With color-balanced

you’re sure of • BETTER TILE
• BETTER INSTALLATION

Being sure of the tile you select is important. Being sure of its installation is equally important.

Color-balanced Suntile offers you assurance of both. Suntile’s extra quality in form and finish is the result of rigid manufacturing control. Suntile’s color-balance is a unique feature developed through years of scientific color measurement and selection. Color-balance permits harmonious blends and smart, distinctive settings for modern-day interiors.

Suntile’s extra quality in installation is achieved through careful selection and training of authorized Suntile dealers. These men have the know how to bring out all of Suntile’s inherent qualities.

For better tile—better installations, let us send you the name of an Authorized Suntile Dealer. He can show you real clay Suntile in 16 wall colors. In addition, he can show you impervious unglazed ceramic mosaic Suntile in 15 colors—and Suntile Camargos in 10 colors—both in modular sizes.


COLOR BALANCED

A real clay tile
Bright with color
Right for life

Suntile OFFERS YOU BOTH—Better Tile.... Better Installation
One of the features of New York's multi-million-dollar Bronx County Court House when it was built fifteen years ago was the beauty of its floors. Wingfoot Rubber Flooring by Goodyear — nearly 500,000 square feet of it — was installed in courtrooms, jury rooms, judges' chambers.

The photograph above shows you what the Wingfoot Rubber Floor in the busy Court of Special Sessions room looks like today — after nearly one-and-a-quarter-million people have walked on it, in wet weather and dry — tracking in mud, dust, dirt and grit. Its appearance is typical of other floors in the building — bright, brilliant colors, with a like-new high shine free from scuffs and scratches.

Service like this is usual with this high-quality flooring, even under the most severe conditions, with only ordinary care. You can specify Wingfoot Rubber Flooring for public buildings, stores, offices, homes — anywhere that floor appearance and durability are what you are looking for — with complete confidence.

Wingfoot Rubber Flooring is made by Goodyear in 14 multi-tone and plain colors, to harmonize with any decorative scheme. It comes in tile, and in easily-cut sheets that let you design a wide range of tile, feature strip and patterns in your floor installations.

The colors of Wingfoot go all the way through — won't walk off under heavy traffic or wash off with commercial compounds. It is resistant to fire, alcohol, ink and stains. A damp mop cleans it.

No wonder so many architects are specifying Wingfoot Rubber Flooring for their "prize" projects. They know from experience that it keeps its good looks for years — testifying silently to their good judgment.

See Sweet's Catalog for complete specifications, or write Goodyear, Builders Supply and Flooring Dept., Akron 16, Ohio.
Better Building
...in Less Time
...at Lower Cost

Today, in dozens of big construction jobs across the country, alert architects are demonstrating their skill in coping with rising construction costs, by specifying a material that gives their clients better building...in less time...at lower cost—

CEMESTO \* The Multiple-Function Material

WHAT IT IS... Cemesto is a rigid, insulating, fire- and moisture-resistant building board...composed of a Celotex cane fibre core surfaced on both sides with asbestos cement, bonded with a moistureproof bituminous adhesive.

WHAT IT DOES... Cemesto gives you a superior material for sidewalls, roof decks, and interior partitions.
It combines high thermal insulation with great structural strength in an integrated wall unit that furnishes both interior and exterior finish and requires no painting.

YOU ARE INVITED to write us for details on Cemesto applications in which you are interested. In the meantime, you'll find complete specifications on Cemesto in Sweet's file.

THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS
DECEMBER 1948

NEWS

LETTERS

FORUM

ANNOUNCEMENTS

FOUR SMALL HOUSES

Solar house in the Adirondacks by Henry Hebbeln, Architect . . .
Two-family house in San Antonio by J. Glass, Designer . . .
Valley house in Beverly Hills by Robert E. Faxon, Designer . . .
Suburban house in Glenview, III., by David Searcy Barrow, Architect.

CINCINNATI'S TERRACE PLAZA HOTEL

An experienced hotel owner employs the research approach to real
estate, engineering and design. Skidmore, Owings & Merrill, Architects.

TWO HOUSING DEVELOPMENTS

Churchill-Fulmer Associates, Architects, develop two communities
near Falls Church, Va., starting from site—Tyler Park, a commu-
nity of identical houses for sale, and Tyler Gardens, a handsome
development of two-story row houses.

ORDNANCE AND OPTICAL SHOP

Kump & Falk, Architects-Engineers, design a new Navy main-
tenance shop in San Francisco.

HOSPITAL

The Motion Picture Relief Fund's country home in Woodland
Hills, Calif., is supplemented with a hospital by William L.
Pereira, Architect.

PRODUCTS & PRACTICE

Two newly developed low voltage switching systems . . . Color
coding system.

REVIEWS

Convertible Hotel Rooms . . . Demountable Shelves . . . Windows
in Modern Architecture . . . Sculpture in Modern America . . .
Churches, Their Plan and Furnishing.

BUILDING REPORTER


TECHNICAL LITERATURE

Plumbing Fixtures . . . Incinerators.
CALIFORNIA. "We have had complete enjoyment and satisfaction from the Servel unit you installed in my new auto sales agency," says W. R. Shudoff of Pomona, California. "The air is clean and fresh at all times."

Servel All-Year Air Conditioning
wins praise from store owners the country over

The four stores pictured here have widely varied sales problems and are located in different parts of the country. But the owners are unanimous in their praise of the way Servel All-Year Air Conditioning has helped their business. And their statements are typical of hundreds of letters sent in by other business and professional men, testifying to the business-building benefits of this amazing year-round air conditioning system.

With a "flick of the finger," the Servel unit supplies cool, dehumidified air in summer . . . and warm, properly humidified air in winter. In between seasons, the same single unit provides independent air circulation at prevailing temperatures. Year round, it filters dust, dirt and irritating pollen from the air. Every Servel unit is covered by a 5-year factory warranty.

In a Servel-conditioned store, stocks remain fresh and new-looking . . . customers are more comfortable . . . personnel more efficient and energetic. Many merchants feel that the Servel All-Year Air Conditioning Unit will "pay for itself" in a very short time through these benefits.

Do you have clients or prospects who would benefit from the year-round comfort and business-building advantages of Servel All-Year Air Conditioning? Your local gas company will be glad to give you detailed information on specifications, installation, etc. Or, write direct to Servel, Inc., 4812 Morton Avenue, Evansville 20, Indiana.
profits, say business men

LOUISIANA. "We have used Servel All-Year Air Conditioning for more than six years and consider the original cost repaid many times over," writes David C. Silverstein, of Silverstein's Women's Apparel, Monroe, La.

OKLAHOMA. "The Servel installation has contributed much toward the efficiency of our staff," reports Clarence R. Green, Manager of the Alfalfa Electric Cooperative, Inc., of Cherokee, Okla.

TEXAS. "I am well pleased with my Servel unit," stated J.W. Hetherington, jeweler, of Texas City, Texas. "People prefer to shop where the temperature is normal and the air pure and clean."
WHY Keymesh REINFORCING FOR STUCCO AND OVERCOATING

Insures a Stronger, More Durable Wall

Keymesh is made of strong, copper-bearing steel wire. It is specially woven with a reverse twist—Keymesh lays flat when unrolled. No bumps or bulges to cause uneven thickness of the "scratch" coat. Keymesh is heavily galvanized for lasting protection against corrosion.

Keeps distance from wall—Keymesh is easily furred out with special Keymesh furring nails to keep it at a uniform and proper distance from the wall—to insure full thickness of the scratch coat.

Embeds thoroughly—The special open mesh design of Keymesh allows each steel strand to be completely embedded by the "mud", insuring lasting strength of the stucco wall. Keymesh is the right size for easy troweling, and the right size for holding the scratch coat firmly while setting. Joins easily with compact, smooth laps. No bumps or high spots in the first or following coats.

Keymesh-Reinforced Stucco is Good Construction

Portland Cement Stucco, reinforced with Keymesh, is the practical answer to beautiful, durable exteriors, either for new homes or remodeling. Keymesh insures stucco that remains beautiful... stucco that has permanent crack-resistance. For lasting strength and beauty, specify Keymesh on your next stucco job.

Every architect should have a copy of the new booklet "Specifications For Beautiful, Durable Stucco and Overcoating Reinforced With Keymesh". It's filled with facts of interest—write for your copy today.

Keystone Steel & Wire Company
Peoria, Illinois

Architects interviewed in a recent national survey agree that more stucco will be used on more homes in the future. They consider modern steel-reinforced stucco a strong, durable siding material. And they also feel that stucco lends itself to modern and traditional design—that it is highly appropriate for today's popular home design styles, such as Modern, Ranch-Type, Cape Cod, Colonial and Georgian.
**You owe it to your building to install the new ELSCO Safety Roller Guides**

**ON YOUR ELEVATORS**

**RESULTS HAVE BEEN AMAZING**

1. The greatest fire hazard in your building may now be completely eliminated.

2. Savings in electric current approximate 24% to 44% with Elsco Safety Roller Guides and since elevators consume the largest amount of electricity in buildings, the amount of savings is tremendous.

3. Hatchways no longer need cleaning to remove grease, resultant dirt and filth.

4. Emergency safety jaws hold much better in the event of an accident.

Dry rails and shaftways are now the recognized modern and only proper way of elevator operation. It is common knowledge that in the event of fire, elevator shaftways with inflammable oil and grease act like flues and help the rapid spread of fire. Modernize your elevators so that you may save life, property and money.

Elsco Safety Roller Guides have now been in operation since 1941. They have been approved unanimously by the Board of Standards and Appeals of New York City. They have been installed in leading buildings from coast to coast and abroad. They are the only safety roller guide with oscillation, traction and knee-action.

**For Further Information Inquire of your dealer or**

**ELEVATOR SAFETY CORPORATION**

165 Broadway, New York City 6, New York
Owners know that a Kewanee in the basement means a lifetime of dependable heat and lower fuel bills. Tenants know that a Kewanee heated building will be warm and comfortable always, even in zero blasts.

Kewanee boilers increase the selling and renting value of any building. That's why they are so universally used in fine structures of every type.

Whether fired by hand or mechanically there is a Kewanee just right for every heating purpose... from small homes to the biggest factory or skyscraper.
Featured in this issue of this magazine is one of the real architectural achievements of our times—the Terrace Plaza Hotel in Cincinnati, Ohio. Here, the most modern, scientific methods of building and the finest of materials have been used. Here, you will see—in corridors, stairwells, kitchens and the hospital infirmary—clear, cream-colored, glazed facing tile from Stark. The equivalent of more than a half-million brick was used.

Stark's structural glazed facing tile was chosen for this modern hotel for several reasons:

- It's a wall and finish in one. Produced in modular sizes, it builds fast, saves construction time and costs. It's easy to keep clean. Permanently glazed, it resists acids and grease, saves upkeep and redecorating.
- It's an aid to lighting. The smooth, lustrous cream shade in a tinted clear glaze, used at the Terrace Plaza Hotel, helps create ideal lighting conditions.

This is but one example of the use of Stark's facing tile to lend colorful beauty, structural strength and economy of maintenance to interior walls. It is also widely used—both for new construction and for refacing old walls—in industrial plants, commercial buildings, schools, hospitals and other types of structures.

For architects, engineers, contractors and plant owners, Stark has prepared a brochure on modular masonry. It contains much valuable information, and will be sent free to you upon request.

THE STARK BRICK COMPANY
Canton 1, Ohio

Detroit 4, Michigan
New York 10, N.Y.
Choose any combination of top-quality Kelvinators. Regardless of capacity, 5 new Kelvinator Refrigerators are all 31¼ in. wide. Regardless of model, 4 new Kelvinator Ranges and the new Kelvinator Home Freezer are all 39 in. wide. Only Kelvinator offers the flexibility of uniform widths for easier kitchen planning!

Kelvinator — of Course!

“SPACE-SAVER” PACKAGE BRINGS BIG KITCHEN ADVANTAGES TO SMALL KITCHENS

Get Kelvinator’s “Space-Saver” Package... “Space-Saver” Refrigerator only 24 in. wide is full 6 cu. ft. companion range is only 21 in. wide, with new design permitting installation flush against wall. Top-of-the-line quality throughout. For further information, write Kelvinator Division, Nash-Kelvinator Corporation, Detroit, Michigan.
BUILDING MONTH. As the bustling year of 1948 closed, Building could see nothing that would slow it down much in the year ahead. The BLS and Commerce Department forecasters had said 1949 would be another $18 billion Building year. This cheerful estimate had, of course, been accompanied by the sobering footnote that building costs would rise another 5 per cent over the year. It had been qualiﬁed by the calculation that private residential and commercial work would drop a little—the drop to be offset by an increase in public building. But, despite all the nervousness over high prices and government policy, industry oracles like the Producers Council joined government forecasters in guessing that 1949 would see at least 650,000 houses started.

Realtors, gathering for their annual meeting in New York, had conceded that old salesmanship was once more necessary to move both new and used houses. October's 12 per cent drop in housebuilding starts had been more than seasonal, and 4 per cent mortgage money had almost disappeared. But, pushing against the inﬂationary effect of continued high government spending next year, was the welcome news that some building materials might be cheaper soon. Lumber wholesalers had already cut prices, and plywood jobbers in the Paciﬁc northwest were trimming their prices substantially. Many a builder until now busy with luxury housing was recalling his wartime know-how, breaking ground for his ﬁrst postwar low-cost development.

WASHINGTON

PUBLIC HOUSING AHEAD

It may be timed to balance down swings in private housebuilding

The long-debated and long-flouted T-E-W housing bill had now become the W-E-M-M-S-T-F bill and might even have to add another T. The crowd of Senators who wanted to sponsor it—Wagner, Ellender, Maybank, Myers, Sparkman, Tobey, Flanders and maybe Taft—was a measure of the pressure that seemed certain to blast the housing bill through Congress. Its provisions would be the sections of the general housing bill that Congress had ditched last summer: public housing (500,000 rental units over the next ﬁve years), slum clearance, farm housing, a comprehensive federal housing research program.

Housing Boss Raymond Foley had talked things over carefully with the President before he let the press in on the legislative proposal he will place before Congress. When he did, there was little that was unfamiliar. It all boiled down to an old complaint: "Not enough of our housing is priced for the mass market." But Foley made it clear that he recognizes there is no legislative magic that will bring costs down. Along with the public housing and slum clearance legislation, the new Congress would likely extend the FHA 608 rental housing program past its March 31 expiration date and liberalize RFC's secondary market for home mortgages. Foley also promised fuller use of the barrage of FHA-aids provided by Congress last summer (cooperative housing, yield insurance, 30-year loans, prefab loans, etc.). But, in the end, Foley said, only a "voluntary nation-wide program, in cooperation with the national and local governments, by the men who plan, build and finance houses" can push housebuilding into its enormous low-cost market. "We therefore plan to request meetings of all elements of the housing industry to seek their voluntary cooperation."

Timed Public Housing. Senators Flanders and Tobey, Republicans long advocates of public housing, had proposed an anti-inﬂationary device to reduce the pressure of the new program on building materials and labor. This is an "escalator clause" which would step up yearly volume of public housing when private housebuilding fell below a certain level, decrease public building when the private housing pace quickened. Senator Flanders thinks a good breaking point would be about 800,000 private houses a year. He feels so strongly about this inﬂation safeguard that he may refuse to sponsor the bill if it is not included. He and Tobey also want to "strengthen the provisions to make certain that no public rental housing shall compete with private enterprise."

Cost Research. While public housing and slum clearance would get the spotlight, the expected research provisions of the new housing bill might eventually take the biggest sock at housebuilding's cost dilemma. The 80th Congress, alarmed by the fear of private enterprise groups that centralized housing research might be used as a bludgeon, had cut the research provisions of the housing bill passed last summer to the bone. The current program provides only for a study to promote standardized building codes and such developments as the industry-engineered house. Foley will ask for a program aimed at reducing house costs by the development of more efﬁcient building methods and materials. He also wants funds for collecting adequate economic and statistical data on needs and markets and making these available to the industry.

VA STANDARDS

They lack enforcement authority

The Veterans Administration ﬁnally came out with the set of minimum construction standards for its guaranteed home loan program which it had been talking about for two years. They were almost exactly like those of FHA, with one big exception: they haven't the authority of enforcement behind them that FHA standards have.

Actually, VA has no authority to impose minimum standards under its program. But for the last year, it has been helping housebuilders stay within the guaranteed loan limit by giving them pre-construction valua-
tions on their proposed houses. Now it will extend that service only to those builders who conform to the minimum standards established. Others will have to go ahead without the pre-construction stamp of approval, and complete their jobs before they can find out how much VA will allow on an appraisal.

The new standards (effective December 15), will encourage better construction and give compliance inspectors something to go by, VA feels. It hastily assured housebuilders, however, that they are free to disregard the standards as much as they choose: a veteran can still buy a house beyond the loan limit by putting up the difference between the limit and the purchase price. But as every housebuilder knows, few GI houses are sold in that manner.

The GI loan program continued its 12-month decline by dropping 3 per cent in October—53 per cent below the October, 1947 level. T. B. King, director of the VA's loan guarantee division, told the United Savings & Loan League in New York that the "most urgent period of the veterans housing needs is past."

**PREFABRICATION

**

LUSTRON IN, HARMAN OUT

Will the Navy be logical?

Factory house boost-of-the-month came from an unexpected and impressive quartet: the U. S. Navy. The Navy, taking the first bite in its big job of housing married personnel, named the Lustron Corp. winner in a bid competition for 60 houses at the Marine Corps school at Quantico. Va.

To Lustron, which soon will be producing houses in its Columbus plant at the rate of 50 a day, the Navy’s order meant a lot more than a $599,379 contract. It meant that Lustron would have the new weight of a national defense job in its life-and-death fight for continued steel allocations. For the infant factory-house industry, the order meant the endorsement of the nation’s most critical customer and the promise of a large role in the whacking $208 million worth of housing which the Army and Navy expect to build for their married personnel. (The Army and Air Force have each purchased a standard Lustron house for a try-out in Alaska; the military buyers think a durable packaged house may be a much better bargain than hauling building materials and labor to Alaskan bases.)

When the Quantico job was announced, 17 major housebuilding firms had lined up to bid—seven of them prefabbers. At the last minute, all but the prefabs had backed out. The Navy said it gave the award to Lustron on the basis of the "lowest cost per sq. ft. of usable area." Lustron houses measure 1,066 sq. ft. for the 3-bedroom unit; 891 sq. ft. for the 2-bedroom unit. This means that the Lustron bid on 60 houses (30 in each size) amounted to $10.21 per sq. ft. It was also plain that the Navy was sold on the extremely low maintenance cost promised by the enameled steel house.

Long-time backers of the factory house, jubilant at the Navy’s nod, had only one gripe: Why was it so hard for the government to grasp the fundamental logic of the factory house and place a mass order? During the war, the Federal Public Housing Authority had never persuaded itself to order prefab on anything but a piecemeal basis. Factory house proponents hoped the military mind might prove more logical.

Factory house mortality-of-the-month was the Harman Corp., Philadelphia, which turned out its first steel frame and stressed steel panel houses in March, '47. One of the few firms to get a guaranteed market contract (amounting to $38 million) from the RFC under the original Wyatt program, Harman also got a loan from the Chase National Bank and raised over $3 million by a public stock issue. By September of 1947 Harman was in trouble. It called on RFC for cash under its market guarantee, settled for $2,360,000. RFC took as security warehouse receipts covering an undisclosed amount of finished and soon-to-be finished houses.

Last month Harman gave up, filed a bankruptcy petition. William H. Harman spoke the firm’s epitaph, all too familiar to the many who have tilted with the fast windmills of the factory house. "Production and consumer acceptance of our houses has never presented a serious problem. In fact, close to 400 have been shipped. . . . We attribute the company’s failure to its inability to overcome the complexities of distribution and the difficulties of financing sales and erection."

**RENTAL HOUSEBUILDING** was moving steadily ahead. One giant sample: Gross-Morton welcomed the 1,000th family to their Glen Oaks Village rental development in Bellerose, Queens. Built on a 175-acre site, this 3,800 family, garden-apartment project has a potential population of 15,000.

---

ELLIOIT ROOSEVELT, releasing Reisner & Urban plans for a $1 million inn and restaurant across from the Roosevelt Memorial National Park at Hyde Park, said builders "must go to a modern style to get an economic building unit today." The two-story fieldstone and frame structure, to be built on land owned by Elliott and backed by a syndicate in which he has an interest, will contain 48 bedrooms, a presidential suite, dining accommodations for 350 persons.

Roosevelt describes it as "a modern design that still manages to blend the features of the type of construction my father was interested in." Also planned for future construction on Roosevelt land is a development of 350 single houses to be handled by Joseph P. Day and sell with FHA insurance for about $15,000. In addition, Elliott will put up an 80-unit motel next summer.
FIRST 609 LOANS
FHA okays steel, concrete prefabs

Although FHA local offices have been prominently named as the villain in the piece by several bankrupt factory housebuilders, FHA’s Sec. 609 program, designed to open production financing to this new industry and administered in Washington, was moving briskly. Last month FHA approved the first two 609 loans. They went to:

- Reliance Homes, Inc., Lester, Pa. (see FORUM, March, ’48), which makes an aluminum-sheathed steel house, delivered to the site in seven factory-assembled units. The loan, covering 230 houses, was made by the County Trust Co., Tarrytown, N. Y. Reliance earlier got a $375,000 RFC loan and 2,300 tons of steel under the voluntary allocation program. It quotes a factory price of $5,500 on its 3-bedroom house, which will sell erected for $9,000, including land.

- New Jersey Permacrete Corp., Burlington, which molds panels for reinforced concrete house in a demountable plant, set up at the site. The plant also turns out precast sidewalks, curbing, garage aprons. The loan was also made by the County Trust Co., Tarrytown, N. Y. and covers 100 houses, all to be erected in the Burlington area (within commuting distance of Philadelphia). Three-bedroom house, lot and garage will sell for $8,950.

HEAT REFLECTING HOUSE
The mice multiplied more freely

When Dr. Clarence A. Mills, professor at the University of Cincinnati’s College of Medicine, observed that mice lived longer and multiplied more freely in enclosures conditioned by aluminum foil, he wondered if the same principle would apply to human beings.

For ten years Dr. Mills has been demonstrating in a laboratory that comfort can be achieved by controlling heat loss from the skin—by helping people lose heat to, or gain it from objects such as wall and ceiling surfaces. He began making plans to build an experimental house to test further his theory of radiant reflective conditioning. (FORUM, Nov. ’48.) Last month, he revealed its details and said that building will start immediately.

Dr. Mills’ house (in which he will live) will be built without a heating plant or insulation (thus taking a substantial bite out of ordinary building costs.) Instead, it will have:

- Wall and ceiling surfaces of embossed aluminum foil (one of the best heat-ray reflectors known).
- Electrical resistance coils in each room to generate heat rays.
- Cooling coils, resistance wires for heat, and fluorescent color lighting in a cove near

(Continued on page 14)
the ceiling, giving heat and light and removing radiant heat in hot weather only by indirection.

The University's College of Applied Arts will design the structure from Dr. Mills' specifications. The Frigidaire Corp., of Dayton, Ohio, will supply the heating and cooling engineering; the Reynolds Metals Co., of Richmond, Va., the interior foil surfacing; and the Pease Woodwork Co., of Cincinnati, the house structure.

**PEOPLE**

**OPINIONS**

McCormick: FHA a bridegroom's snare; Neutra: Hottentots are more secure

Would Wilson Wyatt be back at his old job of Housing Expediter under the new Truman regime? A New York newspaper columnist said that Wyatt, whose break with Washington last year spotlighted the administration's bumbling housing program (FORUM, Jan. '47), could now move back any time he wanted to.

Now working at a private law practice in Louisville, Ky., Wyatt indicated that he wasn't too eager to jump back into the post which had put him in the line of fire of almost all business groups concerned with housebuilding. But he didn't altogether close the door on such a possibility. To FORUM, he admitted that his old friend and Statemate Alben Barkley (whom Wyatt nominated for Vice President at the Democratic Convention) and Democratic Chairman J. Howard McGrath had spoken to him "about several matters."

And he was eager and willing, he declared, to work with the new administration to "help bring about some of the things I'd like to see accomplished" as a private citizen. As Housing Boss? Said Wyatt: "My definite and firm intention right now is to stay in private life..."

(Continued on page 18)

FRANK LLOYD WRIGHT has longed to build a theatre ever since, as a young draftsman, he worked with Louis Sullivan on a chain of 51 theaters throughout the Middle West. He designed one in 1905, put it aside, now is "dusting it off" for Experimental Theater Director Paton Price. Wright's unornamented, acoustically perfect "New Theater" does away with proscenium arch, has revolving stage and steeply pitched floor. Says Wright: "The drama here has been dramatized architecturally." Building will begin next spring outside Hartford, Conn.; funds ($100,000) are being raised by local businessmen.

**NAREB**

The National Association of Real Estate Boards has planned its 41st annual convention when it seemed certain that the nation would still be rejoicing a Republican victory. The election results had surprised the nation's realtors as much as any other group—and disturbed them more than many. Still, NAREB delegates were light-hearted—and understandably so—when they checked into New York's Commodore Hotel for a seven-day stand. They responded happily to the welcome signs hanging in every restaurant and shop window in the Grand Central area, pushed imperturbably through a tenant's picket line in front of the hotel, greeted each other as gaily as if this were the victory get-together they had planned. In many ways, it was.

A near-record year of private housebuilding had inflated the realtors' prestige and there were many signs that next year would be almost as good. The Democratic victory wasn't, after all, the social revolution many had excitedly called it on November 3. (As Charles Wilson of General Motors had observed, "People will buy cars no matter who wins.") Said pudgy Cal Snyder, secretary of the Realtor's Washington Committee: "Right after the election we had a lot of pessimistic viewpoints. That was a false picture."

About 90 of the 263 Democrats in the 81st Congress, he pointed out, have a record of opposition to New Deal legislation. In league with most Republicans, said Snyder, "these gentlemen will form a coalition which will be sufficient to stop a wholesale New Deal Program."

Snyder laid down the defense which NAREB would use against the new Democratic regime: constant and intensive opposition to every administration act smacking of government-in-housing. Whatever inclination there was in the group to admit federal intervention in certain housing areas as an operating fact-of-life was quickly steam-rollered (see below). Snyder admitted that the prospects of doing away with rent controls were dim, but he was sure that legislation for slum clearance and public housing could be defeated.

One uncertainty was obvious, however, after the good-natured hilarity of the first couple of days had subsided, and even through the sustained level of optimism that marked the entire week: no one really knew for sure what to say about next year's real estate market. Many a realtor checked out of the Commodore on Saturday with the uneasy conviction that the convention had been strictly a turkey so far as definitive ideas on the immediate future were concerned.

The most confident view of a continuing firm market appeared at the Society of Industrial Realtors' session. E. M. Boerke, Milwaukee chairman of the S. I. R. financing committee, brought the welcome news that life insurance companies and other big lenders have mollified considerably on industrial real estate loans. "Some who previously declined all loans of this type are now making carefully selected loans while the larger institutions are actively soliciting this type of business... But there has been a definite firming of one-half to one per cent in the interest rate."

James Hanson of the Alexander Sumner Co. of Newark, N. J. told how his firm operates to offer manufacturers' a one-package industrial location service which starts with the land and includes selection of the architect and contractor, supervision of the entire building job. The industrial broker's specialized knowledge of a plant operator's needs will, Hanson thinks, increase his importance in the control of this whole building operation.

The last day brought the only break in NAREB's united front. The real estate boards of New York City and Westchester county had been pleading with NAREB in committee rooms to "adjust its position" on rent control and, instead of issuing a blanket condemnation, limit its opposition to a request for a 15 per cent increase in rent ceilings. Explained Bronx Real Estate Board President Frank Mazzetti: "We're not for rent control, but we still have a shortage and the tenant needs some form of protection."

But when the resolution vote was called the New Yorkers were denied the floor, and NAREB went on record once more as opposing flatly any control of the nation's rent. The convention also resolved that:

- Congress should work out a program for liquidating all federal public housing, including 300,000 permanent units and 400,000 temporary units.
- VA should hike its interest rate on GI home loans to 4½ per cent.
continued warfare on government-in-housing

SOCIETY OF INDUSTRIAL REALTORS members were confident of a firm industrial real estate market next year. Public House Roland R. Randall, Philadelphia, was elected S.I.R. president.

James Hanson, Newark, told members their best brokerage bet lay with small companies outside heavy industrial districts. H. Gifford Till, Dallas, and Hugh January, Houston, (1 to r) spotlighted the industrial real estate boom in Texas.

NEW NAREB PRESIDENT T. H. Maenner, Omaha, (center) talks things over with Realtors Walter S. Dayton, Bayside, L. I. (left), and Joseph Laronge, Cleveland. At convention's close, Maenner promised NAREB would "fight as ever before" for policies.

NEW YORK REALTOR Robert Dowling above right) and two convention delegates.

SIOUX INDIAN distributed pamphlets describing evils of "paternalism" at board of directors' luncheon.

OUTGOING FARM BROKER president Frank L. Huffman, Modesto, Calif., (left) welcomes new president Otto Knudson, Eagle Grove, Iowa.

Cal Snyder, Wash., said market wouldn't fold because of election.
HE knocked down walls

HE practically rebuilt the equipment on the spot

HE saved time...cut costs with a
G-E CENTRAL PLANT
AIR CONDITIONER

Move a General Electric Central Plant Air Conditioner right through a 30" door. Smaller sizes can go through completely assembled...larger sizes in sections. Install it exactly where you want it. It's quick and easy because this G-E equipment is compact...and because its pre-matched sections can be arranged 28 different ways!

This "building block" design applies to both the new vertical and horizontal models which cover a cooling range from .8 to 58 tons...and a heating range from 28,100 to 1,310,000 Btu's per hour. A complete line of heating coils is available.

The G-E Central Plant Air Conditioner is light in weight but rigid and sturdy due to its welded sheet-steel construction. That means it's easy to handle, inexpensive to ship.

The free booklet offered in the coupon below will give you further details...or contact your G-E air conditioning representative for full information.

GENERAL ELECTRIC
Better Air Conditioning
Corning ALBA-LITE lightingware was extensively used by Mr. Abe Feder, prominent New York lighting consultant, in achieving his modern and efficient lighting effects in the new Terrace Plaza Hotel as well as in the adjoining Bond and Penny store units. These installations indicate how effectively “ALBA-LITE” lightingware can be used to obtain diffused light control from fluorescent light sources.

