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Three important facts are spurring the great demand for Cemesto for industrial building—

IT'S MODERN: Cemesto is a multi-function material ... a fire-and-moisture resistant asbestos cement wall unit with a cane fibre core ... combining high thermal insulation with great structural strength in an integrated material that permits erection of industrial buildings with light-weight economical "curtain" walls, partitions, and roof decks.

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You are invited to write today for details on Cemesto applications in which you are interested. In the meantime, you'll find complete specifications on Cemesto in Sweet's File, Section 10a/7.

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FOR ROOF DECKS... "CURTAIN" WALLS... PARTITIONS... OTHER INDUSTRIAL USES
examples of changes made during construction at low cost

DUST COLLECTING SYSTEM—Its exact location was not determined until after the building was well along. Due to the flexibility of Corrugated Careystone, even major changes and additions were made quickly and with relative ease and economy.

STACKS—to take off exhaust from paint and ceramic coating spray booths. Careystone's resistance to fumes and heat made these additions practical and economical. No special protective materials were necessary.

PENTHOUSES—to house vertical conveyors at temperatures up to 150° F. New wall openings made after walls were in place...with a minimum of time and expense. All Corrugated Careystone was reused in the new plan.

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PENTHOUSES—to house vertical conveyors at temperatures up to 150° F. New wall openings made after walls were in place...with a minimum of time and expense. All Corrugated Careystone was reused in the new plan.

END WALL—designed for future expansion. Wall can be dismantled and Corrugated Careystone reused if building is extended to gain more floor space.

this building would cost you 40% less too!

We built this plant with our own products...to make more products to build more plants! We estimate we saved as much as 40% over conventional masonry construction by using Careystone Corrugated Asbestos-Cement Sheets. This should be real news for you—especially if you are making plans for a new building or changes in present ones. We needed to get a new plant into operation quickly. We did it by building it with Corrugated Careystone.

For commercial and industrial building and for all light-weight construction, we know of no building method that takes less time in erection; that withstands weather any better; that offers more flexibility in usage or expansion; that requires less maintenance; that provides more protection from fire, weather, decay and rot; or that costs less.

Most plants undergo some changes while under construction. Buildings built with Asbestos-Cement Careystone, Corrugated or in flat sheets, cost less to change, cost less to build, cost less to maintain!
specifications of corrugated **Careystone**

**FOR WALLS • ROOFS**

**PARTITIONS**

1. **Corrugation**
   - 4.2”

2. **Approximately**
   - 3/8” thick

3. **Weight**: 3.75 lb. per sq. ft.

4. **Length**: Up to and including 12’

5. **Width**: 42”
   - 10 corrugations

6. **Maximum purlin span**: 4' 6”

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Ridge Rolls, Corner Rolls (inside and outside) and Louvers, all made of Asbestos-Cement, are available from Carey in sizes to fit all construction requirements.

**Corrugated**

Careystone is durable, strong, inorganic, fire-resistant, easy-to-handle and apply. Its modern design fits it for modern interiors and modern exteriors—for a new kind of modern construction.

See for yourself. Write Carey for "Manual 808"—address Dept. 000

**easy application**

SAW IT  
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Offices in principal cities
A POPULAR SPOT in every home... the full-length door mirror. Each member of the family uses it for head-to-toe check-ups. Most homes need several. Other Pittsburgh Mirrors are both decorative and useful in modern homes... mantel mirrors for living rooms, "spring up" mirrors for the entrance halls and kitchens, and wall mirrors for almost every room in the house.

EASY TO INSTALL...that's the story with both lines of Pittco Store Front Metal. All Pittco setting operations are carried on from outside, and simple setting procedures save installation time and money. Pittco De Luxe is extruded metal... that means strength, sharp profiles, and a finish rich in tone and gloss. Pittco Premier features gracefully curving lines and a smooth attractive finish. It is lighter in weight and more moderately priced than Pittco De Luxe.

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with Pittsburgh Glass

WALLS OR WAINSCOTS of Carrara Structural Glass brighten up the kitchen, make it a pleasant place to work. They add beauty to the bathroom, too. Carrara is easy to clean, stays new-looking and beautiful indefinitely. Ten attractive Carrara colors give you a wide range of color-scheme possibilities. Other uses of Carrara Glass: splash panels, fireplace surrounds, window sills, shelves.

A PICTURE WINDOW ... in living room, dining room or bedroom ... is a glamorous touch which modern home-makers like. It draws attention to an attractive view, and floods the room with natural light. Window, with built-in insulation, is the ideal choice where your customers want to reduce fogging, eliminate downdrafts and maintain an even room temperature. Pittsburgh Corning Glass Blocks admit light but exclude sight.

FREE! We will gladly send our special "Builders Kit" which includes illustrated literature showing how you can use glass effectively on all types of jobs in which you are interested.

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PITTSTUBRGH PLATE GLASS COMPANY

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS
Big nation-wide chains know the customer-attracting value of air conditioning in retail stores. Besides, they know its cost must be in line with other merchandising helps and that it must be dependable. This explains why so many chains are repeat buyers of Carrier Weathermakers for both old and new stores.

S. H. Kress variety stores, Lerner dress shops and Walgreen drug stores are among the national buyers that have installed Carrier Weathermakers again and again. One chain has just ordered its 125th Carrier unit.

System Weathermakers give a store the advantages of efficient, customized air conditioning with all the convenience and economy of an easily installed, factory-assembled unit. They are available in a choice of capacities to meet the exact needs of individual stores. They can provide winter heating as well as summer cooling. Designed to operate with duct work from concealed locations.

Like every other Carrier unit, System Weathermakers are backed by Carrier's pioneering experience in air conditioning. Architects and consulting engineers find Carrier engineers eager to help with the plans for every type of air conditioning. Their aim is always a system that gives the greatest satisfaction. Carrier Corporation, Syracuse, New York.
World's Largest Home Builder
Installs 4,000 Tracy Customized Kitchens

Levitt & Sons selected
the famous TRACY SINKS in Lifetime Stainless Steel
and these new, beautiful Tracy Kitchen Cabinets
for their revolutionary, low cost housing development in Levittown, Long Island, N. Y.

Four thousand Levittown houses will have kitchen sinks and cabinets identical with those in some of the costliest homes in America. The four thousand bathrooms, too, will be equipped with the new Tracy linen cabinets.

Tracy Customized Kitchens are built in a brand new plant especially designed to produce steel kitchens of custom quality on a mass production basis... built by master craftsmen to the high quality standards of the famous Tracy sinks in Lifetime Stainless Steel.

A Tracy sink is easier to clean... cannot crack, chip, warp or rot... resists food acids, heat and hard usage... a lifetime of kitchen beauty. No wonder the world's largest home builder chose Tracy Customized Kitchens by the world's largest manufacturer of Stainless Steel Kitchen Sinks!

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4 Ranges all one width... 39 inches
5 Refrigerators 7 cu. ft. and larger... all one width, 31 ¼ inches

NOW! EASIER KITCHEN PLANNING!

Just pick your model by budget...
No need to change floor plans!

Now plan the easy Kelvinator way!

Choose from 5 new 1948 Refrigerators all one width... 4 new Ranges and a Home Freezer all one width. This gives your clients their choice of any combination of top-quality Kelvinators within their budgets... without a change in floor plans!

Only Kelvinator offers the flexibility of uniform widths for easier kitchen planning. And only Kelvinator features these amazing appliances! For the first time ever, a refrigerator with full, Top-To-Bottom refrigeration. The “Automatic Cook” Electric Range that cooks big meals automatically. The big 6 cu. ft. “Space-Saver” Home Freezer... a world of deluxe eating that insures smart savings on food!

Kelvinator — of Course!

For Smaller Kitchens...
“Space-Saver” Package Gives Small Kitchens Big-Kitchen Advantages!

“Space-Saver” Refrigerator, only 24” wide, is full 6 cu. ft.—holds 50% more than the prewar model of identical outside dimensions. Companion range is only 21” wide—new design permits installation flush against wall. Stars a full-size oven... three new, Electric-Fast, tilt-up surface units—one 8”, two 6”. Kelvinator quality throughout.

For further information, write Kelvinator Division, Nash-Kelvinator Corporation, Detroit, Michigan.
BUILDING MONTH. The structural steelmen, meeting in New York, together sketched the skeleton of the Building market. Most reported a slackening of industrial building—this was especially marked in the Chicago area. All called apartment building the weakest spot in Building's still very solid boom. Investment builders, never enthusiastic about current costs, were showing increasing caution (but there were exceptions: in Atlanta, for instance, a bullish 2,500 rental units were underway). Nor, except for exploding Houston's plan to beat New York with a new "world's tallest building," did anyone plan to build office space much taller than five or ten stories. (Another important exception was still missing from the list of starts: a vacant lot on Manhattan's East River waited as Congress adjourned without approving the $65 million loan to build the UN headquarters.) But the smaller office buildings, together with retail stores, were still sturdily supporting the nonresidential sector of the boom.

As industrial construction lessened, other kinds of building moved up to take its place. A slight leveling off in construction costs was pushing ahead churches, schools, hospitals, other needed public building that can no longer be postponed. Bridge engineers, for example, were booked solid for the next two years (last month they started blasting away the old concrete footings of the Tacoma Narrows, which shook itself to pieces). Talk of five new dams on the Columbia River excited heavy construction; the disastrous flood which washed out Vanport was expected to speed appropriations.

There were some mixed signals on housebuilding. In May, house starts had reached 97,000, establishing an all-time monthly record. But May's residential building permits had dropped to 55,384, as against 64,454 in April. Some gloomily pointed to further government insurance for production loans (see page 12). Also hit is the small but important area of the factory-built house. Factory builders had looked hopefully toward government insurance for production loans, but this hope died along with FHA's Title VI.

In the end, these maneuvers and the myriad pre-convention struggles within the ranks of both parties canceled each other out, and the housebuilding industry, which had hoped for still further liberalization of federal credit, emerged from the political free-for-all with not more but less.

The effect of this tightened credit may be felt first in the vital area of rental housing (see page 12). Also hit is the small but promising area of the factory-built house. Factory builders had looked hopefully toward government insurance for production loans, but this hope died along with FHA's Title VI.

Nor will the big housebuilders who have created mechanized site operations get the help they had sought on construction financing. The T-E-W bill's provision for renewal of Title VI had extended government insurance to construction loans for housebuilders. This hopeful proposal was also turned down.

Although rumors flew in Washington that Congress would be called back for a special session on housing, although the Republican vice-presidential nominee, Governor Warren, was reported in favor of such a session, it was not likely to take place. There were several reasons: President Truman's desire to put the Republicans on the spot on housing was checked by the certainty that the Republicans would use the special session to stir up the embarrassing civil rights issue. Governor Dewey, now the uncontested leader of his party, was cool to the idea—he thought a special session would be an "imposition" at a time when most Congressmen need to start re-election campaigns.

The situation of the still-homeless veteran was measured by two telling VA statistics: 1) applications for VA-guaranteed home loans had dropped to 29,000 in May, as compared with a monthly rate of about 50,000 last year; 2) the average VA home loan is for a $9,000 house—the average veteran (according to government figures) can afford no more than a $7,000 house.

Back of the decline in VA loan volume loomed the unpleasant but inalterable fact: supply of four per cent money is rapidly drying up. But Congress bypassed any realistic action to make the VA program more workable by a small increase in the permissible interest rate (this need had been recognized in the shelved legislation to renew FHA's Title VI, which permitted a 1/4 of one per cent increase). It also failed
to adopt any conceivable alternative—nothing was done to encourage production of badly needed rental housing. Here is the scoreboard.

Congress did:

- Extend rent control to March 31, 1949 and continue the provision permitting voluntary 15 per cent increases in exchange for leases.
- Extend the life of the RFC and create therein a secondary market for both VA and FHA loans.
- Authorize FHA insurance for 95 per cent loans on veterans' cooperative housing. (This is not expected to amount to much—the room cost limitation of $1,550 is unrealistically low; cooperatives are difficult to get underway.)
- Authorize the VA to advance half the cost up to a total contribution of $10,000 to build houses for the nation's 2,400 paraplegic war veterans.
- Vote $10 million for stopgap housing for Columbia basin flood victims, earmarking 90 per cent of this for trailers.
- Increase the Disaster Loan Corporation's funds by $40 million, to be advanced in 10-year loans to individuals or public bodies (such as local housing authorities) to build permanent housing for Columbia flood victims.
- Vote $207 million for Army and Air force building (50 per cent earmarked for housing) and $209 million for Navy building (11 per cent for housing).
- Authorize the Public Housing Administration to turn over to schools temporary student housing put up under the Lanham Act, and extend the disposal deadline for government war housing to July 1, 1950.
- Authorize federally chartered savings and loans to convert to state charter—if states in which they are located permit shifts to federal charter.

Congress did not:

- Pass the T-E-W general housing bill, which included renewal of FHA's Title VI.
- Pass the American Legion bill for veteran's cooperative housing.
- Authorize a housing census as part of the general census of 1950.
- Approve the $65 million building loan for the United Nations headquarters.

**STEEL RATIONING?**

Priorities may come back

Just before it hurried off to Philadelphia the Republican Congress slipped a provision in the draft bill authorizing steel control. There it paradoxically limited its campaign platform to a pious mention of further study of "materials allocation." So far, the voluntary program of steel allocation run by the Commerce Department has worked fine. (Under it, Lustron last month got the steel to make 4,800 houses this year.) But most Washington insiders predict that defense production will bring a real steel pinch by the first quarter of 1949. Many believe that a government-run program of steel rationing will then be absolutely necessary. This means that Building, which thought it had seen the end of priorities, may once more have to measure its needs against a larger objective.

**BUILDING MONEY**

**PRICE STRIKE**

Insurance companies will start no more rental housebuilding

That the big insurance companies have been losing their enthusiasm for rental housing at current construction costs is not exactly news. Last month the Institute of Life Insurance made the break official. Insurance companies, the Institute said flatly, will start no more rental projects—until costs drop.

The Institute gave these samples of what is happening:

- Metropolitan, pioneer in the housing field, will start no new projects after its present commitments are completed.
- Prudential, which had a $100 million program charted in 1946, has shelved its plans after spending only $5 million on two small projects.
- Equitable was considering postponement of a large New York apartment development—even though it had already purchased the land and Starrett Bros. & Eken had started excavation.

What would bring these giant investors back in the building market? John A. Stevenson of Philadelphia’s Penn Mutual gave a precise answer: a cost drop of 20 to 33 per cent.

**TIGHTER CREDIT**

But it will brake, not bust the boom

When Congress failed to extend the easy financing terms of FHA’s Title VI, the National Association of Home Builders predicted that tighter credit would mean 100,000 fewer houses this year. But more detached observers doubted that the effect would be so serious.

In the first place, a large number of housebuilders have already turned back to the regular Title II program of mortgage insurance. Last year the monthly average of houses built under Title II was only 3,500.

By April of this year, the figure had climbed to 10,000; in May, it jumped to 14,520. This shows that as Title VI money became harder to get and finally unavail­able, a large number of house customers were able to meet the somewhat stiffer terms required under Title II.*

The larger equities that both builders and buyers will from now on be required to put up are not unwelcome to lenders and others concerned with the future of mortgage values. They will undoubtedly operate as a check on the still-rising curve of loan inflation. But they are not expected to drive any sizable number of customers out of the present boom market—or to handicap builders who have established lines of credit. In other words, customers will pay more of the current price of houses out of current soft dollars, write less of the current price into loans which may have to be paid back in the harder dollars of the future.

Financing will, however, be much tighter for large-scale rental housing. Builders agree that the room cost limit ($1,350) set under Title II is completely impossible at current construction costs. But the drop in rental housebuilding will show up much more next year than this. So many applications for rental projects were rushed through under more favorable Title VI terms last spring that 1948 is expected to show as a record year for rental building.

**UTOPIA LIMITED**

Norris buyer promises fair prices, continued high planning standards

TVA’s model town, Norris, Tenn., was a planner’s dream. It was laid out on half-acre tree-shaded lots, ringed by garden plots and by woodland. Its 341 pleasant low-cost houses were carefully varied in sitting and in design. Wild roses rambled along its gently winding roads; all signs and billboards were banned. There was not a single honky-tonk to be seen.

Norris was a nice place to live. It was open—government workers at TVA and at nearby Oak Ridge paid rents averaging about $35 a month, about $2 more for electricity. Most houses were heated as well as lighted by low-cost electric power. When

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* Title I allows a 69 per cent loan only on the first $5,000 of the house price and 60 per cent there­after; Title II allows 90 per cent loans on houses costing up to $9,000.
Acme Photo

TVA architects Roland Wank and Earle Draper made the plans, back in 1933, they provided a school, a community building, a beauty parlor, a drug store.

There were no politics, no civic problems. The unofficial “mayor” complained that he had nothing to do. TVA kept the houses painted and the roads smooth, ran the community carpentry shop and twice-weekly movies in the school auditorium.

