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 planned 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 "booby of inflation" drive us into doing panic 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)
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 study tour 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 $2000 for six months' travel in Europe; contestants must be between 23 and 30 years old and nominated by an A.I.A. member.
More and more architects are turning to insulated metal walls for modern industrial and commercial buildings—owners, too, are enthusiastic about the pleasing over-all appearance achieved through skillful employment of this very practical and economical wall construction. Mahon Insulated Metal Walls are available in three distinct exterior patterns—Ribbed, Fluted, or Flush Plates. The Ribbed and the Fluted Walls are field constructed from wall plates which can be furnished in any length up to 55 Ft., providing thereby high expanses of wall surface without horizontal joints. The Flush Wall is constructed of prefabricated insulated wall panels which can be furnished in galvanized steel only, in any length up to 30 Ft. Prefabricated Fluted Wall Panels with exterior plates of Aluminum, Stainless or Galvanized Steel can also be furnished in any length up to 30 Ft. Thermal properties of all Mahon Insulated Metal Walls are excellent. See Sweet's File for complete information and typical installations, or write for Catalog B-51-B.
Completion of the Johnson Wax Research Laboratory marks a milestone in the effective use of reinforced concrete. Created for S. C. Johnson & Son, Inc. by famed architect Frank Lloyd Wright, the 134-foot tower and related structures used 6,960 yards of concrete, reinforced by 504 tons of bars and 542 tons of Wheeling Steelcrete — solid steel mesh made from 3/8-inch plate, the heaviest expanded metal produced to date. In the four views below, Steelcrete and bars are seen as used in conjunction throughout various parts of the structure.

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In this dramatic night view, the 154-foot Johnson Wax Research Laboratory shows the unique construction of its alternating full floors and circular mezzanines, all cantilevered out from a single reinforced concrete core. In its 2000 tons, the tower incorporates 542 tons of Wheeling Steelcrete Reinforcing Mesh.
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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 equaled 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 thought—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.”

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.

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 indispensable 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 commissioned 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...
Laboratory tests at Massachusetts Institute of Technology and elsewhere reveal that reducing the height of 4" and thinner air spaces below 3 ft., increases the flow of heat and reduces the space’s insulation value.

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Focal point of the Festival of Britain will be the South Bank Exhibition in London (see illustrations), where 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" (Continued on page 13)
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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...
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

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.

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.

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.

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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March 1951 15
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.

**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.
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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.

ARCHITECTS
F. J. and W. A. Kidd,
Buffalo, New York

GENERAL CONTRACTORS
John W. Cowper, Inc.,
Buffalo, New York

NORTHERN HARD MAPLE
FLOORS INSTALLED BY
Lamkin & Birtch Floor Co.,
Buffalo, New York

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.
SAVES $68,522 ... CUTS ERECTION TIME IN HALF
... ELIMINATES DISTURBANCE

Industrial Construction. On the publishing plant for the Baltimore Sun, the bid on riveted construction was $551,508 ... welded construction only $482,986, saving $68,522. Structural weight was cut 7%.

Telephone Exchange. The framework for the Associated Telephone Company, West Los Angeles, California, was erected in half the time ... steel tonnage 18% less than riveted construction. Welding also eliminated vibrations and disturbance to $2,000,000 worth of delicate instruments.

School Building for Fenn College, Cleveland, Ohio. 130 ton steel structure was bolted, guyed and made ready for welding in 5 days ... field welded by 2 men in 10 days.


Typical Open Box Column, one of 14 shop fabricated for Associated Telephone Co. exchange, West Los Angeles, California.
113 manufacturers joined hands to give you this unique guide to the New Dimension in Architecture: *Comfort from Moving Air*

AIR, and its handling, to provide continuing comfort in home, office, store and factory constitutes a new, modern aspect of Architecture . . . offers a new opportunity for client satisfaction.

Recent developments and major improvements in attic and kitchen fans, evaporative coolers, room air conditioners, oil heating equipment, unit and space heaters and other air moving equipment make it imperative for Architects to take a new look at this important field.