But whether your problem involves diffusing or prismatic light control from either fluorescent or incandescent light sources, Corning’s completely balanced line of commercial lightingware answers your requirements 100%. To help you use these products to best advantage, Corning offers several new services... yours for the asking. If you are an architect, lighting engineer or fixture manufacturer, be sure to send for this information.

Bulletin LS-17, “Corning Engineered Lightingware,” just published, describes and shows you how to use Corning’s completely balanced line of lightingware to best advantage. It is a condensed handbook that will save you valuable time.

Installation data sheets conforming to the standards available on outstanding commercial installations, schools, stores, and institutions. They help you to plan.

Electrical Testing Laboratory Curves have now been completed for the new Corning curved lens panels, the flat lens panels, and some of the Lenslites. You will find them valuable when planning a prismatic installation.

This information was developed especially to help you. Corning is interested in seeing to it that you get it promptly. Call your nearest Corning office, or if you prefer, mail the coupon below.

CORNING GLASS WORKS, DEPT. AF-12, CORNING, N.Y.

Please send me the information checked:

- Bulletin LS-17, “Corning Engineered Lightingware”
- Installation data sheets
- ETL curves

Name: ____________________________ Title: ____________________________
Firm: ____________________________
Address: ____________________________
City: ____________________________ Zone: ______ State: ______
THE "GUIDE" IS
Colorific!

Pale shades, dark shades, the "in-between" shades that are so hard to find ... all are attractively presented for easy selection in the MOLETA COLOR GUIDE.

150 beautiful colors are displayed in the COLOR GUIDE. Each tint is shown on a large page (9" x 15") ... distinctly shown in finished, right-on-the-wall effect. The correct mixing formula is given on the reverse of each page.

Write for your copy of the MOLETA COLOR GUIDE—$5, delivered anywhere in the U. S. A.
MONROE, LEDERER AND TAUSIG, INC.
606 N. American St., Phila. 23, Pa.

Moleta FLAT OIL PAINT
The Truly Washable Paint

PREFABRICATED NAVY BARRACK for arctic living will be tested in Alaska this winter by 16 Navy Seabees. Douglas Aircraft developed the structure, which is made of thick insulated panels with an outer covering of thin sheet aluminum. Two oil burning space heaters, each with a 50,000 Btu capacity will supply the barrack with an Interior temperature of 70° even when the outside temperature hits 65° below zero, if the test is successful. It is designed to withstand 150-mile-an-hour gales and a 13-ft. snowfall on its roof, and can be constructed in one hour and 45 minutes.

New York State Housing Commissioner Herman T. Stichman, only yesterday a likely Housing Czar, was working right on—and happily—at the same old job. Last month he advised New York City to start clearing its slums by setting up a housing court. He proposed a tribunal to concentrate on all violations of health and safety laws, patterned after the City Housing Court which has operated successfully in Baltimore for a year.

The Baltimore Court, selecting entire blocks for inspection, has ordered some houses torn down, more improved. It has supervised installation of plumbing, removal of fences and outhouses. Most important, working with the Health, Police and Fire Departments, it has cracked down severely on all violators. At the same time it has seen to it that landlords would suffer no loss, by permitting rent increases.

New Yorker Stichman, after a tour of Baltimore's made-over slums, said they had been "just as bad" as New York's. But Baltimore "has started a clean-up campaign which is already showing good results ... We can do the same job in Harlem and other substandard areas and thus make the legal provisions a help in building better communities."

Henry J. Kaiser said he knew how to eliminate steel and other shortages and encourage expansion of basic material production: Let the new Congress enact a system to allow accelerated depreciation on capital investments for income tax purposes.

The wartime law permitting manufacturers to write off certain capital investments for five years instead of the 20 years ordinarily required stimulated $6,500 mil-
for better fluorescent lighting

DEMAND Certified Ballasts

- When you demand and insist on Certified Ballasts in fluorescent lighting fixtures—you're protecting your own best interests—as well as the users'.

Everyone benefits by using Certified Ballasts because they assure . . .

**Full lamp life**

**Quiet operation**

**Rated light output**

**Dependable performance for fixture life**

Strict specifications control the building of every Certified Ballast—Electrical Testing Laboratories, Inc., an impartial judge, then checks and tests them. You're surer of satisfaction with Certified Ballasts.

CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting

2116 KEITH BLDG., CLEVELAND 15, OHIO
homes and luxury construction, and... getting the job done.

Samuel Dunn, publisher of the American Builder, wasn't shedding any tears over the outcome of the election. It wasn't that he had acquired a sudden fondness for President Truman: it was just that defeated candidate Dewey wasn't much better.

As he explained in a plague-on-both-your-houses editorial in last month's American Builder, "no politician of any party had the courage to support policies" which would "reduce farm prices and workers' wages. No leading politician of any party consistently opposed the socialistic policies involving large, unnecessary government spending which help feed the fires of inflation."

He was particularly shocked by Republican Dewey's campaign support of TVA and a St. Lawrence waterway for New York State. Worse still, "toward the end of the campaign he came out for federal aid to slum clearance and housing construction."

Snorted Publisher Dunn: "Some program for a professsed believer in private enterprise!"

Sourer critic of Truman housing policies, Col. Robert McCormick of the Chicago Tribune, now saw little hope that things would get better. The whole postwar FHA program, according to the Tribune, has been nothing but a "plan to persuade young people to go head over heels in debt." Now the Tribune happily pointed to the twin prongs of the Administration's housing dilemma. On the one hand, the Democrats are "pledged to let the unions continue their feather-bedding methods." On the other, they have "promised to provide more housing and to bring down the cost of living."

"Harrumphed" the Tribune, which has had a close-up view of some of the worst feather-bedding in the U.S.: "It will be nice work if they can do it."

**MARKET**

**ROSY OUTLOOK**

Producers' council sees another near-record year for housing

Will 1949 be the year for a construction slump? The men who are probably more interested in that question than any other group—the producers of building materials—think not. All in all, they believe, the 1949 construction picture will be much the same as 1948's near-record one; slight increases in costs, slight decreases in construction will change it only to a degree.

This rosy view was embodied in a forecast issued last month by Miles L. Coley, economic consultant of the Producers' Council, in consultation with the Council's

(Continued on page 22)
Mohawk

LAYS 11.5 MILES OF CARPET
in the TERRACE PLAZA HOTEL

Cincinnati’s new-idea hotel is carpeted top-to-bottom by Mohawk. A natural choice. For Mohawk, the only mill making all loomed carpet weaves... from luxurious custom-made Wool Chenille to sturdy Wiltons fashion-right in design and color, practical Axminsters, Velvets and Tapestries... has a superlatively-right answer to every problem.

Here, and in following pages, appear some of the beautiful effects created by Mohawk master designers and weavers for the Terrace Plaza... just one more proof that Mohawk leads the field where many kinds of carpets are needed on a single job.

PHOTO'S BY SHUTTLEWORTH-RUKHS

MOHAWK CARPET MILLS, INC. • 295 FIFTH AVENUE, NEW YORK 16, N. Y.
**NEWS**

**how AUTOMATIC Oil Controls make home building dollars**

Go Farther...

A-P OILIFTER and A-P THERMOSTAT COMFORT KITS help you to completely AUTOMATIC heating — with today’s modern, lower cost, more economical vaporizing oil burning furnaces and floor furnaces.

With an A-P OILIFTER “lifting” oil to your vaporizing burner furnace, a handy large storage tank may be installed outdoors. Here it is completely out of the way, saving space for “living” area in compact homes. Only a single copper tubing is needed — and your customers benefit by bulk oil delivery, and more economical heat.

**Construction Economics Committee.** Among its predictions:

- Housing starts will hit (but not exceed) 900,000 in 1949 — 4 per cent less than 1948’s probable total. Most of them will be houses for modest income groups; higher priced housing (“where the market is generally the weakest”) will dip. As in 1948, the bulk of residential construction will be houses-for-sale.
- Despite a decrease in construction materials prices, construction costs will increase slightly — because of likely wage and freight rate raises. Therefore, 1949’s anticipated $18.175 billion worth of construction will actually represent a reduction in physical volume of 1 to 2 per cent. A probable $7 billion maintenance and repair bill will raise the year’s total construction figure to more than $25 billion.
- Private construction will drop off almost 5 per cent (private residential will fall 11 per cent, industrial 7 per cent, store building 10 per cent, but warehouse and office building will rise 20 per cent); public construction of all kinds will increase as much as 19 per cent.
- There will be no serious shortage of building materials. Even iron and steel will be at least as available as they are now (“unless the armament requirement is much over that now anticipated”). Cement supply will probably remain tight but gypsum products will be obtainable.
- Next year’s labor force will be “more productive” because of the easing of the demand for labor in some types of construction. The probable slight increase in construction workers’ hourly wages will be somewhat offset by less need for premium and overtime payments.
- The only factor which might destroy the steady level of next year’s construction, the report warned, is the factor which could wreck the entire economic climate: a change for the worse in foreign affairs. "Added requirements for armaments and withdrawal of manpower," it pointed out, "could rapidly renew inflationary forces to an extent that would make widespread economic controls inevitable."

But even here the producers were optimistic. Said Consultant Colean: "It seems apparent that every effort will be made to avoid this contingency. The present outlook is that the effort will be successful."

* * *

Dr. Dexter Keezer, chief economist for McGraw-Hill publications, agreed with the Producers’ Council’s prediction of a sustained level of construction through 1949 (Continued on page 24)
Lesson for Today—

**ECONOMICAL—FIRE SAFE SCHOOL CONSTRUCTION WITH J&L STEEL JUNIOR BEAM FLOORS**

—as taught by the Brunswick Township School Board

Right: Tightening the rigid bridging between the Junior Beams in the new Brunswick Township, Ohio, High School. Below Architect's rendering of the new school, now under construction.

Contractor handles and places J&L Junior Beams without aid of mechanical hoist

The lesson that many school boards, contractors and architects are learning today, is that steel and concrete floor construction with J&L Junior Beams saves time and money. These beams cost less to buy, cost less to erect, yet for many types of "light" structures, they offer all the advantages of heavier structural members.

There are good, sound reasons for the trend to J&L Steel Junior Beams in schools, apartments, residences and other light occupancy buildings.

Mr. H. Joseph Nitchman, of Berea, O., Architectural Engineer for the new Brunswick Township school, specified them because: "—Compared with heavier structural members, Junior Beams are well designed for this type of structure—also well designed for use with metal lath and paper-backed mesh."

Mr. C. E. Karm, of Unit-Way Homes, Inc., Berea, O., the contractor for this school, stated: "These beams require no special handling equipment. Four men without any equipment at all, raised the Junior Beams to the second floor and placed them properly. This is an important point on many jobs."

The Brunswick Township School Board likes J&L Junior Beam floor construction, because it is fire-proof, helps hold down construction and maintenance costs, and minimizes insurance rates.

**School Boards! Architects! Contractors!**

Check these advantages of J&L Steel Junior Beam Floors: Economical—Fire-proof—Rigid—Shrink-proof—Termite-proof—Easy to Install—Low maintenance—Permanent.

J&L Junior Beams are available now through leading steel warehouses including J&L Service Warehouses at Chicago, Cincinnati, Detroit, Memphis, New Orleans, New York and Pittsburgh. Let us send you descriptive literature and engineering data. The coupon below is for your convenience.

**JONES & LAUGHLIN STEEL CORPORATION**

America's Only Producer of Steel Junior Beams
and even through 1950—but he saw the possibility of a "substantial bust" after that time. He warned a conference of the American Institute of Real Estate Appraisers in New York that after the "desperation" demand for new homes is satisfied, the bust can be avoided in only one way: by bringing down building costs nearer to consumer incomes.

REPLACEMENT

Current building rate could replace U. S. housing in 74 years

How long can the U. S. build one million houses a year? As Building men prepared to close out a record year of house construction, and meet yet another (see above), they could glimpse the end of the super-swollen market that had built up during the war years. Government statistics showed that although there were still two million families doubled up (one million of them veterans), fully 75 per cent of them preferred to live that way. Moreover, government economists were predicting that the high rate of new family formations (about a million new families) would level off soon. These figures showed that housebuilders would soon have the "desperation" market cleared out.

If housebuilding remained at its one million mark, then, it would be moving into the replacement market—a market never before reached. For the past 50 years we have been building houses at the average rate of 500,000 per year. Family formation (marriages minus family dissolutions by death and divorce) has averaged about 400,000. Thus the housebuilding margin over new demand has been only about 100,000 houses a year. At this rate, it would take 400 years to replace all U. S. houses.

From now on, according to the statisticians, new family formation will probably level off at about a half-million a year. Thus if we keep on building houses at the current pace of just under one million, we will have an annual margin of just under 500,000. This would enable the U. S. to replace its existing 37 million housing units every 75 years. And a construction rate of 1 1/2 million, if it were reached and maintained, would cut replacement time to close to 37 years—hardly longer than some mortgages.

This would be a fine thing for everybody. Housebuilding has been less able than any other industry to meet anything more than imperative new demand. Thus it has sharply fluctuated in response to the sharp fluctuations in new family formation. A steady bite into the replacement market would mean a leveling off of housebuilding's boom-bust cycle at a sustained high level of production. It would also mean better houses for more of the U. S.
Whether You Wet Your Whistle At The Bar
Or Write A Letter Home To Mother . . .

Beauty Bonded FORMICA in Cincinnati's Terrace Plaza

at Home with People at Work in Industry

Every non-upholstered horizontal surface in the 350 guest rooms is cigarette-proof Formica. Note the window seat and "Realwood" shelf behind the day bed.

Crepes Suzette in the Gourmet . . . a quick bite in the colorful cafeteria . . . a night cap at the bar . . . or a quiet evening in your room. No matter what your pleasure in Cincinnati's new Terrace Plaza Hotel, your activity is bound to take place within easy reaching distance of a smooth clean Formica surface.

You'll be whisked to the eighth floor lobby in a Formica "Realwood" paneled elevator. You'll register at a main desk of the same material. You'll eat from Formica tables, you'll drink at a Formica bar.

Every horizontal surface in your private guest room will be cigarette-proof Formica. You'll shave at a Formica lavatory-dressing table in your bathroom. You'll write at a beautiful built-in drop-leaf Formica desk.

In short, the Terrace Plaza is a Formica show-place. Because architectural innovations are so numerous in this finest of all hotels, we are preparing full color literature that will serve as your conducted tour through the building. If you'd like a copy, we'll be happy to furnish it as soon as it comes off the press. Please order today.

Formica, 4631 Spring Grove Ave.,
Cincinnati 32, Ohio

Formica and Formica Realwood are Trade Marks registered U. S. Pat. Off.

Copyright 1948 Formica, Cincinnati, Ohio
Must Owners of your new houses

POLICE

THE THERMOSTAT?

Experts predict shortages of some fuels for 3 to 5 more years!

There are no Ifs, Ands or Buts when you specify Automatic Anthracite Heating

OWNERS of your new houses can have plenty of worry-free heat because there's plenty of hard coal and there is anthracite equipment to fit any heating requirement.

A whole winter's supply of anthracite can be stored easily in advance. Everyone wants this kind of security and convenience. They have just that when you specify automatic anthracite equipment.

Look over the two types of domestic anthracite equipment shown here. They burn the cheaper sizes of economical hard coal...completely automatic from bin feed to ash removal.

Write to us for more detailed information on all types of anthracite heating equipment—domestic and commercial.

ANTHRACITE INSTITUTE

101 Park Avenue • New York 17, New York
Whenever your plans call for copper tube (iron pipe size) or brass pipe — especially in public, industrial or commercial buildings — specify patented threadless Silbraz joints made with Walseal valves, fittings and flanges. Silbraz joints effectively produce strong, lasting pipe runs. These modern joints provide positive protection against leaks by actually becoming a part of the pipe itself. They make a "one-piece" pipe line that will not creep or pull apart under any pressure, shock or vibration that the pipe itself can withstand.

Easily installed by oxyacetylene torch brazing, Silbraz joints are the sure answer to low-cost assemblies that will require neither maintenance nor repair in the years to come. Ask your nearest Walworth distributor, or write for copy of Circular 84 giving complete data on Walseal Silbraz joints.

*Patented — Reg. U.S. Patent Office

Make it a "one-piece pipe line" with WALSEAL

WALWORTH valves and fittings

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGOUT THE WORLD

60 EAST 42nd STREET, NEW YORK 17, N.Y.
Revere House grouping . . . Tribute to the Greene Brothers . . . Memorial in Calcutta . . . Further comment on the Branch-Frankel letters . . . More on Community Builders planning.

REVERE HOUSE GROUPING

Forum:

Here is a copy of a letter which I've just mailed to John Callendar which may be of interest to you in connection with our designs for Lamolithic Industries and Revere Institute (Forum, Oct. '48).

Tiring of cathedrals and even Le Corbusier, I tried some daydreaming and am sending the results (see below). It is the promised suggestion as to how we would group six houses based on our design for the Revere Quality House Institute. We assumed a plot with streets on the north and south sides of the land and of course it would be as flat as the rest of our section in Florida. It may be that some explanations of what we are trying to do are necessary.

There have been acres of plans devoted in recent years to town planning, some of which have been highly developed, allotting splendid colored areas for various functions. Much worthy effort has been spent in finding better relationships between residential areas of all varieties and the town as a whole. However, it seems to us that the detached house, so popular in America and receiving so much attention as an individual unit, has for the most part simply been lined up on each side of the planners' or speculative builders' beautifully located cul-de-sac and that is the end of it. When the houses themselves are identical the results are particularly disastrous. Relationships between one house and its neighbor and devices to relieve the monotony of too much repetition and still keep within economic bounds is a real and urgent architectural problem and to us an exciting one.

Speculative builders and, I fear, too many of our architects attack this problem by the well known changes in fronts, arbitrary changes in materials and textures, and the much more valid interplay in color.

The one tool which is the architect's special weapon, the handling of inner and outer space, has seldom been applied to this problem. Our proposals are fundamentally concerned here with the relationships between the house and its private outdoor living and work spaces. Finally and possibly most important it is a search for means to create a coordinated whole out of the repetition of basically similar elements without creating monotony.

The use of glazed walls in closely grouped detached housing introduces many problems, but strangely enough the solution of these problems suggest many exciting possibilities in handling inner and outer space. While the planting screen at strategic points is one way to obtain privacy between such houses it is often not as satisfactory as the extension of the walls of the houses to form courts, patios, service and play areas . . . . The extension of the walls seemingly enlarge the house and give an element which can easily have endless variations and forms, defining space, make new relationships between inner and outer space and assist in coordinating the houses themselves into one unit. This extension of the walls of the houses should be louvered or perforated in some manner in southern climates.

The tendency to concentrate glazed areas and rooms towards the most ideal orientation (in our case towards the south and east) leaves comparatively large areas of unbroken opaque wall areas on the remaining sides of the structure . . . . In group housing it may very well be true that economies in land use made possible by arranging all rooms to face in one direction, allowing the "back" wall to form the garden wall of the adjacent house would offset the additional amount of exterior perimeter required in such an arrangement.

The concept of the opaque walls of a structure forming the garden walls of the adjacent house violates the usual city regulations of setbacks from the property lines. In order to keep these proposals within this very practical limitation we have compromised and kept the design in a form which would allow setbacks and individual land ownership . . . .

We are not the ones to judge and we haven't been asked, but we're more enthusiastic about this project than any project we have ever proposed. Lamolithic Industries introduced some of these principles, but economy and reluctance of the client prevented us from going any farther in the executed project for them.

PAUL RUDOLPH

Paris, France

CALIFORNIA GREENES

Forum:

I have been reading with great interest Jean Murray Bangs' excellent article on the Greene brothers and their contributions to California architecture in the early 1900's (Forum, Oct. '48). I was particularly interested due to the fact that I have lived for most of my life in the town in which they centered their activities and for 20 years of my childhood and youth I lived across the street from the Blacker house, half a block from the Culbertson house (both illustrated and extensively discussed in the article) and near many other examples of their fine work.

The extensive grounds around the Blacker residence were a great joy to me during my youth since they provided an ideal playground with sweeping lawns, exotic lily ponds and jungle-like areas of rank growth. They complemented the house perfectly and I am surprised to find on reading the article that they, also, were planned by the architects.

It is hard to convey with pictures and (Continued on page 32)
Far above all other things to remember when specifying insulation are these two outstanding facts:

INSULITE builds — INSULITE insulates. Two things for the cost of one! Insulite (Bildrite) Sheathing provides greater bracing strength than wood sheathing, plus twice the insulating value. Specify Double-Duty Insulite for sheathing, lath or interior finish.
Ford Motor Company, Denver, Colorado; Architects: Giffels & Vallet, Detroit; Contractors: Mead & Mount Construction Company, Denver.

One way to design for economy

and make it pay off

building products designed to give you benefits of modern, streamlined manufacturing and construction methods. Here's low cost plus installation economy plus planning-freedom . . . to help you deliver more value per building dollar. Fenestra's families of related products provide broad choices of types and sizes . . . permit real latitude in building design.

Standard Parts are an important key . . .

Industrial Steel Windows . . . Pivoted Windows for abundant daylight and fresh air; Security Windows, with built-in steel guards; Commercial Projected Windows for sidewalls—ventilation plus weather protection, and inside screening. All offer easy operation, snug weather-tightness and firesafety.

Intermediate Steel Windows . . . Get larger window areas economically with standard units. Combine them to form window walls. Fencraft Projected, Casement, and Combination types are ideal for schools, hospitals, many other types of buildings.

Residence Steel Casements . . . A right window for every location in the house. For maximum economy, Type 2414N with 50% opening. Type 2424 . . . 100% opening. Type 4424 is a picture window plus ventilation. Many other types and sizes.

Fenestra Metal Doors . . . Clean lines and excellent finish distinguish Fireshield Doors. Sturdy, easy-operating. Swing Doors come complete with frames and hardware, machined, fitted, ready to attach. Slide Doors also complete with hardware. Swing Doors available with Underwriters' B Label.

Fenestra Metal Panels . . . Engineered for construction speed and efficiency—for floors, walls, ceilings, roofs, canopies, platforms, other construction. Lock together simply and firmly without special skills or special tools. Type D for floors, Type C for walls, and Holorib for roof decks.

Fenestra Building Products offer economical construction . . . design freedom. Get the facts today. See Sweet's Architectural File for 1948 (Sections 16 a-14 and 3c-1). Better yet, call or write us.

Pivoted Type 25141

Projected Type 415-R

Type 2414N

Swing Door Type G

Type D

Fenestra STANDARDIZED BUILDING PRODUCTS

Detroit Steel Products Company • Dept. AF-12, 2251 East Grand Blvd., Detroit 11, Michigan
The Magic Brain of Electronic Signal Control Reduces Round-Trip Travel Time

You can now add a ‘touch’ of startling newness to your building... and at the same time speed up elevator service. How? With Otis Electronic Signal Control, the first successful application of modern electronic magic to proven signal control operation.

With Otis Electronic Signal Control, you don’t depend upon human memory to keep track of calls. All calls are registered and remembered by a greatly simplified electronic system... a magic brain that automatically stops cars at the right floors and eliminates false stops and needless travel. Cars make more trips... carry more passengers. Traffic handling is speeded... service improves... operating costs go down.

Otis Electronic Signal Control adds a ‘touch’ of advanced design to your building. Passengers no longer push a conventional landing button. They merely touch the new Otis electronic button. As if by magic, the button lights up and registers the call. No moving parts to be tampered with; no contacts to maintain.

Otis Electronic Signal Control is available for new buildings and for modernizing existing buildings. For further details call your local Otis Elevator Company office.

No Moving Parts to Jam
You simply ‘touch’ the new Otis electronic ‘touch button’. It lights up. Then, a soft-toned gong announces an approaching elevator as the overhead lantern lights up. It’s all controlled by the magic brain.

As always, Otis leads the way... this time with the magic of modern electronics.
Your customer is sold on WATERFILM when you explain how its exclusive patented construction creates steam faster than any other boiler made... gives quick, dependable heat at a considerable saving of fuel. Maintaining even temperature in every room and supplying plenty of hot water at all times, WATERFILM is widely recommended by architects and builders.

Install these beautifully jacketed boilers in models and sizes for small homes, apartment houses and industrial plants. For larger installations, the Sectional Series can be taken through a 2-ft. door, assembled without alteration or rigging costs and is easily enlarged by adding sections.

500-17,850 E. D. R.
Write for free literature and newspaper mat service.
NATIONALLY ADVERTISED

WATERFILM BOILERS, Inc.
A Division of L. O. Koven & Bro., Inc.
154 Ogden Ave., Jersey City 7, N. J.

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS
The New Terrace Plaza Hotel
CINCINNATI, OHIO
Equipped with Roddiscraft Flush Doors Throughout

For more than a half-century, the name Roddis has been associated with the finest quality doors. A recent testimonial to their quality was the selection of Roddiscraft Solid Core Flush Doors by the builders of the new Terrace Plaza Hotel in Cincinnati, Ohio.

Glance at the hinge rail on the door as you enter your room when next you stop at this beautiful hotel. You will see the built-in red-white-and-blue dowel . . . symbol of Roddiscraft Solid Core Flush Doors. The designer of this modern hotel selected Roddiscraft Flush Doors not only to carry out the modern design but because of their combination of beauty and rugged ability to stand up under heavy hotel traffic.
Designed in PLASTER for outstanding beauty

Architects Neild and Somdal chose plaster applied by the Werner-Barrack Plastering Company for Shreveport's new Jordan and Booth store. Plaster is economical, and enables architects to achieve commercial interiors of outstanding beauty.

United States Gypsum

For Building • For Industry

Gypsum • Lime • Steel • Insulation • Roofing • Paint
Satisfaction...
any way you look at it

Whether you look at it from the viewpoint of the architect, the building contractor, the master plumber, or the home owner... a Penberthy Automatic Electric Sump Pump means satisfaction to all concerned.

Wherever seepage water must be removed, a Penberthy Pump is the logical selection. It can be depended upon to operate instantly when needed... regardless of how long it has stood idle. Simple and rugged in design, it is immune to corrosion because it is constructed of copper and bronze throughout. The motor is specially impregnated for moisture resistance and has built-in overload protection. The mercury switch is sensitive and dependable. The impeller has high efficiency and the shaft is fully enclosed.

Penberthy Automatic Electric Sump Pumps are stocked by leading jobbers everywhere.

CONSTRUCTED OF COPPER AND BRONZE THROUGHOUT
Made in Seven Models and Sizes

PENBERTHY AUTOMATIC ELECTRIC SUMP PUMPS

PENBERTHY INJECTOR COMPANY
DETROIT 2, MICHIGAN
Established 1886 • Canadian Plant, Windsor, Ontario
When inside temperatures soar due to overheating, you know that dollars are being wasted and comfort is sacrificed. The Dunham method of controlling heat by continuously circulating steam under variable vacuum at temperatures as low as 135° eliminates overheating and attendant fuel waste and provides unsurpassed comfort. Dunham Differential Heating is now Job Scaled for All size installations. Check into its advantages. Job Scaling by Dunham engineers means that this more modern and economical method of heating your buildings is now available to meet the needs of any size installation or budget. Write for Bulletin 509. C. A. DUNHAM COMPANY, 400 W. Madison St., Chicago 6, Ill.

**Talk it over . . . IN CONFIDENCE!**

The privacy you get on a desert island is yours when you use a Couch private telephone system. Systems range from two-station lines to manual—or automatic—switchboard installations.

Whatever your inter-communicating problem, Couch equipment will solve it with quick, dependable and economical service. Talk it over in confidence with Couch equipment.

See us in Sweet's Catalog or Write for Illustrated Catalog.

**HOWE CREDIT LINE**

Forum: 


There can be no interpretation of the quoted phrase but the incorrect one that Mr. Lescaze, alone, is the designer of the first work, since he is without question the sole architect of the second. Yet, when in December, 1932, the Philadelphia Savings Fund Society Building was published (Continued on page 40)
New Beauty Treatment for Commercial Interiors!

LEADERALL

Illumination over all ...from wall to wall!

A CEILING OF LIGHT ...AT ANY HEIGHT!
The new look for high-ceilinged rooms . . . A magic means of bringing high ceilings down to modern levels . . . and an economical means of "decorating" them, permanently, in the modern manner. (Leader tie-rods are adjustable and also are available in extreme lengths for long "drops".)

 Completely LEVEL • Absolutely RIGID
NO OTHER OVERALL-TYPE FIXTURE CAN MAKE THIS CLAIM

Only LEADERALL brings you all these valuable features:

- Reduces the cost of finishing new ceilings . . . Featherweight unit-frames . . .
- Translucent moulded Vinylite (fire-resistant) louvers permit many more apertures per foot for maximum "sifting" of lamp rays and greatest shielding of lamps (45° visual cut-off) . . . Insures highest quality of light for greater beauty and greater durability . . . Lightweight construction eliminates structural strains . . . Desitized plastic louvers—dust-resistant, stay-white* Vinylite . . . Adjustable tie-rods . . . Units instantly removable for cleaning or for quick re-lamping . . . Complete rigidity—moulded units withstand rough handling by maintenance men.

*Furnished, on request, in colored or clear for color schemes.

Light LIGHT... all in 'white'!
The lightest weight over-all type fixture on the market, thanks to LEADER'S exclusive, one-piece moulded translucent plastic louvers. They are inflexible. Absolute uniformity, and more louvers per foot, achieving greater shielding of lamps, plus better diffusion of light, and no weight stress or strain on ceiling structure!

A revolutionary application of fluorescent lighting—light by the square yard. An overall speedway of man-made sunbeams that speeds up worker efficiency. Calm, cool brilliance uninterrupted . . . A cheerful, May-morning sky throughout the year. Super-rich beauty, plus a new high in abundant light that's kind to eyes.

Send for mechanical details—today!

LEADER ELECTRIC COMPANY
3500 N. KEDZIE AVENUE, CHICAGO 18, ILLINOIS
West Coast Factory: 2040 Livingston, Oakland 6, California
Kent Village moves

First stage of framing construction. Stran-Steel floor joists are placed in position.

Fibre-backed steel mesh is nailed directly to Stran-Steel joists.

Two-inch concrete floor has been poured and finishing operations are under way.

Accurately-sized Stran-Steel studs are now assembled into wall sections.
Construction is proceeding without a hitch on the first two blocks of the $14,000,000 Kent Village garden-type apartment project now being erected in Prince Georges County, Maryland, near Washington, D.C.

