DESSIVE ARCHITECTURE

department store

aluminum building

largest architectural circulation in the world
Ductile, Long-Life Floors and Equipment Grout
In Union Oil Company Laboratory

Union Oil Co. Laboratory, Brea, California. Archt.—Austin, Field and Fry; Contr.—P. J. Walker Co.; Cement Contr.—R. J. Hiller Co.—all companies of Los Angeles, California. Masterplate "Iron-Clad" Concrete Floors—non-colored and colored. Equipment grouted with Embeco Non-Shrink Mortar.

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Section of Masterplate Floor. Note Thickness of Armored Surface.

EMBECO . . .

EMBECO Grout is Non-Shrink
Plain Grout Shinks

MASTERPLATE "IRON-CLAD" CONCRETE FLOORS
EMBECO Non-Shrink GROUT

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two power plants

interior design data

selected details
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Ever Feel a "Draft" in a Warm, Closed Room?

(Radiation is the transmission of rays through space. Infra-red heat rays travel at the speed of light, are invisible, have no temperature, only energy. But when absorbed by a surface, they are transformed to heat. The surface of any object warmer than absolute zero—the Sun, You, Clothing, Wood, Plaster, an Iceberg, a Stove, a Chair, Paper, an Animal, will radiate to a colder surface.)

(Conduction is the process by which warmth flows from a warmer object or particle by direct physical contact, to a cooler one.)

People often complain of "drafts" in a room with air-tight walls and windows. Why? To a large extent because, by Nature's law, warmth flows to cold by radiation as well as by conduction. Cold walls, too, draw heat out of contacting air by conduction, causing a downward current of cold air.

The exposed skin of people and the outer surfaces of their clothing lose heat as infra-red heat rays flow from them, at a 90% rate, to a cooler wall plaster surface, which absorbs the rays at a 93% rate and transforms them again to heat. If insulation is lacking or has packed down, most of this heat is transmitted by radiation to the colder outer wall at a 93% rate, absorbed, and then dissipated to the colder, outer air. Ordinary insulation in the wall space, or a solid wall, augments heat flow by direct conduction.

So people are uncomfortable, perhaps only in spots. More fuel is burned to obtain greater comfort. Unnecessarily high, less wholesome temperatures result.

Multiple sheets of accordion aluminum in the wall space would block convection and reflect back 97% of heat rays to re-heat the plaster by their absorption. With plaster sufficiently warm, no heat radiates from bodies to walls. There is no current of cold air on the surface of the wall. Comfort is maintained without unduly high temperatures or fuel costs.

In summer, the process is identical except for direction. Heat by radiation, conduction and convection is retarded by the multiple sheets of aluminum in the outer wall space. The interiors of rooms stay cooler. Their plaster surfaces are cooler than the body. So, by Nature's law that warm radiates to cold, some heat leaves the body for the colder wall surfaces, increasing body coolness and comfort.

The commercial form of multiple accordion aluminum is Infra Insulation, Types 6, 4, and 4 Jr.

INFRA THERMAL FACTORS. TYPE 6

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INFRA INSULATION, INC.
525 Broadway, New York, N.Y.
San Antonio, Texas, some remarkable coordinated public housing projects are nearing completion. They are remarkable in design, for comfort, for the consideration they give the tenant as a human being, for the way they have been designed and constructed with full co-operation by the architects of the community and local Housing Authority—if not always understanding from regional and Washington PHA offices. Finally, they are remarkable for the use of techniques which brought costs to figures under the approved development program estimates, even though lift-slab concrete construction (desired by the architects and proven more economical*) was not permitted.

The smooth co-operation results from the fact that architects Ford & Rogers, with Sam Zisman, have been co-ordinating architects for the entire program to date, and have been able to work in "amazing harmony" with 14 other firms, associated for specific jobs on an equal-fee basis. O'Neil Ford, Jerry Rogers, and Sam Zisman have done most of the site work—even much of the site selection—and a great deal of the unit planning. Yet each project has a character of its own, within the design criteria that govern all of the plans.

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isol Homes, pictured on this page, were designed by Ford & Rogers, architects, association with Sam B. Zisman, and Charles Weidner & Henry Walther. Volks Andricks was civil engineer; George Rhine, mechanical engineer; Charles Seynolds, Jr., structural engineer. The project is designed as a series of rows and is open to an unusual degree to the southern prevailing breeze because it overlooks a large open field, part of which may be future park space, in addition to present seven-acre park and local play areas. Unit plans face living rooms and bedrooms to the south; open planning allows through ventilation.

Photos: Ulric Meisel
Sutton Homes, another of the San Antonio public housing projects, had Ford & Rogers and Malcolm G. Simons as associated architects. H. E. Nicholson was structural engineer, Hulsey & Royer handled mechanical engineering, and Reynolds Andricks was civil engineer. The project is on a hillside falling away south and east, and the buildings are so arranged (with one-story units low on the hill) that almost all have a view of the city to the south. Breezeways are planned between pairs of apartments. The construction system here is unique: masonry-bearing walls form room partitions and are tied together by a concrete beam poured between wood joists (only form needed was a plywood piece closing the bottom of joist space). Recreation area is at west, adjoining future school playground.

Orientation, “thin” plans that allow through-ventilation, fins and overhangs, balconies and porches, and room spaces decently large, are the principal means used to suit the buildings to the climate. Many of these design features became controversial: the standard “quadrangle” site plan was reluctantly given up by authorities in favor of south sun-breeze-catching orientation for all buildings; sun-control devices were officially considered extravagant, even though they gave a bonus of privacy and noise-barrier; porches and balconies were looked on as luxuries. Densities are higher than Ford & Rogers would have liked—following a fluctuating PHA standard. Room sizes are somewhat over the minimum standard, but they “should have been larger.” There is a high percentage of 4- and 5-bedroom apartments, because that was the local need; this fact, of course, helps reduce the unit cost. The first three projects were designed as flats (one- or two-story) but apparent economies were found since all later projects are row houses. There are as many one-story buildings as possib
East Terrace Homes were planned by Ford & Rogers, the co-ordinating architects for all projects, associated with Addis E. Noonan Associates, Thomas B. Thompson, and Allison B. Peery. William Orrison and George R. Rhine were engineers. Unit plan (below) shows screened porches provided for all units. The project has a number of well-planned one-story structures. In two-story buildings, stairs are enclosed.

Site plan of East Terrace Homes shows how buildings (with all living rooms oriented to the south) have been so arranged that open areas and pleasant vistas are gained without sacrificing economy in street layout. The project is a medium-sized one, and the loop street through the center serves all parts of it well. Play areas within the development are supplemented by an adjacent city park.
San Juan Homes, shown on this page, (designed by Architects Ford & Rogers; Nayfach, Richey & Kermacy; R. H. H. Hugman and John Marriott; Frank T. Drought, engineer) illustrate a number of unusual features of the San Antonio projects. The central play area adjoins the play yard of a school, to the advantage of both (in every housing project there is a relation to other community facilities such as schools, parks, playgrounds); like the others, it has a clinic staffed by the city Public Health personnel, serving the entire neighborhood. There is a planned relationship of one-story (four- and five-bedroom) and two-story units. Balconies and porches are provided
the street, ramps for both pedes-
and cars lead up to the main-
ce level (right). At the rear of
vel is a garden in abstract pattern
by Roberto Burle Marx. The
shown (below) is around a
ventilator of the garage roof.
Photos: Peter Scheier

<table>
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<tbody>
<tr>
<td>architect</td>
<td>Rino Levi</td>
</tr>
<tr>
<td>collaborating architect</td>
<td>Roberto Cerqueira Cesar</td>
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General view of the north front (above). Walls around the elevator lobbies (two photos, left) are surfaced with yellow, blue, and brown ceramic tile. Pedestrians reach the entrance level by ramps that curve up from the sidewalk (below).
in one of the most beautiful residential areas of São Paulo, this twelve-apartment house has a number of spatial elements in plan and design that require careful study by North American architects.

Because of soil conditions there is no basement. Instead, the first floor is at a level below grade. Hence, the entrance level, children's play area, and garden occur half a level below grade—the so-called second floor. From the ground on pilotis, this is reached from the street by ramps. The resultant open-gallery effect gives a sense of appearance not found in buildings with walls to the ground.

Each of the floors from the third to the eleventh contains four luxury apartments, while at the rooftop level we elaborate penthouses. On each typical apartment floor, the two apartments with the main living areas facing the favored north (street-front side) have ample living balconies, separated from each other by a solid wall. The penthouse apartments, set back from the building line, have spacious garden areas that command dramatic views over the city.

At the rear of the building, on the entrance level, is a colorful garden enclosed by the wings of the U-shaped plan. Designed by Roberto Burle Marx in the manner of an abstract painting, it consists of masses of plants of different colors and textures. Exterior walls of the entire building are surfaced with small ceramic tiles in blue, brown, and intense yellow. “The combined colors of building and garden give the whole a vivid and gay appearance,” the architect comments. As to the façade broken by balcony recesses and the see-through main floor, “it has always been my opinion that in architecture one should try to avoid the rigidity that usually derives from huge unbroken wall masses.”

An important point in plan flexibility (shown in greater detail on pages following) is the provision in each apartment of a large unsubdivided space, adjacent to the living-dining area, allowing each tenant to erect partitions as he desires for bed rooms or suites.

Of reinforced concrete construction, the building is supported on pile foundations. A layer of asbestos and mineral wool applied directly to the floor slabs provides sound-insulation between apartments. The building is year-round air conditioned, with individual controls in each apartment.
apartment house
The big space allotted for family living in each apartment (photo across page, top) may be divided in a number of ways (sample variations below) depending on the particular tenant's needs.

Details of balconies and rooms of a typical apartment (across page, below and two photos above) indicate the spaciousness of a penthouse suite.
ship decoration

Last month on her maiden voyage from New York, the new United States liner, *S.S. United States*, set a new record for an Atlantic crossing. This is not the sole record that the owners, the United States Lines, claim. Speed and comfort are attained not only by sleek over-all design (Gibbs & Cox were naval architects) but also by major use of light metals—in particular, aluminum. The emphasis on lightness and fire-resistance meant that the interior architects (Eggers & Higgins) and the interior decorators (Smyth, Urquhart & Marekwald) had also to use light, noninflammable materials. And when Hildreth Meiere and Austin Purves were asked to serve as "art consultants" to help select and co-ordinate the work of 14 painters and sculptors in the public spaces, they also discovered that lightness and resistance to fire were essential.
Gwen Lux, sculptor, created the five-foot figures symbolizing Expressions of Freedom, and the other motives on side walls, representing sea, earth, and sky forms, for the first-class dining room (above and at left). Searching for a sympathetic material which would be light and fireproof and would not be harmed by the ship's vibration, Miss Lux hit upon Foamglas, cellular glass insulating material. Gluing together blocks of it, she worked with files and knives rather than chisels. Texture of the Foamglas shows through the light-beige paint sprayed on the completed work, which is accented with gold and silver. Thus the material is not denied—and the sculpture enhances and unifies the dining space with its quiet color scheme.

At right is shown a portion of Charles Gilbert's sandblasted, edge-lighted glass panels in the ballroom. The undersea theme is enlivened with gold accents. Photos: J. Alex Langley
ship decoration

Lewis E. York's murals—based on symbols of America—are in the cabin-class smoking room. Above are representations of musical instruments; below, 18th Century and whiskey flasks. Abstract background represents Udynamism.

Peter Ostuni based his murals for the first-class cocktail lounge (left) on Indian sand paintings, using Navaho symbolism. His modern technique was to apply vitreous-enamel copper to sand-coated aluminum.
Two power plants

Photos: Allen Downs

Power Plant for the University of Oklahoma, Norman, Oklahoma. Coston & Frankfurt, Architects and Engineers.
Photos: Ray Jacoby

On the following pages, we present two new power plants—one, a steam plant serving Rural Cooperative Power Association distribution cooperatives in the State of Minnesota; the other, a plant for the University of Oklahoma. In considering the current general excellence of power-plant architecture, one cannot but recognize a debt of gratitude to the Tennessee Valley Authority for the forward-looking work it has done in this field over the years. To indicate that the high standards set by this agency are still thriving, we show (inset photograph) one of the most recent of TVA accomplishments—the South Holston generating station that is operated from the Wautauga Control Building (November 1951 P/A). Its exterior walls are of prefabricated insulated panels, with fluted-aluminum exterior surface and flat steel within.

In this age of power, it is not surprising that a power plant is one of the architectural types that provokes considerably more than average curiosity. To satisfy this public interest, the REA building has a separate gallery level for visitors; while the campus plant has special catwalks to enable engineering students at the University to use the facility for laboratory classes and field trips.
The Elk River Steam Power Plant of the Rural Cooperative Power Association is located on the east bank of the Mississippi, a half mile south of Elk River and 30 miles upstream from Minneapolis. The plant draws its cooling water from the river.

Designed to serve nine distribution cooperatives, with a membership of some 25,000, it also supplies six near-by towns. The capacity of the present two steam-turbine generators is 23,000 KW. When a third generator is installed, this will be upped to 38,000 KW.

The hillside site offered several advantages. Two 54" concrete conduits bring water from the river to be used for the boilers, circulating water, and other plant uses. A rail spur on top of the bank behind the building delivers coal to the stockpile, effectively masked from the front by the building itself. This placement also simplifies movement of coal into the plant.

Dominating feature of the building is the turbine-generator room that fronts on the highway. This room, a simple rectangle in form, contains generators and control panels on the main floor and steam turbines on the lower level. An early decision to expose to exterior view one entire generator unit, accomplished by a full glass wall at the entrance corner, effectively masks the boiler building. The other front bays are filled with precast insulating concrete panels, with circular glass-prism insets, identical to those used in city sidewalks for bas-relief lighting. This daytime light source (problems of window maintenance) glows at night in a dramatic pattern.
Structural frame is steel; exterior walls are brick, tile, or precast prism-studded concrete panels; concrete floor slabs were used to provide vibrationless bases for equipment and support the heavy loads. The roof is of precast lightweight concrete panels, with spun-glass block insulation.
A program requirement was that the building be accessible to the owners-members and the general public. Hence, there is a visitors' gallery, reached by the main stairway, on a mezzanine above the office-lab area of the operating floor. The process involves powdering and blowing of coal dust for the huge industrial boilers, which provide steam to power the turbines.
Daylighting effectiveness of the glass-inset wall panels is apparent in the view of the turbine room looking toward the front of the building (right). The completely air-conditioned offices and public areas, separated from the operating floor by a screen wall of brick and glass, have acoustic ceilings and fluorescent lighting. Walls of the turbine room are light blue-gray glazed brick; the ceiling structure is exposed. Flooring is red quarry tile; the lighting, incandescent.
During the preliminary study for this plant that serves the entire University of Oklahoma campus, the architects made extensive inquiries into present and future requirements for electrical energy, for process steam, and for heating steam. Having in mind the University's contemplated future building program, the installed capacity of the plant was established, the powerplant equipment purchased, and the building designed around the equipment room allowed for future expansion.

Proximity of the flat site to the power plant simplified tie-in to steam distribution and chilled-water system. Per-level catwalks were included in engineering classes for first-hand study.

Foundations are of a bored-beam forced-concrete type, with reinforce
crete basement walls, floor framing, and turbine and boiler foundations. Above the first floor, the north and south end walls are three-foot cavity-type brick construction, carrying a portion of the roof loads. The balance of the system is structural steel to carry roof, boilers, catwalks, and other loads. No air-conditioning or heating system was required, and general, natural illumination is supplemented by ample, incandescent, artificial lighting. "We especially like the simplicity and functional design of this plant," the architects say. "An architect infrequently has the opportunity to work so closely with so complex a mechanical building."
The main room has floors of inte, colored concrete, and the cavity wa brick are surfaced inside with a 10 high wainscot of glazed tile. Stee trusses and deck are left exposed.

Sheet- and plate-glass windows mounted in aluminum settings; are hollow metal. Piping is painted color code, for ready identification high-pressure steam, condensate, and hot water, etc.
## DEPARTMENT STORE

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<td>William T. Snith, President</td>
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When Joseph Winchester Robinson left Massachusetts and in 1883 opened "The Boston Dry Goods Store" in modest rented quarters in downtown Los Angeles (he and two clerks constituted the personnel), he could hardly have dreamed of the huge downtown J. W. Robinson Co. store that was to become a landmark of the local mercantile scene. Much less would he have imagined that 69 years later, on a 7½-acre site out in open fields 9 miles northwest of City Hall, a gleaming marble-and-granite branch store bearing the company name would be built at a cost of $6 millions. But Los Angeles has come along since 1883, the City of Beverly Hills has mushroomed, and "Robinson's Beverly" is very much a fact.