Planned and produced by more than 100 manufacturers in cooperation with Torrington, America’s leading manufacturer of fan blades and blower wheels, this handsome 180-page book is the most complete guide on air moving equipment ever published.

There are 23 different equipment groupings, each of vital concern to every Architect, each introduced by a condensed and graphic explanation of when and how and where to use the equipment.

An extremely valuable reference to have at your elbow, this book is free to readers of Progressive Architecture. *Send for your copy today!*
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 tops.

(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 Pittca 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.
Design it better with Pittsburgh Glass

Your Sweet's Catalog File Contains a complete listing and descriptions of Pittsburgh Plate Glass Company products.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY
When floors must combine distinctive beauty and exceptional durability, Armstrong's Rubber Tile is first choice. It has unusual clarity of color and graining plus the ability to withstand the wear of concentrated traffic. Various design and service requirements can be met with the choice of colors, sizes, and gauges.

Entrance foyer and main lobby
Richard A. Gleeson Library, University of San Francisco
Milton T. Pflueger, Architect

ARMSTRONG'S RUBBER TILE
ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA
VENT VALVES
SUPPLY VALVES
LOW PRESSURE RADIATOR TRAPS
HIGH PRESSURE RADIATOR TRAPS

CONTROLS FOR FORCED HOT WATER SYSTEMS

DIRT STRAINER

VENT VALVE, PRESSURE REDUCING VALVES

UNIT HEATER, PANEL-FLO VALVE

SUPPLY VALVES
LOW PRESSURE RADIATOR TRAPS
HIGH PRESSURE RADIATOR TRAPS

INVERTED BUCKET TRAPS

ZONE CONTROLS FOR STEAM AND HOT WATER

F. & T. TRAPS

HOT WATER VENT VALVE

UNIT HEATER VENT VALVE

TEMPERATURE REGULATORS

DIRT STRAINER

PRESSURE REDUCING VALVES

VACUUM AND CONDENSATION PUMPS

"MR" CONDENSATION PUMP

Hoffman Heating Equipment

For either one-pipe or two-pipe steam, hot-water, residential or industrial heating—Hoffman has designed and produced the correct valve or control for each specific requirement. And, each Hoffman product is distinguished by exclusive features that assure customer satisfaction, long, care-free service.

"It's the COMPLETE tested, quality line backed by a dependable, single source of supply and responsibility. Yet Hoffman Products cost no more than the ordinary kind. To avoid delays—order now, from your wholesaler of heating and plumbing supplies."

Hoffman Specialty Company
Main Office and Factory: Dept. PP-7 1001 York St., Indianapolis 7, Indiana
Sales Representatives in Principal Cities

A COMPLETE LINE OF HEATING SPECIALTIES

March 1951 29
NEW TRANE COMRESSOR...

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 EFFICIENCY

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 CenTracVac, 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. CenTracVac 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

March 1951 31
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
WHY THIS COLORFUL BAR
stays beautiful year after year...

Kalistron-covered bars, banquets, 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.

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 Frelinghuysen Ave., Newark, N. J.
In Canada: PAUL COLLET & CO., LTD., MONTREAL

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

PORTLAND CEMENT ASSOCIATION
Dept. A3-25, 33 W. Grand Ave., Chicago 10, I11.
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 Miterlite 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.

Mail the coupon for full information

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

Curtis Companies Service Bureaus
PA-38 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: ..........................
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.
Oildraulic automatic floor leveling accurately positions the car to each landing. This is a “must” for power vehicle handling. Exact floor stops minimize shock during loading; there are none of the jolts caused when the elevator car is above or below the landing.

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

Rotary gives you the new Rota-Flow power system for another, quieter, lower-cost service

Rota-Flow, the revolutionary new hydraulic power transmission system, moves Rotary Oildraulic Elevators on a continuous, pulsation-free column of oil. Rota-Flow eliminates vibration and pumping noise, and operates with greater efficiency than any other hydraulic power unit.

