PROGRESSIVE ARCHITECTURE

newsletter

MARCH 1951

- Rumors still fly about further restrictions on building and on the use of materials. General impression gained from government officials, on and off the record, is that interpretation of "necessary" construction will be fairly liberal, and that a good argument for a building's possible use in civil defense will allow it to be started. For example: certain shopping centers are smiled on as community gathering places for "defense" purposes.

- During 30-day hiatus of commercial work, NPA has allowed office structures to start when they were intended for owner's own use -- not for rent or speculation. This may indicate trend in period ahead, although there has been no official ruling on the subject.

- Materials rather than stop-orders are likely to be the block in months ahead. Significant was Office of Defense Mobilization Director Charles Wilson's letter to New York Governor Dewey, advising that although schools and hospitals "will not be neglected" it will nevertheless be true that "new projects requiring large amounts of steel will drag on indefinitely unless they are needed as a part of the defense program."

- It is now being generally assumed that difficulties with materials will ease off after 1951, with the greatest pinch to be felt in the second half of this year. Steel, of course, will continue in short supply through '52, with Wilson and others predicting that "increased steel production will ease this situation in 1953." Obviously all such forecasts are hedged by guesses about improvement or worsening of the international situation.

- Department of Defense has advised ODM that its procurement needs for next fiscal year will total $87 billion. A small part of this, of course, is for construction items. However, some 15,600 rental units have been approved for installation at Army posts in various parts of the country.

- Up to this point, business is still good. Construction figures for first month and a half of year show substantial over-all gain over last year. Industrial work went way up, as did public housing. Commercial and private housing dropped. Architects are beginning to feel the pinch of transition from one activity to another. On west and east coasts there have been few layoffs reported; some midwest offices are contracting.

- Arthur Holden, A.I.A. Regional Director, speaking to the Brooklyn Chapter, said that disruption of the construction industry now could threaten "to place the planning that the architects should be doing into the hands of the military and other outside interests." Holden warned against letting the "bogey of inflation" drive us into doing panicky things, advised a sober examination of "the nature of the crisis" and wondered if proper planning might not show that our productive capacity "can be used for both the preparation of war materials and the production of goods for civilian consumption."

- National Association of Home Builders, meeting in Chicago, awarded builder-house design prize to 28-year-old Bruce Walker, Harvard graduate student, in competition run jointly with a

(Continued on page 2)

newsletter

building magazine; elected "Wild Bill" Atkinson president of NAHB; issued a release saying that private industry can provide needed defense housing, that the entire public housing program should be suspended.

- American Society of Landscape architects has elected Lawrence C. Linnard of Maumee, Ohio, as president for '51-'52.

- A Joint Committee of the Design Professions, including A.I.A. representation, has issued a report on principles of collaboration and a series of outlines spelling out detailed duties on housing projects, airfields, institutions, government buildings and industrial work. Roy F. Larson, Philadelphia architect, was chairman.

- Illinois Civil Service Commission announces open-competitive examinations for Architectural Aide, Architectural Draftsman and Civil Engineer, with applications closing March 23.

- St. Louis, tired of waiting for Congressional appropriation needed to build Jefferson National Expansion Memorial designed by Eero Saarinen, now is asking Dept. of Interior for a small grant to landscape twelve blocks and "take the mud-hole look away from the river-front."

- William McLeish Dunbar, head of the architectural school at Miami University, Ohio, died recently after a long illness, at the age of 55. Dunbar had written much and was particularly interested in the history of architecture.

- Columbia University, through the Planning and Housing Division of its School of Architecture, will conduct a studytour to "selected urban areas" in Europe this summer, under the direction of J. Marshall Miller. Trip will last nine weeks starting June 11.

- Mayer & Whittlesey, New York architects who last year prepared a master plan for the Punjab Capitol, report that the plan has been officially adopted and that work is now proceeding at the construction stage. More detailed design will be handled by Le Corbusier, P. Jeanneret, and Maxwell Fry, with Mayer & Whittlesey consulting, an arrangement made necessary by cost and dollar problems.

- Skidmore, Owings & Merrill has given $1000 to the U. of Illinois for an undergraduate architectural scholarship. This is the fourth such grant by this firm, previous scholarships having been set up at M.I.T., Cornell, and U. of California.

- The second Congress of the International Union of Architects will be held September 23 to 30 at Rabat, Morocco. Theme will be "How Architecture is Handling its New Tasks."

- Le Brun Scholarship competition, awarded by N.Y. Chapter, A.I.A., is based this year on competition for design of a motel which can be converted as temporary shelter. Prize is $2800 for six months' travel in Europe; contestants must be between 23 and 30 years old and nominated by an A.I.A. member.

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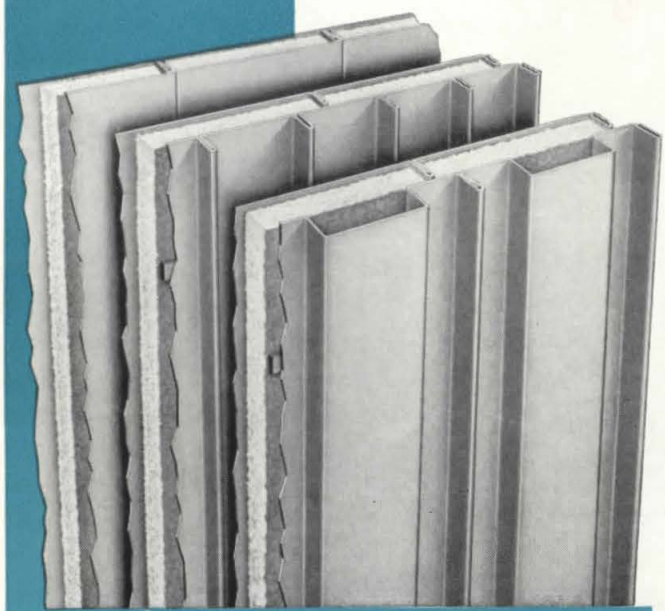

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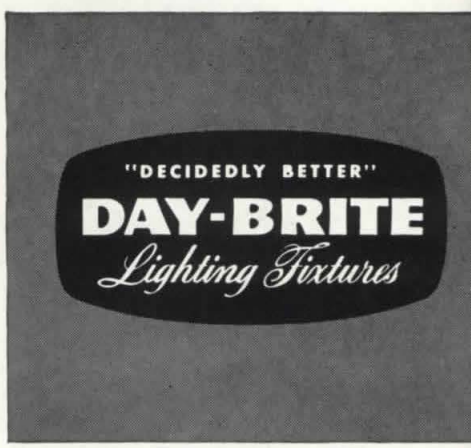

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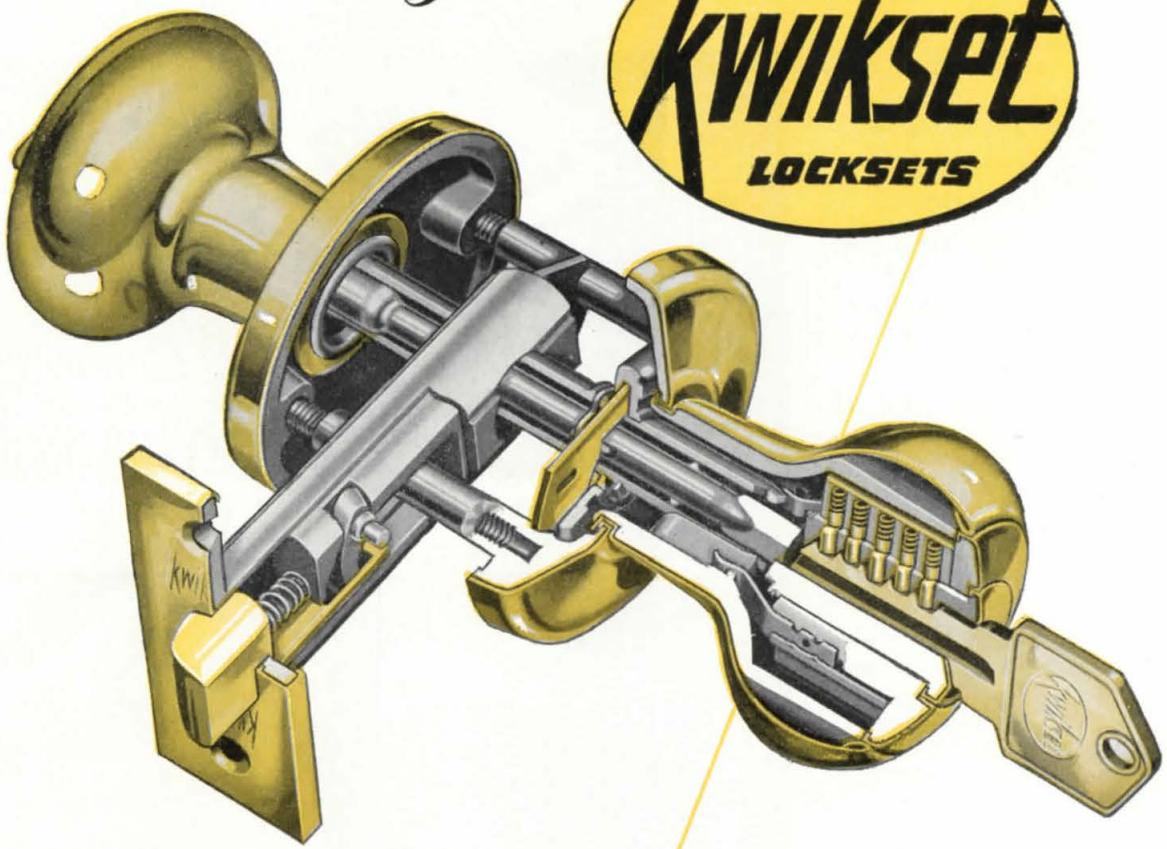

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P/A VIEWS

PICTURE OF U.S. WORK

Dear Editor: For the first time, I now have some idea of the amount and type of work being done throughout the entire United States. We certainly enjoyed reading your 1951 "Design Survey" and of course we were glad to have a small part in the issue.

ROBERT W. VAHLBERG
GAIL R. PALMER
C. JULIAN VAHLBERG
Oklahoma City, Okla.

SURVEY "APPALLING"

Dear Editor: The January issue is most interesting. First—and this is not in the sense of criticism—it is not up to your last January issue. But that issue, as I have told you, is a classic and I don't think can ever be equalled by you or anyone else.

My first reaction (*this year*) was of disappointment, then I realized that was only visual with the constant repetition of renderings, which is, of course, the only thing you could do. You show so much though—and, all in all, it is rather appalling, as the realization of the lack of understanding and lack of imagination sinks in. Is this the best we can do? I hope not! HENRY HILL
San Francisco, Calif.

EXCELLENT SELECTION

Dear Editor: Your 1951 "Design Survey" presents an excellent selection of prospective buildings for the coming year and we found some of the projects exceedingly interesting. Our heartiest congratulations. CLARK & FREY
Palm Springs, Calif.

DUST ON GAZING CRYSTAL

Dear Editor: Only one thing wrong with your predictions for 1951—The National Association of Housing Officials will hold its Annual Conference in October, not in August. The conference city is Washington, D.C. The topic will be: "Our Boys Should Get The Defense Housing Program."

The National Association of Home Builders has already held its 1951 Conference. Their topic was: "Our Boys Should Get The Defense Housing Program." OTTO F. LIST, MANAGER
Advertising and Promotion
Journal of Housing
Chicago, Ill.

LETTERS TO THE SCHOOLMASTER

Readers of "Out of School," the P/A column conducted by Carl Feiss, raise some questions provocative of further discussion.

Dear Editor: After allowing myself to simmer for an hour or so after reading Carl Feiss' article OUT OF SCHOOL I have decided to try to define for him that elusive "hybrid," the Architectural Engineer. I believe that I am in a position to do so, since I recently graduated from one of the six universities that pass out this "useless" degree.

The Architectural Engineer *is*, in fact, a sort of "hybrid," but I hardly think that he is as useless a creature as Feiss would have us believe. My own curriculum included *all* of the subjects taken by the Structural Engineer, and all but a few of those taken by the Civil Engineer. In my own case, a matter of two semesters would give me a degree in both of these highly respected fields. In addition to the CE and Structural subjects, there were excellent courses in air conditioning (which was avoided as the plague by ME's), and a great variety of architectural courses. As far as I can see, the difference between the Architect's curriculum and my own as far as these latter courses are concerned, was the additional six semesters of Design (which I admit I probably would have stumbled on) and a few courses in Humanities, Philosophy, and Water Coloring. I question the practicality of the first two, and as for the latter, professional artists seem to be taking over the rendering field hereabouts.

Let us say, then, that the Architectural Engineer is a glorified form of the Structural Engineer, rather than a useless designer of filling stations. He is a necessary part of any large Architect's office, and is indispensible to the Consulting Engineer. The Architectural Engineer acts as a tie between the imaginative ingenuity of the Architect on one hand, and the plodding mechanical ability of the Engineer. Let us say that the Architectural Engineer is a person who starts out with the ambition to be an Architect, and the ability to be an Engineer.

With the evergrowing amount of commercial work being comissioned in the United States, I am sure that the Architectural Engineer will come to be recognized as a partner in the Architectural Profession, even, bless their souls, by the graduates of the Holy Temples at M.I.T. Indignantly yours,
C. PICKETT
Louisville, Ky.

P.S. Oh well, Uncle Sam is frustrating my ambitions next month anyway, I should worry about the fate of my colleagues. . .

The illustration of a "three-dimensional exercise" from University of Minnesota, recently used by Carl Feiss in his Out of School column (see page 114 December 1950 P/A), inspired George Cooper Rudolph, architect and delineator, New York, to design this *10,000-seat church in honor* of Dr. Norman Vincent Peale, whose sermons at Marble Collegiate Church on lower Fifth Avenue draw such large attendance that the church is filled long before the hour of services.

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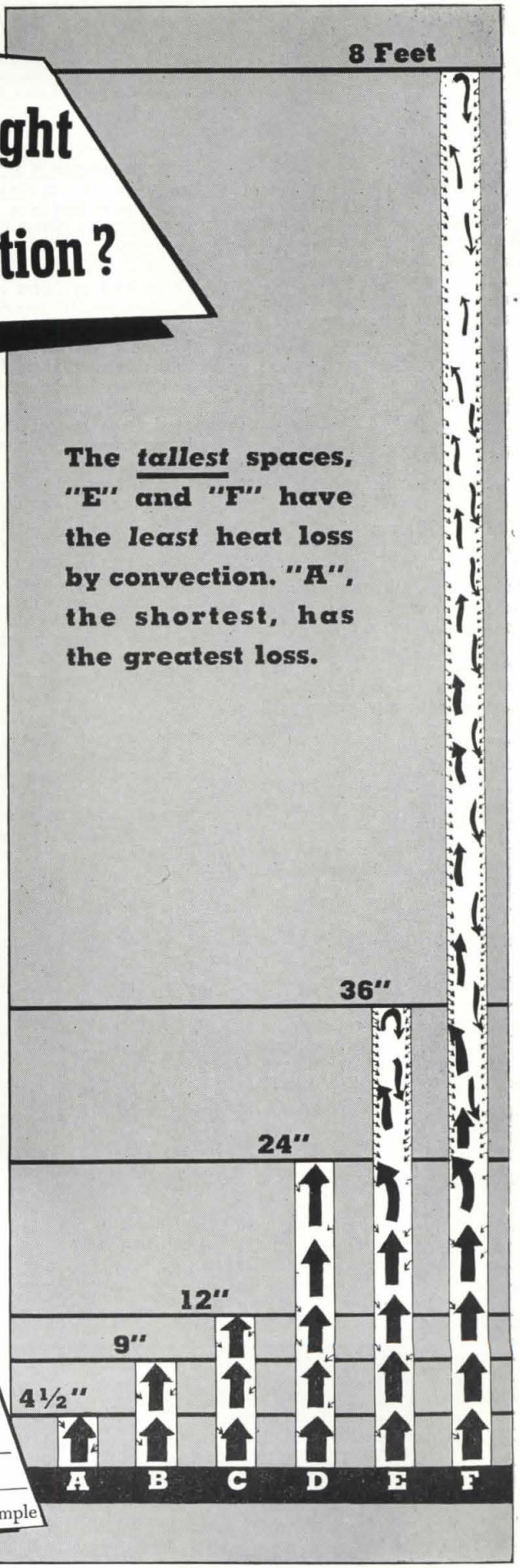

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PROGRESS REPORT

For five months this year, Britain will welcome visitors from all countries at an exhibition of the achievements of her scientists, technicians, artists, and craftsmen. Ceremonies, pageantry, and sports will add liveliness to the show and all parts of the British Isles will be "at home" to extend hospitality and initiate the visitors in local lore and traditions. For full information regarding the Festival Calendar, reservations, etc., P/A readers may write to British Information Services, 30 Rockefeller Plaza, New York 20, New York.

Focal point of the Festival of Britain will be the South Bank Exhibition in London (see illustrations), where the the products and arts of Britain will be displayed in a group of buildings erected since 1949 on a site cleared of the rubble of slums that were blitzed in World War II. Notable structures here are the Royal Festival Hall, a permanent addition to London's cultural life, and the all-aluminum Dome of Discovery (diameter: 365 feet) housing newest inventions and technical developments.

In this celebration of the centenary of Prince Albert's epoch-marking Crystal Palace Exposition, which also closes the first half of the 20th Century, local programs have also been planned by nearly 1600 towns and villages of the United Kingdom. In London itself will be two other exhibitions—a "live"

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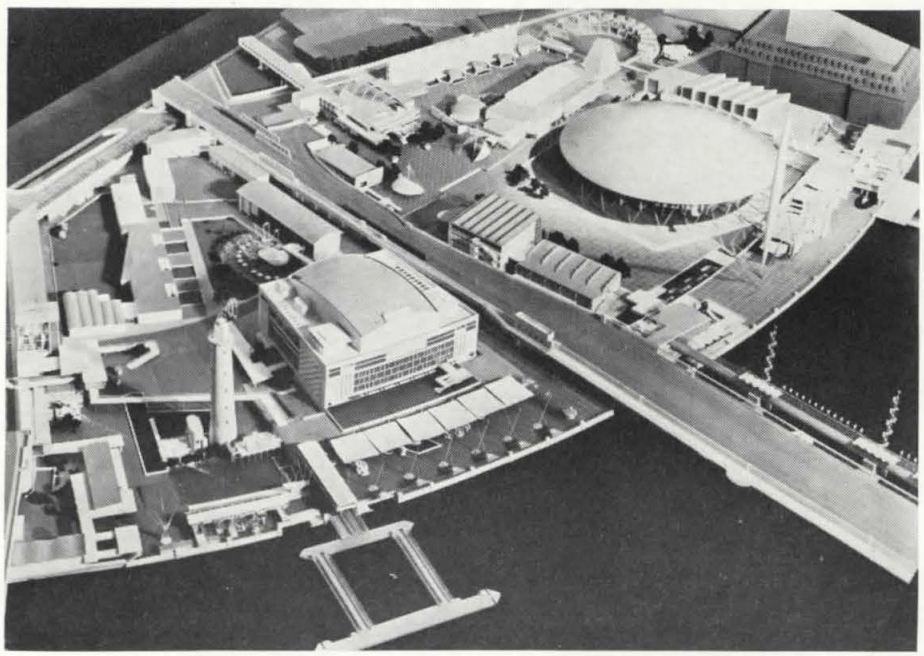
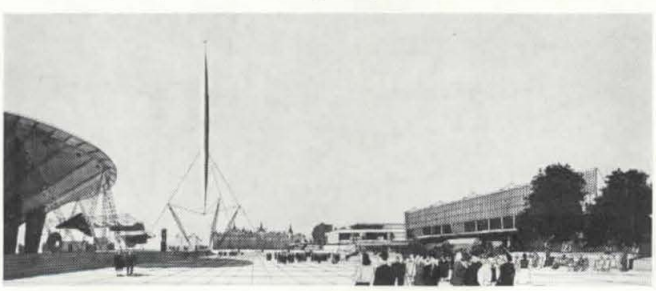
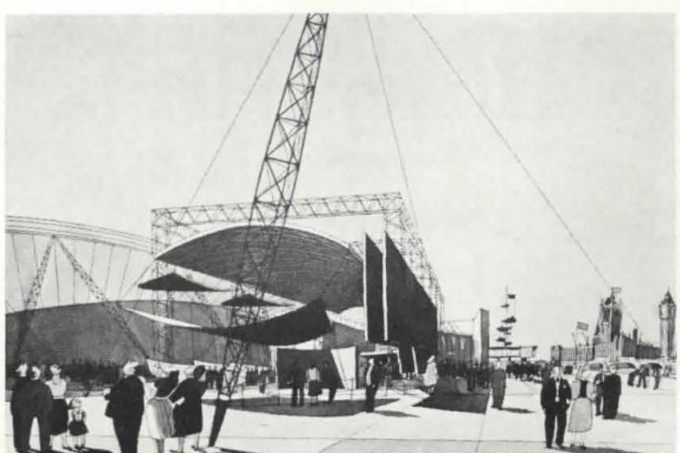


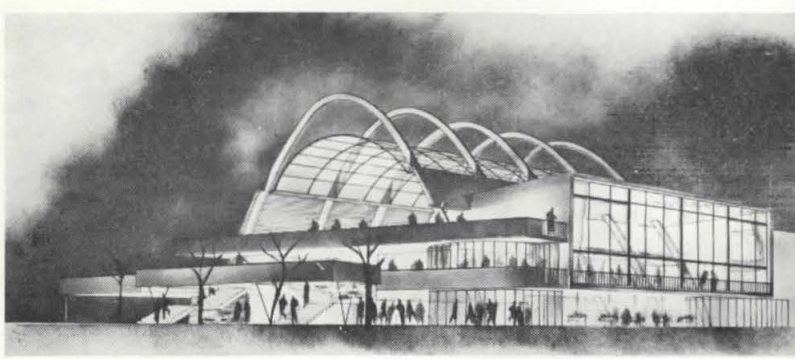
Buildings and recreation areas grouped in the model above will be the "centerpiece" of the Festival of Britain, this year in London, May 3 to September 30, marking the centenary of the Crystal Palace Exhibition in Hyde Park that accelerated the Victorian tempo. Two largest structures shown here are the Royal Festival Hall (left) and Dome of Discovery (right).

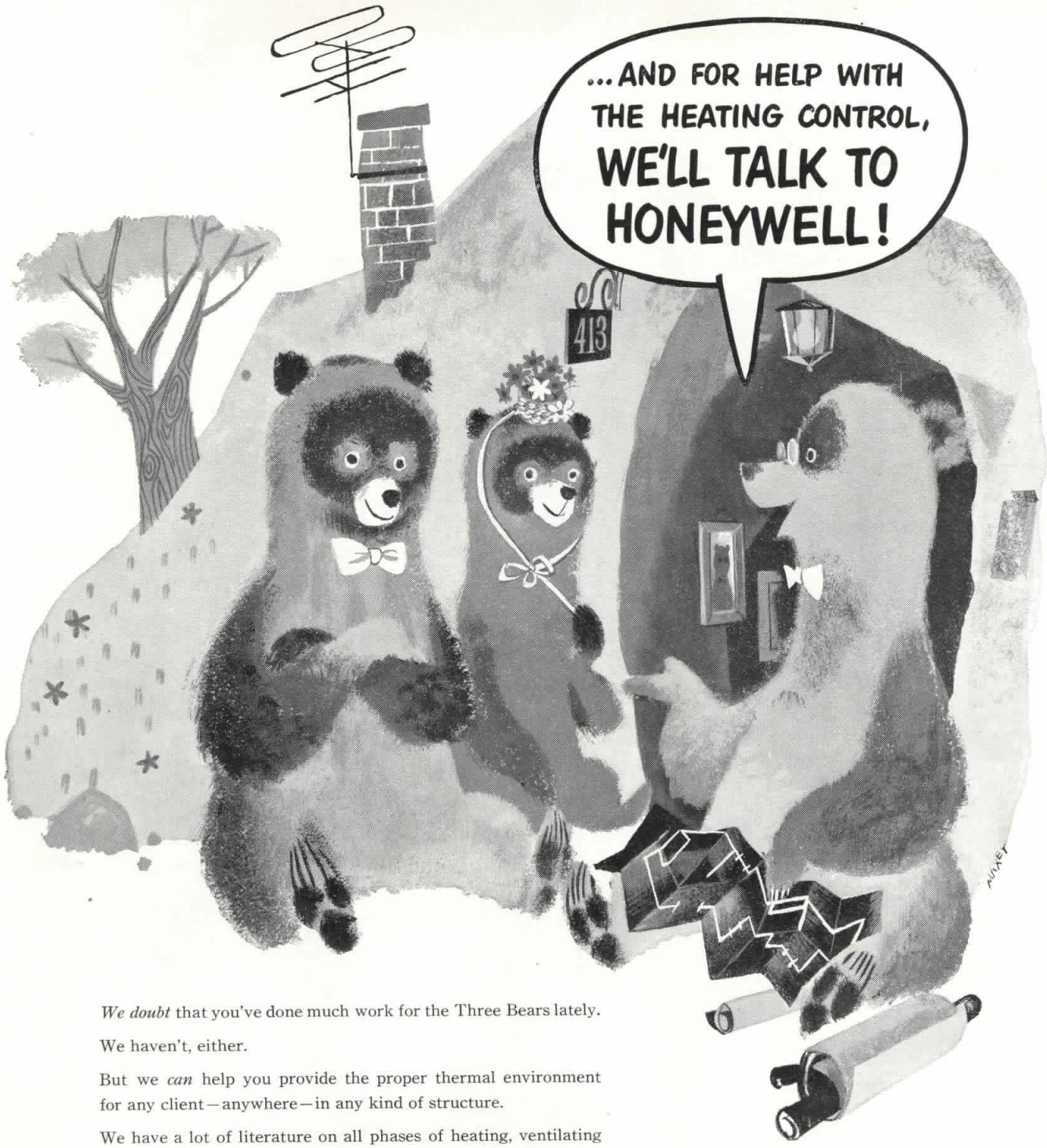
Right—site of the Festival of Britain is on the far side of the Thames, adjoining London County Hall, in this aerial view from a point near Houses of Parliament. *Photos: British Information Services*

The sketches below suggest the holiday character sought by the well-known architects and designers who collaborated on this setting for British hospitality to the throngs expected from other countries.









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MINNEAPOLIS
Honeywell
First in Controls

p/a

PROGRESS REPORT

(Continued from page 11)

architectural exhibition in London's East End, where a part of Poplar-Stepney has been rebuilt as a model community occupying 30 acres; and at South Kensington, displays of books, historic material, and latest scientific achievements. In addition, attractive Festival Pleasure Gardens have been developed a short distance upstream on the Thames bank, in Battersea Park. A continuous succession of musical, dramatic, and demonstration programs ensure interest at all these Festival locations.

Festivals of the arts have been scheduled at a number of English, Scotch, Welsh, and Irish cities during the summer. There will be traveling exhibitions—by sea as well as land—stopping at designated Festival ports and cities. And the Festival Committee will undertake to expedite travel for all.

●

Working On The Festival Concert Hall in London

By CEDRIC ASTBURY

Students of architecture in Britain are encouraged to work on building sites in the holidays to gain practical experience which it would be difficult to obtain in term time. That is how, as a student in the latter part of an architectural course, I became a temporary laborer working on the Royal Festival Hall being built for the Festival of Britain in 1951 by the London County Council.

There are three main Festival sites in London: Battersea Park, a large open space not far from the Concert hall, where pleasure gardens and a fun fair are being prepared; a heavily bombed area in the East End, where postwar housing development will be displayed; and the main Festival Exhibition site on the South Bank of the Thames, where the concert hall and central exhibitions will be found. It was on this last site that I found work.

When I arrived I was given a brass disc bearing the number M737 and was told to report to the general foreman. Everyone had seen him; but the ubiquitous Mr. Jenkins was always one step ahead of me.

thick soles needed

Half an hour later, having realized what a large building I was to work on, I found the foreman, who showed me

(Continued on page 14)

p/a

PROGRESS REPORT

(Continued from page 13)

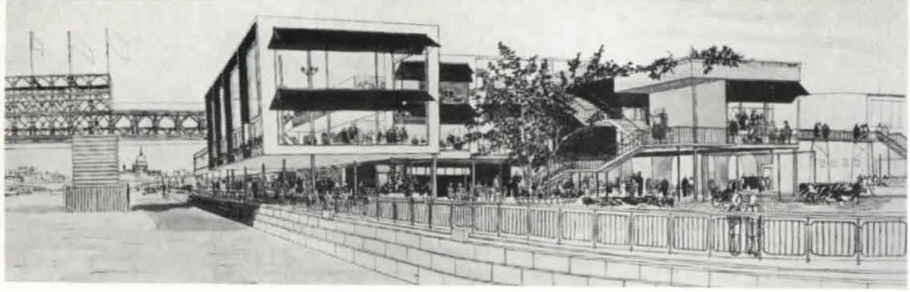
where my new job was to be. After I had knocked my head on scaffolding, my guide told me that the two most common accidents on the site were bumped heads, and feet which had trodden on nails in pieces of wood. He added that there was an efficient first aid post; but I had already determined to try my hand that evening at nailing thicker soles on my shoes!

My first week was spent in moving and cleaning metal trays. These were used as moulds for the concrete walls. My hands became scratched, my back ached, and by the end of my first week my clothes were grey with dust.

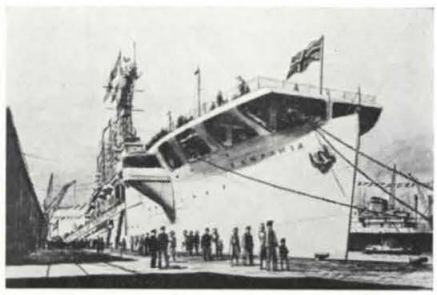
One day I saw some of the hundreds of drawings produced for the concert hall. These were in the London County Council drawing office on the site itself. In years to come, doubtless, they will be studied with interest, perhaps with as great as that which I felt when I saw, in the same office, relics discovered when the foundations were dug. These included centuries-old clay tobacco pipes, dumped when the area was marshland from potteries higher up the river, and a bone of a pony which lived before the Romans invaded Britain.

My next job was with a gang moving 6000 bricks to a reinforced staircase. The idea was to put on the stair considerably more weight than that of a tightly packed crowd, and then measure the amount by which the stair deflected. After very accurate "deflectometers" had been placed in various positions under the stairs we began to load the bricks.

At first my wheelbarrow looked empty because I found that 30 bricks was all I could balance. But after a little practice I was able to take 60 bricks at a time—although I noticed that my neighbor was loading 90 in his.



A restaurant on the Thames bank at the heart of the Festival concourse was designed by Mischa Black, architect and designer.



One of the two traveling exhibitions that will extend the South Bank Exhibition will be aboard *H.M.S. Campania*, an escort carrier with gallant war record that has been converted as an exhibition hall. During the summer months, she will circle the British Isles, calling at ports from Dundee to Glasgow.

news bulletin

That evening as I "clocked off" a laborer handed me some typewritten sheets. They formed a news bulletin produced by the men working on the concert hall. Progress made during the past month on each part of the building was recorded, and an article by one workman who knew London well pointed out things of interest in the surrounding district. Other articles reported past activities organized by the workers and forecasts of future arrangements; one of the men had written a poem.

(Continued on page 16)

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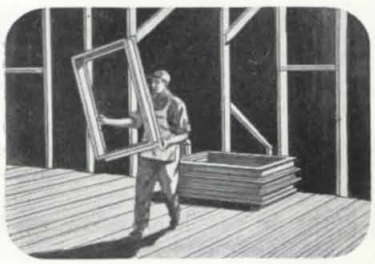

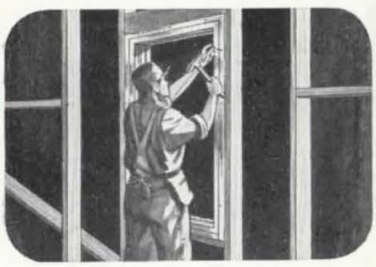

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Imagine it! A *complete* window unit—ready to install—with no on-the-job painting, glazing, refitting, or hardware to attach...no sash cords, weights or balances. Light in weight because of its tubular construction, the Rusco Prime Window can be *installed in far less time* than ordinary window units. Low initial cost, inexpensive installation, savings on maintenance—all add up to the most remarkable window buy on the market. Call your local Rusco Prime Window distributor or mail coupon for full information.

Panels easily removed from inside

Complete rainproof ventilation control.

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Pay for themselves through fuel savings.

Sturdy tubular construction.

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Manufacturer of famous Rusco Armco-metal Combination Windows, Combination Doors Porch Enclosures, Awnings and Jalousies.

THE F. C. RUSSELL COMPANY
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Gentlemen: Please send me catalog of informative data and specifications on Rusco Prime Windows.

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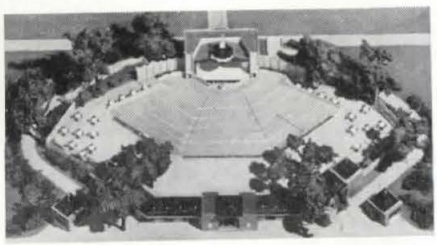
P/A PROGRESS REPORT

(Continued from page 14)

My greatest interest became talking in the lunch hour to my fellow workers. One, I found had been a typesetter before World War II, another had been a Leading Seaman in Britain's Royal Navy, while a third had owned a farm in Wales and now wanted to buy a dairy business. I heard stories of the gangs working against time and weather, by floodlight late into the night, using Hessian screens and steam devices to keep the frost from damaging the "green" (unset) concrete. I learned, too, that the concert hall site had to be drained and the level of the water in the ground beneath (it is close to the river) kept down by continuous pumping during the laying of foundations, otherwise without the weight of the concert hall above them, these would have "floated" in the marshy subsoil.

A later job was with the carpenters on the highest point of the concert hall, fixing and striking the wooden formwork into which the concrete of the walls was being poured and allowed to set. From the roof I could see the noisy cranes and excavators working by the river, and just below me the stonemasons hanging the stone facing on the walls. There are not many skilled stonemasons left in Britain now, and less than 10 of them are tackling this immense task of covering the concert hall.



Festival Pleasure Gardens will occupy 37 acres of Battersea Park, London, on the Thames side. This is a model of the open-air theater for spectacles, band concerts, and children's entertainments.

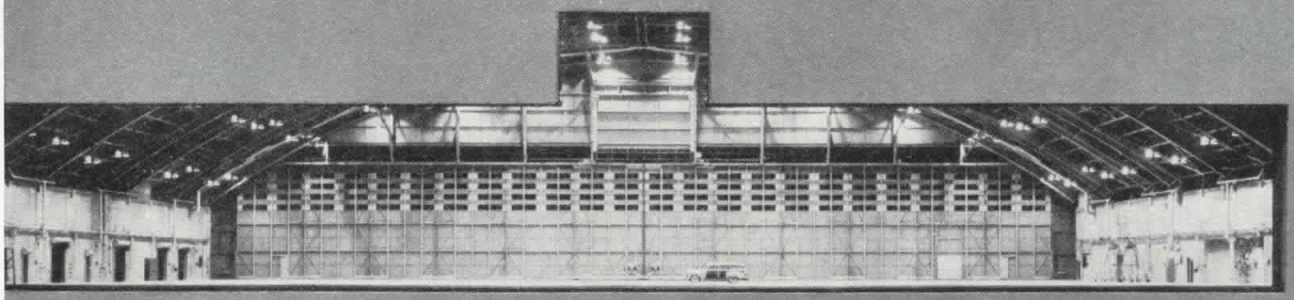
Photo: British Information Services

old shot tower

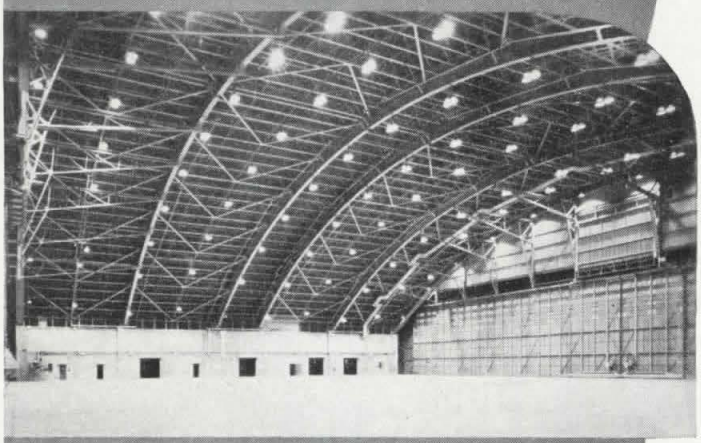
From my lofty position I could see why I had such trouble in finding Mr. Jenkins. He was continually moving his men, like a military commander, to the most strategic positions, so that each trade prepared the way for the next to carry on the job without delay. I could see, too, immediately beside and above me steeplejacks on the old shot tower erecting the framework of the radar telescope which will receive radar messages that have been sent from the Exhibition and echoed by the moon. (The tower, over 100 years old, was formerly used for the manufacture of lead shot by dropping it, in molten state, from the top into a water tank at the bottom.) I saw nearby the glittering aluminum Dome of Discovery, largest dome in the world, resting gracefully on its slender steel legs like a grounded flying saucer. On the sloping copper covered roof of the concert hall itself men wheeled heavy barrows with amazing rapidity—the wonderful panorama of London spread out before them, from St. Paul's Cathedral in the east to Westminster in the west.

I came inside the concert hall and on to the scaffolding used by the men fixing the precast plaster ceiling of the auditorium, which will go under the roof girders. This scaffolding—actually a wooden platform laid on a framework of scaffold tubing, which is in turn suspended by wire hawsers from the roof girders—has no support from the ground; it was a spring platform and as I looked between the boards I realized how high I was above the floor of the hall. As I walked across this pliable platform and climbed into the lofty space between ceiling and roof, my mind went forward a few short months to the time when this hall would be filled with people—performers, audience, and workmen—and I resolved to return and try to find the approximate spot I now occupied, among the bewildering forest of air ducts and catwalks as it will exist.

Holophane gives the International Airport the Best-Lighted Hangars Ever Built . . .



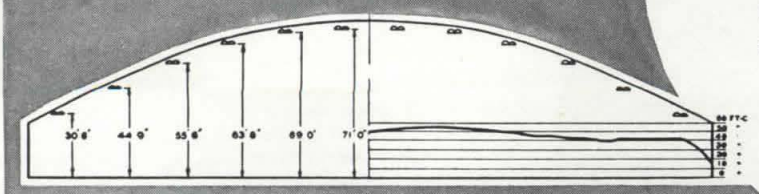
Hangars 3, 4, 5 at New York International Airport
Roberts & Schaefer Co. Engineers; Lorimer & Rose, Associate Architects;
Karunsky, Weller & Gooch, Consultants.



Interior Hangar No. 4.

Holophane specifics are designed for many airport areas: Hangars, Waiting-Rooms, Administration Buildings, Restaurants . . . Repair Shops, Airplane Factories and all Outdoor Servicing Areas.

Selection of the lighting system in the hangars at "Idlewild" (New York International Airport) was made after exhaustive survey and cost analysis of airport lighting all over the country . . . Holophane combination mercury-incandescent lighting was chosen by the Port of New York Authority as the most effective, efficient and economical hangar illumination for this largest and most modern airport. The Holophane Engineering Staff will be glad to consult with engineers and architects, without charge, on any specific airport lighting project.



Section, Hangar Lighting.

Holophane Trade Mark

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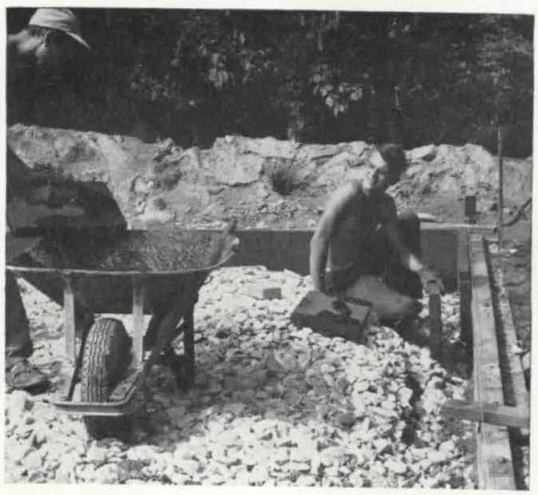
Lighting Authorities Since 1898 • 342 MADISON AVENUE, NEW YORK 17, N.Y.
THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

·s PC Foamglas

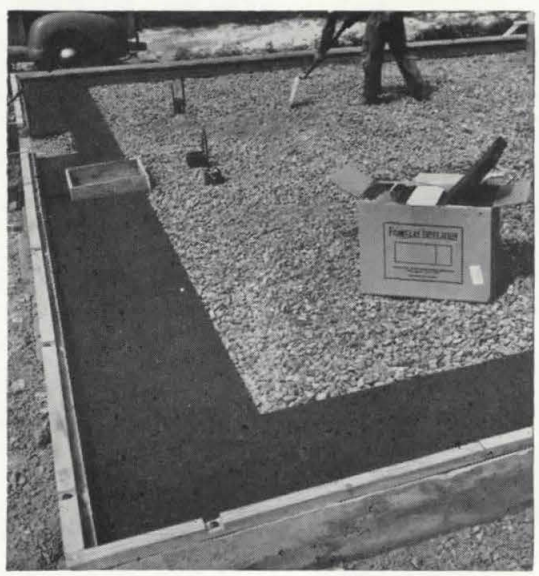
Foamglas has proved especially adaptable to modern small home construction. Its high compressive strength makes PC Foamglas the ideal insulation for use under floors and other traffic-bearing areas. Being rigid, Foamglas does not sag, provides sufficient support for normal loads without supplementary floor-bearing members. Used around the edges of floors on the ground—or under the slab—PC Foamglas reduces heat losses, increases comfort, contributes to the efficient operation of radiant heating systems.



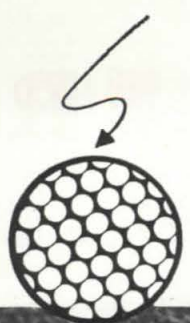
A layer of PC Foamglas is being installed around the perimeter of this floor area. Because Foamglas has unusually high resistance to moisture, no vapor barrier is necessary for these residential applications.

THE only material of its kind, composed entirely of glass and air in cellular form, Foamglas is an exceptionally long lasting, economical material. In floors and walls, roofs and ceilings of many types of dwellings, PC Foamglas—when properly installed—retains its *original* insulating effectiveness.

When next you figure on insulation, consider the advantages your clients get with Foamglas on a cost per year basis. If they are facing special insulating problems, our specialists will be glad to consult with you and with them. Meanwhile, you will find a lot of helpful information in our current literature. Just send in the convenient coupon and your free copy of our booklet will be forwarded promptly, with a sample of PC Foamglas.



Cold transfer and heat loss are minimized when a border of PC Foamglas—as shown here—is used under a floor slab. *Photo Courtesy of* National Homes Corporation, Lafayette, Ind.



This diagram shows how a group of glass bubbles which contain still air, can form a continuous, cellular material. The black area is glass, the white space is air. PC Foamglas, the cellular glass insulating material, consists of glass *and still air*, making an excellent barrier to heat travel. And, being glass, Foamglas has unusually high resistance to moisture, vapor, fumes and acid atmospheres, is noncombustible, odorless and verminproof. In this cellular glass construction lies the secret of the long lasting insulation value of PC Foamglas.

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Pittsburgh 22, Pa.

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you know Exactly how every FLEUR·O·LIER luminaire will perform

There's no guessing about how a Fleur-O-Lier lighting installation will perform. You know in advance the tested, certified illuminating performance.

This certainty of results is possible because for every Fleur-O-Lier fixture there is available complete, authoritative performance data. Thus, you get the precise lighting results specified by the architect, contractor or lighting advisor.

Fleur-O-Lier gives you these advantages:

1. The Fleur-O-Lier Index System Rating, assigned by Electrical Testing Laboratories, Inc., after careful test, tells exactly what the illuminating characteristics of the luminaire are.

2. Complete photometric data is compiled by ETL.

3. Coefficients of utilization are computed by ETL. This data is essential in selecting the most suitable fixtures for the installation.

4. Certification by ETL assures the fixture was made to the rigid specifications covering electrical and mechanical features.

All this essential information lets you know in advance just what you're getting when you specify Fleur-O-Lier.

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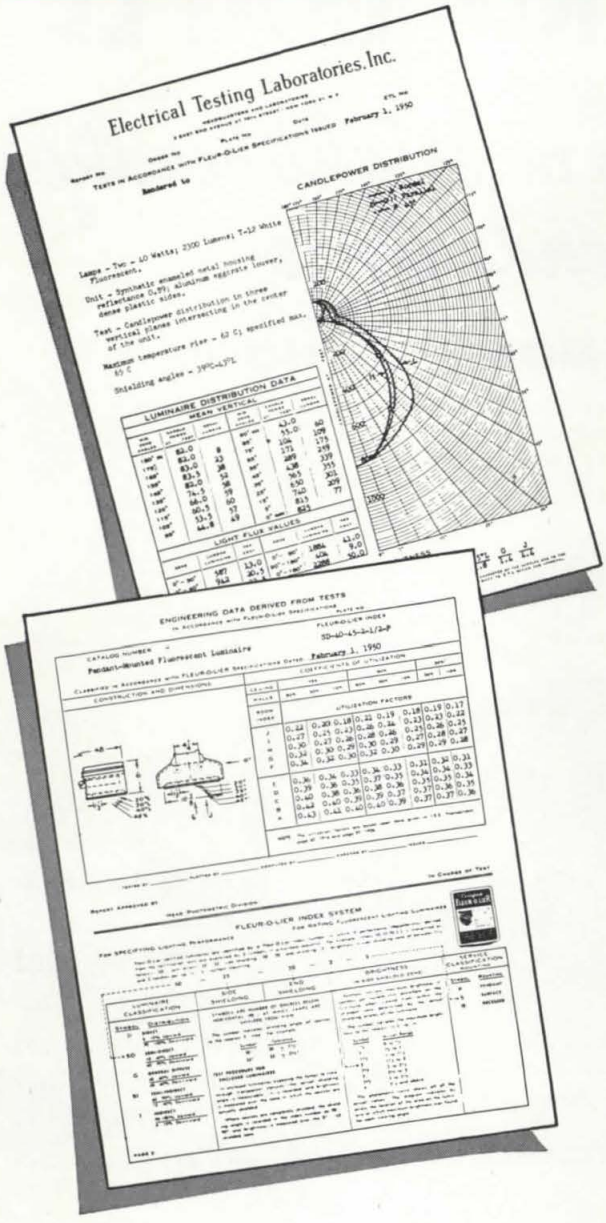
Manufacturers

2116 Keith Building • Cleveland 15, Ohio

Fleur-O-Lier is not the name of an individual manufacturer, but of a group of fixtures made by leading manufacturers. Participation in the Fleur-O-Lier program is open to any manufacturer who complies with Fleur-O-Lier requirements.



FLEUR-O-LIER DATA SHEETS give complete information

Manufacturers of Fleur-O-Lier fixtures provide Standard Data Sheets which give complete and detailed information on each Fleur-O-Lier fixture. Here, brought together on one sheet, is everything you need to know about the fixture — shielding — brightness — light distribution data — utilization factors — and construction and dimension details.

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The Fleur-O-Lier Index System makes the specification and selection of lighting fixtures extremely simple. Merely ask the specification writer to express the desired illumination characteristics in the simple formulas of the Fleur-O-Lier Index System.

Then the selection of lighting equipment that fits exactly the requirements of the installation is easy. Choose from fixtures that have the requested Fleur-O-Lier Index System formula and you know you'll get the desired lighting results.

Don't take chances . . . specify Fleur-O-Lier and *know* what you're getting!

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Write for your free copy of the new booklet giving complete details of the Fleur-O-Lier Index System.

Ask also for Electrical Testing Laboratories' report on performance ratings assigned to the 300 Fleur-O-Lier fixtures.

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the finest floor that grows

LENDS ITS *bright beauty* AND *endurance* TO A MODERN SCHOOL

the finest floor that grows

NEW PHILIP SHERIDAN ELEMENTARY SCHOOL,
Township of Tonawanda, Kenmore, New York
An outstanding example of school building design and construction in the modern manner, floored throughout in MFMA-graded Northern Hard Maple for beauty, utility and enduring economy.

● It's almost an axiom, you'll agree, that "school service is severe service." Hence, the long-continued, ever-growing preference of American architects for school floors of Northern Hard Maple is surely a tribute to the age-proved merits of the material. It is profession-wide recognition of Maple's resilient endurance—against the scuff and pound of young feet, the grind of tracked-in grit, the mars and scars of innumerable impacts.

Yes, because of its tough stamina *alone*, Northern Hard Maple has richly *earned* its preferment. By happy coincidence, its warm, light-reflecting beauty of tone and grain admirably meets the demands of modern design. Finally—through all the years of its faithful service—the floor of Northern Hard Maple will need but the simplest of cleaning, minimum maintenance, easiest of refinishing. "There's always a new floor underneath."

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See Sweet's Architectural, 13i/MA, for specifications and full data

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

1 Boys' gymnasium, maple-floored, as is its counterpart, the girls' gymnasium.

2 Bright maple floors complement the excellent lighting of classrooms.

3 No dirt-harboring cracks, no splinters, no light-absorbing heaviness of tones.

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Buffalo, New York

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NORTHERN HARD MAPLE FLOORS INSTALLED BY
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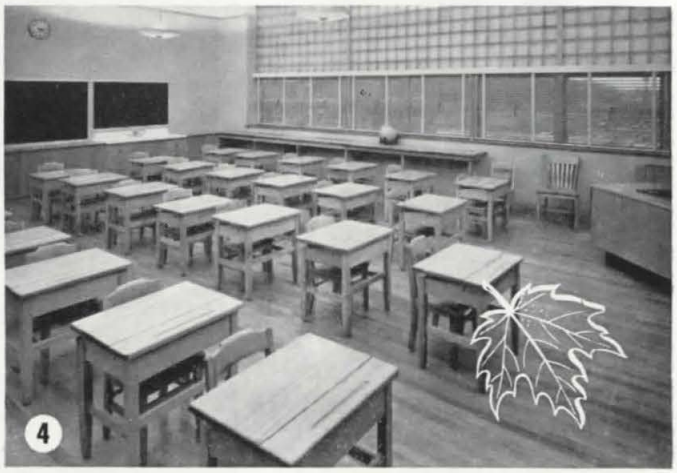

4 How well maple comports with the clean and modern lines of today's furniture!

5 Music and community room areas, maple-floored, pleasant, cheerful, practical.

6 Clinic loses its cold "hospital look" when floors are warm, resilient maple.

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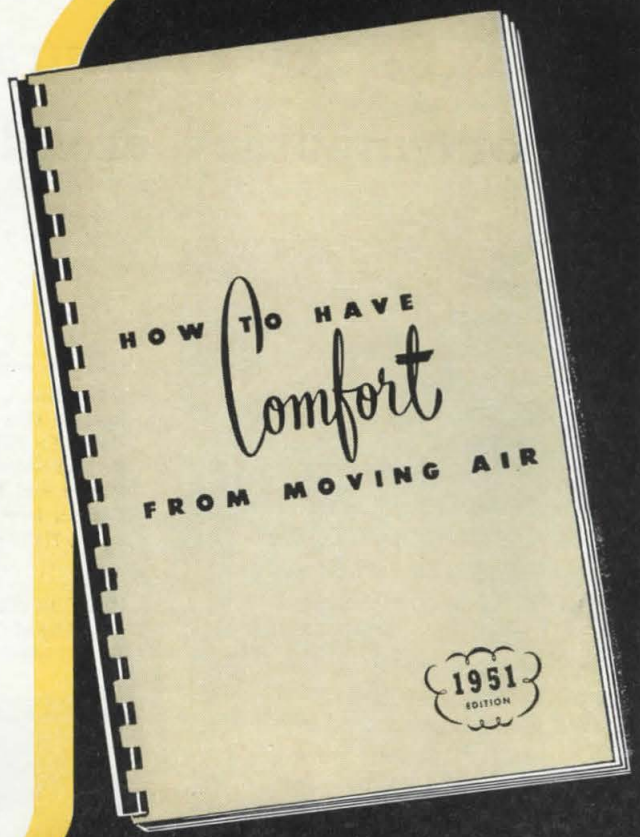

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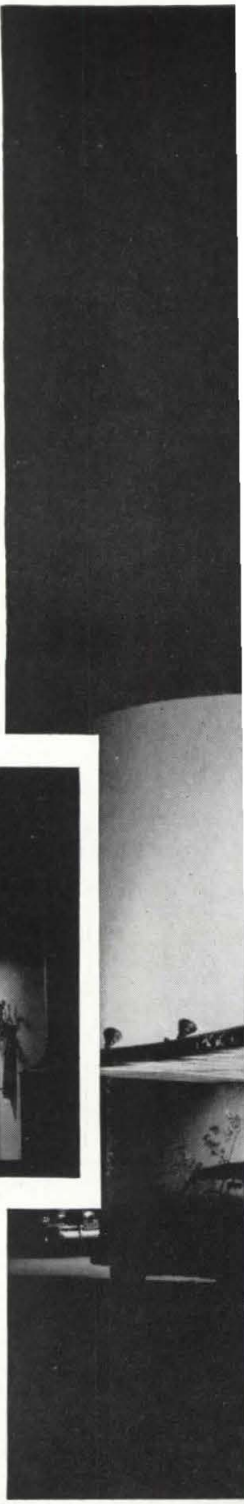
Four examples of the use of Pittsburgh Glass by contemporary architects

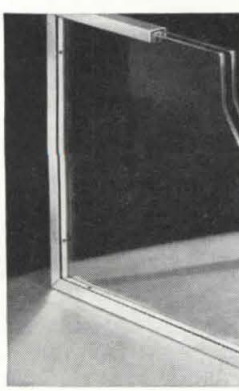
MORE AND MORE, the country's leading architects are "designing with Carrara Glass." Here is a high quality, finely-machined, easily handled product, with joints that are true and even. In this bathroom, Carrara Glass has been effectively used for the walls and ceiling, as well as for the unusual double-lavatory counter top.

(*At right*) THE NEW COPA CITY theatre and restaurant at Miami Beach, Florida, is an outstanding architectural creation. It was natural that Pittsburgh Products should be chosen for this splendid building. Extensively used are Pittsburgh Polished Plate Glass, Herculite Doors, Door Frames, Mirrors and Pittco De Luxe Metal. Designer: Norman Bel Geddes, New York City; Architect: Norman Giller, Miami Beach, Florida.

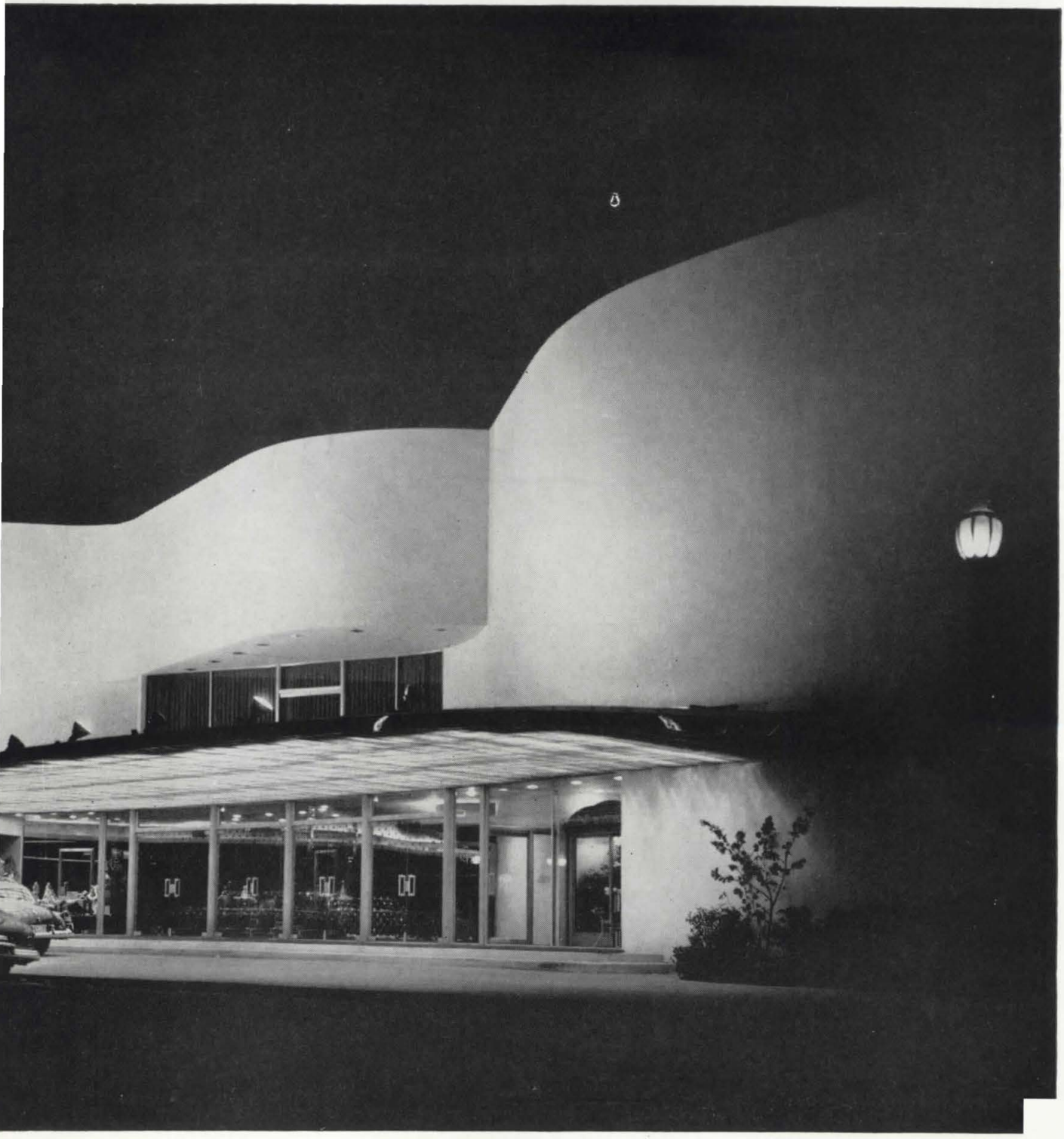
(*Below*) HERE IS A DETAIL of one of the five stores located in the lobby of Copa City. Note the use of flat panels of Pittsburgh Plate Glass in the semi-circular display windows.

TWINDOW, Pittsburgh's window with built-in insulation, permits new latitude in window design. Without sacrificing heating or air-conditioning economy, it makes it possible to gain all the important advantages offered by large windows. Architect: Edward T. Wassell, Wilkes-Barre, Pa.





TWO OR MORE PANES of Pittsburgh Polished Plate Glass, with a sealed-in air space between them make up a Twindow unit. When using two panes, Twindow provides almost twice the insulating effectiveness of single-glazed windows. Even better insulation results when three or more panes of glass are used. Forty-seven standard picture window sizes are available for either wood or steel sash.



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Richard A. Gleeson Library, University of San Francisco
Milton T. Pflueger, Architect

ARMSTRONG'S RUBBER TILE

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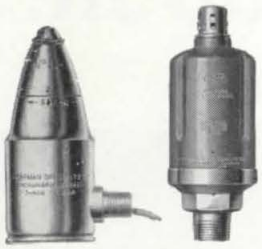
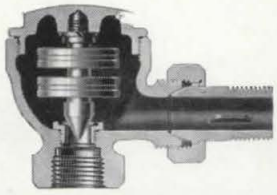
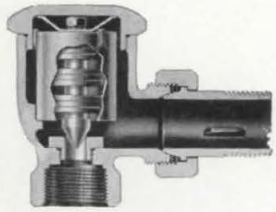


SUPPLY VALVES ✓

LOW PRESSURE RADIATOR TRAPS ✓



HIGH PRESSURE RADIATOR TRAPS ✓



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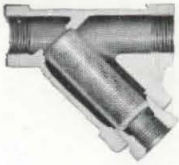

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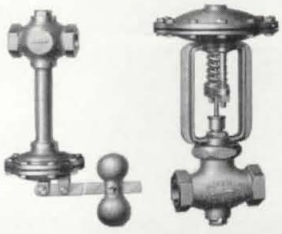

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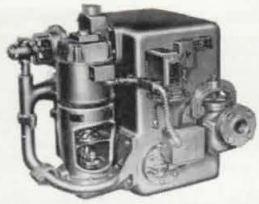

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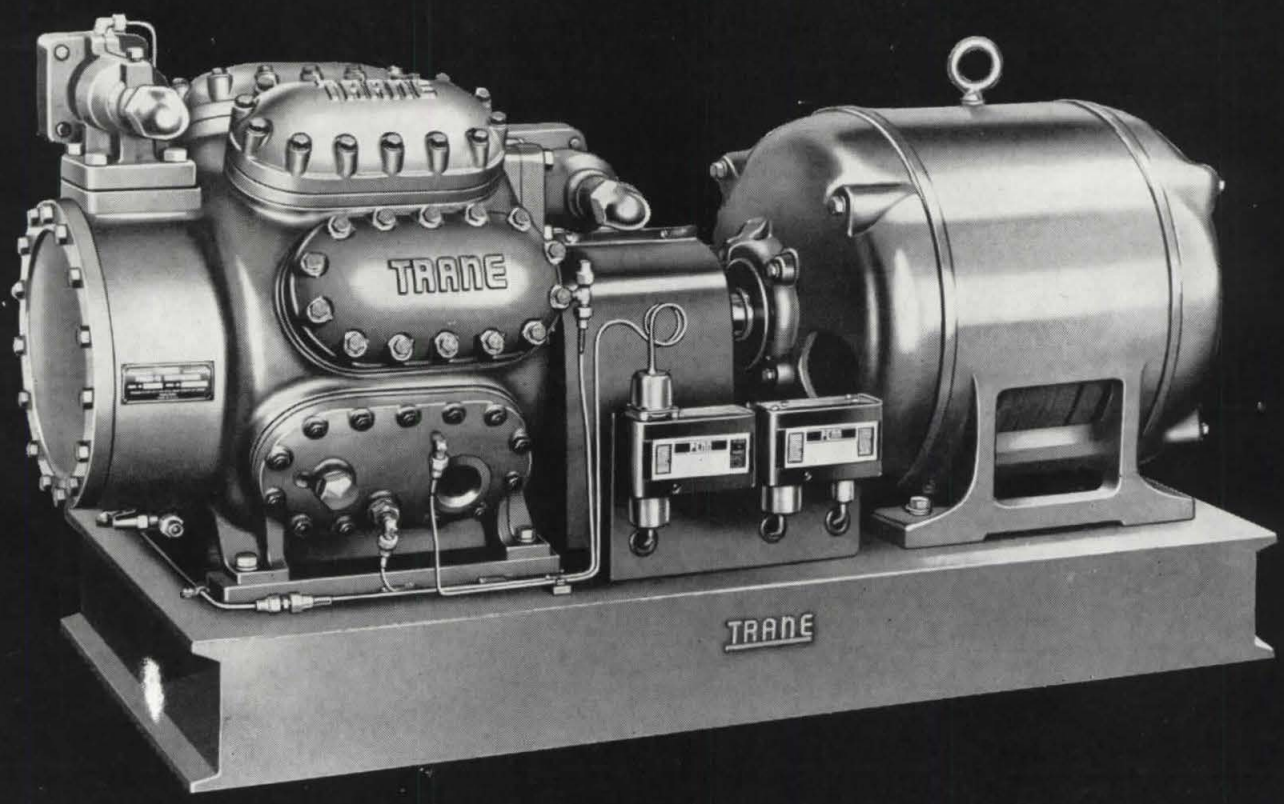
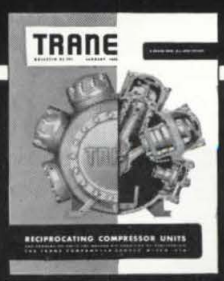
✓ *A COMPLETE LINE of HEATING SPECIALTIES*

NEW TRANE COMPRESSOR...

New internal capacity control...new force feed oil system...new compact design



Full information and data on the new Trane Compressors available at your nearest Trane Sales Office, or at the main office in La Crosse, Wisconsin. See Reciprocating Compressor Bulletin DS-361.



NEW REFRIGERATION EFFIC..ENCY

Saves space, cost, service on comfort and process applications

Brand new, all new, the Trane Reciprocating Compressor is designed to set a new high in refrigerating efficiency, performance and endurance.

The trim and compact Trane Compressor Unit is a real power-saver in operation. With its completely new, completely enclosed capacity control system, power consumption is reduced under reduced cooling loads. Trane Compressors automatically respond to load changes with favorable tonnage-to-horsepower efficiency even under greatly reduced loads. This smooth-running step-down and step-up operation requires no outside controls or adjustments.

Direct drive, constant speed design, plus unloaded starting, permit the use of standard general purpose motors. Special large-area filters cut wasteful oil foaming and pressure losses during start-up periods.

