9



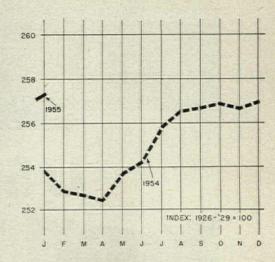


TOTAL CONSTRUCTION

January's new building expenditures set a record for the month, totaled \$2.8 billion. Commerce-Labor Dept. reports showed the 13% gain over Jan. 1954 was due entirely to increases in private outlays; total public expenditures were the same as a year earlier. Housing starts reached an all-time January peak of 88,000 units. This was 33% greater than Jan. 1954 despite the fact that public housing starts fell to 200, compared with 1,300 a year earlier.

SCHOOL CONSTRUCTION

Expenditures for new school building were at considerably higher levels for the first month of 1955 than at the start of 1954. Commerce-Labor Dept. reports put private school outlays in January at \$48 million, 23% over Jan. 1954, and public outlays at \$175 million, a 17% increase from a year earlier. Construction outlays would not reflect any increased spending as a result of proposed federal aid for schools (p. 9) until some time after a definite program was enacted.



BUILDING COSTS

E. H. Boeckh & Associates' building cost indexes, reflecting scattered gains in lumber prices and wage rates, moved up again in January. The consolidated index covering apartments, hotels, office, commercial and factory buildings reached 257.4, up 0.4 points from December and 1.4% above Jan. '54.

NEW CONSTRUCTION EXPENDITURES

(millions of dollars)	January		
			Per-cent
Type of construction	1955	1954	change
PRIVATE			
Residential building (non-			
farm)	1,091	816	+34
New dwelling units	1,000	730	+37
Additions and alterations	70	63	+11
Nonresidential building	527	486	+8
Industrial	175	179	-2
Commercial	185	164	+13
Other nonresidential			
building	167	143	+17
Religious	54	42	+29
Educational	48	39	+23
Social and recreational	14	16	—13
Hospital and institu-			
tional	27	26	+4
Miscellaneous	24	20	+20
Farm construction	93	102	-9
Public utilities	302	299	+1
All other private	14	7	+100
*PRIVATE TOTAL	2,027	1,710	+19
PUBLIC	-		
Residential building	23	37	—38 —5
Nonresidential building	337	354	—34
Industrial	95	145	
Educational	175	150	+17
Hospital and institutional	24	23	+4
Military facilities	85	73	+16
Highways	145	130	+12
Sewer and water	75	68	+10
Conservation and develop-	40	EC	_4
ment	48	50 734	-
*PUBLIC TOTAL	734	/34	
*GRAND TOTAL	2,761	2,444	+13
* Minor components not shown, so t	otal exce	eds sum	of parts.

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

ANNOUNCING

The Classroom Furniture of Tomorrow . . . TODAY

Samsonite

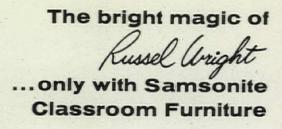


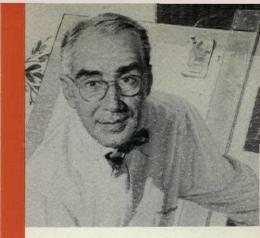


a new concept in color...

a new dimension in design

The Mobile Samsonite Open Front Desk gives maximum storage space! Forms related unit with matching Pivot-Back chair.





New sun-bright colors make drab Classrooms Cheerful

This new classroom furniture makes attention less tiring, learning more fun!

Samsonite combines creative imagination with scientific analysis and survey testing in 30 states...creates the most modern classroom furniture in the world!

IN COMFORT ...

all dimensions and contours embody gently flowing lines in back and seats, to promote proper posture, and insure maximum classroom attention. Desk and chair combinations come in nine posture-perfect sizes for every grade and for every school.

IN MOBILITY...

Samsonite's modern design allows the instructor to create exciting, informal layouts or conventional rectilinear arrangements... move units from room to room without conflict in color or contour.

IN DURABILITY...

new features like aluminum spats on legs, evidence Samsonite's insistence on furniture that's "strongest ...lasts longest"...maximum economy for burdened school budgets.

A new note in schoolroom furniture, Samsonite's Circular Table lends an informal, non-institutional look to the classroom.

290 square inches of writing surface! New Samsonite Tablet Desk Chair plays multiple roles in classroom, meeting rooms, lunchroom.

Samsonite's four colors were carefully selected to blend or contrast effectively with classroom colors nationally in use...to mix-match harmoniously among themselves, in pairs, or in other combinations. Look at the bright possibilities the new selection gives you.

school activities.

GREY

color scheme.

BROWN

A new, sparkling Grey A new "freshened" Brown A friendly Green-Blue A lively yet subdued Red, tone blends with every avoids usual drabness of introduces exciting classthat color.

TURQUOISE

room color interest.

TERRA COTTA

refreshing in any room.

classroom.

New comfort-curved contours keep young bodies healthy



Why Samsonite is your smartest school buy

New construction advances for a bright new age in classrooms

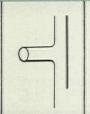
MONEY SAVING DURABILITY



Tubular steel frame construction to combine lightweight mobility with extreme strength.



Roller-swaged leg taper. Thicker tubing at bottom gives extra durability and support. Tapers encased in aluminum spats.



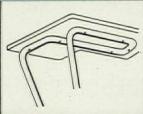
Resistance welder joints. Metal joints made in specially designed machines. Welds are as strong as frame itself.



Electrostatically-deposited enamel on bonderized metal. Absolutely uniform enamel coverage. Nonchalking, highly resistant to abrasion and chipping.



Best quality adnesives. Wooden oints are bonded with water resistant urea resin adhesives, cured under heat



Perfectly balanced supports. Tabiet arms and tablet desk supports are made of continuous lengths of steel. Cantilever distributes all stresses evenly.

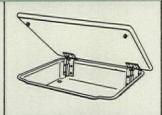


Plastic back support. Never needs refinishing. Steel reinforcement plate insupport plate insupport

FULL CLASSROOM SILENCE



Silent glides. Polished steel glides cushioned in rubber eliminate distracting noise from moving furniture.

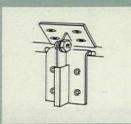


No-slam lids. Rugged friction hinges prevent slamming. Countersunk rubber grommets eliminate all possibility of noise.

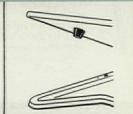


Rubber stop on pivot ing back guarantee completely silent pivo

MISCHIEF PROOF

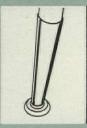


Self-locking fasteners can't be loosened with coins, knives or even screwdrivers



Roller bumpers on desk lid are countersunk, cannot be pried loose.

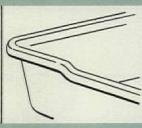
EASY, TIME-SAVING MAINTENANCE



Tapered aluminum spats camouflage scuffs and mop-marks.



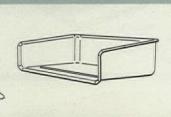
in desks an book boxes prevent dust accumulation, say time in cleaning



Flanged, beaded and beveled corners and edges simplify cleaning, eliminate dust accumulation.



grooves on pencil trays for thorough cleaning in a liffy.



Single stamping book boxes, racks and shelves. No seams, joints or rough edges to collect dust or hamper cleaning.



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Makers of the famous Samsonite folding tables and chairs for every institutional use

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Complete specifications on new Samsonite Classroom Furniture, fully illustrated in color. Write to Shwayder Bros., Classroom Furniture Division, Detroit 29, Mich. for a copy and for the name of your nearest distributor.

Samsonite ... the Classroom Furniture that's

STRONGEST...LASTS LONGEST!

Because V-LOK Reduces Erection Costs

A school designed with a V-LOK Steel Frame can be erected and under roof in a very few days—using a minimum of skilled labor and equipment to expense against the job. Interlocking structural members require no bolting, riveting or welding — except anchor bolts.



Because V-LOK Gets a School Under Roof Faster

A school under roof in a few days permits craftsmen to move in and start finishing operations for much earlier occupancy. This speed combined with actual economies—per sq. ft.—puts a School Board definitely over on your side for future expansions.



Because V-LOK Designs Readily Into School Layouts

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Second is the Willow Run High School, Birchard & Roberts, Dearborn, Gen. Contractor. Third is the South Lyon High School, A. N. Hickson, Inc., General Contractor, Detroit, Michigan.



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NAILABLE STEEL JOISTS LONGS PANS BOWSTRING ROOF TRUSSES METAL DECK V-LOK STEEL FRAMING STRUCTURALS

the Hospital Staff is always in SILENT CONTROL of equipped patient room doors

no free opening or closing action
... no unexpected slamming ...
no rattle or latching click. Equipped
with these GJ devices the door functions silently with the staff in complete control.

A FRICTION DOOR HOLDER

enables the nurse to place the door at any degree of opening . . . it will stay until moved to another position. Patient can look out without being in full view of passing visitors. Concealed or surface mounted. Operates silently.

ARM PULLS

enable the staff to open doors with arm while carrying tray or to keep hands sterile.

A SILENT DOOR LATCH

with rubber roller, silently engages strike, without annoying click. Closed door will not rattle.

DOOR AND FRAME SILENCERS

absorbs the sound and impact of door closing. Eliminates door rattle. Pneumatic cushions — permanently installed in door stops.

Also GJ door holders and stops for hospital entrance doors, vestibule doors and utility room doors . . . overhead installed as well as floor and wall types.

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America's first building* with COLORED ALUMINUM spandrels

*ALCOA Office Building, Cincinnati, Ohio Architect: Paul Schell Contractor: Frank Messer & Sons, Inc.



Pioneering in aluminum curtain wall construction for almost eight years, General Bronze is today recognized as the outstanding leader in this field.

Now, General Bronze adds to its reputation for leadership by fabricating the first colored aluminum wall facing panels in an aluminum curtain wall — panels for the new ALCOA office building in Cincinnati, Ohio.

This modern new building with its attractive aluminum spandrels of soft gold color on one facade and blue on the other, is but an indication of what is possible in new building design. Now, architects are able to assure their clients all the advantages of maintenance-free, non-rusting, light-weight aluminum wall panels, while employing color in building design to an extent never before thought possible.

General Bronze is proud that it was selected to fabricate the colored aluminum wall facing panels and the vertically pivoted, reversible windows for this striking new building. It is indeed another tribute to our reputation for quality products, for sound engineering and design and for precision workmanship.

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GENERAL BRONZE CORPORATION . GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Stock-size Aluminum Windows BRACH MFG. CO. DIVISION—Multel, T. V., Radio and Electronic Equipment. STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

ight for Borden LAB

New Research Building Features Window Walls of Coolite Wire Glass

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4800 sq. ft. of Coolite makes these new laboratories appear larger, brighter, more comfortable ... with plenty of conditioned light for the most exacting scientific work.

Yet, the proven ability of Coolite to absorb unwanted solar heat helps keep interiors cooler. Occupants see better, feel better, work better and more accurately in areas glazed with Coolite.

Coolite Wire Glass protects against shatter damage, resulting from fires. This Approved Fire Retardant No. 32 tends to bottle up and thus prevent the spread of flames. And the Coolite wire glass adds beauty to the exterior—the clean, blue hue harmonizes with the crisp, modern design ... its benefits minimize need for unsightly painted screens or blinds.

For maximum comfort and protection specify Mississippi Coolite Heat Absorbing and Glare Reduced Wire Glass. Available through leading distributors of quality glass. Mississippi offers a wide variety of translucent, light diffusing glass patterns for every glazing requirement.



Write today for free catalog. Address Dept. 6

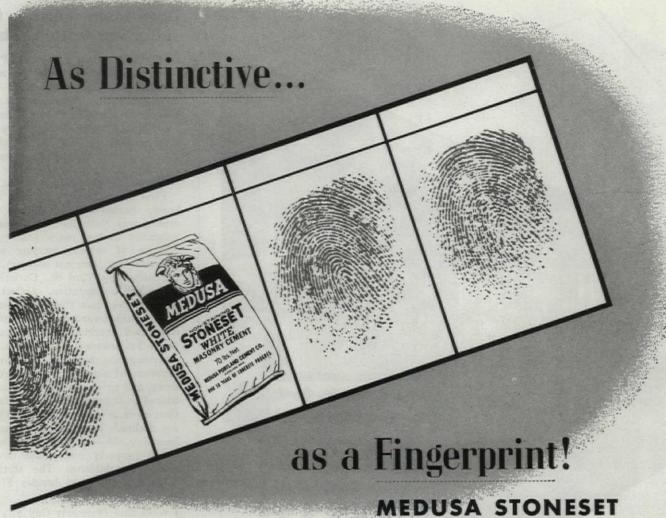
ass COMPANY

SAINT LOUIS 7, MO. FULLERTON, CALIFORNIA

Samples on request,

88 ANGELICA ST. NEW YORK . CHICAGO

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



Experts say every fingerprint is different—and we say Medusa StoneseT Mortar Cement is as distinctive as fingerprints! It's the only white masonry cement made from world-famed Medusa White Portland Cement. As a result of this difference . . . this whiteness . . . wonderful things happen to masonry when you specify Medusa StoneseT White Masonry Cement. The unstained, uniformly white mortar joints give your masonry units a far more beautiful appearance. And Medusa StoneseT properly tinted makes mortar that harmonizes perfectly with the exact color of the face brick, stone, marble or glass block units you are using.

But the best part is, you can absolutely depend upon Medusa StoneseT... Thousands of buildings—some twenty to twenty-five years old—stand as living testimony of its dependability. For mortar work that is different, insist upon StoneseT.

White Masonry Cement



North Oshawa Public School, Oshawa, Canada

MEDUSA Portland Cement Company



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Pittsburgh, Pa.

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WHITE • WATERPROOFED WHITE • GRAY
WATERPROOFED GRAY • AIR ENTRAINING • STONESET
HIGH EARLY STRENGTH • BRIKSET

WHITE TILE GROUT CEMENT

MAKERS OF AMERICA'S FINEST PORTLAND CEMENTS FOR OVER SIXTY

1000 Midland Building



CHOOSES HONEYLITE



Why? Because of HONEYLITE'S all-metal, expanded aluminum honeycomb construction. HONEYLITE provides soft, shadow-free lighting...has 95% or better light transmission efficiency. It is fireproof, and designed to conceal overhead pipes, sprinkler heads and air plenums. HONEYLITE is efficient, safe...strikingly beautiful when used in full ceiling or fixture unit lighting. Additional information on request.



HONEYLITE LIGHT-DIFFUSING, ALL-METAL ALUMINUM HONEYCOMB CEILINGS ARE A DEVELOPMENT OF

XCEL PRODUCTS CO.

DEPT. H, 255-61st STREET OAKLAND 8, CALIFORNIA

NEWS

Continued from p. 32

Downtown churches face suburban trend problems

Nashville's historic First Presbyterian Church voted in November to move to the suburbs from its 110-year-old "Egyptian" landmark edifice, the oldest church structure in the city. Story has it that the early congregation rejected two sets of plans for this building by William Strickland, who also designed the Tennessee Capitol, so for the third set he purposely drew an eyesore—and it was promptly accepted.

First Presbyterian's move to a suburban home, sharing a 5-acre site with a youth center, was Nashville's sixth major church relocation in five years (not counting the creation of several outlying parishes by churches that were not moving). A seventh relocation, by Vine St. Christian Church, is under consideration. Collectively these shifts showed how the movement of population suburbanward has posed problems for downtown churches very similar to many faced by downtown merchants.

Among the reasons for moving: many members of some churches were migrating away, and greater numbers could be administered to in large new residential communities; even in cases where membership had not declined, but increased, structures were becoming old—one was about to fall down—and property costs made downtown expansion prohibitive. The stories on the other major movers besides First Presbyterian were revealing:

▶ West End (formerly Gay St.) Synagogue moved in 1949 to a new modern suburban structure by Architect Percival Goodman. In 1940 it served 275 families, today 550. Its old quarters were sold to the state for an office building.

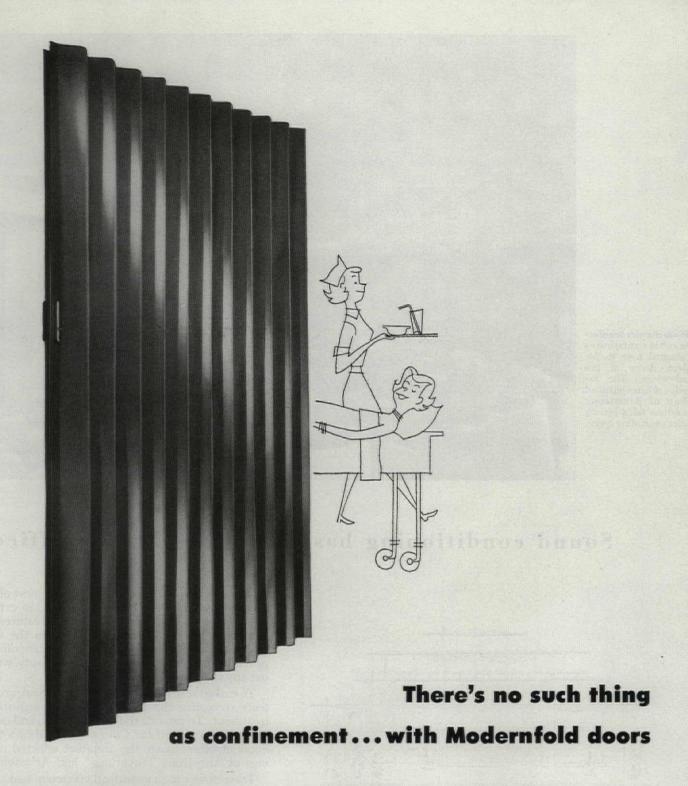
First Lutheran relocated on the fringe of the business district in 1951 in a new building of traditional Gothic design by Marr & Holman of Nashville. The old church was razed and is now a parking lot.

▶ First Church of Christ, Scientist, began losing members about five years ago, so in 1953 merged with the suburban Second Church. The consolidated congregation is now called the First Church and plans to enlarge the former Second Church building. ▶ Immanuel Baptist was completing last month its transfer into a new Colonial-style suburban structure by Architects Hart, Freeland & Robert. Before moving it had about 1,100 members, the same as in 1940, although it also helped establish a new parish in the suburbs in the interim. Its old building will be sold.

▶ Vine St. Temple is now building a modern structure in the suburbs from plans by Architect Sigmund Braverman. Its downtown property has been sold and will become an office building.

Two major confirmed downtown churches in Nashville are the Central Church of Christ and McKendree Methodist. Central feels there are services a downtown church can provide that could not be ministered from the suburbs. It has boys' and girls'

continued on p. 42



In hospitals, clinics and medical office buildings, space requirements change from minute to minute, but the need for privacy is constant.

How to have both privacy and flexible space in any building can be solved with versatile, long-wearing Modernfold doors and walls which enclose areas with finger-tip ease or expand space instantly when more room is called for.

With its graceful lines and host of eye-catching colors, Modernfold enhances the beauty of any decorating scheme. And, of course, Modernfold is built for hard wear. Because of its tough vinyl covering and balanced, double-strength steel framework (all concealed), it delivers an almost unlimited life of efficient, trouble-free service. Models have been operated more than a

million times without giving any indication of trolley or track wear or frame weakness.

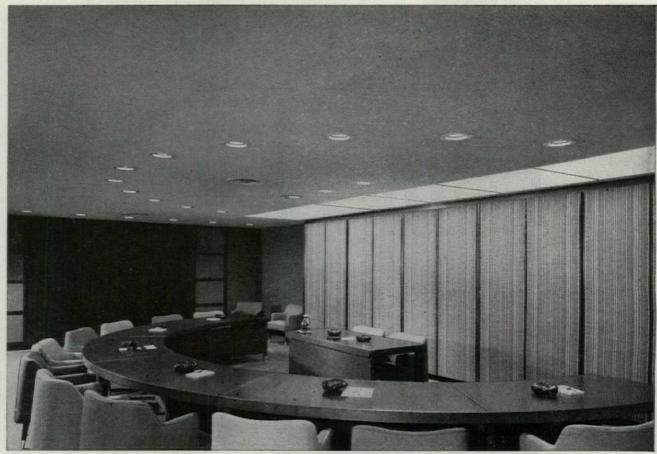
Space in any building need never be confined again, for Modernfold gives both flexibility and privacy.

The Modernfold Custom line—which comes in a wide variety of colors and is for openings of any size—is available through installing distributors, listed under "Doors" in city classified directories. The Spacemaster line—which can be painted or slip-covered and is for standard openings—is available at your building supply dealer. Or write New Castle Products, Inc., Dept. C32, New Castle, Indiana. In Canada: New Castle Products, Ltd., Montreal 6.

Full details in Sweet's file

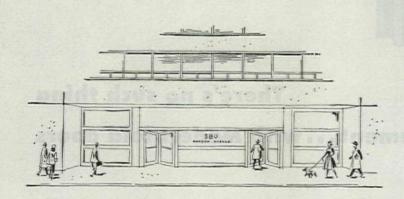


@ 1955, NEW CASTLE PRODUCTS, INC.



A semi-circular conference table contributes an unusual note to the modern décor of the board room. The fissured, white-painted ceiling of Armstrong Travertone adds beauty besides promoting quiet.

Sound conditioning basic in open planned offices



Columbian Carbon Company, New York, N. Y.

Architect: J. Gordon Carr
General Contractor: Cauldwell-Wingate Co.
Acoustical Contractor:
William J. Scully Acoustics Corp.

Today's modern office is a far cry from most of its pre-war counterparts. Open planning, an extensive use of room dividers, and other features of contemporary design as exemplified in the Columbian Carbon Company's new executive offices provide spaciousness, comfort, and beauty without any sacrifice of functionalism.

To make these modern interiors practical, architects recognize the need for proper acoustical treatment. To provide the quiet, beauty, and extra fire safety required for Columbian Carbon's two floors of office space, the architect selected ceilings of Armstrong Travertone* and Arrestone®.

Travertone's high acoustical efficiency soaks up as much as 80% of distracting noise and helps maintain a pleasantly quiet atmosphere despite the hustle and bustle of a busy working day. Travertone's handsomely fissured, white-painted surface also adds beauty to the décor, and its mineral wool composition contributes to fire safety.

In the machine accounting areas, where noise absorption is especially important, Armstrong Arrestone has been installed. This perforated metalpan material is unusually efficient, has a noise-reduction coefficient of 0.85. Get full details on Travertone, Arrestone, and other Armstrong sound-conditioning materials from your local Armstrong Acoustical Contractor.

For the free 24-page booklet, "Armstrong Acoustical Materials," write Armstrong Cork Company, 4203 Rooney Street, Lancaster, Pa.

* Trade-Mark



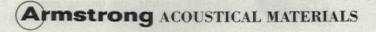
Visitors are welcomed to the Columbian Carbon Company by beautiful, restful surroundings. The noise-absorbing ceiling of Travertone contributes to this atmosphere, blends well with the up-to-date décor.



Sound conditioning this punchboard accounting machine room required an efficient acoustical material. Armstrong Arrestone was chosen for its high noiseabsorbing qualities as well as its easy maintenance.

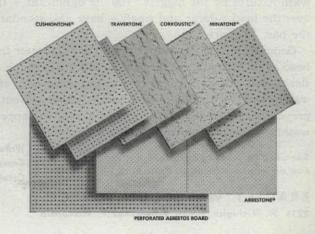


Dignity, beauty, and quiet are provided the president's office by the Travertone ceiling. This material will stay smart looking and clean for years with an occasional washing or repainting.





Glass partitions in the executive's secretarial area help promote a feeling of spaciousness. This "open" feeling is further carried out by the monolithic appearance of the square-edged Armstrong Travertone ceiling.





The 100 Largest Industrial Companies

Total Assets, 100 Largest Manufacturing Corpor as Reported at End of 1953 (In Millions)

na meloreen ne
Allied Chem. & Dye Cp.
Allis-Chalmers Mfg. Co.
Aluminum Co. of Amer.
Amer. Can Co
Amer. Cyanamid Co
Amer. Smelt. & Ref. Co.
Amer. Tobacco Co
Amer. Viscose Corp
Anaconda Cop. Min. Co.
Armco Steel Corp
Armour & Co.

Arringo mores confirman
Armour & Co
Atlantic Refining Co
Avco Mfg. Corp.
Bendix Aviation Corp
Bethlehem Steel Corp
Boeing Airplane Co
Borden Co.
Borg-Warner Corp
Burlington Mills Corp
Catamillan Treator Co

The state of the s	
Armour & Co	474
Atlantic Refining Co	571
Avco Mfg. Corp	223
Bendix Aviation Corp	329
Bethlehem Steel Corp	1.783
Boeing Airplane Co	232
Borden Co.	296
Borg-Warner Corp.	260
Burlington Mills Corp	301
Caterpillar Tractor Co	261
Caterpinar Tractor Co.	202
Celanese Corp. of Amer.	322
Chrysler Corp.	898
Citles Service Co	1,103
Coca-Cola Co	236
Colo. Fuel & Iron Corp.	215
Continental Can Co	321
Continental Oil Co	409
Crown Zellerbach Corp.	243
Deere & Co	431
Distillers Op Seagrams	458

Douglas Aircraft Co	274
Dow Chemical Co	769
E. I. duPont de N. & Co.	1.846
Eastman Kodak Co	524
Firestone Tire&Rub, Co.	567
Food Mach, & Chem, Cp.	223
Gen. Amer. Trans. Cp	226
Gen. Electric Co	1.697
Gen. Foods Corp.	353
Gen. Motors Corp	4.405
Gen. Motors Corp.	4,400
B. F. Goodrich Co	437
Goodyear Tire&Rub. Co.	666
Gulf Oil Corp	1.766
Inland Steel Co	433
Inter. Bus. Mach. Corp.	520
Inter. Harvester Co	973
Inter. Paper Co.	507
Jones & Laughlin Stl. Cp.	579
Kaiser Alum. & Chem. Cp.	320
Kaiser Steel Corp	267

Gen. Motors Corp
B. F. Goodrich Co
Goodyear Tire&Rub. Co.
Gulf Oil Corp.
Inter. Bus. Mach. Corp.
Inter. Harvester Co
Inter. Paper Co
Kaiser Alum. & Chem. Cp.
Kaiser Steel Corp

Natl. Steel Corp	
Ohio Oil Co.	
Owens-Illinois Glass Co.	
Phelps Dodge Corp.	
Phillips Petroleum Co	1
Pitts. Plate Glass Co	
Procter & Gamble Co	
Pullman Inc.	
Pure Oil Co	
Radio Corp. of Amer	
Republic Steel Corp	
R. J. Reynolds Tob. Co.	
Downalds Matala Co	

Republic Steel Corp	7
R. J. Reynolds Tob. Co.	
Reynolds Metals Co	4
Richfield Oil Corp.	2
Schenley Industries	4
Shell Oil Co.	9
Sinclair Oil Corp.	1,1
Singer Mfg. Co	4
Skelly Oil Co.	2
Socony-Vacuum Oil Co.	2,1
	ME

Natl. Steel Corp. Ohio Oil Co Owens-Illinois Glass Co. Phelps Dodge Corp. Phillips Petroleum Co Pitts, Plate Glass Co Procter & Gamble Co Pullman Inc Pure Oil Co Radio Corp. of Amer	528 318 222 345 1,039 442 444 229 383 494
Rapublic Steel Corp R. J. Reynolds Tob. Co. Reynolds Metals Co Richfield Oil Corp Schenley Industries. Shell Oil Co Sinclair Oil Corp Sinclair Oil Corp Singer Mfg. Co Skelly Oil Co Skelly Oil Co	405
Sperry Corporation Stand, Oil Co. of Calif. Stand, Oil Co. (Ind.) Stand, Oil Co. (Ind.) Stand, Oil Co. (Ni. J.) Stand, Oil Co. (Oil.) J. P. Stevens & Co. Sun Oil Co. Swift & Co. Texas Company Tide Water Assoc, Oil Co.	259 1,535 2,036 5,372 296 257 469 533 1,805 362

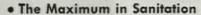
Tide Water Assoc. Oil Co.	362
Union Carbide & Car. Cp.	
Union Oil Co. of Calif.	476
United Aircraft Corp	298
U. S. Rubber Co	489
U. S. Steel Corp.	3,248
Western Electric Co	877
Westinghouse Elec. Cp.	1,265
Weyerhaeuser Timber Co.	323
Wheeling Steel Corp	234
Youngstown Sh. & Tube Co.	514

NATIONAL CITY BANK MONTHLY LETTER OF JULY, 1954



Because they provide these Important Group-Washing Features:





- Lower Installation Costs
- More Facilities in Less Space

In the list previous to the one shown above, Bradley Washfountains were used by 99 out of the 100. Now in this latest list, we find the vote is unanimous. -100 out of 100.

While the preference for these sanitary

wash fixtures by the biggest "100" is significant, -thousands of plants all over the land, -large and small, -have also standardized on them during the past 30 years.

Groups up to 10 are served clean running water from the central sprayhead at each Bradley. There are no faucets to touch or maintain; the large sleek bowl is self-flushing to prevent collection of contaminating used water,-and with foot-control, water supply is cut off automatically to prevent water waste. Your employees, too, will appreciate the clean quick washing that Bradley Washfountains provide.

Specified by leading architects and distributed through Plumbing Wholesalers

BRADLEY WASHFOUNTAIN CO. 2235 W. Michigan Street, Milwaukee 1, Wisconsin Write for Complete Catalog 5204



NEWS

Continued from p. 38

dormitories, a day nursery for children of working mothers, family-counseling service, 24-hour prayer facilities and a 24-hour pantry and clothing depot for the needy. McKendree Methodist decided to stay downtown three years ago when it started to increase its community services program.

Office renting rate steady; **NLRB** narrows jurisdiction

Office building owners had two good causes for rejoicing.

First, the latest 167-city semiannual survey by the National Association of Building Owners and Managers showed an occupancy rate of 97.11%, or only 0.01% below the previous survey. This was the smallest decline ever recorded in the 30-year history of this index. In the gradual moderate decline since the end of the war, said NABOM, the latest survey "reflects a leveling out of the vacancy trend at a point still considerably above . . . 'normal.' "

Second, the National Labor Relations Board was paring drastically the office building operations it considers within its purvue.

Over vigorous opposition by two minority holdovers appointed during the Truman administration, NLRB decided to exempt office building management from its scrutiny unless an employer owning or leasing a building is "substantially" engaged in interstate commerce and also uses the building primarily to house its own offices.

The key decision, issued Oct. 28, involved a petition by an AFL stationary engineers local for NLRB intervention in a dispute with the McKinney Ave. Realty Co., operator of the City National Bank building in Houston. In dismissing the petition on a 3-2 party-line vote, NLRB satisfied itself that the operating company, having spent \$94,000 in 1953 for maintenance supplies and services-all but \$802 of it locally-was not engaged in interstate commerce.

Current criteria for defining NLRB jurisdiction: a direct inflow of goods through interstate commerce of \$500,000 or more a year, or an indirect inflow of \$1 million or more. Outflow standards, with the exception of manufacturers and suppliers, are: \$50,000 direct flow of goods in interstate trade or \$100,000 indirect outpouring of goods.

Minority Member Abe Murdock had a word for the Houston decision: "Myopic!" He cited a 1951 NLRB decision that an office building came within its jurisdiction if tenants are in interstate commerce. More than half in the Houston building do, he said.

But in December the board reaffirmed its stand, threw out another appeal from the same union involving the Petroleum building in Houston. Although the owner, American Republic Corp., was acknowledged to be in interstate commerce, NLRB insisted that operation of the building was strictly a local enterprise. And besides, the board said, the owning company did not use the bigger share of space for its own activities.

continued on p. 47

Corrosive



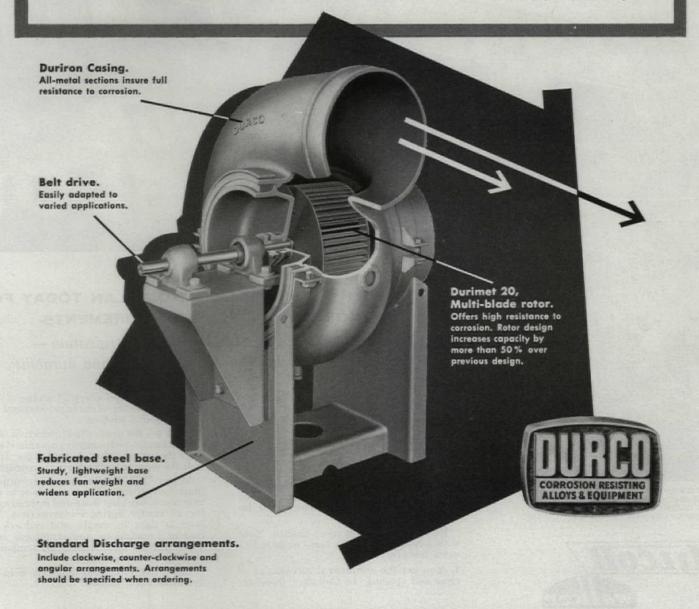
fan installations can be permanent

DURCO EXHAUST FANS ARE ALL-METAL

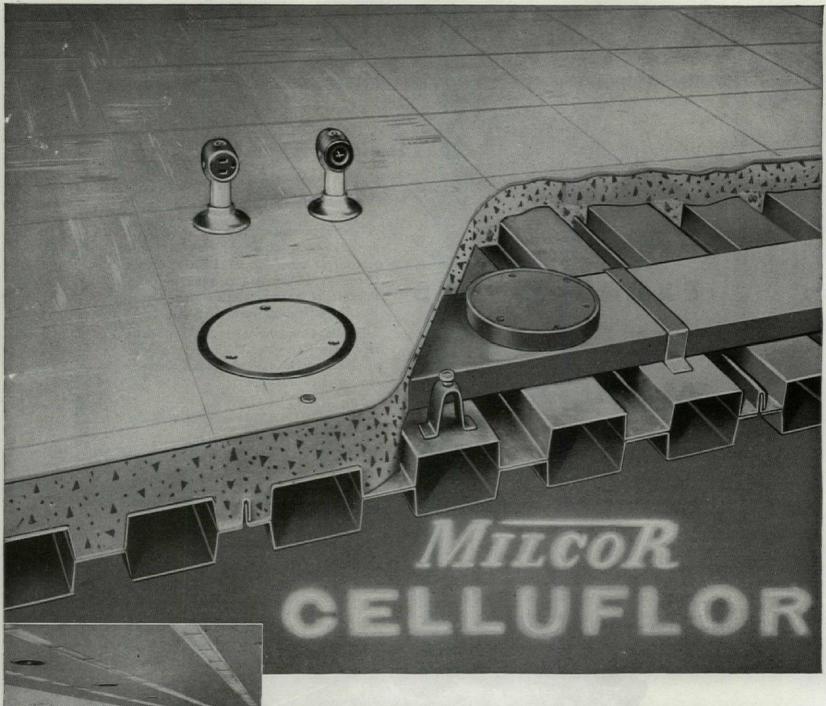
All parts in contact with corrosive fumes are solid metal—Duriron, Durichlor, Durimet 20 or other special DURCO alloys. Corrosion resistance is *throughout* the entire thickness of the metal section. Sizes, capacities, drives and alloys to fit requirements.

B-series fans (shown) are of an entirely new design. They're 30% lighter than previous comparative models, thereby increasing range of installation.

Write us for Bulletin F/1.



THE DURIRON COMPANY, INC. / DAYTON, OHIO



FLOOR WITH A FUTURE LETS YOU PLAN TODAY FOR TOMORROW'S CIRCUIT REQUIREMENTS

... Milcor Celluflor with Walker Electrification the electrified floor that has extra strength and durability

HERE'S a steel sub-floor that helps you meet today's increasing need for unlimited flexibility in electrification for both power and telephone service. No matter how complex the system, Milcor Celluflor has ample capacity to handle it. Its cells, spaced on 6-inch centers, permit placement of service outlets at virtually any point on the floor. Besides, these outlets can be moved at any time during the life of the building to meet changing or increasing requirements.

But you get much more than a "floor with a future." You get these outstanding extra features:

1. You get the structural advantage of close cell spacing. In Celluflor, there are eight webs of steel every 24 inches - this provides greater structural strength for special design problems.

2. You get the unexcelled protection of Ti-Co-Inland's continuously galvanized steel with the coating that doesn't flake. It resists the wear of traffic during construction.

Milcor Celluflor steel panels are quickly placed on structural steel members to provide a safe working floor and storage space for all trades during construction. The floor is light in weight and reduces the cost of foundations and structural steel. Wood forms, steel staging, or temporary shoring are unnecessary.

Latest bulletins and planning help are available upon request.

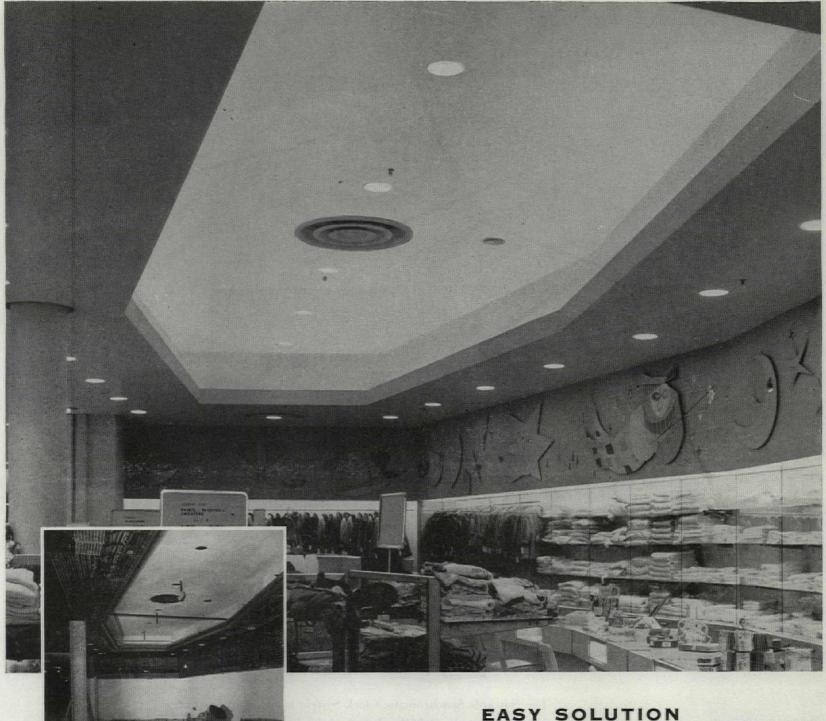


Conshohocken

*Reg. U. S. Pat. Off.

M-151

INLAND STEEL PRODUCTS COMPANY
4031 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN
BALTIMORE 5, MD. • BUFFALO 11, N. Y. • CHICAGO 9, ILL. • CINCINNATI 25, OHIO • CLEVELAND 14, OHIO
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TO FIVE DIFFICULT DESIGN PROBLEMS

... Milcor Metal Lath and Plaster

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PLASTERING CONTRACTORS

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ALFRED SCHMITT, INC., MILWAUKEE

The architects of Gimbel's new Milwaukee store had several problems to solve: (1) They wanted an open, spacious interior appearance. Yet, (2) they wanted individual departments to be easily distinguished - with clean partitions that could do double-duty as panels for signs and decorations, and as storage-area enclosures. (3) They wanted to screen off the massive, overhead air-conditioning and heating systems.

(4) They wanted the store to be well-lighted, without conspicuous light sources. And, finally, (5) they wanted it to be firesafe.

They found the answer to all these design problems in the exceptional versatility of Milcor Metal Lath and accessories.

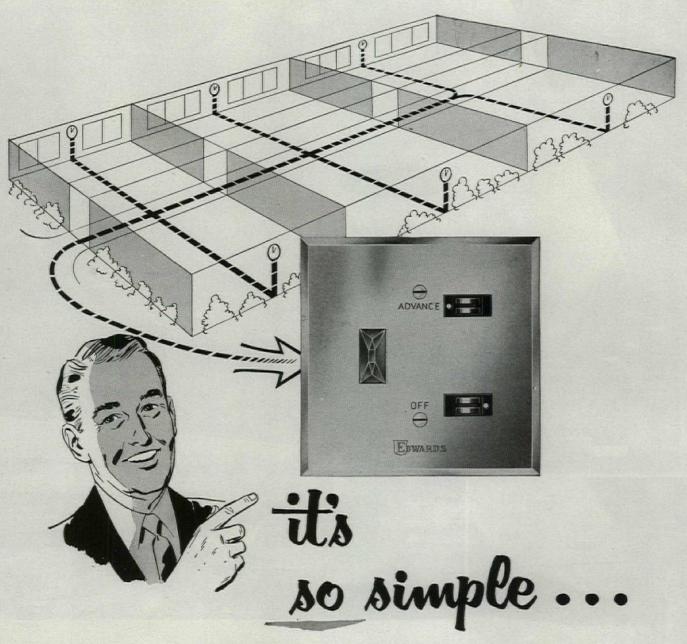
Milcor Catalog No. 202 illustrates and describes the complete line of Milcor Metal Lath and accessories. Copies are available upon request.

MILCOR

INLAND STEEL PRODUCTS COMPANY 4031 WEST BURNHAM STREET . MILWAUKEE 1, WISCONSIN

BALTIMORE 5, MD. . BUFFALO 11, N. Y. . CHICAGO 9, ILL. . CINCINNATI 25, OHIO . CLEVELAND 14, OHIO DETROIT 2, MICH. - KANSAS CITY 41, MO. - LOS ANGELES 58, CALIF. - NEW YORK 17, N. Y. - ST. LOUIS 10, MO.

*Reg. U. S. Pat. Off,



The Edwards Synchromatic Clock System is the simplest centrally controlled clock system on the market. And thanks to that simplicity is priced well below what you'd probably expect it to cost.

Here's how it works. A light on the panel shown above glows when power resumes after a failure. One switch sets clocks ahead . . . the other sets them back. No master clock needed, no mercury pendulums, rectifiers, condensers or radio tubes. Virtually error free, the Edwards Clock control system runs for years without attention. Write for Bulletin "CL".

Edwards Co. Inc., Dept. AF-3, Norwalk, Conn.
In Canada: Owen Sound, Ontario.

EDWARDS Synchromatic Clock Systems for SCHOOLS . HOSPITALS . OFFICES . INDUSTRY!

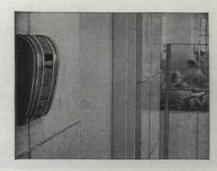


Specify Edwards and Be Sure

America's schools run more smoothly
. . . America's school children are
better protected thanks to Edwards.

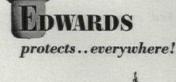


Edwards clock and program systems provide an accurate, simple and flexible means of programming activities of large groups in schools, institutions, offices and industrial plants. A program instrument is used having as many circuits as there are different programs. Standard sizes contain 1, 2, 4, or 6 circuits. Signals may be sounded any minute, 24 hours a day, 7 days a week. With a signal control panel it is possible to change program or signal schedule in any room or location to another program without disturbing the overall program setting or wiring. The Edwards program instrument is powered by the same heavy duty Telechron motored movement used in the clock systems.



TRIM, MODERN, EFFICIENT:

Edwards Fire Alarm Systems are chosen by leading architects to protect America's schools, hospitals and important buildings. Write for Bulletin on Fire Alarm Systems.





NEWS

Continued from p. 42

More room for senators

After seven years of preparation, construction has been started in Washington on an additional \$21 million Senate office building half a block from the present overcrowded offices. The new nine-story building will have about 391,000 sq. ft. of usable floor space, will emulate the classic, marble architecture of Capitol Hill, but have underground parking for 200 cars and subterranean connections with both the Capitol and the present building. Completion is expected in about three years. It was designed by the Architect of the Capitol (now J. George Stewart), with Eggers & Higgins of New York as consultants.

Standardized building forms

Publication of a complete set of uniform construction forms for use on municipal engineering construction projects was annunced by the Associated General Contractors and the American Public Works Assn. The most important achievement of the Joint Cooperative Committee of the two groups since its formation in 1952, the forms include: 1) an invitation for bids, 2) instructions to bidders, 3) bidders' proposal, 4) contract or agreement, and 5) general conditions of contract.

High-rise country apartments

Usually tall buildings are erected to make the most of limited or expensive land. But this month an exception to the rule will be started just west of Great Falls, Mont. (1950 pop. only 39,214) overlooking the Meadow Lark Country Club. This will be an 11-story, 21-family cooperative luxury apartment building (more than half sold last month) with an attached garage for 25 cars. The apartment tower will occupy only about 3,500 sq. ft. of a 150,000 sq. ft. plot. When the decision to build was announced, it was the main topic of Great Falls conversation for days. Architects are George H. and Frank B. Shanley. George Shanley also is president of the building corporation; rich Oilman Julius Peters is vice president. Since 1912 the eight-story First National Bank building has been Great Falls's tallestalso designed by George Shanley.

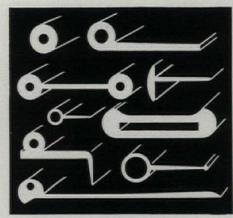
Ike's friends in big project

Two of President Eisenhower's fishing friends, former MBA President Aksel Nielsen, head of Denver's Title Guaranty Co., and Bal F. Swan, president of Empire Savings & Loan Assn., are officers in the new Turnpike Land Co., Inc., slated to start the Denver area's biggest 1955 building project in May. This will be a \$100 million community adjoining the Denver-Boulder turnpike, including shopping centers, office buildings, 6,000 brick homes, and sites for churches and schools. Denver builder K. C. Ensor is head of the project.

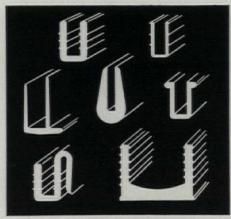
EXTRUDED

PLASTICS BY YATES

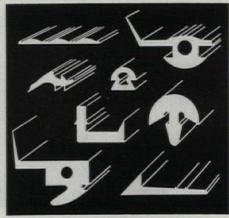
TO YOUR DESIGN
SPECIFICATIONS



BULBS-TEES-TUBES



CHANNELS



SPECIAL SHAPES

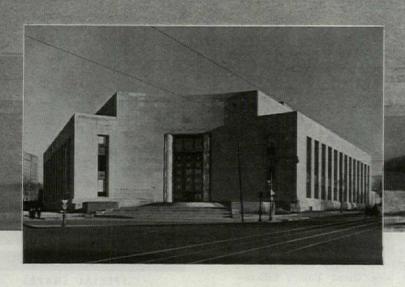
Consult with us for Extruded Plastic Architectural Shapes, Rods, Tubes, Strips . . . Special Shapes for Builders' Hardware, Chemical Industries, Electronics, Furniture, Toys—to specifications. Send inquiries for engineering recommendations.



2215 Peninsula Drive

Erie, Pa.

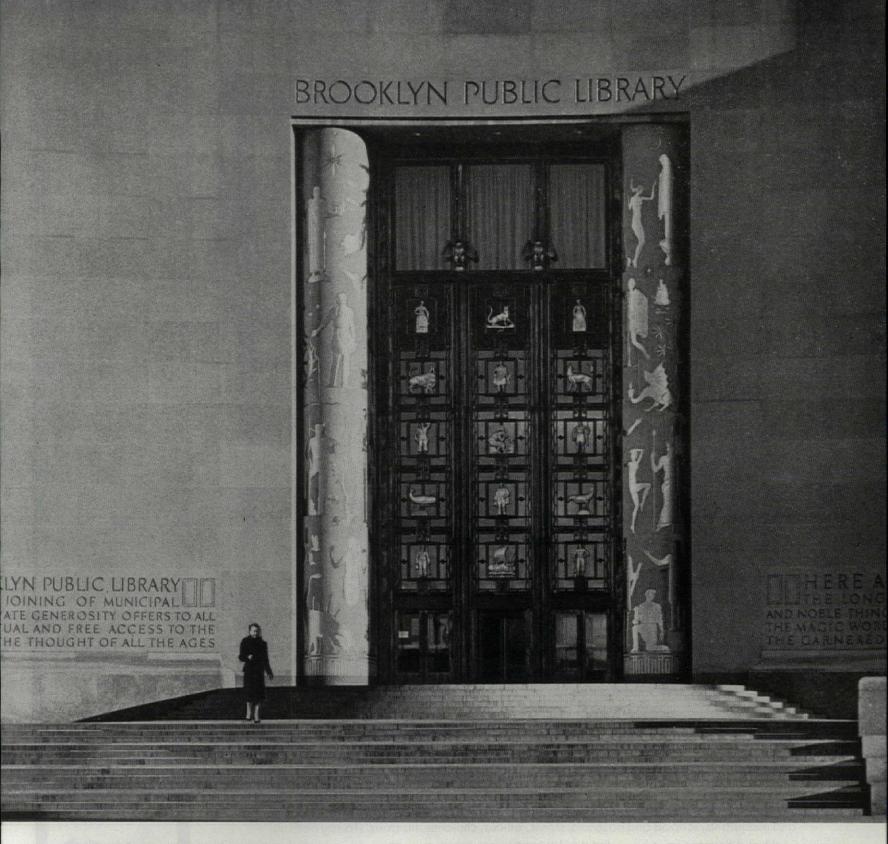






IT GROWS IN BEAUTY WITH THE YEARS!

There are many practical reasons for using STONE besides its inherent beauty. And every architect or builder realizes these advantages, even if the pressure of circumstance makes him momentarily consider some inferior material. STONE is permanent, and will not need to be replaced. It grows in beauty with the years, gaining in physical luster even as the building becomes part of the emotional background of a community.



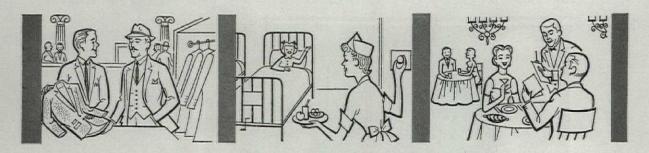
DETAILS FROM THE BROOKLYN PUBLIC LIBRARY, BROOKLYN, NEW YORK . ALFRED M. GITHENS AND FRANCIS KEALLY, ARCHITECTS . PHOTO: GOTTSCHO-SCHLEISNER PHOTOGRAPH

STONE is economical from first cost to last. And the last cost is the important one, for what profit newness if it must soon be replaced — at great loss. And finally STONE is flexible, adaptable to every whimsey of form, allowing the architect to design a building in addition to erecting it.

The Building STONE Institute has a wealth of valuable material and information available for architect, builder or building owner. Contact your nearest member or write the Building STONE Institute, 40 East 56th Street, Indianapolis, Indiana.



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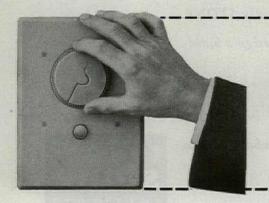
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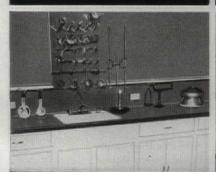


the durable decorative surface

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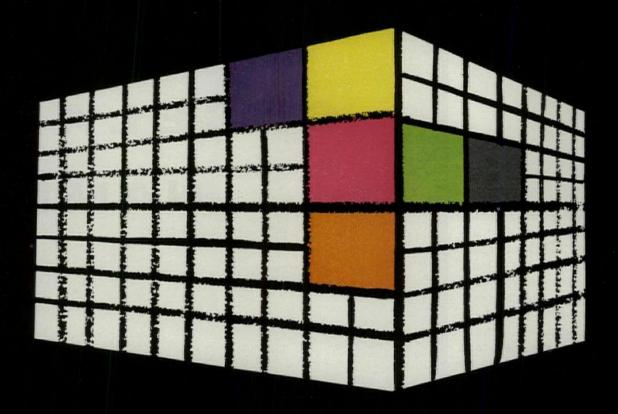
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The advertising in this special section—
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serves you twice. One, it helps to spark
your thinking on better ways to build
better buildings. Two, it saves you time.
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you could shake a dollar bill at—but all
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of every work day for more than a week!

16 manufacturers who are making major contributions to new and effective uses of porcelain enamel in building, describe their products and services on the following pages.

Armco Steel Corp		-0 € 0		56	Ingram-Richardson Mfg. Co 61
Benson Mfg. Co				58	Knapp Bros. Mfg. Co 66, 67
The Bettinger Corp				54, 55	Owens-Corning Fiberglas Corp 64A
California Metal Enamel Corp.				64D	
Davidson Enamel Products, Inc.					Pittsburgh-Corning Corp 64 (Foamglas)
Douglas Aircraft Co., Inc (Aircomb)				62	Sanymetal Products Co., Inc 59
E. I. DuPont de Nemours & Co.				57	Seaporcel Metals, Inc 68
(Electrochemicals Dept.)					Texlite, Inc 60
Hexcel Products Co				38	U. S. Steel Corp 64B, 646



The Bettinger Corporation, with the most diversified equipment in the architectural porcelain enamel field, offers architects a complete service: design, color consultation, laboratory controlled production, construction engineering and product integration, installation.



The Most Respected Name in Architectural Porcelain Enamel

FIRST in porcelain enamel curtain wall construction

FIRST in prefabricated mechanically assembled porcelain panels

FIRST in porcelain enamel-on-steel murals

FIRST in engineered porcelain for church steeples

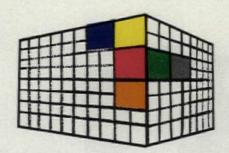
FIRST in ceramic-on-steel tile (Veos)

FIRST in ceramic-coated magnetic steel chalkboard (Armorply)

FIRST in porcelain-on-steel roofing and siding (V-CORR)

FIRST in architectural engineered porcelain enamel on aluminum

FIRST in establishing a separate architectural and color engineering department



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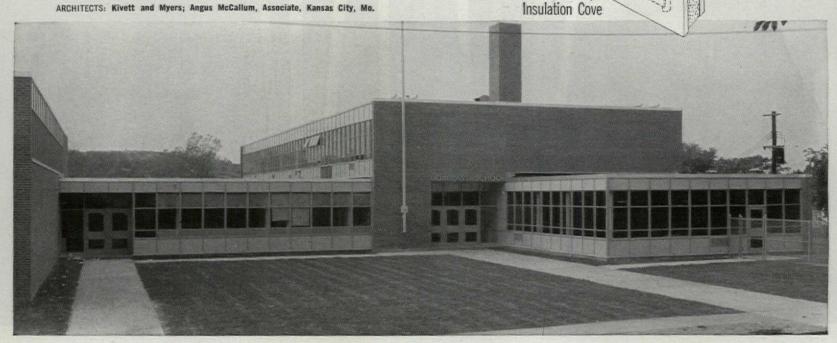
Toledo Porcelain Enamel Products Company Toledo, Ohio Porcelain Enamel Products Corp. Rehoboth, Mass. Sico, Inc. (Panel Cores) Portsmouth, N. H. Halrick Inc. (Porcelain on Aluminum) Danbury, Conn. and in Canada Graham Bell, Ltd. Streetsville, Ont.

Porcelain Enameled Curtain Walls on New School

Porcelain Enamel Exterior Skin

Cross-section showing how panel faces are joined and insulation supported.

ARCHITECTS: Kivett and Myers; Angus McCallum, Associate, Kansas City, Mo.





on this school building. Note the inorganic insula-tion between face and inside sheet. Edges of panels are carefully grouted to make wall water-tight.

Curtain walls on this elementary school are faced with porcelain enamel on Armco Enameling Iron. The lightweight "sandwich" panels were easily handled and installed, helped produce a better building at lower cost.

Dowel Aligning Clip

Dowel

Durable Exterior

These panels are not only decorative but permanent. The porcelain enamel finish is weatherproof, doesn't fade and is so smooth that rain keeps the panels clean.

High Insulation Factor

The 2-inch thick panels have a core of Foamglas, an inert, inorganic accumulation of tiny glass pockets. This highly insulative material is anchored without the use of adhesives. Panels are made to assure a minimum of heat conductivity from front to back face.

No Backing Needed

No brick or concrete backing was used for this curtain wall. The inside face of the panel is Armco ZINCGRIP PAINTGRIP, a special paint-holding zinc-coated steel sheet. It forms the inside wall of the building. All it needs is normal cleaning before painting.

Installation No Problem

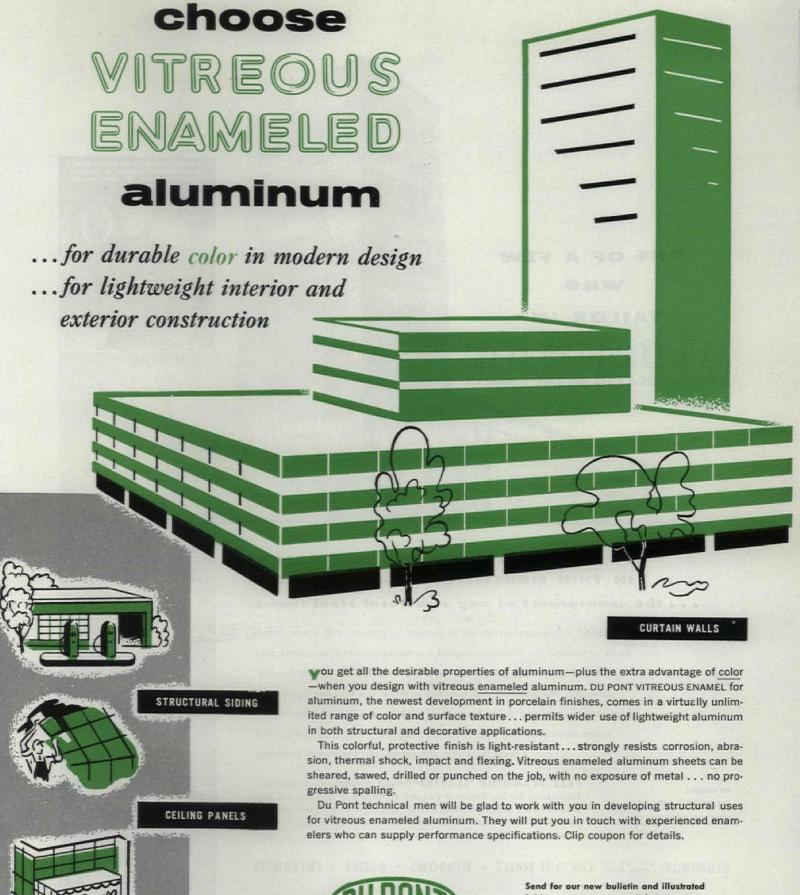
Producers of curtain wall panels porcelain enameled on Armco Enameling Iron supply finished panels tailor-made and easily installed by local contractors. Besides this, these architectural porcelain enamel specialists are of invaluable assistance to the architect, who can draw on their experience in design problems.

Write us at the address below for a list of manufacturers of porcelain enameled curtain walls.

ARMCO STEEL CORPORA

845 CURTIS STREET, MIDDLETOWN, OHIO SHEFFIELD STEEL DIVISION . ARMCO DRAINAGE & METAL PRODUCTS, INC. . THE ARMCO INTERNATIONAL CORPORATION





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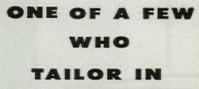
E. I. du Pont de Nemours	& Co.	(Inc.)	
Electrochemicals Dept.	AF-3	Wilmington 98.	Del

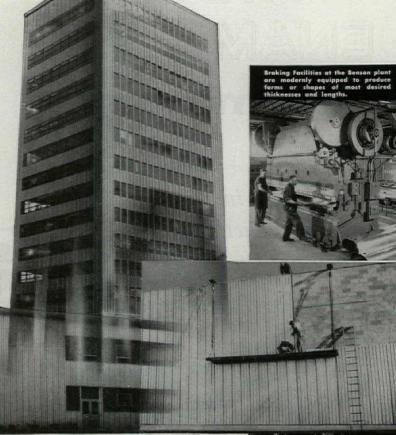
- □ Please send me Technical Bulletin CP 4-454 and illustrated folder on Vitreous Enamel for Aluminum.
- Have your technical representative call with further details.

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IN THIN LIGHTWEIGHT CURTAIN ... the counterpart of any structural steel frame

Increasing architectural acceptance of the new lightweight wall system, attests to its advantages—in construction speed, cost economies and distinctive facades. Benson Manufacturing Company, experienced fabricators of "in demand" aluminum, stainless steel and insulated metal curtain wall panels, extruded aluminum windows and doors, is qualified to help coordinate varied requirements adaptable to any class of construction, heavy industrial, institutional, schools, hospitals, apartments, and commercial buildings.

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on steel for toilet compartments

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It has been in use for more than 20 years, and there are over 2000 installations of Sanymetal Toilet Compartments made of "Porcena". Not one has ever failed, faded, or rusted due to lack of durability of the material or any mechanical component. Sanymetal "Porcena" compartments last longer than the buildings in which they are installed.

*Sanymetal "Porcena" is vitreous porcelain fused to steel at temperatures in the range 1350-1550°F. The hard enamel is impregnated in the steel so it cannot be hammered out. "Porcena" comes in 22 colors which can be used in many beautiful combinations.

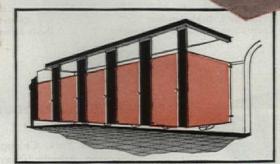
Sanymetal originated porcelain enamel toilet compartments—one of many features which make Sanymetal compartments the leaders, and the most imitated, of all products in this field. Ask your Sanymetal Representative to show you the special construction features of Sanymetal Toilet Compartments.

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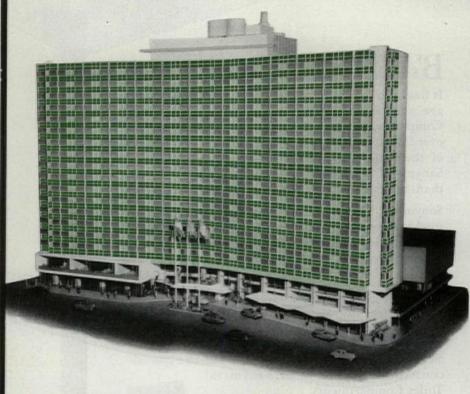
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America's New Dress for Fine Buildings

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TEXWALL porcelain enamel insulated panels are *specifically* designed for thinwall construction. Where durability, flatness, strength, light-weight and insulation are required—and *where color is desired*—there is a TEXWALL panel to fit any need. The four basic TEXWALL panels are adaptable to meet *any* specification for thinwall construction.

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Princess Anne County High School • Norfolk, Va.
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General Builders: Bryant & Detwiler Co., Detroit

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Believed to be the largest use of porcelain enamel in a single building . . . this installation employs green-blue insulated porcelain enamel as spandrel panels below and above glass windows.