Roberts Construction Corporation, owner and builder, ascribes much of this gratifying progress to Stran-Steel framing. This precision framing is providing greater speed, economy and ease of construction than would have been possible with any other framing material.

Nailable Stran-Steel framing permits economical dry-wall construction with plaster board. Its permanent rigidity eliminates the possibility of subsequent wall movement from warping and shrinking. And an incombustible Stran-Steel framework adds substantially to the fire-safety of the completed building.

If you’re planning a building of any type—residential, commercial or industrial—it will pay you to investigate the advantages of Stran-Steel framing. Ask your local Stran-Steel dealer for full information, or write for his name and address.

GREAT LAKES STEEL CORPORATION
Stran-Steel Division • Dept. 35 • Penobscot Building • Detroit 26, Michigan
UNIT OF NATIONAL STEEL CORPORATION

ahead with STRAN-STEEL FRAMING
SOSS MANUFACTURING COMPANY
21779 Hoover Road • Detroit 13, Michigan

**LETTERS**

**THE HINGE THAT HIDES ITSELF**

by Forum, it was properly attributed to Howe & Lescaze, Architects.

In the interest of accuracy and fair play, no doubt you will wish to correct your recent statement by crediting George Howe with his portion of the fame due the designers of the Philadelphia Savings Fund Society Building.

F. Spencer Roach, Secretary
Pennsylvania Society of Architects
The American Institute of Architects
Pennsylvania Chapter

Forum, which considered that its readers were aware that Howe & Lescaze designed the well-known Philadelphia Savings Fund Society Building, nevertheless regrets its omission of Architect Howe's name.—En.

**CONTESTS CONTINUED**

Forum:

Having read Branch versus Neutra and Frankel letters (Forum, Oct. '48), I cannot resist the urge to add my bit in favor of the able Mr. Neutra.

Transferring from Ohio to St. Louis several months ago, I soon learned that I would have to build a residence if I wanted to have one that was not already antiquated when the foundation was poured. I succeeded in purchasing a beautiful half acre only 25 minutes from the heart of the city, in an excellent, quiet neighborhood, covered with large trees and with a stream running through one corner of the property.

Being a lover of the outdoors, I desired that the living room be placed to face the rear outdoor living room area to take advantage of the view of large trees not only in my yard but stretching across the landscape as far as you can see, also the view of the stream.

One evening while rereading the April Forum I noted Mr. Neutra's Branch house again, and decided it would fill my needs perfectly by reversing the placement on the property.

After correspondence with Mr. Neutra, I became the owner of the Branch house floor plan and elevations. I set to work on these, reversed the plan, widened the living room by 2 ft., the master bedroom by one and the kitchen by one. An enclosed porch was added between bedroom No. 2 and garage for a recreation and child's winter playroom. Garage entrance was changed to the rear with overhead door and high windows in its north wall corresponding with those in the north living room wall.

To satisfy neighborhood restrictions it was necessary to change the roof to a standard pitch roof but pitch was held to 3½ in. to 1 ft.

(Continued on page 44)
COLOR DYNAMICS

Pittsburgh's new painting system utilizes the energy in color to make offices more attractive and efficient.

Today COLOR is the big news in building management!

People who work in public or semi-public buildings appreciate those things which help to keep them going with greater mental efficiency, with less strain and with greater comfort and restfulness.

Pittsburgh COLOR DYNAMICS enables architects and builders to specify with scientific certainty color arrangements that retard fatigue, stimulate energy, improve morale, increase safety and promote well-being. There is no longer any reason for the depressing monotones that are found so often in offices and office buildings, hotels, hospitals and restaurants.

This new method of painting is based upon the influence of the energy in color upon people. Laboratory tests have proved that color can be used to help them relax, feel more cheerful, inspire trust and confidence, create better feeling among employees.

With COLOR DYNAMICS you can make offices or living quarters seem more spacious and attractive. Rooms can be made to appear longer or wider, ceiling higher or lower, halls brighter and more cheerful.

For a complete explanation of what COLOR DYNAMICS is and how it works, get our free, profusely illustrated booklet. Send the attached coupon.

Paint RIGHT with COLOR DYNAMICS
Paint BEST with Pittsburgh Paints!

The benefits of COLOR DYNAMICS are made extra long-lasting when you use Pittsburgh high-quality paints. There's a PITTSBURGH PAINT for every need.

WALLHIDE— in three types: PBX, extra-durable; SEMI-GLOSS, for higher sheen; FLAT, for velvety finish.

WATERSPAR ENAMEL— for furniture, woodwork and metal trim.

FLORHIDE —for floor surfaces; can be scrubbed repeatedly with soap solutions.

Please send me FREE copy of your booklet on COLOR DYNAMICS.

Name
Street
City
State

FREE BOOKLET!
A PERMANENT WALL! A PERMANENT FINISH!

COMBINED IN BEAUTIFUL

You’re in perfect harmony with today's accent on modern design and efficiency when you choose Facing Tile for exteriors.

You combine day-in day-out economy in construction and in maintenance — with permanence, material strength and real structural beauty.

In one material (one operation and one cost) Facing Tile builds a fireproof, weather-resistant wall and finish! The surface is impervious and easily cleaned. It will not crack, mar or decay. Refinishing is never needed.

Yes, Facing Tile exteriors are truly efficient. What's more they "look" the part. You can easily achieve the smart, clean lines and color effects you want in both exteriors and interiors. Structural Clay Facing Tile is modular, extremely flexible of design and available in a wide range of colors and textures.

Remember that all the advantages of Facing Tile are permanent advantages, that they save and serve day after productive day. For detailed information see Sweet's catalog or write us.

SEND FOR MODULAR FACING TILE HANDBOOK

90 pages of data FREE to architects and engineers who write the Institute, Desk AF-12, on their letterhead. 50¢ to others.

FACING TILE INSTITUTE
1756 K STREET, N. W. • WASHINGTON 6, D. C.

INSTITUTE MEMBERS

Belden Brick Company, Canton, Ohio
Continental Clay Products Co., Kittanning, Pennsylvania
Charleston Clay Products Co., Charleston 22, West Virginia
Hanley Company, New York 18, N. Y.
Hydraulic Press Brick Co., Indianapolis, Indiana
Mapleton Clay Products Co., Canton, Ohio

Metropolitan Paving Brick Co., Canton, Ohio
National Fireproofing Corp., Pittsburgh 12, Pennsylvania
Stark Brick Company, Canton, Ohio
West Virginia Brick Company, Charleston, West Virginia
ANOTHER RAYMOND JOB FOR GULF OIL

AT PORT ARTHUR, TEXAS—Raymond is widening a marginal wharf more than half a mile long by constructing another wharf 25 feet wide along its face. This project is at the marine terminal of the Gulf Refining Company where Raymond built the first section of the existing wharf in 1911.

Today's job of constructing the 2900-foot wharf calls for the following: Concrete deck totalling 142,500 sq. ft. — requiring 4600 cu. yds. of concrete, 677 vertical piles averaging 68 ft. in length, 254 batter piles averaging 73 ft. Resurfacing 70,000 sq. ft. of existing deck. Fender system and mooring bollards along the new face. Work progressed in 500-foot sections while docking operations continued along the rest of the wharf. This large and complex project demonstrates Raymond's ability to meet special requirements of the client.

THE SCOPE OF RAYMOND'S ACTIVITIES—includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements, borings for soil investigation.

RAYMOND

CONCRETE PILE COMPANY

Branch Offices in Principal Cities of United States and Latin America

140 CEDAR STREET • NEW YORK 6, N. Y.
Because of climate, Mr. Neutra’s sliding living room doors were changed to fixed windows and opening casements ending in a standard glass door. The kitchen pantry was made into a central heating plant and water heater room since floor heaters were not considered adequate. However, Mr. Neutra’s exterior elevation and floor plans were retained almost in every detail.

Rather than a combination of stucco and redwood siding the entire exterior is in redwood siding. Having completed the revamp of plans I then learned they must either have been drawn by a local registered architect or approved and stamped by one. This was done. Therefore, Robert Elkington, an able modernist in his own right, receives the credit. I can assure you it was no easy matter to have such a house approved for erection in a neighborhood of “Colonials.” I did finally succeed and it is now about half completed. Occupancy is expected some time in December.

The orientation, view from the many windows, lack of waste floor area and flexibility, are only too apparent and are all that anyone could desire. I can hardly await its completion, that I may be the proud occupant of such a home.

C. J. Proctor

St. Louis, Mo.

Forum: . . . Mr. Neutra ought to have mentioned this when he addressed us the other day at the Architectural Association on Architectural Education, as an example of another faculty yet to be developed in the architect of the future, namely a sixth sense as to how a perfectly satisfied client may change his mind in time to come without progress having outstripped the designer’s forethought—rather the other way around.

. . . If Mr. Branch prefers to put up with inconveniences to have more space for the small dollars a real barn may serve his purpose even better—more space, desirable as it may be, means longer paths to be covered in any household activities, more cleaning, more maintenance. I feel sure Mr. Neutra could have made provisions for his clients’ agricultural ambitions, had he been told. Perhaps in the first place Mr. Branch picked the wrong neighborhood for any farming activities.

The fact that oddments from relatives’ attics fit better in the “old shoe” is hardly a criterion of design . . . this is one up for any farming activities.

For doors that must take a lot of swinging back and forth—opening and shutting continuously day after day—McKinney Butt Hinges with OILITE Bearings assure a long life of smooth, quiet, trouble-free operation. The doors ride on a slick, smooth film of lubricant automatically provided by the bearing itself and only to the bearing surfaces.

OILITE Bearings will not corrode—hence, these hinges are ideal for exterior doors or any doors exposed to moisture. McKinney Butt Hinges with OILITE Bearings are available in all sizes, styles and finishes. All sizes are equipped with two or more bearings to carry the vertical load.

McKinney Butt Hinges with OILITE Bearings are recommended especially for schools, hospitals, hotels, office buildings, apartments and other buildings where high frequency doors prevail.

See Sued's Architectural File for details or write McKinney Manufacturing Company

MCKINNEY BUTT HINGES with OILITE bearings give long life to high frequency doors!
We built speed of installation into the design of the new YALE Heavy-Duty Tubular Lock.

Timing of actual operations proves that—after the two holes have been bored in the door—this lock can be completely assembled in 30 seconds.

Think what that means in terms of total savings of installation cost in a large office building, school, apartment house! It means you can specify YALE security—and save money!

WHAT MAKES THE DIFFERENCE
A clever design of the lock permits the components to be packaged in "exploded" form. Four sub-assemblies are located in their proper relative positions—ready for quick four-step installation.

In the time it takes to disassemble the usual tubular lock, this one is on the door!

You also have the advantage of a pleasing design—clean, classic lines combined with modern functional beauty—and can promise your customer traditional YALE security and dependable operation.

For any heavy-duty service, specify YALE Heavy-Duty Tubular Lock.

THE YALE & TOWNE MANUFACTURING COMPANY, STAMFORD, CONN.
THE GREATEST CONTRIBUTION TO LIGHTING SINCE FLUORESCENT!

Fleur-O-Lier Manufacturers proudly present to the lighting industry—the Fleur-O-Lier Index System—a method of specifying, identifying, and classifying fluorescent luminaries—with regard to their illumination characteristics.

There's been a long-felt need for a system of classifying fixtures—some method common to all who make, sell, specify or buy fluorescent fixtures.

This is it. It's simple, practical and basic.

"Why hasn't someone thought of this long ago?" say lighting engineers who have seen the Fleur-O-Lier Index System.

As Simple as ABC

WHAT IS IT?

The Fleur-O-Lier Index System is a simple method of identifying or describing any fluorescent luminaire on the basis of its illuminating performance.

WHY IS IT NEEDED?

Fleur-O-Lier Manufacturers devised the index system to give the "facts of light" about each luminaire. Because this classification quickly indicates the basic illuminating performance of a fixture, it eliminates vague generalities, broad but unfounded claims and gives needed factual data.

WHAT DOES IT ACCOMPLISH? Its purpose is two-fold:

1. It provides an exact formula which the specification writer may use to

FLEUR-O-LIER Manufacturers

Fleur-O-Lier is not the name of an individual manufacturer, but of a group of fixtures made by leading manufacturers.

Participation in the Fleur-O-Lier program is open to any manufacturer who complies with Fleur-O-Lier requirements.
express the illuminating characteristics and performance he recommends.

2. It supplies a precise formula for fixture identification and classification that allows the buyer to know he's getting the illumination recommended.

WHO'LL USE IT?

Architects, lighting engineers, lighting consultants, lighting salesmen, contractors and utility lighting men . . . anyone who specifies or recommends lighting fixtures can use this simple, practical and fool-proof method to give an exact definition of the illuminating performance he selects for an installation.

Fixture manufacturers will use the system to indicate the performance characteristics of their fixtures.

Buyers and users will employ this method of indexing to make certain they are getting what the specifier recommends.

HOW DO I GET IT?

The Fleur-O-Lier Manufacturers have prepared a booklet which explains the Fleur-O-Lier Index System completely . . . what it is and how to apply it. It's complete with tables. Use the coupon below to send for your free copy of the new booklet.

AND HERE'S WHY YOU SHOULD INSIST ON THE FLEUR-O-LIER Label

The Fleur-O-Lier label means that the fixture was built to exacting specifications—then tested, checked and certified by Electrical Testing Laboratories, Inc. The Fleur-O-Lier label assures you of sound mechanical construction, safe and proper electrical design and materials, and tested, certified lighting performance.

To be sure of precise illumination characteristics, long trouble-free operation and complete user satisfaction—insist on the Fleur-O-Lier label.
The stronger, lighter, better
PAINE REZO DOOR

costs your client nothing

At no extra cost, your client receives in the hollow-core Paine Rezo door patented structural advantages that for all-time minimize warping and shrinking while they add great strength to lightness in weight. This means a door that is free from trouble, that will always be a credit to your judgment in specifying it.

Because 1 1/4" Paine Rezo doors are pre-fitted and light-in-weight they are quickly hung. To these savings add one more... a smooth, flush surface that is painted or stained in less than half the time required by ordinary panel doors. That's why Paine Rezo's are yours without a premium, why you can give them to building owners at a total installed cost that is no more than that of common panel doors. No wonder, then, that over 2,000,000 Paine Rezo doors are in service today, specified by architects from coast to coast.

A concise four-page bulletin packed with architectural data to save you time has been prepared. You'll find it in Sweet's File, or it's yours for the asking. Write

Manufactured by the
PAINE LUMBER CO., Ltd. Racine, Wisconsin

LETTERS

London, England

Forum:

One wonders whether Forum appreciates the moral of the very significant Branch-Frankel letters: of course, both Mr. Branch and Mr. Frankel are right. They represent the two broad requirements of men who would sacrifice efficiency for charm, and those who would forego charm for efficiency.

As an educationalist, one assures students that the approach from either end is valid. Our aim might be to combine the two as far as possible. And there must be some balanced individuals.

In Midland, Mich., recently, we (including my 17 fifth-year students) agreed with Alden Dow that we must consider design rather than style.

Perhaps the Review is too reactionary, and Forum too modern? Perchance it is too much to ask for an overhaul of Forum's editorial staff, or a change in the mental climate of New York? I am inclined to settle for... a close-up study of a Frank Lloyd Wright house per month. Surely everyone would be happy with that... .

C. Englesmith
School of Architecture
University of Toronto
Toronto, Canada

Forum:

Publication of letters from the former and present owners of the Neutra dwelling is a revelation.

We recently encountered a situation wherein several clients were undecided in adapting the functional; consequently, the article was shown to them. Results were admirable to the extent that the modern was found desired.

S. Z. Moskowitz
Wilkes-Barre, Pa.
A new national survey reveals a major trend in flooring—the ever increasing and imaginative use of smooth surface asphalt tile floors, laid tile by tile, in all types of interiors, including every room of the home.

Many factors have stimulated this trend. One is the continued technical refinement of asphalt tile itself. For instance, Kentile has introduced a new post-war resilience that considerably increases the opportunities for installation on wood. Concurrently, an improved formulation has made it one of the most easily cleaned and maintained floors. Its precise die-cutting permits the ultimate in tight fitting, virtually seamless installation. Its better marbleizing and coloring set a new standard for floor beauty.

But most important, probably, is the discovery by architects of the unlimited opportunity for original design provided by Kentile. They have come to realize that this modular flooring with 23 colors, each available in 6 standard sizes, plus the functional feature strips in 5 colors, offers infinite scope to their creativeness.

This trend, we believe, affects the entire field of architectural designing and is worth more complete investigation. We therefore are sponsoring this competition to further attract the creative attention of architects, designers, draftsmen and students—to stimulate additional exploration of this new interior design potential.

54 PRIZES—OVER $10,000

A new national survey reveals a major trend in flooring—the ever increasing and imaginative use of smooth surface asphalt tile floors, laid tile by tile, in all types of interiors, including every room of the home.

Many factors have stimulated this trend. One is the continued technical refinement of asphalt tile itself. For instance, Kentile has introduced a new post-war resilience that considerably increases the opportunities for installation on wood. Concurrently, an improved formulation has made it one of the most easily cleaned and maintained floors. Its precise die-cutting permits the ultimate in tight fitting, virtually seamless installation. Its better marbleizing and coloring set a new standard for floor beauty.

But most important, probably, is the discovery by architects of the unlimited opportunity for original design provided by Kentile. They have come to realize that this modular flooring with 23 colors, each available in 6 standard sizes, plus the functional feature strips in 5 colors, offers infinite scope to their creativeness.

This trend, we believe, affects the entire field of architectural designing and is worth more complete investigation. We therefore are sponsoring this competition to further attract the creative attention of architects, designers, draftsmen and students—to stimulate additional exploration of this new interior design potential.

THE PROBLEM: Given the essential structural elements of a residential or commercial area, design a noteworthy interior that uses a Kentile floor as an element of the decorative scheme.

Competitors may choose to work on any one or all of three problems—a kitchen-dining area, a living area, or a candy shop—and need submit only a simple plan that includes the Kentile floor design and a perspective sketch demonstrating the entity of the floor design and the decor.

Both plan and sketch should be quick and simple, prizes being awarded primarily for the design thinking, with skill in presentation considered only insofar as it presents the design ideas clearly and concisely. Painstaking and time-consuming renderings are not sought.

Approved by the American Institute of Architects

C. Theodore Larson, Professional Adviser, c/o The Architectural Forum
Empire State Building, 350 Fifth Avenue, New York 1, N. Y.

I intend to enter the Kentile Design Competition. Please send me the program, including the conditions governing the competition and awards.

Name: ____________________________

Firm (if any): ____________________

Address: ____________________________

City: ___________________ State: ________

Check one: Architect _______ Designer _______ Draftsman _______ Student _______

Other Occupation: ____________________________
You Told Us What You Wanted...

Now Eagle Announces The Greatest Door Closer Ever Built

Here's America's First Truly Universal Hydraulic Door Closer

The Only Closer With Right-Hand, Left-Hand, Hold-Open or Non-Hold-Open Operation in One Standardized Unit... Without Mechanical Change


The Eagle Door Closer will simplify your hydraulic door closer specifications since this one standard unit can be specified for all standard interior doors. Write for 20-page, four-color illustrated brochure which presents the facts in detail.
Engineered housing spearheads the trend to a future of more efficient, more economical building.

It makes the theory of modular coordination a practical, workable fact.

The manufacturers of brick and tile were among the first to recognize this fact and team up with foresighted builders and architects in developing this new, better way to build.

We were in fact the first to accept and support this idea on an industry wide basis.

This means that today you can build brick engineered housing ... with all the additional advantages brick offers in beauty, permanence and all-around desirability.

Our support of engineered housing is typical of SCPI's efforts to increase still further the utility of structural clay products. In other fields we are promoting apprentice training, modular coordination and materials research.

SCPI has developed detailed plans and drawings for six brick engineered homes. For full information about these plans write to Dept. AF-12, Structural Clay Products Institute, 1756 K Street, N. W., Washington 6, D. C.
The New Bilt-Well Line

- Superior Unit Windows
- Exterior and Interior Doors
- Nu-Style Cabinets
- Entrances and Shutters
- Clos-tite Casements
- Carry-dor Garage Doors
- Basement Unit Windows
- Louvers and Gable Sash
- Combination Doors
- Screens and Storm Sash
- Corner (China) Cabinets
- Gli-dor Cabinets
- Ironing Board Cabinets
- Mantels and Telephone Cabinets
- Multiple-Use and Linen Cabinets
- Breakfast Nooks and Stair Parts

Every product in the New Bilt-Well Line bears this mark of distinction. This famous Bilt-Well Line includes all of your building woodwork requirements for apartments, residences or large scale housing projects. The New Bilt-Well Line is produced according to the new modular standards from clear, kiln-dried Ponderosa Pine. Savings resulting from efficient volume production go into making the product better. That is why the New Bilt-Well Line offers greater value for your building dollar.

CARR, ADAMS & COLLIER COMPANY, Dubuque, Iowa
can you teach beauty? cleanliness? confidence?

— not from books, perhaps — nor by word of mouth

— but example can do it — and environment. Consider this when you design a school.

Marble is permanent and this enduring quality teaches its own lessons.

Its beauty is deep-grained, inimitable

the very essence of creative environment. It will not harbor germs,

and only the simplest attention is necessary to keep it clean.

Marble Institute of America, inc.

Availability of Foreign and Domestic Marbles described in "Marble Forecast 1948-1949." Write now for your copy.

Address Institute's Managing Director, Romer Shawhan, R. A.
HOW FORTUNE SELLS

STRUCTURAL MATERIALS

It happened on page 118 in August, 1948. A manufacturer of facing tiles used a four-color page in FORTUNE, and in October inquiries were "still averaging 18-25 per day."

"Some of the companies who responded to the advertisement in FORTUNE were Gillette, Ford, Union Pacific Railroad, Dow Chemical, Illinois Society of Architects, Eastman Kodak, Burroughs Adding Machine, Shell Oil, Squibb & Sons, Republic Aircraft and Phillips Petroleum," the report reads. "And there were letters from architects and general contractors from all over the country, three libraries, and many from the advertiser's own dealers, each of whom forwarded requests from 15 to 20 people."

In addition, this advertiser reinforced its FORTUNE campaign with direct mailings of FORTUNE's merchandising folders, and is "tremendously pleased with the response from top management men."

WAREHOUSING SERVICE

It happened on page 160 in September, and on four other half-pages this year. A company advertising a field warehouse receipt service reported that it was "particularly impressed by the character of our inquiries which have opened up sales communication for us to a sizeable list of firms rated as triple A by Dun & Bradstreet."

"Our experience with FORTUNE thus far gives us the impression that it delivers a message from the management of your advertisers to the buying executives of U. S. Industry in a direct and influential way."

It happens on every page, every month that advertisers in FORTUNE are "impressed by the character" and "amazed by the quality" of the market they reach, and no wonder: a survey just completed reveals that 84.2% of FORTUNE's quarter-million subscribers are engaged in business and industry, over one-third of them in the management of concerns with annual sales volume of $85 million or more.

FORTUNE
The Magazine of Managerial Leadership

LIONEL FREEDMAN, who photographed the Whitney Lumber Camp Houses (p. 69), is an alumnus of NYU's School of Architecture, and of several New York architects' offices where he spent seven pre-war years as designer and delineator. The war years were spent in the Air Force, part on a B-29, part on Clark Field, Luzon, designing and building chapels and mess halls. He has been a professional photographer since his return from service, is now a member of Pictorial Services, with Ezra Stoller (see below).

ULRIC MEISEL, photographer of the Glass House (p. 73), has been, alternately, law student, copywriter and newspaper reporter. Born in Germany, he studied law at the universities of Berlin, Leipzig and Paris, arrived here in 1938. From newspaper reporting he went, successively, into photography and into the army. In 1946 he organized Photo Associates in Dallas with two other photographers. For the combine, Meisel takes the architectural and industrial photographs, leaves portraits to partners Sylvan Garonzik and Max Plake.

BILL HEDRICH, photographer of the Hough House (p. 78), and youngest of the Hedrich clan, learned architectural photography under the "iron hand" tutelage of brothers Ken and Ed. A University of Illinois graduate, he joined Hedrich-Blessing Studios in 1933. By 1940 his portfolio included the now-classic "Falling Water" House by Frank Lloyd Wright. Bill fought his way through World War II as a Signal Corps photographer, later rejoined Hedrich-Blessing as vice-president. Ken is president, Ed treasurer.

ERZA STOLLER spent 80 anguished hours and two trips to Cincinnati photographing the Terrace Plaza Hotel (p. 81). As background for such travail, he sports an unused degree from NYU's School of Architecture, vintage: 1939, and a pre-war career in documentary films and architectural photography. During the war, he taught photography in the Signal Corps. Stoller is a founding member of Pictorial Services, a group designed "to relieve photographers of routine detail to permit fuller professional utilization of talent."

ROBERT C. LAUTMAN, Tyler Gardens (p. 98) photographer, is a native Montanan whose formal schooling was divided between his home state and Washington, D. C. After Montana State College, he was a photographer for the Norwegian Embassy. He saw World War II as a paratroop combat photographer in the South Pacific. Defying khaki, he crisscrossed the country with his wife as a writer-photographer team doing free-lance magazine work. A year ago he set up his own photographic studio in Washington, D. C.

ROGER STURTEVANT was born in the Bay Region when that term denoted a area, not an architectural style. Photography was his hobby at 14, his profession after high school, and ever since. Bored with portraiture, he turned to advertising photography, soon received his first important architectural assignment: the buildings of Bernard Maybeck. To the naive photographer, this was no great experience, just a difficult job. Now exclusively an architectural photographer (p. 100), he probably knows more about the "backstairs" facts of applied architecture than anyone else out west.

SHIRLEY G. BURDEN is a renegade Easterner who forsook this bleak coast for sunnier California. Born and schooled in New York, Burden migrated west in 1930 to become a producer-director for RKO. He later organized Tradefilms, Inc., a commercial motion picture company that produced training films for the Army and Navy in World War II. In 1946 he withdrew from Tradefilms to specialize in architectural photography. Two examples: pp. 76, 104.
SPECIFY

Unique SASH BALANCES
for QUICKER, FASTER INSTALLATIONS

One . . . two . . . three and Unique Sash Balances are installed. And . . . once they are, you need never remove them! Over 67,000,000 Unique Sash Balances in use, is proof of their dependability. Write today for further information.

UNIQUE BALANCE COMPANY, INC.
25 Bruckner Boulevard • New York 54, N. Y.

Unique Sash Balance plants are located in the United States, Canada, Australia, and England to fill a worldwide demand.
TERRACE PLAZA HOTEL TIME
by IBM

An IBM Self-regulating Master Time Control keeps every unit at the same uniform time.

IBM ATTENDANCE TIME RECORDERS give the Terrace Plaza Hotel accurate, legibly-printed records of hours worked.

IBM RECORDOLOCKS are used to control the use of valuable supplies by recording the time doors are locked or unlocked, either from the outside or inside, and by whom.

IBM CLOCKS over the Registration Desk, in the Terrace Garden, and throughout the Hotel indicate accurate, uniform time.

IBM TIME STAMPS at the Bell Captain's Station, in the Gourmet Restaurant, and in many other places in the Hotel record the exact time orders are received and filled.

IBM TIME RECORDERS AND ELECTRIC TIME SYSTEMS
Proof Machines • Electric Punched Card Accounting Machines and Service Bureau Facilities • Electric Typewriters

International Business Machines Corporation, World Headquarters Building, 590 Madison Avenue, New York 22, N. Y.
There's a right way to make every steel casement installation job easier and at a saving. But it's all in knowing how. That's why Ceco has prepared a complete and concise Erection Manual for the building industry. Here's a manual containing detailed data on the installation of steel casements. Easy-to-follow directions eliminate guesswork—diagrams show the right way to do the job. Note three examples given here—How to apply a head drip—Testing the fit of ventilators—How to glaze. All the necessary steps for proper installation are covered in Ceco's Manual. It will help you cut costs, do away with window damage, avoid loss of time. Write for free copy today. If you live in one of the western states, ask for special Pacific Coast Edition.

CECO STEEL PRODUCTS CORPORATION
General Office: 5605 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

**HOW TO ERECT**

A. Before erecting, apply loose head drip by placing it on top edge of casement frame, tapping it lightly to seat in place. No screws or bolts required. Where ventilators do not extend to casement head, no head drip is necessary.

B. After erecting, before glazing, test fit of each ventilator by pushing it closed. Ventilator top should touch first while bottom extends about ½” from frame. Later, when hardware is installed, underscreen operator will draw in bottom of ventilator.

C. In glazing, spread steel window putty or compound over glazing rebates. Push glass firmly into position. Slip glazing clips in place and apply face putty or compound.

**ONE OF MANY TYPICAL INSTALLATIONS**

Concrete Block Construction with steel fin

**FREE for you!**

CECO STEEL PRODUCTS CORPORATION
5605 West 26th St., CHICAGO 50, ILL.
Please send FREE Manual No. 1014 on how to install metal casements.

Name ____________________________
Address __________________________
City ____________________________ State __________________________

CECO ENGINEERING makes the big difference
Provide for

EXECUTONE
INTERCOM

— in the Planning Stage

YOUR CLIENTS NEED an efficient electronic communication system ... to coordinate operations, locate personnel, free telephone lines. Why not anticipate this need in your plans, by providing for the equipment so much in demand in modern business—Executone Intercommunication!

Executone's instant voice-contact integrates widely-scattered functions of the building you're planning. By pre-planning an Executone System, conduits, raceways and feeders are installed during construction—thus avoiding later defacing of interiors or the addition of unsightly wiring. And your client can finance the cost through his original mortgage.

Executone-trained specialists recommend, supervise installation, and service a system individually engineered to your client's needs. A detailed proposal outlining operation, specifications, and an estimate of the overall cost will be submitted without obligation. Mail the coupon today!

EXECUTONE, INC.
415 Lexington Ave., New York 17, Dept. M 8

(Contued on page 60)
One of four central systems, supplemented by 91 individual unit air conditioners in Famous-Barr Department Store, St. Louis. System engineered and units manufactured by Carrier Corporation.

Cleaning Air at Low Cost

Low original cost! High dust-catching efficiency! Low maintenance cost! These advantages are outstanding in the use of DUST-Stop® replacement-type air filters in air conditioning the Famous-Barr Department Store in St. Louis.