The new Trane Compressor is built for extra years of trouble-free service. Specially treated suction and discharge valves are designed to wear 900% longer; on test, needed no attention after the equivalent of 8 seasons of continuous operation. Bearings serve *years* longer because of an enclosed forced feed lubrication system. This system sends clean oil to bearings and prevents impurities from reaching bearings.

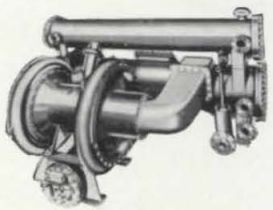
When it comes to quiet, vibration-free performance, the new Trane Compressor is a standout again. Special Trane designed valves are cushioned to muffle noise at its source. The internal capacity control system operates through oil pressures, silently and effectively.

So smooth running is the Compressor that a penny can be balanced on the machine through all stages of its operation!

The new Trane Compressor is available in six compact models, with 4, 6 or 8 cylinders. Capacities range up to 50 tons.

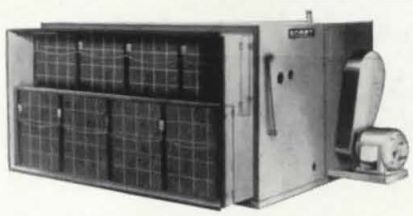
The new improved Compressor makes it easier and more logical than ever to design a complete air conditioning system around Trane products. Trane Fans, Coils, Climate Changers (for a central system), Custom-Air and UniTrane units (for a unit system), and Trane Compressors can work together to supply year-around comfort in any building. Individually, each of these products is outstanding. Working together, they are unmatched for air conditioning efficiency.

For full information about the new Reciprocating Compressor and Condensing Units, see the Trane representative in your area, or write the main office, La Crosse, Wisconsin.



The New CenTraVac, a complete hermetically-sealed water chilling system, brings centrifugal refrigeration economies to a new and wider range of jobs. Direct drive, with automatic power reduction that parallels capacity reduction. Capacities starting from 45 tons. CenTraVac Bulletin DS-399 gives full information.

The 1951 Trane Self-Contained Air Conditioner supplies year-around comfort for stores, restaurants, offices. Uses less floor space. Delivers comfort directly or through ducts. Accessible hermetic compressors. Unit capacities up from 3 tons. See Self-Contained Air Conditioner Bulletin DS-362 for complete data.



The Trane Climate Changer is a complete year-around air conditioner, heating or cooling, humidifying or dehumidifying, filtering and moving air. It can do all, or any combination of these jobs for comfort or process work. Climate Changer Bulletin DS-303.

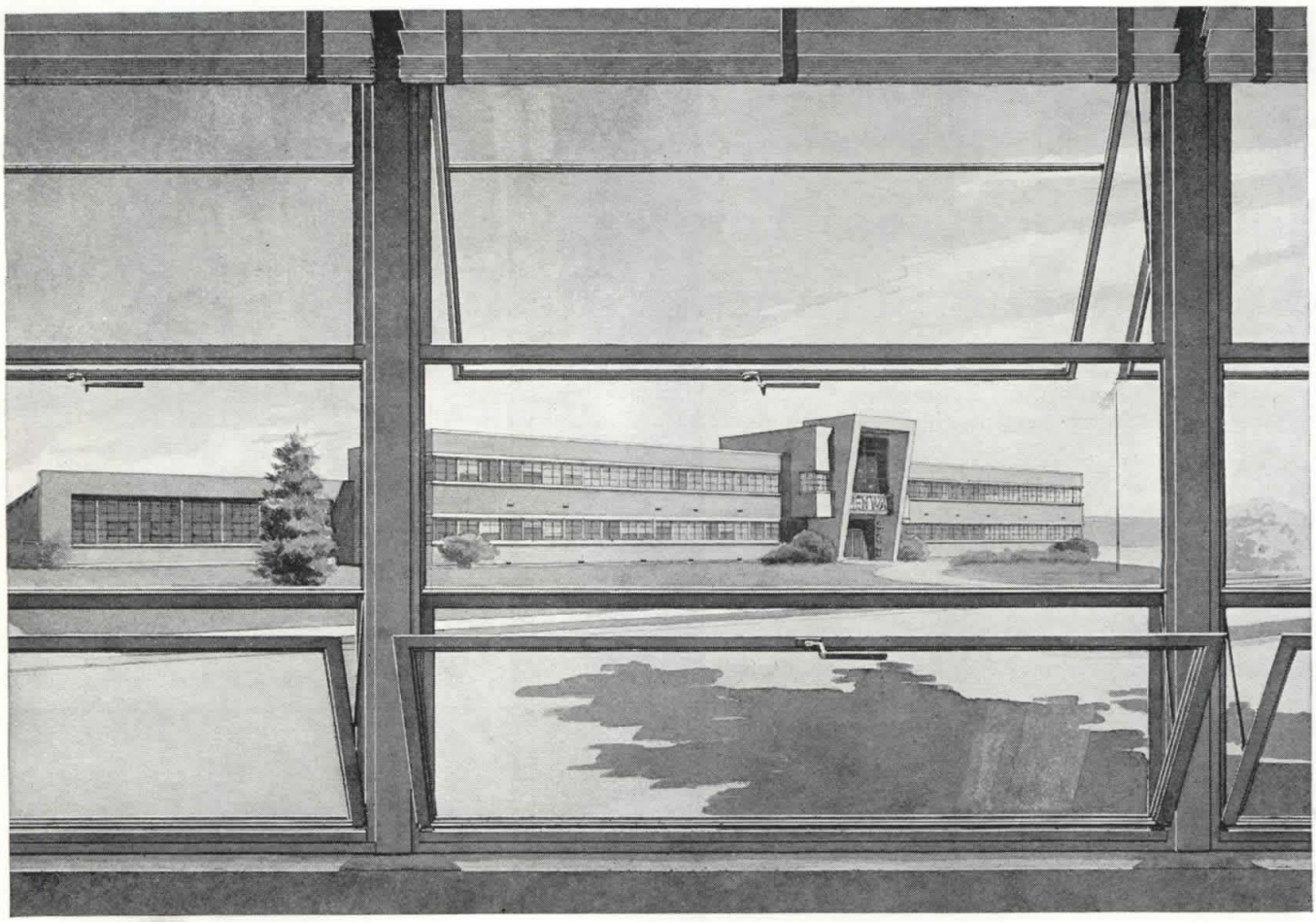
Luxury air conditioning for a luxury hotel—every room in the famous Shamrock Hotel in Houston is an oasis of air conditioned comfort. Trane-built room units form the system supplying this comfort.

TRANE

THE HOUSE OF WEATHER MAGIC

THE TRANE COMPANY, LA CROSSE, WISCONSIN
EASTERN MFG. DIVISION • SCRANTON, PA.
TRANE COMPANY OF CANADA, LTD., TORONTO

MANUFACTURING ENGINEERS OF HEATING AND AIR CONDITIONING EQUIPMENT • OFFICES IN 80 CITIES



Modern factory building of Renwal Manufacturing at Mineola, Long Island, N. Y. Architects, Engineers and Constructors: Brown and Matthews, Inc., New York, N. Y.

A city block of windows . . . In this modern toy factory, you can follow the production line from the receiving section to the shipping floor—almost a city block—and every inch of the way Lupton Metal Windows assure proper daylighting and controlled ventilation. There is a Lupton Window for every industrial need. For office sections, Lupton Architectural Projected Windows and Lupton "Master" aluminum windows assure long service with minimum maintenance. For production and warehouse sections, there's a choice of Commercial Projected, Pivoted or Security Windows. See what 40 years experience in modern window design can mean in luxury, economy and dependability. Write for our General Catalog or see it in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Penna.

Member of the Metal Window Institute and Aluminum Window Manufacturers Association

LUPTON METAL WINDOWS

Above: Tap Room, Hotel Taft, N. Y. City. Bar front covered with brilliant red Kalistron. Deep red Kalistron on banquettes.

WHY THIS COLORFUL BAR

stays beautiful year after year...

Kalistron-covered bars, banquettes, chairs, walls...*all* have *enduring* beauty and brilliance because—by exclusive *Blanchardizing* process, color is fused to *underside* of special clear vinyl sheeting. This rich, deep color cannot be marred, cannot show wear. Kalistron resists scuffs, scratches and spots . . . won't chip, peel or crack. Waterproof, yet cleans easily with damp cloth; can't shrink. Drapes beautifully; ideal for upholstery; easily bonded to surfaces.

Winner of Modern Plastics Award for furniture and interior decorating materials, Kalistron is in a class by itself. 30 standard colors; special shades matched.

Coupon below will bring sample of Kalistron, plus top-quality nail-file . . . free. See if you can injure Kalistron even with this file.

Kalistron
PAT. APPLIED FOR
←COLOR FUSED TO UNDERSIDE
PLASTIC COVERING MATERIAL

U. S. Plywood Corp., Dept. F-47
55 West 44th St., New York 18

Please send me FREE Nail-File Test (swatch of Kalistron plus actual nail-file).

NAME_____

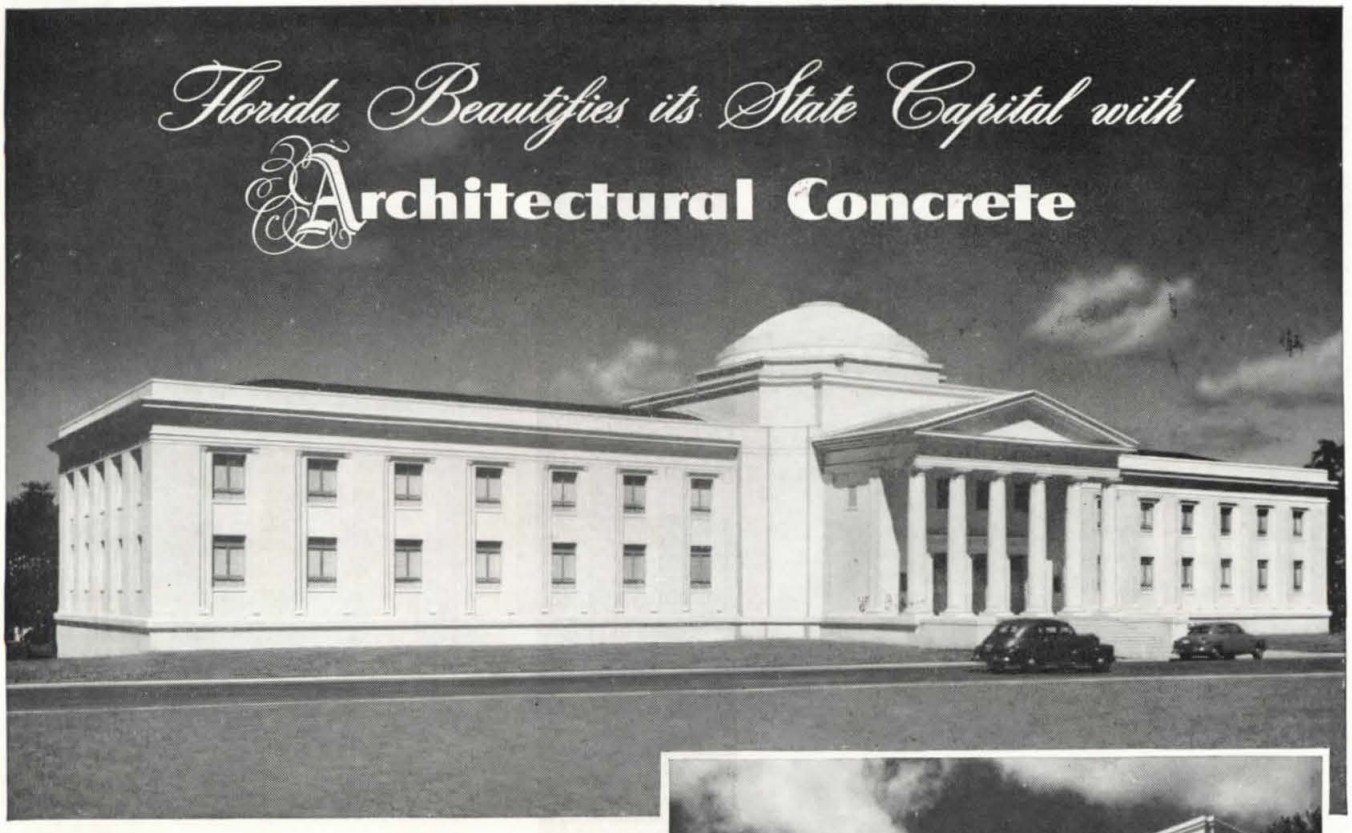
ADDRESS_____

_____

Distributed by: U. S. PLYWOOD CORPORATION, N. Y. C. and by: DECO SALES, 408 Freylinghuysen Ave., Newark, N. J. In Canada: PAUL COLLET & CO., LTD., MONTREAL

Color fused to underside of transparent vinyl sheet . . . backed by flocking

Florida Beautifies its State Capital with Architectural Concrete



THESE THREE distinctive state government buildings in the new Capitol Center at Tallahassee demonstrate the versatility of architectural concrete. They combine impressive beauty with rugged strength, economy and durability.

Architectural concrete is equally adaptable to schools, hospitals, theaters, apartments, stores, factories and office buildings. It fulfills every construction requirement—firesafety, fine appearance, low upkeep expense, long life. It delivers dependable, ***low-annual-cost*** service year after year.

Architectural concrete is economical because both the structural and ornamental parts (molded to express any design or period desired) can easily be cast in a single operation.

By applying the tested and proven principles of quality concrete construction, architects can design architectural concrete buildings with every assurance of lasting satisfaction to client, taxpayer, investor and designer alike.

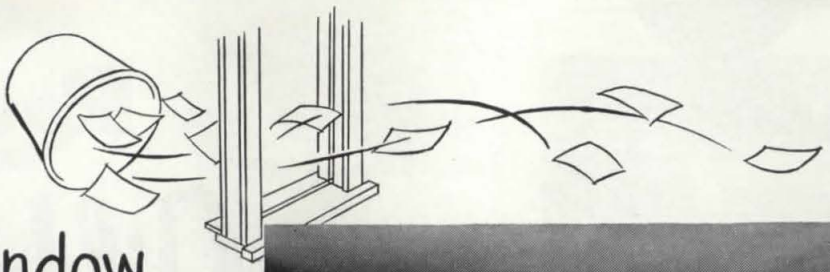
For helpful information in obtaining quality concrete structures write today for free, 70-page booklet, "*Design and Control of Concrete Mixtures.*" Distributed only in the United States and Canada.

These three architectural concrete buildings, Florida Supreme Court (top), Industrial Commission (above) and State Road Department (below) are located in Capitol Center, Tallahassee. Architects and engineers: Yonge and Hart and James Gamble Rogers II, associated architects. Respective contractors, top to bottom: J. A. Jones Construction Company, Henry C. Beck Company, Southern Builders, Inc.

PORTLAND CEMENT ASSOCIATION

Dept. A3-25, 33 W. Grand Ave., Chicago 10, Ill.

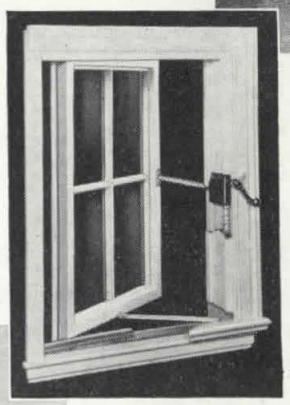
A national organization to improve and extend the uses of portland cement and concrete...through scientific research and engineering field work



Out the window
went all existing ideas!

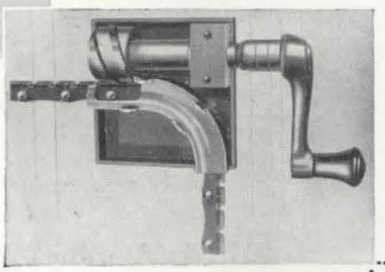
"Throw away all existing ideas about casements. Start from scratch and develop a unit that is better than anything else on the market."

That was the order we gave our engineers and research men. The result: the Curtis Silentite Casement. Here's why we believe no other casement can match it:



• **A COMPLETE UNIT**—with all parts pre-fitted—consisting of frame, sash, all operating hardware, insulating glass, screen and Mitertite trim. The illustration shows small unit with part of trim cut away to show how operating mechanism holds sash firmly in any position without rattling, swinging or vibrating.

• **MORE WEATHERTIGHT**—repeated tests show that Silentite wood casements cut total heating costs in a house about 16%—thanks to scientific weatherstripping and insulating glass, which serve as storm sash.



• **EASY OPERATION**—this special Curtis hardware provides 15 times the operating force available with the ordinary lever-type casement sash adjuster. There is no hardware on outside of frame or sash when casement is closed and the minimum of exposed hardware inside. Adjuster is removable.

• **PLUS**—Toxic water repellent treatment of all wood parts—reduced condensation—no sticking, binding or warping—quick, easy installation.

Curtis makes a complete line of woodwork for homes of all types and sizes. Make your next house "all Curtis."

1865 CURTIS WOODWORK
SILENTITE PRE-FIT
the "Insulated" window

Mail the coupon for full information

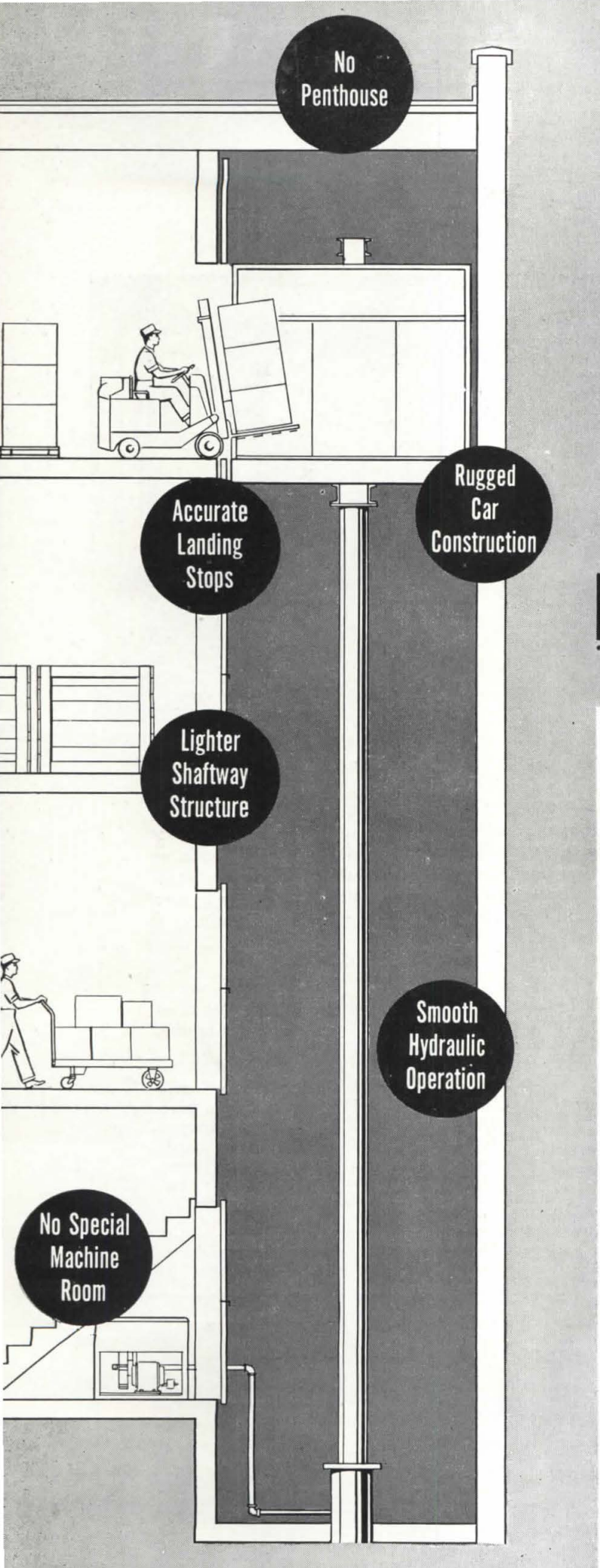
Curtis Companies Service Bureau
PA-3S Curtis Building
Clinton, Iowa

Gentlemen: I want to know more about Curtis Silentite casements, basement units and Silentite double hung windows.

Name.....

Address.....

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



Rotary Oildraulic Elevators

LOWEST COST INSTALLATION

■ The basic operating principle of Rotary Oildraulic Elevators (fluid under pressure) is ideal for heavy-duty freight service. Whether the load is little or great it is moved with the same efficiency. Power is applied directly to the load—there is no lost motion. The car will not move downward as heavy loads are rolled in . . . because the elevator is firmly supported on a solid column of oil. There is nothing to stretch or give.

From an architectural and construction standpoint (see diagram at left) the Rotary Oildraulic Elevator requires no costly, unsightly penthouse because it's pushed from below—not pulled from above. Nor is there any need for heavy sidewall supporting columns and footings. Rotary's Oildraulic jack supports the car and the load, and there are no counterweights or overhead machinery. Usually a special machine room is not used.

Oildraulic Elevators are built to handle power truck loading

Power truck loading is provided for on all Oildraulic freight elevators with a capacity of 5,000 lbs. or more. They are designed for use with power operated trucks and tractors even when such service is not planned at the time of purchase. This is done because the purchaser may start using power equipment later.

R 2, 3, OR 4-STORY BUILDINGS • HEAVY-DUTY SERVICE

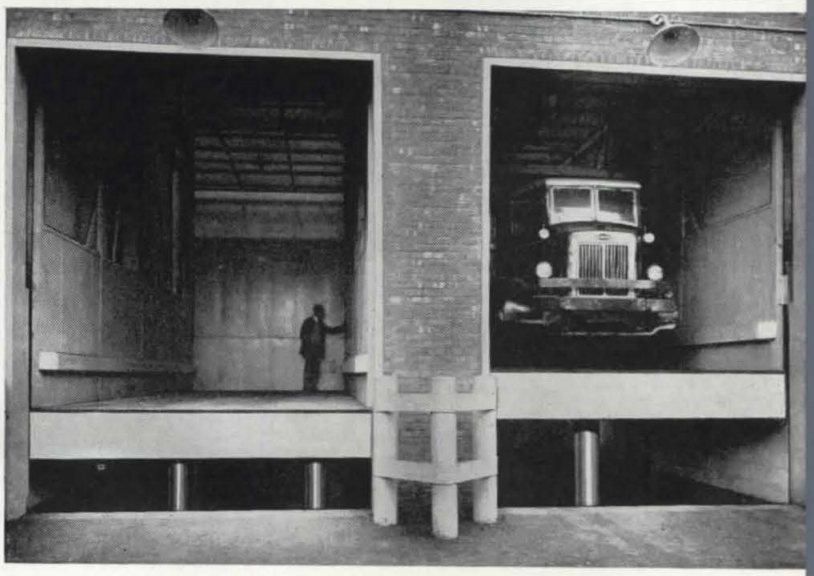
Oildraulic automatic floor leveling accurately positions the to each landing. This is a "must" for power vehicle ndling. Exact floor stops minimize shock during loading; ere are none of the jolts caused when the elevator car is ove or below the landing.

Rugged car construction is essential for freight service. ldraulic freight elevator cars have deep-formed members, ctrically welded. Bolsters, stiles and other parts are rein- ced and braced to withstand stresses and strains. Every car accurately engineered to do the job for which it is ordered, ether it be a small 1,000 lb. unit for packaged goods or 50,000 lb. job to handle power vehicles with heavy loads. anual or motorized car gates furnished as specified.

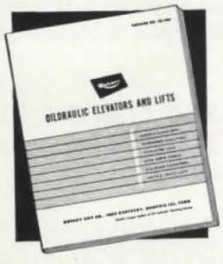
otary gives you the new ota-Flow power system for noother, quieter, lower-cost service

ta-Flow, the revolutionary new hydraulic power trans- ssion system, moves Rotary Oildraulic Elevators on a con- uous, pulsation-free column of oil. Rota-Flow eliminates ration and pumping noise, and operates with greater effi- ncy than any other hydraulic power unit.

Combined with the Rota-Flow power unit to give perfect eration is the Oildraulic Controller, an exclusive patented tary development. This remarkable device combines the nctions of seven separate control valves and carries out "instructions" of the electric control panel.



■ Over 50,000 Rotary Oildraulic elevators and lifts are now serving major companies and building owners throughout the nation. Our coast-to-coast organization offers the most complete engineering and maintenance service in this field.



Write for A.I.A. File

See Section $\frac{33a}{Ro}$ in Sweet's Architectural File and write us for catalog and complete information on Rotary Oildraulic Elevators. Our Engineering Department will be glad to work with you on preliminary layouts and specifications. No obligation, of course.

ROTARY LIFT CO., *1014 Kentucky, Memphis 2, Tenn.*

THESE KAYLO® CORE FIRE DOORS SURE CAN TAKE IT! THEY'RE BUILT BY Overly

Overly

flush-type labeled KAYLO Core Fire Doors bear class B, C, D or E Underwriters' Laboratories Labels

KAYLO is a product of Owens-Illinois Glass Co.

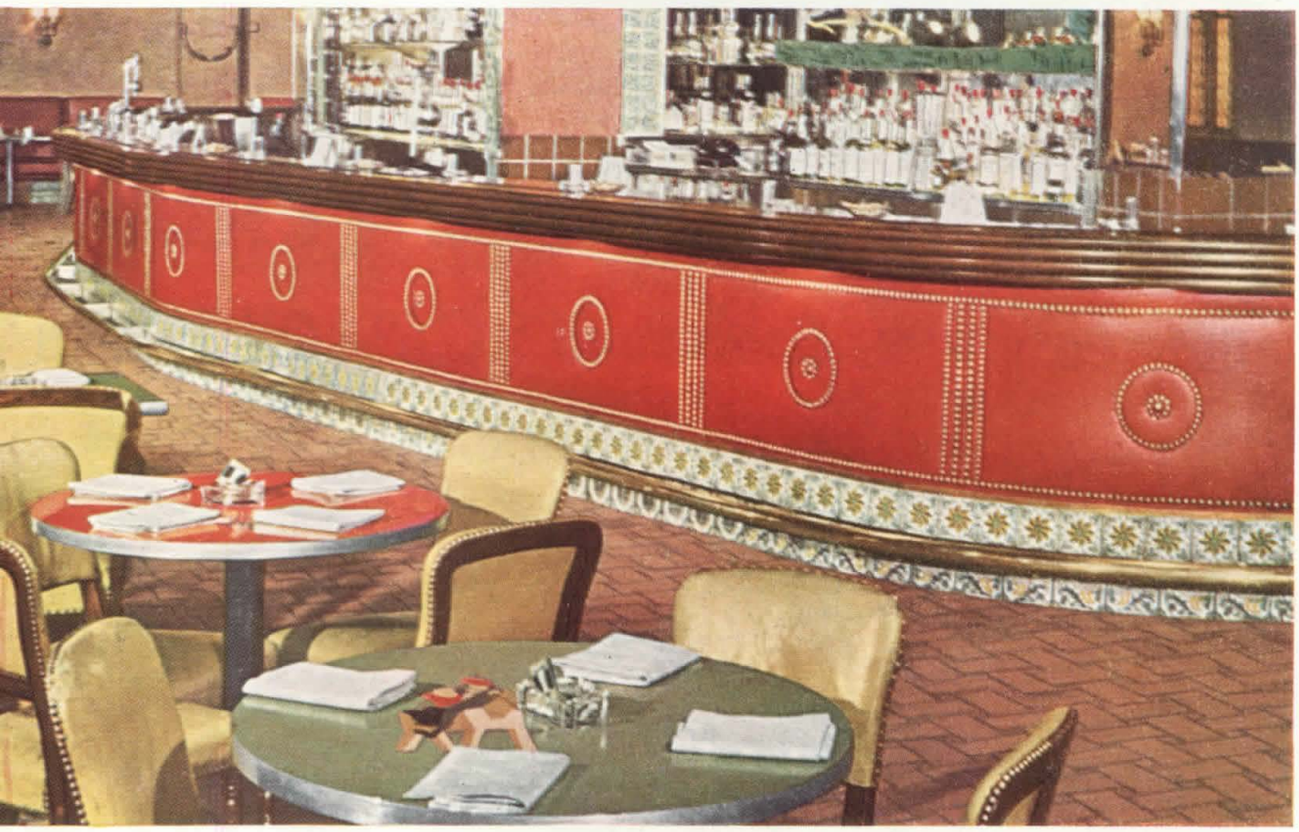
YES, Overly metal-clad Kaylo Core Doors are incombustible. But to obtain the maximum benefit of low insurance rates, *architects* are specifying that these Underwriters' Laboratories labeled doors be installed in U. L. labeled pressed-steel frames along with U. L. approved hardware. Send for your free copy of a complete chart showing the U. L. labels and Overly doors permissible for given locations.

FOR DETAILED SPECIFICATIONS on these U. L. labeled products, write for *Overly Catalog 16-A*. Or, see it in 1951 Sweet's file.

METAL PRODUCTS SINCE 1888

OVERLY MANUFACTURING COMPANY, Dept. PA
GREENSBURG, PA. (Phone Greensburg 154)
• Sales Representatives in All Principal Cities •

MODERN DESIGN • LIGHT WEIGHT • MAXIMUM SAFETY



Bar front, Hotel Taft, New York, by United States Plywood Corporation, 55 W. 44th St., New York, N.Y.

"Kalistron" wainscoting in corridors of New Britain General Hospital, New Britain, Conn.

Worried about walls, bar fronts—any interior surfaces that get bumped, scuffed, scratched, stained or spotted in normal service? Surface coverings made of VINYLITE Brand Plastics banish such problems . . . for keeps!

Take these "Kalistron" materials, fashioned of clear VINYLITE Plastic Sheeting with rich, deep colors fused to the undersides. Dirt and stains on the waterproof plastic surface wipe clean with a damp cloth. The plastic does not chip, peel, or crack. It absorbs terrific punishment!

Architects and designers are finding VINYLITE Plastic wall coverings in original embossed textures and an almost limitless range of stable colors more and more useful. They resist oils, greases, acids, alkalies, cleaning compounds, and those recommended for wall covering meet the fire-resistance laws of New York City and Boston.

Similar materials are among the most beautiful and durable you'll find anywhere for furniture upholstery. They shape readily, are easy to work, and cannot shrink.

The fresh, colorful beauty, the exquisite texture and feel, the enduring toughness, of these wall covering and upholstery materials pay hospitals, hotels, schools, home owners sizable dividends in reduced maintenance costs—for year after year. Ask us for technical data and a list of representative suppliers. Simply write Dept. JY-58.

Vinylite BRAND **PLASTICS**

TRADE MARK

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

SUSPENDED CEILINGS of GYPSUM LATH and PLASTER

SERVEL *ALL-YEAR* tremendous hi. ...builder

ROBERT H. WACHENDORF is builder of the distinctive Meadow Ridge Year-Around Homes in Amberly Village, Cincinnati. Designed to provide the utmost in luxurious suburban living, each attractive home planned by Mr. Wachendorf features a Servel *All-Year* Air Conditioner, for year-round comfort.

Public response to *All-Year* Air Conditioning in his exhibit home was so enthusiastic that this Cincinnati builder went on to plan the entire development around Servel units. As a result, he can assure his clients of homes that will always be completely comfortable, no matter how hot or cold, wet or dry the weather may be.

A mere flick of the finger sets the Servel *All-Year* Air Conditioner. From then on, operation is entirely automatic. The Servel switches from cooling to heating and back again as needed to maintain the desired temperature. Year round, humidity is carefully controlled to eliminate stickiness in summertime, add enough moisture for comfort in winter. And the Servel filters out dust and irritating pollen, circulates air evenly throughout the house.

By planning homes around Servel *All-Year* Air Conditioning, it's possible to effect economies which offset the unit's price. For example, Servel air conditioned homes need no screen porch, no fireplace, no attic fan. Outside doors and windows may be kept closed. Glass can be fixed, permitting use of a simple window frame. No screens are necessary. The total of these savings may more than pay for the air conditioner.

Servel units can be used in any size, style or shape of home your client wants. They're not confined to any one type of architecture. Ask your local Gas Company for full particulars, or write to Servel, Inc., 4103 Morton Avenue, Evansville, Indiana.

AIR CONDITIONER in model home orders 175 more!

Architect: Luigi Marioni,
1518 Beacon Street, Cincinnati

NOW YOU CAN INSTALL
SERVEL *ALL-YEAR* AIR CONDITIONING
AT LITTLE OR NO EXTRA COST!

Many of the customary features in a home no longer have functional value when *All-Year* Air Conditioning is included . . . such things as porches, fireplaces, screens, etc. So in preliminary planning you can leave them out. This way you'll generally save enough to make up the cost of the Servel system. And clients feel they're making a marvelous exchange. For the things omitted provide pleasure only part of the time. Servel brings them comfort 365 days a year!

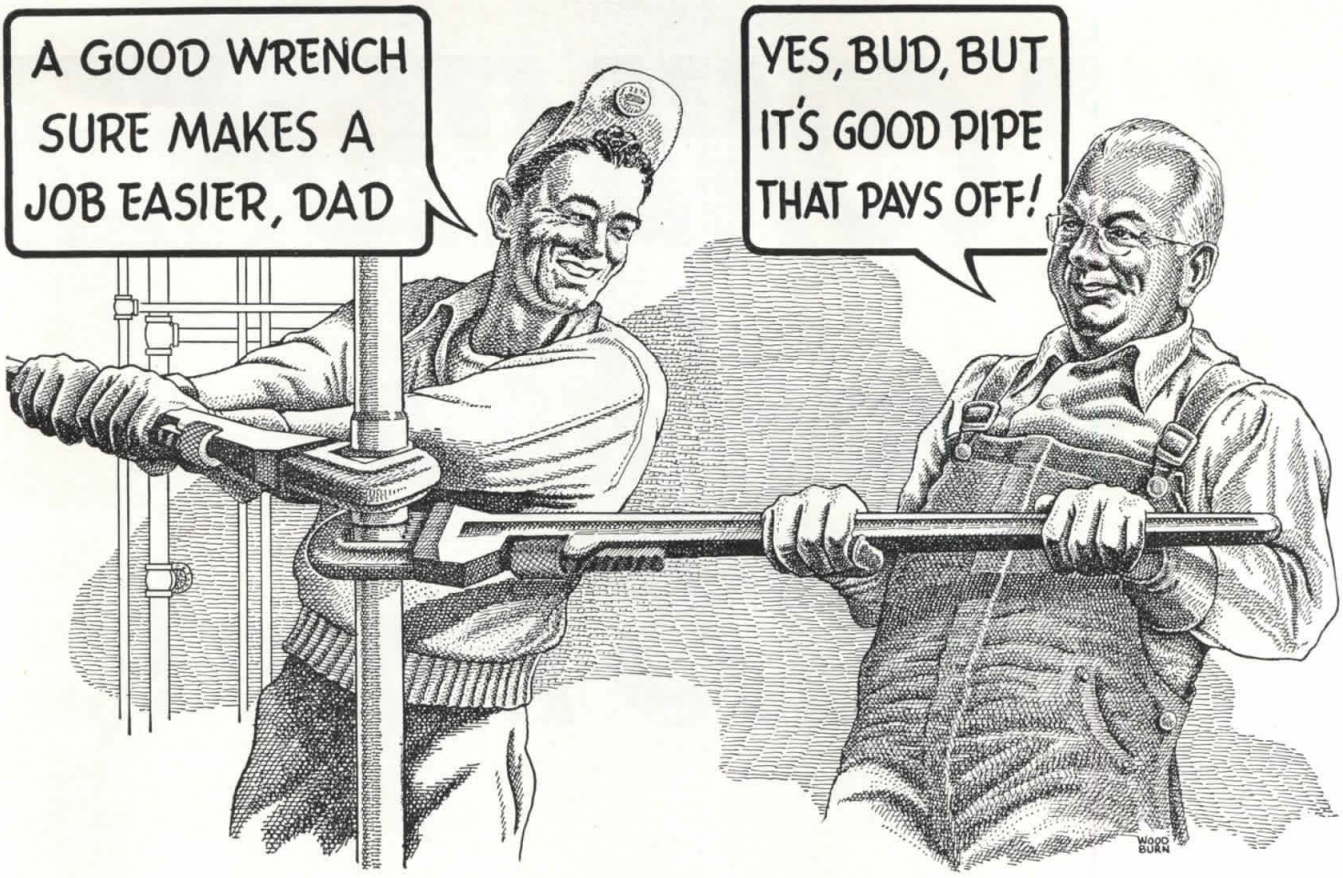
NO FIREPLACE

NO SCREEN PORCH

NO ATTIC FAN

LOWER-COST WINDOW CONSTRUCTION

NO SCREENS



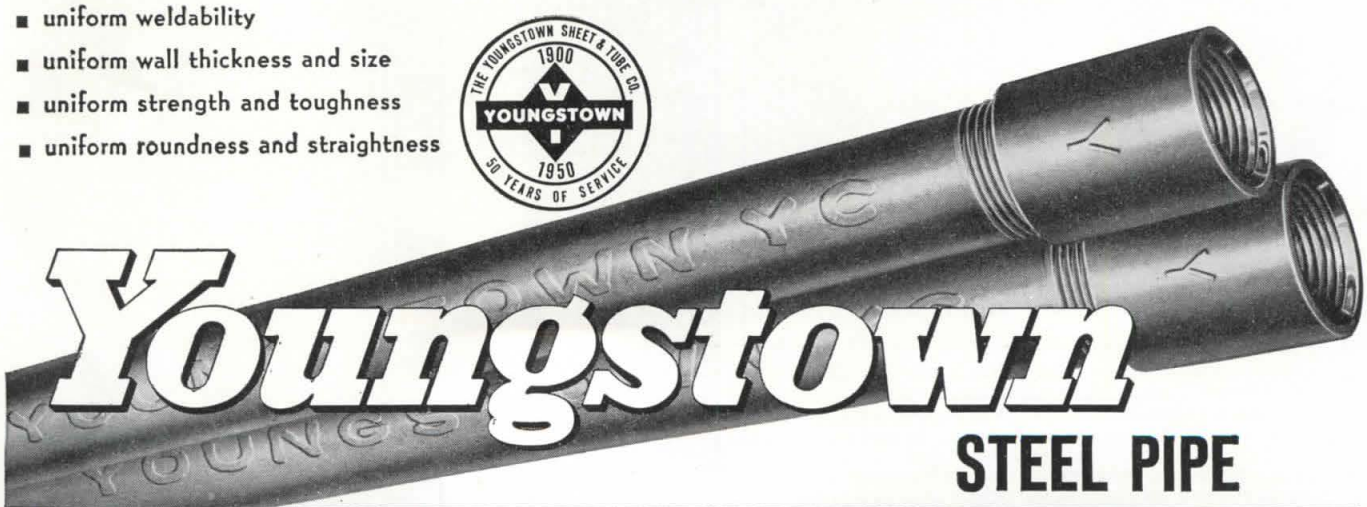
Good plumber + good tools + GOOD PIPE = GOOD JOB!

7 POINTS OF UNIFORM GOODNESS IN YOUNGSTOWN STEEL PIPE

- uniform ductility
- uniform lengths
- uniform threading
- uniform weldability
- uniform wall thickness and size
- uniform strength and toughness
- uniform roundness and straightness

EVEN the hardest jobs are easier when you work with Youngstown pipe. That's because Youngstown pipe is consistently uniform - uniform in lengths, uniformly round and straight, uniformly threaded, uniformly soft and ductile, yet uniformly tough and strong. "Youngstown" rolled into every length is the sign of GOOD PIPE.

THE YOUNGSTOWN SHEET & TUBE CO. 1900 YOUNGSTOWN 1950 50 YEARS OF SERVICE



Youngstown STEEL PIPE

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon, Alloy and Yoloy Steel

General Offices — Youngstown 1, Ohio

Export Office - 500 Fifth Avenue, New York

PIPE AND TUBULAR PRODUCTS - WIRE - ELECTROLYTIC TIN PLATE - COKE TIN PLATE - HOT AND COLD FINISHED CARBON AND ALLOY BARS - RODS - SHEETS - PLATES - CONDUIT - RAILROAD TRACK SPIKES.

RIGHT BEFORE YOUR EYES...

the EXTRA VALUE in Russwin "Ten Strike" Locks

With the cover off the case, it's easy to spot the Russwin "Ten Strike" Lock features that add up to *extra value*. Notice the exceptionally sturdy construction throughout . . . the forged brass knob hub and brass front with armored scalp . . . the heavy, formed, interior parts of rust-resisting steel . . . the smooth precision-made case that holds the parts in permanent alignment. Features like these have put Russwin "Ten Strike" Mortise Locks in a class by themselves for exceptionally long, trouble-free service . . . proving the economy of quality.

There are over 800 possible lock combinations in the Russwin "Ten Strike" Line . . . made from three base locks in two backsets. All have the famous Russwin Adjustable Ball Bearing Pin Tumbler Cylinder. One size mortise for all functions. Since all "Ten Strike" Locks are reversible, changes in door swings will not add to the cost of hardware.

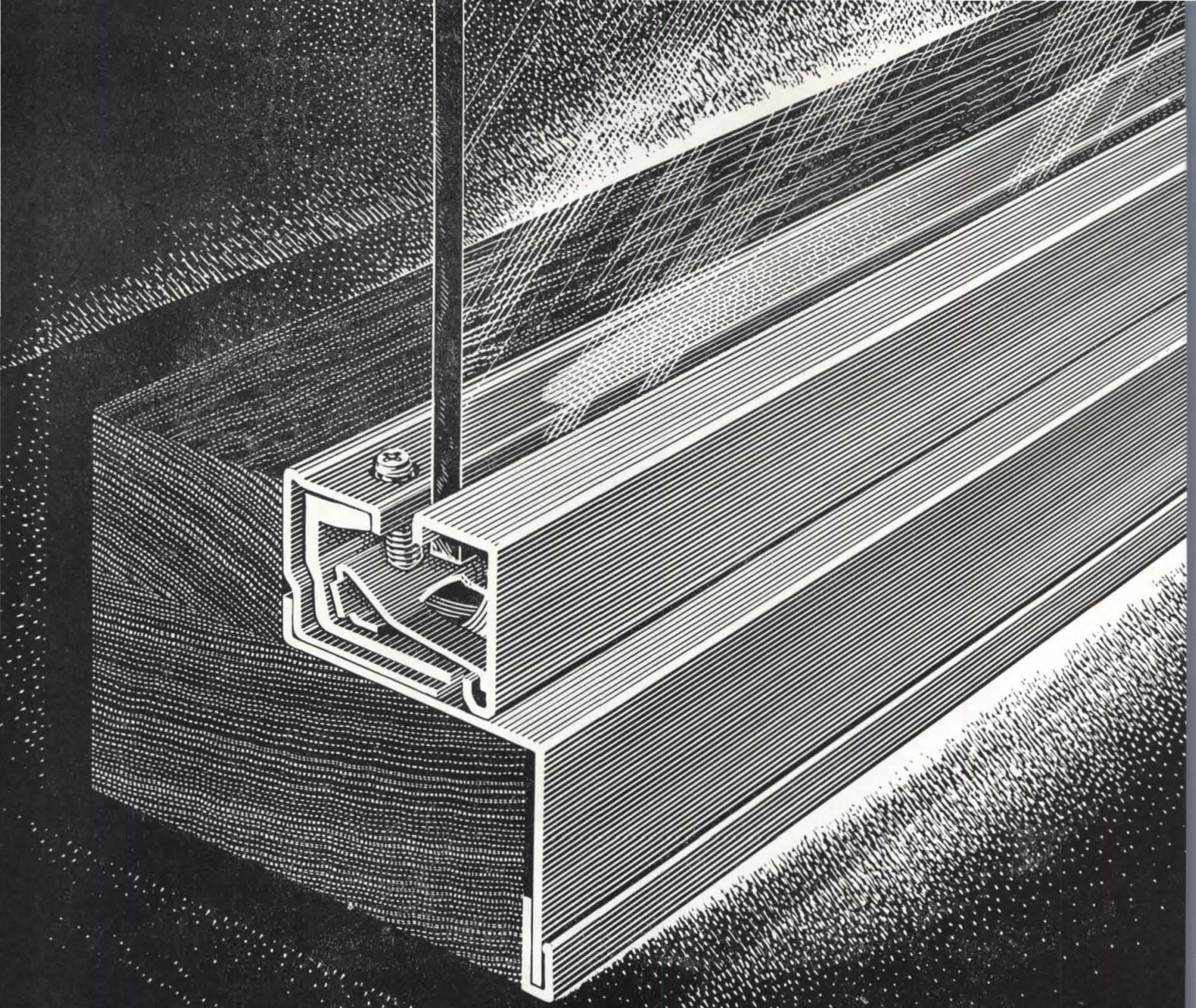
Recommend locks with the *extra value* . . . the Russwin "Ten Strike" Lock Line. Write for catalog. Russell & Erwin Division. The American Hardware Corp., New Britain, Conn.

SINCE 1839

RUSSWIN

DISTINCTIVE HARDWARE

Proving the Economy of Quality



SIMPLICITY AND STRENGTH IN STYLING DISTINGUISH THIS NEW KAWNEER STOCK SASH

KAWNEER RESILIENT-GRIP CONSTRUCTION INSURES RELIABILITY AND SAFETY

All the functional dignity of contemporary design is embodied in this handsomely-styled new Kawneer Stock Sash.

Its simplicity and clean planes reflect the rugged strength inherent in the sash itself.

Incorporated in this new assembly is the famous resilient-grip principle which is unequaled in structural soundness. Steel spring-clips minimize breakage due to normal structural settling, high winds, or hard blows.

For complete details, write The Kawneer Company, Department PA-62, 1105 North Front Street, Niles, Michigan or Department PA-62, 930 Dwight Way, Berkeley, California.

THE
Kawneer
COMPANY

ARCHITECTURAL METAL PRODUCTS

Store Front Materials
Aluminum Roll-Type Awnings • Modern Entrances
Aluminum Facing Materials • Flush Doors

Specify TOMORROW'S WINDOW Today

for Schools, Hospitals, Hotels

Fox-Made Gate City Awning Windows made of Protexol-impregnated genuine white pine, resistant to fire, rot and vermin . . . and dimensionally stable.

Available glazed with Thermopane

As functional as they are beautiful, modern Fox-Made Gate City Awning Windows *anticipate* tomorrow's living needs in offering all these advantages for your buildings:

COMFORT — Cooler in summer — they scoop in up to twice the amount of fresh air with uniform, draftless ventilation. Equipped with Thermopane or interior storm sash, they assure greater warmth in winter.

SAFETY — Made of Protexol-impregnated lumber they will not burn. They lock in any open position (children cannot fall out, intruders cannot enter.)

CONVENIENCE — A simple turn of one handle tilts sashes out to any degree—the tilt keeps out rain. Both sides can be washed easily from inside . . . screens are applied from within.

BEAUTY — Their graceful lines plus the warmth and charm of wood construction add to overall building appearance.

SEND US THIS COUPON for specifications and complete details on these Fox-made products:

FOX MADE

FOX BROS. MFG. CO. ☆75 Years Experience

MANUFACTURERS OF ARCHITECTURAL WOODWORK

Custom-built Millwork

To Fox Bros. Mfg. Co.
2700 Sidney St., St. Louis, Mo.
Send me information on the following products:

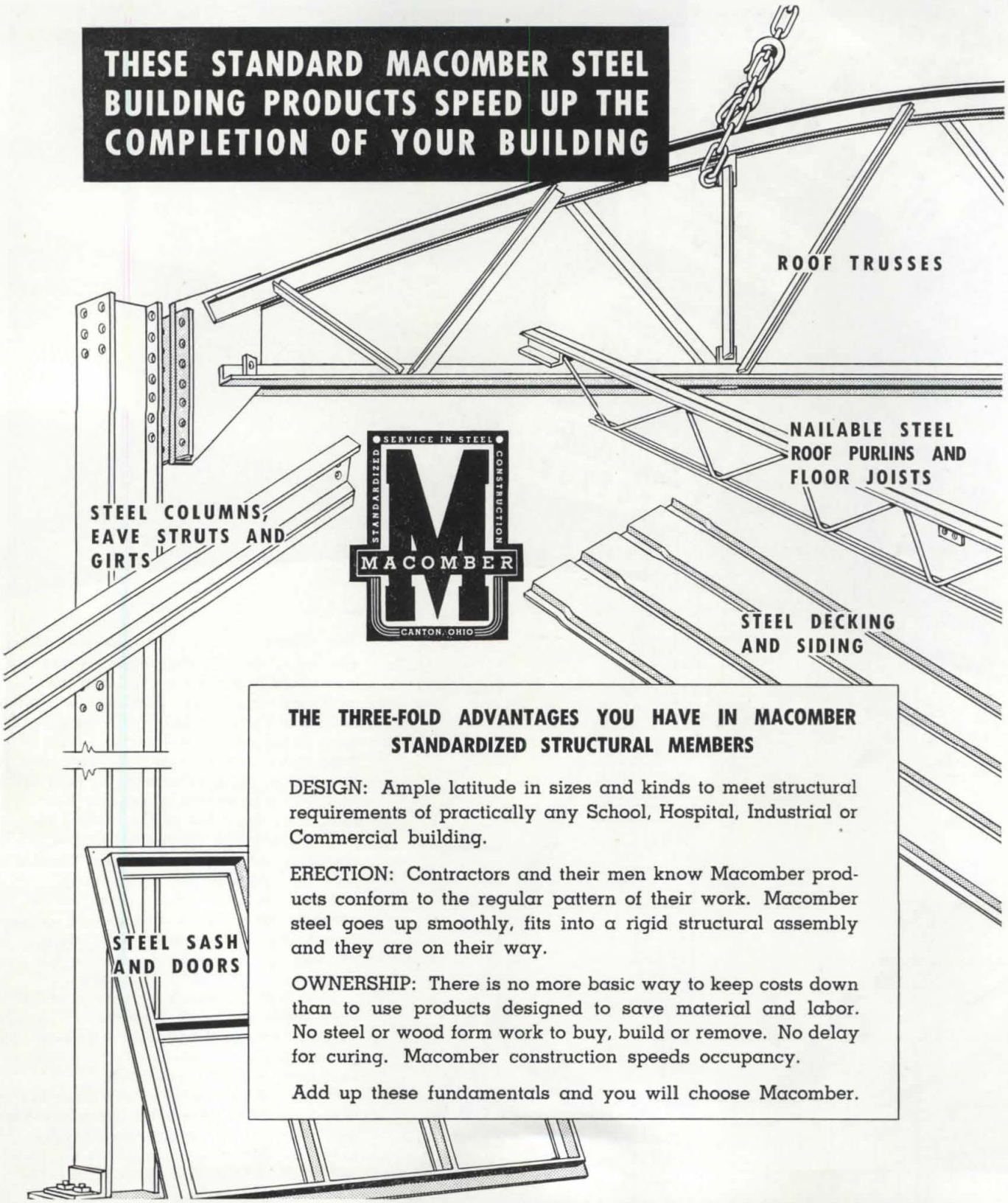
- ☐ Gate City Awning windows
- ☐ Wood fire doors
- ☐ Melamein resin veneer
- ☐ Custom-built panelling

Name.....

Address.....

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

THESE STANDARD MACOMBER STEEL BUILDING PRODUCTS SPEED UP THE COMPLETION OF YOUR BUILDING



THE THREE-FOLD ADVANTAGES YOU HAVE IN MACOMBER STANDARDIZED STRUCTURAL MEMBERS

DESIGN: Ample latitude in sizes and kinds to meet structural requirements of practically any School, Hospital, Industrial or Commercial building.

ERECTION: Contractors and their men know Macomber products conform to the regular pattern of their work. Macomber steel goes up smoothly, fits into a rigid structural assembly and they are on their way.

OWNERSHIP: There is no more basic way to keep costs down than to use products designed to save material and labor. No steel or wood form work to buy, build or remove. No delay for curing. Macomber construction speeds occupancy.

Add up these fundamentals and you will choose Macomber.

SERVICE IN STEEL
STANDARDIZED CONSTRUCTION
MACOMBER
CANTON, OHIO

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

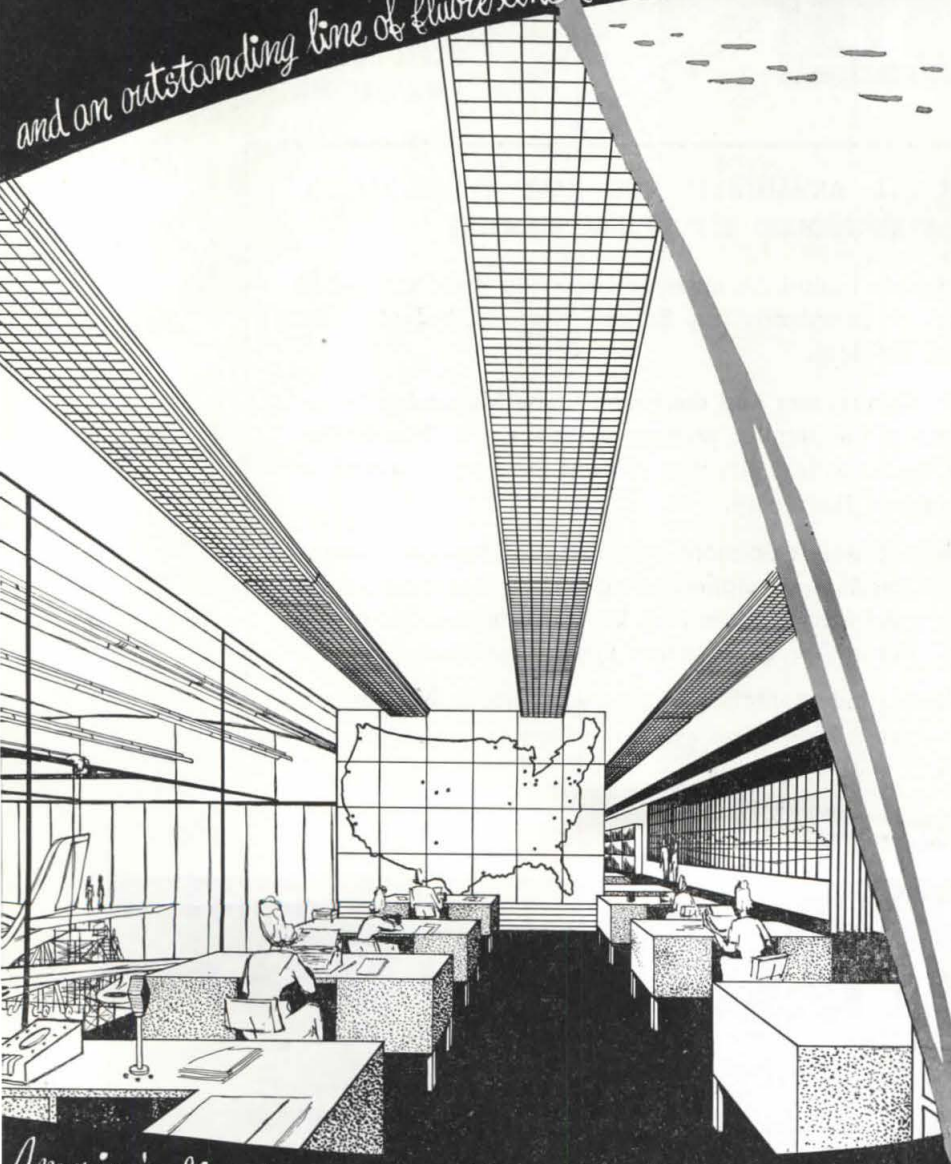
the light side of the office

Smithcraft mercury

Smithcraft director

Smithcraft troffer

and an outstanding line of fluorescent fixtures for the offices that run the nation's industries....



America's finest fluorescent fixtures . . . . . .

The offices that run the nation's industries are today being called upon to "produce" more than ever before . . . and, as always, increased production calls for better-than-adequate lighting. Smithcraft Lighting Division, proud of its position as leader in the progressive development of fluorescent fixture design, manufactures the lighting fixtures that assure better-than-adequate lighting results. Here are a few of the reasons why:

1 — Smithcraft fluorescent fixtures are designed to develop to the fullest possible extent the light provided by the lamp.

2 — Smithcraft fluorescent fixtures are carefully louvered or shielded to eliminate successfully the element of "glare". Employees can work long hours with full effectiveness in Smithcraft installations.

3 — And . . . there's more to good lighting than meets the eye! Smithcraft fluorescent fixtures incorporate quality electrical components . . . guaranteeing the purchaser a long-term lighting investment.

These are only three of the many features that have been developed into every Smithcraft fixture. Smithcraft representatives, located in major cities throughout the country, will be glad to furnish the full story. Drop us a line . . . we'll do the rest.

Smithcraft

LIGHTING DIVISION

CHELSEA 50, MASSACHUSETTS

Write for the Smithcraft Catalog describing our full line of commercial and industrial fluorescent fixtures. We'll also be glad to add your name to our mailing list for our popular monthly house organ, "The Light Side of the News".

These Fenestra Windows in the American Woolen Co., Lawrence, Mass., were commercially hot-dip galvanized and installed in 1922. They are still in fine shape.

NOW MADE EVEN MORE DURABLE!

Over the long years you've seen the loyal performance of Fenestra* Steel Windows. You've seen the ruggedness of fine steel minimize most maintenance . . . the strength and rigidity stand up under years of use. You've seen the fine protection that commercial galvanizing gives steel.

And now Fenestra's *special* galvanizing makes Fenestra Windows even *more* durable.

We call it *special* galvanizing because it's unobtainable anywhere else. Fenestra engineers developed a galvanizing system specifically for Steel Windows and built a special plant around it.

THE REAL SECRET

The real secret of the system is that Fenestra galvanizing is an integral part of the *manufacturing process.*

So get steel-strong windows made to *stay* new—get Fenestra Galvanized Steel Windows. For further information, call your Fenestra Representative (he's listed in the yellow pages of your phone book). Detroit Steel Products Company, Dept. PA-3, 2253 East Grand Boulevard, Detroit 11, Michigan. *®

Fenestra's New Hot-Dip Galvanizing Process

1. **Specially Fabricated Parts.** To insure proper galvanizing, fabrication and assembly of window parts are especially engineered.

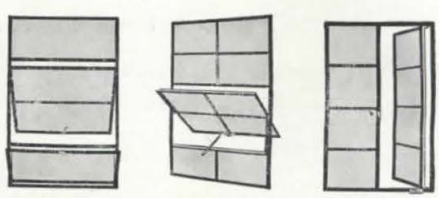
2. **Hot, Deep-Dip Galvanizing.** Windows are cleaned, rinsed, fluxed, then *completely* immersed in a bath of molten zinc.

3. **Bonderized Finish.** For a perfect finish, windows are Bonderized, then rinsed. Also provides excellent base for paint finish when desired.

Steel-Strong Windows made to STAY new

Fenestra

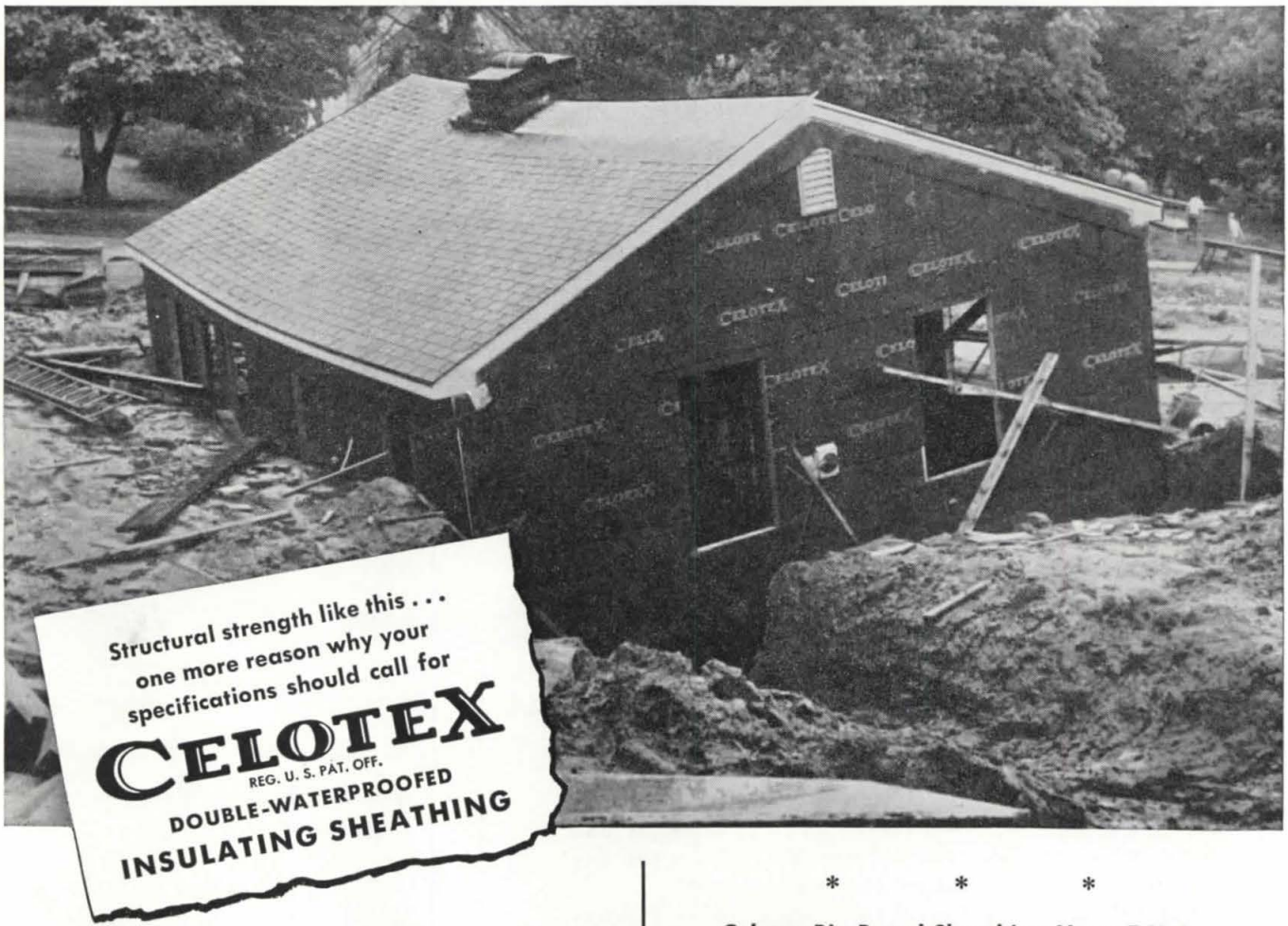
HOT-DIP GALVANIZED STEEL WINDOWS



Intermediate Industrial Residence

Foundation washed away...ye

House stands Intact!



Recently a flash flood in Omaha, Nebraska washed away the foundation of this partially completed home, dropping the structure into the excavation.

As the unretouched photo here shows, Celotex Insulating Sheathing HELD THE WALL FRAMING INTACT, despite the terrific strain of the twisting action and jolt accompanying the drop!

Dramatic proof indeed of its superior structural strength and rigidity! One more reason why Celotex Double-Waterproofed Insulating Sheathing belongs in *your* specifications! Send now for *free* booklet giving full details. The Celotex Corporation, Chicago 3, Illinois.

For better homes at lower cost . . .

CELOTEX
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BUILDING PRODUCTS

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

* * *

Celotex Big Board Sheathing Meets F.H.A. Standards with NO CORNER BRACING

As the test results below show, 4 ft. wide, $^{25}/_{32}$" thick Celotex Double-Waterproofed Insulating Sheathing *without corner bracing* GREATLY EXCEEDS exacting F.H.A. Standards, which require bracing strength equal to horizontal wood sheathing *with corner bracing.*

Yes—you can make this additional saving, yet build a better, stronger wall with this Celotex Double-Waterproofed Insulating Sheathing. Remember, it insulates as it builds!

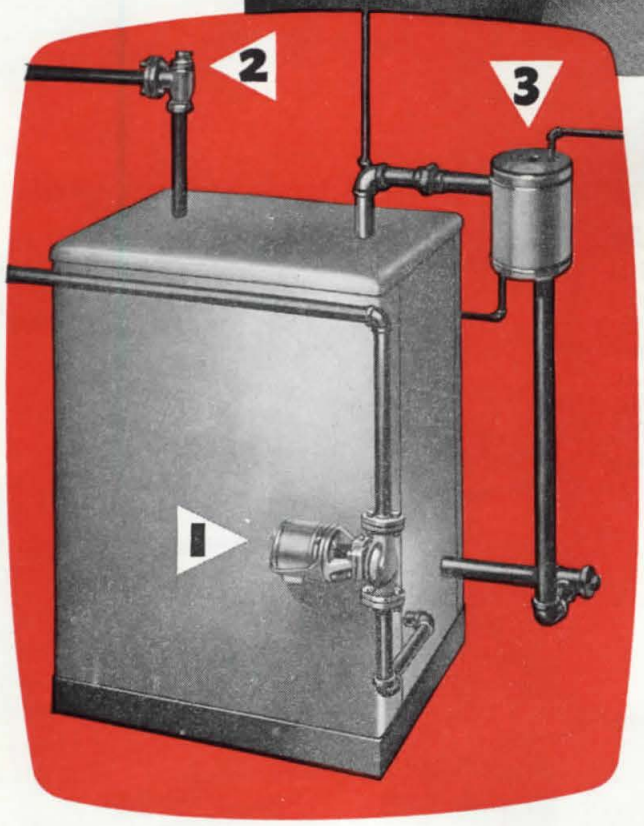
Results of official tests prove 4-ft., $^{25}/_{32}$" Celotex Insulating Sheathing beats rigid F.H.A. requirements by far!