The site, west of the intersection of important Wilshire and Santa Monica Boulevards, extends between the two at the base of a triangular acreage, the apex of which is formed by the boulevards' crossing. A new private drive that serves for traffic access to the store joins the two bo and separates the store site from the remaining triangle, which is destined to be the location of a hotel and other commercial developments.

Since the Wilshire Boulevard was considered the most important street in the city, the store was placed at that side of the site, though angled from the street to an 80-foot-deep planting area for a level parking deck, with space for 1,600 cars. Because of the slight slope of the site, the upper parking deck is only 10 feet lower than the store's main floor; the lower deck joins the "garden level"—so-called of the landscaped sunken garden—with space for a penthouse with employee facilities and a public tea room—with space for vertical expansion.
Stairs also join the two parking levels (two photos, right). A side of the parking-deck structure becomes a wall of the sunken garden (two photos below). The bronze-and-brass fountain-sculpture is by Bernard Rosenthal. The garden is used for outdoor display and for fashion shows.

ed from the upper-level parking (right), the main automobile-cus­r entrance is marked by the canopy he setback above the garden level. walls are surfaced with white mar­black granite, and concrete.
The welded-steel frame is laid out in 32-foot-square bays. On the main floor, omission of one row of columns and introduction of deep overhead girders creates an uninterrupted “open vista” selling area 64 feet wide and 180 feet long. This provides an exceptionally open plan and also simplifies any rearrangement of departments. Similarly, lighting and sprinkler installations are so located that they will not have to be moved to accommodate future shifts.

For convenience of the rather special type of clientele, department arrangement is the reverse of standard procedure—higher priced shops are on the main floor; budget shops, on the floor above. “garden level” handles furniture, appliances, china, radio and television, coverings, toys, and draperies. At the center of each floor are banked two elevators and two moving stairways, the latter a capacity of 8000 persons per hour, elimination is by a combined incandes...
fluorescent installation, designed to achieve the light levels desired yet not create too great a heat load on the air-conditioning system. Three 125-horsepower recirculating compressors serve the latter, two gas-fired boilers furnishing steam heating coils. Evaporative condensers are used in lieu of a cooling tower.

General view from Wilshire Boulevard (bottom page) shows the automobile entrance at left; pedestrian entrance, right. The 80-foot setback from the boulevard (left) provides a landscaped setting for the store. A secondary entrance leads directly into the men's store. Pavement is black-and-white terrazzo.
From the auto drive, tempered-plate-glass doors (above) give access to the uninterrupted 64-foot-wide, 180-foot-long main sales "theater" (right). To the right is the men's department (below). In addition to the chandeliers, the ceiling is studded with a modular arrangement of both incandescent and fluorescent fixtures, air diffusers, and sprinkler heads.

This is the first complete department store in Beverly Hills, a community that has burgeoned with specialty shops in recent years. But, as already pointed out, the sophisticated nature of the community dictated an unusual plan solution, with the higher-priced departments placed where "impulse merchandise" usually occurs—on the main floor. Furthermore, while the store carries a complete line, including a furniture department, it is organized more as a series of quality shops than as a merchandise warehouse. These shops are arranged around "wide-vision sales theaters." One can see at a glance the entire range of departments, which are reached directly by gently flowing aisles without interrupting mazes of sales lures.

The main floor is illustrated on these two pages. This floor is carpeted throughout, said to be unique in department-store design. The central elevator-moving-stairway unit is lavishly treated with planting areas, columns surfaced with gold leaf, murals, polished Portuguese St. Victor Rose, and applied bronze decorative lights; elevator doors are satin brass. Other wall areas are of cast, off-white plaster in a diamond pattern set in frames; rosewood paneling, and plexiglass screens. Each of the quality specialty shops, organized at the far end of the "theater" around a kidney-shaped circulation area, has its individualized decorative treatment.

Silverware, accessories, and toilet a
The Adrian Shop (above) is at the rear of the main floor. Color scheme: off-white, brown and black, with accents in crystal and silver. At the far end is a stage for fashion shows. The silverware department (right), has windows on Wilshire Boulevard and also facing the auto drive. The other walls are of ice-blue felt, welted in rectangular patterns. Display cases are bronze framed.

The blouse department (below) adjoins the automobile-customer entrance. As elsewhere, counter units are composed of two parts—bronze-legged platforms covered with plastic-impregnated grass cloth, and sectional showcases framed in bronze that may be arranged in numerous combinations.

The ceiling of the main "theater" tree specially designed chandeliers combine crystal, polished brass, and reflector elements.
department store

The merest sampling from the second-floor shops where budget and medium-priced merchandise is handled. In the shoe department, a curved background wall, beige in tone, is painted with a repeated, elongated diamond motif in gold, brown, and white. Interiors of the recessed display cases are gold.

In the art needlework department, gold-beige is the wall color; the colorful skeins of yarn are displayed in blue-green-lacquered honeycomb cases that rest on pipe supports extending above the cases as frames for the stylized “cat’s cradle” in brilliant colors.

classification


equipment

When Charles Martin Hall first produced his aluminum buttons at Oberlin College in 1886 (a few revered ones have now become the "Crown Jewels of Alcoa," right), the approximate price of this metal was $8.00 per pound. With a 1,350,000 ton volume of production contemplated by the entire U.S. industry for 1952, aluminum pig sells today for about 18 cents per pound.

ALCOA BUILDING: LIGHTWEIGHT CONSTRUCTION

by Burton H. Holmes

can be little doubt that the Aluminum Company of America's new office building, now nearing completion in Pittsburgh, weighs less for its size than any skyscraper yet erected. Many of the significant postwar building techniques that make lightweight construction possible have been skillfully integrated into the design of this 30-story (410' high) structure containing 300,000 square feet of floor area above the first level. The aluminum weight-saving elements will be evident in the magnificently engineered curtain wall, in the dual-purpose type of floor construction, and in the component parts of the heating and cooling system. Large number of its component parts are indigenous, is a tribute to the engineering skill of Pittsburgh's manufacturers of natural materials.

The exterior facing is made up of pressed panels that are 6' wide, 12' high (story height), and of 3/8" thick aluminum sheet. Stacked and stored on each floor until installation, panels were erected from within the structure, thus eliminating the need for exterior scaffolding. After the panels were shimmed and bolted to the brackets, the joints required no additional taping or calking: the exterior is entirely maintenance-free. Flanges of adjoining panels are so designed that a labyrinth excludes all penetration of rain; infiltrating air must change directions four times before being arrested at the secondary return flange. Smaller panels, extending from floor to floor and 27" wide, cover the fireproofed structural columns that occur generally at 20' intervals around the periphery of the structure. The metal panel is totally separated from its back-up, the dimension of the intervening space varying from 8" at the panel edge to 1 1/2" at the apex of the pyramidal impression; through this space, circulating air helps to evaporate any condensation that may form.

Once the skin was properly anchored, a slotted aluminum lath was installed to serve as a catcher-screen for a sprayed-on perlite-concrete back-up; a maximum of five passes of the plastering machine was required to build up a 4" thickness. When the concrete had cured (it was designed to develop 1650 psi in 28 days and actually developed 2000), 1" plaster was applied to metal lath furred 3/4" from the wall. All exterior panels were anodized and a 5 percent silicon-bearing, aluminum-alloy liner material gives them an iridescent, gray appearance without the use of pigment or dye. The inverted pyramidal pattern contributes a certain amount of rigidity to the skin; however, this design was developed principally for esthetic reasons. The aluminum skin alone will successfully resist a wind load of 30 psf with a safety factor of two. The total weight of the curtain wall is approximately 34 psf; the skin weighing 21 4 psf, the 4" perlite-concrete back-up 22 psf, and the furring and plaster about 10 psf. Other than the perlite aggregate in the back-up and the two air spaces, there is no other thermal insulation in the wall. Tests have shown that the curtain wall has a U-factor of 0.14; it is believed that this factor will be even lower after the walls have been completely cured. Although the Pittsburgh Building Code requires only a two-hour fire rating for exterior walls of commercial buildings, this curtain wall has satisfactorily passed a four-hour test.

Experience has shown that two erection crews of five men each would be able to enclose the 30-story structure with the aluminum skin in one month's time. Each
Alcoa's new home office building in Pittsburgh as it neared completion (above). This 410'-high skyscraper is supported on open-caisson concrete piers that reach a depth of 90' below street level. Its main tower is 64' wide and 193' deep (typical floor plan, above right).

After panels were anchored and glazed, slotted-aluminum lath was installed to catch sprayed-on perlite-concrete back-up (right); wood forms protect windows while back-up is sprayed to depth of 4" (center); completed perlite-concrete walls after removal of wood forms (far right). The wood forms were used only at window jambs because of their great projection. Lastly, walls were plastered over metal lath. Note grid for heating-cooling system at ceiling.
-glazed after each panel was in place. Window pivots through 360 degrees, be washed from within the building (at night), thereby removing windowing from the hazardous occupation to simplify further the cleaning task, frames are rounded. A butyl-rubber which completely surrounds the window, inflated by air pressure to insure tightness. The exterior light of the -glazing is \( \frac{3}{4} \)" heat-absorbing plate glass. Although the green-tinted glass reduces glare from the sun's rays on the inside of the building—it is not particularly helpful in reducing the summer cooling load when combined with venetian blinds—it was also selected for its compatible appearance with the surrounding gray aluminum. Standing at the first interior column line and looking out of a typical window, the observer is unaware of any green color in the glass; there is, however, a small, tinted area on the ceiling near the exterior wall.

**the floor system**

Following the structural steel erection by about three stories, light-gage, cellular-steel Q-floors were easily and rapidly laid in office areas surrounding the service core. As the floor cells were installed so that they lay perpendicular to the corridors, the flexibility of the electrical distr-
The heating-cooling system

Practically all areas of the building are heated, and partially cooled, by the aluminum-panel, radiant ceiling. Below the 1" perlite-plaster ceiling suspended at a distance of 13" to 16", depending upon the depth of the wind beams.

The design load included: 50 psf live load; 7.5 psf stone-concrete fill; 7.4 psf cellular steel; 5 psf perlite plaster; and 1.8 psf combined panel ceiling and mechanical grid (dry).

Water distribution is through horizontal mains, located in the corridor ceiling through branches which extend to individual grids.

As there are no radiators, piped-in hot water was not included. Other types of peripheral air-conditioning units along the exterior wall, approx. 15,000 square feet of rentable floor area, were gained by this system.

The principal source of cooling and dehumidification is two electric, motor-driven centrifugal refrigerating machines operating with condensing water supplied by aluminum cooling towers located on the roof level. This central refrigeration plant generates chilled water that is then pumped to the central station primary air-conditioning units as well as to local interchanging serving the panel systems.

The basic source of heat, pure steam, is distributed to all blast doors, the central station air-conditioning and is also used to generate priming water which is pumped to the local interchanging exchangers.

Primary air is conditioned in four central air-conditioning systems (one in the basement, two on the 14th floor, and one on the penthouse level) which provide 54°F air all year round. This air, pr...
Close-up of aluminum ducts and ceiling-piping grid on upper floor (right). Workman installs 12” x 24” individual panel which is held to grid by integral, continuous-type grips (far right).

Where a suspended channel or other obstruction interferes with a segment of the continuous-type grip (far left), that segment may be readily removed by bending back and forth until breakage occurs. Lighting fixtures (not yet in place) and diffusers, in direct contact with grid tubes, form part of the radiant surface (left). Upper right and lower photos: Jack Holmes

A floor is divided into four panel areas—three exterior (facing south, east, west) and one interior. Each has a heat exchanger, circulating pump, distribution piping system. Zone thermostats, which are located in a typical room zone and reset from 70 to 80°F, control the temperature of the panel water. This is accomplished by admitting either primary chilled or primary hot water to the zone heat exchangers. To prevent condensation, a safety control prevents chilling of the panel water temperature below the dew point of the conditioned areas.

Panel temperature is under full automatic control and varies from approximately 60°F at full cooling load to approximately 100°F for full heating load. For quick heat up, however, panel temperatures may be raised as high as 140°F. Due to the favorable heat transfer characteristics of the aluminum ceiling, water temperatures will be only a few degrees higher or lower than the actual surface temperature of the panel. The small mass and the good conductance of the aluminum ceiling also result in an immediate response of the panel temperature to the call of the thermostat. (Overcoming lag is one of the greatest weaknesses of the more conventional radiant systems—particularly floor systems.) Room temperatures which vary from 70 to 80°F correspond to somewhat higher temperatures during the heating cycle and to somewhat lower temperatures during the cooling cycle, when compared with non-radiant systems.

In general, no individual room control has been provided except for the corner rooms; however, on the upper two floors, where the top executives are located, individual room control is provided by modulation of water flow through the coils. It should be recognized that in a radiant system, sensation of comfort may be obtained within a considerably wider range of temperatures.

Architects: Harrison & Abramovitz, New York; associated architects: Mitchell & Ritchey and Altenhof & Brown, Pittsburgh. Structural engineers: Edwards & Hjorth, New York; mechanical engineers: Jaros, Baum & Bolles, New York; electrical engineers, Edward E. Ashley, New York. The General Contractor was George A. Fuller Company. Personnel of Alcoa’s Aluminum Research Laboratories and Development Division worked co-operatively with the architects, engineers, and individual fabricators in the development and testing of the aluminum components of this structure.
ring-airplane-hangar design

Aladar Olgyay, talented young professor of architecture at M.I.T., has schemed a lightweight, portable airplane hangar and has recently proposed its use to the Air Materiel Command of the United States Air Force. His proposal is for "Ring-Airplane-Hangar" construction (called RAH for brevity) which consists principally of an outer ring (formed of steel-pipe units) from which a small inner ring is suspended by cables. The construction system closely parallels that of a horizontal bicycle wheel—the outside ring being in compression while the cables and the inside ring are in tension. When elevated and placed on ports, this assembly becomes the roof frame for the proposed hangar. Extensive lightweight construction is characteristic of this system, as all structural members are utilized to take maximum advantage of the lightness of the materials and methods
statistical properties. In this development, Olgyay was associated with General Engineering Associates of New York, headed by Paul Weidlinger, engineer.

The flexibility of this structural method—the outer-ring diameter can easily increased or decreased—allows many types and quantities of aircraft. According to the type and size of the aircraft to be housed, RAH can be adapted from a single-plane hangar to one accommodating 36 planes or more.

Compared with conventional types of hangars, it is believed that great savings in material and weight are possible because of RAH's inherent structural lightness. Lower costs and portability are direct results of these characteristics. The round space-saving configuration produces less outside wall area, while the doors slide over each other under the outer ring.

Olgyay has requested that the Air Force approve a research and development project for the RAH method. The scope of the early research would include the development of Type A-RAH construction—for a single F-89 aircraft—and Type B-RAH construction—for five or six F-89 aircraft.
materials and methods

ring-airplane-hangar design

**technical data for 300’ diameter RAH**

*Structural data:* Cables, 2⅛” dia., are spaced 18’ o.c. The outer ring, which is composed of steel-pipe members, has 42 sq in of steel in compression and 32 sq in of steel in tension.

*Packing:* All structural elements are modular, to permit maximum interchangeability. The length of the steel piping is about 18’ and the total number of units required is 768; these could be fitted into an 18’ x 18’ x 18’ cube. Total length of needed cables (which could be rolled) is 10,000’. If coated-glass cloth is specified for roofing, 100,000 sq ft of folded material should be packed (total covered area is 70,000 sq ft). There are 24 door units, and 700 fittings and smaller pieces.

*Erection:* Ring cables and cover are assembled at ground level and jacked up into position; then supports are placed beneath.
This remarkable house, that serves as both home and studio for the architect and his wife, is a notable experiment in space use. Existing was a fine old stable, 36' x 75' in area. As the plans explain, this great hall became the living-dining-kitchen room and —by using an open balcony at one end (above the garage)—the architect’s studio as well. A new wing consists of a connecting entrance link and a two-level structure, placed at right angles to the stable “to establish a contrast of forms.” This new element, with bedrooms upstairs and outdoor terraces below, is two feet above the stable level, “making for better balance with the existing high building.”