Shown above is one of the four central filter installations supplying clean air to duct systems. Note how the filters are loaded with dust and dirt that will never have the chance to soil valuable merchandise. Soon they will be replaced with new, clean DUST-STOPS—at low cost.

There are good reasons why DUST-STOPS are specified by heating, ventilating and air-conditioning engineers. The packs of FIBERGLAS® fibers make an exceptionally efficient filter medium. Being glass—and inorganic—the fibers have no odor, nor will they rot or decay. And they do not absorb the non-odorous, non-evaporating adhesive with which they are coated. As a result, each impinged particle of dust is quickly soaked, acting as a wick to catch still more dust—until the DUST-STOP is so heavily loaded that resistance to air flow calls for replacement.

Complete details of metal frame assemblies, enabling you to design DUST-STOP panels to meet all space and CFM requirements, are given in our folder D47-34. Write for it, today...

Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, Ohio.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.
THE exclusive Buffalo, N. Y. style center, L. L. Berger Inc., knows the value of beauty and sleek elegance when modernizing. The Dahlstrom elevator entrance pictured appears on the main floor and is typical of the other Dahlstrom floor entrances throughout the fashionable store. Chrome nickel steel entrances are satin finished with formed-in fluting.

Over 43 years of experience have instilled in Dahlstrom designers and engineers a practical and artistic know-how. Each entrance is built structurally sound and fits the mood and motif of the interior design.

Whether your job as architect or building planner consists of modernizing a department store, an office building, an apartment or auditorium, Dahlstrom manufacturing ingenuity can be counted on for aesthetic correctness and durability.

Without obligation, Dahlstrom makes available to you free color decks, full color sketches and informative booklets on elevator design.

DAHLSTROM
METALLIC DOOR COMPANY, JAMESTOWN, N. Y.
Representatives in Forty Principal Cities

YOUR SET OF
69 COLORS
This set of DAHLSTROM Standard Color Cards has been produced in our own finishing department under conditions identical to actual production. They include plain enamel, metallic enamel, stippled and grained finishes. Available to Architects.
The new quick-opening set-lock assembly on the Kno-Draft Air Diffusers

Cuts installation and maintenance time

Instant Cleaning and Inspection:

With the new quick-opening Type HD set-lock assembly, the inner element of the Kno-Draft Adjustable Air Diffusers can be quickly removed and reinstalled while the diffuser is in place without affecting its adjustment.

It takes but a minute — requires no tools

The "B" cone or inner element of the diffuser is secured to the combined suspension and adjustment screws by a springloaded catch which is kept in compression by a slotted washer. The holes in "B" cone pass over the bolt heads. All you do is press up on cone "B" and insert or remove the slotted washers.

Nation-wide sales and engineering service

The W.B. Connor Engineering Corp. maintains a research laboratory with a staff of trained specialists and district representatives in leading cities. Their services are at the disposal of consulting engineers, architects, air conditioning dealers and plant engineers. They can assist you in getting the best possible performance from your air conditioning system by creating custom-made air patterns which will thoroughly mix room and supply air, eliminate drafts and maintain uniform temperature throughout an area.


FREE HELPFUL LITERATURE

- Bulletin K-21: Contains complete details on the new, exclusive Kno-Draft Type HD Set-Lock Assembly.
- New handbook on air diffusion: Contains all the engineering data necessary on air diffusion in general and Kno-Draft Adjustable Diffusers in particular to enable you to create "custom-made" air patterns and eliminate drafts.

W. B. Connor Engineering Corp.
Dept. T-107, 112 East 32nd Street
New York 16, New York

Please send me the free literature I have checked above.

Name

Company

Street

City Zone State

W. B. Connor Engineering Corp.

Air Diffusion - Air Purification - Air Recovery

112 East 32nd Street New York 16, N.Y.

IN CANADA: Douglas Engineering Co., Ltd., 180 Murray Street, Montreal 3, P.Q.
... calls for a Shower Cabinet in the bathroom

So much personal comfort and satisfaction can be obtained at so low a comparative cost that a shower cabinet has become one of the best values in making homes more desirable to owners and prospective purchasers.

A shower cabinet is a natural companion to the other fixtures in the present day bathroom, and is recognized by architects and builders as one of the strongest features for classifying a home as modern in both the higher priced and lower cost brackets.

FIAT SHOWER CABINETS

— make houses more saleable.
— make the menfolk happy and are a source of pride to the housewife.
— are in harmony with other modern features in the home that make for easy living.
— add an air of distinction and luxury to the bathroom even when lower priced units are installed.

— THERE IS A FIAT SHOWER MODEL TO FIT EVERY BATHROOM —
— the low cost Skipper Shower with Neptune Glass Door.
— the medium priced Cadet Shower with Zephyr Door.
— the highest class shower cabinet ever built, the Commodore, suitable for the finest luxury installation.

A complete catalog with specifications of all Fiat Shower Cabinets is available in Sweet's Architectural File section 24b/1 and Building File section 6a/6 or write for catalog.

Plastics continue to move from the world of tomorrow into today's market. Several lines of Knoll chairs are now being upholstered in Lumite, a fabric woven of plastic threads. This possesses "magic" advantages of being stainproof and colorfast as well as extremely durable. The sometimes unpleasant contact of plastic (clammy in winter, sticky in summer) has been eliminated by the weaving process. This allows the fabric to "breathe," letting the circulation of air do away with excess moisture. Plastic upholstery makes practicable for everyday use the gay clear colors which set off modern informal furniture so well.

APPOINTMENTS

SAMUEL SCOVILLE, A.I.A., executive in the firm of Harrison, Ballard & Allen, New York City housing consultants and planners.

LUDWIG SKOC, Chicago consulting engineer, to membership on the board of trustees of Illinois Institute of Technology.

MICHAEL CZAJA, architect, lecturer at the University of California, Berkeley, Calif.

LIONEL CHADWICK, assistant professor of architecture, University of Florida, Gainesville, Fla.

WILLIAM ALLEN, Jr., design staff member, School of Architecture, Tulane University, New Orleans 15, La.

MICHAEL ROSENAUER, A.I.A., Visiting Professor of Interior Decoration, Department of Fine Arts, University of Pennsylvania.

(Continued on page 64)
Keynote of Cincinnati's new Terrace Plaza is efficiency—in a setting of modern beauty.

Efficient hotel service is so largely a matter of electrical service—to operate elevators, lighting, radios, signal systems, kitchen equipment, heating and air conditioning—that the electrical control system is truly the functional heart of this fine hotel.

Architect, builder, operator—all had to be sure of dependable electrical service for every operating and decorative need. Thus, far removed from the glamour rooms of the Terrace Plaza, you'll find Westinghouse switchboards, control boards, and panelboards distributing and controlling the electrical power that helps make this hotel the last word in efficiency and modern beauty.

So it is with many of America's finest new buildings. Wherever dependable equipment is needed to distribute, control or utilize electrical energy . . . you can be Sure, if it's Westinghouse.
From coast to coast Thonet Bros. are serving leading hotels with modern molded plywood furniture that is as functional as it is attractive.

Thonet's most recent contribution to contemporary interiors is found in many of the rooms in the beautiful new Terrace Plaza in Cincinnati—an outstanding hotel that sets a trend in architecture and interior design. The use of specially designed furniture manufactured by Thonet for this exceptional installation is further proof of the wide acceptance and recognition of Thonet workmanship. Write to us or ask your dealer for detailed information on Thonet Bentply and Bentwood Furniture.
Tons of Chase Red Brass Pipe have been installed in Stuyvesant Town and Peter Cooper Village (shown above) and also in Riverton, three new developments of Metropolitan Life Insurance Company on Manhattan’s East Side.

Architect: Board of Design of the Metropolitan Life Insurance Co.

General Contractor: Starrett Bros. and Eken, Inc.

Plumbing Contractor: J. L. Murphy, Inc.

Heating Contractor: Baker, Smith & Co. Inc.

The Metropolitan used over a million pounds of Chase Red Brass Pipe in its latest housing developments, in sizes from ½” to 12” both for hot and cold water supply and for heating lines. Red Brass Pipe was chosen because it gives better all-around service than any other material used for plumbing and heating lines. Due to the increased corrosiveness of most hot waters, Chase Red Brass Pipe is recommended especially for hot water lines and circulating hot water heating systems where the very best in plumbing is wanted. It is made to U. S. Government Federal Specifications WW-P-351 for Grade “A” pipe for plumbing.

For further information on Chase Red Brass Pipe, Copper Pipe or Copper Water Tube, see SwM’s Architectural File, or write us. Address below, Dept. AF128.

A MILLION POUNDS OF CHASE RED BRASS PIPE
IN METROPOLITAN’S STUYVESANT TOWN AND
PETER COOPER VILLAGE!
Leading architects and decorators, for almost a century, have specified John Widdicomb furniture for the world's finest hotels here and abroad.

John Widdicomb is proud of its part in making Bedroom Furniture for Cincinnati's new Terrace Plaza Hotel.

ANNOUNCEMENTS

Visiting Critics at the College of Architecture and Design, University of Michigan, Ann Arbor: Jerrold Loebl, Norman Schlossman, Richard Bennett and K. Lomberg-Holm.

Harold Van Doren, president of the Society of Industrial Designers, New York City; David Chapman of Chicago, vice president; Egmont Arens, secretary and A. Baker Barnhart, treasurer.

George Sieger of Detroit, president for 1948-9 of the American Welding Society.

NEW OFFICES

James Payne, architect in general practice, 182 S. Church St., Salem, Ore.

J. Theodore Blomquist, architect-engineer consultant, in association with Frank Hecker and Eugene Maniscalco, architects, 332 River St., Hackensack, N. J.

Charles Boettcher, architect specializing in commercial and residential design, 420 Cutler Bldg., Rockford, Ill.


Holloway, Weber & Reeves, architects, 1916½ Hillsboro St., Raleigh, N. C.


William Hide, Jr. and Howard Decker, Jr., architectural partnership, 2715 Oak Lawn, Dallas 4, Tex.

O. D. Pecora Associates, builders specializing in store fronts and interiors, 238 Main St., Hackensack, N. J.

Walter Chambers and Paul Moriece, landscape architecture, 33 Church St., Harvard Square, Cambridge 38, Mass.

H. K. Ferguson, Chicago branch, 120 S. LaSalle St.; I. Douglas Lacy, manager.


Taylor-Wadhams, fabrics and furniture, 140 S. Robertson Blvd., Los Angeles 36, Calif.

Carroll Sagar & Associates, modern furnishings, 7418 Beverly Blvd., Los Angeles 36, Calif.

CHANGES OF ADDRESS

Arthur Rugolo, A.I.A., Route 6 at Grove St., Clifton, N. J.


George Walling, architect, 304 W. 8th St., Austin, Tex.

Louis H. Gerding, architect, Suite 102-4 Central Life Bldg., Ottawa, Ill.

CORRECTIONS

We regret that the name of Neal (not Neil) J. Campbell was misspelled in our story on the American Stove Co. building (October '48, FORUM), for which he was structural engineer.

Ambrose Higgins & Associates, architects-engineers, are located in Bar Harbor, Me.—not Massachusetts as noted in September issue of The Forum.
It’s Verminproof!

That is one of the main reasons why PC Foamglas is the permanent insulation

Termites, other destructive insects and vermin just can’t eat Foamglas. They can’t gnaw through it. They can’t nest or breed in it. It’s verminproof.

And thus, one of the common causes of insulating material failure is eliminated when you specify PC Foamglas insulation for walls, floors, roofs and ceilings.

PC Foamglas is a true glass. Consequently, Foamglas insulation is waterproof, vaporproof, fireproof, fumeproof, acidproof. These are additional reasons why, when installed according to our specifications for recommended applications, PC Foamglas retains its original insulating efficiency permanently.

So, when you want to specify a permanent insulating material that helps to maintain desired temperatures and reduce condensation, that withstands humidity and forms a vapor seal, find out about PC Foamglas.

Check and mail the coupon below... and we’ll be glad to send you free the Foamglas booklets you select.

When you insulate with Foamglas... You insulate for good.

Pittsburgh Corning Corporation also makes PC Glass Blocks

CORNING FOAMGLAS INSULATION

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET’S CATALOGS

Pittsburgh Corning Corporation
Room 522-B, 312 Duquesne Way
Pittsburgh 22, Pa.

Please send me without obligation your FREE booklets on the use of PC Foamglas Insulation for Roofs, Walls, Floors.

Name: ________________________
Address: _____________________
City: __________________________ State: __________________________

THE MAGNIFIED CROSS SECTION of PC Foamglas shows its cellular structure... glass bubbles solidified into big, strong, rigid blocks. In the millions of cells of glass-enclosed air, lies the secret of its insulating value.
Whatever the time of year, guests of the unique new Terrace Plaza in Cincinnati will be able to “order” exactly the weather they prefer. The Carrier Weathermaster system permits individual control of room air conditions at the turn of a dial.

The Terrace Plaza, a 10-story, 400-room hotel atop a department store, will also appeal to comfort-minded guests with air conditioning in its various dining rooms and other public spaces. As in guest rooms, this air conditioning is furnished by Carrier.

Historical landmarks as well as modern hotels are realizing the dollars-and-cents value of guest comfort. They find that comfortable rooms bring greater revenue, that poorly located space rents readily when air conditioned. Guests eat more meals in your dining rooms when they’re cool in summer.

Carrier offers a complete selection of scientific air conditioning—from complete systems for the entire building to self-contained Weathermakers for private dining rooms and bars, and Room Air Conditioners for individual rooms. Whatever the system or unit, you can count on dependable, low-cost service when it bears the Carrier name. Carrier’s skill comes from the longest, widest experience in the field of air conditioning. Write for booklet “Air Conditioning for Hotels.” Carrier Corporation, Syracuse, N. Y.
4 SMALL HOUSES
show that operative builders can
still learn plenty from
the architect-designed house
The well designed small house can offer urbane comfort and

LOCATION: Sabattis, N. Y.
HENRY HEBREIN, Architect
WILLIAM HUNT DIEDERICH, Associate
WHITNEY INDUSTRIES, INC., Owners

One of seven permanent residences for lumber camp managers, this small house is part of an industrial community project which, completed, will include 150 houses for workers' families, three portable logging camps, administration and recreation facilities, all planned in conjunction with the existing lumber mill.

The site is a beautiful pine-wooded knoll. While it is convenient to company headquarters, the surrounding woodland and general elevation create a pleasant, natural isolation.

This house, despite certain specific requirements dictated by the climate of the region, is an excellent example of economical first-rate planning and construction. The architect's recommendations, which were carried out with remarkable precision, include wall and ceiling insulation (against cold only, since the locale enjoys unusually cool summer breezes). Due to the rigorous winters, however, there was the old problem of ice blocking and leaking through a conventional shingled roof. This indicated the desirability of using built-up or copper roofing—either flat or with a moderate pitch. This allows the snow to remain on through the winter acting as additional insulation. Built well above grade, hot-air panel heating in the ceiling was recommended but not used.

WELL RELATED TO EACH OTHER AS WELL AS THE SITE, MANAGERS' HOUSES ARE INFORMALLY GROUPED IN WOODED SURROUNDINGS
Convenience—even in an Adirondack lumber camp

Cross section shows how ceiling, following the pitch of the roof, appears to open the whole house to the view side. Basement which can function as an auxiliary room, is entered through the garage. Note clerestory windows for basement lighting located under the kitchen sink. Plan provides good sound barriers between the living and sleeping areas.

Oriented to trap all the winter sun possible, plan places living, dining and kitchen areas on side commanding view.
The interior, if not ostentatious, has an all-important appearance of warmth and good construction. Solar windows in the living room are doubled glazed with ventilating windows overhead. Fireplace is located on opposite wall. All seven houses were designed to accommodate families of four but, in order to retain flexibility, a removable closet was used between the living room and the northwest bedroom so that the former can serve as a study.

An architect builds himself a house answering many desires of would-be buyers

LOCATION: San Antonio, Texas
J. GLASS, Designer

PROJECTING TRELLIS INDICATES DIVISION BETWEEN TWO FAMILY UNITS

ALUMINUM FENCE SURROUNDS DRYING YARD ON STREET SIDE. AWNING OVER BEDROOM WINDOWS IS SHEET ALUMINUM
The reasoning behind the diagonal placement of this two-family house on an ordinary building lot held it important that the two units should be equally benefited by a prevailing southeast breeze. Both also receive winter sunlight by this orientation. On the street side, a high aluminum fence shields the house from winter winds. The slope of the roof in direct relation to the ground creates a natural air flow through the house.

To prevent sound transmission between the units, the center wall is a double one with two sets of studs resting on separate slabs. The feeling of family privacy is further increased by entrances from opposite streets.

The economic significance of the design is expressed in the light-weight, open construction formula and, where they are used, in the taut wire supporting aluminum roof sections.

Built by the architect himself with never more than one helper, completion of the house presented many problems of lifting, holding, fitting, etc. The result is nothing short of astounding.

Most of the exterior finish is corrugated aluminum, either painted yellow or left natural.

At a glance it may seem that undue prominence has been given the drying yard. It is, however, an integral element of the plan and works well in conjunction with the rather unusual combination of laundry and bath.
Unusual structural articulation produces a thoroughly uncluttered and unconventional house.

A distinctive feature of the design is the terrace which serves as an outdoor living place as well as carport.

The core of the house is its extremely compact kitchen, from which radiates open living space. The bedrooms, on the other hand, are on an upper level with storage space below.

LIVING ROOM AND TERRACE ARE VIRTUALLY ONE. FIXED PANES ARE FLANKED BY DOUBLE DOORS

KITCHEN AND SECONDARY BEDROOM ARE LOCATED ON ENTRANCE SIDE. CARPORT IS AT LEFT

Photos by Shirley C. Burden

ENTRANCE HALL HAS ANGLED WALL
a mountain makes the most of an extremely difficult site

LOCATION: Beverly Hills, Calif.

ROBERT E. FAXON, Designer

MR. and MRS. C. WILLIAM SMICK, Owners

After deducting a 10 ft. setback at the front, 6 ft. setbacks at the sides and reckoning the value of three large old trees, the architect was left with very little level property on which to stake out this house. It was also a tightly budgeted job. His solution for his clients and their one small child is a fine example of compact planning. The handling of space is particularly interesting. The roof and ceiling over the living-dining area slope up toward the steep mountainside to triple advantage: this heightens the glass wall facing the slope, raises the eye level and pulls more of the slope into view. The wall between the living room and kitchen was angled to add to the spaciousness with excellent results. Since the kitchen also acts as a service entrance, its asymmetry helps divide the two functions. A glance at the plan proves how much the living room and entrance hall profit by this arrangement. The slanting wall of the bedroom produces much the same feeling of increased spaciousness, indoors as well as on the terrace.

The house is a good example of sensible budgeting of space in proportion to its use. After some study it developed that the master bedroom received less use than the child’s bedroom and it was therefore made smaller. Another earmark of good planning is the location of closets on three sides of the bathroom to act as sound barriers. Though the house does not include a study the location of the fire place with its giant hearth creates a pleasantly secluded corner.


SIMPLICITY OF INTERIOR DETAIL AND FINISH FOCUSES ATTENTION ON RICH NATURAL SETTING

77
WELL INTEGRATED DESIGN IS CARRIED OUT IN REDWOOD SIDING AND WISCONSIN LANNEN STONE. ENTRANCE FACES WEST

LIVING. Guest living room alcove which faces south provides a cheerful spot for reading or study, is used as such most of the time. However it conveniently doubles as a guest bedroom having built-in couches that are easily made up. Curtains separate it from the living room.
Jhieve a high degree of comfort and efficiency

LOCATION: Glenview, Ill.

DAVID SEARCY BARROW, Architect
SLOAN CONSTRUCTION CO., Contractor
MR. and MRS. RICHARD M. HOUGH, Owners

Set well back on a 155 x 240 ft. plot, this house commands a peaceful, intimate view of lawn, meadow and forest. To the east it has a broad view of woods. Both in mass and detail it fits well into its surroundings. A glance at the interior proves that the house is one big custom cabinet making job and that a relatively large sum of money went into its three major rooms. However, the general planning offers many formulae that could be more economically incorporated into any small house and to considerable advantage.

Designed for one couple who occasionally entertain house guests, the plan puts great emphasis on the living and working areas, segregates the master bedroom. Everything has been done to ease the servantless housekeeping and great consideration given to indoor-outdoor living. Note should also be made of the excellent storage and utility facilities.

Builder Sloan and Architect Barrow are both sold on the desirability of built-in furniture wherever possible. In this instance it has definitely contributed to the spaciousness and working efficiency of the house.

A continuous overhang shelters the carport and entrance court. The frank location of the former, hard by the front door, is commendable from the standpoint of design as well as practicality.

All sub-assemblies for windows, doors, trusses, etc., were made on the site. The exterior redwood sheathing is highly varnished to retain its color which is complemented by chartreuse paint under the eaves.

HEATING. A hot air furnace blowing air through a continuous labyrinth of ducts in concrete provides economical radiant heating. Outlet is through floor grilles, return through overhead ducts. Conveyance channels were created on the job by placing 4 x 6 in. timbers on 2 ft. centers and pouring concrete nearly level with them. Over this was placed wire mesh with asphalt paper on one side topped by another 4 in. of concrete.

SLEEPING. The master bedroom, in a wing by itself, has north and south exposure. Fixed sash, flanked by double hung windows is used on both sides. As in the rest of the house, all logical furniture items are built-in.
Step-saving work area is beautifully planned, features a number of built-in amenities.

**BUILT-IN DINETTE SEAT** is the only division between the kitchen and the dining area. The sink, backing up to it, permits the table to be cleared with minimum effort. Big picture windows directly relate the working-dining area to the terrace beyond.

**BARBECUE FIREPLACE**, backing the one in the living room, is no small pride of the owner-chef. Wood for both is stored in the two-way pine cabinet at right. For obvious practical purposes brick is used as the fireplace facing on this side.

**U-SHAPED KITCHEN** provides work space on all three sides. A fine utility room is located behind it. The working-dining space has recessed overhead lighting. In the kitchen gay red wallpaper sets off the pristine equipment.
CINCINNATI'S TERRACE PLAZA is built on the solid economic base of two big stores and the forward-looking concept that thorough research, good modern design and skillful engineering pay off in better profits and increased investment stability.
The hotel begins at the eighth floor. Divided near the center by the elevators, desk and offices, the 90 x 400 ft. "roof" of the two store buildings is big enough to accommodate the main dining room, a cocktail lounge, bar, and the kitchen and still leave room for the east terrace from which the building gets its name.

Thomas Emery's Sons, Inc., Owner • Skidmore, Owings & Merrill, Architects
William S. Brown, Partner in Charge
Moran, Proctor, Freeman & Meuser, Foundation Engineers • Weiskopf & Pickworth, Structural Engineers • Jaros, Baum & Holle, Mechanical Engineers
Guy S. Panero, Engineers, Electrical Engineers • A. Feder, Lighting Consultant
Marianne Strengell, Textile Designer • Henry Fletcher Kenney, Landscape Architect • Walter J. Smith, Kitchen Consultant • Harris, Kerr & Forster, Accountants & Hotel Consultants • Frank Messer Sons, Inc., General Contractors.
An experienced hotel owner employs the research approach to real estate, engineering and design

The Terrace-Plaza hotel is a radically new solution both in design and financing. It is the result of an integrated planning job in which the architects were given sweeping responsibility that started with calculating the most profitable type of building investment and ended with the hotel soap wrapper. It is also an example of the improved building performance that can be produced by thorough research, conducted by the most systematic collaboration between the architects, engineers, operational specialists and owner.

All this happened because the Terrace-Plaza's owner, Thomas Emery's Sons, Inc., did not specifically set out to build a hotel. The firm simply sold a long-term lease to J. C. Penney for a considerable amount of store space, to be built to fit. Next the Emerys sold a lease to Bond for a somewhat smaller retail area. Then the firm assembled a program of its requirements and sent this to six leading firms of modern architects. The program included a problem which architects are seldom asked to calculate: what would be the most productive investment topping for this solid store base?

Thomas Emery's Sons, Inc. is a family firm which owns some of the choicest real estate in Cincinnati, by means of which it has comfortably enlarged a fortune originally accumulated in candle-making. Since the firm already owned a profitable building complex, the Netherlands-Plaza hotel and the Carew Tower offices (Cincinnati's Rockefeller Center), it was interested in supplementing either type of facility. They already owned a prime location in the downtown business district, on which some old properties were scarcely paying taxes. With the Penney lease in their pocket, they had moved in 1943 to expand the size of this site to a half-block in optimistic anticipation of their unborn investment. Skidmore, Owings & Merrill's approach to modern design, as well as their estimate of the situation impressed the firm. S-O-M's canny analysis showed that on this site a hotel could earn 2 per cent more than an office building and effectuate an Emery objective by supplementing the non-convention facilities of the Netherlands-Plaza. And their ideas on where the hotel should sit were exciting, too. There were two other factors favoring S-O-M, one tangible, one intangible: 1) they had just finished the Oak Ridge atomic town development and so had a large staff and research facilities all set up, and 2) they had never designed a hotel before and seemed to the Emerys "more apt to arrive at original solutions and at the same time be willing to incorporate some ideas the owner had derived from years in the hotel business." The choice was made, and owners and architects repaired to the first of their many mutually informative sessions over a conference table. The owners admittedly learned a great deal about modern art and architecture; the architects say the experience of the owners was "invaluable."

The intensive and collaborative research which preceded design of the Terrace-Plaza promises to pay handsome dividends in reduced operating costs. It produced both a flexible mechanical plant admirably suited to serving the twin character of the building and some carefully studied new equipment for that basic product of the hotel business — the individual guest room. The painstaking program included careful consideration of all materials. Similarly all furniture, the basic guest room, some other rooms were put to the test of use in life-size mock-ups.

The most striking design innovation, which grew naturally out of the store base, was lifting the hotel lobby to the eighth floor level. By taking all the required zoning set-backs at this level, the designers were able to create an attractive roof-top plaza adjoining the lobby, lifted above traffic and street noises and equipped for summer dining, winter-time skating.
Works of top-flight artists extend the decorative theme of lobby

By the integration into the scheme of appropriately “fresh” works of top-flight contemporary artists, and by making every plane, every surface and color, carry its freight of decorative expression, the architects have achieved an atmosphere at once light and refreshing. Despite the use of tons of stainless steel and marble (lobby walls, cocktail lounge tabletops), rich textured fabrics, and leather—all chosen for durability and ease of maintenance—the general effect is of a scale almost domestic, the spirit almost playful.

The artists’ works—planned as part of the architectural design—are tied into this scheme by their fitness for the space they occupy, and by the lighting. On the white wall behind the bar, colored lights vary the “dynamic volumes” of Jim Davis’ bright planes of colored plastics; similarly, on the lobby screen-wall, moving shadows add a dimension to Calder’s spot-lit mobile. And Steinberg’s tongue-in-cheek line-drawings are just right for the long restaurant where anything heavier would have been oppressive.

The eighth floor, though divided into small areas by screens and the lighted ceiling over the desk, is treated as one space; continuity is achieved by the “monotony of pattern” of the dimmed down-lights, and an overall scheme of cheerful colors—green, yellow, white, with gray and warm brown—varied in combinations, shades, and textures. In the “quiet lobby” (behind the powder room and fenced off newsstand), diversity is achieved by contrast—rich reds and sumptuous fabrics. In the restaurants, upholstered seats are cradled in light tubular frames.

KITCHEN HAS EASY TRAFFIC FLOW. FLUSH CEILING LIGHTS, SHINES WITH STAINLESS STEEL EQUIPMENT
GLASS WALL AND STEINBERG MURAL GIVE SKYLINE-ROOM GUESTS TWO VIEWS OF CINCINNATI
Throughout the hotel light is used for dramatic psychological and architectural effects, with the stress on the light itself, rather than the source, which is often invisible. Monumental shafts of light from huge spots on the 19th floor parapet descend to the terrace at an angle designed to avoid guest room windows, minimize shadows for skaters; dimmers and filters are used to vary the effect from "sunlight" for winter to "moonlight" for summer. Inside, washes of color are thrown on walls and fabrics, from spots on the recessed columns, to give warmth. Troughs of pink light (3,500° white plus peach reflector) are used below the Steinberg mural, and in the sill under curtains to show off their texture, make the plane retreat for greater spaciousness. In the Skyline Room lounge this, plus daylight, gives a luminous splendor to sheer yellow and white curtains, the gray "tiger" marble opposite, and the lush green carpet. This "effect lighting" is unified by an overall theme: the ceiling down-lights used throughout the eighth floor.
REAL ESTATE: "A good investment," says the Prudential Insurance Co., mortgagor

To qualify for a mortgage loan, a hotel must fulfill the investor's three basic requirements: 1) Good Location; 2) Ground Floor Occupancy of High-Class Retail Outlets; 3) Good Management. Scores given 1 and 2 are influenced by studies of such broader subjects as the city's size and "class," its future, its plan; these are weighed in the balance along with the all-important financial status of the owners, and last but not least, the special nature of the security involved. While the present is dubbed abnormal by some, the Terrace receives an A+ rating on nearly every count.

1) A Good Location, in the heart of the commercial district of a convention city of half a million people, the site is good for a hotel-store building. On a target map of Cincinnati, distances are measured from Fountain Square, nearby. Falling also within the circles are Norwood (Pop. 75,000)—a city within the city, and Kentucky towns across the river with a combined population of 175,000—whose dependence on Cincinnati may be gauged by Kentucky's purchase of two bridges to provide free access for commuters. The floods of out-of-towners are mostly contained within the same four-block square as the hotel, an area which also contains the shopping district for the area's 750,000 residents. To house these crowds, the city had 5,700 hotel rooms, could use more, perhaps twice the 360 added by the Terrace Plaza. Designed to dovetail with the Netherlands Plaza, which they took over in 1932 from the Starret Corp. Equally easy to score was the Stability of the Owners, long clients of Prudential, and one of the strongest real estate holders in the city. The Emerys knew how to get the best returns from urban properties and had acquired this one gradually, with careful planning and foresight. Back in 1924, when Sixth St. was emerging from its saloon and livery stable atmosphere into a good commercial district, they formulated a plan to sell their scattered holdings elsewhere and convert the funds into downtown real estate. In 1926 they bought the east quarter of the site (they already held the west), but ceased their purchases during the depression as the town contracted, leaving Sixth St. behind. It was not until the late Thirties, when they began buying again, that Sixth St. was reconstituted as a commercial district. In 1943 they bought the rest of the site, knowing that Penney was hunting 400,000 sq. ft. of space as a new link for their department store chain. The Bond lease was secured later.