	FHA Technical Circular No. 12 Criteria		Average of Test Results	
	Dry	Wet	Dry	Wet
Maximum Load, lbs.	5200	4000	6720	7290
At Load of 1200 lbs.				
Average Total Deflection, in.	0.2	0.28	0.217	0.147
Residual Deflection, in.	0.1	0.14	0.067	0.040
At Load of 2400 lbs.				
Average Total Deflection, in.	0.6	0.8	0.533	0.483
Residual Deflection, in.	0.3	0.4	0.230	0.187

B & G *Hydro-Flo** Heating

WITH RADIANT BASEBOARDS

FOR RADIANT SUNNY WARMTH AND BEAUTY TOO



THREE GREAT COMFORT-ECONOMY FEATURES!

WARMTH AS SOOTHING AS SUNSHINE

YEAR 'ROUND HOT WATER

LOW OPERATING COST

No wonder this combination for winter comfort and home beauty is being installed in so many new homes!

Consider these features: Radiant sunny warmth from heating units which look like conventional wooden baseboards *and are just as unobtrusive!* No over or under-heating—the B & G *Hydro-Flo* System automatically adjusts the heat supply to the weather! Heat is evenly distributed—draftless—virtually the same temperature from floor to ceiling!

Next, an all year 'round supply of hot water for kitchen, laundry and bath, *heated by the same boiler that heats the house.* Plenty for automatic washers, showers—and at amazingly low cost!

And finally—fuel economy! The automatic modulation of the heat supply prevents fuel waste—keeps heating cost at rock bottom. This accurate control is especially valuable in spring and fall, when only a little heat is needed.

Write for descriptive literature.

B & G *Hydro-Flo* Equipment can be installed on any hot water heating boiler

1. *B & G Booster*—An electrically operated pump which circulates hot water through the baseboards.
2. *B & G Flo-Control Valve*—Helps keep home temperature constantly at the comfort level.
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WEATHERSTRIPPED ALUMINUM AWNING WINDOWS

Montgomery County Office Bldg., Rockville, Md. Ronald S. Senseman, Tacoma Park, Md., Architect. Byrne Organization, Washington, D.C., Gen. Contractor.

THE TIGHTEST CLOSING WINDOW EVER MADE

Reduce air infiltration to a minimum by specifying AUTO-LOK Weatherstripped Aluminum Windows. They increase efficiency of heating and air conditioning by a closure **ten times as tight** as the generally accepted standards for casement and projected windows. They add to the beauty of the building and are adaptable to all types of architecture under all climatic conditions. Call on our engineering department for consulting service or engineering help on any window problem.

ONLY **AUTO-LOK** GIVES YOU ALL THESE ADVANTAGES

- Minimum air infiltration —only 0.095 cfm per foot.
- Distinctive beauty.
- No drafts — air scooped in and upward.
- Removable inside screens and storm sash.
- Lower fuel bills.
- Maintenance costs at a minimum.
- Easily operated.
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- Sealed protection against storms.
- 100% ventilation, even on rainy days.

it's sealed like a refrigerator

AUTO-LOK IN WOOD

REGARDLESS OF ANY ALUMINUM RESTRICTIONS,

your job can still have AUTO-LOK performance.

After years of work and testing, the many AUTO-LOK features are now incorporated in a wood AUTO-LOK window, and will soon be available in your area. We are now applying the famous AUTO-LOK principle to produce the ultimate in a wood window that gives you the same tight closure and all the other important features that have made AUTO-LOK the fastest selling awning windows in America.

Consult SWEET'S—write for nearest distributor's address and free folder, **"What is Important in a Window?"** and detailed report on air infiltration test by Pittsburgh Testing Laboratory, to Dept. PA-3

LUDMAN CORPORATION

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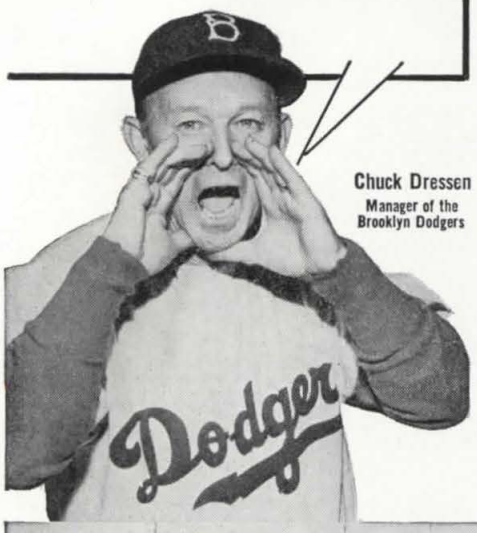
MIAMI, Here We Come!



Chuck Dressen
Manager of the
Brooklyn Dodgers

'INCOR' SPEEDS COMPLETION OF MIAMI STADIUM

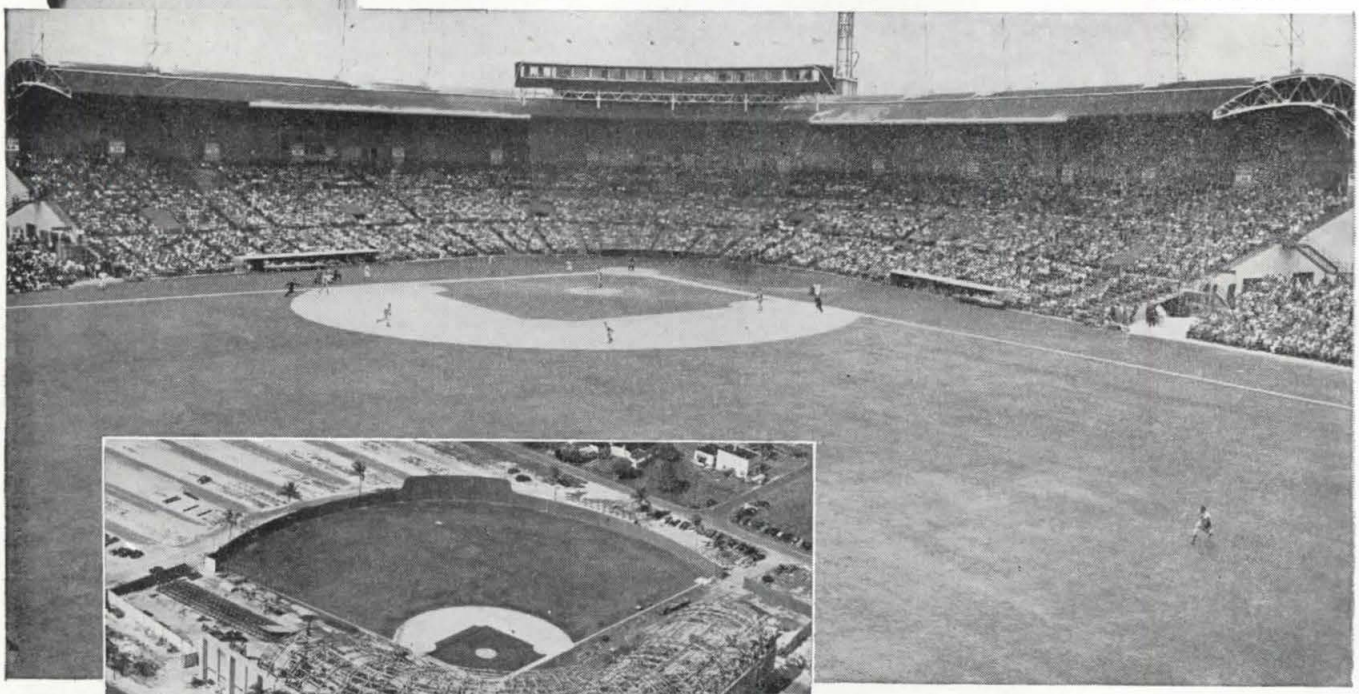
BASEBALL'S NEWEST SPRING-TRAINING CENTER

● "Finest structure in minor-league baseball," says Walter F. O'Malley, Dodgers' President, of beautiful Miami Stadium, new Spring-training base of the Brooklyn Dodgers.

With a grandstand seating capacity of 9,500 and room for 7,500 in bleachers and temporary stands, Miami Stadium offers every spectator an unobstructed view of the field. To speed completion, the contractor used 'INCOR' 24-HOUR CEMENT in concreting the 6 x 6 ft. columns anchoring roof trusses and for foundations of eight 140-ft. light towers. Result, job completed *three weeks ahead of schedule.*

Another instance of maintaining schedules against an imminent completion date, by taking full advantage of always-dependable 'Incor'*—America's FIRST high-early strength Portland cement.

*Reg. U. S. Pat. Off.



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School Administration Building:

Seattle, Washington

J. LISTER HOLMES & ASSOCIATES, ARCHITECTS
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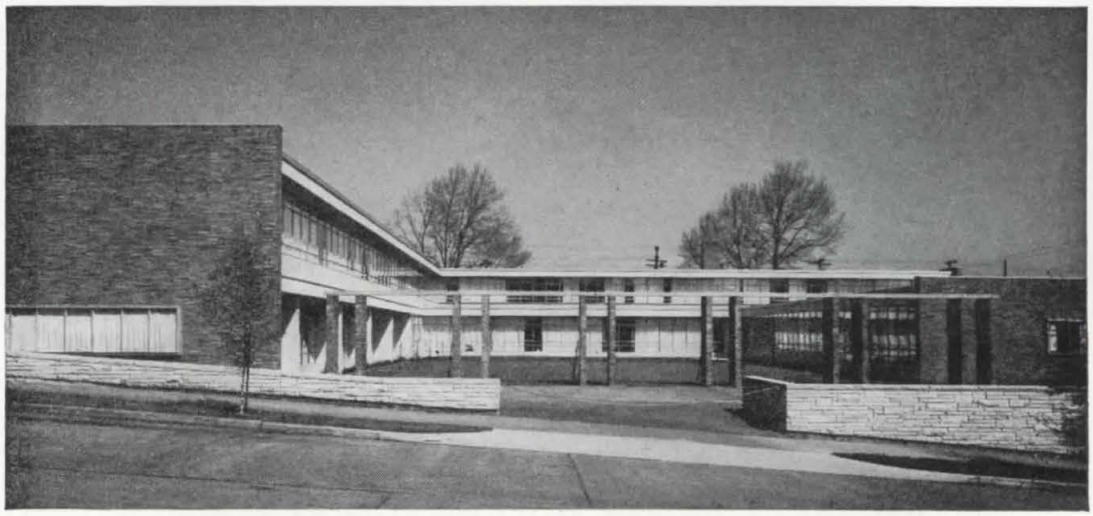
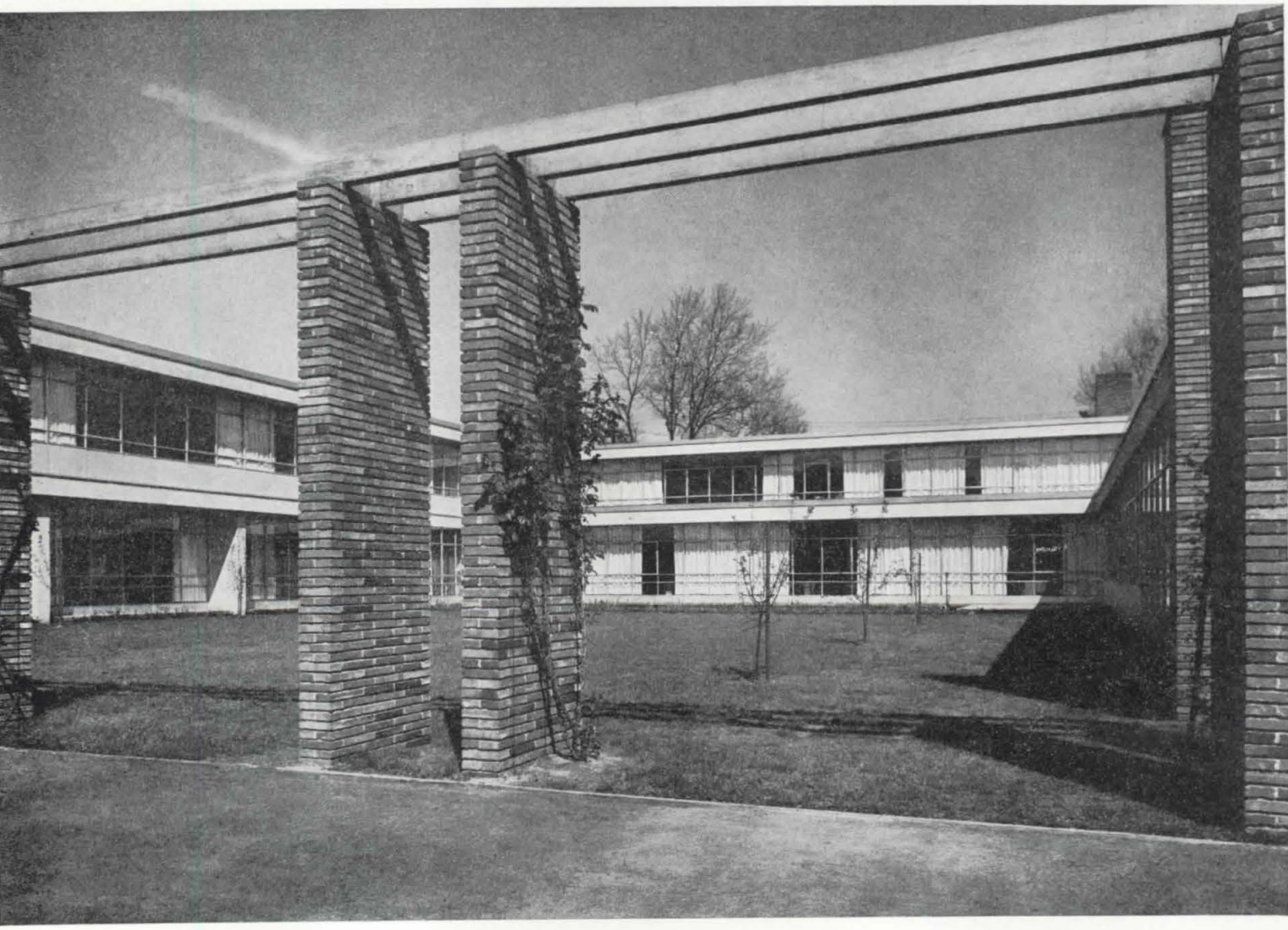
MARIUS ANDERSON & ASSOCIATES, MECHANICAL AND ELECTRICAL ENGINEERS

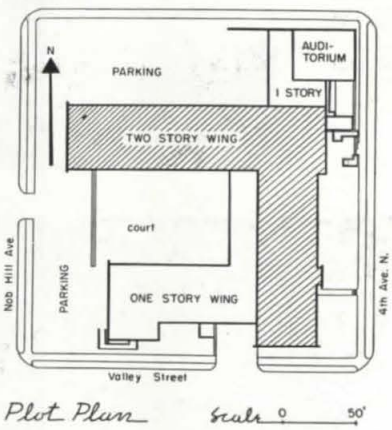
uilding houses a number of related offices
g Seattle's School District No. 1. The
graphs on this page show the court at
ear (western side) of the building. The
at left consists of the superintendents'
s (on the ground floor), with primary,
dary and adult education offices and a
y on the floor above. The lower wing at
includes pupil personnel, child guidance,
medical service offices. In the two-story
cting link are secretarial pools, the main
nce lobby (on the opposite side of the
ng) and miscellaneous offices.

Photos: Dearborn-Massar

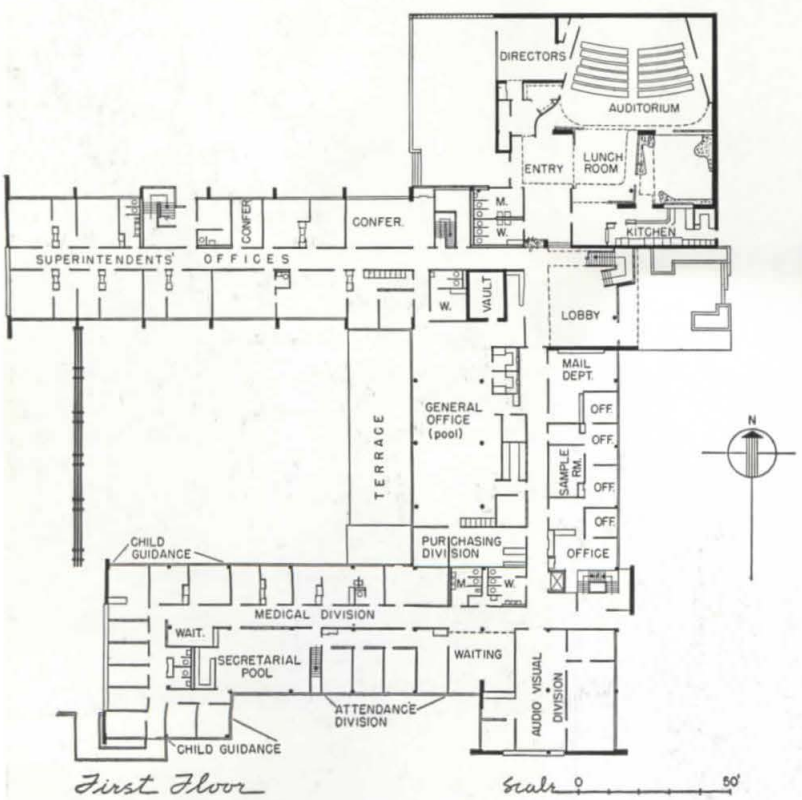




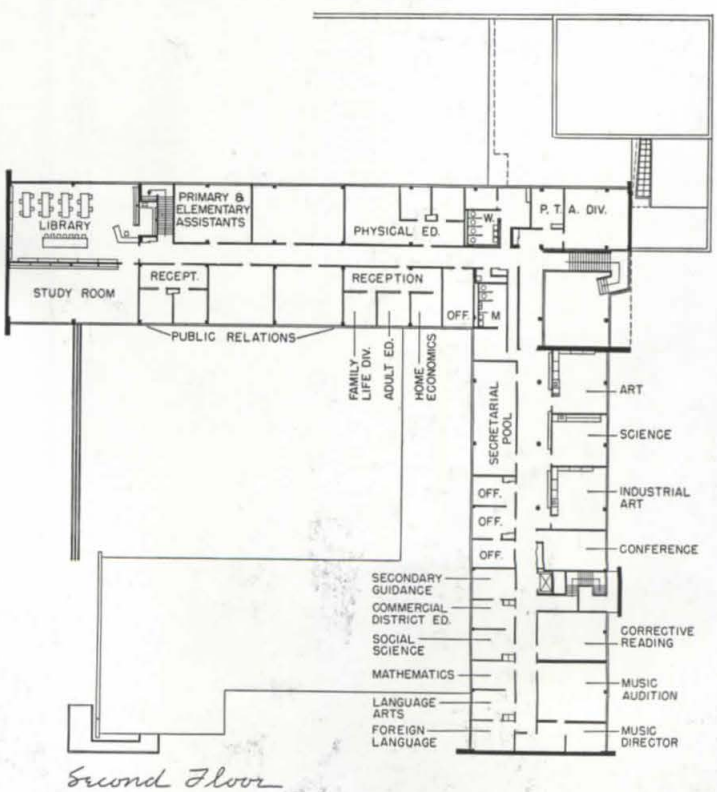
Views at the top of these pages are (left) the south (downhill) wing of the building (pupil personnel, child guidance, medical service) which may be entered directly from an adjacent parking lot by means of the projecting balcony at the corner; and (right) general view from the southeast. The main entrance is at the far right of the picture.



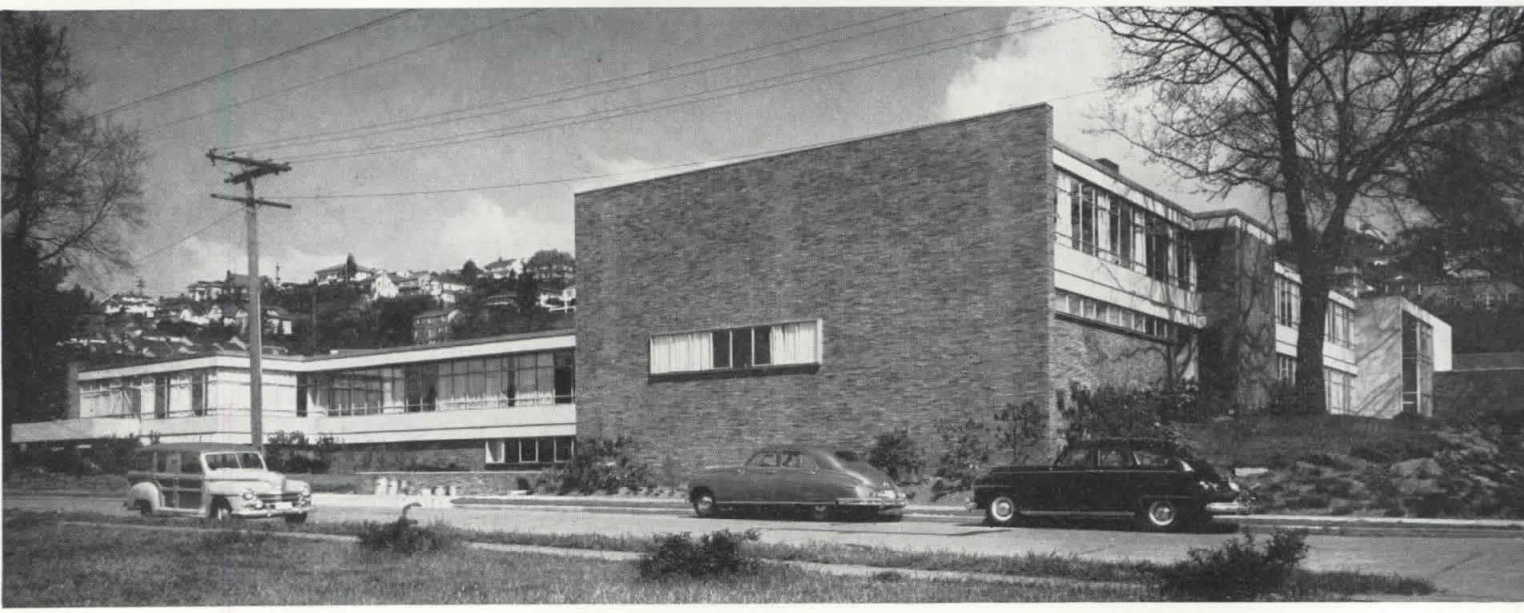
Plot Plan Scale 0 50'



First Floor Scale 0 50'



Second Floor



SCHOOL ADMINISTRATION BUILDING: SEATTLE, WASHINGTON

program To provide administrative and related offices for Seattle's No. 1 School District—a new building to replace makeshift offices the staff had previously occupied in an old warehouse type of structure. An analysis of square-footage needs and desirable inter-departmental relationships, prepared by the school staff, determined that offices for the superintendent and five assistant superintendents should be in a wing segregated and insulated from the business section, lunchroom, and auditorium; yet so arranged as to control the rest of the building, especially the primary, secondary, and adult education offices. Offices for pupil personnel, child guidance, and medical service, plus a suite of offices for the audio-visual division, were additional basic requirements. Separate secretarial pools to be provided for each major subdivision. Parking spaces desired immediately adjacent to the two major wings.

site A full block, bounded on the east and west by streets of considerable grade, the street on the south being the downhill side of the site.

solution Site conditions soon determined that the main entrance should occur at about a mean grade of the property on Fourth Avenue North (east side of site). For direct access, the superintendents' office wing was organized immediately to the west of the entrance lobby. To provide the desired control over offices for primary, secondary, and adult education, these offices were placed on the second floor, directly over the superintendents' offices. Requiring relative isolation from the balance of the building, offices devoted to pupil personnel, child guidance, medical service, and audio-visual training were placed in a separate wing, parallel to the superintendents' wing, along the south side of the property. The cafeteria-lunchroom and small (200-seat) auditorium, to which the lunchroom space can be joined if needed, is organized as a separate group around a landscaped courtyard at the northeast corner of the building. For certain uses—such as meetings of school principals, teas, etc.—folding partitions in this area make it possible to add the adjacent lobby area to the lunchroom space.

Samuel E. Fleming, Superintendent of Seattle Public Schools, tells us that this new building "has exceeded our expectations in every way." Crediting the school staff with careful scheduling of its departmental needs within the building, he goes on to say that "the architect designed it faithfully to accomplish these same purposes. The building is attractive both inside and out,

with many original features that add to its pleasant, friendly atmosphere. This has been accomplished without resort to expensive extras. Consistency in all details is its outstanding characteristic." One could hardly ask for a happier client reaction.

materials and methods

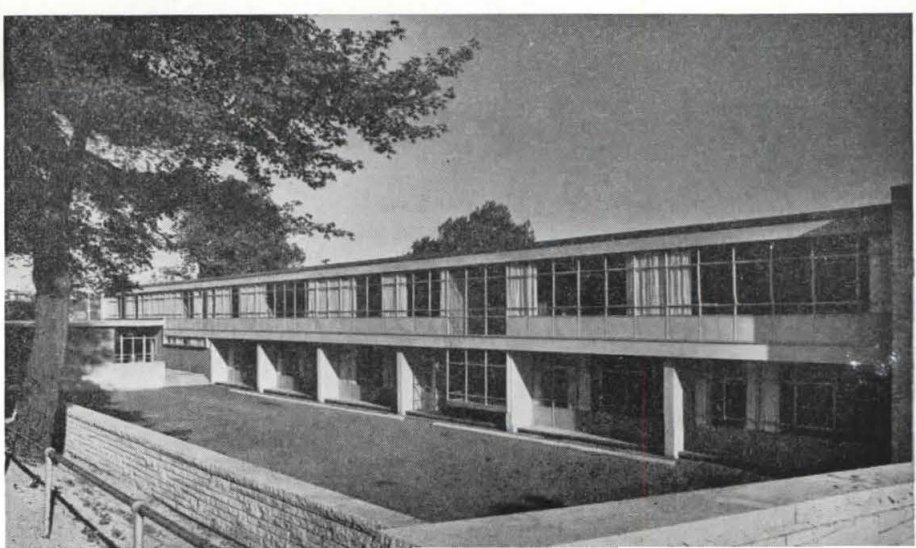
CONSTRUCTION: *Foundation:* concrete on wood piling. *Frame, walls, and roof:* concrete. *Exterior walls:* rigid asbestos cement filler panels; brick; interior—brick, plaster. *Flooring:* asphalt tile; rubber tile; quarry tile. *Roofing:* 4-ply, built-up. *Insulation:* acoustical—sound absorbent ceiling plaster; thermal—vermiculite. *Partitions:* portable wood; gypsum block; metal. *Fenestration:* aluminum sash; crystal and plate glass. *Doors:* aluminum, metal clad; wood-veneer slab type; solid concrete.

EQUIPMENT: Heating: oil-fired boiler of 30# working pressure to serve hot water system; aluminum convectors; cast-iron, fin-type radiators; split tile ducts; controls; volume heaters; metal diffusers. *Plumbing:* galvanized iron pipe; wet system sprinklers; vitreous china, siphon jet water closets; porcelain enamel lavatories. *Lighting:* concentric ring incandescent units; grid ceiling fluorescent installations.

the architects

For biographical note on *J. Lister Holmes,* see page 43, November 1949 P/A.

Left — Corner of north parking court (general view, below) showing detail of entrance (at back of terrace) to foyer of the lunchroom-auditorium area; superintendents' office wing, at right. Here is clearly shown the design result that derives from a knowing use of reinforced concrete framing system (stuccoed where exposed) and the curtain-wall system of rigid asbesto-cement filler panels and aluminum sash. Spandrel areas are stuccoed. As to the extensive use of windows, the architect comments: "Because of the number of cloudy days in this vicinity, large areas were devoted to glass, with sun control effected by floor projections and draw drapes."



Photos on this page are of the main entrance and lobby, from which visitors are readily routed to all parts of the building. The structural steel framing of the high-window area is faced with corrosion-treated aluminum; lettering is also aluminum; wall surfacing in this area is of cut stone. While the architect's office did the entire site layout, the school district handled the planting.

Above — lobby reception desk, from which visitors are directed to the various departments within the building.

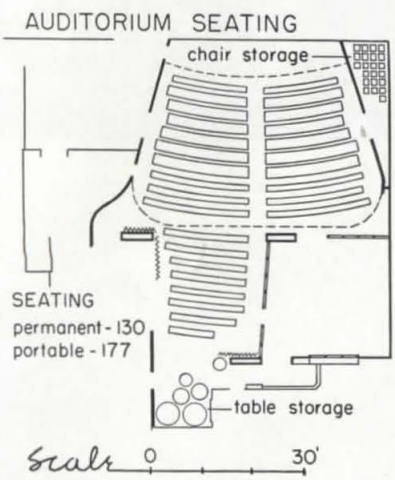
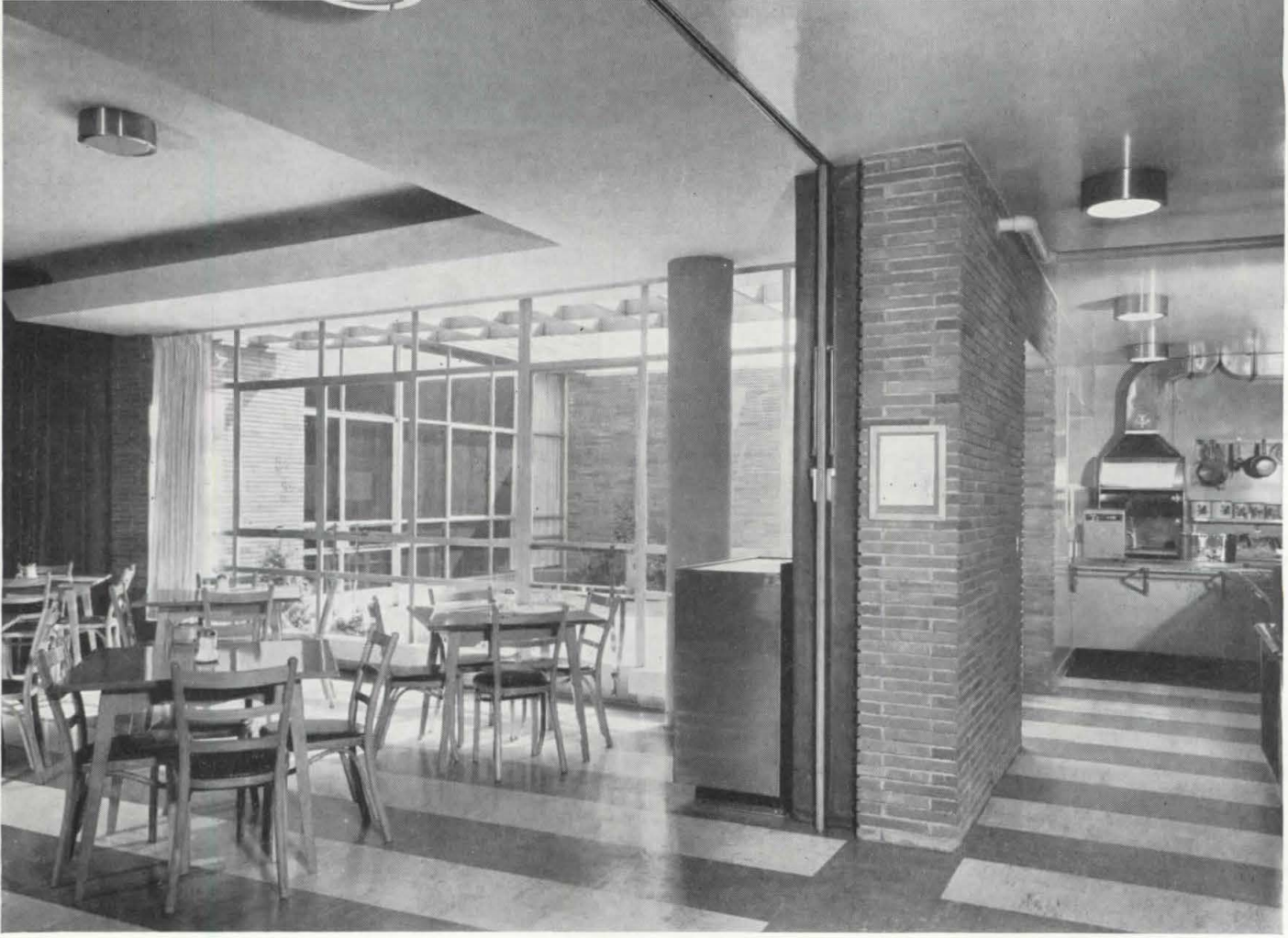
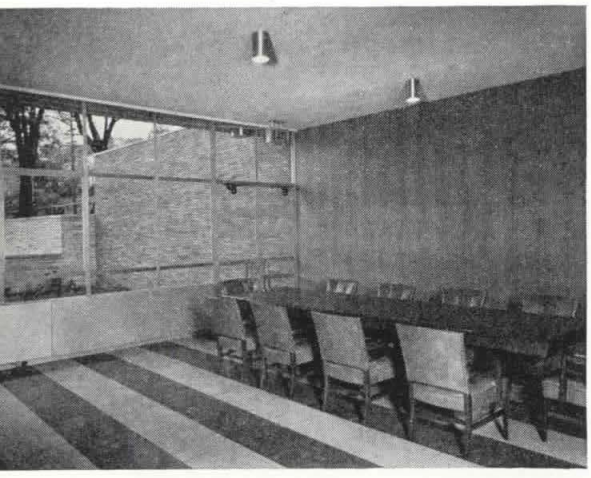


Photo above, those acrosspage, and the small plan at left detail the flexible-use lunchroom-cafeteria area arranged around a courtyard at the northeast corner of the main floor. In the floor plan shown on Page 58 and in the pictures on the facing page is shown the usual disposition, wherein the small auditorium accommodates from 130 to 230 persons, with the lunchroom furnished for use. The plan on this page shows rearrangement (lunchroom furniture removed; portable seating in place, and folding partitions between both the kitchen and foyer closed) for maximum seating of 307.





SCHOOL ADMINISTRATION BUILDING: SEATTLE, WASHINGTON

Top of page — first-floor secretarial pool (serving the business area) located on the west wall of the block that joins the two wings of the building. The grid-ceiling with fluorescent lighting above, the extensive window areas, and draw drapes provide flexible control of light.

Left — directors' room, in a corner of the auditorium-lunchroom wing.

Below, left — superintendent's office, looking across courtyard to the south wing.

Below, right — corner office of the superintendents' office wing, with corner of parking space seen through the window at left.

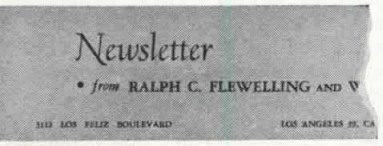
Public Relations by Newsletter

the Office of Ralph C. Flewelling and Walter L. Moody tries an experiment in public education.

Many an individual firm of architects has wished that the over-all profession were doing a better job of public indoctrination in the problems of architecture and the nature of the architect, but few architects have found the time, the funds, or the initiative to do more than solicit work on a purely personal basis. It is refreshing and instructive to find one firm—Ralph C. Flewelling & Walter L. Moody, Los Angeles, California—making an experiment which is apparently successful and which might well be followed by others or even undertaken by professional organizations.

For more than a year now this office has issued a monthly *Newsletter*, discussing in casual, friendly, but completely accurate terms, the services that an architect renders, and the problems he has to solve for his clients. There is no direct solicitation of work; the material is always in good taste, and should do the entire practicing profession as much good as it does the firm which issues it.

The *Newsletter* has stirred some local controversy, although it was not intended to be controversial. It has also engendered much good will. Tile Council of America members get it, on request of their advertising agency. *Southwest Builder and Contractor* plans to reprint it. Seven hundred copies are now being printed each month, mimeographed on a special letterhead, and sent to school administrators, school agency officials, the press, and "a few friends of the firm." Following are excerpts from a number of the issues.


Newsletter
• from RALPH C. FLEWELLING AND W
3113 LOS FELIZ BOULEVARD LOS ANGELES 39, CA

WORKING DRAWINGS

y the pound

Most important single service rendered by the architect is his originality combined with building and engineering know-how.

Such things cannot be measured in ordinary ways, but the evidence of his efforts sometimes can be weighed by the pound. Browsing in the drafting room, we found out the following about a new high school, plans of which are being reviewed by the State Division of Architecture:

One complete set of working drawings . . . . weight, 14½ lbs.

This included 87 separate sheets of drawings. A total of 40 complete sets will be printed, or a total of 580 pounds of plans. Distribution: clients, 1; State Division of Architecture, 2; School Planning Board, 1; the architect, 1; and 35 sets distributed among bidders for the job, later distributed among contractors and sub-contractors who will work on the school plant.

One complete set of specifications . . . weight, 1¾ lbs.

This includes 224 pages in the specification "book," containing approximately 125,000 words of wisdom on what the new high school shall be made *Of*. Forty-five sets will be distributed, or a total of almost 79 lbs. of advice on what to build a new school *With*.

buy the pound

Some school districts have frankly wondered why architectural services call for the amount of fees recommended by the American Institute of Architects, the guide followed by this office.

We have pointed out the "intangibles" of architectural service: preliminary planning, ingenuity of the architect and his service as "interpretor" between needs of the client and function of the buildings.

We do not mean to imply that an architect's services can be bought "by the pound." But pointing out these interesting facts makes us recount in our own minds the long period of production of these working drawings: a period marked by tedious detail sometimes grueling, and always absorbing.

two-and-a-half ounces

One sheet of working drawings for the high school mentioned weighs a little more than two and a half ounces. Assuming that the drawings and "pictures" are well executed, the following things are not seen on the client's scale:

A typical work sheet of a floor plan, with elevations and finish schedule, takes an average of five days to complete, but may have taken many days before for preliminary layout work. It goes through this process:

1. Drawing by assigned draftsman.
2. Prints are run off on ozalid machine, and specification writer begins writing "specs."
3. Drawing checked by chief draftsman and architect.
4. Drawing redrawn with corrections.
5. Engineers check against their own drawings to co-ordinate with their dimensions, details, etc. Three separate checks are made by structural, mechanical, and electrical engineers.

Multiply this simplified process by several score "sheets," add the human factor, and you have draftsmen and architects talking to themselves.

Add the hours of conferences, client-architect and inter-office, plus research by staff members before the pencil meets the drawing sheet, and the answer is two and a half ounces of thought and ingenuity.

the weight of an idea

We have spoken rather glibly about the weight of a set of working drawings, and it is of course nonsense to judge the merit of the buildings or of the architect in terms of the weight of plans.

It is equally impractical to measure the value of the architect in terms of his fee, by pulling out a set of plans, thumbing through the sheets and thinking, "87 sheets, hmmm? For this I paid a fee." We'd still like to know how you can weigh an idea.

FLEXIBLE DESIGN FOR NEW SCHOOLS

flexibility defined

Flexible: 1. Capable of being flexed; pliable; not rigid. 2. Ready to yield to influence; tractable. 3. Capable of being adapted, modified, or molded; plastic; pliant; as, Latin is not a flexible language. 4. Responsible to, or readily

adjustable to, changing conditions; as, to hold flexible opinions. 5. Not rigid.

classroom function

Developments in school programs, teaching methods, scientific health controls, and an increase of demands upon the student because of the new methods of teaching, mean the demands made upon the modern school building are more exacting.

The new era in teaching methods also imposes greater requirements of skill upon the architect in translating educational principles into functional planning of the building itself. Reason: The physical properties, space and materials of the modern school are now used as counterparts of education.

In today's classroom, the process of educating the child is far removed from that of not too many years ago. In one room, because of the inclination of the teaching program, and because of the ability of the architectural design to care for the program, there may be several different teaching projects in action at the same time.

This calls for room flexibility, so one student group may hold a roundtable discussion in one part of a room, another group may be painting, another group may be working on study problems.

a six-letter word

"Design" is a six-letter word, and this office treats it as just that. We have no particular designation for the type of our design, but accept as inadequately descriptive the term "Contemporary."

"Contemporary," in this case, is a convenient way to say that *design* is subordinated to the use or *function* of any given plan, building, room, niche or corner. Such an approach in the building of schools is increasingly desirable because:

Educators are interested in getting down to the "meat" of teaching, eliminating the "gingerbread" of a gingerbread era.

The greatest amount of *use* and *value* is now wanted from the *space* provided for teaching.

Contemporary teaching methods, and economic trends, do not leave room for wasted space; conversely, the new instruction methods take full advantage of the *flexibility* of Contemporary design.

SPECIFICATIONS

painful love

An architect who is mumbling incoherently to himself, and appears to be on the brink of entering an institution, must surely have just finished writing a book of building specifications.

It is an axiom in the profession that the architect who is fond of writing "specs" has never been captured.

It is equally true that without the kind of tedious love that is poured into a book of specifications for a large building project, even the most brilliant architectural drawings would be wasted effort.

two syllables or less

When words of more than two syllables appear in a specification book, it is either an accident or there is no two syllable word available to say the same thing.

In the plainest language possible, the "specs" spell out what kind of materials are to be used, how they are to be applied, standards for the finished product, and so forth.

Years of background experience in the architectural and building profession is the only schooling to make a specialist on "specs." Formal education will not give him the familiarity with materials and their peculiarities.

Hours, weeks, and months, on a large project, are spent in applying the right material to a specific task which it must perform. Research tests are often the rule when new methods of design are being used.

Richard M. Wilkes, public relations advisor to the firm, admits that there was "a considerable period of thinking it over" before the first *Newsletter* was published. Limitations—"both of professional propriety and good common sense"—were realized, and "the possibilities of criticism were pretty accurately calculated." As a matter of fact, there *has* been some criticism, by brother professionals, who felt that the *Newsletter* was an indirect and unfair way of soliciting work and, since it was broadcast to school boards, might reach clients who had already selected architects.

However, the intention was primarily "to plant some seeds of respect, if not knowledge for the architect's task. If we were able to do this in a general way, we could at least hope that some of this recognition would rub off on us." A careful compliance with the A.I.A. mandatory rules on publicity has been observed. The fact that the names of Flewelling and Moody were thus brought to the attention of school people, with the clear implication that those two gentlemen knew what they were talking about, would seem to be a legitimate by-product.

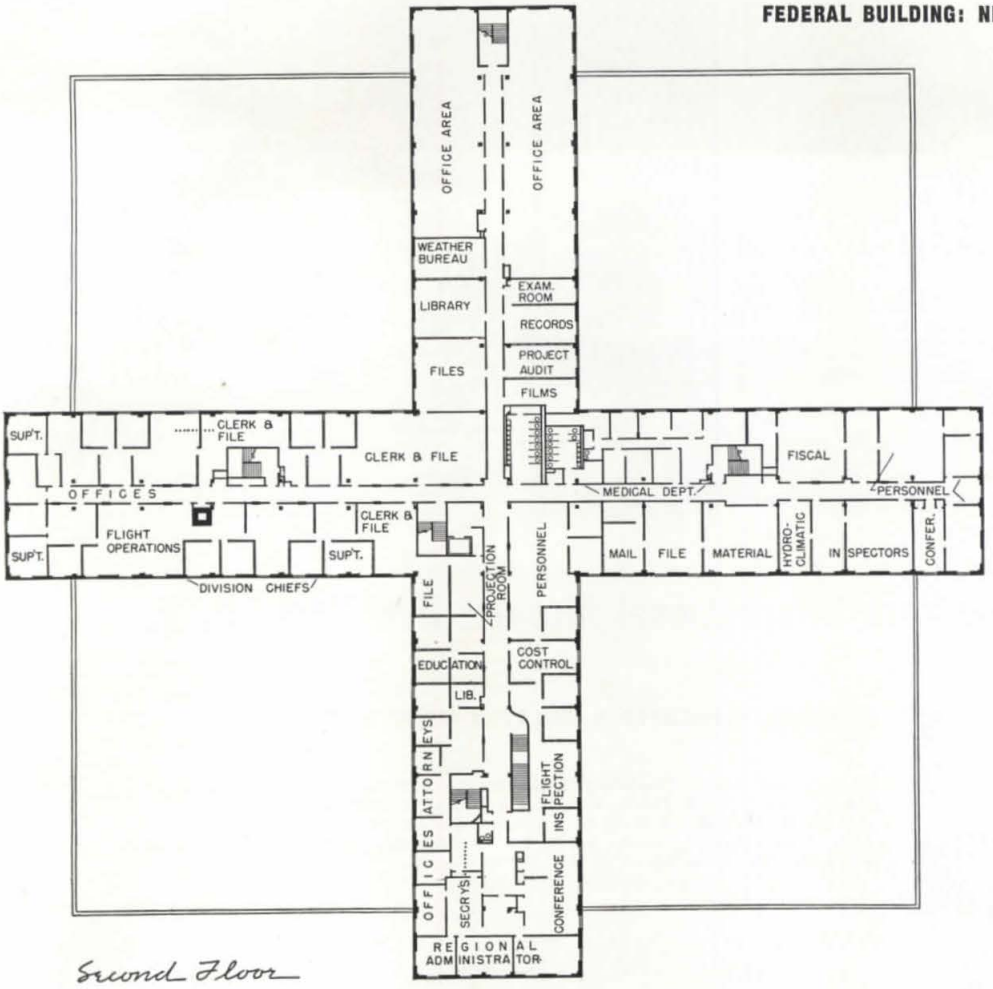
The firm says that it is too early to evaluate the results of the *Newsletter*. Comments generally have been favorable, with a frequent one: "The A.I.A. should have done this long ago." Requests to be put on the mailing list have come from individuals and from commercial concerns. Ralph Flewelling says that "if the people to whom it is being sent continue to feel that we are producing something of value to them, we shall endeavor to continue sending it to them."

Federal Building, New York International Airport: New York, N. Y.

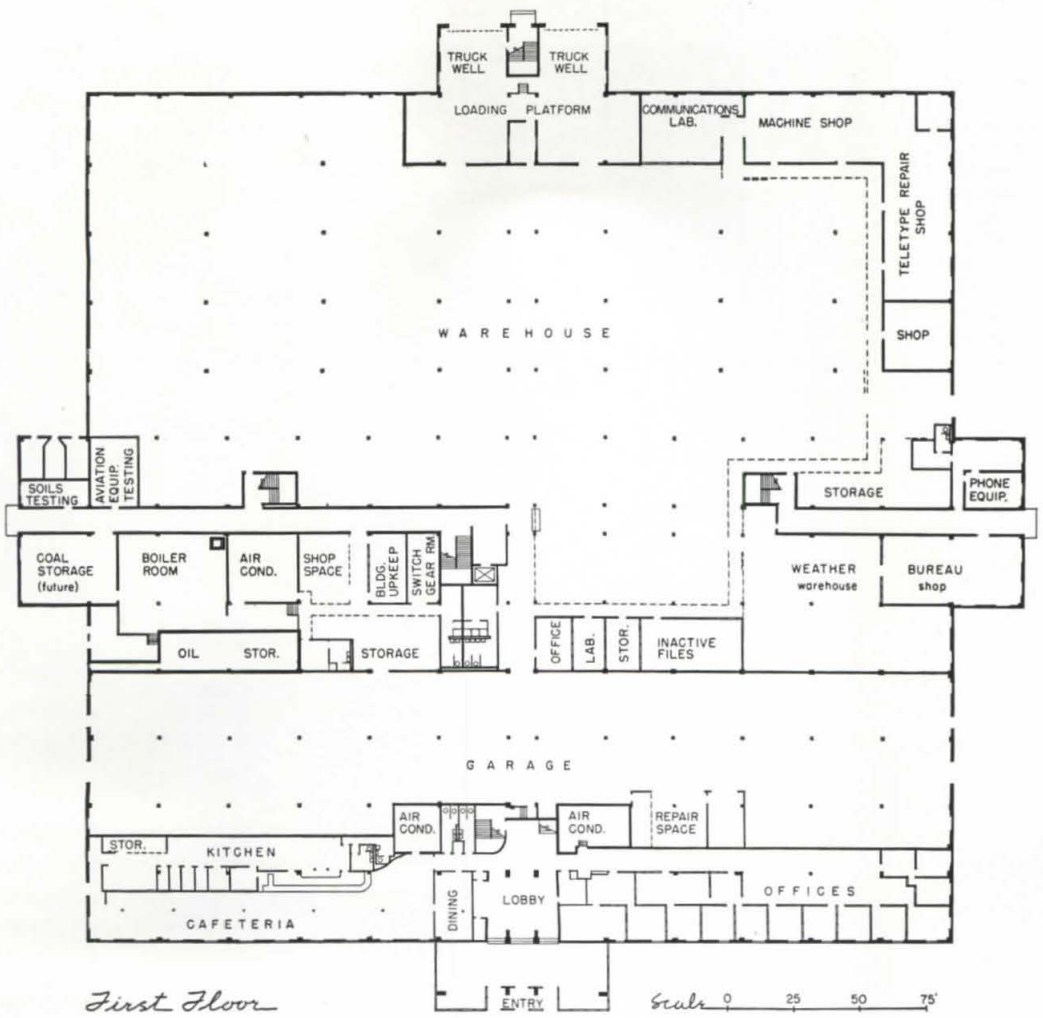
REINHARD, HOFMEISTER & WALQUIST, ARCHITECTS

Edwards and Hjorth, Consulting Engineers (Foundations and Superstructure). Guy B. Panero, Consulting Engineers (Mechanical and Electrical). Carillo and Green Associates, Consulting Engineers (Utility Services, Access Roads, and Landscaping). Todd and Brown, Inc., Consultant to the Port of New York Authority.

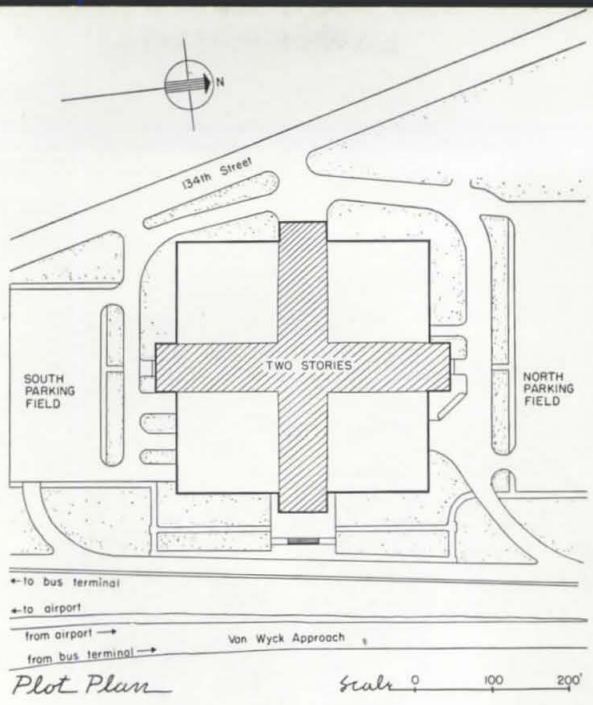
Except for hangars, this huge office building, constructed by the Port of New York Authority, is the first permanent structure at New York's new International Airport. Providing office space principally for the Civil Aeronautics Administration, the U. S. Weather Bureau, and the Civil Aeronautics Board, upper floors of the building are arranged in a cruciform scheme; on the ground floor, the re-entrant angles are filled out to form a square plan. The fact that the building is within a few hundred yards of a runway is reflected in the spread-out, comparatively low mass of the structure.
Photos: Gottscho-Schleisner



Second Floor



First Floor



The architects point out that "the absence of three-sided courts makes for an especially open arrangement, with no feeling of any offices being at the back of the building." As indicated on the plot plan, the new building is readily accessible from both an existing bus line and from the airfield. The 10-acre site would allow for "an identical attached building in future, if needed."

program To design a building to be used principally by the Civil Aeronautics Administration. Requirements: about 95,000 square feet of office space, 75,000 square feet of inside warehouse space, and a garage for 75 cars. As the program developed, the U.S. Weather Bureau and Civil Aeronautics Board were added as tenants; also, certain airport administration offices. Cafeteria and kitchen to feed upwards of 500 employees.

site Approximately 10 acres, near the entrance to the airport; hence accessible from the outside without the necessity of entering the terminal, yet available to pilots and others coming from the airfield.

solution Major design approach was to provide first-class office space, uniformly distributed, in a compact arrangement. The solution consists of a two-story, cruciform plan containing office space, above a square on the ground providing warehouse, garage, cafeteria, kitchen, lobbies, utilities, and some additional office space. All offices are uniformly distributed, with only the corner ones favored by light and view on two sides. The approach from the street is by easy stages, over the terrace, from lower lobby up to an inner lobby, and so upstairs; one elevator is provided for service and emergency use. Since the site is fill over a former saltwater meadow, pile foundations were used; a structural-steel frame, organized in a simple 27-foot square-bay grid, was selected as the lightest, fastest erected, and most economical system possible.

The building is completely air conditioned in all public-use and office areas, with distribution above corridor ceilings and so, by means of outlets (two to a bay), leading to ceiling diffusers in the hung, acoustical-tile ceilings. Return-air plenum is located in the hung ceilings of the corridors. Seven separate zones are involved in the total installation. The steam-heat, generating, and refrigeration (using well water) plants are located in rooms on the first-floor of the south wing; boilers, return tanks, and pumps occur at an elevation four feet below the remainder of the first floor of the wing.

materials and methods CONSTRUCTION: *Foundation:* cast-in-place concrete piles. *Frame:* structural steel. *Walls:* brick over sand-lime backup; granite and limestone trim; interior walls—travertine; hard white plaster. *Floors:* lightweight aggregate concrete, surfaced with asphalt tile, terrazzo, or mosaic floor tile. *Roof:* tar and gravel over concrete. *Insulation:* thermal—wood-fiber insulating board; acoustical—metal pan type tile. *Partitions:* masonry; glass; flush metal. *Fenestration:* aluminum double hung; polished plate; polished wire; obscure, and double-strength "A" glass. *Doors:* steel; flush-veneer; rolling steel, elevator doors.

EQUIPMENT: *Heating and air conditioning:* three, oil-fired boilers (provision made for possible future shift to coal); convectors; blowers; fans; refrigerating equipment; grills and diffusers. *Lighting:* flush fluorescent units. *Special equipment:* sprinklers; hydraulic-lift elevator; public address; intercommunication system.

Three views of the entrance lobby — flagstone flooring; exposed brick walls in lower lobby; travertine wall surfaces (and black terrazzo flooring) in upper lobby; coffered ceiling, and stainless-steel trim. Part of the clean, uncluttered appearance of the outer lobby derives from the fact that this area is heated by a panel system, with wrought-iron coils concealed in the floor. Other public-use and office areas (which, like the lobbies, are airconditioned) are heated by thermostatically controlled two-pipe vacuum-steam systems.

FEDERAL BUILDING: NEW YORK INTERNATIONAL AIRPORT

case study

MUSEUM SITE CITY-COUNTY BUILDING LIBRARY

Mall and Civic Center from terrace of Colorado Capitol. Rocky Mountains in distance. *Photo: Hopwood*

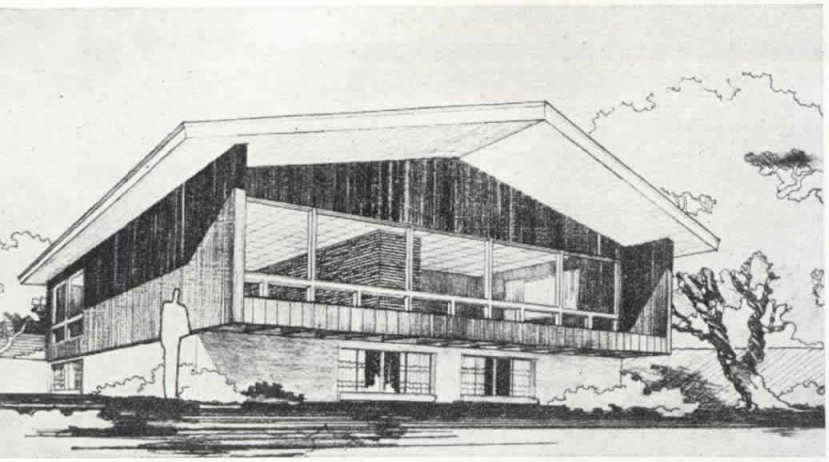
Architecture in Denver, Colorado, 1950-1951

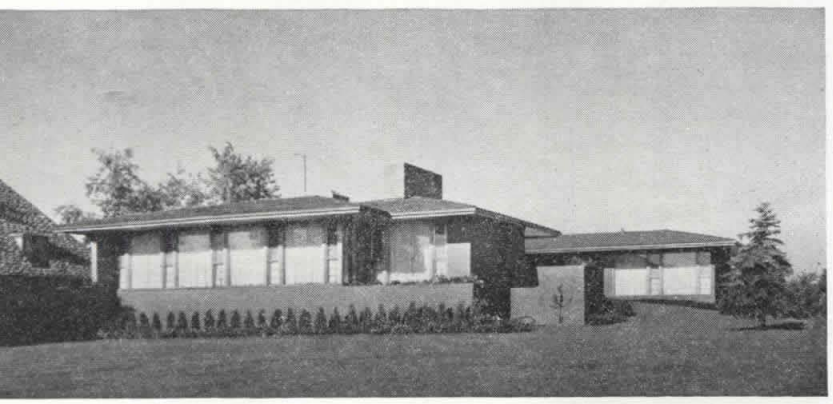
Astonishing to a first-time visitor in Denver, Colorado, is the profusion of trees—clustered in groves in the many parks, shading the long avenues and boulevards, sheltering the comfortable homes—every one planted on the once-bare plain and fed with water brought many miles from Rocky Mountain reservoirs. First stirring of planning for the new city was development of a water supply in 1870, by the same energetic pioneer citizens who brought the first railroad to Denver. And the expanding regional water system of today is still the major factor of contemporary development.

The city has been spurred to activity in the last two years by the progressive administration of Mayor J. Quigg Newton, who is enthusiastically modernizing and increasing the public facilities to serve a rapidly growing population. Thousands of soldiers and airmen who learned the advantages of Denver and its famous climate, while stationed there during World War II, have returned with their families. The Mayor's Committee for Industrial Development is active; millions of dollars are being spent on public utilities, parks, and cultural life; and the new generation of citizens is aware of the social and planning problems that must be solved to stimulate the growth of the Colorado metropolis, which now claims more than half the 1,400,000 population of the state as well as undisputed control of its wealth and economic life.

Despite an 80-day strike of the building trades last summer, the construction volume in Denver was above average in 1950. The architects there are busy with private and public commissions—and in the newer work there is evidence of a break from the conservative design tradition so strongly imprinted by the early builders.

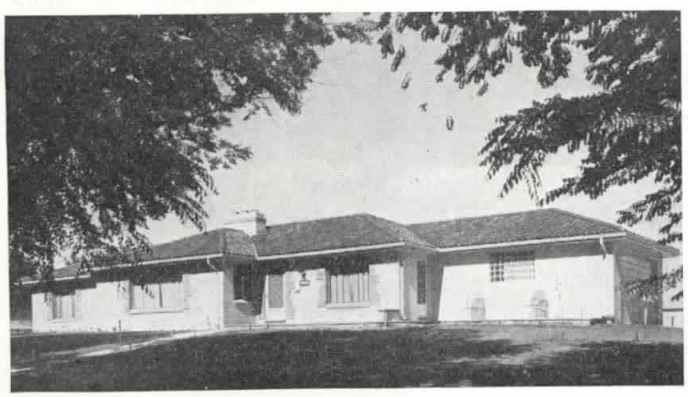
Eugene D. Sternberg, architect and city planner: house for Professor and Mrs. Clark Crain. *Rendering: Sternberg*

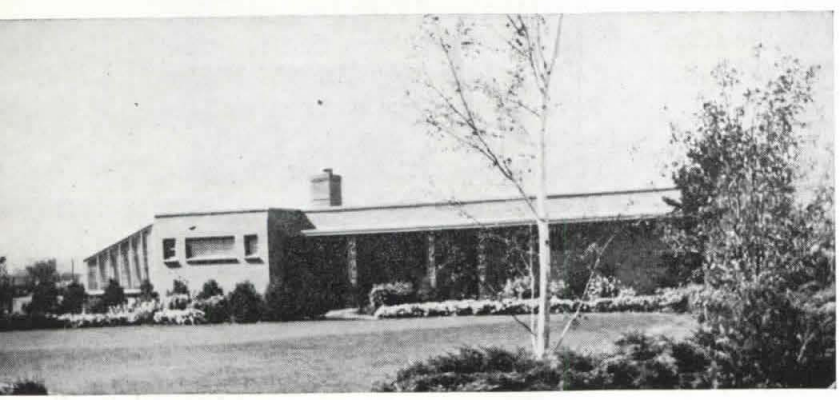




Victor Hornbein, architect: Lewin house. *Photo: Marshall Brooks*

Carl F. Bieler, architect: house in Belcaro Park. *Photo: Wagstaffs Photographers*





houses

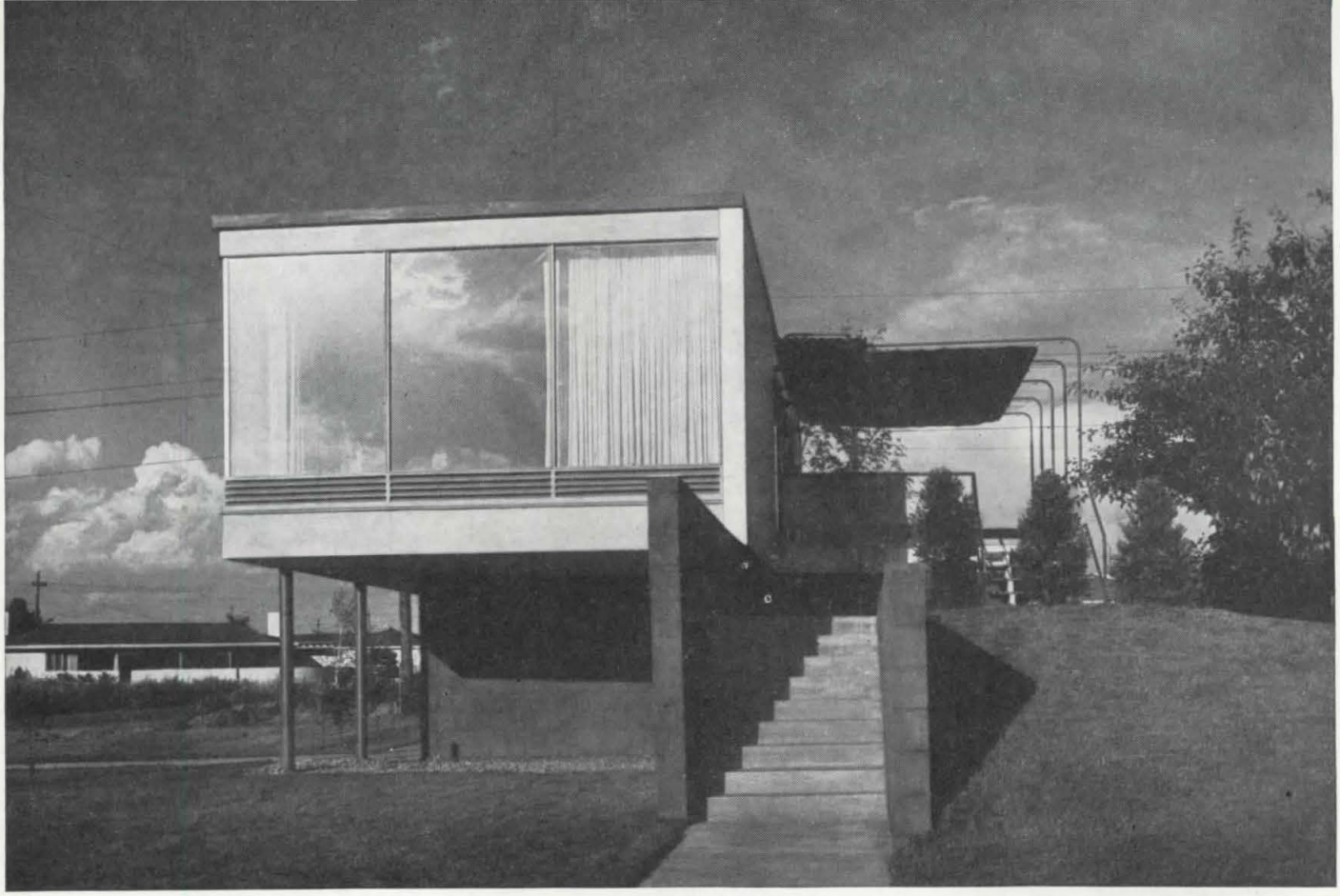
Traditionally a city of brick buildings, Denver venturing on other construction systems since thorough revision of the building code by a commi tee headed by G. Meredith Musick, architect. Acre of small houses are being built by developers, on th plain around the city. Some are employing architec tural firms, such as Huntington & Brelsford, whos system of pre-cut houses is intended to reduce build ing costs. Suburban Lakewood, where Rolland H Holbrook, architect, has his office, is fast filling wit detached houses; while Aurora, also a spreadin suburb, is building multiple dwellings.