Combined with the Rota-Flow power unit to give perfect operation is the Oildraulic Controller, an exclusive patented rotary development. This remarkable device combines the actions of seven separate control valves and carries out the “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 27e 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.

March 1951 37
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

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.

**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.

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.

"Kalistron" wainscoting in corridors of New Britain General Hospital, New Britain, Conn.
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., 4163 Morton Avenue, Evansville, Indiana.
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!

Architect: Luigi Marioni, 1518 Beacon Street, Cincinnati
A GOOD WRENCH SURE MAKES A JOB EASIER, DAD

YES, BUD, BUT IT'S GOOD PIPE THAT PAYS OFF!

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.

Youngstown
STEEL PIPE

THE YOUNGSTOWN SHEET AND TUBE COMPANY
Manufacturers of Carbon, Alloy and Yoloy Steel

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.

General Offices — Youngstown 1, Ohio
Export Office - 500 Fifth Avenue, New York
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.
SIMPPLICITY AND STRENGTH IN STYLING DISTINGUISH THIS NEW KAWNEF® 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.
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:

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
☐ Melamine resin veneer
☐ Custom-built panelling

Name: __________________________
Address: ________________________
City: __________________________ State: ____________
THESE STANDARD MACOMBER STEEL BUILDING PRODUCTS SPEED UP THE COMPLETION OF YOUR BUILDING

STEEL COLUMNS, EAVE STRUTS AND GIRTS

STEEL SASH AND DOORS

NAILABLE STEEL ROOF PURLINS AND FLOOR JOISTS

STEEL DECKING AND SIDING

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.

STANDARDIZED STEEL BUILDING PRODUCTS
MACOMBER • INCORPORATED
CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

March 1951
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-adecuate 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.

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-adecuate lighting. Smithcraft Lighting Division, proud of its position as leader in the progressive development of fluorescent fixture design, manufactures the lighting fixtures that assures better-than-adequate lighting results. Here are a few of the reasons why:

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

As the test results below show, 4 ft. wide, 3/8" 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.

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Results of official tests prove 4-ft., 3/8" Celotex Insulating Sheathing beats rigid F.H.A. requirements by far!

<table>
<thead>
<tr>
<th>F.H.A. Technical Criteria</th>
<th>Average of Test Results</th>
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<tr>
<td>Circular No. 12</td>
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<td>Maximum Load, lbs.</td>
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<td>Residual Deflection, in.</td>
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<td>At Load of 2400 lbs.</td>
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March 1961 53
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School Administration Building:

Seattle, Washington

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MARIUS ANDERSON & ASSOCIATES, MECHANICAL AND ELECTRICAL ENGINEERS

The School Administration Building houses a number of related offices of 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 ice 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.
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**


**EQUIPMENT:** Heating: oil-fired boiler of 30# working pressure to serve hot water system; aluminum convector; 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 asbestos-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 across page, 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.
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.

WORKING DRAWINGS
by the pound

Most important single service rendered by the architect is his originality combined with building and engineering now-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 550 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, 1½ 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 70 lbs. of advice on what to build a new school With.

the weight of an idea

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 influenced by.

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.
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 Flewellings 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 Flewellings 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.

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-Schlesner

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.
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 "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.

**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.
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.
Traditionally a city of brick buildings, Denver has been venturing on other construction systems since thorough revision of the building code by a committee headed by G. Meredith Musick, architect. Acres of small houses are being built by developers, on the plain around the city. Some are employing architectural firms, such as Huntington & Brelsford, whose system of pre-cut houses is intended to reduce building costs. Suburban Lakewood, where Rolland P. Holbrook, architect, has his office, is fast filling with detached houses; while Aurora, also a spreading suburb, is building multiple dwellings.

For those of larger income, Chaffee Park, Arapahoe Acres, and other developments, including the Mid-High co-operative for which Eugene D. Sternberg was architect and planner, are being pushed to completion. Along the curving streets of Belcaro Park begun by Garrett-Bromfield Company just before World War II, and of the converted Polo Grounds, are houses costing $30,000 and up, designed by various residential architects of Denver. Label for many of the newer homes is "Modern Ranch" and the trademark a large window commanding the favorite local view, the Rocky Mountain range a few miles to the west.