There were, of course, questions about the special nature of the Security, despite its last-word design. Hotels cannot supply good dining rooms for their guests unless they receive sufficient revenue from local patronage, and in this scheme, dining rooms begin on the eighth floor. To counteract this disadvantage, however, care and money were taken to make them unusual places to eat and to feature works of top-flight artists, which lent added prestige to the hotel. These efforts are paying off in business exceeding the original estimates by 300 to 400 per cent. By old rules of thumb (a dollar a day per $1,000 of building cost per room), the room rates should be double the typical $7 single, $10 double charged, but the owners expect "revenue" in savings from the research and durable materials put into their building. Through September, the hotel had averaged 87% per cent single, 42 per cent double occupancy; and the windowless offices are now 100 per cent occupied, the stores paying high rentals.

If Prudential was influenced in setting the interest rate (considered high by the Emerys) by what they call the "novelty of the design," they cannot now look at these figures and deny that good modern design has made it easier for management to show high returns on its balance sheet. Until the hotel has had a few good years or bad, it will be impossible to judge whether the exact ratio of spaces allotted to stores, offices, and studio hotel rooms, and their arrangement within the building will be the prototype for future developments, but one thing seems clear, the building is as shrewd an investment as present foresight can make.
THE ROOM: Designed with care, its greater first cost will pay off in comfort and durability

The basic planning unit and the economic yardstick of a hotel is the room. Since the Golden Twenties, when the last group of big hotels was built, living habits and tastes have changed so radically as to make an improved room overdue. Probably the greatest single advance in hotel design has been the development of the room that is livable around the clock. In this example of the trend, furnishings have been designed with special care, with an eye to achieving new savings in space, maintenance and operating costs, and to improving the functioning of the essential couch-bed. To furnish an old fashioned room with its usual collection of burnable, stainable, breakable objects, now runs from $800 to $1,500, including painting, carpets, drapes, etc., as against the $2,100 invested in this room, plus an extra $150 put into the bathroom. Expected savings, however, coupled with an increase in room service (at the present 85 per cent occupancy, room service runs four times the average for a similar, conventionally furnished hotel) may well amortize the expensive furniture in a short time.

MULTI-PURPOSE UNIT has a desk one side (strong enough to sit on), drawers other side, two stainless steel shelves for luggage or drinks. Unit is raised from floor to maintain open feeling.

BUILT-IN LIGHTS eliminate dangerous cords, fragile shades. Trough above bed reflects light on a white wall, carries spotlights at ends for reading. Trough light may be switched from room door or from bed.

AIR CONDITIONING CABINET below window has guest control-valve; top and (removable) front sections are laminated plastic to protect it from guests' feet. Adjustable eyeball reading light in window soffit is trained on chair.

CLOSET has sliding doors, plus a concealed full-length mirror. One side is fitted for women's clothes, the other for men's. Ceiling light above closet unit makes access space a dressing area.
The intensive study given this room and bath will pay dividends to future designers of hotels and small houses, as well as to the owners. Every element of the design was pre-tested by the architects in a mockup in a New York hotel. An effort was made to eliminate dust-catching projections, save space, attain simple lines and good proportions; reduce to a minimum movable furniture, breakable legs, lamps and cords (hotel men are impressed by the latter's lessening of fire hazard), and integrate the lighting with the architecture. Numerous models and samples were made of furniture, fixtures and fabrics. The result: strong compact furniture, topped with burn- and alcohol-proof laminated plastic. The desk, the fixed back of one couch, and the lighting trough are easily removable for repairs. For the upholstery, four tough, part-wool, easily cleaned fabrics in four good colors, were designed (permitting 16 combinations). Warm colors are used in north rooms, cool in the south. One wall, painted a color from the opposite scheme, features a stencil-painted repeat of the abstract curtain-pattern. But the "real achievement," say the owners, "is the bathroom;" new for hotels is the sense of luxury attained in this small room, with its counter lavatory and wall-to-wall mirror.

**RADIO PANEL** is perforated metal, accommodates light switches for trough and reading light, and telephone with handy, retracting cord. Radio switch selects six stations.

**COUCH BEDS**, motor operated by guest or maid, move to sleeping position on cantilevered tracks, leaving the carpet undisturbed. Turning a key at the base, the maid can pull it out further when making it up, and cleaning the space behind. Pillows are stored in wall cabinet by the bed.

**LUXURIOUS BATHROOM** has rose laminated-plastic dressing shelf and basin surround. A rosy glow from tubular lights in the corners flatters feminine guests. The stainless steel cabinet has plastic doors. Ice, cold and hot water come from the same spigot.
As building and maintenance costs have risen it has become obvious that the old-fashioned hotel suite is not an economical unit since few can afford this type of accommodation, and the space occupied produces less revenue than individual rooms. Although the new-type room offers many amenities of the suite, some flexibility in facilities is essential. In the Terrace Plaza five pairs of typical rooms on alternate floors are equipped with retractable, metal-clad dividing walls (metal). All corner rooms are larger, have daylit baths (below). There are two one-room and 12 two-room apartments, each with kitchenette, on the 19th floor. Color schemes differ from typical room—cool colors are more neutral, warm, more intense.
ENGINEERING: Multi-purpose design increases economy of mechanical systems, but adds to structural cost

Every mechanical and electrical function is recorded on the huge control board in the engineer's office. Although the chief is still training his "shake-down crew" to understand its 102 lights, the board is constantly feeling the pulse of the neat robot city and every room in the building, making all normal adjustments automatically (one side of the building may be cooled while the other is heated) without human intervention. Air in the conventional air conditioning systems serving the stores and main hotel areas is cleaned by electro-static filters. These reduce the amount of soiled merchandise in the stores and reduce maintenance costs. By means of an auxiliary return air damper one section acts as either a return or outside air filter, thus saving 25 per cent of extra filter area. To reactiviate the filters, the chief has installed drains, washes them in place with a hose and hot water, puts in oil with paint spray. In main branches air is cooled by new spray-type coils. (FORUM Dec. '46). Air conditioning of each hotel guest room is individually controlled. Fresh air under high pressure and cold water (hot in winter) are piped to cabinet units beneath the windows where it is cooled or heated according to the setting of the room thermostat. Air escapes through the bathroom exhaust grille—none is recirculated outside the room. With windows generally kept closed, outside dirt and noises are eliminated.

Many savings are realized by supplying both these systems from the same chilled-water heater in the compressor room in the sub-basement; three compressors of different capacities (aggregating 1,500 tons of refrigeration) serve the loop. Various combinations of these three, or any one, can be run at one time, an arrangement made possible by joint operation of the store and hotel systems. Since the load can thus be thrown from the hotel in the evening to the stores in the morning, both the installed tonnage and operation costs were greatly reduced. The compressors deliver chilled water to the cooling units strategically located throughout the building to save expensive space.

The excellence of the fire protection means low insurance rates for the owners. When heat or smoke closes the contact of any one of the small thermostats in the guest rooms, the room number is registered on a clock-type enunciator in the manager's office and in the engineer's office. By means of a seventh pair of wires installed in the hotel's six-channel radio system, the manager can cut in, and radio speakers and public address outlets become a loudspeaker system carrying his messages. In the stores, smoke from a small fire in one section of the building is prevented from causing panic throughout the entire store by a photo-electric system in the duct work that shuts down the supply fan if smoke or fire appears in the ducts.

Electrical: The terrace is lighted by thirty 3,000-watt lamps located on the parapet of the 19th floor. Motor-driven doors open and light is reflected down from mirrors on the back of the doors so that no light reflects into any of the rooms; the lights go on after the doors are open to prevent heat from breaking the mirrors.

The apartment suites and main dining rooms of the hotel are equipped with television outlets, but there is only empty conduit, to serve future television equipment, in the typical rooms.

The Structure: The special problems of shoring up and underpinning existing buildings and sidewalks to permit deep excavations for foundation construction, as well as the alternative systems studied for the steel frame, have been previously discussed in The FORUM (Dec. '46). The final solution for the column spacing was deemed worth the relatively high estimated cost of 98 cents per sq. ft. since it met better than any of the others the conflicting needs of open selling space for the stores and the small hotel rooms above. Small bays enclose the hotel room on either side of the upper structure, a wider center bay includes corridors and bathrooms. Only two rows of columns are carried down through the lower part of the building, necessitating heavy girders to take care of the column transfer of the other two rows. Store front columns are set back 6 ft. from the building's facade providing a convenient space for merchandise displays and air conditioning ducts. Double beams used to meet wind bracing requirements in this lower structure are cantilevered 10 ft. into the center bay (permitting a light section in the center) and extend out on either side of the facade columns resulting in a more economical solution for the cantilevered roof than would have been possible with single girders.

HUGE BOILERS CAN CHANGE FROM GAS TO OIL WITHOUT INTERRUPTING SERVICE
Cantilevered out from the corner of the utility penthouse atop the hotel, this little restaurant has a view and cuisine unparalleled in the city. It has its own small kitchen, its own garden; from its own elevator guests enter it through a tiny cocktail lounge and bar. The lounge is dimly lit through cut-outs in Ward Bennett’s sculptured brass fixtures and tiny lights pick up sparkle of metallic thread in the upholstery. Coming in from here, the well lit Miro mural (32 ft.) which covers the back wall of the restaurant is a bright shock. Miro made the first sketch in a model of the room (not on canvas), painted a terra cotta frame, one swinging door blue, the other green—a cheerful touch later vetoed by the architects.

The outward slope of the double-glazed windows (which also directs view) is supposed to keep sound waves from focusing in odd corners (as they would in a round shape) by reflecting them up toward the acoustically treated ceiling, instead of back into speakers’ plane. The roof is a thin-shelled concrete dome, has radiant heating coils embedded in the plaster ceiling. Floor beams taper out from central drum, around the bowl-like bottom runs a track for the window cleaner’s cart.
From the tiny Gourmet restaurant, 56 exclusive guests can view the city.

SLOPING GLASS WALLS HELP SOLVE DIFFICULT ACOUSTICAL PROBLEM, MINIMIZE REFLECTIONS, AND DIRECT VIEW OF SEVEN HILLS.
STORES: Sales appeal differs

BOND STORE: An obscure glass ceiling, backed by cold cathode, has apertures for incandescent spots and air conditioning fixtures. This luminous expanse cancels reflections from outside on the two-story windows, silhouettes the flying stair designed to give a non-department store look, and is typical of Bond's flare for drama. Heat from the concealed lighting is carried off by ventilating equipment.

PENNEY STORE: Also selling moderate-priced apparel and furnishings, this store follows a more conventional merchandising pattern. Usually featuring open display conducive to impulse buying, traffic in this store is directed to the elevators by neat rows of glass-enclosed cases. Store interiors can't be seen from the street due to closed-back show windows.
BUILDING'S BACK DOOR is an annex carried through to an adjoining street.

A small service building located between an existing theater and a variety store is backed up to the windowless building like a huge (82 ft. long) van, its tail-board bridging Thorpe alley, the (47 ft. wide) cab-front facing Opera Place. It ingeniously provides for off-street truck deliveries for hotel and stores. Penney's offices and employee facilities are located above.

Those delivering goods to Penney's back into an interior street-level platform and transfer their loads to an elevator which hoists the merchandise up to sixth and seventh floor storage areas in the main building, saving valuable street-level space. Trucks serving Bond's and the hotel are lowered by means of hydraulic elevator (big enough for trailer-trucks) to unloading and storage areas in the sub-basement. Service elevators connect this area with the upper floors; two for the hotel, one for Bond's.

There are no large store rooms, as a large service building, located on less expensive land on Ninth Street, has store rooms for the combined use of the Terrace and the Netherlands Plaza (the owner's other hotel). Also located here are large paint, carpentry and other shops serving all the Emery properties. The sub-basement of the Terrace contains only a paint shop, with provision for emergency repairs on furniture, etc., a quick valet service, and daily food storage.

Of sufficient size to permit the turning of vehicles, the sub-basement truck floor has manholes opening into a coal vault, provided for emergency use in case of a shortage of both gas and fuel oil. But, whereas this conversion might take weeks, the three integral furnace type, high pressure boilers can convert from gas to oil in a matter of minutes without interrupting the service. Fuel oil deliveries will be made at street level. Normally fired by gas (to keep fuel trucks off the congested streets) the boilers earn extra money supplying heat to an adjoining store building, may serve others, since 50 percent reserve capacity is available.
The basement cafeteria, besides providing guests with a low-cost alternative to the hotel’s swank dining rooms, does a brisk business with customers and employees of the building’s several stores, as well as passers-by. The last word in cafeteria planning and equipment, it features banquettes arranged to cut up the dining area into small, intimate zones. Either of two ells meeting at a central point can be closed off in slack hours. Latest stainless steel equipment and new planning ideas developed in collaboration with hotel and kitchen consultants eliminate back-of-counter traffic; two-way thermotainers and refrigerators supplied from the kitchen are handy for servers; trays suspended into wells on springs keep plates popping up to the counter top. The kitchen also supplies a smaller employees’ dining space similarly decorated.
TYLER PARK reaps the bonus of a good site plan: rough land is exploited to give variety to identical houses

CHURCHILL-FULMER ASSOCIATES, Architects

THE TYLER CORP., Builder

RALPH EBERLIN, Consulting Site Engineer

The Tyler Corp., which built this 249-house development near Washington, D.C., is an interesting example of the new type of enterprise drawn into the housebuilding field by the boom postwar market. Corporation president Leon Horowitz is a civil engineer with 20 years of experience in heavy construction and a one-time New York City staffer under Robert Moses. During the war, Horowitz met engineer Harry Gaber, now corporation secretary-treasurer, and the two decided to go into the housebuilding business. After the war they toured the country and settled on the Washington area as most promising. Then they picked up a 64-acre tract near Falls Church, Va., whose high rough knolls might have discouraged entrepreneurs less aware of the possibilities of professional site-planning. With an impressive amount of construction, selling and financing know-how already represented in their firm, the partners decided that top-drawer planning talent was the element needed to make their first venture into housebuilding click. Accordingly, their first step was to call in Churchill-Fulmer and give them the job from the raw land up.

Churchill-Fulmer, after a good many miles of hiking through winter snow, developed a site plan which not only utilized every square yard of a tract with elevation ranging from 310 to 390 ft. but actually exploited this rough terrain as a means of giving necessary variety to this identical-house project. Only other antimonotony devices were precise study of relationship of houses and variation of the porch; not a single false dormer or shutter is to be seen.

How well the Tyler Corp.'s investment in comprehensive planning paid off can perhaps be gauged from the fact that within 15 months after the ground was broken all houses were sold under VA loans at prices ranging from $9,550 to $9,880. Houses have full cellars, with gas-fired forced air heating systems. Kitchens are equipped with electric ranges. The efficient plan, identical for all houses, saves space with a turnabout stairway (the unfinished attic can be converted into two bedrooms). "We sweat blood getting the first few stairways laid out," said Kline Fulmer, "but after these patterns were cut, the carpenters put the rest together smoothly." Four acres of the plot have been set aside for park space, and the firm plans to build a shopping center.
TYLER GARDENS takes out turnover insurance by giving each apartment dweller his own private yard.

Robert C. Lautman

FOOTPATH IS APPROACH TO APARTMENT FRONT DOORS; BACK PORCHES ADJOIN PARKING COURTS

0 100 200 300 FEET

BROAD ST.

STORES

JAMES COURT

HAMPTON COURT
After their successful initial venture with the house-for-sale, the Tyler Corp. launched a 478-unit rental project under FHA's 608, in Falls Church, Va. This handsome group of two-story buildings has the low density of 14.5 families per acre. Apartments range from 6 and \( \frac{41}{2} \) room units (two-story attached houses) to \( 3\frac{1}{2} \) room units (one apartment on first floor, one on the second).

Churchill-Fulmer Associates, who apparently are beginning a long and mutually profitable association with the Tyler Corp., brought to this job the wealth of their Greenbelt experience. They started by analyzing the reasons why apartment dwellers move (while turnover is not a factor in the current tight situation, every apartment owner knows its long-term weight). Churchill-Fulmer came up with these two main reasons: 1) desire of families with young children for their own yard space; 2) lack of storage space. Adequate provision of both these, therefore, became main planning objectives. Every tenant, except occupants of the upstairs \( 3\frac{1}{2} \) room unit, has his own private yard space, in addition to the community playground. (Since tenants will take care of their own yards, this also cuts maintenance cost.) In the \( 4\frac{1}{2} \) and 6 room units, the architects have made, in addition to a large living room and dining alcove, space for a commodious utility room. Six community locker rooms are also provided.

Construction cost, including architect's fee but not land, landscaping and furnishings, was $3,321,000. The Prudential Life Insurance Co. made the $3,845,000 FHA-insured mortgage loan. Rents range from $65 for the \( \frac{3}{4} \) room unit to $93 for the 6 room unit.

Francisco features striking use of corrugated heat absorbing glass, is built on 110 ft. concrete and wood piles.

Such specialized tasks as periscope and range-finder calibration, gyro-rotor balancing, sonar and radar work, dictated the unusual design of this $2 1/2 million Navy Ordnance and Optical Shop at the San Francisco Naval Shipyard. Heavy ordnance and other equipment must be moved about easily so each floor is equipped with cranes, lifts, hoists or monorails for that purpose. Most interesting feature is the periscope tower on the roof. Submarine periscopes and range finders are lifted from flatcars on the south side railway siding to the sixth floor where repairs and calibrations are made. Then equipment is moved to the tower for sighting distant objects and for checking the accuracy of the setting of parts.

The building is divided into two sections. On the north is a shop crane unit which is 151 x 227 ft. divided into two 75 ft. bays. The northerly bay rises 67 ft. unobstructed to the corrugated wire glass roof while the southerly bay rises 42 ft. to the bottom of the third floor extension of the multi-storied side. The latter measures 89 x 250 ft., is six stories in height. The first floor has six ordnance test pits and the largest cranes. Two of the 74 cranes are 30-ton, cab-controlled bridge cranes which can be operated in tandem through the use of an equalizing beam to provide a 60-ton total capacity lift.
Concrete and structural steel shop, in two sections, joins existing building to the east
Planning for marked flexibility pressed unusual solutions to technical problems.

FOUNDATIONS: Cut-off lengths of the 1,830 piles that form the foundation vary from 103 ft. to 111 ft. Therefore the building goes below ground level a distance equal to its height. Piling in the shop crane bay are on 8 ft. centers. At strategic points such as pillar locations, elevator shafts, etc. piles are centered every 3 ft. and, in special cases, closer.

HEATING AND VENTILATING: On all floors except the main floor, heat is supplied from air ducts stemming from unit heaters. Main floor has a row of large three-vent heaters overhead down the middle of the shop crane bay. These are suspended from the concrete construction supporting the bridge cranes. Two series of corrugated glass installations on the shop crane bay form movable ventilators which are motor controlled to provide ventilation. Fresh air intakes and exhaust vents are located on the roof. On all floors on the south and west sides, one continuous panel of steel sash is movable. Special exhaust systems were required in the main shop to remove volatile vapor laden air. This is accomplished by a blower with a suction capacity of 2,800 cu. ft. per minute. Painting and cleaning rooms on the second, third, fourth and fifth floors have separate exhausting systems as do toilets, locker rooms.

CONCRETE WORK: Tapering columns, beginning on the main floor with a diameter of 38 in. and stopping at the fifth floor with a diameter of 25 in., are centered every 25 ft. along the length of the building and every 29 ft. across the width of the building. Columns have a strength of 3,750 lbs. per sq. in. Floor slabs are 10 in. and 15 in. thick.

ELECTRICAL WORK: Heart of the power system is a unit substation on a cantilever ledge of the third floor extension. Secondary transformers for both lighting and power are located on the various floors. The Navy requires great flexibility in the electrical system because of the possibilities of new machines requiring connections almost anywhere on the floor area. There are two wiring systems in general use throughout the multi-storied section. One is a complete system of interconnected duct runs, each containing three bus bars with current take-off devices. This system is suspended a few feet from the ceiling and feeds the equipment on the floor above. The second system consists of ducts and conduits encased in the masonry floor slabs. Ducts have not less than five pre-set outlets for every 10 ft. of duct length. Ready means for connecting to the underfloor system is provided by 4 in. diameter metal "cans" at approximately 5 ft. intervals in each direction throughout supported floor areas. Since the cans were tacked to the forms, they may be located readily from the floor below.

In Hollywood, story endings are always supposed to be happy. The Motion Picture Relief Fund is an offscreen projection of that notion, and the Fund's country house and country hospital pictured here are tangible evidence of the Fund's success. The Fund is a family welfare organization organized to provide food, shelter, clothing and medical attention for indigent members of the motion picture industry. Its ripe old age, 25 years, has inspired some of the more sincere tributes to its often impetuous parent, the motion picture industry, wise enough to establish such a welfare instrument away back in the dumb and cliff-hanging days of the movies.

The new hospital at the Fund's country home is a major move toward completion of the unique dwelling and medical care group in Woodland Hills' whose building program was well under way before the war. (FORUM November 1942.) At that time the service buildings, community buildings, a good number of the planned cottage living units, and a convalescent building had been completed. Outstanding in the scheme was the thoughtful treatment of the problem of group housing for the veteran screen actors and technicians who would dwell there in their late years. The new addition has now skillfully expanded the original convalescent building into a small hospital with complete surgical and dental facilities, and a pleasant nurses' residence, and has brought the major structures of the building group near completion. Still more cottages are planned, as indicated on the drawing on opposite page. The whole colony occupies 41 acres well planted with walnut and citrus trees.

Master of the building development of the motion picture colony has been Bill Pereira, a movie man of no mean stature himself (FORUM September 1946) who has long been active in the Motion Picture Building Fund. And when it came to the hospital planning, Pereira's office had ample experience to offer, with a good standing as West Coast hospital specialists. The hospital is clear cut and its horizontal planning with intervening courtyards serves several purposes. A completely standardized room plan could be used, since almost all the bedrooms view south, with pleasant big windows on courts, which also help preserve privacy. The winging out of the building gave opportunity to key the hospital into the general character of the development, the court landscaping helping to soften the institutional aspect of this largest building unit.

Financing of both the country home and the hospital has come mainly from a high priced weekly benefit radio program which has been on the air since 1939. Leading screen actors contribute services each week on the winter radio season to bring in fairly fabulous totals from sponsoring companies, all donated to the completion of this solid achievement in welfare.
VIEW NORTH ALONG FRONT OF HOSPITAL BUILDING

BELOW, FRONT VIEW; ABOVE LEFT, VIEW OF REAR
There is nothing expensive about the building of any part of this living park, or its hospital. Construction, examined closely, is simple, almost minimal, with just a few design touches to make the development a happier place at which to stay. Hospital construction is reinforced brick exterior walls, plastered direct inside. Interior partitions are metal lath and plaster on steel studs, with concrete joists and slab floor and roof, topped with composition roofing.

The well equipped surgical lobby jutting from the north corner of the hospital is its main technical branch, and is the essential addition which promoted it from convalescent home to hospital. In its first three months of operation, there were 17 major and 8 minor surgeries performed at the hospital, and 71 patients cared for at a total of 1,749 hospital days—a good indication of how serious was the need for the hospital.

Photographs above are of the operating room, and its scrubbing up annex. Sketch to right shows part of old convalescent home, with added new construction in color. Important in the successful operation of the new hospital are the comfortable nurses’ quarters, shown further on page 108, and the residence for the presiding physician. Long, slightly pitched overhangs against the California summer sun, with the sharp up-angles formed by their edge gutters, do much to give the whole development its homogenous character, without being conspicuous enough to become monotonous.
SIMPLE PLANNING OF DOCTOR'S RESIDENCE IS TYPICAL OF ENTIRE JOB. INTERIORS ARE DESIGNED WITH GENEROUSLY GLAZED SOUTH WALLS FOR COMFORT DURING WINTER.

THE DENSE SHADE AND BRIGHT SUN OF CALIFORNIA MAKES DRAMATIC PATTERNS ON THESE QUIET ACRES, AND OPPORTUNITIES FOR EFFECT IN THEIR MANIPULATION HAVE NOT BEEN WASTED.
Nurses' quarters are at the end of one of the long sheltered walks which stretch out from the hospital building (similar to the covered walk in the photograph below, from the hospital to the community building). The shelters are built of corrugated metal sheets suspended from frames of 2 in. steel pipe, a handsome as well as inexpensive design. The simple pleasant character of this residence is shown in photographs inside the lounge and from beyond the terrace. Such comfortable living quarters are of vast importance in solving today's problem of staffing hospitals.
NEWLY DEVELOPED LOW VOLTAGE SWITCHING SYSTEMS cut electricity load between outlets and switches, permitting increased flexibility, with economy, in control of artificial illumination.

One of this year’s most interesting developments in the artificial illumination field came not in improvement of the light sources, or development of new fixtures, but in the marketing of two new low voltage switching systems. General Electric’s Remote Control wiring system (Fomux, Building Reporter, July ‘48) and Square D’s Saflex system (Fomux, Building Reporter, March ‘48) are similar in principle; both converting the regular activating current for light sources down, respectively, to a 25 volt and 24 volt level for the wiring of control switches. This enables a much more flexible set of lighting controls for several reasons. Most outstanding is the fact that very light wire may be strung from lights to switches, in a system whose load is comparable to that in doorbell wiring. This makes for great economy in wiring, and, correspondingly, greatly extended multiple control of any light source economically practical from a number of scattered switches. In many cases it is unnecessary to run heavy conduit insulation over the wires, since the low voltage current being transported can cause no harm if shorted. The light wire may safely be stapled in place.

Keys of the two systems are the magnetic relay switches at the light or outlet where the wiring to the wall controls originate. These control the 120 volts of the average lighting circuit, but are activated from the multiple wall switches with the lower voltage, stepped down somewhere in the installation by a small transformer.

Both these relays (see pictures) are small and can be mounted easily in the switch box. General Electric’s relay is designed to be inserted in one of the punch-outs and is extremely handy for connections. G. E. also is producing a special new light-weight Flamenol-insulated 22 gauge wire to carry the 3-wire circuit’s 25 volts. For easy identification of the cord one of the outer conductors is ribbed, the others are plain. Finger control switches used in these systems can be very small—and G. E. has brought a special push model (see picture). No large wall plates are needed, and the switches do not have to be mounted in large switch boxes. Another well talked-up advantage in the consumer market is the elimination of the danger of shock at the hand switches, important in bathrooms, laundries and kitchens. There isn’t enough current at the hand switch to bother anyone. Application possibilities for these new switching systems are great; it is conceivable that they might change the whole conception of lighting controls. Multiple switches for
NUMEROUS CONTROLS are practical in a low voltage system, as shown above in construction photograph of wiring to one set of switches beside door. This relatively easy-to-install wire can be stapled in place.

FUNCTION OF RELAY in the low voltage system is shown in diagram to left. Transformer stunts current to low voltage level in the switching circuit. Magnetic relay at fixture is the mechanical mover to open or close the higher voltage lighting circuit. The low voltage which activates this relay can be easily handled, with very light wire unprotected by conduit.

Diagram 1 shows complete wiring for control of a single lighting outlet from a number of points. Diagram 2 demonstrates how a series of multiple connected loads may be controlled from a single remote control relay. In 3 a single switch handles three relays which control loads at widely separated points. Diagram 4 illustrates the application of remote control relays where it is desired to have an independent master switch control. In Diagram 5 low voltage relays are added to conventional system to obtain master switch control.
Some attainments of low voltage system in house wiring are indicated in sketch plan above. Many rooms could have controls for several "patterns" of lighting, or combinations of fixtures, coves, lamps, etc. Master switches to turn all house and ground lights are feasible, for marauder protection. Multiple control of lights of one room from another is simple, and not costly, the essence of the system's advantages. Typed phrases on larger plan above indicate some possibilities for controls in those rooms, while smaller plan to left is exposition of a solution to one constant problem in house lighting, the avoidance of long runs of cable necessary to insulate the low voltage lines, which include floor and table lamps, which may be widely separated. More important than the distance factor is the fact that the controlled loads may be energized from separate branch circuits or even on separate feeders in widely separated buildings. In oil refineries, the power supply at each group of tanks is from a separate step down transformer, but despite this difference in power supply a single remote control system can be used to control all lighting (see wiring sketch 3, page 110).

Low voltage systems are not subject to the same restrictions under the National Electric Code as conventional systems, although there has been some confusion in local inspections. Use of automatic staplers to fasten the runs of light wire has been approved in most areas; some inspectors insist on insulated staples. The proper location of multiple switches will come in for much study, it is expected, now that they can be had more economically.

So few installations have been made thus far that definite cost figures are difficult to obtain, but the manufacturers are confident of their claim that when several multiple control lights with three or four point control are included in the plan, there is a cost saving over the conventional wiring solution. With increase in number of lights and controls, the proportionate saving rises as well.

On the wiring of a new house on the West Coast with Square D's Safetcx system, the electrical contractor's comments were, "Using the conventional system to install the 80 outlets in the house would have taken two men between 40 and 44 hours. Using the low voltage system two men take about 30 hours to do the complete job. We found we saved about 50 per cent on conduit; about 50 per cent on heavy wire; and about 35 per cent on heavy materials like boxes."
COLOR CODING SYSTEM for marking hazards in shops of New York City Transit System brings sharp drop in accidents

The influence of color in industrial environment has in recent years been the object of considerable speculation and research, with professional consultants like Faber Birren & Co. of New York taking the lead in extracting information from a combined source of psychological tests and their wide color-designing experience. Color as a means of work impetus and as a means of improving illumination distribution has been proved over the years (Color in Industry, Forum, July '42). Birren's latest report now emphasizes further uses for color, exemplified by the results of a color safety program started by the New York City Transit System in its shops in early 1946.

New York Transit's safety program was preceded by an exhaustive study of facilities, equipment, machines, operations and accident hazards of all shops. Then, together with a supervisory training program and first aid courses for all employees, the Transit Board instituted a uniform color code defining hazards and emergency equipment throughout the shops, with statisticians alerted to follow the progress in accident prevention. The color system chosen was one worked out by Birren in 1943 and adopted in substantial part by the American Standards Association in 1945. It has since been broadly applied in American Industry, and is mandatory in all shore establishments of the U. S. Navy.