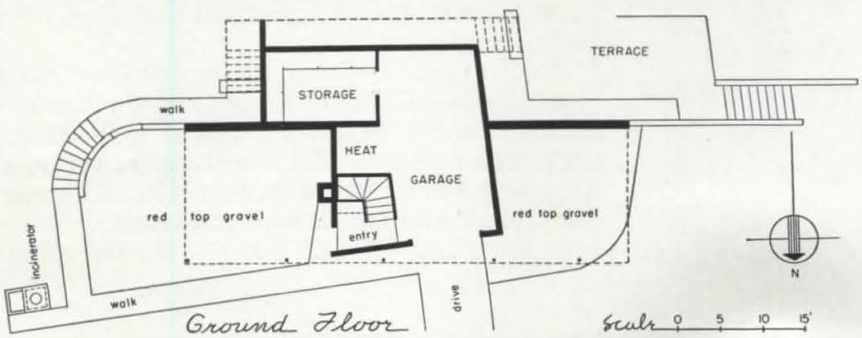
For those of larger income, *Chaffee Park, Arapah Acres,* and other developments, including the *Mi High* co-operative for which Eugene D. Sternber was architect and planner, are being pushed to com pletion. Along the curving streets of *Belcaro Par* begun by Garrett-Bromfield Company just befor World War II, and of the converted *Polo Ground* are houses costing $30,000 and up, designed by var ous residential architects of Denver. Label for mo of the newer homes is "Modern Ranch" and th trademark a large window commanding the favorit local view, the Rocky Mountain range a few miles t the west.

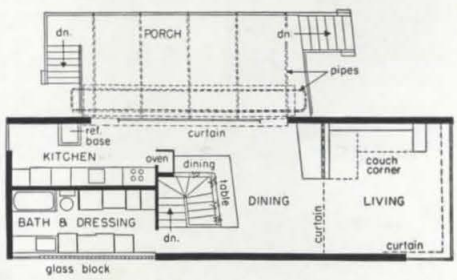
Among architects of large apartment block Charles D. Strong is prominent, and James S. Sudle reports that he is designing the first garden apar ment in the city. Blighted areas of Denver, alread tackled by the local administration, continue to b surveyed. Architectural firms participating in Federal-aid public housing program include T. H Buell & Company, Huntington & Brelsford, Smith Hegner, and Earl C. Morris with Eugene D. Ster berg as site-planning consultant. These will provi decent homes for thousands of Mexican, Chines Japanese, and Negro families, brought to Denv through the years to supply a cheap labor marke

Crowther & Marshall, designers: hou for Mr. and Mrs. Hyman Friedman. Mod Dean S. Marshall. Photo: Birlauf & Ste

Donald O. Weese, architect: house for Western Corporation. *Photo: Yale Camera Exchange*







Joseph Marlow, architect, and Louise Marlow, associate: the Hobart House is oriented so that living area, with glass wall, and also terrace on south side command Denver's most prized view, the panorama of the Rocky Mountains a few miles to the west. For simpler living, the owner specified living room couches convertible into twin beds, and no bedroom. Left—dining area.

Photos: Donald F. Wiederspan

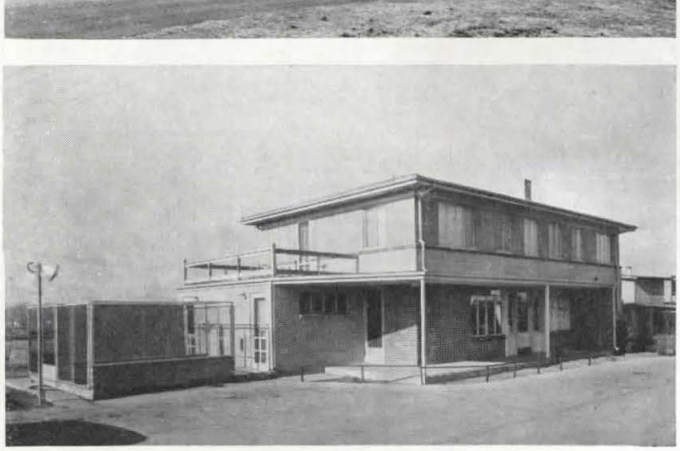
public use

Von Wyl, Linder and Buell, associated architects: American Legion Memorial Building. *Rendering: J. Phillip Underman*

Increased population and an alertness to needs of modern city account for the accelerated program o civic building in Denver. The visitor arriving b plane first sees the annex to Stapleton Airport ad ministration building, by G. Meredith Musick, archi tect. In the heart of the city, the same firm ha charge of a $2 millions annex to the Municipal Audi torium (the old building now to be remodeled as modern theater and a convention hall). Under three-year program, a new $2,500,000 Public Librar will be built at the Civic Center, Burnham Hoyt an Fisher & Fisher, associated architects; and the 1 branch libraries will be renovated. Also at Civic Cen ter, a Hospitality Center will be built for Denve Convention and Tourist Bureau, from plans by Ray mond Harry Ervin & Associates, architects. Stanle E. Morse, architect, with Jared Morse, associated has designed new fire stations for the city; the Den ver Zoo will be renovated, starting with a $100,00 outlay this year; a new city hospital, a new city jail and new museums (see acrosspage) are contem plated. Among the civic structures of Denver are th usual grandiose relics of the past, but the trend is to ward more useful and practical buildings for publi use.

Due to space limitations, in this Case Study th new churches of Denver are not shown. But the archi tectural activity in this building type is indicated b such structures as Messiah Lutheran Church, b Raymond Harry Ervin & Associates; Bonnie Bra Church, by Stanley E. Morse; Mount Hermon Bap tist Church, by Alfred Watts Grant; and others.

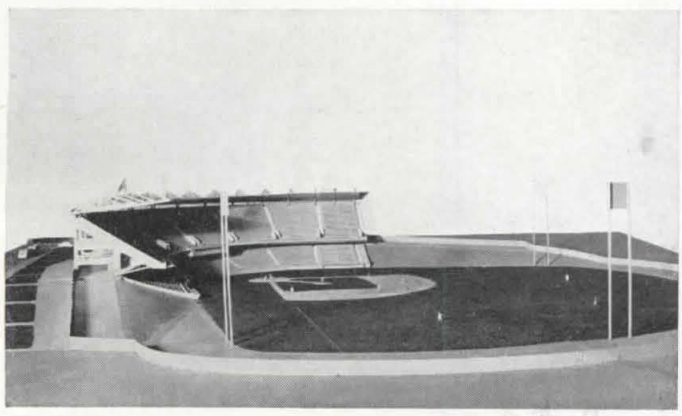
Jamieson & Stiffler, architects: Fire Alarm Headquarters for City and County of Denver. *Photo: C. W Brown*

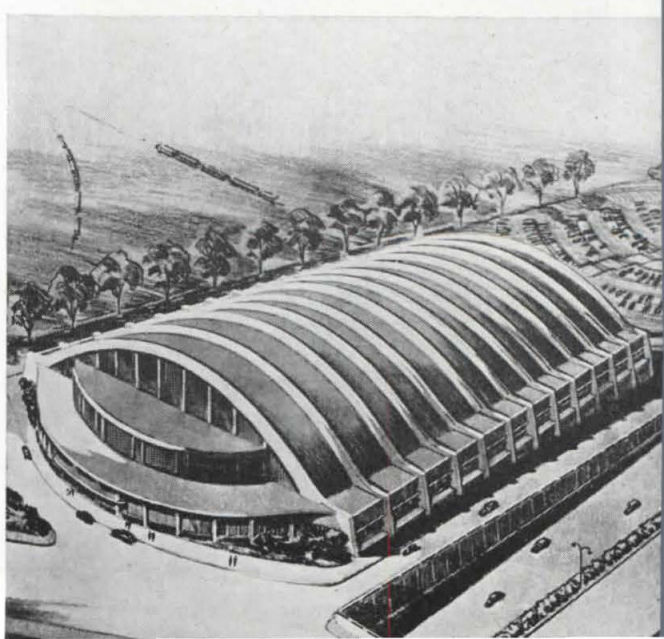


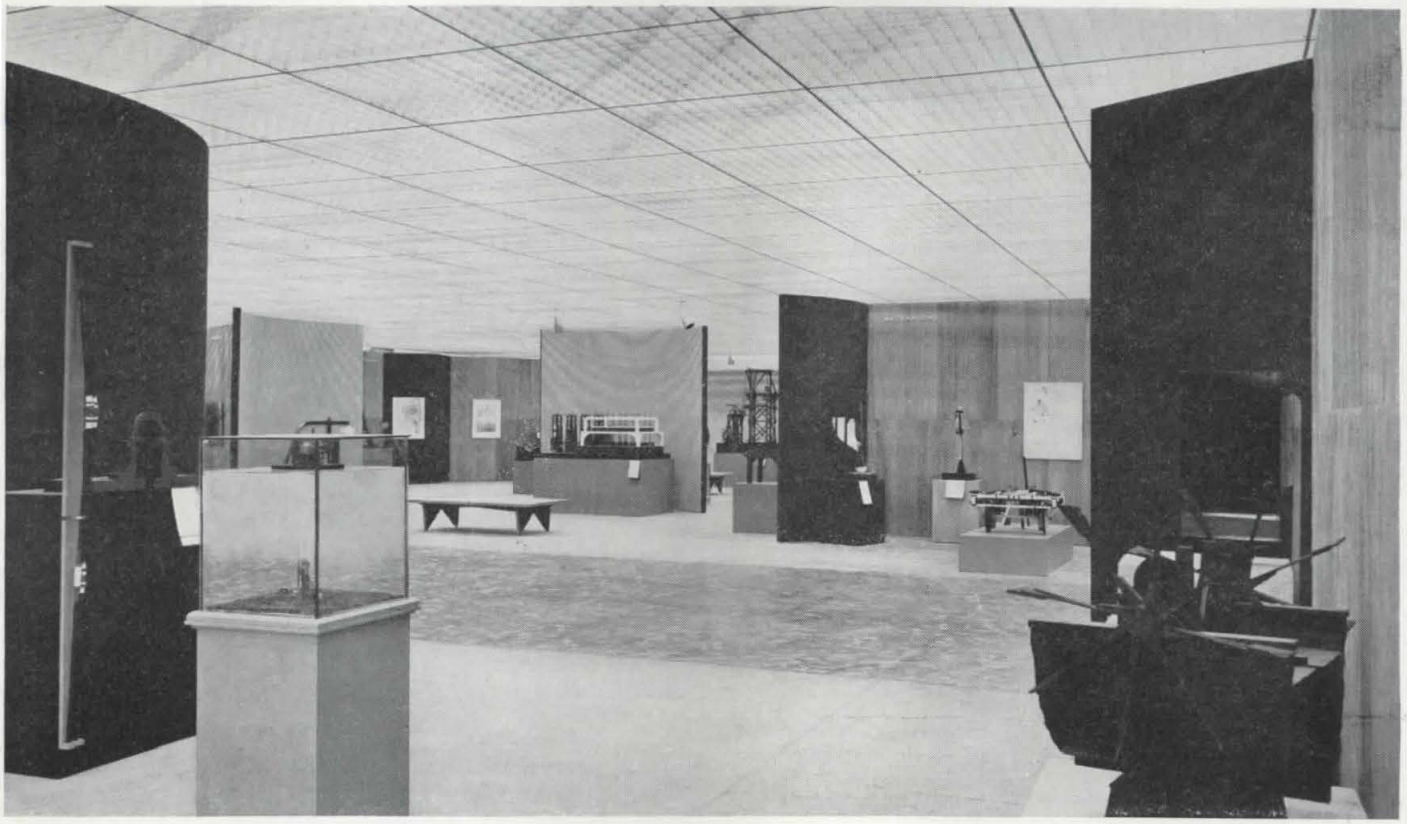
Smith & Hegner, architects: Animal Rescue Shelter Building for The Dumb Friends League.

Lorimer & Rose, architects, New York, with Roland L. Linder, associat architect, Denver, and Roberts & Schaefer Company, engineers, Chicag and New York: Denver Arena (municipal stadium). *Rendering: Lorim*

Stanley E. Morse, architect: Bears baseball stadium. *Model: Gene Stanley and Joseph Dion. Photo: D. L. Hopwood*







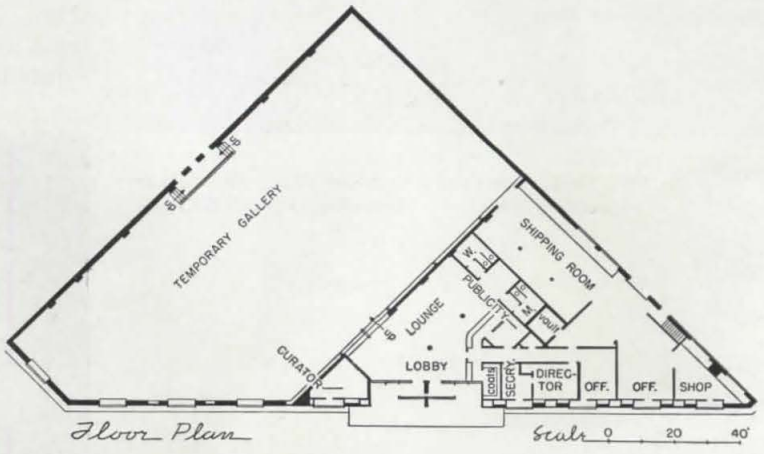
Burnham Hoyt, architect: Schleier Memorial Gallery (initial unit of consolidated Denver Art Museums at south end of Civic Center) is a remodeled factory so expertly adapted to needs of a lively museum program that it was lavishly praised by top museum experts making an inspection tour last summer.

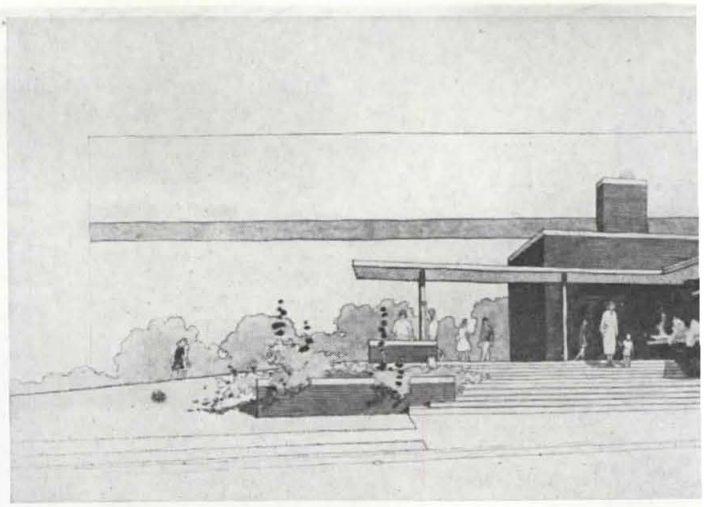
Above — the unbroken exhibition space (90′ x 150′) with aluminum louverall ceiling and radiant-heated hard-finish concrete floor, affords utmost flexibility for disposing exhibits on movable upright screens and panels.

Right — the show windows on the façade stimulate large attendance.

Photos: D. L. Hopwood.

ames S. Sudler, architect: control building and shelter, Court House Square parking area. *Photo: Sudler*





G. Meredith Musick, architect, Smith, Hegner & Moore, associates: Classroom Building, University of Denver downtown campus adjacent to Civic Center. *Photo: University of Denver News Service*

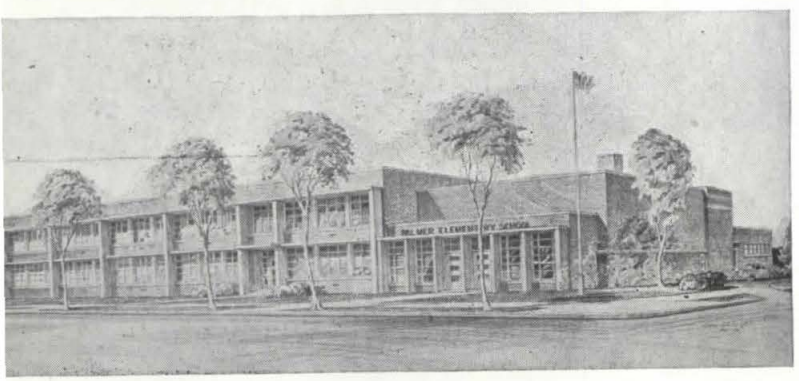
education

Index to the preparation being made for Denver's steadily increasing population is the expansion program of the Denver Public Schools. Graham Miller, Assistant to Supt. Kenneth Oberholzer, reports that 14 new schools (87 classrooms) were occupied the first of this year; nine more schools (129 classrooms) were then under construction; at least two more schools (37 classrooms) were ready for approval. Most of these new buildings have auditoriums, cafeterias or lunchrooms, and other modern facilities. A number have gymnasiums. Most of the elementary schools include kindergartens.

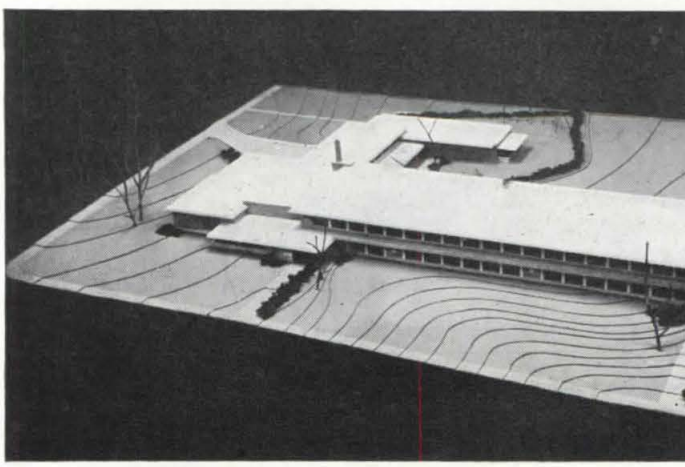
Local architects participating in this active program, in addition to those whose work is illustrated here, include: S. Arthur Axtens, Carl F. Bieler, Fisher & Fisher, Eugene D. Groves, Burnham Hoyt (also architect for the new Kent School for Girls), Earl C. Morris, Stanley E. Morse, Richard O. Parry, C. Francis Pillsbury, R. Ewing Stiffler, Charles D. Strong, Henry Von Wyl and Charles H. Kellogg, and Gordon D. White.

University of Denver also is expanding its facilities. In addition to the $1,500,000 building (left, top) for the Downtown Campus, where the architectural school is located, work is being pushed on a $3 millions Student Activities Building and a $3½ millions athletic plant, both at University Park.

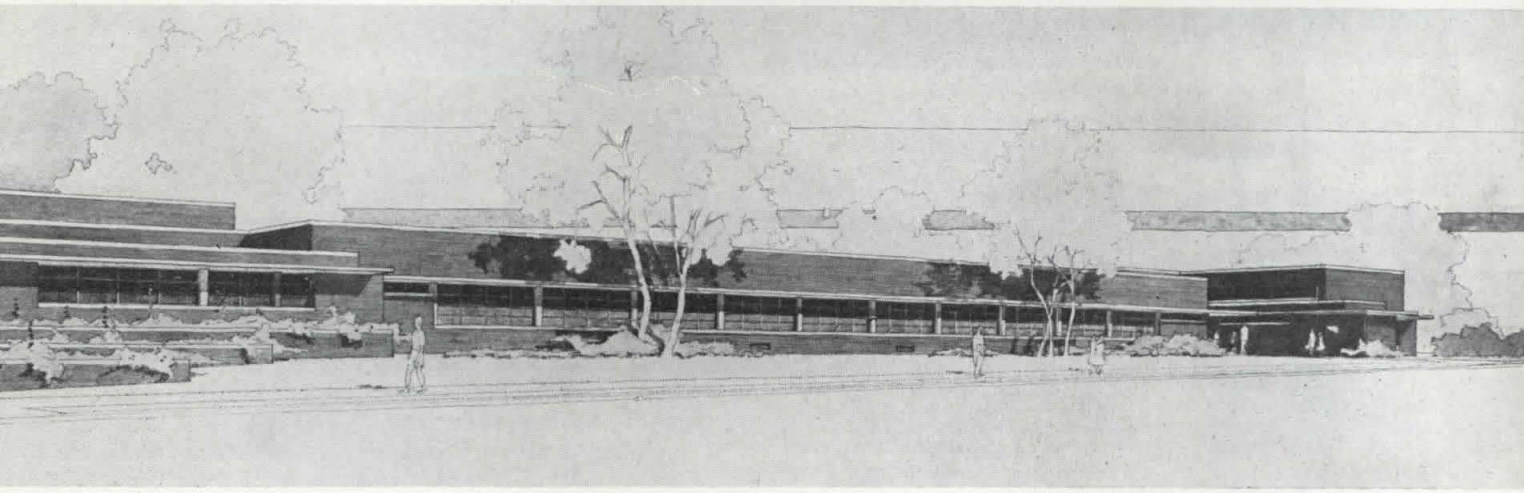
Atchison & Kloverstrom, architects: Edward L. Brown elementary school. *Rendering: J. Phillip Underman*



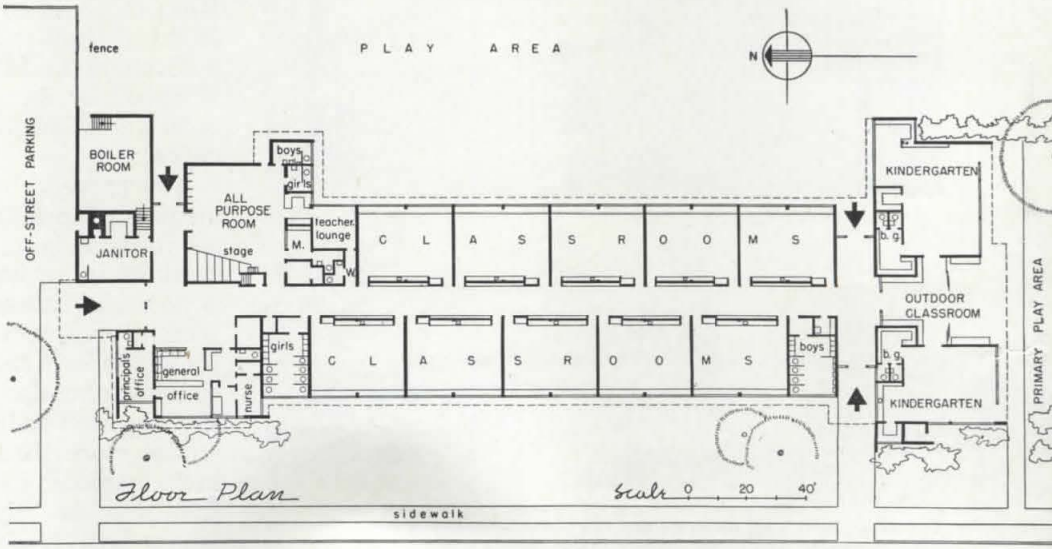
W. Gordon Jamieson, architect: Rufus H. Palmer elementary school. *Rendering: J. Mac Gilchryst*



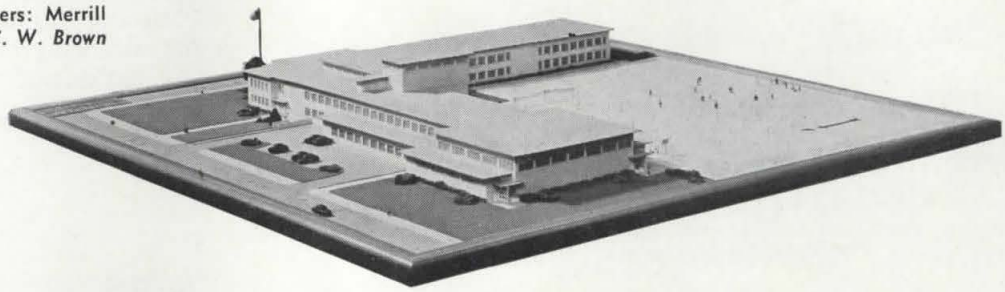
Victor Hornbein, architect: John J. Corey elementary school. *Model: Hornbein office. Photo: Denver School District*

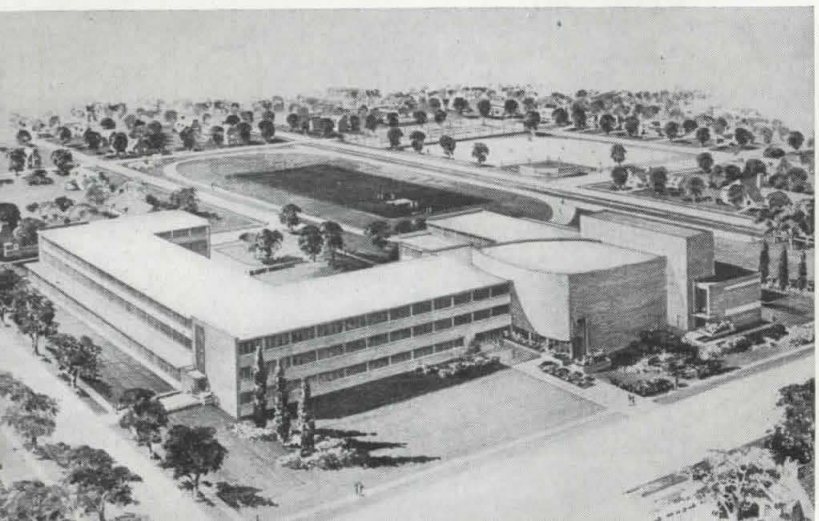


Musick & Lee, architects: First Avenue —Grape Street elementary school. *Rendering: Charles Gordon Lee*



T. H. Buell & Company, architects and engineers: Merrill junior high school. *Model: Buell office. Photo: C. W. Brown*





Raymond Harry Ervin, architect, Ralph D. Peterson, Robert Berne, and Robert D. Laramey, associates: Manual Training high school. *Rendering: Foster C. Hyatt*

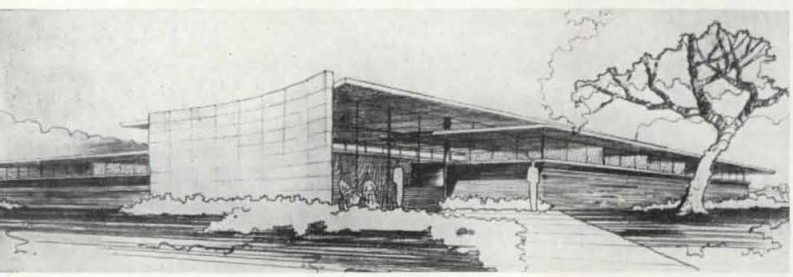
Fisher & Fisher, architects: Rocky Mountain Osteopathic hospital. *Photo: Willi Mueller*

health

Renowned for 75 years as a health resort, Denver has a number of old and new hospital complexes with doctors' own clinics in surrounding blocks, tree-lined streets of decaying Gold Era mansions that serve as rooming houses and rest homes—and an unusual number of expensive-looking mortuaries. New architectural work includes, in addition to the buildings illustrated here, additions to University of Colorado Hospital and a nurses' home for Presbyterian Hospital, both by Fisher & Fisher, who report 80% of their practice is in this field; St. Luke's Hospital, by Roland L. Linder; and General Rose Memorial Hospital, by Earl D. Morris, whose office also is busy with state hospital commissions in other Colorado cities.

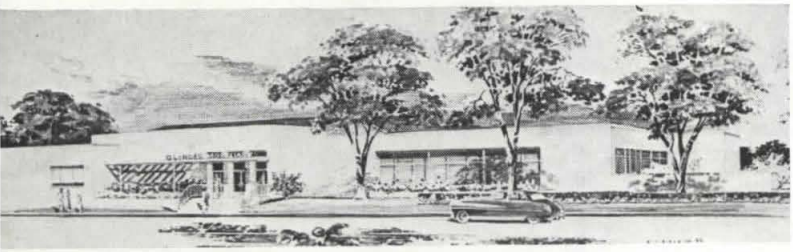
The presence of a large number of convalescents and their families is added reason for Denver's interest in developing a remarkable park system and in conducting, in co-operation with the Denver Public Schools, an extensive program for juvenile and adult recreation. Currently $1 million is being spent to improve the local park system, which has 11 city-owned centers; and also the city develops and maintains the superb Mountain Parks in the near-by Rockies, where more than 30,000 acres of city-owned lands include picnic grounds, summer and winter sports facilities, and the famed Red Rocks amphitheater where Denver Civic Symphony Concerts are given during the summers. Denver citizens also enthusiastically support the dramatic, musical, and literary festivals at Aspen and Central City—all at comfortable motoring distance.

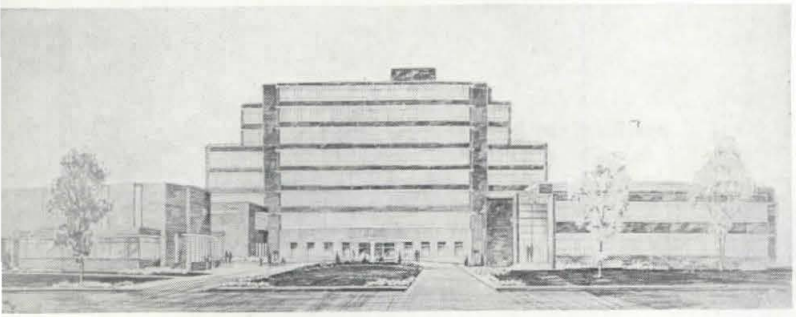
William Henninger, director of the City-County Planning Commission, has a long-range program for enlarging the city park system, linking the various parks and further developing the recreational facilities.



Eugene D. Sternberg, architect and city planner: University clinic. *Rendering: Sternberg*

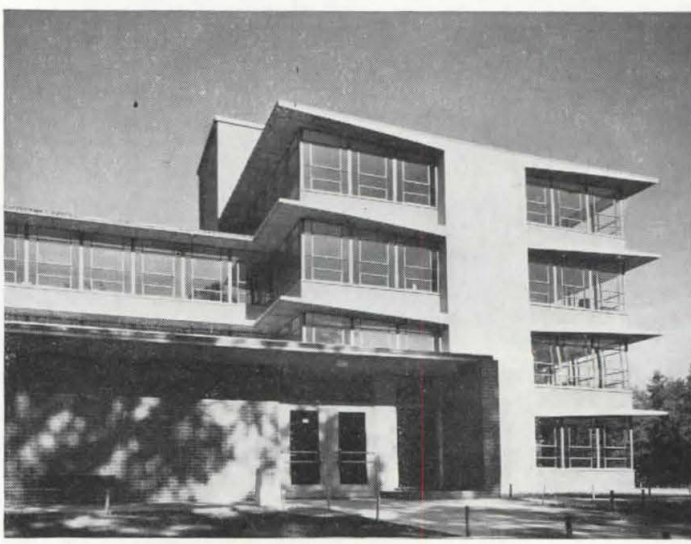
Raymond Harry Ervin, architect, Ralph D. Peterson, Robert Berne, and Robert D. Laramey, associates: Olinger mortuary. *Rendering: Foster C. Hyatt*

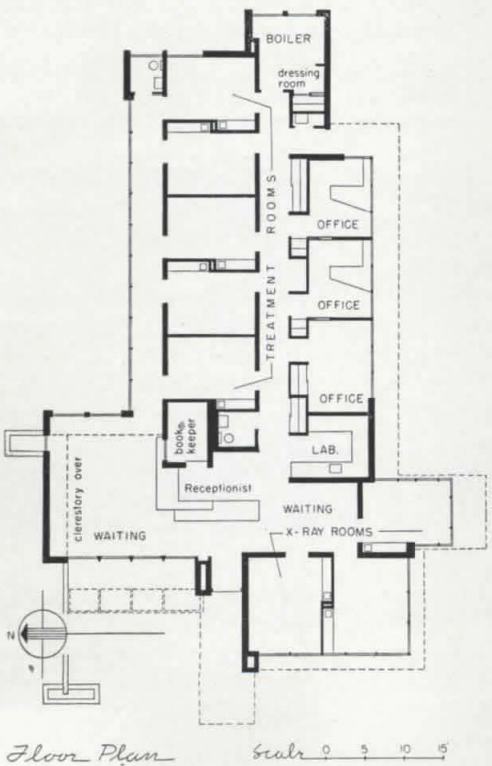




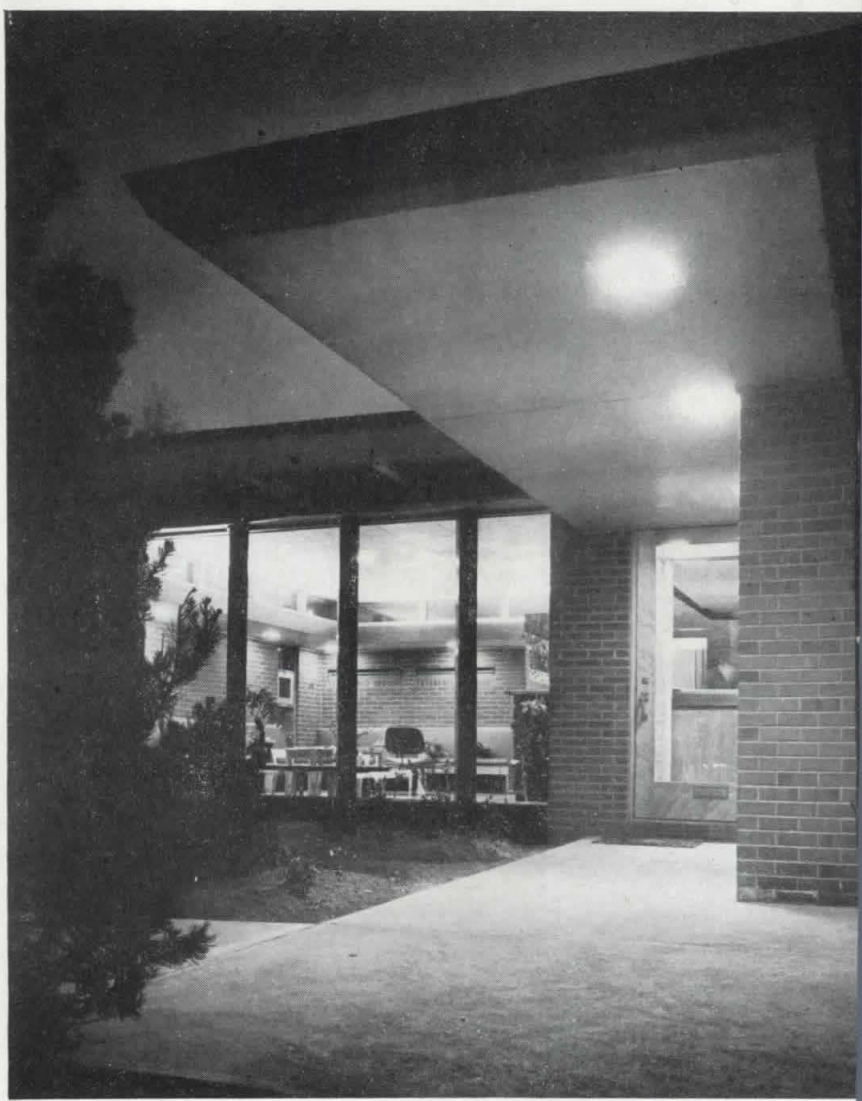
Earl Morris, architect: medical center for National Jewish Hospital. *Rendering: J. Phillip Underman*

Victor Hornbein, architect: City and County Bureau of Public Welfare building (annex to Denver General Hospital). *Photo: Marshall Brooks*





Floor Plan Scale 0 5 10 15'



Victor Hornbein, architect: clinic for Dr. Gerald Frumess, Drs. Henschel and Lewis. Treatment rooms, between patients' corridor and doctors' corridor, are accessible and easily controlled.

Right — entrance door and view into waiting room for patients.

Photos: Marshall Brooks

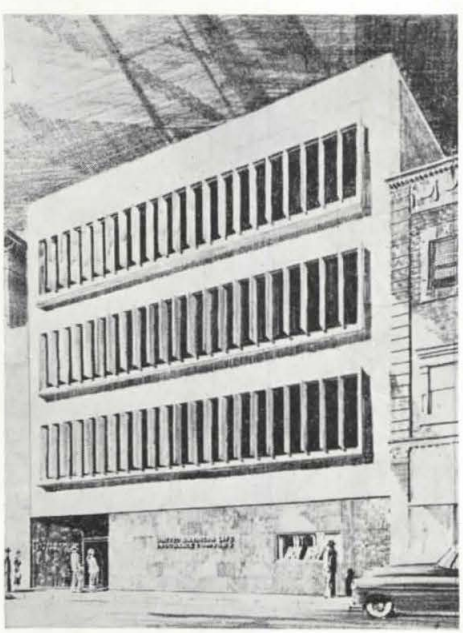
commercial

Street cars disappeared from Denver streets last summer, giving way to trolley coaches, and off-street parking is being fought for in the courts, because traffic is a problem in Denver, as in all large cities. Retail stores are generally centered in the older business section, most of them catering to shoppers who are closely budgeted—reflecting the large population of Federal employes, second only to Washington, D.C. Prior to the resumption of war controls, there was talk of at least two new skyscrapers for Denver. But the bulk of commercial work is in remodeling and renovation—with some activity in suburban areas where shopping centers and several supermarkets are being built.

In addition to the $6 millions job for *Denver Post* (left), T. H. Buell & Company has a good share of the current commercial work and Crowther & Marshall, designers (see acrosspage) have completed a number of small shops. Other recent work includes Altman's shop, by Joseph and Louise Marlow; Industrial Federal branch bank, by Roland L. Linder; and a store addition by Burnham Hoyt.

In the early days of Denver, heavy timber construction was preferred for the larger buildings, with some cast iron being used. Steel was available from Pueblo at an early date, and ponderous masonry was favored at the turn of the century. Now, with a more liberal building code for the city, any recognized type of construction may be approved.

T. H. Buell & Company, architects and engineers: press building for *Denver Post*. *Photo: C. W. Brown*

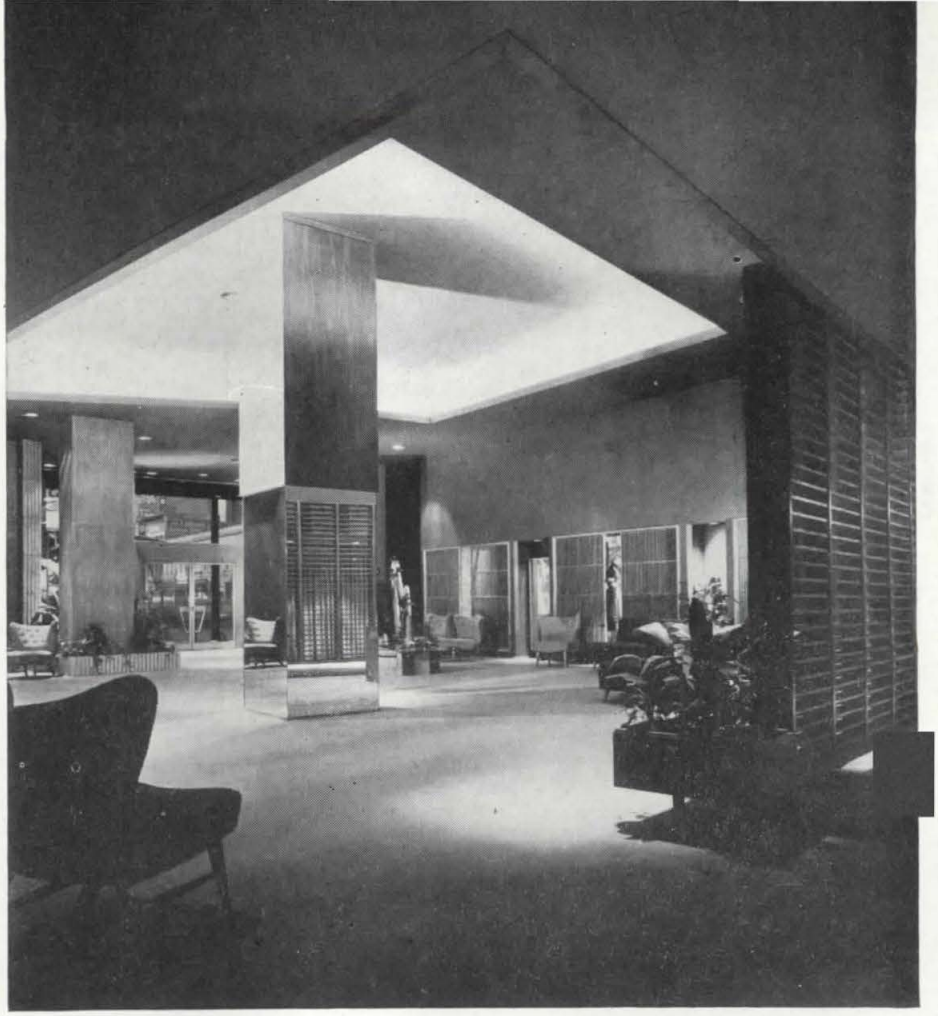


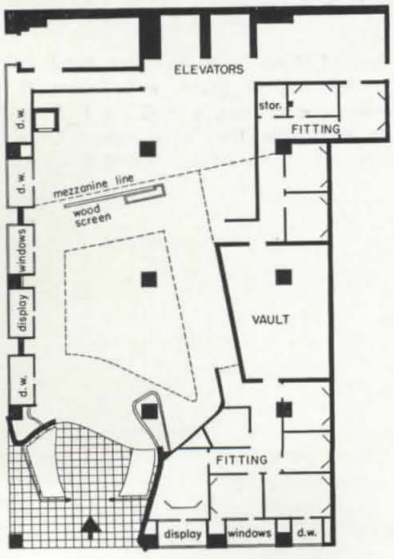
Raymond Harry Ervin, architect, Ralph D. Peterson, Robert Berne, and Robert D. Laramey, associates: United American Life building (note aluminum solar shades). *Rendering: Foster C. Hyatt*

Byron Hale Kaufman, architect: theater, store, and office block. *Rendering: Foster C. Parriott*

Raymond Harry Ervin, architect, Ralph D. Peterson, Robert Berne, and Robert D. Laramey, associates: Kumpf Motor Car Company building. *Photo: D L. Hopwood*

Crowther & Marshall, designers: Dupler's shop on a prominent corner of the downtown area. The entrance is shown below.
Right—fur salon on main floor.
Right, below—shoe salon on second floor. *Photos: Birlauf & Steen*





Floor Plan Scale 0 10 20'

industrial

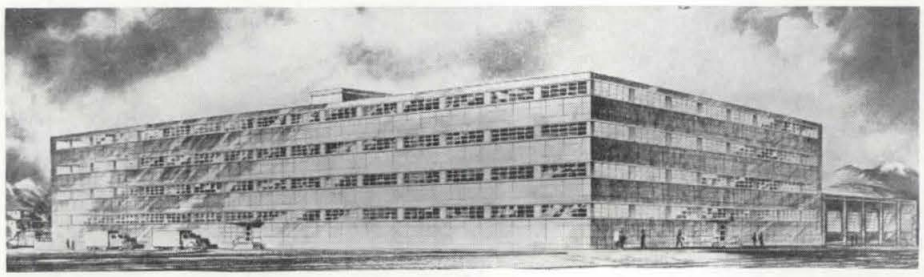
Thomas R. Fahey, architect: office and warehouse for Grinnell Company of the Pacific. *Rendering: J. Mac Gilchryst*

Ambitious to develop heavy industry as a more stable economic base for Denver—where principal income has been from the federal offices, light industry, and the health institutions—the Mayor's Committee for Industrial Development has effectively cited the assured industrial water supply, the large Colorado coal reserves, ample railroad facilities, high reserves in local banks, cheap labor supply, and the climate so favorable to high production averages. The city has also assembled tax delinquent properties in the zoned industrial area and offered these in blocks rather than lots. It is an advantageous distribution point.

With added pressure currently for decentralization of essential industry in the United States, Denver hopes for location of research laboratories and probable factories for precision tools, medical chemicals, and electronic equipment.

In addition to the plants illustrated here, representative of the type of buildings, the industrial work on the boards or nearing completion includes: an auto equipment plant, by James S. Sudler; a florists' cooperative building, by Stanley E. Morse, with Jared Morse, associated; the Shwayder Luggage factory, by Earl C. Morris; Miller's grocery warehouse, by Roland L. Linder; and industrial work by T. H. Buell & Company. As a gage of construction volume, the City Engineer's office reports permits issued in the first 11 months of 1950 for 83 heavy industry buildings, totaling $2,400,175.

Robert M. Morris, architect: office and warehouse for E. J. Campbell Company. *Photo: Pat Coffey*

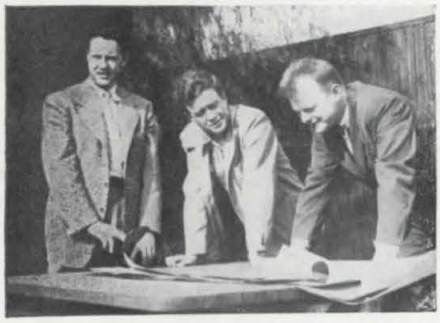


Raymond Harry Ervin, architect, Ralph D. Peterson, Robert Berne, and Robert D. Laramey, associates, with Glenn F. Johnson: warehouse for Gates Rubber Company. *Rendering: J. Mac Gilchryst*

Lorimer & Rose, architects, New York, and Roberts & Schaefer Company, engineers, Chicago and New York: warehouse and distribution center for Western Electric Company. *Photo: Mile High*

Houses with identical floor plans for the families of two brothers — a notable example of harmonious collaboration between client, architectural designer, and landscape architect, all contributing to a single, integrated design idea. General view shows the

steep, corner site and staggered placing of houses, so that the upper one enjoys the view across the roof of the other. Photo at bottom of page was taken at entrance to lower house.
Photos: Roger Sturtevant



The landscape architects: *Garrett Eckbo* (center) — U.C. (B.S.); Harvard U. (M.A.); author of "Landscape for Living"; taught in Department of Art, U.S.C.; formerly with Vernon DeMars on Farm Security Administration work.

Robert Royston (right) — U.C. (B.S.); Professor in Landscape Design, U.C. Previously with the office of Thomas D. Church.

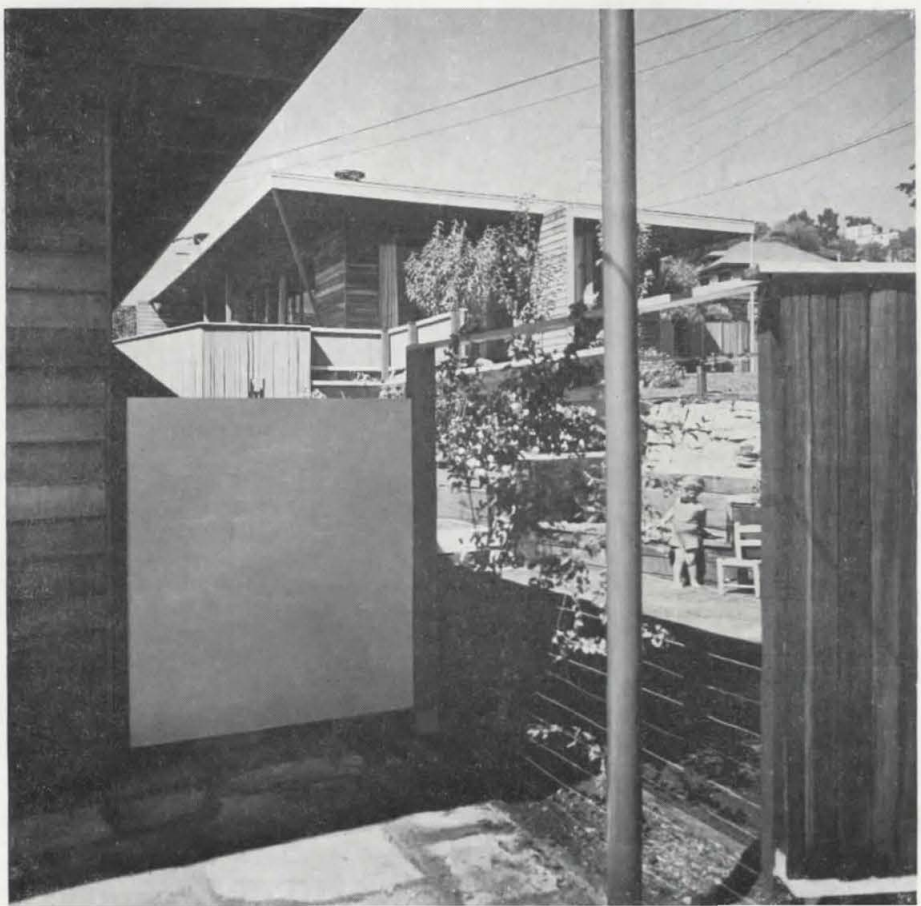
Edward Williams (left) — U.C. (B.S.); taught theory of landscape design in Department of Art, Stanford U.; previous work with the San Mateo Planning Commission.

The firm, operating in both San Francisco and Los Angeles, was founded in 1945. This past year it won the Gold Medal in Landscape Architecture at the National Gold Medal Exhibition of the Architectural League of New York. *Photo: Ballard*

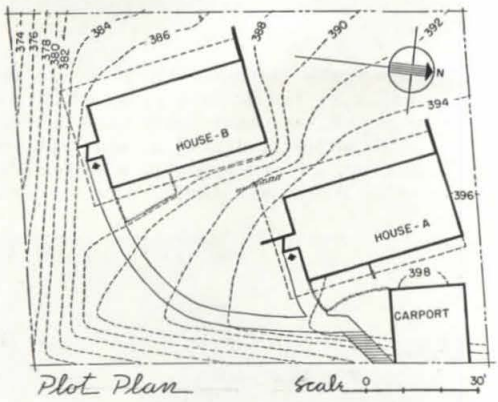
For biographical note and photograph of *Henry Hill*, designer of the houses, see page 88, May 1950 P/A.

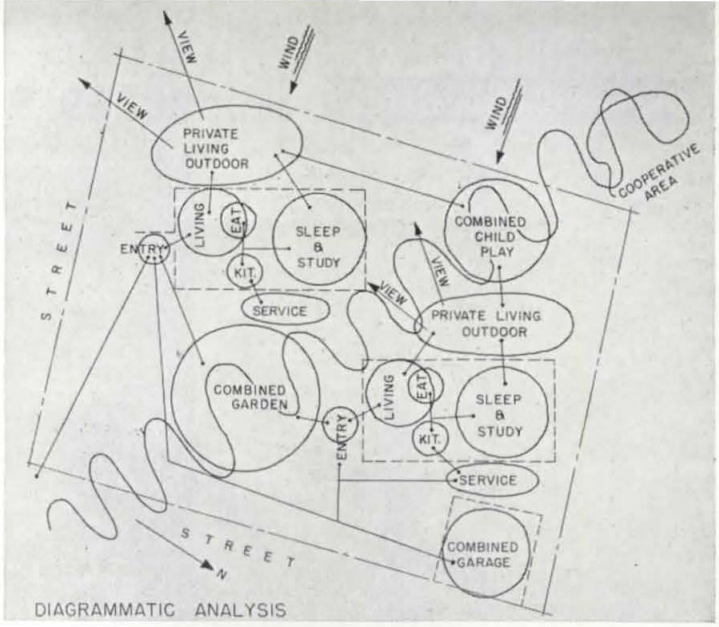
Twin Houses: Berkeley, California

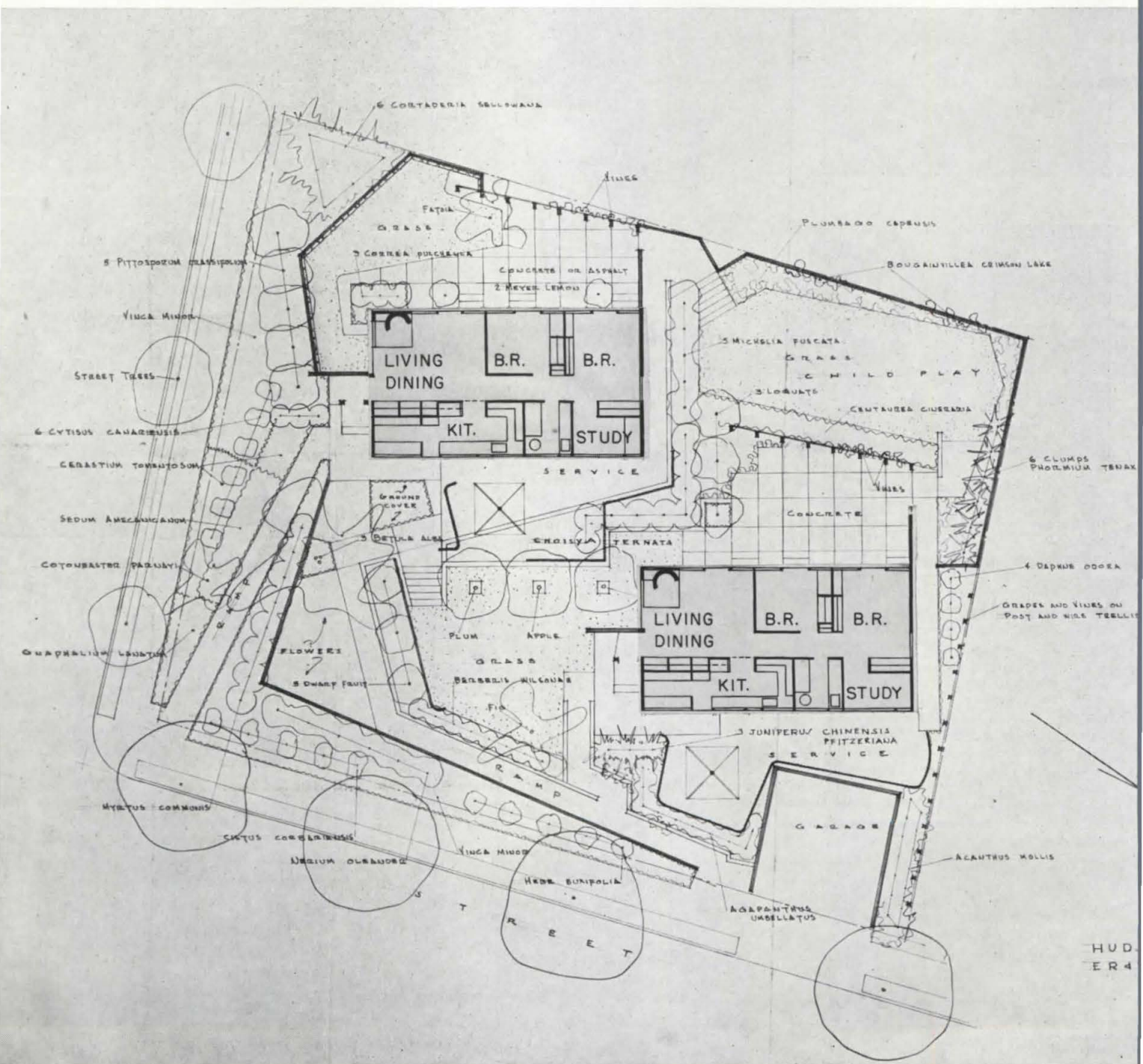
By HENRY HILL, SAN FRANCISCO
ECKBO, ROYSTON & WILLIAMS, LANDSCAPE ARCHITECTS



RELATED DESIGN FIELDS: LANDSCAPE ARCHITECTURE







Acrosspage — site plan; landscape architect's diagrammatic analysis prepared "to solve circulation problems, and establish space use in relation to interior areas," and the final plan, with planting indicated. Walkways occur "in the most natural locations, without interfering with open, level areas." Fencing is "the inevitable result when searching for maximum privacy with least space use." Low-growing to medium-height plant materials were selected for foliage contrast and low maintenance; shrubs were specified, due to limited space, and small trees were used to maintain scale; fruit trees were included for both beauty and use.

Right — one of the southwest living terraces, with translucent screen at left. Each door of the house is a Dutch door, so that (with the bottom panel closed) any room can become a children's corral.

Everyone knows, in theory, that all of the creative design fields are but parts of a single activity, striving toward a common goal—the achievement of the best possible environment for living and working, inspiration and play. Yet, extraordinarily enough, it is still news when one learns of wholly successful collaboration between related professions. All too often, the atmosphere seems to be one of undeclared warfare. One will hear the sculptor (for instance) say that the architect doesn't understand him, won't employ him, or recommend that a client call on his talents. So, too, with the mural painter or the interior designer. And this even applies where landscape architects are involved, many of whom will testify that they are called in merely to shroud the architect's errors; conversely, not a few architects report "we always do our own landscaping." And so it goes. One can only conclude that where there is so much smoke, there is still considerable fire (in the eye) between related design professionals.

Yet, slowly and surely, it would appear that the barriers are weakening. Encouraging is the increasing number of completed jobs where two or more of the related design groups have joined forces to produce something far better than either, alone, might have accomplished. In the work shown on these pages, we have an admirable example—wherein client, architectural designer, and landscape architect worked together to produce a felicitous, unified result.

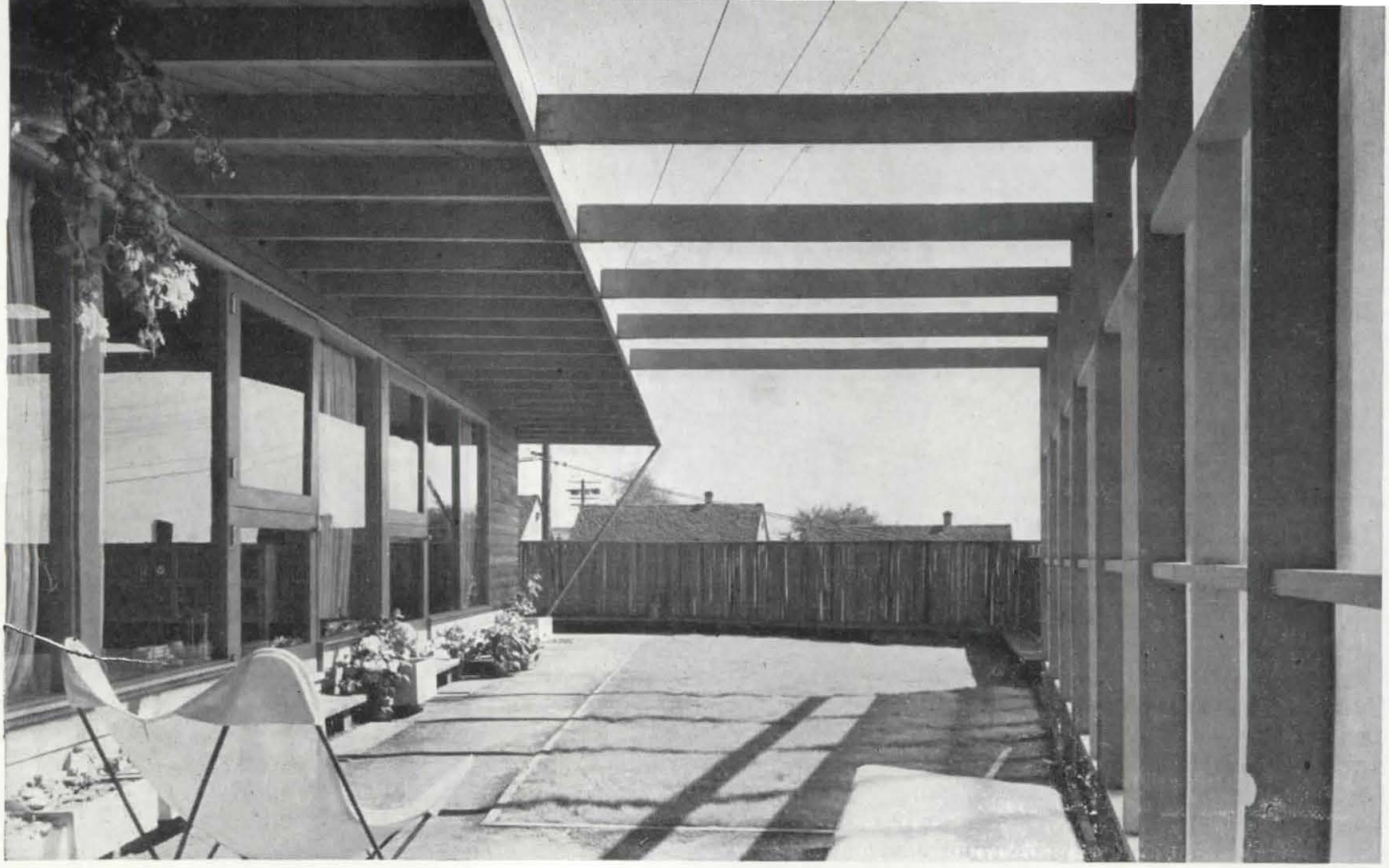
The story of the venture, in brief, is of two brothers, students at the University of California, both of them married and with one child each. These brothers —Allan and Tom Hudson were living in a housing development from which travel to the university required a full hour's trip each way. With GI Bill of Rights privileges, they set out to solve their living problem in a more satisfactory way and approached Henry Hill as to possibilities.

Starting without preconceptions they located a remarkable, but difficult, corner lot on a main bus line and just a few minutes from the university campus. Others might have passed the property by; for not only is it steep and bordered on two sides by busy streets, but—believe it or not—it is part of a portion of the East Bay land that is actually shifting—from 4 to 7 feet westward in the last 14 years. With Hill's assurances that they could find ways of coping, however, plus the lure that the land was available at a very reasonable price, the project was launched.

In the design of the houses, the idea from the start was to relate them intimately; yet make provision so that should either or both brothers wish to dispose of his share at some later time, the units would be sufficiently independent as to be marketable. Since each family's needs were the same, an early decision was to build the houses from the same floor plan—a remarkably economical and ingenious plan, by the way.

Before the landscape architects started work, a number of basic decisions had been made. In this case, however, this apparently constituted no error, as Eckbo, Royston & Williams tell us that they would have subscribed to most if not all of these decisions in any event. Among these decisions was that the twin houses should be so placed on the site—one on the upper portion, the other in the lower corner—that the desirable view to the south and west could be enjoyed by both. To admit light and sun to the private living terraces immediately bordering the favored southwest side of each of the houses, yet shield the view of close-in neighbors, Hill designed a screen fence, with panels left open where no screening was necessary (thus allowing maximum view) but with other panels filled with a translucent glass-like material.

At this point, the landscape architects were called in to make the houses and land as harmonious a living environment as possible. The first step was to draw a diagrammatic analysis, based on the site contours, orientation, and needs—privacy for each family, plus some common garden area, a children's play yard, and garage that would be used jointly (top, right-hand drawing, facing page). As stated by the landscape architects, the purpose of this diagram was to solve "the objectives of good circulation and proposed space use in relation to the interior areas." The scheme pleased all concerned: "The Hudsons had no preconceived ideas as to outdoor space, form, or detail and were extremely interested, planning to do



Above — detail of living terrace adjoining the lower house, with fencing at the end effectively screening the view from the neighbors and vice-versa.

Right — entrance detail, upper house, with roof of lower house seen at left; the sinuous fence defines the service yard.

much of the landscaping work themselves. . . So, with nothing but a limited budget to deter us, we proceeded with plans and construction."

One of the first major land-organization decisions to which all agreed was that related levels for adult and child use to be established, without—so far as possible—disturbing the natural sloping quality of the site. From this, as may be seen in the more developed plans, a "stepped down" use of areas came about—with the upper house, its private terrace, the joint-use garage, and the general garden area (to the southeast) on the top plane; children's play yard falling naturally at an intermediate level in the northwest corner of the lot; and the second house at the low, southwest corner. To accommodate changes in level, ramps as well as steps are used.