“The design makes use of the square as a basic shape,” the architect comments, “and Golden Mean relationships were established wherever possible, so as to unify the whole. Le Corbusier’s Modulor was applied in the dimensions of the new wing.” Exterior colors accentuate the stud construction, which is left exposed in portions.
Photographs emphasize the relation between the old stable and the new two-wing. A brick end-wall protects porch from view of neighboring houses. Prevailing exterior colors are red and gray, "traditional in this part of Long Island;" barn red, yellow, and white were used on ventilating panels and doors.

Photos: Martin Helfferich
The space organization of the huge room, with its beautiful old brick floor, is best described in the architect's own words. "The room had to be brought together and the furniture scaled to form part of the architecture," he says. "The different pieces of furniture were designed to establish bridges or visual stepping stones between distant walls... The impression of big, uncluttered space had to be kept..."

"An important point is that such a big room is not livable unless used for several purposes, virtually subdivided by functions in different sections of the room. Introducing the kitchen into the room helped to classify the space without subtracting from the size." The rest is given over to conversation groupings of furniture and to the big table on the window side that is one of the three eating places (the others are in the kitchen area and on the porch). Furniture is consciously kept simple, with accents on paintings and sculpture.
"The kitchen (left) is the center of the house," the architect explains, "and other areas extend from it." The large dining table and benches (acrosspage) are placed near one end of the window wall, adjoining the kitchen enclosure.

Kitchen photo: Martin Helfer
Other photos: Gottscho-Schleisner

A conversation group is organized around the fireplace (left); the balcony studio looks out over the main room. Music, lounging, and cooking-eating area are in the opposite corner (above). A forced warm-air system heats the big room, with ducts installed between roof and ceiling, and outlets in the ceiling. The brick floor is waxed, and the rugs and furniture are in bright colors.
The downstairs portion of the new two-level wing contains only the coat-storage closet, stair to the upper level, and outdoor covered porches, used for both dining and lounging. The wing is built on existing foundations of an earlier building.

The upstairs plan is simplicity itself, with bedrooms at either end, and a bathroom and the staircase between. Wide, sliding doors lined with linoleum close off the bedrooms for privacy. Framing is of wood studs and beams. Exterior walls are of vertical boards, with the studding exposed on the lawn front; interior walls are plywood, painted white. Both wool-type and reflective aluminum-foil insulation are used. All glass is fixed and ventilation is handled through doors, or out-opening, solid, hinged panels. “This system proved very economical,” the architect reports. Heating of the new wing—which, incidentally, is used only weekends in winter—is accomplished by electric radiant-glass heating panels, some mounted flush with the wall surface, others mounted in freestanding frames.

As in the studio, general background colors are white or gray, with areas of color restricted to door panels, upholstery, rugs and the ventilating panels, which occur in the rear wall of each of the bedrooms.
Bedroom detail (right) shows one of the out-opening ventilating panels. Walls of the bathroom (below) are surfaced with waterproof, plastic-surfaced wallboard.

This ventilating door panel (left) is in upper hall of the bedroom wing. In the cellar stair rail (above) a radiant heat panel occurs in the balustrade space.
Electricity not only provides the cleanest form of heat with the least effort, but also permits an efficiency obtainable by no other means. An architect or engineer must know, however, when to recommend electric heat and when not to. Although his clients may request this form of heating, many of their homes are unsuitable for such a system. If electric heating is installed in such a house, high operating costs may tend to jeopardize the architect’s or engineer’s reputation.

Of the many types of electric heaters now available, none is more efficient or more economical than the radiant-glass panel. Although widely used in France prior to World War II, this type of heating equipment was not introduced in the United States until 1948—when the Continental Radiant Glass Heating Corporation produced its first units.

The feasibility of installing radiant-glass heat in a home will be influenced by the amount of heat loss. The method of computing the heat loss is like that for any other type of heating system, except for that part of the loss due to air infiltration. If the crack method is used, standard figuring is permissible. If the air-change method is used, however, only one air change should be allotted instead of the customary larger amounts. It is possible to use this smaller volume, as excess air is not required for combustion and as radiant-glass heating does not dry out the air. The higher humidities that are obtained contribute substantially to the high degree of comfort that is possible.

The total heat loss for an individual room should be divided by 3415 in order to determine the number of kilowatts required for that area. Storm windows should not be considered when determining the installed kilowatt capacity; they should, however, be considered when computing the kilowatt-hour consumption. As a rule of thumb, a properly designed house will have about one panel per thousand cubic feet, plus one. A 7000 cubic-foot residence, for example, will usually require eight watt units.

Each of the Continental panels is composed of three primary components: (1) a tempered-lime-glass sheet with a fused aluminum element; (2) a reflector behind the glass plate; and (3) a frame. The reflector reduces the reverse heat of the panel so that all possible heat is emitted into the room. Holding the reflector assembly, the frame can be face-mounted or recessed in the wall.

Panels should be located under windows and on exterior walls wherever possible. Recessed panels are desired, the opening for the junction box located behind the reflector. Panel sizes vary as follows: baseboard units are rated at 625 watts and wall units are of both 625 and 1000-watt capacities. All are available in recessed or surface-mounted frames of a range of 115, 208, 220, 230, and 240 volts.
A 15-volt unit is primarily used where a panel is desired for auxiliary heating; otherwise, the complete home should be designed for 230 volts. For ceiling ion, combination heating and lighting units are available in 750-watt capacity. Maintenance is not required for radiant glass panels. Tests have shown that the average heat loss is about 15 Btu per hour or about 0.45% of a panel's output. A room must have its own thermostat to control overheating and to provide individual control.

Heat loss for the average house should not exceed 3 Btu per cubic foot per hour. To insure that this rate of loss is not exceeded, the following quantities of mineral wool insulation (or equal) are needed: 4" in the ceiling, 3% in the walls, and 2" under the floor. If a concrete floor slab is used, perimeter insulation is mandatory and a water-repellent membrane must be used under the slab.

The foregoing specifications greatly reduce both the installed kilowatt capacity and the kilowatt-hour consumption.

To obtain the kilowatt-hour consumption, the FHA has devised a formula specifically for glass heating:

\[ \text{KWH} = \frac{\text{Btu loss} \times \text{Degree days}}{\text{Temp. diff.} \times 200} \]

About 90% of the country enjoys electric rates that are economical for a properly installed electric heating system; utility rates of 2 cents per KWH are competitive with operating costs of other heating systems. The designer should consider the plus factors of lower building costs, interest and amortization charges, absence of maintenance, etc.

A typical home can be analyzed, to determine whether glass heat is feasible. Assume that a 20' x 30' bungalow with basement is located in New York City. The heat loss without insulation is about 63,700 Btu/hour and approximately 18 1/2 kilowatts of electric heat are required. The yearly KWH is:

\[ \text{KWH} = \frac{63,700 \times 5280 \text{ (Degree days)}}{70 \text{ (Temp. diff.)} \times 200} = 24,000 \]

At 2 cents per KWH the cost amounts to $480.

With 4" mineral wool insulation in the ceiling, the heat loss is reduced to about 37,240 Btu/hour so that 11 kilowatts (37,240/3415) of heat are needed. The total KWH will be 14,100 and at 2 cents per kilowatt hour will cost $282 per year. If 2" insulation is placed under the floor and 3 1/2" insulation installed in the walls, the resulting heat loss is 24,000. The required number of panels is 7 kilowatts and the KWH estimate is 9000 which, at 2 cents, costs $180. This was computed without consideration of storm windows; if storm windows are to be used, 7 kilowatts should be installed. The KWH estimate now becomes 6800 which, at 2 cents, would cost $136.

In this example, basement heat was not considered and only the 4800 cubic feet of living area was examined; 160 sq. ft of window area was assumed.

Component parts of recessed, radiant-glass panel (far left) before installation in wood-frame wall. Space must be provided for junction box located behind reflector. Steel mounting frame ready to receive glass panel (left).

Workman placing glass panel of 230-volt, 1000-watt unit (far left). Panels should be located under windows, and on exterior walls wherever possible (left).
The Heritage of Cézanne

by Sibyl Moholy-Nagy*

Painting and architecture shape the visual landscape of an era. We recognize ourselves steel, concrete, and glass because the best contemporary architecture has achieved freedom of expression within the discipline of service to the community. But what about the painted image on the museum wall? Too many painters of today have abandoned responsibility and asceticism to extolize their agonized egos.

The story goes that the Bolshevik leader Radek, after his execution, persuaded a fellow victim with a more acceptable moral rating, to smuggle him inside a suitcase into that twilight where the souls of social reformers dwell.

"I want to see Karl Marx," demanded the intermediary at the Pearly Gates.

"What do you want from him?" asked St. Peter, looking suspiciously at the heavy in the caller's hand.

"Just tell him," said Radek's fellow-traveller, "I'm bringing him the interest from CAPITAL."

If there is a similar region where the artists of yesterday rejoice, we may assume that day Paul Cézanne will be handed—in carefully separated packages—the souls of Le Corbusier, Jackson Pollack, as the accrued interest from the capital he left on this earth.

Two large painting shows, presented this summer in New York, offer a unique opportunity to relive fifty years of visual development that are the basis of our little anecdote. The Metropolitan Museum has assembled 128 paintings by Paul Cézanne, the Frenchman who achieved a solo one-man show during his life-time and had more than 300 books written about himself, after death, in 1906. The Museum of Modern Art shows 97 paintings and sculptures by "Fifteen temporary Americans"; and between the two museums, quite accidentally and without the slightest intention at being historically significant, stretch 30 city blocks of New York architecture, providing the three-dimensional background for the story of 20th Century vision.

When Paul Cézanne severed his connection with the Impressionist School after 1877, he set out to reveal the substructure of the earth. "For us men," he wrote in 1904, "there is more nature below than above the surface." In a gigantic struggle, he created an art that did not rely on nature but interpreted her. He devaluated the mere optical sensation that had been the inspiration of the Impressionists. His creed was compositional relationships. In a thoroughly architectural cedure, he dissected the "motif," chosen from nature, into structural units. Then he rebuilt them in a composition, dependent on weight and tension. With a magical knowledge of color and light, he distributed the load of heavy colors to form a structural core, clothed in a rounding aura of light-transparent color elements. The superficial realism of the impression "record of reality" was replaced by the much more basic realism of the three visual fundaments of light, color, and form.

In less than two decades Cézanne forced a new terminology on art criticism. The fan adjectives: "life-like," "illustrative," "poetic," relating painting to the narrative standards of photographic or literary world, became obsolete. The paintings of Cézanne demanded a new orientation toward values that were exclusively painterly. These values were related only to color, light, compositional form, and not to generally accepted academic standards. The responsibility for quality of the work rested exclusively with the painter himself. From Cézanne onwards, the greatness of an artist would be measured by his power to sublimate his personal intuitive experience into the objective form language of painting, instead of by the affinity of the painted motif to literary allegory.

DISPLACEMENT CAISSONS

Actually speaking, it would be quite in
appropriate to assume that pile foundations could
compete with spread footings as ordi-
narily designed; however, a method of
using displacement caissons, recently
introduced in the United States, is just
starting in Belgium over 40 years
after successful installation in 36
sites throughout the world (over
900 of these caissons have been
installed since 1910), Franki Foundations,
unavailable to builders in this coun-
try. American organization, the Fran-
kiaan Company of Pittsburgh and
Philadelphia, has behind it the full benefit
of Belgian experience.

A unique method can be described as
injecting spread footings into the
advantages of depth, elimination of excavation, and the
shunting of a highly compressed shell
surrounding the footing. Essentially,
the equipment consists of a rig, a heavy-gage tube of
steel-alloy steel, and a ram (Figure 1) which comprises a chassis
which has an engine, hoist, and leads; it is
operated by a hydraulic walking machine
which also permits rotation (Figure 2).

Both portability and good maneuver-
erability are characteristic of the rig. It
can be set up and put into operation the
same day that it arrives at the job site;
a caisson can be easily located within 1/4"
of a given center point.

The steel tube has an outside diameter
of 20\(\frac{1}{2}\)" and a wall thickness of 1\(\frac{5}{8}\)"; any
length required by the conditions can be
provided. After the tube is set up in the
leads of the driving machine, it is held in
position by a guiding head.

A 7000-pound ram, 13" diameter, may be
raised inside the steel casing. As the ram may fall from heights as great
as 30', it can develop 200,000 foot pounds
per blow (by comparison, the heaviest type
of steam hammer produces about 50,000
foot pounds).

In operation, the rig moves itself so that
the geometric center of the steel casing is
placed over the stake indicating the sur-
veyed location of the caisson. While the
tube rests on the ground, three to five cubic
feet of extremely dry concrete (a core taken
from a 60-day old specimen showed a
crushing strength of 5600 psi) is fed into
its top by means of an easily hoisted skip
and bucket (Figure 2). The dry concrete
falls to the bottom of the tube and is tamped
by the ram to form a driving plug. As the
falling ram strikes the plug, arch action

Figure 1—falling inside the steel casing,
the 7000-pound ram can develop 200,000
foot pounds per blow to pull the tube
into the ground.

Figure 2—good maneuverability is
achieved by the hydraulic walking mechanism beneath the rig. Easily hoisted
skip and bucket (upper right) delivers
concrete to top of casing.
Figure 3—cross section of displacement caisson (above). Falling ram drives concrete plug into ground and plug pulls down caisson at same time.

Figure 4—typical caisson installed (above right). Good compaction exists all around the shaft and particularly around the bulb.

Figure 5—four caissons that have been exposed by excavation. Regularity in shape of shaft, formed of successive rammed batches, increases hold of pile in ground; note compaction and rough surface of concrete. Reinforcement is visible at top of caissons.
es the concrete to seize the sides of casing. Contrary to what might be expected, the concrete is not forced out of the tube, but, rather, the plug pulls the tube into the ground (Figure 3). As the fall is actuated by gravity and the plug is pulled into the ground rather than driven from the top, it is virtually impossible for the tube to take any course other than a straight one. Intervening obstructions are demolished, or pushed aside, by the terrific impact of the plug. So that the tube is not deflected from its course.

After the bulb has been completed, small amounts of concrete dropped in the casing and rammed by blows of at least 140,000 pounds. At successive intervals, the tubing is withdrawn, leaving a dense, highly compacted concrete in the shaft which will measure 21\" to 24\" in diameter. If required, reinforcement can be placed in the annular space to provide additional compressive strength, to resist bending, to resist tension in the case of uplift, or to resist lateral expansion of the concrete under impact of the ram (Figure 5). As a mark on the cable supporting the ram represents the distance between the bottom of the ram and bottom of the casing, the operator can tell at once the amount of closure existing at the bottom of the tube. Test loads of 150 percent of the design load can be made (on a finished caisson) without undue settlement and tests of twice the design load are common. Individual caissons have stood up under test loads of over 500 tons.

Last spring, Franki caissons were used for three government warehouses at the New Cumberland General Depot, New Cumberland, Pa. The contract drawings originally specified spread footings (resting on virgin soil), pedestals, and deep spandrel beams for the substructure construction. While the design was being prepared, the Government proceeded to grade the site under another contract. The fill over part of the immediate building site averaged 14\' in depth and was thoroughly compacted to support heavy floor loads. Upon being awarded the contract for this job, Hughes-Foulkrod (Philadelphia Building Construction Company) made a thorough study of the most practical method of installing the building foundations. Not wishing to disturb the compacted fill any more than necessary, they sought a method of construction that would be advantageous to the Government in cost and to themselves in reducing construction time and the amount of critical materials—such as the steel reinforcement—that would be required. As the Franki method requires neither permanent shells nor reinforcement, displacement caissons were substituted for the deep spread footings and pedestals, with the approval of the United States Corps of Engineers. This method of construction, under the conditions which governed at the building site, allowed Hughes-Foulkrod to return to the Government a substantial credit.

One of the 20\'-deep foundations at New Cumberland was tested for 150 percent of its 110-ton design load by the Corps of Engineers. The gross settlement of the caisson was 0.12\"; the recorded net settlement after removal of the load was but 0.04\" (Figure 6).
four west coast developments contain sliding glass doors

Sliding glass doors, once limited largely to residences in the luxury class, were recently installed in four small-home tract developments on the West Coast. These homes were designed by Architects Anshen & Allen, of San Francisco, and Jones & Emmons, of Los Angeles. Both firms were honored for their designs by the architectural review board of the Housing Research Foundation, in San Francisco, last spring.