Here again in curtain wall construction porcelain enamel on steel offered the archi-

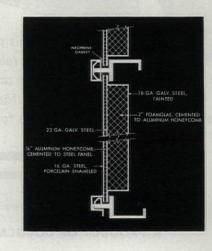
tect exceptional characteristics - including lightness in weight, space-saving properties, economy and adaptability to outstanding design effects. For details on how PORCEL-PANELS can be adapted to your next new or remodeled building, write our Architectural Division.

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Member, Architectural Division, Porcelain Enamel Institute, Inc.





the problem:

How to get lightweight structural panels with beauty, strength, rigidity, durability, insulation and soundproofing properties.



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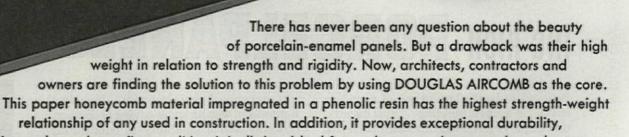
Use

porcelain-enamel

panels with an

AIRCOMB

THE BEVERLY HILTON HOTEL now nearing completion in Beverly Hills, California, is one of several fine new structures making wide use of California Metal Enameling Company's porcelain-enamel panels. These handsome, durable panels are cored with AIRCOMB. Hotel architects are Welton Becket, F.A.I.A., and Associates.



rigidity, insulation and sound-proofing qualities. It is distinguished from other paper honeycomb products by being manufactured with special patented machinery under rigid quality control.

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colorful



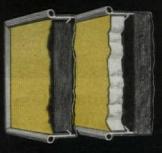
Beverly Hills School, Concord, N. C. Architect: A. G. Odell, Jr. & Assoc., Charlotte, N. C.

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Gvery architect can pick his own way of using Davidson Architectural Porcelain Panels, without restriction on size, shape, color or intended use. Davidson Panels (16 gauge steel), with porcelain fused to all exposed surfaces are made the way you want to specify.

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ABOVE LEFT, Davidson Type A Double Wall Panel with fiber

ABOVE RIGHT, Davidson Type C Double Wall Panel with fiber glass nsulation and Vitrock backing.

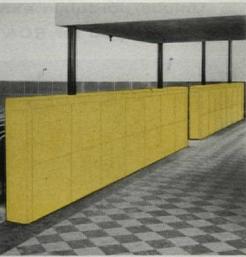
BELOW LEFT, Davidson Type I

BELOW RIGHT, Davidson Type 2 Facia Panel, with stainless steel clips, screws and Vitrock backing.



for interior...for exterior

durable



New Cumberland School, New Cumberland, W. Va. Architect: Ray W. Shaw, Weirton, W. Va.

practical

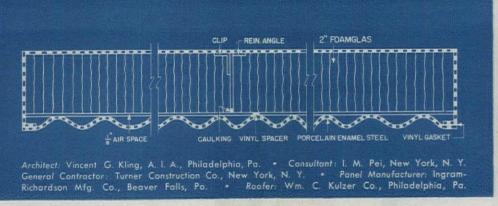
FOR CURTAIN WALL, FACIA OR MODERNIZING

Mississippi School, St. Paul, Minn. Architect: Walter Butler Co., Inc., St. Paul, Minn.



IDEAS FOR DESIGN. Complete architectural file on Davidson Ar-chitectural Porcelain. Write for your copy.

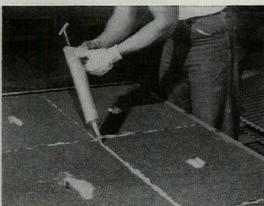
Davidson ENAMEL PRODUCTS, INC. . 1105 E. Kibby Street, Lima, Ohio



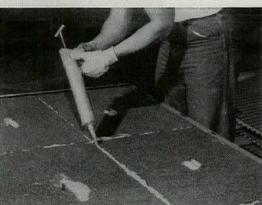
Unique porcelain enamel-cellular glass sandwich developed for RCA's Cherry Hill curtain walls



"We avoided any moisture problem by providing a 1/8" air space between the insulation and the outer porcelain enamel skin (detail above).

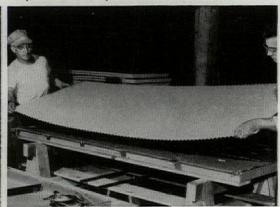


"Moisture can accumulate only in the air space and runs down moisture-proof FOAMGLAS to a weep strip. Caulking seals joints.

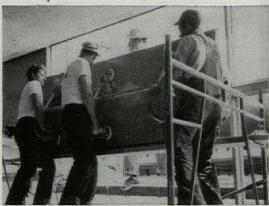




The architect, members of his staff and RCA's representative check progress at the job site during erection of the five Cherry Hill buildings. The owner and the architect report: "We overcame design problems plaguing grid-panel pioneers by insulating the porcelain enamel panels with 2" FOAMGLAS.



"High rigidity of FOAMGLAS and vertical corrugations of outer skin prevent 'oil-canning' or dimpling.

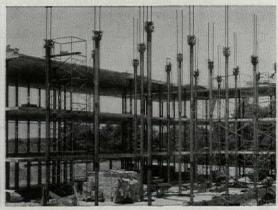


Completed 94" x 34" PORCELPANELS weighing just 61/2 lbs. per sq. ft. were easily lifted into place.

* ® Ingram-Richardson Mfg. Co.



"Our unique panels combine ultra-modern appearance and high insulating efficiency (U factor 0.15)... cost just \$4.50 per sq. ft. erected in place.



"Lift slab method cut construction time and costs. Roofing materials were raised right on the top slab.



"We also insulated most roofs with FOAMGLAS. Its high strength permits heavy foot traffic, minimizing need for catwalks.



"FOAMGLAS gives our Cherry Hill buildings added protection, too, because it's fireproof."

Use coupon today for a copy of our brand new booklet on latest curtain wall designs which utilize .

the cellular, stay-dry insulation

Pittsburgh Corning

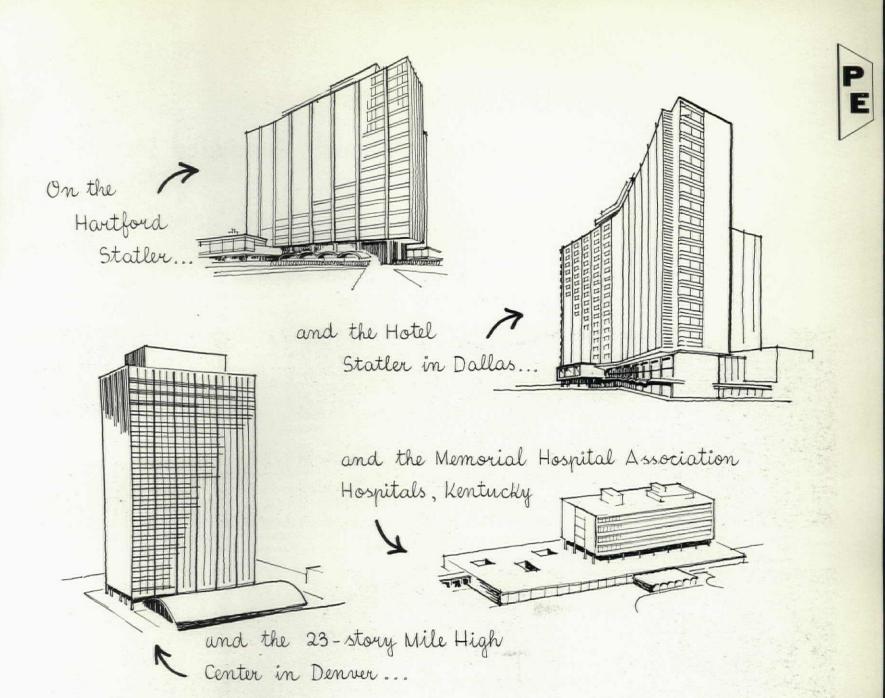
Corporation Dept. D-35, One Gateway Center

Pittsburgh 22, Pennsylvania In Canada: 57 Bloor St. W., Toronto, Ontario

Please send me the brand new booklet on FOAMGLAS insulation for thin wall and sandwich panel construction.

Send engineer to discuss a special insulating problem.

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Company	Title	
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to increase floor area, to improve comfort and help reduce cost of heating and air conditioning, to speed year-around construction and to reduce curtain wall weight ... porcelain enamel-faced curtain and spandrel walls insulated with Fiberglas* were specified. Fiberglas insulation is light weight, exceptionally efficient thermally, permanent (no rotting), dimensionally stable and noncorrosive.



Owens-Corning Fiberglas Corporation, Dept. 171-C, Toledo I, Ohio

Colorful Curtain Walls of Architectural Porcelain Enameled Steel

for America's newest, finest buildings!

THE MODERN TREND to greater and more varied use of color for exterior architectural treatments is well expressed by the unique and attractive buildings shown here. More and more architects are advocating the beauty of color for office buildings, stores, hotels, schools, hospitals and churches.

In addition to supplying the architect with an almost unlimited variety of colors, these architectural porcelain enameled "metal skins" have many other very valuable features. They are strong and sturdy, yet light in weight for fast,

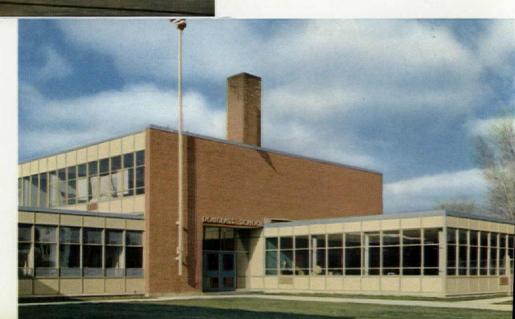
easy and economical installation. The beautiful finish is durable—more acid resisting, won't fade or change color—and is easy to keep clean and sparkling. And porcelain enameled curtain walls are reflective—have a high degree of heat resistance.

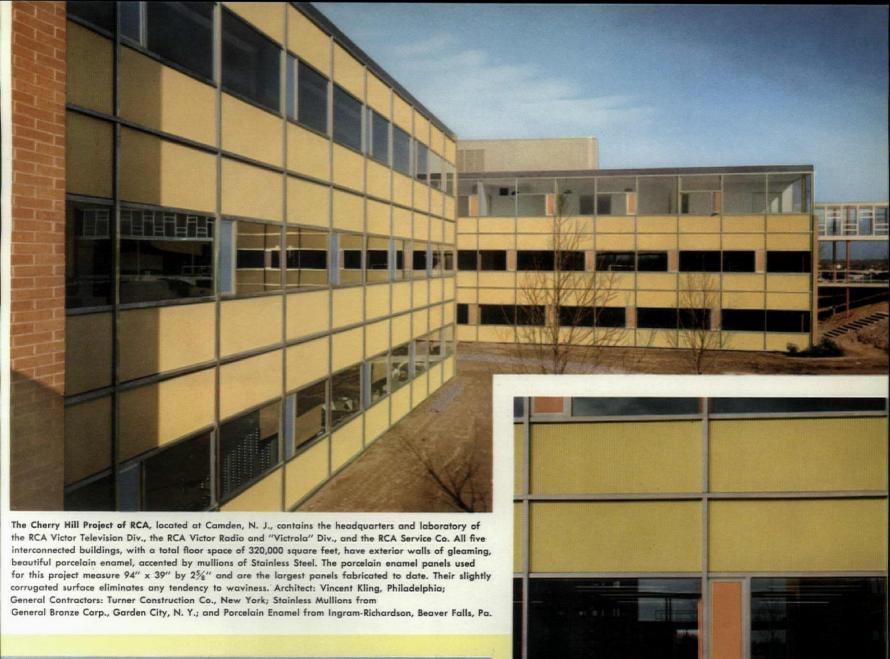
One of the finest base metals available for porcelain enameling is USS VITRENAMEL. This high quality enameling base sheet has a specially prepared surface with all the chemical and metal-lurgical properties needed to form a tight, permanent bond with the architectural enameling frit. When colorful porcelain enamel is fused to USS VITRENAMEL it won't chip, crack, peel or deteriorate with the years, even under severe conditions of atmospheric contamination. It will retain its lovely color and lustrous finish indefinitely. And because USS VITRENAMEL is strong, quality steel, it has the necessary sturdiness and rigidity required for thin curtain wall construction.



In this attractive Motor Hotel, Brookline, Mass., porcelain enamel panels make an unusually eye-catching exterior finish . . . especially when accented by the wide strip of sparkling Stainless Steel which extends around the marquee. The growing use of porcelain enamel is contributing in large measure to the widespread use of color for all kinds of building exteriors. Designer: Charles A. Newhall of Brookline; Architect: Sturgis Associates, Inc., Boston, Mass.; Panels fabricated by Bettinger Corp., Waltham, Mass.

The handsome walls of Douglass Elementary School in Kansas City, Mo., are only 2" thick and weigh only 7 lb. psf. They are made of prefabricated curtain wall panels in sizes up to 3' 8" x 7' 4\frac{1}{2}". The sand-colored porcelain enameled panels add beauty and durability to this modern school. Kivett and Myers, Kansas City, Mo., with Angus McCallum, designed the school. Panels were fabricated and designed by Barrows Porcelain Enamel Co., Cincinnati, Ohio







In the modernization of St. Gabriel's School, Whitehall, Pa., colorful, corrugated porcelain enameled panels were used for the exterior surface on the sandwich panel walls. The porcelain enamel is backed with a three-inch glass insulation and an attractive interior finish. Designer for this school was John Schurko, Pittsburgh, Pa., and porcelain enamel panels were fabricated by Steelcraft Mfg. Co., Cincinnati, Ohio.



PORCELAIN ENAMEL ON USS Itrenamel BASE

UNITED STATES STEEL CORPORATION, PITTSBURGH - COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



ENAM

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WHEN selecting the surfacing for the Consolidated Western Steel Division Office Building in Los Angeles, the men of U.S. Steel, of course, chose Porcelain Enamel Curtain Wall Construction...as supplied by the West's leading manufacturer of this material.

Durable and unfading Porcelain Enamel spandrels and mullions of this building are made more efficient through the use of Douglas Aircomb lamination filler...insuring excellent insulation in addition to the lifetime service and beauty of Porcelain Enamel.

CALIFORNIA METAL ENAMELING COMPANY has facilities to manufacture Porcelain Enamel Panels in every shape to which steel can be formed*... continuous furnaces guarantee color and texture control and volume production... a research laboratory provides for product development and testing.

See our catalog No. 5D/CA in Sweet's.

A limited edition of 24 pages of Porcelain Enamel panel detail is available to credited architects of the Western states upon request.

WHO KNOW STEEL



ARCHITECT: Albert C. Martin & Associates GENERAL CONTRACTOR:



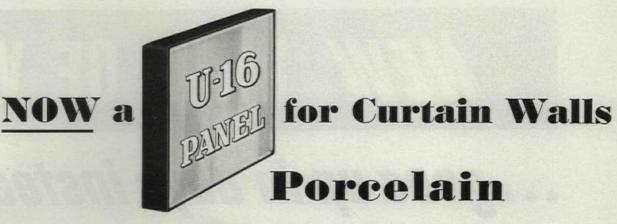
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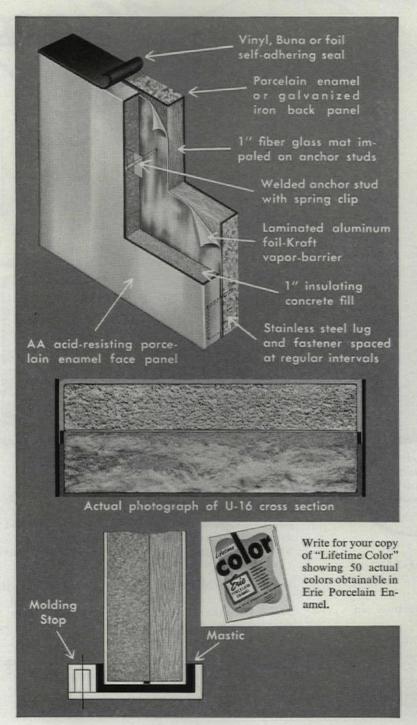
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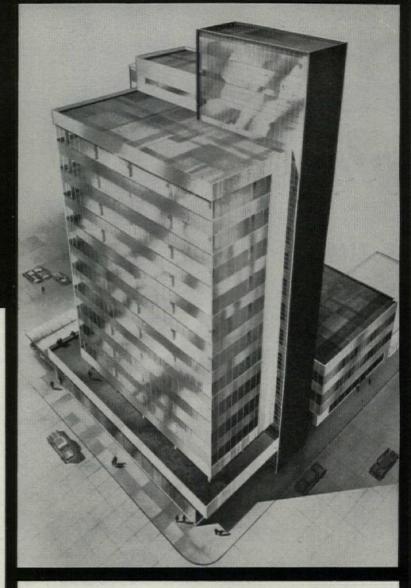
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The main building consists of 44,000 sq. ft. of ribbed porcelain framing and wall surfaces in textured warm rust and tasteful off-white as the color theme outlining the structure. This includes the eyebrow and sunshade on the southerly elevation. The spandrels (12,500 sq. ft.) comprise 510 individual smooth gray panels—4'x4'—and are recessed with 8"x8" squares in "waffle" effect. The 4500 sq. ft. of ribbed spandrels facing the Annex Building are in textured off-white.

Another interesting treatment designed by the architects is the use of almost 3300 sq. ft. of Seaporcel porcelain exterior soffit for a continuous marquee around the main portion of the building and under the promenade which occurs at the second story level.

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General Contractor & Builder: Utah Construction Co., Salt Lake City Associate Architects: Bank Building Corp., St. Louis; W. Sarmiento, St. Louis; Harry S. Moyer, San Francisco; Slack W. Winburn, Salt Lake City.

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DATES

American Institute of School Administrators, regional conventions: March 12-16, Denver; April 2-6, Cleveland. The meetings will feature architectural exhibits.

Associated General Contractors, 36th annual convention, March 14-17, Hotel Roosevelt, New Orleans.

Conference on the Utilization of Aluminum, sponsored by the American Institute of Electrical Engineers, March 15-17, William Penn Hotel, Pittsburgh.

National Motel Show, midseason exhibit of merchandise and services employed by motel operators, March 22-24, Atlanta.

American Institute of Architects, board of directors meeting, March 29-April I, AIA headquarters, Washington.

American Institute of Planners, annual meeting, March 30-April 2, Muehlebach Hotel, Kansas City, Mo.

World Plastics Fair and Trade Exposition, including exhibit of building materials, April 6-10, National Guard Armory, Los Angeles.

American Institute of Steel Construction, annual conference, April 18-19, Muehlebach Hotel, Kansas City, Mo.

Building Research Institute, annual meeting, April 18-19, Woodrow Wilson Hall, Princeton University, Princeton.

Building Officials Conference of America, annual meeting, April 18-21, Milwaukee.

Western Mountain District, American Institute of Architects, regional meeting, April 28-30, Camelback Inn. Phoenix.

South Atlantic District, American Institute of Architects, regional meeting, May 5-7, Fort Sumter Hotel, Charleston, S.C.

National Restaurant Assn., annual convention, including an architectural and remodeling exhibit, May 9-13, Navy Pier, Chicago.

National Housing Conference, annual meeting, May 16-17, Statler Hotel, Washington, D.C.

National Materials Handling Exposition, May 16-20, Chicago.

Air Pollution Control Assn., annual meeting, May 22-25, Sheraton-Cadillac Hotel, Detroit.

Forest Products Research Society, national meeting, June 20-23, Olympic Hotel, Seattle.

American Institute of Architects, annual convention, June 21-24, Hotel Radisson, Minneapolis.

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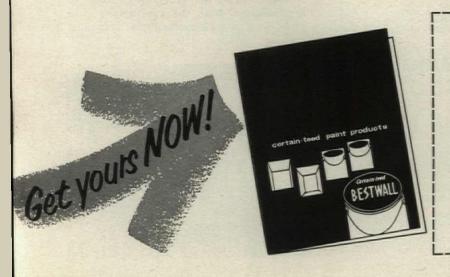
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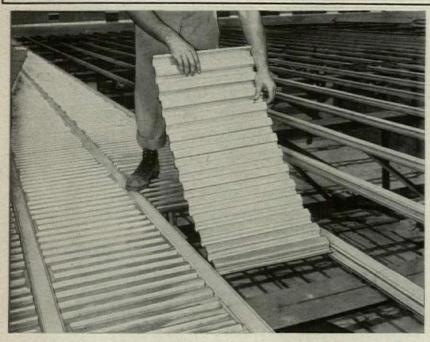
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LETTERS

THE TEAM ASPECT

Forum .

The presentation of the Center for Advanced Study in the Behavorial Sciences (AF, Jan. '55) is wonderful. I particularly like linking it up with the CBS article. Am only sad that there was not more stress on the team aspect-a generous and decisive client, a fine and cooperative contractor, a gifted landscape architect and superb coordination in furnishing.

WILLIAM W. WURSTER, architect San Francisco, Calif.

THE CLIENT'S COMMENT

Forum .

Naturally, I read the January FORUM with more than usual interest because of the stories about CBS and the Behavioral Science Center.

I have been a reader of FORUM for many years, even before it became a part of the TIME Inc. family. It has been of real help to me in providing me with information, particularly in the industrial building field.

FRANK STANTON, president Columbia Broadcasting System, Inc. New York, N.Y.

ANOTHER CLIENT

I commend you upon the very excellent story relating to the Socony-Vacuum building (AF, Jan. '55). Our many friends who read it have been most complimentary from the standpoint of the way you set up the article. . . . This is the type of story that the people in the construction industry like to

PETER B. RUFFIN, executive vice president John W. Galbreath & Co., Inc. New York, N.Y.

SAARINEN'S OUTDOOR MOVIE

The concept of Saarinen's Lutheran College (AF, Dec. '54) is very interesting, but I confess that I am conservative and prefer the traditional type of architecture conventionally used by our colleges. The view of the buildings from the approaching road gives me a monotonous impression which is

Richard Shirk



relieved neither by the high roof of the chapel nor the nearby spire. As I visualize the view I would get when looking at the village in the direction at right angles to the approach road, the domination of the surroundings by the chapel roof seems to add as much beauty to the location as is added to a neighborhood by the screen of an outdoor moving-picture concern.

Perley D. Baker, dean Norwich University Northfield, Vt.

MODERN ST. JOHN

Forum

Congratulations for the healthy tone of your article on the cathedral of St. John the Divine (AF, Dec. '54).

This article helps architects because it has let a breath of fresh air into the subject of ecclesiastical architecture and blending of the traditional with contemporary forms.

To solve the problem of heating and providing good vision, sound and comfort in such a building, I propose that following completion of the entire structure, it be thrown open to the public as an ecclesiastical museum, and that a contemporary sanctuary or auditorium be added nearby with space and facilities to properly provide comfort for people participating in the service.

HERBERT T. JOHNSON, architect Oakland, Calif.

Forum:

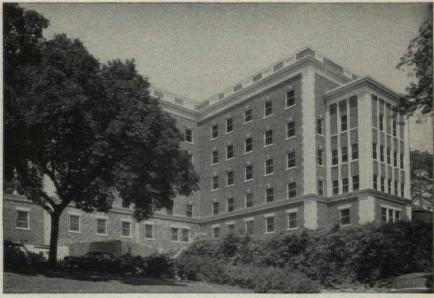
The solution of the problem of what to do with the crossing of St. John's Cathedral (AF, Dec. '54) depends in the long run upon what the cathedral authorities decide to do liturgically. My personal opinion is that they should place the altar at the crossing. I believe this is absolutely necessary if they decide to continue with transepts. If the altar is placed at the crossing, there might be some justification for a monumental structure over it-though a high tower seems to me a waste of money and effort, unless it can be made really satisfying esthetically. In any case, if the altar is placed at the crossing, the chief problem will be to give the proper lighting to this area, so as to focus all attention upon this pivotal point of liturgical celebration.

Cram's Gothic nave is a masterpiece. His design for a Gothic choir is less impressive. Why not finish the choir in Romanesque, as La Farge started it, and then find a modern reconciliation of the two for the crossing? If the transepts are built, they can be in different styles, without damage to the whole effect. The crossing, only if it is the liturgical center of the building, can pull together all the varied approaches to it of nave, choir and transepts. Here, certainly, is the great opportunity for contemporary architectural genius.

REV. MASSEY H. SHEPHERD JR. Berkeley, Calif.

Forum:

Mr. Fitch's fine article on St. John the continued on p. 82



St. Lukes Hospital, Kansas City, Mo.

Only KoolShade Sunscreen could give this hospital the sun-relief it needed

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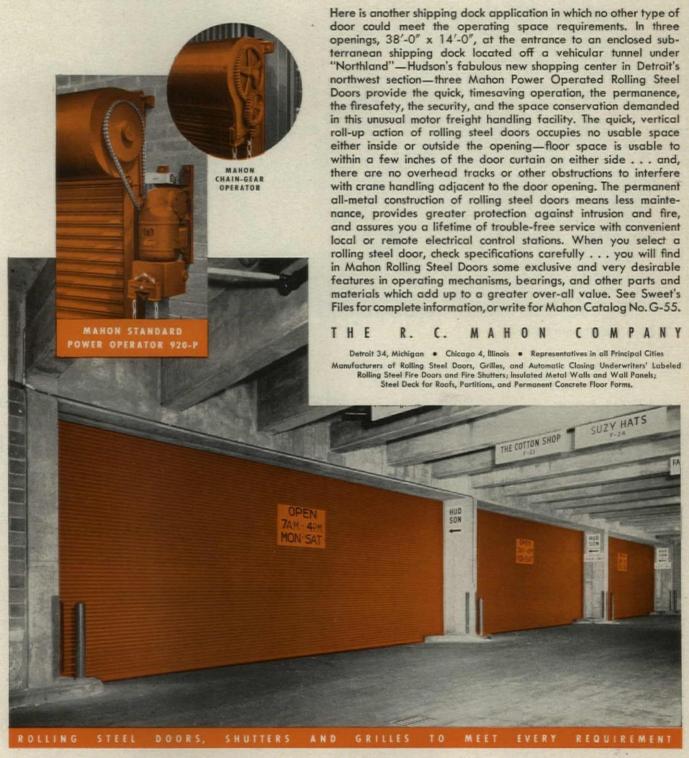
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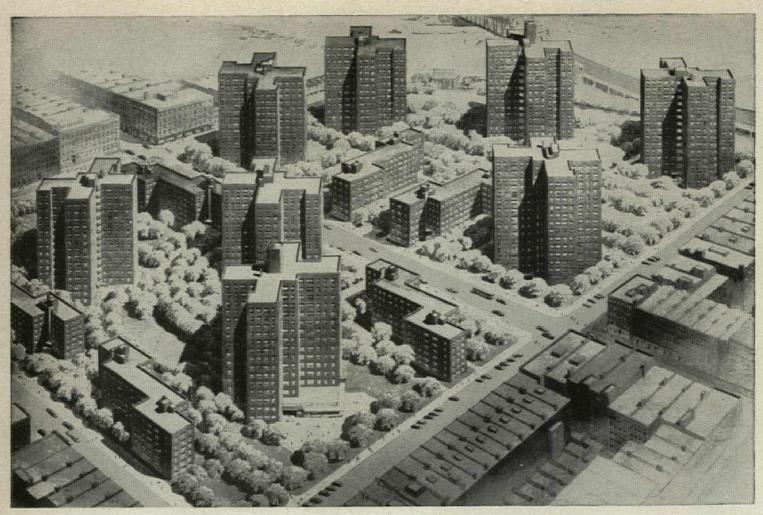
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2. 100 Park Avenue



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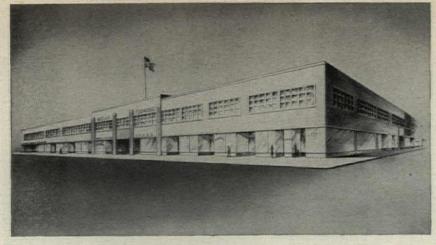
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3. Franklin Simon Store



4. Immaculate Conception Convent



5. Nassau Terminal Building



6. Wantagh High School

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saves clean-up expense.

Fifth, Steeltex assures a strong floor. Sixth, Steeltex costs less than other reinforcing materials and systems.

On these two pages are pictured \$34.2-million worth of recent buildings in New York City and suburbs in which Steeltex or Pittsburgh welded wire fabric or both were used to reinforce concrete slabs.

For details . . . read story at right.

1. Abraham Lincoln Houses, New York City. Architect: Skidmore, Owings and Merrill—Tandy and Forbes; Structural Consultant: William Hoffberg; Contractor: H. R. H. Construction Corp. This is one of 75 housing projects built by the New York City Housing Authority, whose reputation for sound and economical construction has attracted nationwide attention. It was built at a cost of \$14.2 million and consists of 14 buildings housing 1,286 families (total population over 5,000—larger than many towns). In all buildings Steeltex or Pittsburgh welded wire fabric was used for floor reinforcing.

2. 100 Park Avenue, New York City. Architect: Kahn & Jacobs, New York, N. Y.; Consulting Engineer: Jaros, Baum, and Bolles, New York, N. Y.; Contractor: George A. Fuller Company, New York, N. Y. Built at a cost of \$15 million, the building incorporates Pittsburgh Steel Products Company's welded wire fabric reinforcing throughout the floors.

3. Franklin Simon Store, Garden City, Long Island. Architect: Herbert Beidler, Chicago, Ill.; Contractor: Andrew Weston, Inc., Woodmere, Long Island, N. Y. This is a typical example of the Franklin Simon chain of shopping stores incorporating Steeltex floor lath in floors and roof. Steeltex is used widely for construction of suburban stores of this type.

4. Convent of the Immaculate Conception, Jamaica Estates, Long Island. Architect: Charles M. Spindler, Brooklyn, N. Y.; Contractor: Caristo Construction Co., Brooklyn, N. Y. This \$600,000 convent has just been completed. Its construction incorporates Steeltex floor lath over steel joists in floors and roof.

5. Nassau Terminal Building, Hempstead, New York. Architect: Harold Carlson, Garden City, N. Y.; Contractor: Marvin Construction Corp., New York City; Contractor Supervision: Fred T. Ley & Co., New York City. This bus terminal, containing 33 stores, over sixty thousand square feet of office space, twenty-four bowling alleys, and accommodating twenty-three buses at one time, was built at a cost of \$1,500,000. Steeltex floor lath was used over steel joists in the floors and roof.

6. Wantagh High School, Wantagh, Long Island. Architect: Frederic P. Wiedersum, Valley Stream, N. Y.; Contractor: Jonwal Construction Company, Inc., Mineola, N. Y. This Long Island high school, built at a cost of \$2.5 million, was completed last fall. Steeltex floor lath was used over steel joists in the floors and roof.

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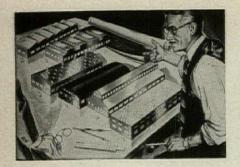
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LETTERS

Continued from p. 75

Divine in New York represents a problem faced by many architects.

In defense of finishing the cathedral in modern architecture we proudly point to Notre Dame and Chartres where over a period of a life span a change in style quite naturally evolved. But is this a fair comparison? The change in these cathedrals was a normal one, not one distinct style forced onto another. The transition in style in Notre Dame from west to east is a logical expression of the contemporary craftsmen who keep abreast of the times.

But what about St. John? Here we have a building that is already 800 years old in style and half built to a pattern that is fixed. The problem at the crossing can be resolved with modern engineering, but the Gothic hulk still remains. To produce a central section quickly, economically and appropriately with the new work consistent, congruent with the old is not even within the realm of possibility.

St. John has been tortured and the Gothic style insulted long enough. Select another site and build a new and inspiring St. John that is consistent with the times, at no more cost than it would take to redo the central section.

St. John should be retired to its rightful place in history as an expensive example of how not to build cathedrals using the Gothic idiom and other histrionic embellishments as a backdrop for worship. It is evident that St. John itself is quietly revolting at the idea and would prefer to rest in peace rather than be welded to a steel tower whose only function is to apologize for past mistakes.

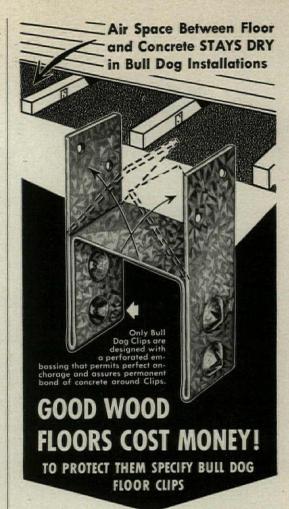
Major E. J. Peterson, architect Alexandria, Va.

HOW TO DESIGN AN ARCHITECT

Forum:

Before one can "design an architect" (AF, Jan. '55), one must understand the nature of the subject. What constituted an architect as recently as 25 years ago would bear just a small resemblance to today's architect. Technological sprints and changes in the economy have forced limitations upon the services that any one man can perform within his professional capacity. In the fields of medicine, dentistry, law and engineering, specialization has become necessary to bring to the patient or client all the skill and knowledge that have been accumulated by man. So it must be with the architect.

With the exception of the "style" of the subject matter being taught, schools of architecture have not changed, completely neglecting the essentiality of specialization. They imbue the student with the "godliness" of design and those whose abilities lie in other phases of building are needlessly submerged. A smattering of engineering so he can lead the engineers, a touch of rendering for presentation's sake, a little calculus for rigorousness, some history to give him culture, a pinch of this and that to season and the "cocktail" is complete. These "general practitioners" continue to be generated at an alarming rate every year only to find upon



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LETTERS

graduation that they are of little use to the practicing architect. They are capable of rendering service á la pre-World War I architect, who usually supplied the contractor with two pages of "instructions to the builder," a couple of sheets of drawings, and that was that. Today the builder is given a scholarly tome whose lifting necessitates the strength of two men and a boy, and which bids fair to make the Decline and Fall of the Roman Empire look like an abstract out of a copy of Reader's Digest. This "encyclopedia" is usually accompanied by a set of drawings resembling a small keg of beer.

Of what use then is our "general practitioner"? The teamwork necessary for the execution of a modern building necessitates the services of design architects, working drawing architects, specification architects, supervision architects, cost architects, business administration architects, etc., each man with an understanding of "this business of architecture" but with the complete mastery of his own special phase of it. Should it not be obvious that there is as much prestige in knowing more than anyone else about specifications as there is in being a "hot" designer? A design is only as good as the men who turn this "paper architecture" into reality. Whither Harmon without his Evashewski?

The postwar years have seen startling changes in this "business of architecture" and the future promises more of the same. Some of the profession are adjusting, but the schools of architecture, the fountainhead, remain completely unaware of this metamorphosis.

IRVING D. SHAPIRO New York, N.Y.

Forum:

It would have been difficult to select a more representative panel of practitioners and teachers than those who appeared in the round-table discussion published in the January Forum. Of the excellent observations and suggestions expressed, I was particularly impressed by a remark of Mr. Abramovitz: "You should emphasize in schools whatever is hardest to get in practice."

JOSEPH WILLARD WELLS, architect King & Wells Norfolk, Va.

Forum:

Thanks are due FORUM for publicizing architectural education by means of the report on the Princeton Round Table. I would like to comment on the recruitment and selection of promising students. How can architecture attract those potentially most competent and divert the less promising?

Anything which develops an understanding of the profession by the public—leaders in all fields, the rank and file of teachers and the press—should lead to gradual progress toward this objective. Courses for the general student inform future clients and other leaders, but these courses are not

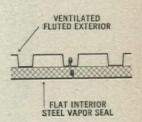
continued on p. 90



An office building designed by Giffels & Vallet & L. Rossetti, Associated Engineers and Architects, Detroit.

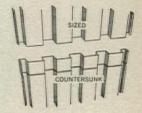
3 Good Technical Reasons For Specifying Robertson Q-Panels

Continuous Sealed Joints The interlocking side lips on both the inner and outer surfaces of the panels are caulked to provide a continuous sealed joint. Thus, when the panels expand or contract, the joints do not separate but remain in contact with the caulking material. This efficient side joint effectively maintains the insulation qualities of the wall and prevents the infiltration of air, dirt and moisture.



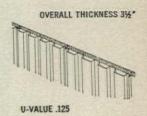
2

Flush Lap Joint Special conditions often make end-joints unavoidable. All standard Robertson Q-Panels are die-set and countersunk at the end lap, producing neat, almost invisible joints, with full insulation at that point. This feature eliminates the inefficient butt-joint with its unattractive through-wall flashing and consequent insulation



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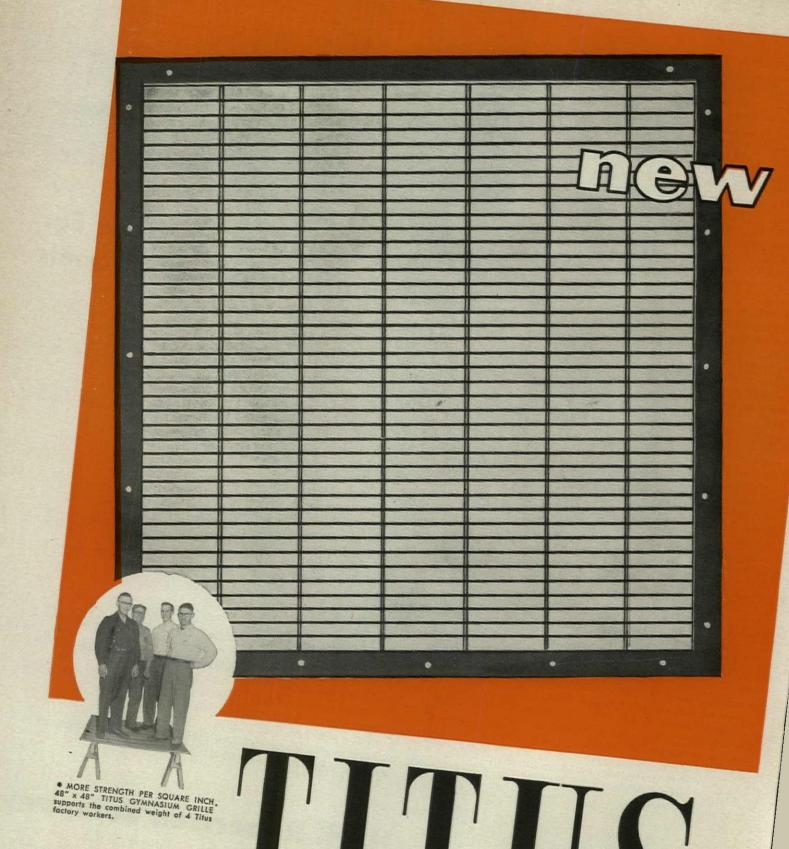
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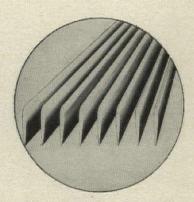
Here's a grille that's been especially customed for school and institutional application. It features special built-in durability to withstand gymnasium use and abuse. Made to give long efficient service under the most rugged conditions of bouncing basketballs, baseballs, jarring kicks, and bumps. Has smooth contours, no sharp corners or points. Is safety approved for school use. Is simply so rugged it stops damage and replacement costs.

Clean cut, compact, created to blend with the lines of modern school architecture. Available as grille face only (Model G-1) or grille face with attached volume controller (Model G-2).

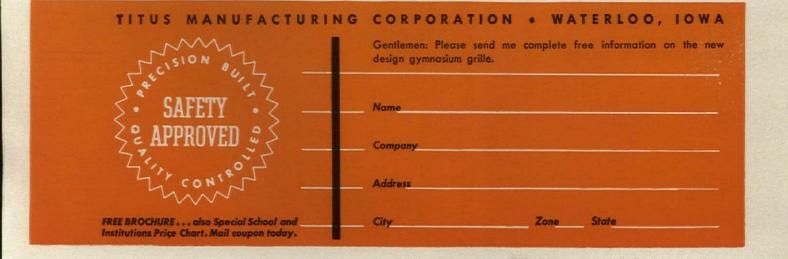
The Volume Controller features the famous solid section, extruded aluminum, streamlined Airfoil louvers.

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 MORE AIR CONTROL PER SQUARE INCH. Close up view of Airfail volume control louvers. Each blade is individually adjustable. Concealed louver support eliminates mullions and butted construction.



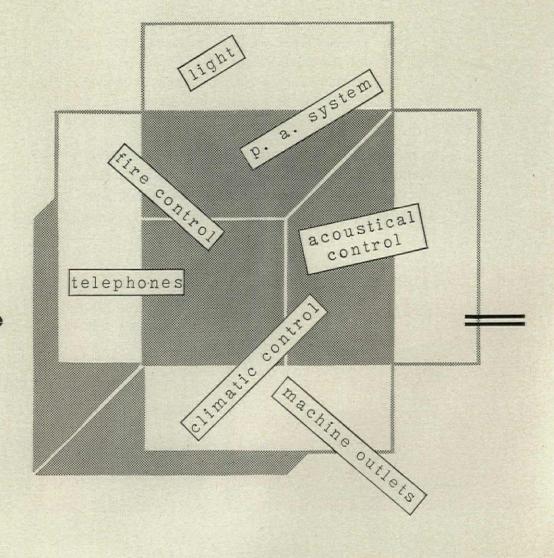
THE PROBLEM

Design an optimum working environment for 1500 engineers, designers and draftsmen who would occupy a new \$2 million aircraft design building. The solution was found in a Wakefield Ceiling, 2 acres in area, in which were integrated 6 basic electrical and mechanical services in addition to fully diffused low brightness lighting of 90 to 100 footcandles.

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CASE STUDY ONE



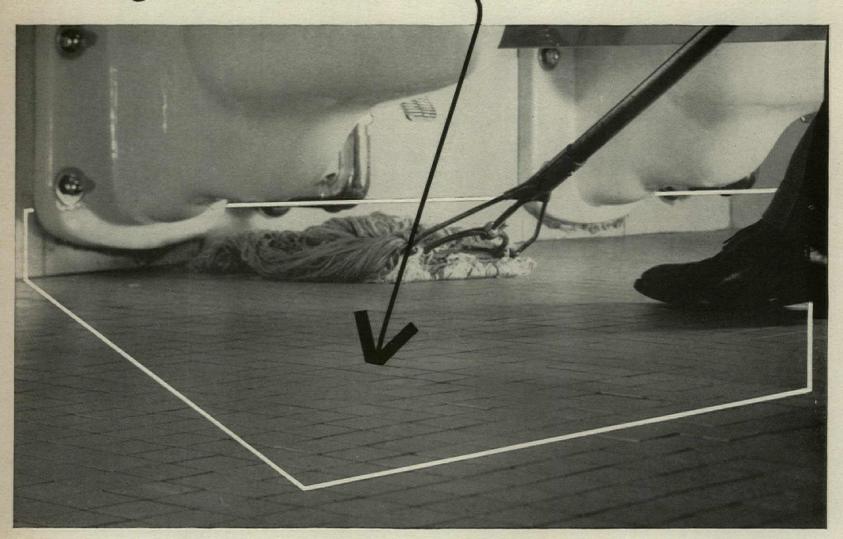


VIEW OF MULTI-PURPOSE CEILING IN DOUGLAS AIRCRAFT COMPANY'S NEW DESIGN CENTER - KISTNER, WRIGHT & WRIGHT, ARCHITECTS AND ENGINEERS

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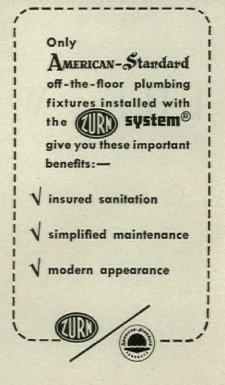
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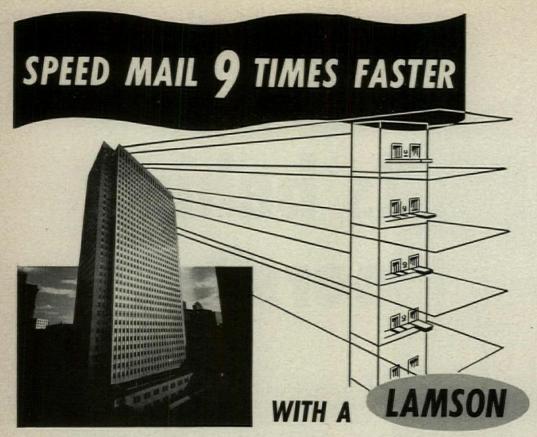
You, too, can realize the benefits of fixture-free floors by writing for the two booklets on modern washroom planning. "You can Build it and Maintain it for Less a New Way," and "The American-Standard Better Rest Room Guide." Send your request today. 111-1

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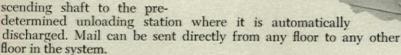
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LETTERS

Continued from p. 83

always easy to make popular and meaningful simultaneously.

By wise guidance of individual students in preparatory schools the problem may be attacked more directly. This involves getting knowledgeable advisers in the schools or educating those now in such positions. For more immediate results, guidance may be applied more effectively when students apply for admission to architectural schools. Even with the cumbersome methods now employed, it is possible by counseling and refusal to reduce the number of unqualified persons in the architectural schools. The positive side of this activity-encouragement of the qualified-would involve a great increase in the number and size of scholarships and other forms of student aid.

For the guidance of students in preparatory schools and the selection of students for the architectural schools, as well as for the selection of those admitted to practice through the certification process, more effective selection methods are needed. Again, financial assistance is required, but this should be obtainable, if the profession and the schools demonstrate sufficient interest in this method of insuring a high quality in the architectural profession of the future.

C. H. Cowgill, head Department of Architecture Virginia Polytechnic Institute Blacksburg, Va.

PLASTICS IN BUILDING

Forum:

I congratulate you on the fine job which you did on plastics in the January issue of FORUM. Your article has excellent coverage and the general treatment is of a high order.

Interest in the use of plastics in building seems to be increasing by leaps and bounds.

ALBERT G. H. DIETZ

Professor of Building Engineering and Construction

Massachusetts Institute of Technology Cambridge, Mass.

Forum:

The article was a dandy.

Donald M. Plummer Public Relations Dept. The Dow Chemical Co. Midland, Mich.

NEW KIND OF PRISON

Forum

We had talked to our architect about your article on the new Angola prison (AF, Nov. '54), which contains some very interesting architectural and construction features that may be used in a new medium security correctional institution being planned for Michigan.

The lift-slab construction and the concrete arches of the dining hall are especially interesting. We like the "telephone-pole" de-

continued on p. 94



Room for the Future -with Lighting by LITECONTROL

This light and cheerful Sun Oil office in Cincinnati has plenty of room to grow . . . and its comfortable, attractive LITECONTROL installation can grow right along with it. Notice the spacing of the recessed fixtures: new fixtures can be added to each row, making them continuous. Or new lines of fixtures can be added between the present rows.

This versatile installation with the built-in growth potential uses Litt-control 5524, a 2-lamp recessed troffer. Curved Holophane lenses direct the light to minimize brightness, so seeing is comfortable all day long. Notice, too, how the fixtures harmonize with the tiled ceiling.

Light colors on the walls and ceiling and a light-toned, attractive floor

pattern complete this picture of an outstandingly pleasant place to work. Installation was economical, of course, and cleaning and maintenance are easy: just lift out the fixture lenses from below.

Whatever the lighting requirements, LITECONTROL service and fixture efficiency will give you custom lighting at standard prices. Get in touch with your local LITECONTROL representative.

INSTALLATION: Sun Oil Company, District Sales
Office, Cincinnati, Ohio

PROJECT ENGINEER: Alex M. Engart

GENERAL CONTRACTOR: Dowson-Evans Construction Company, Cincinnati, Ohio

AREA: 1250 square feet

FIXTURES: Litecontrol #5524 recessed troffers, with Holophane #9033 and #9034 Low Brightness Lenses

CEILING HEIGHT: 9'-0"

SPACING: 8'-0" on centers

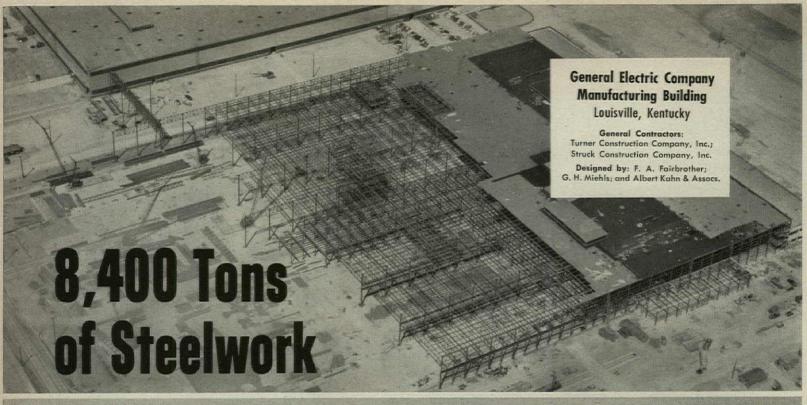


LITECONTROL Fixtures

KEEP UPKEEP DOWN

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As you see from the aerial view above, this new General Electric Company Plant at Louisville, was no small project! This view shows Manufacturing Building No. 5 which is the largest of five huge buildings being constructed at this project for the manufacture of General Electric Company's Major Household Appliances. Big as this building is, AMERICAN BRIDGE erected the steel framework, all 8,400 tons of it, in only three months and sixteen days!

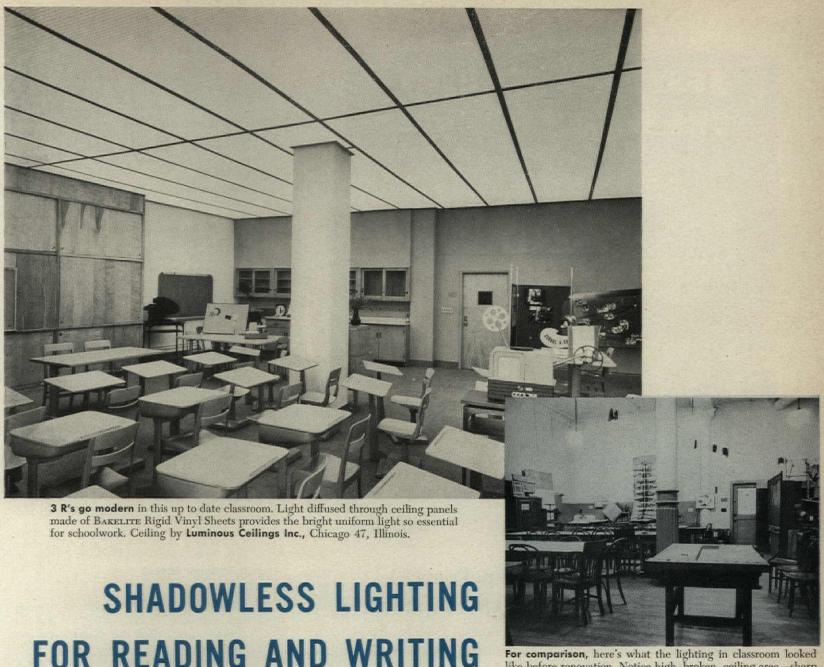
This new manufacturing building is a special high level industrial structure, 700' wide x 1,000' long and with a 43' clear height to the bottom chord of the main trusses. In addition, the building contains two intermediate mezzanine floors over a major portion of the area. Attached alongside the manufacturing building

mediate mezzanine floors over a major portion of the area. Attached alongside the manufacturing building is a paint and oil storage building 36' wide by 180' long. AMERICAN BRIDGE also erected a pipe trestle 8' wide x 190' long and 44' high connecting the new manufacturing building with a building previously constructed. This new General Electric building and the pipe trestle are good examples of American Bridge fabricating and erecting "know-how." You can depend on AMERICAN BRIDGE to handle any type of steel-frame construction with thoroughness and speed . . any time . . . anywhere. If you would like to know more time . . . anywhere. If you would like to know more about the advantages of having AMERICAN BRIDGE fabricate and erect the steelwork for your next building, just contact our nearest office.

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For comparison, here's what the lighting in classroom looked like before renovation. Notice high, broken, ceiling area—sharp shadows and dusty pipes. New plastic ceiling is much lower, conceals all light fixtures and ceiling projections.

... from an illuminated ceiling made of BAKELITE Rigid Vinyl Sheets

No eyestrain here! This model classroom* features the very latest in school lighting—continuous fluorescent strip units behind a ceiling of corrugated, milk-white plastic sheets. This diffused, high-level illumination kills shadows completely . . . bathes the entire room in soft uniform brilliance.

The ceiling panels are made of BAKELITE Brand Rigid Vinyl Sheets about as thick as heavy paper. They rest on an aluminum frame hung from the true ceiling. They're quickly installed and easy to remove for cleaning or maintenance. In place, they conceal pipes, ducts and other ceiling projections. But they don't interfere with sprinkler systems because they soften and fall at about 150 deg. F. Sound absorbent

pads fastened to the support frame will provide excellent acoustical conditioning.

These panels keep their good looks for years. They can be wiped clean or even scrubbed in soap and water, if necessary. And BAKELITE Rigid Vinyl Sheets resist yellowing, warping or cracking with aging. They resist moisture, oil and combustion and are dimensionally stable.

Include practical, beautiful plastic ceilings in your future designs. And remember BAKELITE Rigid Vinyl Sheets for screens, lampshades, signs and scores of other useful applications. For more data write to: Dept. AR-14.

*Model classroom designed by New York University School of Education in conjunction with officials of the National Education Association and Eggers and Higgins, New York architects.



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...masonry water repellents made with G-E DRI-FILM® silicones

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Ask your water repellent supplier about a treatment based on G-E DRI-FILM silicones! For the names of suppliers using DRI-FILM in their products, just write to General Electric Company, Section 55-2A, Waterford, New York. (IN CANADA, write to Canadian General Electric Company, Ltd., Toronto.)

*Sales by suppliers have jumped almost one million dollars each year since 1950!

Paint and Chemical Manufacturers!

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G-E silicones fit in your future



LETTERS

Continued from p. 90

sign for maximum-security prisoners, but favor an open campus arrangement for medium and minimum. We would make three other modifications: 1) We would have separate service facilities (dining room, auditorium, etc.) for the three security types. 2) We would place the powerhouse, warehouse and administration building outside the fence. 3) We would have a visiting room for each classification, so designed that unauthorized inmates or visitors could not get into or out of the room.

These are just casual observations and by no means should be construed as taking exception to the plan.

Gus Harrison, director Department of Corrections State of Michigan

COMPLAINT DEPARTMENT

Forum:

I find the FORUM a treasure of interest every month and a great aid in helping us develop and construct the hospital that is being built in this community.

I have but one unfavorable comment. There are so many ads and new ideas in your pages that it requires an hour or more of my secretary's time to write for the material.

LAWRENCE KALOM, M.D. Zion, Ill.

US BUILDING ABROAD

Forum:

Your January issue I found very stimulating—especially the articles on "US Building Abroad" and "How to Design a Good Architect."

However, the school at the navy base at Pt. Lyautey, French Morocco, was erroneously credited to James C. Mackenzie as architect. The facts are that the contract for the design of the base was given to the firm of Mackenzie, Bogert & White, and certainly not to Mr. Mackenzie alone.

> JOHN J. WHITE JR., architect Fisher-White & Associates Washington, D.C.

SOM'S GLASS BANK

Forum:

We find the beautiful bank by Skidmore, Owings & Merrill (AF, Dec. '54) so exciting that we would like extra tearsheets for our files.

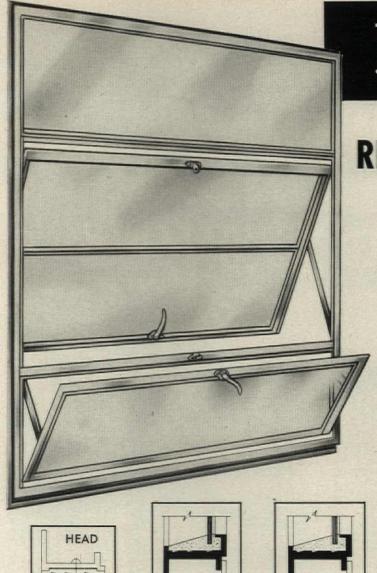
Howard Barnstone Bolton & Barnstone, architects Houston, Tex.

CHICAGO'S BIG PLANS

Forum:

The most impressive aspect of the Carson Pirie Scott competition plans in the November FORUM is their scope and drama. Pedes-

continued on p. 98



The versatility of its typesuperior in design!

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ALUMINUM WINDOWS

Ideal for institutional, industrial, commercial and apartment use, the Intermediate Projected type combines structural strength with functional operation and modern appearance.

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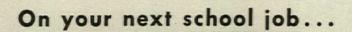
Architects: Faulkner, Kingsbury and Stenhouse, Washington, D. C. Gen'l Contractors: Charles H. Tompkins Co., Washington, D. C. Window Erection Contractors: F. H. Sparks Co. of MD., Inc., Baltimore. Architectural Aluminum Fabricators: A. F. Jorss Iron Works, Arlington, Va.

SEE "MISTER PEEPERS," starring Wally Cox, Sundays, NBC-TV Network.

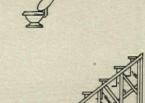
REYNOLDS ALUMINUM BUILDING PRODUCTS

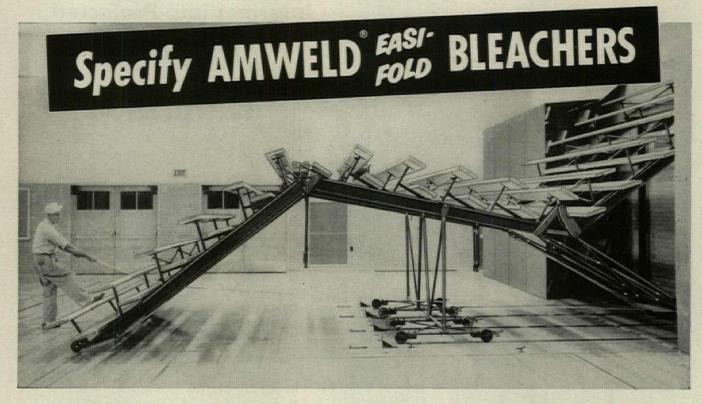
You wouldn't specify plumbing like this or furniture like this.





... instead of old-fashioned bleachers like this





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things to wear out with Amweld Easi-Fold Bleachers - maintenance and repair costs are greatly reduced.

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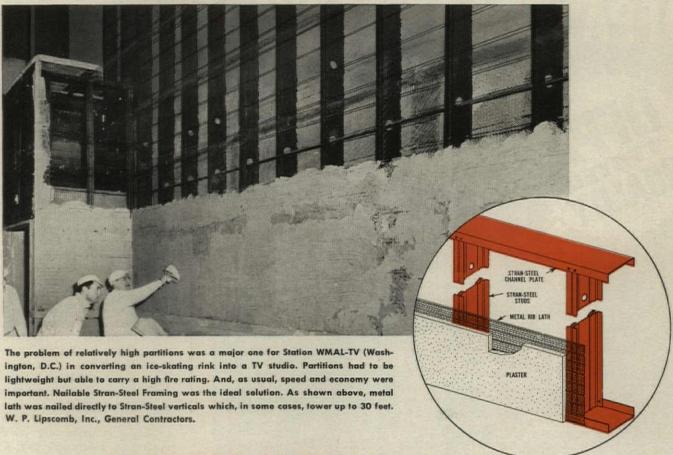
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LOOK FOR THE DFPA* TRADEMARK!

LETTERS

Continued from p. 94

trian and cautious redevelopment is not the kind of redevelopment that solves major city problems. Removal of the obsolete, clearance of the slums is not enough. With it must be coupled a really dramatic and bold redevelopment plan. These are the redevelopment projects that will demonstrate the value of redevelopment, and, we hope, "stir men's souls." So, the award winners impress me a great deal with their bold and imaginative approach to the problem.

At the same time, I have two general criticisms that go to all such plans rather than to any specific plan. The first has to do with the human scale, a phrase I notice FORUM uses quite often. In the competition-winning designs there is not much evidence of human scale. The arrangement of structures seems to be based upon pleasing the model-maker or the aerial viewer. Only one sketch presents these plans from the view of the citizen on the ground. There seems to be a tendency to arrange the buildings in terms of the buildings rather than the humans that inhabit them. Redeveloped Chicago should be desirable from the standpoint of the shoppers and those who do business in the Loop. These plans may well be desirable from this standpoint, but the presentation makes little reference to it. Instead, FORUM's presentation is in terms of the masses, the structures and their relationship to each other. As attractive as this may be, my interest is in its attractiveness to the guy on the street who is to live with it.

My second criticism is relatively minor and perhaps somewhat idiosyncratic. In looking at old planning pictures, drawn in the twenties, I have been struck with the artists' emphasis on uniformity—buildings all the same shape, height and style. We have moved from this stylized presentation but I fear we are backing into it in another way. In nearly every presentation of any major development plan, one finds structures of identical size and shape lined up like so many tenpins. This seems to me again to be based upon the pleasing geometric design rather than any study of the desirability of repetition. For myself, I prefer a bit of change. I find variation rather than repetition stimulating and so, I should think, would the Loop citizen who spends much of his day in the area.

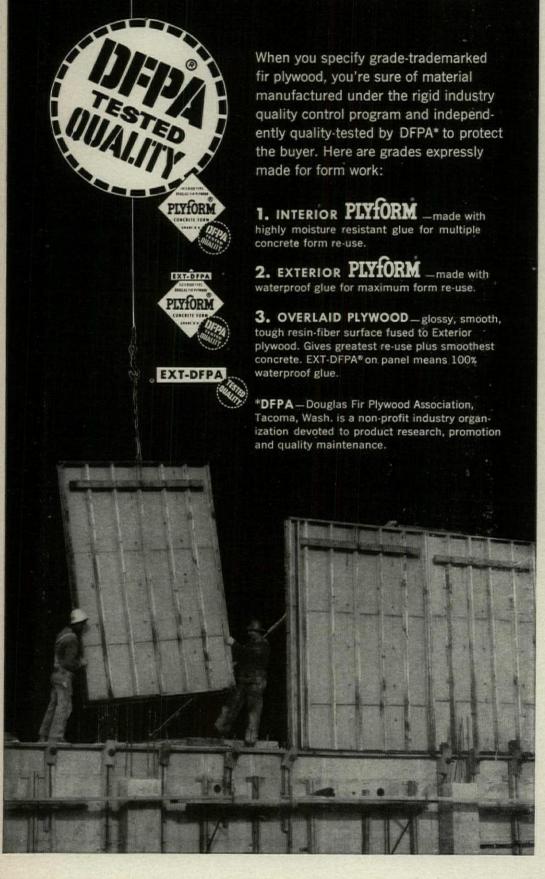
WILLIAM L. SLAYTON, assistant director National Association of Housing & Redevelopment Officials Washington, D.C.