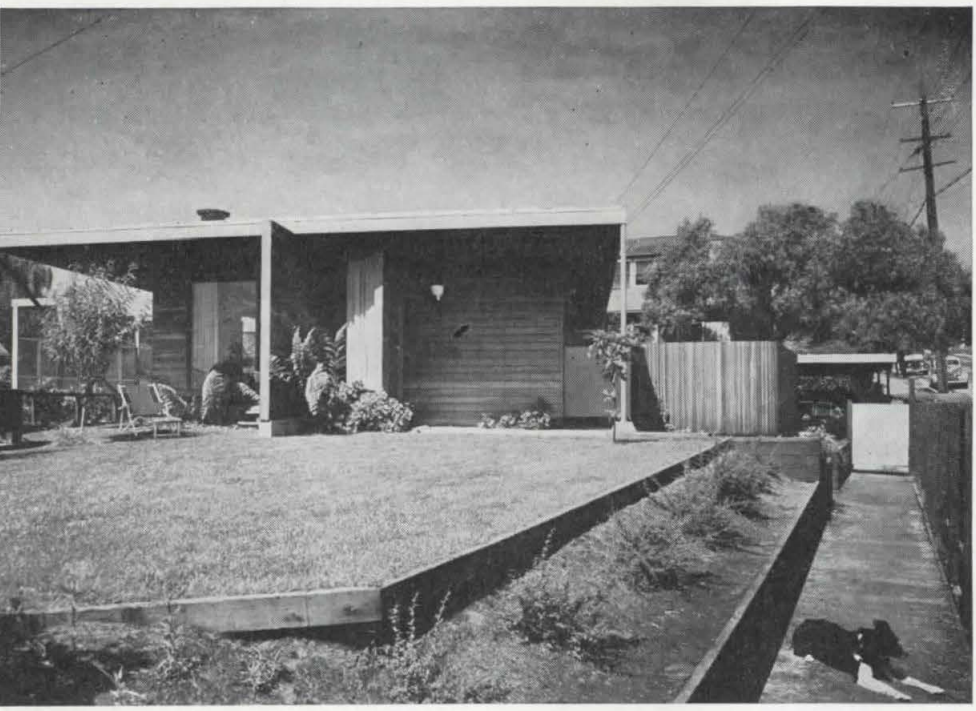
In commenting generally on inter-relation of the professions of architecture and landscape architecture, Eckbo, Royston & Williams have this to say: "One of the great contributions of architects to people is that they have opened up the interior space of the contemporary house to the area that surrounds it. Landscape architects are presented visually with the site itself, and its problems and possibilities. The landscape architect who projects his plans parallel to the architect's development can make another positive contribution to people in his solution of this exposed exterior. He is trained to work with the client's and

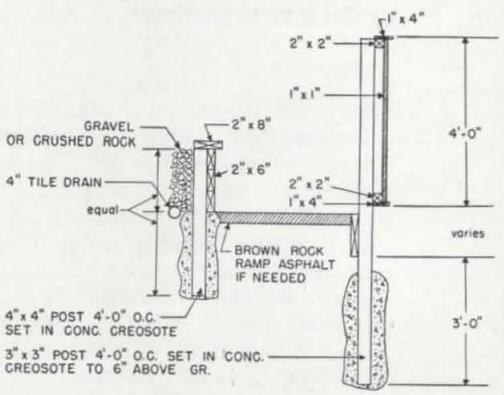
architect's program to make the surroundings in which the individual lives an integral part of the whole in its function and design. . . The spaces created must in themselves and in their relation to one another, inside and out, contribute a rich visual experience to the people who use it. . . It is this philosophy of contemporary living which has directed the garden as an extension of the house or has made the house the roofed section of the garden."

As for ideal working conditions for successful collaboration between the two professions, they emphasize the importance of *one idea.* While it has frequently been their experience to be called in too late to make their full contribution, they say that they have noticed, among some architectural firms, "a growing willingness to exchange ideas on any problem prior to drawing." This, they feel, is most useful in reaching a unified design approach.

Basic is a sympathetic client—"one who realizes and wants all the benefits of collaboration and a total solution to site." Then, for the happiest result, they strongly urge that the two design talents work together on preliminary analysis of the site, each respecting the other's point of view; also, that the architect and landscape architect present their preliminaries together as a common, agreed upon, *parti.* Then, as they go on to say, "it matters little who does which structural design detail."

In their work with the Hudson houses, they report that there was exceptional adherence to this "single goal" ideal. As to specifics, they feel that the project is a good illustration of the minimum of space for private outdoor activity (living terraces) that is needed per small family. "If," they conclude, "public housing programs and private housing programs will ever accept the understanding and use of the space outdoors for each family, we shall then be in step with a possible culture of progress."





Section of Redwood Fence and Bulkhead

Above — view of upper house from southeast; common lawn and garden area (chiefly for visual enjoyment) in foreground, barberry shrubs occupy the strip between walk and lawn; fruit trees, at left.

Right — the same house, viewed from a closer point and toward the rear; wing-wall separates entrance element (right) and living-room door and window (left). Further at left is seen the screen-fence bordering the private living terrace, and in the foreground one of the fences bordering the upper level of the site.

P/A *takes pleasure in presenting this thorough analysis of panel and air cooling systems. The text was originally presented by the author at a technical session of the 57th annual meeting of The American Society of Heating and Ventilating Engineers, held at Philadelphia in January. Leopold's paper is reproduced with the permission of the Society; Part 2 will be published in April* P/A.

Design Factors in Panel and Air Cooling Systems, PART 1

By CHARLES S. LEOPOLD*

The performance of a cooled panel is better than would be anticipated by the calculations used for panel heating as the major internal sensible loads for which cooling is required appear in significant proportion as short wavelength radiant energy, which is usually not recognized in panel heating. Since the air is substantially transparent† to radiation, it is not directly warmed by radiation. Radiant energy may be converted into thermal energy when it strikes a solid. The amount of radiation reflected and the amount converted into thermal energy depends on the absorptivity of the surface, the difference in the fourth powers of the absolute temperatures of the source and sink, and their geometry. For sunlight, and for large portions of the energy emitted by a luminaire, there is such a large difference between the temperatures of the source and the structure that the conversion of radiant energy to thermal energy is practically independent of the surface temperature of the structure. Where radiant energy impinges upon a cooled panel, a portion of the radiation which is converted to thermal energy is removed even though that panel be at or somewhat above the room air temperature. The portion of radiant energy which can be so removed has been measured and named Independent Radiant Transfer.[1]

The radiant energy absorbed by the surface of walls, floor, or uncooled portions of a ceiling is, in part, conducted into the structure and in part transferred to the air by convection or to other room surfaces by reradiation.

In conventional systems using only air for cooling, it would be expected that surfaces not provided with means of cooling would tend to rise above the room air temperature. The fact that the surface of the structure is directly warmed by absorption of radiant energy would also indicate that with a conventional cooling system there will be an increase in thermal storage even though cool air is supplied in quantity to maintain a constant room air temperature.[1, 2]

test data

Data have been presented[1] on the performance of a continuous, cooled metal ceiling, with various types of luminaire, in a test structure controlled so as to simulate a condition of thermal equilibrium between room air and structure.

Data have been presented[3] for the solar load in a room with a continuous, cooled metal ceiling, a 10″ cinder concrete floor, and with various arrangements of glass and shading devices. Tests were conducted to simulate the effects of thermal storage, with the under side of the floor slab maintained at a constant temperature corresponding to design room air temperature.

For these tests, the room and fenestration were represented by a scale model of the building then being studied and solar radiation was simulated by a combination of a mercury vapor lamp and filament reflector spots.

Appendix A* contains subsequent data on panel performance for a suspended ceiling consisting, in part, of cooling panels and, in part, of perforated metal in conjunction with sound-absorbing pads.

For the test with luminaires, 29 percent of the suspended ceiling was cooled. Tests were conducted with and without the storage effects of a 10″ cinder concrete slab.

For the tests with solar heat and shading devices, 40 percent of the

*Consulting Engineer, Philadelphia, Pa.

†*Heat Transmission*, by W. H. McAdams (2nd Edition, pp. 64-70).

[1]Exponent numerals refer to Bibliography.

**Appendix A will appear in Part 2 of this article; see April 1951 P/A.*

suspended ceiling was cooled. The experiments were otherwise conducted as previously described.[3]

panels, general

Theoretical considerations corroborated by the tests previously outlined indicated that it was not necessary to cool the entire ceiling in order to utilize coolant temperatures safely above the dew point.

Applied sound-absorbing materials are generally of low thermal conductivity. Cooling pipes imbedded in the actual ceiling structure would be effective but are open to some objection on the basis of complicating the application of acoustic treatment and in that they would require the coolant to be at lower temperature than would be required with a metal ceiling because of the temperature drop, coolant to surface.[4] Despite this limitation, cooling by tubes imbedded in plaster or concrete is feasible.

Cooling panels can be perforated to allow for sound-absorbing media above without materially affecting their thermal performance but a greater economy in the use of materials may result when only a portion of the ceiling is in the form of panels and the remainder in less expensive materials, such as conventional metal pan acoustic ceilings.

one system

For the acoustic treatment of the average office, half of the ceiling as perforated panels will usually be sufficient. The general acceptance of acoustic treatment in modern office buildings led to the thought of introducing the cooling panels and acoustic panels in a form which would fit the ordinary suspension for a perforated acoustic ceiling. Cooling panels were designed as shown in Figure 1. The basic material is an aluminum extrusion, approximately 0.062″ thick, with channels on the top in which copper tubes are placed in close fit and then deformed to provide thermal contact. Tubes can be deformed either by flattening or by expanding. Copper tubing was selected because of its ease of assembly and its known resistance to corrosion. The panels fit into a typical ceiling suspension as shown in Figure 2. They can be arranged in pattern as desired and, if it were necessary, the cooling panels could be perforated for additional acoustic treatment.

cooled luminaire

Exploiting the idea of removing as much energy as possible at the source, led to the design of the panels in part as the reflector for a lighting fixture, as shown in Figure 3. The performance per unit area of such a panel is higher than a normal ceiling panel since much of the radiation, as well as convected and conducted heat, is directly intercepted before it has a chance to warm other room surfaces or the room air.

With any type of cooling panels forming a part of a suspended ceiling, the upper surface of the panel receives heat energy from the air above and by radiation from the under side of the floor slab or roof above. The air above a suspended ceiling is warmed by heat conduction through the ceiling structure which is not directly cooled and may be warmed by auxiliaries of the lighting system. There is some conduction from the uncooled portion of the *ceiling to the cooled* panel, in amount depending upon materials of construction of the uncooled ceiling and the conductive properties of the bond.

Use of the luminaire panel is desirable where recessed fluorescent lighting is to be used. Where applicable, it has the mechanical and esthetic advantage of reducing the number of different types of elements which form the ceiling. With flat plates, unless the plate is perforated to match the ordinary cheaper materials of construction used for the acoustic pans, there are four elements; namely, the air grille, the acoustic pans, the cooling panel and the luminaire. With the cooled luminaire, the identity of the cooling panel is lost, thus removing one element. This is of importance in design as it is easier to obtain symmetry with the three elements than with four.

In general, the design of a suspended ceiling panel cooling system will require from 20 to 40 percent of panel. Figure 4 shows a reflected ceiling plan using recessed fluorescent lighting and flat panels. Figure 5 is a sample ceiling using the luminaire cooling panels.

below window

The flat panel can also be used as a heating and cooling means below the window, and one method of application is shown in Figure 6. The panel is used for cooling in summer and provides a cool surface to counterbalance the radiation from a hot window or venetian blind.

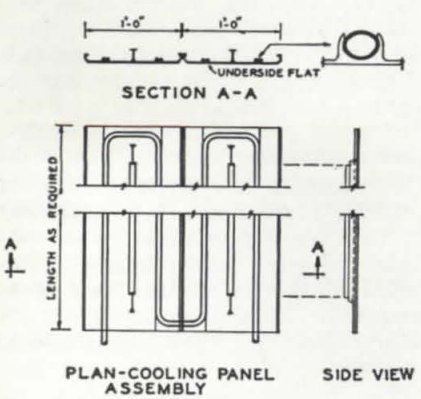


Figure 1: cooling panel detail.

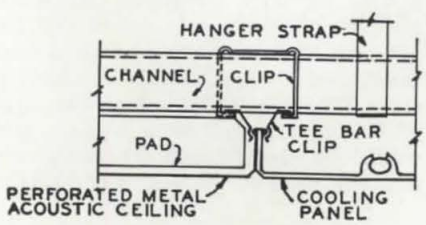


Figure 2: method of suspension.

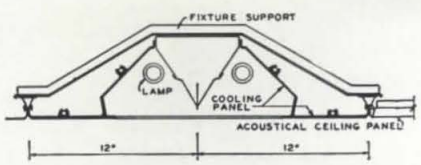


Figure 3: troffer luminaire panel.

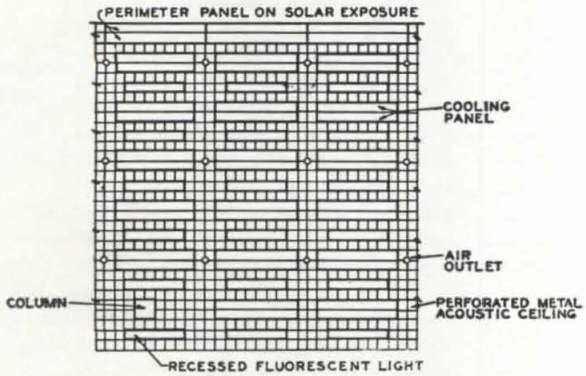


Figure 4: reflected ceiling plan

Figure 5: ceiling construction, Manufacturers Life Insurance Company of Toronto. *Architects: Marani & Morris; Engineers: Charles S. Leopold, and Wiggs, Walford, Frost & Lindsay.*

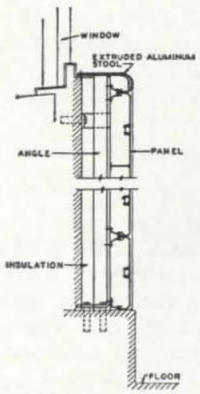


Figure 6: wall panel detail.

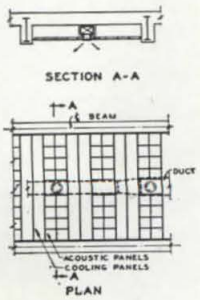


Figure 7: reflected ceiling plan.

heating

In winter, the panels below the window can usually be the sole means of heating. Although the panels on the ceiling adjacent to windows can be used for heating, it is believed that optimum conditions are better obtained by providing a warm surface on the outside wall directly below the cold glass, where it serves both to offset the radiation and to minimize the flow of cold air down the glass. These panels have the additional advantage that during the night they are the only part of the system requiring operation to keep the temperature of the structure balanced, thus reducing the required period of operation of the entire system.

The foregoing description covers suggested uses of extruded aluminum panels. There are, obviously, many other ways of cooling a large surface by a tube carrying a coolant as, for example, by thermally bonding metal tubing to rolled panels of any material or, as previously noted, by imbedding the coolant tubes in a plaster ceiling or in the concrete of the construction. The selection of the type of ceiling and the area to be cooled would be determined by economics and the need for acoustic treatment.

ventilation

For this discussion, forced ventilation has been assumed. Where it is desired to obtain relief, rather than controlled summer comfort, panel cooling can still be effective but the coolant temperature must be controlled to be above the dew point at all times. The conventional cooling means, with control, can be used or the coolant can be recooled by evaporation, thus insuring that the temperature at all times will be above the dew point. For controlled comfort cooling, air should be introduced in the amount and at a dew point to produce the necessary drying effect and ventilation and, since the dehumidification of the air is usually though not necessarily accomplished by refrigeration, the air may be economically used to produce a portion of the cooling effect. As previously pointed out[1], any thermal energy removed by the air has more than a proportional effect in reducing the required temperature difference between the room air and the panel, or in reducing the amount of panel required to remove the remaining sensible load.

space requirements

The reduction in required volume of air supply, whether it be delivered at high velocity or at more conventional velocity, results in a simplification of the air distributing problem, with lesser requirements for ceiling heights than conventional systems.

The design contemplated for a building which was to have 30" beams to span approximately 40' is

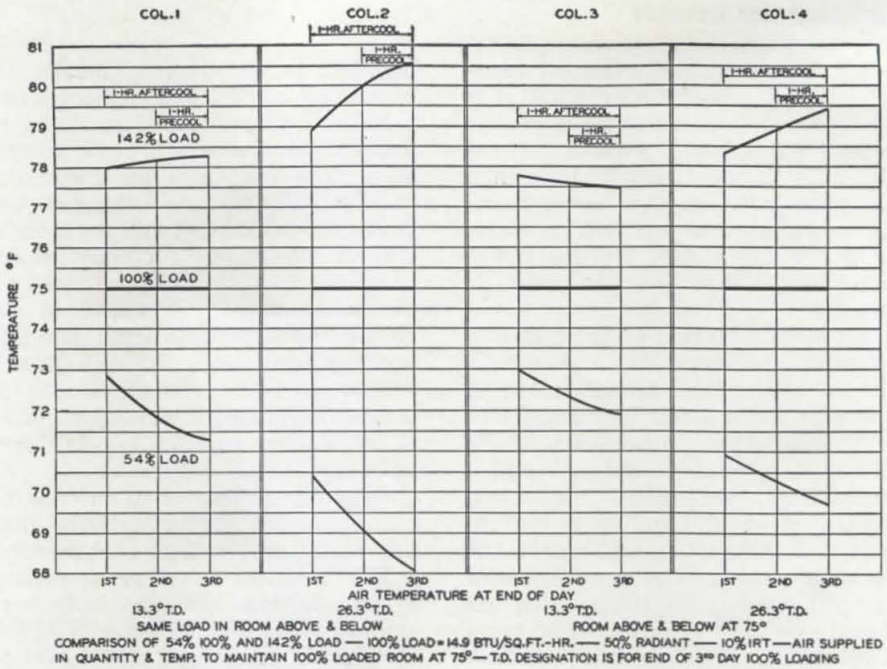


Figure B-5: air-cooling system — results of tests of required room-air temperature at the end of day when air supply is introduced to maintain the 100 percent loaded room-air temperature at 75 F during each day.

shown in Figure 7. It was found that even with a building of large floor area, the largest hole required in the 30″ beams, for horizontal distribution at low velocity was 10″ x 14″ and the installation could, therefore, be made without affecting ceiling height. The acoustic and panel ceiling could be kept above the lower edge of the fire-proofed beam.

Panel cooling is well suited for buildings having large interior zones and may have special application in buildings which employ other methods but have separate areas of illumination requiring high energy levels.

The rentable area lost by air conditioning equipment is at a minimum because substantially the only floor space required outside of the apparatus room is that for the vertical trunk ducts when the major distribution is vertical. These ducts are inherently small because of the lower air quantity and may be designed for either commercial or for high velocity as the economics indicate. In general, the penalty incurred with high velocity in a trunk duct is very much less than in using high velocities in branch ducts.

The conservation of rentable area and the clear floor plan is the more apparent advantage of panel cooling. Its relative thermal stability is also significant and will be discussed.

zone vs. individual control

As an end result, the purpose of comfort air conditioning is to adjust the thermal environment so that the occupants can work without being conscious of discomforts or annoyances due to air temperature, humidity, odors, air motion, and radiation.

For a group, the optimum temperature and humidity is well established. For an individual, there is no such assurance. The group optimum is a statistical average and any individual may depart slightly from the statistical optimum. It follows that where a number of people must work together in an enclosure, a constantly maintained optimum is desirable. Means of individual control for maintaining a different temperature, as between two rooms, both of multiple occupancy, or two parts of a large room, is not required. If two or more people are constantly working in one room, they tend to require the statistical optimum and individual control is usually not required to maintain conditions other than the optimum. Depending on design, it may be required to maintain the selected optimum.

In a single occupancy private office, there may be a demand for separate temperature control, either because the occupant wishes a small adjustment representing his departure from the statistical average, or because he wants to feel cold or warm.

The purpose of this discussion is to show that there are two reasons for a multiplicity of controls or of control by small area. The first, if because of design it is necessary in order to maintain the selected optimum for the group; and the second, where it is desired to maintain a special condition for an individual which would not be acceptable to the group. Individual control is generally costly and can frequently be avoided by proper design and control of a zoned system. In this latter case, the determining factor is how well the system can meet different loads in adjacent areas of the same zone. If one room has more people and lights than an adjacent room with substantially the same air supply, how far will they differ in temperature? For years there have been installed zone systems in which air is introduced at from 12 to 25 degrees below maintained room temperature. For two rooms side by side—one occupied, lights on; one unoccupied, lights off —there would be anticipated a marked difference in temperature. In fact, if no factors such as heat storage were taken into account, the one room could be assumed to differ from the other by the amount of the temperature difference of the air introduced and the general average of air temperature in that zone. Actually, it is found that these differences do not materialize to this degree. This helpful phenomenon has been accepted and assumed as a result of thermal storage but storage, until recently, was considered as

being caused by the warm air heating the structure by convection. It is now known that this effect is greatly accelerated by radiation and that the structure is frequently warmer than the room air. An overloaded room, for example, does not get so warm as one would expect because radiation has accelerated the rate of storage.[1, 3]

An approximation of these results by analogue is shown in Appendix B.* In Figure B-5 a comparison of Columns 1 and 3 and Columns 2 and 4 indicates that, in addition to the effect of radiation and convection on storage, the actual conduction through floor and ceiling is significant and that, as an end result, the variation between the underloaded and the overloaded room, with air introduced 26.3 degrees below room temperature, is 9.7 degrees (Column 4); whereas by conventional calculation without regard to storage, a 23.2 degrees variation would be indicated. With air introduced 13.3 degrees below room temperature, the deviation is 5.6 degrees (Column 3) against a calculated 11.7 degrees. The consideration of walls would further limit the deviation when factors of radiation, storage, and conduction are considered. These results explain the satisfactory behavior of well designed conventional zone systems and also show why poorly designed systems sometimes perform better than would be expected by conventional calculations.

Since a very narrow deviation of maintained temperature is acceptable, need for large air quantities and low temperature differences between the introduced and room air is still of importance for conventional systems. Unfortunately, large air quantities frequently result in the requirement for additional building areas or cube and, although this is seldom a determining factor in smaller buildings, it can be and often is of major significance in large buildings. This limitation is frequently not so serious in an existing building with higher ceilings than are customary in new construction.

The response of a panel cooling system to the same conditions of loading is shown in Figure B-7. For the stated condition, the deviation between the overloaded and the underloaded room is 4.3 F as compared to 7.0 F with the conventional system with 13.3 T.D., as graphed in Column 1 of Figure B-5. These results were obtained by simulating a completely rather than a partially paneled ceiling, and again do not take into account the effect of walls. In interpreting these results, consideration should be given to the following: They apply to an interior zone and to a load due principally to luminaires. In an office building, this is the preponderant load. For the solar load it was shown[3] that with a given masonry opening and for all types of glass, single and double, and for commonly used shading devices, room air temperature could be maintained by depressing the ceiling temperature by an amount varying from 12.1 to 9 degrees, a difference of 3.1 degrees.

The foregoing indicates a second advantage of panel cooling; namely, the possibility of maintaining close to the predetermined optimum with lesser need for individual controls than would usually be found in the ordinary well designed conventional zone system.

Individual controls can, if desired, be applied in the form of air volume, air temperature, or by control of water quantity or temperature to panels in a given area. Unless individual control is desired to take care of a single occupancy office, the air may be delivered at a predetermined constant temperature and the variations in load may be met by varying the water temperature to the panels by zones. There is considerable advantage in using constant temperature air supply to all zones of the building in that it avoids a multiple duct system with its complication of duct crossings. The trunk ducts become smaller in total area as higher velocities can be used in a larger duct at the same power expenditure. Constant quantity and temperature air delivery has proved satisfactory in an experimental installation over a three year period of operation.

Appendix B will appear in Part 2 of this article; see April 1951 P/A.

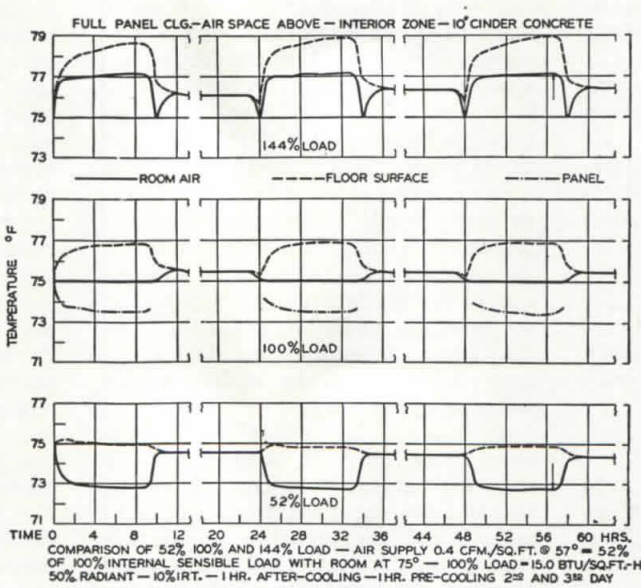
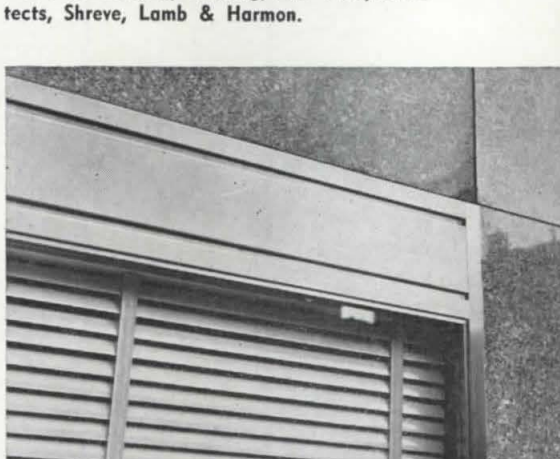


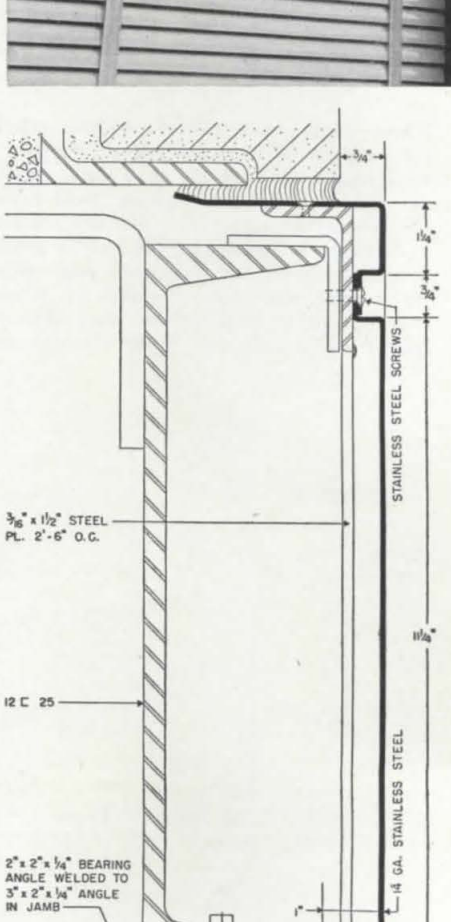
Figure B-7: resultant room-air and floor-surface temperatures for a panel-cooling system in which both supply air and panel cool room.

Data on Stainless Steel Store-Front Design

By RICHARD E. PARET*

Photo and detail below—break-bent, recessed channel grooves add stiffness to this window head panel; screws located in grooves can be tightened without deforming the flat sheet. Other windows in this structure have awning-box covers of the same design. Mutual Life Insurance Company Building, New York; Architects, Shreve, Lamb & Harmon.





An increasing use of stainless steel for store fronts has greatly improved the design techniques and methods of erection for this material. In addition, the many types of stainless steel and the variety of finishes available offer the architect considerable freedom for design expression. Numerous stock components, as well, are at the disposal of all designers.

The use of this material significantly reduces the cost of store maintenance, as its original appearance is readily retained with soap and water washing; time consuming chemical cleaning and polishing are eliminated. Usually, this single saving offsets the difference in first cost between stainless steel and less durable or less easily cleaned materials. The strength, toughness, and corrosion resistance of stainless steel give it a long, useful life. As labor and replacement costs continue to rise, this durability pays progressively greater dividends.

The different ways that the architect may use stainless steel for store front design are legion, as ease of workability adapts the material to many shapes and forms. The designer may use custom, shop-fabricated designs; stock, factory-made components; or a combination of both.

design standards

Store front construction is generally executed by either of two trades. Designs with custom-made components call for the work of architectural metal fabricators. These are perhaps the most skilled of the sheet metal workers—adept at the use of relatively heavy materials and skilled in handling bars and tubing as well as sheet metal.

Where this type of craftsman is not available, or where a design using factory-made components is more suitable, installation may be performed by mechanics associated with the glazing trade. Generally, these men are equipped for and skilled at cutting and installing pre-formed shapes. In most cases they do not have equipment to make special sections, but must secure them from manufacturers of prefabricated components.

Almost all mullions, muntins, sash, sign letters, and the like, are sheet metal elements which convey the appearance of solid metal. These surface coverings are designed to protect other structural members, or to save weight and material; obviously they cost far less than solid pieces. Furthermore, the innate durability of stainless steel makes thin sections entirely adequate.

A desirable design requirement for sheet and strip of stainless steel, or any other reflective material, is that flat areas be kept flat. Several procedures have been developed to prevent occurrence of wavy reflections:

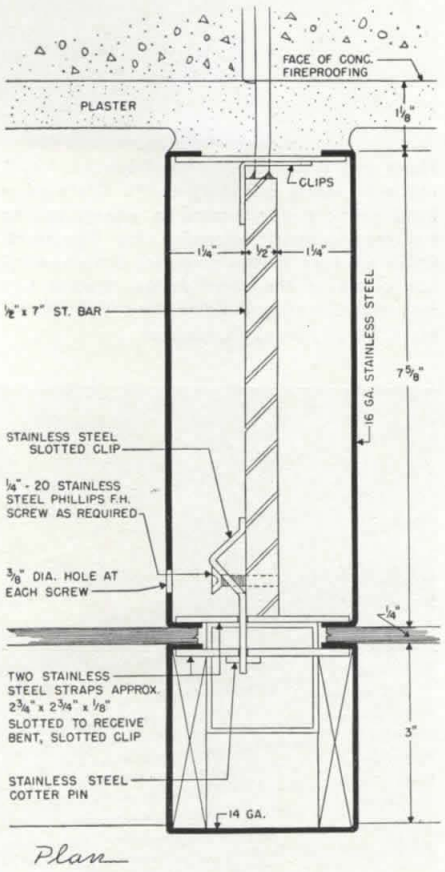
1. It is essential to employ sufficiently heavy-gage metal in each application. Required thickness depends upon the panel size, the presence or absence of bends for stiffness, vulnerability of the part to kicking, pushing, or bumping, and, finally, how closely the part may be scrutinized by passers-by.

2. Avoid the use of screws or fasteners that pierce exposed flat areas. Panels should be crimped or bent at the edges; screws through the lip or offset can be concealed and the bent shape can be designed to isolate any deflection caused by drawing these screws up tight.

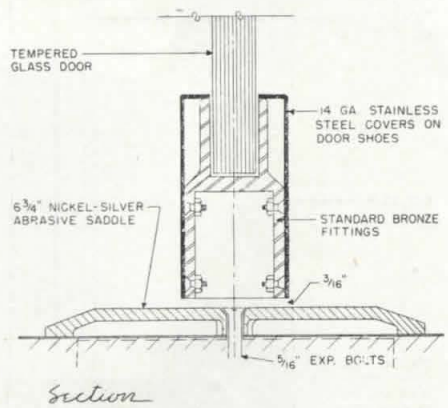
3. Panels may be backed with plywood or other materials to augment the stiffness of thin metal.

A great deal of the dirt that settles on stainless steel can be washed away by rain. Few materials approach this ability to stay clean and smooth when exposed to the elements. With careful design, it is possible to capitalize on this quality by using shapes that are at least partially self-cleaning. Dirt-catchers such as crevices, inaccessible ledges, pockets and the like, should be avoided whenever possible. It is desirable to prevent soiling of ornamental stainless steel

* *Stainless Steel Specialist, American Iron and Steel Institute.*



Above—straps and slotted wedging clips fasten this stainless steel mullion to the structural framing and, at the same time, cradle the glass in a resilient mounting. Small holes for screwdriver access are the only visible evidence of an assembling device. To avoid possible staining and to assure easy glass replacement whenever necessary, all straps and clips are made of stainless steel—usually from trimmed ends that would otherwise be scrap.



Above—stainless steel covers are anchored to cast bronze door shoes to provide durability and color-match with other stainless steel trim. This method of application is suitable for an assembled door; screws, spotwelded to the cover, engage nuts inside the casting. Other and simpler fastening systems can be used if the shoes are available for machining before the door is assembled.

by carrying away the unavoidable wash-down from higher parts of the building through appropriate drains.

Very often, the difference between mere adequacy and real distinction in a stainless steel store front grows out of the appropriate use of surface finishes and metal textures. Stainless steel sheets can be purchased in a wide range of mill finishes, from dull to a high polish. The stock is also furnished with embossed, textured surfaces in a number of patterns. Perforated stainless steel is also available. This choice of surface treatments can be used to avoid monotony, to accent focal points, and to suggest depth in the fundamental shapes which the architect conceives.

surface finishes and textures

Commercial mill finishes on stainless steel sheets are designated by number. A No. 2 finish is cold rolled and receives no added polishing at the mill. No. 2-D is dull with a non-reflective, matte surface. No. 2-B is brighter, yet its sheen is also quite diffused.

The No. 4 finish—polished but not extremely reflective—finds general application in store-front work. It is, perhaps, the finish most suitable for further polishing after shop work has been completed on formed parts. Such terms as "satin polish" are used to designate finishes achieved by the stainless steel fabricator or installer on formed pieces. Interpretations of such finish designations may vary; the most satisfactory way to specify shop finishes is by comparison with samples provided by the fabricator.

The No. 6 finish on stainless steel sheet has a velvety, brushed sheen. This is another dull, matte surface, like the No. 2-D cold rolled finish, but is more even and uniform. The metal is first polished, then tampico brushed to obtain a subdued luster.

A No. 7 finish is a high polish. It is very reflective—almost mirror-like. This is the smoothest surface usually furnished commercially in stainless steel sheets.

The polished surfaces, No. 4 and No. 7, are recommended where metal is repeatedly rubbed by hands or clothing. Their use avoids burnished bright spots at the points of greatest wear.

Textured or embossed stainless steel comes in a number of patterns. Some are coarse and knobby—others are extremely fine. The widths of textured sheets or strips are governed by the widths of the rolls used to do the embossing; the widest is about 36 inches.

Such products as stainless steel screen or perforated and expanded metal are useful for auxiliary walls, grilles, and sign details. Screening is available with bars as large as ¼-inch diameter and down to insect screen or finer. Perforated stainless sheets can be obtained not only with plain round holes but also with a variety of shaped hole patterns. Expanded metal—the same type of product as metal lath—has a great deal of distinction when it is made in stainless steel; both coarse and fine meshes are available. Expanded metal can be rolled flat to smooth the ridges formed when slits are stretched open.

shop-fabricated store-front pieces

Stainless steel is easy to work with standard sheet-metal tools. However, more power is required than for other architectural metals, as stainless steel is stronger. The metal's mechanical stability is an assist when rigidity is required for thin, formed pieces.

With the somewhat outdated exception of blacksmiths' forge welding, stainless steel can be worked, formed, and joined by any method practicable for ordinary steel and iron. While this wide freedom of method is very important in industrial applications and in basic architectural developments like the curtain wall, store-front designs usually narrow the shop requirements down to a point where shearing, brake-bending, and drilling or punching holes are the predominant operations.

Immediately below — both prefabricated sections and shop-built pieces are found in this bank front; the special mullion design is presented in detail drawing acrosspage.

Bottom of page — stock sash sections have no visible fastenings on the exterior side of the plate glass; set screws (which are located on the interior side of the window and can be seen in photo) draw up the assembly mechanism which cradles the glass. 488 Madison Avenue, New York; Architects, Emery Roth & Sons.

With a bending brake, the fabricator can produce an almost limitless variety of special formed sections. He can jog the edges of flat panels for concealed screws, form panels for design effect or stiffness, make box sections, attain quilted patterns and perform a host of similar operations.

The makers of stainless steel signs take full advantage of the metal's workability in building block letters out of thin stock. At first these assemblies are tack welded to hold the parts together; later, the joints are usually soldered for a weather seal.

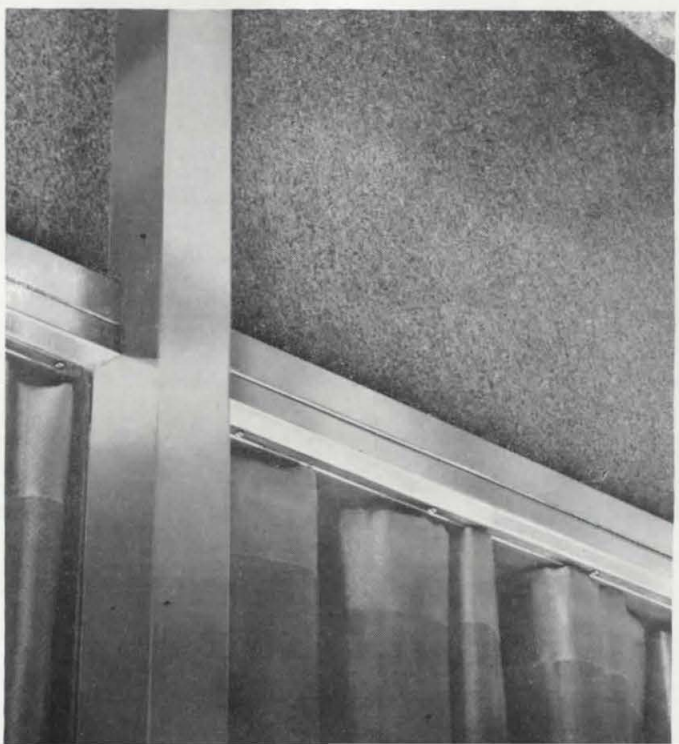
Although intricately formed shapes are often needed for parts and letters of signs, most stainless steel members for entrances and fronts are designed with very simple, plain lines. It is well, for economy's sake, to remember the more common shop operations—shearing, sawing, bending, etc.—in order to keep the design of each piece suitable for a routine series of familiar shop procedures.

factory-made stainless steel components

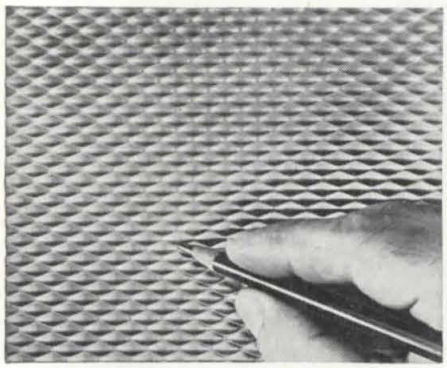
Well-engineered sash, mullions, and other glass-setting members, are furnished in stainless steel by a number of manufacturers. These pieces are made, not by brake-bending as in job-shop practice, but by continuous roll forming. Wide, formed bands, and narrower, interlocking strips are made for fascia sheathing. Many other kinds of general-purpose and special sections are also roll formed.

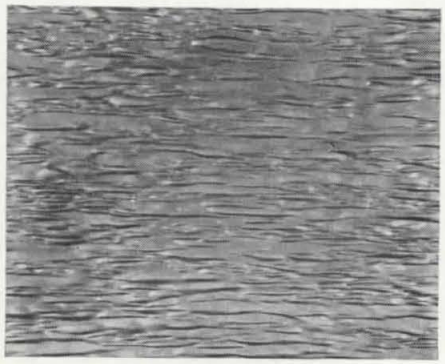
The stock sections designed for use with glass may be obtained in a variety of shapes—either for single or double glazing. Built-in spring devices cushion the glass in a resilient mounting; screws are completely concealed on the exterior side. This design permits easy glass installation, or replacement if necessary.

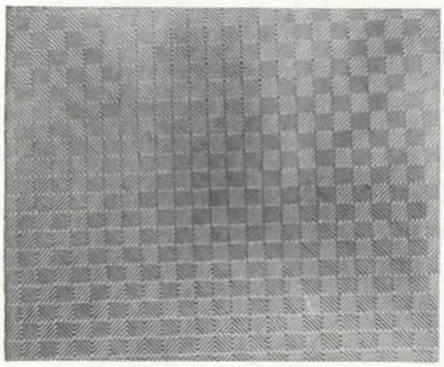
The suppliers of prefabricated store-front components in stainless steel offer a detail design service that can make an architect's task

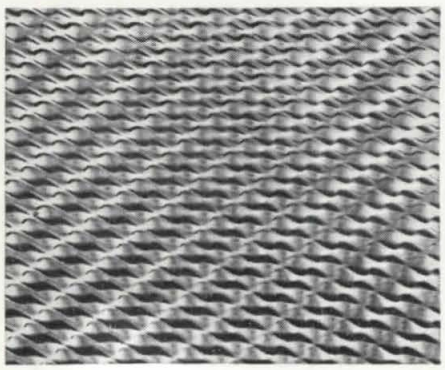


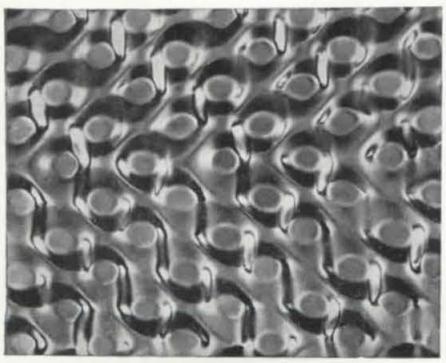
Below—textured patterns are embossed on stainless steel sheets. Known to the trade as "Rigidized" metal, this product offers a wide variety of surface designs. All illustrations are at the same scale.

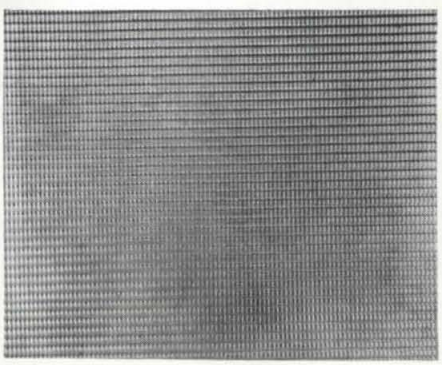












considerably easier. After the architect has laid out the general scheme and arrangement, indicated relationships of elements to the basic building structure, and specified the type of sections and panels desired, the supplier of materials will prepare full-scale details and assembly drawings. These drawings specify all stock parts, methods of fastening, and necessary information for making special individually-fabricated pieces where required.

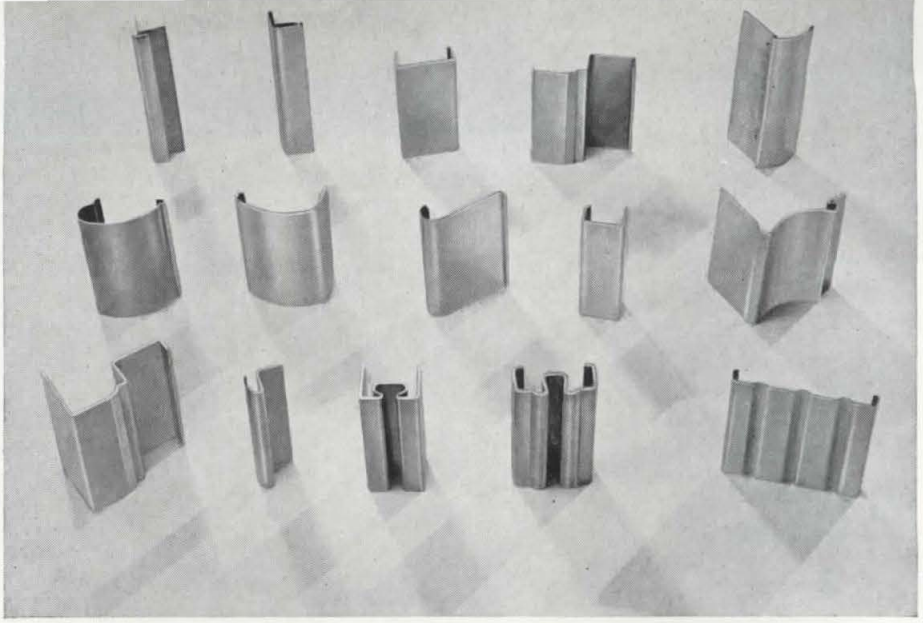
Roll-formed sections in hundreds of different shapes are also produced by concerns not directly associated with store-front construction. Stainless steel tubing—either round or formed into rectangles, ovals, and special contours—can be purchased from a number of suppliers.

Composite panels are made with thin stainless steel sheets bonded to plywood, composition board, insulation, etc. The stainless steel on one or both sides may have dull, polished, or a textured surface. These panels gain rigidity and flatness for relatively large areas without the weight or expense of heavy-gage metal, which would be necessary for good appearance in most conventional large-panel designs.

Stainless steel doors and door frames are available in practically every style—tempered glass, paneled, revolving, etc. Usually, the makers of stainless steel doors stock standard parts and formed tubular sections from which they make up doors and frames on order to specified dimensions.

use stainless hardware

The wide variety of stainless steel screws, bolts, sheet-metal screws, etc., that are made today fill the needs for both exposed and concealed fasteners. Exposed screw heads, of course, should be stainless for good appearance, uniformity of color, and easy cleaning.



Right—these sections, produced by forming rolls, are made in continuous lengths and can be cut to size as needed. Thousands of shapes fill requirements for moldings, protective strips, glass-setting components, interlocking fascia panels, and decorative trim.

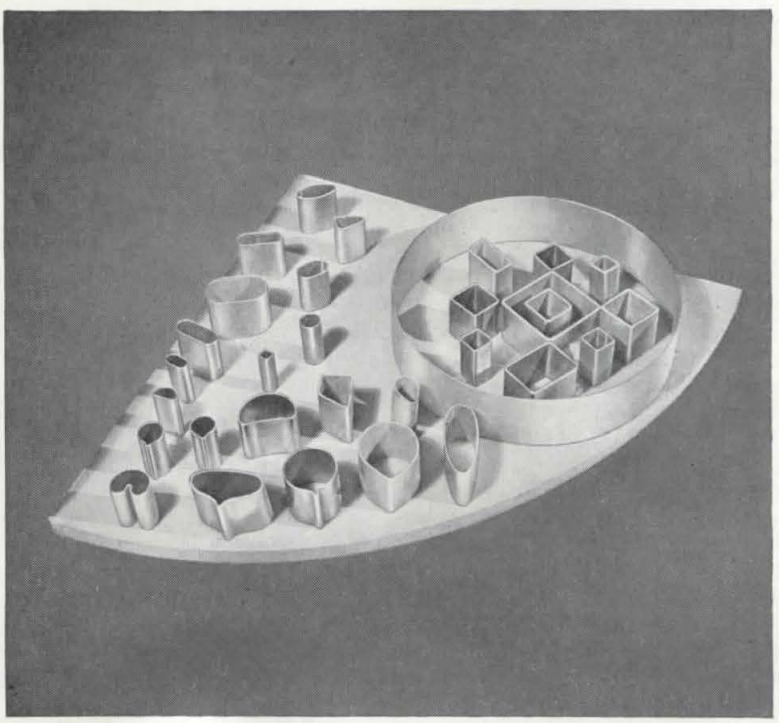
It is important to specify stainless steel fasteners for concealed work as well. If nails, screws, or bolts that hold stainless steel pieces are made of plated or ordinary steel, unsightly staining with rusty streaks may mar exposed surfaces. Such difficulties have occasionally given rise to undeserved complaints about rusty or inferior stainless steel; however, in all cases this streaking was caused by corroding fasteners which should have been of stainless steel even though they were concealed from view.

Door-pulls, handles, hinges, and similar hardware items are supplied in stainless steel. Other parts, like locks, are made of a white nickel-bronze alloy which matches the stainless steel color.

what types of stainless steel to use

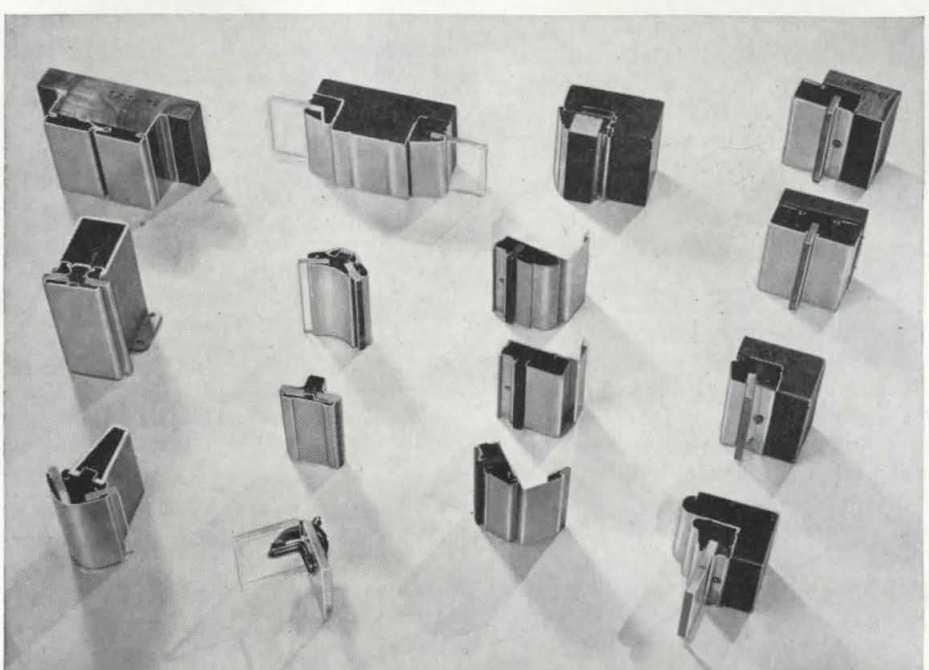
Stainless steels are a family; there are about thirty standard types and many special variations. Producers use many proprietary designations for standard types, but all recognize American Iron and Steel Institute type numbers, established as a "shorthand" method of communicating technical information throughout the industry. The most familiar stainless steel, Type 302, 18 percent chromium and 8 percent nickel, is recommended for most store-front work. Where direct seacoast exposure, as along ocean boardwalks, makes for a severely corrosive atmosphere, Type 316 is a better choice. This stainless steel grade contains a higher percentage of alloying elements, and it resists corrosion under extremely difficult conditions.

Type 430, which contains chromium, but not nickel, is used occasionally in store-front design. It may be expensive to maintain in any but a dry, nonindustrial, inland climate, and is generally recommended only for interior structural and decorative work.



Above—sections of stainless steel tubes in a variety of shapes; round, polished tubing can be cold-drawn or rolled into special forms without spoiling the finish.

Below—samples of prefabricated sash, mullions, transom bars, and fittings for display windows. Products of several manufacturers are represented.



Some Highlights of the Heating and Ventilating Exposition

During the week of January 22-26, the Tenth International Heating and Ventilating Exposition, largest of its kind ever staged, occupied all of the available space at Philadelphia's Commercial Museum. Three hundred and fifty exhibits were on display for the 18,000 visitors who attended this show managed by the International Exposition Company under the auspices of the American Society of Heating and Ventilating Engineers. Members of the A.S.H.V.E., whose 57th Annual Meeting was held during the same week, as well as architects, engineers, manufacturers, and heating and ventilating contractors and dealers were all present to observe the air-conditioning industry's achievements which reflect much of the advanced technology the research of the Society has brought to light. Equipment was shown which could use any type of fuel commercially available in any part of the world and with apparatus for utilizing the fuel's heat by the method most appropriate to the need of a particular case.

There was considerable interest in the W. B. Connor Engineering Corporation's new high velocity air-conditioning system which uses only half the conventional quantity of air, yet performs effectively through the use of a specially developed diffuser. It is designed to reduce air velocities in ducts from as much as 5000 fpm to 2250 fpm and still inject air into the surrounding atmosphere in such a manner as to accomplish thorough mixing without creating drafts. Chilled air, as much as 10 degrees cooler than that supplied by conventional systems, is mixed by the new high velocity injection without draft or excessive noise.

Efficient low velocity air diffusion was demonstrated by the Pyle-National Company by means of an exclusive construction using perforated metal panels to reduce outlet pressures to draftless proportions. It is their claim that the conventional diffusion temperature differential may be raised as much as 40 percent—requiring 40 percent less air to control a given load.

Marked improvement was evidenced in the development of suspension type forced-air furnaces especially designed for one-level homes and small houses in general. These units exhibited that they can be gas- or oil-fired and can be installed under floors or hung from rafters with ease. Fairbanks, Morse & Company has developed a suspended furnace, using either gas or oil, which has the unique feature that it can be converted from a suspended unit to a floor unit simply by standing it on end and turning the burner, controls, and inspection plates through 90 degrees.

At this year's exposition, it was evident that the eastward piping of natural gas, plus the rapid expansion of small housing beyond the current capacity of public utilities in many areas, has provided a sharp upturn in the demand for gas appliances—including those which use bottled gas—and has also stimulated many manufacturers to provide conversion equipment.

The Armstrong Products Corporation demonstrated for the first time a fan-vented circulator of 600,000 Btu capacity. It is specially designed with multiple heat exchangers and individual burners.

Acme Industries exhibited their line of liquid chillers which are suitable for a number of different purposes. All completely self-contained, they may be used to chill the air in a forced warm air heating system, or they may also be used to supply chiller water circulation in hot water and steam heating systems.

The Dole Refrigerating Company demonstrated an ice-cell conditioning unit which is specially designed for peak loads of short duration. This cell is, in effect, an ice-making machine applied as an adjunct to an existing refrigerating or cooling system of insufficient capacity to take care of peak loads. The Dole ice-cell is particularly recommended for use in churches, mortuaries, clubs, auditoriums, and cafeterias.

Introduction of the Trane Company's CenTraVac and a companion line of reciprocating compressors marked that company's full scale entry into the refrigeration division of the air-conditioning business. A 14,400-pound CenTraVac operating in a 173′-long display was designed to provide chilled water for air conditioning and industrial process work. During 44 hours of show operation, it produced a cooling effect equal to the melting effect of more than 175 tons of ice. This machine has but two bearings, both pressure lubricated, and not withstanding its capacity of 86 tons down to 15 tons, it is vibrationless and completely silent.

products

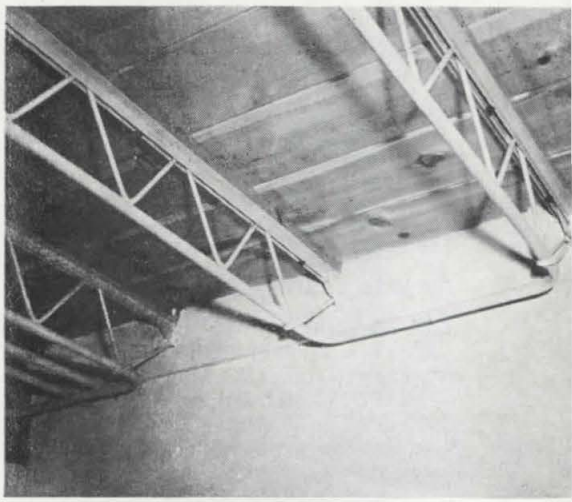
engineer invents new structural-heating joist

With the invention of "Fluid Joists," Fred J. Fricke, Albuquerque structural engineer, has provided another method of combining structure and environmental control. "Fluid Joists" differ from standard joists in that steel piping is used for the bottom chord of the member; this chord not only helps support the roof or floor above, but also conducts a heated fluid.

The costs of the end loops, the pipe supplying feed and return lines, and the boiler and controls are the only direct costs chargeable to the heating contract of a building using this type of construction. These structural-heating members can be used in any type of building, but are especially suited for warehouses, factories, garages, stores, and schools.

Advantages claimed are 1) savings in labor and material required for installation; 2) uniform heating in controlled panel sections wherever and whenever needed; 3) comfort at low temperature; 4) compactness, space required for boiler only; 5) long life.

The inventor states that his "Fluid Joists," for which he has patents pending, will cost about the same as standard joists. No franchises have been allocated for their manufacture; however, bar joist fabricators will be given authorized contracts to supply these structural members for buildings requiring them. Fred J. Fricke, 4404 Avenida Estrellita, Albuquerque, New Mexico.

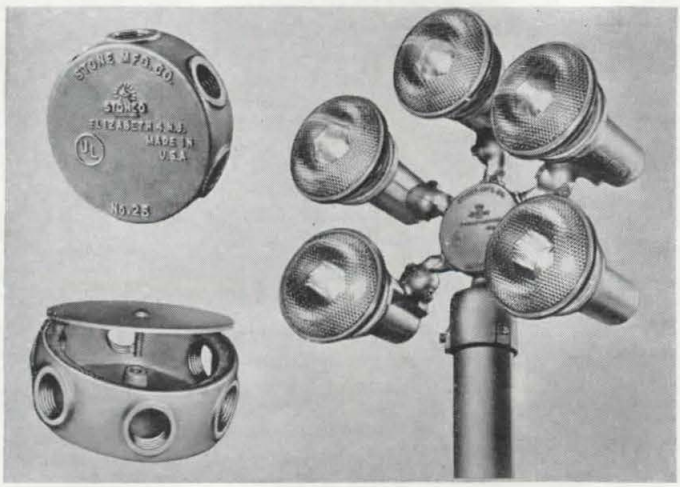


low-cost moisture detector weighs only 3½ pounds

A low-cost moisture detector has been added to its line of equipment by the Delmhorst Instrument Company. Known as Model G, this model measures 4½" x 7" x 3¼" and weighs but 3¼ pounds. The detector has a large meter dial, 4½" wide, from which moisture content can be read directly in percentages within a range of seven to 35 percent. Interchangeable electrodes for multi-use application are provided; the operator can measure the moisture content of any wood product—poles, veneers, plywood, etc.—and can determine the moisture content of plaster and concrete surfaces prior to painting in order to prevent subsequent peeling, discoloration, and blistering.

A push-pull switch, unique with an instrument of this type, instead of a pushbutton, gives an operator the free use of both hands. Model G is easy to use and the power supply consists of one standard B battery and one flashlight cell. It turns itself off automatically when stored in the carrying case or when placed face down. Delmhorst Instrument Company, Boonton, N. J.

alloys conserve aluminum in new lighting unit



These new, weather-proof cluster lights with cluster box for outdoor protective lighting, factory yard lighting, boundary fence lighting, and other industrial area floodlight applications have been announced by the Stone Manufacturing Company. This unit combines die-cast aluminum alloys to provide greater strength with less aluminum by weight than in conventional wiring troughs available for the same purpose. Easy access to inside wiring is provided by a removable cover plate sealed with a heavy cork gasket. Each box has six holes to take from one to five standard lampholders for 150-watt, 200-watt, and 300-watt weather-proof reflector bulbs. Accessories available include slip fitters for pipe mounting and brackets for wall mounting.

In recommending cluster lights, the manufacturer points out that burnout of a single floodlight normally results in total darkness whereas every light in a cluster would have to burn out before total darkness would *be possible.* Stone Manufacturing Company, 489 Henry Street, Elizabeth 4, N.J.

For additional Product announcements, see page 102.

p/a

MANUFACTURERS' LITERATURE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

AIR AND TEMPERATURE CONTROL

1-77. American Type HV Air Filter (203), 8-p. illus. bulletin on high capacity, low resistance air filters designed to operate at velocities up to 500 fpm. Performance data, design advantages, sizes, installation, maintenance, engineering data, dimension drawings. American Air Filter Co., Inc., Louisville 8, Ky.

1-78. The Control Story (F-4365), 24-p. booklet outlining types and applications of automatic controls in heating, ventilating, and air-conditioning systems. Drawings. Barber-Colman Co., Rockford, Ill.

Three folders describing oil or gas utility furnace for either up-flow or downflow systems; heavy-duty all-steel stoker furnace for gravity or forced air heating, furnished with clinker compartment for easy clinker removal; and double-welded steel furnace constructed with fire-brick-lined large capacity fire chamber designed for thorough combustion. General data, specifications. Majestic Co., 733 Erie St., Huntington, Ind.:

1-79. Oil or Gas Utility Furnace

1-80. Heavy Duty Steel Stoker Furnace

1-81. The 600 Series Heavy Duty Steel Furnace

1-82. Philco Air Conditioners (180-33 47), portfolio containing descriptive booklet and four general data sheets on 1951 series of window and console air conditioners. Photos of models. Philco Corp., Philadelphia 34, Pa.

1-83. Heatform, Model S, Swedish Design, data sheet describing prefab, heavy steel heat circulating fireplace, constructed with front and one end open, thus providing view of open fire from two angles. Plan drawings, dimensions, other models. Superior Fireplace Co., 1704-A E. 15th St., Los Angeles 21, Calif.

★ **1-84. Vulcan Radi-Vector,** AIA 30 F1 (53), 16-p. illus. bulletin. Baseboard heating system, combining radiation and convection for even warm air distribution from floor to ceiling. I. B. R. ratings, dimensional data, piping design charts, installation and ordering instructions. Vulcan Radiator Co., 26 Francis Ave., Hartford, Conn.

1-85. Low-Level Convector Radiators, AIA 30-C-4 (4150), 8-p. booklet describing convector radiators designed for installation beneath picture windows, either as free-standing or partially recessed units. Design features, dimensions, steam and hot water capacity tables, architects' specifications. Young Radiator Co., 709 S. Marquette St., Racine, Wis.

CONSTRUCTION

3-63. Panacalite, AIA 21a6, 6-p. bulletin giving technical data on lightweight aggregate, made of processed volcanic alumina silicate mineral, for use in plaster, stucco, light structural and insulating concretes, fireproofing, industrial and domestic insulation, and other applications. Specifications, characteristics, mixing methods, fireproofing and insulating information. Combined Metals Reduction Co., Panacalite Div., Box 150, Salt Lake City, Utah.

3-64. Architectural Porcelain Enamel, 8-p. brochure describing uses of porcelain enamel in building. Examples of store fronts, showrooms, service stations, etc., engineering details. Erie Enameling Co., Erie, Pa.

★ **3-65. T-Chord Long Span Joists,** 23-p. booklet on shallow Warren trusses with structural tee chords and angle web members; all welds exposed and applied in accordance with American Welding Society Code. Types, side wall and other construction details, check list for obtaining estimates, specifications, loading tables, accessories. Haven-Busch Co., 501 Front Ave., Grand Rapids, Mich.

3-66. Products of Overly, AIA 12-C; 12-L-2; 14-B (1951 issue), 8-p. booklet. Specifications for batten type aluminum roofing, prefabricated metal (aluminum, stainless steel, copper, monel) coping, and aluminum window sills. Typical installations, detail drawings. Overly Mfg. Co., 574 W. Otterman St., Greensburg, Pa.

Two booklets, one on toilet and shower compartments for industrial buildings, giving specifications, installation data, materials and finishes, details, accessories; other booklet provides information on recently developed metal furring channel and steel nailing channel, including reference chart describing methods of application, specifications for use with acoustical tile, insulating sheet, and other construction materials. Sanymetal Products Co., Inc., 1701 Urbana Rd., Cleveland, Ohio:

3-67. Toilet Compartments, AIA 35-H-6 (88)

3-68. Nailock Nailing Channel and Screwlock Metal Furring Channel, AIA 39-B-1 (SN-3)

3-69. Sonotubes, AIA 4-D, 4-p. folder illustrating lightweight, easily stripped forms for construction of concrete piers and columns up to 24" inside diameter. Construction details, uses, stripping methods, typical application photos. Sonoco Products Co., Mystic, Conn.

3-70. Where to Use Douglas Fir Lumber, 16-p. illus. booklet covering properties, characteristics, and grades of Douglas fir. Recommended grades for interior and exterior uses, typical applications, photos. West Coast Lumbermen's Assn., 1410 S. W. Morrison St., Portland 5, Ore.

DOORS AND WINDOWS

4-83. Clock Spring Sash Balances, 6-p. folder illustrating several types of sash balances, each adjustable to range of sash weights and employing exclusive device said to cut installation time about 10 or 12 minutes per window. Advantages, types, specifications. Caldwell Mfg. Co., 56 Industrial St., Rochester 4, N. Y.

4-84. Building Products, manual containing 20 data sheets on wide range of metal doors and frames. Types, detail drawings, construction, applications. Virginia Metal Products Corp., Orange, Va.

4-85. Yale Tubular Lock, 4-p. illus. folder showing construction of residential tubular door lock with key-in-knob action. Advantages, specifications. Yale & Towne Mfg. Co., 45 Market St., Stamford, Conn.

ELECTRICAL EQUIPMENT, LIGHTING

5-58. Fairbanks-Morse Motor (1215), 4-p. bulletin describing totally enclosed, nonventilated motor for installation wherever dust, abrasive particles, corrosive gas or steam, are prevalent. Construction data, cutaway illustrations. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

Two 4-p. folders, one illustrating residential, low voltage remote control light switching system employing master panel, installed in master bedroom or any central point, to show which house lights are on or off and to control these lights from that point; other folder contains installation data and method of bidding, wiring diagrams, specifications. Touch-Plate Mfg. Corp., 1766 Seabright Ave., Long Beach 13, Calif.:

5-59. The Only Modern Light Switch (C 109 A)

5-60. Product-Installation Data and Method of Bidding (C-111A)

5-61. The Wakefield Ceiling, AIA 39-B; 31-F, data sheet describing luminous-acoustical ceiling consisting of fluorescent sources suspended from structural members above; about 1 ft. beneath lamps are translucent corrugated Plexiglas sheets under which, at 36" intervals, are perforated acoustical baffles filled with sound-absorbing material. General data, typical installation photos. F. W. Wakefield Brass Co., Vermilion, Ohio.

FINISHERS AND PROTECTORS

6-21. Carbo-Kote 6020 (C-42), data sheet on brush-on protective coating for tank and duct linings and floors. Uses, advantages, properties, drying time, coverage, prices. Carboline Co., 7603 Forsyth Blvd., St. Louis 5, Mo.

6-22. Zincilate (100), 8-p. illus. booklet. Description of one-coat, anti-corrosion zinc coating for protection of structural members, window frames, heating units, and many other applications. Uses, characteristics, method of applying. Industrial Metal Protectives, Inc., 401 Homestead Ave., Dayton 8, Ohio.