But TVA had no intention of playing landlord to Norris forever. When Congress authorized TVA to spend \( \frac{3}{4} \) million for a permanent town instead of the estimated \$1 million a temporary camp for dam construction workers would have cost, it also directed that the town be sold eventually into private ownership. Unlike the purchasing priorities later set up for government war housing (veterans, present occupants, etc.), no strings were attached to this directive.

Last month, while a thousand of its citizens gathered on the green lawn of the schoolyard, Norris was put on the block. Bidding lasted only 19 minutes. It took only three of them to eliminate the corporation organized by Norris residents, who had put up cash down payments and hoped to buy their houses at wholesale prices. TVA had set a minimum of \$1,849,750; the citizens' group dropped out after its first bid—\$1,900,000.

The auctioneer's hammer fell on a \$2,107,500 bid. The buyer was a 27-year-old Philadelphia real estate broker and World War II veteran, Henry David Epstein. He immediately boomed some promises through the loudspeaker: all tenants would have first chance to buy their homes; Norris would be run in the “same manner”; the new ownership intended to make it “not only the finest but the biggest model community in the U. S.”

As to just who the new ownership was, Epstein was mum. A newcomer in Philadelphia realty circles, he is backed by an unidentified syndicate of big-money men. He has made a specialty of buying up rows of property in Pennsylvania, then reselling to individual home buyers.

Norris was an enviable buy. Its planners had allowed for expansion of its present 1,250 population to 10,000. Some 800 graded lots, in the heart of its 1,284 wooded acres, were ready for building. And in crowded, smoky Knoxville, only 21 miles away, hundreds of customers watched hopefully.

Terms of the sale give present householders a year's lease. Epstein eased some of their worries on reselling prices. All prices, he said, would be set by FHA and VA appraisals.

Then he took a step even more reassuring to residents. He appointed one of Norris' original planners, Earle Draper, as architect in charge of all future development. Nothing would be built, he said, without the approval of Draper and of the citizens' planning commission.
CURVES AND CHARACTER
A.I.A. ponders nature of man, buildings and atomic age architecture

Sitting inside flat walls with square corners, Aristotle devised the system of logic which some think delayed the development of Western science by centuries. Would he have been less cocksure about the "law of the excluded middle" if he had lived inside curved spaces?

This question, among some grimmer ones, was placed before the 80th annual convention of the American Institute of Architects at Salt Lake City last month. It came from the dean of U. S. public health men, Dr. C.—E. A. Winslow, professor emeritus at Yale's School of Medicine and a man who has done a lot of thinking about the effect of buildings on people. His suggestion:

"Aristotelian and Thomist philosophy may not have been unrelated to the fact that men lived in spaces bounded by flat walls with square corners, fixing in the very basis of the mind the concept of rigid law . . . May not a child who . . . grows up in the curved spaces which are now possible . . . have a mind-set which is far more flexible, more imaginative, more adaptable to a world which has infinite possibilities?"

This was a sample of the heavy backbone of philosophic inquiry which sharply differentiated this A.I.A. convention from every previous one. Perhaps the Institute's announcement of a committee to work with the government on creating an architecture for the atomic age diverted the convention to sober consideration of the nature of man and the meaning of architecture in relation to modern man's complex needs. At any rate, tedious and tendential as some of the papers were, this area of the convention's discussion marked the first profession-wide efforts to relate modern architecture to similar developments in modern philosophy. These efforts even led to discussion of the long-taboo subject of esthetics, notable for its rosy-cheeked Alden Dow's vivid explanation (with colored slides of flowers and buildings) of how his design concepts are formed and expressed.

Not that all sessions were devoted to what old-guard functionalists consider cloud-walking, by any means. The vital subject of urban rebuilding got a clarifying going over, for instance. Thomas Kent, the phenomenally young (31) head of San Francisco's phenomenally effective City Planning Commission, hit a new note. He urged that a modern, city-wide, mass-transportation system should have priority over everything else in stopping urban blight. Only then, he said, can housing, hospitals, parks and schools be sensibly placed and protected against urban blight.

For the most part, business meetings proceeded with the quiet boredom which usually attends A.I.A.'s organizational af-

ITINERANT MAN, IMMOBILE MAN

For 30 years at the University of Minnesota, well-loved Leon Arnal has dropped cigarette ashes and kindly encouragement in almost equal abundance on students' drawing boards. Born in France, wise, witty Arnal was schooled in the great humanistic tradition of French Classicism. To these Gallic roots, he may owe his genius for logic, proportion, taste. To his own genial and inquiring temperament, he undoubtedly owes his famous ability to lead students out of the blind alley of tradition and into the creative mainstream of contemporary architecture.

Arnal came to the U. S. in 1911, to join the late, great French critic Paul Cret at the University of Pennsylvania. He returned to fight for France in World War I.

With the British Military Cross in his lapel, he sailed back in 1919, settled down on the faculty of what was then a raw, new architectural school at the University of Minnesota. That he is about briskly puncturing provincial veneration of the Beaux Arts forms in which he himself had been educated, prodding students to the experimental work in which he believed a native American architecture would be found.

Last month, as Leon Arnal announced his retirement, some 500 practicing architects throughout the briskly building Northwest looked back to the teacher who had given them confidence in the new forms of a new time—and, above all, in themselves. They reached in their pockets to give Arnal a surprise trip to his beloved France. Many of them traveled to Minneapolis to honor their old professor's farewell. But one more U. S. thank-you to this distinguished Frenchman was still ahead: in late June the A.I.A. (see left) awarded Minnesota's Arnal one of its top honors, made him a Fellow.

Herbert U. Nelson, a Minnesota Swede who became the potent head of the potent National Association of Real Estate Boards, was enjoying as much of a vacation as he has ever permitted himself. Touring Europe to examine housing and "new international real estate in Paris," Nelson made his first stop in Sweden. Back across the Atlantic came the first of his "Letters Home," which showed that his prose had gained plausibility. Samples:

"That people make slums is a fighting phrase in some groups. . . . Yet slums are supposed to be the malicious creation of property owners. One can get a little insight into this question by a visit to the oldest parts of Stockholm . . . Here many of the buildings date back to the year 1600. The whole section is beautiful . . . Hours spent in inspecting this district would be pretty convincing to any doubter that slums anywhere are just bad housekeeping . . . "Visby, Ninth Century city on the Baltic Island of Gotland, doesn't have any of the new look . . . Families living in these 600-year-old houses think it a privilege to have a good seasoned house properly aged. We've heard of folks at home living in houses less than a half a century old who feel that they are underprivileged and are being exploited by plutocrats."

Nelson will return to report to NAREB's annual convention in New York City the week of Nov. 15.

Milton Brock, top-rung Los Angeles housebuilder, bragged an impressive brag for his industry. Speaking in opposition to the W-E-T housing bill, Brock told the House Banking Committee that "homebuilding production has outstripped, on a percentage basis, one of the greatest mass production industries in this country, namely automobiles. The 1947 production of passenger
automobiles was approximately 77 per cent of the peak year of 1929. The home building industry's 1947 total was 166 per cent of its 1929 figure and 90 per cent of the 1925 figure, the greatest home production year in history.

Paul Trousdale, a big Los Angeles housebuilder, took a tip from progressive mortgage lenders and offered some new market bait. The bait: one year's free life insurance to home buyers. His policy provides full payment of the mortgage (up to $10,000) if the owner dies, monthly payments in case of disability. After the first year, the owner can include premiums in his regular payments.

The completely immobile man loomed larger on the Twentieth Century's forbidding horizon as the U.S. home began to feel the impact of television. While the television industry looked to the Republican National Convention for the same boost that radio got from the party conventions of 1924, the New York Daily News alertly opened its own television station, WPIX. Devoting a number of its stunted newspaper pages to drum-beating for the new station, the News prophesied that video will reshape U.S. domestic architecture.

Under the headline, VIDEO EASES PIANO OUT BACK DOOR, the News reported that "professors, architects, and interior decorators" appraise television as a "drastic addition to the American Home."

On just how drastic this may prove to be, the News had plenty to say: "You cannot treat a television set in an indifferent manner. It demands a preferred position where it can be seen as well as heard. It dominates a room. And because of what it offers to the eye as well as the ear, the home owner has insisted that the interior decorator choose and arrange the other furniture ... to make the television set the focal point of any room arrangement."

Where the television set has come into the home the separate dining room has disappeared, the News finds. The family has begun to eat its meals in the room where it has put up its television set. It has postponed dish washing till the favorite program has faded from the screen. Some families have even taken to sleeping in relays in order to look after the large number of firmly rooted guests who have come over to look at the television.

Architects and designers interviewed by FORUM take no light view of the impact of television, but are disposed to postpone detailed consideration until the time when the television screen will be enlarged to a size occupying an entire room wall. One immediate problem considered was the most appropriate location for the present comparatively portable sets. Best audience concentration was generally held to be achieved by placing the machine in the bathroom. But this, of course, involves redesign of most bathrooms, and some: people.

IMPARTIAL EYE

For the first time in seven years, the New York A.I.A. chapter decided it had enough new apartment houses to look at to resume its annual medal awards. With careful impartiality, the chapter looked favorably upon one traditional, one modern building. To Louis E. Ondrwein went one apartment house Medal for the apartment-and-bank building surmounted by a white-painted cupola. To Emery Roth went another apartment house Medal for the 18-story apartment building below.
DEWEY'S HOUSING POLICY: Key to the future is in New York State job

For a clue to the future of national housing policy, it was more profitable to look at the record of Presidential nominee Dewey than at the few words finally inserted in the official Republican platform. Although Governor Dewey has made few statements on housing (see FORUM, June '48), his thinking on the unique constellation of forces which make housing one of the most controversial sectors of our national life is written plainly in the work of New York State's Division of Housing.

The Division of Housing has been operated since 1945 by ex-trust-buster Herman T. Stichman. A driving, highly efficient administrator, Stichman is a good example of Dewey's famous ability to select key lieutenants and then delegate them ample responsibility to get the job done. In what looks like a Republican year, New York's Commissioner of Housing Stichman looks like the most influential housing man in the country. Either officially or unofficially, Dewey will turn over the housing problems of the nation to the man who has turned in an excellent job for the State of New York.

The key to Dewey's policy—and Stichman's operations—is his concept of government as a coordinating agency in the field of housing and slum clearance. This means a great deal more than lip-service to the well-established American principle that public effort should supplement and in no way pre-empt the role of private building enterprise. It means that the State of New York has developed its housing program far beyond merely building low-rent projects for a single income group.

Under Dewey, the Housing Division has carried on an active program of drawing every available private investor into housing operations by giving the assistance that a public body is best equipped to give—able administration of the state limited-dividend and tax-exemption programs, local market surveys, advice on site selection and planning, liaison with municipalities, labor unions, other business interests in the community.

One of the few states to take action on veterans' emergency housing, New York, at Dewey's request, appropriated $70 million

for this purpose. One of the means the state quickly turned to was the pioneering conversion of huge surplus military installations to emergency housing. When this whole program started, Dewey issued a directive: it was to be carried out so as not to interfere with the private production of houses; great care was to be taken not to divert materials, labor or sites that might be needed by private builders.

Another characteristic element of Dewey-Stichman thinking is the "laboratory" and "yardstick" approach. In the veterans' cooperative housing developments now getting started, Stichman hopes to use the resources of the state (which acts as supervisor) for all they are worth in the search for better building methods, better working arrangements with labor, etc. The same emphasis is basic in the state low-rent housing program—with all findings to be made available to private housebuilders, most of whom lack the resources to undertake such research for themselves. In this way, Stichman expects to make the low-rent housing program serve private building enterprise as well as the special income group for which it is intended.

Last month a conference on housebuilding in New York offered a good sample of the Stichman method. Cutting across all professional and business boundaries, Stichman invited an imposing battery of industry specialists to New York's Hotel Pennsylvania, outlined a provocative list of subjects—the low-cost house, the industrialized house, the planned neighborhood, outlook for the building market, materials distribution, etc. The result: one million words (by count), most of them focused with unusual precision and pithiness on the hydra-headed problems with which the housebuilding industry continues to wrestle. Samples:

Tougher Credit Needed—Ramsby Wood, Economist, Federal Reserve System

Of the mortgage debt now outstanding, a good deal more than half has been written during the past five years, generally on the basis of a high ratio of debt to value. Lenders have taken the risk of loss on a large volume of loans based on inflated values. Borrowers have assumed the risk of carrying large debts with incomes that may not stay high. And the government shares both of these risks not only under specific guarantees, but also as a result of the general expectation that it will not permit a ruinous liquidation to take place. Disregarding the rise in mortgage debt which has already occurred and the high levels already reached by real estate prices and construction costs, some people urge, in effect, that any slowing down in real estate sales such as has been reported in some areas this spring, should be counteracted by easing credit terms to borrowers. Under present conditions, however, lenders are inclined to tighten rather than ease terms, and it has therefore been advocated that lenders should be permitted to shift more of the risks of lending to the government. Should the government support inflationary conditions in real estate and construction by undertaking to ease credit terms still further? Sooner or later, when buyers have been priced out of the market beyond the capacity of reasonable, or even unreasonable, credit terms to keep them in, we shall face a period of readjustment. This readjustment will be difficult, starting as it will with high prices, a large volume of debt, and high construction costs.

How can the necessary adjustments be made when the boom ends? Construction costs are notoriously slow to decline, and as long as new houses cost appreciably more than old, or too much for the income of buyers, there will be little building. Thus those who rely on easy credit to meet the present housing need may find easy credit standing in the way of the improvement of housing in the longer run. It is these long-run considerations which should guide mortgage credit policy. This policy should be designed to help achieve a sustained high level of residential construction, and one aspect of this task is maintaining prices, indebtedness, and costs in a flexible balance with incomes and with economic activity generally—not during a short inflationary period, but over the longer term.


Housing shortage will last as long as the inflation lasts. New residential construction at the rate of less than one million units per annum cannot possibly cope with the increase in the population and their incomes that has occurred since the last housing boom passed its peak 20 years ago. Real estate values will remain high as long as the boom and inflation last, but they are likely to weaken somewhat before the crash. The market in real estate is like one of those child's games in which the

(Continued on page 18)
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Why Specifications Say: "Hood or Equal"
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Installation study No. 1
main entrance to the
Spaulding High School
Rochester, N. H.

loster is the one who gets stuck with an object that is rapidly being passed around. This was obvious in the late 20's and it is likely to be repeated.

How long will the present inflation in consumer income continue? When the U. S. stops lending we shall have another 1921, or if we go on long enough, another 1929-32. Whether such a slump will have a minor effect on real estate values as 1921 did, or a disastrous one, as 1929 did, depends on how many more years of relatively high activity we shall have before this slump comes.

The relatively long life of residential housing means that in planning for the future one should pay attention not merely to cost and price fluctuations over the next few years, but to the major hazards of the more distant future. Beyond the slump, in the very long run, real estate values will be determined by very different considerations. A third World War within our lifetime is a distinct possibility, and in a Third World War, there is bound to be a revolution in real estate values. In that war, for the first time, American cities will be just as vulnerable as European cities have been in the last one. The Armed Forces Munitions Board has been doing a great deal of planning for industrial mobilization in case we have another war, and some planning for industrial decentralization and dispersal. Such planning has been started with respect to housing.

Decentralization is desirable both for military value and for its own sake... The tendency towards decentralization and the greater long term security that goes with it will tend to protect real estate values much better in outlying districts than in urban centers. The correct housing policy is thus much more than a policy for building houses. It is primarily a positive suburban and rural development policy, a policy of slum elimination through municipal parks, a policy of road-building, of parkways and of new rapid transit systems. It is so vast in its implications that it could prevent a slump in the U. S. after the loan-financed inflation comes to an end.

Price Drop—Thomas Grace, New York State Director, FHA

Manufacturing companies had completed 64 per cent of postwar expansion programs at the end of 1947, and expect to be about 85 per cent completed at the end of 1948. For this plant expansion and equipment, about $15 billion may be expended during 1948. The completion of this plant expansion is encouraging to the construction industry inasmuch as its speedy completion will relieve the overall demand for labor and materials, and as the expansion work declines and production of consumer goods increases, a general reduction in prices can be expected, which will be helpful in the lowering of prices in the construction field.

Interest Rise?—John Abrikos, President, Savings Bank Association of the State of New York and of Jamaica Savings Bank

The current demand for money this year (business loans, building, etc.) amounts to $17% billion. The estimated supply (savings) amounts to $12.2 billion, leaving a deficit of $5.3 billion. I think this will result in competition for the available money and increased interest rates.

Equity Holder's Boom—Thomas H. Quinn, president, Inter-County Title Guaranty & Mortgage Co.

Never before has the real estate holder's net been so great, and because of the shortage of manpower and materials, never before has the average equity owner permitted his property to deteriorate and depreciate to the extent he has during the last five years, thereby jeopardizing the mortgage investment... The mortgage investor should secure at least a 5 per cent interest rate and a 5 per cent amortization annually to protect himself.

But Equity Capital is Scarce—Edgar Kapp, Lehman Brothers

We have a shortage of equity capital, especially in rental housing. The typical problem in rental housing is to find a mechanism to make equity investing there as attractive as in other fields. Other forms of investment—stock, bonds, etc.—are paying off better, and are much safer. Also our income tax structure crimps equity investment by individuals.