The living room and one of the bedrooms of these low-cost houses are divided from the patio by an entire glass wall with sliding doors. The optical illusion created by the wall of glass permits appreciable savings in square footage of rooms because they appear to be larger than they really are. As a result, there is a saving to the home owner in heating bills and in the extra pieces of furniture that would otherwise be required for a large room.

The sliding glass doors are a package unit, constructed of narrow but sturdy sections specially processed to withstand weather elements in both cold and hot climates. Stock sizes are 6'-10" high, with a width in range of 6' to 16'. Custom-made doors, though more expensive than stock sizes, have been reduced in price over 15 figures, according to the manufacturer.

Schools, churches, hospitals, and commercial installations should also find these doors both functional and economical. Acadia Metal Products Co., Arcadia, Calif.

air and temperature control

G6-65 Gas-Fired Furnace: measures 17" wide x 26" deep, with 65,000 Btu input, developed especially for small, basementless houses. Built-in operating controls; castron, single-port burner; interlocking steel cabinet finished in two-toned blue baked-on enamel. Armstrong Furnace Co., 851 W. Third Ave., Columbus, Ohio.

Ozone Air Conditioner: one- and two-bulb ozone generators, will deodorize rooms of 1000 cu ft and 1800 sq ft respectively. Odors completely destroyed by oxidation; especially suited for living areas, kitchens, bathrooms, closets, hospitals, offices, etc. Outer case constructed of heavy-gage steel; extra-long 8 ft cord permits convenient mounting anywhere. Bretford Manufacturing, Inc., Franklin Park, III.

UF-1 Highboy and AF-1 Lowboy: two oil-fired, space-saving heating units, each with output of 20,000 Btu, featuring insulated combustion chamber for cleaner burning flame and greater heat retention. Both models furnished with controls. Heil Co., 3000 W. Montana St., Milwaukie 1, Wis.

Flor-Line Radiator Unit: baseboard heating element consists of six flattened tubes, with fins hydrogen-brazed to each tube; flattened tube construction claimed to bring 90% of metal in contact with air, in contrast with 33\% 33\% in round tube design. Units range from 2' to 10' in length; can be finished in colors to match surroundings. Hoover Engineering Co., Detroit, Mich.

Ceiling-Suspended Gas-fired Heaters: five new models, with input range of from 50,000 to 200,000 Btu, designed for commercial and industrial installations, where low first-cost, economically maintained heating system is required. Overlapping-blade type electric fan inside cabinet may be used in warm weather to provide cooled-air circulation by shutting off gas and only operating fan. Automatic controls furnished with units. National Radiator Co., Johnstown, Pa.

Airfoil Centrifugal Fan: nonoverloading type, made for industry, power, and commercial needs, in sizes from 40\% 40\% to 100\% diameter, delivers volumes of air up to 600,000 cfm. Airfoil blade design, plus improvements in inlet and casing, said to boost mechanical efficiency over 90%, with only 1\% of noise intensity of previous models. Low operating costs. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

doors and windows

Series 1257 Screen Door Lock: line of heavy-duty service and security locks for exterior screen doors, as well as for wood or metal storm and combination doors. Lock supplied with strong handles which retract bolt when operated; both bolt and handles positively deadlocked by \% \% diameter, 5-disc cylinder furnished with unit. Steel construction. Adams-Rite Mfg. Co., 540 W. Chevy Chase Dr., Glendale 4, Calif.

Curvopane: convex glass window panes provide greater strength of an arch, let in more light because of increased glass area, are simpler to install than conventional flat panes. Available in rectangular or square sizes for standard and nonstandard metal or wood sash. American Crown Glass Corp., Francis Ave., Hartford, Conn.

One-Way Door Viewer: imported, all-plastic viewer fits into any door up to 2" thick, allows full observation of anyone on opposite side of door. Shatterproof lens is designed to provide magnified and wide angle vision. May also be used as nursery doors, for observation of child without need of opening door. Price $3.95. Sales Associates, 11 Hill St., New England.

Donovan-Universal Aluminum Casement Windows: new line of completely glazed units for all residential construction. Available in all standard sizes, with or without muntins, in any desired combination operating and fixed sash. Universal Window Co., 950 Parker St., Berkeley 10, Calif.

electrical equipment, lighting

Recessed Incandescent Lights: especially constructed to permit usage in weather-moisture-laden locations, such as baths, showers, porches, marquees, etc. White plastic bowl has high light transmission is contoured for uniformly white soft brightness and spread light on ceiling trim and insert housing made of corrosion-proof aluminum. Units are styled for a 60w or 100w I.F. lamp. Art Co., 40 St., Cleveland, Ohio.

Taskmaster Fluorescent System: completely rewired fluorescent fixtures for industrial use directs 25\% light upward to provide 30\% lamp shielding for improved control of brightness contrasts and inevev isVisible. Available as contained line systems or individual units for 40 pin, and 48" and 96" T12 slimline lamps. Benjamin Electric Mfg. Co., Des Plaines, III.

Explosion-Proof Slimline Fluorescent Fixtures: new series, Type EVF, especially designed for explosion-resisting Pyrex glass sealed cast aluminum end fittings containing either cast aluminum ballast housing,
efficient utilization of classroom floor is possible with the new, multipurpose laboratory units, developed to meet the requirement of secondary school laboratories. The room to form a combination science story and classroom, leaving the center of the room available for student seat. Since plumbing and fixtures run along alls, installation costs are held at a minimum; furthermore, no service lines prevent racks obstruct the instructor's permitting greater supervisory control over students, reducing distracting forms, and promoting efficiency in general. Flex units are equally satisfactory for installations in new schools or for remodeling classrooms into science laboratories; they may also be used in schools with small enrollments where several science courses are taught in the same classroom. John E. Sjöström Co., Dept. LA, 1715 N, Tenth St., Philadelphia 22, Pa.

acoustical-ceiling diffuser

Two new types of square diffusers, designed for acoustical ceilings, are reported to be the first such devices to discharge supply air in the effective, single-stream, circular pattern which produces rapid entrainment or mixing with room air. The two units are made in sizes from 4' to 14'; Model KP features overlap tile construction, while Model KPT is designed for T-bar installation into an individual tile. At constant neck velocity, the resistance or static pressure required for either a 4' or 14' unit will not vary. W. B. Connor Engineering Corp., Shelter Rock Lane, Danbury, Conn.

surfacing materials

Chroma-Tex Siding: asbestos-cement shingles, in two-toned "weathered" colors; easily applied over any sidewall surface, equally suited to exterior remodeling and to new construction. Fireproof, rot- and termite-proof, requires no painting or preservative treatment. Ashestone Corp., 3500 Thoupin- toulas St., New Orleans, La.

MASK: liquid deodorant, stirred into any enamel, oil, water, and rubber-based paints, masks off all offensive, fresh paint odors. Duncan-West Corp., 624 S. Michigan Ave., Chicago 5, Ill.
Editors’ Note: Items starred are particularly noteworthy. Due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

**air and temperature control**


1-187. Small-Pipe Warm-Air Perimeter Heating (10), 23-p. manual serving as guide for design and installation of low-velocity, forced-air warm-air heating systems using 4-inch diameter pipes; includes data on small pipe systems in houses built over crawl spaces and those having basements. Installation photos and drawings, illustrations of system applications, charts, worksheets. National Warm Air Heating & Air Conditioning Assn., 145 Public Sq., Cleveland 14, Ohio. (75¢ per copy; send directly to National Warm-Air Heating & Air Conditioning Assn.)


1-190. Trade-Wind Clipper Blowers, AIA 30-D-1 (628F), 8-p. catalog illustrating four types of centrifugal blowers, incorporate-rating scientifically designed blower wheel which moves air through ducts under pressure, for maximum ventilation in kitchens and small rooms. Advantages, types of application, construction data, accessories, specifications, installation drawings. Trade-Wind Motorfans, Inc., 5725 S. Main St., Los Angeles 37, Calif.

**construction**


Two booklets describing: 1) special purpose steels and other metal products; chart listing grades or finishes, characteristics, applications, and fabricating properties; 2) availability of two types of all-steel buildings (shed roof and gable roof), adaptable to many uses such as schools, warehouses, shops, utility buildings, etc.; types, data on sizes, accessories, erection, and finishing, photos, drawings. Armo Steel Corp., Middletown, Ohio:

3-155. Special Purpose Steels (2451)

3-156. Armo Steelox Buildings (SN-2051)


3-159. Lifetime Metal Coping


**doors and windows**


4-191. Pacemaker Precision Built Hardware, 6-p. folder describing of preassembled, tubular latch and lock for bathroom, bedroom, and interior sash doors, in choice of knob styles, peton parts, method of installing, illustrations. Harlo Products 25 Fox, New Haven, Conn.

4-192. A B C’s of Rolled Warehouse, 19-p. booklet describing three functions of rolled glass fusion, decoration, and protection (rolled wire glass is used). Types of pattern and pattern, heat absorption data, lig-

4-193. Magnalite, AIA 12 (M-52) brochure illustrating several types of ing glass sheets for use where wide distribution with great opacity is desired. Patterns, types of applications, advent strengths and weights, photos. J. A. Richards, 25 Huntington Ave., Boston, Mass.

4-194. New Pella Wood Folding Door 1 AIA 16M (231), 4-p. folder describing cord-type door that folds completely against door jamb; suitable for use in dining room and kitchen, in bedroom between living and dining areas, and as doors. Advantages, photos. Rolser Pella, Iowa.

**electrical equipment, lighting**

5-127. Lighting for Industry, 31F2, 96-p. handbook, based on trial proven lighting equipment and methods. Resultant engineering data on lighting conditions, economics of industrial lighted. Listed by listing of specific instrumentation and combination of Outdoor and Indoor at a reader may quickly find and what he needs.

110 Progressive Architecture
ed in terms of fundamental principles, and most advanced applications. Technical diagrams, tables, installation photos, tenant data, index. Holophane Co., 342 A Ave., New York 17, N. Y.

Calcuitte, AIA 31-23, 16-p. brochure illustrating several types of square and recessed ceiling fixtures. Contains, tub enclosures, and stall enclosure information. Lightolier, Inc., 11 E. New York, N. Y.


oklets on switchgear for all general and electrical utility requirements. Advantages, construction and operat- eries, design features, specifications, photos, drawings, Vestinghouse Electric Corp., Switch- c., East Pittsburgh, Pa.

Heavy-Duty Metal-Clad Switchgear (5206)

Low-Voltage Metal-Enclosed Switchgear (B-5282)

finishers and protectors

Floors Without Flaws, 12-p. brochure. Recommendations for economical, efficient care of floors in office build- ings, factories, schools, and plus list and descriptions of man- r's maintenance products. Repair intervention methods explained for a variety of flooring materials—asphalt, k, linoleum, wood, etc. C. C. Horn


initiation, water supply, drainage

Drinking Water Coolers, AIA (32), 4-p. folder. Details the difference between pressure- and bottle-type coolers. Selection of proper unit, tation data, capacities, features, illustrations. Cordley & Hayes, 443 Fifth Ave., rk 16, N. Y.


19.264. You Can Build It And Maintain It for Less, 30-p. booklet. Practical suggestions for planning and equipping public rest rooms, pointing out savings in material and time-cost when decisions on sanitary facilities, including type of plumbing fixtures to be installed, precede final approval of structural design of building. Types of toilet partitions, illustrations of wall construction that can be used with wall-type closets, rest room layouts, installing of wall-type closets and fittings, construction details. J. A. Zurn Mfg. Co., 1801 Pittsburgh Ave., Eric, Pa.

specialized equipment


19.267. Draw-In-Dex Cabinet, 4-p. pamphlet. Description of upright filing cabinet, steel construction, 20" deep x 30" wide x 48" high; for filing of blueprints, drawings, tracings, X-rays, maps, etc. (will accommodate up to 1250 blueprints). Detailed specifications, price list, photos. Empire Development Corp., 15 Park Row, New York 38, N. Y.


surfacing materials

19.269. How to Create Your Own Floor Designs (Design Book No. 1), 44-p. hardbound booklet illustrated with color samples of asphalt tile flooring. Typical installations in residences, offices, stores shown in color photos. Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.

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interior design data

bath-dressing areas
by Suzanne Sekey

The molded bathroom designed some years ago by Buckminster Fuller suggested the 
ability of complete, prefabricated units at low cost. Theoretically, a bathroom designed as a 
luxur could, by its relative inexpensiveness, be available in sufficient numbers for individual use 
house. In lieu of such low-cost factory bathrooms, or budgets that allow multiple baths, archi­ 
s have been arranging standard units to suit the family needs. By separating one fixture or 
her, simultaneous use is made convenient for the family sharing a bathroom. It seems that it is 
so much the size of the bath area as the way it is compartmented, that increases usability. If 
lavatory is isolated and provided with counter and storage space, the bathroom develops into a 
-dressing space and, in so doing, considerably enlarges the pleasure and comfort of use.

The combination of lavatory, counter, and wardrobe in one space is logical and conven­
. It simplifies the bedroom, as well, and makes it possible to reduce the size of this room when 
s must be balanced. Also favoring the compartmented bath-dressing space is the way that 
erials can be suited to specific parts. In the example by A. L. Aydelott that follows, wood walls are 
urally shared by the bedroom and dressing area, while tile is the better choice for the bathroom.

The ideal bathroom would be completely surfaced with hard, washable materials, coved 
corner so that (theoretically) a hose could clean the whole room. Glazed, plastic, or sealed 
erials are naturals for bathroom surfaces: J. R. Davidson’s bath-dressing space is a crisp example 
their use. An imaginative use of ceramic tile, one of the oldest and most serviceable materials, is 
. Herbert Bayer’s mural for Harvard’s Graduate Center demonstrated the handsomeness of com­ 
a floor tile, but perhaps one should not talk of Art and bathrooms in the same paragraph.

The architects contributing to this section this month have showed admirable resistance 
Hollywood” colors. In no instance, where standard fixtures were used, is the porcelain anything 
pure white. The “glamour approach” of the consumer advertisements is ignored here and 
ed, for special effects, architectural ingredients are used—texture, scale, appropriate materials, 
ll as color. We cite the Stone example, for its lacy lighted ceiling, and the Stouland room 
its airy arrangement and rather special point of view.

Bathrooms, unhaunted by tradition or requirements for individuality, are the most matter­ 
act rooms in the house. If the lighting shows one’s true pallor, that is as it should be (enough 
descent light is important). The judicious arrangement of space is perhaps the most valuable 
sideration: storage requirements so under-estimated by stock installations are much improved by 
tect planning. Choice of materials and colors adds much to the pleasant results that follow— 
out a single decalcomania or even mother-of-pearl.
This dressing room and bath are in the architect's own house. Although connecting, the two are separate rooms, each enclosed for privacy and quiet. Integration here is between dressing room and adjacent bedroom, which share black asphalt tile and oak plywood. At the bathroom threshold, materials change to the more standard tile and plaster. The ink in the laminated plastic counter is an extra one for added convenience, the bathroom being complete with the three usual fixtures. Ceramic tile in the bathroom is black, to match the other flooring. Wall tile is light green, plaster walls above and ceiling throughout are white. In the dressing room, counter top is medium red and chair cover is a mixture of brown and black.

Photo: Lionel Freedman
This is the only fully enclosed room in a $6000 house that the architect built for his own use. A two-level scheme is artfully divided by storage units, low partitions, and fireplace—to provide living, kitchen-dining, bedroom, work area, and this bathroom, in a total space of 24' x 36'. The 10' x 12' bathroom is no stingy portion. (It is the architect's reaction to a few years of living with "minimum" baths.) This is a room with a view, a place to relax and, also, we understand, an outpost for local children on the hot days. The 4' x 6' tub was poured with the floor. Its concrete sides are finished with plastic paint, its floor is blue-green ceramic tile. Bathroom flooring is black asphalt tile and walls are cypress. Yacht cord wraps the hand rail.
This is the family bathroom in a small house. Although not much larger than minimum, its plan is an improvement over the standard arrangement. Compartmented and provided with two lavatories, it easily allows for simultaneous use. In such a busy place, the accordion room divider is safer than a door swing, and a space saver too. Simple detailing and materials make this bathroom no chore to clean. Plaster walls and ceiling are finished in yellow enamel. Floor is waxed concrete, counter top is gray linoleum, and door is gray-plastic covered.