6-23. Merkin Paints, 27-p. illus. catalog containing 139 color chips of leading paints for interior and exterior use. Description of products, applications, coverage per gallon, proper finishes for practically every painting requirement, alphabetical index. M. J. Merkin Paint Co., Inc., 1441 Broadway, New York, N.Y.

6-24. Monsoon, 6-p. folder describing transparent water repellent for masonry surfaces above ground. Properties, method of application. State Chemical Corp., 1265 Broadway, New York 1, N.Y.

6-25. Maintenance Checking Chart (S-305), 6-p. bulletin listing over 100 products and processes for maintenance of floors, roofs, interior and exterior walls. Brief descriptions of problems and recommended treatments. United Laboratories, Inc., 16801 Euclid Ave., Cleveland 12, Ohio.

INTERIOR FURNISHINGS

9-40. Ceramics, portfolio containing photos of ceramic lamp-bases, bas-relief figurines for wall hanging, vases, free form bowls. Samples of lamp-shade materials, price list of items. Design-Technics, 44 E. 23rd St., New York 10, N.Y.

9-41. Nylon Carpets, 4-p. illus. brochure offering examples of wear-resistant nylon carpeting, in plain or carved design effect, for homes and business. Advantages, photos. Nye-Wait Co., Inc., Auburn, N.Y.

SANITATION, WATER SUPPLY, DRAINAGE

19-111. Moen, 6-p. folder illustrating different models of single handle mixing faucets: deck-type, wall-type, kitchen, lavatory, shower, laundry, bars, special doctors' and dentists' mixing faucets. Types, method of operation, illustrations. Ravenna Metal Products Corp., 6518 Ravenna Ave., Seattle, Wash.

19-112. Quality Plumbing and Heating Supplies (Edition F), 118-p. catalog covers full line of replacement parts and precision tools for maintenance of all types of plumbing fixtures. Drawings, index. J. A. Sexauer Mfg. Co., Inc., 2503 Third Ave., New York 51, N.Y.

19-113. Carrier Index for American-Standard Fixtures (50A), series of data sheets indexing proper carriers and fittings to use with wall type plumbing fixtures. Illustrations. J. A. Zurn Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

SPECIALIZED EQUIPMENT

19-114. Metal Casework for Hospitals, 35-p. catalog on custom-built metal cabinet-work, wardrobes, lockers, tables, sinks and tops, mirrors and frames, etc. for hospital use. Photos, specifications, construction details. Jamestown Metal Products, Inc., 178 Blackstone Ave., Jamestown, N.Y.

19-115. Philco Electric Ranges, portfolio of folders describing new line of electric ranges. Features, advantages, electrical data, photos. Philco Corp., Philadelphia 34, Pa.

19-116. Midget Moisture Meter (1295), 6-p. bulletin explains many uses of compact, self-contained meter designed to determine instantly moisture content of wood and plaster. Design and construction, operation, specifications. Weston Electrical Instrument Corp., Tagliabue Instruments Div., 614 Frelinghuysen Ave., Newark 5, N.J.

SURFACING MATERIALS

19-117. Photo-Murals, 26-p. illus. booklet describing wall decoration made from photographic enlargements of anything that can be photographed—sketches, original photos, charts, etc.—for installation in offices, hotel lounges, sales rooms, recreation rooms, and other commercial interiors. Typical applications, ordering instructions, types of Photo-Murals. West-Dempster Co., Grand Rapids, Mich.

(To obtain literature coupon must be used by 5/1/51)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.
We request students to send their inquiries directly to the manufacturers.

1-77	1-78	1-79	1-80	1-81	1-82	1-83	1-84
1-85	3-63	3-64	3-65	3-66	3-67	3-68	3-69
3-70	4-83	4-84	4-85	5-58	5-59	5-60	5-61
6-21	6-22	6-23	6-24	6-25	9-40	9-41	19-111
19-112	19-113	19-114	19-115	19-116	19-117		

Name

Position

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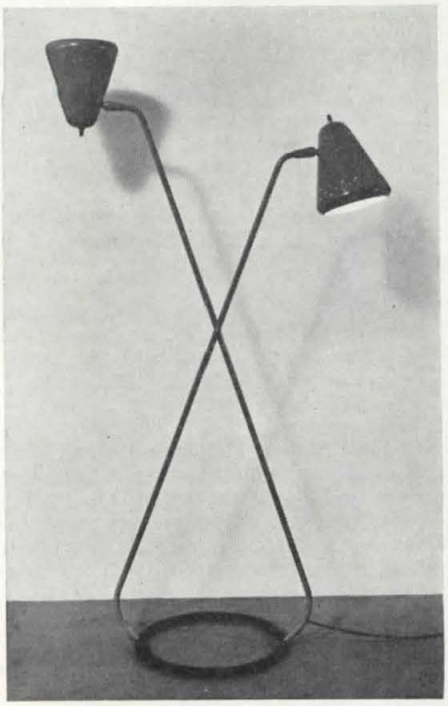
this month's products



Twin-Reflector Floor Lamp: newly designed metal reflectors, minutely perforated for decorative effect, joined to tubular stand by perfected, wrist-action swivel which allows complete circle-swing of reflectors for added flexibility in light direction. Adaptable for use with any bulb from 25w to 150w. Kurt Versen Co., Englewood, N. J.

air and temperature control

B & G Comfort Control: heat regulator anticipates changes in outdoor weather before they are reflected in indoor temperature; can be adapted to forced hot water systems using floor or ceiling panels, radiators, convectors, or baseboards. In large buildings where heating requirements differ due to exposure or changes in type of heating elements, building may be divided into separate zones, each with its own regulator. Bell & Gossett Co., Morton Grove, Ill.

Portable Hot Air Furnace: fully portable unit, equipped with automatic burner, for heating large spaces such as warehouses, garages, new construction, etc.; can be wheeled around from space to space or used permanently in one place. Adjustable, fuel saving turbulator gives perfect high combustion, no smoke stack required Available in several sizes; built-in oil tank optional. Quiet Automatic Oil Burner Corp., 33 Bloomfield Ave., Newark 4, N. J.

Oil-Fired Winter Air Conditioner: vertical, steel-jacketed unit for residential installation in utility closet or basement. In two sizes, 85,000 and 106,000 Btu output. Richmond Radiator Co., 19 E. 47 St., New York, N. Y.

Reciprocating Compressors: designed for comfort and processing air conditioning applications, in 10, 15, 20, 25, 40, and 50 ton capacities. Vibration-free units require no special foundations, floor construction, or soundproofing; enclosed force-feed lubricating system results in long life and low maintenance costs. Entire line operates with Freon F-12 refrigerant. Trane Co., La Crosse, Wis.

FL Low-Level Convectors: 12" high units for installation beneath picture window sills; variety of lengths and depths provide sufficient heat for all requirements in hot water and two-pipe steam systems. Cabinets, primed for painting, have rounded corners and flanked edges for protection to children. Young Radiator Co., 709 S. Marquette St., Racine, Wis.

construction

Tube-Tite Staples: extra long, steel cored copper staples for fastening copper tubing when dry board or plaster must be penetrated before staple reaches joists. E. H. Titchener & Co., 67 Clinton St., Binghamton, N. Y.

electrical equipment, lighting

Mogul Curtistrip: cold rolled steel wire channel, large enough to accommodate ballasts for operating all slimline, starter type, and low brightness fluorescent lamps. Available in 4', 5', 6', 8', and 10' lengths; continuous lines can be made by use of steel channel coupling. Curtis Lighting, Inc., 6135 W. 65 St., Chicago 38, Ill.

Louvered Slimline Fixtures: series of nine fluorescent fixtures for efficient low-brightness illumination in commercial and industrial establishments. Louver cutoff is 30° crosswise and 30° lengthwise giving eye-comfort light; single pin lampholders with positive spring action eliminate flicker caused by poor electrical contact. Choice of 4', 6', and 8' foot lengths in 2, 3, or 4 lamp units. Mitchell Mfg. Co., 2525 N. Clybourn Ave., Chicago 14, Ill.

finishers and protectors

Heat-Rem H-170: extra high heat resistance aluminum paint utilizing silicone base, capable of withstanding temperatures up to 1700F. Fuses with metal surface immediately upon application and forms protective finish against moisture, corrosion, mild acids, alkalis, and industrial fumes. Another new paint, **Rustrem Chromate Special**, contains quantities of chromate pigment to form effective anti-rust coating without need for primer. Speco, Inc., 7308 Associate Ave., Cleveland 9, Ohio.

Aroflint: tough plastic coating for wood surfaces; resistant to wear, abrasion, water marks, chemicals and solvents, even acetone. As quick drying as shellac, is especially recommended for use on floors. U. S. Industrial Chemicals, Inc., 60 E 42nd St., New York 17, N. Y.

interior furnishings

Ridgecrest Furniture: complete new line of contemporary sofas, chairs, and sectional pieces in choice of cordovan mahogany or blond finished frames. All items delivered in fabrics; selection of over 100 materials which include nubby textures, many woven with metallic threads, boucles, tweeds, and printed linens. Arrow Upholstery Co., 119-125 W. 24 St., New York, N. Y.

In-Wall Table and Bench Unit: new wall-installed model features standard 13'-8' table length but with lower height in both table and benches to accommodate small children in classrooms, school cafeterias, recreation rooms, etc. Special counter balancing for folding away or opening out of unit just as easy to operate as larger model. Schieber Mfg. Co., 12720 Burt Rd., Detroit, Mich.

specialized equipment

Televoice System: remote control dictation system consisting of from one to twenty modified telephones directly connected to central recording instrument, located near secretary, which records dictation on plastic discs. Phone extensions can be located at any distance from recorder; each phone gives dictator means of dictating easily, of listening to what he has said, and facility for recording corrections. Thomas Edison, Inc., 51 Lakeside Ave., West Orange, N. J.

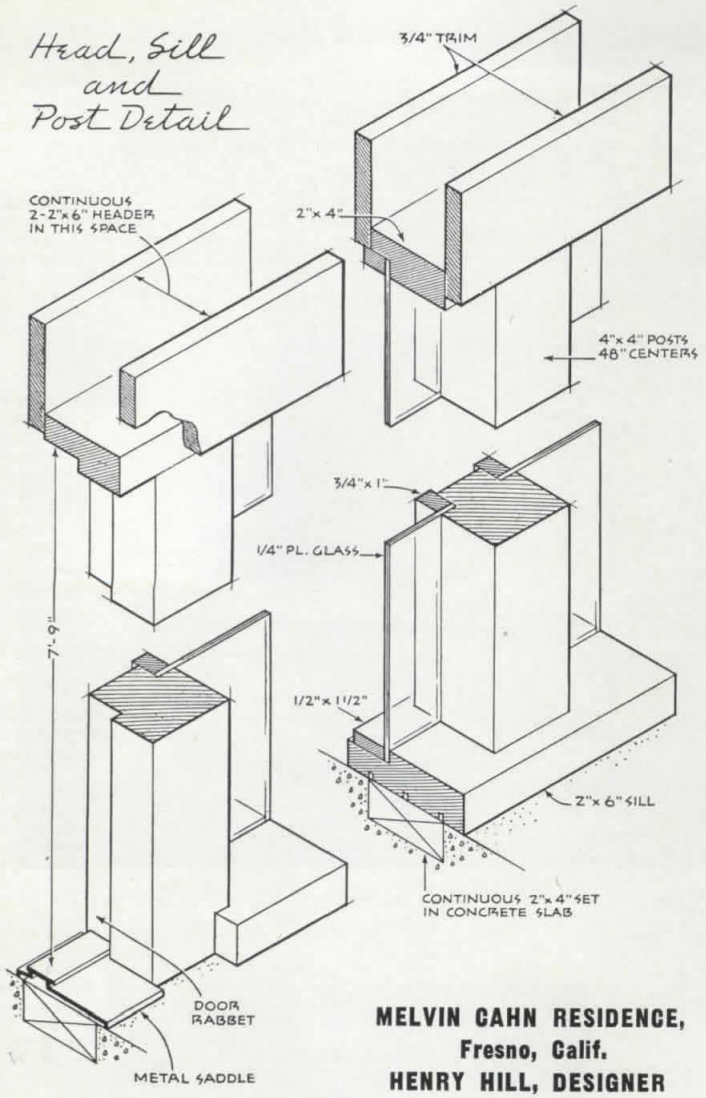
Porcelain Enamel Chalkboard: completely new type chalkboard of porcelain enamel on steel, claimed to have many advantages over slate blackboard. Can be made in any color (chlorophyl green recommended as most restful and beneficial color to eyes); matte surface eliminates all glare from any angle; chalk does not squeak on it and can be erased easily without causing dust. Practically unbreakable, impervious to heat, cold, or moisture, and needs no upkeep or attention. Bettinger Enamel Corp., Waltham, Mass.

surfacing materials

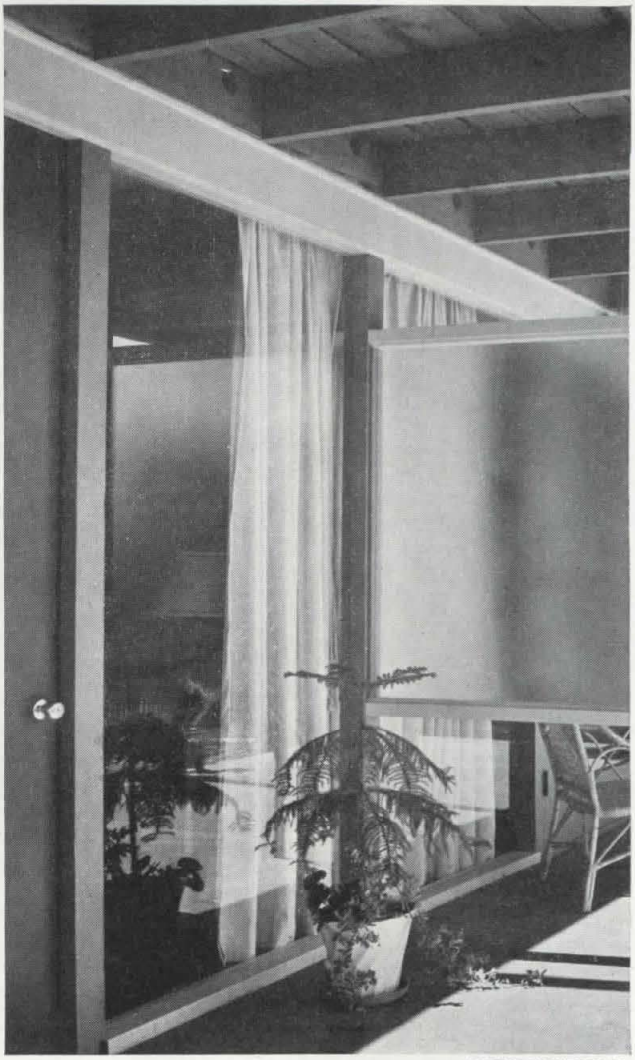
La Verre Tile: 8" x 4" tile, made of alkali and acid resistant glass, with color applied to underside of tile which is placed next to wall when tile is cemented in position; thus, color will remain unchanged indefinitely and not subject to fading, discoloration or damage by abrasion. Tile can be cut to any size or form with simple glass cutter; warping or distortion impossible. Available in 8 clear colors. Pittsburgh Glass Tile Co., 107 Isabella St., Pittsburgh 12, Pa.

Porcelain Enamel Steel Window Sills: originally developed for school and housing projects, now available for residential installations. Especially suitable for bathrooms and kitchens; impervious to water, household cleaners, alcohol, and easily cleaned with soap and water. Fabricated to specification in almost any desired color. Porcelain Enamel Institute, 1010 Vermont Ave., N. W., Washington 5, D. C.

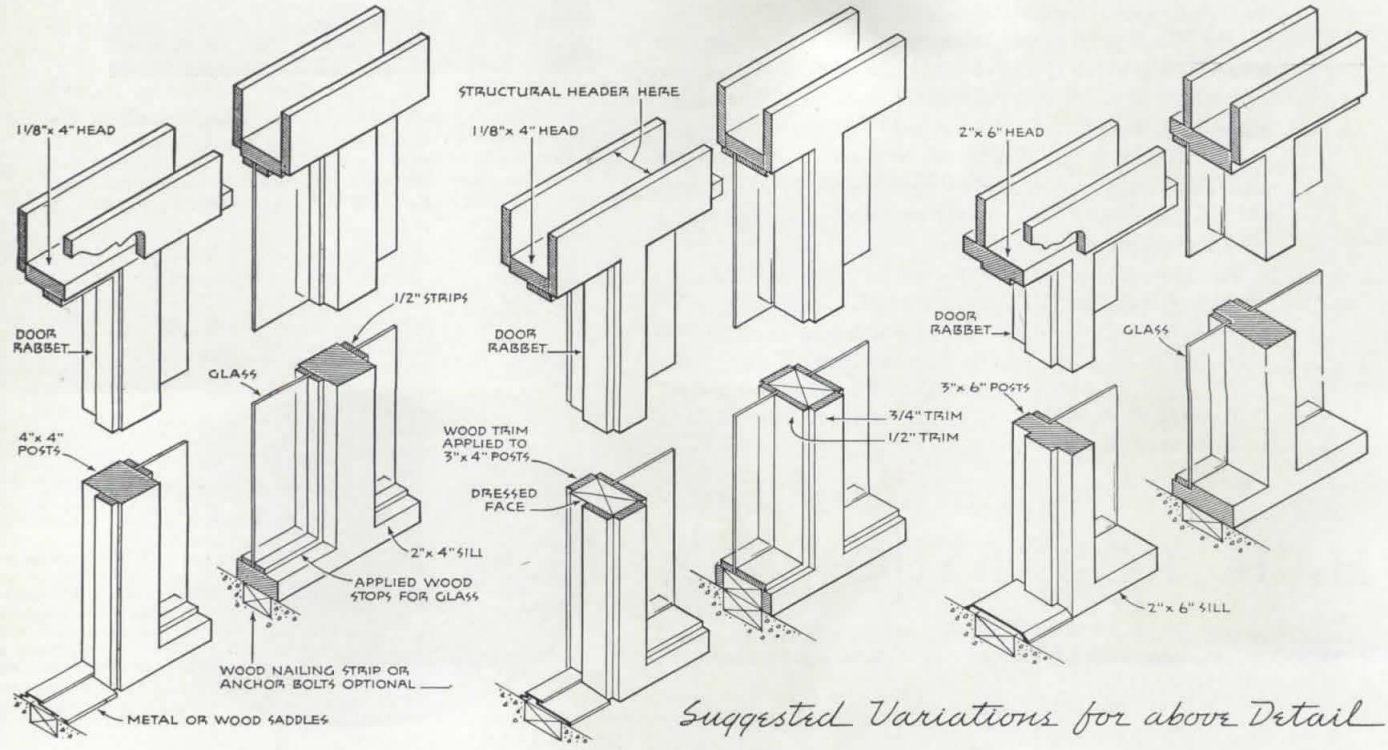
Built-In Wall Oven: insulated gas oven can be built into new or existing kitchen wall, or incorporated as part of cabinet arrangement, making possible counter-level, waist-high cooking; only requirement is simple gas connection and 24" wall space. Like manufacturer's standard oven units, in-a-wall version finishes cooking process with gas turned off, operating on retained heat in stainless steel or porcelain enamel finish. Chambers Corp., Shelbyville, Ind.



MELVIN CAHN RESIDENCE,
Fresno, Calif.
HENRY HILL, DESIGNER

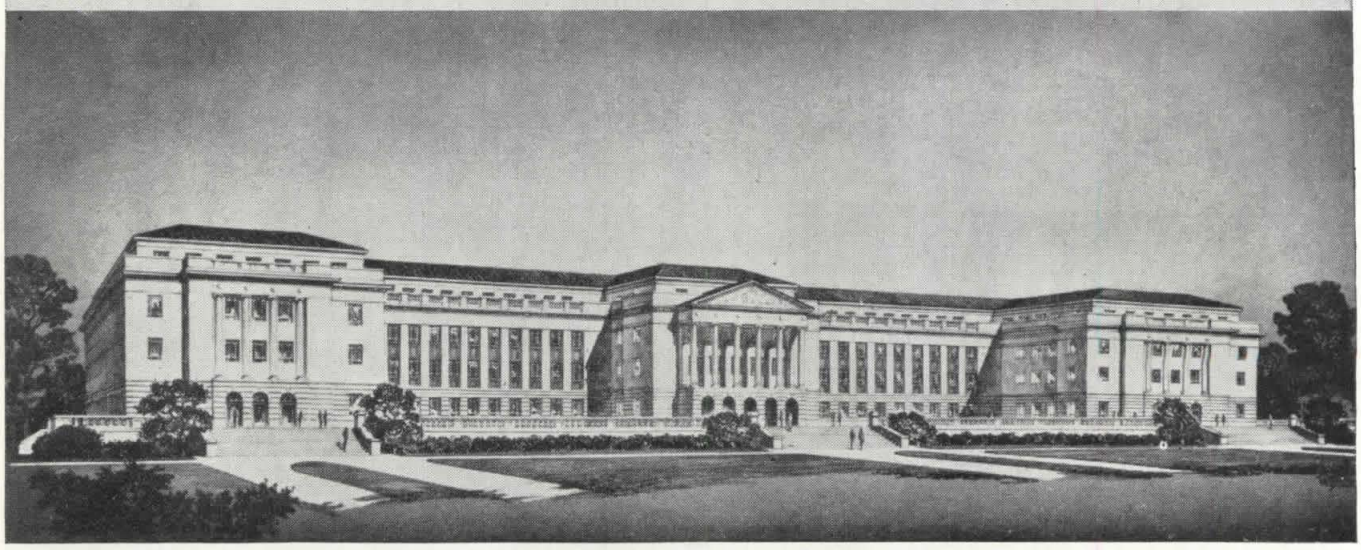


ROGER STURTEVANT



Suggested Variations for above Detail

HOW MODERN CAN YOU GET?



KENTUCKY STATE OFFICE BUILDING, FRANKFORT, KY. ARCHITECTS OF THE CAPITOL ANNEX BUILDING WERE MERIWETHER, MARYE and ASSOCIATES

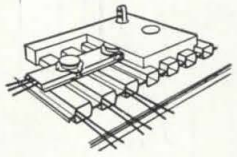
As modern as the future thirty years from now, despite the requirements of classic architecture.

Meriwether and Marye have demonstrated perfectly in this new Kentucky State office building that facade has little to do with interior modernity in design. This building has Q-Floors that can be tapped on every six-inch area for electrical outlets. Therefore, it can never become electrically obsolete, no matter how much increase comes in electrical office equipment.

But the building was also constructed according to modern methods. Q-Floors used for the steel subfloor eliminated shoring and falsework; eliminated the delay caused by wet materials. The Q-Floors were laid practically as fast as the framework was riveted. Thereafter the Q-Floors provided storage space at the working spot for all materials. Subcontractors moved at top speed without hindrance from others.

These are the main reasons for the time saved during construction when Q-Floors are used. Q-Floors save so much time, and eliminate so much material necessary to other types of construction, that the over-all cost of the building is reduced. When you think of the initial cost of Q-Floors, full credit should be given to the tremendous savings they effect.

Meriwether, Marye & Assoc., Lexington, Ky., architects for the project. Pictured left to right are B. C. Ingels, J. Proctor, Hugh Meriwether, P. J. White, E. A. Marye, Proctor and Ingels designed the mechanical engineering; Porter White the structural engineering.



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Offices in All Principal Cities
in the U. S. and Canada

World-Wide Building Service

Q-FLOOR

CLEAN and SANITARY...

BRIGHT and BEAUTIFUL...

the Perfect combination for hospital Floors

TILE-TEX... the *quality* asphalt tile... brings hospitals just the qualities they need for floors, at minimum cost.

When they see a floor that combines decorative beauty and workhorse durability with low initial cost, minimum maintenance and long, long service-life...

Hospital administrators shout, "That's for us.

"Well, look how Tile-Tex* solves their floor problem:" Take your choice of 29 colors...rich, satisfying colors... that come in a wide range of sizes. Lay the tiles in any variety of many attractive patterns.

You can even design your own special inserts. We'll cut them to order, and your Tile-Tex contractor will lay them into the floor.

And, when a Tile-Tex floor is laid, notice how the uniform size of the tile makes joints tight, snug, straight. That, combined with the smooth surface, makes sanitation easier. There's no place for dirt to cling.

After your Tile-Tex floor has been in use for a while, you'll notice how low maintenance costs are.

That's because Tile-Tex maintenance requirements are so simple. Daily sweeping to remove loose dirt, periodic washing, water-waxing (if desired) . . . that's all.

Tile-Tex stands up under hardest service. We've seen Tile-Tex floors, under heavy traffic, for more than 2 decades . . . without visible signs of wear.

Want to hear more? Your local Tile-Tex Contractor can tell you. If his name isn't listed in your telephone directory, write us for samples and complete information.

Tile-Tex
PLASTIC-ASBESTOS
FLOORS AND WALLS

THE TILE-TEX DIVISION, The Flintkote Company, Dept. H, 1234 McKinley St., Chicago Heights, Ill.

*Registered Trademark, The Flintkote Company

HIGH RUST-RESISTANCE PLUS EASY WORKABILITY

... stretches sheet metal dollars

Yes, your client's sheet metal dollar buys more real, long-lasting value when you specify Toncan Iron.

Toncan is the *alloy iron* which consistently outlasts other ferrous sheet metals because it so stubbornly resists rust.

Made from highly-refined open hearth iron, it is remarkably free from rust-inviting impurities. It contains copper—twice as much as ordinary copper-bearing steels or irons—plus the exact amount of molybdenum necessary to make this double dose of copper most effective. Finally, its surface is protected with a zinc coating.

Toncan Iron is extremely ductile, and easy to work by all standard methods. What's more, fabrication does not affect its ability to fight rust. Toncan is rust-resistant through and through.

Economical to fabricate . . . long-lasting in service . . . Toncan Iron starts paying back its slightly higher initial cost almost immediately, and continues to stretch sheet metal dollars through the years

See Sweet's Architectural File, or write us for more information.

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for more than 40 years... HIGHEST RUST-RESISTANCE OF ALL FERROUS MATERIALS IN ITS PRICE CLASS

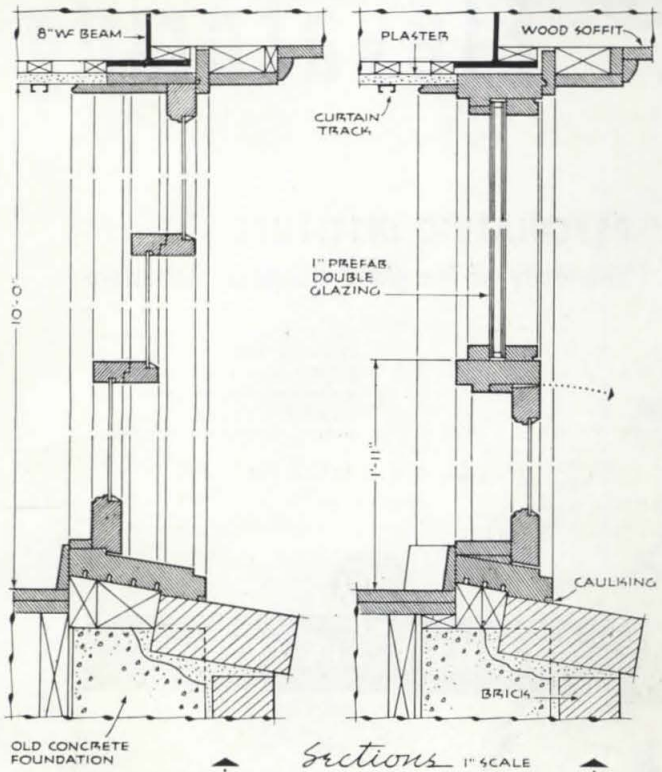
TONCAN COPPER MO-LYB-DEN-UM IRON

Republic

REPUBLIC STEEL

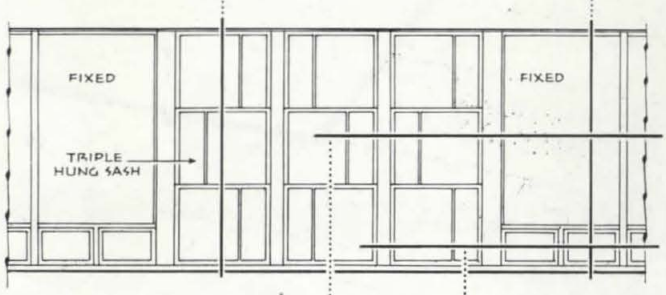
TONCAN® COPPER MOLYBDENUM IRON

— for ducts, gutters, conductor pipes, roofing, siding, tanks, ventilators, skylights, hoods and other sheet metal applications requiring rust-resistance — and for corrugated metal drainage products.



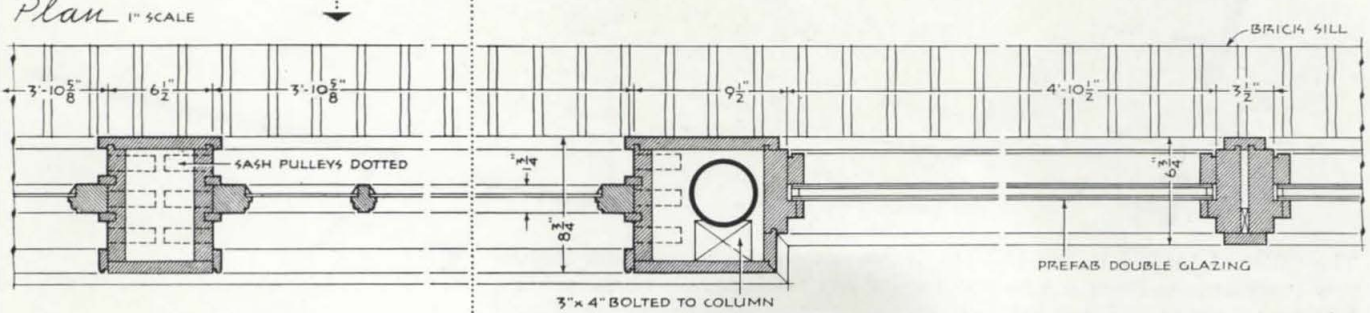
Sections 1" SCALE

PIAGET STUDIO

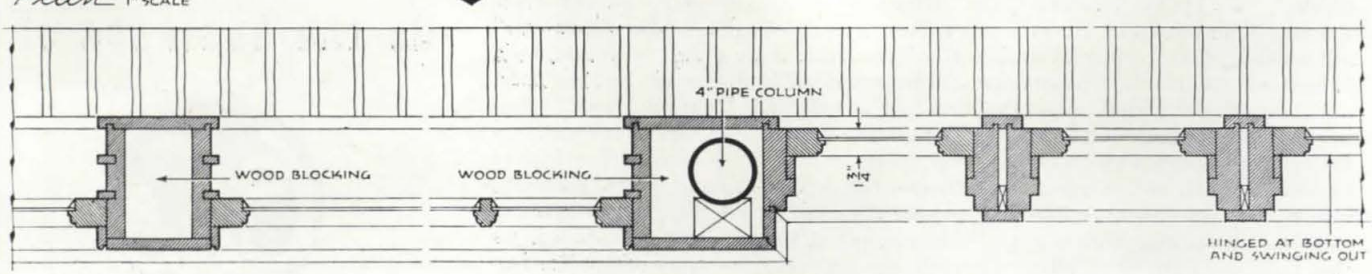


Elevation 1/8" SCALE

Plan 1" SCALE



Plan 1" SCALE

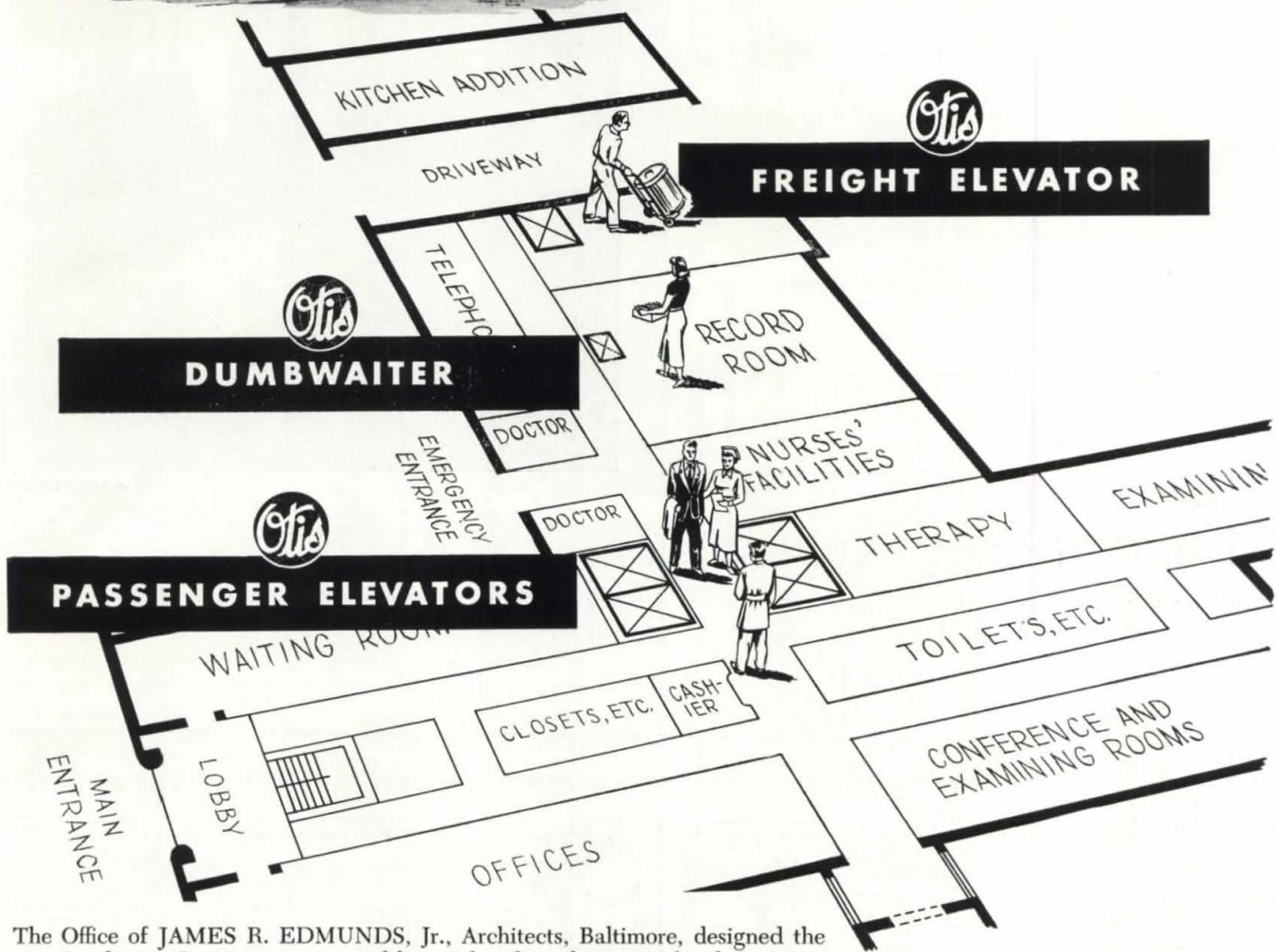


HEADMASTER'S RESIDENCE, COUNTRY DAY SCHOOL, St. Louis, Mo. **FREDERICK DUNN, ARCHITECT**

"Hospital-Quiet" Elevatoring

PSYCHIATRIC INSTITUTE
University of Maryland Hospital, Baltimore

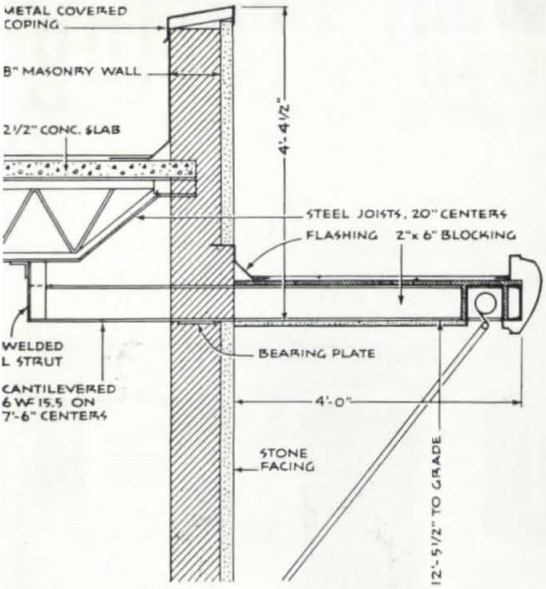
Office of James R. Edmunds, Jr.
Architects, Baltimore
Egli & Gompf • *Mechanical & Electrical Engineers*, Baltimore
Joseph F. Hughes & Company
General Contractors, Baltimore



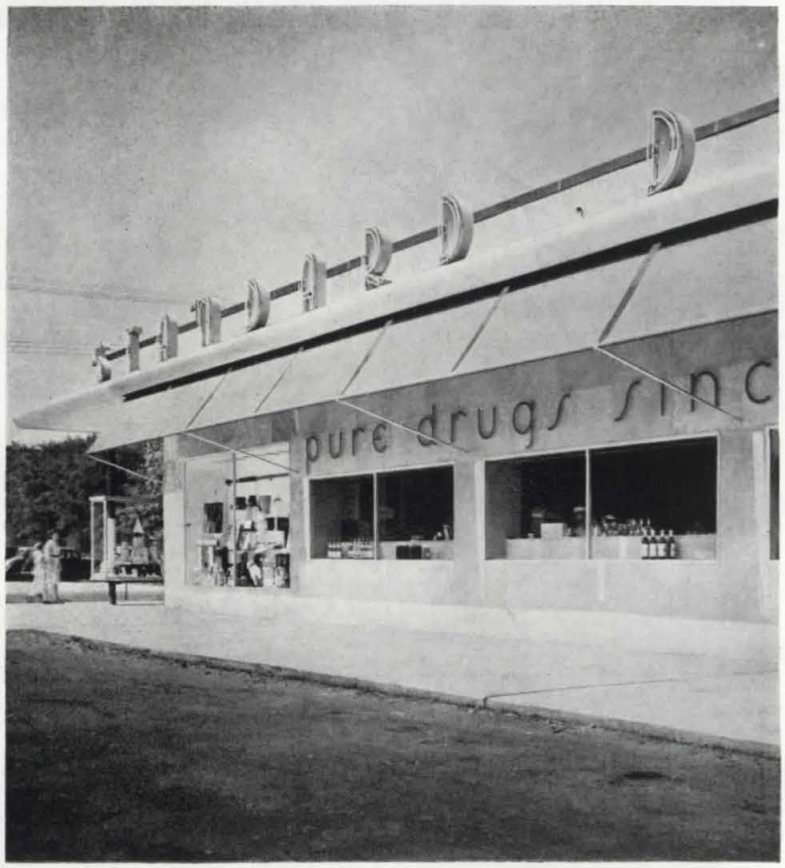
The Office of JAMES R. EDMUNDS, Jr., Architects, Baltimore, designed the new Psychiatric Institute as a mental hospital and teaching unit for the existing University of Maryland Hospital. Initial construction includes Ground and Grade floors, six full floors, a partial seventh—with provisions for eleven floors, when needed. • OTIS "Hospital-Quiet" Elevatoring includes—3 PASSENGER ELEVATORS: Sound-isolated. Hospital-size cars with automatic doors. Micro "two-way" self-leveling. 500 ft. speed. Gearless machines. Automatic group operation, with or without attendants. This service will be extended from the 6th to 11th floor, and a fourth car added, when the structure is enlarged. DUMBWAITER: Sound-deadened. Automatic "Call and Send" operation directly between Grade and 2nd floor Record Room. FREIGHT ELEVATOR: Electric. Machine located below to save headroom. Push button operation between Grade and Ground floors. Handling refuse, shop equipment. • Elevator maintenance will be simplified by integrating this new elevatoring with the 4 OTIS Passenger Elevators and 6 Dumbwaiters that have been giving excellent service in the main hospital since 1933. For further details see SWEET'S Architectural File. Or, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

Better elevatoring is the business of

Otis

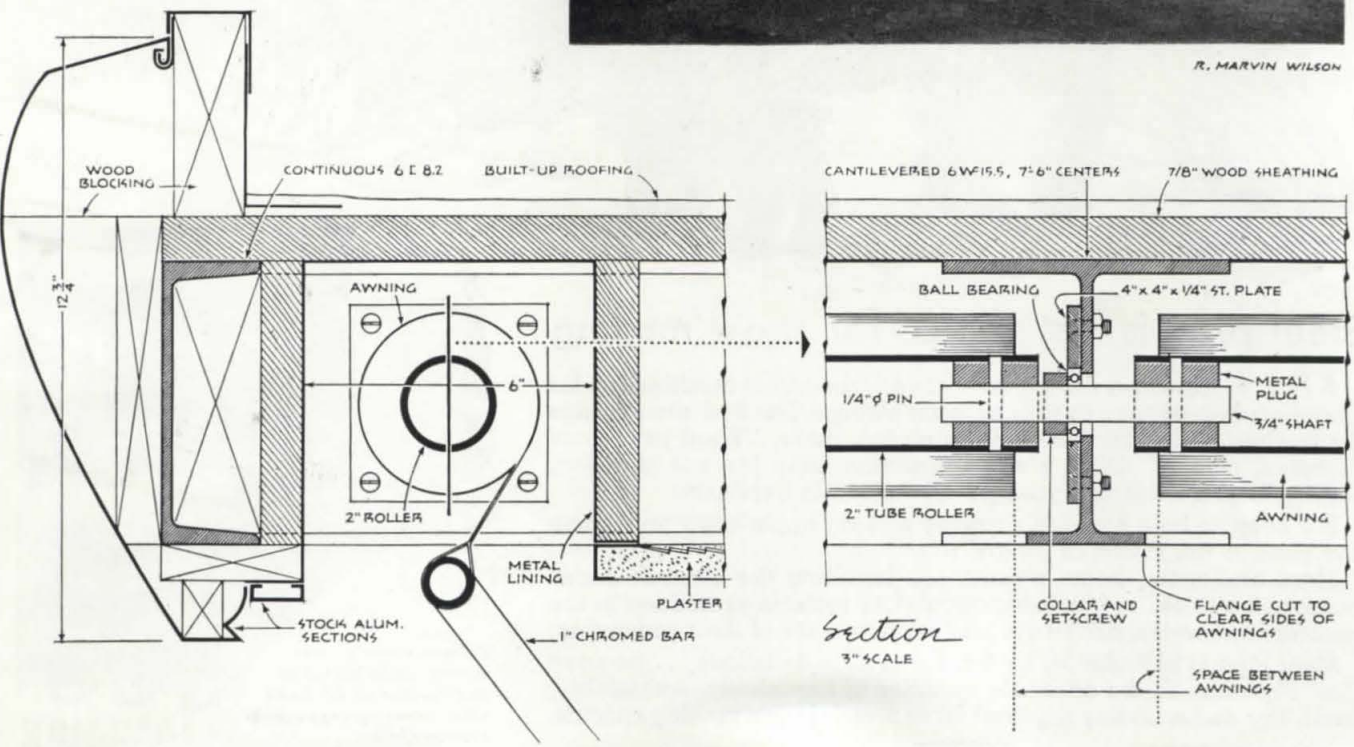


Wall Section 3/8" SCALE



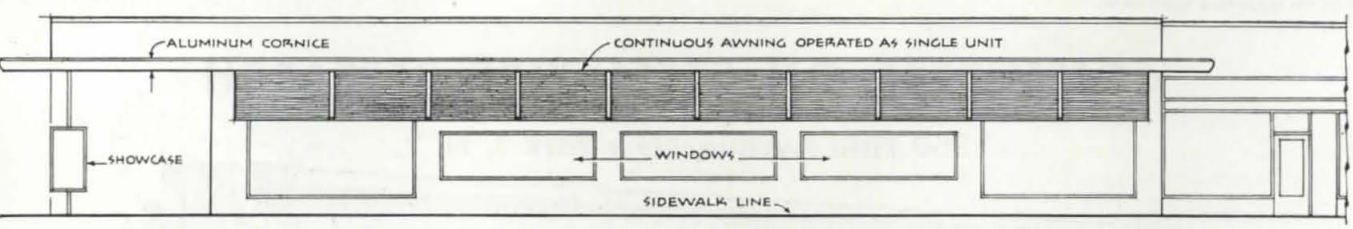
R. MARVIN WILSON

Section thru Awning Box
3" SCALE



Section
3" SCALE

Elevation 1/16" SCALE



SHOPPING CENTER, Euclid, Ohio

ERNST PAYER, WILBUR RIDDLE, ASSOCIATED ARCHITECTS

"Aw shucks, he has **snow melting**"

Steel pipe is first choice for snow melting

A boy, a dog and a snow shovel are an irresistible combination for loosening heartstrings as well as purse-strings! The first snow brings the tinkling of the doorbell and the piping query, "Want your snow shoveled, mister?" Often a shy companion lurks just out of vision, hoping to share this first youthful adventure in capitalism.

But even so time honored a money making opportunity must some day yield to the march of progress!

More and more, home owners are installing the ultimate snow-removal facilities . . . hot water circulatory systems embedded in the concrete sidewalks, driveways and service areas of their properties.

Steel Pipe is first choice, by far, for such installations . . . because Steel Pipe has all the desirable qualities of formability, weldability, durability, and economy required for successful snow melting systems.

Driveways and garage aprons can be kept snow and ice-free at all times with a steel pipe snow melting installation.

Have you seen the new 48-page color booklet, "Radiant Panel Heating with Steel Pipe"? Write for your free copy now.

COMMITTEE ON STEEL PIPE RESEARCH
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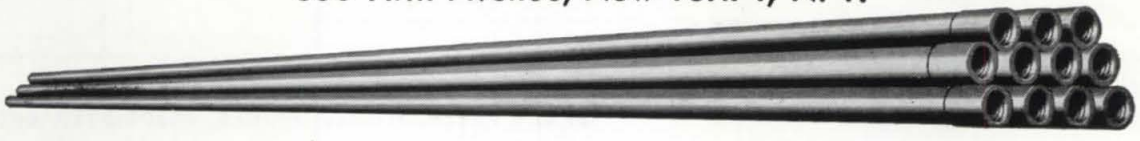
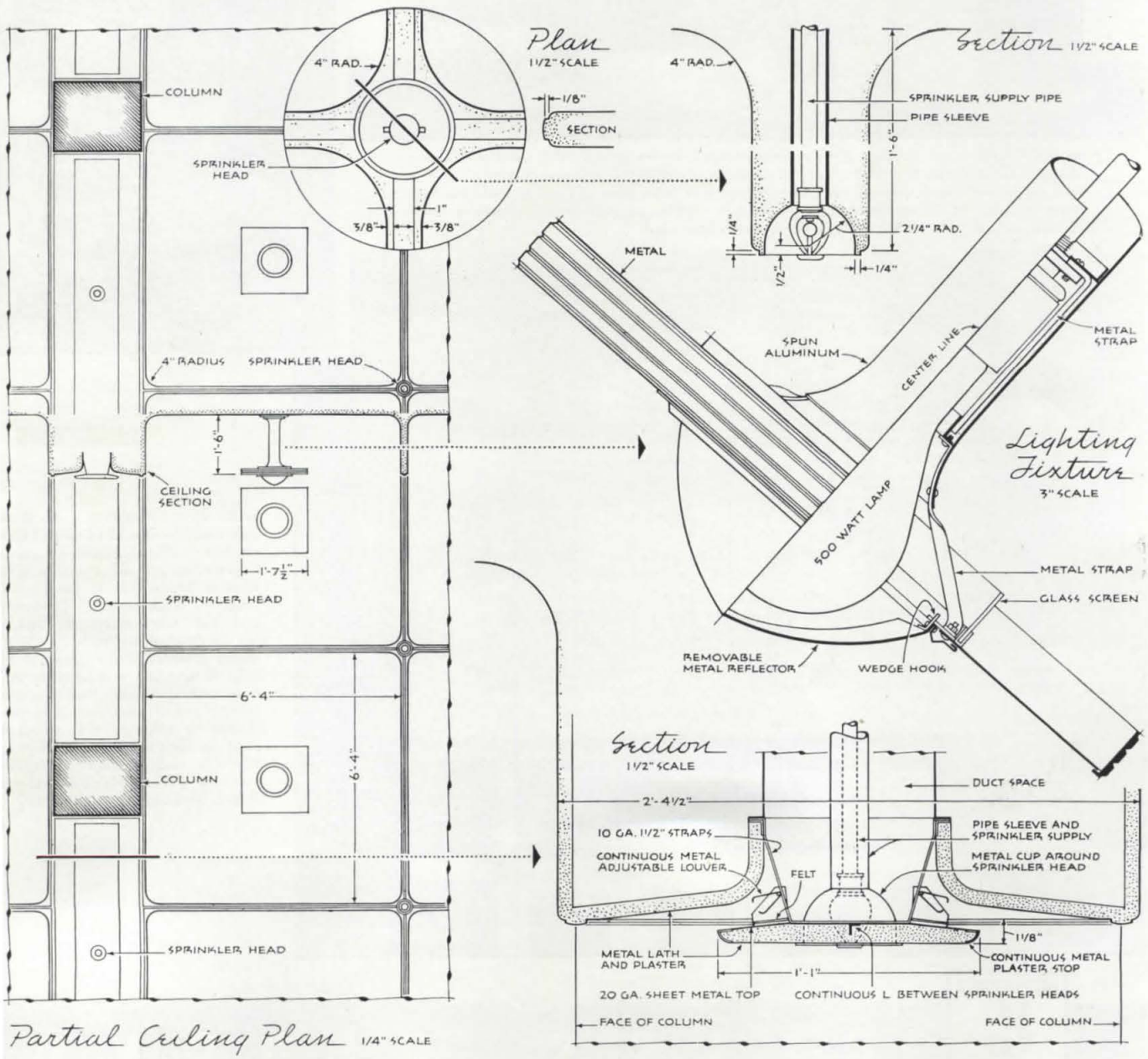


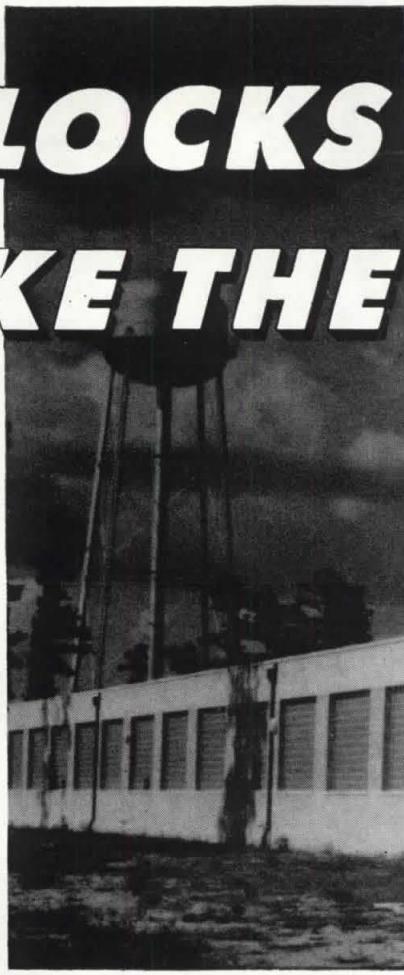
DEARBORN-MASSAR

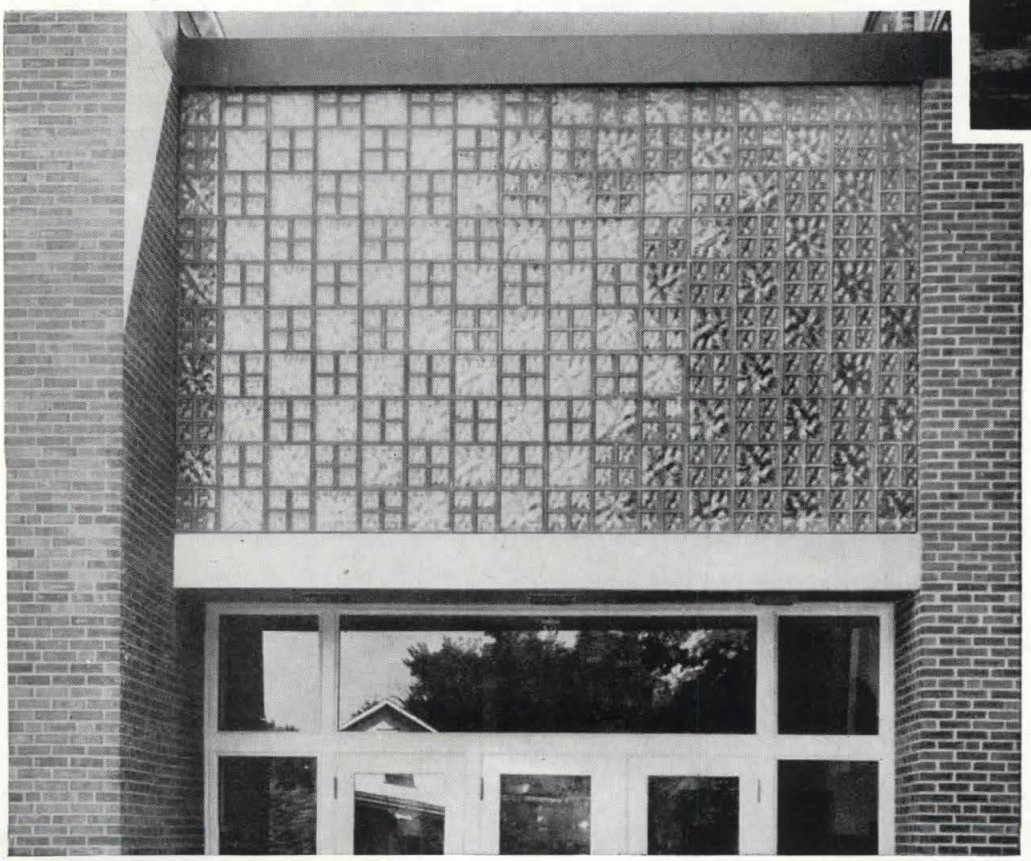


BRANCH BANK, IRVING TRUST COMPANY, New York, N. Y. VOORHEES, WALKER, FOLEY & SMITH, ARCHITECTS

PC GLASS BLOCKS MAKE THE

PC SOFT-LITE Prism B Glass Blocks are employed in the Mishawaka Utilities Building, Mishawaka, Indiana, to admit plenty of scientifically directed, diffused daylighting. Note how vision and ventilation openings of standard sash have been inserted in these PC Glass Block panels. PC Glass Blocks seldom require repairs or replacements; they're easily maintained. Architects: Schwartz & West, South Bend, Ind.





HERE'S an interesting example o how multiple sizes of PC Glass Block can be combined for interesting deco rative effects. In this entrance at th Eureka Grade School, Eureka, Illi nois, PC Decora Glass Blocks, 6 and 12", were effectively utilize for an "out-of-the-ordinary" treat ment. Besides, these glass block help to provide well-lighted corri dors and stairwells, thus lessenin the danger of accidents. And thei insulating value reduces excessiv heat losses, increases comfort o students and teachers, cuts fue costs. Architects: Lundeen & Hil finger, Bloomington, Ill.

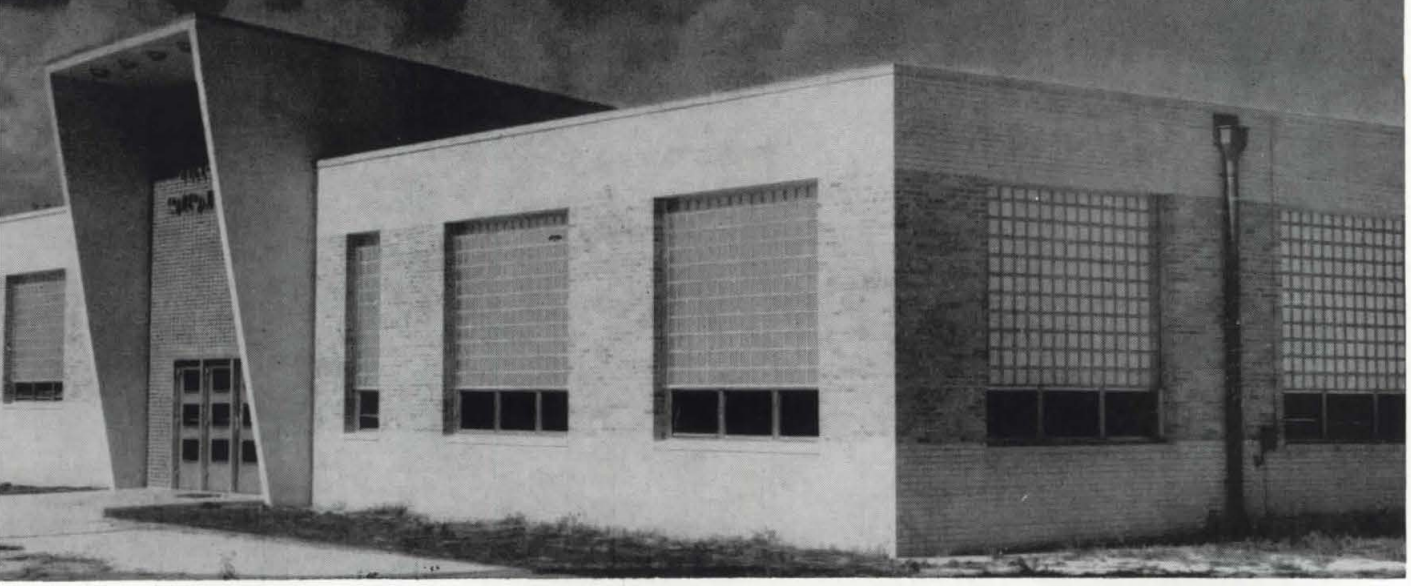
PITTSBURGH PC CORNING ®

GLASS BLOCKS

DISTRIBUTED BY PITTSBURGH PLATE GLASS COMPA

. the ideal fenestration medium—

MOST OF DAYLIGHT



IN THIS NEW BUILDING of Pinecrest Cotton Mills, Inc., Pine Bluff, Arkansas, the †PC **Vision-Lighting** Plan was adopted as an integral part of the architectural scheme. The PC Soft-Lite* Prism Glass Blocks installed here provide abundant daylighting, softly diffused for employee eye comfort. And their insulation value—more than twice that of ordinary single-glazing—contributes to efficient temperature and humidity control, so essential in a textile mill. Architects: Hardy & Shumacher, Kansas City, Mo.

†**The PC Vision-Lighting Plan is a construction for daylight openings consisting of orientation-keyed areas of PC Functional Glass Blocks (selected for sun or non-sun exposure) used with vision-ventilation areas as required. Standard sash is available from many sash manufacturers for such combinations with glass blocks.**

Be sure that you specify the functional glass block especially designed for precision work . . .

New, exclusive features in PC **Functional** Glass Blocks make the PC **Vision-Lighting** Plan even more effective for daylighting areas where critical seeing tasks are performed. These include light-directing prisms on the interior faces of certain patterns, light-spreading corrugations on outside faces, a fibrous glass insert to diffuse still further the light transmitted by the block itself, and the PC Soft-Lite* Edge Treatment, which creates a better, more comfortable "eye-ease" panel appearance.

*T. M. Reg. Applied For.

Pittsburgh Corning Corporation
Dept. Y-31, 307 Fourth Avenue
Pittsburgh 22, Pa.

Without obligation, please send me your FREE booklet on the use of PC Glass Blocks in industrial, commercial and public structures.

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MicroRold® 430 polished sheets now available

During the current critical nickel shortage, the same close tolerance and uniformity of gauge that have made MicroRold 18-8 so outstanding are now being incorporated in MicroRold 430.

It is important that the individual end use be discussed with your distributor or with our metallurgical department.

MicroRold 430 has moderate ductility, good forming and bending characteristics, and can be drawn to a *moderate* degree. It can be brazed and soldered with the same facility as chrome-nickel grades and except where resistance to high stresses is a major factor, it welds satisfactorily by the usual methods.

MicroRold 430 is used extensively for interior architectural trim, bar, restaurant and soda fountain components, table tops, etc. Washington Steel Corp. is currently producing polished sheets in standard sizes, 20 gauge and lighter, to replace chrome-nickel material vitally needed for the national defense program.

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Washington, Pennsylvania

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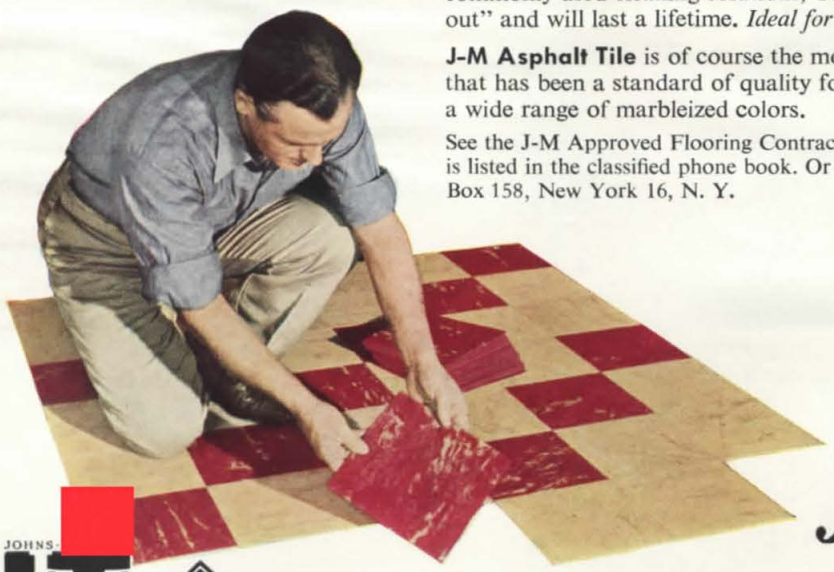
Save work...No scrubbing...Easily kept spick-and-span!

Johns-Manville Terraflex is an entirely new and different luxury floor tile. Made of vinyl plastic and asbestos and completely proof against greases, oils, and alkalies, it is practically *indestructible*. Possesses a clarity and warmth of color hitherto obtainable only in rich carpetings. Unharmed by commonly used cleaning solutions, Terraflex cannot be "washed out" and will last a lifetime. *Ideal for kitchens and cafeterias.*

J-M Asphalt Tile is of course the modestly priced flooring that has been a standard of quality for decades. Comes in a wide range of marbleized colors.

See the J-M Approved Flooring Contractor in your area. He is listed in the classified phone book. Or write Johns-Manville, Box 158, New York 16, N. Y.



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makes miles of difference

in comfort . . .

in reducing carpet wear

Longer carpet life

Spongex adds years of extra life to any carpet.* Spongex itself outlasts carpet after carpet—never mats down.

Luxurious comfort

Millions of lively rubber bubbles make carpets cushioned on Spongex luxuriously comfortable to walk on.

Lower maintenance cost

Spongex creates no dust or lint—cleans easily with vacuum—gets no musty smell—is moth and vermin proof—non-allergenic.

The finest cushion underfoot . . .
The cleanest cushion under rugs.

*Source: U. S. Testing Company, Inc., test No. 22570, October 3, 1950, reported Spongex increased abrasion resistance 173%. This test and E1185 also credit sponge rubber rug cushions with an average thermal conductance of 3.00 Btu/hr/°F/sq. ft. over radiant heated panel; and reveal SPONGEX to be superior to all other rug cushions in retention of resiliency after aging and compression.

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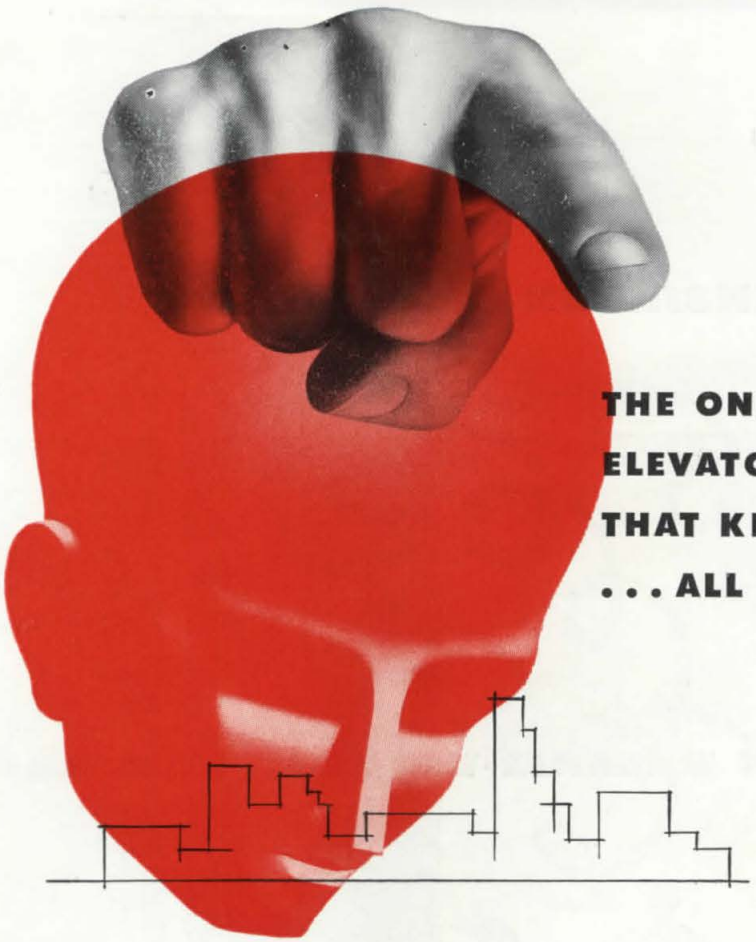

THE ONLY ELEVATOR SYSTEM THAT KEEPS YOU IN MIND . . . ALL DAY LONG

Farewell to elevators that make you wait . . . pass you by . . . always seem to be going up when you want "down"!