(Continued on page 20)
HERE'S another big job where Gold Bond Solid Partitions, of fireproof gypsum plaster and metal lath, will save about 4 inches per wall over old style walls. This system, employed throughout the Amsterdam Housing project in New York, will actually provide far more living space. Why not look into the Gold Bond Solid Partition system for your next job? You'll find it fully described in Sweet's. Or, for a 15 minute demonstration by your local Gold Bond representative, just drop us a card. No obligation, of course!

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Gold Bond Solid Partition System provides more living space in Amsterdam Houses in N.Y.

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**BUILT ON PERFORMANCE!**

![Image of Dormitory No. 2, University of Maryland]

**11th BUILDING FLOORED WITH MOULTILE AT U. OF MARYLAND**

Architecturally beautiful interiors as well as exteriors distinguish the campus of the University of Maryland. Many years ago Moultile flooring was selected for its special combination of properties... the mellow beauty of its deep-toned colors, its crisp, distinct veining and its interesting design possibilities... plus Moultile's assurance of sturdy, time-defying durability. Since that first installation Moultile's performance record has justified Moultile's reputation, and has led to its use in one building after another... including the recently completed Dormitory No. 2, pictured above.

Wherever you recommend Moultile, you can count on the owner's enthusiastic approval. Inherently tough Moultile stands up to hard wear, resists indentation and breakage. It is low in original cost and may be kept attractive after another... including the recently completed Dormitory No. 2, pictured above.

![Image of Moultile Flooring]

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**NEWS**

**Why No Low-Cost House — Harold R. Sleeper, President, New York A.I.A.**

The public expects to get the latest in fixtures, kitchen equipment and gadgets. The buyer wants these sales-easy items to show so he won't be stuck with any unsold houses. We won't have low-cost housing until we admit that low-cost equipment must be accepted in such houses.

**Mass-Produced Future — Buckminster Fuller, Engineer**

We are beginning to see the first encouraging signs of industrialized mass-produced houses. Theoretically, 17 cu. ft. in a house can be enclosed with one pound of material involving one minute of time from source to final assembly. This is equal to

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(Continued on page 22)
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GOOD NEWS FOR BUILDING SPECIALISTS

KAIN ... count the hidden cost
modern structures will be as attractive as the aggregation of any other units of more conservative types.

The Distribution Argument — Professor FRANCIS WINGATE, College of Business Administration, Syracuse University

A study made a few years ago showed that distribution costs were 53 per cent of the delivered price of lumber. This figure includes transportation costs. This is probably not much different from other materials. Thus, we might approximate the expense of distribution as about 50 per cent of the delivered cost of building materials. On this basis, total distribution expenses in the case of a $10,000 house amount to about $2,750.

There are over 200,000 building contractors. About 87 per cent of them are small local operators who erect fewer than five houses a year. The distributive practices and methods of suppliers are perforce geared to the requirements of the small builder who is not able to talk in terms of carload deliveries, and who often requires financial assistance.

Some questions on distribution may properly be raised. Is this system of distribution properly serving the small builder. Can changes be made which will result in reducing distribution costs? Is our system of distribution hampering the mass builder?

Lack of standardization of building materials has undoubtedly added to distribution costs all along the line. The modular system offers hope of improvement in this direction... Our building codes inhibit the free play of competitive forces which tend to make distribution more efficient in any field... .

During the past few years manufacturers and suppliers of building materials have been operating in the very pleasant climate of a “seller’s market.” Every indication is that we have turned the corner in this regard as far as many items are concerned. I would hazard the guess that we have here a normal corrective factor which will result in greater distributive efficiency.

(Continued on page 26)
Now, the LARGEST PLASTIC SHEETS ever made!

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Plexiglas 100" x 120"

Surface area more than 83 square feet...
Many times larger than rigid plastic sheets of any other type...
More than twice as big as any cast acrylic sheet formerly available...
Thickness ranges from .250" to .500"...

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Originally developed for the U. S. Army Air Force, super-size Plexiglas sheets now are widening the scope of design in many fields—permitting large-dimension applications formerly restricted to other materials.

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Light, durable, shatter-resistant, optically clear and easily worked, Plexiglas is well suited to a host of plastics products and components. And in its new large dimensions, this rugged acrylic resin is now practical for such unusual applications as curved transparent tops for automobiles, large one-piece show-cases, huge “spectaculars” and other advertising signs, as well as architectural uses—façades, wall facings, partitions, curved glazing.

PLEXIGLAS and Your Product
How will you use super-size Plexiglas? The answer depends on your plans—and imagination. If you employ plastics in large-area fabrications, super-size Plexiglas may be the means of cutting production time, thus more than offsetting the slightly higher price of these giant sheets.

Investigate Super-size Plexiglas Now
At present, super-size Plexiglas sheets are available in limited quantities. But with expanded production on the way, you’ll soon be able to obtain all you want. For full information, write us today.

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Again Curtis is first with a major contribution in the woodwork field! Again Curtis offers a product providing plus values in beauty and durability—at an economical price. It's Prespine—a Curtis-created wood product combining many exclusive advantages when used in the production of Curtis doors, kitchen units and other Curtis Woodwork.

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No wood product has received more grueling tests than Prespine. It has been boiled and frozen—subjected to heavy impact—exposed to the weather for months—kept under conditions of high heat and humidity. In every test, Prespine shows that it has the superior quality and durability which Curtis standards require for the production of fine woodwork.

Study the features of Prespine—get full information on this remarkable new wood product. Then you'll know why Prespine is so rapidly making a place for itself in the woodwork world!

These illustrations show current use of Prespine Panels in Curtis interior and exterior doors. Prespine is an inherent part of these doors—just as it will be an inherent part of other Curtis Woodwork products.
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Beauty of surface...
Prespine has a hard, satin-smooth surface. When unfinished, it resembles, in color, the natural wood from which it is made.

Takes any Finish...
The Prespine surface provides an excellent bond for paint. Prespine, too, takes any color of stain beautifully. With Prespine, there is no grain-raising— and nothing to cause discoloration of finishes. Edges provide a better surface to finish. Because Prespine is consistent in color and finishing qualities, it assures a pleasing job.

Lifetime economy...
Economical in first cost, Prespine assures lifetime economy for the owners of Curtis Woodwork in which it is used. Here is a new product worthy of the 82-year old Curtis tradition of providing lasting value for the architect, builder, and home-owner.

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In the Curtis laboratory, Prespine has been boiled for hours—it has been soaked for weeks—it has been subjected to freezing and thawing—and every test has proved its amazing durability. Prespine has the strength to take heavy impact blows—won't mar or scratch readily—won't splinter or chip at the edges. It has superior bending strength, resists warping, shrinking and swelling.

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Remember, Prespine is a Wood product, with the advantages which wood has always offered. In Prespine, the chemical composition of wood has not been changed, and Prespine has approximately the same moisture content and color as wood.

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**Distribution (continued)**

—A. J. Brock, manager of sales service, General Electric Co.

In our picture no distributor or dealer has a vested right to sell General Electric products. They must justify their being in this broad complicated problem of distribution. Unless a distributor can justify his existence, competition will eliminate him.

One of the responsibilities of our distributors is service. The great name of General Electric has been built up over the past 50 to 60 years because our products stood up and when something went wrong the consumer could get service. A refrigerator, for example, is a highly-finished, well-engineered mechanical piece of equipment, with many parts more finely machined than an expensive watch. If not properly handled, it would require lots of service.

We, therefore, sell our products through regularly appointed distributor channels and the protection of the distributor is our basis of policy.

Distributors—who are our first level of distribution—sell to dealers or retailers. We feel, as do our distributors, that the small builder should buy from his local dealer, where service and delivery is readily available. We also feel and actively suggest that our distributors sell direct to the large operative builder. Many large builders are buying from our first level of distribution and at very attractive discounts—because they buy in large quantities—in carload lots in most cases.

—EMANUEL SPIEGEL, Scotch Plains, N. J., regional vice-president, National Association of Home Builders

I would like to present the views of the small builder, let us say the man who builds under 50 houses per year...

We easily recognize the fact that the average builder is not in a position to purchase carload lots of material and must therefore make his purchases through local dealers or distributors... I do believe that certain materials such as gypsum products and roofing and siding materials could be shipped directly from the manufacturer to the building site with a resultant saving in handling costs, rather than the method employed at present. For example, a builder requiring a trailer-load of gypsum lath does not receive the shipment directly from the manufacturer. The load is shipped first to the local dealer who is required to transfer this load to his own trucks before shipment to the building site. To me it appears that this is entirely unnecessary and that a considerable saving could be effected by the avoidance of this extra handling.

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32 ACRES OF ROOF...
ON SCHEDULE...AT LOWEST COST...

A roofing job such as this one on the new Chevrolet Parts Plant of General Motors, at Cleveland, is a big job in any man's language. It includes 1,300,000 sq. ft. of area, requires 140,000 lbs. of copper and bronze flashing and expansion joints and 120,000 sq. ft. of steel deck for the heat treating and furnace departments. It calls for the broadest type of roofing experience, maximum man power and equipment and strong financial resources.

Messrs. Fairbrothers and Miehls, the architects and engineers, through experience on a number of jobs, have learned that Industrial Roofing & Sheet Metal Inc., have that experience, that manpower and equipment, have the financial resources to handle and complete any size job. They have found "Industrial" reliable, efficient, and trustworthy...a good outfit to work with. And many other nationally known architects, engineers and general contractors have shared that same experience.

Have you a roofing sub-contract coming up? Perhaps "Industrial" can serve you. Have us submit a bid.
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Otis engineers, who were working on electronics before World War II, have applied the magic of this new science to improve Signal Control operation. As a result, you can now summon an elevator by simply touching a plastic arrow in the landing fixture.

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The first installation of Otis Electronic Signal Control can be seen in the Universal Pictures Building, 445 Park Avenue, New York City. It operates the four local and four express elevators that serve 21 floors and a penthouse. Otis Electronic Signal Control is applicable to all elevators. But for the immediate present, it will be confined to large buildings where elevators travel at speeds of 500 feet per minute or more.

**Electronic Signal Control**

**Elevators**

*This time with the magic of modern electronics*
LETTERS

April Houses Slammed and Salaamed . . . Financing the Modern Home . . . Invective on the Niemeyer Case . . .

TEXAS SLANDER

Forum:
While we are pleased with the inclusion of photographs and the plan of our home (No. 2) of the 40 houses surveyed by your April issue, we are doubly disturbed by the opening line, “Built on a bare Texas site broken only by a few dry trees whose mild branches provide much character but little shade . . .” Not only is this somewhat slanderous to our whole section of Texas, but it is particularly untrue of our specific site which is a very fine one. To the west, . . . we have a magnificent outlook across a 20 mile valley filled with green farms with a forest clad horizon.

It may be the fact that since the pictures were taken in February, they have no foliage. I am quite sure that your oak trees in New York are fully budded and leaved by February, but in Texas, of course, foliage is not very luxuriant at that time of year . . . We do, however, have four magnificent oak trees which at the present time are fully clothed in luxurious foliage and give us plenty of shade. Furthermore, on our total lot which is 400 x 130, we have no less than 28 fair sized trees . . .

WALTER H. HODGSON, Dean of Music
North Texas State College
Denton, Texas

Forum hastens to withdraw its April slander of February in Texas.—Eb.

ATOMIC TRADE

Forum:
I had no idea that “my” house was appearing in the April FORUM . . . Mr. Neutra’s creation in the Hollywood “mountains” (even Hollywood, notorious for making mountains out of molehills, calls ‘em hills) has not belonged to me for nearly a year now. ‘Twas bought by a much more interesting couple than the Branches: a Dr. Stanley Frankel and his wife who are, respectively, a young nuclear physicist and the gal who does his higher math for him.

From all reports the Frankels are delighted with their glass cage, and we can understand their relatively youthful enthusiasm since we once felt the same way. As such we’re a lot more comfortable in this old shoe of a house than we ever were as victims of the so-called functional. We have kids. We have a collage and grandmother’s hand-me-downs and a wife who never could and never will keep a house according to Neutra. (Incidentally, did you ever let a modern architect’s wife have her say in your magazine?)

So . . . Mr. Neutra’s house is in another magazine! That’s exactly where it belongs, and that’s the way we felt about it even after living in it for several years. Here we can have our dirty diapers and our peace and mind. Who, I ask you, ever saw a diaper, even a clean one, illustrated in The FORUM? Even though there is certainly nothing more functional.

No, I’m not bitter nor even regretful. I’d just like to tell your readers why two Smart Young Things moved to Pennsylvania Dutch from Neutra Modern, and why our house of tomorrow will have to wait until tomorrow when our kids are grown and gone. How about it?

RUSSELL BRANCH
Santa Cruz, Calif.

1) For enthusiastic comment from architects’ wives, not to mention the distasteful side of non-professional families, see almost any residential job published in FORUM. 2) For diapers (clean, it is true) see FORUM, Apr. ’42, p. 220.—Eb.

MODERN PREFERRED

Forum:
In our work as housing consultants we have been recently impressed with the reluctance on the part of many financial institutions, as well as the Federal Housing Administration, to accept the non-traditional designs which are so capably shown in your magazine from month to month.

We had a most interesting experience recently, suggesting that the public is inclined to be way ahead of lending institutions in acceptance of modern design.

A group of 133 families recently joined together to form a non-profit cooperative housing venture. Their idea is to build, in a community acceptable to the group, simple houses commensurate with their incomes, in a suburban area of New York City. The families have an average income of $7,550 the minimum being $6,000. They have $3,000 or more equity in cash per family to apply to the cost of a house. In a carefully developed questionnaire received this week, the following interesting facts were revealed:

1. One-story, free-standing, single family dwellings are preferred by 102 out of 133 families. Of this group 51 classify the two-story house as completely unacceptable.

2. Of the 133 families 96 want what they call “modern design.” Twenty-four refused to accept anything else under any circumstances while the remaining 72 said that, if absolutely forced to by financial backers, they would accept traditional architecture in order to obtain a house. The committee interviewed representing the group, referred to the style of house desired by the majority as being “the kind you see in The Architectural Forum.”

From the questionnaires themselves, and from discussion with representatives, the group does not seem to have special qualifications which would lead them toward modern design. They are a mixed crowd of families headed by clothing manufacturers, accountants, engineers, dentists, lawyers, teachers, and workers in miscellaneous types of business in New York City. They are, in the main, men and women of approximately 40 years of age, with young children, and a substantial proportion are World War II veterans.

An unhappy thought at the moment is that it is very unlikely that we will be able to satisfy their architectural tastes. Even if we are fortunate enough to find an enlightened New York institution willing to finance, we would anticipate considerable trouble from local suburban reaction.

Perhaps The Architectural Forum could undertake an educational campaign directed personally to the officers of loaning institutions in the hope that younger families of this type may achieve their natural up-to-date desire for up-to-date living.

FREDERICK H. ALLEN
New York, N. Y.

APRIL YES AND NO

Forum:
It is small wonder that the vast home building majority of the American public choos,s styled architecture for its living. Your April issue has shown us all that great areas of glass, clever and interesting uses of materials and inventive details do not make the contemporary house. So many of your chosen 40 flagrantly violate basic principles of planning.

Even in California it is difficult to believe that Robert Jones’ design with an outside (Continued on page 32)
Seat With a Satin Skin -

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entry and the end bedroom would meet a $21,000 home building budget.

Mr. Hall in Connecticut has made his living room the passageway to every room in the house. It is interesting to note that he is not alone in this error. Mr. Brown in Tucson, Ariz., has put his entry directly into the living area.

Mr. Kaeser in Wisconsin harked back to the International mechanical style in his wasted great effort to provide a cute corner window in virtually every room, with the result that his bathroom was lost in the core of the structure, necessitating mechanical ventilation. I am an architectural student enrolled at the University of Cincinnati. In all truthfulness I fully believe that if these designs were submitted as term problems, their grades would be an average "C." Rather poor wouldn't you think, for designs with which you evidently try to sell a product? We cannot all be Richard Neutras or Frank Lloyd Wrights but we can try to attain their frank simplicity.

The homebuilders of America will continue to prefer Colonial if they cannot have an honest and free expression without the cute cleverness of the average modernist. These men, I feel, will try to stay with the contemporary contribution long after some one among us has shown the world an even better solution to comfortable living.

Cincinnati, Ohio

Forum:

A wholoping congratulations on the April issue of THE ARCHITECTURAL FORUM, which is undoubtedly twirking the nose of many functionalists. It's what the student, the dessicated overworked office crew and the layman require to jostle them from their ennui. Not that the buildings can't be considered functional, that rather the much misused interpretation of the word functional is avoided. For a relentless removing of everything is very well in a school exercise, providing the student doesn't infer that therefore there is only one way to design.

The houses seem to have a poetry built in them, which after all is an achievement that is worth fighting for. Not necessarily picturesqueness, or gewgaws. But certainly a feeling that the architect should and can play with the forms to produce new forms, to create new relationships of light and shadow, of solid and perforated, and so on endlessly.