Photo: Lionel Freedman
The dressing table is the divide between these areas, for good ventilation and an enlarged vista. Open to hall and bedroom, circulation is completely easy and the isolation of lavatory a convenience. In scale, the dressing area is intimate as an arbor. The slatted ceiling is dropped to low vertical dimension and has incandescent lamps above for gentle diffused illumination. A special coved lamp lights the mirrored section. Tile is medium green for walls and counter top, light and medium for floor. Painted plaster is light green and all wood is birch.

Photo: Lionel Freedman
This dressing-bath belongs to the man in the house. (Her’s is connected to the bedroom next door.) There should be no trouble keeping neat here, for everything can be conveniently stored—even a ration of 18 shoes. The commodious wardrobe opposite windows takes care of riding boots and much more. Tile floor, plastic wall panels, enameled cabinets with linoleum top, and glass compartment doors all are easily washed. Colors are white for floor and ceiling; light blue for walls, cabinets, and curtains; and dark blue for counter top.

Photo: Julius Shulman
This dressing area was selected for its handsome custom storage facilities. Designed to accommodate a bulk of assorted matter, cabinets are exactly fitted and the whole made serene by simple detailing. A full-length mirror is mounted on the entrance door, and in the back of the open box there are additional narrow shelves behind sliding doors. Our architect is a busy Dean at M.I.T. and so this is not accompanied by the usual data on sources and materials. Floors are cork, of course, and wood in bedroom is pine. All cabinet work is lacquered—choose your color.

Photos: Dearborn-Massar
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"Dress-atory," an arrangement of lavatory-counter-cabinet available in four different styles and sizes/ exposed surfaces faced with "Parkwood"—high-pressure laminate/ colors: field green, azure blue, lemon yellow, pearl gray, and coral pink/ doors plastic backed and metal edged/ piano hinges/ hardwood dovetailed drawers/ chrome pulls/ lavatory: 20" x 18"/ vitreous china/ one-piece polished-metal frame/ anti-splash rim and concealed overflow/ renewable brass fittings/ colors: "twilight" blue, coral blush, pastel green, "colonial" yellow, and white/ shown: "Princess" 22" x 52" x 31" high/ factory assembled/ approx. retail: $250.00/ Eljer Co., Ford City, Pa.

"Electriglas Thermolite" combines radiant heat and light in a ceiling fixture. Designed for bathroom use, it is also recommended for kitchens, nurseries, halls etc. Outer portion of 20" dia. fixture consists of shatter-proof glass to which a heating element is fused/ opal center lens for light diffusion/ can be installed with thermostat for automatic operation, with two wall switches for separate light and heat, or with three-way pull switch/ list: $57.65 plus installation/ Appleman Glass Works, Bergenfield, N. J.

Bathtub Alcove Remodeling Unit: three pre-cut panels of M-67 "Monowall" along with metal channels and waterproofing channel filler are contained in a single package for facing the sides of an alcove around a five-foot tub/ panels: fiberboard plastic finished (2) 2'-6" x 4' high and (1) 5' x 4' high/ channels cut to length and corners mitered for installation with ordinary hand tools/ colors: "porcelain" white, "Wedgwood" blue, "primrose" yellow, and "cascade" green/ approx. retail: $30.00/ Armstrong Cork Co., Lancaster, Pa.
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Sloane-Blabon Corp., 295 Fifth Ave., New York, N.Y.

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The simplest operating device ever designed! Quick, safe, effortless opening and closing can be accomplished by the youngest child. Handsome, smooth aluminum alloy bar takes the place of slower turning operator...reduces window operation to absolute minimum. No maintenance, no adjustments ever!

New Auto-Lok Safety Lock

An improved locking feature that securely locks the bottom vent. Center position makes it handier, more accessible. Extra protection against intruders.

PLUS these famous regular Auto-Lok features...

1. FRESH AIR WHILE IT'S RAINING...
   No more running to close windows...rain can't enter through Auto-Lok's scientifically designed slanting vents.

2. WARMER IN WINTER...
   Auto-Lok Windows are the tightest closing windows ever made by actual laboratory tests. Heat stays in...cold stays out...cutting fuel costs!

3. COOLER IN SUMMER...
   Auto-Lok Windows open widest...almost 90°. The slanting vents help to scoop in even the slightest breeze...always inward and upward thus eliminating drafts.

4. HANDSOME INTERIORS & EXTERIORS
   Narrow horizontal lines and graceful tilt of vents in every open position add distinction to any school building.

5. EASIEST, QUICKEST WINDOW TO CLEAN
   Nothing to lift out...no sash to remove...no gadgets to disengage. Simply open wide and clean all glass from the inside...top vents, too!

6. COMPLETELY CONCEALED HARDWARE
   No unsafe, unsightly mechanism exposed to collect dust. Compact roto-type operator handle does not interfere with blinds or other window furnishings.
New OPERATIONAL EASE!
Now, windows so simple and easy to close, the youngest child can manage them. Just push-out or pull in. Opened fully or only a fraction vents stay put in any position.

New INSTANTANEOUS WEATHER CONTROL!
All vents can be opened fully or closed as tight as a refrigerator door, in less than one second. Nothing to crank...the Control Bar opens and closes all vents.

Absolutely INJURY-PROOF!
Completely concealed and enclosed Ludman Auto-Lok operating mechanism provides "weightless balance" for every vent. Nothing to jam fingers or catch clothing. No straining.

New VANDAL PROTECTION!
Patented, automatic-locking Ludman Auto-Lok hardware locks each vent separately and independently. New Center Latch locks bottom vent after all other vents lock automatically. Auto-Lok Windows cannot be forced open from the outside!

New MAINTENANCE ECONOMY!
Now, windows that are positively "student-proof"! No parts to work loose...no operator handles to become bent or broken...no gears to become stripped. No adjustments or replacement of any part of the Ludman Auto-Lok operating mechanism necessary ever!

Lifetime TROUBLE-FREE OPERATION!
Auto-Lok Windows are the finest windows ever made for schools. They are the result of years of special research and study of school window problems, and are guaranteed to last a lifetime under the most severe school usage.

MAIL THIS COUPON today
ARCHITECTS: Write for complete information and specification before you plan another school!
CONTRACTORS & ENGINEERS: Find out why Ludman Auto-Lok Windows for Schools are easier, quicker to install!
SCHOOL BOARD MEMBERS: You can't afford not to get all the facts about this new Ludman Auto-Lok Window, designed exclusively for schools!

LUDMAN CORPORATION
P. O. Box 4541, Dept. PA8, Miami, Florida

Gentlemen:
Please send me, at once, complete information regarding the new, revolutionary Ludman Auto-Lok Window for Schools.
And, where can I see this new window?

NAME ____________________________
COMPANY OR SCHOOL BO. __________
ADDRESS ____________________________
CITY ________ STATE ________

I am:  [ ] an Architect  [ ] an Engineer  [ ] a Contractor  [ ] School Board Member

August 1952 131
FOR COMPLETE DRAFTING ROOM DETAILS and other technical information on USG Roof Decks mentioned on these pages, write or call Industrial Sales Division, United States Gypsum, 300 W. Adams St., Chicago 6, Illinois.

T & G ROOFING

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VERTICAL T & G REDWOOD SIDING NAILED TO CURVE
no question here . . . it’s a
PYROFILL* GYPSUM
ROOF DECK

Good reason why architects Holabird & Root & Burgee specified a Pyrofill Gypsum Poured-in-Place Roof Deck for the distinguished concert pavilion at Ravinia Park, near Chicago. Many good reasons, in fact.

Directors of the famous Ravinia Music Festival had seen their previous structure burn, so they were especially fire-conscious. Economy was a factor—the more money saved in building, the more available to attract top artists. And, of course, the airy, open design called for a lightweight roof deck.

So, on every count—gypsum was the choice:

IT’S FIREPROOF . . . actually fights fire, through release of inherent moisture.

IT’S ECONOMICAL . . . a crew of 10 to 12 men can pour up to 10,000 sq. ft. per day.

IT’S LIGHTWEIGHT . . . generally lighter than other incombustible roofs. Yet it’s strong.

IT’S ADAPTABLE . . . conforms readily to flat, curved or pitched roofs.

Add these facts—and you will readily see why more and more leading architects are specifying USG Pyrofill Poured-in-Place Roof Decks. Why not specify gypsum for your next building project?

No Question About Any Roof Deck—When it’s Gypsum!

SHEETROCK®-PYROFILL®
WEATHERWOOD®-PYROFILL,
where insulation is a factor.
METAL EDGE PLANK
SHORT-SPAN TILE


UNITED STATES GYPSUM
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"They never go home! It's Honeywell Controlled"

The best way to assure comfort in any building is to insist on Honeywell controls.

If you have a control problem, Honeywell can help provide the proper thermal environment for any client—anywhere—in any kind of structure.

A large staff of well-informed control engineers—in 96 different Honeywell offices across the nation—are experienced in doing just that. Or—there's a lot of literature that's yours for the asking—on the automatic control of heating, ventilating and air conditioning.

So, why not talk to Honeywell? Why not write to Honeywell about your control problem? And why not do it now?

For help with any con problem, talk to Honey
Consult your nationwide "Honeywell Staff" for help with any control problem

In planning schools, factories, offices and other large buildings, no doubt you run into this problem:

What's the best way to get coordinated technical help with control systems—for temperatures, ventilation, air conditioning, refrigeration, industrial process?

The answer is simple:

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He can give you unbiased advice on types of equipment, because he has a complete line of controls—pneumatic, electric, electronic. And to help you meet special problems, he can bring in specialists from any of the 96 Honeywell offices.

And, too, when you standardize on Honeywell, all control applications, including air conditioning, radiator, refrigeration, boilers, can be specified as one project. And you'll be designing an integrated system that can be periodically serviced and adjusted, simply by consulting one company. The Honeywell service organization—with its wide scope and flexibility—is positive assurance that your controls will perform at maximum efficiency for a lifetime.

So plan to standardize on Honeywell. See your local Honeywell representative. He's the key man on your nationwide "Honeywell Staff."

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E! Personalized cartoon. For 8½" x 11" reproduction of Crockett Johnson cartoon (incorporating your name or the name of your firm), fill out and mail coupon today.
It was as if the spirit of painting had suddenly taken from the familiar surface of the earth into unknown space, guided only by the principles of inner vision and craftsmanship.

The silent brotherhood of geniuses is a phenomenon that it is given to them to express the yearning aspiration of their times, visualizing cross currents that are active below the dominant static concept. With being aware of it, Cézanne expressed two-dimensional space in building. After 1880, a new architecture had started in England, Belgium, and France, known as “Art Nouveau” that protested, in the words of one of its founders, Horta, “against sham architecture in which lying is the rule, truth is the exception.” In 1898, the same year which Cézanne painted one of the many interpretations of “Mt. Ste. Victoire,” Victor Horta gave to this movement its most mature form in the “Maison Du Peuple” in Brussels.
which a contemporary critic wrote: "No detail derives anything at all in existence. It has the pure charm of curves, and surfaces..." For the first time since, when Brunelleschi decided to put the coffins of Florentine merchants by the name of Pazzi behind the portico of Roman prostyle temple, the facade had been swept. In Berlage's buildings the inner structure is revealed, the social purpose had broken through the encircling sizes. The implications of this revolution were tremendous. Architecture after 1900 became a contest between academic values, judging visual creation by didactic rules; and individual responsibility of the free creator. Today, at the way mark of the new century, there can be no doubt about the battle of Cézanne and Berlage has been won. Individual vision has been victorious. At no other time in his history has the dynamic and experimental character of visual creation been so wholly recognized. But, in spite of the rarity of form produced by this revolution, there always

(Continued on page 139)
When you want **Beauty** and must have **Safety** specify

**WELDWOOD® FIRE DOORS**

Here’s an absolutely fire-safe door that’s also a decorator’s delight. It gives you permanent fire protection *plus* the rich beauty of real wood . . . at a moderate price!

The Weldwood Fire Door...with its incombustible mineral core and fireproofed edge bandings . . . carries the Underwriters’ Label for class “B” openings. You can specify it with absolute assurance of approval.

The unique construction of the Weldwood Fire Door also gives you exceptional strength, durability and dimensional stability. These doors are amazingly light in weight and are vermin- and decay-proof.

And the handsome hardwood facings help you to carry your decorative theme throughout an entire building. Standard facings are birch, but a wide variety of other hardwood veneers may be had on special order.

Weldwood Fire Doors are available in a wide range of sizes . . . up to 4 feet wide and 7 feet high. They also have the Underwriters’ approval to carry light openings 10 inches square.

United States Plywood Corporation carries the most complete line of flush doors on the market including the famous Weldwood Fire Doors, Weldwood Stay-Strate Doors, Weldwood Staved Lumber Core Doors, Mengel Hollow-core Doors, Mengel and Algoma Lumber Core Doors, 1\%" and 1\%\" with a variety of both foreign and domestic face veneers.

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**WELDWOOD STAY-STRATE DOORS**

(with mineral core)

Similar to the Weldwood® Fire Door, but without the fireproofed edge banding. This door does not have the Underwriters’ Label, but the incombustible mineral core gives it a high degree of fire protection. The Stay-Strate Door is recommended for use where a labeled door is not specified, but where fire resistance is a desirable extra advantage. Same wide variety of beautiful hardwood facings . . . imported and domestic . . . to choose from.

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**WELDWOOD Flush Doors**

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**UNITED STATES PLYWOOD CORPORATION**

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ceived one common denominator: structure as the basis of vision. Whether
was Guimard’s overflowing ornamentation or the regionalism of Frank
niy Wright’s Prairie Houses, the
oring curves of Futurist painting or
dissections of Cubism; architecture
1 painting were both conceived as
onic, they were form in progress.
enty-five years after the initial
tement, architects created the re-
ional house freed from the cell-
cept, and secure in the inter-
play of enclosed and natural space.
And painters—Mondrian, Delauney,
Feininger—translated the same rela-
tionships on the two-dimensional can-
vas. Both architect and painter, owed
everything to Cézanne. It was he who
had preserved the ancient marriage
between building and painting. The
same conceptual unity that existed be-
 tween an Egyptian wall-painting and
the severe angularity of the grave
chamber, relates Hoger’s expression-
istic brick architecture to the paintings
of Kirchner, Marc, and Kokoschka; or
the Gothic of the Chicago Tribune
Tower to Grant Wood’s streamlined
archaism. (Continued on page 140)

Swartwout-Dexter
Heat Valve Roof Ventilator
provides simple, practical ventilation
for your industrial buildings of all types

"Heat Valve" as originated by Swartwout and installed
throughout industry on almost every type of building
means economical, efficient natural flow ventilation. As a
continuous opening it is particularly popular for ridge
ventilation on peak roofs or for sawtooth construction. But
it is equally efficient in shorter sections, on flat or slope
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Heat Valve design features short air travel with minimum
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trol. It supplies large air-moving capacity per square foot
of opening—at economical cost. Completely weatherproof.
Made in 10 standard throat sizes. Write for Folder 336E.

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The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS
The heritage of this visual interdependence is so old in man that it has become part of his instinctual approach to the optical world. Man needs to relate what he sees: to symbolic content in the past, and to light, color, and form relationships in the present. But the visitor to the “Fifteen Americans” in the Museum of Modern Art, finds himself deprived of this guidance. Room after room, he is confronted with inarticulate outcries of tortured bewildered individuals, splashed on canvases of enormous size. The Representational Expressionism of the early 20th Century has been replaced by a totally unformed color language that serves only one purpose: to project the painter’s most intimate emotions. The mechanics of color application, such as the flow of oil paint from a can, in the work of Jackson Pollock; or the meandering path of pigment, mixing with water (according to chance) in the colored chalk and casein pieces of Edward Corbett; or the impasto, squeezed heavily on the canvases of Clifford Still; have become self-purposive. The guiding principles of plan and concept are negated, and if there is depth in this passion, it is the deep passion of total abandonment to chance. Sigmund Freud, at the dawn of the psychoanalytical era, had conceived of the subconscious chaos in man as something evil and destructive that had to be brought to the surface to be healed by reason. Abstract expressionist painting, fifty years later, gropes for glorification of the subconscious chaos as the only creative and vital substance left in modern man. The subconscious, once it has been declared supreme, absolves man of all rational responsibility. It guarantees, above all, freedom from value judgments.