Among architects of large apartment blocks Charles D. Strong is prominent, and James S. Sudler reports that he is designing the first garden apartment in the city. Blighted areas of Denver, already tackled by the local administration, continue to be surveyed. Architectural firms participating in Federal-aid public housing program include T. I. Buell & Company, Huntington & Brelsford, Smith Hegner, and Earl C. Morris with Eugene D. Sternberg as site-planning consultant. These will provide decent homes for thousands of Mexican, Chinese, Japanese, and Negro families, brought to Denver through the years to supply a cheap labor market.
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
Increased population and an alertness to needs of modern city account for the accelerated program of civic building in Denver. The visitor arriving by plane first sees the annex to Stapleton Airport administration building, by G. Meredith Musick, architect. In the heart of the city, the same firm has charge of a $2 million annex to the Municipal Auditorium (the old building now to be remodeled as modern theater and a convention hall). Under a three-year program, a new $2,500,000 Public Library will be built at the Civic Center, Burnham Hoyt & Fisher & Fisher, associated architects; and the 12 branch libraries will be renovated. Also at Civic Center, a Hospitality Center will be built for Denver Convention and Tourist Bureau, from plans by Raymond Harry Ervin & Associates, architects. Stanley E. Morse, architect, with Jared Morse, has designed new fire stations for the city; the Denver Zoo will be renovated, starting with a $100,000 outlay this year; a new city hospital, a new city jail and new museums (see acrosspage) are contemplated. Among the civic structures of Denver are the usual grandiose relics of the past, but the trend is toward more useful and practical buildings for public use.

Due to space limitations, in this Case Study the new churches of Denver are not shown. But the architectural activity in this building type is indicated by such structures as Messiah Lutheran Church, by Raymond Harry Ervin & Associates; Bonnie Brae Church, by Stanley E. Morse; Mount Hermon Baptist Church, by Alfred Watts Grant; and others.
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 louvered 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.
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 million Student Activities Building and a $3½ millions athletic plant, both at University Park.
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

CASE STUDY: DENVER, COLORADO


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

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

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

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.

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

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
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 gauge 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.
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

Twin Houses: Berkeley, California

By HENRY HILL, SAN FRANCISCO

ECKBO, ROYSTON & WILLIAMS, LANDSCAPE ARCHITECTS

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.
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

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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.”
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 presented³ 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 thermal equilibrium between room air and structure.

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¹Exponent numerals refer to Bibliography.

²Exponent numerals refer to Bibliography.

³Appendix 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.  

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. 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 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.
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 embedding 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, 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
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 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 dictate. 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 maintain 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

![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.](image)
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.1,2

An approximation of these results by analogy 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 panel installation over a three year period of varying the water temperature to the predetermined optimum with water quantity or temperature to 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.
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.
It is extremely important in 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.

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 \( \frac{1}{4} \) 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.

**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.
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.
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 notwithstanding its capacity of 86 tons down to 15 tons, it is vibrationless and completely silent.
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 3½ 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.
**MANUFACTURERS' LITERATURE**

Air and Temperature Control

1-77. American Type HV Air Filter (208), 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-4356), 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 down-flow 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


1-83. 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 Fl (89), 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 details, installation and ordering instructions. Vulcan Radiator Co., 26 Francis Ave., Hartford, Conn.

1-85. Low-Level Convecter 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**


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. Sany-Metal Products Co., Inc., 1701 Urbana Rd., Cleveland, Ohio.

3-67. Toilet Compartments, AIA 85-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.


**Electrical Equipment, Lighting**

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; 6-21. Carbo-Kote 6020 (C-42), 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 30° 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 describing brush-on protective coating for tank and duct linings and floors. Uses, advantages, properties, drying time, coverage, prices. Carboline Co., 7003 Forsyth Blvd., St. Louis 5, Mo.

6-22. Zinellite (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.


6-25. 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. Nyo-Walt Co., Inc., Auburn, N.Y.