At least that is the way this one student at Harvard feels about architecture.

MERWIN E. ROBINSON
Cambridge, Mass.

"(Continued on page 36)"
There's Nothing Finer Than

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RED FLAG
Forum:
I have just read the Letters column (Forum, Mar. '48) and am thoroughly disgusted with the editorial comment which follows the letter from ten Brazilian architects decrying the barring of architect Niemeyer from entry into the U. S. You state that "No proof was offered that the respected Senor Niemeyer, coming to speak in a respected institution on a respected subject, was actually looking forward to a plotter's holiday." It appears to be your opinion that if a man is an architect, his political leanings must be above question.

Apparently, for the editors of Forum to believe that a person is a Communist, it is necessary for him to carry a red flag with the hammer and sickle rampant and a half dozen bombs with lighted fuses, and to have a picture of Stalin tattooed on his forehead.

It is just your sort of do-nothing, or "aw, let's let him in—what's one more Communist" attitude that is giving us erstwhile ally the opportunity of planting more and more agents in this country.

Since you and I have subscribed to the democratic form of government by staying in this country, don't you think that we should abide by the decision of the State Department who, without question, know more about Mr. Niemeyer's political affiliations than we do? You stick to architecture, I'll stick to engineering, and we'll both let the State Department handle immigrants and foreign agents.

Irving W. Smith
Mount Rainier, Md.

Since Senor Niemeyer had already been welcomed to the U. S. for four and one half months in 1947 as Brazilian member of the Board of Design Consultants for the United Nations Headquarters Planning Office, Forum feels that the State Department decree is a rather peculiar reversal of position and one which smacks of the Iron Curtain for which we criticize Russia. Furthermore, the protesting letter Forum printed was not from "ten Brazilian architects" as Reader Smith states, but from ten top ranking American architects. Their protest as professionals has been echoed throughout the country by many who have no connection with architecture—including the Baltimore Sun (Apr. 23) which was sticking close to its job of editorializing.—En.

STRUCTURAL STUDY
Forum:
Congratulations on the very valuable article on the "rigid frame" (Forum, Feb. '48) which in England we refer to as the "portal frame."

Such comprehensive and well illustrated articles on constructional systems are rare in any periodical and I am prompted to suggest that the same kind of thing could be done with other constructional systems (Continued on page 40)

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Letter to the Editor:

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THE CASE AGAINST DESIGNERS

Forum:
It seems to me that the architects should develop more keenly their sales and contact ability, particularly in the large cities. I find simply from observation that a good deal of the work in the large cities is contracted for directly between the owner and some of the large building concerns, who in turn eventually select an architect and hand him a big job in consideration of getting some other work that is on his drafting boards.

This is a very weak and poor method of running the business end of the architectural profession. The architect should be smart enough to mix with the executives, bankers, and real estate men who know what is going on and to get their work direct, without being under any obligation to the big building concerns.

I think it behooves the architectural firms to develop somebody in their organization who can be trained along these lines. At the same time I think the boys in the Architectural Schools should be given a good course in the business end of architecture.

(Continued on page 44)
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They get plenty of design, but very little of the engineering foundation required for detailed construction work. They get a smattering of mechanical trades engineering, office practice, specification writing, building code information and the legal side of architecture. Therefore, a lot of boys who come out of college tend toward designers whereas they should be able to roll up their sleeves and get right into working drawings. They are most naive on the business end of architecture.

The old days of sitting back in the office with long hair, wearing tortoise-shell glasses and a smoking jacket, with a curved pipe in the mouth, waiting for business are over. The architect has to get on his toes, join clubs, get out with executives, bankers, etc., in order to get business.

Leo F. Caproni. A.I.A.

New Haven, Conn.

A WOMAN SCORNED

Forum:

In The Architectural Forum, April '48 issue, there appeared a very amusing letter signed by Frank Stanton. In this article the author very ably warns the younger architects not to accept small house jobs, because a house job invariably means a woman client, and a woman client is the cause of distress, despair and even premature death of architects.

I love humor, I love architecture and architects (have married one), but I prefer humor that is not expressed at someone else's expense. Being a woman, I do not like to see women slighted, and knowing a number of architects, I do not like to see their ability, moral courage and immunity to shock underestimated. Furthermore, I do not like to have them deprived of an experience without which an architect's life would be a total loss. Yes, I refer to the experience of dealing with women clients.

Supposing we concede a point and agree with Mr. Stanton that a woman, on the verge of commissioning an architect to design a house for her, is in an abnormal psychological state, like the proverbial hen Mr. Stanton mentioned (I've seen some men in that state, too), and that such a woman is somewhat difficult. Well, what a challenge. What an opportunity for the architect to demonstrate his ability in conceiving not only a plan for the house, but a plan for building something equally wonderful—harmonious human relationships. . .

I do not know of any other profession more qualified to do just that. Nor do I know of anything more worthwhile. . . .

(Continued on page 40)

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The Aluminum Roll-Type Awning that solves your awning problem

The clean-lined, modern appearance of the Kawneer Awning will add rich and striking individuality to any facade or entrance—because it's designed to meet the highest architectural standards.

Smooth, trouble-free operation is assured year after year—because the entire unit has been exhaustively factory-tested and job-tested. It has conclusively proved its durability, dependability and permanence.

Whether operated by hand or motor, the Kawneer Awning rolls and unrolls easily. It winds up into a compact roll. Constructed of Aluminum, it has been designed and engineered to combine light weight with the structural strength to withstand hard usage. Maintenance and replacement costs are reduced to a minimum.

Kawneer Aluminum Roll-Type Awnings are furnished as completely-assembled package units, ready for quick installation. They can be ordered either with concealed awning boxes or with a hood for surface application.

Awning lengths up to 20 feet and widths up to 8 feet are furnished as individual units. When lengths of more than 20 feet are required, multiple units can be obtained.

Lateral hinged arms are made of strong pipe with heavy cast iron elbows. The awning itself is made of Alclad 24 ST aluminum for maximum strength and greatest resistance to the elements.

**KITCHEN HELPERS FOR HOMES**

**BEYOND THE GAS MAINS**

Why not give your clients the extra "hands" they need to make their homes completely livable? When building homes beyond the gas mains specify a Pyrofax gas installation. With it, you can offer the extras of a gas-operated refrigerator, range, and water-heater. These are the appliances home-buyers need and want—and with a Pyrofax gas installation you can be sure of complete satisfaction.

For more information, see our catalog in Sweet's Fire, or write to Pyrofax Gas Division, Dept. A5, Carbide and Carbon Chemicals Corporation, New York 17, N. Y.

No special preparations are needed for a Pyrofax gas installation. The whole unit is easily installed above ground ready for immediate service. Pyrofax gas is insurance against service interruptions caused by bad weather and provides a dependable supply of fuel for cooking, heating, and refrigeration.

Let us concede another point and agree that there may not be much in the way of remuneration in small house jobs. As a class, architects are not in the profession for the money alone. If it were so, they would have gone into another more profitable kind of business (they would have become undertakers, for instance). I believe that when God created an architect He must have said to him, "Go and put my world in order. Design. Build. Improve. You have at your disposal all the various materials. I give you ideas and inspiration and an irresistible urge buried deep within your heart to fulfill this commission. You may not be rich, but you will have a lot of fun and you will never starve." And so it has been ever since. The urge within is so strong in some cases, that the architects practically pay their clients in order to express themselves....

No, the architects, young or old...are idealists and lovers of humanity. And what better way to show this than to design a house that would be the individual expression of the people living in it? A house that is more than a shelter or even a haven, but a reflection in miniature of the beautiful world around us. A house in which the souls and characters of the future generation are being shaped; out of which, like a flower, will blossom a nobler, wiser citizen, not only of these United States, but a citizen of the world, and a brother of all men. To do that is a rare privilege. And the architects, especially the younger architects, whom Mr. Stanton specifically addressed, are so privileged.

Tania Bishop

Spokane, Wash.

**GERMAN MODERN**

Forum:

Last March number of Forum brought a voice of regret by well-known modern Berlin architect C. H. Wittig. He says "conservatism is ahead" in Germany.

I am German student of architecture and like modern architecture very much. I want to work and design with all energy in the steps of our great moderns. So I want to ask Mr. Wittig:

What must our moderns do to find successors and collaborators? There are students and young architects who want to go new ways. They need experience and leading of the "old" young architects. Give them a chance—and give the chance to your work! Young people will help to make new spirit popular!

Ehrlhard A. Reusch

Bremen, Germany
"Dynamic lines that bend to your imagination"

Superb for theaters: colorful, flexible, functional, permanent brick and tile. Structural Clay Products Institute, 1756 K Street, N. W., Washington 6, D. C.
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"And we both said at the same time, 'Here's an idea from House & Garden.'

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... better building; and one source of authoritative information...

... House & Garden."*

*10,000 architects and building supply dealers not only receive reprints of editorial features on building but also receive all building advertisements appearing in each issue of House & Garden.
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The shaft of the famous V/W, "the compressor that never wears out" is effectively sealed without springs and without packing.

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"Balanseals", plus vibration-free design, plus the use of cylinder liners that permit replacement of all parts subject to wear, make the York V/W the obvious choice of all compressors in their capacity range.

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2. The simplified operating assembly, only six parts, insures low replacement costs (see illustration above).

3. The accessibility, when repairs are necessary, reduces maintenance man hours to the absolute minimum.

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By using concrete frame and floor construction with wide, shallow, interior beams in the 11- and 12-story John Lovejoy Elliott Houses (1 of which is shown here), the New York City Housing Authority made big savings in material and formwork.

With reinforced concrete frames and floors you can design durable, firesafe structures within tight cost limits. You can reduce total building height without lowering ceilings. You have unusual freedom in locating columns.

Such construction is ideally adapted to apartment buildings, hotels, hospitals, schools, office buildings and industrial plants. Write for helpful free booklet, "Continuity in Concrete Building Frames." Distributed only in the United States and Canada.

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Two outstanding examples of the effectiveness of Young Convectors for heating hospitals are the installations made by Magney-Tusler & Setter, Architects and Engineers, in both the Swedish and Deaconess Hospitals in Minneapolis, Minnesota. Illustration above shows typical installation in one of the operating rooms. Young Convectors are installed throughout the hospital—in reception rooms, diet kitchens, convalescent rooms, hallways and stairways. These “Streamaire” Convectors provide clean heat at controlled temperatures... so vital to hospital use. Their heat-sensitive cores obtain full efficiency from steam and hot water systems. Their attractive, streamlined cabinets are easy to keep clean, conserve floor space and may be painted to harmonize with room interiors. Write today for your free copy of the “Streamaire” Convector Catalog.
Design Problem: How to construct economically and with maximum speed and efficiency 26,500 square feet of canopies to shield three large transit sheds.

Solution: Selection of Fenestra Type D Building Panels... strong and noncombustible... engineered for fast construction.

Economies are the natural result of installation speed and simplicity. First, job time is greatly reduced. Second, special skills are not required to put in these precision panels... they lock together simply and firmly—ready for a final coat of paint. Fenestra Panels make ideal canopies for stores, piers, factory loading platforms, all similar structures.

These versatile panels also make sturdy floors for every kind of building. Type D panels can be placed channel side up and flat surface down or vice versa. Or cover plates can be used to provide two flat surfaces. The panels are prime coated, ready for application of concrete, mastic and wood or linoleum, or other surface material of your choice.

Already famous as a producer of steel windows, Fenestra has applied its steel-fabrication skill to the production of these rugged, noncombustible steel panels... and has made them ideal not only for floors and ceilings, but for walls, partitions and roofs. See Sweet's Architectural File for 1948 (section 3c-1) or mail the coupon for full information.

Fenestra BUILDING PANELS FOR

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VERSATILE in large or small homes

Unique installation of modern warm-air heating in the home of M. E. Whitman, Elyria, Ohio. This large house, with 7 rooms, 2 baths, and a 2-story living room presented an unusual combination of hard-to-heat areas. Economical operation, plus zone control, with heat outlets for the entire basement, were provided by installation of three gas-fired "Luxaire" winter air-conditioners, capable of operating individually or collectively.

The advantages of modern warm-air heat apply to residences of nearly every type and size. That's why homeowners, by the thousands, express their preference for it. Surveys prove that people know and want the extra values warm-air heat gives in comfort, convenience and economy.

For, with a winter air-conditioning system, they can have:

1. WARM AIR, with room temperatures quickly responding to automatic controls.

2. CLEAN AIR. Filtered at the heating unit, all heat delivered throughout the warm-air duct system is free of nuisance dusts, lint and most air-borne bacteria. Housekeeping burdens are lighter because walls and furnishings stay clean longer.

3. MECHANICALLY-CIRCULATED AIR keeps warm air fresh and clean while providing the proper number of air changes per hour. (System can also be used to circulate air on hot summer nights.)

4. HUMIDIFIED AIR affords greater physical comfort at lower room temperatures.

Architects, builders and contractors who specify and install modern warm-air heating and air-conditioning systems know that circulated air will be cleaned efficiently. For Dust-Stop* Air Filters are the choice of most manufacturers as original equipment. They're the homeowners' choice, too, for replacement Dust-Stop Air Filters are readily available at low cost through suppliers in every community. Product of Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, Ohio.

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*FIBERGLAS is the trademark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.
One eyeful of Korina tells you why architects and their clients demand "more."

If you haven't feasted your eyes on this honey blonde newcomer to the line of Weldwood Hardwood Plywoods, hang on to your hat:

Here's coloring and a figure that rival Prima Vera; a figure that shows stripe and more than a hint of cross fire. Only Korina is cleaner, sounder, with flitches that run wider.

And, speaking of figures, Korina more than rivals Prima Vera in price — it's about one third less. Yet, remember, Korina offers all the popular Weldwood Plywood advantages that alert, style-conscious clients know about and appreciate.

Korina's natural color is a lovely, light shade similar to Prima Vera. Finish it with White Firzite and you have the highly popular "bleached" effect. Add stain and you have a panel that closely resembles hard-to-get comb-grain Oak or Walnut. Korina is a versatile wood that takes a variety of finishes — and takes them all beautifully.

Ample stocks of Korina Weldwood are on hand in lumber yards everywhere. With your approval Korina will soon be going into modern interiors, the finest homes, the smartest shops.

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Weldwood Plywood is made in both Interior and Exterior types, the former laminated with extended resin resins and other approved bonding agents; the latter with phenol formaldehyde synthetic resins.
proved versatile

by the jobs it handles...

Name your job...any air conditioning job requiring capacities from 3 to 40 tons and up...you'll find there is a usAIRco system designed to perform that job dependably and economically.

Outstanding is the usAIRco REFRIGERATED Kooler-Aire "packaged" system, combining the motor-compressor unit, the conditioning unit, and an evaporative condenser into a balanced, complete air conditioning system.

Refrigeration engineers like it because it provides the quickest possible installation of a central system, plus the advantages of a factory-assembled unit.

The usAIRco REFRIGERATED Kooler-Aire has been proved in installations in leading theatres, restaurants, retail stores, offices, and many other places where better air conditioning is required at a low cost.

ANNOUNCEMENTS

Macy's Suburban Department Store in White Plains, N. Y. This fourth and final step in Macy's plans for expansion around New York City (Parkchester, Jamaica and Flatbush stores are its predecessors) will be completed in June 1949. Its principal variation on the now-familiar white concrete suburban-store theme is the full two-story curved glass front which gives maximum visibility indoors and out. The air-conditioning system will include an electronic de-dusting device. Ketchum, Gima & Sharp worked out the interior design in collaboration with architects, Voorhees, Walker, Foley & Smith, Vermilya Brown are builders.

NEUTRA SEMINAR
A Three-Day Program of Lectures by Richard Neutra, Montana State College, Bozeman, Mont., July 26-28. Sessions will consider the relationship between architecture and sociology, the problems of city and regional planning, school architecture, and the history and theory of modern design concepts.

EXHIBITS
The New Home-Buyers Exhibition at Dime Savings Bank of Brooklyn, N. Y. In this show (following the successful three-and-a-half year run of its earlier Home show) the Dime Savings Bank feels it has worked out a successful formula for encouraging and helping would-be-home-owners in its district. Seventy-five leading local builders, members of the Long Island Home Builders Institute, provided (on one large panel each) photographs and plans of their house developments together with costs and other vital statistics. This "building library" serves as the core of the exhibit. Around it, nine comprehensive displays of basic house needs are arranged. Experience in the earlier show indicated that a large number of small booths was tiring and confusing to the visitor. Broader reference to furnishings, materials, equipment and appliances is made possible through a large catalogue section containing brochures from almost 300 firms. The show is rounded out by financial displays (of course) and a "Velopticon" showing views of attractions and facilities on various parts of Long Island. Before the exhibit's first week was over, two house sales were directly traceable to its service.

COMPETITIONS
The A. F. Davis Undergraduate Welding Award for the two best articles appearing in college or university publications between April, 1948 and April, 1949 on any phase of welding or its application to design and construction. Judgment will be based on originality of subject and clear and thorough presentation. Award for the best paper is $200 each to the author and publisher; for the second best, $150 each. Entrants should (Continued on page 60)
Only Kaiser Aluminum Siding combines these qualities!