The colors used for the closely observed test had been checked scientifically to make allowance for the high frequency of color blindness (about 8 per cent) among men, and mixed in so far as possible to respect already established mental patterns for warning colors, as in the case of red, which was reserved exclusively for fire protection. What Birren calls the most vital colors—yellow, orange and blue—were put on the most dangerous spots; yellow for "strike-against" hazards, stumbling and falling, crane hooks, projections, car stanchions, and pit edges; orange for the dangerous parts of cutting and forming devices, exposed rails and wires; blue, as in the railroad industry, for marking equipment cut down for repair, and for switch boxes and controls in general to assure caution. Yellow, red and blue had been found to be readily distinguishable to even the average "color blind" person. Green was used to mark first aid cabinets, stretchers, and gas masks.

Hazards were marked in the specified paint colors by the workers themselves, with special union permission, so that the test had a definite starting time, and a strong impact on personnel. Men familiar with special equipment and machines and with shop hazards became painters. Careful checking of the work assured consistency.

Not only was the program a marked long-term success, but its savings in injuries were immediate and dramatic. Accidents in the Transit shops began to fall off at once, and 18 months after the introduction of the color code and safety program they had dropped 42.3 per cent.

In addition to its humanitarian aspects in fewer broken bones, sprains, and amputations, the Transit system's safety program paid a bonus far above its cost to management. The federal government values accidents to its civilian employees at $1,044 each. Using these figures, and applying them to the 38,000 employees of the New York City Transit System, the 42.3 per cent reduction in lost-time accidents is equivalent to an annual savings in excess of $500,000.

Full credit in this extraordinary record of safety improvement has not been claimed for the color markings on the various dangers, but these were the essential part of the program, and the novel part. The colors are credited with serving a dual purpose generally in safety programs. They emphasize and delineate specific hazards, and their presence overall is also thought by authorities to foster generally a greater degree of alertness and thus aid in the prevention of large machine accidents.

Says Birren, "The accident problem is not to be solved by color alone. It is no substitute for physical guards ... yet it creates visible symbols and reminders. The brightness and appeal which it brings into industry makes any hazard a more or less cheerful thing to behold—one which has an emotional impact to it and therefore is not easy to forget. In the New York City demonstration the fact that color has been put to use is apparent on sight. ... Where it catches the eye it does so with serious meaning. Today safety instruction among supervisors and workers has taken on greater significance, thanks to color ... a splendid contribution can be made to business economy and to improve industrial and human relations."
From Millwork to Hardware
every inch a Ro-Way!

- When Ro-Way Overhead Type Doors leave our plant, they're Ro-Way built in every detail—from millwork to hardware and springs.

- Ro-Way Door sections are made of first-class, kiln-dried lumber. Millwork is done by skilled craftsmen using the most modern production machinery and methods to give you better-looking, better-fitting, longer-lasting doors.

- Hardware, too, is made entirely in our own plant from selected tested steels. Hinges, track and ball-bearing rollers are Ro-Way designed—then Ro-Way built for perfect fit. And one secret of Ro-Way's easier operation is Ro-Way-built power springs—each power-metered to the weight of the door it will lift.

- Remember all this next time you specify doors of the overhead type. A Ro-Way Overhead Type Door is every inch a Ro-Way. Not an assembly of parts from various sources. That's your assurance that no matter where a Ro-Way Door is installed, it's sure to be a Ro-Way product from start to finish.

 Dependable Ro-Way sales and installation service is available nationwide. Consult your classified telephone directory, or write for distributor's name.

ROWE MANUFACTURING COMPANY
944 Halton Street
Galesburg, Illinois, U. S. A.

AMAZING NEW RO-WAY DOOR REQUIRES ONLY 2½ INCHES OF HEADROOM!
Ro-Way's latest achievement—the new Model 21, 4-section overhead type door.
Now in production. Write for details.

There's a Rollway for every Doorway!
CONVERTIBLE HOTEL ROOM

Heaven and a handful of designers are to be thanked for dragging the commercial hotel room out of its sordid background (notable among recent examples: Skidmore, Owings & Merrill's handsome Terrace Plaza, page 88). Another excellent job is this latest design by Knoll Associates, which stresses easy upkeep as well as pleasant surroundings. First seen at the 33rd National Hotel Exhibition and sponsored by Marshall Field & Co., the Convertible Hotel Room indicates a method by which even the tiniest of hotel rooms can be made into comfortable, profitable living space. Due to the tightness of the exhibition proper, it was impossible to arrange individual pieces of furniture in proper relation to closet and bathroom doors, etc. However, the essence of the design is quite plain.

Fabrics as well as furniture are highly durable. Washable walls, floors and rugs are money-saving features. The room introduces a new group of textiles designed by Marianne Strengell using glass fiber yarns. Glass fiber in the upholstery materials gives them high tensile strength. Resistance to abrasion is increased by a vinyl plastic covering of the yarn. Mohair and wool, incorporated in the weave, give texture. Knoll Associates have designed recessed lighting for new installations but do not necessarily recommend it for remodeling jobs. M. S. (Continued on page 116)
LIGHTWEIGHT. Kaylo Insulating Roof Tile is strong, yet lightweight and easy to handle, as shown above. Each tile is 2 1/4 x 18 x 36 inches in size, weighs about 21 pounds.

Make your roof deck fireproof ... lightweight and strong

with Kaylo Insulating Roof Tile

Structural strength, extreme lightness and high insulating qualities—you can get all these in your roof with one material: Kaylo Insulating Roof Tile.

Kaylo Roof Tile is made of inorganic materials only, and is fireproof. Whether you’re an owner, builder, architect or engineer, Kaylo Roof Tile has many advantages for you. It is easy to install, can be cut to fit right on the job. Its insulating properties reduce fuel costs.

Because Kaylo Roof Tile makes a structural deck that is light in weight, less steel is needed for framing. Get all the facts about Kaylo Insulating Roof Tile ... send coupon (below) for free illustrated booklet.

SEND COUPON FOR FACTS

AMERICAN STRUCTURAL PRODUCTS COMPANY
Dept. E-455, P.O. Box 1035
Toledo 1, Ohio

Gentlemen:
Please send me free illustrated booklet, “Kaylo Insulating Roof Tile.”

Name ____________________________

Address _____________________________

City ________  County ________  State ______

Request for sample is enclosed on company letterhead.
What every architect should know about LUMITE

**RUSTPROOF!**

LUMITE brings big savings to your clients because it's rustproof screening at amazing low cost. It saves money through the years because it can never rust, rot, or corrode. It never needs painting. It can't stain paint under windows. It's unaffected by wind, rain or snow. It's non-inflammable.

Sold through Hardware, Lumber and Building Supply Dealers and Screen Manufacturers. Widths to fit all doors, windows and porches.

For more complete information, consult Sweet's File or write LUMITE DIVISION, Chicopee Manufacturing Corporation, 47 Worth Street, New York 13, N. Y.

**SPECIFY BY NAME**

**LUMITE**

Woven of saran

LUMITE brings big savings to your clients because it's rustproof screening at amazing low cost. It saves money through the years because it can never rust, rot, or corrode. It never needs painting. It can't stain paint under windows. It's unaffected by wind, rain or snow. It's non-inflammable.

Sold through Hardware, Lumber and Building Supply Dealers and Screen Manufacturers. Widths to fit all doors, windows and porches.

For more complete information, consult Sweet's File or write LUMITE DIVISION, Chicopee Manufacturing Corporation, 47 Worth Street, New York 13, N. Y.

**SPECIFY BY NAME**

**LUMITE**

Woven of saran

DEMONTABLE SHELVES ideally suited for home and commercial use

Here is one way for the underprivileged, over-milked tenant to fox the omnipotent landlord. Barker Shelves can be collapsed as easily as any nomad tent and as quietly stolen away. Furthermore, they can be put up quickly and easily by the most inexpert of housewives. They were definitely thought up to meet a need—the designer himself wanted more bookshelves and on investigation discovered that almost everyone he knew was dissatisfied with what they had bought or had built along these lines. Guy Barker's solution is a modular system of amazing strength and rigidity that can be added to. shelf by shelf, either upward, endwise, around corners or in depth. Not the least of its attributes is the fact that it can be demounted and reassembled in an entirely new arrangement to meet new conditions. The simple elements that permit this flexibility consist solely of shelves and blocks with tie rods to link them together as each shelf is added. Enough parts for 18 ft. of shelf space can be quite easily carried home under one arm. A small socket wrench sold with each set is the only tool necessary for assembly.

In developing these shelves Mr. Barker had the collaboration of Devon Dennett, noted model maker, as well as the use of his shop where they are now being manufactured. The process is remarkably simple, requires only two shapes of wood blocks (plus the shelving). All parts are finished in clear, semi-gloss lacquer which shows the natural pine grain. Blocks are slightly darker than the shelves to emphasize the horizontal lines. A de luxe model is available with end blocks finished in gray lacquer, shelves of natural edged birch lumber. Hardware is full-buff lacquered brass.

Since the shelves are backless, they can be used in spur arrangements or as space dividers accessible from both sides—are equally appropriate for home or display use. The shelves are 7¼ in. wide and come in two lengths: 18 and 36 in. Three heights of separating blocks are available and can be used in any combination though the tallest, 9½ in., accommo-

(Continued on page 120)
Foyers, display rooms and offices take on new life and glowing beauty with the installation of Federal Cell-Ceil, the most modern lighting treatment. This beautiful overall ceiling louvering is easy to install. The light-weight sturdy hanging mechanism developed for Cell-Ceil not only speeds up application but provides such easy access for relamping and cleaning that continued satisfaction to the client is assured.

Wherever you specify Federal Cell-Ceil you assure those who work and live under this louvered ceiling a soft diffused light. With all direct glare reduced and bad effect of sharp shadows eliminated, uniform lighting is provided that allows better easier-on-the-eye seeing.

The Federal engineering staff will gladly advise on any installation problem. Our technical bulletin on installation techniques is also available, address Dept. CC-8.

*Trade Mark "Cell-Ceil" applied for.
Progress report from the

Houston, Texas
Architects, Fred J. MacKie, Jr., Karl Kamrath, MacKie & Kamrath, Houston.
Builder, Frank W. Sharp, Houston.

Sarasota, Florida
Architects, Ralph S. Twitchell and Paul M. Rudolph, Siesta Key, Florida.
Builder, J. E. Lambie, Jr., Sarasota.

Springfield, N. J.
Architect, Kenneth Kamler, Princeton, N. J.

Boston, Mass.
Architect, Samuel Glaser, Boston.
Builder, Arnold Hartmann, Newton Centre, Mass.

Parma Heights, Ohio (Cleveland)
Architect, W. D. Riddle, Willoughby, Ohio.
Builder, Maurice J. Fishman, Parma Heights.

South Bend, Indiana
Architect, L. Morgan Yost, Kentwood, Ill.
Builder, Andrew S. Place, Place & Co., Inc., South Bend.

Seattle, Washington
Architects, James J Chiarelli, Paul Hayden Kirk, Chiarelli & Kirk, Seattle.
Builder, Albert Balch, Seattle.

San Francisco, California
Architect, Joseph Esherick, Jr., San Francisco.
THOUGH the Revere Quality House Institute is less than a year old, having begun its activities in March, enough experience has been had with it and its basic idea to indicate that it has already made a place for itself in the architectural profession and the building industry. During 1949 the Institute will operate on a broadened base, further extending our services.

Here is a brief summary of 1948 accomplishments:

1. Eight examples of quality houses were designed and built, in eight different sections of the country. Being made to meet local needs, they vary greatly in design, materials, and price.

2. Though some of the Institute builders at first regarded the matter as a model house project, and intended to put up only the one house, they were so greatly impressed with benefits to them and to the public that they decided to build additional houses. In South Bend there will be 350 Revere Quality Houses. Boston will see ten more in the immediate future. San Francisco has three houses under construction. Cleveland plans for 800, in units of 44 or more. In all, it now appears that some 200 Revere Quality Houses will be built by the original eight Builder Members of the Institute.

3. Institute promotion has been highly successful. Publicity and advertising did a fine job in attracting and interesting the public. In one instance, 60,000 people visited a Revere Quality House during the month it was open. About 50,000 requests for information from builders, architects, housing officials and prospective home-owners have come in the mail to the Institute. The public is becoming more and more familiar with the Institute, and when seeking houses tends to look for the Institute seal.

Thus the Institute has demonstrated success. However, its activities have made a very small, almost infinitesimal dent in the housing problem of this country. Next year we expect to make a somewhat larger impression. Among our objectives are: an expanded list of architect-builder teams; each project a minimum of 10 houses; rewards for the best projects; more Associate Members, builders who will use Institute plans and supervision and thereby earn the Institute seal; sale of plans to the public where that seems to be the only practicable method of contributing to quality housing; development of a code of quality standards; inclusion of rural housing and landscape architecture among Institute activities.

INSIST ON QUALITY MATERIALS

Revere Building Products are a mark of quality. They give lasting protection against damage because they cannot rust. Trouble always costs more than Revere Products. They include: Sheet Copper for flashing, roofing, gutters, downspouts, cornices and the like; Copper Water Tube for plumbing and heating lines, including radiant panel heating; Red Brass Pipe for water lines; Revere Home Flashing, a packaged product complete with illustrated instructions for approved installation; Sheet Copper and Hercules for water heaters and storage tanks; Brass and Bronze for weather strips, hardware and plumbing fixtures; panel sheets of Bronze, Nickel Silver and Copper for facings, doors, spondrels, etc.; Architectural Bronze, Aluminum and Nickel Silver extruded shapes for thresholds, window frames, grilles, handrails, counters and the like. These quality products make a house easier to sell or rent, and add materially to its value. . . . A Revere Technical Advisor, Architectural, well acquainted with the selection and application of Revere Metals, will be glad to consult with you without obligation.
REVIEWS

dates most library books. The foot block, a little over 3½ in. high, raises the bottom shelf to a convenient height for cleaning.

Assembly is simplified by hardware which pulls the various parts together as each shelf is added. A rod passes through the pre-bored shelf and block to screw into the top of the rod of the shelf below. Two lengths of rod, a starter nut and a brass cap are all the hardware that is required.

Because of the simplicity of the manufacturing process it is possible for the Barker Shelves to be marketed considerably more reasonably than comparable finished shelving. Actually they cost just a little more than unfinished department store items. They are currently available at Hansen's, New Design Inc., and the Bertha Schaefer Gallery in New York—will in the near future have nation-wide outlets. M.S.

SURE CURE FOR Garage Door Grief

The tricks of wind and weather often result in annoying grief with old-fashioned swinging garage doors. Now, with R-W 999 Garage Door Hardware, it's easy and economical to use those same doors for the trouble-free convenience of overhead operation. They always open easily, stay "put" and close readily...weathertight. Garage door grief is eliminated entirely by this modern, new overhead door convenience—the R-W "nine-ninety-nine" hardware line. Conversion of ordinary doors to the overhead way with R-W 999 Hardware is simple, swift, and inexpensive. Everything needed is delivered, complete, packed to specific order in one convenient carton, ready for installation and operation.

In your plans for building or modernization, specify R-W 999 Hardware and be sure of lasting and modernization, specify R-W 999 Hardware and be sure of lasting and trouble-free convenience of overhead operation. They always open easily, stay "put" and close readily...weathertight. Garage door grief is eliminated entirely by this modern, new overhead door convenience—the R-W "nine-ninety-nine" hardware line. Conversion of ordinary doors to the overhead way with R-W 999 Hardware is simple, swift, and inexpensive. Everything needed is delivered, complete, packed to specific order in one convenient carton, ready for installation and operation.

In your plans for building or modernization, specify R-W 999 Hardware and be sure of lasting and complete satisfaction. For detailed information about R-W 999 Garage Door Hardware, simply call or write the nearest Richards-Wilcox office for free folder.


It's about time that someone published a worthwhile document on contemporary use of windows which is exactly what authors Baker and Funaro have done. Their book is no mere listing of the various types of commercial windows available. It goes into the physics of luminescence, ventilation, sunshades, the properties of glass, and to a certain extent, esthetics. The first chapter, which deals with the historical background and function of the modern window is just about as concise and sound a bit of advice as one can find on this subject. It is only too true that more often than not "a sweet looking window wall has gone sour." As the authors point out: "Even sealed double glazing has a much greater heat loss than a poorly insulated solid wall. Radiant heat coming through the glass from the sun must be anticipated and controlled, if it is to be turned to advantage. Too much daylight, if it increases the brightness contrast, is more likely to cause discomfort than too little. Yet all these possible disadvantages can be turned to advantage by a designer with knowledge and foresight."

The bulk of the book consists of specific examples of good fenestration, most of them familiar to the average architect. However, no one will deny the convenience of having them assembled in one volume.

One of the authors' most important contributions is the Baker-Funaro Sunfinder, a graph which can be used under any tracing of a building plan. It is invaluable for determining the position of overhangs and projections, for sun louvers and shade trees—serves equally well for locating single windows or for orienting groups of buildings. Furthermore it indicates the length and direction of shadows cast by any object set in the path of the sun's rays. It is to architecture what the pressure cooker is to the culinary art.

Evaluating this book from the professional standpoint, one is forced to the decision that it is as necessary a piece of architectural equipment as Graphic Standards and Sweeet's Catalogue. M.S.


This book, by several well-known authorities, is a useful introduction to Indian Art in its major forms which have been consistently and considerably ignored by both European and American artists and connoisseurs. Many of the mural paintings, such as the Ajanta, have been made over a period of hundreds of years but no adequate reproductions have been produced to show how majestic they are in size, nor the degree of detail which combined with an essential rhythmic quality gives them such dramatic expression.

Indian art is a development away from the main stream of the world's art and, although some critics have traced connection with both Chinese and Greek influences as well as the independent Assyrian forms, some of the plates illustrate this very clearly. Illustrated manuscripts, being easily transportable, have received wide acknowledgment although there is still a considerable amount of confusion between the work of Mughal artists and the Persians, doubtless brought about because there was an appreciable movement of painters, poets and men of culture following in their wake after successive Mughal invasions.

Indian art always suffered from extraordinary lack of self criticism, but criticism from those who were not the execu-

(Continued on page 124)
THAT COSTS SO LITTLE!

Progressive builders and contractors know the powerful appeal which a pleasant, cool, odorless, smokeless, greaseless kitchen has for women prospects! A kitchen whose paint, woodwork, and wallpaper will stay fresh longer!

That's why quiet, clean, effective kitchen ventilation has become a "must" today!

That's also why so many builders and contractors specify a G-E kitchen Ventilating Fan. It's plain common sense!

The motor's the heart!

Of course the heart of any ventilating fan is the motor. And need we blow the horn for the famous G-E Motor?

Tell your prospects this:

"A G-E Ventilating Fan completely and quietly renews the air in an average-size kitchen many times an hour!

"It provides constant fresh air—without drafts—in kitchens and other rooms where heat, smoke, grease, and odors are likely to accumulate. It makes everyday living infinitely more comfortable." (P. S. And they're ideal for laundries!)

HERE'S THE BIG FEATURE

The outstanding feature of G-E kitchen Ventilating Fan (aside from its motor) is the fact that it's automatic in operation!

Flip a switch—outside cabinet door opens—blades begin their quiet, efficient spinning.

Flip switch again—fan stops—outside door closes forming a tight seal against weather and insects. AUTOMATIC! No chains to haul on. They're easy to install.

G-E Ventilating Fan:

Wall switch controls fan. Outside door opens automatically when fan is ON; shuts when fan is OFF!

Easily installed—adjustable wall box fits walls from 5 3/4 to 11 inches thick.


GENERAL ELECTRIC
Though architects and master plumbers say the Case T/N is in a class by itself for adaptability, this is merely the one feature that makes all its others so easy to suggest to your customers. The original one-piece water closet has a clean design that suits the modern preference. In structure and performance it meets every requirement...notably quiet operation, positive non-overflow, centrifugal flushing with automatic cleansing action.

Remind your customers of the Case T/N when they want the best, in appearance, service and value. Distributed nationally by wholesalers listed for your convenience in Classified Telephone Directories.

PRECISE ROOFING SPECIFICATIONS which encourage fair bidding practices and truly comparable proposals are welcomed not only by architects and building owners but also by reliable roofing contractors. Such roofing contractors are Barrett Approved Roofers.

THE BARRETT APPROVED ROOFER organization comprises roofing contractors who have been carefully selected on the basis of their experience, ability and integrity.

ARCHITECTS, engineers and builders may rely with confidence upon any Barrett Approved Roofer to apply a Barrett Specification* Roof exactly according to Barrett specifications. Moreover, his work will be carefully inspected by Barrett during installation where bonded guaranty is required.

1. Barrett Specification* Pitch and Felt
2. Barrett Application Methods
3. The Gravel or Slag Armored Surface
4. THE BARRETT APPROVED ROOFER

The superiority of the Barrett Specification* Roof is due to the combination of highest-quality roofing materials, the protective surface of gravel or slag, and scientifically standardized application techniques used by Barrett Approved Roofers. The result is a roof so good that it can be bonded against repair and maintenance expense for periods up to 20 years—a roof so good that it regularly outlasts the bonded period by many years.

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
36th St. & Grey's Ferry Avenue
Philadelphia 46, Pa.
2300 S. Sacramento Avenue
Chicago 22, Ill.
Birmingham, Alabama
In Canada: The Barrett Company, Ltd.
5551 St. Hubert St., Montreal, P. Q.
Whether you are looking for

**BETTER COMFORT**

**MORE CUSTOMERS**

**INCREASED PRODUCTION**

there is a **TRANE** system to help you

Stretching out instead of up, this comfortable new apartment group is built on a hill. The problem of heating apartments below the level of the boiler was solved with a Trane system. Trane Convector-radiators give each room in each apartment individual heat control.

This well designed new shopping center enables suburbanites to fill all their needs near home. Trane air conditioning in the stores, bowling alley, and theater adds a comfort incentive that assures profitable year-round business for the center.

When this tire manufacturer built a new office building, he chose a Trane system to give all-season comfort to the offices and the cafeteria. Trane Convector-radiators provide an added touch of warmth and offset drafts at windows during the cold winter season.

There is a Trane System to solve every kind of heating and air conditioning problem efficiently, whether it be comfort or process—domestic, commercial, or industrial. Trane Systems are designed to fit your application by architect, engineer, or contractor. 200 Trane Sales Engineers offer their counsel. Users' names on request.

TRANE

MANUFACTURING ENGINEERS OF

HEATING and AIR CONDITIONING

THE TRANE COMPANY, LA CROSSE, WISCONSIN

ALSO, TRANE COMPANY OF CANADA, LTD., TORONTO

---

**REVIEWS**

This very scholarly document won't captivate the average architect, either by illustration or editorial content, but should one be blessed with a church to design, it would undoubtedly prove highly useful. As Rev. H. A. Reinhold points out in the editor's note, the author, in this book, features the liturgical wing of art, architecture and rubrics. As a former Anglican and then a Catholic monk of Caldey and as a Tertiary of St. Francis, he is well equipped for the job. In view of his approach, the question of "style" does not come in for close scrutiny though Mr. Anson expresses a very sound attitude toward architectural expression. As he puts it: "A church, like a house, should be evolved in sequence of design from the inside outwards, not from the outside inwards. The building itself is fundamentally just a covered-in space to protect the worshippers from the elements. Provided that it fulfills these requirements it does not matter much whether the covered-in space, is left plain or decorated. A church will 'look like a church' if functional needs of the building are put first and foremost, just as in the case of a garage, factory, airport or theater." The illustrations, which are line drawings, bear out this conviction. Though, as might be expected, traditional forms are dominant, all the examples shown are good, honest expressions of the materials and techniques of the eras in which they were built.

There is little question but what this book is one of the outstanding ones in its field despite its very high degree of specialization. Nor does the fact that it is rather British in context and feeling (the author just happens to be a subject) impair its value to the American readership. M.S.

**SCULPTURE IN MODERN AMERICA.** By Jacques Schnier. University of California Press. 139 pp. Illus. 8 1/4 x 10. $6.50.

Author Schnier, the publisher's blurb tells, feels that sculpture suffers for lack of treatises to explain and record it. If this reviewer's memory is at all reliable it would seem that this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art. Until today, this same adolescent wail has been heeded and discussed in almost every phase of contemporary art.
walls of Thermopane insulating glass

Count on a stove manufacturer to recognize the value of heat control. For the window walls in their new headquarters, the American Stove Company chose Thermopane® for trouble-free glass insulation, year-round comfort, lower heating costs, more efficient air conditioning. Where building needs call for transparency for daylighting or display and effective insulation, Thermopane is the logical answer. That's why Thermopane appears increasingly in specifications for commercial buildings, factories, schools, hospitals and homes. Here's double glass, with dehydrated air sealed between the panes by Libbey-Owens-Ford's Bondermatic (metal-to-glass) Seal®. Use it in large windows or small, in metal or wood sash, in fixed or opening types.

LOF Glass Distributors have Thermopane readily available in more than 70 standard sizes . . . and can assure prompt delivery of special-size units. For more information, including standard sizes and facts on insulation, write for our Thermopane book and Data Sheets by Don Graf, Libbey-Owens-Ford Glass Company, 21128 Nicholas Building, Toledo 3, Ohio.

IN CANADA, THERMOPANE IS SOLD BY PILKINGTON GLASS, LTD.
Other Grades of Exterior-Type Douglas Fir Plywood

EXT-DFPA-A-A
(Sound 2 Sides Exterior)

EXT-DFPA-A-B
(Sound 1 Side, Solid Back Exterior)

EXT-DFPA-UTILITY-A-C
(Solid 1 Side Exterior)

EXT-DFPA-SHEATHING-A-C
(Exterior Sheathing)

EXT-DFPA-CONCRETE FORM-A-B
(Solid 2 Sides)

Grades of Interior-Type Douglas Fir Plywood

(A-D or Sound 1 Side Interior) . . . for inside applications requiring one face of the highest appearance value.

(B-D or Solid 1 Side Interior) . . . a new grade, manufactured especially as a backing or base material—such as a base for limewash or asphalt tile.

Sheathing (C-D) . . . for roof and wall sheathing, and for subflooring.

(B-B or Solid 2 Sides) . . . for multiple re-use concrete forms.

PLYSHIELD is the new grade name for the outdoor type plywood panel formerly known as Sound 1 Side Exterior-type (So1S-EXT DFPA). It has a face of “A” veneer, a back of “C” veneer, and is bonded with completely waterproof resin adhesive.

Versatile? Indeed! PlyShield has a long record of outstanding performance as a preferred material for the exterior siding of homes, garages, stores, warehouses, and commercial and industrial buildings of all kinds. PlyShield is used to great advantage to complement other building materials too—for gable ends, entrance treatments, dormers and bays; for soffits, porch and breezeway ceilings. PlyShield is a time-tested product with a new, easily identified grade-trademark . . . now manufactured under the more rigid quality requirements of the new U. S. Commercial Standard CS45-48.

If you do not yet have your free copy of the new CS45-48 booklet—which contains complete data on new Douglas fir plywood grades and grade-trademarks—write today to Douglas Fir Plywood Association, Tacoma 2, Washington.
There's bright living ahead for New Yorkers who live in Greendale Manor. In this new garden-type apartment village, large, sun-inviting Lupton Metal Windows provide an abundance of daylight to each dwelling unit. The narrow, graceful frames and smartly-designed operating hardware of Lupton Metal Windows blend perfectly with modern design. Air flow is easily controlled to supply exactly the right amount of ventilation in every room. Economy, a vital feature of large scale building is effected by the long life of Lupton Metal Windows. Lupton Residence Casements can be supplied in a wide range of stock sizes and types. Bronze wire screens are available for all windows. There is a Lupton Metal Window for every type of building. Write for our catalog or see it in Sweet's.

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

Member of the Metal Window Institute
Merry Christmas and a very Happy New Year

and company
New Haven New York Chicago

THE MINERVA CURVIMETER
The only instrument recording to 2400 feet.

This new precision instrument eliminates tedious scale conversions, gives highly accurate measurements, in feet, of straight or curved distances in a matter of seconds. Three scales permit readings to 2400, 1200 and 500 feet. An indispensable tool for to-day’s architects, draftsmen, engineers, builders and estimators.

Send for free booklet showing the Curvimeter’s many uses.

THE M. DUCOMMUN CO.
580 5th Avenue, New York 19, N. Y.

have and never will contribute toward a real culture. One more aspect of Mr. Schnier’s book—it omits, with the exception of Noguchi, the vast majority of contemporary American sculptors that have attracted sincere and informed interest during the past few years. M.S.


It is quite obvious that a good many painters have no idea of what they are doing when they perpetrate a canvas. For these, Mr. Mayer’s book, is just the thing. It’s a firm, if overexhaustive treatise on the techniques of painting taken from the mechanical rather than the esthetic side. M.S.


Architectural, engineering and contracting offices contemplating large scale jobs either for the U. S. government or for private companies must have enough knowledge of contractual law to know what they are letting themselves in for when a contract is signed. Mr. Abbett’s book is an expansion on his first edition which was published during the war and, naturally, was primarily concerned with government contracts.

This book starts out by explaining legal terms that turn up in engineering contracts. The author points out the importance of wording in a contract, tells about the various types of contracts in use, gives the advantages of each for specific types of construction. The engineers’ or architects’ responsibility under various contracts also is explained. There are reproductions of various standard forms such as the U. S. government instructions to bidders, bid forms and construction contracts, others like the standard A.I.A. contract forms, insurance and surety bonds and arbitration agreements which may be included in contracts. Engineering Contracts and Specifications takes up the last part of its title by explaining the principles of specification writing and showing sample types of specifications for various kinds of work.

The book is brimming over with information; a careful perusal would be the equivalent of a short course in law as it relates to construction contracts. W.W.A.


Though this is primarily a textbook, the author feels it might also be valuable to many young architects and builders who desire a guide for home study. Mr. Parker includes all the formulae and tables necessary to determine wood stresses. He assumes the reader has had no previous training. Design procedures are those commonly used and recommendations are drawn from such organizations as Forest Products Laboratory of the U. S. Department of Agriculture, various lumber manufacturers’ associations and the American Institute of Steel Construction.