SANITATION, WATER SUPPLY, DRAINAGE


SPECIALIZED EQUIPMENT


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.

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Twin-Reflector Floor Lamp: newly designed modern wrist-action arm which allows complete circular motion. Adaptable for use with any bulb from effect. Joined to tubular stand by perfected spring ring of reflection for added flexibility in lighting.

B & G Carpet 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 temperature, building may be divided into separate zones, each with its own regulator. Bell & Gossett Co., Morton Grove, Ill.

Portable Hot Air Furnaces: 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., 35 Bloomingdale Ave., Newark 4, N. J.

Oil-Fired Winter Air Conditioners: vertical, steel-jacketed unit for residential installation in utility closet or basement. In two sizes, 85,000 and 106,000 Btu output. Richardon 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, forced 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 baseboards, wall-hung, wall, or ceiling. Available lengths and depths provide sufficient heat for all requirements in hot water and two-pipe steam systems. Cabinets, primer, or painting, have rounded corners and flanked edges for protection to children. Young Radiator Co., 709 S. Marquette St., Racine, Wis.

construction

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

electrical equipment, lighting

Mogul Curstip: cold rolled steel wire channel, large enough to accommodate all slimline, starter type, and low brightness fluorescent lamps. Available in 4', 5', 6', 8', and 10' lengths; continuous line may be made up of steel channel coupling. Curtis Lighting, Inc., 6115 W. 65 St., Chicago 38, Ill.

Louvered Slimline Fixtures: series of nine fluorescent fixtures for efficient low-brightness illumination in commercial and industrial establishments. Louvered cutoff is 30° crosswise and 30° lengthwise giving eye-comfort light; single pin lamp holders with positive spring action eliminate flicker caused by poor electrical contact. Choice of 4', 5', 6', and 8' foot lengths in 2, 3, or 4 lamp units. Mitchell Mfg. Co., 5225 N. Clybourn Ave., Chicago 14, Ill.

finishers and protectors

Heat-Beam H-170 extra high heat resistance aluminum paint utilizing silicone base, capable of withstanding temperatures up to 1700°. Fuses with metal surface immediately upon application and forms protective finish against moisture, corrosion, mild acids, alkalis, and industrial fumes. Another new paint, Rustem 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.

Arefilis tough plastic coating for wood surfaces; resistant to wear, abrasion, water marks, chemicals, and solvents, even acetone. As quick drying as shellac, especially recommended for use on floors. U. S. Industrial Chemicals, Inc., 60 E. 62nd St., New York 17, N. Y.

interior furnishings

Bidgecrest Furnishings: 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, bouclettes, tweeds, and printed linens. Arrow Upholstery Co., 240-245 W. 24 St., New York, N. Y.

In-Wall Table and Bench Units new wall-in-stud model features standard 13° table length but with lower height in both table and benches to accommodate small children in classrooms, school corridors, reception 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 and porcelain enamel on steel, claimed to have many advantages over slate blackboard. Can be made in any color (chlorophyll green recommended as most restful and beneficial color to eyes); matte surface eliminates 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.

surfacings materials

La Verre Tile: 8" x 8" 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, disfigurement 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 Isabell 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 regular current in electric or porcelain enameled finish. Chambers Corp., Shelbyville, Ind.
MELVIN CAHN RESIDENCE, Fresno, Calif.
HENRY HILL, DESIGNER

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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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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.
Selected Details

Section through Awning Box

Wall Section 3/8" scale

Elevation 1/48" scale

Shopping Center, Euclid, Ohio

Ernst Payer, Wilbur Riddle, Associated Architects

March 1951 100
"Aw shucks, he has **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.

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**AMERICAN IRON AND STEEL INSTITUTE**

350 Fifth Avenue, New York 1, N. Y.
HERE'S an interesting example of how multiple sizes of PC Glass Blocks can be combined for interesting decorative effects. In this entrance at the Eureka Grade School, Eureka, Ill., PC Decora Glass Blocks, 6" and 12", were effectively utilized for an "out-of-the-ordinary" treatment. Besides, these glass blocks help to provide well-lighted corridors and stairwells, thus lessening the danger of accidents. And their insulating value reduces excessive heat losses, increases comfort of students and teachers, cuts fuel costs. Architects: Lundeen & Hilfinger, Bloomington, Ill.
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.