BEAUTIFUL! Kaiser Aluminum Siding is a new kind of material, produced by precision machinery from highest grade, roll-hardened, dent-resistant aluminum. Each piece is perfectly uniform in quality and beauty, unmarred by knots, splits or sawing scars. It comes from the mill with a zinc chromate prime coat, ready for paint finishes that won’t flake, peel, chip or blister. It will need repainting less often than other materials—and when it becomes dirty, it can be washed easily and with perfect safety, for it cannot absorb paint-destroying moisture.

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ECONOMICAL! Here’s superior siding that costs no more than other high quality materials. And it saves money during erection because its ease of application speeds construction time, cuts labor costs. It takes half the ordinary number of nails, and needs less paint, because it absorbs none. And it will need none of the usual kind of maintenance.

WEATHERTIGHT! This new material is the only metal siding with a curved surface. Which means it forms a weather-tight, rigid joint when the lower edge is nailed down. It also means that there’s no “oil can,” waves or buckles to mar the beauty. What’s more, it forms deep, attractive shadow lines, and increases the strength of the material.

TOUGH—but easy to work with! Kaiser Aluminum Siding cannot be damaged by rats or insects, and it resists fire. But it’s a lightweight material that carpenters like to work with. No special tools are required and it can be handled with perfect ease. One man can carry 200 base feet of it! Prepare to specify Kaiser Aluminum Siding to your clients!

No other material can match this unique combination of advantages! Write for free booklet packed with pictures and interesting information about this new siding!

Kaiser Aluminum Siding specifications:
- Length: 10, 12, 14 and 16 ft. standard lengths
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- Weight: 580 lbs. per 1163 base feet (1000 sq. ft.)

Shipped in cartons containing 200 base feet, weighing 106 lbs. overall.

Kaiser Aluminum Siding—product of Permanente Metals Corp.

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57
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Incorporated in them are such outstanding features as—

1. Adjustable closing power.
2. Adjustable valve control—separate control at latching point.
3. Universal in application—not handed.
4. Adaptable through standard attachments to any type of door.
5. Very desirable rack & pinion closing control.
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9. Extremely simple to apply.
10. Special units for hospital doors, coupon booth doors, telephone booth doors and fire tower doors, etc.

When you specify Sargent, you are assured of the finest.

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Plaster, the truly plastic interior finish, will do anything an architect wishes to give expression to his wall and ceiling design. Whether you plan a plain, curving or ornamental surface—the underside of a curving staircase, for instance, or a ceiling recessed for indirect lighting—plaster should be a part of your plan.

Even at today's costs, plaster is among the least expensive wall and ceiling materials.

Plaster is enduring, fire-retardant, resistant to the transmission of noise. It can be applied over many different bases, to obtain the results required by a given building code or function. Plaster can solve almost any wall and ceiling construction problem—or design problem.

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BEAUTIFUL  •  LONG LASTING


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RESPOND TO CHANGING STYLE TRENDS

With beauty, durability and long-time economy as obvious advantages, an important quality of oak flooring is lately becoming more and more appreciated—that is, adaptability to meet changing style trends.

Actually oak floors welcome new ideas to make homes more attractive and more livable. Changes in furnishings, wallpaper, paint or rugs blend harmoniously into the basic beauty of natural oak grain and texture.

Oak floors prove their superiority as a base for wall-to-wall carpets too. Carpets lie smooth and firm. They look better and clean more easily. At any time, when carpets become too worn for further service, oak floors can be depended upon for their original, lasting beauty.

For any season, for any style, oak floors provide the basis for lasting charm and hospitality.

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, 814 Sterick Building, Memphis, Tenn.

OAK FLOORS
BEAUTY  DURABILITY
ADAPTABILITY  ECONOMY

send six copies of the publication to: The Chairman of the Educational Committee, American Welding Society, 33 W. 39 St., New York 18, N. Y. before April 10, 1949.

THE MERIT AWARD COMPETITION for "NEW LIGHT ON PLANNED LIGHTING." Fifteen prizes of $100 each are offered for the best ideas on lighting use. Application blanks are obtainable from the Merit Award Committee, 326 W. Madison St., Chicago 6, Ill. The contest is open to architects, electrical contractors and wholesalers, utility men and users of industrial and commercial lighting. Deadline is January 15, 1949.

AWARDS

THE 1948 AMERICAN IRON AND STEEL INSTITUTE MEDALS to J. L. Mauthe and Karl Fetter of the Youngstown Sheet & Tube Co.; and to the late J. H. Slater of Republic Steel Co.

THE JOHN WESLEY HYATT AWARD for outstanding achievement in the Plastics Industry to John Cochrane, Jr. of Formica Insulation Co.

THE $2,800 LEBRUN TRAVELING SCHOLARSHIP of the New York Chapter of the A.I.A. to Jouka Hakola for study in the field of public health building.

THE UNIVERSITY OF MICHIGAN BOOT Traveling Fellowship to John Bickel, III, of Louisville, Ky.

APPOINTMENTS

ADAMS & WOODBRIDGE, New York City architects, as consultants for Columbia University’s present and future building and maintenance plans. The firm will work on broad development lines, will not design individual buildings.

IRA BACH to fill the post of Director of Planning on the Chicago Land Clearance Commission.

ROBERT ALEXANDER and EDMUND McKANNA as president and vice president of the Los Angeles Planning Commission.

JAMES O’MALLEY of Wilkes-Barre, Pa., new president of the National Savings & Loan League.

RICHARD MEAGHER, new partner and member of Brown, Wells & Meagher, architects and engineers, 118½ W. Campbell Ave., Roanoke, Va.

WALLACE YERKES, as member of Naess & Murphy, Chicago architectural firm.

EDWARD RUBIN, business manager for Gruen & Krummeck Associates, California store designers.

ROBERT HILLS, Director of Client Service for Van Doren, Nowland & Schladermundt, New York and Philadelphia design firm.

MICHAEL CZAJA, visiting professor of design in Stanford University’s summer session.

NEW OFFICES

ALEXANDER SPITZ A.I.A. and WARREN SPITZ A.I.A. architects and engineers, 410 S. Michigan Ave., Chicago 5, Ill.

I. WILLIAM RICCIUTI and M. WAYNE STOUFFLE, architectural partnership, Queen and Crescent Bldg., New Orleans, La.

ALEXANDER KNOWLTON, architect, 139 E. 53 St., New York 22, N. Y.

(Continued on page 64)
One-Piece Pipe Line

with SILBRAZ* joints

Silbraz joints, made with Walseal* valves, fittings and flanges, actually make a "one-piece pipe line" of brass, copper, or copper-nickel I.P.S. pipe or tubing . . . leaky joints are completely eliminated, and maintenance costs are reduced to the minimum.

A Silbraz joint is silver-brazed — not soldered. This modern pipe joint will not creep or pull apart under any condition which the pipe itself can withstand . . . vibration or corrosion will not affect it. A Silbraz joint is designed to have a tensile strength equal to about three times standard weight brass pipe, and the pipe will fail before the joint will pull apart.

For full information about Silbraz joints made with Walseal valves, fittings and flanges, see your nearby Walworth distributor, or write for Circular 84.

*Patented — Reg. U. S. Patent Office

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DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD
KOHLER DRINKING FOUNTAINS
assure sanitary protection
and convenience

KOHLER quality in drinking fountains is apparent in a number of important features. Each fountain delivers water in a mound that has the angle and volume recognized as most effective for sanitation and comfort. A self-closing control valve is adjustable for continuous flow, and an automatic volume regulator keeps the drinking mound at the correct height and shape under varying pressures. A metal guard prevents contact of lips with jet opening.

Kohler fountains protect against back siphonage or water contamination — and all attempts at mischievous squirting are instantly defeated, for when water is checked at the jet opening it flows into the bowl below. The vitreous china surfaces are lustrous, durable and easy to keep clean. Kohler models include pedestal, recessed or semi-recessed, and wall-hanging types, some of which are shown. They all assure lasting serviceability and satisfaction.

Write for information: Kohler Co., Dept. 23-B, Kohler, Wisconsin.
3. Many-layer Stitched Construction. High thermal efficiency. (*k* factor of dependable KIMSUL is 0.27.)

1. Extra Width. KIMSUL blankets provide fully insulated fastening edges.

2. Handy Compressed Package. Comes in light, compact rolls—reduced to 1/5th installed length. Easy to handle—easy to apply.

No other insulation gives you these 6 exclusive building advantages

4. Extra Flexibility. Fits snugly into corners, behind pipes and other "tight spots".

5. Caulkability. Cut strips are excellent for caulking around windows and door frames.

6. PYROGARD Fire-Resistant Cover. Even its cover is entirely treated to resist fire and flame. A unique KIMSUL feature.

What's more, KIMSUL* insulation is precut to fit standard spaces between studs and rafters. It's permanent—won't sag or settle. Clean—no sharp particles to irritate workmen's skin. Adds little to structural load. (1,000 sq. ft. of Standard Thick KIMSUL weighs only 115 lbs.) Resists fire, moisture, vermin and fungi—and it's termite-proof. KIMSUL comes in three thicknesses for the proper balance of efficiency and economy. Specify Commercial Thick (about ½ in.) and Standard Thick (about 1 in.) for walls, attics and floors; Double Thick (about 2 in.) for attics.

KIMBERLY-CLARK CORPORATION KIMSUL Division, Neenah, Wisconsin, U.S.A.

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A brand new manual filled with technical data you can use. Prepared by the makers of KIMSUL. Write us for your free copy on your business letterhead.

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BY THE UNSLEEPING EYE OF SCIENCE

That homeowners may obtain even greater value in wood products such as doors, frames, screens and windows, N.D.M.A. exercises unceasing vigilance. Periodical tests are made of toxic preservative solutions used by N.D.M.A. licensed manufacturers. Mill practices and equipment are inspected. N.D.M.A. minimum standards are rigidly maintained.

It is no wonder, then, that the N.D.M.A. seal of approval, stamped on millwork, has gained such increasing public confidence. And it is no wonder that so many architects and builders appreciate and value the public service which this non-profit organization performs.

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MODERN HEATING FOR MODERN BUILDINGS

The NATIONAL line fills every heating requirement for any type of installation, from small homes to largest commercial buildings. It is backed by over fifty years of nationwide acceptance. Specify modern NATIONAL heating equipment with complete confidence.

NATIONAL CAST IRON HEAT EXTRACTORS

These features—economical heating, long, efficient service, smart appearance, easy convertibility to any fuel—are the engineered results of over seven years of intensive NATIONAL research.

“200” SERIES. Big boiler performance for homes of medium size and some commercial installations.

“100” SERIES. Smart and compact for small home installation in kitchens, basements or utility rooms.

“300” SERIES. For larger homes, small apartments and various commercial installations where more heat is needed.

“400” SERIES. Designed for very large installations where plenty of heat is required to serve many purposes.

NATIONAL STEEL BOILERS

Their economy of first cost... installation... operation... and upkeep... and upkeep offers outstanding value for residential and commercial heating. Construction and performance meet or exceed all requirements of recognized authorities and codes.

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CORRECTIONS
In the May store issue, the following revisions of credit are due:
On p. 133, Ernst Payer was associate architect for the Howard Johnson store;
On p. 136, Olsen, Ridley & Olson were architects for the Goethals Store Building; John Ridley, designer.

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In this distinctive residence PC Glass Blocks admit plenty of bright cheerful daylight. Their insulating properties make homes cooler in summer, warmer in winter. Privacy and noise dampening add to the comfort of the home with PC Glass Blocks in light openings. Architect, Philip B. Maher, Bluff, IL.

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CONTEMPORARY DESIGN FOR A NEW UNIVERSITY IN THE SUB-TROPICS
This spring the University of Miami started moving into a brand new 245-acre campus in suburban Coral Gables—only yesterday a virgin stretch of pineland, bisected from east to west by a canal and interrupted only by the lonely concrete-frame skeleton of an unfinished building. Even now only one new permanent structure is complete—the striking 46-unit classroom building shown on the following pages. The rest of the campus buildings are temporary and the 7,200 students are shuttling between the new campus and the old one at the center of Coral Gables. But a new student activities building and a library are nearing completion; the old canal-side building (facing page) will shortly be completed as a liberal arts school; and across the canal one of the country's biggest student housing projects is being rushed for fall occupancy (p. 82). Several other buildings (engineering, science, music and drama, another classroom unit) are planned for early construction. Thus the University is stepping into the only completely new, completely contemporary, educational plant in the country.

This will be Miami's third move and second campus in the 22 years of its existence. Back in 1926 it was a new boom child in a new boom town. It had money pledged,* land bought and one building begun. This campus, like the whole town, was to be in the regnant Spanish style. ("Spanish-Colonial was the big thing down here in Florida in those days," says Dr. Bowman F. Ashe, president of the institution since its founding). But the new school was struck by twin disasters—the great hurricane and the collapse of the boom which followed it. Of the first $250,000 pledged, Dr. Ashe was able to collect exactly $2,000; of the next quarter's pledges of $340,000, he got $3,000. He set the university up in a downtown hotel, also Spanish-Colonial and also unfinished. Somehow the school continued, even thrived, retaining the original tract if only because no one else would buy it.

When, in 1945, the University began to plan the present expansion it optimistically decided to return to its original spot—but not to its original style. They turned the whole problem of evolving a Master Plan over to Architect Robert Law Weed, with Miss Marion I. Manley as Associate. Long-time and enthusiastic residents of Miami, Mr. Weed and Miss Manley set to work. It was, in many ways, an architect's dream commission—to plan a modern educational institution for an ultimate student body of 10,000. There were no strings tied to the assignment—architectural or otherwise. How well the architects have succeeded in meeting the requirements of flexibility and heavy student traffic is apparent in the plot plan at right; and that they have adroitly made the most of Florida's climate is apparent in sketches and photographs shown here.

Many universities with big post-war building programs have blanched when the first bids were opened, and then indefinitely postponed building plans. If Miami's Board of Trustees decided to go full steam ahead, it was a policy of "calculated risk." They were faced with the choice of immediate expansion to handle the huge influx of student-veterans or losing the opportunity altogether.

President Ashe, in command of the whole operation, is well pleased with progress to date. "Everything has cost more than we estimated," he says, "but not more than I thought."

* Including a reputed $5,000,000 from the late George E. Merrick, developer of Coral Gables, whose company handled some $150,000,000 realty sales during the boom.
Campus development for the University of Miami started fast in the late Twenties with a design for a liberal arts building, then stopped suddenly. The concrete frame of this first university building which had just been poured has waited two decades for walls, floors and roof. For evidence that the decades have brought some changes in design ideas, witness Architect Robert M. Little's new design, exorcising the ghosts of the Spanish grandees who were to have been such an important part of the original.
The classroom building—first of the new campus plan completed, and a handsome indication of what is to co

ROBERT LAW WEED & ASSOCIATES, ARCHITECTS
MARION I. MANLEY, ASSOCIATE

NO RAYS OF HOT FLORIDA SUN ENTER CLASSROOMS AFTER 9 IN THE MORNING

OPEN GALLERIES REPLACE CORRIDORS FOR PASSAGE AMONG CLASSROOMS; CANTILEVERED OUT FROM WALL OF BUILDING, THEIR STEE
Because of the University's critical need for instructional space, the new classroom building was the first to be constructed. Its sheer bulk (600 ft. long, 63,000 sq. ft. of floor space) made it one of the pivotal units in the master plan and—along with orientation problems described over page—dictated its placement. A sloping site dictated a change in level at approximately the center. This was also the line of one of the main covered walkways leading from the campus center to the north parking lot. From both the standpoint of plan and appearance, it was thus logical to place the air conditioned auditorium (with reading room and outdoor lounge below), at this intersection. The building contains 46 classrooms of varying sizes but is framed in uniform bays—21 in the two-story north wing, 14 in the three-story south wing. All rooms are served by continuous cantilevered galleries along the southwest face which, in addition to circulation, serve to keep solar heat off the classrooms proper. (see p. 81) Toilets and semi-enclosed stair towers are placed at both ends and in center.

The building, entirely of reinforced concrete, employs a handsome and economical structural system. Instead of the conventional beam-and-column, the architects have used a series of rigid bents, spanning the building transversely every 15 ft. 2 in. and cantilevered out 10 1/2 ft. along the south wall to carry the galleries. These bents are tied together laterally by integral floor and roof slabs. Along the north wall, these slabs are ingeniously folded to yield hollow cornices (see diagram below) while along the south, at the fulcrum of the cantilever, they are integral with a deep, thin spandrel beam over the transom windows. In addition to its purely structural merits, this skeleton has been used to protect the classroom against sun, sky glare and rain (over page).
NIGHT PHOTOGRAPH SHOWS THE LONG HIGH WINDOWS TUCKED UNDER THE PROJECTING GALLERIES; DOORS, OPEN, ARE SOLID.