With the fabulous elevator control, Selectomatic, you're sure of getting a car the instant you want it.

Selectomatic is the system that *thinks* and *plans* before it acts. Actually, it's an "electrical brain" that immediately puts cars where they are needed under all traffic conditions.

And what's more—Selectomatic is the only system that gets you from floor to floor so fast, yet so smoothly, you can hardly tell a start from a stop.

So, if you're planning an investment in elevators—*test ride Selectomatic before you decide.* For information on Selectomatic installations you can "test ride" in your locality, write Westinghouse Electric Corp., Elevator Division, Dept. E-1, Jersey City, N. J.

For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance, and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader . . .

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Save Men...Money...Material *with* Concrete Joist Construction

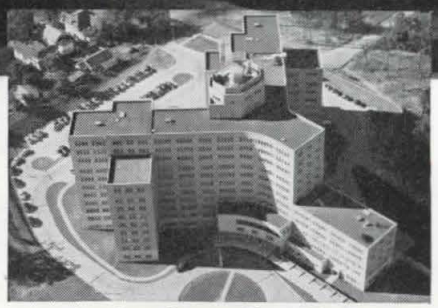
In these days of critical shortages—when men and money and material must be used to the very fullest, there is one method of building that truly meets the need on every count—it's Ceco's Meyer steelform construction. For here is a building way that saves as it serves:

Saves men because less time and labor are required in providing open wood centering and form work.

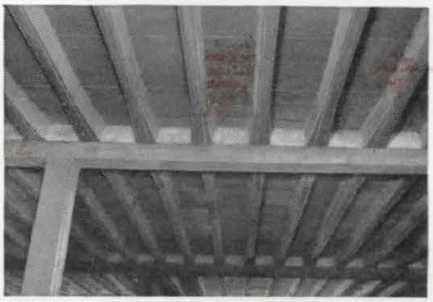
Saves money because less concrete is used . . . the dead load is kept at a minimum . . . less lumber is needed . . . and since removable steelforms can be used over and over again, only a nominal rental fee is charged.

Saves material because only a minimum of critically short steel is needed—and even here less concrete is necessary than required by other concrete floor constructions.

Ceco originated the removable steelform method of concrete joist construction. The company is first in the field—actually providing more services than all competitors combined. So, when concrete joist construction fits the need, call on Ceco . . . the leader over all.



HOSPITALS—Ceco Concrete Floor Joist Construction is ideally suited to hospitals since it provides fire-safe, sound-proof buildings at economical cost. Widely used in Veterans Hospitals.



CONCRETE JOISTS eliminate much of the concrete below the neutral axis, saving money, saving material. Suited to buildings with long spans: stores, offices, apartments, hotels.

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IN CONTEMPORARY ELEMENTARY SCHOOLS

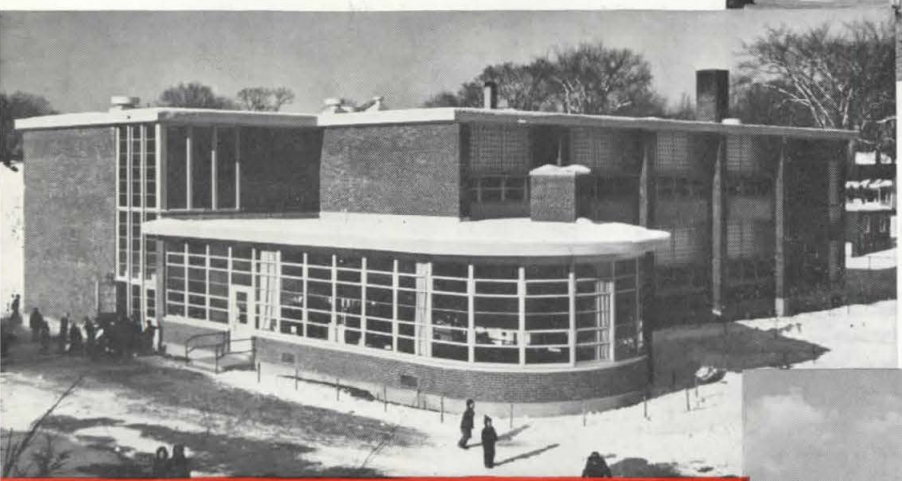
Assures Utmost Comfort and Efficiency of Teachers and Pupils

Lower Maintenance—Bigger Fuel Savings

Many 25 to 40 year old installations still giving dependable regulation . . . . . these and many other plus values in POWERS systems of temperature control give users more for their money

Above: Greenbriar School, Northbrook, Ill.
Architects-Engineers: Perkins & Will, Chicago—Mechanical Engineer: E. R. Gritschke—Heating Contractor: Northern Plumbing & Heating Co., Chicago

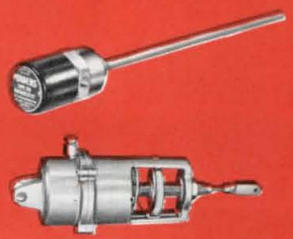
Right: Elm Hill School, Springfield, Vt.
Architect: Richard D. Butterfield, Perkinsville, Vt.—Engineer: Thomas Tash, Hanover, N. H.—Heating Contractor: Dezero & Randall, Rutland, Vt.



Left: Elementary School and Shop Bldg., Brewer, Me.
Architect & Engineer: Alonzo J. Harriman, Auburn, Me.—Heating Contractor: C. H. Babb & Co., Bangor, Me.

Below: North Norwood School, Norwood, Ohio.
Architect: Charles F. Cellarius, Cincinnati, Ohio—Engineers: Fosdick & Hilmer, Cincinnati, Ohio—Heating Contractor: B. & J. Jacobs Co.

MODERN CONTROLS FOR ALL TYPES OF HEATING AND AIR CONDITIONING



Above: Carle Place Elementary School, North Hempstead, L. I., N. Y.

Architects:
Knappe and Johnson
Engineer: Albert Fentzlaff
New York City
Heating Contractor:
Caruso-Sturcey Corp.
Mt. Vernon, N. Y.

POWERS

Above: Porter School, Prairie Village, Johnson County, Kans.

Architects & Engineers:
Thomas W. Williamson,
Victor H. Loebsback & Associates, Topeka, Kansas—
Heating Contractor:
U. S. Engineering Co.,
Kansas City, Mo.

POWERS

Above: Conway School, Ladue, St. Louis County, Mo.

Architects: William B. Ittner, Inc., St. Louis, Mo.—Heating Contractor: Gildehaus Plumbing & Heating Co.
St. Louis, Mo.

POWERS

Above: Sidney Lanier School, Dallas, Texas.

Architects: John B. Danna & Everett V. Welch & Mark Lemmon, Dallas, Tex.—Consulting Engineer: Zumwalt & Vinther, Dallas, Tex.—Heating Contractor: Kieffer Plumbing and Heating Co.

POWERS

Left: Jefferson Elementary School Wyandotte, Mich.
Architects & Engineers: Smith, Hinchman & Grylls, Inc., Detroit, Mich.—Heating Contractor: Peter Eddy Co., Detroit, Mich.

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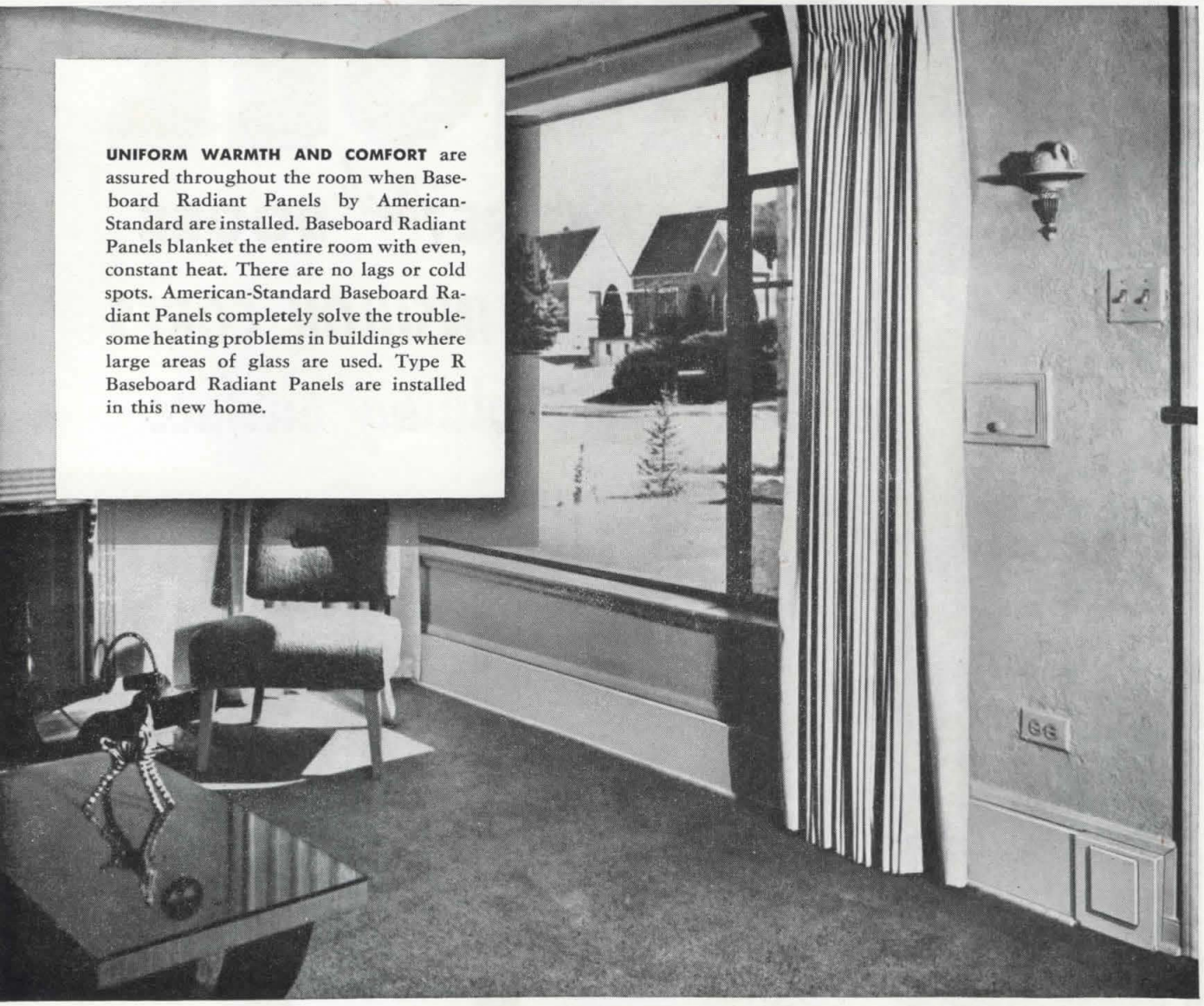
SMARTLY STYLED BASEBOARD RADIANT PANELS by American-Standard lend themselves perfectly to the modern trend of functional design. The smoothly finished cast iron panels take the place of ordinary wood baseboard and become an integral part of the room construction. In this installation, Type RC Baseboard Radiant Panels by American-Standard not only afford comfortable warmth but actually add to the decorative effect of the built-in book shelves.

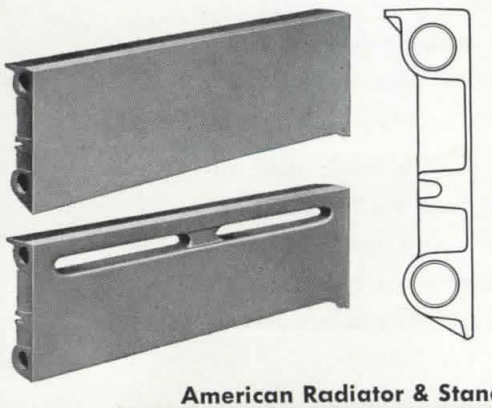
EXTENDING LESS THAN ONE INCH FROM THE WALL, these American-Standard Baseboard Radiant Panels are real space savers. Not only is the heating equipment out of the way, but the normally cold space along outside walls is comfortably heated, even in extreme weather. Baseboard Radiant Panels are easy to install in modernization jobs as well as in new construction. Shown here is a modernization job in which Type RC Baseboard Radiant Panels by American-Standard helped to convert an old garage into a beautiful, comfortable living room.



UNIFORM WARMTH AND COMFORT are assured throughout the room when Baseboard Radiant Panels by American-Standard are installed. Baseboard Radiant Panels blanket the entire room with even, constant heat. There are no lags or cold spots. American-Standard Baseboard Radiant Panels completely solve the troublesome heating problems in buildings where large areas of glass are used. Type R Baseboard Radiant Panels are installed in this new home.

CHILL-CHASING BASEBOARD RADIANT PANELS

by AMERICAN-Standard



TYPE R PANEL, offering radiant heat, has a smooth, smartly plain front. Made in one and two-foot sections. External dimensions: 8 inches high, 2 inches thick. (Same sizes as Type RC).

TYPE RC PANEL has slotted openings near the top and an array of fins in the back, permitting combined advantages of both radiant and convected heat from the same panel.

FREE LITERATURE: If you would like further information about American-Standard Baseboard Radiant Panels, contact the American-Standard sales office serving you and ask for a free copy of Form No. 736, which describes installation practice, or Form No. 773, which illustrates varied applications of Baseboard Radiant Panels in homes.

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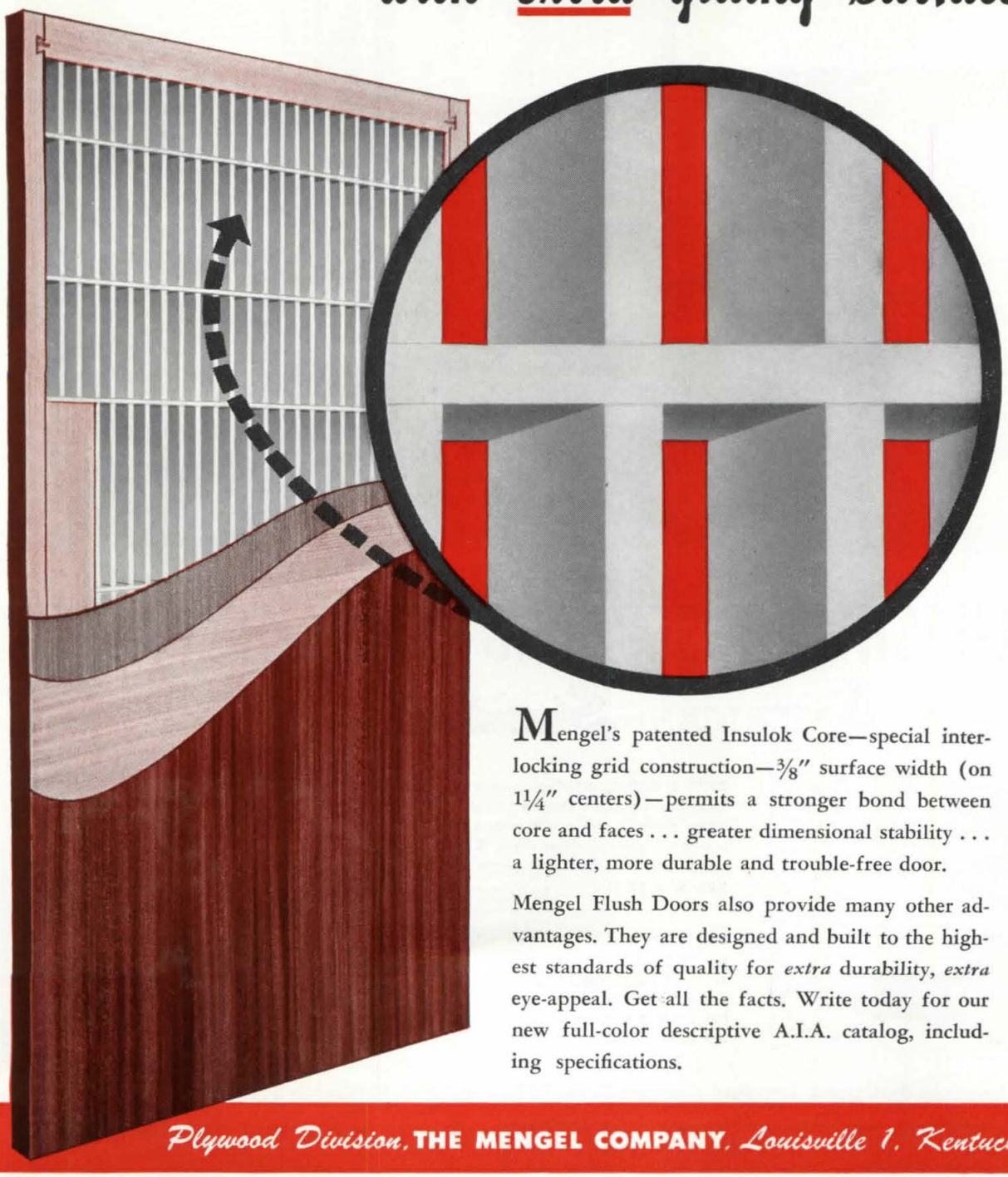
MENGEL

HOLLOW-CORE *Flush* DOORS

have patented INSULOK CORES with extra gluing surface



Mengel's patented Insulok Core—special interlocking grid construction—3/8" surface width (on 1 1/4" centers)—permits a stronger bond between core and faces . . . greater dimensional stability . . . a lighter, more durable and trouble-free door.

Mengel Flush Doors also provide many other advantages. They are designed and built to the highest standards of quality for *extra* durability, *extra* eye-appeal. Get all the facts. Write today for our new full-color descriptive A.I.A. catalog, including specifications.

Plywood Division, **THE MENGEL COMPANY,** *Louisville 1, Kentucky*

p/a REVIEWS

ACOUSTICS REFERENCE

Fundamentals of Acoustics. *Lawrence E. Kinsler and Austin R. Frey. John Wiley & Sons, Inc., 440 Fourth Ave., New York, N. Y., 516 pp., illus. $6.00*

The book covers the basic principles of acoustics and electro-acoustics. It is so exhaustive in its treatment of the generation, transmission, and reception of sound waves that, used as a textbook in colleges—for which it appears primarily to be intended—it can be employed for a full-year, that is, a two-semester, course. Even so it became necessary, as pointed out by the authors, to restrict certain topics in order to include the chief developments of the rapidly expanding subject. Approximately half of the book is given over to fundamental concepts, the chapters dealing with vibrating strings, bars, membranes, plates, and plane and spherical acoustic waves; while the remainder of the book is devoted to applications, such as loudspeakers, microphones, architectural acoustics, as well as to devices used in underwater—and psycho-acoustics.

Since so many devices employed in the generation and reception of acoustic waves depend for their operation on a conversion of electrical into acoustic energy, or vice versa, the design of many acoustical devices is made easier by converting the acoustical properties into equivalent electrical analogues. This was done in view of the close relationship that exists between acoustics and communication engineering.

The book *does* require a knowledge of advanced mathematics, chiefly differential and integral calculus, but goes no further, leaving operational calculus to more specialized texts. A somewhat novel notation consists in printing complex quantities with boldface type and real quantities with italic type. It may also be noted that, in general, the complex exponential method is used in the analysis of certain problems, rather than the complex trigonometric or algebraic method. This is again for the purpose of emphasizing the close association between acoustics and alternating-current electrical theory, which avails itself so extensively of this simpler "shorthand" notation. The terminology follows that proposed by the American Standards Association.

The book contains two chapters which may be considered newcomers to the field — ultrasonics and underwater acoustics. One of the authors, L. E. Kinsler, is well known for his original contributions to the subject of subaqueous optics and acoustics, so that much of what is contained in the chapter on underwater sound may be considered new and authoritative.

(Continued on page 126)

BOOKS RECEIVED

Schools for the Very Young. Heinrich H. Waechter and Elisabeth Waechter. Architectural Record, 119 W. 40 St., New York 18, N. Y., Jan. 1951. 197 pp., illus. $6.50

Building Materials. Science and Practice. Cecil C. Handisyde. The Architectural Press, Ltd., 9-13, Queen Anne's Gate, Westminster, S. W. 1, England, Dec. 1950. 336 pp., illus. $3.50

Sweden Builds. G. E. Kidder Smith. Bonniers, 605 Madison Ave., New York 22, N. Y., Feb. 1951. 279 pp., illus. $8.50

Catalog Design Progress. L. Lonberg-Holm and Ladislav Sutnar. Sweet's Catalog Service, 119 W. 40 St., New York, N. Y., 1950. General distribution by Arts, Inc., 756 Seventh Ave., New York, N. Y. $10

The Gothic World. John Harvey. B. T. Batsford Ltd., 122 E. 55 St., New York 22, N. Y., Feb. 1951. 160 pp., illus. $6.75

Neutra. Residences, Second Edition. Todtmann & Co., Ltd., Editors. Museum of Art of Sao Paulo, Brazil. U. S. Distributors: Architectural Book Publishing Co., Inc., 112 W. 46 St., New York 19, N. Y., 1951 Text in Portuguese and English. 71 pp., illus. $2

(Continued from page 125)

At the end of each chapter there are a number of questions and problems which the student may work at home. Of course, from the student's point of view, the answers to the problems (so that he can check his calculations) are, unfortunately, not given.

One criticism which may be leveled against the book consists in the paucity of references cited. For instance, the method described for measuring the frequency response of a microphone by means of the reciprocity theorum would certainly deserve a reference to H. F. Olson, just as portions in the chapter on architectural acoustics would deserve references to Knudsen, Beranek, Sabine, and others. No two men can write as comprehensive a treatise on acoustics as Kinsler and Frey did without being indebted to many. If it was felt that references are somewhat out of place in a textbook, a bibliography should have been included.

On the whole, the book is highly informative, lucidly presented, and well written. It deserves a place on the library shelf of every physics student and worker in the field of acoustics, electro-acoustics, and communication engineering. MICHAEL RETTINGER

"608" RESULTS WEIGHED

Rental Housing Under FHA-608. *New York Chapter, American Institute of Architects, Committee on Housing, 115 E. 40 St., New York, N. Y. 16 pp., illus. $1.00*

Following up its excellent report on the work of the New York City Housing Authority (October 1949, P/A), the New York Chapter, A.I.A., through the medium of a new housing committee under the leadership of Frederick G. Frost, Jr., has made an architectural analysis of the results produced by Section 608 of the Federal Housing Administration activity. The answer, according to this group, is that the results were not good. Administration of the Section is discussed, and "speed and standardization" are criticized. Low architectural fees are also blamed for many of the mediocre buildings that rose all over the country under this sponsorship. A section of the monograph is devoted to an analysis of planning standards, which are condemned as being inadequate as well as restrictive. Site planning—or lack of it—comes in for critical study, as do construction and "architectural treatment." Finally the committee provides some recommendations intended to help in planning similar future activity: a long enough program so that continuity can be assured and the "emergency" character of most government housing avoided; a "sympathetic understanding of design qualities"; an adequate budget for administration; an investment rather than a speculative aspect; standards neither so low nor so inflexible as in the past; full architectural supervision of construction.

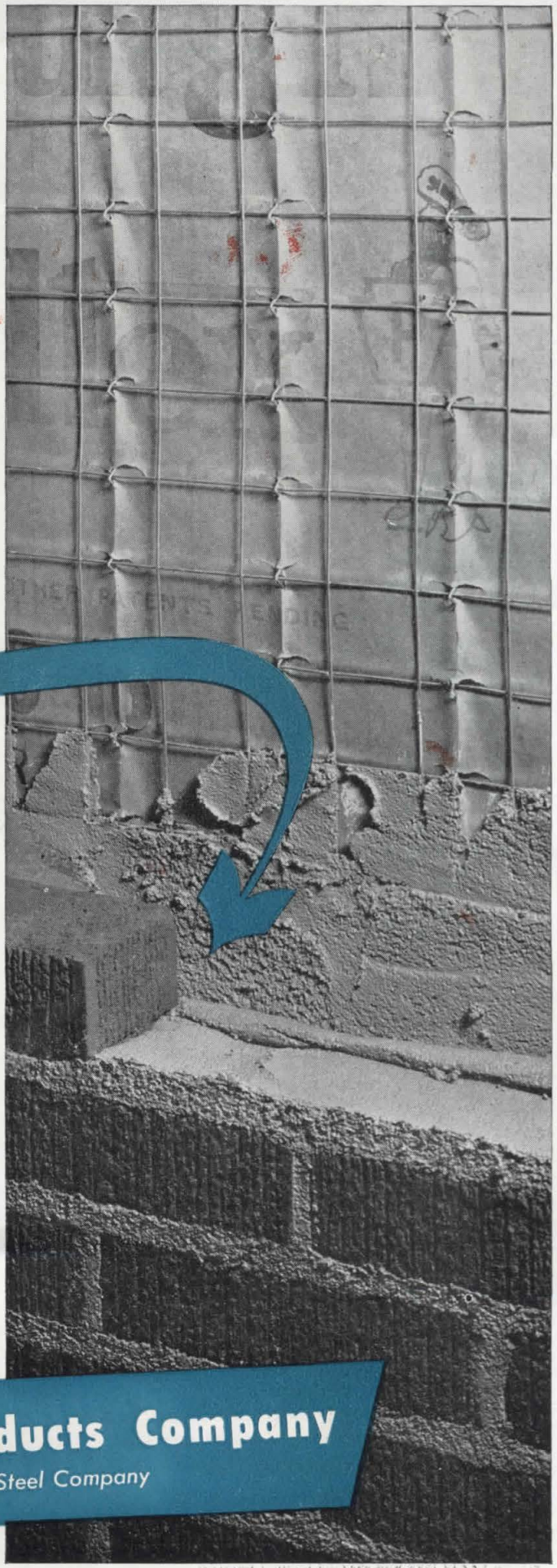
BUYING A HOUSE WORTH THE MONEY

Frazier Forman Peters. *Little, Brown & Co., 34 Beacon St., Boston, Mass., September 1950. 157 pp., illus. $2.75*

This is a useful, though overly chatty and cheery, little book for the layman who is planning to buy an already-built house, new or old. It will also have some value for those who propose to build their own homes, with or without the aid of an architect; but for such people the presentation is probably too gener-

(Continued on page 128

Notice how Pittsburgh Steeltex builds a veneer wall into a single solid unit



You'll find that replacing standard sheathing with Pittsburgh Steeltex will give you the basic advantages of masonry veneer construction without including its disadvantages. The strong welded steel mesh bites into the continuous mortar bond behind the brick or stone veneer—thus providing greater mutual resistance against later settling and distortion. Furthermore, fire resistance is considerably increased due to the elimination of flue action normally found between masonry and sheathing. For further good reasons to specify Steeltex, see our catalog in Sweet's or write for our catalog D.S. 132, Dept. PA, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.

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p/a REVIEWS

(Continued from page 126)

alized and nonspecific to be really useful.

After a few brief and monitory chapters on the desirable relationship of income to cost of shelter, preferred community qualifications, ratios of cost of land to cost of house, and house planning, the author gets down to the meat of his book. This is a fairly rough-and-ready evaluation of the materials and equipment of a standard residence, part by part. Estimating average cost relationships and use values of the various parts of a home from his own experience, Mr. Peters assigns percentage weights to every element in the structure, and describes what to him are acceptable minima for these various items. This material is codified in a very effective five-page "Chart for Judging Houses," in which the elements of a house are grouped *into 26 categories*, and under each category three types of specification and their various percentage values are listed. These three types are standard (in which the percentages add up to 100), substandard (in which the total is less than 100), and above standard (the total being over 100). The materials data in this chart are then described briefly but with fair adequacy for the layman in the balance of the book.

Although the author has a number of personal likes and dislikes which come out in some of his analyses and which are of controversial worth, in general his review of the subject is reasonable and pragmatic. The book probably will not be of much value to the professional architect, who may be presumed to know most of what is in it already; but even for the practitioner the book may contain some valuable tips, and certainly provides a quick and easy survey of the field, for those who would like to review it painlessly.

GROFF CONKLIN

NORWAY SHOW

Norwegian Architecture Throughout The Ages. *Compiled by Eyvind Alnaes, Georg Eliassen, Reidar Lund, Arne Pedersen, Olav Platou; with a historic survey by Georg Eliassen. H. Aschehoug & Co., Schestedsgt. 3, Oslo, Norway, 1950. 424 pp., illus. Price: Norw. Kr. 78.00, approx. $15*

This book is really an exhibition of Norwegian architecture between hard covers—and it was put together under most difficult circumstances, on blacked-out evenings during World War II while Norway was occupied by the Nazis.

(Continued on page 130)

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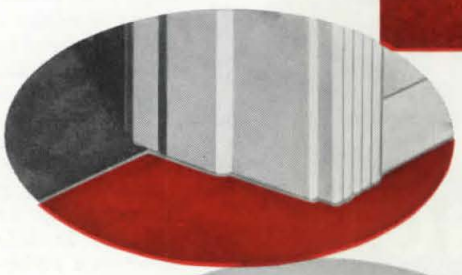

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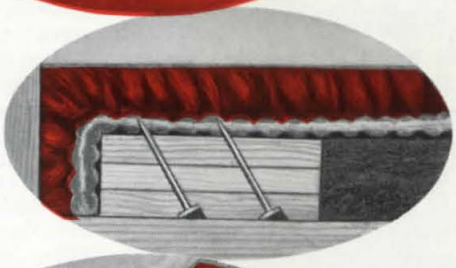

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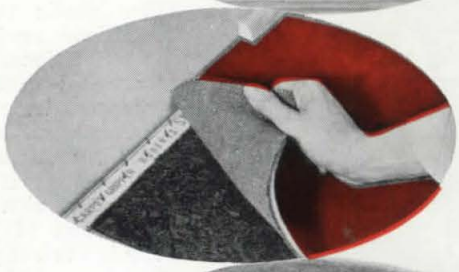

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(Continued from page 128)

Its compilers, a group of architects, were requested by the Norwegian government-in-exile to prepare an exhibition to be shown in London during the war. They were frustrated in their attempt to do this by the Nazi-controlled Association of Architects, which seized everything that might be suitable for an exhibition. Determined to carry through their task in some manner, the compilers approached publisher Aschehoug, who supplied the necessary funds to carry through the project as a book.

The result of all this is a picture book carrying, in all, 31 pages of text to introduce the book and each of the 16 sections into which it is divided. Though not a history, *per se*, the book is presented pretty much in chronological order beginning with the 11th Century A.D. and ending in 1947.

The publishers feel, and this reviewer agrees, that this book will appeal to the individual purchaser as a gift or as a memento of a Norwegian tour. It will also make a valuable addition to the architectural or art sections of public and school libraries. W.W.A.

DESIGN ON DISPLAY

Exhibition Design. *Edited by Mischa Black. The Architectural Press, London, 1950. 7¼ by 9¾., 186 pp., 25 shillings*

Exhibitions in London, Paris, or, New York must be pretty much alike for, according to Black, the standard of design is often lamentably low. Only a few displays in any given exhibition are usually handled by qualified designers—and these serve to emphasize the mediocrity of the rest.

Yet the fact that well-designed exhibitions attract the most attention is amply demonstrated time and again in exhibitions all over the world. Some of the buildings and displays that Black includes in this book are famous in their own right—the various rooms designed for the Modern Living Exhibition in Detroit in 1949, also the Finnish and Japanese, and other pavilions at the New York World's Fair in 1939, for example, are well remembered by many Americans.

The 160 photographic illustrations in *Exhibition Design* are well chosen and are classified in six categories: trade fairs, public exhibitions, propaganda exhibitions, agricultural shows, traveling exhibitions, and national and international exhibitions. The examples given are from all over Europe and the Americas. In addition to the many fine illustrations, the editor has provided a text on design and technique. The last section of the book is devoted to a series of papers written by experts in various phases of planning such as scripts, models and display devices, sound, lighting, planting, mural decorations and painting, and typography, lettering, and photographs. Each of these papers is illustrated as necessary, to make things clear.

The information in this book would be most useful to the architect who happens upon a commission to do an exhibition building or a display of any kind even though it is designed primarily for use by professional exhibition designers and promoters. W.W.A.

DATA ON SNOW

Snow Melting. *T. Napier Adlam. The Industrial Press, 148 Lafayette St., New York 13, N.Y., 1950. 224 pp., illus., $4.50*

(Continued on page 132)

κῦδος*

One of our most respected competitors recently announced that their garage doors are to be available with Torsion Springs, Full-width Shafts, Double Cable Drums, Side Locks and Handles, and other hardware details modeled upon the essentials of the Crawford Marvel-Lift Mechanism. • So rare a compliment is worthy of acknowledgment. • We have long known that the Marvel-Lift Mechanism excels in all kinds of installations, large and small. We have noted, too, that as this fact became apparent to others, specifications calling for Marvel-Lift Doors multiplied many times over. And, frankly, we have wondered why our competitors didn't produce a similar mechanism instead of resorting to other stratagems. Certainly, changing the price tag never improved a product yet. • We welcome our competitors to fellowship in our engineering philosophies, and thank them for a most eloquent compliment. • As Charles Caleb Colton remarked one-hundred and fifty years ago, "Imitation is the sincerest flattery." • If you are not familiar with the Crawford Marvel-Lift Mechanism, we suggest that you write us on your letterhead for a copy of our new free manual, the Crawford 60-Second Door Selector, or call your local Crawford Door Sales Co., listed in your classified telephone directory.

The Greeks had a word for it—KUDOS, praise: tribute.

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P/A REVIEWS

(Continued from page 130)

This author has prepared a comprehensive treatise on the subject of snow melting systems for roads, driveways, and sidewalks. His work can be used not only as a textbook but also as a guide for the practical mechanic. For the architect, this book furnishes a ready reference of design data required for a snow melting system. There are copious tables on amount of snowfall, air venting, pipe friction, pump selection, costs of installation and operation, together with charts for estimating pipe sizes and spacing. The author seems to favor the circulation of hot water through pipe coils embedded beneath the road or walk surface and the employment of anti-freeze solutions to prevent the fluid from freezing when snow is not falling.

Three chapters are devoted to descriptions and illustrations of installations already in operation. The use of electrical appliances by the City of Detroit on a public highway gives interesting results as obtained from a major experiment. The final chapter of the book, "Summary of Design Procedure for Snow Melting and Charts for Pipe Sizing and Spacing," is a resume of contents and might well justify the old habit of reading the last chapter first in order to learn how the story ends.

Mr. Adlam has pioneered in the development of snow melting systems and has acted as a consultant on a considerable number of jobs throughout the country. A. S. LYNCH

CENTRALIZED FOR CONTROL

Transit Modernization and Street Traffic Control. *John Bauer and Peter Costello. Public Administration Service, 1313 E. 60 St., Chicago, Ill., 1950. 271 pp. $5*

This book sets about to prove that a city with a well-integrated modern transit system, under a single administrative agency, avoids many of the troublesome traffic problems that exist in cities not thus endowed. The authors explain standards of modernized service and fares and the basic factors of modernization. The devote a chapter each to trolleys, busses, and trolley coaches. They also discuss finances, fares, and public and private ownership of transit lines. *Transit Modernization and Street Traffic Control* presents an analysis of the potentialities as well as the present performance of the various modes of street transportation. Each is consid-

(Continued on page 134)

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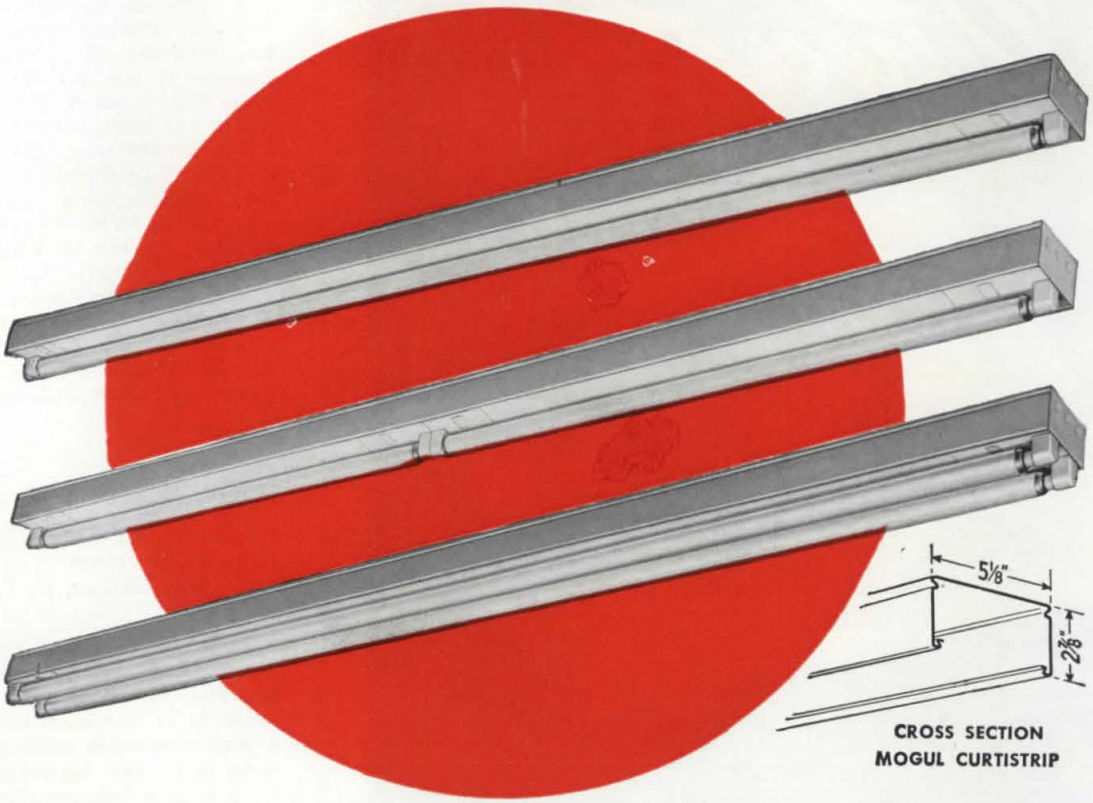

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REVIEWS

(Continued from page 132)

ered from the standpoint of efficiency, economy, attractiveness, convenience, and flexibility of operation. The conclusions of the authors are based on broad experience in traffic control. John Bauer has been concerned with utility regulation for many years. He has lectured on the subject at Princeton, Cornell, and Columbia and has acted as a consultant to numerous governmental agencies. He has been President of the American Public Utilities Bureau since 1925 and has written many books on the subject of utility regulation. His co-author, Peter Costello, is Accounting and Statistical Associate of the American Public Utilities Bureau.

W.W.A.

BOOK WORTH SEEING

Catalogue. *Knoll Associates, Inc., and H. G. Knoll International, 575 Madison Ave., New York 22, N. Y., 1950. 80 pp., illus. $3.50*

Specifically, this is a commercial catalogue, but the quality of both the material presented and the physical make-up of the book seems to justify a review in these columns rather than those of current manufacturers' literature. It is a book as glamorous as the new showrooms the company opened last month. Herbert Matter designed the pages, and one applauds both the layout and the intelligent use of color (as an index to categories of materials) throughout. The book is divided into sections on chairs; tables; chests, cabinets and beds; desks and office furniture; and finally a special section on textiles. Much of the material presented is familiar to contemporary designers, but it does include new work, and in any event it is stimulating to see the designs of Saarinen, Mies van der Rohe, Noguchi, Sorenson, Albini and many others brought together in one handsome presentation. If for no other reason, the book is worth seeing because of the double-page spread showing a small boy in a cowboy suit using the famous Hardoy chair.

T.H.C.

MORTGAGE HANDBOOK

Your Mortgage. *Frederick H. Allen. Duell, Sloan & Pearce, 270 Madison Ave., New York, N. Y., 1950. 90 pp. $2*

Questions of concern to a mortgageholder are covered briefly and clearly in this book by a partner in Harrison, Ballard & Allen, one of the country's leading firms of housing consultants. It is therefore a useful addition to the general reference shelf.

C.M.

to keep you saying:

"Here is Facing Tile at its best"

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Who are the "12 good names to know"?

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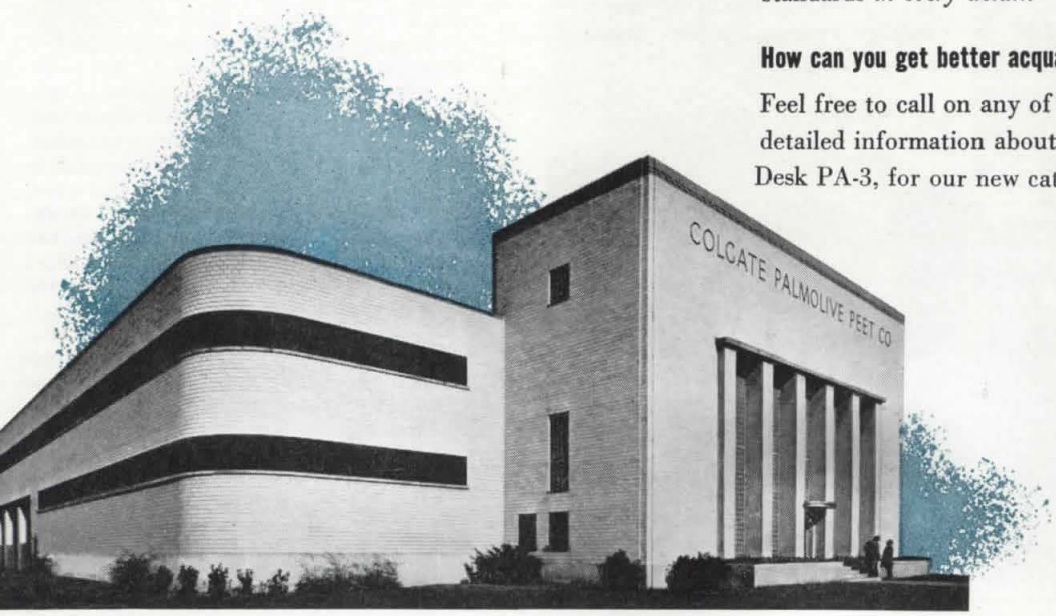

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out of school

By CARL FEISS

"Say, buddy," he said.
"You better look out for those ants. They eat wood, you know.
They'll have your shack down in no time."
The watchman spat.
"Oh, they've quit eating wood," he said, in a casual voice,
"I thought everybody knew that"
—and, reaching down,
He pried from the insect jaws the bright crumb of steel.
Stephen Vincent Benet

I was quite rudely interrupted in the middle of a thought, back in the January issue, by my "friend" the make-up man in charge of the advertisements that hem in these lustrous pearls. It was obviously poor business on his part, since the only reason for people to look at the ads is when they hunt for OUT OF SCHOOL each month, a golden needle lost in a stack of straw. Anyway, he having lopped off my last three paragraphs written as a fitting *finale* in January, I place them back in the column as a suitable introduction to the March opus. Besides, as the March Hare replied to the Mad Hatter, "It was the *best* butter."

The world, today and tomorrow, offers limitless opportunity for the architect and engineer working in harmony. While sky-hooks are still somewhat far off, nearly everything else seems close by and feasible. A little more inspired doodling on the part of our technicians and I expect we can most efficiently do away with the world's worst problem—Man. On the other hand, there is evidence that Nature, a most stubborn element, resists interference when she wishes. She still causes an occasional earthquake, drought, flood, or some other well-tempered cataclysm to remind us that she can do us as much damage as we can do to ourselves. Somehow, in the face of limitless Man-made chaos, Nature always holds a little extra in reserve.

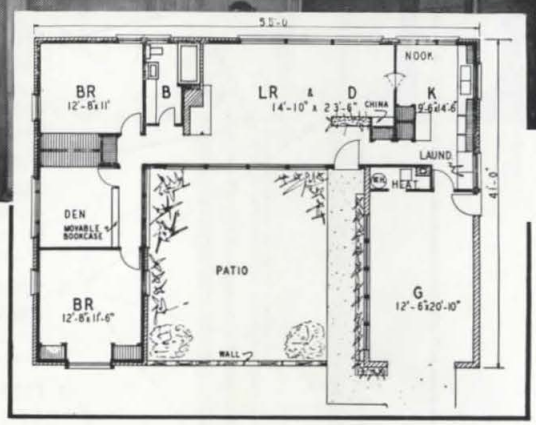
If the architect, builder, contractor, engineer, plumber, heater, ventilator, electrician, beautician, and the rest can't come to grips with a national building plan, Nature probably will. She will quietly submit while we exhaust our forests, empty the veins of pay dirt, dry up the spillways, and otherwise ultimately incapacitate ourselves in our headlong rush towards an unknown destination. All of this silly fustiness as to who is to do what, when, and where comes to very little in comparison with the larger issues which the architect and engineer face in recreating our cities, saving our resources, and planning the environmental future of mankind within the computable resources of a ball of dirt which swings round and round a speck of light, like an apple on a string.

●

So, draw your own conclusions from the status of the schools. The world isn't going to sit around waiting for us to knock our own heads together. It is looking for men who can indulge in some of Winston Churchill's "exalted brooding." Applied to our arts and our skills, this would mean the utmost research

(Continued on page 138)

Amazing $10,000 home, one of a group built in 1949 at La Porte, Indiana, by C. H. Goodall. That *Thermopane* window wall was a great sales feature—and it helped *cut* his construction costs.



People guessed $20,000— ACTUAL PRICE $10,000

How did C. H. Goodall, builder, do it?

How did he design and build a group of houses like the one shown here—each planned separately, tailored to fit its big, landscaped lot, built of the best materials—and sell them for only $7,500 to $12,000?

"I cut out the frills", he says, "—the methods and materials that add cost but don't contribute much to a home's livability."

He even found that he could cut cost and *add* livability *at the same time* . . . with a window wall of *Thermopane** insulating glass.

"With a conventional wall you have labor and material cost for brickwork, sillwork, plastering and painting, all in addition to the usual glazing costs. When you use double glass, you get a built-in storm sash with insulating efficiency as great as many non-transparent wall materials. Furthermore, with floor-to-ceiling windows, you eliminate the four expenses mentioned above entirely."

These advantages convinced Mr. Goodall of the wisdom of using *Thermopane* for most of the windows in his houses.

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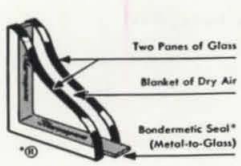

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Please send me complete information on installation methods for low-cost window walls of *Thermopane*.

Name.....
(Please Print)

Address.....

City.....Zone.....State.....

out of school

(Continued from page 136)

into our ability to make our ball of dirt habitable for the longest possible period of time. A large part of this search is the job of the architect and engineer. They'd better do it—and with mutual esteem—together.

This either is, or is not, a time in world history to do a little self-analysis. Each one of us has to decide for himself where he can serve his best—not his best interests, but just his best. I read in this morning's paper where there was an argument between a politico and an official with considerable responsibility for national defense, over the site for a large defense industry. The politico won the argument on the basis of his local interest. The location can be questioned in terms of both national defense and other national interests. Now there is nothing particularly unusual about this event. In fact, other than for the passing notice in the paper, no further argument will transpire. The plant will be built, certain problems will arise, and perhaps solutions for those problems will be devised. Perhaps not. Be that as it may, certain interests will have been satisfied. I hope that they may have a brief moment of happiness.

The practicing architect and engineer have responsibilities these days that cannot be over-stressed. I had not intended to preach. However, the professional today has another category to add to his list of criteria for professionalism. That category is a special one which should always have been there. Obviously I am referring to the *public interest.*

●

Restrictions and controls over creative or constructive activity are always irksome. In periods of national stress such action as restricts the architect and builder, also places on him certain responsibilities with which he may have little familiarity. The older among us will say, "Oh, I've been through all this before!" I'm not sure that we have, though there have been threats and warnings of international disorder. There have been also the warnings and admonitions of the group of national Cassandras, better known and as little heeded—the Conservationists. Both survival in a world at war and survival in a world at peace require a husbanding of resources and a willingness to learn what combinations of circumstances, what balances of facts, what arrangements of programs, in other words, what plans are necessary to accomplish a purpose.

William Vogt in his *must* book *Road to Survival* comments on the fact that "at present there is a frustrating lack of trained and educated men to manage land resources." He goes on to say that in order that we may cope with land resources on a world basis it will require

(Continued on page 140)

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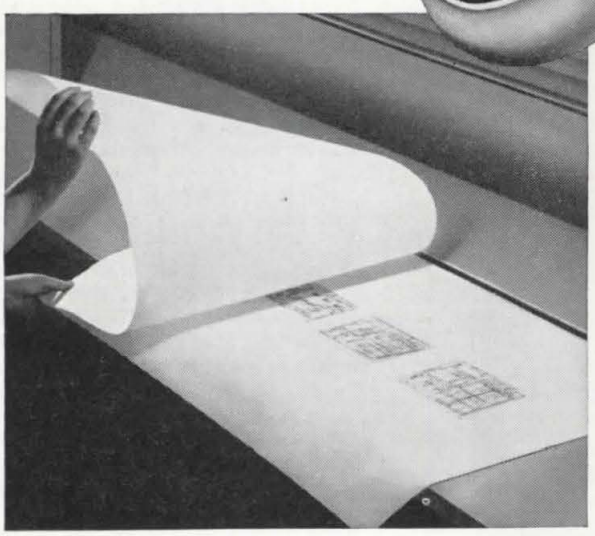
Look at just two of the ways Kodagraph Autopositive Paper saves valuable drafting time for the Cleveland Crane and Engineering Company.

The chances are you'll be able to take similar short-cuts in your work . . . *turn hours of costly retracing time into hours of creative drafting time.*

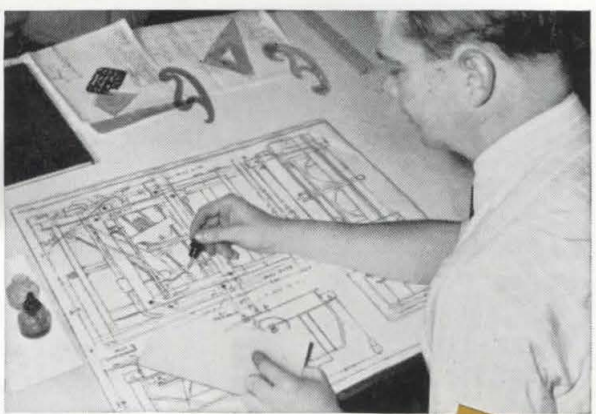


1 Time saved . . . when drawings must be combined

Many clients order custom jobs requiring electrical components which Cleveland Crane must obtain from outside vendors. Oftentimes, the designs for several of these units must be combined in one drawing before original drafting can begin. This used to be a tedious retracing job—*but no longer.* Now, desired sections of the vendors' prints are reproduced as a composite print on "Autopositive" Paper. Exposure is in a direct-process machine; processing is in standard photographic solutions. The result is a sparkling positive intermediate . . . with dense photographic black lines on a clean, evenly translucent base. On it, the draftsman simply adds the necessary wiring detail . . . producing a new "master" in a fraction of the old time.

2 Time saved . . . when drawings must be changed

New design must replace old detail on complicated switch assembly drawings. *And Cleveland Crane is doing the job the easy way:* instead of making a new drawing—which would be 85% retracing—they reproduce the original one on Kodagraph Autopositive Paper. Then the draftsman removes the unwanted lines from the intermediate print with corrector fluid . . . and draws in the new detail. Result: a brand-new "original" is ready in three hours instead of 3 days. *Ready* to produce sharp, legible shop prints in the desired number.



Kodagraph Autopositive Paper

"The Big New Plus" in engineering drawing reproduction

- **It enables you, or your blueprinter, to produce positive photographic intermediates directly at a new, low cost.**
- **It enables you to reclaim old, weak-lined drawings . . . reproduce opaque originals and prints.**
- **It protects your valuable originals . . . produces more legible shop prints.**

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Kodak
TRADE-MARK

out of school

(Continued from page 138)

the education of tens of thousands of men and women. Because of a lack of training in and an understanding of the problems of resources conservation—wood, iron, copper, soil, water and the rest of the basic elements on which we depend—Vogt clearly demonstrates that "as technicians face a changing world or must operate in a foreign environment, they are often disastrously inadequate."

Now the architect and builder in a changing world is being forced by circumstances beyond his knowledge and control. His training has not made him any too adaptable because he has grown up in an environment of wishful thinking, in the fool's concept of limitless abundance. Popular will unfortunately has nothing to do with the facts of the case. We can't plant tin cans in the ground and expect a crop of tin to grow up. Nor can we, through hoarding or selfish black market activities, add to the world's supply of a scarce commodity. It is true that we may not have finished our world prospecting, that perhaps in Central Africa, or Siberia, or Brazil, or Canada, or hidden in the Himalayas there are reserves of precious metals or nitrates or forests still to be exploited. But economics, politics and common sense (I'll admit, unusual bedfellows) preclude a continued search for that Ophir which, if it ever existed, was washed down with the silt of the Mississippi or went up in the smoke of the Michigan forests.

So the public service which the users of resources must render—and all people are users of resources, among them the architects and builders—is to learn how to husband what there is and how to plan its best use. This will take a new kind of training both in school and in practice. It will take first, however, a willingness on the part of all of us to submit to a discipline of peacetime control every bit as rigid as that of war. I don't like the idea myself and I'm sure that you don't either. The fact that such personal discipline is repugnant to us is all too well illustrated by the fact that a great public institution, the National Resources Planning Board, was allowed to die out some seven years ago after ten years of priceless service to our country, largely, I am convinced, because nobody wanted to face the facts.

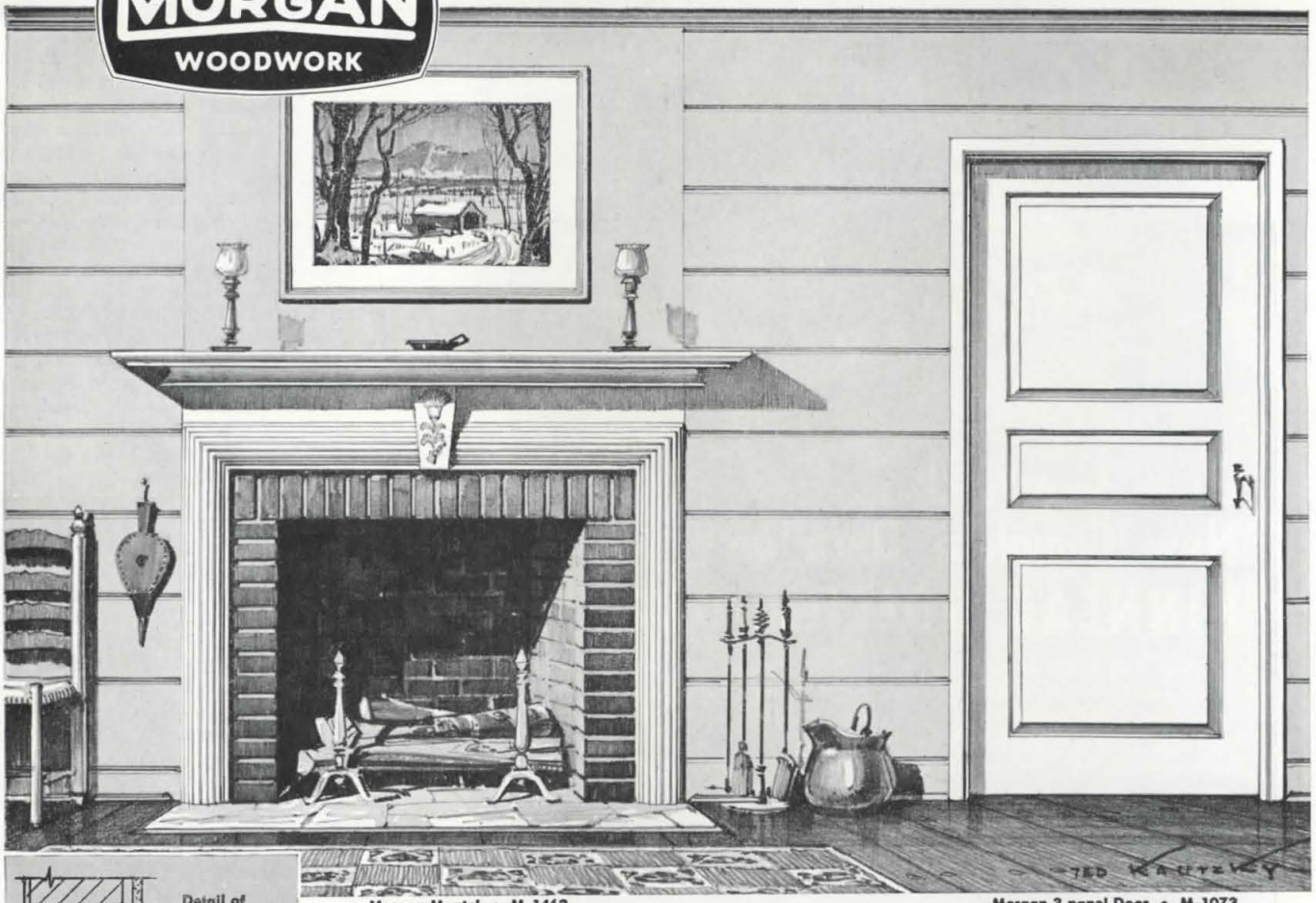
●

Obviously, if we are going to build well on the landed surfaces of our all-too-little world for a mounting population requiring three meals a day, a roof, and a fire, we must know what to do, when, and how. It is interesting, though, to see how inventive we have become. I am mildly superstitious, you know. (Nothing serious: I avoid ladders and think about black cats when I see black cats.)

(Continued on page 142)

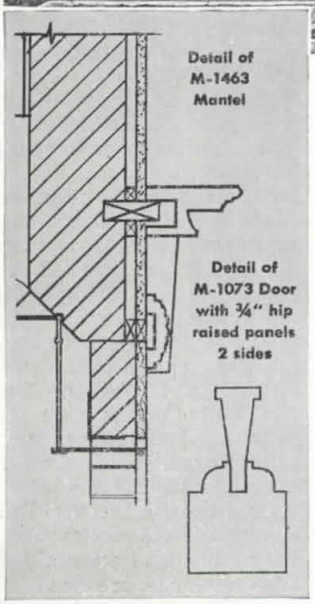
MORGAN
WOODWORK

THIS IS THE KIND OF WOODWORK YOU SPECIFY



Morgan Mantel • M-1463

Morgan 3-panel Door • M-1073



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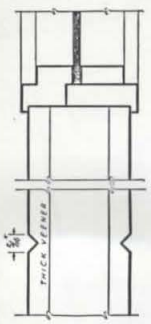
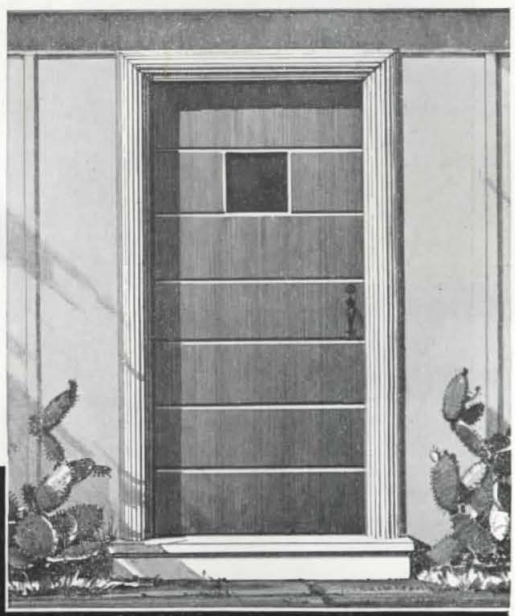


Detail of
M-33
Entrance



Morgan Entrance: M-33 with M-120F Door

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MORGAN
WOODWORK

out of school

(Continued from page 140)

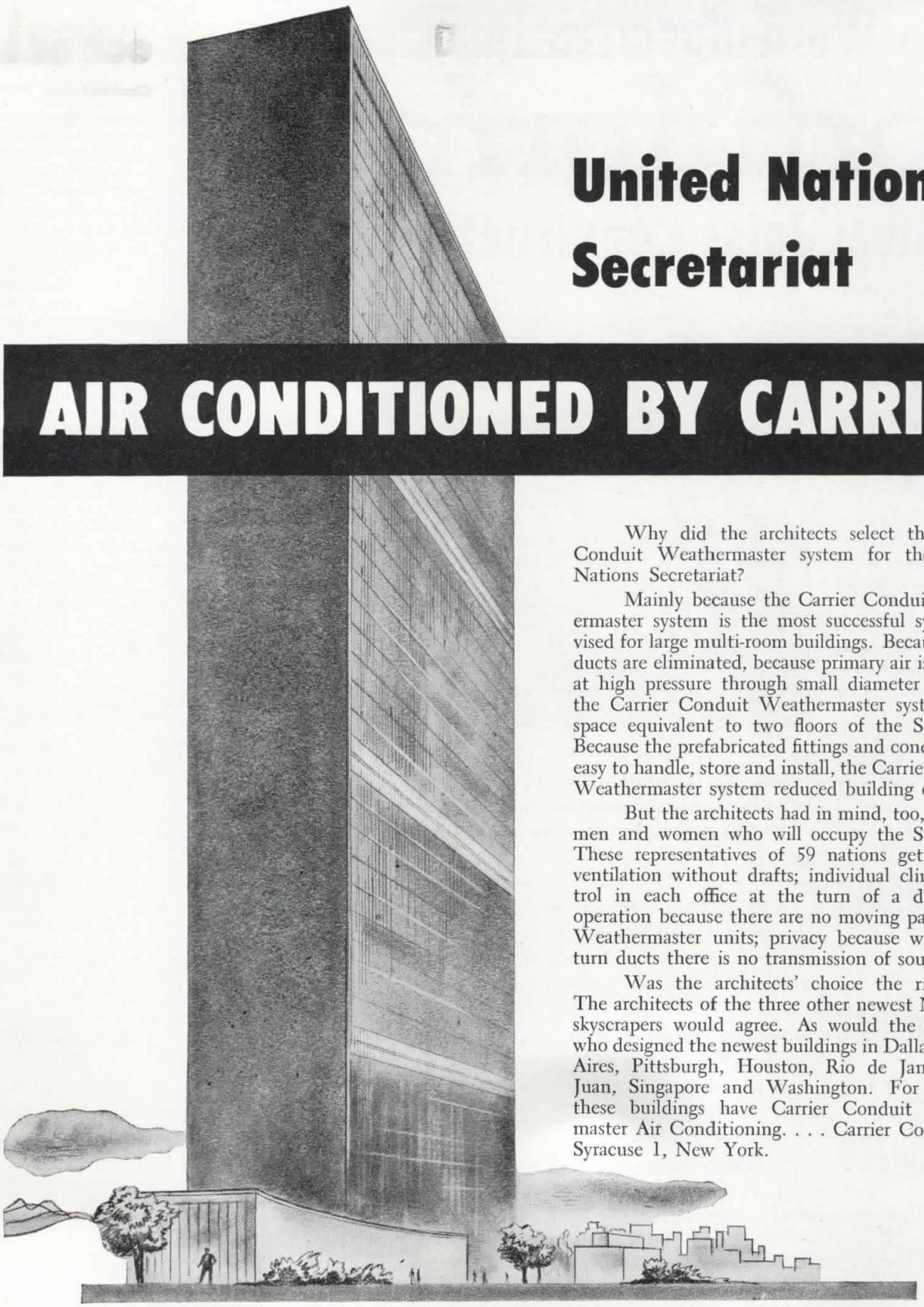
The other day I knocked on wood in the usual way—only it wasn't wood. It was a vinylite resin plastic with a surface finished to look like wood, through most artful photography. It fooled me, and since I was sitting in a Dow metal chair on a celanese cushion of aniline colors in an underground room artificially daylighted, and I was toying with a plastic swizzle stick in what I think was a glass of what I hope was bourbon, I may have avoided bad luck by fooling it too. Yankee ingenuity, a few German patents and machine production had done the trick. The waitress was suspiciously plump in the upper front, and Nature in her most redolent sunsets, which Lord knows are often blatantly and quite vulgarly spectacular, never dreamed up the color of my Hebe's hair.

If metal can be made from magnesium salts pumped in brine out of the bowels of Michigan, or upholstery can come out of an Iowa cornfield, or Nature's gifts to the fair sex can be amplified (I do not say improved upon, because I am not familiar with all the facts), then I have high hopes that the crisis in national resources and our conversion to an economy of limited scarcity—cautious exploitation might be a better phrase—can be met with vigor and with success.