The subject is a complicated one but Mr. Parker has simplified it in every way possible by such measures as avoiding advanced mathematics, giving examples for each process. Included in each chapter are problems to be worked out by the student. Unfortunately no answer sheet is included by which to check what might be the highly original answers the student is likely to come up with. W.W.A.
It's the new way . . . the better way to heat the modern apartment, new home, school, office or hospital. Yes, Modine Convector are functionally styled to complement modern taste in interior design. Modine gives you entirely new installation, control and maintenance features that make it one of the greatest forward steps in radiation. Call your Modine representative. He's listed in the "Where-to-Buy-It" section of your phone book. Or write direct for complete details. Modine Manufacturing Company, 1507 Dekoven Avenue, Racine, Wis.
A Born Salesman!

The New WESTINGHOUSE SLIMLINE "MERCHANDISER"

for every store lighting need

You can be sure... if it's Westinghouse

Westinghouse

PLANTS IN 25 CITIES... OFFICES EVERYWHERE
You can sell planned lighting to more store customers if you recommend the unit specifically designed to do an aggressive sales-lighting job. It's the 8-foot Slimline “Merchandiser” that meets store lighting needs in three important ways:

1. Progressive store managers want luminaires that will start instantly without flickering and, at the same time, provide high intensity illumination at low cost.

2. Smart merchandising requires lighting units that will enhance the appearance of all merchandise . . . spotlight counter and floor displays . . . attract customers to store areas that might, otherwise, be non-productive.

3. Modern stores need luminaires that will blend with store surroundings and provide cheerful, glare-free illumination throughout the store with highest intensities directed to the merchandise.

The attractive Slimline “Merchandisers” answer these needs and are available now. Recommend these units to help your customers increase store traffic—speed selection of merchandise—and build the unit of sale.

Call your Westinghouse Distributor for a Westinghouse Lighting Engineer. He will gladly co-operate with your local Power Company and Electrical Contractor to give you the benefits of Planned Lighting. Write for the new “CS Merchandiser” booklet B-4076; Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.
PACKAGED UTILITY BUILDINGS are adaptable for industrial, commercial, agricultural or private use.

Steel-Bilt Construction Co.'s new line of quickly erected, packaged utility buildings boasts a light thin wall with good insulation properties. Cement panels are hung on a sturdy light-gauge steel framework in the single thickness, maintenance-free wall. All of the building's component parts—steel framing and Cemento panels—are accurately cut to size and numbered for easy assembly. And erection, which is possible with unskilled labor, is reported to be much faster than that of a conventional structure of the same size. The new package is suitable for industrial, commercial, agricultural or private use and is made readily adaptable by its wide variety of sizes and combinations of windows and doors. Engineered for strength and simplicity, it is reported to stay tight in all seasons, to be easily dismantled and reassembled, enlarged and regrouped as needs demand. Mass produced, its cost per square foot is also said to be extremely low.


BUILT-IN EXHAUST SYSTEM effectively vents carbon monoxide gas from garages.

Designed to remove dangerous carbon monoxide gas from garages and service stations, the Car-Mon permanent exhaust system consists of sets of floor-mounted, retractable car adapters joined to a ventilating duct system below the floor level. The car adapter with its attached flexible tubing withdraws from its hinged, floor-mounted receptacle and attaches onto the automobile's exhaust pipe. The duct system's exhaust fan then draws the poisonous gas from cars being tested within the building to the outside. Each Car-Mon outlet is credited with removing 50 c.f.m. of air while in operation, assuring the removal of carbon monoxide gas from under the car at all times. According to the manufacturer, the Car-Mon exhaust system can be installed in existing buildings as well as in new construction. Floor receptacles and sweep connections, for housing the adapter and its attached retractable flexible tubing, are imbedded in cement or wood floors at proper locations. The receptacle's beveled edges extend ½ in. above the floor to prevent washdown from entering the adapter unit. Metal pipe is used for ducting where the exhaust duct is placed on the ceiling of the floor below. For ground installation, tile pipe is used. Tile sizes vary with the number of Car-Mon outlets as does the exhaust fan which has a c.f.m. capacity equal to 100 c.f.m. per outlet.

Manufacturer: Car-Mon Products Co., 4554 N. Broadway, Chicago, Ill.

REINFORCED ROOF PLANK with thermal and acoustical properties reduces building costs about 20 per cent.

Durisol reinforced roof planks provide a fireproof roof deck for built-up roofing, good insulation and a soundproof ceiling in a single material. In addition, they are credited with reducing similar service over-all roof construction costs approximately 20 per cent. The Durisol plank is molded from chemically-treated wood shavings combined with Portland cement. Reinforced with steel rods, it has a factory-applied ⅛ in. cement coat on the topside and is tongue and grooved on the long edges. Planks are available in 16 in. width, in ¾ in. and 4½ in. thicknesses and in various lengths up to 8 ft. The 3½ in. Durisol slab weighs only 14 lbs. per sq. ft. and has a U factor of 0.18 (including 4-ply built-up roofing). The ¾ in. slab weighs 17 lbs. per sq. ft. and has a U factor of 0.15 (including 4-ply built-up roofing). The Plank's coefficient of sound absorption is 0.87 (at 512 cycles). Durisol panels are easily put in place on steel beams or other framework. For installation galvanized metal clips are wedged to the steel flange and nailed to the plank with 6d nails. Joints are then caulked and built-up roofing is applied. According to the manufacturer, the cost of Durisol runs about 45 cents per sq. ft. for the ¾ in. thickness. Installation cost is estimated at about 7 cents per sq. ft. As the new plank's light weight permits the use of lighter steel construction, the manufacturer claims that a Durisol roof in place costs approximately 20 per cent less than comparable materials or groups of materials.

Manufacturer: Durisol Inc., 420 Lexington Ave., New York, N. Y.

ALUMINUM BASEMENT WINDOW is long lasting and maintenance-free.

Kewanee's new maintenance-free aluminum basement window will not rust, corrode, stick or bind even after years of use. A positive acting cam latch forces the vent firmly against the frame to assure an extremely tight fit. A long aluminum locking handle permits easy window operation from floor level with 100 per cent ventilation obtainable by opening to horizontal position. For installation, wide fins provide secure anchorage while a broad sill and jamb construction prevent fouling of vent with mortar while the window is being set. According to the manufacturer, the new window incorporates the same quality construction features as other Kewanee aluminum windows and permits uniform planning in homes where aluminum windows are preferred for upper-story construction. The new basement unit is available in three standard sizes.

Manufacturer: Kewanee Manufacturing Co., Kewanee, Ill.

ALL PURPOSE BUILDING PAPER weighs and costs less than standard 15 lb. felt.

A new asphalt impregnated all-purpose building paper, Leatherback, is reported to offer the desirable qualities of standard 15 lb. felt, yet to weigh 50 per cent less and cost approximately $1 less per roll. It is fracture resistant and lightweight, a 500 sq. ft. roll weighing only about 25 lbs., and is easy to handle and install. It is approved by FHA as a Class D breather type paper.

Manufacturer: Protective Papers Inc., Union, Ill.

PREFINISHED WOOD PANELING offers low cost wall finish for homes, and commercial and industrial installations.

Amerwood is a new low-cost, prefinished, raised-grain wood paneling which can be quickly, easily, and reportedly cheaply installed on any flat surface in new or old construction. Made from coarse-grained, low grade lumber that has been processed to remove the soft wood fibers from between the hard grain, the panels are completely prefinished with dry-pigment stain, lacquer and wax, and buffed smooth. The etched finish provides deep shadow lines while the surface treatment eliminates the need for any future refinishing. Amerwood panels are made from pine, oak, chestnut and a number of other woods and their edges are

(Continued on page 134)
When you want concrete floors of tile beauty and durability specify the use of Colorundum. For hotels, banks, stores, hospitals, show rooms, service stations and factories you get bright, colorful floors with an armor plate surface of long life — at the cost of an average concrete floor. Colorundum is a dry powder, composed of powerful coloring mediums, fused aggregates, waterproofing and hardening elements plus cementitious binders.

Colorundum is used exactly as it comes from the container and permits the foolproof application of a dust-coat floated and trowelled into the topping. The non-slip, dense surface of Colorundum makes it an ideal flooring for indoors or outdoors, both on new work or resurfacing old floors. Write for further interesting information.

A. C. HORN COMPANY, INC.

Established 1897—50th Anniversary
Manufacturers of materials for building maintenance and construction
43-36 Tenth Street, Long Island City 1, N.Y.
Houston, Texas • Chicago, Illinois • San Francisco, Cal. • Toronto, Canada

Subsidiary of Sun Chemical Corp.
shipplapped for convenient installation. Panels are produced in even widths from 6 to 12 in. and even lengths from 8 to 16 ft. 
Manufacturer: Lehwood Corp., 1703 Ironwood Drive, South Bend 14, Ind.

GLASS WALL TILE gives kitchens, bathrooms and dressing rooms a permanent, attractive appearance.
A colorful all-glass wall tile 6 x 11 in. and ¼ in. thick, Crys-Glas can be applied to any kind of surface—wood, plaster, metal or cement—to provide a permanent, attractive wall finish. The 15 non-fade colors in which it comes are fired directly to the glass to assure permanent coloring. The hard, smooth glass surface is impervious to stain, deterioration, peeling, warping, danger from temperature changes, moisture and penetration of dirt. Installation of Crys-Glas tiles is made in resilient rubber mastic. 
Manufacturer: The Dearborn Glass Co., 2414 West 21st St., Chicago 8, Ill.

LARGE PLASTIC WALL TILES can be easily installed to provide durable wall finish.
Railite Mirror Tile is a 12 x 18 in. phenolic-melamine laminate with an extremely high luster, for covering walls in bathrooms, kitchens, laboratories, restaurants, food stores, etc. Only 1/32 in. thick, it can be cut with a large shear or saw and easily applied with a special brush cement to practically any fairly smooth surface such as plaster, plywood, cement or wallboard. The tile's large 12 x 18 in. size also speeds installation. Fireproof, waterproof and stainproof as well as chip and abrasion resistant, the new washable wall material will not fade or darken and will withstand heat up to 275° F. Railite Mirror Tiles are available in solid pastel shades, mother of pearl finishes and other patterns. 

SPECIALY PRE-CUT RUBBER FLOOR TILES permit unusual design effects with standard units.
By halving a regular square rubber tile with a diagonal double curve cut, Danbury Rubber Co. has developed a new standard resilient flooring product which permits endless design possibilities. In addition to numerous patterns achievable by shifting and arranging the units in different positions, it offers the curve as a standard design element. The new tile unit, known as Wavedge, is actually simplicity itself. One edge is formed in the shape of an elongated “S.” Its mate—the other half of the square tile is exactly the same shape. Thus with the curved edges of the same tile touching, the result is a square. Yet when the curved edges of different colored units are placed together, a wave starts to appear. The new Wavedge units are cut from both 6 in. and 9 in. squares in ¼ in. thickness only. Both right and left units are available in a choice of 30 colors. 
Manufacturer: The Danbury Rubber Co., Inc., Danbury, Conn.

PREFINISHED WOOD BLOCK FLOORING offers new design possibilities for stores, homes, offices and public buildings.
Built-up of multiple plies of hard-wearing northern oak veneers, cross-grained to produce an exceptionally strong and highly inert block, Hasko Block Flooring is said to stand up even under extreme temperature changes and moisture conditions. Each block, measuring
You CAN please everybody!

Architects, builders, floor layers and home owners all prefer Bruce Hardwood Floors for beauty, style, quality, and dependability.

BRUCE HARDWOOD FLOORS

Products of E. L. Bruce Co., Memphis, Tenn.
World's largest maker of hardwood floors
"I like to associate my company with adequate wiring. It distinguishes my business. My customers have high praise for my wiring installations; this makes us both happy and our public relations good. I am thoroughly convinced this wiring for the needs of tomorrow will bring much more business tomorrow with a new circle of satisfied friends," says Mr. Jack Jacobs of Salt Lake City, Utah.

The sign of the times is...

"Certified Adequate Wiring"

PROOF ADEQUATE — another home-building project featuring Certified Adequate Wiring

— the Jacobs development in Salt Lake City.

What It Means To You: Certified Adequate Wiring makes today's home buyers tomorrow's boosters. It helps you build houses that stay modern for years to come. It helps you sell houses easier and quicker because: (1) it overcomes today's buyer resistance; (2) it assures you of promotional support from your local electrical industry.

What It Means To The Home Buyer: Adequate Wiring makes even a moderate-cost house, or a re-modeled home, modern. It provides not only for today's electrical needs but for those of tomorrow—including such things as kitchen and laundry appliances which can be covered by a "packaged mortgage."

What "Adequate Wiring" Means: An adequate electric service entrance; enough circuits, enough convenience outlets; permanent lights and switches.

Here's What You Can Do About It:

1. Use the services of your local Adequate Wiring Bureau in preparing complete wiring layout for every floor plan.

2. Install Adequate Wiring in accordance with this layout.

3. Obtain your "Proof Adequate"—a certificate to present with each deed.

4. If there is no Adequate Wiring Bureau in your area, write as for details of how to take advantage of "Adequate Wiring" as a sales feature.

NATIONAL
adequate wiring
BUREAU

CLIP AND MAIL TODAY for free information and material!

NATIONAL ADEQUATE WIRING BUREAU, DEPT. AF-12
155 E. 44th Street, New York 17, N.Y.

Please send me, without charge, information on how to take advantage of Adequate Wiring as a sales feature.

NAME ____________________________________________

TITLE ____________________________________________

STREET ADDRESS __________________________________

CITY ________________________ STATE _____________
Stainless Steel
FOR ROOF DRAINAGE SYSTEMS

CONDUCTOR PIPE
• CUTTER
• DOWNSPOUT
• ACCESSORIES
• FLASHING
• RIDGE ROLL

STAINLESS STEEL CUTTER, LEADER AND ACCESSORIES

STAINLESS STEEL RIDE ROLLS

Fig. 1 shows how ridge flashing without a projection roll. Flashing is nailed to ridge boards with stainless steel nails. Flashing 1" extension is bent down to roof to shed water and cover nail heads.

Fig. 2 requires specially shaped ridge piece for flashing roll. Roll is secured by screws in side apron, if more than 3" wide, should be stiffened against wind by 3/16" x 1" stainless steel clamps or straps, about 30° apart.

Fig. 3 does not require a special ridge piece. An excellent way of securing a large ridge roll as board keeps metal in place and stainless steel screws can be fastened to ridge board, making it unnecessary to drill slingles or slates.

Fig. 4 shows ridge roll used without ridge board. Roll is fastened with stainless steel screws set through washers— with over-sized holes—into holes drilled in the slingles.

Especially rolled for drainage systems, Sharon Stainless Type 301 fulfills all the requirements for an attractive, everlasting system. The dense, hard surface of Sharon Stainless resists abrasion. It is a solid homogenous metal that is virtually immune to atmospheric corrosion, galvanic action, and patina type corrosion.

Sharon Stainless will not chip, peel, or bleed off to stain surrounding areas. And, perhaps more important, it has a yield strength almost double that of any other material used in home drainage systems today.

SHARON STEEL CORPORATION
Sharon, Pennsylvania

PRODUCTS OF SHARON STEEL CORPORATION AND SUBSIDIARIES: THE NILES ROLLING MILL COMPANY, NILES, OHIO; DALLAS TUBE AND STEEL COMPANY, DALLAS, TEXAS; SHARON TUBE & STEEL COMPANY, DALLAS, TEXAS; SHARON STEEL PRODUCTS COMPANY, DETROIT, MICHIGAN, AND FISHBECK, PENNSYLVANIA; CARPENTERTOWN COAL & COKE CO., MT. PLEASANT, PENNA.; FAIRMONT COKE WORKS, FAIRMONT, W. VA.; MORGANTOWN COKE WORKS, MORGANTOWN, W. VA.; Hot and Cold Rolled Stainless Steel Strip—May Strip Steel—High Carbon Strip Steel—Galvanized Special Coated Products—Cooperage Hoops—Detroit Stainless Steel Tubing—Seamless Steel Tubing in Alloy and Carbon Grades for Mechanical, Pressure and Aircraft Applications—Electrical Steel Sheets—Hot Rolled Annealed and Descaled Sheets—Galvanized Sheets—Galvanized Grade Steel—Welded Tubing—Unbrazed and Fabricated Steel Strip—Steel Shaping, Tools and Accessories.

When you specify Alumitile you give assurance of enduring beauty, and the convenience of gleaming, easy-to-clean walls at prices within the most modest budget. You are assured of quality, permanence, and dependability with this modern wall covering. Alumitile is made of sturdy aircraft aluminum, so light in weight that it presents no structural problem. Finished in a choice of 14 decorator selected colors, baked on for permanence, Alumitile offers a wide range of distinctive designs. When applied with a waterproof mastic to any smooth surface it becomes as rigid as the wall itself. Alumitile is thoroughly proof against fire, water, rust, heat and cold. It will not crack, peel or craze. Alumitile is the ideal wall covering for kitchens, breakfast nooks, laundries and bathrooms for home use; and in addition, it has a wide range of commercial uses . . . both indoors and out. Investigate this amazing new wall tile—Alumitile. Send coupon for descriptive material, color chart and FREE sample.


WIFI-ON PAINT is easily applied, fast-drying and washable. According to the manufacturer, one coat of Palletone, a new wipe-on wall paint, will cover wallpaper, wood, brick, concrete, calcimine, wallboard or plaster. Easily applied with a special 50 cent Palletone wipe-on applicer, the oil-base product has no objectionable odor, dries in an hour and is washable. It is available in 13 pastel and deep hue colors and is packaged in quart and gallon sizes, retailing at $1.75 and $5.95 respectively. Although primarily a wipe-on paint, the manufacturer states that Palletone can also be applied by brush or spray if desired.

MANUFACTURER: Plasti-Kote Inc., 425 Lakeside Ave., N.W., Cleveland, Ohio.

NEW PAINTS, FLOOR COATING and CALKING COMPOUND are introduced by Abesto Manufacturing Corp.

To their established line of cold roofing adhesives and coating materials, Abesto Mfg. Corp. has added five new products: Abesto Portland Cement Paint, White Utility Paint, Master Quality Outside White Paint, Floor Coating and Calking Compound. Made in attractive durable colors, Abesto Portland Cement Paint forms a decorative cement-like covering over masonry walls. It has a multiple-ground, Portland cement base and is said to give a smooth, attractive coverage and long service. The paint permeates each pore and bonds to the surface to prevent the entrance of moisture and it is unaffected by alkalis, lime or dampness. Abesto White Utility Paint, for use on large outside areas, is a low-cost gleaming white utility paint that remains white. In addition, it contains pentachlorophenol to penetrate and preserve outside surfaces against weathering, water-rot and fungus decay. Oil based with a high per cent of titanium pigments for hiding power and zinc for wearing qualities, it is said to cover well with one coat. Abesto Master Quality Outside White Paint is a top grade outside white for fine surfaces. Composed of white lead, titanium and zinc oxide ground in pure linseed oil, it provides beauty and long service for homes, churches, store fronts, etc. Abesto-Floor Coating is a liquid floor protection that is designed to withstand heavy traffic punishment and general hard wear. Usable on concrete, wood, linoleum and other composition floors, it gives an easily cleaned, smooth but skid-resistant surface which is impervious to oils, grease, alkalis and acids. Abesto-Floor Coating is available in light and medium gray, tile red, dark green and clear. One gallon covers about 500 sq. ft. Abesto Calking Compound, the last of the new products, is a natural colored material for all kinds of calking requirements. Packed in standard 16 oz. cartridges it can be used in most calking guns.


UNIT HEATER for steam or forced hot water heating of corridors, churches, offices, showrooms, etc.

The new Webster-Nesbitt Series R Unit Heater consists essentially of a neat steel cabinet enclosing a heating element and two or more centrifugal fans belt-driven from an electric motor. The V-belt drive with variable pitch motor sheave permits 30 per cent change in fan speed, or allows operation of the fans at a speed suitable for a quiet office, church lobby or other places where low noise levels are essential. Adjusted to a higher speed, the unit produces high heating capacity for any commercial or industrial application. The unit's non-ferrous heating element, suitable for steam or forced hot water systems, consists of copper tubing and aluminum fins and is of the hairpin circuit type. (Continued on page 142)
the choice for Heating Comfort — in Brooklyn

Convection Heating WITH TUTTLE & BAILEY STANDARDIZED COPPER CONVECTORS ... again selected as the right combination for efficiency, economy, appearance ... installed in the new 48-unit Victoria Court Apartments, Brooklyn, N. Y.

More and more, those responsible for the selection of heat distribution methods and equipment for modern apartments and homes realize the advantages of CH* with Tuttle & Bailey Con­ectors ... the principle of heating by means of air motion that assures efficient heat transmission, real comfort ... all-copper T & B heating elements that mean economical operation, fuel cost savings ... trim appearance that harmonizes with modern interiors and furnishings.

Advantages important to building owners and tenants alike that answer the demand for better heating from better-looking equipment.

ASK YOUR JOBBER TODAY

Send today for a copy of Catalog C8R, complete details for specifying and installing ... write Tuttle & Bailey, Inc., New Britain, Conn.
A really good Sound System does its job so well that all listeners within its range enjoy the full, natural beauty of the reproduced music and hear every spoken word clearly — without ever being conscious of the location of loudspeakers.

Does your present system pass that test? If not, follow the lead of others who have called on Western Electric to solve their sound distribution problems.

For example, a department store recently called in a Western Electric Sound Dealer to replace its inadequate sound system. He — working with engineers of Graybar Electric and Western Electric — put in a custom-tailored system that met all requirements.

Another case was a church where the Minister's words could not be understood by one-third of the congregation. Acoustic treatment and a conventional loudspeaker system brought no improvement. But Western Electric engineering and equipment solved the problem so well that now all can hear clearly.

Naturally, your Western Electric Sound Dealer can give you the same fine job on an original installation. No matter what your exact needs or problems, count on him for a sound system that is "really good."

Look for his name in the Classified Section of your Telephone Directory — under "Sound Systems." If there is no Western Electric Sound Dealer listed in your city, ask Graybar Electric Company, 420 Lexington Avenue, New York 17, N.Y. for the name and address of the one nearest you.

Western Electric
SOUND SYSTEMS

“Duty-Designed” means these completely new Timken Silent Automatic heating units are designed right, built right, priced right to give small homes the finest in quiet, dependable, economical heat.

Where every foot of cubage counts—and where quietness plus reliability count most of all—that’s the place for Timken Silent Automatic “Duty-Designed” oil heating equipment for small homes!

It’s made specifically to fit the job in every way—ultra-compact for vital space conservation; supremely quiet for utility room installations; completely dependable for long-lasting, trouble-free service; competitively priced to provide top-quality equipment at budget cost.

Operating economy is also in keeping with small home needs. This Timken Silent Automatic “Duty-Designed” equipment is fired by the same wall-flame type of burner that has a 20-year record for thrifty efficiency. Fuel oil savings up to 25% or more are commonplace.

For full details, write the factory or phone your local Timken Silent Automatic Authorized Dealer! He’s listed in the “yellow pages.”

Newly created to bring to small homes the finest in winter air conditioning, the Timken Silent Automatic Hi-Furnace combines in one space-saving, fully-integrated unit a wall-flame oil burner, furnace with radiator, blower, air filters, and automatic humidifier (extra optional equipment).

Here is the famous Wall-Flame Oil Burner—Heart of Every Timken Silent Automatic “Duty-Designed” Unit!

The Timken Silent Automatic Wall-Flame Oil Burner is the only type of power burner capable of operating at continued high efficiency at the low oil rates demanded by small homes. And it’s whisper-quiet, too—as proved by decibel meter tests.

Other “Duty-Designed” units include Lo-Boilers, Hi-Boilers, Coil and Tank Type Water Heaters, and Standard Oil Furnaces.

Timken Silent Automatic Oil Heat Timken Silent Automatic Division The Timken-Detroit Axle Company - Jackson, Michigan
The sales of Electric Water Heaters can't help growing—
because they're what home buyers want! To have your cus-
tomers completely satisfied with the homes you build—both
now and in years to come—install the kind of water heating
equipment they want.

How to reduce construction costs and
add customer features . . .

Construction costs can be reduced
with Electric Water Heaters because
there's no flue or vent; installation can
be made anywhere—in the kitchen,
in the bathroom, in the utility room
or even in a closet—cutting piping
costs to a minimum.

Customers like Electric Water Heaters
because they are: (1) AUTOMATIC (con-
tinuous hot water, no attention); (2)
CLEAN (smokeless, sootless); (3) DE-
PENDABLE AND TROUBLE-FREE (as
electric light); (4) ECONOMICAL (fully
insulated storage, short hot water
lines); (5) SAFE (all-electric depend-
able temperature control); (6) FLEX-
IBLE (can be installed anywhere, even
in living quarters; no flue or vent).

DEHUMIDIFIER reduces dampness in basements and game
rooms, also used to help speed construction.

Designed to reduce humidity in basements, libraries, game
rooms, new structures and in light commercial applications,
Frigidaire's new dehumidifier utilizes a refrigeration principle
for the condensation of air moisture.
The circular unit's fan draws the moist
air over a series of coils which removes
the moisture and condenses it into drops
of water. These collect in a container or
drain. Measuring only 33% in. high and
14 in. in diameter, the new unit can be
plugged in for immediate operation
wherever there is an electrical outlet.
No floor bolting or other connections are
required for its continuous operation.
Reports indicate that the new dehumidi-
fier, in addition to protecting articles
stored in closed areas, can be used successfully in new con-
struction to cut plaster drying time. Price is $149.75.

PORTABLE VACUUM CLEANER supplies fast cleaning for
hotels, schools, stores, theaters and office buildings.

According to the manufacturer, the new Spencer Commercial
portable vacuum cleaner is in reality a smaller model with the
same high design standards as the larger Spencer models. It
features capacity-speed cleaning, and easy portability and
uses the same hose and tools employed with the Spencer Sta-
tionary system. The new ma-
nine is powered by a Universal
motor having a continuous rat-
ing of 1 h.p. It has a large dirt
capacity of .875 cu. ft. and a
dirt container which can be re-
moved and rolled on casters to
the point of disposal. A large
filter bag inside the machine al-

(Continued on page 146)
Home buyers won't be "BUFFALOED"

As you know, home buyers won't take just anything; they don't hesitate to tell you what they want. Today the trend is to Electric Ranges. Another million American families switched to Electric Cooking last year. Conservative estimates indicate that this year over a million more Electric Ranges will be installed.

This is a definite trend that cannot be ignored. Progressive builders recognize this trend. Electricity is a "must" in any house, and it's simple and economical to include wiring for an Electric Range leading to a range outlet in the kitchen at the time of construction. This is assurance that the houses you build are not only modern today, but will stay modern for years to come!

Follow the trend... WIRE FOR ELECTRIC RANGES

Another 1,000,000 American families switched to Electric Cooking last year.
You'll have no complaints when you recommend and use Speakman Si-Flo Flush Valves. Si-Flo is quiet operating. There's no water hammer, no line, throttling or closing noises when Si-Flo Valves are used.

Even with supply pressures as high as 100 pounds per square inch—Si-Flo barely whispers!

Installation of Si-Flo Valves in schools insures no more interrupted classes... in hotels—no broken rest or slumber for the guests... in hospitals—no disturbed or annoyed patients... in apartments—no more interrupted conversations or broken sleep... and in the home—no more annoyance or embarrassment for host or guest.

There's a Si-Flo Flush Valve for every installation. All are designed to give years of quiet economical service... adjustable connection between valve and stop—lowers installation cost. The patented long-wearing, easy to replace piston unit reduces maintenance to the absolute minimum.

For complete information on Si-Flo Flush Valves for any kind of installation, see our Catalog S-46. If you do not have our catalog, write for one, care of Dept. FV at the address below.

See Sweet's Architectural File for a condensed catalog of Speakman Showers and Fixtures.

"Established in 1869"

SPEAKMAN
SHOWERS AND FIXTURES
SPEAKMAN COMPANY, WILMINGTON 99, DELAWARE
Mr. Alfred M. Klopf *
of A. C. Klopf & Sons

"I saved 40% for my client... on installation costs by recommending and installing WARM AIR instead of wet heat"

"My client... Mr. Frank Anderson, owner of the Recreation Center at Saginaw, Michigan... after a review of actual warm air as compared to estimated wet heat installation costs... informed me that warm air was approximately 40% less expensive.

Besides cutting installation costs to the bone... warm air heating has given my client low cost operation and top performance.

During the summer months, the blower and ductwork are utilized to provide frequent filtered and humidified air changes and thus obviate a summer air conditioning system... a definite plus feature... cost-and-comfort-wise.

All in all, I have found that warm air heating has so many exclusive combinations of values that it is my first choice every time."

* Statement of Mr. Alfred M. Klopf on file with Jackson & Church Company.
STYLING CAN CHANGE WITH THE SEASONS WHEN BASED ON Oak Floors

In your houses, owners can change from winter to summer furnishings and still have harmonious rooms—provided the flooring is oak.

The mellow luster of this rich wood blends subtly with the soft, cool pastels of summer, and glows warmly amid the bolder tones of winter decor. Seasonal styling becomes far more flexible and economical when such an adaptable flooring is used.

The same adaptability to new ideas and styles lasts for the life of the home. New wallpaper or paints meet no discords from beautiful oak. The natural grain and texture form a harmonious base for whatever colors and styling may be chosen in replacing the original decor.

The most versatile floors you can suggest—and at the same time, those with the most enduring beauty—are oak.


*Ask for Architects' Data Book—which gives quick and usable information for specifying, laying, finishing and maintaining oak floors. Available from your local Oak Flooring dealers or from the National Oak Flooring Manufacturers' Association, 514 Sterick Building, Memphis, Tenn.*

machine by a foot operated bar. Although the new cleaner weighs 188 lbs. it is designed so that it can be moved easily by pulling. The large rubber tired wheels have roller bearings and even the small swivel casters under the motor end are equipped with ball bearings. Other features of the new unit include low maintenance costs and a minimum of operating noise and vibration.

*Manufacturer:* The Spencer Turbine Co., Hartford 6, Conn.

**ELECTRIC HAND DRIER helps maintain clean washrooms, dries hands in approximately 40 seconds.**

Eliminating the customary washroom litter that accompanies the use of paper towels, the electric Airtowel hand drier supplies instant hot air to dry the hands in about 40 seconds. It functions by means of a platform-mounted foot switch and can, according to the manufacturer, be inexpensively maintained and operated. The unit contains a sturdy universal motor with self-oiling bearings and a statically and dynamically balanced blower. The base is constructed to give trouble-free service and has a drain of 1,000 w., 115 v., AC-DC. Installation is reported to be simple, price is $59.95 f.o.b. Chicago.