HOSPITAL RESEARCH

Regarding your article entitled "A Study in Hospital Function and Design" (AF, Dec. '54), much of the work done by the British research team is "old hat" to those of us who have had close association with the problems of hospital planning.

I am curious as to why a travel study was made of what appears to be a 24-bed ward with remote ancillary services (an obviously obsolete type of nursing unit) rather than of a ward floor similar to that of the experimental hospital. Incidentally, the latter

continued on p. 102

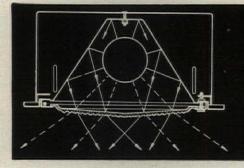


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ART METAL advanced ELIPTISQUARE



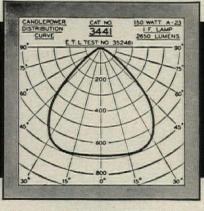
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- Highest light transmission efficiency
- Precise light direction control
- Edge light to ceiling for visual comfort
- Shallow recessed lens lighting



Please notice that the candlepower distribution curve is by Electrical Testing Laboratories, Inc., not The ART METAL Company.

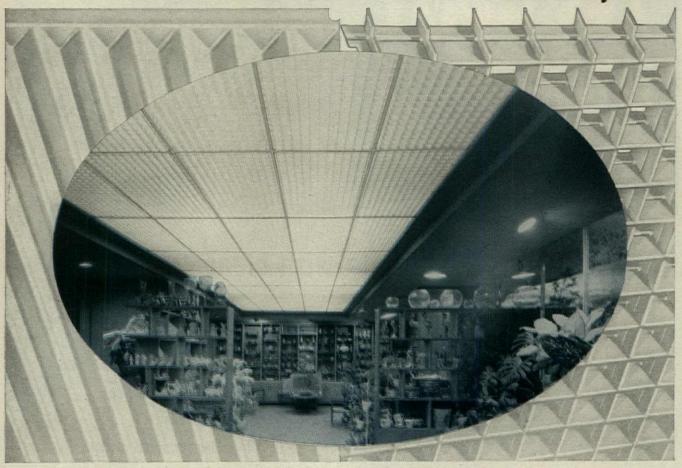
May we send Bulletin 254 which gives complete details? Please write:

THE ART METAL



Manufacturers of Engineered Incandescent Lighting

the most inexpensive single thing you can do... to create a MODERN ATMOSPHERE in any store!



"PANEL-GLO", lowest-cost Benjamin Luminous-Panel Ceiling, is made of translucent, white molded vinylite. Odorless; distortion and shrink-proof. Has invisible ducts to facilitate air circulation.

"SKY-GLO", finest Benjamin Luminous-Louver Ceiling, is made of translucent vinylite "egg-crate" type louver ing against lamp glare.

SIMPLIFICATION LIKE THIS makes Benjamin Luminous Ceilings LOW in OVERALL COST!

STANDARDIZED CONSTRUCTION

of louvers and panels eliminates need for special sizes or shapes. One easy-to-handle size, 3' x 3'.

EASIER, FASTER INSTALLATION

because panels and louvers can be trimmed right on the job to fit any size or

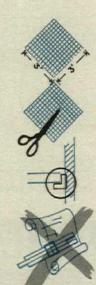
NO EXTRAS TO BUY to finish off the job, because everything is included except lamps...even finishing strips to provide a neat, white trim.

SIMPLER TO ORDER AND SPECIFY! BUY IT BY THE SQUARE FOOT!

All you have to know are the room dimensions and type of ceiling! You get all the materials for the job: louvers or panels; channels and channel fittings; finishing strips; support rods and suspension fittings; fluorescent strip lighting units (w/o lamps).

Approved by U.L.

B876



panels, chemically welded at joints. Provides 45° shield-

For new stores or modernizing existing sales areas, Benjamin "Sky-Glo" and "Panel-Glo" translucent ceilings offer a low-cost way to create the modern look that makes people want to buy. Get high levels of illumination that show up merchandise to best advantage ... 100, 130 or more footcandles, without awareness of the fact. Change a ceiling laced with fixtures, ducts and pipes into a magnificent "ceiling of light", without additional renovation! Drastic simplification without sacrificing effect or efficiency, enables Benjamin to bring you these luminous ceilings at an installed price so low, that in most cases it is actually the most inexpensive way to modernize the ceiling! For further details, write for Bulletin AD 6222. Benjamin Electric Mfg. Co., Des Plaines, Illinois.

s Ceilings Sold Exclusively Through Electrical Distributors

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- A powerful program of national advertising in leading consumer and trade magazines.
- Complete G-E colorchoice kitchens. All appliances and counter tops match for color harmony.

Now, G-E Textolite plastic surfacing offers the most brilliant array of patterns and colors ever available in a plastic surfacing! Designed to please the most discriminating people, you'll find exclusive Textolite patterns are perfect for kitchen sink and counter tops, bathroom vanities and vertical surfacing.

Practical, as well as beautiful, Textolite resists heat, stain and scratches . . . it gives years of wear with just minutes of care!

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For more information . . . look for Textolite in Sweet's Architectural File or send in coupon below.

Section AF-3-5 General Electric Company P. O. Box 5911 Cleveland 1, Ohio

> Please send me the new 1955 full-color booklet with a complete selection of G-E Textolite colors and patterns.

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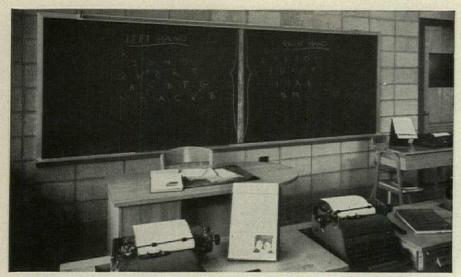
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TYPING CLASSROOM in Valhalla Junior High School, Valhalla, N. Y. Architect: Robert A. Green.

Eye-saving Armorply Chalkboard is the best background for chalk ever devised

And it's easy to install ... readily used for visual aids ... is guaranteed for the life of the building

See Armorply Chalkboard just once and you'll agree—the old gray slate ain't what she used to be! Here is a really modern chalkboard—scientifically designed for maximum readability and with a surface that's perfect for presenting magnetic visual aid material.

Tests show Armorply Chalkboard's soft, pleasing green color is best for young eyes. And its reflectance factor of 18.5% is ideal (see diagram).

Save on installation because Armorply needs no costly fixed grounds or surface preparation: it mounts directly to wall. Use Armorply without trim and this saving can be as much as 30%!

Never needs refinishing. Tough porcelain-on-steel face†won't shatter, buckle, warp or break under impact, stress, temperature changes or concussion.

Lifetime guarantee. Armorply Chalkboard is guaranteed *for the life of the building* in which it is installed.

Armorply Chalkboard has industrial applications, too. Specify it for shipping rooms, training departments, airline and bus terminals, conference and board rooms, engineering departments—wherever the finest Chalkboard is wanted. †Porcelain Faces BY The BETTINGER CORP.

NEW! Weldwood Aluminum Chalkboard Trim now available costs less than any similar product on the market.

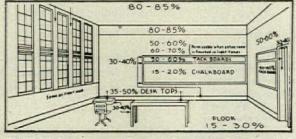


DIAGRAM from "American Standard Practice for School Lighting" recommends reflectance factor of between 15-20% for chalkboard.

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Company	
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City	State

LETTERS

Continued from p. 98

plan would not find acceptance in the US on many counts.

The work done by the US Public Health Service and by many independent architectural organizations has, I believe, achieved results which have brought the American hospital up to extremely high standards. Needless to say, there is still room for further study. I fail to see how Mr. Davies has made any major contribution.

Louis Allen Abramson, architect New York, N. Y.

• The primary purpose of the nurse-travel study was not to determine absolute walking distances, but to determine the proportion of trips made from bed to bed, from bed to ancillary room. For this purpose, location of ancillary rooms mattered little, so long as the nursing practice approximated standard (English) practice. In fact, lack of compactness was an advantage to making the study clear graphically.

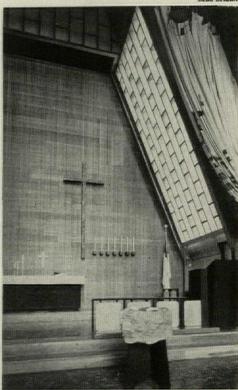
location of ancillary rooms mattered little, so long as the nursing practice approximated standard (English) practice. In fact, lack of compactness was an advantage to making the study clear graphically.

As Davies emphasizes, it is no purpose of his research project to set up standards or plans for copying, and for those tempted to look at his results in this way, he points out, particularly, that a plan tailored for one country's practice is unsuitable for copying in another country. Davies' work was reported in FORUM because his method of breaking down design problems into many factors susceptible to objective research appears promising and stimulating: the ward plan was shown as an example of synthesizing many such factors. This contrasts with the usual studies of hospital planning, in which the planners take more or less for granted all factors except one or two—say nurse-distance, square feet per bed or supply services—and the redesign of the unit is then determined by the one or two factors under consideration. Few architects in private practice could afford Davies' method; it is likely that none has his opportunities for experimentation. Apparently this type of research must be frankly financed as research.—ED.

ERRATUM

The praise which Reader Walter C. Kidney heaped upon Architect Donald Smith in this department last month was misdirected. The detailing of cross, candles and sail-like curtain (see cut) which drew Reader Kidney's praise is the work of Architect Harris Armstrong in the Lutheran Church of the Atonement in Florrisant, Mo. (AF, Dec. '54).—ED.

Mac Mizuk



Cross, candles and curtain

marble

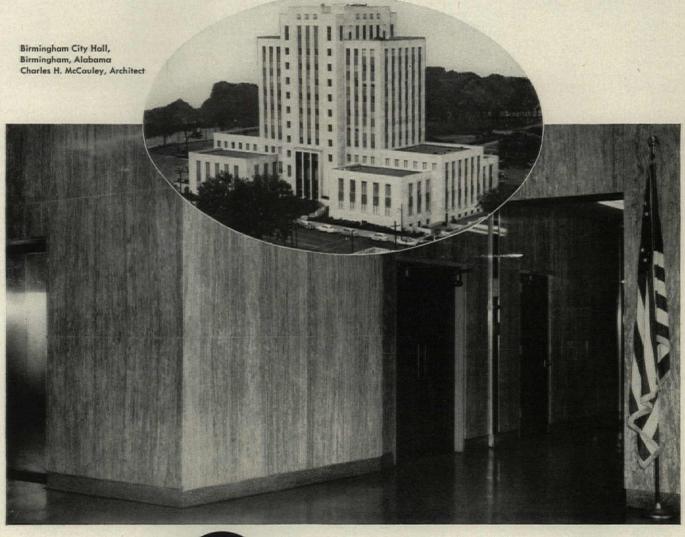
is best for wainscot or walls in public spaces . . .

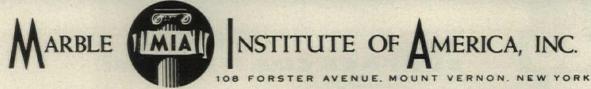
Writes Architect Charles H. McCauley: "We have used marble extensively in the design of our buildings. In public spaces it gives everything that is needed — beauty, lasting qualities, and low maintenance, and we find it can be used for a very small percentage of the total building cost.

"In the Birmingham City Hall marble was used in the areas frequented by the general public. These include such as main lobby, corridors, and elevator lobbies on each floor, court rooms, public spaces within departments and stairways, all for a cost less than 4% of the total cost of the building.

"We believe it would be difficult to secure a substitute equal to marble wainscot or walls in public spaces."

For more complete data on the basic economy of marble write Marble Institute.



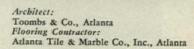


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Surco plaster is far stronger than ordinary plaster and can be brought to any degree of water-resistance. Here used on restroom wall, Surco plaster is completely washable. Application in this case was ½ inch over scratchcoat.

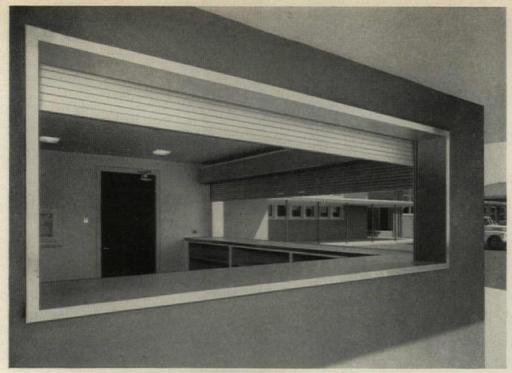




See Sweets Architectural File for further information on SURCO products.

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Architects today are specifying Cookson more than any other type of rolling counter doors, and it's easy to see why. Cookson extruded aluminum doors have "Alumilited" finish for lasting beauty that requires no paint or maintenance. Providing full unobstructed opening, they roll out of sight and away from dust, yet require no costly between-wall recesses. Precise engineering and tailoredto-the-job manufacture afford simple, low cost installation and easy, dependable operation. For trim modern appearance with the ultimate in practical performance, specify Cookson Counter Doors. Write for full information, or fill in the coupon and mail it today!



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SUBJECT: Interior Fire-Protection

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Job supervisors report Allenco reliable delivery and fasterinstallation speed work. Also, clients are becoming more familiar with this field.

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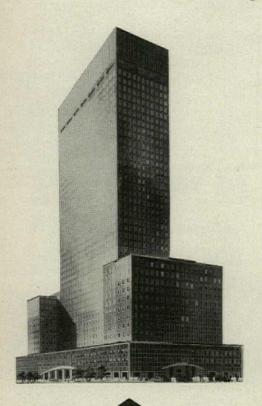
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4'8" 5'9" 6'7" Rotates full 360°... Tested leakproof in 100 mph winds... Both sides offer equal weathering qualities... 80 times more resistant to air infiltration than existing industry test standards... Stainless steel's strength, durability, corrosion resistance... Vinyl plastic weatherstripped... Cleans from inside in half the time, at half the cost.

At last, all the architectural advantages of stainless steel are applied in a practical way in a pivoted reversible window.

Stainless steel offers almost complete immunity to weathering effects. It resists rust and corrosion. It is easy to clean and to keep clean. It offers tremendous strength in thin sections that trim bulk and save weight. And, you can't wear it out. It keeps its good looks for life.

Here is truly the permanent window. The easiest-to-maintain window. The best-weathering window ever produced.

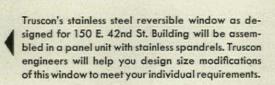
To prove wind and rain resistance, severe tests were run. For example, a stream of water was cascaded along the crack between stainless steel sash and frame for a full thirty minutes. No leaks developed. Truscon engineers found that this window resisted all but one-hundredth of a cubic foot of air per minute per foot of crack at a wind speed of 25 mph. That's 80 times less air leakage than the existing industry standard allows.

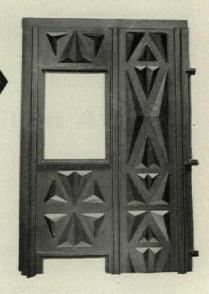
Any tiny amount of rain that does work its way past the first vinyl plastic weatherstripping will collect in the groove at the bottom of the frame and be carried off.

Such weather tightness means important savings in fuel and air-conditioning costs. This window can be cleaned in half the time, from *inside*, at half the cost. More savings.

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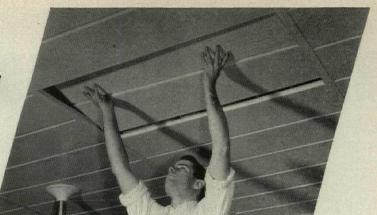


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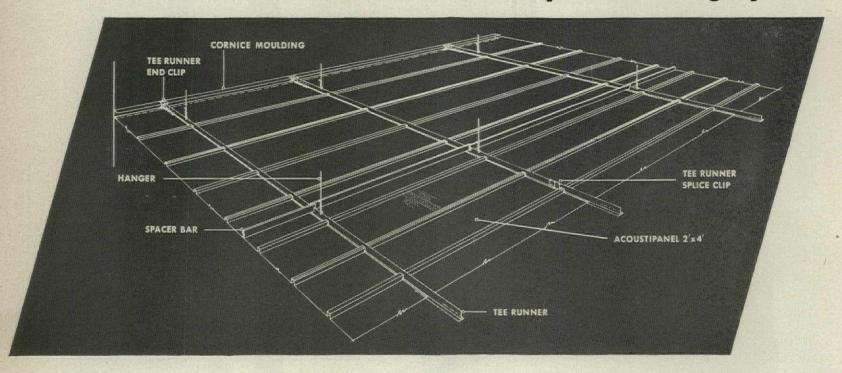
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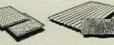








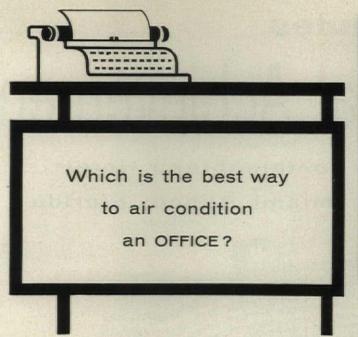




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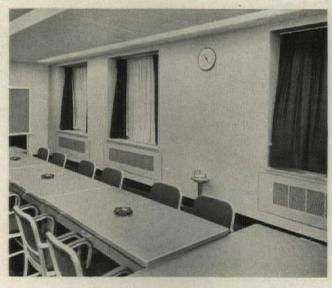
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In the building materials field, Pittsburgh Corning has an enviable reputation for effective "user-benefit" advertising. Via BBDO, their glass block advertising shows actual on-the-job photographs and testimonials from happy customers...often in four colors.

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Men behind the blueprints in this month's FORUM

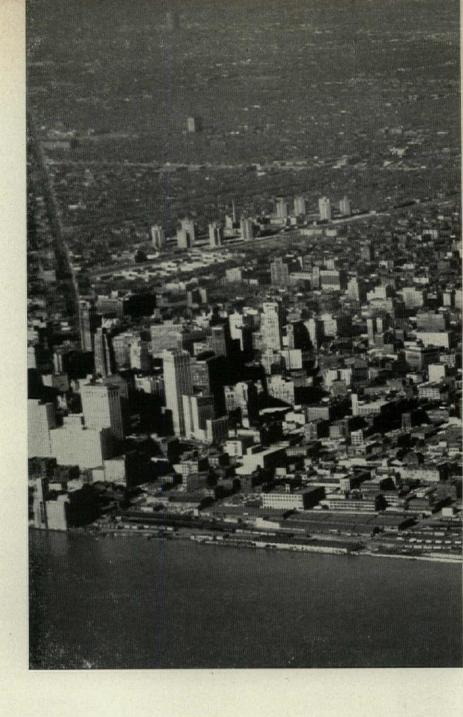


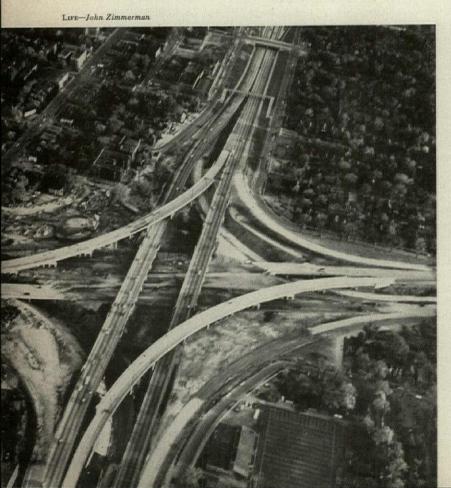




- 1. ARCHITECT: O'Neil Ford took no architecture while in college, got his training in building on the job as carpenter and painter, got his drawing out of an ICS correspondence course, finally learned architecture on the job, too, much of it with that pioneer architect and creator of architects, Dave Williams. Although Ford has sometimes said: "I never like anything we do after it is done," his eyes light up when he talks about the next job—and about progress to date on Trinity campus in his home town of San Antonio (p. 130).
- 2. BUILDER: John L. Baskett, partner in the San Antonio firm of Christy & Baskett, is one of many builders who helped produce the Trinity buildings. No up-from-the-ranks success, Baskett trained for his job at Texas A&M, where he earned a BS degree in civil engineering. Although the Trinity job was his first experience with the lift-slab technique, he says: "It worked nicely; we just followed the advice of people who had done that sort of work before" (including Architect Ford). However, his construction superintendent, an old-time carpenter, was skeptical. "He couldn't understand why any building would be satisfactory without any more carpentry than we used at Trinity."
- 3. CLIENT: Howard Johnson's personal influence on the design of his long chain of restaurant buildings is considerable. It was his idea to put the grill out front in full view, to give the cashier a candy case and to back up the bar with a huge mirror menu. More recently, it was his idea to open up the front of the restaurant with glass walls. The job of implementing this tradition-shattering decision fell to Florida Architect Rufus Nims, who has since developed an entirely new look for the familiar orange-topped restaurants and has also taught restaurateurs a thing or two about kitchen planning (p. 162).

REDEVELOPMENT f.o.b. DETROIT





Can traffic be reversed
on the motor city's new superhighways
to bring people and money back into midtown?
Detroit will try by replacing a slum
with a midtown suburb



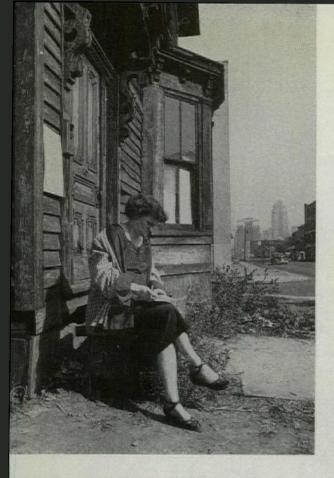
THE SITE of Detroit's planned redevelopment area, adjoining major roads

In the past 50 years the 115 million automobiles produced in and near Detroit have driven the middle-income population of hundreds of US cities outward beyond the city limits to the suburbs. It has been wonderful for the children, but very tough for the mayors, because into the old midtown neighborhoods have moved the underprivileged. Once there they have frequently been confined there by racial prejudices. Around their slums the taxpaying stores have waned. All of midtown has begun to corrode—or move out.

Many cities are searching for solutions to the same problem. Some try to cover their municipal corrosion with a layer of the old political snake oil. Some blast, then rebuild new slums. In Detroit, where the problem was born, a group of prominent citizens think they have a significant new solution: under Title One Redevelopment, they say, build mixed suburbs inside the city, mixed both in building types—high-rise and low—and in populations, a mingling of races. In Detroit everyone drives to work anyway on the great new superhighways. Why

not entice some to drive *out* of midtown in the morning to work, then at the end of the day back in, to live? By building the highest quality housing for the price available in either Detroit's midtown or suburbs, the group who are promoting this plan are sure they can change the direction of traffic.

The promoters are themselves significant. Their leaders are an unusual group of bankers, merchants, and chiefs of industry to be found behind redevelopment in any city. Moreover, a famous petrel of organized labor is the most insistent member of the group. When Walter Reuther, the president of the United Automobile Workers, sits at a table—not across the table—with Foster Winter of the J. L. Hudson Co., Banker Walter Gehrke, Broker Walter J. Gessell, and executives from all the great auto producers, it is news in Detroit's class-conscious, combative atmosphere. Says Reuther: "The UAW-CIO is vitally concerned with the elimination of slums and the redevelopment of blighted areas.... Detroit must demonstrate to itself and to the world that we have



WOOD-FRAME HOUSES like those above were swept off the Gratiot site (right) months ago, creating a remarkable redevelopment situation for a US metropolis: cleared land awaiting action, with the most tortuous job, relocation of residents, already accomplished.





the will and good sense to apply our productive know-how to this problem."

The first target of the Citizen's Redevelopment Committee is the 50-acre slum cavity shown in the Detroit air photo (plus adjoining acres which have not yet been drilled out). On this entire site the committee proposes to build or promote a town, population 4,500 families, into which will be integrated most of the economic strata and all the racial strata of Detroit. Varied in housing types, both high-rise and low, for incomes from public housing level to house-owning level, it will have two physical characteristics: easy access to superhighways, and facilities for car storage for every family. This plot will be turned into a green suburb of houses and apartment buildings inside the city, urbanity after an old model—the gracious squares like Rittenhouse in Philadelphia and Gramercy in New York.

The committee's first 50 acres

The 50 acres which make up the Gratiot-Orleans neighborhood in Detroit and its surroundings have a ghetto history which the redevelopers are determined to break. This never was a really fine residential neighborhood, even when new; its forest of small frame houses was put up fast to receive a wave of German immigrants in the 1850's, while a similar area was being thrown up on the west side of town for Irish immigrants. The two jealous concentrations made up almost a third of the city's population for a time, then later, as the immigrants dissolved into the community, the east side fortress was taken over almost entirely by Negroes flocking up to the factories from the South. Today, architecture is the only real way to break a habitual decline which has almost become historical. Unless the Citizen's Committee creates housing which is irresistible to many different Detroiters, the neighborhood's phlegmatic social past may prevail. Private redevelopers have been anything but enthusiastic about this area. The land has been waiting.

Detroit is a tough town to convince about racial harmony; any factory town whose population exists primarily on seasonal employment is suspicious and competitive, and Detroit's jealous racial calm frequently has shattered into violence postwar. But the monolithic character of neighborhoods like Gratiot, which define lines to step over, and then counterfeit a heroic lore of retaliation, may have a lot to do with that.

Detroit has a 6,000-unit public housing reservation, and more than half of it, 3,874 dwelling units, was scheduled for an adjoining area (in chart, the St. Aubin extension). If public housing did fill this area, in all probability it would be almost entirely Negro. (The proportion of Detroit families eligible for public housing recently was quoted at about 200 white and 9,000 Negro.) With this towering mass installed in the area adjoining

Photos: McNutt
Free Press
Chase News
O'Connor Studio
LIVE—Herbert Gehr
Garlser Sturges







Common Council president LOUIS G. MIRIANI

THE COMMITTEE LEADERS



Chairman WALTER J. GESSEL real estate broker



Planning and design: Finance
WALTER P. REUTHER WALL
labor leader more



inance: WALTER GEHRKE mortgage banker



Legal matters: roster K. WINTER merchant

"Our committee is convinced that a successful program is completely dependent upon obtaining an integrated residential community of the most advanced design. . . . A community that on a completely competitive basis can attract back to the heart of the city people who are finding their housing in the outlying sections. . . . The plan provides for amenities that do not exist in the Detroit area."

The Citizen's Committee for Redevelopment began in the spring of 1954, soon after a private redeveloper from out of town who had held an option of the Gratiot-Orleans site quietly folded his contract and faded away. Detroit's Common Council set the committee up officially; Walter Gessell and James W. Bell, now the committee's coordinator, were prime movers. Support came forth rapidly and tangibly in a \$55,000 operating fund (including \$20,000 from downtown banks and \$10,000 from the UAW) and the committee soon jumped the first administrative hurdle: Washington's reluctance to sell land under Title I to a supervisory body rather than a real redeveloper.

THE ARCHITECTS



STONOROV



YAMASAKI



van Leuven (of Gruen Associates)

The committee's architects are from two well-known local offices, Minoru Yamasaki of Leinweber, Yamasaki & Hellmuth, Victor Gruen and Karl Van Leuven of Victor Gruen Associates, and—from Philadelphia—Oskar Stonorov.

Gratiot, the Citizen's Committee saw ruin for their ideal of an integrated neighborhood. They would not build in its shadow.

Last month Detroit's Common Council ruled that they would not have to; they passed an ordinance guaranteeing the extension of their Gratiot-type layout over both the Lafayette and St. Aubin areas. In St. Aubin and Lafayette, only two small public housing units will be included, totalling 1,098 units; the rest will be saved to help reseed the other 24 slum districts in Detroit. Because Gratiot is the closest to midtown of these blighted areas, it demands the most immediate attention; it might also be a model for others to follow. If it is a successful model, and the Citizen's Committee can take on a new neighborhood for their kind of redevelopment every two years, the next half century may see a reconstituted Detroit. In 50 years, Detroit might even be one of the few midtowns still tenable for commerce at the present volume-100,000 families would be a mighty buying bulwark for midtown business.

Mayor Cobo is impatient to get this redevelopment under construction this summer; last month he gave the Citizen's Committee 30 days to get their corporation moving on the \$50 million building project.

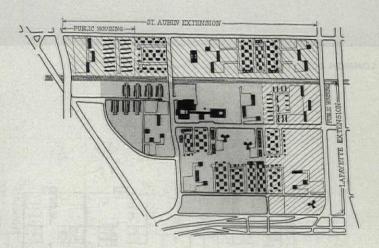
The first million

Future steps of the Citizen's Redevelopment Committee depend largely upon financing at this point. The plan is to complete the setting up of an operating corporation with \$1 million in capital, half contributed, half raised by short-term debentures. The 50 acres of the Gratiot plot will cost a total of nearly \$950,000 after markdown almost \$20,000 per acre. (Federal Aid brought the price of the entire 128 acre plot down from nearly \$60,000 per acre, clearing expenses included.) The Citizens do not plan to invest all their cash in land to start with; instead they plan to buy an option and set up an installmentbuying agreement with the city. They actually will take full title at first only to the land for two pilot projects in Gratiot-probably three apartment towers, the service center and a low-rise project of about 150 units, opposite the Wayne medical group. Then they will set up subsidiary corporations with private redevelopers to complete other Gratiot sections; when these are complete, but not before, the developers will buy the Citizens out of the subsidiary corporations. In this way the Citizen's Committee can retain control, enforcing their over-all plan in detail, and yet can dig this seed money out fairly fast and replant it in other parcels of the project or in other Detroit slums.

In their plans Gratiot's architects have avoided the over-all monotony, anonymity and economic nudity of most housing projects, public or private. They have placed groups of high-rise apartments in green fields through the project, but have given most of the ground

area to ingeniously planned complexes of single freestanding houses, three-bedroom rental row houses, semidetached houses with enclosed yards and commons, and four-bedroom ownership-type houses. In general the economic distribution will locate the highest priced housing in the center, the next highest on the periphery, and the low cost in between. Arranged on the superblock system, most of the low buildings will face inward on sets of common play yards for children, a cellular type of neighborhood. In street plan the idea was not to strain for intimate curves or cul de sacs, but to create exceedingly simple access to adjoining superhighways in the family car. Because Detroit is so dominantly an auto city, its public transportation system has been neglected. People have to drive. The new plan for Gratiot uses the highways as the founders of Detroit used the river, emphasizing wharf space; there is 175% off-street parking -a hint of what may be necessary for other cities too, when the full pressure of Detroit's relentless assembly lines reaches them.

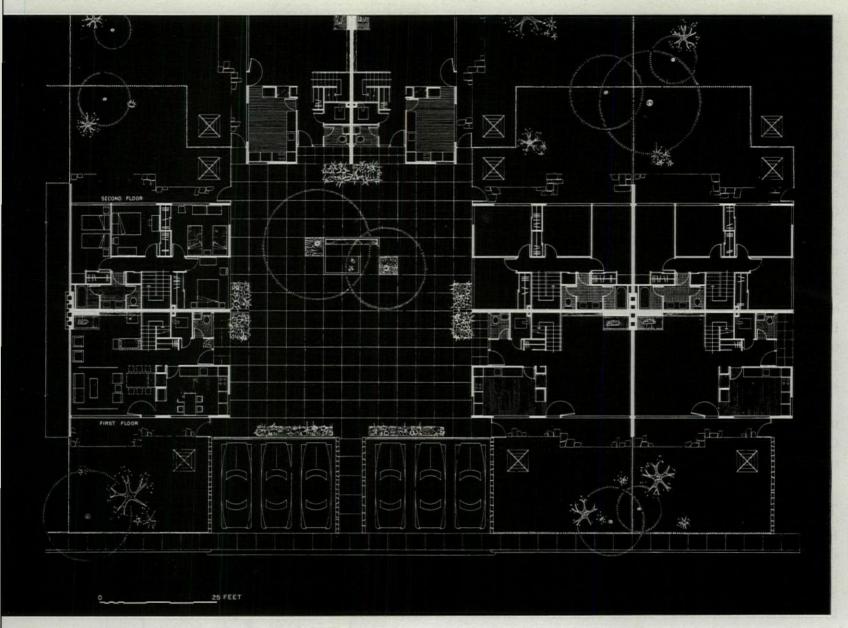
Municipal redevelopment under the banner of a private nonprofit corporation may be a hybrid, but the Detroit Citizens hope to prove it to be as efficient as other quasipublic bodies in the US, like port and highway authorities. Their basis for success: nonpolitical continuity, and an opportunity for private citizens to put a shrewd brand of idealism into play.



DWELLING UNIT DISTRIBUTION

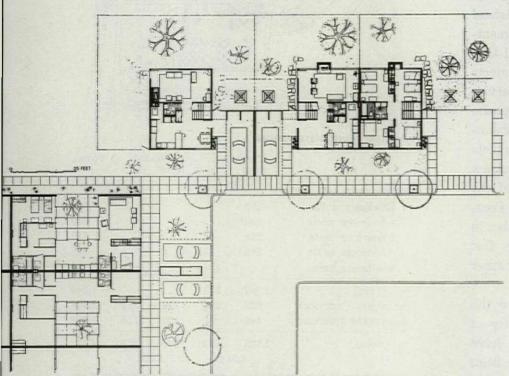
	PRIVATE		PUBLIC		TOTAL
	HIGH	LOW	HIGH	LOW	
GRATIOT-ORLEANS AREA					
Efficiency units	192				192
1-bedroom units	240*				240
2-bedroom units	720				720
3-bedroom units	240*	155			395
4-bedroom units		197			197
Total	1,392	352			1,744
ST. AUBIN EXTENSION	832	226	420	128	1,606
LAFAYETTE EXTENSION	448	94	420	130	1,092
TOTAL	2,672	672	840	258	4,442
	3,344		1,098		
	Tologo Tarent	The state of the s	A CONTRACTOR OF THE PARTY OF TH	The state of the s	WE SELL

^{*}Two-bedroom units in one building are changeable into combination of oneand three-bedroom units.



COMMON COURTYARD is core of six-house group

In the fields of houses, a reorganization of yards



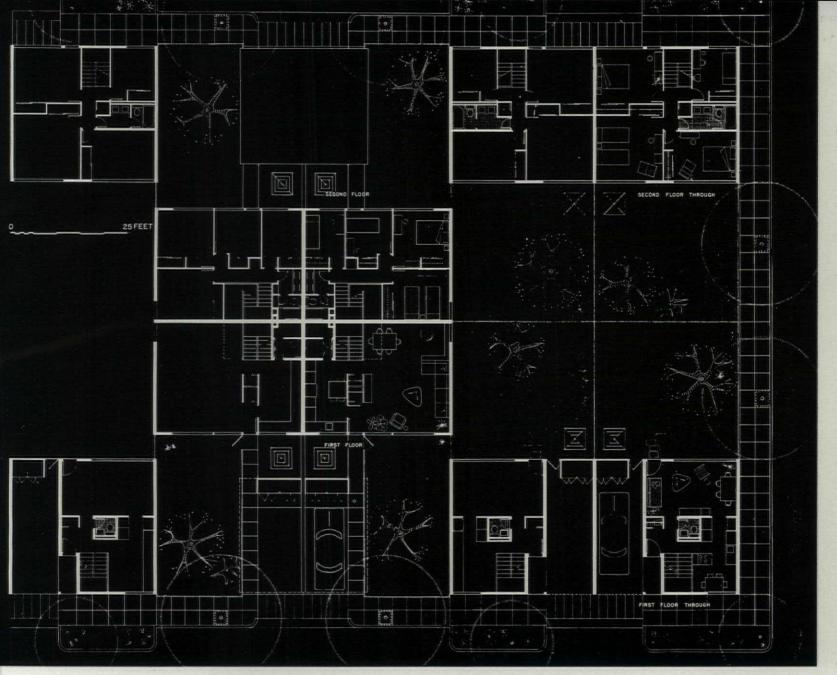
DETACHED CORNER HOUSE will be highest echelon in neighborhood

In the layouts for the low housing to be rented or sold in the Gratiot area, most of the traditional front and back yards have undergone re-evaluation and rearrangement. The old, semiprivate front yards have largely disappeared, usually to be merged into a common playcourt around which a number of dwellings are grouped. From their kitchens mothers can watch their children at play, with the satisfaction of knowing they are playing in an off-street area. The cars in their shelters actually form a barrier to sudden street dashes.

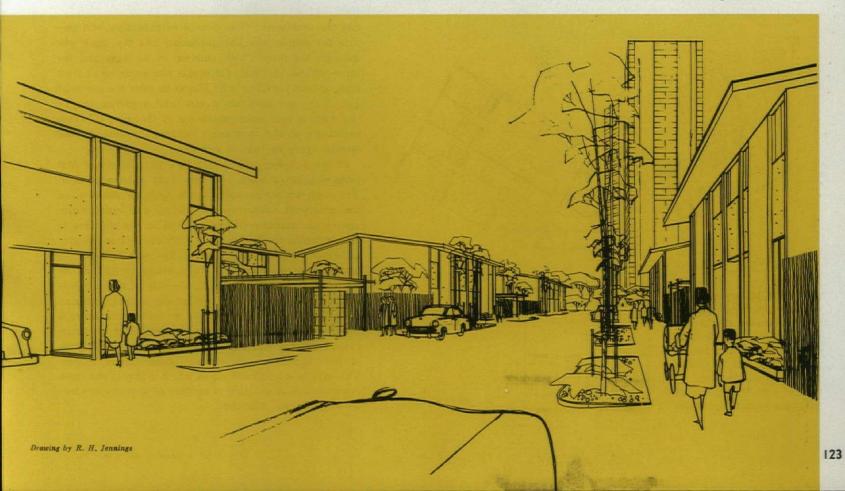
The private yards are more private than ever. Fenced higher than the eye, they allow people to do such things as eating outdoors, and setting up infants' playpens.

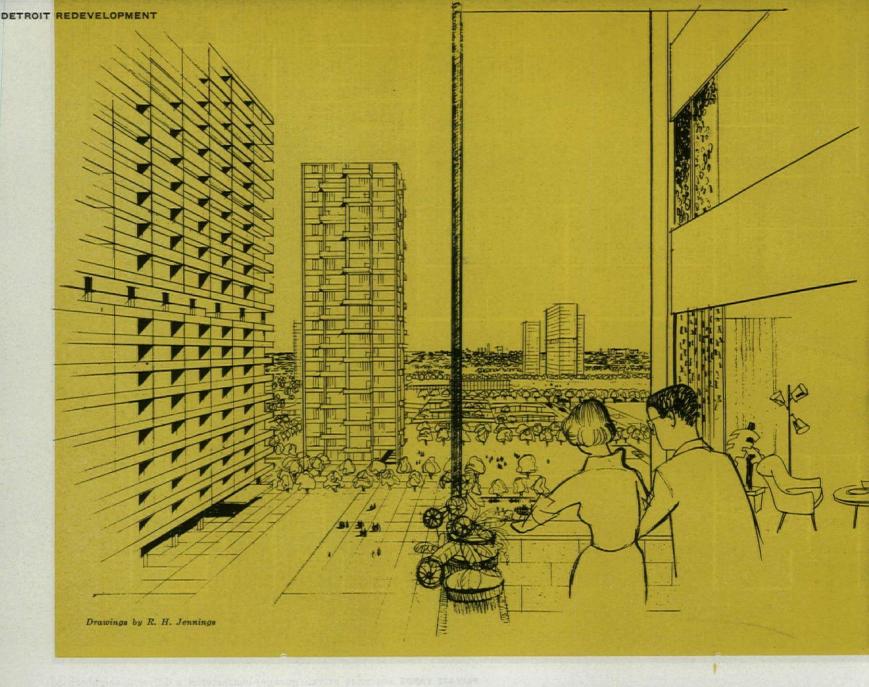
The duplex houses (plan, left) have what amounts to two living rooms, one above the other, to allow an amicable family separation of children's and adults' entertaining.

Diversity of houses is deliberately pushed to reflect the diversity hoped for in the economic structure of the project, but architects expect the house prices not to exceed \$17,000. The land use still approximates the habit of the 40' x 60' lot (except for corner houses) although it redistributes the ground thriftily. This neighborhood will be strongly cellular; the unit of neighborliness probably will be the shared playcourt.

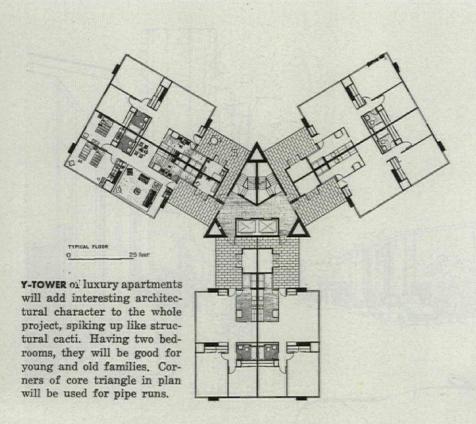


PRIVATE YARDS and more private garages characterize a different neighborhood PERSPECTIVE from sidewalk viewpoint shows group of houses in plan above





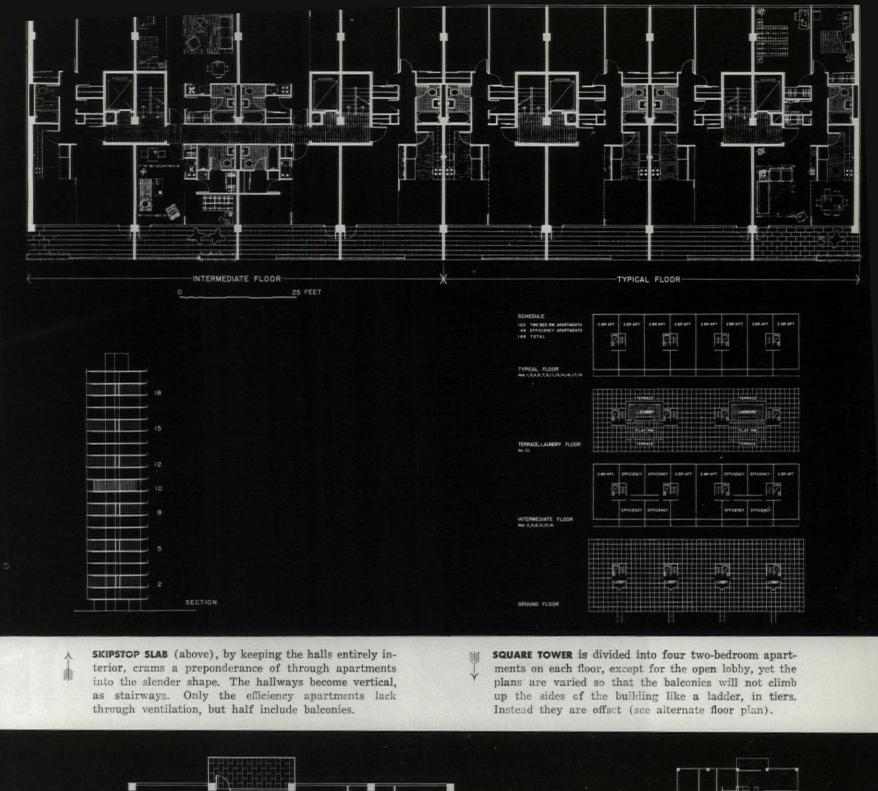
Three ingenious new types of high-rise apartments

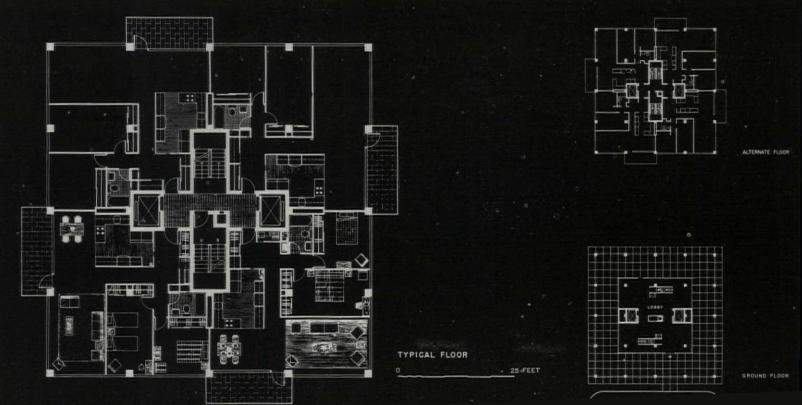


Say the architects: "The Gratiot neighborhood will provide for people who like gardening and for those who hate it; for people with children of all ages and for those without children; for people who enjoy views from high up and for those who like to be near the ground." But if the tenant wants a view and a garden too, he can rent a nice compromise up in the air; all three variations of the apartment buildings include outdoor terrace space for potted gardens.

In the Y tower (plan, left) the "garden" is the first thing you enter when you open your apartment door. You walk across an open porch, then go indoors. In the lower-cost square tower (right) and slab (right, above) the apartment balconies will be less startling to the visitor. In the first case they are cantilevered singly; in the second, in divided rows. The slab will have a unique floor midway up. No apartments will be on the tenth floor; instead, the space will be a continuous building-long terrace with two laundries and playrooms.

The high-rise apartments are so distributed throughout the master plan of the project that their wide surrounding lawns will serve also to space out the clusters of low attached and detached single-family houses. This will be a neighborhood in which a family can move from one accommodation to another as it grows, without heading for the suburbs.





NEW COLLEGE BUILDINGS

Here are three examples—better than most but not unrepresentative—showing how well the academic world is beginning to build itself into the world outside, instead of retiring into ostentatious isolation. One example is a state institution in the Southeast, adding a library to its series of modern buildings (below); another is a privately endowed institution in the Southwest, creating a campus wholly new (p. 130); the third is a junior college in the Northeast, adjusting its new buildings to existing collegiate crockery (p. 138). All are designed sensibly, on the basis of careful study, and with understatement.

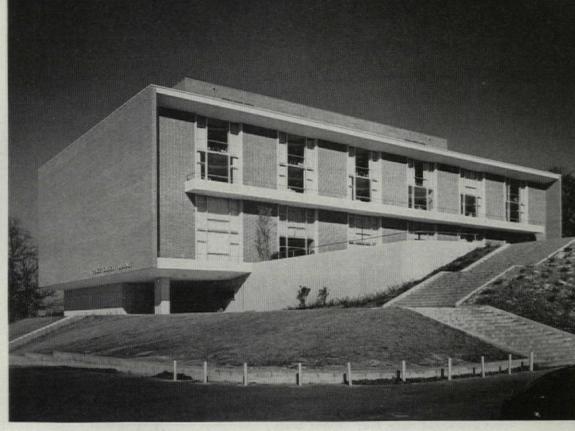
Photos: Joseph W. Moliton

Mill Greden Ladday

WEST APPROACH was to be main façade until planners recommended turning building 90° to give reading rooms north light, shut out hot afternoon sun. Brick veneer curtain is cantilevered 9' out over groundfloor entrance, which is faced with travertine.



KEY POSITION at high, central point of new campus is enjoyed by library, research building, future classroom-administration building (foreground).



SOUTH FACADE shows good building composition, sun control. Main entrance is at left

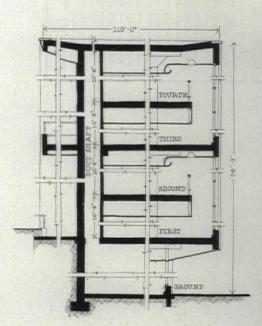
1. AT GEORGIA TECH, ATLANTA,

NEW STANDARDS IN LIBRARY DESIGN

John Burchard, MIT's library expert and planning consultant on Georgia Tech's new 450,000-volume library, describes it as the "clearest statement yet made" of new principles of library design, clearer even than the new libraries he helped plan at Rice Institute and at his own MIT. The principles aim at making the library the real heart of university life by: 1) centralization of most depart-

mental collections in one building easily accessible to all; 2) subdivision into specialized reading rooms for different departments; 3) openness and circulation between floors by means of mezzanines, stacks merged with reading areas instead of isolated on whole floors; 4) gradation of floor use from services and stacks on the south to reading rooms on the north-light side.

To these principles might be added another which few colleges besides Tech actually follow in planning new buildings: show pride and confidence in your own department of architecture by having it develop the building program, calling in any outside help that may be necessary. The library is the third, and best, building on Tech's new campus designed by its teacher-architects.



SECTION: ducts between south-side windows supply cool or warm air through furred ceilings over stacks. Glassy north wall is insulated by blanket of air rising from hot-water convectors.

NORTH FACADE opens both two-story reading rooms to best light and extended view

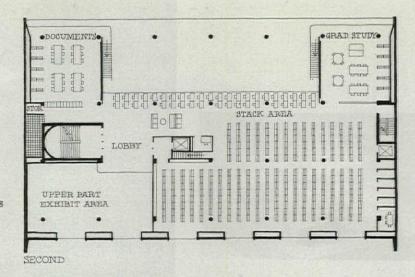


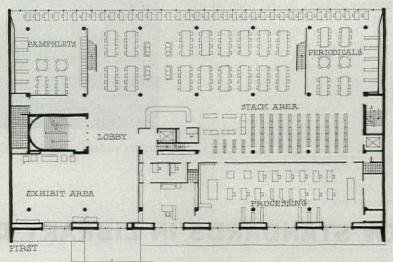
PRICE GILBERT LIBRARY: Georgia Institute of Technology
ARCHITECTS: Bush-Brown, Gailey & Heffernan
CONSULTANT: John E. Burchard, dean of humanities
and social studies, Massachusetts Institute of Technology
STRUCTURAL ENGINEER: J. J. Pollard
HEATING-VENTILATION ENGINEERS: E. R. Gritschke & Associates
GENERAL CONTRACTOR: J. A. Jones Construction Co.

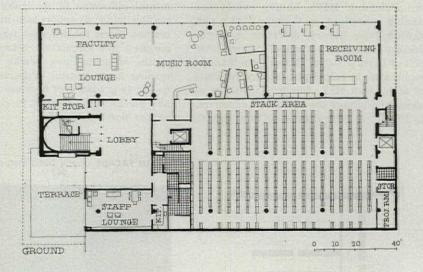
LIBRARIAN: Mrs. J. H. Crosland

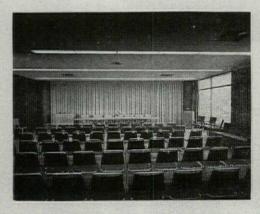
Instead of monumental halls and dark, buried stacks, Tech's library has an open, cheerful design that removes many obstacles between books and their potential readers. Self-service from open stacks in reading areas keeps staff work down, encourages readers to become acquainted with four or five books instead of ordering one from a desk. Air conditioning invites readers, permits smoking in most areas, protects books from dust and temperature-humidity extremes. These, plus acoustical treatment, high light levels and a diversity of comfortable seating have made the library so popular a general study hall that evening hours have had to be extended.

The new library is actually two libraries in one: the humanities take precedence on first and second floors (plans, right); science and technology have almost identical facilities on the third and fourth; music is on the ground floor and art exhibits are in the main lobby. The whole building is on a widebay system (27' x 27', increased to 31'-5" for the two-story reading rooms) with freestanding stacks that can be added to or changed around as the collection grows from the present 150,000 volumes and 100,000 documents to capacity of 450,000. Floor area: 96,508 sq. ft.; seating capacity: 800, with 17 locked carrels, 170 individual study tables; construction cost: \$16.57 per sq. ft.; total cost, including equipment, furniture, fees: about \$2 million.









FACULTY LOUNGE on ground floor can be converted to auditorium by folding back partition, setting up 150 stacking chairs.



MUSIC ROOM at opposite end of faculty lounge has record-lending desk near entrance at right, listening booths in far background.



special reading rooms on north side have same economical 7'-8" ceiling height as stacks and offices on the south, afford spatial contrast with 19' general reading rooms (photo below). Light levels are maintained at a high 60 foot-candles in special reading rooms, 45 foot-candles in two-story reading areas,

28 foot-candles in stacks. Natural birch furniture, light gray stacks aid diffusion, reduce eyestraining contrasts. Acoustical-tile ceilings and cork-tile floors cut noise by 55% in reading areas. (Ceilings in processing rooms, machinery rooms, lobbies, stairwells and kitchen cut noise 65 to 70%.)



GENERAL READING ROOMS have glass curtain wall to north, mezzanine stacks to south. Colors are many and rather sweet.



Photos: Ulric Meisel-Dallas

NEW COLLEGE BUILDINGS

2. IN SAN ANTONIO, TEX.

ANOTHER LOOK AT TRINITY,

TRINITY UNIVERSITY, SAN ANTONIO
ARCHITECTS: Bartlett Cocke, Harvey P. Smith, O'Neil Ford
GENERAL CONTRACTORS:

James Stewart Co., G. W. Mitchell, Christy & Baskett STRUCTURAL AND MECHANICAL ENGINEERS:

Frank Drought, Karbach & Engel
LANDSCAPE ARCHITECT: Arthur and Marie Berger
CONSULTING ARCHITECT: William W. Wurster

The totally new campus of Trinity University, perched on a splintered, rocky rise of ground on the outskirts of San Antonio, has been an object of fascination to the building industry since its beginning in 1951, when the Trinity trustees decided to move the school out from several antique midtown buildings, bag, baggage and small budget. (See AF, June '50 and Sept. '51.) Almost all of Trinity's techniques, both design and construction, were brash. Would they work? A recent look at the site, now shaping into a real campus, is no disappointment.

The first fascination was the brand-new structural technique Architects O'Neil Ford and Bartlett Cocke



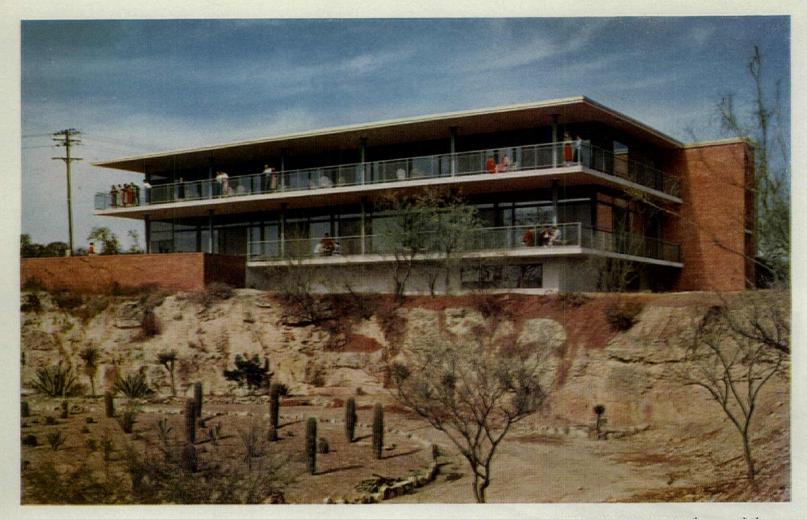
DORMITORY GROUP. Students' rooms all have pleasant balconies, doubling as sun shades.

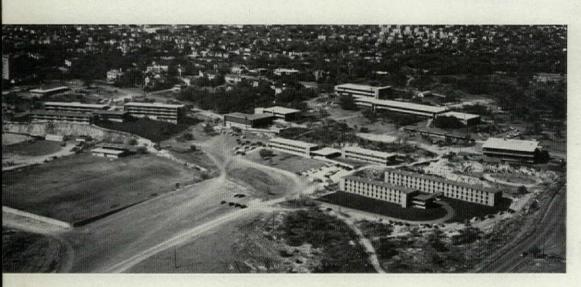
THE LIFT-SLAB UNIVERSITY

seized upon: the Youtz-Slick lift-slab method. Although this has become fairly common practice now, four years later, it was pioneering then. For multistory buildings, Ford and Cocke poured their concrete floor and roof slabs on the ground, one atop another, like layers in layer cake, held apart only by a waxy coating; then one by one the concrete slabs were jacked up their steel columns to the proper heights. There was no scaffolding or formwork at all. "Why build a building of wood up in the air just to pour a concrete building into?" Ford expostulated, as if all the decades of concrete construction up till then had been rather ludicrous. Four years have passed and a dozen

completed campus buildings have proved that the economy and speed of the lift-slab method in routine operation is sizable; in those buildings which had an unbroken rhythm of construction, thousands of dollars and weeks of time were shaved from the bid estimates. But it has become clear that you must definitely schedule the succeeding building operations faster to take full advantage of lift-slab's potential economy (see p. 137).

The next enthusiasm of the Texans was for the unlovely, broken site. They refused to operate on it with bulldozers or dynamite to make it normally habitable for buildings; instead they kept it rough, unregenerate,





student union building is a good demonstration of how horizontal spirit of the lift-slab technique influenced the design of all the Trinity structures. Architect Ford adds: "We feel that the low retaining walls and area defining walls have done wonders to make good relations between the buildings." Cactus garden on shelf below union was planted and planned by an enthusiastic local men's garden club. Air view from San Antonio side (left).

unsubdued. Their site plan was neither a theatrical tour de force, nor a piece of perfect paper discipline; on the irregular terrain each building form and position was shifted until it seemed to fall in place naturally. There is no cliff-hanging. "We have built a fairly tight campus which can expand outward in every category," say Ford and William Wurster, the consultant.

In a part of the US where an ornate Spanish tradition lingers fondly, the Trinity buildings themselves are architecturally modest. But their effect is not, for the architects' preservation of the lacerating site adds interesting romantic sauce. The simple structures are inherently involved in the rich natural variations of the campus land; they cannot stay aloof. And to the vertical crags and gullies of the land the sweeping dominant horizontals of the neat stacks of lifted slabs add their visual order—to arrange, balance and bind the architectural composition. The architects have succeeded also in pulling off an economic paradox in marrying these two seemingly incompatible conditions—the inexpensive buildings and the rough land. In combination, low-cost buildings and low-cost land multiply one another's value.



in which to sit.

CONCRETE STAIRS have landings to break the ascent and provide pleasant places FUTURE BUILDING SI SCIENCE BUILDING CLASSROOM BUILDING FINE ARTS CENTER SERVICE BUILDING MEN'S DORMITORIES FUTURE CONSTRUCTION

Photos: (below) Clarence J. Laughlin; (others) Ulric Meisel

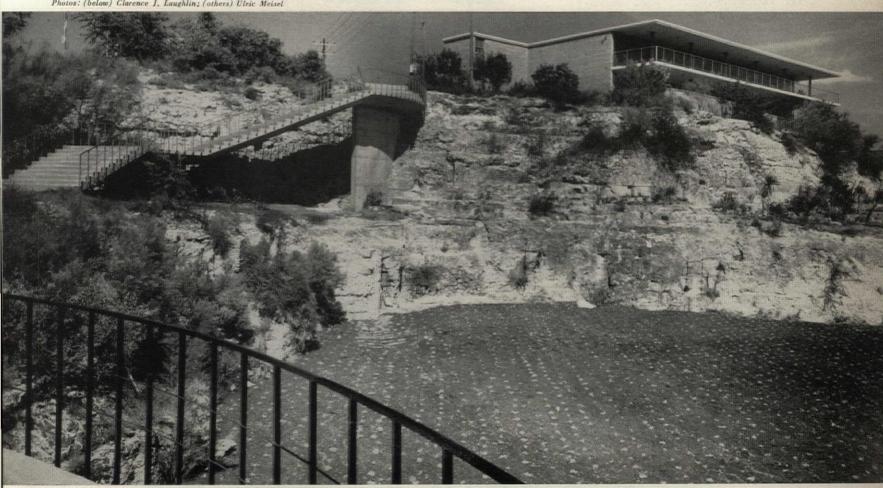
Campus plan:

a complete core to grow outward

"After all, we really have a three-dimensional problem on the site and I suppose the great view to the city to the south is a fourth, and for all I know, particular orientation, breeze, and sun problems are a fifth." With this careful and tentative approach Ford and his cohorts began fitting the buildings to the site—and not the site to the buildings.

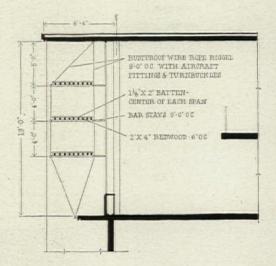
For a campus expected to expand rapidly, the first buildings are placed rather close together, and even the central green is not an entirely open space. The reason: to block any future college administration that might be tempted to erect a great central monument. "Specifically, the green or common in the center of the campus would be a sore temptation to some donor or less wise future administration, and yet we could not fill it with something important of our own doing to forestall something worse. So we ran the thin, transparent finger of the student union building (a one-story glass wing housing store, student offices and post office-see p. 135) back into this green, decreasing it in height as it went up the slope, so that the view of the city from the classrooms is not obstructed. Those walking behind it can see through it."

BRIDGES across nature's gouges in the site, walkways and stairs are visible framework of University's integration.





SOUTH WALL of library wears three levels of sun shields, braced in place by cables as shown in diagram (below, right).



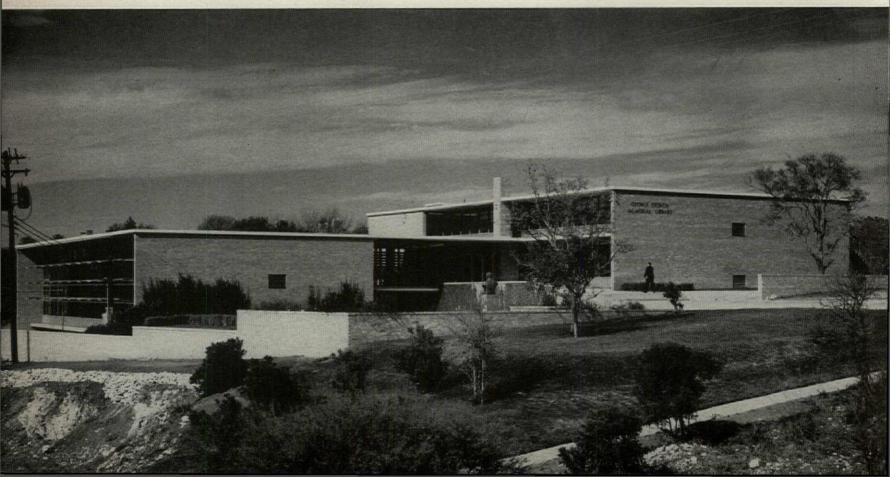
LIBRARY FACADE. Telephone poles deliberately were left as ugly and apparent as possible, instead of being minimized or hidden, in hope they would annoy some one enough so he would donate the \$50,000 needed to put wires underground.