When Paul Cézanne destroyed the Academy, he put in its place the asceticism of the genius who follows a discipline that is infinitely more severe and binding than any academic stric-
STOP RUST!

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BEAUTIFY AS YOU PROTECT—ALL COLORS, ALUMINUM AND WHITE!

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ARKWRIGHT

You'll find it easy to do better work with Arkwright Tracing Cloth—and here are three specific reasons why:

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ARKWRIGHT
Tracing Cloths
AMERICA'S STANDARD FOR OVER 30 YEARS

The Heritage of Cézanne
(Continued from page 140)

It was the weight of this responsibility for "the new way he taken," the awareness of being pointer whom others will follow" constitutes the tragic element in Cézanne's life. The artist of our time acknowledges nothing by way responsibility, except the right to press himself. The cryptographic portrait of his agonized ego supersedes all other value judgments that might come from the public, unless the art succeeds in blackmailing this put into consent. Mark Rothko, referring to one of his color deliriums, means sometimes 81 by 66 inches in the catalogue of the "teen Americans" that "it is therefore risky act to send it out into the wo. How often it must be impaired by eyes of the unfeeling and the cruel of the impotent, who would exact their afflictions universally!"

Afflicted with cruelty and impotence the helpless museum visitor remembers, before Rothko's sacrificial offering, Cézanne who "killed himself, erasing twenty inches of canvas," whose most brutal punishment for labors was a deadly self-criticism.1 feverish criss-cross strokes of Wal Tomlin, starting and ending nowhere in their nervous haste across a mud canvas; the candy-colored amoebae of William Baziotes, self-consciously titled "Cat," or "Jungle," or "Dwar as if there were a common denominator of recognition; and, above all, the pigmentation of Clifford Still, covering 10 by 13 feet surfaces with unexc black, interrupted only by one precious wavering hairline, leave one sick with shock. If painting is the mirror of the contemporary soul, what has become of us?

Outside the Museum, against an illuminated city sky, rise the monuments of contemporary architecture. With all their inconsistencies and failings, they are testimony of a new concept of individual freedom of expression and communal service for purpose. When the painter stopp
eyes come first with new BENJAMIN

"Grid-Lite" system

translucent diffuser shields provide more comfortable seeing... meet Educators' demand for an atmosphere that inspires attentiveness, eliminates distracting contrasts and promotes voluntary concentration.

translucent diffuser shields are the answer to MORE LIGHT... as much as 10% MORE LIGHT than with opaque louvers... and, combined with "Grid-Lite" System, up to 50% MORE LIGHT than conventional luminaires!

Benjamin engineers designed "Grid-Lite" with but one objective: better comfort-brightness balance and more light. This is the kind of light educators have long sought... there can be no compromise in attaining it. That is why "Grid-Lite" utilizes translucent, ribbed polystyrene diffuser shields, instead of less efficient opaque shields, louvers or other shielding media. Benjamin diffuser-shields actually raise the total usable light on the working surface, while providing a new high in comfort-brightness balance through greater light diffusion and 45° lamp shielding.

Young America's eyes deserve this kind of restful, diffused light. It promotes concentration and attention... it eliminates disturbing contrasts that develop glare, germinate unrest and carelessness... it creates a stimulating atmosphere conducive to better study habits.

It is because SEEING is youth's main gate to knowledge, that EYES COME FIRST with "Grid-Lite"! For further details and lighting data, write for FREE "Grid-Lite" Bulletin, AD 5880, just published.

being "the conscience of his time," the architect remained conscious of his world-binding mission. No matter how short they fell of their intentions, the best architects, here and abroad, were inspired by a vision of the ultimate structure of a better human society.

For the first time in the history of our civilization, painting and architecture feed from different sources and aim at opposite goals. Architecture is proud of its function as a mass medium; the modern painter, on the other hand, is proud of his impenetrable isolation. Like a mad caller, he speaks or (which is the same thing) before hanging a picture on a mus wall. And yet both the architect and the painter are the direct heirs of Cézanne. When he gave to man the "substructure of things," it was given indifferently, for better or worse, like the Apple of Knowledge to Adam and Eve. Its worth depends entirely on the responsibility of the interpreter, or, in Frank Lloyd Wright's words, "on the severe discipline of a great ideal." It was the modern architect who kept faith with this command; and it was the modern painter who abandoned it. It is up to him to recover the dedicated obes

why you're right when you write

When your piping installation will carry corrosives, there is a future replacement item to be considered . . . unless you specify Duriron permanent drain pipe.

With Duriron, resistance to almost all corrosive materials is as great as the thickness of the pipe itself. Further, Duriron is highly resistant to abrasion.

When you consider that the installation cost of Duriron is no greater than that of non-permanent drain line, it just makes sense to specify Duriron, a product of The Duriron Company's 39 years of experience fighting industry's toughest corrosion battles.

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EDUARDO CATALANO AND ASSOCIATES,

Oil Painting—CLIFFORD STILL, 1949
Why you should specify...

**B & G Hydro-Flo BOOSTER**

Better design...fine workmanship make this the preferred pump for forced hot water heating systems.

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**Precise to .0005 of an inch**

Here you see one of the reasons why more B & G Boosters are sold than all other heating system circulators combined!

You are looking at the final finishing operation in producing Booster pump shafts. All shaft dimensions are maintained within .0005 inch limits with these extremely accurate grinders. Note the micro-gauges. One indicates the surface flatness of the thrust collar, one the diameter of the shaft and the third is used to position the work in the machine. When finished, Booster pump shafts are mirror smooth and exactly uniform!

All Booster parts are made with similar attention to the quality of workmanship. That's why B & G Boosters are setting records for long, quiet and dependable performance. Thousands have been in operation for many years without need for service of any kind!

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Today’s smaller homes mean that space-economy is a greater necessity than ever before. Every home-builder and every home owner is a prospect for space-saving Richards-Wilcox SILVER STREAK Vanishing Door Hardware.

SILVER STREAK Hangers and Aluminum Track offer maximum compactness and convenience. There’s more room in every room, more chance to utilize every inch of available space for living purposes.

SILVER STREAK is perfect for thin-wall installation and noiseless operation. It offers greater efficiency, ease of operation and economy in all types of homes. For complete detailed information on all the exclusive features of SILVER STREAK hangers and hardware, write for illustrated leaflet showing complete architectural sketches of installation methods.

GREATER EFFICIENCY!
GREATER ECONOMY!
BETTER OPERATION!

Notice how sliding doors permit full utilization of every inch of space in this limited hall area. There’s no conflict between doors.

The Heritage of Cézanne

(Continued from page 144)

...to achieve pure visual relationships.

"The planes must be seen... clearly, honestly... But to join and weld them! They must revolve interconnect at the same times. It is only planes and volumes that matter. This is the common denominator of art and architecture as stated in The Heritage of Cézanne. It is our tradition and it must become a new beginning for our civilization to survive.

NOTICES

change of address

JOHN W. GREINER, Architect, has rented new offices from COLEMAN, GREINER & COLEMAN, Ltd., Louisville, Ky., to his own office, 23 E. Orange, Lancaster, Pa.

CHARLES O. MATCHAM, Architect, announces the recent move of his offices to 621 S. State St., Los Angeles 17, Calif.

Recent expansion and reorganization in the firm of DONALD BEACH KIRBY & THOMAS MULVIN, Associated Architects, has resulted in the removal of their office to 109 Stev St., San Francisco, Calif. Also a change of name is announced as follows: DONALD B. KIRBY, THOMAS B. MULVIN & ASSOCIATES Architects & Engineers. Ralph B. Priestly, erect; Ted Moulton, Architect; and Baird He Civil Engineer, are the Associates. All original members of the firm are members of the

As of April 1, 1952, the office of S. S. BERG, architects-engineers, will be located in Room 511, 739 Boylston St., Boston, Mass. The office of ROBERT E. ALEXANDER, architect, is now located at 2379 Glendale Blvd, Los Angeles 39, Calif.

NAT S. SACHTER, Engineer, announces the removal of his office to suite 108 Goby, 1321 Bannock St., Denver 4, Colo.

146 Progressive Architecture
Recently, The Consolidated Edison Company (in New York City) faced this problem: It had to produce a direct-process print from each one of more than ten thousand Brooklyn Underground Records, showing the distribution system of electric service.

But satisfactory prints could not be produced directly from these maps. They were up to 30 years old and had been referred to constantly. As a result, they were soiled, stained, creased, and "dog-eared." What to do? Retracing was out of the question, because it would take a draftsman from two to three years to trace and check just one of these 17" x 25" drawings.

Kodagraph Autopositive Paper was the speedy, economical solution. This revolutionary photographic intermediate paper provides approximately 40 sharp and clean "duplicate originals" of each drawing in an hour. Yes, 40 in an hour because Kodagraph Autopositive Paper produces positive copies directly—without a negative step, without darkroom handling. At the same time, it drops out stains, creases . . . cleans up backgrounds . . . transforms weak detail into dense photographic black lines. Furthermore, Autopositive Paper can be exposed in standard print-making equipment . . . and processed in standard photographic solutions. Thus, Consolidated Edison obtained—in record time and at minimum cost—a complete set of duplicate originals, which were used to produce the required direct-process prints . . . and were then filed away for future reference work and print-making needs.

Kodagraph Autopositive Paper produces positive copies directly—without a negative step, without darkroom handling. At the same time, it drops out stains, creases . . . cleans up backgrounds . . . transforms weak detail into dense photographic black lines. Furthermore, Autopositive Paper can be exposed in standard print-making equipment . . . and processed in standard photographic solutions. Thus, Consolidated Edison obtained—in record time and at minimum cost—a complete set of duplicate originals, which were used to produce the required direct-process prints . . . and were then filed away for future reference work and print-making needs.

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**Kodagraph Autopositive Paper**

"THE BIG NEW PLUS" in engineering drawing reproduction

Kodagraph Autopositive Paper produces positive copies directly—without a negative step, without darkroom handling. At the same time, it drops out stains, creases . . . cleans up backgrounds . . . transforms weak detail into dense photographic black lines. Furthermore, Autopositive Paper can be exposed in standard print-making equipment . . . and processed in standard photographic solutions. Thus, Consolidated Edison obtained—in record time and at minimum cost—a complete set of duplicate originals, which were used to produce the required direct-process prints . . . and were then filed away for future reference work and print-making needs.

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books received


Symmetry. Hermann Weyl, Princeton University Press, Princeton, N. J., 1952. 168 pp., illus. $3.75


Sunset Ideas for Cabins and Beach Houses. Lane Publishing Co., Menlo Park, Calif., 1952. 112 pp., illus. $1.50.

Low-Rent Asian Housing. J. W. Dark, Orient Publishing Co., Printing House, Duddell St., Hong Kong, China, 1952. 121 pp., illus. HK$10.

how Kewaunee Research aids Your Search for Most Efficient Laboratory Equipment

For nearly half a century Kewaunee has devoted its energies to designing, engineering and manufacturing the very finest wood and metal laboratory equipment and casework.

This has involved constant research at Kewaunee—in functional design, in materials improvement, in product development, in manufacturing processes. Research that has brought you such outstanding developments as Kerntherm sinks, KernROCK work surfaces, unit assembly, flexibility of arrangement, and many modern, work-saving features.

Such developments materially aid the architect. Kewaunee trained engineers save him time, too, by suggesting equipment that is design-correct, economical, efficient and a complement to the finest job.

Depending on Kewaunee to continue bringing you through research, the very latest and best laboratory equipment.

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Adrian, Michigan

valuable source


Here is an imaginatively conceived and handsomely produced volume on the history of application of letters and lettering. It is written by an authority who has taste, breadth of view, and an excellent sense of selection.

Though addressed primarily to designers and lettering students, the book contains much that can be of inspiration to architects, artists, typographers, advertising agency men, and others whose work is related to the graphic arts. In content and format, it is worth every penny of its price. In fact, it will be a far more lasting memory to those specialists or students whose labor has been "swipe" files and aids to plagiarism.

Ballinger, Director of Advertising Design, Philadelphia Museum School of Art, and a well-known designer in his right, covers letters and lettering from earliest times to the present. Wisely, he touches briefly on the actual mechanics of lettering, but there is a number of good manuals on that subject. However, he explains in text (accompained by hundreds of first-rate examples), the fine points which create letter designs of distinction, strength, subtlety, or combination of the three, whether the design be an in Roman initial, a medieval manuscript letter, a case letter, a wood type-block used on theatrical handbills, a modern Stylic character, or flowing script. For the student, there are several tissue overlays to show how good designs may be arrived at through proper balance, stroke widths, serif treatment, and spacing ("color").

The author's text is, for the most part, clear, and refreshingly free from the obfuscation He has done an admirable job of organizing the time-span covered, the many kinds of lettering discussed, and the number of geographical areas which have produced such examples. The captious might remark that Ballinger has covered too much ground at the sacrifice of more examples in each of the categories covered, such as posters, letterheads, postal labels, and (of particular interest to architects and draftsmen) display lettering on building. In any case, Ballinger should be thanked for the delightfully varied illustrations he has provided—after all, he had to draw the line somewhere.

The publishers have been generous.
CHAIN STORE AGE, in advising chain store operators on their selection of fluorescent lighting equipment, said:

“The ballast is the heart of a fixture. The surest way to choose a ballast is to look for the Certified shield . . . it is the only assurance of long lamp life. Inferior ballasts delivering wrong wattages result in low light output.”

Experience has proved that CERTIFIED BALLASTS assure:

<table>
<thead>
<tr>
<th>Full Lamp Life</th>
<th>Rated Light Output</th>
<th>Maximum Ballast Life</th>
</tr>
</thead>
</table>

CERTIFIED BALLASTS are made to precise specifications, then tested by Electrical Testing Laboratories, Inc., which certifies they conform to these high standards.

Write for complete information on the types of CERTIFIED BALLASTS available from each participating manufacturer.

Participation in the CERTIFIED BALLAST program is open to any manufacturer who complies with the requirements of CERTIFIED BALLAST MANUFACTURERS.

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Makers of Certified Ballasts for Fluorescent Lighting

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Like the WHEEL . . .

**KINNEAR Rolling Doors are HERE TO STAY!**

Like the rolling action of the wheel, the smooth upward operation of Kinnear Rolling Doors involves basic, unchanging principles of engineering efficiency. The door's advantages have been proved in thousands of installations, through more than half a century.

Today the dollar-saving importance of these Kinnear advantages is getting closer attention from building designers everywhere. As building construction, operation and maintenance costs continue to rise, the space, time, labor and construction costs that can be saved with efficient doors are major items in any business operation.

Kinnear's rugged curtain of interlocking metal slats opens straight upward. It coils compactly out of the way above the opening. Floor, wall and even ceiling space remain fully usable at all times. The door clears the opening from jamb to jamb, and from floor to lintel, completely out of traffic's way.

When open, it is safe from damage by wind or vehicles. When closed, it presents an all-metal barrier that assures extra protection against storms, intruders, and fire.

In addition, Kinnear Rolling Doors provide smooth, easy operation under all conditions. They may be controlled manually, mechanically (by chain or crank) or electrically. Motor operated doors can be equipped with any number of remote control switches, for highest convenience. Kinnear Rolling Doors are built of various metals, in any size, for easy installation in old or new buildings. Let us send you complete information.

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*Factories:*
- 1900-20 Fields Ave., Columbus 16, Ohio
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*Offices and Agents in All Principal Cities*

---

**REVIEWS**

(Continued from page 148)

*color, and what must have been their insistence on the best engraving work is evident on every page. This reviewer has only one regret: she came to the end of the volume too soon.

HARMON TUF

**patio design**

*Sunset Patio Book,* Lane Publishing Company, Menlo Park, Calif. 1952. 176 pp., 250 photos and drawings. $2.00 (or a library edition, $3.00)

For years, the publishers of Sunset, the West Coast home and garden magazine, have been publishing "how to" and "idea" books for home owners—on cabins, barbecues, fences and walls, etc. Now added to this extensive list is a handsomely illustrated book covering every phase of patio design and construction. Also included are planting suggestions, instructions; discussions of sun and wind control, handling of barbecues and pools, outdoor furniture and paving, and numerous problems regarding the integration of all of the elements that people enjoy in patios with the house and garden. While the book is quite officially signed for the home-owner, designers and problems related to outdoor areas might find it a useful source of information. G. A.