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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.

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The cleanest cushion under rugs.

22570, October 3, 1950, reported Spongex increased
abrasion resistance 173%. This test and E1183 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.
Farewell to elevators that make you wait ... pass you by ... always seem to be going up when you want "down"!

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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.

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Above: Greenbriar School, Northbrook, Ill.

Right: Elm Hill School, Springfield, Vt.

Left: Elementary School and Shop Bldg., Brewer, Me.

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

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

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

Above: Sidney Lanier School, Dallas, Texas.

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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.

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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).

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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's patented Insulok Core—special interlocking grid construction—\(\frac{3}{8}''\) surface width (on \(1\frac{1}{4}''\) 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.
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 general principle, it is necessary to state an algebraic method. This is again for the analysis of certain problems, rather than the complex trigonometric or complex exponential 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. Kinser, is well known for his original contributions to the subject of subaqueous optics and acoustics, so that much of what is contained in the chapters on underwater sound may be considered new and authoritative.

(Continued on page 126)
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 theorem 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 general.

(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.
alized and nonspecific to be really useful.

After a few brief and monitory chapters on the desirable relationships 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


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 from page 130)
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specify Smootchedge TACKLESS INSTALLATION FOR FLAWLESS CARPET BEAUTY

YOU GET THIS

Smooth flowing beauty at carpet borders... no ugly tack marks, scallops, dirt catching indentations or ripples.
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SMOOTCHEDGE gripper holds the carpet firmly and invisibly from beneath... you see nothing but beautiful carpet.
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SMOOTCHEDGE works much like a curtain stretcher. Carpet is securely hooked at one wall, then stretched and hooked at the opposite wall.
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No troublesome tack pulling when sending out for cleaning... removal is as easy as opening a zipper, and re-installation is fast and simple.
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March 1951
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 Aaschou, 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.

**DESIGN ON DISPLAY**


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 1933, 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.

**DATA ON SNOW**

Snow Melting. T. Napier Adlam. The Industrial Press, 148 Lafayette St., New York 13, N.Y., 1950. 204 pp., illus., $4.50

(Continued on page 132)
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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Manufacturers of
The Crawford Marvel-Lift Door, the Doormaster, and the Stylist
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See our exhibit in BOOTH 39 • NAHB EXPOSITION • CHICAGO

March 1951 131
Expansion Completed

Fasteners, 40 by 200 feet each, and one 24 by 48-foot Quonset create a big new plant for Fastener Corporation at Franklin Park, Illinois.

IDEAL FOR FACTORIES, WAREHOUSES, MACHINE SHOPS, STORAGE OR SERVICE BUILDINGS

For additions to your present plant—or for new plants—Quonsets mean fast completion, economy of materials, adaptability to any use. Also, should plants need more expansion later, you can add Quonset to Quonset, according to the need.

Made of N-A-X HIGH-TENSILE steel, Quonsets provide fire-protection and permanence far surpassing old-style buildings. They require little upkeep—easily maintained. Let Quonsets serve you now. Write us today.

GREAT LAKES STEEL CORPORATION
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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. They devote a chapter each to trolleys, buses, 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)
and now... MOGUL CURTISSIP

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Architects, engineers and designers have long felt the need for a new type wire channel large enough to accommodate ballasts for operating all 4', 5', 6', and 8' fluorescent lamps—slimline, low-brightness or starter type. Mogul CurtiStrip designed and engineered by Curtis Lighting fills this need.

Mogul CurtiStrip is supplied wired and assembled as complete 4', 5', 6', 8', 10', or 12' fluorescent lighting units. These units may be installed individually or in continuous lines... All component parts may also be ordered separately for assembly on the job permitting the greatest flexibility in field application. Curtis quality is found throughout which means "Specification Standard."