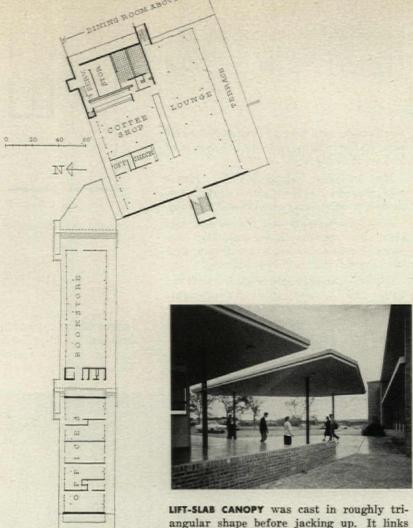
The library: basic spaces, complex levels

The photograph from the mezzanine of the library (left) is characteristic of the architectural solution over all the University in that it uses simple gestures (and always structural ones) to gain its effect, yet with an underlying sympathy for the land which is rather sophisticated. For example the mezzanine sits shelflike inside the big glass wall, which itself is bounded top and bottom by concrete shelves. This arrangement indoors recalls the arrangement seen out of doors, too, where the buildings sit in tiers on the various shelves of the land.

One jog in characterization is apparent in the photograph (below), which includes an outdoor reading garden in front of the stepped-down wing. Inquiry has developed that this silly formal garden, complete with concrete floor and bronze bust, replaced a handsome scheme by Landscapist Berger for a relaxed, tree-shaded outdoor reading area. The reason was human but disappointing: preference of the donors.

Photos: Ulric Meisel





angular shape before jacking up. It links main bulk and long wing of union.

Student Union: "each idea became simpler"

In commenting on the design of this structure (see also color photo, p. 132), Ford makes a point which will remind other architects of how different the design processes for two neighboring buildings may be: "We must have made a half-dozen sketches, floor plans in particular, of the Student Union. It was not a matter of having a general idea which was repeatedly refined and improved, but a matter of diverse notions and the realization that such a building could be put into innumerable physical forms. Significantly, each idea became simpler, stood less in the flat middle of the campus and closer to the bluff. In contrast we developed the men's dormitory (p. 137) in an almost businesslike progression of steps that regarded economy, efficiency, and refinement of detail. There were no really big changes from the very first sketch to the last line of working drawings."

Contractor's comment

The general contractor for one of the campus buildings points out the need to schedule other work up to the swiftness of lift-slab construction: "The subcontractor who furnished the millwork went by the job twice a day and saw the slabs that had been poured but not lifted, and he decided that we were too optimistic about when we would need the material. So without consulting anyone, he scheduled a delivery date much later than that we had agreed upon. This error on his part caused him to work overtime, and then we were delayed about six weeks in receiving the materials. . . . As soon as the slabs were in place, the masonry contractor started to work. He was pushing the lifting company and in turn was being pushed by the sash men, who were being pushed by other contractors. After we started the masonry work there was no slowing down until the job was 99% finished in June, against an anticipated Aug. 10 completion date."

SERVICE WING of union stretches into central green of campus, but is not obtrusive because it is low and glass-sided.



Women's dormitory units: swift construction

As important as any other single fact about the women's dormitories at Trinity is a typical building calendar—the lift-slab system sets a hot pace. The most recent unit, totaling 74,409 sq. ft. (at \$8.91 per sq. ft.), was finished a month ahead of schedule. The calendar:

Week of March 15th—set columns and start steel for first-floor east section; 22nd—pour first-floor slab east wing and start steel to basement wall first-floor slab; 29th—complete basement to first floor.

April 5th—complete first-floor pour and steel for east-wing second floor; set collars; 12th—pour east-wing second floor and set steel for west-wing second floor; 19th—pour

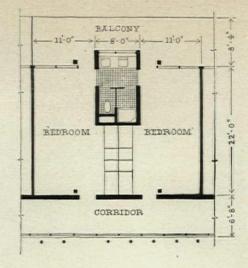
west wing second floor and set steel for roof east section; 26th—pour east-section roof and set steel for west.

May 3rd—pour west-section roof; 10th—cure, plus odds and ends; 17th—start lift-up; 24th—lift-up and start frames and masonry.

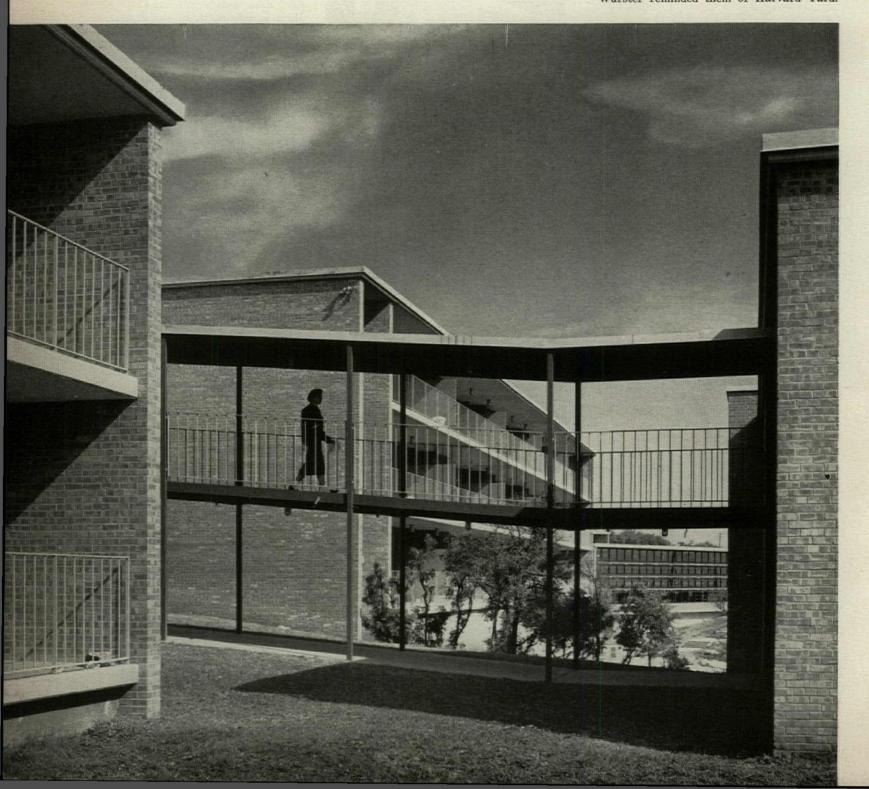
June 7th—masonry and frames and steel sash; 14th—masonry-frames-sash; 21st—masonry-frames-sash-misc., iron millwork; 28th—masonry-frames-mill-sash-painting.

July 5th—masonry-sash-misc., iron-mill and paint; 12th—masonry-misc., iron-mill-paint; 19th—start floor covering; 26th—floor covering and finish-painting, etc.

Aug. 2nd, 9th-finishing and clean-up.



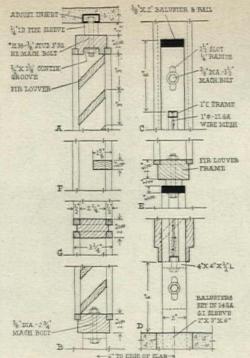
RAMPED BRIDGE ties buildings together. Texas architects at first were reluctant to set buildings so close together, but Consultant Wurster reminded them of Harvard Yard.



Men's dormitory units: comfortable financing

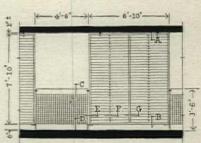
The most recent men's dormitory at Trinity is an HHFA project. When the budget was submitted for approval, with an estimated construction cost of \$435,000 (for almost 50,000 sq. ft.), the lending officials recommended that it be upped \$20,000, tentatively agreeing that the requested loan would be approved if Trinity would dig up this extra financing. So plans went out for bids.

Of nine bids, only one was higher than \$428,000, and the lowest was \$401,800-for quality work. Say the architects: "We are most grateful for the excellent workmanship." About the backers the architects say: "Working with HHFA was a surprisingly rewarding experience. The preparation of the original documents submitted to them was a terrible chore but the later experiences made us forget it."

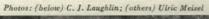




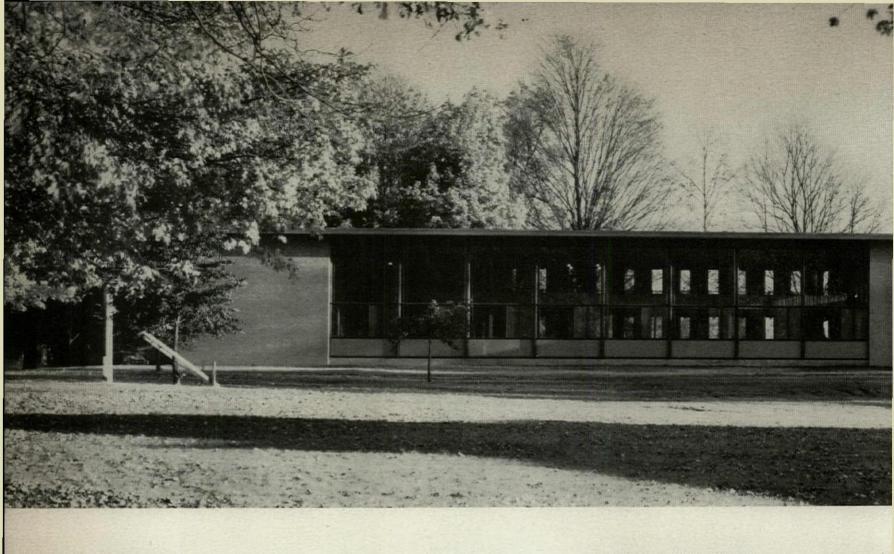
STUDENT ROOM is simplified by built-in storage



LOUVERS not only protect balconies from glare and sun, but are necessary to ensure night privacy since dormitory faces on road.







NEW COLLEGE BUILDINGS

CENTENARY JUNIOR COLLEGE
TAYLOR MEMORIAL LIBRARY,
REEVES STUDENT UNION BUILDING

ARCHITECT: Jan Hird Pokorny SCULPTOR: Elizabeth Hird Pokorny

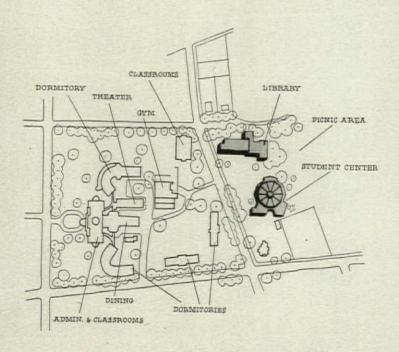
STRUCTURAL ENGINEERS: Hoffberg & Ateshoglou

MECHANICAL ENGINEERS: Sears & Kopf

GENERAL CONTRACTOR: Fred J. Brotherton, Inc.

3. IN HACKETTSTOWN, N.J.

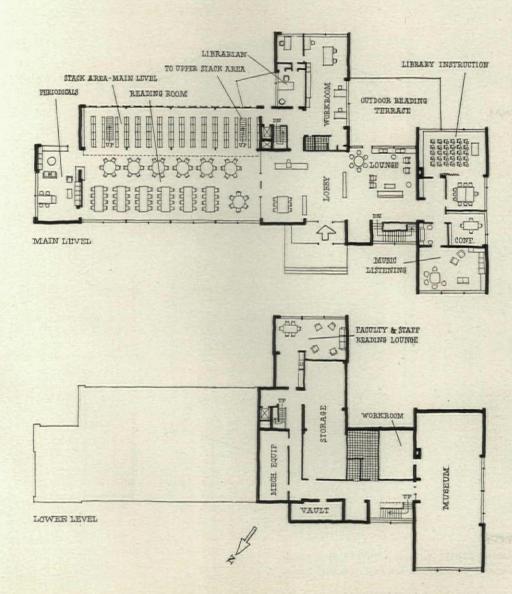
AN INVITING SMALL LIBRARY, A SOCIABLE STUDENT CENTER



The fresh, friendly design of the two new buildings at Centenary Junior College (enrollment: 450 girls) stands in sharp contrast to an old, conservative campus built in styles of the last century. Yet Architect Pokorny has nicely knitted new and old together by keeping the new in modest scale, by using much the same warm, graytan brick, unobtrusive brown and terracotta trim. He also persuaded the college to give up a proposed site crowded next to the old buildings, move the new ones across a short road where they round out the campus with a spacious new quadrangle (the road will be closed to through traffic and used for parking-see site plan, left).

The library (shown above) was placed on the south side, where its long glass wall faces invitingly in toward the new quadrangle, and to the north for good reading light. (The unusual student center that crowns the group is shown on p. 140.)





DOMESTIC-SCALED LIBRARY is sized for 30,400 books and 24 pamphlet files in open stacks on main and mezzanine floors, 11,000 books in basement storage room. Smoking lounge overlooking south terrace (below) brings total reading-room seating to 146. Bottom photo shows central control desk, glass partition between lobby and reading room.



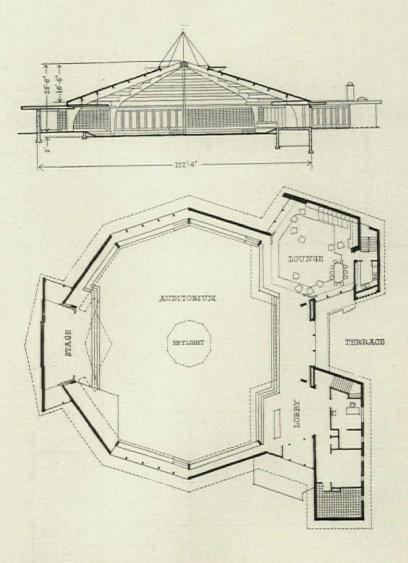




A festive tent for dancing

So many new campus groups are using circular or polygonal buildings for accent and climax that this kind of feature is almost a 1955 trademark. At Centenary this focal building shape is unusually appropriate: its tentlike profile, its gay roof, its sparkling facets and many entrances mark it as a good-time place. Inside, the ten-sided plan and open structure repeat the light mood, encourage the sweeping, circular movement of the dance.





STUDENT CENTER as seen across the new quadrangle from within library reading room.



Photos: (below) Rollie McKenna; (others) Ben Schnall

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EXUBERANT SPACE, framed by laminated bents and warm redwood decking, faintly suggests the form of a circus tent, the motion of a merry-go-round. With no dead corners, the shape helps lend a feeling of unity and participation to lectures, recitals, sorority meetings, even to rained-out commencement exercises. (Repetitive framing is economical.) The maple floor, marked with overlapping courts, is in daily use as an auxiliary gym for volleyball, basketball, paddle tennis, shuffleboard, ping-pong (table set up on stage at left). Grilles around conical skylight contain 18"-diameter exhaust fans for large gatherings; doors in background give out on picnic area behind building.

INTIMATE SPACES of lobby and lounge (right) are raised above main floor, sheltered by low canopies, linked with stage by a stepped platform for circulation and sitting. Lounge can be curtained off for small gatherings, has its own wood dance-floor area set in brick lobby floor. In background are skylight and fireplace, doors to picnic grounds (at left), kitchen and stairs to basement (at right). (Below are three small sorority rooms, men's coat and washrooms, mechanical spaces.) Ventilating ducts rise through brick wall at right, discharge over canopy; return air enters plenum under lounge, lobby and stage through pierced brick screens. Separate hot-water heating system runs around auditorium through baseboard convectors (visible above step-bench at left).



architectural FORUM / February 1955

EXCERPTS

Outside opinion
and comment
on the building industry
from the rostrum
and the press



Inside view on public housing

Excerpts from a recent address by Commissioner Charles E. Slusser of the Public Housing Administration

If there is one man in this country who has been forced to look upon the worst of his country, it is I. When a distinguished citizen comes to town, he is usually shown the best business section, the finest residential areas, the gayest amusement centers. The public housing commissioner goes on a tour of the slum areas. He may see the best, but he always sees the worst.

There are more than 8 million substandard homes in this country. I would like to see them all replaced by private enterprise, but . . . the private builder's ability to clear a slum site, construct and derive a profit from the very low-income class served by public housing is slim indeed. He does not have the power of condemnation, the financial resources nor, most important, the moral duty that is the government's.

There are those who think the problem can be solved in terms of easy credit and guarantees against risk. All the perils of inflation and socialism that we have been warned against for 100 years lie down that road. The Federal Housing Administration is a businessman's venture. The more we get the government into the act, the more we invite government to take over, the more abuses we contract for and the more trouble we make for ourselves.

I do not like the idea of the government renting houses. But I like less the fact that too many of the people of our great cities are living in slums and under conditions that call for municipal services out of all proportion to their numbers.

As for grouping public housing units, I would rather build individual units cut to individual needs, but you cannot construct honeysuckle cottages on the isle of Manhattan. Neither can you produce them for Chicago's teeming millions, nor can you produce them in any other rapidly expanding metropolis.

Working closely with private enterprise, I have hopes that this program can, in the not-too-distant future, be turned more closely to the path of individual initiative and progress and at less cost to the government. To that end, I have approved work on a couple of experimental projects, both of which may, in the not-too-distant future, prove of value.

I do not know what action the new Congress will take with respect to low-rent public housing. But we do know that President Eisenhower in his January 6th state-of-the-union message to the 84th Congress

once again recognized the need for more low-rent housing. I feel certain that he will continue to recognize that need as long as we have slums.

I think his intention is to give private enterprise every opportunity to move against the blight and despair that stalk our cities like a tiger. But I think there is more to the picture than that.

President Eisenhower is a man who lives close to the heart of America. No one in government is more burdened with doing what must be done. It is his lot to cast up his accounts, the good with the bad, and make the tough decisions. Like the Public Housing commissioner, the President cannot close his eyes to the bad side of our housing picture, our slums. So I cannot see him neglecting the public housing weapon as the best eradicator yet produced.

Sale-lease-back finance

Excerpts from an address by Realtor Louis J. Glickman before the Real Estate Board of New York

The sale and lease-back arrangement has enabled many successful corporations to profit—as they express it—by "getting out of the real estate business." It provides usable-sometimes badly needed-capital for their own businesses by converting investments frozen in land, steel, bricks and mortar to liquid cash, provides the means for an indefinitely healthy ratio of quick assets to current liabilities-yet assures continued occupancy of their premises. The method is applicable to any industrial or commercial enterprise. Many department stores, for example, have become long-term leaseholders of properties in which they were former title owners, thereby achieving fresh capital plus an improved tax situation, as the entire rental is deductible.

An industrialist might argue that his company would have no trouble in placing a multimillion-dollar mortgage on the real estate it owns and occupies and that, since this method would readily provide any additional working capital that might be needed, why look for any other? He forgets that when such a concern obtains funds through the mortgage route it incurs an obligation which must be shown on its financial statement, whereas sale and lease-back would not. True, the rent paid under a sale and lease-back arrangement would appear as an expense item on the profit-and-loss statement, but, on the other hand, so would incontinued on p. 196





Executive trappings

Who rates the rugs—and when. Excerpts from TIME magazine (Jan. 24, '55)

In the hierarchy of US business, a big problem is the question of executive prerogatives. Who eats in the executive dining room? Who gets the best offices? And when does a man rise high enough to rate a rug on his floor? Says John D. Wright, president of Cleveland's Thompson Products, Inc.: "This involves a problem of morale, and often the little privileges that go with an office are more important to an executive than a raise. You'd expect executives to be more mature, but they frequently are not."

In one Cleveland corporation a vice president was lucky enough to wangle a choice corner office. His equal down the hall would not be appeased until he had a private washroom installed in his office. Rigid rules are often laid down to try to avoid such problems. Standard Oil of California, for example, classifies every employee from Type One (draperies, wall-to-wall carpeting, walnut desk, etc.) down to Type Four (no private office, oak desk). A big Manhattan company has set up a chart for every contingency in preparation for moving into a new building now under construction. A top-echelon man gets 280 sq. ft., "furnished to taste," with or without private washroom, depending on whether he is a director. Lesser lights will get 210 sq. ft., again furnished to taste, but now "within limits." Engineers and others who need privacy get 100 sq. ft., standard metal desks 60" x 30", two wooden chairs and a coat rack; everyone else gets 70 sq. ft.

Pacific Gas & Electric Co., like many others, sensibly gives a man what he needs to operate, whether it is one phone or three. Other companies do better by an executive who is out where the public sees him. Swift & Co., however, cares little about putting on a show front or catering to executive whims. It has its executive vice presidents sitting out in the center of a huge bull pen where they can look right across the desks at their assistants. At Philadelphia's Smith, Kline & French Laboratories, the chairman of the board, department heads and general employees all look at the same green-painted walls, rugless floors and utilitarian furniture.

But generally, the trend is to more instead of less luxury. An increasing number of companies are coming around to the idea that the trappings of power and rank are normal incentives in US business life. If redecorating an office results in higher morale for a top executive, the company counts the extra few dollars as well spent.

Lighting in the fabulous future

Excerpts from an article in FORTUNE (Jan. '55) by David Sarnoff, chairman of Radio Corporation of America

We are now engaged in the development of a new form of light—electronic light—which is the keystone of the light amplifier under development in RCA laboratories. Already I have seen this light amplification, experimentally, in ratios of more than 20 times the original; and further progress is certain to be made. When that number 20 reaches 100, we shall have a practical amplifier of light, produced directly within a thin layer of electronically active material.

The potentials for practical use of this development will surely be greater than we can now foresee. Electronic light will eventually provide startling substitutes for present types of illumination and thus will change the very appearance of our homes, stores, factories, streets and cities. Electric light will have been freed from the prison of a vacuum bulb. Light amplification is expected to lead to devices that will make not only photography but vision possible in the darkness, and to enlarge immensely our visual penetration of outer astronomic space. It may well reduce and in time cancel out one of the perils of night driving by taking the glare out of light.

Toward an artistic revival

Excerpts from remarks by Architect Hugh Ferriss at Columbia University's recent conference on the role of the university in creative arts

The time has come for a widespread artistic revival in the field of contemporary architecture.

This conviction raises three pertinent questions: 1) Why is an artistic revival in architecture in order at this time more than at any other time? 2) What would be its likely characteristics, its particular objectives? 3) Have we the designers needed for it, and, if not, how can their ranks be augmented?

WHY NOW? It is generally admitted that changes in social and economic conditions, plus a phenomenal advance in building technologies, introduced what is popularly called "modern architecture." It has not been so widely understood that designers who took this movement seriously were at first necessarily preoccupied with its strictly technical side. By now, however, designers have been working under the new dispensation long enough to take its novel requirements and opportunities for granted. Like all good mechanics, they understand the mechanism of the "car" and they can start it. Now where

Photos: (below) Pach Bros; (left) TIME— W. BENNETT; (bot. opp. p) Bachrach



are they going in it? Has the time arrived for the Grand Tour? An artistic revival is now feasible, assuming sufficient desire for it and ability to substantiate the desire.

The desire, at least, exists, and is becoming increasingly vocal. At innumerable recent convocations and conventions, a change of climate has been apparent. As though a winter of cold calculation were passing and a warmer season approaching; as though a pendulum were swinging away from the "measurable quantities" which are the concern of science and technology and toward those esthetic and spiritual values which, if not immeasurable, have at least not as yet been measured by scientists. I quote, almost at random, from some recent addresses:

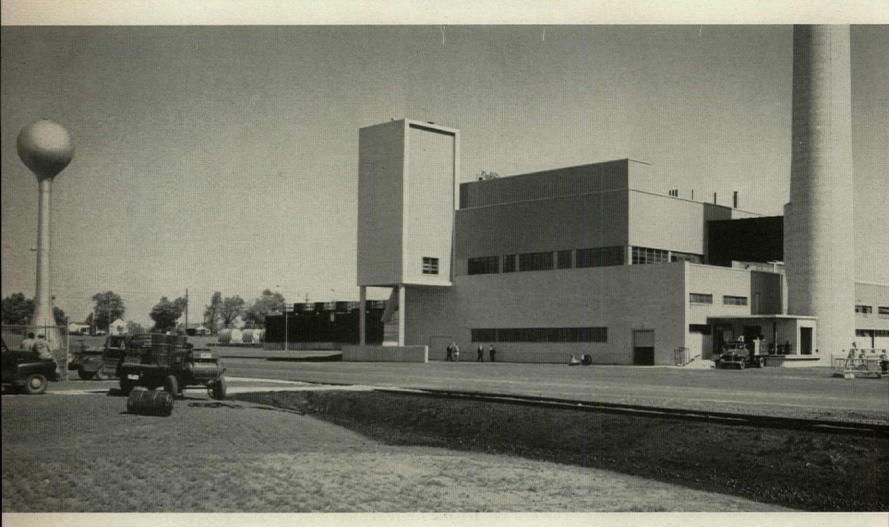
- Architect William Wurster, referring to current needs in architecture: "Most important of all, the spiritual and creative aspects in the design of buildings."
- Architect Richard Neutra: "The need to bridge the gap between beauty and utility."
- Author Sigfried Giedion: "Our thinking should be reorganized so that we realize the social, moral and emotional demands of our work."
- ▶ Educator John Burchard: "This is no time to disclaim beauty. Architects must not trim their ideals; but rather must seek incessantly, in their works, the moving and the human, so that the days man spends in life may be uplifted by our constructions.
- Architect Henry Churchill: "Architecture is not just a synthesis of synthetic materials and synthetic feelings based on synthetic logic; architecture is a creative act, a whole greater than its parts, a vision."
- At the most recent AIA convention Dean Jose Sert of Harvard spoke for "an architecture of good proportions, serene and dignified, where no house tries to outdo its neighbors, where the whole street, square, neighborhood or town is balanced, harmonious and beautiful"; and Architect Paul Rudolph, remarking that "the architect's prime responsibility is to give visual delight," added, "an architect is not merely a beautifier,

continued on p. 188

BUILDINGS IN REVIEW

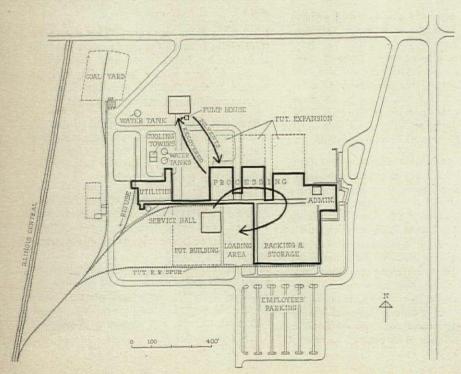
A factory with an emphasis on cleanliness....

A blood bank with an inviting countenance. . . . An office tower with a new kind of economy. . . . A junior college with a new set of design problems



BOILERHOUSE has handsome ash silo over railroad track. Light metal siding sharply defines upper floors from block walls below.

WONDER-DRUG FACTORY



New building type raises lab up to mass-production size, solves big maintenance and sterility problems

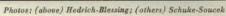
In today's big biological drug business, yesterday's test tubes have suddenly grown to 1,000-gal. vats in which tons of animal glands must be dissolved to yield tiny vials of powerful ACTH, trypsin, insulin, intrinsic factor thyroid and liver products. From the moment a load of frozen beef livers or pituitaries from Chicago slaughterhouses arrives at Armour's new \$12 million pharmaceutical plant at Kankakee, Ill., to the time it emerges in drugs for human medication, there must be the closest controls over temperature and humidity, dust and germs, highly inflammable solvents piped in and out of 70-odd processing tanks.

Discoveries are made and markets change fast in the drug business, so the whole plant has built-in flexibility: a 20' x 20' bay system throughout (plan, right) and room for expansion on either side of a long spinal service corridor (plan, left).

Architects and engineers: Holabird & Root & Burgee; contractor: George A. Fuller Co.







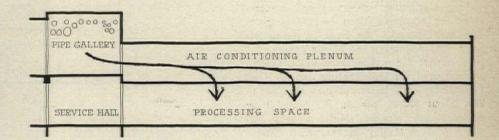


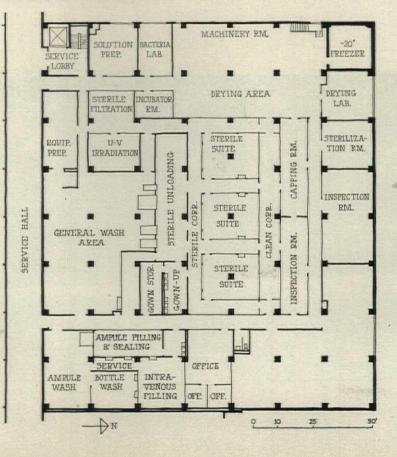


ADMINISTRATION END is a highway showpiece, with roof plenum accented as deep white marble fascia, floating on columns cased in contrasting black granite. Behind glassy reception hall are cafeteria and inner court, offices, shower-locker rooms for 500.

PIPE GALLERY provides full access to steam supply and returns, gas, hot, cold and chilled water, compressed air and vacuum lines running length of plant. Ammonia lines are on roof above as safety measure.

SPINAL CORRIDOR below pipe gallery is ¼ mi. long, has tile surfaces for sanitation. Section (below) shows 7'-6" high air-conditioning plenum, tile-lined and tall enough for maintenance men to sterilize regularly (conventional ducts might collect and spread germs to sterile areas).







STERILE ROOMS, where parenteral products go into vials for market, are supplied with micronite-filtered air from sanitary plenum above, achieving higher degree of sterility than many hospital operating rooms.

COOPERATIVE BLOOD BANK

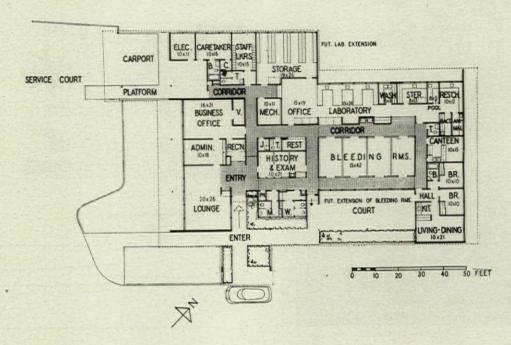
Disarming residential design attracts regular volunteer donors to maintain community supply

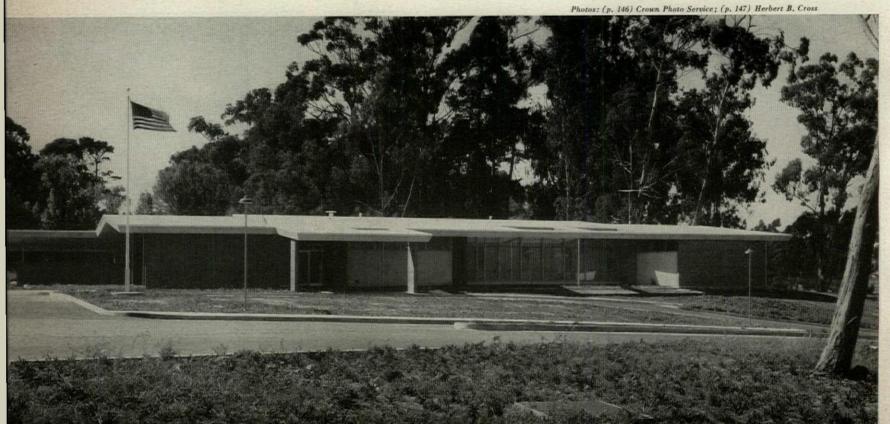
This little suburban building, which looks more like an inviting modern house than a processing warehouse for human blood, is a new building type that may well multiply across the country. It is also a winner of a national AIA award of merit.

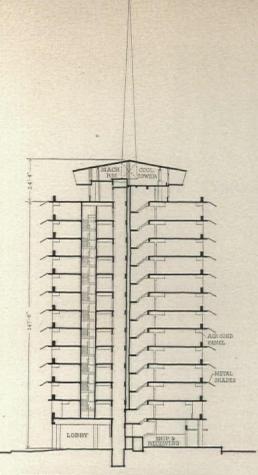
All hospitals need a steady source of whole blood for everyday emergencies, and they need the right type for each patient without delay and high cost. This means a central reservoir filled by regular donations, since whole blood becomes unsuitable for transfusion after ten days and must then be pooled and preserved as dried or frozen plasma. Donors and volunteer workers who might shy away from a big-hospital atmosphere come regularly to the new Peninsula Memorial Blood Bank at Burlingame, Calif., which maintains all classifications of blood for the Red Cross and nine hospitals.

From a reception room and lounge, individuals or donor groups move to examination desks, bleeding rooms (photo right) and canteen, are out in less than half an hour (with a lifetime credit for one pint at this or correspondent blood banks). Along the rear of the compact plan is a laboratory for testing, sterilizing, preserving and a storeroom for processed blood. A two-bedroom apartment permits the bank to be on 24hour call. Adjoining the 75-car parking lot is a carport for mobile truck units, station wagons used for transporting donors. Cost (excluding land, landscaping, fees): \$173,-869, about \$23.80 per sq. ft., financed by contributions from San Mateo County citizens. Stone & Mulloy, Marraccini & Patterson, architects; Art B. Smith Jr., structural engineer; Garthorne, Buonaccorsi & Murray, mechanical engineers. Williams & Burrows and Carl N. Swenson, contractors.









OFFICES IN THE ROUND

First of its kind, this building tries out new economies, acts as trademark for its owner

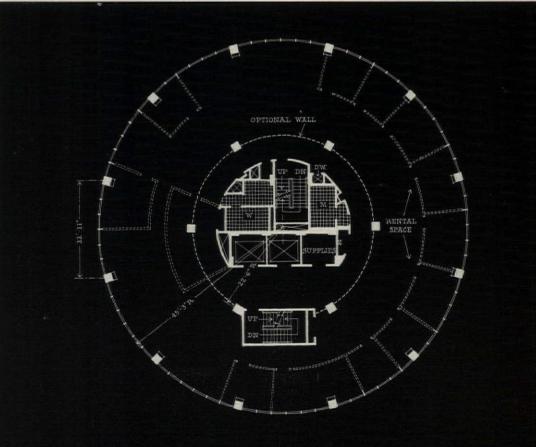
As a stack of records on a tall spindle, Capitol Records' new Hollywood head-quarters is a tour de force symbolizing the company's product. But, as the circular office building that architects have long wanted to see designed and built, it is a more important experiment.

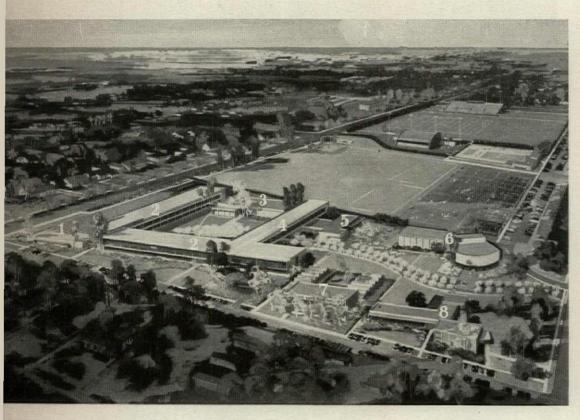
Before Capitol's Glenn Wallichs came to him, Architect Welton Becket and some of his staff had figured 90' as the optimum diameter for a round office building: 6,300 sq. ft. per floor with a 900 sq. ft. service core, leaving 5,400 sq. ft. net (which turned out just right for Capitol's requirements of 5,000 to 6,000 sq. ft. per department). Services in the compact core take up 14% of total floor area compared with 20% in most rectangular office buildings, and the circular plan means up to 20% less exterior wall to build and protect against heat transfer. The 90' circle encloses 6,300 sq. ft. with a perimeter of 282', compared with 320' for an 80' square, 352' for a 50' x 126' rectangle. Less wall area and shorter duct runs are expected to cut air-conditioning installation by 60¢ per sq. ft. and reduce operating costs through lower line and wall loss, aided by porcelain-enameled steel sunshades.

The 12th-floor plan (at right) shows the amount of light and view available to all offices, suggests the variety of floor arrangements possible with flexible partitions. A second stairwell outside the core was required by the local code.

Tower floors will be built for about \$15 per gross sq. ft.; the whole building, with ground-floor studios, for \$16.35 per sq. ft. Total including land: \$2 million. Welton Becket & Associates, architects and engineers; C. L. Peck Co., general contractors.







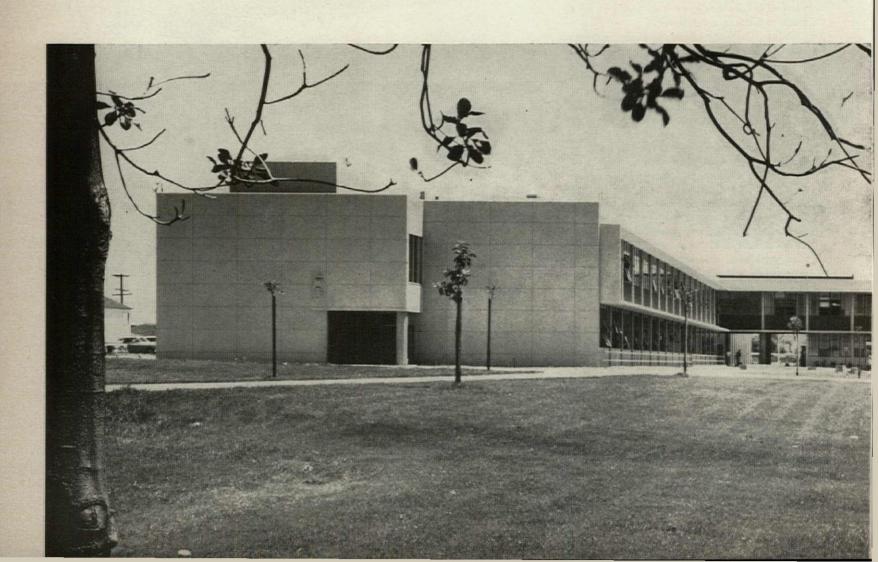
- 1. ADMINISTRATION
- 2. CLASS ROOMS
- 3. LIBRARY
- 4. FUTURE CLASSROOMS
- 5. STUDENT CENTER
- 6. THEATER ARTS
- 7. ART
- 8. MUSIC

JUNIOR COLLEGE

Many different buildings on small site pose problem of design integration

As larger waves of children reach college age, the junior college is becoming an increasingly important building type. It has a much greater diversity of elements than an elementary or high school, and for architects presents much greater problems of architectural integration among elements.

Here, for example, is a junior college that a national AIA jury chose to give an honor award. Santa Monica City College in California planned for 2,000 to 2,500 students, has an especially broad program: college preparatory classes, vocational trades and crafts, adult night classes, athletic facilities to be used by both students and townspeople. In addition to two-story classroom blocks arranged in an "F" to protect inner courts from city streets (see 2 and 4 in perspective left), there are little adjunct buildings such as an administration building (1), a library (3), student center (5), a theater-arts building with a 300-seat auditorium built and another planned (6), an art building with saw-





LIBRARY, with reading room at left, faces in toward main classroom quadrangle.

tooth-skylighted studios around a court (7), a music school with auditorium (8). Each building form is tailored to its function, resulting in irregular shapes. These in turn are varied in fenestration, surface treatment, color and trim, accentuating their differences, instead of being unified by some single concept or principle that would quiet down the restlessness one is bound to feel in such a group.

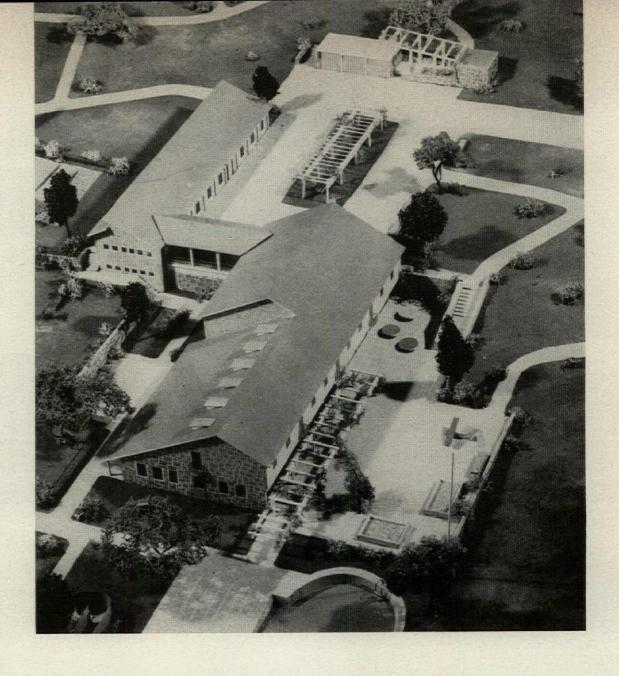
The project is based on study and recommendations by the school district's director of planning, the State Department of Education, the Los Angeles County superintendent of schools, the University of California, local business and professional people, faculty members and the students themselves. Marsh, Smith & Powell, architects; Hillman & Nowell, structural engineers; Hillburg, Byler & Hengstler, mechanical engineers; Alliance Construction Co., contractors.

SIDE ENTRANCE at corner of classroom buildings shows variety of concrete treatment.



WELL-COMPOSED VISTA, showing the L-shaped classroom building with main entrance underneath, student union building in right background, canopy of theater-arts school in right foreground. Future classroom building will extend across middle of main court to student





This little park and building group represents a big evolutionary leap:

Photos (below): F. Csastnik



THE NEED for both medical teaching facilities and community center buildings in Israel is dramatized by these scenes from the country's rugged life.



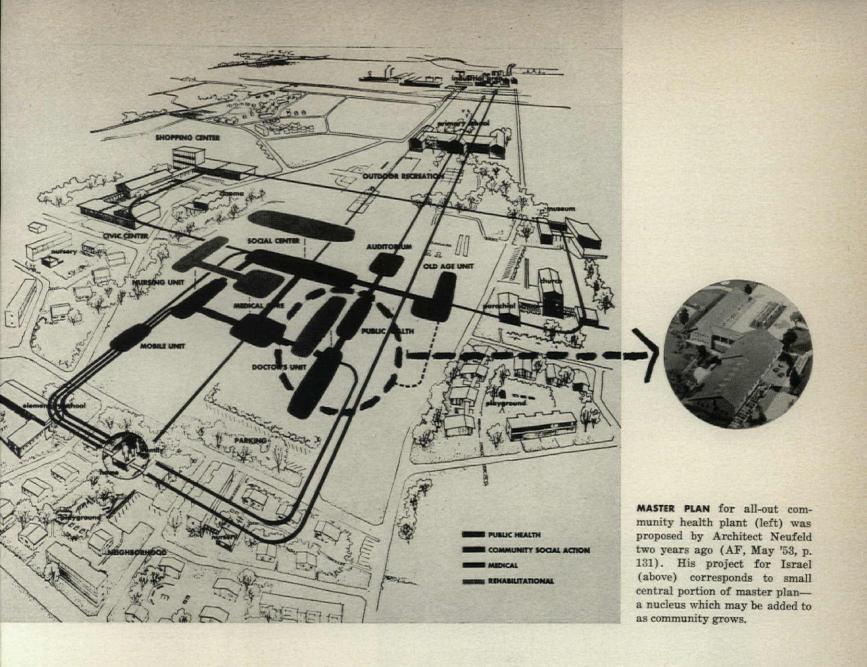
A NEW KIND OF TEACHING HOSPITAL;

This relaxed and deliberately unpretentious building, about to go into construction in Israel, is unclassifiable as a conventional building type.

In physical plan it is, among other things, part hospital (with nursing beds to come later), part professional offices, part town recreation and social center, part rehabilitation unit.

Not obviously, it is a medical-school teaching facility, a biostatistical research unit and a town planning device. In short it is unclassifiable because it is a totally untraditional planning solution to newly recognized needs.

Although Beth Mazmiel center is geographically distant from the US, there is nothing exotic about the reasoning behind it. It actually is in tune with emerging US medical trends. Its community, teaching and research functions, for instance, are similar to those of the most advanced



A NEW KIND OF COMMUNITY CENTER

community health center in this country—much studied Hunterdon Medical Center in rural New Jersey (AF, Dec. '53). It also happens to be designed by an American and an Israeli architect and financed, sponsored and administered by an American women's organization. But the reason it is applicable to both countries is that the needs it tackles are common to both.

To see what the plant offers as a community health center, study the plan and its description on p. 152. Paradoxically, all the other roles of this building depend on the fact that it is not overtly anything but a community health center. During the planning, the temptation was to make it primarily a teaching unit, for instance, or to weight it in favor of research, or to proclaim visually that this was an exciting pilot project of national interest. Again and again the planners had to remind themselves

and each other that the center would be valuable for these purposes only because it was specifically and primarily—not incidentally—built for the community itself.

Note another important policy point: the way attractions for well people are designed into the center. This gives double use to rehabilitation, playground and hobby facilities. But it also has a more subtle purpose. It puts the emphasis, for both staff and townspeople, on preventive medicine and on fostering good health, instead of emphasizing the clinical objective of curing ill health. This emphasis on keeping the customers well is an economic necessity today for prepaid or insured medical schemes (and for most community voluntary hospitals, although they do not all realize it yet). But in most cases—even at advanced Hunterdon—the new emphasis has to buck the architecture; here the design expresses and serves it.

architectural FORUM / March 1955

The client is a pioneering planner

To bring about Beth Mazmiel center, it took a client with a pioneering tradition, a great deal of prestige and a highly competent technical organization, plus an architect who is also a pioneering social planner.

The client is a remarkable organization of American women, the Hadassah,* which for almost 40 years has been the driving force for all kinds of health work in what is now Israel. It has founded dozens of local hospitals, systems of milk stations and maternity centers, and the public health nursing organization; it is financing and will administer the new Hebrew University teaching hospital and medical school. When the State of Israel was formed, Hadassah handed over most of its establishments to the new government. No tradition-follower, Hadassah has become a tradition-maker.

Beth Mazmiel, although it was designed only last summer, really goes back to 1951, when Architect Joseph Neufeld outlined his planning and social theory for an integrated preventive-clinical-public-health-rehabilitational-recreation-teaching center (plan, p. 151) at an Israel meeting called by the UN World Health Organization and the Unitarian Service Committee. His ideas paralleled those of Dr. Jacob K. Mann, director of Hadassah's medical services. Dr. Mann and Hadassah thoroughly went into the organizational financing and medical aspects of the planning, for instance invited from South Africa one of the world's foremost experts on family health to consult on the family care program.*

Even before it went out for bids, Beth Mazmiel was already serving as a prototype. Hadassah is planning two more similar centers; the Israeli government, guided by a survey it had had Architect Neufeld make in Galilee, is planning an additional four.

^{*} Dr. S. L. Kark. Other consultants: Dr. Louis Miller, head of the Community Health Division of the Hadassah Medical Organization; Dr. J. Medalie, acting head of Hadassah's Family Health Dept.; Mr. M. Grobsmith, building program administrator; Mr. E. Rinkov, resident engineer.



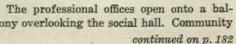
Design is domestic and relaxed

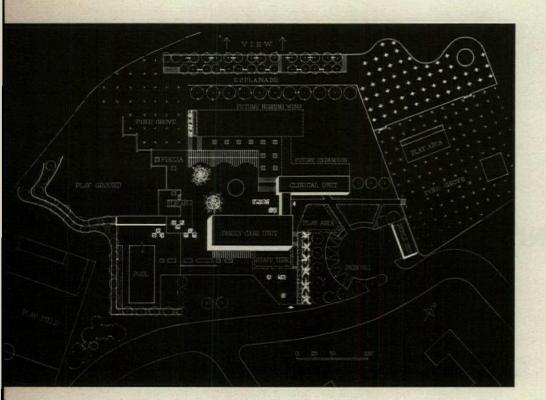
Since economy and local building practice dictated that framing be reinforced concrete, the architects first considered flat roofs and cantilevered construction. This was rejected because "tension, even in this technical sense, was out of key and seemed too tight and highstrung for a building that is supposed to produce relaxation." They chose pitched roofs over flat because of the ventilation advantages-and because they noticed that the people of Beth Mazmiel were already replacing the flat roofs of their housing with pitched roofs for the same reason. Roofs will be wood covered with local cement tiles: exterior walls will be local stone and brick cavity.

Plan provides for family care

The plan puts the complete small-hospital diagnostic and treatment core to one side of the main entrance link, administrative and family-care (ambulatory patient) offices to the other side. Eventually a nursing unit of about 30 beds will adjoin the medical core; the core can be doubled by expansion across the corridor. The family-care units are arranged for professional teams: two physicians, a social worker and a nurse to each team, a psychiatrist and an anthropologist serving three teams. The team system is a device for bringing back the family doctor, in effect, while keeping some specialization. The mobile unit provides for home care by team members, as well as for the usual ambulance service.

The professional offices open onto a balcony overlooking the social hall. Community

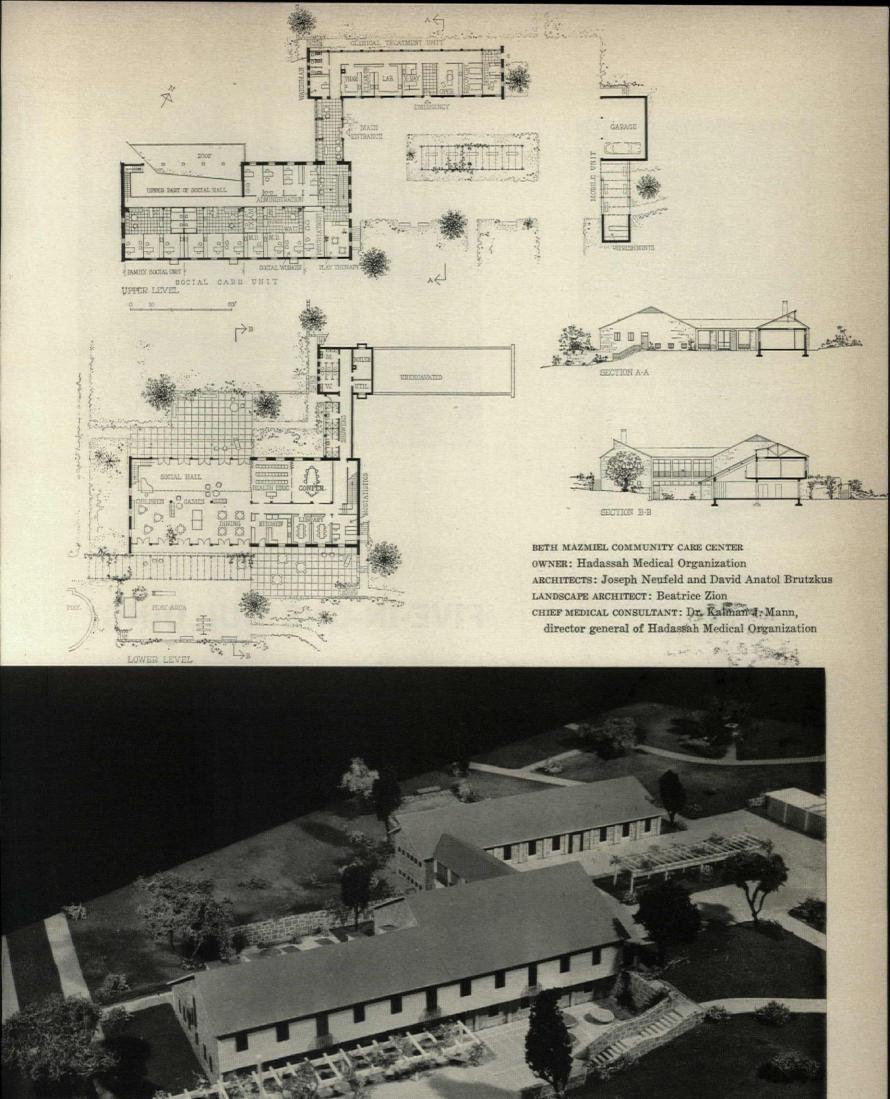




Landscape plan encourages center's use

The landscape plan by Beatrice Zion divides the site into active sports, rehabilitation and informal gathering areas on the lower, socialhall level, and quieter community park on the upper, medical level. Note especially the realistic inclusion of play areas for small children wherever adults congregate; the provision for pedestrian access (few townspeople have cars); the great variety in treatment to give users a sense of wealth of choices. Paved piazza poses a heat and glare problem, alleviated by planting, trellises and pools. Park groves will provide a continuous canopy of shade over the continuous, nomaintenance pebble surface. Most retaining walls will be indigenous stone terracing, less brutal than cement. The economy of cementing the pool into an existing free-form crevasse (see architects' earlier scheme in model photos) is sacrificed to place the pool farther from the social hall. Most striking feature about the center's four acres is that they are meant to be used intensively; this is no novelty for schools, but it is for hospitals.

^{*} Hebrew form of the first name of its founder, Hen-



FOURTH-meeting rooms



THIRD-offices



SECOND-bank



GROUND-entry and hiring hall



BASEMENT-auditorium





BLACK AND GRAY PATTERN of granite veneer and asymmetrical division of windows disguise fact that remodeled building has three different ceiling heights. Vertical motif is refreshing change from New York City's postwar emphasis on the horizontal.

OFFICE OF MERIT

FIVE-IN-ONE BUILDING

Union puts its five different functions on five floors
—including offices of merit on the third

This five-story building for the Dining Room Employees Union is really five buildings in one, unified by a handsome façade and inexpensive but effective interior design.

- The basement is an auditorium for large meetings and parties.
- > The ground floor is a hiring hall (right).
- ▶ The second floor is a "bank" where dues, insurance and pension business is transacted.
- ▶ The third floor is office space for executives and business agents—and the main subject of this presentation (see p. 156).
- ▶ The fourth floor can be divided by folding partitions into four conference rooms of various sizes.

Each floor reflects the "open house" policy of the union and its president, David Siegal. Any office, any meeting is always open to any of the 13,000-odd members who might wish to participate in discussions or learn about the conduct of union affairs. This policy accounts for the building's many open waiting spaces with direct access to offices.

Because the building was erected around an existing steel frame, air-conditioning ducts had to be hung below the floor beams, reducing the ceiling height to 7'-4" in some places. To limit the inconvenience and unsightliness of these low areas, the architect, wherever possible, ran the ducts over rooms of small size, thus proportioning ceiling levels to room sizes and making the lower ceilings unnoticeable.



Photos: Lionel Freedman

HIRING HALL on ground floor consists of labor chiefs' offices and unemployed waiting room. Asphalt tile is gray; walls are painted gray; partitions are natural finish birch; trim is black. Benches of simple design are of birch plywood.

STREET ENTRANCE features glass mosaic sign panel and ceiling, aluminum sash, black and white terrazzo floor and indirect fluorescent lighting trough over doors.

OWNER: Dining Room Employees Union, Local 1

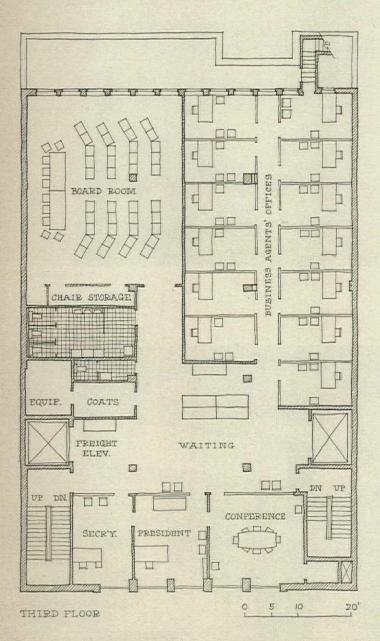
ARCHITECT: Giorgio Cavaglieri

MECHANICAL ENGINEER: Ginzburg & Smith CONTRACTOR: Herbert Construction Co.





CONFERENCE ROOM on third floor is entered from waiting room and president's office. Birch table top with white metal legs and black upholstered birch armchairs echo natural birch finish of office partitions.





PRESIDENT'S OFFICE is modestly furnished with gray steel desk and chair, small birch armchair and sofa upholstered in black fabric. Because entire building is air conditioned, only small vertical section of window opens—to aid washing.

SPECIFICATIONS

FIXTURES: Lighting fixtures—Gotham Lighting Co. Locks and latches—Schlage Lock Co. Air diffusers—Barber-Colman. Convectors—John J. Nesbitt, Inc. Folding partitions, oak—Rolscreen Co. Doors—US Plywood. Prefabricated partitions, birch-faced plywood—White Manufacturing Co.

FINISHES: Wall paints—Benjamin Moore & Co. and E. I. du Pont de Nemours & Co. Acoustic ceiling, acousti-Celotex random hole pattern—Celotex Corp. Flooring, asphalt tile—Mastic Tile Corp.; terrazzo—V. Foscato, Inc.

FURNISHINGS: Executive chairs—All-Steel Equipment Inc. Armchairs—Herman Miller Co. Other chairs—Brunswick-Balke-Collender Co. Desks—Invincible Metal Furniture Co. Conference tables—Herman Miller Co.

COSTS: Air conditioning, \$68,000; elevators, \$20,800; wiring, \$16,000; office partitions, \$20,800; lighting fixtures (installed), \$21,600; folding partitions, \$4,300; total, excluding fees, \$355,500, or about \$15 per sq. ft.



THIRD-FLOOR HALL between rows of business agents' offices is formed by prefabricated birch partitions. Partitions have glazed tops and doors to transmit daylight to windowless offices on left. Floors are gray; door trim is black.

FOUR-IN-ONE MEETING ROOM on fourth floor is subdivided by folding partitions finished in natural oak (note tracks on ceiling). By unfolding different combinations of partitions, meeting rooms of various sizes may be created. Walls are gray; asphalt floor tile is gray and red.



INDUSTRIAL LABORATORY

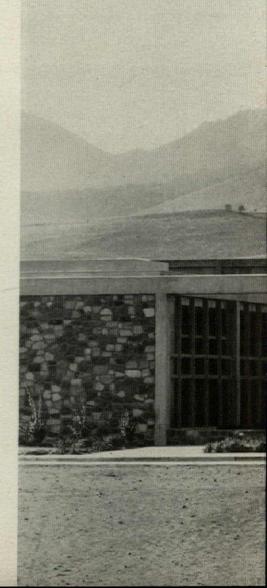
Its character is as rugged as the mountains behind it



ROOF is flat and straight, but base level goes downhill. Right, photo from entrance end.

LOBBY, glazed blandly behind protective postand-beam bounded court, is only extroverted part of building.

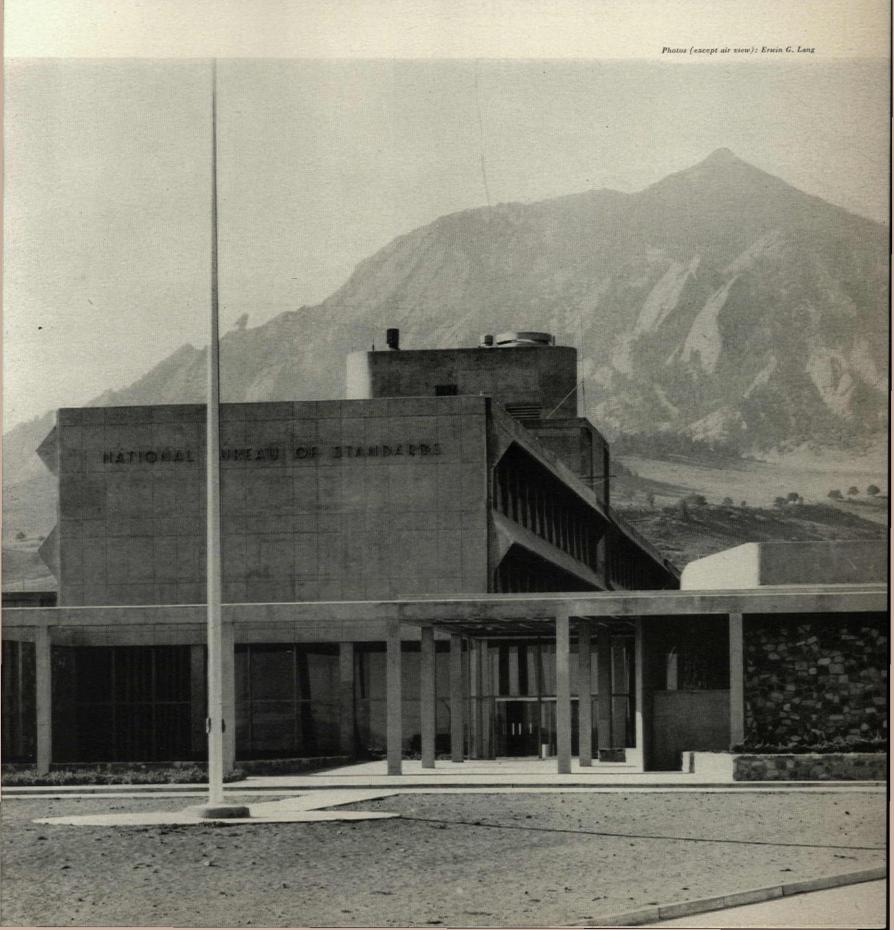




The National Bureau of Standards' big new Laboratory in Boulder, Col. looks both tough and aloof—and so it is. Its raw strength comes from the bold, unpolished concrete façades it shows the world—porous form-scarred concrete like Le Corbusier's Marseilles skyscraper (but of much better finish because the efficient US builders used oiled plywood panels for forms, not planks). The direct shapes of the building are strong, too, in the clear mountain air, and even the windows appear to have been cut reluctantly into the walls, something unusual in contempo-

rary architecture. Some of the windows also wear concrete awnings against the sun like the vizor on a medieval helmet. Within the armor, in the building's nervous system, is an electrical distribution network which is anything but medieval. To feed an undisclosed appetite for electricity, to provide power flexibility, and to ensure no mechanical interruptions from power failure, the building is wired almost doubly.

In operational fact the new lab is secret; do not look for many interior photographs in this report. The structure houses a broad program of research in radio physics and associated geophysical phenomena of the upper atmosphere and trophosphere. Even the architects do not know what the precise purpose of much of the space is, so the planning has been simple and general. The over-all plan actually is simple and neat—the giant has a mild, efficient personality. The main element of the plan is a long central building, stepping downhill under a constant, straight roof level. A pair of one-story wings join this stem at right angle in plan. For expansion the stem will simply grow and add wings.