When Dewhurst and Associates came out with their important volume *America's Needs and Resources* published by the 20th Century Fund in 1947, we had the culmination of the years of study and research by the National Resources Planning Board and many authoritative investigators into our capacity to produce commodities and use them up. I doubt that many of you architects, or the builders, lumber dealers, contractors, and engineers know that the book exists. The sad facts discussed during the past 20 years by Herbert Agar, Stuart Chase, Benton Mackaye, among many others, and Federal agencies concerned, including the Bureau of Mines, the Forest Service, the Soil Conservation Service, the Bureau of Reclamation, and the rest, all point to one thing: from now on, *cautious* exploitation is a *must*.

People at this time in the world's history avoid, like the plague, getting involved in the problems of economic planning. Whatever words are used, (and words and numbers have to be used to explain facts when facts cannot easily be distinguished), the producers of durable goods, including buildings and building parts and equipment, need further understanding of their relationship to facts. At the time the Dewhurst report came out, World War II was temporarily over and we were embarked on that uneasy interlude, the short "cold war." Intensity of war production was off, but the greatest home-building boom in American history was about to begin.

(Continued on page 144)



United Nations Secretariat

AIR CONDITIONED BY CARRIER

Why did the architects select the Carrier Conduit Weathermaster system for the United Nations Secretariat?

Mainly because the Carrier Conduit Weathermaster system is the most successful system devised for large multi-room buildings. Because return ducts are eliminated, because primary air is supplied at high pressure through small diameter conduits, the Carrier Conduit Weathermaster system saved space equivalent to two floors of the Secretariat. Because the prefabricated fittings and conduits were easy to handle, store and install, the Carrier Conduit Weathermaster system reduced building costs.

But the architects had in mind, too, the 4000 men and women who will occupy the Secretariat. These representatives of 59 nations get constant ventilation without drafts; individual climate control in each office at the turn of a dial; silent operation because there are no moving parts in the Weathermaster units; privacy because without return ducts there is no transmission of sound.

Was the architects' choice the right one? The architects of the three other newest New York skyscrapers would agree. As would the architects who designed the newest buildings in Dallas, Buenos Aires, Pittsburgh, Houston, Rio de Janeiro, San Juan, Singapore and Washington. For many of these buildings have Carrier Conduit Weathermaster Air Conditioning. . . . Carrier Corporation, Syracuse 1, New York.

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AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

Carrier

out of school

(Continued from page 142)

However, Dewhurst said, "On the whole, the existing stand of economically available timber is insufficient to sustain the rate of saw-timber drain" (page 434, *Timber Resources and Requirements*).

Of further interest to architects and builders, let me cite a few more quotes. Speaking of lead, Dewhurst said, "The progressive depletion of our supply will remain a critical problem. We shall become increasingly dependent on Canada, Mexico, Peru, and Chile, from which sizable imports have come in the past." Of copper, "At the peak of war rate of consumption, it is estimated that our commercial grade copper reserves would not have lasted over 12 years . . . Although the production of low grade ores will increase, we will probably become increasingly dependent on the importation of ores from South America, Canada, and the Congo and Rhodesia in Africa" (pages 582-583, *Nonferrous Metal Resources*). I won't go on, but there's plenty more. Better read it yourself and weep. We are no longer either inexhaustible or self-sufficient.

●

The present activities on the part of defense agencies, to restrict the use of critical materials again needed for defense activities, once more highlight a situation which should have been apparent all along. What is needed today is for someone to call a national conference of resources experts with the business men and technicians in building. Private enterprise should be made familiar with all the facts, and its initiative and brain power should be put to work to provide a program co-operative with public enterprise in safeguarding our remaining resources, rebuilding our soils and forests, and in keeping the American economy on an uninterrupted base. William Vogt says, "We have been skidding down the road to national suicide by destroying the environment that permits our survival; a reversal of our direction is unthinkable in any but democratic terms. Here may well be the most fruitful opportunity democracy has ever had!"

So come out of your ivory tower, you architects, engineers, and builders! You have some new responsibilities. They aren't going to be much fun either. And you schoolmen; you'd better look to your teaching of construction and equipment. And you research boys; better get going on substitutes and equivalents. What to suggest for copper pipe and flashing? What do we use instead of lead? How do we reduce the use of timber in our balloon-framing, or what is a more efficient system of construction? There's a great deal we all have to know and right away. There are new things to be taught in and out of school as we adjust ourselves to this concept.

(Continued on page 146)

ART METAL

details product performance and construction to speed Specification Writing and Installation Planning for all Types of

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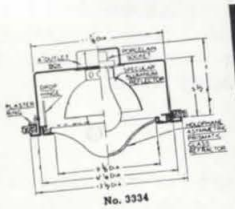
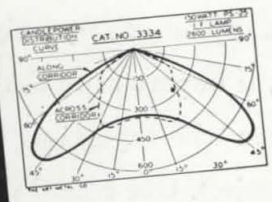
CORRIDOR

HOLOPHANE ASYMMETRIC PRISMATIC GLASS REFRACTOR

RECESSED TYPE



No. 3334



Cat. No.	Distribution Characteristic	Retractor Size	Max. Watts	DIMENSIONS Face Plate	Insert Box Size
3334	Asymmetric	Drop Hinged Door.	150	13½" Dia.	11⅞" Dia. x 7"

One Lamp—Position Vertical. Reflector: Specular Aluminum.

FINISH: Drop Hinged Door Baked Satin Aluminum—Trim Baked White Enamel.

Furnished Complete with adjustable Plaster Ring and 4" Outlet Box Attached.

SPECIFICATIONS

Holophane Prismatic Glass Retractor provides an Asymmetric (corridor-type) light distribution.

Lamp position—vertical (1-150W).

Spherical Reflector is made of 20-gauge aluminum, finished specular, and cooperates with the retractor for maximum efficiency.

Retractor holder door is drop hinged.

Insert Box and Trim are one integral assembly, made of .037 gauge steel, and processed to resist rust.

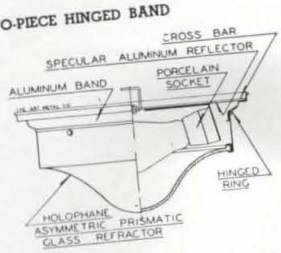
Furnished complete with Adjustable Plaster Ring and a 4" Outlet Box.

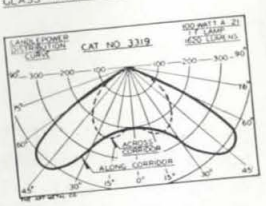
Approved by Underwriters' Laboratories, Inc.

Finish is Baked White Enamel inside and outside—the Drop Hinged Door is Baked Satin Aluminum.

VENTILATED SURFACE TYPE—TWO-PIECE HINGED BAND

Holophane Prismatic Glass Retractor provides an Asymmetric (corridor-type) light distribution.





No. 3319 12" Dia. 5½" O.A. Glass 10"x3" 100W

FINISH: Brushed Aluminum.

Complete with Reflector Plate and Cross Bar.

Made of Aluminum.

Approved by Underwriters' Laboratories, Inc.

THE ART METAL COMPANY

Page 36

This page of CORRIDOR LIGHTING is one of many specific lighting types

Explicit Catalog Data

- 99 Product Illustrations
- 51 Cross Section Details
- 47 Light Distribution Curves
- 24 Coefficient of Utilization Tables
- . . Detailed Product Specifications
- . . Applications
- . . Data
- . . General Engineering Information

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Art Metal Unified Lighting standardizes the design, style and finish of each unit, to achieve an architecturally integrated installation.

out of school

(Continued from page 144)

I wonder how many schools are teaching anything on resources in other than their geography classes. I wonder how many meetings of the A.I.A. or the N.A.R.E.B., or the Hoo-Hoo Clubs, or the Home Builders, or the A.S.C.E., or all the clubs, societies, organizations, associations, and fraternal orders of all the building boys, are discussing this problem. Or are all these competent technicians and successful business men going to let scarcity creep into their lives, silently and secretly? Are the stockpiles of raw material to grow leaner day by day, and are prices to continue up and up as we feel out across the world, farther and farther out, for those rarities which once were so plentiful and near at home?

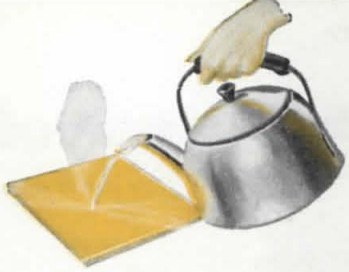
●

There are two new chapters in our history to be written soon, one on education and the other on democratic administration, and both in the adult world of reality. We might suggest permanent refresher courses for managers and technicians as a need in a dynamic society to meet the modern requirements of democratic citizenship. We have been baffled for years trying to figure out how to reach the leaders who are establishing business policy, with the latest facts and ideas. The press is always a poor vehicle, being disorganized. Radio is bowlderized and ridden with advertising (and therefore suspect) and the periodicals seldom have the equivalent of academic standing. If only our universities would drop the silly idea of granting degrees and diplomas—those medieval relics—and recognize that a man is an alumnus only when his heart stops beating, when it is time to write his diploma of a life's education on his headstone.

The second new chapter in our history comes out of the first on adult education. If our adults could keep sufficiently posted on events they would require some administrative organization to handle what we have been talking about here. They must either hide their heads in the sand or come to this conclusion. It is not a popular conclusion. It smacks of restrictions and red tape and bureaucracy and all of those negatives that outweigh in people's minds the safeguards and guidance afforded by sound planning. Being an idea with connotations, the good business meaning in the word "planning" is over-shadowed by the negatives. Somehow we have to write back into history that sound planning is an American heritage. And we must, somehow, make it not only palatable but a welcome part of our credo during the stresses of self-protection in an atomic era and for the years to come.

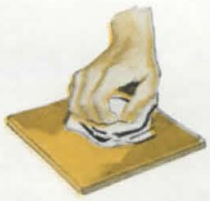
(Continued on page 148)

TILE IS STAINPROOF



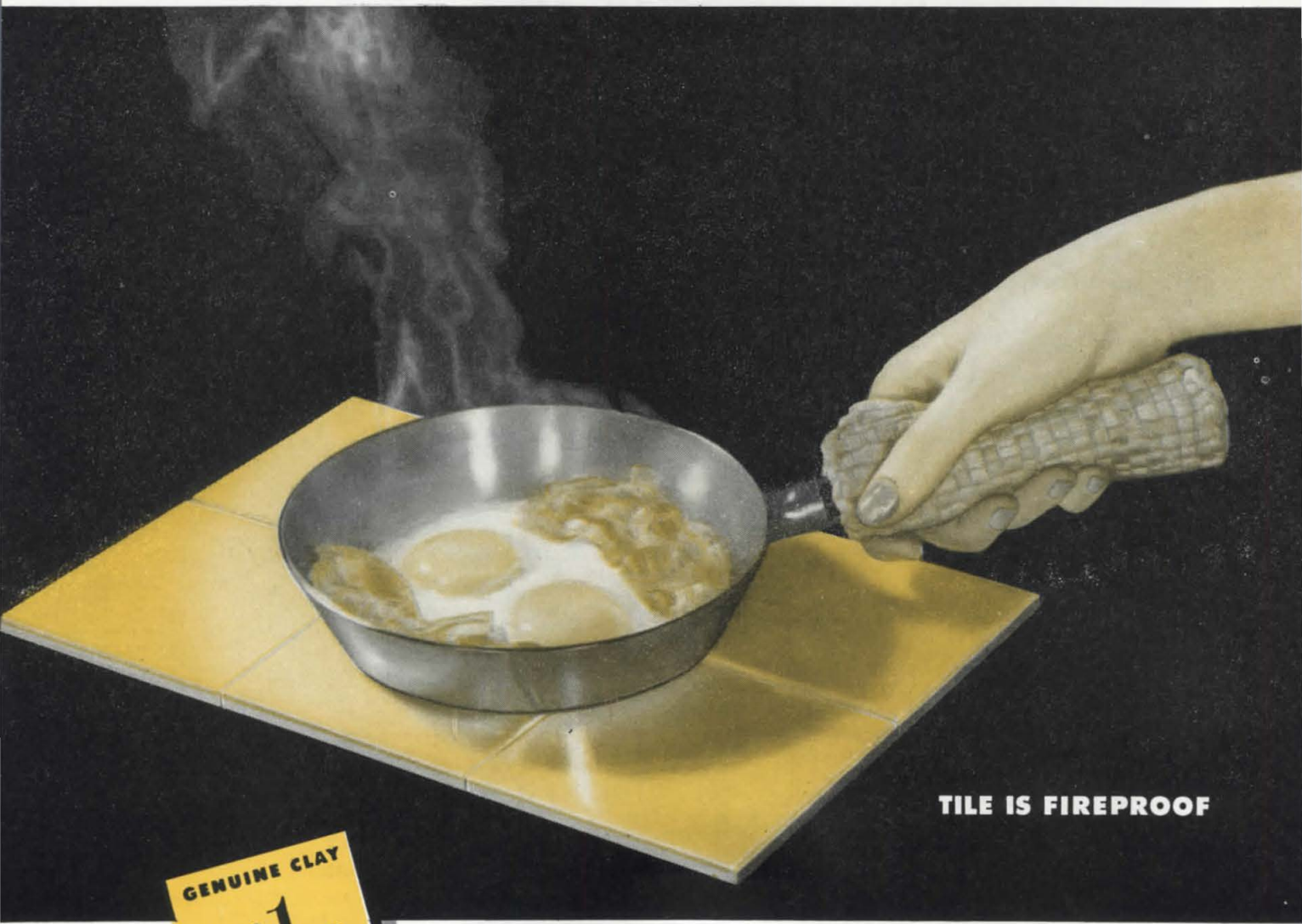
TILE IS WATERPROOF

TILE DEFIES SCRATCHING



TILE CLEANS LIKE PORCELAIN

TILE LASTS A LIFETIME



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THE MODERN STYLE IS CLAY TILE

out of school

(Continued from page 146)

Alleen and I once spent our summer vacation up in Ouray, Colorado, that unbelievably beautiful alpine spot, back in the San Juan Mountains in the southwest corner of the state. One day, on the way downhill on the shelf road called the Million Dollar Highway, we were picked up by an old prospector in a Model T. To make conversation and to keep my mind off the drop of 1000 feet (or more) just off the running board, I commented on the ghost towns that we had encountered in our hikes up into the hidden valleys high above the Uncompaghre. He spat a trajectory into the void and said, waving both arms above the wheel, "Yah, them drifts and shafts is empty now. They'll never be good for anything more than gopher holes."

And I got to thinking about Tom Walsh and the Camp Bird Mine and the Hope Diamond and the Great Days when the rivers ran with gold dust and there were Opera Houses in Leadville, Aspen, Ouray, Central City, Denver and Cripple Creek. (Somebody should write an architectural monograph on those opera houses). Well, the more I got to thinking about the gold that *was* in them-thar-hills in the good old days, the less I begrudged the boys the digging and the jamboree afterwards. And the more I thought about it, the more I came to realize that there are still plenty of chances to dig and to get tight on the results. Only maybe it had better be done a bit more scientifically and we'd better stay sober, that is, until we are sure we aren't just digging more gopher holes.

NOTICES

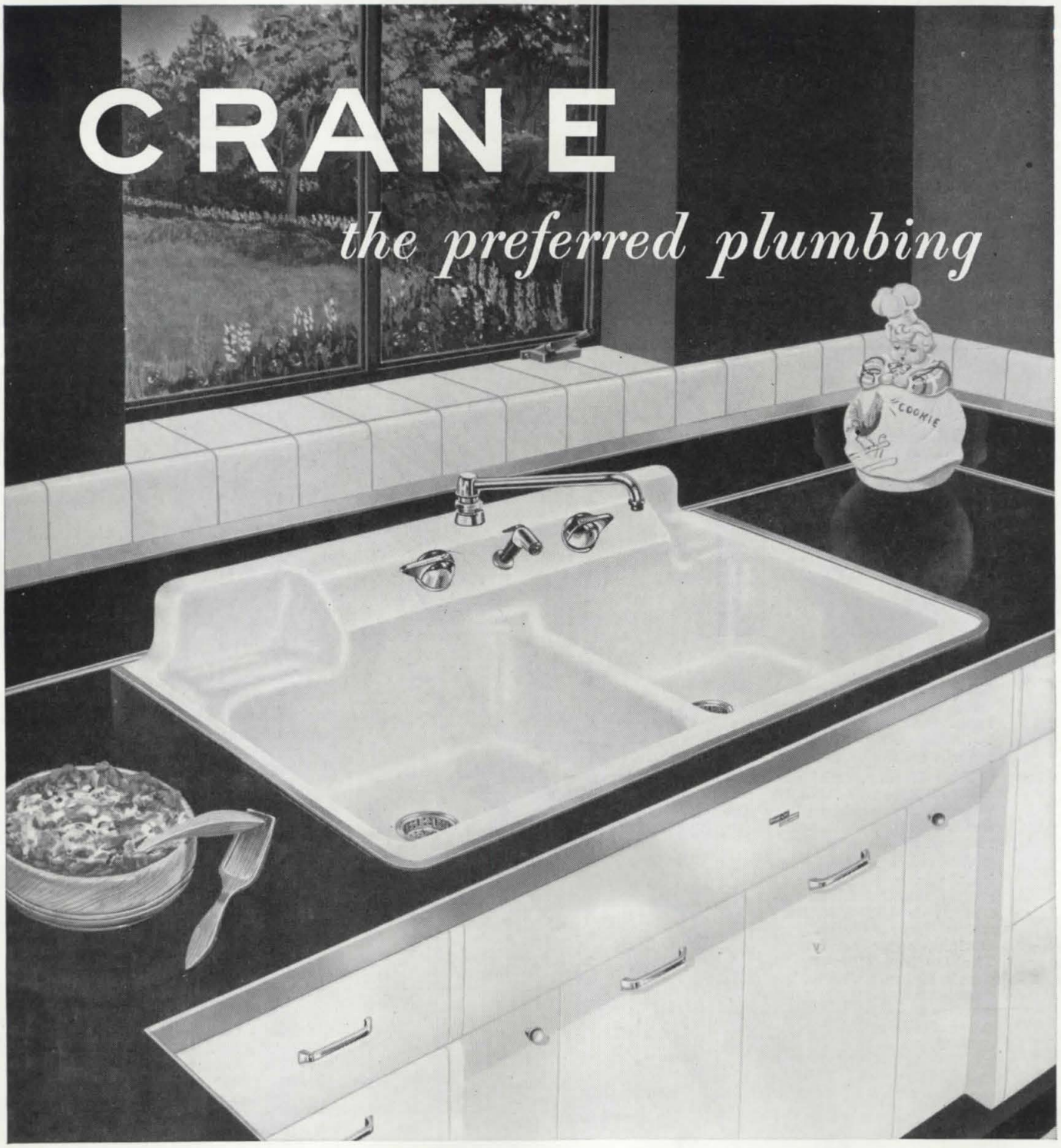
EXHIBITIONS

The Art-In-Use Gallery of the Akron Art Institute will be showing a collection of the work of EVA ZEISEL, well known Industrial Designer, from March 20-April 22.

THE ART ALLIANCE, Philadelphia, announces its calender for the next three months. Highlights are: Exhibition of Stage and Television Set Models—March 5-April 2; Architectural Exhibition—April 2-April 30; Exhibition of Experimental Techniques—April 30-May 28; and Models by Edwin P. Alexander—May 28-June 28.

APPOINTMENT

HENRY T. SHOTWELL, Architect, formerly a partner in the firm of LONG & THORSHOV, has been appointed a vice president by LIPPINCOTT & MARGULIES, INC., New York Designers.



ALL-AMERICAN COUNTER-TOP SINK. One-piece construction of porcelain enameled cast iron—in white and eight Crane colors. Two 8-inch deep basins, 17″ x 15½″. Four-inch high back. Chromium-plated trim includes *Dial-ese* controls, swinging mixing spout, retractable hose spray. Overall size: 38″ x 22″. Consult your Crane Branch or Crane Wholesaler.

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By BERNARD TOMSON

Volatile building costs and governmental restrictions, actual and potential, cause us this month to consider again the still-born project and the architect-owner contract. Last month it was pointed out that the contract should contain some provision for the architect's compensation in the event that a contemplated project were abandoned *before* completion of preliminary studies.

An architect's right to a fee based on "estimated cost" is not assured even if his preliminary studies have been approved or his working drawings and specifications completed before the work is abandoned.

The highest court in Michigan held recently that where the A. I. A. "percentage of cost" contract is employed, the architect may not be entitled to this fee unless a contract for construction is let. Under this contract, the architect's compensation is a certain percentage of the "cost of the work." If no contract is let, says this court, there is no "cost" by which to measure his compensation.

The recent Michigan case on this point illustrates the financial loss which the architect may suffer in the event of premature termination of the contract. In *Loyal Order of Moose* v. *Faulhaber*, an architect had entered into a contract for the remodeling of a building under which he was to be paid 10% of the cost of the work. The contract included a provision for periodic payments, which, on completion of the working drawings and specifications, were to equal 75% of the basic rate (10%).

Two bids for $35,000 and $29,414, respectively, were submitted for the work. The owner did not carry out the improvements as originally planned because he could not raise the necessary funds. Instead, he spent $6,800 on remodeling the building under other plans. Whether the latter plans were a modification of those submitted by the architect does not clearly appear.

The architect, who had completed the working drawings and specifications, brought suit to recover 75% of the basic rate (10%) on the lesser of the two bids received. The court refused to accept this view of the case stating:

"The contract between the parties, as written, is not free from ambiguities . . . If defendant is correct in his claim as to the interpretation of his agreement with the plaintiff, the conclusion would necessarily follow that he would be entitled to a fee based either on estimated cost of the improvement under plans and specifications prepared by him, or on the basis of the lowest bona fide bid received for the doing of the work contemplated thereby, without reference to the amount of the estimate, or the bid, or the letting of any contract. It may not be assumed that the parties intended such a possible result. Doubtless they thought at the time the agreement was made, all parties acting in good faith, that a contract might be made with a responsible contractor under which the improvement would be accomplished. In such event defendant's fee was to be based on the cost of the work to the plaintiff. The agreement may not be construed as meaning that the defendant was to receive his fee regardless of whether any work was done in the remodeling of plaintiff's building. Such result would mean the practical elimination, so far as this case is concerned, of the clause of the contract prescribing the basic rate for the determination of the architect's fee."

(Continued on page 152

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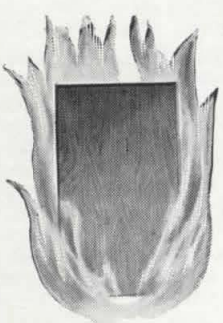
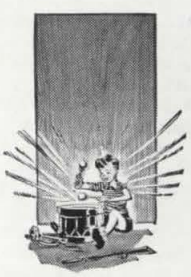


SAFE — Standard 1-3/4" construction withstands independently conducted fire tests in excess of 40 minutes.



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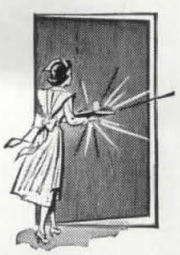

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it's the law

(Continued from page 150)

The trial court had allowed the architect 10% of the actual cost of the remodeling done. According to the Supreme Court, this award was apparently based on the theory that the work actually done on the building was in accordance with the architect's plans and specifications, although much less in scope. This award was not questioned by the owner and the Supreme Court let it stand.

●

The above result was predicated upon the decision in a previous case, *Wetzel* v. *Roberts*, in which the facts were substantially similar, but here the architect was denied any fee whatsoever.

Here again, the court held that the architect's right to his fee depended upon the letting of a contract for the work. It stated:

"In spite of obscurity and contradiction, it appears that the architect's fees are based upon a percentage, to be computed upon the cost of the work; and the cost of the work is to be based on the amount specified in the executed construction contract.

In this case no contract for the construction work was ever executed. When Roberts received the bid on the plans prepared by plaintiff, it amounted to $28,000. This was so much greater than the amount that he had planned upon, and so in excess of the limitation of expense which was communicated by Heartt to Wetzel, that Roberts refused to go ahead with the proposition. He later remodeled the building according to another plan. Plaintiff sued for 60 percent of a fee based upon 10 percent of the bid of $28,000, claiming that such sum was due him under the contract.

There is nothing in the terms of the contract which provides that the total fee of the architect would be 10 percent of the amount of a bid. The fee depends upon the letting of a contract. The architectural fees were based upon the total amount that it would cost to do the work, according to the terms of the construction contract. Apparently the form of contract here used was drafted to cover a case where the owner actually let a building contract; but it did not cover the case before us, where no building contract was ever executed. To sustain the claim of the plaintiff it would be necessary to hold that no matter how large the bid for doing the work, Roberts would have been obligated to pay an architectural fee based upon the amount of such a bid. The contract does not so provide, and Roberts did not so agree."

The court then stated that since the action had not been brought to recover "reasonable value," no recovery of any kind could be granted the architect.

●

The courts, in both cases, quoted from the contract a stipulation to the effect that on abandonment or suspension of any part of the work, the architect was to be paid for the services rendered on account of it. Despite this provision, the

(Continued on page 154)

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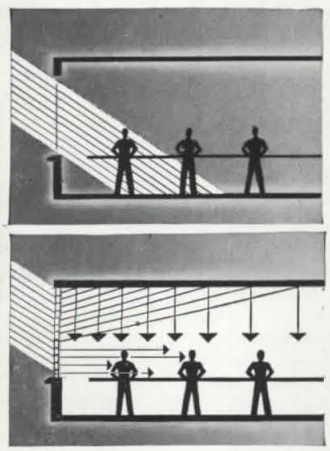

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it's the law

(Continued from page 152)

courts remarked that the contract as written was not free from "ambiguities" and "contradiction." They resolved these ambiguities by concluding that if no building contract was executed the plaintiff could not receive compensation based on "cost."

In both contracts provision was also made for periodic payments to the architect on the basis of the estimated cost of the work. The *Wetzel* opinion did not discuss this provision, while the court in the *Faulhaber* case stated that no estimate had been made by the architect and added that under the contract the parties could not have intended that the architect should be entitled to a fee based on the estimated cost of the improvement under the specifications prepared by him.

The decisions are not all in accord in denying the architect compensation if no contract is entered into for construction. Other cases have held that the architect's estimated cost is the proper basis for determining his compensation where the project is abandoned before its cost is ascertained. In one such case, where the employer abandoned the contract because of the increased cost of labor and materials due to the first World War, the court permitted recovery for architectural services on the basis of the cost estimated by the architects themselves. It appeared in this case that the architects' estimate of the cost was considerably less than that shown by the rejected bids.

●

In view of the conflicting decisions on this point, architects who enter into percentage of cost contracts will be well advised to make some definite provision for compensation in the event the owner for any reason fails to proceed with the work. A stipulation that the architect's estimated cost of the work shall be final and conclusive as to the cost of the work in the event no contract is let would appear to protect the architect against the kind of decision found in the *Faulhaber* and *Wetzel* cases.

Such a stipulation may not afford full protection to the architect if he has not furnished an estimate before the project is terminated. In the absence of such estimate, the architect may be required to prove the reasonable value of his services.

This problem arose in a case where the contract provided that periodic payments were to be computed upon a reasonable cost estimated by the architect, or if bids had been received, then upon the lowest bona fide bid. The court found no cost price, since the building was not erected, and no estimated price had been furnished. Accordingly, the court could not enforce the covenant as written. It determined, however, that the architects were entitled to prove, by com-

(Continued on page 156)

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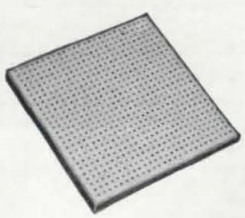

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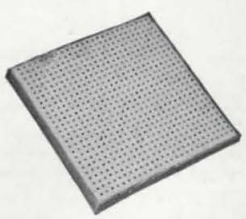

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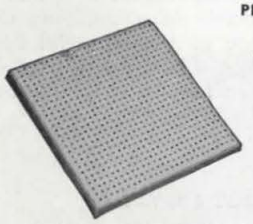

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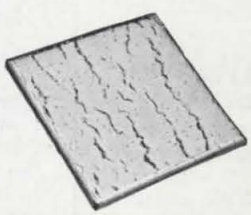

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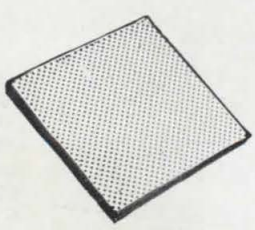

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it's the law

(Continued from page 154)

petent witnesses, the reasonable value of their services.

•

To sum up, architects rendering services pursuant to "percentage of the cost" contracts should consider the following:

(1) Include in the contract a provision reading somewhat as follows:

The Architect's estimate of costs shall be conclusive in determining payments to the Architect whether or not the project is completed. When actual costs are finally ascertained upon completion of the work, an adjustment will be made based upon such actual costs.

(2) In view of the rising cost of labor and materials, keep the owner advised as to revised estimates of the cost of the work at all stages prior to the letting of a contract.

NOTICES

NEW APPOINTMENTS

The College of Architecture and Design at the University of Michigan announces the following appointments to its staff: WILLIAM MUSCHENHEIM, M. Arch., Peter Behrens School in Vienna; A.I.A.; formerly of New York City, as Prof. of Architecture. A. BENJAMIN HANDLER, B.A., Queens University, Canada; M. Sc., London School of Economics, as Assoc. Prof. of Planning.

The Department of Architecture, University of Illinois, announces the appointment of VALORY-GEORGES-ROBERT LE RICOLAIS, French structural engineer, as visiting Professor of Building Structures for the Spring Semester, 1951. M. Le Ricolais is a member and laureate of the Societe des Ingenieurs Civils, and a member of the editorial board of the journals, *L'Architecture d'Aujourd'hui* and *Techniques et Architecture.*

JANUARY SURVEY

There were more architectural firms of prominence represented in our "Design Survey 1951" (January 1951 P/A) than the Editors realized. It has been called to our attention that MOORE & HUTCHINS, Architects, New York, are Consulting Architects for the addition to Holmes Elementary School, Darien, Connecticut, by Ketcham, Giná & Sharp (illustrated on page 73 of that issue); and also that the annex to Fulton County Court House (referred to on page 50 of that issue) is being done by Toombs & Creighton with BARILI & HUMPHRIES, Architects, Atlanta, as Associated Architects.

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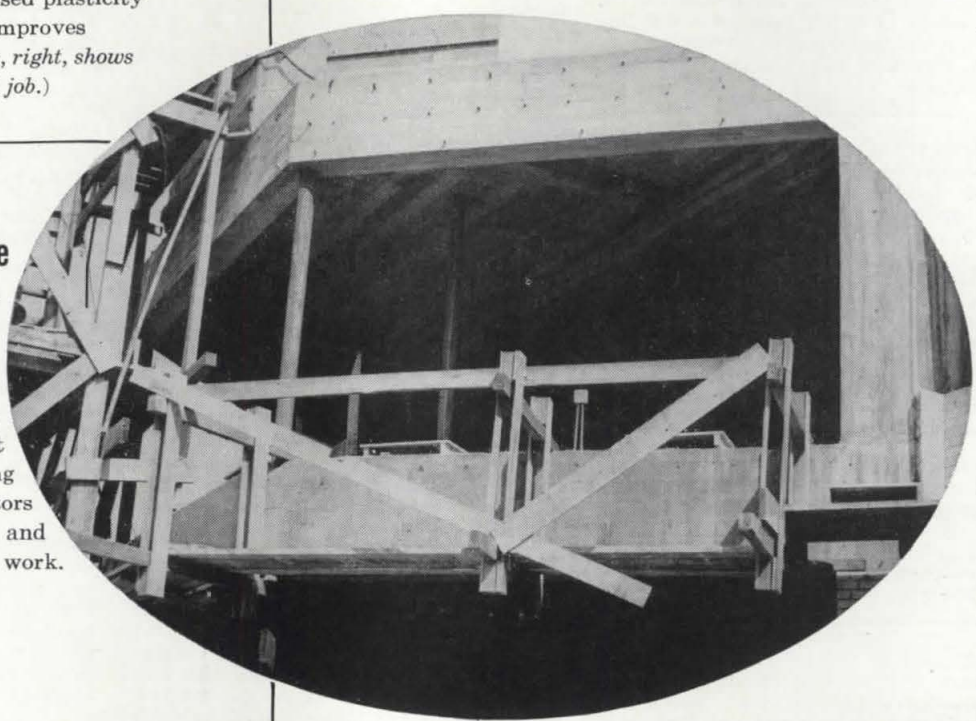

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ARCHITECTS AND SQUAD LEADERS—for immediate employment in our Omaha and St. Louis offices. Give full particulars, including experience, education and salary requirements. Leo A. Daly Company, 633 Insurance Bldg., Omaha, Nebr.

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ARCHITECT—registered in several states, college graduate, age 40, thoroughly experienced, contemporary designer, fine draftsman, headed up office. Interested in permanent location with good connection. Box 361, PROGRESSIVE ARCHITECTURE.

MECHANICAL ENGINEER—heating, air conditioning, refrigeration, plumbing, boiler plants. Twenty years' experience. Registered. Interested in contacting architect in Chicago area desiring responsible associate with wide experience in engineering design, specifications, contracts and supervision. Responsible charge hospital, commercial, industrial and government projects. Box 362, PROGRESSIVE ARCHITECTURE.

TRAINED ARCHITECT AND BUILDER—desires position in hospital or other large construction project. Highly qualified, good recommendations. For further information address Box 363, PROGRESSIVE ARCHITECTURE.

GRADUATE—age 25, veteran, Masters Degree in Architecture, nine months' small office experience as draftsman with increasing responsibility for design and presentation. Previous employers highly satisfied with work. Excellent design and engineering background. Seeking position with progressive firm offering opportunity for advancement. *Location* secondary. Box 365, PROGRESSIVE ARCHITECTURE.

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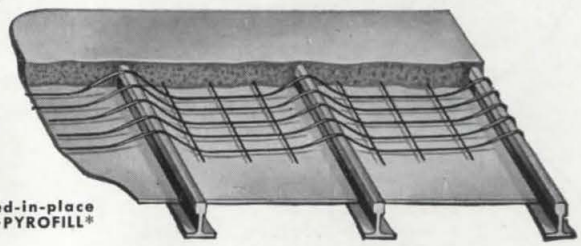

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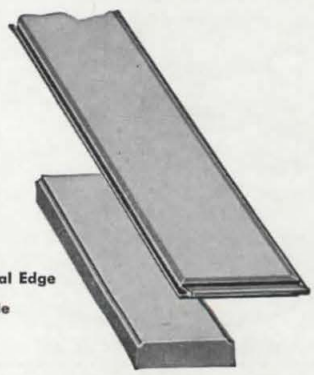

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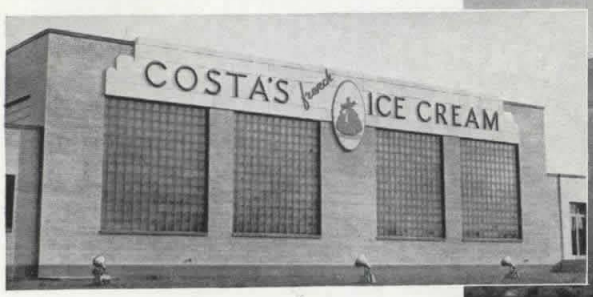

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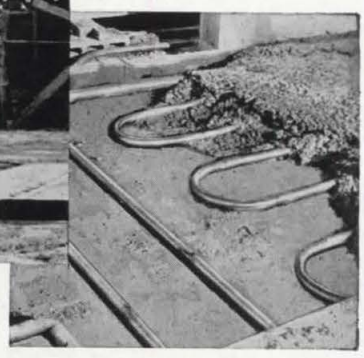

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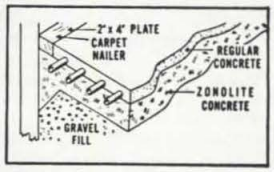

Typical use of Zonolite insulating concrete with radiant heating coils.

Construction details and other data on various applications of Zonolite concrete are available without cost to architects and builders. Mail the coupon today.

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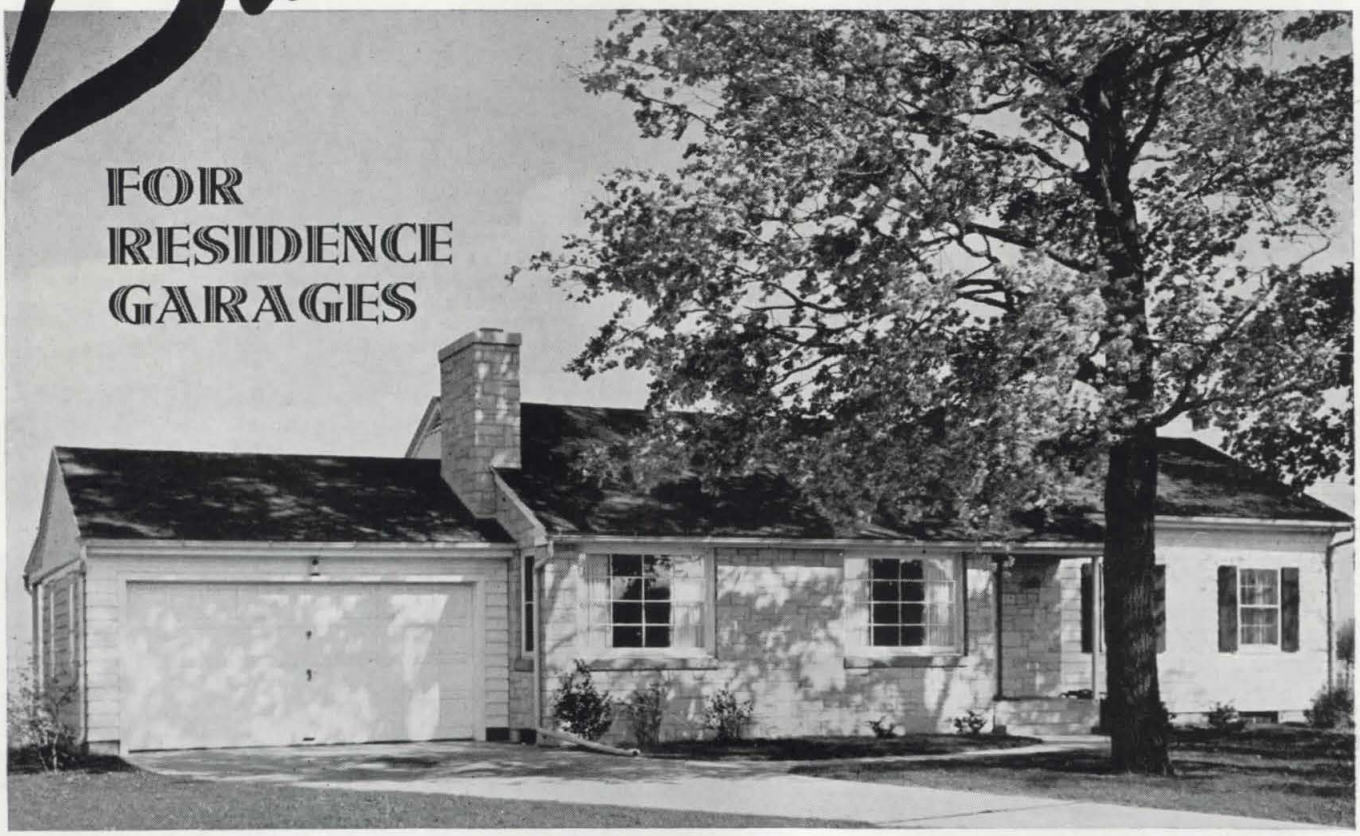

Specified because of MINIMUM HEAT LOSS

Home owners today like their garages to be as warm and clean as possible. *You, as their architect or contractor, can help them by recommending the specification of Barcol OVERdoors.* The Barcol OVERdoor has two outstanding features that minimize heat loss — first, a weathertight closing action that cams the sections snugly against the stop strips; and second, a rubber seal (standard on the Model 50) that fits irregularities in the floor to prevent drafts and keep out dirt. In addition, other distinctive features of the Barcol OVERdoor are easy operation, tailored torsion springs, continuous track brackets, protected cables, installation by factory-trained crews, and durable construction for long life with low maintenance. The satisfactory experience of many building people with Barcol OVERdoors is reflected in the many repeat orders we receive every year.

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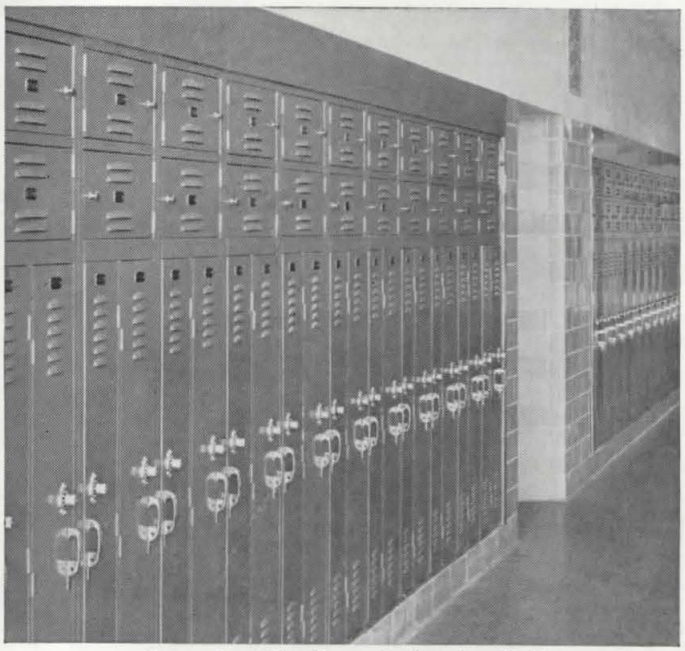

Berger Steel Two-Person Lockers installed in corridors of Central Catholic High School, Reedurban, Ohio. Firestone and Motter, Architects. Gibbons-Grable Co., General Contractors.

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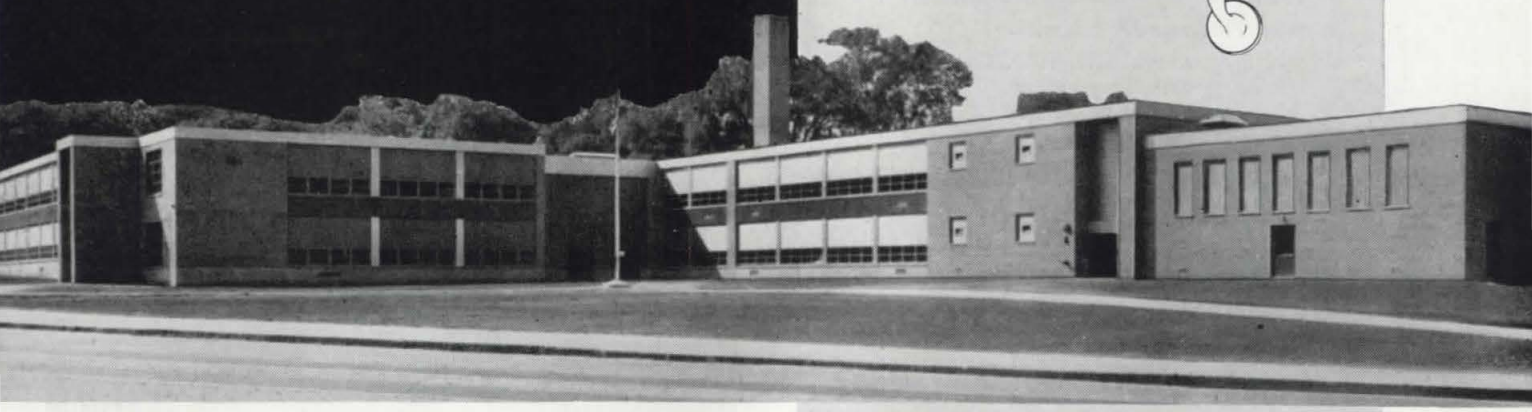

King Junior High School, Portland, Maine is equipped throughout with Corbin "900" Series Locks and other fine-quality Corbin Hardware. ***Architects:*** *John Howard and John Calvin Stevens;* ***Contractor:*** *C. Profenno Company;* ***Hardware supplied by:*** *King & Dexter Company.*

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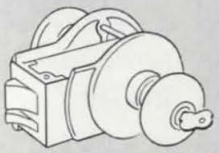
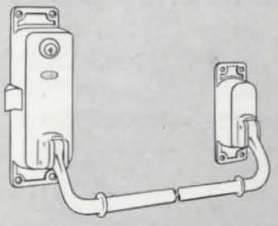
You will find that Corbin Hardware meets all of the specialized needs for the efficient flow of school traffic. It makes an economical installation, too, because it provides year after year of quiet, trouble-free service.

Corbin Hardware used at King Junior High School includes, among other items:



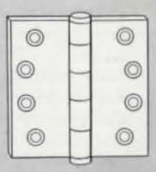
"900" Unit Locks

Door Pulls



Exit Fixtures

Surface Bolts



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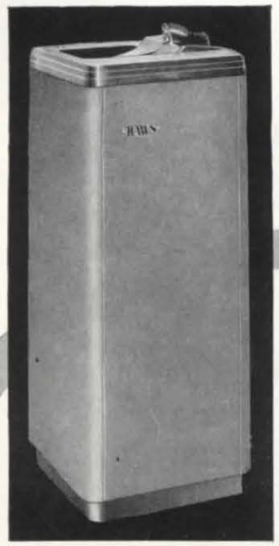

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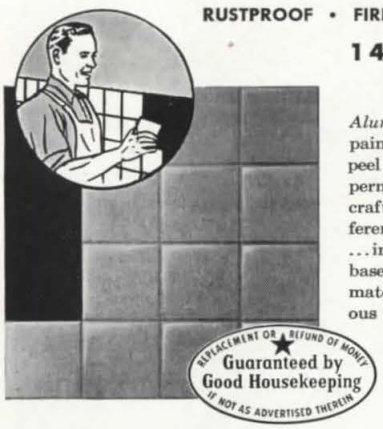

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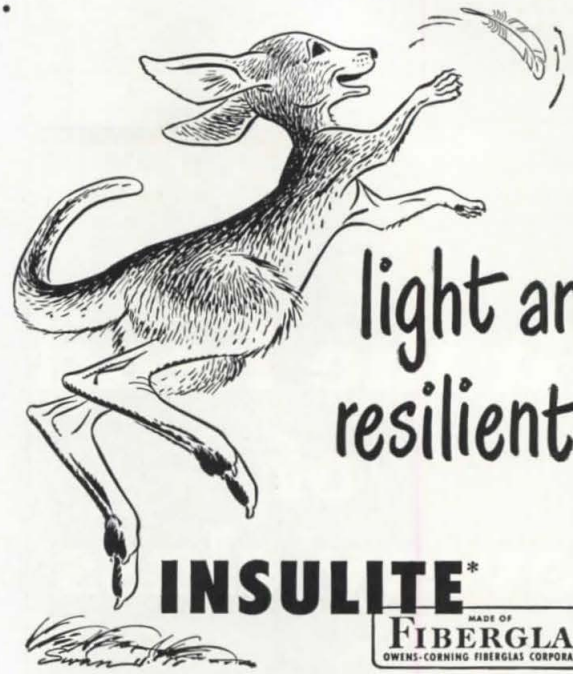

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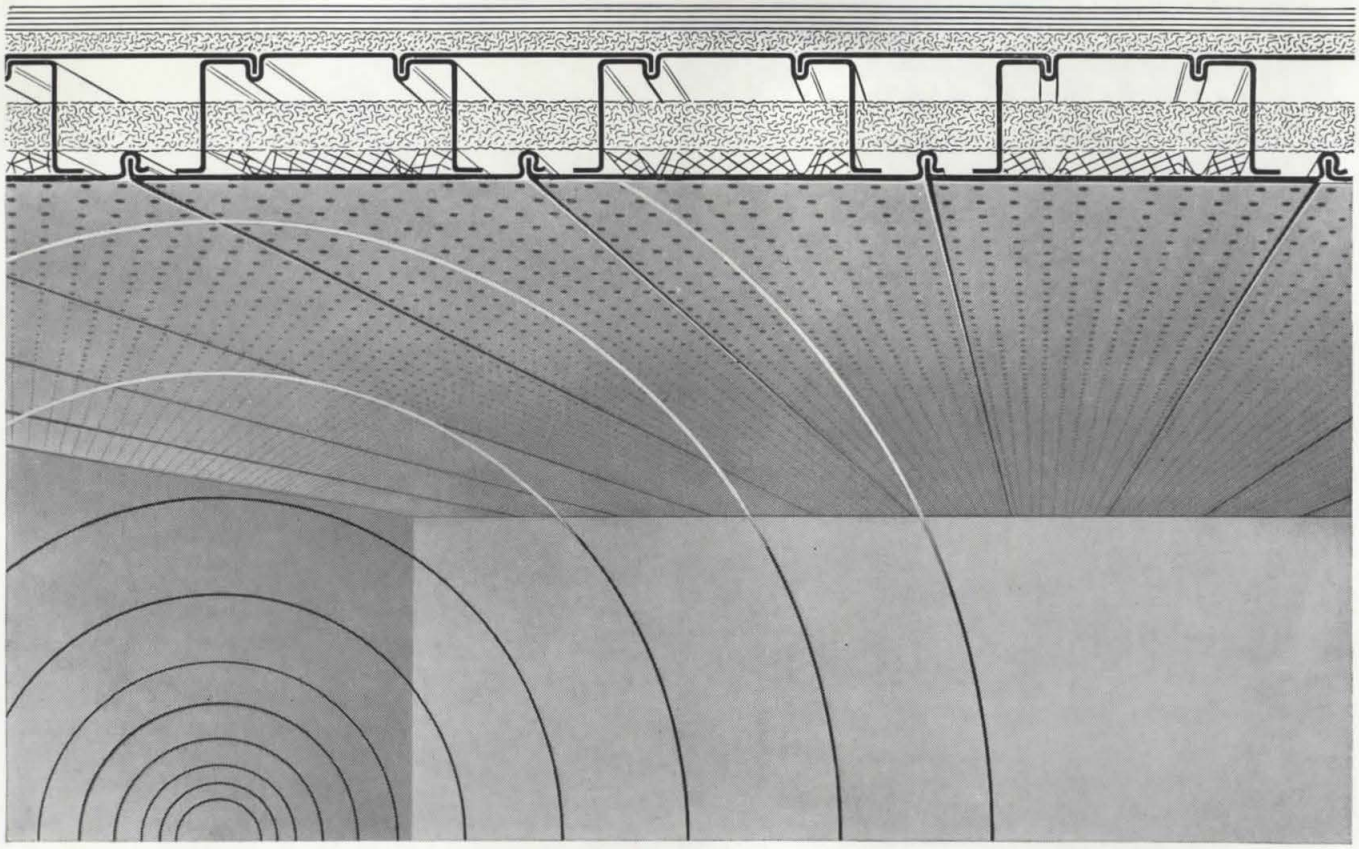

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It soaks up sound. It's structural material. It's ceiling and subfloor—or ceiling and roof. It's incombustible. You can smack its perforated bottom . . . or paint it . . . without hurting it, or its acoustical efficiency, a bit.

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Elements: Cellular panel.

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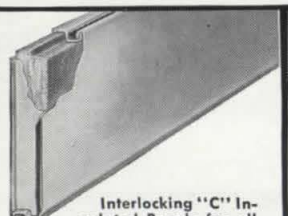
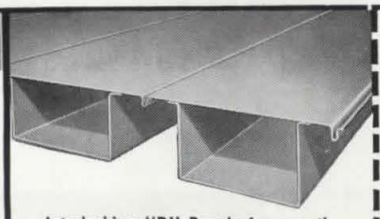


Interlocking "C" Insulated Panels for all walls. Standard width 16″. Depth 3″. Gage steel 18 USS, alum. 16 B&S. Exterior alum. face ribbed or plain.



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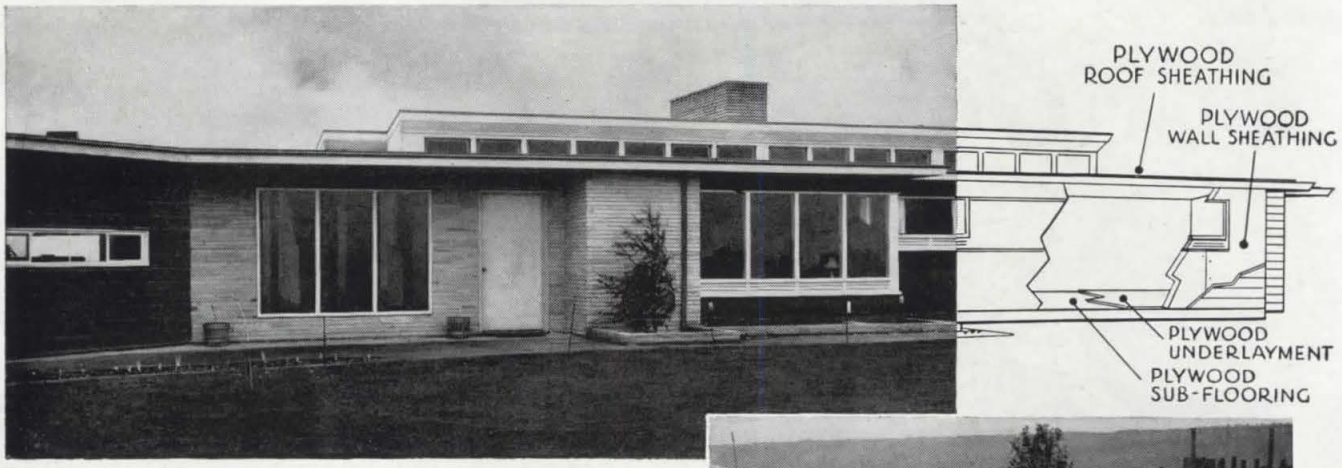
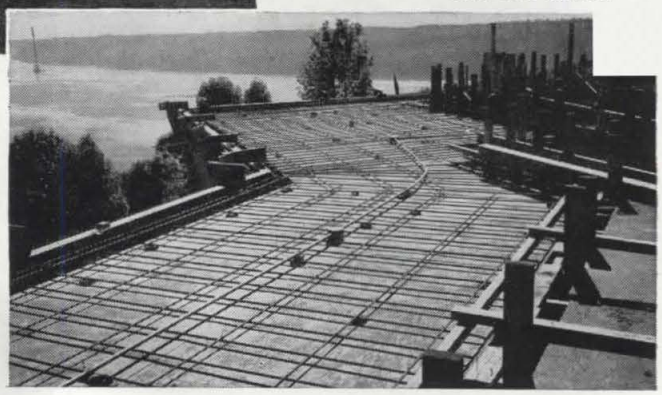
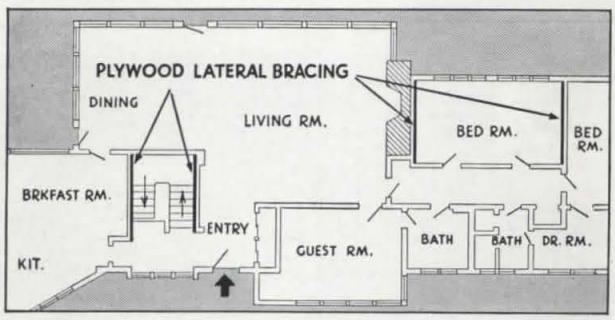




Right: Plywood forms in place preparatory to pouring porch deck which creates an overhang for terrace below. Big, versatile plywood panels were also used to form smooth surfaces for basement and foundation concrete—then re-used for sheathing and subflooring. Wall sheathing and subflooring is ⅝" thickness. Roof sheathing is ½". Owner-designer is Charles T. Pearson of the architectural firm of Lea, Pearson and Richards, Tacoma.

"Plywood Sheathing Specified For Extra Strength",



Interior cross walls have PlyScord nailed to studs. This lateral bracing, acting with plywood roof and outer wall sheathing and subflooring, imparts necessary rigidity. These plywood structural panels also serve as superior backing for interior finish in this fine home.

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Charles T. Pearson, A. I. A.

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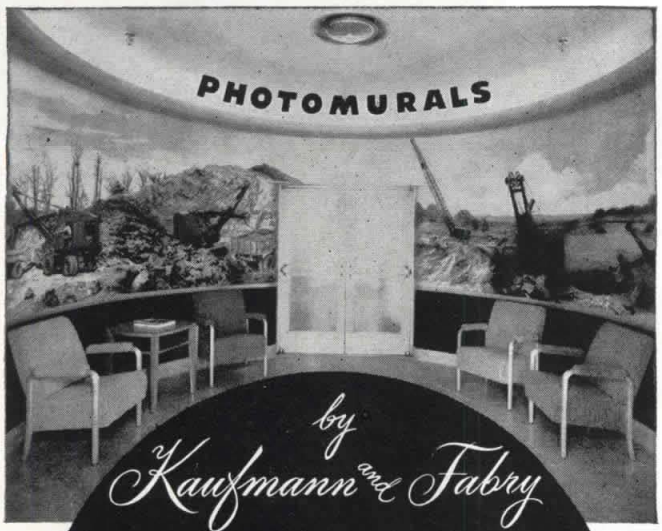

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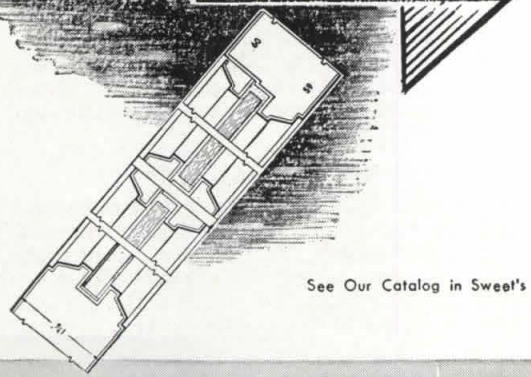

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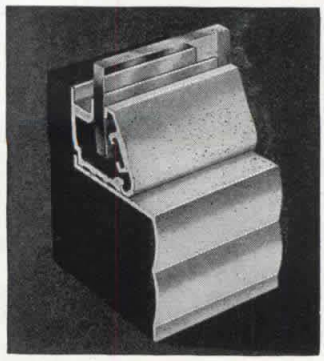

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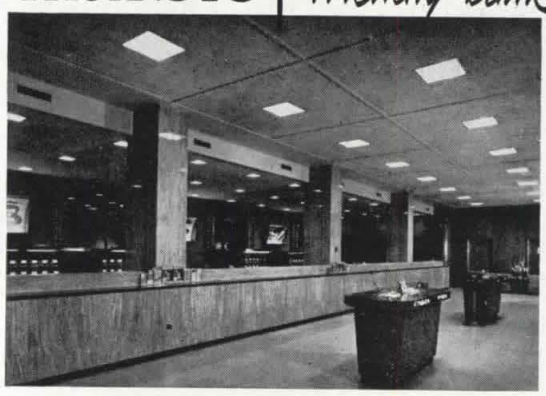

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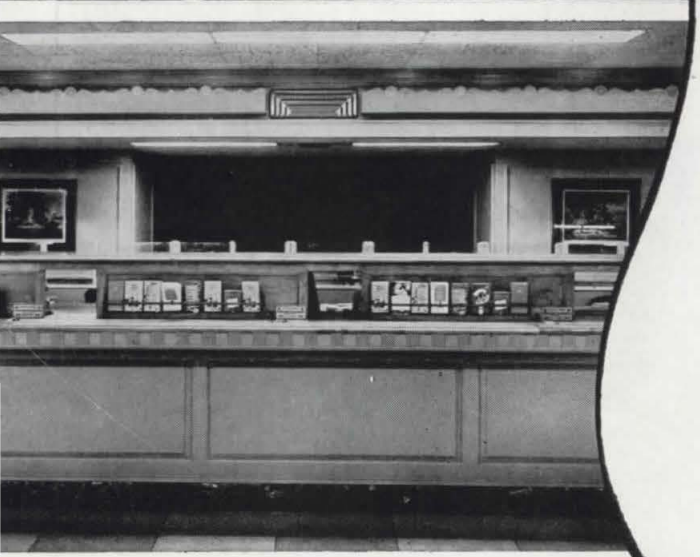

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P.S.

MY GREATEST STIMULUS to creative editorial activity is the promotion letter which goes out occasionally from our circulation department. It announces the things that we are going to do, explains how wonderful they are, and thus makes it necessary for the editors to live up to the promises—or try to. I used to write an occasional editorial promotion letter myself, and I am sure that the profession waited with great anticipation for them. However, I found that they took too much time, and my other activities, such as entertaining visiting architects who came to town and being entertained by visiting sales promotion manufacturers who came to town, were suffering as a result. Now I am reminded again of that responsibility by a letter I have seen, from the editor of another magazine which concerns itself sometimes with architecture, to its architectural readers, and I think it is time that I tried my hand again.

The technique of the editorial promotion letter is very simple. Of course I may have made some mistakes in the past. I used to hold myself to a single page, and this other letter I saw ran six pages. Also I was apparently much too modest. And then I never ran down competitive magazines, while this one takes a few poorly concealed cracks at P/A. As I say, the technique is simple. You explain that everything you plan to do is of great importance; that everything worth doing was begun by you and has been poorly copied by others; that everyone worthwhile reads your magazine; that it would be inconceivable for anyone who wants to keep informed not to subscribe to your paper. I'll show you how it's done. I may be a little rusty, but here's a try.

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FIRST OF ALL, we would have to point out the names and accomplishments of some of the important architects whom we plan to honor by publishing their work this year. For instance there is Fred Llewellyn Wrigley. This great designer, dean of the cantilever, has always considered PROGRESSIVE ARCHITECTURE his best publicity medium, and we will again devote a special issue to his current work (somewhere between the July and August issues). Featured will be his new office building for the Post and Lintel Construction Company—a daring departure in building design which has no walls, no roof, no floors. Lesser geniuses have considered architecture as enclosed space; here Wrig, as we call him affectionately on this magazine, has for the first time freed us of that conception and given us *disenclosed* space. We had planned to present this work in full color, but since there were no tangible materials to show we found that was just impossible, and we will instead use a reddish-brown paper with nothing printed on it but the master's own inimitable comments on his own work.

Then we have succeeded in snaring the biggest job done recently by that power-house firm of architects with offices in Detroit, Toledo, Denver and Baton Rouge—Skill, Daring & Crust. Their 7526-bed hospital for psychoneurotic architects and engineers, built on an island in the New York Harbor which was especially constructed for the purpose (the island; not the harbor.) New York harbor itself was especially constructed to accommodate the $76 billion shipping terminal which they designed a few years ago. New York City, you will recall, was especially constructed to provide for the 842 midtown office buildings this firm has built) will be the special feature of an issue during the year devoted to Important Buildings by Important Architects.

We are going to be proud to show the latest work of Eric von Murphy, whose startling rationalizations are changing the skylines of the world's urban centers. You will recall that last year we published his Sssptt Building, which had no openings in the walls, and his Ppppst Building, which had no walls in the openings. This year we will show his Ttttsp Building. It is entirely sheathed in concrete, and his highly original solution to the problem of functionalism is that on the surface of the concrete are drawn in indelible ink the outlines of the bricks behind the spandrels and the steel shapes behind the piers. (We expect to get a good advertising contract from the company that makes the ink.)

The residential practice of Harry Harkwell will be exclusively shown in our pages. Harkwell's work has not been published for years, because he did not have any work for years. Recently, however, he has completed a small week-end cottage for a girdle manufacturer in the desert of southern New Jersey which has many innovations, such as living rooms, dining rooms, and kitchens adjacent to each of the 26 bedrooms, and 26 bedrooms adjacent to the living room. This provides complete flexibility of living as well as a good photographic subject. Other lesser work of Harkwell will also be shown, including a chair that he designed but couldn't find a manufacturer for and some doodles he made on his drawing board.

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SO MUCH FOR THE WORK we intend to publish. I also want to point out that P/A has undoubtedly originated everything of any worth in architectural journalism, and that practically all other magazines that are published are merely pale imitations of us. Why, for instance, now that we have been doing it for some time, there is another magazine in the field using photographs of buildings. One has even dared show an architect's rendering, when everyone knows that that is our exclusive prerogative. P/A some years ago made the rash venture of showing someone *sitting* in the living room of a house we illustrated, and now that too has been copied. Never forget that P/A began all these things and anything else you can think of. Where would the steel industry be today if P/A hadn't once pointed out that steel might make a good building material? Have you heard of Polstemerelite, the revolutionary new building material? P/A suggested its use as a substitute for glass, and what happened? It was used in three buildings in Nebraska last year. A new industry!

A word about our circulation. We may not have *all* the architects, but the ones we have are the *best* architects. We can't hope to have *all* the engineers as readers, but we have the *important* ones. Ask them if you don't believe us. We do have a little fringe circulation—a couple of dentists got on the list last year somehow—but we assure you they are the most important dentists in their communities, and specialize in bridge work.

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ALL RIGHT, SO IT'S EASY TO PARODY. Maybe I should be serious and really list the people we plan to publish this year—big architects and little, well-known names and unknown names. But I don't quite see the point. You know, I am sure, that we will continue to publish the best examples of current work that we can find, no matter who designs them.

Thomas H. Creighton