OUTDOOR LOUNGE IS SHADY SPOT FOR RELAXATION BETWEEN CLASSES; ALUMINUM GRILLE ABOVE HAS ABSTRACT PATTERN.
Design devices ban the sun and utilize the southeast breeze for comfort and efficient class room conditions

FOUR ASPECTS of the Florida climate are decisive for her buildings: magnificent sunshine; a cool ocean breeze from the southeast; a spring rainy season; and the murderous force of the autumnal hurricanes. In varying degrees, Florida architecture reflects these factors. Building code provisions governing wind resistance in all types of structures are probably the country's stiffest. Recognition of the importance of the prevailing breeze to summer comfort is widespread. However, Florida architecture (unlike that of Southern California) has paid surprisingly little attention to the control of sunlight. As a result, in the big resort cities, the eye is assaulted by glare and the body by radiated heat, endlessly reflected from acres of white stucco. Shade is practically non-existent. (Palm trees—with which the state is obsessed—give precious little shade and the native pines have been mostly chopped down). Covered sidewalks for protection against both sun and rain are also surprisingly scarce.

As the first unit to be completed, Miami's new classroom building demonstrates a new and qualitatively higher attention to such climatic conditions. The point of departure in the design of this building was maximum comfort for student and faculty. This meant, primarily, maximum exploitation of breeze, minimum exposure to heat and glare of afternoon sun. After exhaustive studies, it was decided to run the building in the same direction as the prevailing breeze—i.e., southeast to northwest—and place all classrooms on the northwest side. Here, by recessing the window wall, the legs of the concrete bents are made to act as fins which both exclude the sun after 9 a.m. and trap the breeze. By projecting each classroom beyond the one below, each window is given an “eyebrow” against sky glare and rain. On the hot side of the classroom, the only windows are transom type casements placed against the ceiling. Completely protected by the galleries against rain and heat, they are also screened against sky glare by the light steel sunshades along the outer edge of the cantilever.

According to the architects, the system is working beautifully. The lightest breeze, deflected by the fins, is pulled across the classroom and sent from the shady side across the rooms out the transom—presumably by the convected currents up the sun-heated face of the south wall (see diagram at right).

ONLY AIR CONDITIONED AREAS are the auditorium and reading room below it. Seating 300 and equipped with screen and projector, the auditorium is framed around a series of rigid bents.
Housing shortage will be solved with the biggest veterans' housing group in the country insured by FHA

The University of Miami's Veterans' Housing project, now nearing completion, is the largest housing project for veterans to be financed so far through the Federal Housing Administration. Total cost of the FHA approved project is $6,283,400, including furniture. Designed to provide good living facilities for veteran students and their families and veteran members of the faculty, the project consists of 533 apartments in 27 two-and-three story structures, complete with nearby service and community buildings. Of the apartments, 87 have one bedroom, with living-dining room, kitchen and bath; 342 have living room, dining room, kitchen, bath, and two bedrooms; 104 have living room, dining room, study, kitchen, bath, and three bedrooms.

Obviously not the standard dormitory accommodations familiar to college life, the buildings will meet the peculiar current need for housing the great numbers of married veterans with families, and as the crowded conditions in colleges ease in coming years, may well finally become predominantly faculty dwellings. They are ideal for young faculty families, but—with their kitchens—luxurious for dormitory life.

At present, student renting schedules are: 1 bedroom, $77.50 per month; 2 bedrooms, 4 students $150 each per semester; 3 bedrooms, 6 students $150 each per semester. Construction was financed in one package, a $5,969,100 mortgage taken by The Trust Company of New Jersey. Arrangements for final financing are in process, and completion date of construction is set for August. Most students live now in temporary housing, or in the community near—and sometimes not very near—the University. The project, it is predicted, will not only solve the present housing jam, but will save the veteran students money over present higher rents for less desirable quarters.

Individual apartment buildings are designed and oriented so that every living room and bedroom faces south or east into prevailing breezes. Bathrooms, kitchens, and utilities are on the lee side. The exterior wall of the windward rooms is a screen of projected steel sash, well protected from the rain and sun by overhangs and hinged so that the awning type windows may be left open during the brief, furious rainfalls.

Buildings are of three basic types, two or three stories in height, with differing treatments in stair connections. Playgrounds for children adjoin laundry drying yards.

Bearing walls of concrete block, manufactured on the site for economy, are used perpendicular to the outside wall, and are solid except for one opening in each wall at each floor, eliminating much cutting and trimming. The floors are of wood construction 2 x 8 in. joists throughout, 12 ft. long, spanning between partitions, and thus taking all floor and roof load off the exterior shell of the building. Storagewalls are used throughout for clothes and kitchenware.
OLD SIWASH BUILDS

TEXT AND ILLUSTRATIONS BY JOHN ALCOOT, HEAD, ART DEPARTMENT, UNIVERSITY OF NORTH CAROLINA

This is a story about a small, imaginary college somewhere in America and its problem in building a new building today. Our college here has ivy and a new generation of G.I.'s to house. The story of this college sums up the aspirations and problems of colleges everywhere in our country.

The president of Old Siwash sits in his office, looking at a picture of Captain McGarke, the founder of the college. The president likes to talk things over with the Captain, an alert and able man in his day. Next to the Captain hangs a print of the college's first building, "McGarke Hall." It is a simple old building, gaut and plain, but dignified. Everyone is still immensely proud of it.

On the present-day campus, McGarke Hall shows up much smaller and plainer than the buildings which followed: the medieval fortress with battlements, the Colonial mansion facing the highway.

Quite a medley of buildings. And yet... there is something genuine and charming about this campus. The buildings convey a sense of the life and growth of the college during the last hundred years.

Now, with the influx of G.I.'s, the college needs another building: a small science building, with labs and lecture rooms. What should this new building look like? The president finds this a perplexing question. He knows the building should be of some respectable design. And yet...

... Which of these styles should he choose? To answer this question, the president imagines the steps involved in designing and building each one. We follow him...

Some colleges are erecting modern structures: buildings which seem to have burst out of the old box-like shape. There are only a few, of course, far outnumbered by older buildings. Naturally, they look a little strange. But our president is young in spirit and open to new ways.

The traditional building begins with a Map of the Campus. We recognize the shapes of existing buildings in black. The new science building is located in outline. It naturally will be placed here, astride the long axis of the campus. The map, drawn on a flat piece of paper, dictates this inevitable placement of the new building. Thus the traditional building begins with a piece of paper.

The modern building begins with the reality of the campus, the rolling hills around it... the sun and wind above. The summer sun will be unwelcome in some rooms and its path must be plotted. Wind directions must be studied so that windows may be set to trap the breeze during the stifling summer months. At the far end of the campus, a well-worn road winds around the hill to town—the everyday approach.
The ground plan of the traditional building quickly takes shape. It is symmetrical, one side mirroring the other. The main elements of the plan have already been set by the building’s axial placement. A main entrance faces down the center of the campus. Walks on either side and a screen of trees in back will box off the building. All the classrooms and labs will be corseted within this orderly plan.

The plan of the nontraditional building may have an irregular shape. And this shape is changed many times before the final plan. The plan evolves as professors are consulted on exact requirements of size, shape, placement and light for their classrooms and laboratories. The main entrance to the buildings are at the left, at that corner where heavy traffic flows. A large parking lot is in back.

The traditional building will be erected in masonry construction of brick or stone, the only kind of heavy construction known when McGarkle Hall was built. Like the college’s very first building, the new one will have heavy walls to support the load of floors and roof. Window openings must be narrow so not to weaken the load-bearing walls. And they must be placed so not to interrupt the symmetrical facade.

The nontraditional building will have floor slabs of concrete, supported by steel posts and not by masonry walls. This construction permits exterior walls to be broken by doors or windows where needed. Inside, partitions may be placed freely. Thus a sensitive cutting and lighting of rooms is possible as never before. This is the modern freedom to divide space, to open and close it with precision.

As the traditional building progresses, it is trimmed. Among the ornaments are chimneys—vestigial remnants of the past—which rest on platforms in the sky. A fake chimney also protrudes from the side wall. Necessary windows cut away the shaft and expose the fake, but it is unlikely that this will be noticed. Each window is topped by an elegant crown. All this should captivate country boys down for an education.

The nontraditional building will not indulge in applied ornament. It will find beauty in structural materials themselves: elegant metal columns; magic panes of glass which cut space—but through which space flows; wall surfaces of any readily available material which blends well with the other buildings. All these structural materials will be frankly used and handled to show off their inherent beauty.

The finished traditional building will be very dignified as one looks at it from the front. From the side or back it may look barren or ugly, but you are not meant to react to these views. The maximum impact of the building is in its formal facade. This is regrettable, especially for this particular building. Its everyday approach is not along the geometrical axis of the campus, but from the town in back.

By contrast, the more informal Twentieth Century building is intended to be attractive from any view. As one approaches it from the town or from any direction on the campus, each side is different and inviting. The building does not hold you off at one fixed point in the distance to impress and overpower you. Instead, its open and fluid shape draws you from every side and invites you to live and work within.
Like a statue in the park, the traditional building is complete and final. You can imagine no change or addition to it. This, too, is unfortunate because ten years from now an addition will very likely be needed. But it can’t be made without destroying the formal elegance of the monument. This symmetrical building is an inflexible and frozen block; it stands quite aloof from any demands of the future.

For the Twentieth Century building you can easily imagine an addition, as shown by dotted lines. Or new space could be added elsewhere. Easy additions are possible because the building is an organic whole composed of unit parts. The designer’s skill has unified the component parts. By the same skill, an existing unit may be modified, or a new unit added, without destroying the unity of the whole.

The dream of the Revival architect is to see his building in a setting with all older buildings remodeled to uniformity. This is harmony-through-repetition. It is as if all the buildings magically sprang up over night. But colleges do not spring up over night, and are not restricted to the aristocracy. Repetition of aristocratic forms denies both the democratic nature and the natural growth of a college.

Here is the modern building added. All old buildings are left intact, revealing and not denying the process of history. Old McGarkle Hall, the romantic Victorian building, the new science building—all very different in appearance! But each is the serious best of its time. Together they constitute a tradition of good building. The deep organic unity of changing forms binds the campus together.

Which building, then, should Old Siwash choose? What shall be the Twentieth Century’s contribution to this historic campus? Our president sat in his office pondering the images we have seen. What would old Captain McGarkle, the founder of the college, do? What if the architect’s dream of a Greek Revival campus were carried out, and what if the Captain suddenly appeared on such a campus?

Old Captain McGarkle was an honest and forthright man, and the plain lines of McGarkle Hall expressed his aversion to sham. He would be surprised and dismayed at false facades concealing Twentieth Century college activities. He would not understand why classrooms, theater, laboratories should all be hidden as things to be ashamed of. Here’s what the Captain would say to empty imitation:

“In my day I built this building here! Needs of my time did not include laboratories. We had no scientific methods of lighting, no thousands of students milling about, no automobiles to park. You can be sure that if we had had such problems, I would have built differently. And if my time had known steel, concrete and modern building methods, you can be sure I would have used them.”

The president saw the only thing to do—

—He built the modern building. And when he sees students on the campus today he knows his choice was right. For them, the new building has a unique importance. Across the campus, its glass walls reveal the excitement of the busy laboratories within. The whole building is a pulse-quenkening symbol of modern life and work. This is the spiritual task of architecture.
BUS DEPOT  Loading and traffic problems are neatly solved for this Dakota fleet in a new location set back from street congestion

LOCATION: SIOUX FALLS, S. D.
PERKINS & McWAYNE, Architects
CHARLES F. SLOAN and L. EARL McLAUGHLIN, Designers
HENRY CARLSON CO., General Contractor

The complicated street traffic problem in this midwest city, typical of many other big and small cities throughout the country, forced these bus companies to seek a new site for their terminal and headquarters. Like so many other street fleets, theirs were creating regular series of honking snarls on the central business artery which their old terminal directly abutted. The old location was in the midtown business section—and their new location also had to be near midtown, for in a city this size preliminary transportation to a bus line is usually not considered justifiable by the potential passengers. After attempts to buy land to make a private loading lot adjoining the old central location had failed, the companies finally located an area of adequate size and good road exposure not too many blocks away, and constructed this commodious building.

A wide canopy and loading strip—which, experience has shown might well be even wider—decided the shape of the building behind it. The long rectangular plan is divided into a large waiting room with lunch counter and administrative offices beyond the ticket counter and service rooms. Simplicity in design makes for an attractive building of easy maintenance with a prevailing atmosphere of efficiency. The only purely decorative features of the design are a plant box and pylon on the busier street exposure.
Thirty-two trips are scheduled in and out of this terminal every day, carrying an average total of 650 passengers; so the old, cramped location was the scene of much annoying confusion. But here in the new area farther uptown, the incoming buses merely steer into the right slots, deliver and accept passengers, back out, turn, and go back on the road, via the alley. The avenue at right angles to the entrance ramp is the more important adjacent feeder street. The other, because of a steep hill to the west, is fortunately little used for either pedestrian traffic or vehicular traffic other than the buses.

Office shortages and the high cost of equipment are leading many doctors into cooperative practice. The following eight pages show how some of them have solved the problem.

The small private clinic, in which several doctors pool their resources for equipment and office space, saw a brief popularity after the first World War and in the early Forties. It is here again in the current postwar period credited mainly to the shortage of office accommodations. The present trend may also be connected with the fact that group medical practice on a large scale has been a growing (though little-recognized) phenomenon within private medicine for many years. At present there are 500 large private clinics in America, staffed by a corps of specialists and boasting elaborate equipment which one general practitioner could never afford.

The clinics shown in the following pages are not representative of this large, highly specialized group work. However, they are an offshoot illustrating the advantages of even small-scale consolidation (average group: four doctors), which in many cases cuts down overhead by as much as 15 per cent. Most of the buildings contain X-ray equipment, fluoroscope and electrocardiograph machines which are essential to thorough diagnosis and treatment and which are used jointly by the cooperating physicians. In most cases the doctors also share reception room space and need only one secretary to handle all office work.

It is when the group practice is large enough to include ten or more doctors, however, that the real saving begins. It is estimated that one physician can keep his mechanical equipment busy for only 10 per cent of the working day. The rest of the time it stands idle and his investment goes to waste. With ten doctors the machinery could be kept constantly busy and the investment would pay for itself.

Another important cost aspect is the inclusion of a pharmacy in the clinic building. Experience indicates that a completely equipped clinic for four doctors can be paid for in ten years from the pharmaceutical profits alone.

There are other advantages to be found in group practice. The small clinic can be built on comparatively inexpensive land away from the center of town and offers a considerable saving over comparable space in large midtown medical buildings. Suburban and small-town doctors find it particularly convenient to be out of congested business districts and nearer to the homes of their patients. Proper planning makes it possible to handle a larger number of patients in a shorter time and parking space can easily be provided. Perhaps because of these factors the majority of recent small clinics have appeared in Southern California where the suburban spread is notorious.

The small clinic is actually a very difficult building type to pin down, however, and generalizations are apt to be inaccurate. Those shown here cost from $15,000 to $105,000, contain one to 12 suites and are owned variously by the group of doctors involved, by a senior doctor who rents part of his space and by an outside landlord. Some are set up with a team of specialists; others with competing general practitioners; others with a doctor-dentist combination. Occasionally we find the traditional one-man operation combined with family living quarters. Perhaps the only glittering generalization that can be made about this postwar crop of clinics is that, unlike their predecessors, which were mainly renovation jobs, these are all new buildings—with the advantage of from-scratch planning for circulation, lighting and equipment.
Waldo Clinic plans to amortize its $50,000 cost by increased medical practice.

Exorbitant midtown rents, the urban parking problem and time wasted driving to and from the hospital were behind Dr. W. E. Waldo's decision to build this pleasant clinic away from Seattle's central business district and near both hospital and patients' homes. As owner and chief of staff he rents the building to himself, two other doctors and a dentist for $600 per month. This price gives them X-ray equipment, a fine clinical laboratory, operating and basal metabolism rooms. "We can truly say this plan works" comments Dr. Waldo. "My office being on the lower floor is away from the heavy office traffic, but with an intercommunicating phone system I can keep in touch with everyone."
One-man office illustrates efficiency of small medical buildings.

WHITNEY R. SMITH, Architect
KERSEY KINSEY CO., Contractors
MILTON GOLDMAN, M.D., Owner

The plan of this California clinic grew out of working deficiencies in the doctor's previous office. The core of the building is his X-ray room—as important to a dermatologist as an operating chamber is to a surgeon. Traffic flows around this central core on every side, leading from the doctor's office and public waiting room at front to rear examination cubicles. The doctor can go directly from room to room on his side of the clinic with complete privacy, while the nurse and incoming patients have equal privacy on their side. Placement of the laboratory next to the reception room saves time and steps for the nurse. In spite of the fact that Dr. Goldman has three times as much space as he did before (and a comparable increase in patients), one secretary-nurse is able to handle the work with greatly increased efficiency—a tribute to the architect's thoughtful planning. Cost: $29,000.
3. A small town gets a diminutive yet efficient substitute for the hospital it cannot afford.