Feeding electricity to a hungry giant

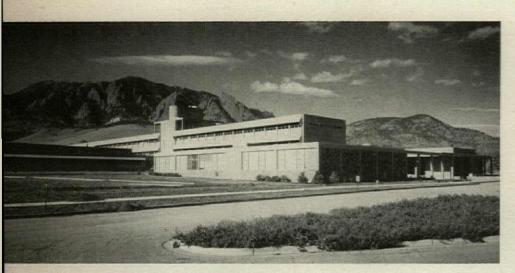
At any point in any of the laboratory spaces, the bus-duct distribution lines make A.C. and D.C. and high-frequency voltages available (as well as telephone, intercom and signal facilities). The distribution is a double one to assure continuity of electrical service; each segment of load is actually supplied via two feeders and two transformers in parallel. Any fault in the functioning of one feeder, including the transformer, automatically drops the distressed equipment out of service leaving the remaining feeder to carry the entire load without interruption. Either line, of course, can also be dropped out of service for revision, servicing or ex-

pansion, without interrupting the scientists at work on experiments.

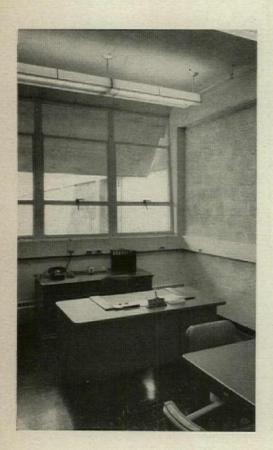
Control is exercised over all aspects of the distribution system from a central supervisory station in the engineer's office, which maintains constant automatic watch over the transformers' main breakers, feeders and other equipment. Both audible and visible signals indicate any trouble with the position of any of the network protectors, the main primary air circuit breakers or the primary feeder air circuit breakers. They also warn the engineers of any undue drop in battery voltages, or any hazardous rise in transformer temperatures or pressures.

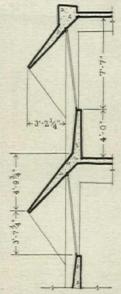
ELECTRIC AND RADIO PROPAGATION
RESEARCH LABORATORIES: Boulder, Col.
GENERAL SERVICES ADMINISTRATION,
NATIONAL BUREAU OF STANDARDS
ARCHITECTS: Pereira & Luckman
and J. E. Stanton
ASSOCIATE: Robert W. Ditzen

GENERAL CONTRACTOR: Olson Construction Co.

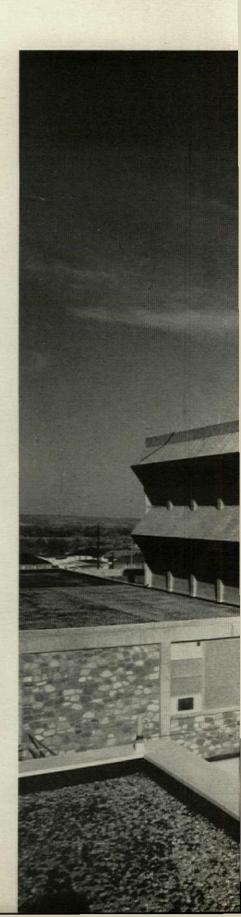


SECRECY is well spoken by building in this view from street approach.

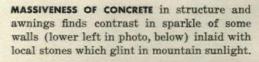




PRETESTED CONCRETE EYEBROWS. High standards of exactness were set by the Bureau of Standards for the permanent concrete awnings on the sun walls of this structure. To be sure the hot mountain sun would be under control, the architects built a helidon and tested a model of the building under the proper setting for Boulder's latitude and longitude. Even this was not enough for Washington, however; the bureau erected a full-scale model and tested it on the spot. Photographs made by the bureau at various times of the day over a period of several days coincided with photos of the model on the helidon.



industrial interior. Factory-type construction is innovation for Bureau of Standards' laboratories. Trucks can drive in if necessary, and lighting is unobstructed by lab equipment.









R. B. Fordyce

FAMOUS ORIGINAL by Howard Johnson's own design department features orange roof of porcelain-enameled steel "shingles," lanternlike cupola, small windows and other pseudocolonial trimmings. When busy, building is partially obscured from street by cars parked in front of it. This building seats 100, costs \$100,000.

HOWARD JOHNSON REDESIGNS

Architect and restaurateur pool talents to improve the building without destroying the trademark and to make the kitchen bigger without adding space

When Howard Johnson first came to Florida Architect Rufus Nims, he thought he had a limited local problem. Although his pseudocolonial restaurant design was doing well up North, it hid what was going on inside; Florida people were accustomed to spotting successful stores—and restaurants—by looking through glass fronts, seeing lights and people. Johnson had been compelled to put up signs on his Florida colonials saying "Open."

This was the problem given Nims—along with the warning that Johnson wanted no architects "messing around" in his kitchen. Had it not been engineered by the best restaurant man in the business?

By the time Nims got through, Johnson had not only a good building for Florida, but a prototype useful nationwide—and a new kitchen.

People in any climate are drawn in by a glimpse of a bright, warm (or cool) interior, busy with people.

- ▶ Identification of Johnson's by its familiar orange roof and New England cupola was retained, though more playfully than before.
- ▶ Food preparation costs were cut about 15%. The architect had gone into the kitchen after all, "through the front door."
- ▶ The new restaurant had a vastly improved traffic pattern, whether for cooks, bus boys, waitresses, counter people or customers—particularly at the crucial spots where employee and customer traffic interlaces.
- The new plan was economically expandable.

The story of Rufus Nims's work for Howard Johnson in Florida is consequently the story of the new Howard Johnson you now see going up all over the US. The outside story is shown on these two pages; the inside story of kitchen planning on the next two pages.

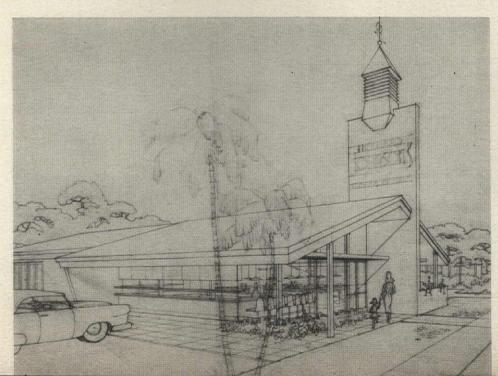


© Ezra Stoller

REDESIGNED RESTAURANT with large roof overhang has glass walls, no blinds, exposing inside color and activity of restaurant to public, obviously indicating that building is open for business. Parking is now limited to sides. Roof is still shingled in orange steel but cupola is now exhaust vent. Capacity, 160; cost, \$130,000.



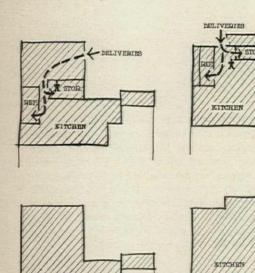
NEWEST BUILDING in Johnson chain is this minimum unit. Open-front theory that view of "customers happily lapping up ice cream" would increase sales has paid off handsomely. Planting around dining room gives patrons feeling of privacy. Note addition of curb service. Gable roof is further step in design improvement program. Capacity, 50; cost, \$45,000. (Not shown, standard 77-seat restaurant which costs \$65,000 but can be expanded to 108 for \$10,000 more.)

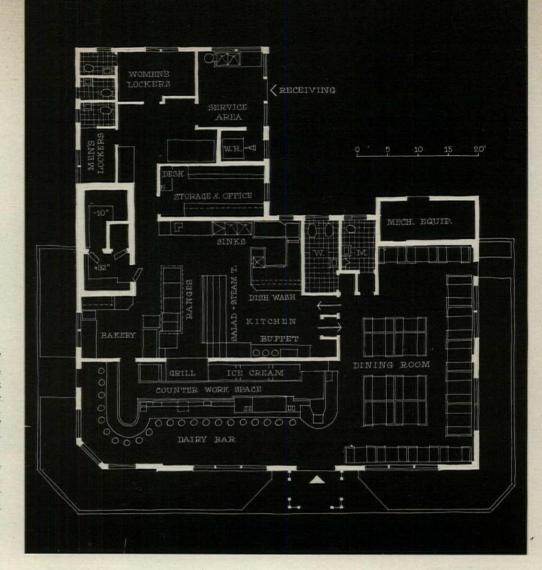


ultimate design, proposed by Nims but not yet accepted by Johnson, makes more radical changes in traditional appearance: gable is turned endwise to the street, cupola is removed from roof and raised like a shield on a spear. Biggest asset: while restaurant can operate profitably with 50 seats, it can be expanded to 100, 120 or 150 without additional kitchen equipment. Design permits optimal curb service. Costs: \$50,000 for original 50 seats; \$20,000 for each additional 50. (All costs are approximate and exclude removable equipment, grading, paving and landscaping.)

Redesigned Howard Johnson kitchen cuts operating costs and confusion

original plan functioned to satisfaction of owner but contained some faults which were obvious from Architect Nims's fresh point of view: 1) storage area and refrigerator were far from receiving door and not readily accessible to kitchen; 2) congestion of guest and waitress traffic was caused by close proximity of kitchen and restroom doors; 3) unnecessary presence of service buffet (silver, coffee, water, etc.) in kitchen increased waitress traffic in this already busy area and delayed service. (Architect Nims's suggested improvements are shown individually below and are incorporated in the two redesigned plans, opposite.)





DELIVERIES AND SUPERVISION. Storage and refrigerator are moved closer to entrance to save labor. Manager's desk is relocated near rear entrance to simplify checking and reduce opportunities for petty thievery.

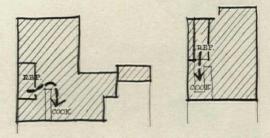
cook and cooler. Cooler relocated next to cooking area and addition of pass-through saves many steps and reduces kitchen traffic in main aisle.

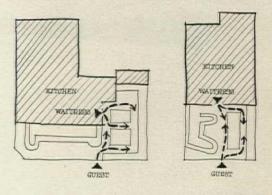
BUFFET. Fixture for minor service (silver, glasses, cups, napkins, ice water, etc.) moved from kitchen to dining room saves steps for waitresses and reduces traffic through kitchen-dining room doors.

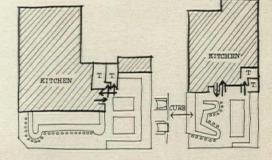
traffic separation. Guest entrance moved to opposite side of dining room from kitchen doors reduces interference between guest and waitress traffic, which results when traffic streams meet at right angles.

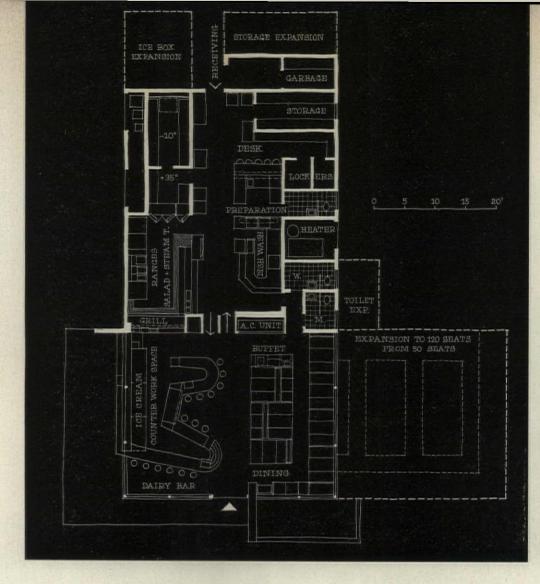
TOILET LOCATION. Entrance to toilets relocated to keep guest traffic away from kitchen-dining room doors.

"M"-SHAPED COUNTER. Compared with usual straight-line dairy counter, new M-shape requires less walking by attendants, reduces interference between two attendants. This design also seats twice as many customers in same area.

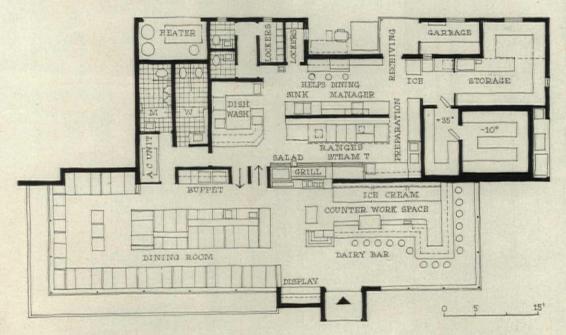








ULTIMATE PLAN proposed by Nims combines all kitchen improvements he developed for various types of Howard Johnson restaurants. Expandable, without additional kitchen equipment, from 50 to 100, 120 or 150 seats, it would replace present 50-, 77- and 150-seat models. Core of kitchen is straight traffic aisle, replacing the zigzag aisle in the original plan (left). Straight, open core not only reduces steps but gives manager easier supervision of entire kitchen operation. This improvement alone is credited with reducing kitchen staff by one. (Manager's desk was formerly in storage room without view of kitchen.) Other improvements are detailed below (left). Turning dairy bar around (to accommodate curb service) and doing away with mirrored ice-cream wall menu (a Howard Johnson trademark) have not met with clients' approval.

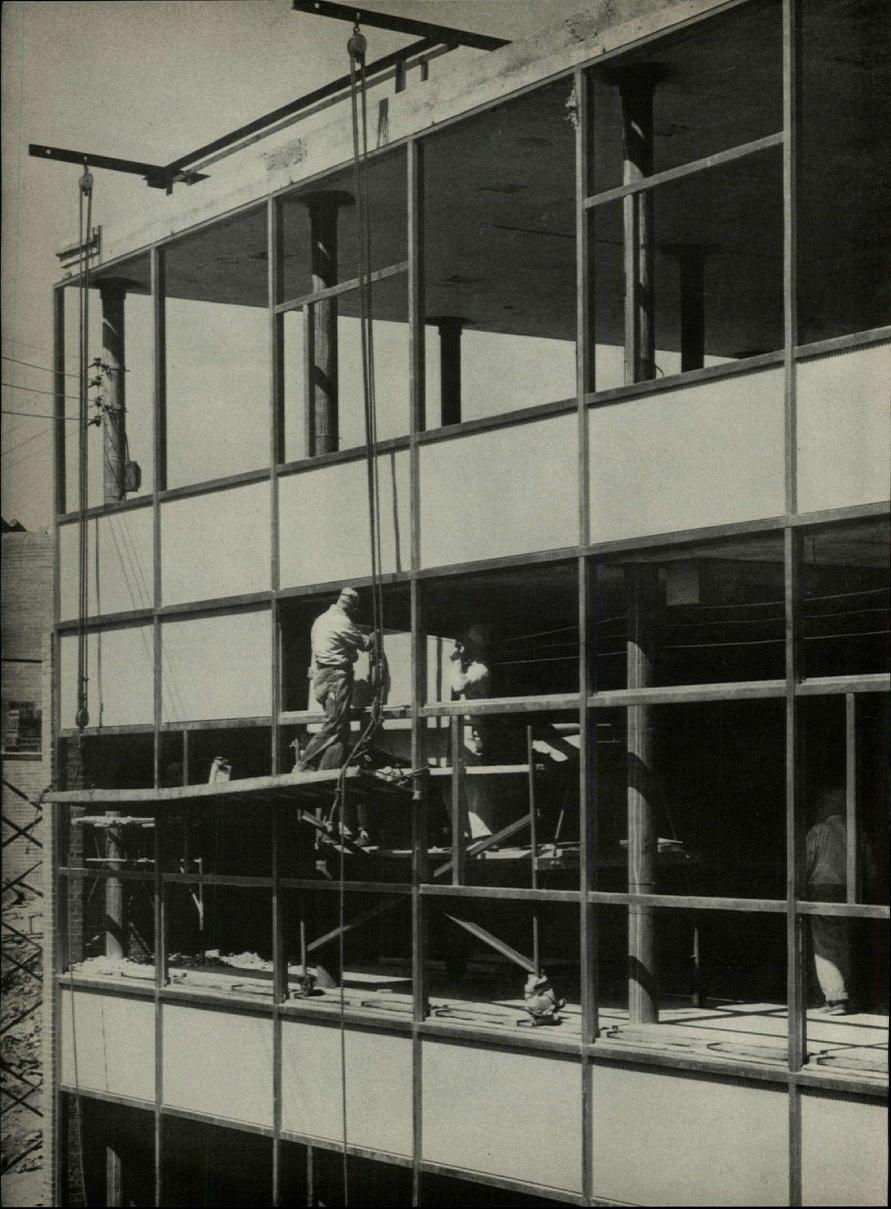


PRESENT PLAN for 77-seat restaurant shows how far Howard Johnson has gone to date in kitchen redesign. Note that many improvements (shown at left and above) are incorporated in this plan. In addition, pickup over grill is available to dining-room waitresses as well as to dairy-bar attendants, thus reducing kitchen traffic. This building is expandable to 108 seats without additional kitchen equipment.

Architect Nims comments on the contributions of his clients

"Howard Johnson's personal influence in the restaurant buildings which bear his name is considerable and is felt in many ways. . . . Do not, however, overlook the influence of Howard P. Cummings, president of Howard Johnson Inc. of Florida. It is through him that most of the physical progress in the restaurants has been made. His unfailing judgment, his balancing of quality and costs are of considerable value to us and to the restaurants themselves. It was under his direction that the empirical development from a 14-stool store to the present series '77' restaurant came about. It will be under his direction that the 'ultimate' building comes about. His judgment as to what works and how well it works will be essential to this office and to the buildings themselves."

mespolis School of Art



In the last few years porcelain enamel steel has been developed from a gas-station wall finish into an all-purpose wall panel a thin, lightweight, colorful new construction material which is changing the appearance, structure and economy of all kinds of buildings

PORCELAIN ENAMEL CURTAIN WALLS

Since the early days of enameled pots and pans and hotdog stands the porcelain enamel industry has boomed—in annual dollar volume from \$130 million to \$382 million between 1940 and 1953, and in enameling capacity, a $3\frac{1}{2}$ -fold increase. But the biggest expansion has taken place in the building field where the dollar volume rose from \$1 million in 1940 to \$25 million in 1953. "In ten years," claims one responsible steel company executive, "there will be more porcelain enamel in buildings than goes into all household appliances today."

This expansion started with façade applications, notably for filling stations, stores and old office buildings, but during the past two years it has also embraced most of the mushrooming curtain wall market. A spot check of the major porcelain enamel fabricators and the Porcelain Enamel Institute reveals that in the last few years more than 80 major new buildings have been wrapped in brightly colored porcelainized metal walls prefabricated complete with insulating backup and supporting framework.



1932 GAS STATION shows one of earliest applications of porcelain enamel to building construction.

Buildings of all types are clad in this increasingly popular building material. Examples: the Ford office building in Detroit and the RCA offices in Camden, N.J.; the Statler hotels in Hartford and Dallas; ten United Mineworker hospitals in Kentucky and West Virginia; a school in Taunton, Mass. (see cover); and the industrial labs in GM's Technical Center.

The reason behind this boom is a simple one: porcelain enameled curtain walls are economical in many ways:

They are light—the 1¼"-thick porcelain enamel spandrel wall of the Hartford Statler weighs only 5½ psf compared to 100 to 175 psf for a conventional equivalent, and this considerable reduction in dead load saved about \$10,000 in structural framing. Further, the light panels are easier and cheaper to ship and erect.

They are thin—only 14" to 3" compared

to the usual 12" to 18" wall. Depending on whether the building is built out to the property line or not, this means either a greater floor area and thus a greater rental value for the same ground coverage, or a smaller ground coverage and thus a smaller and more economical building with the same useful floor area.

They provide good insulation—the efficient

They provide good insulation—the efficient fibrous glass insulation of the Hartford Statler eliminated 100 tons of air-conditioning load, while the smooth, reflective facings tend to reflect thermal radiation. In contrast, heavy conventional walls have a high heat-absorbing capacity and exert a drag on the building's heating or cooling system. (Masonry's slow rate of heat transfer is mainly due to the heat absorbed in evaporating the entrapped moisture.)

They are erected quickly—the large prefabricated panels permit rapid, dry constuction with comparatively few joints, thus reduce labor costs and earn a considerable return through earlier completion. On Ford's Central Staff building the 4'-3" x 3'-9" insulated porcelain enameled panels are going up at the rate of 100 a day.

They require less maintenance—the smooth, enameled surfaces are washed with

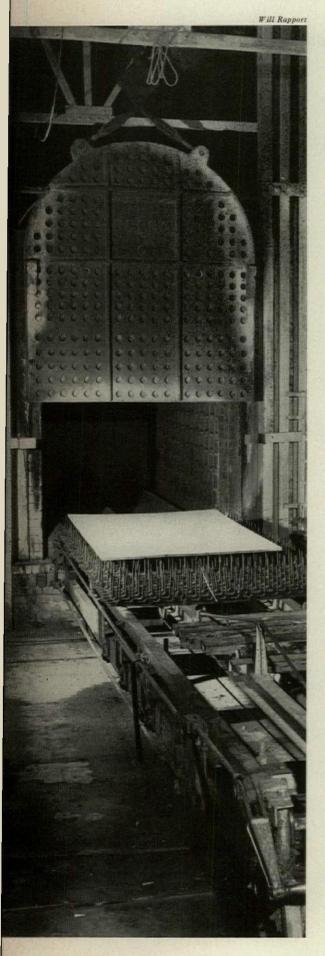
every rainfall and therefore require no expensive steam cleaning.

The trend to porcelain enamel for building exteriors is part of the widespread trend to thin, lightweight, metal-faced walls that began with the modification of obsolete building codes after World War II. The almost universal requirement for four-hour masonry walls was dropped and emphasis was shifted from specific materials to the degree of fire resistance required. Such performance-type specifications are now incorporated in the three national building codes (Building Officials Conference of America Basic Building Code of 1952; Southern Standard Building Code of 1954; and Uniform Building Code of 1952), and by many municipal building codes, including those of Boston, Chicago, Los Angeles and New York.

For noncombustible construction in nonstructural curtain walls these codes now specify two-hour fire resistance where the wall openings themselves require fire protection (example: exterior walls close to adjoining buildings). Only one-hour fire resistance is required where plain glass in unprotected wall openings of unlimited size and number is permitted.

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CORRUGATED ENAMEL PANELS at RCA Victor's new office buildings in Camden, N.J., are installed from inside with help of light scaffold.



The resistance of glass and the strength of steel or the light weight of aluminum are combined in the porcelain enameling furnace

Porcelain enamel steel is a composite material made of glass fused to sheet metal. Glass in the form of tiny granules or flakes (called frit) is coated on the metal by dipping or spraying and then fuzed in a 1,500° furnace. The resultant finish is permanent, dimensionally stable, hard (highly resistant to abrasion), inorganic (impervious to all but the strongest acids and salts); it does not oxidize or support combustion; it reflects light and thermal radiations, can be permanently colored except for the metallic tints), can be finished with any texture ranging from full gloss to semimatte and adds strength and rigidity to the base metal. The enamel also has excellent resistance to radioactive contamination, and yet can be made radioactive for use in signs that will glow in the dark.

Working characteristics of the composite material depend on the "fit" of the glass to the base metal. Due to differential expansion between glass and the low carbon steel used for enameling, the glass is in tension at the fusing temperature of around 1,500° F. but, after cooling, it is in compression.

Thickness of the enamel coating on steel varies between 5 and 10 mil.; the thinner coatings have better resistance to mechanical shock. The steel itself is generally of 26 to 14 ga., weighing from ½ to 3% psf. The choice depends on the size of the panel (today's biggest panel is 4′ x 10′) and on the degree of warp that can be permitted. Normally, 16 or 18 ga. steel is used, but 20 or 24 ga. steel is practicable where the panel is small and stiffened by corrugations or otherwise shaped to reduce noticeable warping.

Steel wall panels are enameled on both sides to eliminate corrosion on the inner face and to reduce warp during cooling. Controlled cooling is sometimes used for the same purpose. All shaping, cutting or punching is done before firing the panel.

A truly flat panel can only be achieved by laminating it to a stiffening backup—honeycomb paper, honeycomb aluminum, cement asbestos, pressed wood fiberboard, foamed glass or lightweight concrete are among those generally used. Bond between the panel and the stiffener is all-important. Some of the earliest honeycomb-paper cored panels insulated with perlite fill failed in bond due to excessive humidity, resulting in visible oil-canning on the face of the panel. The difficulty was overcome by the use of a more efficient adhesive.

FIRING FURNACE at fabricating plant bakes porcelain enameled steel panels for about five minutes at around 1,500° F.; enameled aluminum is fired at 970° F.

Undesirable oil-canning effects can be overcome by corrugating or embossing the steel before enameling. Examples: the panels of the RCA office building (p. 172) have ½"-deep vertical corrugations; while the 4' square panels of the First Security Bank building in Salt Lake City have 8" squares stamped ½" deep into the sheets.

est product. New frits that fuse at little over 950° F. are used to porcelainize aluminum (which itself melts at 935° to 1,215°).

Porcelain enhances aluminum's good features and offsets some of its disadvantages:

- It adds color to the gray metal.
- It increases the metal's resistance against alkalis and thermal shock.
- It increases the strength of the metal. A 3-mil. enamel coating on 0.051" sheet aluminum makes the metal only 6% thicker, less than 10% heavier, yet gives it more than 60% greater flexural strength and resistance to surface denting. The enamel coating need be only ¾ mil. thick (a third of the thickness of enamel on steel) and only the outer face need be coated. For equal strength aluminum must be 1½ times as thick as steel, but it weighs only half.
- It capitalizes on aluminum's workability and resistance to corrosion. An enameled aluminum sheet can be cold-rolled or pressed to even out distortions due to firing. When drilled or cut, the enamel does not spall away from the cut edge and there is little corrosion of the exposed metal.

Porcelain enameled aluminum also has its disadvantages. It costs \$2.50 per sq. ft. and up (depending on grade of the metal and the degree of fabrication required), compared with only \$1.40 per sq. ft. for regular porcelain enamel upon steel. And, electrolytic corrosion must be prevented by avoiding contact between dissimilar metals. (Unless enameled, points of contact must be coated with insulating spar varnish.) Similarly, direct contact between aluminum and alkaline concrete must be prevented by a coat of bitumen.

Blue enameled aluminum panels are being used to save weight on an 11-story office building at Charleston, W. Va., and the aircraft carrier USS Saratoga has 80,000 sq. ft. of enameled aluminum partitions to remove the fire hazard of paint.

Enameled stainless steel, while not yet commercially available, may some day be a contender for the curtain wall market. It is already the subject of serious research.



INTEGRATED WALL FRAME being installed at Midway Airport, Chicago, is prefabricated complete with sash and insulated porcelain enamel panel, costs \$3 per sq. ft. erected.

The search for a good curtain wall is directed toward one that is light, thin, weatherproof, easily framed and not too expensive

Back in 1951 the leaders of the Porcelain Enamel Institute realized that a mere facing panel solved less than half the wall problem; they had still to develop a fully prefabricated curtain wall, one that includes high physical and esthetic qualities. In performance the wall had to be durable, watertight, fully insulating and easy to erect; in appearance it had to have color, texture, shadows and rhythmic pattern.

To this end PEI members put up \$50,000 for the design of an efficient porcelain enamel curtain wall system and asked Architect Willian Lescaze to coordinate their research program. After personal examination and analysis of 18 different curtain wall systems, Lescaze listed certain requirements for the porcelain enamel wall-it should pass a twohour fire test, be self-supporting, be prefabricated in large sizes, be warm in touch and appearance, with a permanent finish inside and out, be able to withstand a 30-psf wind load and be erected by one trade from within the building without the need for calking. With all this the wall should cost under \$5 per sq. ft. erected.

The study resulted in the prototype solution shown below and emphasized the main problems of curtain wall construction:

▶ Insulation. The accompanying chart shows the materials currently favored for porcelain enamel wall panels. Some designers prefer the high insulating value of fibrous glass (which lacks rigidity and must be protected against condensation); others prefer one of the rigid materials which, when properly bonded, adds strength and flatness to the porcelain enamel face.

▶ Condensation. There are two ways of overcoming the problem of condensation behind the outer face of the panel, where moisture might freeze and cause delamination of the face from the backup. The wall may be made completely watertight, generally by sealing with gaskets at all joints, or, conversely, it may be ventilated behind the face with weep holes to provide an exit for condensed water vapor. The object of the later device is to

equalize pressure differences between the inside and the outside of the wall.

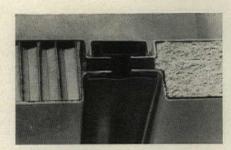
A material that is impervious to moisture reduces the condensation problem and may double as a vapor barrier. If separate, the vapor barrier must be continuous over the warm side of the insulation. (Where considerable air conditioning is provided, a vapor barrier may be required on both sides or in the center of the insulation.)

▶ Calking or gaskets. Where calking compounds are used the panels are designed to allow joints ⅓" to 3/16" wide and at least ½" deep. But the trend is away from calking toward gasket seals because of the relatively short life (three to four years) of most calking compounds. Of 80 calking compounds examined by Architect Lescaze only two appeared satisfactory and they were expensive. Many porcelain enamel panels today are sealed with extruded neoprene rubber or polyvinyl chloride weatherproofing strips (polyvinyl chloride gaskets are highly satisfactory, despite their comparatively low melting point, 350° F.).

Gaskets are easier to install than calking and ensure a proper joint without meticulous supervision. With gasket seals 7 sq. ft. of panels can be placed per man-hour, as against 5 sq. ft. with calking.

Secondary framing. Porcelain enamel spandrel panels may be cantilevered from the floor slabs (useful for ribbon window buildings), be placed between floor-to-floor mullions (useful for buildings with comparatively few and small windows) or carried between horizontal girts laid between columns at the level of window sills and heads.

Many of the supporting systems used today are expensive because of the intricate shapes and joints of the secondary framing members. There is promise, however, in the very recent trend toward unit frames prefabricated complete with spandrel panel, window sash and horizontal and vertical secondary framing. These may be positioned directly between connections on each floor slab, thus eliminating the need for separate mullions.



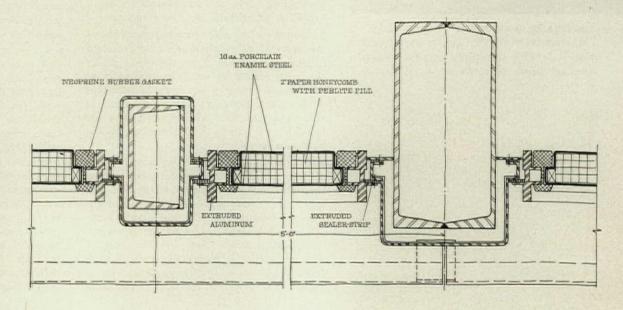
PROTOTYPE CURTAIN WALL prepared in PEI research study includes insulation at mullions, shows cores of pressed fiberboard and honeycomb paper. Panels are 2½" thick.

COMPARISON OF INSULATING CORE MATERIALS (all 1" thick)

	WEIGHT PER SQ. FT.	"K" FACTOR	COMPRESSIVE STRENGTH	MOISTURE RESISTANCE	COST (PERBD. FT.)
FIBROUS GLASS	0.5 lbs.	0.23		Fair	61/2¢
FOAMED GLASS	0.9	0.38	100 psi	Good	13
PAPER HONEYCOMB	0.3	0.58	150	Fair	12
PAPER HONEYCOMB with perlite fill	0.7	0.39	150	Fair	16
ALUMINUM HONEYCOMB	0.4	-	370	Good	80
PRESSED FIBERBOARD	2.0	0.51	60	Poor	18
CEMENTED WOOD CHIPS	2.6	0.43	250	Fair	23
VERMICULITE CONCRETE	4.1	1.30	225	Fair	61/2
PERLITE CONCRETE	3.0	1.40	100	Fair	10

NINE CURTAIN WALLS. When the FORUM last reported on the modern curtain wall (AF, March '50), it could find only one example in porcelain enamel steel. Today, there are dozens of varieties—each representing the fabricator's own idea of the ideal curtain wall. Nine of these, selected for the architectural merits of the buildings they curtain as well as the structural quality of the panels themselves, are detailed on the following pages





1. GENERAL MOTORS TECHNICAL CENTER, DETROIT

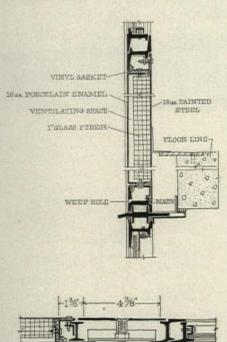


GM has used porcelain enameled panels since 1951, when it put one of the first enameled curtain walls on its administration building (AF, Nov. '51). The latest panels average 3'-6" x 4'-6" (maximum 4' x 9'-6") and are set in 3'-9" wide extruded aluminum frames.

The panels still consist of 16-ga. porcelainized steel faces bonded to a 2" resin impregnated honeycomb paper core filled with perlite insulation, but with certain improvements: 1) the steel skins are now bonded to the core with a stronger epoxy based resin; 2) opposing skins are locked with four concealed metal clips and assembled so the flanges of the panels do not touch; and 3) the panels are sealed into place with neoprene rubber gaskets instead of calking. The gaskets are placed on the aluminum sections, the enameled panel or glass is slid into position, then the joints are "zipped" tight by inserting a neoprene strip into the gasket.

Panels are 2" thick, weigh 6¾ lb. and have a "U"-valve of 0.18. Architects: Eero Saarinen & Associates and Smith, Hinchman & Grylls. Fabricator: Wolverine Porcelain Enameling Co.



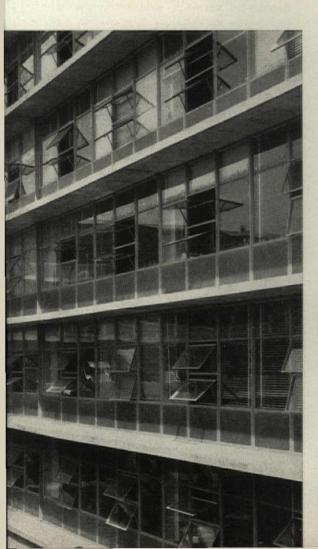


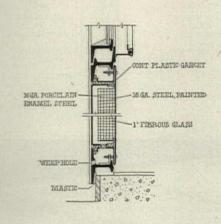
MULLION

2. FRAM CORP. BUILDING, E. PROVIDENCE

These walls are prefabricated in 3'-8" wide, 11'-3" high wall sections complete with fixed and ventilating window sash (excluding glazing, which is put in later). The steel framing, bonderized and painted, is simply clamped in front of floor-to-floor mullions. Edges of adjacent panels are bolted between a cover plate and the mullion behind it. Blue and white porcelainized steel panels, prefabricated in sizes up to 3'-8" x 2'-6", are sealed into the wall frames on the ground before erection. The panels are insulated with a 1" fibrous glass core between two 16-ga. steel skins. The outer face is enameled, the inner one, painted. Edges of the panels are sealed with vinyl plastic gaskets.

Panels are 1½" thick, weigh 8 psf, have a "U"-value of 0.197 and cost about \$3.25 per sq. ft. erected, excluding glazing. Architect: The Architects Collaborative. Fabricators: Truscon Steel Division of Republic Steel Corp. (frame), Bettinger Corp. (panels).

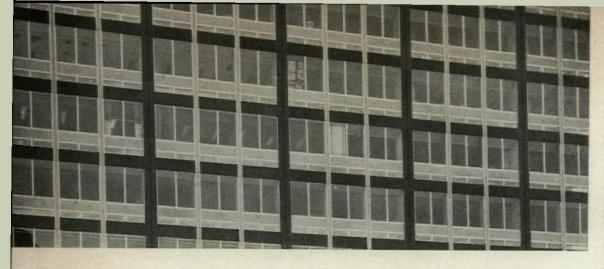


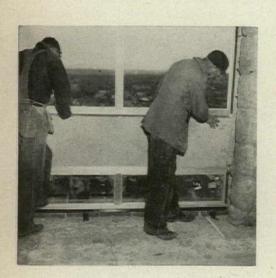


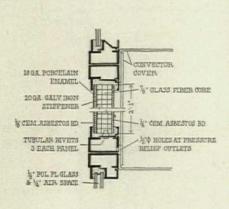
3. CLEMSON COLLEGE BARRACKS, CLEMSON, S.C.

The 26,000 sq. ft. of green porcelain enameled curtain wall on the five-story lift-slab dormitory buildings nearing completion at Clemson College is almost entirely prefabricated, forming one of the simplest wall constructions yet built. The 4' x 8'-2" steel wall frames, bonderized and painted, with 2' high insulated enameled panels already in place, are simply clamped between pairs of 11/2" x ¼" vertical steel plates positioned 4' o.c. At the top these verticals are welded to a channel set in the underside of the floor slab above, and fastened to a stud driven into the slab below. The wall frames are sealed with calking at top and bottom. Enameled panels are insulated with a 1" fibrous glass core bonded between two 16-ga, steel skins, the edges of which are sealed with polyvinyl chloride gaskets. The outer face is enameled while the inner face is painted; the panel is vented with weep holes at the bottom.

Panels are 1½" thick, weigh 8 psf, have a "U"-value of 0.197 and cost about \$2.75 per sq. ft. erected but not glazed. Architects: Lyles, Bissett, Carlisle & Wolff. Fabricators: Truscon Steel Division of Republic Steel Corp. (framing) and Davidson Enamel Products, Inc. (panels).







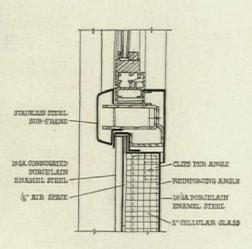
MILE HIGH CENTER, DENVER

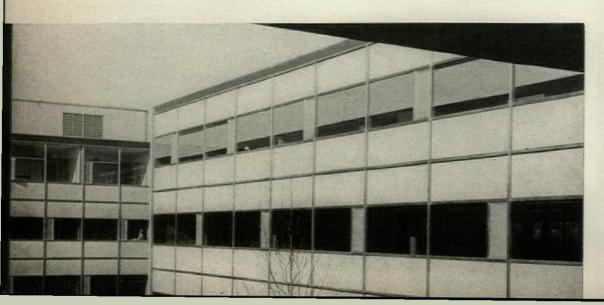
Denver permits a panel to replace glass if it has a fire resistance equal to wire glass (% hour). Mile High Center takes advantage of this to express the air-conditioning layout on the façade of the building. It uses 4"thick dark aluminum to cover spandrel beams and columns and light buff porcelain enamel curtain-wall panels to cover window air-conditioning units and vertical air risers. The 12"-high vision strips below each window unit are double-glazed; the 6' high fixed windows above are single-glazed.

Set in prefabricated story-high aluminum frames, the 2' x 8' porcelain panels consist of 18-ga, steel skin bonded to 1/8" cement asbestos board, backed with 20-ga. galvanized steel as a stiffener, %" of fibrous insulation and 1/8" cement asbestos board interior facing. The panel is 11/4" thick, weighs 6 psf and has a "U"-value of 0.20. Architect: I. M. Pei. Fabricator: Texlite, Inc.

L. S. Williams



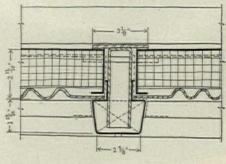


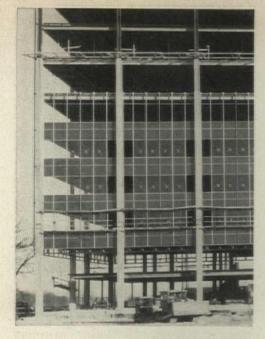


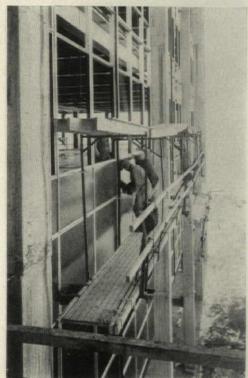
5. RCA VICTOR OFFICES, CAMDEN

Corrugated enameled steel forms the exterior faces on 30,000 sq. ft. of curtain wall panels at RCA Victor's new lift-slab built office buildings. Set in 7'-10" x 3'-3" panels, the 1/2"-deep corrugations eliminate oil-canning and, from a distance, appear perfectly flat. Behind the 18-ga. facing is a 1/8" venting space (kept open by vinyl spacers) and 2" rigid, moisture-resistant foamed glass insulation bonded to a 16-ga. enameled steel interior skin. A 1/4" horizontal space beneath each face allows condensation to drain off.

Set with calking in a stainless-steel supporting frame, the panels are 21/2" thick, weigh 61/2 psf, have a "U"-value of 0.15 and cost about \$3 per sq. ft. before erection. Architect: Vincent G. Kling. Fabricator: Ingram-Richardson Manufacturing Co.







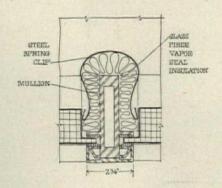
MacGreggor & Co.

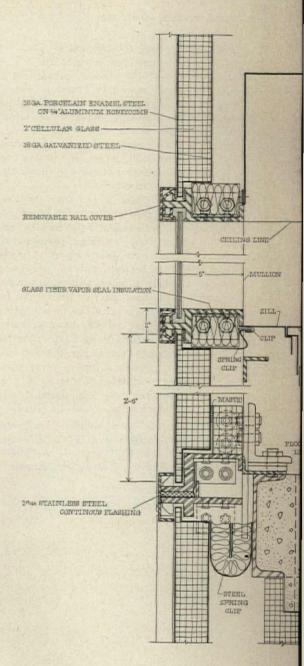
6.

FORD CENTRAL STAFF BUILDING, DEARBORN

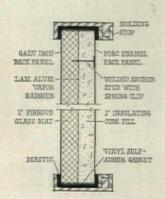
One of the most durable curtain walls ever built is being erected at Ford's new 12-story offices. The 16-ga. blue-green enameled steel face of these $4\frac{1}{2}$ 'x $3\frac{\pi}{4}$ ' panels is bonded to $\frac{\pi}{4}$ " aluminum honeycomb for absolute flatness, backed by 24-ga. galvanized steel, 2" foamed glass insulation and an 18-ga. galvanized steel interior skin, all laminated together to form a composite wall panel. Metal-to-metal contact at the edges of panels is avoided by butyl rubber gaskets.

Set in aluminum window frames with neoprene rubber gaskets, the panels are 2%" thick, weigh 7½ psf, have a "U"-value of 0.15 and cost about \$4.25 before erection. Architects: Skidmore, Owings & Merrill. Fabricator: Ingram-Richardson Manufacturing Co.



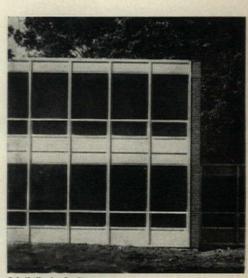


7. COUNTY COURT HOUSE, LAKE CITY, MICH.



The gray-green wall panels shown in the photo contain 2" rigid fibrous glass boards held by copper-coated nails and spring clips to a 16-ga, enameled steel face and are erected with vinyl gaskets and calking. No back face is used since the insulation is enclosed by room convectors. The wall weighs 3 psf, claims a "U"-value of 0.12 and costs \$3.50 per sq. ft., erected.

A later, more rigid panel shown in the section at left contains 1" insulating concrete laminated to the enameled steel face, backed with aluminum foil, 1" fibrous glass and a galvanized steel inner face. This construction weighs 9 psf and has "U"-value of 0.16. Architect: Gordon Cornwall. Fabricator: Erie Enameling Co.



Scheibel's Art Studio

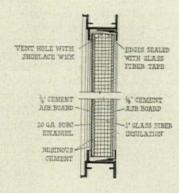
8. HOTEL STATLER, HARTFORD

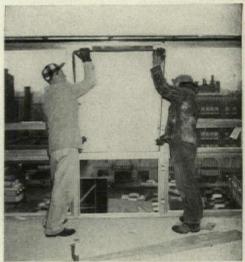
This curtain wall construction is composed of porcelain enamel panels up to $2\frac{1}{2}$ ' x 7' in size and a 4'-3" x 7' window opening set in aluminum sash secondary framing. Panels are clipped to the aluminum frame and sealed with calking compound. Windows are locked but are hinged at the top for easy cleaning from inside the building. A 14"-high venting light is immediately above the window sill. Columns and spandrel beams are faced with striated aluminum covers.

Designed to resist a two-hour fire test (though originally forming part of an allglass window wall that did not require such rigid specifications), the 18-ga. porcelainized steel is backed by a sandwich of 1" glassfiber insulation between two 1/8" stiffening boards of cement asbestos with a continuous aluminum foil vapor barrier behind the insulating fiber. Each panel has three venting holes at the top to relieve vapor pressure, the vents being formed by 3/16"-diameter "shoelace" strings projecting through the mastic. They prevent excessive vapor pressure build-up (estimated to rise as high as 200 psi in summer sun) that might delaminate the enameled face from the panel.

Panels are 1%" thick, weigh $5\frac{1}{2}$ psf, have a guaranteed flatness of $\pm \frac{1}{6}$ ", a "U"-value of 0.20, and cost \$5.10 erected. Architect: William B. Tabler. Fabricator: Seaporcel Metals, Inc.



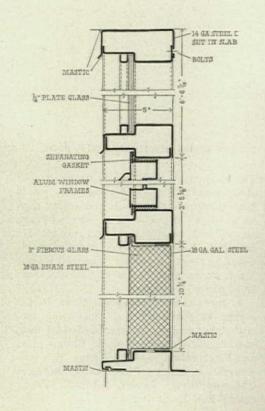




9. CHICAGO COLLEGE OF OPTOMETRY, CHICAGO

This is probably the first porcelain enamel curtain wall to be entirely prefabricated (except for the glazing), complete with integral mullions, insulated panels, ventilating and fixed sash. Each 4' x 11' welded steel frame, weighing 160 lb., is bolted to continuous steel strips set in the concrete slabs at top and bottom. The top strip is a 5'-wide, 2"-deep channel; at the bottom the front edge of the base of the frame fits over a steel clip and is bolted to the slab at the rear. Adjacent frames are joined by ingenious hock bolts that tighten front and rear cover strips over the vertical framing members, which thus double as mullions for the wall.

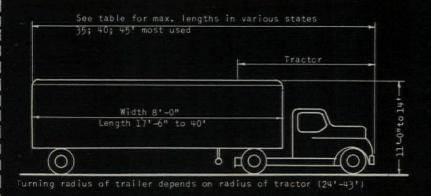
The 1'-10" x 3'-9" brick-red enameled panels are insulated with 3" fibrous glass between two 18-ga. steel faces. They are 3¼" thick, weigh 6 psf, have a "U"-value of 0.15 and cost about \$4 per sq. ft. erected. Architects: Alexander H. and Warren E. Spitz. Fabricator: Knapp Brothers Manufacturing Co.





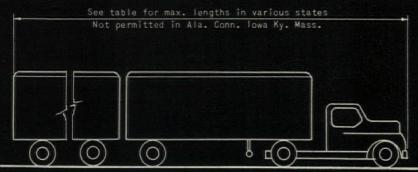
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TRUCK LOADING-VEHICLE SIZES



Max. Length	States
45'	Ala. Conn. Ga. III. lowa. Ky. Me. Mass Minn. Miss. Mo. N.D. N.H. N.J. Ohio Tenn. Tex. Va. W.Va.
481	N.C.
50'	Ark.D.C. Del.Fla.Ind.Kans.La.Nebr. N.Y. Okla. Ore. R.I. S.C. S.D. Vt. Wisc.
55'	Md. Mich.
60'	Calif.Colo. Idaho.Mont.Utah.Wash.Wyo.
65'	Ariz. N.M. Nevada (no restriction)

SEMI-TRAILER & TRUCK TRACTOR

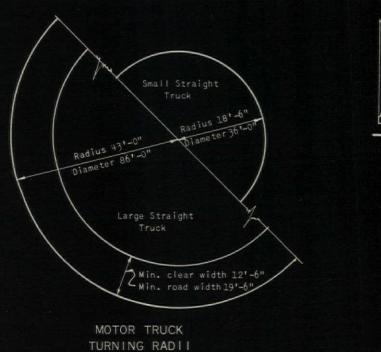


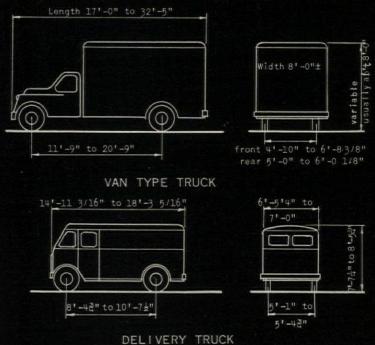
In many western states combinations of truck & full trailer and tractor semi-trailer & full trailer are used to full legal length.

Max. Length	States	
45'	Ga.III.Me.Minn.Miss.Mo.N.D. N.H. Tenn. Tex. Va. W.Va.	
481	N. C.	
50'	Ark.D.C. Fla.Ind.Kans.Nebra.N.J. N.Y. Okla.Pa.R.I. S.C. S.D. Oreg.Vt.Wisc.	
55 '	Md. Mich.	
60'	Calif. Colo. Del. La. Mont. Ohio. Wash. Wyo. Utah.	
651	Ariz.Idaho N.M. Nevada (no restriction	

FULL TRAILER SEMI-TRAILER & TRUCK TRACTOR

DATA CHECKED BY OPERATIONS COUNCIL, AMERICAN TRUCKING ASSOCIATIONS INC.

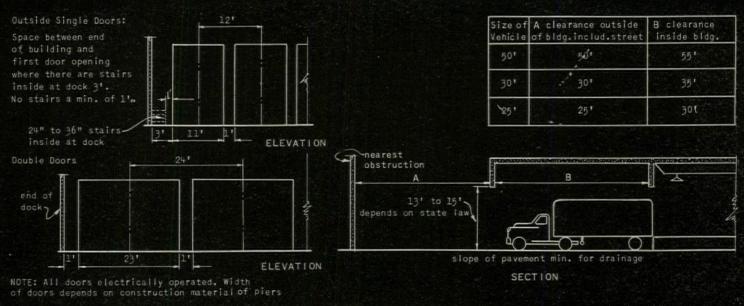


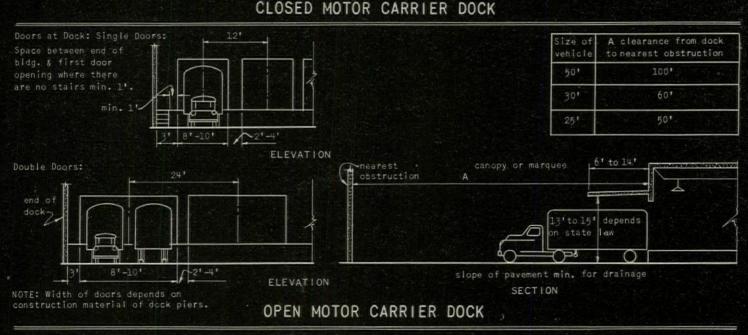


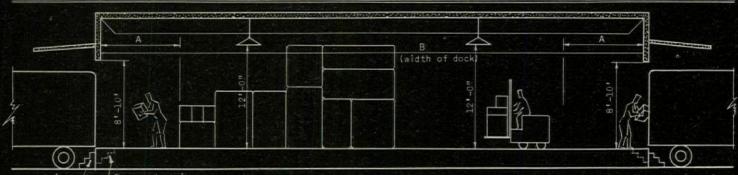
DIMENSIONS OF MOTOR VEHICLES

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TRUCK LOADING—DOCKS







to dock workers

LRecessed stairs

SECTION

Size of vehicle	
50'	52,"±
30'	48 " ±
25'	44性

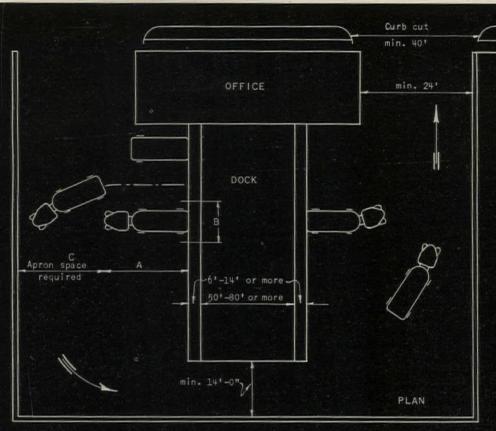
	2 wheeled hand truck operation	Fork lift truck oper	4 wheeled hand truck operation	Drag line operation
Α.	6'	10'	10'	10'
В	50'	601	70'	80'

NOTE: These dimensions same for all types of Motor Carrier Docks

MOTOR CARRIER DOCK CLEARANCES

DATA SUPPLIED BY OPERATIONS COUNCIL. AMERICAN TRUCKING ASSOCIATIONS INC.

TRUCK LOADING-DETAILS



Curb cut: used to prevent accident on

Traffic flow #1

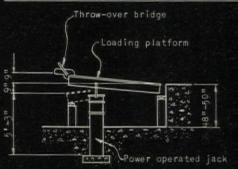
Counter clockwise around dock, preferred since it permits backing

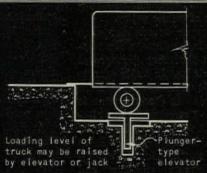
> APRON SPACE REquired for position for tractor trailer

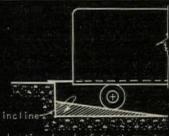
А	8	С	
Tractor trailer length	Width of position	Apron space required	
35'	10' 12' 14'	46' 43' 39'	
40'	10' 12' 14'	48' 44' 42'	
45'	10' 12' 14'	57 ' 49' 48'	

LOADING OF MOTOR VEHICLES

DATA SUPPLIED BY OPERATIONS COUNCIL. AMERICAN TRUCKING ASSOCIATIONS INC.







Loading level of truck may be raised by permanent or moveable incline

Loading levels of trailer ("L") variable from 44" to 50" (48" to 54" for heavy-duty units). For van-type trucks 42" to 46" (44" to average). For delivery trucks 25" to 31"

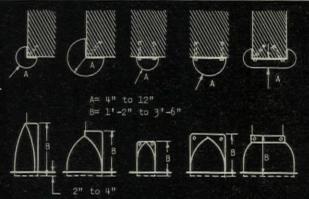
LOADING DOCK LEVELING DEVICES

DATA CHECKED BY OPERATIONS COUNCIL AMERICAN TRUCKING ASSOCIATIONS INC.

Used for protection of door jams, walls, and corners. May be combined with corners & col. quards.

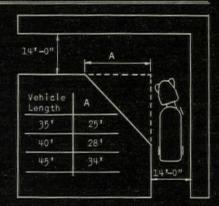
guards.

Usually made of cast
iron, ½" min.thickness.
For heavy traffic, thicker metal is required.
Other patterns
available. Sizes given
are made by most manufacturers, though given
pattern may vary.



WHEEL GUARDS

DATA FROM "ARCHITECTURAL METAL HANDBOOK" BY PERMISSION OF THE NATIONAL ASSOCIATION ARCHITECTURAL METAL MERS.



TURNING CLEARANCE FOR INSIDE DRIVEWAY

for all concerned

LET'S HAVE ARCHITECTURAL CRITICISM

It is high time that free architectural criticism spread a little.

Criticism of buildings, as a regular feature like the criticism of books, plays, concerts, movies, records, telecasts, art shows, would double the joy of the public in its buildings and would give architects something they sorely miss-a sense of audience. Currently the only building reviews that appear with any regularity are those of Lewis Mumford in The New Yorker. So great is this critic's ability and so exclusive his monopoly won by courage, that many an educated person thinks he has explored the full world of modern architecture in exploring Mr. Mumford.

The reason there is not more criticism is not lack of interest; on the contrary, interest is lessened for lack of more criticism. In the lustier nineties, Critic Montgomery Schuyler wrote freely and well for an audience broader than the profession, and one of the architectural magazines gaily published a monthly page entitled "architectural aberrations." The result: more people had fun with architecture because more understood it.

No need to explain here just how criticism in the US died, but let's do away with the chief alibi for timidity now. The notion has spread that building owners, unlike book publishers, art dealers or theatrical producers, are immune against comment not favorable. Said an offended owner to Forum's editor, after criticism had been published of the way some new kinds of office building were destroying pleasant street views: "We are honest builders tending our private business. We are out for a legitimate profit and our tenants like us-ask them. We are not out to create art. Your adverse comments belittle us and interfere with our rights."

Such a viewpoint ignores that building, so intended or not, is an act that takes place in public. It is not a wholly private affair. The public is the builder's and architect's captive audience. Escape is possible from a bad play by simply walking out or choosing not to walk in; but an ugly structure across the street from one's home or office is a sight virtually unavoidable.

In legal terms, the US Supreme Court has decided in an important recent redevelopment case (AF, Dec. '54, p. 41) that "the concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, esthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully controlled." No statement could more forcefully imbue architecture, of all arts, with public interest, or give stronger sanction to architectural criticism, free and open, vigorous and detailed, as an instrument of public policy.

The deeper reason for open criticism is, however, more positive than the mere disapproval of aberrations. In order even to appreciate what is good, we must be able also to discern what is not so good or misconceived altogether. A self-imposed caution has led US architectural editors to avoid the painfulness of dispraise: simply omitting bad buildings, ignoring poor features of good ones; damning by faint praise, or else standing aside and "letting the reader judge." There is a tendency to let enthusiasm for architecture in general express itself in specific cases: but, alas, enthusiasm itself is discounted by skeptical readers if they find nothing else, and injustice is thereby done to precisely the best buildings, the best clients, the best architects, best builders, and best engineers.

Once a more explicit course has been decided on, there are many kinds of criticism, many aspects of it. No resounding articles or manifestoes can replace day-by-day analysis of specific jobs in furthering the cause of architecture and of the architect seeking the best.

RUSSIA'S ARCHITECTURAL TURNABOUT

Architectural news is also coming out of Russia these days. TIME reported some weeks ago (Jan. 10, '55) how the heads of the Academy had been put on the griddle. Ever since 1934, a Roman traditionalism had been decreed from the top (neoclassicism had long been strong in western Russia) and its pomp prettied up for the masses. Modernism was forbidden. Western architecture was excoriated for being "arid" and "mechanical." and aggressive criticism of it was exported beyond the USSR to countries such as Japan. Moscow's own crowning glory was a series of new towers which FORUM compared a year ago with our ornate Woolworth building, and might better yet have described as assemblies of Wrigley buildings (AF, March '54). Yet even Moscow had to discover eventually that any architecture must live in its own times, and a world power cannot be simultaneously efficient and wilfully archaic. The graybeards were asked embarrassing questions about unit costs and production schedules, and being unable to answer, were pushed aside.

Now it seems that the younger Russians have been secretly learning from their Western enemy. Under new command, modern prefabrication is being pushed full force, not only for houses but for apartments, offices, factories—buildings in general (see News). Though techniques may be primitive compared to ours, they are adapted to Russian resources, and Russian production will step up.

Architecturally, it is clear only that the swing will be full circle away from exuberant traditional decoration. Since Russia does nothing by halves, it is likely that standardized uniformity will be pursued with a vengeance, just as functionalism was pre-1934, when the Russian variety was of all varieties the most starkly utilitarian.

The Russians, following in the tracks of that West which they affect to despise, must now hitch back through that early phase of standardization which US architects have since outgrown, a standardization we now seek to enhance, individualize. Whatever the politics of a country may be, there seem to be certain necessary steps in the process of industrialization.

Meanwhile there is one Russian propaganda boast to which the US building industry should pay serious attention. They say that their collective processes enable them to compose their cities as a whole into a more agreeable and beautiful "city picture." This may be true, though the methods are questionable. We may like our own growth to be more spontaneous, less regimented. Yet the time has come when our cities must deal with large land parcels, not only with individual buildings; so the challenge is doubly before us to achieve order and beauty at larger scale, the scale that was sought in our own historic "city beautiful" movement. And we must do this by our own cooperative methods.

Dougras Haskell





Post-195



Firemen's Mutual Insurance Company, Providence, R. I.

Cram & Ferguson, Architects

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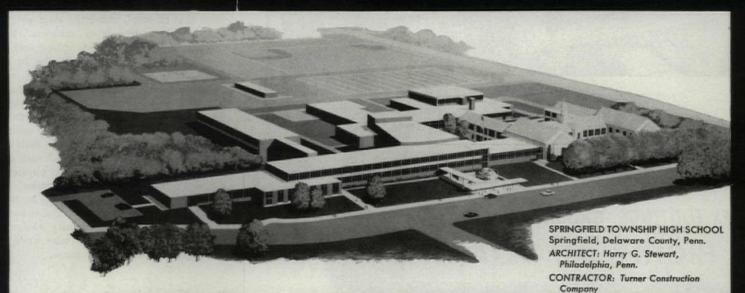


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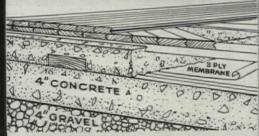


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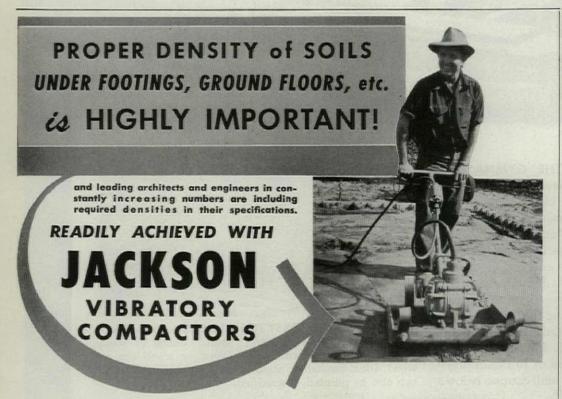
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HOSPITAL

Continued from p. 153

facilities on the lower level, indoors and out, will be used mainly by children, young people and rehabilitation patients during the day, by adults in the evening. The kitchen doubles as a nutrition demonstration room. Note that showers, under the main entrance link, are accessible from outdoors. When the nursing unit is added, indoor and outdoor community facilities will also be used by convalescents.

Although the center will be only half a mile from Hebrew University's 465-bed teaching hospital, the planners determined on a future nursing wing for all ordinary local hospital cases—especially maternity and pediatrics. This will keep all such cases under the care of their personal physicians, house them close to their families, take local convalescents out of expensive teaching-hospital beds and make the transition between hospital and community easier for veterans or other patients who have had prolonged care away from home.

Beth Mazmiel's other roles:

Medical teaching unit: how do medical students in a big teaching hospital learn to deal with the common cold, measles, bunions?

Answer: teaching hospitals must usually keep on tap a small reservoir of ailments that ordinarily never get near a hospital—an artificiality that has begun to seem absurd in both economic and human terms.

How do medical students learn about community practice? How do they learn about health problems rooted in the community itself?

Answer: they seldom do—an educational omission that has begun to disturb many medical schools.