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For beauty... for safety... for absolutely leakproof service at the most vital points in shower construction... specify the Weisway Vitreceptor. The textured sea shell pattern in a neutral tone on lustrous white harmonizes with any color scheme. Foot-Grip, No-Slip floor is safe, wet or dry, non-absorbent, easy to keep clean and sanitary.

Formed in one piece, of 14-gauge enameling iron, with vitreous porcelain finish inside and out, Vitreceptor has no dirt-gathering joints, nothing to crumble away. No metal underpans or wall flashing are required, no messy mastic or other "waterproofing." Vitreceptor stays leakproof — assures client satisfaction through the years, protects your reputation. For better stall showers with any practical wall material specify Vitreceptor. Write for new catalog folder with dimensional and installation details.

Protection at Vital Points

Adjoining finish wall materials are enclosed within a continuous rim which is an integral part of the Vitreceptor body. This feature provides a positive wall flashing and assures a leakproof meeting joint, whether the wall material is tile, as in the illustration at the left, glass, marble, etc.

HENRY WEIS MFG. CO., INC., 321 WEISWAY BLDG., ELKHART, IND.
Who are the “12 good names to know”?
They are leading manufacturers of Structural Clay Facing Tile. Together this progressive group comprises the Facing Tile Institute.

What are the objectives of the institute?
There are two main objectives. The first is to maintain, and continually improve upon, the quality of their products. The second is to coordinate the physical dimensions of all units.

How are these objectives being achieved?
The Institute has established a rigid set of quality standards, tests and grading rules which are applied to all members’ products. Continuing research brings constant improvements in both the body and glazes of the tile. Coordination is being achieved by standardizing on simplified sizes and shapes, and on a wide range of colors in glazed and unglazed finish.

How does all this affect the architect or builder?
It gives you guaranteed quality and ease in use. It enables you to design and specify from a single set of specifications. You can be sure that any product of an Institute member will be of satisfactory shape and size, and up to Institute quality standards in every detail.

How can you get better acquainted with the “12 good names to know”?
Feel free to call on any of them at any time. Or, for detailed information about Facing Tile, write the Institute, Desk PA-3, for our new catalogs, 50-C and 50-S.
"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  

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---

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 as 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 fussiness 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.

Put the exciting sales appeal of Thermopane in your houses. Mail the coupon today for detail sheets on how to build a low-cost window wall that will make your rooms look bigger—feel bigger.

Thermopane is made of plate glass or DSA sheet glass bonded at the edges by L'O-F’s metal-to-glass Bondermatic Seal*. It comes in more than 90 standard sizes, as well as special sizes for nearly all kinds of windows.

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  - prevents strain in pump assembly, much more efficient than rigid joints

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  - longer life than mesh or galvanized steel

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

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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.

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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.)
Morgan designs, Morgan construction, and Morgan craftsmanship always measure up when appraised by Architects, Builders, Dealers... the men who know quality. Morgan is THEIR kind of woodwork... it has the features they recommend with full confidence... the features they specify because they want the best.
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.
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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SAFE — because Corruform was developed to provide an extra-tough, secure steel base which maintains structural principles and structural integrity.

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

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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)
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Genuine Clay Tile cleans as easily as a china dish and commands respect wherever it is used. Have you considered the use of tile in the kitchen, foyer, utility room or powder room? It is worth a fresh appraisal every time you design or build any type of building. And remember—whether it is for modern or traditional styling—tile is one of the most versatile materials you can use for distinctive color schemes.

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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 calendar 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 & THORHEID, 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.
Volatile building costs and governmental restrictions, actual and potential, caused 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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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."

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NEW ECONOMIES FOR Daylight Engineering

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The knowledge and experience of a Daylight Engineer is at your service to help you plan an Insulux Fenestration System that exactly fits the requirements of your buildings and manufacturing processes. Just call or write: Daylight Engineering Laboratory, Dept. P.A.3 Box 1035, Toledo 1, Ohio. Insulux Division, American Structural Products Company, subsidiary of Owens-Illinois Glass Company.
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(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-

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You see a finished structure, translated from your imagination and skill into a building with beauty and usefulness... and of course you're proud. This pride is shared by your Distributor of Acousti-Celotex Products because he helped you achieve effective sound conditioning... just as you planned it, without tampering or compromise.