The problem in designing this clinic was to provide complete minor medical service for the village of Dolton, Ill. During the war the local physician-surgeon had had to treat thousands of patients without proper technical equipment—the nearest hospital being ten miles away. The new clinic, with space for two other returning doctors, is equipped to give patients complete care with the exception of major surgery. The layout of the doctors' suites has proved extremely efficient. Only the library is something of a flop. No one has time to use this room and it should perhaps be converted to additional recovery rooms for the extensive minor surgery performed. The building cost $78,000 with radiant heat and air conditioning.


One approach to the problem of coordinating private medical practice is shown here. The building will be erected by an outside promoter and leased to two doctors as managers. They in turn will lease to other local practitioners—in this case six doctors and two dentists. There is no attempt to provide a clinic of cooperating specialists. Instead all eight doctors will be in competition. For this reason they demanded small separate waiting rooms, feeling that patients might do too much shopping around if placed together in one large room. However, to reduce the equipment investment and the number of technical employees, facilities such as X-ray and therapy rooms will be used in common.
Straightforward design marks this small clinic in which five physicians have set up a group practice.

PIETRO BELLUSCHI, Architect
ALLAN A. SIEWERT, Contractor

This is one of the few clinics actually devoted to group medicine within the framework of private practice. In other words, the five doctors who occupy its offices are complementary specialists rather than competitors. Special skills represented are obstetrics, gynecology, pediatrics, surgery and internal medicine. Dr. Charles S. Campbell who originated the idea for the center had always been interested in group practice. The postwar shortage of office space provided his incentive. He reports that such a cooperative, suburban clinic was a completely new venture in New Salem, Ore., the typical arrangement (as in most cities) having always been private offices in midtown medical buildings. The main problem was to provide an efficient and attractive design as inexpensively as possible ($55,000). Money was put up by local interests and the clinic turned over to the doctors on a ten-year lease.

This handsome building in Palm Springs, Calif., is a combination clinic-residence providing medical suites for two doctors and one dentist on the ground floor with apartments for their families on the second. The different functions of the two levels are frankly expressed by the facade: a severe stucco finish below; warm redwood planking above. The plan is an ingenious one incorporating the popular California patio but turning it, so to speak, inside out. Instead of limiting exterior windows for privacy and concentrating glass areas toward the court, this design is oriented outward with large first floor windows and spacious second floor balconies rimming the exterior and commanding magnificent views of mountains to the south and west. The patio walls, on the other hand, are broken only by high strip windows with obscure glass which provide privacy without sacrificing much-needed illumination. The foyer alone is glazed to allow a view of the interior court. Exterior redwood stairways provide private access to each apartment and floor insulation plus separate ventilating systems further insure the complete isolation of these units from the medical portion of the building. Cost: $105,000.
The smallest and least costly ($15,000) of the recent clinics is this tiny, trim office in Belle Plaine, Minn. Original sketches contemplated a much larger building, but the necessity of keeping within a tight budget gradually chipped away the size. Despite shrinking space limitations, the architects have managed to provide ample examination and treatment areas—although the doctor-owner feels that the waiting room is somewhat cramped. Circulation, radiating from a small, central island of storage units, is extremely free. The clinic is located in a residential section and, with its clean-cut rectangular lines, is quite an attention-getter among comfortable clapboard neighbors.

8. Offset plan for a two-man clinic gives each one a private unit with a maximum of windows.

H. ROY KELLEY, Architect
DOUGLAS WARNER, M.D., Owner

Although the owner of this clinic is a doctor, he built it not for his own office, but as a rental investment. After considering a variety of enterprises—from drugstores to filling stations—he hit upon the small clinic as best suited to the Pasadena residential neighborhood where he owned a lot. The building was tailored to fit the needs of its future tenants, a surgeon and a dentist. North light and a large number of small rooms with outside exposures were prerequisites for each. The solution: two distinct units with four exposures connected only at the central vestibule. The entrance can be approached from both the street and the rear parking area. This offset plan also gave space for two planted courts at front and rear.

9. Common X-ray and laboratory equipment serve separate offices.

ANDERSON & SIMONDS, Architects
CLIFFORD L. FEILER, M.D., Owner

The doctor-owner of this suburban San Francisco clinic occupies the larger suite of offices and rents the smaller one. The problem was to arrange rooms so that the stream of patients could be orderly and rapid. For instance, to avoid tying up treatment rooms the pediatric section has special dressing rooms for babies. Flow of patients is three times as fast as in the doctor's old office and one receptionist-nurse can control both waiting rooms plus outgoing patients. The clinic cost $37,000 and the income suite rents for $200 per month.
HOUSE IN FLORIDA

RUDOLPH & TWITCHELL, Architects
ASSOCIATED BUILDERS, INC., Contractors
LOCATION: SARASOTA

"... Our desire in this design was to make unmistakably clear how each member is joined to its neighbor."

A VIEW PAST THE SLIDING WALL PANELS OF THE LIVING ROOM OUT TOWARD THE BEACH AND GULF
A structural module of regularly framed bays is used, but with non-structural partitions.

“Our methods are still those of the craftsman to a large extent, whether we like it or not. It must be remembered that we are working in a nonindustrial area—in Florida a piece of steel is a precious item” say the architects of this house. Far from being any sort of apology, the statement is a good beginning for understanding and full appreciation of their conscious effort to make this wood frame house look like a wood frame house—or as a wood frame house should look—in a distinct Florida regionalism. All details are defined—the inhabitant of the house is a constant spectator of the structure. The economical 12 ft. bay system not only saved money in standardization of roof timbers, but also allowed the finishing of the terrazo floor (for sandy, wet feet) before the non-structural partitions were placed, thereby eliminating the costly and difficult procedure of grinding around each partition. Even the clerestory in the living room has been expressed as an independent structural system, leading to double columns standing in that room. One column and beam is part of the regular bay system carried throughout the entire building. The second column’s job is to support the clerestory, a “free element.”
om sizes independent of the module.

PROJECTING BEAMS UNDER THE LONG OVERHANG MARK BAYS IN BEDROOM WING

Twelve foot bays are the framing element, economizing on roof lumber and eliminating structural partitions.

SIMPLE FRAMING CALLS FOR CONTINUOUS 2 x 6's CARRYING THE ROOF ON 6 x 12 BEAMS WHICH REST ON 6 x 8 COLUMNS. STRIATED PLYWOOD CEILING LEAVES HANDSOME BEAMS EXPOSED AND REQUIRE AN EXACTING DETAIL WHERE LARGE GLASS WINDOWS ARE RUN ALL THE WAY TO THE CEILING BETWEEN BEAMS.
The wood skeleton, lean and spare, helps make the interiors very pleasant in character. All the rooms in this house—built for occupancy six months of the year—have cross ventilation. In the bedroom wing this meant the elimination of a hall in favor of an outdoor walk, which is as pleasant as it is practical in the situation. A long overhang, which was no problem in this framing system, shields the walk from above. Cypress was used extensively, with lime block for solid bearing walls and for those exposures which stand against the prevailing winds.

Extensive use of glass is justified by the architects with the explanation that there is not as much sun in Florida as many people believe. "To us what is needed is not less glass but better control of the opening, which we now accomplish by loose-woven fabric curtains, trees, and large-leaved plants and overhangs. We long for a weather-resisting flexible blind which can be used on the outside of the glass to cut down the heat penetration." Glass jalousies are used for ventilation, with careful attention given the detailing of the connection between the jalousies and the fixed glass, so that these members never approach the size of a structural column.
This large master bedroom has a well-realized view of the gulf.


Ducts—Alcoa, Aluminum Co. of America. Gravel stop—Armco, American Rolling Mill Co.


Paints—O'Brien Corp., Inertol Co., Inc. and Pratt & Lambert, Inc.

Doors—Paine Lumber Co. Hardware—Schlage Lock Co.

Electrical Installation: Wiring—National Electric Products Corp.

Switches—Hart & Hegeman Electric Co.

Fixtures—Kurt Versen Co., General Lighting Co. and Century Lighting, Inc.

Kitchen Equipment: Range—Tappan Stove Co.

Refrigerator—Kohler Co., Crane Co.

Dishwasher—General Electric Co.

Plumbing Fixtures: Kohler Co., Crane Co.

Heating—Janitrol warm air system, filtering and humidifying, Surface Combustion Co.

Grilles—U. S. Register Co.

A unique Florida site demanded a regional design, achieved with the aid of native materials

This house is built on Treasure Island, one of the narrower Florida keys. Designed to be kind to children and other members of an overflowing household in winter, and to be suitable for shorter summer stays, it has an exceptional site. The lot is a 200 ft. strip which extends across the slim island from the Gulf of Mexico on one side to the Bayou on the other shore. The house itself is placed on a slight bluff immediately overlooking the Gulf, to take advantage of the sweeping view of a cove and a magnificent beach. Two sliding doors open the living room to a terrace—and this view.

Only disadvantage of the plot is a product of its double-shoreline: a road runs through it. But the architects overcame this in placing the house with the carport facing both the road and prevailing winter winds.

OPENNESS OF THE HOUSE IS APPARENT IN ENTRANCE APPROACH
VIEW OF APPROACH INTO BROAD CARPORT; THIS ELEVATION HAS LITTLE GLASS, IS BUTTRESS AGAINST WINTER WINDS

EXPOSURE ON GULF OF MEXICO; USE OF CYPRESS AND GRAY LIME BLOCK HELP IN DEVELOPING STRONG REGIONAL FLAVOR
NEW DESIGNS in furniture and accessories are hospitably displayed in a renovated New York house

DOROTHY Q. NOYES and ROBERT H. ROSENBERG, Designers
WILLIAM W. BRILL, General Contractor

Launched by three women with experience and good taste aplenty, but small capital, this new shop for modern furniture and accessories is now snugly ensconced in the lower two floors of an old Manhattan brownstone. A shortage of store space in the particular district where they wished to locate led them to a vacant house. They rented it on a long-term lease, sublet the three upper floors and then set about refurbishing the rest for their new shop. They knew that most, if not all, of their items would be available elsewhere in the city. But they felt—and their experience seems to prove them right—that having this merchandise grouped together, in one store, would attract a certain type of customer. This customer, in general terms, is young, married, upper middle income; has a bias toward modern; needs some guidance perhaps but avoids chi-chi decorators. What the trio needed for this clientele was proper background and adequate space for a selected line of new designs. Their new quarters provide both handsomely. And they did it at modest expense—due largely to the fact that structural alterations were minor, installation of a new heating plant being the only large expenditure.

AN EIGHTEEN-EIGHTY KITCHEN WAS TRANSFORMED INTO THIS BRIGHT, PLEASANT SALESROOM
Aside from removing a lot of antiquated plumbing and all non-load-bearing partitions, the transformation of the old kitchen floor was largely a matter of new surfaces. The floors are a reddish-brown oak chip and plastic cement compound, laid on metal lath over the old wood flooring. The walls are of whitewashed brick, white and light gray plaster, walnut plywood and a South Seas grass cloth. Street windows are curtained in sheer white, those of the bay at the rear in chartreuse.
REMOVING ALL PARTITIONS EXCEPT THOSE AROUND STAIRHALL, DESIGNERS HAVE SUBDIVIDED SECOND FLOOR SALES AREA BY FABRIC DISPLAY SCREEN (ABOVE) AND STORAGE UNITS (BELOW)

NEW DESIGN, INC.
GARDEN APARTMENTS

The landscape architect is becoming a good friend of the aware investor, as well as of the architect—for testimony, these three apartments.

There really is a lot of land in this country, even in the cities. These three city apartment groups—two in California, one in Texas—show that some apartment investors realize the advantage of not covering every square inch of that land with bricks and modern plumbing, but instead, preserving some of it for greenery. For many years planners have been trying to make just this message heard by hankers and other building-backers. Here in these three living groups we have evidence that the theoreticians’ words are beginning finally to penetrate the marble-veneer walls of the First National. It is logical that these three examples should be in warm climates, and it is appropriate that they be in cities which are not already overbuilt and overpaved, but which are growing fast.

LOCATION: SANTA MONICA, CALIF.
KENNETH NILS LIND, Architect
J. A. GOOCH, Landscape Architect
C. HENNING VAGTBORG, General Contractor

This first garden apartment represents an investment cleanly divided. It was designed and built as one endeavor but in ownership is split by two congenial investors who hold the adjoining 50 x 135 ft. lots. There are, all told, eight apartments, and eight fenced private courts. The apartments are small in number of rooms—each of the two units has three one-bedroom apartments and one two-bedroom apartment—but the rooms are used very well in a conjunctive plan which makes them seem spacious. The small fenced yards are almost part of the interior, seen
through glass walls. Framing of the ceiling and walls is designed with great skill; the ceiling extends out, forming a long protective overhang.

The unit is an outstanding investment, with a return well over 20 per cent. Land value at time of building was $6,500 for each of the adjoining 50 x 135 ft. lots, or $13,000 total. Construction total for both was $68,000. Mortgage financing involved a pair of $14,000 mortgages, for a total of $28,000 at 5 per cent payable in ten years at $140 per month. Rentals of each investor's unit: two single bedroom apartments at $175 per month; one single bedroom apartment at $150 per month; and one two bedroom apartment at $225 per month. Gross income—$17,400 per year. Upkeep, interest on the investment, taxes, insurance and other expenses which come to $1,290, leave the total net income per year for each of the two unit holdings at $7,410. Even with an additional $1,000 per year for depreciation, and $800 for vacancy factor, the return stands well over 20 per cent.

VIEW 1 TOWARD THE HIGH WINDOWS OF THE OUTSIDE APARTMENT WALL

VIEW 2 THROUGH LIVING ROOM TO AN ENTRANCE YARD
Lawndale Village—a hamlet of apartment units in a large southwest city

LOCATION: HOUSTON, TEXAS
WILLIAM G. FARRINGTON CO., Developers and Builders

This is the largest of the three garden apartments. There are 88 units, paired on the first and second floors of 22 similarly planned sections, which are in turn linked in several groups on the 16½ acre plot. Ownership of the entire enterprise is divided evenly between two corporations, but for common identity the one name, "Lawndale Village," is used, since all the apartments are under the supervision and management of the same operating company. Location is near two important thoroughfares in booming Houston—one, the main artery for downtown traffic, and another a road leading across the Houston Ship Channel and down the north side of the Channel to the expanding industrial section. All apartments are similar in plan—one bedroom, living room, and kitchen, with bath and dining alcove. The units are arranged two by two on two floors on a central axis, ink-blot-test style. Well kept lawns and wide streets with parking spaces to the rear of the groups complete the picture.

Monthly rents on the apartments are $64.50, as set by O.P.A. The section is good, with groups of owner occupied homes flanking the "village." (The homes, built in the late Thirties and early Forties under FHA, sold then for from $5,250 to $6,000. Their current market price is almost twice that). Total land cost of Lawndale, including utility improvements, was $68,060, or about $800 per dwelling unit. Total construction cost (1943-44) was $374,100—approximately $4,250 for each 750 sq. ft. living unit. With 100 per cent occupancy for the last three years, the average net income before depreciation or federal income taxes has produced a return of 8 per cent on the original invested cost, 2 per cent after payment of FHA mortgage insurance, principle and interest. The financing involved two loans, each less than $200,000, insured by FHA under Section 608 of the National Housing Act.

A four-apartment building in a pleasant California garden

LOCATION: BEVERLY HILLS, CALIF.
CARL LOUIS MASTON, Architect
GARRET ECKBO, Landscape Architect

The program for these apartments, says the architect, was to provide income units that were superior to the type of minimal shelters favored in 1940 by operative builders who knew that people would rent anything with a roof.

The aim of the program was accomplished handsomely. This richly landscaped, soundly designed building contains four separate apartments: a two-bedroom duplex; two single-bedroom-plus-living-room combinations; and a neat one-room bachelor apartment with bath, kitchenette, and dressing alcove. All the apartments have a terrace or porch, and some include built-in furniture.

Construction is brick, stucco, and redwood siding. The floor of the lower story is of conventional wood joist construction with oak flooring. The second floor system is composed of double 2 x 10's 4 ft. on center which rest on the rabited 4 x 4's for window mullions. These beams are planked over with 2 x 6 in. tongue-and-groove Douglas fir.

Rents are: for the duplex, about $110; one of the single bedroom apartments, unfurnished, $83; the other, furnished, $115; and the bachelor apartment, furnished, about $75. The building was built with cash on hand and no other financing whatever, totaling about $29,000 plus $4,500 for the land. Shortly after it was finished the owner decided to sell. The buyer got a first mortgage of $22,000 from a building and loan association, and a large second mortgage from the seller who in time decided also to take over the first mortgage. Sale price was $37,500.

Verdict of architect Maston on the enterprise: "At the present time, naturally, with fixed rentals, the economic value of good design is difficult to evaluate. There is no doubt that, taking advantage of the present rental situation, more income could have been squeezed out of both the lot and the building budget, by sacrificing garden area, livability, and privacy. This would be contrary not only to my principles on planning but to good economic sense when considered over a long term period."