Like New Jersey's Hunterdon (affiliated with NYU-Bellevue), Beth Mazmiel and its staff will help fill these teaching gaps. It is affiliated with Hebrew University Medical School, whose new \$12 million medical center is soon to go up outside Jerusalem. Rotating groups of about 15 students will work and study in the center and will also accompany staff members on home care and public health visits.

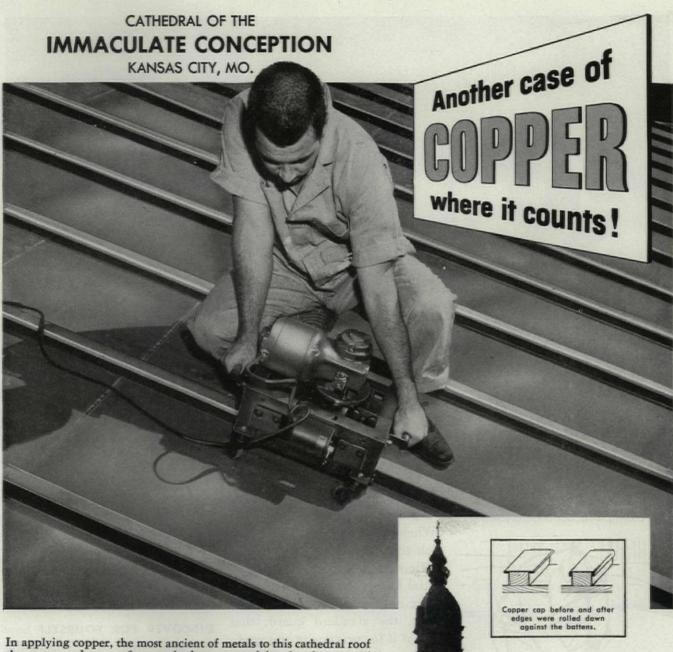
Note the lack of special student facilities. The student's place is "at the elbows" of the center staff. Community life, not dormitory or classroom life, is to be his preoccupation.

Town planning device: Beth Mazmiel is an urban workers' suburb of Jerusalem. It is also a mushroom development, made up mostly of recent immigrants from the Balkans and Africa, resettled as fast as housing could go up. Ultimate population will be about 10,000.

Like mushroom developments on the outskirts of US cities (and like many an older dormitory town, too, for that matter), Beth Mazmiel has lacked community focus.

Obviously this center, set in a park near the center of town and combining as it does

continued on p. 185



In applying copper, the most ancient of metals to this cathedral roof the most modern roofing methods were used by the sheet metal contractor, A. Zahner & Company. The machine you see above was developed by this Company to form the last fold of the copper cap over the battens. Not only does it do the forming more neatly but, according to the contractor, it does this job 10 times faster than would be possible with hand tools!

When it became necessary to replace the deteriorated non-metallic roof on this cathedral there were two important factors to consider: 1—The new material had to be much lighter than the old material which would have been excessive for the 73-year-old cathedral. 2—The new roofing material had to endure for scores of years.

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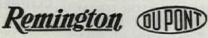
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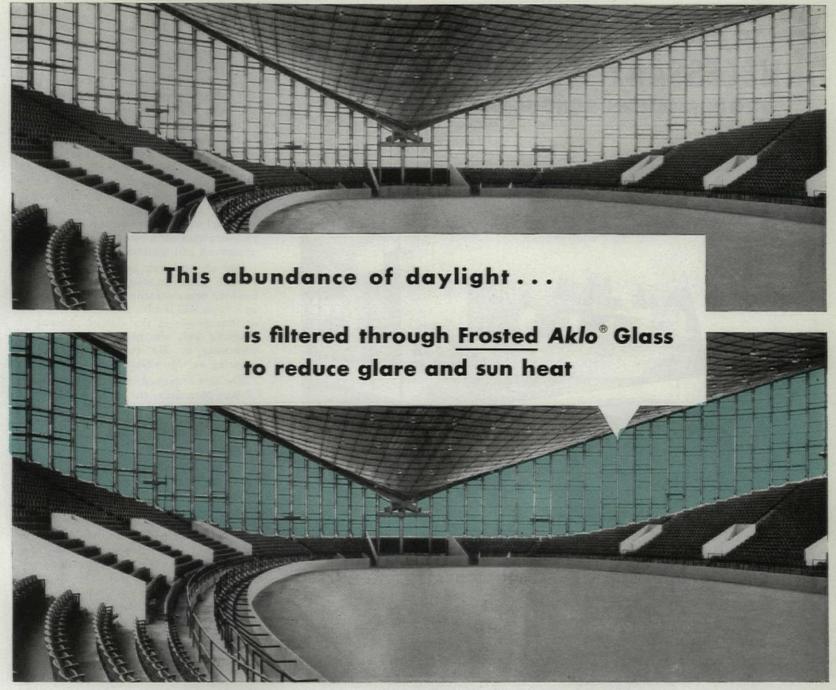
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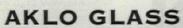
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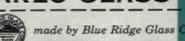


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HOSPITAL

Continued from p. 182

the doctor, public library, swimming pool, and other community facilities, makes an admirable physical focus.

But—and this is the reason for the frustration of most town planners—working out physical solutions is the easiest part of planning. The really tough job is to get an effective cross-section of townspeople thinking in terms of town problems, caring about planning and supporting it. Without this, even a miraculously shoved-through physical plan may turn out a hothouse, unstable, misunderstood and misused thing.

One of Architect Joseph Neufeld's pet theories is that an integrated health center, touching as many easily understood interests as it does, will involve a broad cross-section of townspeople in the *idea* of planning if anything will, and give them a start at practicing it. He and his clients were counting on this effect.

The first organized response of the people of Beth Mazmiel to the proposed center was a request, put dramatically: "What is the use of trying to keep us well, if we break our necks in the dark? What we need most is electricity!"

Instead of bridling at this "ingratitude," the women of the sponsoring Hadassah organization were wise enough to see 1) that the townspeople were right, they did need electricity more than a center; and 2) that the center had already started on the job: it had gathered people together and stirred up a sense of town problems and town purpose. Since then, the Hadassah medical organization has installed a pilot operation in an existing house, pending completion of the new building. Just as was hoped, a cross-section of community representatives is gradually becoming responsibly involved with operating and planning policy.

To appreciate this achievement, visualize the same thing happening in a demoralized and run-down US mining town, or a big city slum where people have developed a hopeless and calloused feeling about their environment. Beth Mazmiel is neither a mining town nor slum, but it has no visual amenities, and years of oppression followed by life in refugee camps had given its population much the same psychological attitude toward environment.

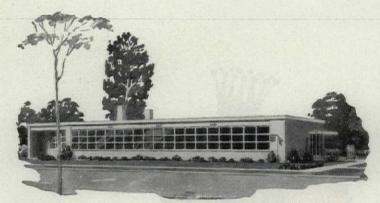
Research unit: a center like this, serving entire families continuously over the years, offers a wonderful opportunity for compiling and correlating social statistics. In the US, medical people and social scientists are avid for such family or community material; as a result, in the few places where records with either a community sweep or family continuity can be made, statistical work is often supported by foundations. Beth Mazmiel, with its unusually complete preventive, curative and rehabilitation program, is an even choicer research pie. Under its biostatistical program, the staff will poke into all aspects of living conditions in the town and will gather and correlate data on good health too-a curiously unstudied subject.

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EXCERPTS

Continued from p. 143

but our profession should and will die unless we produce that which satisfies man's highest aspirations."

Aside from feasibility and desire, what may especially concern us at this time is the fundamental need for a spiritual and artistic revival due to conditions arising entirely outside the field of architecture. That we have reached a crisis in human affairs can no longer be questioned. The evolution of science in all fields and of our controls over the material world has been so swift as to

seem a revolution. There has been no corresponding and compensating evolution in the psychological world, in understanding of the deeper needs of society; in human relations, personality traits and spiritual aptitudes; in ethics and in esthetics. The discrepancy creates a disturbing and dangerous situation.

Example: the H bomb, Here, man has gained new, vast controls over the very atoms of matter. Since he has gained no vast new controls over himself, he now faces the practical possibility of his annihilation.

To anyone who is aware of the power of modern weapons and who studies the present drift between nations, there must come, sooner or later, the realization that now is the time to revive devout service to a constructive, evolutionary and creative principle, to serve God as creator, not as destroyer. It is a time for great affirmative gestures. God knows in how many ways the service can be performed and the affirmations made; but we may note that nowhere does man's constructive bent show more simply, more clearly and more often than in his buildings. The architectural masterpieces of the ages are the affirmation that is absolutely silent and absolutely convincing. Fine buildings designed today still constitute a language that people in all parts of the world can understand. Sincere works of art are the best of propaganda because they are wordless and because they are true. For all who practice architecture, who are training for practice, or who are guiding those in training, a realization of the world situation might be the impetus for a renaissance as great, in its way, as the Renaissance of five centuries ago.

WHAT CHARACTERISTICS?

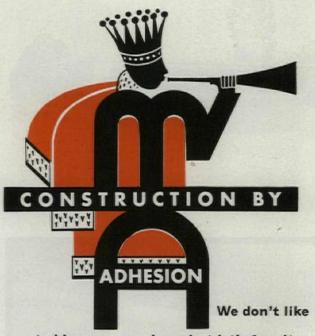
What would be the likely characteristics and particular objectives of an artistic revival at this time? One thing on which we can doubtless agree is a revival of close collaboration between architects and allied artists. Anyone familiar with submissions made to the Art Commission of New York City must know how often architects themselves have pressed for more commissions for painters and sculptors, often to be disappointed by official apathy or small budgets. But here we are speaking of even closer collaborations; the architect, for example, who gains from painters a livelier sense of composition and color in his own architectural efforts; from sculptors, a greater aptitude for handling threedimensional form and three-dimensional space; from landscape architects, a sense of what may be called the building's four-dimensional environment, since time is the added element on which the landscape architect so wisely counts (and so many modern architects unwisely fail to count).

Brief mention may be made of four additional objectives:

A better use of the word "function." Obviously, a building is not only an assemblage of its structural parts; to limit the concept of function to mechanical and structural functions has been a mistake of a serious order. Buildings are mainly to house and serve human beings who have not been recently deprived of their psychological functions. Factories that are overmechanized, city halls and capitols that do not express the integrity of a society, church designs that are not devout, houses that are not homesthese are not functional buildings.

The designer's distinction between items subject to change and those not subject to change. Recall, for example, some building of marble, of the Doric order, erected near

continued on page 194



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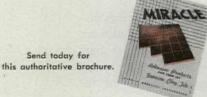
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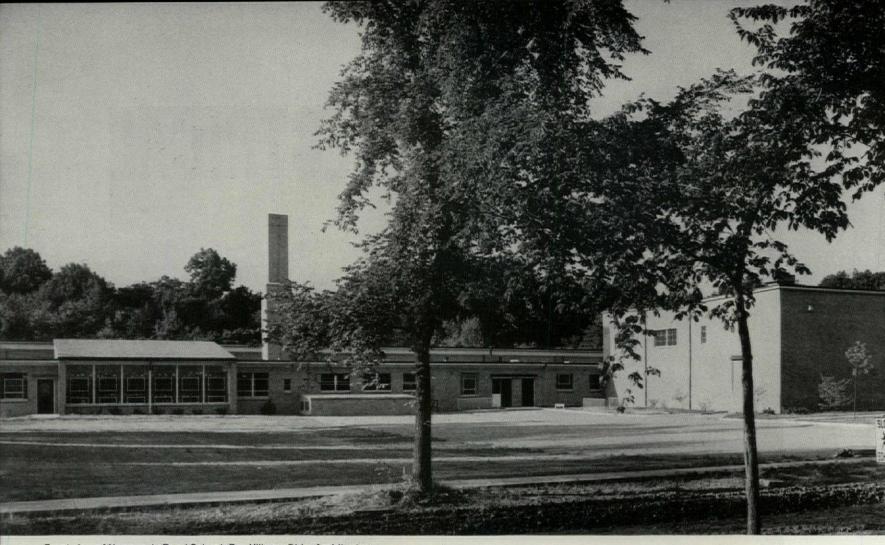
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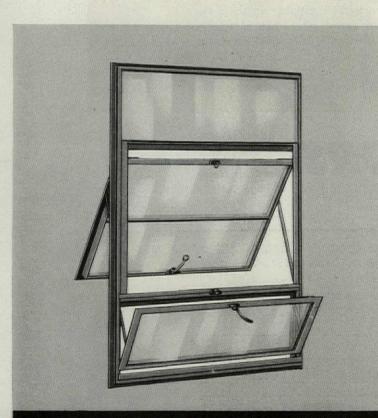
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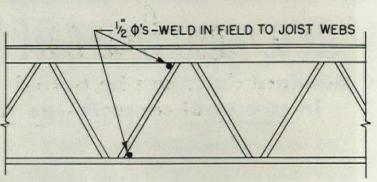
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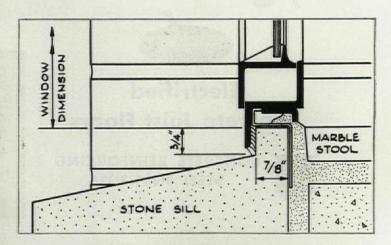
Front view of Normandy Road School, Bay Village, Ohio. Architects: Mellenbrook, Foley & Scott. Contractor: J. L. Hunting Company.



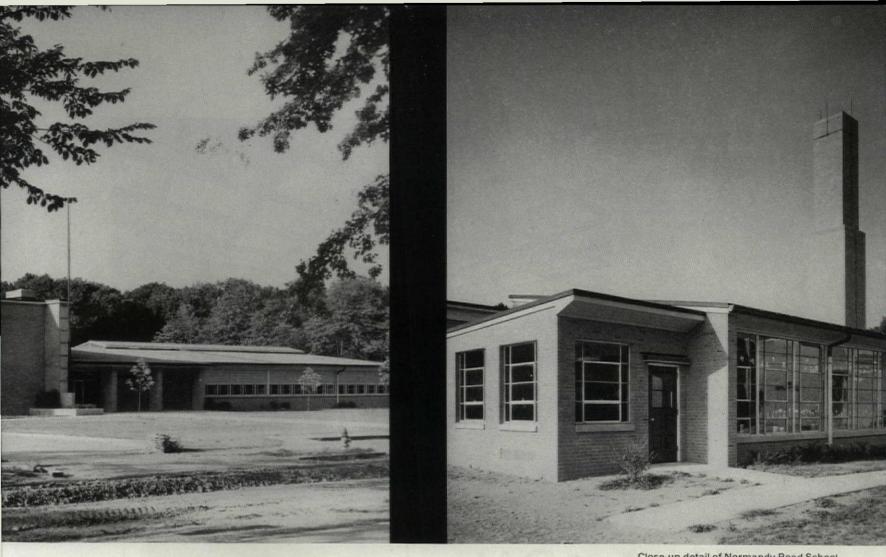
Ceco Architectural Projected Windows also contributed toward an economical, functional building. Their solid hot-rolled sections provide easy wall-bearing anchorage... strength... flexibility of ventilation...plus beauty and good daylighting.



This ½" round horizontal bridging is recommended by the Steel Joist Institute, with ½" round bars bridging both top and bottom chords.



This sill detail, with the window frame overlapping the stone sill and the joint properly caulked, provides efficient watertightness and drainage. Another school-wise feature is the marble stool.



Close-up detail of Normandy Road School.

Note the variations in window use.

How a school for 400 students was built on a limited budget . . .

ARCHITECTS CUT FRAMING COSTS 15% WITH CECO STEEL JOISTS

It takes more than ingenuity to meet building budget problems . . . knowledge of workable short cuts is important here. So Architects Mellenbrook, Foley & Scott drew deeply on experience in designing the Normandy Road School, Bay Village, Ohio. The problem was to accommodate a set number of students—with a limited budget. Ceco Steel Joist Construction contributed to the solution by saving 15% over other floor and roof framing methods. It is the lightest of all fire-safe constructions and is easiest and fastest to erect. Ceco Standard Steel Joists were used effectively in classroom, office and corridor areas—bays being from 9' 95%" to 27' 4½" wide. Extended

ends provided low-cost sunshade overhangs, cantilevered over the window areas. Ceco Longspan Steel Joists with nailer strips simplified framing of gymnasium areas. At least a month's time was saved because steel joists are erected faster than heavier framing. All Ceco deliveries were timed to meet the schedules of the contractor. Here is another example of Ceco performing on the architect-contractor-supplier team to help meet a building need. Next time, call on Ceco Product Specialists. They will assist you in planning and saving.

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IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

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	ACOUSTICAL EFFICIENCY Test No. A51-98	Test No. A51-99	
cycles per second	cemented to plaster board (mounting No. 1)	mechanically mounted on special metal supports (mounting No. 7)	
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250	.21	.53	
500	.75	.60	
1000	.88	.73	
2000	.85	.88	
4000	.78	.88	
noise reduction coefficient	.65	.70	
weight per			
sq. ft.	1.3	1.3	
*Also available in 7/1	" thickness		

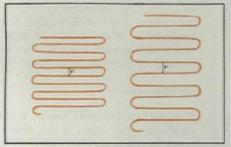


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New radiant panel heating coils made of Type L Copper Tube save contractors installation time and money . . . save engineers time and effort in planning and designing radiant panel heating installations



NEW ANACONDA GRIDS* (PG $^{\oplus}$'s) contain 50 linear feet of Type L Copper Tube and come in two tube sizes—left, %'' (%'' O.D.) for ceilings; right, %'' (%'' O.D.) for floors.



DESIGN AND LAYOUT is simplified by Anaconda's free layout kit of printed, gummed PG scale drawings, which show precise layout of heating panels on blueprints.



MACHINE-FORMED PG's are compactly packaged 4 to a carton. One tube end of each PG is expanded so that it can be solder-connected in series without requiring fittings.



PG's ARE EASILY INSTALLED—A %" PG weighs only 10 pounds, is easily lifted and propped in place, leaving worker's hands free to fasten straps. Here, metal lath goes under the PG's.



A HOOK TYPE FASTENER offers another easy, quick installation method. Fasteners are partially set in joists, PG's are positioned, and fasteners driven home.



HEAT FOR THIS basement game room will be provided by ½" PG's embedded in concrete. For floor or ceiling installations the pre-formed Anaconda Panel Grid offers many economies.



CEILING INSTALLATION ready for plastering. Note tube spacing narrows to $4\frac{1}{2}$ " c-c nearest the outside walls, and supply lines to panel circuits run next to outside wall.



NO SAGS OR DIPS in the tube lines permits a uniform plaster thickness, which means savings in time and materials.



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COMPANY _____
STREET _____

ZONE STATE

EXCERPTS

Continued from p. 188

the Aegean Sea, expressing serenity and nobility. Modern designers are not bound by the material, the order or the locality; all these are items subject to change. But serenity and nobility are changeless, a truth which an artistic revival might well underscore.

Distinction between items suitable to standardization and mass production, and items not suitable. Mechanical "cores" of houses are suitable; living quarters are not. A city's system for mechanized transportation is

suitable; its system for pedestrians is not. The failure to distinguish between the two categories has marked a technological trend as it would not mark an artistic trend.

▶ The service to our nation that could be rendered by far greater achievement in architecture and the allied arts. No sane man will question the need for architects to join other builders in devising plans to ameliorate atomic disasters, whether this be reinforcing buildings or decentralizing cities. But should

we overlook the possibility of architects working, whether as designers or citizens, to avert the disasters? Architecture has never been called a destructive art. Architects, by nature, as by training, are on the constructive side. Others may teach or preach synthesis in modern life; architects can build it into the surroundings, and by the massive influence of environment can directly affect modern life. Increasingly, American architects are building abroad, and the need for all types of construction in backward countries (now so obviously coming forward) is incalculable. Might architects be emissaries who would forward a world-wide inclination to build rather than to destroy?

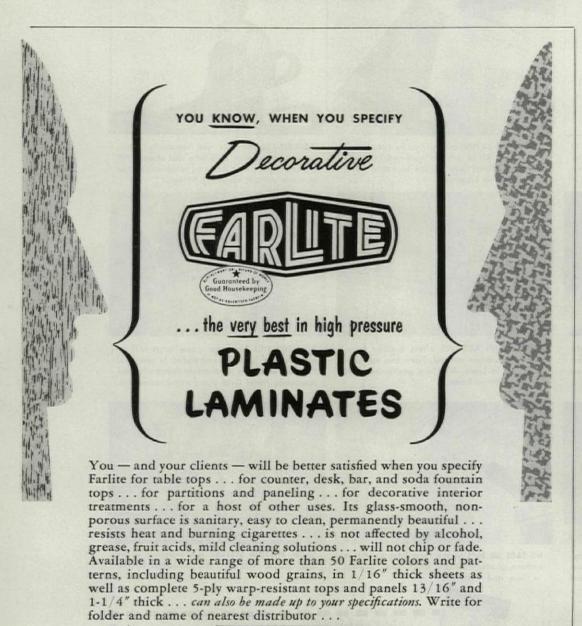
BY WHOM?

Have we the designers needed a widespread artistic revival? And, if not, how can their ranks be augmented?

I dare say that no one who has been active in architects' organizations will assert that all registered architects conceive their calling to be a great art with wide esthetic, humanitarian or spiritual implications. There are too many other motives for entering the building field, one of the country's largest industries. But if it is a minority that has the wider view, it is a large minority and an impressive one. Impressive, for one thing, because of their works; it is not difficult to name 100 firms whose buildings are already counting as examples of precisely the artistic revival that has been mentioned, drops in the bucket though these buildings may be. The enlightened minority is also impressive because of its educational efforts.

Yet my thoughts go back to a summer at Cranbrook. The various arts were not gathered under one roof, it is true, but they were under immediately adjoining roofs. What I remember is not so much the exact curriculum, and not only what happened in the working hours, but rather what happened between those hours: the congenial and rewarding contacts between designers of many skills at lunch tables, following the morning sessions; at dinner tables following the afternoon sessions; and after the voluntary evening work, those invaluable walks and conversations amid Eliel Saarinen's buildings and Carl Milles's sculpture.

Visualize such an art-center set, not in a comparatively remote countryside, but in the midst of a great university, such as Columbia. This center could work not only toward the goal of congenial collaboration between various arts, but toward all the other goals which have been mentioned: the grasp of the conserving and creative forces at their best; the wider understanding of "function"; the distinction between changeable and changeless factors, and between those suitable and not suitable to standardization and mass production; and finally the service not only to one student body and one city but to the nation. To assert man's right to the creative impulse and the free use thereof would at all times be invaluable; especially so today and to us, standing under the hydrogen sword of Damocles."



(Above) Section showing superior 5-ply construction of Farlite

tops. Core is staved lumber with hardwood cross banding. This

construction, used in finest cabinet work and flush doors, is ex-

tremely warp-resistant and provides extra smooth, flat surfaces.

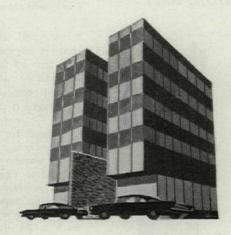
Farlite surface and backing sheets are Resin Bonded to the core.

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LOW FUEL COST. Temperature easily reduced in unused rooms. Also eliminates overheating.

adjustments of dampers, valves or orifices required to balance heating system. Each unit continuously regulates heat needed for each room. Automatically compensates for external heat sources such as fireplace or solar heat, without affecting temperatures of other rooms.

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EXCERPTS

Continued from p. 142

terest, real estate taxes and other fixed charges payable under the mortgage method. But by sale and lease-back there is involved no such cloud on the credit horizon as that occasioned by execution of bond and mortgage. It can be a good deal from every angle.

So much for existing buildings. Any wellrated concern interested in a new plant, store, warehouse, office building, etc., will do well to explore the possibilities of construction planned to fit their needs and title ownership reposing with investors content with a fixed rental under a long-term lease. Such a leaseholder will almost invariably find it a far better arrangement than any tying up of its own capital and credit in title ownership. Moreover, the idea can go beyond realty. One of the nation's leading corporations-in fact, one of the top tenleases automobiles for its traveling representatives rather than makes the capital investment.

ADVANTAGES TO TITLE OWNER:

The position of the title owner is relatively secure. He does not have to give the operation his personal attention. He can sit at home and collect his net rental, a fixed return on his investment. In some instances he may have arranged with the leaseholder for additional income in the form of a percentage of any increased net annual income over a stipulated amount, in which event both parties could have a share in added revenues.

If there is a mortgage on the property, and usually there is, the title owner pays the interest and amortization from the rental he receives—but this still leaves him a fair and reasonable return on his investment.

The mortgage payments by the title owner are reportable by him as income. However, he is permitted to deduct depreciation on buildings or other improvements from his taxable income. This depreciation may more than offset any portion of his taxable income represented by mortage amortization.

Ultimately the mortgage will be liquidated and he will own the property free and clear, besides having had a fixed and satisfactory return on his investment all along. With full liquidation or any substantial reduction of the mortgage he can well afford to pass along some of the benefit to the leaseholder in the way of reduced rental. In many such deals this is taken into account at the outset and provision is made for a reduced rental in any optional renewal of the leasehold after expiration of the original term.

ADVANTAGES TO LEASEHOLDER:

Inasmuch as such arrangements are almost invariably on a net basis, the leaseholder has agreed to pay all local real estate taxes and operating costs, make all necessary repairs and maintain the property in good condition. He is, of course, also obligated to pay rent to the title owner.

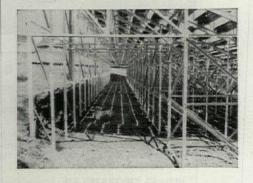
His position differs from the title owner's continued on p. 197



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- > sectional
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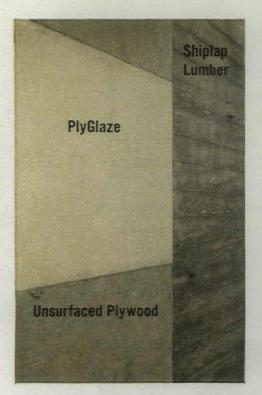


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EXCERPTS

considerably in that he does not enjoy a fixed income. If, for example, business declines and the building's income is reduced, the leaseholder continues to pay the fixed rental to the title owner. On the other hand, if he is able to improve the net income, the additional profit goes into his pocket—less any percentage thereof he may have agreed to give the title owner.

The rent paid by the leaseholder to the title owner is obviously deductible from his taxable income.

VARYING EXAMPLES:

It is not always necessary—nor always best—to sell and lease back the whole of a property. One may sell the land and retain the building. It is fully as practical for an investor to acquire title to land under an existing building, and lease that land to the owner of the building, as it is for a land owner to adopt the time-honored custom of giving a long lease—say 99 years—



580 FIFTH AVE.

to a builder. This is well illustrated in the case of the former Empire Trust Co. building at 580 Fifth Ave., New York—which case also offers a direct comparison with conventional first-mortgage financing.

My purchase price for this 33-story office building on 25,000' of valuable land was \$6 million-all cash. A conventional mortgage of \$3,750,000 was found to be readily obtainable from an insurance company. With interest and amortization totaling a constant of 6.5%-or about \$244,000 a year-the mortgage would be liquidated, fully paid up, in 27 years and 6 months. But there was a choice. I could sell the land under the building for the same \$3,750,000 and lease it back for 27 years at an annual ground rent of \$244,000, with optional renewals for extended terms thereafter at \$100,000 a year. The first method offered the security and pride of freeand-clear possession of this fine, well-located property in 27 years, the second only a stack of rent receipts and the privilege of paying \$100,000 from that time on.

To the surprise of all concerned the second method was chosen. Of the \$244,000 payable annually under the mortgage, an average of about \$139,000 would be applied to amortiza-

continued on p. 206



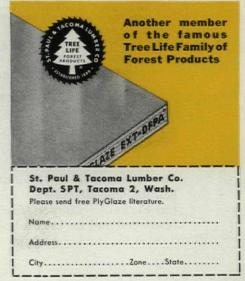
50 to 75 is a good average, but with care you can get up to...

200 RE-USES with PLYGLAZE

PLYGLAZE's tough, hard surface stands up indefinitely under repeated concrete pourings. PlyGlaze forms are worn out only when the panels are cut into unserviceably small pieces. With proper design and care you should get 50 to 75 re-uses. Actually, over 200 have been obtained—even then PlyGlaze continues to form good-looking concrete.

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UNI-FLO ENGINEERED

Air Distribution

Puts shoppers in buying mood at Burdine's . . .

Architects: WEED, RUSSELL, JOHNSON, AND ASSOCIATES. Interior Designer: RAYMOND LOEWY. Structural Engineers: NORMAN J

It isn't often that a mechanical engineer says "The equipment has usually exceeded the performance of published data." Yet that's the comment made after Uni-Flo equipment was installed throughout the beautiful new home of famed Burdine's in Miami Beach, Florida. Not only was performance above par, but, as can be seen below, the Venturi-Flo Diffusers are small and inconspicuous in appearance, harmonize with the decorated ceilings, are easy to adjust. Experience indicates, too, that Venturi-Flo Diffusers keep ceiling smudge at a minimum.

DIGNUM AND ASSOCIATES. Mechanical Engineer: R. L. DUFFER. Air Conditioning Contractor: HILL-YORK SALES CORP.



New, two-story building (83,400 square feet) covers approximately a city block, provides an ultra-modern, luxurious setting for Burdine's "Sunshine Fashions."

Entire store is air conditioned for shopping comfort. Venturi-Flo Diffusers distribute the conditioned air quietly, unobtrusively, efficiently.



Using from 15% to 100% outside air, the atmosphere throughout the building is kept fresh and inviting for personnel and shoppers, regardless of store traffic and weather conditions.

Venturi-Fio Ceiling Diffusers provide efficient diffusion, rigid construction, quiet operation, easily adjustable deflection and volume control, advanced styling.

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Round Ceiling Diffusers . . . an early pioneering success

Barber-Colman Company's entrance into the air distribution field twenty years ago started an increasing

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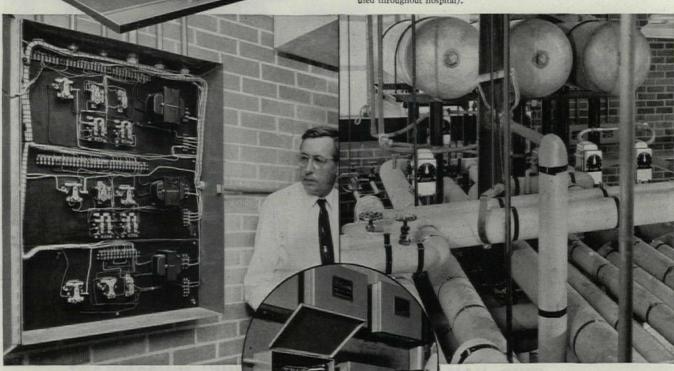
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better control...
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Crippled Children's Hospital

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Architects-Engineers: RICCIUTI, STOFFLE & Associates. Associate-in-Charge: J. BUCHANAN BLITCH. Structural Engineer-in-Charge: LOUIS J. ROSENBOHM, JR. Mechanical Engineer-in-Charge: ED. W. PENEGUY. Consulting Electrical Engineer: LOUIS N. GOODMAN & ASSOCIATES. Mechanical Contractor: Cabirac Mechanical Contractor: Cabirac Mechanical Contractor: Weisfeld & Son. Sheet Metal Contractor: BLATTMAN SHEET METAL WORKS (Uni-Flo Air Distribution Equipment used throughout hospital).



"Control Center" for completely automatic cooling, heating, rehumidification, reheating systems.

Serves as central junction box, houses prewired accessories and numbered terminal strips.

Left: Electronic "Control Centers" for five zones of radiant and convector heating. Above: Six Motor-Operated Valves (under expansion tanks) are positioned by outdoor reset controls.

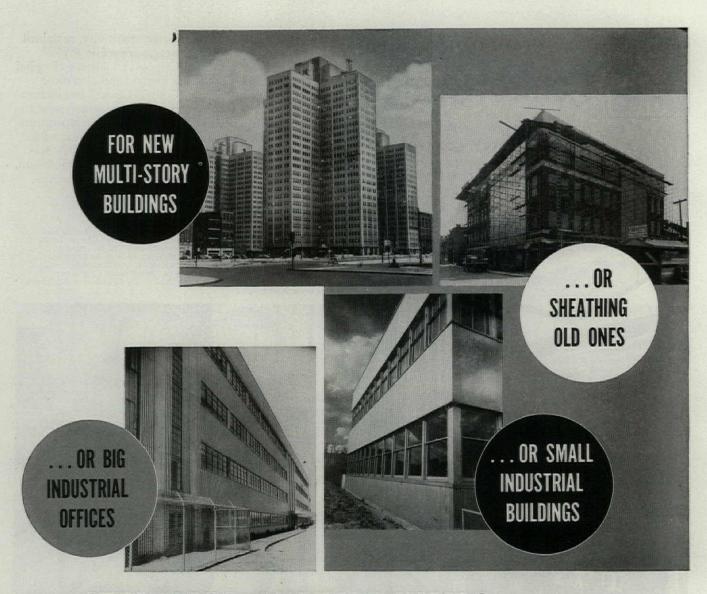
• Engineering of the remarkable indoor climate system in this hospital represents a milestone in conditioned air techniques. From heat treatment rooms to therapeutic pool facilities, from the gymnasium to the nurses' wing, practically every room had different temperature and humidity requirements. Even though every modern control feature was employed to solve these problems, the simplified automatic electric and electronic systems cost less to buy, operate, and maintain. You, too, can offer "better control . . . electrically!" Phone your nearby Field Office, or write us for data, prices, and expert engineering assistance on any automatic control problem.

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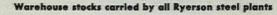
Compared to brick or masonry construction, stainless curtain walls present savings at every turn: in lighter foundations; in enlarged floor space; in fast all-weather erec-

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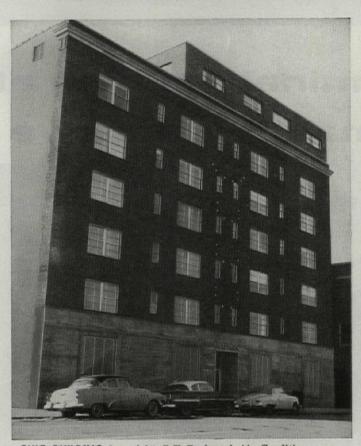
Our Engineering and Research Staffs, etc., are at your service—anywhere, anytime. • Let us work with you. Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pa.

Make it BETTER-and LONGER LASTING with Allegheny Metal





G-E packaged air conditioning enables architect to "stretch" rentable space



RULE BUILDING has eight G-E Packaged Air Conditioners connected to two forced-draft cooling towers in old elevator penthouse. Ripstra-Turner Company were the contractors for the conversion.

Putting air conditioning equipment in an existing building generally reduces net rentable floor space. However, when architect Robert Morris, of Wichita, Kan., finished converting the 7-story Rule Apartments to the Rule Office Building, he had actually *added* rentable space.

By putting 10-ton G-E Packaged Air Conditioners in small rooms formed by putting floors in old light courts, and a 7½-ton unit in the penthouse, he left the entire basement free for rental. Then, by equipping the packaged units with steam coils for winter heating, he gave each floor complete year-round control of its own "weather". By using the light courts, he was able to "stack" the units and save on piping.

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Write for complete architectural data.

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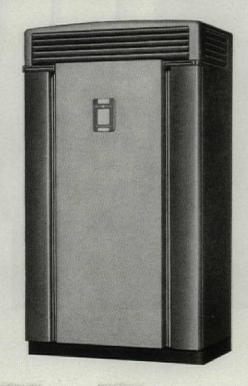
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Progress Is Our Most Important Product





BASICALLY CONSTRUCTED in the form of a modified "F"-with the two short arms representing the passenger loading piers—the main part of the new Philadelphia International Airport terminal building is three stories high, topped by a small fourth floor and control tower. This view shows the over-all field side of the terminal building, with its impressive application of Pittsburgh Glass. Architects: Carroll, Grisdale, and Van Alen, Philadelphia, Pennsylvania.



New Terminal Building at the makes extensive use



units are composed of two lites of glass-4" Solex® heat-absorbing, sun-glare-reducing glass on the outside, and " polished plate glass on the inside, with a sealed-in air space between them. Solex-Twindow units are noted for their ability to reduce substantially the load on the air-conditioning system; they cut down on room-side condensation, minimize cold air downdrafts.

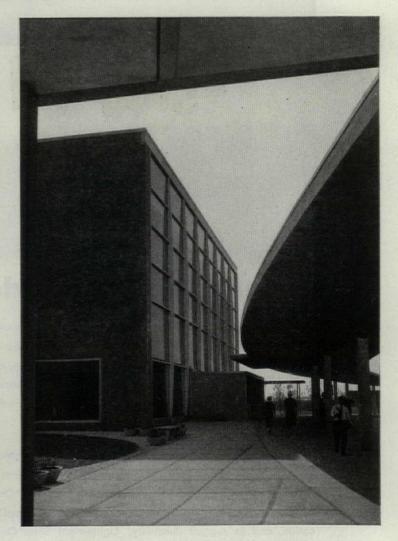
Design it better with Pittsburgh



Philadelphia International Airport of PITTSBURGH GLASS



FRONT LOBBY of this new airport building, with its 41-foot ceiling, is entirely glazed with Pittsburgh's Solex-Twindow units. This means the maximum in glarefree daylighting, as well as added comfort for passengers and personnel.



THE COMBINATION of the sweeping overhead canopy and the soft, greentinted Solex in the windows emphasizes the graceful lines of the exterior . . . achieves a modern, functional environment.

Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 6a, 15d, 20, 12e, 15a.

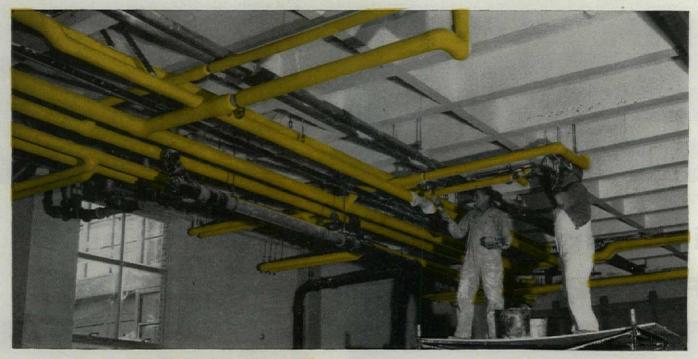
Glass



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PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



megnapion saves b.t.u's in



America's most modern research institute...

Take a good look at the country's most modern research institute, soon to be completed in Kansas City, Missouri. It's the new building of the Midwest Research Institute, a non-profit organization that in the last decade has made outstanding contributions to the development and growth of midwestern industry and agriculture.

Heated piping in the new M. R. I. building* is insulated with G-B Snap*On, the new one-piece molded pipe insulation of fine glass fibers. Highlight features of Snap*On are its superior thermal efficiency, extreme ease of application, and its rugged durability. Lightweight Snap*On, in 6-foot sections with a single seam, were snapped on

the pipe in a fraction of the time it takes to apply conventional segmented insulations. There was virtually no waste or breakage, for Snap*On is a rugged, resilient material that will not chip, flake, break or crumble.

Snap*On is available in sizes from ¾" to 33", and in varying wall thicknesses. If you have a job on the boards that calls for insulation of chilled or heated piping where temperatures do not exceed 350°F., see Sweet's File (Architectural) for complete data on this revolutionary new pipe insulation. Or better yet, call your local G-B distributor who maintains local stocks of Snap*On. He's listed in the Yellow Pages in 57 cities.

*Architect: Neville, Sharp & Simon; contractor: Collins Construction Co.; insulation contractor: Kelly Asbestos Co; mechanical engineers: Howarth, Scott & Kinney.



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Advance originates compact, light-weight Lead-Lag slimline lamp ballast design.

Improved Series - Sequence slimline lamp ballast design created by Advance engineers.

Advance Series-Sequence design becomes standard for the lighting industry.

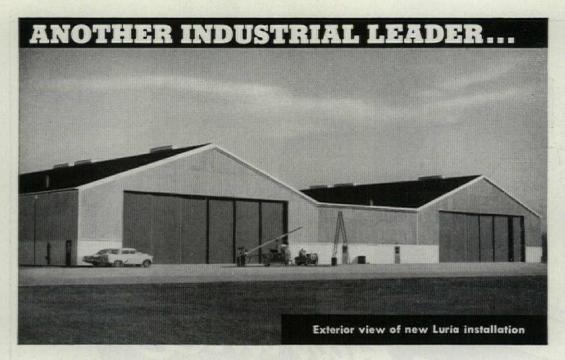
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Origination by Advance of revolutionary 96-T-12 Rapid Start lamp ballast. More compact...lighter in weight... maximum efficiency.

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architectural FORUM / March 1955



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One of the primary reasons why Luria Buildings were selected by Bell Aircraft . . . and became a vital part of the world's most up-to-date facilities for manufacturing helicopters . . . was because these standardized buildings of structural steel components surpass the requirements called for in the building codes.

But permanency of structure is just

one of many assets provided by Luria. Among the others are adaptability and a flexibility of design that make possible almost any type of structure and almost

any type of architectural treatment. As a result, Luria Buildings can be "custom-built" to your *individual* requirements... without sacrificing the advantages of standardization.

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EXCERPTS

Continued from p. 197

tion, which would be reportable income, even though the money simply whisked through my bank account to the mortgagee. The net cash income of the building to me after paying interest, amortization, other fixed charges and operating expenses would be \$400,000 a year, but income tax would be payable on \$539,000.

On the other hand, when paid as rent the entire \$244,000 was deductible from taxable income. As between a taxable income of \$539,000 and one of \$400,000, the difference represented by the average amortization would mean a tax payment of, roughly, \$70,000 annually on income that could not be retained. A little figuring with the aid of the compound-interest table will demonstrate that \$70,000 a year set aside and conservatively invested at 4½% would amount to \$3,450,000 in 27 years.

Should obsolescence overtake the building who knows but what, 27 years hence, an owner needing capital might have difficulty in mortgaging for \$3,450,000, or be put to the cost of demolition in order to utilize the value of his land? On the other hand, should the building retain an approximation of its present desirability for 27 years, which seems within the realm of probability, the income over fixed charges and operating expenses, at or near present rentals, could be well over \$600,000. A leasehold at \$100,000 a year would then be a valuable holding indeed, and a readily salable one.

Of the \$3,750,000 added capital made available, about \$400,000 was spent on the building in air conditioning, general modernization, and in creating an additional floor in the formerly high-vaulted banking quarters. These improvements brought substantial additions to the rent roll, gave the tenants increased convenience and efficiency, and served the business community by adding rentable area in a time of dire need for office space. It was a good deal all around.



STATE-MADISON

ON LEASED GROUND:

That the sale and lease-back arrangement is quite practical where an improvement stands on leased ground is shown by the State-Madison building (the former Boston Department Store) in Chicago. Incidentally, this property also illustrates syndicate participation, for

continued on p. 210



CHASE copper drainage tube fits within standard partitions!

For a neater, more compact drainage installation, insist on *Chase* Copper Tube for soil, waste and vent lines.

Chase 3" Copper Drainage Tube fits within standard partitions, eliminates the need for costly and unsightly furring-out construction that's required with ordinary drainage materials.

The smooth inside surfaces of Chase Copper Drainage Tube and Solder-Joint Fittings permit fast, even drainage...there are no internal projections to form waste-trapping pockets. And, of course, *copper* can *never* clog with rust!

What's more, because *installation* costs are lower, the *total* cost of a quality Chase Copper Drainage System is little or no more than the cost of an ordinary system.

Chase Copper Drainage Tube and Solder-Joint Fittings can mean a *quality* job at little or *no* extra cost. When planning, be sure to specify *Chase!*

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Chase Copper adds <u>extra</u> <u>value</u> to any home!

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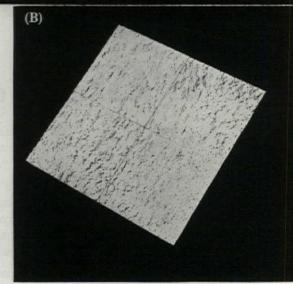


The beautiful way to quiet a room is with these U.S.G. acoustical materials

- (A) CORRUTONE—an entirely new concept in ceiling construction. Consists of a perforated, electro-galvanized, bonderized enameled steel panel upon which rests a fire-resistant, highly sound-absorbent mineral wool pad. It's economical, adaptable, easily maintained; has a .85 NRC. Striking in its simplicity, CORRUTONE enhances almost any architectural design.
- (B) Acoustone*—the original fissured, mineral acoustical tile that offers extraordinary beauty and sound absorption. It's incombustible, highly light-reflective, washable; can be painted repeatedly without loss of efficiency.
- (C) MOTIF'D* ACOUSTONE—in many distinctive designs that enable the architect to create ceiling effects of unique beauty. It's made by a special patented process exclusive with U.S.G. Shown here is the handsomely textured Striated pattern, one of an exciting new series of designs.

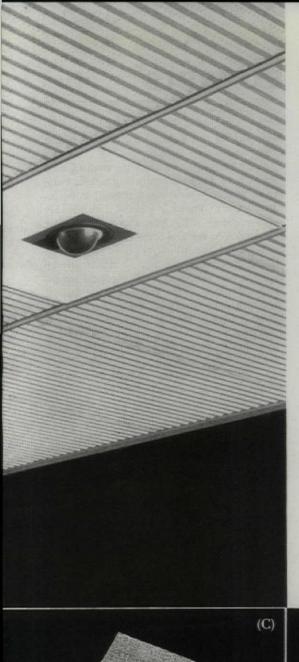
Another highly efficient acoustical tile is Auditone.* A lightweight, low-cost wood fiber tile, it's light reflective, easy to maintain, paintable.

- (D) SLOTTED AUDITONE—many unusual ceiling effects, complementing most any interior design, can be achieved from this one pattern.
- (E) PERFORATED AUDITONE—provides a clean, functional pattern.





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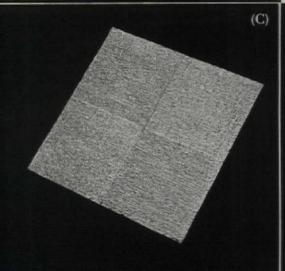
Sound control is fundamental in today's building design. Architects everywhere turn to United States Gypsum for sound control products to meet their requirements.

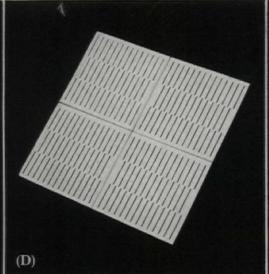
Skilled applicators using U.S.G. systems and methods can choose and erect the proper material in the most satisfactory and economical way.

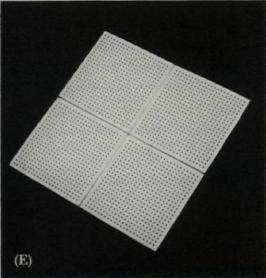
Sound control is a job for experts

Contact your nearby Acoustone tile contractor, or write United States Gypsum, 300 W. Adams St., Chicago 6-a staff of sound control experts is at your disposal for consultation. Refer to Sweet's Catalog, Section $\frac{10a}{Uni}$ for technical information.

*T.M. Reg. U.S. Pat. Off.







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1. DIGEST OF PRACTICAL ACOUSTICS. A 64-page book, showing examples of sound control in all types of structures, plus valuable installation and maintenance data. 2. ACOUSTICAL HANDBOOK FOR ARCHITECTS AND SPECIFICATION WRITERS. An encyclopedia of application procedures with suggested specifications. 3. MAINTENANCE INSTRUCTIONS for acoustical ceilings.



United States Gypsum Company Dept. AF-1, Chicago 6, Illinois Gentlemen: Please send me the following FREE literature:

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ADDRESS



LOMA LOOM CAN'T BE PERMANENTLY DAMAGED

There is no such thing as a permanent stain, cigarette burn or scuff damage in LOMA LOOM carpet.

Just cut out the damaged section and replace it with a new piece the same size and shape. No one can tell where the repair was made.

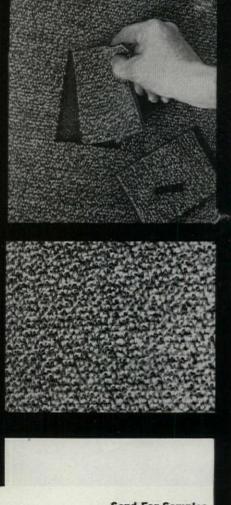
Amazing? That is only one of the reasons for the popularity of LOMA LOOM carpet. In addition, LOMA LOOM — a tough Nylon and sturdy wool blend with a built-in sponge rubber cushion — is both noise proof and shock proof; it retains and radiates heat.

LOMA LOOM is economical to install, and it can be laid over cement, tile, sub-flooring or plywood.

LOMA LOOM The Carpet With The Built-In Sponge Rubber Cushion

NU-TREND In Custom-Dyed Colors

SUPER The Ultimate In Quality



Send For Samples

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SIDNEY BLUMENTHAL & CO. INC

EXCERPTS

Continued from p. 206

after buying the building I sold it to such a group and leased it back.

The structure has a rentable area of over 1 million sq. ft., accommodating a wide variety of tenants-some large enough to be internationally known, others considerably smaller. Some of the land under the building was owned in fee and some held under longterm lease from the city. However, a \$9 million first mortgage was obtained on the building and that portion of the land owned in fee. This of course facilitated the sale of my remaining equity to the syndicate that leased it back to me. As the lease was for a fixed rental, with no provision for participation by the title owner in possible added revenue, any increase in the building's \$2,500,000 gross annual rental income redounds entirely to the benefit of the leaseholder.



42 BROADWAY

DEPRECIABLE LEASEHOLD:

New York's 42 Broadway is a 21-story office building with a gross rent roll of \$970,000 annually. Encumbered only with a first mortgage of \$1 million, it was owned by Charles F. Noyes. Mr. Noyes wanted \$4,-200,000 for the property, and was willing to accept a purchase-money second mortgage for \$2,200,000. With examination of the financial setup showing that the property would earn \$260,000 a year after servicing both mortgages, I paid \$1 million cash for the title. At practically the same time I sold this million-dollar equity to an investor for \$650,000 on condition that he would lease the property back to me for \$100,000 a year. At first blush this may look like an outright capital loss of \$350,000; however, it meant acquisition, at that figure, of a leasehold returning an annual net profit of \$160,-000. Moreover, quite a chunk of that annual profit could be offset by depreciation. The leaseholder cannot deduct depreciation on the building or on anything else that he doesn't own, but Uncle Sam quite fairly and correctly permits the cost of the leaseholdin this case \$350,000-to be depreciated annually for tax purposes by a figure equal to the \$350,000 divided by the number of years in the lease.

The fact that I subsequently sold my leasehold is beside the point, but it seems continued on p. 214

Sinclair Oil's New Chicago Headquarters - Completely Sound Conditioned with Acousti-Celotex Tile



Lighting and air conditioning also included in integrated* system

John W. Galbreath & Co., Inc. has gone allout for employee effi-

ciency and comfort in this outstanding new Chicago office building. Throughout the 200,000 square feet of the building, Acousti-Celotex Mineral Tile traps machine clatter and voice chatter, reduces routine noise in general and private offices and corridors. For the Sinclair Oil Company and other tenants, this means that errors will be reduced, over-time lessened, productivity increased.

Low in Cost — Easily Maintained — Acousti-Celotex Tile provides economical sound-conditioning. No special maintenance is required. Beauty and cleanliness add to the advantages of highly effective sound-absorption. Acousti-Celotex Tile can be washed *repeatedly*, painted *repeatedly* without loss of sound absorbing efficiency.

*Acousti-Celotex incombustible Perforated Mineral Tile is installed on the Celotex Acousti-Line® Metal Suspension Ceiling, where Tile, light fixtures and air diffusers become interchangeable parts of the ceiling. When a new layout is desired, units can be quickly relocated . . . economically!



of Acousti-Celotex products, please write to The Celotex Corporation, Dept. A-35 120 S. La Salle Street, Chicago 3, Illinois.

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Select SHERARDUCT

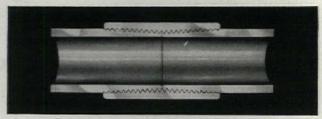
Galvanized Steel Conduit at its best

Don't let your clients face the costly problem of corroded conduit sometime in the future. Take care now. Install a conduit system that gives wiring lifetime protection . . . National Electric Sherarduct Rigid Steel Conduit.

NE's Sherardizing process permanently fortifies Sherarduct against rust and corrosion. Sherardizing actually alloys a zinc coating to the steel conduit providing 100% protection that includes every hill and valley of every single thread. This is galvanizing at its best.

Consider NE's baked-on Shera-enamel for added corrosion protection, Sherarduct's tight, butted joints and easy bending, working, and fishing qualities, and you've got the answer to why Sherarduct is galvanized conduit at its best.

If you're responsible for specifying long-lasting, economical protection for electrical systems in office, factory or home, *be sure* with National Electric Sherarduct Rigid Steel Conduit.



Coupling threads and surfaces fully zinc protected.



Works and fishes easily . . . bends without flaking.

EVERYTHING IN WIRING POINTS TO

National Electric Products

PITTSBURGH, PA.

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Quickly converts your present boiler to automatic firing

LOW FIRST COST

This Petro package unit is much more than a conversion burner. It is a *complete* combustion system in which all elements are correctly balanced—and integrated—a thoroughly engineered firing plant.

Includes burner (for oil, gas or combination oil-gas), fuel system, forced draft air supply, control panel, and preformed refractory combustion throat. Installation requires little more than bolting the entire unit to the boiler-front, and making safety and service connections for power and fuel.

ENCLOSED CONTROL PANEL

Neat, safe, and complete—the Petro control panel is totally enclosed with all instruments wired and tested at the factory. Can be attached to frame as shown, turned 90° or 180° or mounted elsewhere in the boiler room.



Over 50 years of leadership in automatic heating and power equipment

LOW FUEL COST

OIL—Petro's highly efficient horizontal rotary oil burner is adaptable to the entire range of fuel oil grades. Exclusive Petro Thermal Viscosity System automatically heats the heavier oils before injecting into atomizing cup. Assures quick pickup with sure and economical firing of lower cost fuels.

GAS—Designed for all types of gas—high or low pressure—the Petro circular arrangement of multiple gas jets provides a thorough mixing of gas and air *ahead* of the combustion zone. A real fuel saver. Adaptable to steady or fluctuating load requirements.

COMBINATION OIL-GAS—In one compact unit. Gives alternate stand-by fuel and permits taking advantage of fuel price fluctuations. Fuels can be switched in a matter of seconds.

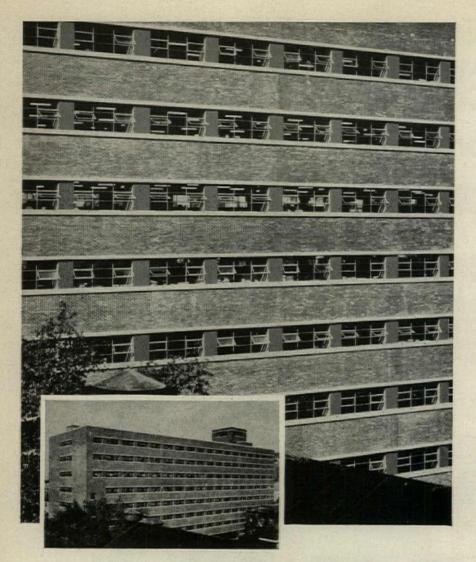


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Please send me literature and specification sheets or the money-saving Petro Package Unit.

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For mullions, spandrels, and trim.

With Alberene Stone - in tones that range from silvery gray to dark gray; greenish blue to black; and jet black.

Alberene Stone — the natural silicate stone — offers durable "dark accent" beauty. Its low absorbency, fine grain and absence of stratification prevent chipping and cracking in freezing weather. Its all-silicate mineral components resist chemical attack and loss of surface polish.

Alberene Stone can be cut into sections as thin as $\frac{7}{8}$ " and $\frac{11}{4}$ ". It offers designers economy, and increased flexibility in design—such as greater depth of reveal in spandrels.

For information and technical assistance, address: Alberene Stone Corporation, 419 Fourth Avenue, New York 16, N.Y.

ALBERENE STONE

provides LOW ABSORBENCY protection

EXCERPTS

Continued from p. 210

pertinent to mention here that, to be depreciable at such a rate, the initial term of a lease with optional renewals should be long enough to indicate good faith taxwise. For example, with an initial lease term of five years and a succession of optional five-year renewals the Bureau of Internal Revenue would look with a critical eye—and justly so—on any attempt to depreciate the full value of the leasehold in five years.

The first and second mortgagees are getting precisely what they asked for in the way of security and return; they are presumably well content. The title owner who gets a fixed annual return of close to 15.4% on his \$650,000, without any effort or worry on his part, and with the privilege of offsetting that return for tax purposes by an annual depreciation of 2% on the full value of the building, should be very happy indeed. I am thoroughly satisfied with the profit rung up on my sale of the leasehold. The present leaseholder, with a net return of \$160,000 a year, against which he may charge depreciation of the cost of his leasehold, has an investment that is undoubtedly much to his liking. The building's occupants should be happy that a sound financial setup will assure adequate maintenance and efficient operation.

THE ARRANGEMENT IN REVERSE:

Instances may arise where, rather than acquire a property with a view to reselling and leasing back, it will be preferable to acquire the leasehold and then the fee. Such a case appears in the former S. W. Strauss office building at 565 Fifth Ave., New York. There we purchased a leasehold, the land having been owned by the Gerry estate over a long period of years. Thorough examination of the tax structure disclosed some factors we thought needed correcting, and we found the same feeling to be true with regard to certain features of the lease. So we entered negotiations with the Gerry estate for the land. Upon finding that the purchase could be financed by a mortgage at 4% interest, with a moderate amortization rate, we bought the ground under the building. For the first time ownership of land and improvement became merged. Thereafter certain changes were made in the building and some of the rents adjusted so that the property could be set up for a sale and lease-back arrangement, with the land once more divorced from the building.

As a matter of fact, we have found that a custom-made lease, tailored to fit the circumstances of a particular case, with adequate renewal options, is tantamount to ownership. Such a lease may well provide for periodic rent-reduction benefits to the lease-holder based on capital accumulation and reduced interest charges for the title owner as a result of amortization. By assuring the title owner a fixed income, against which depreciation may be charged, the property is set up for a sale by him of either land or improvement or both, as he may wish, to a life insurance company or some other reservoir of the public thrift.

Excerpts continued on p. 218

SCHOOLS:
San Gabriel, California

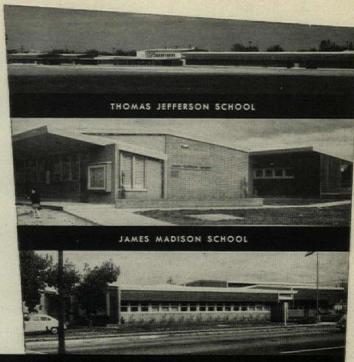
ARCHITECTS:
Kistner, Wright & Wright, Los Angeles

MECHANICAL ENGINEER:
Chester D. Walz, Los Angeles

Janitrol gives clean, quiet heating for these schools

More than ninety schools by this architectural firm and mechanical engineer use this forced warm air system of heating that proves to be most functional and economical.

Each room has its own gas-fired conditioner located in a corner closet. This permits individual temperature control for each classroom, according to the student activity.



CALVIN COOLIDGE SCHOOL

Over 4,000 Janitrol furnaces installed

in schools in Southern California since 1948 meet the requirements for quietness, good ventilation and uniform heating; and the extra filter capacity means cleaner air. Also, the schools appreciate the minimum of maintenance and the long life Janitrol gives them.

For design and specification information, write for A. I. A. Files on Commercial and Industrial Gas Heating.



Janitrol Heating & Air Conditioning Division
Surface Combustion Corporation, Columbus 16, Ohio
West Coast: Natural Gas Equipment Co., Pasadena



Exterior of corner cabinet containing room conditioner. The two warm air outlets are shown above the woodwork, air return is below access door.

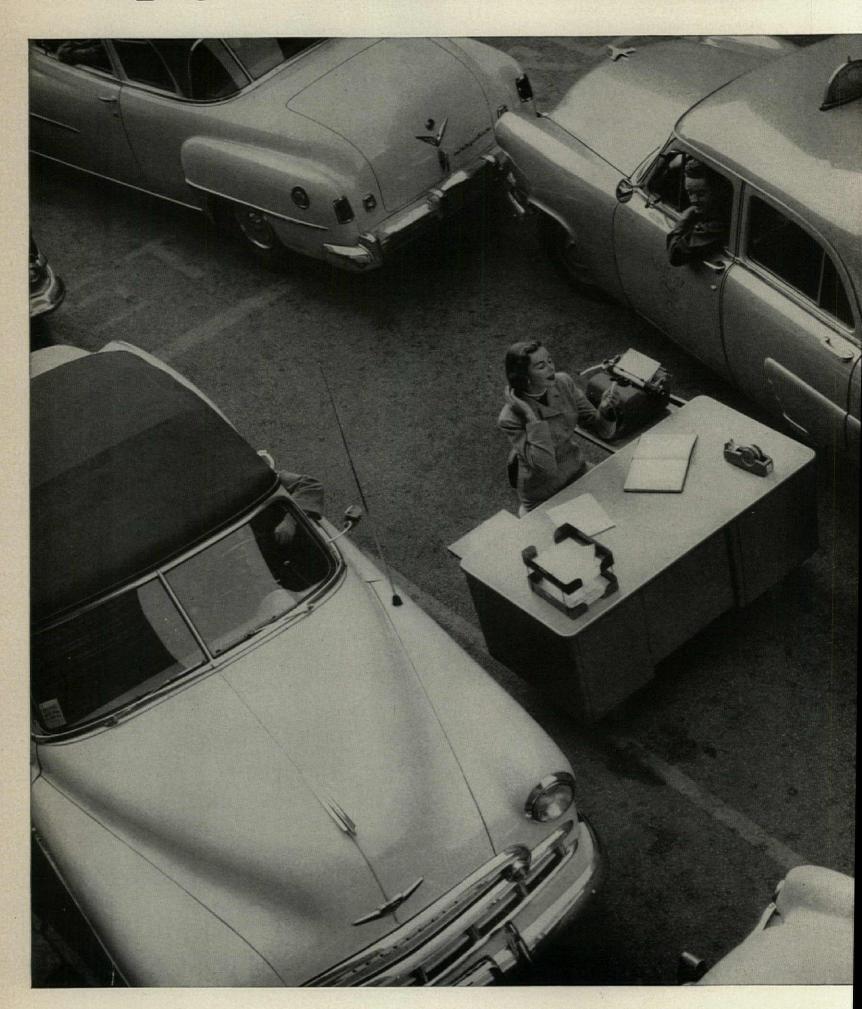


Inside, the compact Janitrol conditioner is completely accessible from the front . . . an outside air inlet supplies combustion air.