Your specifications are a trust to this Sound Conditioning expert. The trust is backed by experience... active responsibility in solving specific problems of sound conditioning. His service to you is based on professional training, knowledge of job-proved methods, and a complete line of top-quality materials necessary to meet every specification, every requirement, every building code.

Call in your Acousti-Celotex Distributor at the planning stage.

His service will continue until the problems are solved and the installation is completed... completed just as you planned it. To be sure... that every solution to sound conditioning problems has the appearance you imagined, the efficiency you demanded, consult your local Distributor of Acousti-Celotex Products, your conveniently located representative of the world's most experienced Sound Conditioning organization.
it's the law

(Continued from page 154)

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 Ricolaïs 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 BARILA & HUMPHRIES, Architects, Atlanta, as Associated Architects.

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Duraplastic portland cement has proved advantageous for all types of structural concrete. Because of its air-entraining feature, Duraplastic requires less mixing water for a given slump. Its increased plasticity aids proper placement and improves surface appearance. (Picture, right, shows typical Duraplastic structural job.)

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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.

ARCHITECTURAL DRAFTSMAN AND DESIGNERS—beginning salary $3,800 advancing to $4,400, open to college seniors and graduates. Beginning salary $4,400 advancing to $5,000, open to college graduates with five years of architectural experience and to non-graduates with ten years of architectural experience. Permanent positions with civil service status and benefits and liberal retirement system. Write City Service Commission, City Hall, Milwaukee, Wis., for announcements and application blanks. General city buildings or school buildings work.

SPECIFICATION WRITER—experienced A-1, excellent opportunity and working conditions with progressive office—good location in Great Lakes area—some knowledge and experience in school building and institutional work desirable—permanent position—give full details. Box 359, PROGRESSIVE ARCHITECTURE.

Opportunity—for graduate architectural draftsman to locate in a western state with a firm established thirty-five years. Should have five or six years' experience on working drawings, not necessary but ability to develop into associate or partner. Give full particulars in application. Confidential. Box 364, PROGRESSIVE ARCHITECTURE.


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Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (name and address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Min. C/o Progressive Architecture, 330 W. 42nd St., New York 18, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

SITUATIONS WANTED

LANDSCAPE ARCHITECT—graduate, with seven years' experience, three years in landscape architect's office on varied projects including recreational areas and housing developments; four years in civil engineering with emphasis on roads, sewers and surveys. Resume on request. Box 360, PROGRESSIVE ARCHITECTURE.

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.

MISCELLANEOUS


ARCHITECTS-DESIGNERS—don't be burdened with the overhead of draftsmen and space. Let us do your preliminary sketches, details, working drawings, renderings and engineering on housing, institutional and commercial work. All work is done under the supervision of architects and engineers. Architectural Drafting Service, 35 So. Dearborn St., Chicago 3, III.

ARCHITECTS—reduce your overhead. Have your work done by real professional—rendering, sketches, engineering, critiques and all kinds of plaster models—schools, churches, hotels, etc. Send rough list of what you want and have your sketches done for a trial. Along modern trend. C. E. Charbonneau, Witherbee Court Apts., Pelham Manor 65, N. Y.

ARCHITECTS—we have time available to assist you in the preparation of sketches, working drawings, details, shop drawings, specifications, building applications, structural plans, etc. Expert services guaranteed. Andrew A. Oliveri, R. A., 3629 Willett Avenue, New York 67, N. Y., Kingsbridge 7-5847.
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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.

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 powerhouse firm of architects with offices in Detroit, Toledo, Denver and Baton Rouge—Skill, Daring & Crest. 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 Simple Building, which had no openings in the walls, and his Ppat Building, which had no walls in the openings. This year we will show his Ttta 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 also 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 for 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.

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 Poltemelite, 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.

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.