**life of a pioneer**


In a chapter devoted to a critical estimate of the subject of this biography, Hugh Morrison writes: "The general conception of the importance and significance of an architect depends largely, after all, on what has been written about him by eminent scholars and critics. Granting that a serious lack of detailed information has impeded the formation of a fair appraisal, the fact remains that Sullivan's life and work have received scant recognition at the hands of our scholars and historians."

Perhaps "a just appraisal" of Sullivan's life is to be written some day, but there is no denying that Morrison's thoughtful and sensitive biography, first published in 1935 and now appearing in a reprinted edition, gives the reader an intimate and accurate picture of the "prophet of modern architecture" and the mark of his influence on the profession. And that there

(Continued on page 152)
When you specify GUTH Luminaires, you get the benefit of more than a half-century's experience in pioneering better lighting. We make good specialized equipment for every lighting need...all precision-planned for economical installation and maintenance:

**FLUORESCENT:** Commercial and Industrial; Glass diffused, Eggcrate shielded, totally indirect, luminous indirect, recessed troffers and exposed lamp types.

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- totally indirect open bottom Lumininaire for Silver Bowl Lamps, with modern ALZAK concentric louvres;
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- with GUTH GRATELITE® the 48" long plastic louver with 45 x 45 cut off for efficient vertical illumination and low brightness diffusion at angles above 45°. GRATELITE is made in sizes up to 48" long. Easy to install on single fixtures or complete ceilings. Available in opaque or transparent densities. Send for information. *Patent Pending*

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- recessed and surface types for PAR 38. Adjustable 45° from vertical in all directions. Can be used as individual units, or in conjunction with our fluorescent types. Bulletin 834.

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- for 1, 2, 3 or 4 lamps: 20-, 40-, 85-watt, or 4-ft., 6-ft., or 8-ft. SLIMLINE. Exclusive end KO's provide exact 48.0° modular design for unlimited patterns. Wide variety of shielding and diffusing glass panels available; also ALZAK reflectors if desired. Bulletin 869.

**GUTH'S GOLDEN YEAR.**
- GUTH 4-FT. SLIMLINE available in every GUTH fluorescent fixture
  - no starters or starter troubles!
  - easy to handle Single-Pin lamps!
  - light in two steps almost instantly!

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**THE EDWIN F. GUTH CO. / ST. LOUIS 3, MO.**
REVIEWS

(Continued from page 150)

a distinct influence is evidenced by the fact that, twenty-two years after his death in 1924, the American Institute of Architects awarded posthumously to Louis Sullivan its Gold Medal, the highest honor in the architectural profession. An ironic note, perhaps, but curiously in keeping with Sullivan's life for, in the citation (prepared by Morrison), he states: "He fought almost alone in his generation, lived unhappily and died in poverty."

Whatever historians, scholars, and architectural critics may feel about Louis Sullivan as a man, a genius, a philosopher, a writer, or a practicing architect, this biography is a stimulating and highly valuable book, since Sullivan lived and worked in an especially important period as far as architectural development this country is concerned. Morrison, who is professor in the Department of Art and Architecture at Dartmouth, first became interested in Louis Sullivan around 1930 while teaching at the University of Chicago. In the course of investigation, he discovered that most of Sullivan's office records had been destroyed and that there was little else available—photographs lists of buildings designed by him, or personal effects (since Sullivan had no family to preserve them)—to aid him in piecing out the story, was from Sullivan's own writings but infinite more from George Grant Elmslie, who worked with Sullivan for twenty years, that Morris obtained the most vital part of the material for this account.

Of no minor importance in this book is the comprehensive bibliography which provides Morrison with source material. Since the first edition in 1935, he has added a supplement bibliography for the years 1935 through 19

FRANK A. WRENS

today's furniture


This is a catalog of contemporary furniture, lamps, and fabrics. It is a practical guide since all examples shown are currently available. The book is divided into sections, headboards, beds, sofas and beds, sofas and beds, and fabrics. Each photograph is accompanied by catalog number, descriptive names of designer and manufacturer. An interesting introduction traces post and pre-war forces that shape contemporary design expressions.

Hennessey is well qualified to author the work. Architecturally trained, he has specialized as interior designer and consultant for a number of years. In his introduction, the author warns us of possible omissions. The are attributed to production limitations or the case of foreign manufacture, by a sense of guarantee that certain pieces will be available here for years to come. This review misses Aalto furniture (Is it passé?) and Neli cabinets, without which the section on storage is not wholly complete. Exceptions will be taken to certain examples, dependent upon how purist the reader is. But this is a comprehensive section and examples are chosen not for fa

For every style and price requirement...

Case

Vitreous China Lavatories

WINDELL $785. Matches the Case One-Piece Water Closet in design and quality. Square basin, anti-splash rim, ledge back. 24" x 20".

WILLARD $950. Front Overflow, anti-splash rim, slanted control panel. 22" x 18" and 24" x 20".

COSMETTE $940. Square basin lavatory with control panel recessed in shelf. 20" x 14½" and 24" x 17½". at moderate cost. 20" x 18".

AVON $912. Wall hung lavatory with 6" back. Excellent quality. 20" x 14½" and 24" x 17½".

WINCHESTER $923. A low-cost fixture with spacious oval basin, front overflow. 18½" x 15½" and 19½" x 17½".

Case Fine Vitreous China

(Continued on page 158)
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multi-outlet wiring system

"Plug-In" Strip makes your homes more modern, more livable, *more salable!* The freedom it allows for furniture arrangement, the outlets it provides for electric appliances, lamps, radio, TV—appeals to home buyers—makes any home a more attractive buy.

"Plug-In" Strip provides a spread of electric outlets all around the room—every 18" (6" spacing for kitchen work centers). It’s neat . . . easily installed . . . permanent . . . architecturally correct. A complete, ready-to-use wiring system.

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Architectural concrete slabs cover interior and exterior columns, unifying design

For see-through spaciousness integrating lobby and gardens into visual unity, the new Manhattan House in New York rests upon 74 handsome columns. Beautiful column facings are pre-cast concrete slabs made with Atlas White Cement and white quartz aggregate... gracefully accenting the open areas in the building base.

Two flat U-shaped slabs, 11' high and 2 1/2" thick, are joined to form each column. Shop-fitted with shiplap joints, each pair encloses a support column and conduits. Design of the entire ground floor is integrated because concrete slabs are used indoors as well as out.

You will find many beautiful and original uses for concrete facing slabs made with Atlas White Cement. The range of forms, textures and colors is tremendous. And because Atlas White Cement is a true, uniform white, it enhances the rich color values of both pigments and aggregates.

Atlas White Cement complies with ASTM and Federal Specifications. For further information see SWEET'S Catalog, Section 4E/7 and 13C/5, or write Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Ave., New York 17.

FORE BEAUTY AND UTILITY
ATLAS WHITE CEMENT
® FOR TERRAZZO, PAINT, SLABS, STUCCO

(Continued from page 150)

LESSNESS but for being representative of major trends. To our knowledge, this is the first book to systematically catalog contemporary furnishings. As such, it adds to quite a comprehensive pack of information, a useful reference to those interested or involved in interior design.

planning techniques


Neither blitzed nor blighted during the war, the ancient English market town of Bedford has gradually developed a wide range of functions, giving rise to some unusual problems. The proposals to be found in this text planning report make use of the latest survey and planning techniques, which are presented in clear and graphic manner.

eliminating guesswork


August E. Kommendant's new book provides a basic understanding of the design and method of analysis of prestressed concrete structures and is intended to eliminate generalizations and guesswork based on inadequate data. Illustrated by a general explanation of prestressed concrete principles, history, systems, and application methods, the book describes the properties of the materials used in this form of construction and the design theories and methods for analyzing the carrying capacities of various prestressed systems. Examples of a dozen or representative structures now in use here and abroad—bridges, reservoirs, tanks, dams, and craft hangars, an experimental runway—are appraised with critical remarks and suggestions for improvement. An appendix contains basic tables on materials used in prestressed structures, plus conversion tables English and metric units.

Internationally known for his contribution to the development of prestressed- and reinforced concrete theories, Dr. Kommendant served as consulting engineer to Headquarters of European Command, from 1945 to 1950, to solve the problems of reconstructing many key-bridges and other structures damaged during World War II.

THEATRE GUILD ON THE AIR sponsored by U.S. Steel Subsidiaries
Sunday Evenings—September to June
The use of translucent glass, the modern material, in tomorrow's merchandising and manufacturing structures is an established trend. Designers and architects everywhere appreciate the beauty and utility inherent in this versatile, new medium. One of the most recent and attractive indications of this important movement is the facade of the new Hecht Co. department store in Parkington, Arlington, Virginia.

Described as "America's most beautiful suburban department store," this impressive building features an exterior wall gleaming with 15,000 square feet of sturdy Mississippi Hammered Wire Glass. This handsome, fire retardant wall is striking by day and night...it is also a giant poster used to publicize community events and store activities.

Figured Glass by Mississippi is the newest thing in design, fast replacing conventional materials for interior partitions as well as exterior walls. Glass offers many distinct advantages...is easy to install and maintain...never loses its lustrous beauty.

The properties of Mississippi glass can solve many design problems. It is available in a wide variety of patterns and textures wherever quality glass is sold. Listed in Sweet's Catalog. Samples on request.

MISSISSIPPI Glass Company
88 Angelica St. Saint Louis 7, Mo.
New York - Chicago - Fullerton, Calif.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS
This column supplements material in Chapter 23 of Tomson’s Architectural and Engineering Law (Reinhold 1951).

The necessity for legislation to protect architects is, of course, not confined to registration statutes (See IT’S THE LAW May 1952 P/A). The need for exchanging and pooling information and for a “uniform” statute exists, for example, with respect to the architect’s right to a “mechanic’s lien” for the drawing of plans and specifications, as well as for supervision. His right to such a lien varies considerably in the forty-eight states. It may extend only to his services for supervision; or in some states, where he also supervised the construction, to plans and specifications; or in other states, to plans and specifications without the necessity for his having supervised the construction.

The right to any “mechanic’s lien” is exclusively granted by way of statutory enactment. Such right did not exist at common law as an example of a statute providing for the filing of “mechanic’s liens” by architects for their plans and specifications, as well as their supervision of construction, is found in Compiled Laws of Colorado, Section 6442 (15). That statute as follows:

“Mechanics, material men, contractors, builders, and all persons of class performing labor upon or furnishing materials to be used in the construction, after addition to, or repair, in whole or in part, of any building, mill, bridge, ditch, aqueduct, reservoir, fence, road, tramway, or any other structure, improvement, upon land, and also arch engineers, draughtsmen and artisans who furnished designs, plans, maps, addresses, drawings, estimates of cost, supervision, or who have rendered professional or skilled service, or bestowed in whole or in part, or superintending such structure, or work or to be done, or any part connected therewith, shall have a lien upon the property upon which they have rendered service or bestowed or for which they have furnished materials, machinery, or other fixture, the value of such services rendered or done or material furnished, whether at the instance of the owner, or of any other person acting by his authority or under him, as contractor, or otherwise; for the work or done or services rendered or material furnished, by each respectively, whether done or rendered at the instance of the owner of the building or other improvement, his agent; and every person having charge of the construction, either in whole or in part, of any building or other improvement, as aforementioned, shall be held to be the agent of the owner of the purposes of this act.” 1676-1677 (emphasis ours).

The above-quoted statute is atypical. A statute of the lien laws merely provides for filing of “mechanic’s liens” by “mechanic men, contractors, and builders,” where architects have not been named specifically as a group protected by the statute. However, courts have held that they do not come within the coverage.

The decisions of the courts, in interpreting statutes of the various states, may be classed into three distinct groups:

1. The architect is permitted a lien for plans and specifications, as well as supervision of construction;

2. The architect is permitted a lien for plans and specifications only where he also supervised construction;

(Continued on page)
The Macomber V-LOK Building is not a standardized steel building. It is a custom designed structural system using standardized parts. The building is then completed with conventional materials to carry out any occupancy need or architectural effect.

For many types of buildings, V-LOK is a practical method of steel framing designed to reduce building costs in a rapidly rising market.

V-LOK gives the builder an instantaneous connection requiring nothing but a hammer to seat the connectors in the locked position.

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There is no more economical approach to carefully engineered steel construction as a result of these basic economies designed into every square foot of V-LOK Steel Buildings.

This new catalog gives designing information, dimensions, loadings and IDEAS in application of V-LOK to today's needs. Your copy is ready.
**The Fiat Skipper**

The largest selling shower cabinet in the plumbing field. Such popularity of the Skipper shower can be attributed to its distinctive pleasing lines that give a smooth clean cut beauty found only in other much higher priced showers.

The interior of this shower is unusually free from joining seams which makes it very easy to keep clean. Bonderized, galvanized steel used throughout eliminates rusting. The precast stonetex receptor provides a solid permanently water-tight base. The workmanship is the standard Fiat high quality, no raw unfinished edges.

**Size 32" x 32" x 76"**

Consult your plumbing contractor on the economy features of Fiat shower installations.

**Fiat Metal Manufacturing Company**

Three complete plants

Long Island City 1, N. Y.

Los Angeles 63, Calif.

Chicago area: Franklin Park, Ill.

In Canada: The Porcelain and Metal Products, Ltd., Grimsby, Ontario

Illustration shows a Neptune door installed on the Skipper shower.

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**3. The architect is permitted a lien with regard to supervision of construction and has no lien for the furnishing of plans and specifications.**

*Group 1:*

Under statutes similar to the Colorado set forth above, the courts have held an architect entitled to a lien for his plans and specifications, as well as supervision of construction. The Supreme Court of Colorado, in Park Properties, Inc. et al v. Fisher, et al, 577, set forth the rule as follows:

"If we were to hold that the identical plans must have been used before their attachment, they would not be giving full protection contemplated and created by the lien statute. Such ruling would afford opportunities for unscrupulous builders to avoid legitimate lien rights of architects. The services of the Fishers continued for over a year and were largely evidenced by the plans, specifications, details, and drawings submitted by Hooper and Janusch, Chicago architects, by them in the preparation of, and partly incorporated in, the plans actually prepared and used in the construction of the building. Under such circumstances, it would be inequitable and unjust to deny the Fishers a lien for such services which were proven to have been rendered upon the contract and credit of the real property and the improvement erected thereon.

A similar question was determined in the case of Home Market Co. v. Fallis, 72 Colo. 4 P. 641, which is here controlling. There prepared for the lessee plans and specifications for the construction of the Home Public Building in Denver. His employment was noted, but his plans were used in part by the architect of the assignee under whose plan supervision the building was constructed. The judgment of the lower court that Fallis was entitled to a lien for the value of his services rendered was affirmed." (p. 579)

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It is interesting to note that here the plans and specifications were furnished by one group of architects to another, who then prepared and used the final plans which were used in the construction. Yet, the court allowed a lien to the architect for his plans and specifications.

*Group 2:*

The courts of a majority of the States continue to the rule that an architect is entitled to a lien for his plans and specifications and supervision of construction only where such supervision is present. A typical example of a decision adhering to this point of view may be found in Beeson v. Overpeck, et al, 44 N. Y. 195, where the Court stated:

"The court, in reviewing the history (Continued on page..."
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BRIGGS

Beautyware

PLUMBING FIXTURES

PUT EXTRA VALUE IN ANY HOME!

it's quality—striking modern beauty combined with proved reliability—that sells Briggs Beautyware! Home owners know they can be proud to have visitors see these luxury-styled fixtures in their bathrooms. Briggs Beautyware looks resurgent—recently redesigned and restyled, its smart, new lines smooth, flowing contours give it an unmistakable mark of today. Your customers are finding out that the stain-proof, acid-resistant luster of Briggs Beautyware just won't wear off! Depend-Briggs Beautyware fixtures retain that "just like new" look through the years. That's why they're first choice among discriminating home owners everywhere. Cash in on the established sales record of Briggs Beautyware!

The high quality of Briggs Beautyware chromium plated brass fittings has long been well known throughout the plumbing ware industry. Like every other feature of nationally advertised Briggs Beautyware, these fittings are today maintained at the same high level of workmanship which has always distinguished them.

Briggs Beautyware vitreous china lavatories are built to the same exacting specifications that have been traditional with Briggs fixtures from the very start. Briggs is proud that any modifications in its products have always been made with the object of improving them. This basic Briggs policy is unchanged today.