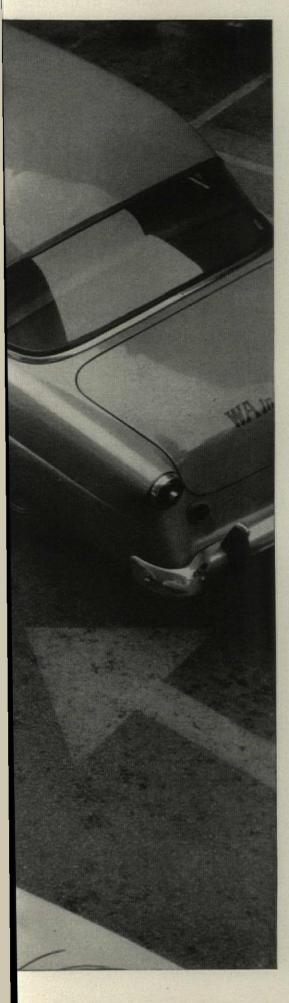
for better design . . . see an architect

ALSO MAKERS OF Surface INDUSTRIAL FURNACES AND Kathabar HUMIDITY CONDITIONING

Keep your client's employees



out of the traffic stream!



This illustration is not exaggerated when you think of working conditions in thousands of offices which do not use partitioning for privacy and efficiency.

To help you give your clients more productive, livable offices at the lowest cost, Virginia Metal Products does this:

1. VMP sells the advantages of properly designed working areas.

For example, VMP offers ratio-delay studies which accurately rate office efficiency. These reports are before-and-after studies of firms who have installed VMP MOBILWALLS to eliminate their traffic stream problems.

A recent study for a radio-tv representative who installed VIRGINIA METAL PRODUCTS MOBILWALLS shows that—

- Office Productivity increased 30%
- Delays and Lost Motion were cut 58%
- Time devoted to Distractions and Correction of resulting Errors was cut 55%
- The VMP MOBILWALL installation added as much to the work output of the office as could have been added by a 30% increase in employees and payroll!

These studies are available for your use.

2. VMP works with you to improve the quality and service on VMP MOBILWALLS.

VMP is a can-do company. Our sales representatives and factory engineers make your sales and design problems their problems. Their purpose is to give you more help, more experience, more skill in the handling of your specifications.

... and do it best with metal, movable VMP MOBILWALLS

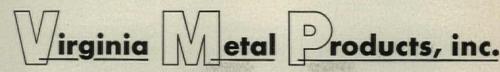


3. VMP MOBILWALLS have modern styling for executive and clerical offices. They fit perfectly and are expertly finished. Colors are restful and permanent. Surfaces never chip, warp or crack—are washed clean with soap and water. Because they are metal, with many distinctive locking features, VMP MOBILWALLS can be moved at anytime to suit changes in floor plans.



4. INSTALLATION TAKES A FEW HOURS, with skilled erection crews part of VMP's service. Working out of nearby warehouses, VMP crews save your time and the client's money. You get exactly what VMP engineering originally promised to deliver...the best solution to designing more productive, livable offices...solved permanently with metal, movable VMP MOBILWALLS!

Interested? Write to Dept. AF-3 for complete, illustrated literature.



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The ideal unit for hotels, hospitals, office buildings, motels and other multi-room installations. BUSH Remote Type Units, featuring individual room control, provide heating, cooling and circulation of filtered air. Available in vertical or horizontal models.

ADVANTAGES ...

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- Low noise level, quiet operation. 2speed fan motor.
- Fan, motor and drain pan is one complete assembly, easily removable for cleaning and maintenance.
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- Easily installed. Units are reversible, vertical units can be installed left or right hand without changes.
- Coil is properly baffled to insure against any by-passing of air. Internal parts are completely covered with a rubber-based undercoating.
- Auxiliary drain pan permits easy connections to drain line.
- Filter is easily removable through the bottom opening. No dismantling of the unit is required.

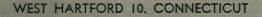
Request free descriptive literature.







BUSH MANUFACTURING COMPANY





EXCERPTS

Continued from p. 214

Swimming pools—size and cost

Excerpts from an article by George D. Butler in the January issue of Recreation, published by the National Recreation Assn.

It is estimated that the number of pools in America, exclusive of private-estate pools, increased from 8,200 to 13,300 during the last six years.

The National Recreation Assn. has long proposed that a city provide outdoor swimming space—in pools or beaches—to take care of 3% of the population at one time, allowing 15 sq. ft. of water area per person. The Tile Council of America suggests typical pool sizes for communities varying from 4,000 to 90,000 population; these range from 600 sq. ft. per 1,000 people in the former to 320 sq. ft. per 1,000 in the latter.

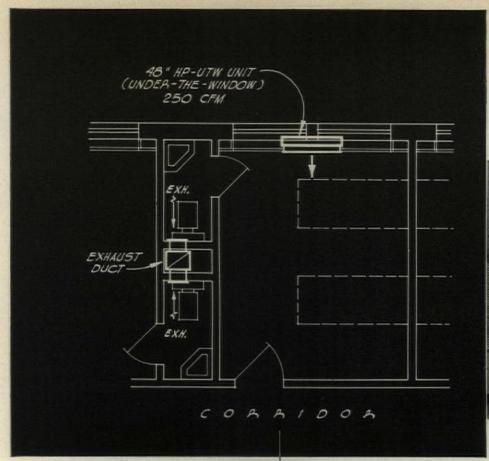
The need to qualify any formula for determining the size of pool a city needs is illustrated by the situation in Levittown, L.I., a new community of nearly 80,000 people. It has nine outdoor pools, each 75' x 125', or more than 1,000 sq. ft. of pool area for each 1,000 people. This amount is far in excess of suggested standards. In spite of this, and of the fact that Levittown is only a few miles from the exceptional bathing facilities at Jones Beach State Park, the pools are so popular that it is often necessary to close the gates to prevent overcrowding.

POOL SIZE. The estimated number of persons who are likely to use the pool for various types of activities must be taken into account in calculating the required size. A frequently quoted study of pool attendance, made at Iowa State College, indicates that:

- The smaller the community, the larger the proportion which will use the pool.
- 2. For cities under 30,000 the maximum daily attendance will be between 5 to 10% of the population.
- 3. The average daily attendance is about 2 to 3% of the population.
- 4. Maximum daily attendance at any one time is about one third of the daily attendance.
- 5. Maximum daily attendance will generally be two to six times the average daily attendance.
- 6. The attendance at any one time on maximum days is about the same number as the average daily attendance.

One consulting engineer has determined that the people of a given community with suitable pool facilities may be expected to take a total number of swims equaling twice the total population. He estimates that the

continued on p. 222

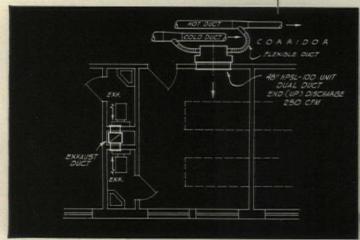


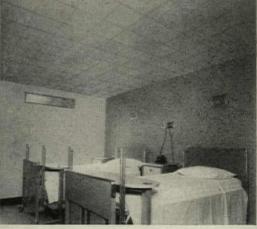


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Perlite-concrete design

LIGHTWEIGHT INSULATING FIREPROOF CONCRETE ROOF DECK SPECIFICATION MANUAL—By Dale A. Lehr, 218 pp. Perlite Division, Great Lakes Carbon Corp., 612 So. Flower St., Los Angeles 17, Calif. Limited free distribution.

Building designers will find very useful this new manual on perlite concrete for roof decks, in which, for the first time is taken an authoritative and sound engineering approach to a subject of growing importance. The book contains numerous tables and diagrams of roof construction that simplify design. A looseleaf binder enables supplementary information to be added later, when available.

Perlite aggregate, formed by "popping" a siliceous volcanic rock at 1,500 F, weighs less than one-tenth as much as sand or gravel. It can be used alone as a non-structural insulation fill or mixed with portland cement and water to form a lightweight structural concrete of high insulative value. The book presents data for both types of application.

Design tables in the manual enable a designer to pick out the thickness of roof deck required for various mixes to obtain a desired overall insulation value. The compressive strength of the slab also is given, thus enabling the designer to check the thickness for load-carrying capacity.

The tables give coefficients of heat transfer (U-values) for slabs on permanent forms of various types, on metal lath and on paper-backed wire mesh. The effect of ceilings is taken into account. Accompanying drawings show details of the various types of construction.

Also included in the manual are typical specifications and recommendations for mixing, handling and testing perlite concrete, technical data for subpurlins and a discussion of commonly encountered problems, with suggestions for avoiding or correcting them.

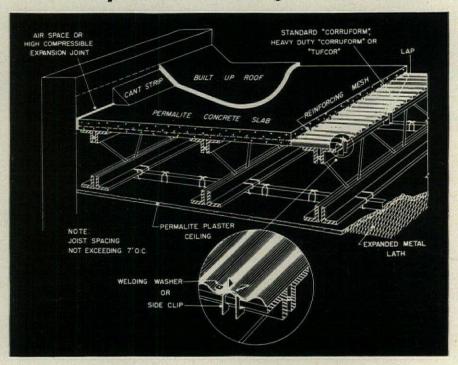
"Engineering News-Record" 6/29/54

This Solid Engineering Information Can Save You Hours on Every Job. Don't Delay—Write Today for Information on How to Get Your Copy of the Permalite Roof Deck Manual!

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Lightweight Insulating Concrete Roof Deck Construction

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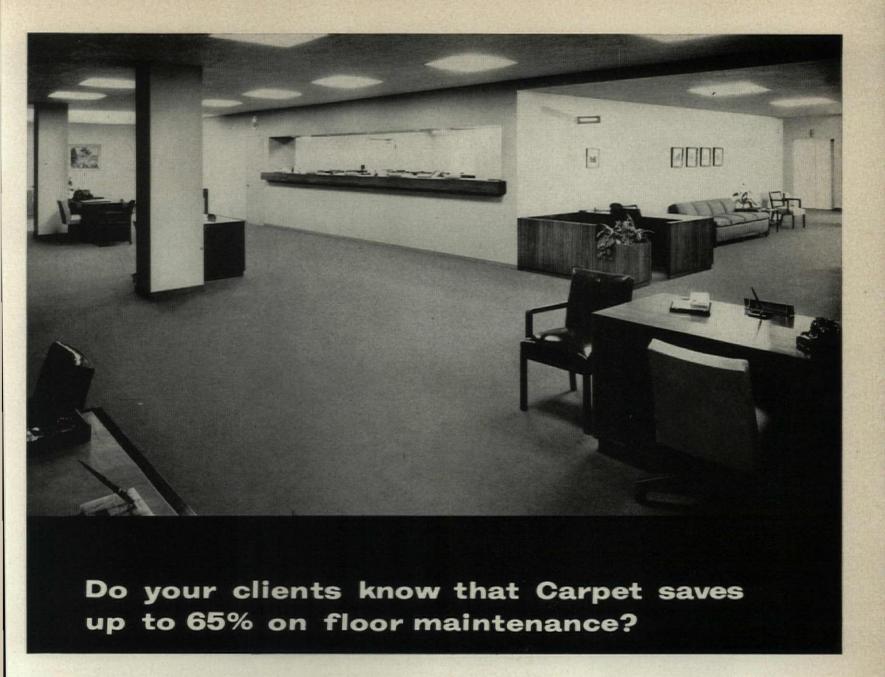


The big, new Permalite Roof Deck Manual gives you, for the first time, complete, factual, reliable data on the use of lightweight, insulating concrete in open-web roof deck construction. Leading architects and designers agree that this 220-page volume provides complete engineering information in easy-to-use form . . . all the different roof forms and types of suspended ceilings, with page after page of tables on slab thickness, weights, strengths and U-factors, already worked out for you to make specifying quick, easy and accurate. You can get this authoritative handbook, packed with usable, every-day working information, from the Permalite franchisee serving your area — for his name and address

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Perlite Division, Great Lakes Carbon Corp., 612 So. Flower St., Los Angeles 17, Calif.



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Elkhart 1, Indiana

EXCERPTS

Continued from p. 218

total swims per season will represent the equivalent of 20 peak-load days, although it may reach the equivalent of 25 or 30 peak-load days in municipal pools.

C. P. L. Nichols, municipal supervisor of aquatics in Los Angeles, allows 15 sq. ft. for each bather and 30 sq. ft. for each swimmer. He defines a person using water less than 5' in depth as a bather and one using water 5' or deeper, a swimmer. His total is multiplied by the number of shifts or peaks per day to determine the total daily capacity of the pool. This formula allows more space per patron than the standard proposed by the American Public Health Assn., which estimates that 27 sq. ft. of water 5' deep or more or 10 sq. ft. of shallower water is required for each person in attendance at the pool at one time, whether in the water or not. This standard when applied to pools with 75% or more of the area less than 5' deep calls for about 12 sq. ft. for each person in attendance.

POOL COSTS. The National Recreation Assn. made a study of swimming-pool costs in 66 cities that constructed outdoor pools between 1948 and 1952. It revealed that the pools, not including bathhouses, cost on the average between \$12 and \$12.50 per sq. ft. of water surface, with a median cost of \$12.04 per sq. ft. The average cost of 60 pools, including bathhouses, was \$16.61 per sq. ft. of water surface, with a median cost of \$15.98.

A 1954 study of outdoor pools, conducted by the Conference for National Cooperation in Aquatics, covered the cost of 63 pools, not including bathhouses, built between 1948 and 1954. The average cost per square foot of water surface for pools with less than 4,000 sq. ft. was \$15.30 and for pools with 4,000 to 6,000 sq. ft., \$11.46 per sq. ft. For larger pools the average costs for three groups were \$12.28, \$14.65 and \$10.90, respectively.

The Charles M. Graves Organization, park and recreation engineers of Atlanta, has worked out the following schedule for estimating pool costs which include the pool with its fittings, underwater lights, fencing, deck and mechanical equipment—everything but the bathhouse itself:

Size of pool in sq. ft.	Cost per sq. ft.
0- 4,000	\$11-\$12
4,000- 5,000	10- 11
5,000- 6,000	9- 10
6,000- 7,000	8- 9
7,000- 8,000	7- 8
8,000-14,000	6-

It is estimated in 1953 that a well-constructed bathhouse could be built for about \$12 per sq. ft.

Kenneth H. Larkin, pool designer of Kansas City, offers this estimate of costs of swimming-pool projects, including the pool and bathhouse completely equipped and ready for use:

Size of pool in sq. ft. Cost per sq. ft.

1,800 \$16.67

4,000 15.25

9,000 12.22

Excerpts continued on p. 226

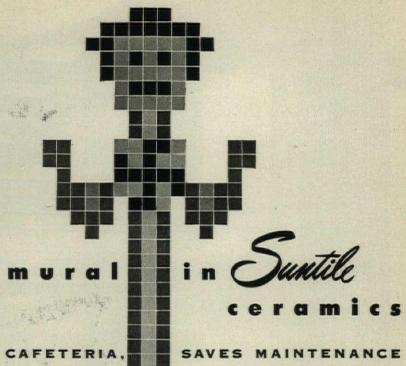
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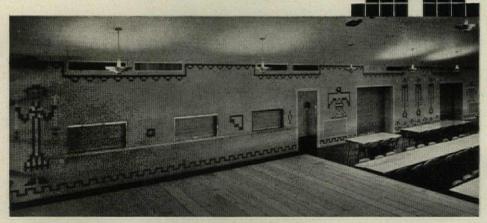
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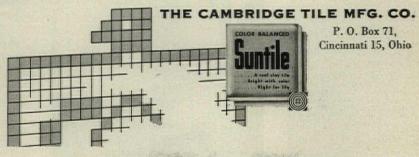
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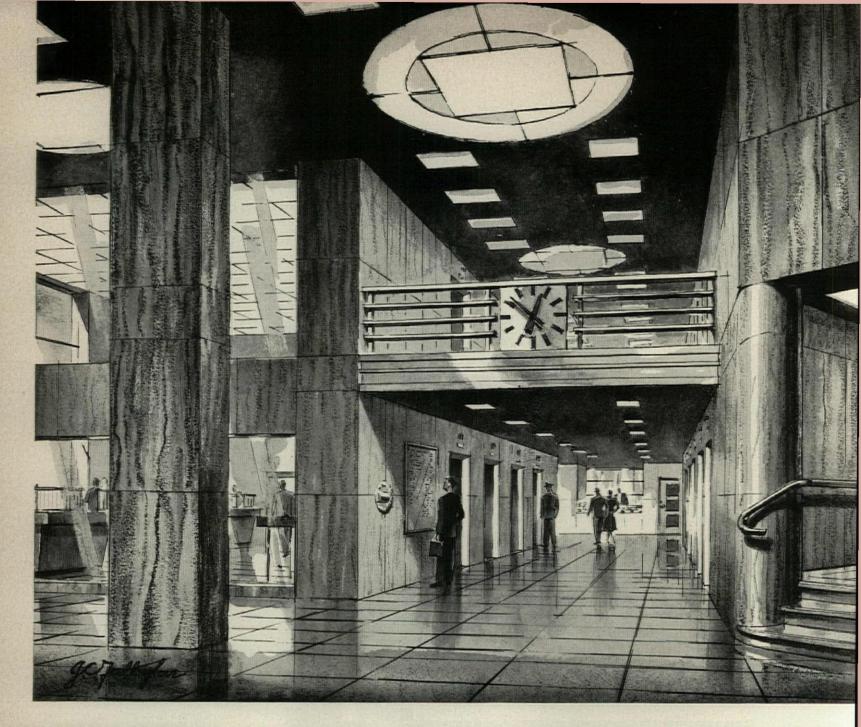
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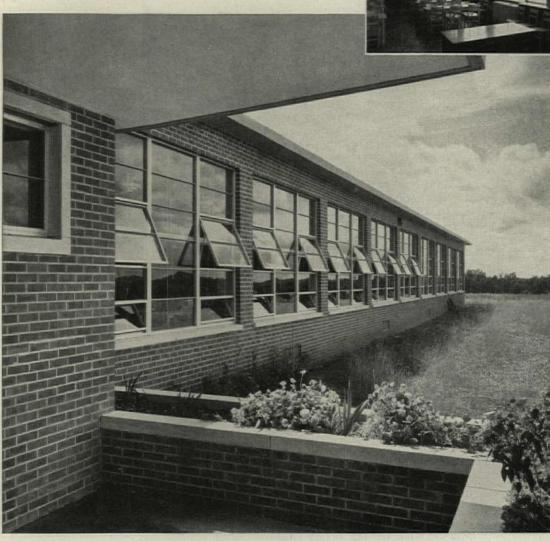
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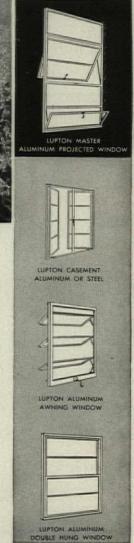
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EXCERPTS

Continued from p. 222

Ten principles of good lighting

Excerpts from the conclusions of Digest No. 70, published by Britain's Building Research Station

- 1. We see better the more light we have. Adequate visual performance is achieved if about 10 lumens per sq. ft. are provided for casual or intermittent tasks, and 50 lumens per sq. ft. for difficult and fine work. In terms of daylight, this means a daylight factor of 2% for casual work and 10% for fine work, and provision of curtains or blinds to cut out sky glare on bright days.
- 2. We see better if the main visual task is distinguished from its surroundings by being brighter, or more contrasting, or more colorful, or all three. It is therefore important to identify the main focal points and build up the lighting from their requirements.
- 3. We see better if the things we have to look at are seen in an unobtrusive and unconfusing setting, neither so bright nor so colorful that it attracts the attention away, nor so dark that work appears excessively bright with the result that the eyes are riveted on to the visual task. Good lighting therefore provides a moderate and comfortable level of general lighting, with preferential lighting on the work. This can be called *focal lighting*.
- 4. The surroundings should be moderately bright, and this should be achieved by combination of lighting and decoration.
- 5. No source of light should be a source of glare discomfort. Luminaires should be designed to prevent excessively bright areas being visible. Windows should be provided with curtain blinds or louvers to be brought into use when the sky is very bright.
- Plenty of light should reach the ceiling, in order to dispel any feeling of gloom and to reduce glare.
- 7. Sources of light should be chosen to ensure that the color rendering which they give is satisfactory for the situation in which they will be found.
- 8. Care should be taken to eliminate any discomfort from flickering light sources.
- A dull uniformity should at all costs be avoided. Small brilliant points of light give sparkle to a scene without causing glare.
- 10. The lighting of a building should be considered always in relation to its design and in particular to the scheme of decoration to be installed. On no account should lighting be considered to be merely a matter of windows or fittings. The whole environment enters into that which constitutes a good lighting installation.

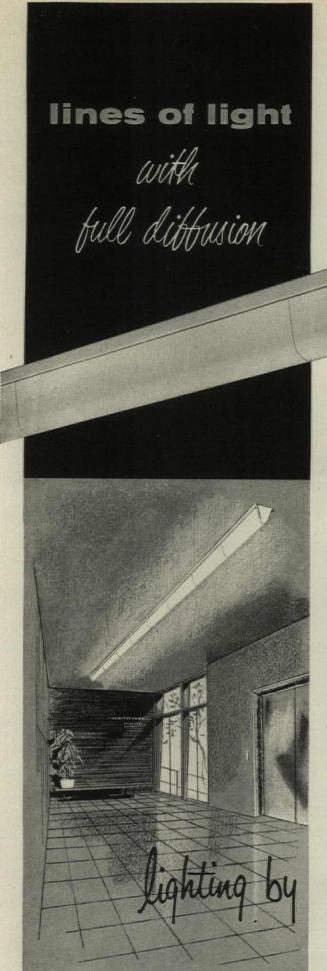
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BOOKS

ORGANIZED INDUSTRIAL DISTRICTS—a Tool for Community Development. By Theodore K. Pasma. For sale by the Superintendent of Documents, US Government Printing Office, Washington 25, D.C. 111 pp. 8" x 101/4". Illus. 65¢

Planned or organized industrial districts are being developed in increasingly big numbers each year. Prior to 1940, only 24 were in existence, but 52 were added in the forties and 35 more since 1950. Last year FORUM reasoned that it was high time information on this growing development was gathered and packaged (AF, April '54)—and so did the US Commerce Dept.

Released at year-end, the government's new booklet is a comprehensive text on the planning and operation of industrial districts fortified with documentary information from more than 100 established districts coast to coast. Scope of the book is indicated by these chapter headings: planning, organization, costs and financing, control services and fa-

cilities, and promotion. The final chapter is comprised of the case histories of a dozen successful districts.

FIRE ENDURANCE OF OPEN-WEB STEEL-JOIST FLOORS WITH CONCRETE SLABS AND GYPSUM GEILINGS. By James V. Ryan and Edward W. Bender. Published by National Bureau of Standards, Order from the Government Printing Office, Washington 25, D.C. Building Materials and Structures Report 141. 17 pp. 8" x 10". Illus. 20¢

This publication describes fire-resistance tests on a number of floor constructions which are typical of those suitable for use in homes, apartments, stores and office buildings. The results reported will be useful to building and code officials as well as architects and engineers concerned with the selection of ceiling constructions for aplication below steel joist floors for the purpose of providing varying degrees of fire resistance to the structure.

The report's conclusions:

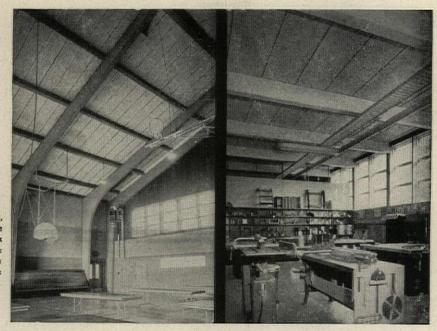
- "Open-web steel-joist floors with ceilings of perforated gypsum lath and gypsum-perlite plaster will provide fire resistances up to 1¼ hour and those with adequate reinforcement to more than four hours, covering the range of requirement in many building codes.
- "Even relatively thin coats of plaster and lath as normally applied without reinforcing lose strength to the point they can no longer support their own weight while still of considerable fire-protection value.
- "The use of some form of reinforcing to reduce the span of lath and plaster between supports and thereby keep the ceiling in place and functioning as protection to the joists and slab is essential for fire resistances of two hours or longer."

USEFUL OBJECTS TODAY—teaching portfolio No. 4. By Greta Daniel. Published by the Museum of Modern Art. Distributed by Simon & Schuster, 630 Fifth Ave., New York, N.Y. 56 pp. 8"1/2 x 11". Illus. \$2.95

A survey of familiar implements. Kitchen utensils, tools, glass and dinnerware, lamps, clocks, luggage, bowls and vases are handsomely photographed and contained in a looseleaf portfolio. The plates are accompanied by an introductory text on the development of modern design and its place in our civilization.

ARCHITECTURAL DRAFTING. Second ed. By William J. Hornung. Published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N.Y. 221 pp. 834" x 111/2". Illus. \$4.50

A complete home course in architectural drafting. The chapters of this book follow the sequence of planning and constructing a house.



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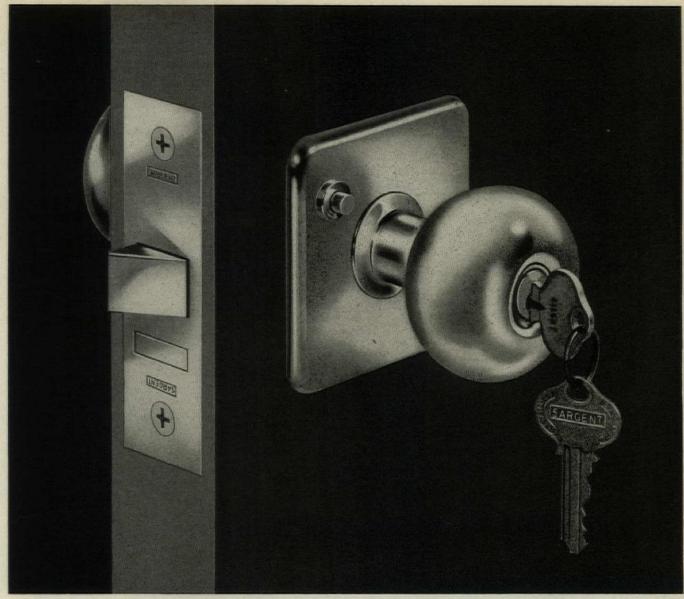
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Composite	3"	1/4"	14	_	-	_	100	60

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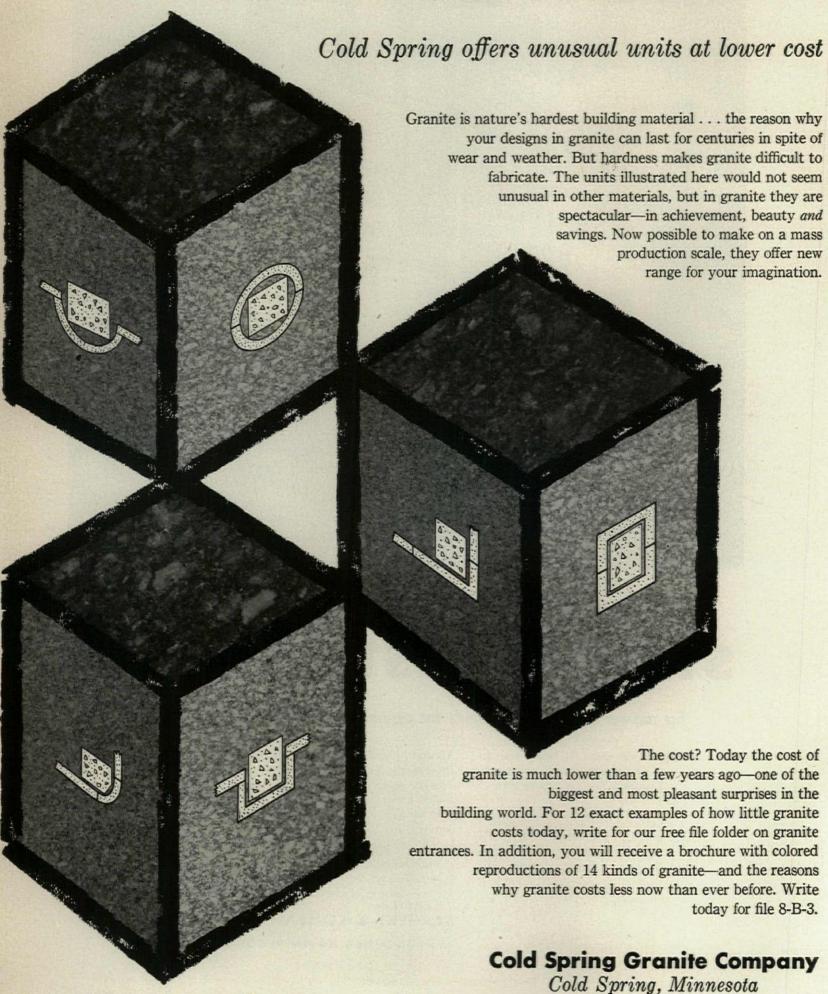
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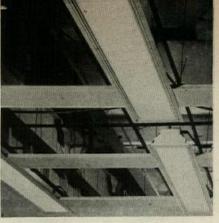
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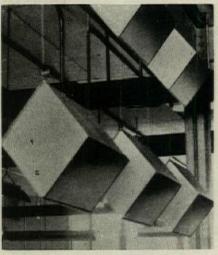
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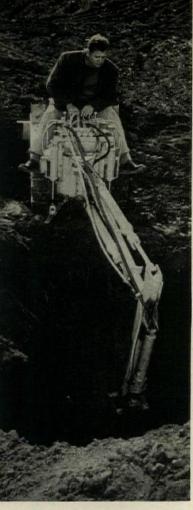
PRODUCTS



Breezy blowers rest easy on T's (p. 254)

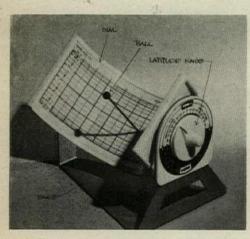


Square clouds clobber loud sounds (p. 246)

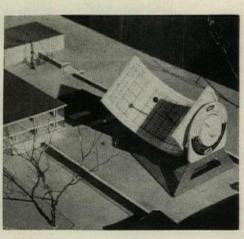


Hydraulic haunches for deep digger (p. 266)

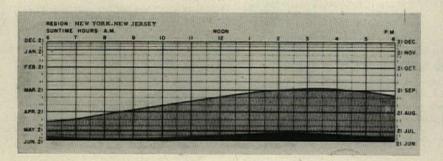
Shade Dial reproduces on models light, shade and shadow effects of sun



游



SHADE DIAL, building model and any light source can be used to determine sun's position any time of day and month for any part of world, and to help design shading devices accordingly for underheated as well as overheated periods of the year. The chart for N.Y.-N.J. area (from booklet accompanying the instrument) indicates hottest hours in black; cool in gray.



Two research architects, the Olgay Brothers of Princeton University's Department of Architecture, have made many impressive studies on the effects of climate on structural form (FORUM, Aug. '54). The Shade Dial, a unique little by-product of their research, is impressive in its simplicity.

Cognizant that window insulation accounts for the greatest portion of heat entering a building, the Olgays developed this calculator as a practical, inexpensive means of studying shading needs. (The Shade Dial is priced at about \$8, compared to \$600 up for complicated, less-flexible, custom-made sun machines.) The instrument consists of a halfround dial calibrated for seasonal and hourly changes. It is placed near a building model with its North point oriented to the model's. A small ball on a pin, when illuminated (by daylight or electric lamp), casts a shadow on the dial. To determine the insolation for a given time, the dial is tilted until the ball's shadow falls on the point indiacting the hour and month. The model then will be illuminated accordingly. A latitude knob adjusts the angle to suit any geographical location, above or below the equator. An architect designing a building or group of buildings for anywhere in the world can readily determine the shading needs and plan louvers, overhangs accordingly-or turn his building around until a problem side is shaded.

Distributor: Universal Corp., Dallas, Tex. continued on p. 238



because this structural floor system has unlimited electrical availability built right in

Design your next building around Fenestra* Electrifloor† and it can never become electrically obsolete! Electrical, telephone or intercommunication outlets can be installed in any or every square foot of floor space - any time - from the day it's completed, for the life of the building. Desks and partitions can be moved, office layout changed or new electrical equipment installed without the trouble and expense of tearing up walls and floors for new wiring.

And, Electrifloor's unique design saves time and money because it is a structural subfloor and electrical distribution system

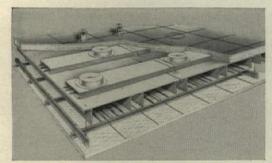
all in one. Structural steel and foundation costs are reduced. The cellular steel panels go in fast, and, as soon as a few are laid and interlocked on each floor, they form a flat, smooth-working platform and material storage space for the contractor. Scaffolding and form work costs are practically eliminated.

Investigate Electrifloor for your next building. To utilize all its advantages, you must design the building around it. Get complete details, now, before you start your plans. Write Detroit Steel Products Co., Dept. AF-3, 2296 East Grand Boulevard, Detroit 11, Michigan.
*Trademark

Fenestra

ELECTRIFLOOR

TODAY'S FLOOR WITH A FUTURE...UNLIMITED



NEPCO header ducts connected to Fenestra cellular steel floor panels make it possible to use all the large area cells, any time, as wiring raceways for electrical, telephone or intercommunication service.



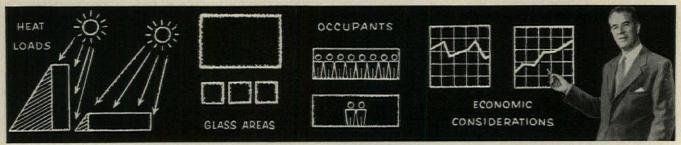
OFFICE BUILDING for the Norfolk Division Office of THE TEXAS COMPANY uses Fenestra-Nepco Electrifloor to protect against electrical obsolescence. Architect: E. Bradford Tazewell. Contractor: Doyle and Russell.

EXCLUSIVE FEATURES OF ELECTRIFLOOR!

- 1. Big 4" handholes in header duct for easiest possible access to wirecarrying cells.
- 2. Capacity of cells is 21/2-3 times greater than most other cellular floors, protecting against dangerous crowding of wires.
- 3. Flat, smooth surface saves concrete fill and provides utmost economy in preparation of finished flooring.
- 4. Designed for greater strength with lighter dead weight, giving you unusual structural design economy.



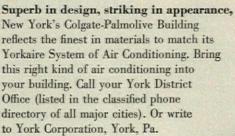
CENTRAL OFFICE BUILDING, Department of Employment, Sacramento, California, is another modern office building using Electrifloor. Specified by Division of Architecture, State of California. Contractor: George A. Fuller.



Heat loads and glass areas and number of occupants and floor areas, economic considerations and taxes and depreciation and operating costs—all these factors (and still others) influence the choice of an air conditioning system for a large building. And since these factors vary from building to building, obviously no one system—or even two or three—can answer each building's needs best. That's why York carefully selects and then precisionengineers each Yorkaire System to fit its particular building.

This ability to meet each building's exacting specifications, to bring the right kind of air conditioning to any building, old or new—and to do it all at a reasonable price—appeals so strongly to our first-time customers that they call it a "new concept" of air conditioning. York's method is possible, not only because York Engineers have a great variety of quality Yorkaire Systems from which to select, but also because these men are highly skilled professionals in the science of air conditioning.

You'll discover a "new concept" of air conditioning in New York's Colgate-Palmolive Building



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Create Ideal "Learning Atmosphere"
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members are rugged, yet slender. So you get more glass area and clear vision view per window opening.

They give you better ventilation, too. Tilt-in vents bring in plenty of fresh air, without drafts...shed rain to the outside. Other vents project out to form weather-protective canopies over their openings.

Fenestra

For further information, call your Fenestra Representative. He's listed in the yellow pages of your phone book. Ask for our authoritative booklet, called Better Classroom Daylighting. Or write Detroit Steel Products Company, Dept. AF-3, 2296 East Grand Blvd., Detroit 11, Michigan.

INTERMEDIATE STEEL WINDOWS

Architectural, Residential and Industrial Windows

Metal Building Panels

Electrifloor*

Roof Deck

Hollow Metal Swing and Slide Doors



INDIANA. Orchard Park Elementary School, Highland, Indiana. Architect: Bachman & Bertram, Hammond, Indiana. Contractor: John F. Rahn, Inc., East Chicago, Indiana.



ILLINOIS. Lincoln Way High School, New Lenox, Illinois. Architect: Childs & Smith, Chicago, Illinois. Contractor: Robert G. Regan Co., Joliet, Illinois.



MASSACHUSETTS. LaSelle Junior College, Newton, Mass. Architect: J. Williams Beal Sons, Boston, Mass. Contractor: Park Construction Co., Inc., Boston, Mass.

PRODUCTS

Continued from p. 234

LARGE CERAMIC WALL TILE with integral spacers assures straight, slim joints

Mosaic's nicely proportioned rectangular tile makes an interesting wall treatment for small rooms as well as expansive areas. This new, smooth glazed 9" x 6" x ½" quality tile, produced in satin and high gloss finishes in numerous colors, is reported to be competitive with thicker facing materials and glazed structural units not only in initial cost but in upkeep. Made in indi-



then

you must

have checked

of them!

vidual steel dies by the dust pressed method with integrally cast lugs on the edges for uniformly close joints (about .044"), the units go up quickly in either mortar or mastic beds, install for \$1.75 to \$2.50 psf, depending on building conditions, application method and local labor. Trim shapes are available at no premium in price.

Another economy is not as obvious: although the difference in thickness between this tile and 1½" glazed structural units

HOW PRONE TO DOUBT,
HOW CAUTIOUS ARE THE WISE.

IF YOU ARE SATISFIED YOU'VE PICKED THE RIGHT HEATING SYSTEM,

We respect your judgment as an architect or engineer, in your specification of heating method. That's your job. Building owners depend on you to discriminate. They look to you to select the heating equipment that will give them the best heating result, with the greatest safety, and at the lowest practical cost per BTU.

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... consider firing it with a Will-Burt Automatic Air-Controlled Stoker. Air-Controlled, you know, means that the fuel bed always gets just the amount of air needed for efficient combustion. Putting it another way, it means that your client gets all the BTU's he pays for.

Results like that make clients even more certain your advice is indispensable.

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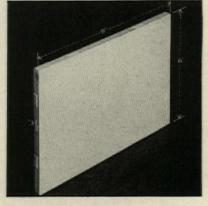
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WILL-BURT STOKERS Both Hopper model and Bin-Fed Will-Burt Stokers feature continuous, automatic air control for maximum fige efficiency without maintenance.

Find out about Automatic Air Control! Architects and Engineers Manual sent on request.

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OUR TWENTY-SIXTH YEAR IN THE STOKER BUSINESS P. O. BOX 903, ORRVILLE, OHIO

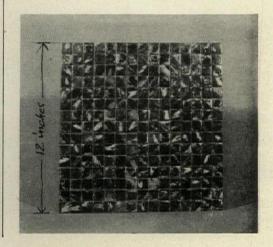


amounts to 1", in a room with rough measurements of 10' x 12', the inches add up to an extra 3% sq. ft. of floor space.

Manufacturer: The Mosaic Tile Co., Zanesville, Ohio.

TINY TILES in beautiful tones can be used indoors or on exteriors

Since ancient days a palatial ornament, mosaics have been avoided in more prosaic structures because of the painstaking labor needed to apply the little fragments. A few companies recently have eliminated much of the toil by mounting small tiles on flexible backings, so that patterns can simply be applied in sheets. The ¾" units made by the Puerto Rican company Joo come assembled in 1' squares, larger units in fact than conventional individual wall tiles. In addition, the Joo ceramic tiles are produced in an extraordinary range of rich variegated colors: 50 standard and ten 22-k. goldfinished textures; and the firm's Cristanac line of satin-glass mosaic comes in 84 hues. Both are impervious to the vagaries of the weather. Of actual cost-saving in applicacontinued on p. 242





CONTROL IT WITH STEEL PIPE SNOW MELTING

When Mark Twain said, "Everybody talks about the weather but nobody ever does anything about it," he was reckoning without the ingenuity of modern science. Today we "seed" the clouds to produce rain, dissipate fog chemically and mechanically, produce sunshine electronically, and melt snow as soon as it touches ground.

The use of modern snow melting and ice-removal systems is a sound investment in areas where snow and ice are a detriment to the free, safe, sure movement of people and vehicles. Progressive businesses now make their own weather as far as controlling the all-winter accessibility of their properties is concerned. Sidewalks, driveways, ramps, shipping docks, parking areas, garage and service aprons, airplane hangars, crosswalks, even

bridge floors and private spurs and tracks, can and are being made "weather-proof."

For these snow and ice removal systems steel pipe is the overwhelming choice for commercial, industrial and domestic installations. Why? Because steel pipe has not only been proved in more than 60 years of hot water and steam heating applications, but has also the advantages of economy and adaptability for the panels, coils and runs of modern snow melting systems. Yes, steel pipe is first choice . . . the most widely used pipe in the world for heating, plumbing, snow melting, fire sprinkler systems, and the transmission of power, steam and air.

Send for a free copy of the 32-page color booklet "Steel Pipe Snow Melting and Ice Removal Systems."



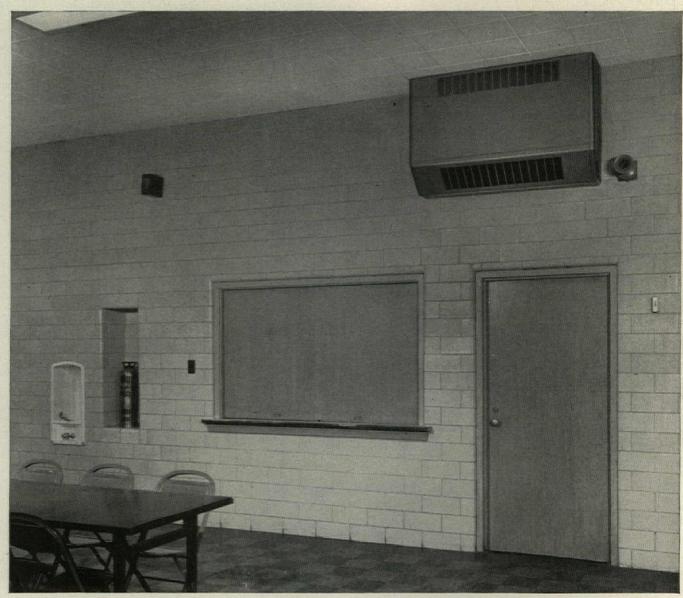
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STEEL PIPE RESEARCH

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booklet "Steel Pipe S		emoval Systems."	

How to heat and cool with just



Dunham Vari-Temp Cabinet, inverted on wall of St. Bartholomew School, Chicago, Ill.

Architect: Barry and Kay, Chicago. Heating Contractor: Northwestern Heating & Plumbing Co., Evanston, Ill.

From radiator traps
to fully engineered systems
you can DEPEND ON DUNHAM for
everything you need in heating



Dunham Radiator Valves. Complete line of radiator valves, traps and other specialties for steam heating.



Dunham Vacuum Heating Pumps. Single and Duplex models. No close clearance parts. Only one moving element.

one unit...DUNHAM VARI-TEMP







Specify Dunham all-weather Vari-Temp® and you have more than a heating system... more than a cooling system. You have both ... and with just one unit.

Dunham Vari-Temp is a simple solution for your clients who want year-round air-conditioned comfort in their buildings, but can't afford costly space-using central system ductwork. Vari-Temp eliminates ducts since a single riser can supply hot water for heating, chilled water for cooling to each unit.

Individual room control. Dunham Vari-Temp Units heat, cool, ventilate, filter and dehumidify air on room-by-room basis—ideal for hotels, motels, hospitals, apartments, offices and other multiroom applications.

Versatile Vari-Temp not only heats and cools with water, but also heats with steam. Furthermore, you can mount this newly expanded line of comfort conditioning, double-duty cabinets on the floor, walls or ceiling...fully or partially recessed...or even completely conceal them.

For all the facts about versatile, all-weather Vari-Temp, write for Bulletin AF-3, C. A. Dunham Company, 400 W. Madison Street, Chicago 6, Illinois.

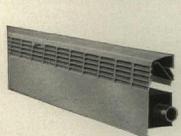


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RADIATION - CONTROLS - UNIT HEATERS - PUMPS - SPECIALTIES

Quality First for Over Fifty Years

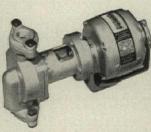
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Dunham Radiation. Full range of sizes and types of convectors, baseboard and finned tube radiation.



Dunham Unit Heaters. Line includes heating - cooling units, vertical, horizontal discharge and large blower unit heaters.



Dunham Circulators. Heart of Dunham's complete hot water line. Single-spring motor coupling. Brand-name motor.

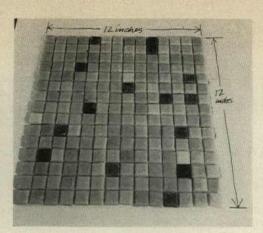


Dunham Vari-Vac®. Precision temperature control system uses continuous-flow "cool" steam, cuts fuel costs up to 40%.

PRODUCTS

Continued from p. 238



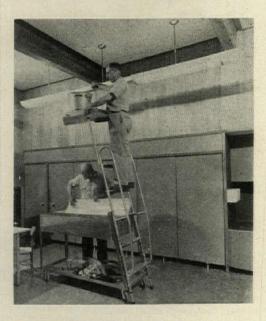


Amtico PERMALIFE Vinyl Flooring . . . H's all-Vinyl...
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thru and thru! PERMALÎFE · Needs less care than any other flooring Permalife...takes hardest wear for years VINYL FLOORING · Flexible, resilient, quiet Defies grease and acids · Will not crack or tear · Will not rot or mildew Resists abrasion Available in Terrazzo and Mosaic Designs, Plain and Marbleized Colors **Want Samples?** (In tile and sheet form) The World's Largest Amtico, Dep't AF-2, Trenton 2, N.J. Producer of Rubber Flooring AMERICAN BILTRITE TRENTON 2, NEW JERSEY In Canada—American Biltrite Rubber Co. (Canada) Ltd., Sherbrooke, Que. Please attach coupon to your business card or letterhead.

tion, Miami's Stewart Tile Co. has written: "After performing various installations with Joo glazed ceramics, we have concluded that a substantial saving in installation costs results in the use of the product because of the elimination of joint lines, vertical and horizontal; the material is applied directly to the cement bedding and the dilatory grouting operation is reduced to a fast sponging of the surface. Because of the above reasons, we hereby [were able to] reduce our previous quotation from \$6,225 to \$3,916.

Prices of the Joo tile are 68¢ psf for the colored tile, \$1.80 for the gold finish; Cristanac glass units ranges from 90¢ to \$1.50 per sq. ft. The square sheets can be ordered in one type tile or random mixtures. And, of the tiles themselves, one can only visualize Main Street exteriors and interiors with a glitter rivaling the Temple of Santa Sophia.

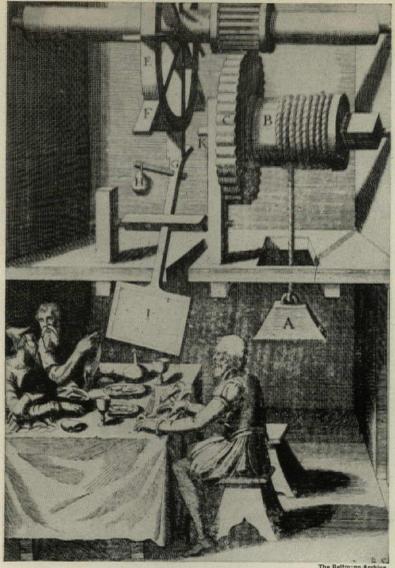
US Representative: Ralph Torres Jr., 5940 Granada Blvd., Coral Gables, Fla.



WASH TANK ON WHEELS with attached ladder is useful maintenance appliance

Care of ceiling lights and other hard-toreach overhead fixtures can be made easier and safer with the Rol-Away lightweight wash tank. The truck features a patented aluminum ladder that slides through guides when a workman steps on it until its rubber feet touch bottom, so that truck and ladder rest solidly on the floor as a unit. While standing on the top step the user can lean on two curved side handles and steady himself against the front bar. As he steps down off the ladder, it is released to "up" position. The truck has two tanks large enough to handle a full section of 4' fluorescent fixture. A shelf is provided for cleaning paraphernalia. Rol-Away is also suitable for other kinds of building maintenance-replacing lamps, washing ceilings and window blinds. It is priced at \$203.75. Manufacturer: Rol-Away Truck Mfg. Co., Inc., 6143 S. E. Foster, Portland, Ore.

continued on p. 246



Here's somebody's idea of how to solve the ventilating problem—with a gravity engine—back in 1662. Today Airlemp can help you solve your clients' air conditioning problems.

AIRTEMP SOLVES VARIED INSTALLATION PROBLEMS





Rocsevelt Hotel Waco, Texas, Consulting Engineer: P. N. Vinther, Dallas, Texas.

Ostheimer Building, Philadelphia, Pennsylvania. Owners: Ostheimer Realty Company. Architects and Engineers: The Ballinger Company.



Title Guaranty Building, St. Louis, Mo. Architect: Raymond E. Maritz; Consulting Engineers: Lec S. Weil and W. B. Moses; Mech. Engineers: Brussel & Viterbo; Air Conditioning Contractors: General Installation.

AIRTEMP

your Air Conditioning

Whatever

problem-

is ready to help you!

Airtemp offers these "pluses" to those planning commercial and industrial air conditioning

Airtemp has the Right Equipment

To meet your *every* air conditioning need, Airtemp has a complete line of precision-built equipment—conventional or specially engineered—for a room or a building.

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You are offered the advisory services of engineering specialists—pioneers in commercial and industrial air conditioning—through Airtemp Construction Corporation, a subsidiary of Chrysler Corporation.

You Dear with a Leader

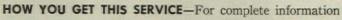
The Chrysler name is widely known. Over the years, it has gained public confidence for its leadership in quality and engineering.

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With Airtemp, both the installation cost and the operating costs are low. This extra economy is a result of Airtemp's extreme efficiency.

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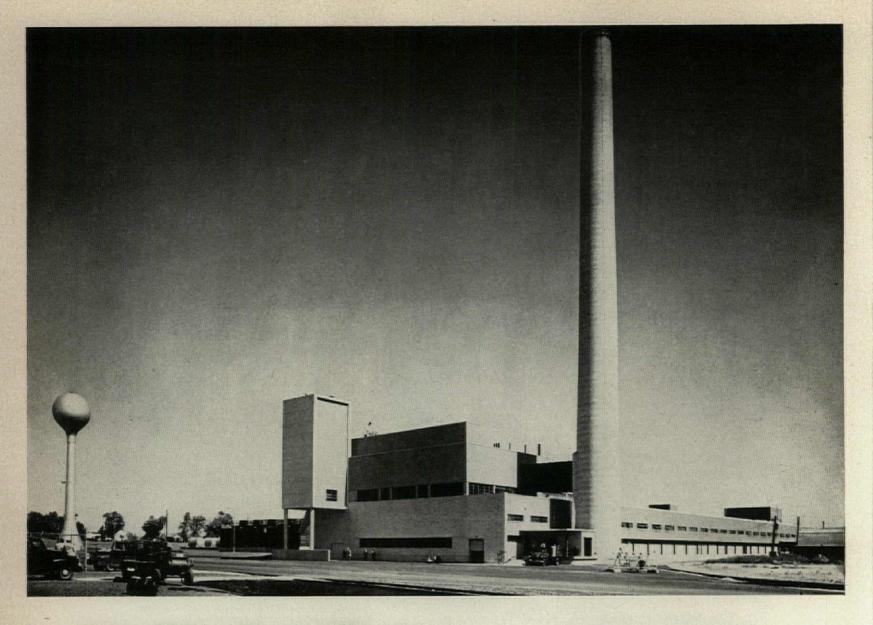
You are guaranteed dependable local service by Airtemp's network of personnel and facilities.



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AIR CONDITIONING . HEATING FOR HOMES, BUSINESS, AND INDUSTRY



DESIGN FOR PURITY

Thousands of test tubes . . . almost a mile of chemical workbenches . . . tons of chemicals . . . acres of laboratories, all these make up the seven-buildings-in-one of the new Armour Laboratories at Kankakee, Ill.

Temperatures range from 70 below to 140 above in these buildings dedicated to man's never-ending fight against disease. Everything has been thought of to make Armour Pharmaceuticals as safe, pure and standardized as it is possible to make them.

Ingalls takes pride in the fact that it was selected to supply and erect the steel in construction of these buildings to exacting specifications.

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Power Plants • Industrial Buildings • Hangars
Bridges • Office Buildings • Churches • Stores
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SALES OFFICES: Birmingham, New York, Chicago, Pittsburgh, Houston, New Orleans, Atlanta

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Ro-WAY BUILT



is Built to Last!

OVERHEAD TYPE COMMERCIAL AND INDUSTRIAL DOORS

FROM start to finish, long life is solidly built into every Ro-Way overhead type door.

It begins on the drawing board, where exceptional ruggedness is designed and engineered into every detail—the kind of ruggedness that can take years and years of ups and downs in stride

It shows up in the fine quality of Ro-way materials—selected west coast lumber and specially designed hardware of heavy gauge steel.

It's assured by Ro-Way construction—with all joints mortised and tenoned, waterproof glued and steel pinned; with sections rabbeted for weather-tight fit; with millwork both drum and hand sanded for finest finish; with all hardware Parkerized and painted after fabrication for maximum rust prevention.

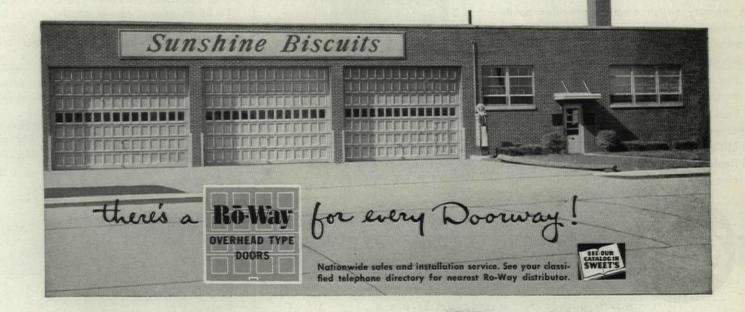
And it's there in every Ro-Way operating feature—the Taper-Tite track and Seal-A-Matic hinges that work together for easy opening and sure, weather-tight closing; the ball bearing Double-Thick tread steel rollers that glide smoothly and quietly; and the Power-Metered springs that are matched and tension-balanced to the weight of the individual door.

Built? Yes—built to last! And that means satisfied clients. If that's what you want, specify Ro-Way overhead type doors for all commercial and industrial applications.



FREE ARCHITECT'S MANUAL. Complete details, specifications, drawings, etc. of entire line of Ro-Way doors. Especially helpful in selecting just the right door. Request Manual 55—on your letter-head, please. No cost or obligation, of course.

ROWE MANUFACTURING CO., 953 Holton St., Galesburg, Illinois



Continued from p. 242

ONE-TUBE FLUORESCENT FIXTURE joinable for unbroken shaft of light

Mountable on wall or ceiling, the latest of the Modular Sightron lamp fixtures has a triangular contoured diffuser of white styrene. The 4' fixtures each house one 40-w. rapid-start lamp and can be strung end to end for a continuous strip of soft, glareless light uninterrupted by dark connecting



bands. The base, 4¾" wide, is finished in white enamel. Diffusers and reflector snap out for relamping and cleaning. Retail price is about \$30; with low-power factor and convenience outlet, \$29.

Manufacturer: Lightolier, 11 E. 36 St., New York, N.Y.



TWO SOUND SOPPERS: one offsets noise; other corrects bad cases

Because gymnasium and factory noises run up and down the sound scale, acoustics specialists Elof Hansson, Inc. and Sonosorber worked out for just such areas two kinds of materials with good absorption in both high and low frequencies. One, a rigid, perforated board, becomes an integral part of a structure. Another, a lightweight box, hangs from the ceiling like a chandelier.

Hansotone, the new building product, is a 32"-wide 1" and 11/4"-thick wood-fiber board developed exclusively as a permanent form and finished ceiling for poured-inplace gypsum roof decks. The 4', 8' or purlin length boards are mounted on standard subpurlins 32 %" o.c., wire mesh reinforcement placed on top, and gypsum concrete poured over the strong Hansotone base. (Designed to allow proper curing of the monolithic roof, the boards are treated against mildew and termites.) Light cross T's support butt joints between boards or, where a less active overhead pattern is wanted, out-ofsight splines can be slipped into the kerfed edges. Prepainted white, the acoustical ceiling requires no further decoration.

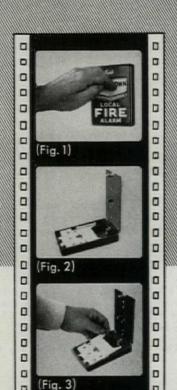
Cost of a complete deck, including Hansotone and sub-purlins runs 40¢ to 50¢ psf about 5¢ more than for a comparable roof

continued on p. 250





and SIMPLE OPERATION



For complete details on this and other Couch fire alarm equipment write for Data Sheet Fl



Couch NON-CODE FIRE ALARM STATION

Here is an all new non-code UL approved fire alarm station for use in all types of buildings. Clean and simple in appearance, this station provides complete dependability of operation. Its two-position locking mercury switch element provides positive contact when operated, but is not affected by shock or vibration. The element is hermetically sealed for protection against dirt and moisture.

The film strip at the right shows the ease with which the station is reset after use.

(Fig. 1) Station closed and about to be operated

(Fig. 2) Open station

(Fig. 3) Lift up sliding front panel

(Fig. 4) Replace glass rod (broken glass is selfclearing)



Simplified Systems of Communication

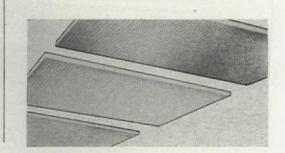
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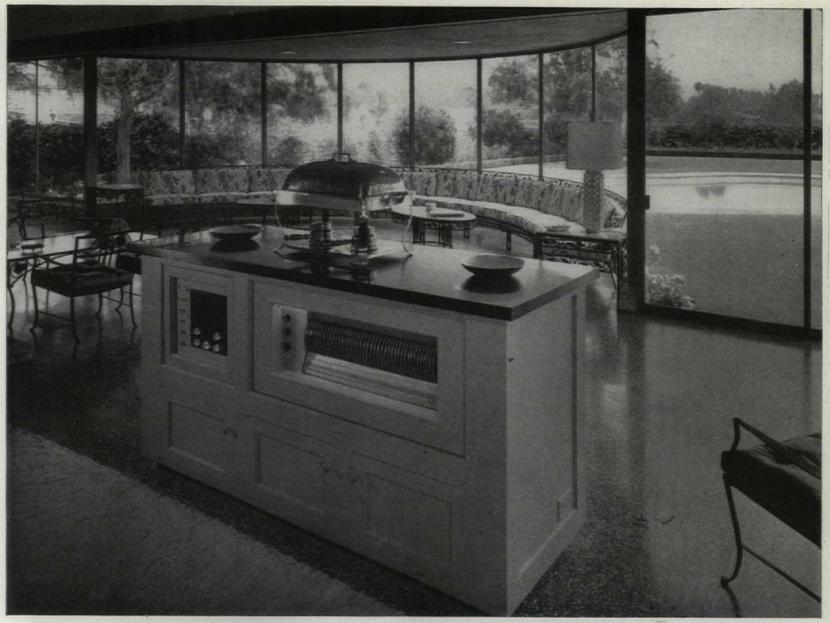
(Fig. 4)

Private telephones for home and office . . . hospital signaling systems . . . aparts

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In Canada: Canadian Marconi Company, Montreal.





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MOVING STAIRWAY PLANNING SERVICE

The rapidly widening use of moving stairways has made necessary a planning service to help building owners, architects, consulting engineers and designers determine the moving stairway size, location and arrangement best suited to each project.

Without cost or obligation to you, Peelle engineers will help you to determine your vertical transportation requirements and work out a suitable plan that will take into consideration both the functional and design aspects of the installation. Simply call us or write us fully about your requirements.

in Building

THE MOVING STAIRWAY is adding a new dimension to vertical transportation. It is a tool which enables architects and management to plan more fluidly, to use space to better advantage and to control the flow of traffic. Moving stairways occupy less space than elevators and cost far less to run and maintain, yet one moving stairway can move from 4,000 to 8,000 people an hour with no waiting or crowding. That's why moving stairways fit so well into the new American economy where time and space are at a premium and the public demands service and convenience. That's why you see them everywhere, in subway stations, at piers, in museums, in office buildings and in many new kinds of places.

Moving stairways enhance profits, increase property values, add to the utility of buildings and transportation systems and improve public relations.

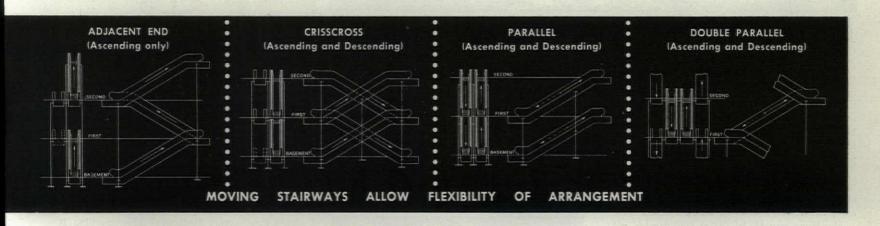
IN TRANSPORTATION TERMINALS moving stairways extend transportation to the inside of the building and move hurrying crowds to and from buses, trains or planes with dispatch and without confusion.

IN HOTELS AND BANKS moving stairways free valuable ground floor areas for high rental by making it easy and convenient for the public to reach business places located on upper levels.

IN INDUSTRIAL PLANTS moving stairways promote better labor relations, expedite the movement of employees from floor to floor and eliminate delay during peak rush hours.