*Manufacturer:* Morici Products Corp., 835 W. Madison St., Chicago, Ill.

**SINK FIXTURE with swing spout and flexible spray arm eases dishwashing.**

In addition to a swing spout and the usual set of faucets, The Manville Dishmaster features a flexible spray arm with fingertip soap dispensing control for labor-saving, sanitary dishwashing. This flexible brush-equipped arm can be used to scrape the dishes, soap and wash them with fresh clean suds, and rinse them in clean hot water. To use, one or two tablespoons of a detergent are placed in the Dishmaster's tank which is then filled with water. The hot water is turned on and the diverter valve on the fixture top is lifted. When soap is desired, a push-button on the sprayer handle is pressed. According to the manufacturer, the dishwashing arm not only eliminates the unpopular dishpan, but uses less hot water and soap. The Manville Dishmaster, a permanent chrome fixture which can be installed as easily as a new set of faucets, comes in table or wall type to fit any new or existing sink. Price is $39.50.


**IMPORTED DRAWING PENCILS are again available.**

The familiar No. 2886 Mars-Lumograph drawing pencils have again returned to the American market. Imported from Germany, they are available in degrees ranging from 6B to 9H, and are priced at $1.50 per dozen. Also available, as in the past, are the companion lines No. 1018 Mars-Lumograph Artist (Chuck) pencils, priced at $1, and No. 1904 Mars Lumograph Artist Leads ranging from EXB to 6H.

*Importer:* J. S. Staedtler, Inc., 53 Worth St., New York, N. Y.
In a recently completed program of renewing and refurbishing all 1000 guest rooms, the Times Square Hotel specified—and installed—LEVOLOR-fitted blinds. Immediately, Venetian blind maintenance calls were cut to a minimum. That's why LEVOLOR self-adjusting tilters on Venetian blinds were welcomed in this hotel, and in thousands of others...in commercial buildings, in industrial plants, in schools...wherever precise control of light and air, ease of operation, and lifetime efficiency of Venetian blinds are required.

If your first interest is economy and quality in the building you erect, manage, finance or maintain—specify LEVOLOR for all windows, for all Venetian blinds. Insist on LEVOLOR from your Venetian blind manufacturer, or let us furnish you with a list of those qualified in your area.


"Tilt gear to automatically keep cords level, shall be LEVOLOR as manufactured by the Lorentzen Hardware Mfg. Corp. or approved equal." Quoted from specifications of American Hotel Association.

LEVOLOR is a rare achievement in Venetian Blind Hardware. It combines the sturdiest wrought steel for long, dependable service plus contrasting metals where needed to eliminate "freezing"..."sticking" and "jamming".

LORENTZEN HARDWARE MFG. CORP., 391 W. BROADWAY, NEW YORK 12, N. Y.
ONLY YORK HAS
Turbo Compressors with Stainless Steel Impeller Wheels . . .

Available on no other compressor, yet they're standard equipment on York Turbos! Wheels constructed entirely of turbine quality stainless steel, corrosion-proof . . . and erosion resistant . . . assure years of operation at initial high efficiency.

ONLY YORK HAS
Pre-Rotation Vane Control . . .

Exclusive with York, a gradual acting multi-radial vaned control, constructed of accurately machined non-ferrous materials. Ring and pinion gear movement insures smooth vane opening and closing—multiple vanes give precise adjustment of refrigerant flow down to minimum capacities . . . impart a flow pre-rotation. Result—inhertent stability of operation over the widest capacity ranges.

York gives you these 2 exclusive features at no extra cost. They put the York Turbo in a class by itself!

York Corporation, York, Pennsylvania.
Don’t waste the roof!

Like Cinderella, roofs are now blossoming forth after years of menial employment! Gardens grow on apartments and hotels. Factories and warehouses solve many space problems with new heavy duty traffic roofs. Schools, hospitals and office buildings have promenade roofs where fresh air and sunshine can be enjoyed even in the most crowded districts.

Ruberoid built-up roof specifications give the go-ahead signal to full, productive use of this valuable but long-neglected roof area. They provide the solid, workaday basis for making these new developments completely practical.

Let Ruberoid’s thoroughly tested specifications help you in your current planning... the possibilities opened for creative design are practically unlimited. Complete specifications are available now from any Ruberoid sales office or your local Ruberoid Approved Roofer.

LIFE IS MORE PLEASANT for everyone in this new building—the carefully planned use of this roof area provides ample recreational facilities for all.

The right roof for any job—from ONE source!

Ruberoid makes every type of built-up roof—Smooth Surfaced Asbestos, Coal Tar Pitch with gravel or slag surfacing, or smooth or gravel-and-slag surfaced asphalt... in specifications to meet any need. Ruberoid Approved Roofers are not prejudiced in favor of any one type. You are assured of one source for all materials, centralized responsibility, smoother operation, uniform quality!

The Miller System of recessed lighting, which combines lighting and ceiling equipment to create numerous attractive ceiling designs, is detailed and illustrated in this 1948 revision of Ceilings Unlimited, a well-organized and very handsome publication. Divided into three parts, the booklet describes how Ceilings Unlimited are specified, how they work and what they look like. Complete engineering and installation details are presented, together with data on luminaire performance. Excellent illustrations are included to show designs and installations which employ the Miller method. This is an exceptionally fine manufacturer's publication, another example by the Miller Co. of the effectiveness of good graphic art in advertising.


Not just a revision of the 1941 edition, but a completely new book set in easy-to-read type, the 1948 N.F.P.A. Handbook features new and up-to-date information on fire prevention and protection. With an additional 14 chapters, it includes significant wartime fire protection developments, and covers in compact, ready reference form both personal safety from fire and the protection of property. There are hundreds of illustrations with 10,000 separate items conveniently indexed. Among the many completely new subjects treated in the handbook are the chemistry and physics of fire and water spray (fog) protection.

The general field of building construction has been revised. Several new chapters give detailed information about the various building types and related matters, including interior finish and insulation, flameproofing treatments, tables of fire resistance ratings of walls, partitions, floors, columns, roofs, etc., as established by laboratory tests. A new chapter on magnesium and other combustible metals outlines fire hazards and methods of protection. Tables of fire causes by occupancy classification, based on an analysis of 50,000 individual fires, are still another feature.


Designed to be of practical assistance to individuals or groups contemplating the development of an off-street parking structure, this publication outlines the problems involved in planning modern parking facilities. Also, it describes how R.B.C. planning services may be applied to such problems. All types of facilities, from multi-floor structures to simple parking lots are included in the survey.

ROOFS. The Design of Insulated Roofs. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio. 36 pp. 8 1/2 x 10 1/2 in. Price 50 cents.

This manual is intended to aid those concerned with roof design in solving the problems imposed by heat flow through roof structures. Fiberglas is offered as the solution. The booklet describes the various types of Fiberglas insulation suitable for use above and below roof decks and outlines their proper use in brief specifications. In the section dealing with roof insulation above the deck, the booklet discusses the roof slope, deck material, causes of condensation, importance of vapor barrier, and the required thickness of insulation based on temperature and condensation factors. Material recommendations and application methods follow. The section covering roof insulation below the deck discusses ventilation requirements, roof-ventilation methods, ceiling construction, vapor-barrier requirements, heat losses through metal connectors and methods of calculating insulation thickness.


A "how-to-do-it" manual, this revised edition of Manufacture, Selection and Application of Asphalt Roofing Products serves as a dependable guide to good
in heating and plumbing
for any home you plan or build...
... (including your own)!

Not all homes would allow for this distinctive basement design. But all of them gain from the efficient performance and economical operation of American-Standard Heating Equipment. Shown here are the EMPIRE, a compact but powerful automatic gas-fired boiler, and the always reliable BUDGET gas-fired Automatic Storage Water Heater.

Everybody everywhere wants a bathroom that's new as tomorrow. Here the charm of provincial design is combined with the modern conveniences offered by American-Standard Plumbing Fixtures. The roomy bath is the corner model MASTER PEMBROKE, the graceful lavatory is the COMRADE, and the low, free-standing water closet is the quiet COMPACT.

You get a real advantage when you choose American-Standard Heating Equipment and Plumbing Fixtures. For they are first in completeness of line, to meet the needs of every size of home. They lead in variety of product, to give you wide flexibility in designing and styling. And they’re noted for expert engineering and construction which assures long, satisfactory service.

Whatever the job, you can’t beat American-Standard as a single, reliable manufacturing source for heating equipment and plumbing fixtures. For full details, contact your Heating and Plumbing Contractor. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

AMERICAN STANDARDS
First in Heating and Plumbing

Serving home and industry

AMERICAN STANDARDS • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • Kewanee Boiler • Ross Heater • Tonawanda Iron
are you paying through the "NO's"?

People can’t buy something they don’t know about. And in building, where so much of the total building dollar is spent by so few people, it’s imperative to tell the leaders your story. Let them know—so they won’t say “NO”.

Talking to architects…or just builders…or dealers…about mere details of building isn’t enough. Today’s major building decisions are made around conference tables where a “NO” from any corner can be final. That’s why your advertising must influence every man whose word carries weight.

The FORUM is the *only* publication in the building field that horizontally spans every basic subject of vital interest to all decision-makers…that provides horizontal coverage of all common denominators in the entire building business…that is horizontally edited for the widest interests of top level leaders.

These men *are* leaders because they know every phase of the building business. Therefore they need—and read—the FORUM. And the FORUM is the *only* publication, effectively and dollar-wise, for an advertiser who wants to address the most productive segment of America’s biggest industry.
For jobs in every price range—

LOW COST HOUSING

or

DELUXE APARTMENTS

Fireproof GOLD BOND Partition Systems offer best value!

WHERE COST IS A VITAL FACTOR — AMSTERDAM HOUSES had to keep down the cost of 1084 apartments. Gold Bond Solid Partitions met all requirements, provided far more living space.

WHERE QUALITY ALONE COUNTS — TUDOR PLAZA APARTMENTS. For this ultra-modern cooperative apartment building in Buffalo, Gold Bond Partition Systems met all requirements.

You'll build or remodel better with Gold Bond

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.
For building purposes, wood is hard to beat! It's both versatile and economical and, when treated with Pentachlorophenol, it has an extra durability that makes it an outstanding all-weather building material.

And Pentachlorophenol-treated wood is clean—non-sticky. When the proper solvent is used, it can be painted.

Capitalize on the proved effectiveness of Pentachlorophenol and the many unique advantages of wood—specify Pentachlorophenol-treated wood!

PLUMBING FIXTURES. Kohler of Kohler. 75th Anniversary. Catalogue K 48. Kohler Co., Kohler, Wis. 144 pp. 8 1/4 x 11 1/4 in.

Numerous Kohler plumbing fixtures and fittings are illustrated and described in this attractive catalogue. Architect-designed bathrooms, washrooms and kitchens are presented in full color complete with floor plans. Matched sets of fixtures, available at various price levels, are featured as complete baths. In the section devoted to products, many enameled iron and vitreous china plumbing fixtures and brass fittings are grouped and organized for ready reference. Kohler heating equipment and electric plants, and the manufacture of Kohler products are also briefly covered.

INCINERATORS. Folder containing six leaflets. Incinerator Products Co., 609 Post Ave., S., Detroit 17, Mich. 11 1/2 x 9 1/4 in.

Providing a wealth of data on incinerators, this folder comprises a group of individual bulletins on various types of incinerators for industrial, commercial, institutional, municipal, residential and special purposes. The incinerator types covered include: commercial retort units; brick-set, flue-fed equipment; packaged units; heavy-duty garbage; heavy-duty rubbish incinerators and special design equipment. Individual bulletins discuss the design, capacities, general construction, flue sizes and required stack areas. Diagrams and photographs illustrate installations.

REQUESTS FOR LITERATURE

B. B. Impianti Speciali, contractors, Viale dei Mille 19, Milano, Italy.


Robert F. Claghorn, consulting engineer, 570 Merchant St., San Francisco, Calif.


Leon Dembrow, architectural student, 9310 Colesville Road, Silver Spring, Md.


M. S. Malik, architectural student, 2600 S. Hoover St., Los Angeles 7, Calif.

Donald E. McClanahan, architectural-engineering student, 625 North 16th St., Lincoln, Neb.

D. N. McIntosh, architect and engineer, 513 Pigott Bldg., Hamilton, Ont.

Melvin Mull, 1737 Pilgrim Road, Toledo 7, Ohio.

Lawrence F. Nutty, architectural student, 25 Stevens St., Woodmont, Conn.
Production capability of the modern plant is directly related to arrangement of machinery and equipment. Rearrangement may be necessary to take full advantage of an improved process or to permit economical manufacture of a new product.

**Plug-in Duct** can be installed with a minimum of delay and expense near ceilings, along walls, or directly above machinery to provide power where it is needed. It replaces the more conventional panelboards, which have conduit-enclosed feeders, typical of less modern installations.

**Get These Features**

- **Round Copper Bus Bars** provide greater mechanical strength and resistance to short-circuit stresses. Supports are non-carbonizing porcelain.
- **Plug-in Units** of either circuit breaker or fusible switch types are easily installed at 2-foot intervals along both sides of the duct. Plug-in stabs grip the round bus bars with exceptionally high pressure. A hook-type bracket permits rotation of the unit into place. A single clamp screw at bottom holds it there.
- **Hanger Brackets** of heavy gauge steel are two-piece construction to facilitate assembly around duct enclosure. They are suitable for either edgewise or flat mounting of duct structure.
- **Flexible Connectors** of laminated copper join bus bars between sections to provide for expansion and contraction, permit proper alignment and insure tight joints. All bolt heads face outward.

Write for Bulletin 5600. Address Square D Company, 6060 Rivard Street, Detroit 11, Mich. Or call your nearby Square D Field Engineer for help in laying out your duct system.
Folks, this is fantastic, but old Hope has a great idea. He thinks everybody ought to give U. S. Savings Bonds for Christmas presents!

Thanks for the kind words, son. But no kidding, ladies and gentlemen, those Bonds are sensational. They’re appropriate for anyone on your list. On Christmas morning, nothing looks better in a stocking—except maybe Dorothy Lamour.

Old Ski Nose is correct. And don’t forget how easy it is to buy bonds—you can get ’em at any bank or post office.

How about it, Mr. and Mrs. America? This Christmas let’s all give U. S. Savings Bonds!

Contribution by this magazine in co-operation with the Magazine Publishers of America as a public service.
The surfacing applied without mechanical pressure

Applied manually with special cement and no mechanical pressure, SatUSply is available in rolls of various widths up to 48 inches, in continuous lengths or in sheets.

Spruce up table tops, counters, horizontal and vertical surfaces with SatUSply, the surfacing that comes in continuous lengths.

Easy-to-clean SatUSply comes in a wide range of patterns and colors, gives the decorator and contractor wider scope. It can take plenty of hard abuse; permits hotels, hospitals, homes, soda fountains and bars to save the time and expense of repainting.

Ask your local distributor for sample or write SatUSply Dept., United States Rubber Company, 2638 N. Pulaski Rd., Chicago 39, Ill.
The advertising pages of *Forum* are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in *The Forum*. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This *The Forum* does.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Chemical &amp; Dye Corporation (The Barrett Division)</td>
<td>123</td>
</tr>
<tr>
<td>American Radiator &amp; Standard Sanitary Corporation</td>
<td>151</td>
</tr>
<tr>
<td>American Structural Products Company</td>
<td>115</td>
</tr>
<tr>
<td>Anthracite Institute</td>
<td>26</td>
</tr>
<tr>
<td>Architectural Forum, The</td>
<td>152</td>
</tr>
<tr>
<td>Automatic Products Co.</td>
<td>22</td>
</tr>
<tr>
<td>Aviation Corporation, The (Spencer Heater Division, The)</td>
<td>159</td>
</tr>
<tr>
<td>Barrett Division, The (The Allied Chemical &amp; Dye Corporation)</td>
<td>123</td>
</tr>
<tr>
<td>Bruce, E. L., Company</td>
<td>135</td>
</tr>
<tr>
<td>Cambridge Tile Manufacturing Company, The</td>
<td>Cover II</td>
</tr>
<tr>
<td>Carr, Adams &amp; Collier Company, Inc.</td>
<td>50</td>
</tr>
<tr>
<td>Carrier Corporation</td>
<td>66</td>
</tr>
<tr>
<td>Case, W. A., &amp; Son Mfg. Co.</td>
<td>122</td>
</tr>
<tr>
<td>Cece Steel Products Corporation</td>
<td>55</td>
</tr>
<tr>
<td>Celotex Corporation, The</td>
<td>2</td>
</tr>
<tr>
<td>Certified Ballast Manufacturers (Equipment)</td>
<td>19</td>
</tr>
<tr>
<td>Chase Brass &amp; Copper Co., Inc.</td>
<td>63</td>
</tr>
<tr>
<td>Chicopee Manufacturing Corporation</td>
<td>116</td>
</tr>
<tr>
<td>Clayton &amp; Lambert Manufacturing Company</td>
<td>18</td>
</tr>
<tr>
<td>Connor, W. B., Engineering Corporation</td>
<td>59</td>
</tr>
<tr>
<td>Consolidated Water Power &amp; Paper Co.</td>
<td>20</td>
</tr>
<tr>
<td>Cornering Glass Works</td>
<td>17</td>
</tr>
<tr>
<td>Couch, S. H., Company, Inc.</td>
<td>36</td>
</tr>
<tr>
<td>Dahlestrom Metallic Door Company</td>
<td>58</td>
</tr>
<tr>
<td>Detroit Steel Products Company</td>
<td>30</td>
</tr>
<tr>
<td>Douglas Fir Plywood Association</td>
<td>126</td>
</tr>
<tr>
<td>Dow Chemical Company, The</td>
<td>154</td>
</tr>
<tr>
<td>Ducorium, M., Co., The</td>
<td>128</td>
</tr>
<tr>
<td>Dunbar Furniture Manufacturing Company</td>
<td>22</td>
</tr>
<tr>
<td>Dunham, C. A., Company, Inc.</td>
<td>36</td>
</tr>
<tr>
<td>Dwyer Products Corporation</td>
<td>150</td>
</tr>
<tr>
<td>Eagle Industries, Inc.</td>
<td>Opp. 49</td>
</tr>
<tr>
<td>Elevator Safety Corporation</td>
<td>7</td>
</tr>
<tr>
<td>Eljer Company</td>
<td>56</td>
</tr>
<tr>
<td>Executors, Inc.</td>
<td>41</td>
</tr>
<tr>
<td>Facing Tile Institute</td>
<td>42</td>
</tr>
<tr>
<td>Fedders-Quigan Corporation</td>
<td>44</td>
</tr>
<tr>
<td>Federal Enterprises, Inc.</td>
<td>117</td>
</tr>
<tr>
<td>Fiat Metal Manufacturing Company</td>
<td>50</td>
</tr>
<tr>
<td>Fleur-O-Lier Manufacturers</td>
<td>46, 47</td>
</tr>
<tr>
<td>Flinnsote Company, The</td>
<td>68</td>
</tr>
<tr>
<td>Flynn, Michael, Manufacturing Company</td>
<td>127</td>
</tr>
<tr>
<td>Formica Company, The</td>
<td>25</td>
</tr>
<tr>
<td>General Electric Company</td>
<td>16, 121</td>
</tr>
<tr>
<td>Goodyear Tire &amp; Rubber Co.</td>
<td>1</td>
</tr>
<tr>
<td>Great Lakes Steel Corp. (Stran-Steel Division)</td>
<td>32, 39</td>
</tr>
<tr>
<td>Horn, A. C., Company, Inc.</td>
<td>133</td>
</tr>
<tr>
<td>Insulite Company, The</td>
<td>29</td>
</tr>
<tr>
<td>International Business Machines Corporation</td>
<td>54</td>
</tr>
<tr>
<td>Jackson &amp; Church Company</td>
<td>145</td>
</tr>
<tr>
<td>Jones &amp; Laughlin Steel Corporation</td>
<td>23</td>
</tr>
<tr>
<td>Kelvinator</td>
<td>10</td>
</tr>
<tr>
<td>Kennedy, David E., Inc.</td>
<td>Opp. 48</td>
</tr>
<tr>
<td>Kewanee Boiler Corporation</td>
<td>8</td>
</tr>
<tr>
<td>Keystone Steel &amp; Wire Company</td>
<td>6</td>
</tr>
<tr>
<td>Kinney Manufacturing Company</td>
<td>24</td>
</tr>
<tr>
<td>Leader Electric Manufacturing Corporation</td>
<td>37</td>
</tr>
<tr>
<td>Libbey-Owens-Ford Glass Company</td>
<td>125</td>
</tr>
<tr>
<td>Life</td>
<td>128</td>
</tr>
<tr>
<td>Loewenstein Hardware Mfg. Corp.</td>
<td>147</td>
</tr>
<tr>
<td>Marble Institute of America, Inc., The</td>
<td>51</td>
</tr>
<tr>
<td>McKinney Manufacturing Company</td>
<td>44</td>
</tr>
<tr>
<td>Metal Tile Products Inc.</td>
<td>138</td>
</tr>
<tr>
<td>Meyer Furnace Company, The</td>
<td>24</td>
</tr>
<tr>
<td>Modine Manufacturing Company</td>
<td>153</td>
</tr>
<tr>
<td>Mohawk Carpet Mills, Inc.</td>
<td>21</td>
</tr>
<tr>
<td>Monroe, Lederer &amp; Tausig, Inc.</td>
<td>18</td>
</tr>
<tr>
<td>National Adequate Wiring Bureau</td>
<td>136</td>
</tr>
<tr>
<td>National Electrical Manufacturers Association</td>
<td>137</td>
</tr>
<tr>
<td>National Gypsum Company</td>
<td>142, 143</td>
</tr>
<tr>
<td>National Oak Flooring Manufacturers' Association</td>
<td>153</td>
</tr>
<tr>
<td>Otis Elevator Company</td>
<td>31</td>
</tr>
<tr>
<td>Overhead Door Corporation</td>
<td>Cover IV</td>
</tr>
<tr>
<td>Owens-Corning Fiberglas Corporation</td>
<td>57</td>
</tr>
<tr>
<td>Paine Lumber Co.</td>
<td>48</td>
</tr>
<tr>
<td>Pemberthy Injector Company</td>
<td>35</td>
</tr>
<tr>
<td>Pittsburgh Corning Corporation</td>
<td>75</td>
</tr>
<tr>
<td>Pittsburgh Plate Glass Company</td>
<td>41</td>
</tr>
<tr>
<td>Portland Cement Association</td>
<td>67</td>
</tr>
<tr>
<td>Prune &amp; Company, Inc.</td>
<td>32</td>
</tr>
<tr>
<td>Raymond Concrete Pile Company</td>
<td>43</td>
</tr>
<tr>
<td>Revere Copper and Brass, Inc.</td>
<td>118, 119</td>
</tr>
<tr>
<td>Richards-Wilcox Manufacturing Company</td>
<td>120</td>
</tr>
<tr>
<td>Roddis Lumber &amp; Veneer Company</td>
<td>33</td>
</tr>
<tr>
<td>Rowe Manufacturing Company</td>
<td>113</td>
</tr>
<tr>
<td>Rubbertoid Company, The</td>
<td>149</td>
</tr>
<tr>
<td>Sargent &amp; Company</td>
<td>128</td>
</tr>
<tr>
<td>Sercel, Inc.</td>
<td>4, 5</td>
</tr>
<tr>
<td>Sharon Steel Corporation</td>
<td>137</td>
</tr>
<tr>
<td>Soss Manufacturing Company</td>
<td>40</td>
</tr>
<tr>
<td>Speckman Company</td>
<td>144</td>
</tr>
<tr>
<td>Spencer Heater Division, The (The Aviation Corporation)</td>
<td>159</td>
</tr>
<tr>
<td>Square D Company</td>
<td>155</td>
</tr>
<tr>
<td>Stark Brick Company</td>
<td>9</td>
</tr>
<tr>
<td>Stran-Steel Division (Great Lakes Steel Corp.)</td>
<td>38, 39</td>
</tr>
<tr>
<td>Structural Clay Products Institute</td>
<td>49</td>
</tr>
<tr>
<td>Superior Electric Company</td>
<td>128</td>
</tr>
<tr>
<td>Thonet Bros., Inc.</td>
<td>62</td>
</tr>
<tr>
<td>Timken Silent Automatic Division (The Timken-Detroit Axle Co.)</td>
<td>141</td>
</tr>
<tr>
<td>Trans Company, The</td>
<td>124</td>
</tr>
<tr>
<td>Tuttle &amp; Bailey, Inc.</td>
<td>139</td>
</tr>
<tr>
<td>Unique Window Balance Co.</td>
<td>53</td>
</tr>
<tr>
<td>United States Gypsum Co.</td>
<td>34</td>
</tr>
<tr>
<td>United States Rubber Co.</td>
<td>157</td>
</tr>
<tr>
<td>United States Savings Bonds</td>
<td>156</td>
</tr>
<tr>
<td>Van Range, John, Co., The</td>
<td>48</td>
</tr>
<tr>
<td>Vermont Marble Company</td>
<td>134</td>
</tr>
<tr>
<td>Walworth Company</td>
<td>27</td>
</tr>
<tr>
<td>Ware Laboratories, Inc.</td>
<td>36</td>
</tr>
<tr>
<td>Waterfilms, Inc.</td>
<td>32</td>
</tr>
<tr>
<td>Webster, Warren, &amp; Company</td>
<td>20</td>
</tr>
<tr>
<td>Welbilt Stove Company, Inc.</td>
<td>46</td>
</tr>
<tr>
<td>Western Electric</td>
<td>140</td>
</tr>
<tr>
<td>Wethering Electric Corporation</td>
<td>61, 120, 131</td>
</tr>
<tr>
<td>Widdicombe, John, Company</td>
<td>64</td>
</tr>
<tr>
<td>Yale &amp; Towne Manufacturing Company, The</td>
<td>45</td>
</tr>
<tr>
<td>York Corporation</td>
<td>148</td>
</tr>
</tbody>
</table>
THERE IS A SIZE AND TYPE

For Every Heating Need...

For Every Type Fuel...

K—
320 to 550
Net Load Steam
A standout in the
Spencer line—compact
steel fire tube boiler
for the small home
... easy to install
with any type oil
burner or stoker—
quickly converted to
hand-fired operation.

A—
1800 to 42,500
EDR Steam
An example of out-
standing achievement
in the low pressure com-
cmercial boiler field. Espe-
cially noted as an efficient,
quick-steaming unit. Ruggedly
constructed throughout of high-
quality materials.

F—
290 to 740
EDR Steam
Brings the advantage of auto-
matic heat with solid fuel to
the small home. Provides safe,
trouble-free, economical per-
formance with long periods
between firings.

C—
700 to 3000
Net Load Steam
The quality
steel boiler for
larger homes
and small com-
mercial buildings. There
are many features to this
boiler that aid builder,
heating contractor and
home owner. Easily con-
verted to any type firing.

Series
A, C, K & R

L 3—
1430 to 4510
EDR Steam
The most economical au-
tomatic heat known. Designed
for burning small size anthra-
cite fuel. Especially suited for
churches, schools and apart-
ment buildings.

L 2—
690 to 1570
EDR Steam
Another series
of the famous
line of Spen-
cer's maga-
size-feed boilers to meet the
capacity requirements of the
larger homes and small com-
mercial buildings. Always operates
at greatest efficiency.

AP
FULLY APPROVED

340 to 1000
Net Steam Ratings
Burns any type of fuel—easily
and quickly converted. Year-
round service hot water.
Attractive jocket ... modern
design door assembly featur-
ing glass observation ports.

Quality of Material and Workmanship

Modern heating specialists are aware of advantages Spencer Boilers offer.
No trouble calls—easy to install—Spencer dealers keep their profit ... make more money. Since 1888 Spencer has made the quality boilers.

IT'S ANOTHER AVCO PRODUCT!

SPENCER HEATER

DIVISION—AVCO MANUFACTURING CORP., DEPT. AA-6, WILLIAMSPORT 2, PA.
when you specify ELJER Plumbing Fixtures your clients enjoy...

LONG-LIFE STYLING
EXTRA CONVENIENCES
OUTSTANDING QUALITY
FAMILY OF DESIGN
HARMONIZING COLORS
RENEWABLE BRASS FITTINGS

It pays you, it pays us—because we specialize in Plumbing Fixtures and Brass

AS ADVERTISED IN THE POST
Eljer advertising in consumer magazines like The Saturday Evening Post will reach 75,000,000 this year. Everywhere, people know Eljer. You can be sure that your clients appreciate the long-life styling, superb quality and extra conveniences of Eljer's Fine Plumbing Fixtures, trimmed with Eljer's Quality Brass.
Eljer Fixtures are a symbol of pleasant living. They combine easy, immaculate housekeeping with beauty of design and color which will be a joy to your entire family.

Eljer Vitreous China lavatories and closet combinations are easy to keep clean and are impervious to the effects of ordinary acids. Just a swish of a damp cloth keeps the hard, glass-like surface sparkling.

Eljer tubs and kitchen sinks are made of rugged, rigid cast iron, to which is fused a thick, lustrous coat of vitreous enamel. With ordinary care, these fixtures will outlive the home where you have them installed.

You can select a combination of Eljer Fixtures . . . in white or delightful pastel shades and in a wide range of related, yet distinctive styles . . . that will give you an ensemble you will be proud to own.

Eljer Faucets are fine, chrome-plated brass, and are built for long, trouble-free service. All wearing parts are easily renewable. Their simplicity is a triumph of engineering.

See your Plumbing Contractor or Builder today. He will help you select Eljer Fixtures for bathroom, powder room, laundry or kitchen. Write, for free booklet, to Eljer Co., General Offices, Ford City, Pa.

MANUFACTURERS OF FINE PLUMBING FIXTURES SINCE 1904

Factories at Ford City, Pa., Salem and Marysville, Ohio and Los Angeles

There are over Ten Million Eljer Fixtures in Use
Manufacture of The "OVERHEAD DOOR" with the Miracle Wedge combines precision workmanship and finest materials. The result is today’s most perfectly performing garage door, a door giving years of uninterrupted service in millions of residential, commercial, and industrial structures. Any "OVERHEAD DOOR" may be manually or electrically operated, with the famous Miracle Wedge insuring weathertight closure and ideal opening and closing action.

Tracks and Hardware of Salt Spray Steel

OVERTHEAD DOOR CORPORATION • Hartford City, Indiana, U.S.A.