Closets, too, are the finest that Briggs has ever manufactured. Engineered for speedy, efficient installation, these sturdy fixtures have proved themselves trouble-free in thousands of American homes.
# Industrial Painting Contractors

16712 LAVERNE AVENUE • CLEVELAND 11, OHIO

<table>
<thead>
<tr>
<th>June 1</th>
<th>For Window Painting for typical factory</th>
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<tbody>
<tr>
<td></td>
<td><strong>STATEMENT</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Labor</strong> 2,100.00</td>
</tr>
<tr>
<td></td>
<td><strong>Material (Paint)</strong> 700.00</td>
</tr>
<tr>
<td></td>
<td><strong>Overhead</strong> 525.00</td>
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<tr>
<td></td>
<td><strong>(Scaffolding Ladders Brushes Drop Cloths Insurance Cartage)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Profit</strong> 286.00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong> $3,605.00</td>
</tr>
</tbody>
</table>

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# INTEROFFICE CORRESPONDENCE

**TO** W. T. Benson  
**FROM** R. C. Hudson  
**RE:** New Madison Plant  
**Bill:**

Just saw an ad on Fenestra Super Hot-Dip Galvanized Steel Windows. Look like the kind of windows we need for the new plant. They're steel, so you know they're really rugged, and the ad says they're galvanized by a special system so they are super protected from rust. That will save our maintenance department a lot of money every year. Ad also says write to Detroit Steel Products Company, Dept. I.C., Detroit 11, Michigan for complete information and a special free book on the Fenestra Galvanizing System.

Check on it right away, will you?

Thanks.

Dick

160 Progressive Architecture
LOOK HOW MODERN A ROOM CAN BE WITHOUT RADIATORS!

Find the radiator! Crane radiant baseboard heating is inconspicuous and can easily be adapted to any decorating scheme. Easily installed in new houses or old.

Crane radiant baseboard panels make the homes you build more liveable

Your clients can get more pleasure from the houses you design, when they don’t have to arrange their furniture around conventional radiators or hot air registers.

That’s the beauty of Crane radiant baseboard heating. It gives you unobstructed wall area. And it also keeps temperatures more even.

It’s one of the many ideas presented in Crane’s new Sketchbook of Ideas, an important part of Crane’s new service to architects. You can use this remarkable book—with its illustrations and layouts of forty-eight bathrooms, kitchens and utility rooms—to help your clients visualize new room ideas.

And if you want further information on any room in the Sketchbook, we can furnish detailed, specific suggestions for room arrangements and decorating.

This service is available through your Crane Branch or Crane Wholesaler. Call them today.

COME TO CRANE FOR IDEAS

CRANE CO.
mechanic's lien statutes of this state and the authorities of other jurisdictions on the subject, points out the purpose of such statutes in this language: 'The mechanic's lien laws of America, in general, reveal the underlying motive of justice and equity in dedicating, primarily, buildings and the land on which they are erected to the payment of the labor and materials incorporated, and which have given to them an increased value. The purpose is to promote justice and honesty, and to prevent the inequity of an owner enjoying the fruits of the labor and materials furnished by others, without recompense.' The definition of 'laborer' as found in the Century Dictionary is also quoted in this opinion, a portion of which is: 'One who labors with body or mind, or both.' This case when considered along with the phrase in the statute, 'and all persons performing labor,' strongly supports the contention the appellant that his claim is lienable. '(p. 119.)

"The labor and skill of an architect in drawing plans and specifications and in supervising the work upon a building or repairing and finishing the same are a part of the expense of construction, and as an item of such expense, they enter into and help form the value of the building. We can conceive of no sound reason why the person who performs such labor and furnishes such skill should not receive the same protection as the carpenter, the mason, or other mechanics. In a case like the present, where the architect draws the plans, and uses them as his tools in the supervision of the work, I think he is entitled to a lien for the labor expended in the drawing of the plans and specifications and in the supervision of the construction." (pp. 197-198).

It should be emphasized that the supervision of construction by the architect under this decision is the underlying important factor which the court grants the mechanic's lien to the architect.

Group 3:
The courts of a minority of our States differed from the views above set forth in that they held an architect entitled only to a lien for supervision of construction, but not for any plans or specifications which he may have furnished. A decision adhering to this point of view is: Palm Beach Bank & Trust Co. v. Lainhart, et al., 95 So. 122, wherein the Court stated:

"As to the claim of E. A. Fonder, we think that the court was in error in designating him as an architect so far as his activities were regarded in relation to the building. He employed not only to draw the plans for 'Graal Circle,' but he was employed as superintendent of the construction and erecting of the improvements. In that capacity he acted not as architect, but as a kind of foreman, the erection of all the buildings and improvements. In so far as his claim rested upon services of an architect in drawing plans and specifications. Supervising the erection of the building and the selection of materials to be placed therein is often done by a skilled mechanic and is such labor as the statute contemplated shall be provided for in a lien upon building or lands."

In some states adhering to this narrow construction of the lien law, one court has gone to the extreme of denying a "mechanic's lien on an architect where he has supervised construction and prepared and furnished plans.

The rationale of this decision was to the effect (Continued on page
A good plan is always better when it includes symbols for telephone outlets.

as fundamental as counter tops...

Without working surfaces, a kitchen fails in one of its chief functions. And without telephone raceways, walls, too, are functionally incomplete. Raceways keep telephone wires out of sight and so protect the beauty of carefully planned interiors. The cost is low. Client acceptance is high.

Your Bell Telephone Company will be glad to help you work out economical telephone conduit installations. Just call your nearest Business Office.

BELL TELEPHONE SYSTEM
B.F. Goodrich

Never Needs Waxing

Arraflor Vinyl Plastic Asbestos Tile — through constant foot friction which provides buffing action — actually develops a high lustre — without wax. Therefore, maintenance costs are cut 'way down.

4 additional Arraflor features:
- Provides an anti-slip surface for walking safety
- Super-resistant to greases, oils, fats and acids
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although the architect was entitled to a lien for that portion relating to his supervision of construction, his agreement with the owner forms an indivisible contract. Therefore, since he was not entitled to a lien for his plans and specifications, and since the contract was an "entire one," the Court held the architect was entitled to no lien at all.

The right of an architect to a "mechanic lien," where it exists, is an important adjunct to his perpetual battle to be paid adequately for services rendered. There is no reasonable argument that can be made for the architect being put in any worse position than the material man or mechanic who renders work, labor, or services in construction. It is significant that the most recent amendment in New York State with respect to the class of persons afforded the protection of the Lien Law extended its coverage to "landscape gardeners, nurserymen, or persons or corporations selling fruit or ornamental trees, shrubbery, vines, and small fruits." The architect is as diligent and organized as the landscape gardener, nurseryman, and tree salesman; he too can become effective in practical way — this time to assure himself of lien law in each state that will aid him effectively in collecting a fee justly earned.

NOTICES

fall conference at M. I. T.
The Massachusetts Institute of Technology announces that a special three-weeks' conference on CITY PLANNING AND URBAN REDEVELOPMENT will be held at the Institute beginning Tuesday, Sept. 2, 1952. This is the 14th in a series of annual conferences sponsored by the Department of City and Regional Planning at M.I.T., designed to meet the needs of men and women in the field of planning, housing, and urban redevelopment through an intensive course in comprehensive planning principles and procedures.

The tuition fee for the entire conference is $75. The conference will be limited to a total enrollment of 24 persons, of whom not more than half may be staff members of redevelopment agencies. M.I.T. dormitory rooms will be available at a cost of $3 per night for those participating in the program. Requests for further information and letters of application should be sent to: Prof. Frederick J. Adelman, Room 7-333, 77 Mass. Ave., M.I.T., Cambridge 39, Mass.
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There are two subjects discussed here this month: the vacancies in deanships; and a training program for building surveyors.

Vacancies in the deanships
During the past several months, there has been discussion of the scarcity of deans and directors of schools of architecture. Current estimates indicate that vacancies will occur in the next five years totaling somewhere between fifteen and eighteen. The problem constitutes a serious challenge to the presidents or chancellors of the universities concerned. Further, since a fourth of all recognized schools are involved (and the number may go higher), it becomes a problem of concern to large numbers of existing and potential students, to the respective faculties, and to the architectural profession at large.

Vacancies in the deanships

Leadership in schools of architecture (and planning) is an engrossing subject at any time. There is invariably raised the issue of the practitioner versus the educator; the man of experience with a distinguished building record versus the educator; the man of experience with a distinguished building record versus the man who may have spent his time as a distinguished teacher or administrator, or both. And there are the permutations and combinations. Then, of course, there are those who look to the deanship as an honorary position, as a culmination of career, a position in which to grow old gracefully. The record, which is interesting, is subject to the laws of libel when discussed in a place such as this. I wish it were possible to make the important comparisons which are so necessary in evaluating the career of leader in the ever-changing world of architectural education.

But three elements of this history are clear:
First, the man is more important than provenance; second, the training program is more important than the man; third, the student is more important than either the man who is to be dean or the training program he administers.

There is the question, of course, as to the necessity of the position of dean or director. There are two reasons for believing that such a position is essential. First, the college school subdivision within the institution higher learning is a traditional breakdown based on more or less functional, topical, or often logical administrative units. The collegial concept, dating to the earliest days of the Christian Church and reflected in the monastic orders from which much of our present nonsectarian (and sectarian) education stems, is a well tempered and tried system.

It may be true that the college all too often—particularly the professional college—becomes a segregated cell in the institutional body. Still, it remains a clear entity within which a specialized function may be identified and an educational program to satisfy the function, may be developed and administered.

Second, there is the question of the needs for a leader. Contemporary educational university-wide administrative trends are progressing rapidly toward the development a healthier muscular tone in the collegial body, trends in which each cell serves only itself but also all others directly or indirectly related. This service function is changing the attitudes of administrators, both of the university as a whole and also of those
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personality may be its greatest strength in certain phases of school administration. Good committees also demonstrate democracy at its best, but a dictator can control committees—and a school with or without committees.

It is in the dictatorial or, perhaps more often, in the role of benevolent despotism that deanships have failed. Also deanships have failed where the factors of security and sincere have permitted both laissez faire and somno-

lence. What young men and women, and their mentors, require is a working environment congenial to freedom of expression and freedom of exploration. They need to feel confident that the pater families (whoever he may be),
is sensitive to each individual but not so sensitive to the individual that order is lost the group. They need to feel that this lead call him dean for want of better word, someone in whom confidence may be placed confidence in his maturity as a man, confidence in his honesty and integrity as a man, confidence in his ability and convictions as a among men with ability and convictions.

I this stature of leadership in the personality an individual, whose interests are one wit student and with his school of students, with places a premium on the the all-important deans, for it is the primordial urge of a dean, for it is the primordial urge of deans, for it is the primordial urge youth to fight control but ask for guidance. Youth, however, is very selective, and will accept guidance only from those who have proved themselves worthy of confidence. I have to see a student body fooled. Though a prizing number have been amazingly patient maybe charitable is a better word. Many student body has been loyal and affection even though its eyes have been wide open. In such cases guidance comes from other than the titular head.

There is no established training ground for the teachers of architecture, planning, building, although the A.I.A. Commission the Survey of Education and Registration, as mentioned in these columns (Dr. Burdell's Commission), recommends the establishment of "Institute of Architectural Education" which could serve as a training ground for teach and leadership in the building industry.

seventy or so who now direct the destinies of architectural schools arrived at their pre eminence either by accident or error, through dint of hard work and evidence of real worth. Without any attempt at soft sales I am happy to say that the accidents or errors are very few and that, in my opinion, student architects and practicing architects this country can be proud of the heads of schools. Matley as their careers have been they form a distinguished group of leaders in education with a surprising unity of purp

The presidents of universities, facing the of filling existing and pending vacancies, h

three difficult tasks. First, they must reject job specifications for the deanships, in light of changes in university organization. Second, they must recheck job specifications in line with changes which are, or should be taking place in the profession and business.

(Continued on page 168)
RECOGNIZED CONTRIBUTIONS TO MODERN LIVING...

• MANHATTAN HOUSE—
winner of the A. I. A. Award as the outstanding apartment building in New York City and recognized as a definite contribution to modern living — was skillfully conceived and developed by associated architects Mayer & Whittlesey; Skidmore, Owings & Merrill; and G. Harmon Gurney, Chief Architect for the owner—the New York Life Insurance Company. Contractor was Cauldwell-Wingate Co., New York City.

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architecture and building. It is there that the Survey Commission's report (see above) should prove invaluable.*

The president's third task is to find the right man. One thing is certain, that no two circumstances in the schools are the same. There is no one set of specifications which will universally fit all jobs or all men. It is going to be a long, tedious, and discouraging task in many instances. There have been cases where heads of universities have been so impatient, bored, disinterested, or discouraged with the problem that they have closed schools rather than fight for them and for their students. This is an ever-present danger in those situations where leadership is lacking, either at the level of the head of the university or in the school itself, or both. These are unpleasant facts, but let us be frank about them. One certainty is that only in rare instances can a major school survive or maintain status for any extended period without an individual in responsible charge on a full-time basis.

One of the delicate problems which confront us all in these matters is the feeling on the part of many universities that they do not want professional organizations interfering with the freedom of choice of curricula or teachers. Of course they are absolutely right. But avoiding interference or even coercion is one thing. Obtaining advice and counsel is another. After all, a professional school is training for a profession, and only the history and experience of the profession, its accomplishments and objectives, can establish the philosophy of instruction and the criteria for the choice of leadership.

We will all watch with interest and, I am certain, with sympathy and understanding the endeavors of the heads of the various universities to staff their schools of architecture. May they continue to succeed as they so often have in the past! And may the brief record of failures serve as a warning, but not as a discouragement, to those with the unenviable responsibility of making the right choices. The profession of architecture, depending for its future on the schools, stands by to help when called upon.

*Curiously enough, and in confidence, of course, I know of a university which is ignoring the services offered by the A.I.A. and the advice of the Survey Commission's report in reorganizing its school of architecture. The school has had serious accrediting problems, too. Yet that university isn't even interested in the results of three years of research which went into the Survey or in advice from the profession for which it is training students. I'm sorry for the students and the new dean or director, whoever they may be, when they arrive in that particular Never-Never Land.
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Drying time would delay the job 6 to 8 weeks; in the meantime, Massachusetts Life Insurance Company, owners of the handsome, new Sinclair Oil Building, 600 Fifth Ave., N.Y.C., stood to lose 2 months' rent. Something had to be done and done quickly.

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(Continued from page 178)

out of school

the training of building surveyors
You may not be familiar with the British term, "Building Surveyor." We badly need the term and its consolidated activity in this country. A building surveyor is just what the term implies. He is a licensed technician trained to inspect plans and buildings under construction, and to appraise completed buildings for all items covering construction, equipment, condition, location, use, and value. He may be employed as a public official or under contract for a specified type of job. He is trained in a special school for building surveyors, licensed to practice, and is an accepted and qualified member of the business or profession of building, and an invaluable asset to architecture, city planning, and the business of government.

In previous articles I have discussed the training for home builders in the light-construction industry. In these articles I have emphasized the wide diversity of the building industry, its lack of organization, its slowness to appreciate the potentials of technology, and the consequent lag in transition from centuries of handicraft to these days of limitless power and the machine. I have failed, however, to mention one facet in the universal building problem which will be touched on briefly here, to be elaborated on at a later date. It is part of the total problem of education for the entire building industry which I have been talking about.

Every city today, of any size and administrative competence, has built up a complex system of building controls to protect the health, safety, and general welfare of its citizens. There are normally about eight municipal departments, agencies, authorities, commissions, bureaus, and divisions charged with some type of building responsibility. Many of these have inspection and licensing powers. Others are quasi-judicial in function. Some combine the two. All require on their staffs technicians with training and experience in building and, sometimes, in architecture. All of them have influence, and some direct control, on the activities of the architect and the builder. Let us name a few of these agencies of local government which influence architecture and building, either directly or indirectly, or both:

- The City Planning Commission
- The Zoning Board of Adjustment
- The Building Department
- The Fire Department
- The Health Department

(Continued on page 176)
The picture shows a spacious, well-lit room with various framed artworks on the walls and a central circular structure. The text explains that in areas with high traffic, such as lobbies, corridors, public rooms, or areas with concentrated traffic demands, Armstrong's Linotile® is the ideal choice. Resilient and comfortable to step on, its dense structure and smooth surface resist the penetration of dirt, making it the easiest of all Armstrong Floors to maintain.

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