IN STORES AND SHOPPING CENTERS moving stairways are a powerful merchandising force, moving people to upper sales floors and exposing merchandise to impulse sales.

IN MANY OTHER BUILDINGS moving stairways are performing valuable services. They help theatres fill balconies, make roof and sub-basement parking areas more convenient, move crowds at stadiums and race tracks and add to the convenience and profit potentials of many other kinds of property.



The Peelle Company • Manufacturers of the Peelle Motorstair 47 STEWART AVENUE, BROOKLYN 37, NEW YORK • OFFICES IN PRINCIPAL CITIES

PEELLE MOTORSTAIRS • FREIGHT ELEVATOR DOORS • DUMBWAITER DOORS • INDUSTRIAL DOORS

Continued from p. 246

constructed with nonacoustical form boards, Hansson reports. Considering Hansotone has 230 sound-trapping perforations psf, the charge for hole-making seems modest indeed.

Manufacturer: Elof Hansson, 220 E. 42 st., New York 17, N.Y.

Sonosorbers, the sound-sponge pendants (photo right) are suited for already-reverberating industrial and commercial areas where regular acoustical surface treatment



L.F.D.

BACK IN THE DAYS of the prancing fire horses, the heating equipment at the fire station was often merely an old stove and a pile of firewood. In cold



weather, stoking was practically a full-time job. When the stove overheated, the roof sometimes burned off the fire station, which entertained the public but was most humiliating to the firemen.

Today the heating stove has disappeared, along with the horses. Push-button heating, under precise automatic control, now helps keep the equipment ready to roll, and assures the men's comfort.

The Humphrey Model A Gas Unit Heater, pictured above in a Louisville fire station, represents modern automatic gas heating at its best. It has such Humphrey-developed features as Dual-Flame Burner with stainless steel tips; non-clogging pilot; Free-Flow Heat Exchanger with unrestricted, non-baffled interior; and Tilting Front. Both burner and fan are operated by accurate, automatic thermostat

controls, while full 100% automatic safety controls provide the ultimate in protection.

In a fire house, heating equipment must operate 24 hours a day, 7 days a week. Humphrey Unit Heaters, for more than 25 years, have been demonstrating their ability to give peak performance in the hardest service.

Truly they are today's finest heating equipment, not only for fire stations but for every other type of commercial, industrial, and public building.

GENERAL GAS LIGHT CO.

KALAMAZOO, MICHIGAN



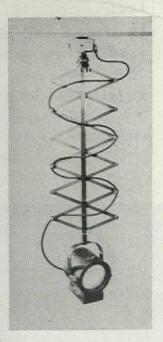
for airborne noises is neither applicable nor adequate. (Vibration and sound conduction through structure is another problem.) These 2'-long prismatic boxes, consisting of perforated aluminum panels with glass-fiber cores, weigh 2½ lb. each. Volume absorbers, they have absorption areas which, for certain frequencies, are larger than their physical dimensions. They may be hung at will amidst the tumult, grouped in clusters or as screens. Existing sprinklers or lighting fixtures need not be disturbed.

Situated in the intense sound area, the faceted shapes tend to attract and absorb or drain off sound waves by bouncing them around until they lose their potency. Shipped unassembled, 25 to a carton, Sonosorbers cost about \$8 a unit. Maintenance people can rig them up without disrupting plant activities.

Manufacturer: Sonosorber Corp., E. Orange, N. J. Distributor: Elof Hansson, 220 E. 42 St., New York, N.Y.

SCISSORS LIFT AND TROLLEY simplify display lighting adjustments

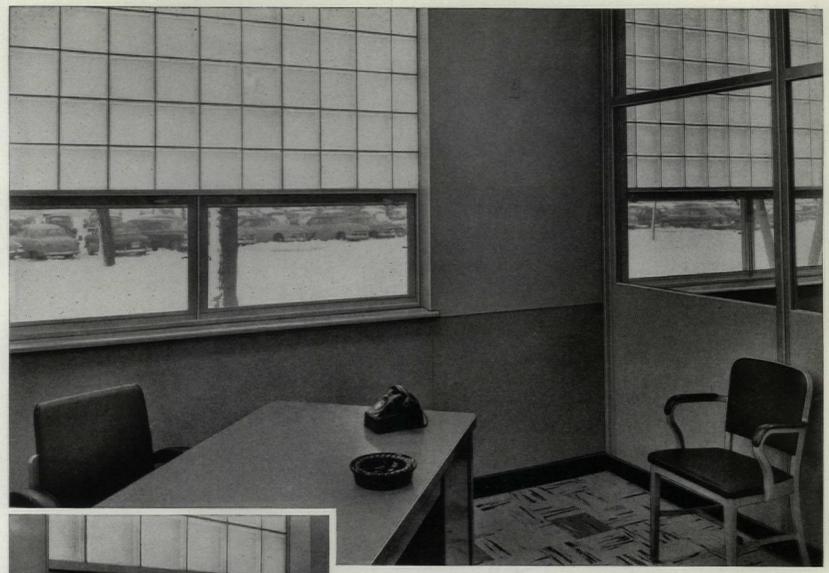
A new and very practical device for showwindow installation is Century's counterbalanced Lite-Lift. Fastened to the yoke of a spotlight, this pantagraph link permits free up and down maneuvering of the fixture after mannequins and display are all set up; and makes it easier to focus, relamp



or change colors at any time. Attached at top to a trolley—a wheeled hanger with its own switch and fuse—which rides sideways in a standard busway, the folding arm unit can permit horizontal adjustments. It will also simplify wiring and minimize cable. With trolley the *Lite-Lift* lists at \$54.10; without, \$32.

Manufacturer: Century Lighting Inc., 521 W. 43 St., New York 36, N.Y. and Los Angeles 46, Calif.

continued on p. 254



A special-design application in a midwestern plant office. Upper wall is Consoweld 10 in Dusty Green Echo. Wainscoting is Gray Holiday, with Twin-Trim moulding. Movable partitions are faced with Consoweld wood grain in Harvest Brown Birch. Baseboard is a 3/6" thick strip of Consoweld, available on special order. Desk top is Consoweld Gray Echo. Wall materials are applied directly over cement block.

How **Consoweld** can be used for specially designed interiors

Consoweld is a melamine-surfaced plastic laminate available in 46 patterns, color-tuned by Color Research Institute of America.

Exceptionally fine effects can be achieved with planned applications of Consoweld to walls, desks, tables, and counter tops. Consoweld comes in two thicknesses—the standard Consoweld 6—1-16", for shop-fabricated tops; and Consoweld 10—1-10"—for on-the-job application. It may be applied directly over cement blocks, gypsum lath, or sheathing-grade plywood. Consoweld Twin-Trim matched mouldings provide large areas of unbroken color. Get complete details and data file folder—mail the coupon or write.

Window detail: the sill is post-formed of Consoweld Dusty Rose Irish Linen, made to order for this application.

CONSOWELD

the nation's finest plastic surfacing ... good for a colorful lifetime

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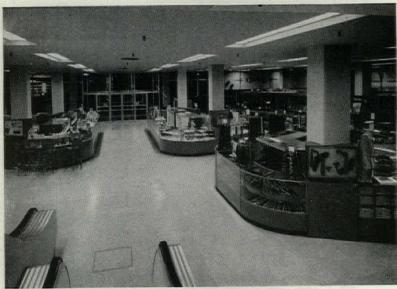
assures client satisfaction...

provides maximum wear...

with minimum care...
always!

B. F. Goodrich Rubber Floor Tile is the only floor tile with Super-Density, no surface pores to collect dirt — easier to clean. Natural Resiliency, another important feature, assures quiet comfort underfoot. Available in 26 beautiful colors.

Send today for handy B. F. Goodrich Floor Design Folder — shows how to make floor designs that direct traffic, draw attention to specific areas, create an atmosphere of spaciousness, etc.



See Sweet's for specifications or write Dept. AF3.

B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.



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History has proven that yesterday's dreams are today's problems and tomorrow's improved living.

MACK MOLDING Technicians offer their "personalized collaboration" to Architects—Consulting Engineers—Construction Men—or any professional men with problems to solve or ideas to develop.

Despite the impressive record of MOLDED PLASTICS in industry, MACK MOLDING COMPANY would be the last to imply that PLASTICS can improve any product or solve any problem. However, we do stress the availability of our "collaborationists" (engineers) to pass upon the desirability of using MOLDED PLASTICS in solving your problem, and to make constructive recommendations.

You possibly have a potential money maker for yourself and we hope to gain correspondingly higher production for MACK MOLDING PLASTICS components.

Yes, we at MACK MOLDING have been "collaborating" with people such as yourself since 1920 and believe we are qualified to render a service to you.

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recessed lighting fixture

all these advantages?

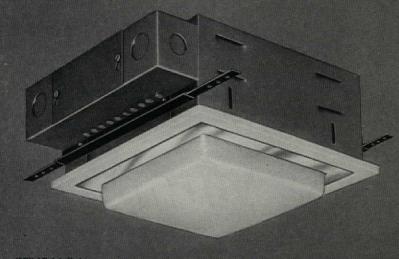
attractive design

most efficient

lenses and diffusers

easiest to maintain

coolest operation



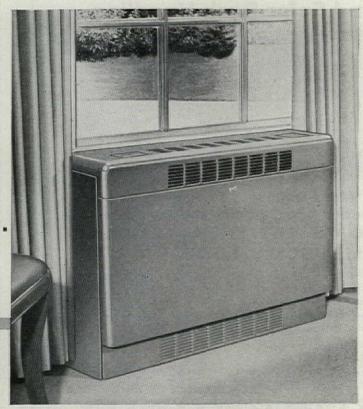
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this is it

Four Jeason

AIR CONDITIONING

in one compact unit..



new

"ROOMAIRE" CONDITIONER by Young

for HOSPITALS, HOTELS, MOTELS, SCHOOLS, APARTMENTS, HOMES

"Roomaire" Conditioners can be installed either free-standing or partially recessed.

"Roomaire" Conditioners provide four season air conditioning in one compact, individually controlled unit. They cool, dehumidify, heat, ventilate, filter and circulate, operating with hot water in winter and chilled water in summer . . . using the same piping.

"Roomaire" units are ideal for installation in hotels, hospitals, motels, schools, apartments, homes and public buildings where individual room conditioning is desirable. Only 9¼" in depth, the "Roomaire" Conditioner requires a minimum amount of floor space, and it can be partially recessed if desired.

The functional design of the "Roomaire" unit provides efficient air distribution through grilles at the top and front of the cabinet. Recirculated air is drawn

through a return air grille at the bottom of the unit and fresh air can be admitted through a dampered opening in the back of the unit (optional). All air passing into the unit is filtered through permanent, cleanable type filters. Component parts are completely accessible with removal of the front panel.

"Roomaire" Conditioners are available in three sizes, 200, 400 and 600 cfm with nominal cooling capacities of ½, 1 and ½ tons to meet every room conditioning requirement. For complete details on "Roomaire" Conditioners see your nearest Young Representative listed in the yellow pages of your telephone directory or fill in the coupon and mail it to the Young Radiator Company, Racine, Wisconsin.

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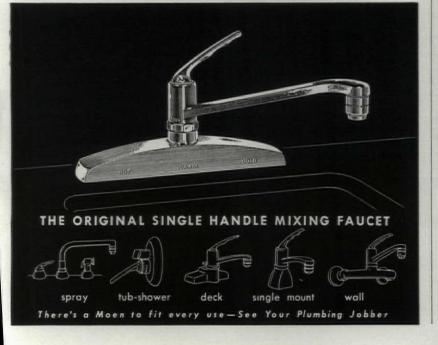
There's so much more in a MOEN!

EFFORTLESS CONTROL of volume and temperature by a single handle. FUNC-TIONAL, MODERN DESIGN helps sell homes faster. DRIP-PROOF, pressure sealed valve works with water pressure. EASILY INSTALLED, saving labor, eliminates necessity of cross-piping by simply rotating valve. LONGER LASTING, more economical—all parts of all models interchangeable. GUARANTEED FOR 20 YEARS—proof of superior performance. Tested in-use more than 10 years, 3,000,000 slam-banging opens and closes without wear!

Hotpoint and General Electric dishwasher-sinks are MOEN exclusively

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recessed incandescent lighting fixture

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ENGINEERED FULL REFLECTOR

LITECRAFT'S OWN DURAFLUX® reflector is a FULL reflector designed for maximum light output. Even light distribution over entire lens surface. Chemically brightened, protected finish.



ATTRACTIVE DESIGN

Handsome, corrosion-proof STAINLESS STEEL lens frame. Baked white enamel ceiling frame. Lenses to blend with any decor. Concealed hardware preserves clean ceiling.



SIMPLE INSTALLATION AND MAINTENANCE

Shallow depth, simple mounting method assures easy installation in any type ceiling. DOOR-IN-DOOR construction prevents light leak. Springlatched lens frame gives instant access for



COOLEST OPERATION

Highly efficient cooling system assures lowest operating temperatures, extends lamp life.

A LENS OR DIFFUSER FOR EVERY APPLICATION FRESNEL LENS-for controlled down light with low surface brightness.

OPAL GLASS BOWL - provides soft, warm down light with upward spill to lessen contrast. Squared corners enhance this diffuser.

ALBA-LITE LENS-for even, diffused down light.

SEMI-DROPPED LENS-for controlled down lighting with ceiling spill for lower contrast.

VERSATILITY

THREE SIZES

Available for special applications in many sizes and variations. Among them: Psychiatric units, 2-3-4-in-line, 4-squares, and many others.

A size for every application ... Underwriters' Laboratories Approved in all sizes, 60/100 Watt, 150/200 Watt, 300 Watt.

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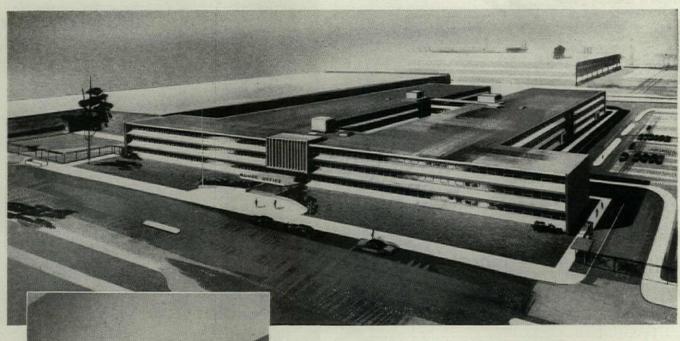
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Enhancing the Modern Beauty of this new

FORD Motor Co. Office...

the Modern Door Closer...NORTON "MADOR"



See how unobtrusively the "Inador" installs, as shown here on an interior door of Ford's new Rouge Office Building, Dearborn, Mich. Eberle M. Smith Associates, Inc., Dearborn, Mich. are the architects and Long Construction Company, Kansas City, Mo., the contractors.

Only The "INADOR" has all these top-quality NORTON features.

- Rack and Pinion Construction gives uniform, positive checking at every point!
 - New Aluminum Shell for lighter weight, robust wear. Proved by use on our surface closers for over 7 years.
- Special Spring—of highest quality steel!
 - Non-Gumming, Non-Freezing Hydraulic Fluid permanently lubricates every inside moving part!
- Double Adjusting Levers, easily moved by fingers, control speed of closing action and latching action!
- Regular Arm Series and Holder Arm Series—the latter especially suited for hospital use!
- Famous Guarantee! For 2 full years, providing recommended sizes are used!

Only a Liquid Closer gives so much Rugged Dependability!

Only Concealed Design gives so much Modern Beauty...it's the

NORTON "MADOR"

Headquarters for five Ford manufacturing divisions will be the new Rouge Office Building at Dearborn, Michigan. The 3-story, 369,000 square foot structure, utilizing the unusual "lift slab" method of construction, features handsome, modern styling. And it's designed, too, to "stand-up" under unusually heavy use, for the years to come!

As a result, it represents an ideal application for Norton "Inador" Closers, which were selected for interior door control. The "Inador's" construction preserves the building's trim, functional beauty. Yet, since the "unseen" mechanism is of the true Liquid Type, it provides the full measure of reliability—for smooth, low-maintenance operation in heavy-traffic use!

These are the reasons why you should choose Norton "Inador" for that new building of yours that needs the best in rugged, modern closers!

Write today for FREE Catalog on full Norton line of Concealed and Surface Door Closers.

NORTON

Dept. AF-35, Berrien Springs, Michigan
"Over 70 Years of Leadership in the Door Closer Industry."



INARCO ROYAL-AIRE a distinctive conditioner featuring UNARCO "pump-down" control system.

It is doubtful that any air conditioner can match the efficiency and beauty of the UNARCO ROYAL-AIRE. This all-new conditioner provides "just right" cooling comfort, adding distinction to any setting.

Oversize cooling coils . . . accessible, hermetic motor-compressor units... and the exclusive UNARCO "pump-down" control system, which prevents compressor damage... are but a few outstanding features of the ROYAL-AIRE line.

Available in five capacities (3 to 15-ton) the ROYAL-AIRE is balance-engineered! This insures

full cooling capacities and quiet operation under all conditions, producing a pleasurable climate and atmosphere for any size room.

The ROYAL-AIRE is eminently suited to comfortcool dining rooms, taverns, drug stores, clothing stores, and offices... to cool wherever the *ultimate* in efficiency and long life is desired. Address Heating & Cooling Division for descriptive literature.

Union Asbestos & Rubber Company 332 So. Michigan Ave., Chicago 4, Ill. Canadian Representative: Albern Universal Ltd., Toronto



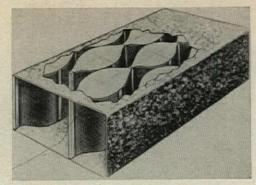
the finest in heating and cooling products at no extra cost

Continued from p. 250

SCIENTIFIC SOUND TRAP for air conditioning does away with duct linings

Sound has some mysterious impacts: the glass shattered by a soprano, the dog running to a silent whistle, the dental patient demoralized by a poised drill. In noise, a counterpart to the old saw about the weather might be: "It's not the magnitude but the frequency."

Whirrings and dronings are an annoyance factor common to many air-conditioning sys-

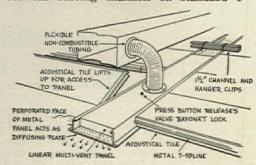


tems. And as delivery quickens to high velocity, so do the furies of the fans and air streams—often beyond the absorption capacities of conventional duct insulation.

But when M.I.T. acoustial experts Bolt, Beranek & Newman tackled the job of analyzing and muffling jet-engine roar in testing tunnels they evolved the "soundstream" principle and engineered devices to absorb and/or deflect sounds of varying cycles with different materials, all arranged in parallel lengths for minimum impedence of the air flow. Industrial Sound Systems, who fabricated the equipment, saw in it tremendous potential for combatting less fiendish but no less complex noises in air distribution systems for auditoriums, hush TV studios and workaday office buildings. This soundstream principle is now realized in the Aircoustat, a silencer packaged as a duct section that can replace duct linings at half their price and do a far more effective job of noise reduction. It is produced in several types for different sound control problems. So pre-engineered are the Aircoustat silencers that a section of Aircoustat matching the duct size will be the right one for the job. List prices start at \$60 for a 4'-long type J (suitable for general commercial conditions) sized for 12" x 14" duct. Generally an Aircoustat for a 12" x 12" duct can replace a 100' length of duct liner; for a 4' x 4' duct, it does the job of 400 lin. ft. of 4"-thick material, and performs far better over a broad spectrum. Specifically the cost of quiet is about 4¢ per cfm of air delivery. Manufacturer: Industrial Sound Control, Inc., 45 Granby St., Hartford, Conn.

FLUSH-TO-CEILING DIFFUSER delivers conditioned air at zephyr intensity

Proving that good suspension systems are worth moduling into, Linear Multi-Vent 42"-long diffuser pans combine with Celotex Acousti-Line ceiling much the same way as the Conner panel air-conditiong outlet (Products, April '54). The new model diffuser, of the low velocity variety, is set easily between furring channels on standard 4'



grid spacing without tools or tile cutting, and its flexible tubing collared onto airsupply duct lines. (Highly compressible and stretchable, the attached tubing allows wide leeway in alignment of panels and duct openings. If radical changes in occupancy and relocation of full-height partitions make it necessary, *Linear* units can be shifted as simply as any other demountable component of the ceiling.)

Each Linear Multi-Vent unit is equipped with an adjustable valve for metering air continued on p. 258

HIPPODROME GARAGE



The Door that lets
TRAFFIC through QUICKLY

Ellison

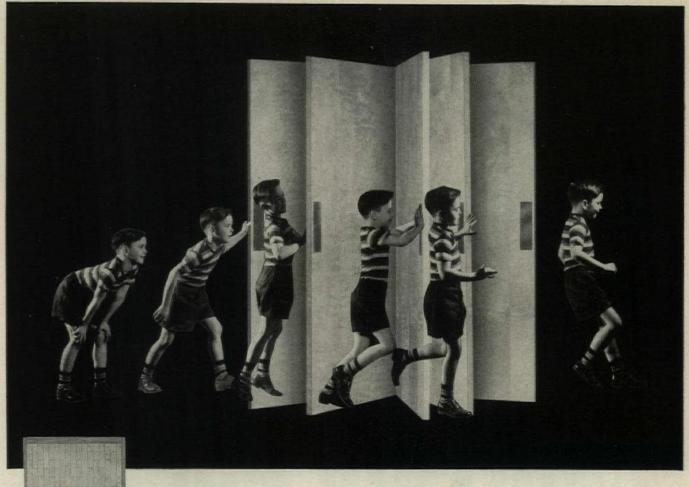
ELLISON BRONZE CO.

Jamestown, New York

representatives in 73 principal cities in the United States and Canada

the BALANCED DOOR

Roddiscraft - quality wood craftsmanship for over 60 years



Warehouses in Principal Cities

- A. Cores low density wood blocks glued under pressure with water resistant resin glue B. Edge strips — double thickness top and bottom, side edges — same wood as face veneer
- C. Crossbanding—hardwood veneer glued with water-proof phenolic resin glue to both sides of core
- D. Face veneers selected face veneers glued with phenolic resin glue to both sides of the door and belt-sanded smooth

Meet the door that's built for abuse!

It's Roddiscraft's Standard Solid Core Door . . . constructed to the quality standards that have long made Roddis solid core doors the first choice of architects for schools and other installations where there are heavy traffic hazards.

Every Roddiscraft solid core door is welded into a single unit core, crossbanding, and face veneers - with strength unsurpassed by any other wood door on the market. They are impervious to water - will not warp, crack or check - resist fire up to 40 minutes, and provide sound resistance only slightly less than special sound-proof doors.

But get all the facts. Write for full details on Roddiscraft doors, or see our catalog in Sweets Architectural File.



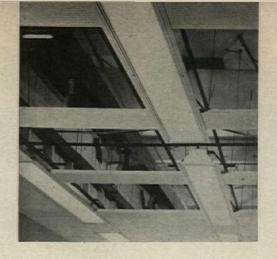




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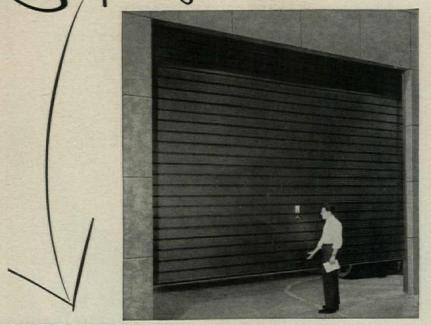
flow; it works like a miniature plenum, using its perforated face plate for noiseless, unobtrusive delivery of conditioned air.

Because rate of diffusion through Multi-Vent reaches only 50 fpm 6" away from the panel face, air can be dispersed at temperature differentials of 20° to 25° without creating cold drafts or hot blasts. The system is claimed, in fact, to be capable of keeping room air temperature within 1° of the comfort zone the year around; and the





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ROLD Steel sectional doors

RESIDENTIAL . COMMERCIAL . INDUSTRIAL

CLEAN, MODERN FUNCTIONAL SIMPLICITY that blends with all types of architecture is the hallmark of Morrison Roly-Doors.

SIMPLIFIED DESIGN ensures safe, easy, trouble-free installation and operation . . . manual, electrical and by remote control.

BONDERIZED, ALL-STEEL, WELDED CON-STRUCTION provides lasting good looks and a durability that defies the weather and years of hard use.

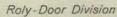
ECONOMICAL INSTALLED COST made possible by sound engineering and modern, precise, mass production . . . Roly-Doors cost

no more than ordinary wood or metal doors for the same purpose.

OVER 100 STANDARD SIZES ready for immediate delivery and facilities to produce special sizes to individual specifications provide a Roly-Door for every overhead door requirement.

prompt delivery and expert installation service are offered by Roly-Door Distributors and Dealer-Installers located in the principal cities of the U.S. and Canada. They are listed in classified telephone directories.

Complete Roly-Door Specifications are available in Sweet's Architectural File or from:



MORRISON STEEL PRODUCTS, INC.

652 Amherst Street, Buffalo 7, New York

Also manufacturers of MOR-SUN WARM AIR FURNACES and MORRISON SERVICE BODIES
In Canada, Roly-Door Distributors, Ltd., 1330 Bloor Street W., Toronto 4, Ont.

high differential is said to cut amount of air needed for given loads by 40%, making possible proportionate savings in supply lines, ducts and filters. Cost of pans to serve 1,000 sq. ft. of floor area run about \$220; where used in over-all plenum setups—for which the diffusers need no flexible tubing or attachment collars—installation runs about \$65 less.

Manufacturer: Multi-Vent Div., Pyle-National Co., 1334 N. Kostner Ave., Chicago 51, Ill.

METALLIC CALKING maintains tough elastic seal through rough-weather duties

Contractors on heavy construction involving big applications of aluminum or steel will find myriad uses for Alumilastic weatherand water-resistant calking-glazing material. Compounded with aluminum powder and a slow-drying vegetable oil, the metallic-looking product forms a hard skin in 48 hours, sets up a positive yet pliable adhesive bond within two to three weeks, never quite dries out. Available in several consistencies for application with knife, calking gun, brush or spray gun, Alumilastic can be used as waterproofing around skylights, stacks, window and door frames; as isolation between dissimilar metals for prevention of galvanic corrosion; as pointing for copings; as setting for stone facings; or as moisture barrier between concrete and adjoining metal surface. It sells for about \$2.80 per gal. in drum quantities.

Manufacturer: The Parr Paint & Color Co., 18402 Syracuse Ave., Cleveland, Ohio.

FOLDING WARDROBES accommodate various classroom needs and layout

Continuing to keep school requirements in mind, Brunswick-Balke-Collender is now producing a line of natural-wood classroom wardrobes, thoroughly tested for wear and tear, that are adaptable to almost any classroom scheme. Although designed to be recessed flush with wall surface, the wardrobes' construction obviates special ceiling framing and wall supports. They are made in three models, each with as many door sections as required.

Making minimum demands on corridor space, the Series 1000 Receding Type folds its doors back, in flat pairs, completely in-

continued on p. 262



But where will you connect Miss Foster?

Whether you're planning or building offices for your own use or for rental to others, you'll need electrical circuit connections throughout the floor area—to efficiently utilize every square foot of space. You can't crowd all desks around wall outlets and it's dangerous and unsightly to run exposed raceways across floors. How then can you obtain maximum electrical adequacy plus space flexibility? The answer is General Electric Q-Floor wiring, the system that provides complete electrical availability for typewriters, dictating machines, calculators, telephones, intercoms, lighting, postal machines, and other electrically operated equipment.

The General Electric Q-Floor wiring system is designed

for installation in cellular steel subflooring, and makes every square foot of floor space available for outlets. Every cell is a raceway for present and future circuit requirements. No costly alterations, no litter, no tie-up of space, no matter how often or how much your electrical requirements change. And it is doing a job in office buildings like famed Lever House in New York City, and in industrial buildings and institutions across the country.

For more information on General Electric Q-Floor wiring, call your G-E Construction Materials district office, or write to Section C49-34, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

Progress Is Our Most Important Product





DESIGN VERSATILITY is the key to the widespread use of concrete masonry for contemporary stores and shopping centers. Split-block, 4" high units, and other attractive block styles in a wide variety of textures, colors, and wall patterns make store entrances more inviting, the facades of many types of business buildings more attractive.

Smart exposed block interior walls make a perfect texture and color setting for merchandise . . . and usually save considerably on interior finish costs.





Masonry Association

Chicago 3, Illinois

Helpful design aid:



Many new concrete masonry wall patterns are shown in the handy reference booklet, "Ideas for Wall Patterns with Concrete Masonry," which was an exceptional merit award winner in the 1954 AIA-Producers' Council Product Literature Competition. Ask your local NCMA member for your copy.



The first new...all-new "Custom door at standard prices

An outstanding example of the "Kawneer Touch"
... the new all-welded aluminum door can be
"customized" to your needs. Now you can specify a
door that is 10% stronger than similar doors, provides a clean, seamless, eye-appealing appearance,
and features interchangeable hardware... yet the cost
compares with other standard doors. Here is the
only stock door that can be styled to any type of
store. Learn all about it now. See your Kawneer
dealer or write Kawneer, Niles, Michigan.

Now! —identification hardware "individually designed"



R.S.





Style "M": Cosmopolitan hardware for double-acting doors.

Style"B": Coronet "Pull Handle" ideal for symbol.

J. L. JONES, PROP.

Style "B": Coronet "Push Bar" provides length for full name.

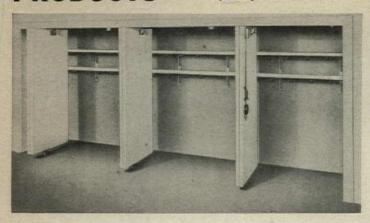
Kawneer offers a choice of four different styles of hardware. The two styles shown have interchangeable face plates. If you wish a face plate to identify any type of business or name, all you do is have artwork prepared. Kawneer will laminate it in plastic, etch it on aluminum, or produce it on any material you desire and in any color. The cross-hatch plate is then merely replaced right on the job with the new design.

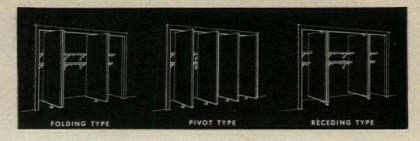
Completely welded construction for greater strength—lower cost

- 10% stronger than most doors
- New "deep-weld" penetrates metal 100%
- Hairline joints and unblemished finish for attractive appearance
- · No exposed, unsightly screws
- Seamless tubular frame construction
- Long lasting beautiful alumilite finish



PRODUCTS continued from p. 258

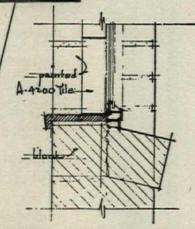




POMARY
Real Clay
TILLES

TILE FOR MODERN WINDOW SILLS

This new flat smooth tile is economical and wear proof. It meets the growing demand for tiled window sills in residences, stores, etc. and has a special use in school rooms where it offers desirable space for exhibits plus welcome cleanliness. Priced to compete with most window sill materials. The A-4200 Cap illustrated, detailed into the window jamb, neatly and inexpensively covers transition between a metal window and wall material.



Every Architect should have our Sample Tile Chart No. 6. It's free.

United States CEPAMIC TILE COMPANY

Member: Tile Council of America and Producers' Council, Inc. 217-J FOURTH ST., N.E., CANTON 2, OHIO

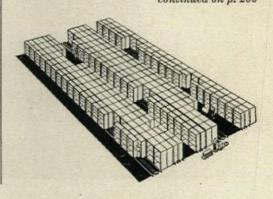
side the closet space. Where continuous shelving is needed and more space available for access, the Series 2000 Pivot Type, with doors mounted individually and pivoted on vertical centers, provides this feature at modest cost. The Series 3000 Folding Type combines the wide-entrance feature of the Receding wardrobes with the full storage shelf of the Folding and is recommended where aisle space (and building budget) can take it. Teachers' and supply closets also are available as are overshoe and umbrella racks. Other optional equipment are chalk boards and cork boards on door faces for use during the school day. Each installation is fabricated to meet room requirements.

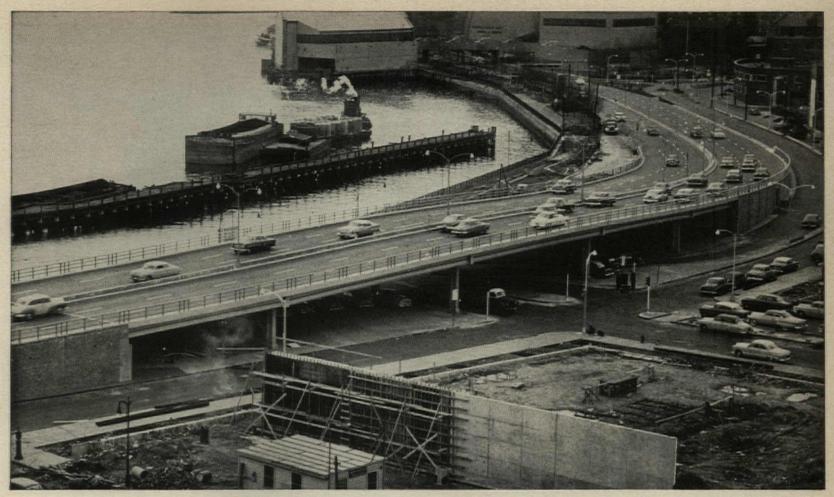
Manufacturer: Horn Div., Brunswick-Balke-Collender Co., 623-633 S. Wabash Ave., Chicago.



MOBILIZED STORAGE SYSTEM floats aisles for extra capacity

Shelf and drawer capacity can be stretched 30% to 70% over a given floor area, with the Dolin patented track technique. In this mobile storage method, about two thirds of the present (or new) cabinets and shelving units are set on heavy steel bases fitted with grease-packed ball-bearing wheels and placed on the special tracks. Behind each row of fixed units two mobilized rows are set up—each having one unit less than the fixed—in as many repeats of the pattern as can be made in the available space. In spite of close continued on p. 266





Existing Road Improved. The Ninety-Sixth Street overpass on the F. D. Roosevelt Drive along the East River, New York, is typical of much new construction designed to speed traffic flow. Monel was speci-

fied for gutters because a long-wearing, lowmaintenance metal was desired in the structure built for the city by the Triborough Bridge and Tunnel Authority.

How to keep an

Overhead problem Under control

This 4-block-long highway overpass is built with four expansion joints and two dams.

Under these six spots are six gutters.

They don't have to be painted. They seldom have to be looked at. And they may never need any maintenance work done on them!

What kind of gutters are these? They are permanent gutters — made of Monel® Roofing Sheet.

Because of its nickel-copper composition, Monel possesses a unique combination of properties — properties not found in other non-ferrous roofing metals

Monel, for example, is stronger and tougher than structural steel. It is tough and hard. It resists stresses, strains and wear. Its low coefficient of expansion reduces the possibility of fatigue failure.

In the location pictured above, the effects of dirt, soot, fumes and dampness must also be considered. But they don't bother Monel. And what about the *salt* used on the roadway to reduce ice hazards during winter storms? It doesn't hurt these corrosion resisting gutters in the least.

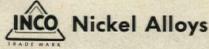
Monel, of course, is equally well suited for many jobs in addition to gutters. It is adaptable to almost all types of public works, commercial buildings — even homes. Specify it for complete roofs — flat, standing or batten seam. And for flashings, skylight frames, reglets, cornices, downspouts, louvers and ventilators.

Remember — you do your clients a lasting service every time you specify Monel. It's a lasting metal!

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York 5, N. Y.



Installing Monel Gutter under expansion bands at the north abutment of the overpass. Monel is easy to bend, cut and weld. Although relatively thin gauge sheet is used (in this case .062"), Monel gutters have ample strength to withstand deformation during installation . . . and abrasion and flexure after installation. Consulting engineers: Brown & Blauvelt, New York.



Monel Roofing... "for the life of the building"



East Harlem General Hospital Architects: Charles B. Meyers Associates Department of Public Works of the City of New York: Hon. Frederick H. Zurmuhlen, Commissioner Project Manager: Sam Garringer

General Contractors: Wilaka Construction Company Hollow Metal at its best

- * Hollow Metal Doors & Frames
- **Elevator Entrances** Convector Enclosures
- * Metal Base & Trim **Metal Wainscoting & Wall Linings**
- * Custom Partitions
- * Stall Partitions & Cubicles
- * Stainless Steel Specialties **Hollow Metal Specialties** Special Hollow Metal Lockers

Once again, SUPERIOR FIREPROOF DOOR & SASH COMPANY, INC., has been chosen to furnish the "HOLLOW METAL" for an outstanding project.

This time, THE EAST HARLEM GENERAL HOSPITAL.

Doors and frames constitute only a portion of "HOLLOW METAL."

HOLLOW METAL is the mark of a trade that has the ability to coordinate and fabricate many related sheet steel products.

It is not an afterthought of manufacturing a few more items. Rather it is the experience of having made these specific related products over a long period of time.

Thirty-five years of experience in manufacturing "HOLLOW METAL" has given us the ability to combine planning and production with economy into a service for the construction industry.

As Hollow Metal Men, we are proud to have provided the products starred (*) for The East Harlem General Hospital.

IREPROOF DOOR & SASH CO., INC.

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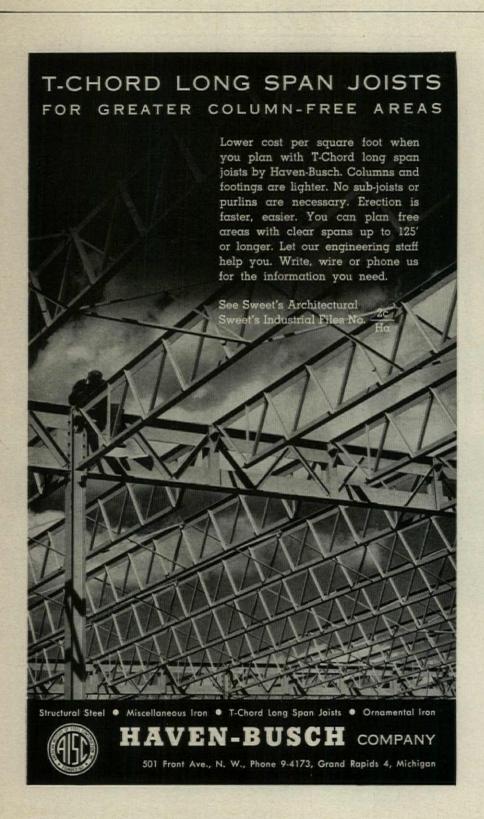
Continued from p. 262

quarters, any storage unit can be reached very quickly.

The sketch (p. 262) illustrates a Dolin arrangement costing \$6,800 which fits 275 shelving units in a 2,205 sq. ft. area where there had been 189 for a 46% reduction in space. With yearly rental at \$3.50 psf, the cost of such an installation will be amortized in about five years.

Manufacturer: Mobile Storage Div., Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N.Y.





POWER WHEELBARROW is versatile materials handling device

Easy-to-switch front-end attachments convert the *R-15 Moto-bug* into an all-around materials handling device. Fitted with a hopper body, the unit has a 15 cu. ft. carrying capacity; with a flatbed platform it takes on a one-ton load. Now the *R-15* can be obtained with a hydraulic fork attachment which lifts up a ¾-ton load 7′ high in 14 seconds. These accessory units should make the *R-15* particularly practical in loading work and general construction work as well as in industrial plant service.

The mast of the hydraulic lift can be tilted 10° backward for balance, or 2° forward to help the 30"-long forks in picking up or releasing loads. Direct-drive, the Moto-bugs have full power forward and reverse, and carlike steering. The machine





perks along at speeds up to 6 mi. an hour. Current price for *Moto-bug* unit with hopper is \$1,175; with flatbed platform \$1,150; with fork lift \$1,750; and a combination *R-15* with hopper body and flatbed \$1,245.

Manufacturer: Koehring Co., 3026 W. Concordia Ave., Milwaukee 16, Wis.

BABY BULLDOZER can dig skinny holes fast, or fill in big ones

The Agricat, a diminutive crawler tractor with ambition, does not let its size stand in the way of doing rough jobs well. A new hydraulically operated backhoe attachment, the Agrihoe, turns this 58"-long bulldozer

continued on p. 270

OW "RESERVE STEAM" HELPS MRS. BAIRD'S BREAD CO.

KEEP PACE WITH GROWING MARKETS



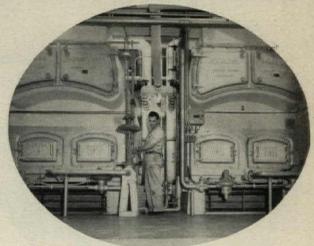
KEWAREE

reserve plus

rated

... BOILERS PROVIDE FOR FLUCTUATING LOADS AND FUTURE EXPANSION

It's "full steam ahead" for growth at Mrs. Baird's Bread Co., Dallas, Texas. That's because management looked well into the future in planning the company's modern plant. Take the boilers as an example. Past experience proved that boilers with reserve capacity could economically provide sufficient power to meet the needs of expansion. Kewanee Reserve Plus Rated Boilers were installed, with 50% extra power built in for additional capacity requirements. When fluctuating loads demand more steam at once . . . it's there with Kewanee. When expansion calls for more steam . . . it's there with Kewanee. So, when you consider boilers, don't be misled by promises that a boiler delivers enough steam to meet average daily requirements. Look for reserve to assure performance beyond the call of usual duty. Consider Kewanee Boilers, rated on nominal capacity to operate at "cruising speed". You'll get greater efficiency at lower cost, plus longer boiler life. Only a boiler rated on nominal capacity can make that guarantee.



Here are 2 Kewanee No. 5188 Boilers installed at Mrs. Baird's Bread Co.



YOU can depend on KEWANEE engineering

NO MATTER WHAT YOUR SPECIFICATIONS
YOUR CLIENT HAS THE RIGHT REFRIGERATOR
BECAUSE

INTERIORS CAN BE CHANGED IN MINUTES—NO TOOLS NEEDED

WITH

VIMCO STA-KOLD SNO-QUEEN

ALL-METAL COMMERCIAL REFRIGERATORS



ALL MADE POSSIBLE THROUGH

EXCLUSIVE ACCESSORIES

Investigate the refrigerators of TODAY and TOMORROW now!

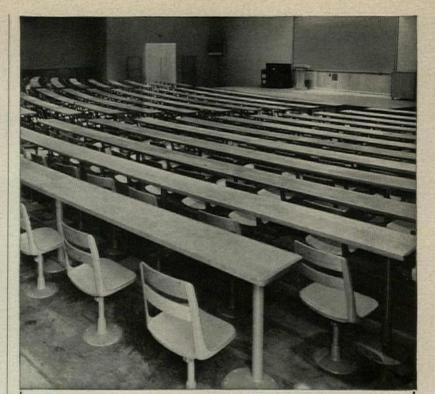
Here's a radically new idea in commercial refrigeration! It's practical! It permits your client to change the interiors whenever he wants to with ease . . . without tools . . . in minutes . . . with very light weight exclusive accessories that take up very little storage space. From 15 to 90 cu. ft. See our 20-page catalog in Sweet's Architectural File.

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DIRECT FACTORY REPRESENTATIVES IN ALL PRINCIPAL CITIES



Walker Hall, University of Florida, Gainesville, Fla. Architect: Guy C. Fulton

Finest lecture-room seating American Seating Pedestal Tables

Only American Seating Pedestal Tables with No. 406 Pedestal Chairs provide these important advantages:

- 1. All students can see instructor and demonstration.
- Chairs swivel 45° either way, provide greater freedom to perform, easier ingress and egress.
- 3. Ample passageway is maintained between chair backs and tables.
- 4. Easy to clean and clean around.
- 5. More efficient use of space, because each installation is tailored to the room.

Installed in straight rows or on a radius, the tables provide continuous working surfaces—equally effective in large or small rooms, on level or sloping floors, with or without risers. The offset steel pedestals leave ample leg room.

The chairs have comfortable cradleform seats, deep-curved backs with self-adjusting lower rails, and are adjustable for height. Let our experienced seating engineers help design your installation. Write for full information.

American Seating Adult-size Desk No. 445

Modern styling, greatest student comfort, steel pylon construction. Cradleform seat rotates on silent, nylon bearings. Generous knee, leg and body room. Visible, handy book-storage space.



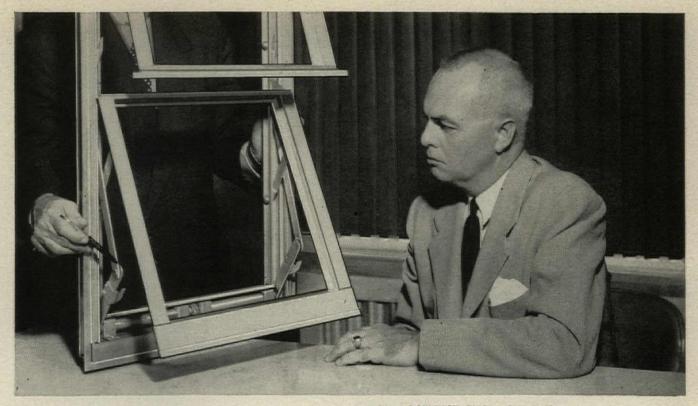
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Manufacturers of Church, School, Auditorium, Theatre, Transportation, Stadium Seating

FOLDING CHAIRS



A.I.A. ARCHITECT, THOMAS F. FAIRES,
Thomas F. Faires & Associates, Memphis, Tennessee,
studies the advanced-design features of the Ualco Awning Window.

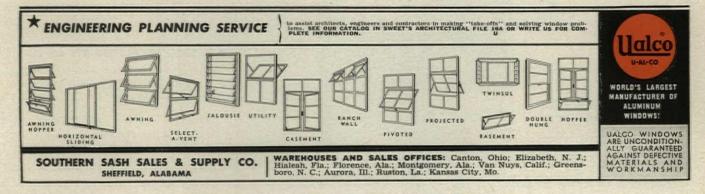
Ualco's linkage with oilite bearing rollers uniformly actuate both sides of ventilators



SPECIFY UALCO'S ADVANCE - DESIGN AWNING TO GIVE CLIENTS TROUBLE - FREE SERVICE — ALWAYS!

Finger-tip control is all that's ever required to operate this remarkable awning window! Operating power is transmitted from the operator through the torsion rod, which is encased in four pillow block oilite bearings in the sill, to the roller operating linkage in both jamb sections. Thus, power is transmitted equally to the movable bars and lugs that engage weatherseal hooks located on both sides of all vents. This eliminates the possibility of strain which causes unequal pressure, wear and inefficient operation. Ualco Awning Windows require no adjustments . . . are maintenance-free!

In addition, Ualco's extruded frames have greater tensile strength to fill all architectural requirements . . . will never rot, rust, warp, shrink, split or need painting!





Continued from p. 266

into a very versatile machine, capable of digging trenches as well as doing backfilling and rough grading work, at an attractive price to the contractor: \$2,989 F.O.B.

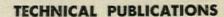
Counterbalanced against the bulldozer scoop, and resting on retractable feet beneath its hydraulic cylinder haunches, the tractor can send its 9"- or 12"-wide bucket 10' out, dig 6' down and load up to 8' high. In one hour the Agrihoe will dig a 50' trench, 14"-

wide, 3'-deep trench not in easy soil but through debris-filled territory.

The digger's size is being put to advantage currently in uranium mining operations and could be put to similar use in tunnel digging. For such underground assignment, it is equipped with a diesel engine and oxycatalyst for safe fume disposal.

Distributor: Earl H. Pence & Co., Inc., 2150 Washington Ave., San Leandro, Calif.





CEMENT

Medusa Cements Manual. Medusa Portland Cement Co., 1000 Midland Bidg., Cleveland 15, Ohio. 26 pp. 31/4" x 61/4"

FABRICS

Walls of Fame. Vicrtex Vinyl Electronically Fused Fabrics. L. E. Carpenter & Co., Empire State Bldg., New York 1, N.Y. 12 pp. 81/2" x 11"

GLASS BLOCK

Skytrol Glass Blocks for Toplighting Your Buildings. Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh, Pa. 8 pp. 81/2" x 11"

A Special-Purpose Glass Block for Use in Areas with Severe Sun Conditions. Kimble Glass Co., Toledo 1, Ohio. 4 pp. 81/2" x 11"

Suntrol Glass Block for Reduction of Glare and Heat. Pittsburgh Corning Corp., 1 Gateway Center, Pittsburgh, Pa. 8 pp. 8½" x 11"

HARDWARE

Kramer Control Hardware. Kramer Manufacturing Co., 2833 Third St., San Francisco, Calif. 8/2" x 11"

HEATING, VENTILATING AND AIR CONDITIONING

Hydro-Fio Hot Water Heating Products. Catalogue GK-954. Bell & Gossett Co., Morton Grove, III. 24 pp. 81/2" x 11"

Pritchard Lo Line Cooling Towers. J. F. Pritchard & Co., 4625 Roanoke Pkwy., Kansas City 12, Mo. 4 pp. $81/2'' \times 11''$

Radiant Panel Heating with Anaconda Preformed Copper Tube Panel Grids. Pub. C-6-R. American Brass Co., Waterbury 20, Conn. 24 pp. 81/2" x 11"

continued on p. 274





12 ADVANCEMENTS in

- 1. ALL-WHITE PORCELAIN ENAMEL REFLECTORS (Inside and Outside)
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Official, authoritative compilation of latest approved RLM Specifications for industrial lighting units. Complete with all important improvements in incandescent and fluorescent standards. Includes handy lighting data tables and curves, as well as names and addresses of RLM manufacturers together with RLM-labeled units made by each. Everyone who buys, sells or recommends industrial lighting equipment is invited to send for a free copy of this valuable 48 page book.

RLM Standards Institute, Suite 830, 326 W. Madison St., Chicago 6, Ill.



St. Agnes High School, Main Entrance; Brighton, N. Y. Architects: Waasdorp and Northrup, Rochester, N. Y. Furnished and installed by Hires Turner Glass Co., Rochester, N. Y.

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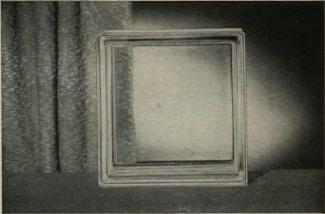
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- Narrow and Wide Stile Extruded Aluminum Doors
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ARCHITECTURAL



Owens-Illinois Glass Block No. 370

INSULATED Light with sight



Provide insulated light-with-sight

... use No. 370 of the Architectural Glass Block Line

Owens-Illinois Glass Block* panels give your homes visible evidence of value. Here a panel of design No. 370 provides an attractive "see through" wall.

No storm windows are needed to keep the clarity of glass block. Glass block are easy to handle, easy to store, easy to install, using ordinary mason's tools.

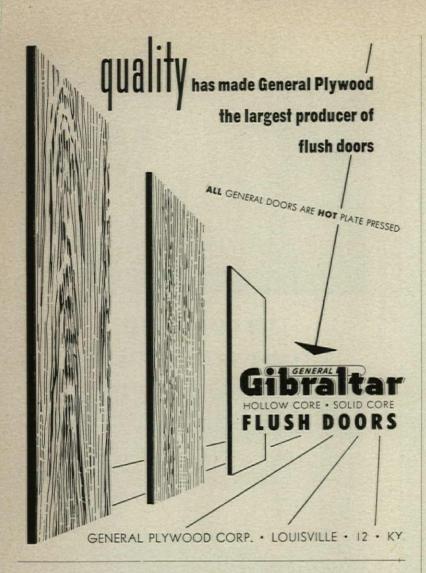
Owens-Illinois super-clear Glass Block No. 370 are one of the five designs in our Architectural Line. Among other designs available are: random-clear that permit partial vision, and prismatic light-directing glass block that restrict sight completely and flood rooms with diffused daylight.

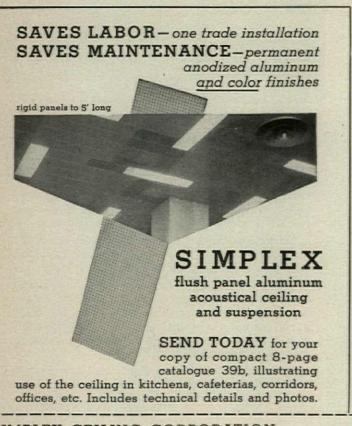
For facts about the many ways you can use Owens-Illinois Glass Block to advantage in your homes, write: Kimble Glass Company, subsidiary of Owens-Illinois, Dept. AF-3, Toledo 1, Ohio. *Formerly known as INSULUX

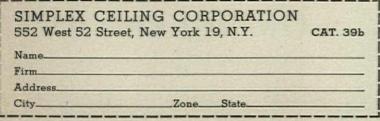
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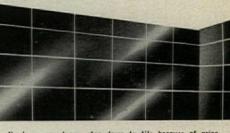
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No longer must you step down to tile because of price. The answer is low-cost, easily applied DETOPAK . . . handsome, strong, hygienic, decorative.

DETOPAK's vivid colors are not just surface tints, but go through and through for deep, permanent beauty. Color-keyed to leading fixture shades . . . black, white, grey, ivory, peach, pastel blue, pastel green, turquoise and green.

ivory, peach, pastel blue, pastel green, tarquoise and green.

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500 FIFTH AVENUE, NEW YORK



There's extra bustle, these days, in busy midtown Manhattan. It's caused by the construction of a new 42-story, 45-million dollar Socony-Vacuum Building . . . New York's largest in 25 years.

Most distinctive architectural feature of this robust giant will be its *stainless steel* skin. An armor of .037" thick 18-8 chromium-nickel stainless, type 302, was chosen for very *practical* reasons. Not only will stainless walls mean lasting beauty, but they'll save many tons of excess weight. For the stainless skin will weigh only $1\frac{1}{2}$ lbs. per sq. ft., as compared to 48 lbs. per sq. ft.,

for a 4" brick exterior wall.

Crucible is one of several leading producers who are supplying the stainless steel for this skyscraper. When completed it will be the largest metal-sheathed office building in the world. In planning your next project consider the advantages of stainless. For helpful suggestions, write for your copy of "A Guide to Future Uses of Stainless Steel in Architecture and Building." Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 30, Pa.

CRUCIBLE

first name in special purpose steels

Crucible Steel Company of America

Continued from p. 270

Water Heaters and Heating Boilers Catalogue. Portmar Boiler Co., 193 Seventh St., Brooklyn 15, N. Y. Leatherbound, looseleaf, 81/2" x 11"

Young Remote "Roomaire" Conditioner. Catalogue No. 7754. Young Radiator Co., Racine, Wis. 3 pp. fold-out. 81/2" x 11"

INSULATION

Firesafe Churches. Form G-93. Zonolite Co., 135 S. LaSalle St., Chicago 3, III. 3 pp. fold-out. 81/2" x 11"

LIGHTING

Guide to Fluorescent Luminaires for Commercial and Industrial Applications. Bul. B-5799-B. Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa. 28 pp.

Lighting with that Lightolier Flair. Lightolier, 346 Claremont Ave., Jersey Cty, N.J. 16 pp. 11" x 81/3"

RLM Standard Specifications for Industrial Lighting Units. RLM Standards Institute, Suite 818, 326 W. Madison St., Chicago 6, III. 81/2" x 11"

Stage Lighting Switchboards. Bul. GEA-6168. General Electric Co., Plainville, Conn. 24 pp. 81/2" x 11"

LUMBER

Comparative Costs of Walls, Partitions, Roofs for School Buildings. National Lumber Manufacturers Assn., 1319 18th St., N. W., Washington 6, D. C. 28 pp. 81/2" x 11"

MAINTENANCE

The Answers to Many of Your Cleaning Problems. Bul. No. 154. Spencer Turbine Co., Hartford, Conn. 12 pp. 81/2" x 11"

Get Better Mainenance. Anderson-Nichols & Co., 150 Causeway St., Boston 14, Mass. 28 pp. 81/2" x 11"

METALS

Modern Design Has Aluminum in Mind. Reynolds Metals Co., 2500 S. Third St., Louisville, Ky. 16 pp. $8\frac{1}{2}$ " x 11"

PREFABRICATED BUILDINGS

Here's the Most Versatile Pre-engineered Steel Building Ever Developed. Brookville Manufacturing Co., Brookville, Pa. 4 pp. 81/2" x 11"

PROTECTIVE COATINGS

Stop Rust with Rust-Oleum. Form No. 254. Rust-Oleum Corp., 2799 Oakton St., Evanston, III. 24 pp. 81/2" x 11"

RUBBER

Facts about Neoprene for the Engineer. Neoprene Notebook No. 62. E. I. du Pont de Nemours & Co., Wilmington, Del. 8 pp. 81/2" x 11"

SOUND CONTROL

Acoustical Tile Adhesive Handbook. A. Z. Bogert Co., Ambler, Pa. 15 pp. 81/2" x 11"

SUNSHADES

Specifications for Venetian Blinds. No. 18-LO. Levolor Lorentzen, Inc., 391 W. Broadway, New York 12, N. Y. 8 pp. 81/2" x 11"

TILE

Stark Ceramics Catalogue No. 55. Stark Ceramics, Inc., Canton 1, Ohio. 28 pp. 81/2" x 11"

WALL AND CEILING PANELS

1955 Marlite Catalogue. Marsh Wall Products, Inc., Dover, Ohio. 8 pp. 81/2" x 11"

WINDOWS AND DOORS

International Doors for Industry and Aviation. International Steel Co., Evansville, Ind. 16 pp. 81/2" x 11"

New Mosler "Picture Windows" for Drive-in Banking. Mosler Safe Co., 320 Fifth Ave., New York 1, N. Y. 4 pp. 81/2" x 11"

Revolving Doors. 1955 Catalogue. International Steel Co., Evansville 7, Ind. 28 pp. $8\frac{1}{2}$ " x 11"

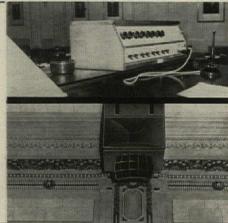


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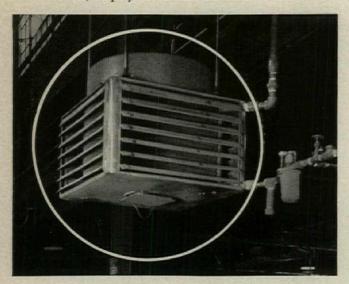


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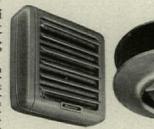
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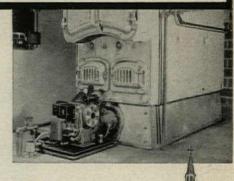
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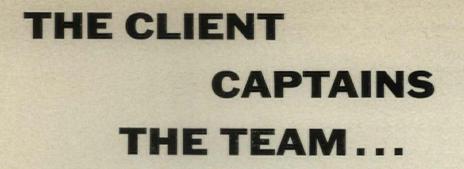
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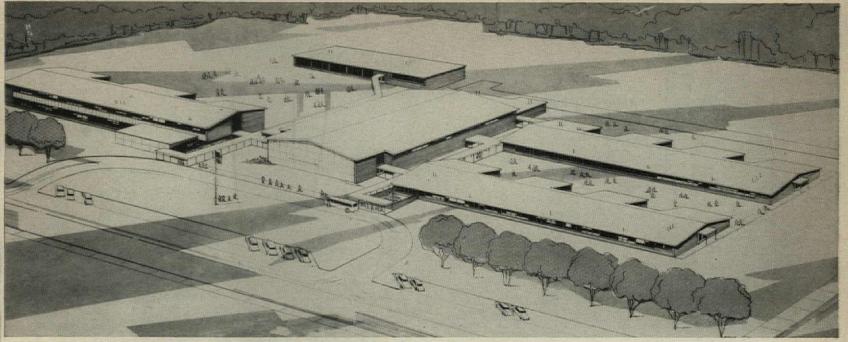
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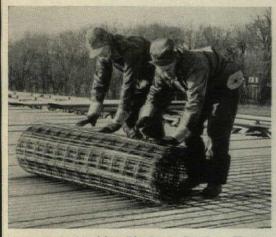
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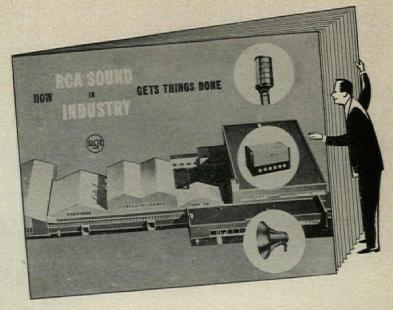
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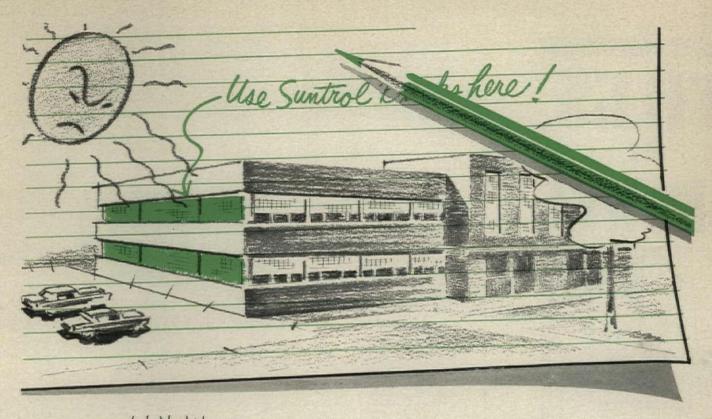


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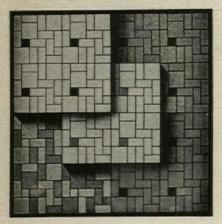
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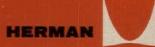
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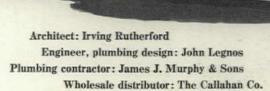




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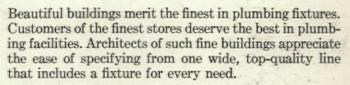
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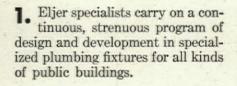


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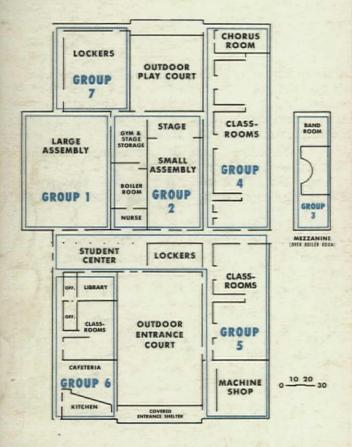
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