APARTMENT DOOR WEARS A SIMPLE, NEAT HOOD

DIAGRAMATIC SKETCH SHOWS LOCATION OF DUPLEX, OTHER THREE APARTMENTS
VIEW FROM ENTRANCE OF DUPLEX TOWARD GARAGE DOORS SHOWS HOW WELL STEPPED GARDEN UTILIZES SLOPE OF SITE
The problem of whether it is practical to use steel as supplementary framing in the building of wood houses has received new attention from Alexander Ban in an experimental house in Los Angeles and a companion comparative study of other methods.*

In this close analysis of the design and cost advantages of welded tubular steel column assemblies used with standard wood house construction, Ban has a number of telling points to make in favor of the steel columns.

In both a design and structural sense, vertical supports are the weak points of wood-framed houses, Ban points out. The greater spans created by the new space concepts of contemporary architecture, (both in formation of interior areas and in the relation of interior and exterior) lead to concentrated loads which cannot be handled with entire efficiency with wood posts.

Use of the steel columns in a wood-framed house can go far to attain the design end of many modern architects—the drawing of a new structural dividing line at the window head, with the lightest of vertical structural members and mullions between the roof superstructure and the floor line or window sill line.

Ban's hollow column—tested in the low cost frame house he has designed and built—is the old "lally" in new form: a 2 3/8 in. tube, comfortably safe in size for strength with economy, and the maximum size which can be accommodated within the thickness of the wood frame. Such a hollow cylinder, with not too many penetrations of its wall, is the most efficient section to develop a comparatively large radius of gyration. But mere structural efficiency was not the only determining factor in his use of such small sizes in supporting members. It is not enough merely to design the safe structural element. This element has to be connected to the rest of the structure, and connections often call for such bulk that the use of the steel is impractical.

Without welding, the complications of connecting 1 3/4 in. and 3 3/8 in. wood members to a cylindrical steel surface of 1 3/16 in. radius, centered on the center line of the wood members, would disallow the tubular section. Riveted or bolted connections of vertical and lateral steel plates to a tube of this size would involve the bending of additional angles to fit the curved surface of the column, and the rivets and bolts would have to penetrate the full diameter of the hollow cylinder. Because of this, perpendicular connections required at corner columns could not be made at the

* The study was prepared for a competition sponsored by the James F. Lincoln Arc Welding Foundation, of Cleveland.
HIGH-SPEED PLASTERING is design of trowel with automatic pressure feeder.

Self-feeding fountain trowel is welded by its inventor, James A. Hicks, Clarke County, Ind., machinist. Plasterers, claims Hicks, can accomplish four times as much work using this air pressure feeder, as by prosaic methods.

Plaster is mixed in the two tanks in the foreground and forced through the hose, emerging from a slot in the face of the trowel. Flow is controlled by the valve on the hose, held in the operator's left hand.

same heights. On the other hand, the staggering of such connections would pose additional problems at the base plates, crown plates and lintel connections. All these difficulties—if the connections were to be riveted or bolted—probably would result in the use of an angle section in place of the tubular steel column. But an angle section with a radius of gyration comparable to the more efficient tubular section would be 3 in. x 3 in. x $\frac{3}{8}$ in.; and it would weigh 12 per cent more than the equivalent tube, without counting the heavier connections necessary.

With welding, the need for the heavier angle section is avoided; the better solution in theory, the tubular section, is made more practical as well.

In Ban's design, transmission of the load to the tubular column is made through steel plates which are fillet welded to the column. For connection to the wood members which they are designed to receive, these plates bear stud bolts welded to each side. Additional stud bolts can be welded directly to the column to receive the window frames.

Ban's aim in using stud bolts, which are common in machines and manufactured metal products but uncommon in structural details, was essentially one of complete column prefabrication. Rather than the standard gusset plate connection—bolts through bolt holes—he wanted an assembly containing every part necessary to connect every member of a wood frame.

Erection of the column, according to its developer, proved to be faster and simpler than that of any comparable supporting member. The combined steel and wood skeleton around the 700 sq. ft. living room of his house stood in place within three hours after the setting of the vertical supports had begun, with two carpenters working on the job. Base plate connections allow for shimming and adjustments at the setting of the columns due to any irregularity in the concrete foundation.

Ban's cost figures for the 2$\frac{3}{4}$ in. steel columns are not only considerably lower than the estimated cost of the equivalent angle, but also are lower than the cost of a wood post which would support the same loads. He figures $9.92 will pay for the welded steel column assembly, complete—$2.63 for the material price of the main member, $2.17 for the connections, and $5.12 for labor. The 3 in. x 3 in. x $\frac{3}{8}$ in. angle would run 41 per cent more, he says, or just under $14. The equivalent wood post to support the 15 to 20 ft. span which the steel column carries would be about 4 x 6 in., according to Ban's calculations, and would represent a smaller material cost than either steel column. But the cost of connections for the wood post runs over twice that of the welded column, and total work cost also is higher.

He places the estimated total of the wood post at $13.34, 34.5 per cent over his welded column assembly—not counting time saved by use of the more rapidly erected tubular steel column.
SANDWICH PANELS—soft cores with tough skins made for roofs, walls, floors.

Recent developmental work and test data on sandwich panels for wall floor and roof construction substantiate the predictions of construction experts who have said manufacture and use of these fabricated sections is the next big building development in sight. The Housing & Home Finance Agency has been carrying on a series of tests on various sandwich panels at the Forest Products Laboratory, in Madison, Wis., and a forthcoming HHFA technical bulletin summarizes results so far of continuing tests.

indications are that the panels offer real potentials to residential construction. Consisting essentially of a light, thick core with dense facings bonded to both sides, the resultant "sandwich" has exceptional stiffness for its weight when properly fabricated, and also boasts good thermal insulating value. And, of great importance, the panels are well suited to factory production methods. In some cases existing machinery can be used to fabricate the insulating paper core.

Three types of core were used in the laboratory sandwich panels—all consisting of resin treated corrugated kraft paper sheets glued together so that the corrugations of adjacent sheets were at right angles. The first type assembly, XN, was sawed into strips of panel thickness and laid on edge between the facings. The XF core variation was similar, except that the flutes ran parallel to the facings. A third type, designated PN, was made of corrugated paper glued with all flutes parallel sawed into strips the thickness of the panel, and placed inside the sandwich with the flutes perpendicular to the facings. Plywood facings—up to 5-ply Douglas fir in the floor panels—completed most of the panels, although additional experimentation was carried on with aluminum facings over a mechanically expanded core. All laboratory-made wall panels were 3 in. thick, design load 20 lb. per sq. ft.; the commercially fabricated aluminum wall panels, design load 25 lb. per sq. ft., measured 2 in. Roof panels, which were as long as 14 ft., design load 40 lb. per sq. ft., were built 4½ in. thick, and floor panels measured 6 in. deep. Some of the roof panels had ventilating flues, and copper coils were installed in some floor panels to test the effect of radiant heating on the material.

PROCESSED WOOD BOARD of low grade timber distended to preclude warping, can be surfaced for exterior use.

NEW VENEER may be used for a number of different purposes, depending on finish. Above are basic K veneer and variety with saturated felt finish. Sample to right is flooring which uses same distending principle as K veneer.

A new line of surfacing materials called "K-Veneer," designed to reduce the cost of factory-built homes through the use of timber previously considered unsuitable for the home building industry, has been developed by Howard T. Fisher & Associates of Chicago. The board is made of a single layer of rotary cut 3/16 in. Douglas fir veneer faced on one side with heavy kraft liner board. Tests run by Fisher and the Elmendorf Corp. of Chicago, who also are interested in the product, are said to show that the new board is stiffer and stronger in place than insulation or gypsum board. Suited to interior walls and sub-floors, K-Veneer can be surfaced with mineral granules on saturated felt, used for house exteriors. For roofing, light metal surfacing may be substituted for the saturated felt and gravel finish.

The problem of over-all expansion of the veneer when exposed to changes in temperature and relative humidity is met by distending, or slitting, which scores the wood deeply, forming ½ in. strips joined by the uncut fiber strands. The effect of this process is to increase the width of the veneer from 2 to 4 per cent and—more important—to direct the inevitable expansion internally rather than to the borders of the sections. In this way, distortion and warping are minimized. The development was carried out under contract with the U. S. Department of Commerce, Industrial Research and Development Div. Not yet in production, "K-Veneer" is available for licensed manufacture from the Elmendorf Corp.
CONCRETE WALL TECHNIQUE cuts down on forms necessary by use of floor-cast sections and pressure spraying.

A system of building a reinforced concrete wall which all but eliminates formwork is in use by builder Donald B. Ferguson of Phoenix, Ariz. Ferguson, who has applied for a patent on the scheme, uses a combination of precast insulating panels which do double duty as part of the form work for shotcrete columns and walls. In order, the system goes like this: foundation walls are poured first, with steel dowels placed at each column position; then the concrete floor is poured. On the floor, the insulating concrete fiber wall pads—sized to fit between columns—are cast in forms consisting of 2x4's on edge. Then back forms for the columns are erected and braced, the pads are nailed to them, reinforcing steel is tacked in, and the columns, beams, and structural wall are shot with Gunited concrete, which is screeded off to take a finish coat. Ferguson has used the method with success in commercial and residential work, building monolithic reinforced walls with good insulating qualities at a cost very close to that of a concrete block wall.

SHOP-CAST CONCRETE SECTIONS, set in place, make up part of column forms in new method for building cavity walls.

Another new concrete cavity wall construction has been developed and is in use in small house building in Denver by the Edward B. Hawkins Co. Prime advantage, according to Hawkins, is the familiar one of material availability, which is giving the big push to the use of concrete in residential work. Another advantage is the quality of the wall itself—stable, warm, strong and with double air space. Use of skilled labor is also kept to a minimum on the job, since Hawkins' concrete wall sections are precast in the shop.

Job procedure, after pouring of the foundation, calls for the placing of wood wall frame units (also shop made) between sets of dowels planted in foundation wall on the 4 ft. column spacings. The wall frames, held in place with temporary bracing, create a partial form for the columns. In the next step, the column and beam reinforcing rods are set in, and % in. wallboard is placed at the inside face of the columns and top beams for insulation. The precast concrete slabs are placed on edge around the wall perimeter, resting on the foundation and secured to the wood column forms with wire ties, and the columns are poured to the top of the first course. Then, tier by tier, the other slabs are placed and the rest of columns poured. The walls can usually be poured in a day, and the top beams the following day, after allowing a few hours for settlement in the columns. The precast wall slabs may be regular gravel aggregate with various finishes, such as circular float or brush finish, to be painted with Portland cement base paint after erection, or they may be given an exposed aggregate or pebble dash finish at the shop. (Continued on page 120)
Look to Ro-Way for the New Way!

Ro-Way engineers are constantly alert to the latest in architectural and building trends. When the "up-front" garage came in, Ro-Way was ready with the overhead type door that had the good looks and the smooth quiet operation you demanded.

When lower headroom and maximum clearance was called for, again Ro-Way was ready with the new Model 21.

When occasional lack of uniformity in spring power was detected, Ro-Way started making their own springs. They power-meter each spring to the weight of the door it will lift.

That is just one of the many ways Ro-Way engineering has won nationwide confidence among architects, builders and users.

In the future, as in the past "Look to Ro-Way for the New Way" in overhead type garage doors.

Ro-Way Distributors in all principal cities. Consult your classified telephone directory, or write for distributor's name. See our catalog in Sweet's.
BUILT-IN SHOWER CABINET

DESIGN NO. 19-B

The built-in Cadet promises to be one of the most popular shower cabinet models in the Fiat line. Redesigned with new construction features such as the elimination of all interior screws and with smooth curved corner joining the Cadet can be classed as the modern shower of the future.

The demand for the ultimate in clean cut appearance, and the trend toward a built-in or enclosed shower has inspired the new built-in Cadet. Equipped with a Zephyr or Dolphin glass door as illustrated the Cadet model 19-B is a natural for installation in the average, as well as the better class of homes.

The exclusive Fiat escutcheon type door frame conceals the joint between wall material and cabinet stiles. This unit is of particular interest to operative builders because of its beauty of design and savings over built-on-the-job shower construction.

Size 36" x 36" x 80", receptor precast terrazzo with cast-in drain. Walls, bonderized, galvanized, steel finished in white baked-on synthetic enamel. Can be supplied with Dolphin or Zephyr glass door, or shower curtain.
"Walls of steel windows, with their slender muntins
and narrow mullions, are the one best means of flooding
classrooms with eye-saving natural light."

See the Mesker Catalog in Sweet's File Architectural, Sec. 16a/20,
or write for your copy of the Book of School Windows, to Mesker
Brothers, 4336 Geraldine, Saint Louis 15, Missouri.
METAL PREFAB with 50 ft. clear span has many uses, can be quickly and economically erected.

Engineered to the highest AISC standards and designed to comply with local building codes, Steeldraft's new Model 50 metal prefab has a 50 ft. clear span and is available in any length in multiples of 20 ft. and has an eave height of 14 ft. Thus it is readily adaptable to many industrial and commercial uses and offers advantages for expanding manufacturing facilities, storage and warehouse space, display rooms or recreational buildings. Model 50 can be purchased complete with roof and side walls of ribbed aluminum panels. Or, if desired, the structural framework can be supplied with or without roof panels for use with any type of masonry construction. Additional width for large manufacturing areas can be realized by placing two or more buildings side by side. In this case the two rows of columns are retained but the interior wall panels are omitted. Model 50, according to the manufacturer, achieves economies through mass production and standardized erection instructions are furnished with the building, all parts of the structure are numbered to correspond with the drawings for easy field assembly.

Manufacturer: The Steeldraft Manufacturing Co., 9017 Blue Ash Road, Rosslyn, Ohio.

NEW FORMS FOR CONCRETE cut building costs and speed work.

Bulldog concrete forms are steel panel forms for concrete work which combine the advantages of great economy plus speed in erecting and stripping. The Bulldog company's engineers estimate on the basis of considerable job use that the cost of erecting and stripping these forms for foundation and wall construction can be cut down as low as 3.1 cents per sq. ft., figured on New York City labor and material costs as a base. Chief feature of the new form is a patented wall-tie which costs one cent for 8 in. walls, and which is secured to the forms with ordinary 16 penny, square cut nails. The tie not only spaces and holds the opposing panels, but also attaches adjacent panels of the form on each side. Wood, carpentry, and finishing are virtually eliminated with the new form. Steel aligners, used only on outside walls, replace walers and strongbacks. Carpentry is avoided by using panels in seven different widths and in heights from 4 to 10 ft. By setting up panels in combination either horizontally or vertically, any dimension to within 1 in. can be reached. The panels, light enough for one-man handling, are made of high tensile steel which will withstand 65 thousand to 80 thousand lb. psi. Depreciation is claimed to be less than 1 per cent per use. Rentals—1 cent per sq. ft. per day—and sales will be conducted from New York and regional offices.

Manufacturer: Bulldog Concrete Forms Inc., 100 West 42nd St., New York 18, N. Y.

PRE-PAINTED ALUMINUM LAP SIDING with durable, permanent finish is designed to lower building costs.

The main feature of Alside's new aluminum lap siding is its permanent, durable, time-saving infra-red baked enamel finish. This coating—a specially developed Sherwin Williams low-gloss synthetic enamel which is factory applied and infra-red baked—is claimed not only to eliminate forever the need of repainting but to be non-chipping, cracking or buckling. Alside comes in three colors: white, cream and gray, and is supplied in standard lengths 12 ft. long by 8 in. wide. It incorporates all the features common to aluminum siding such as lightweight, fire and termite resistance, etc., plus a patented interlocking arrangement which is said to provide a virtually weather sealed surface when applied. This pre-finished material is sold on an installed basis only, is said to cost less than high quality wood siding. Dealer's price is about $23 per 100 sq. ft. plus installation.

Manufacturer: Alside, Inc., Akron, Ohio.

PRE-FINISHED ALUMINUM SIDING for old and new construction eliminates painting, is low cost.

Perm-A-Lap siding is another aluminum siding with a lasting smooth, baked enamel finish resulting from an infra-red baked-on painting process. It is also available in three colors—white, cream and gray—and is claimed to have life-time durability without the need of future repainting. According to the manufacturer, Perm-A-Lap siding will not warp, split or rot, has insulation advantages and is fire-, vermin- and lighting-proof. Patented corners and interlocking, self-aligning features provide speedy application and a tight weather seal. This pre-painted siding costs about $21.50 per square for quantities between 100 and 400 squares or about $20 per square for quantities over 400 squares. It comes in 10 ft. lengths, 8 ft. wide. One square weighs 45 lb.


PRE-FINISHED DURABLE WALL PANELS are economical and easy to apply.

Ser-Wall panels are economical, decorative, semi-structural wall panels made with a tempered Preswood base and a textured and lithographed surface which simulates wood-graining. Because of the tempered Preswood base, the panels provide structural strength, insulation qualities and other properties common to that familiar product. In addition, they furnish a permanent washable surface which will not crack, peel or chip. Ser-Wall panels are available in two grain finishes: cross-fired figured walnut and bleached walnut in sizes ranging from 16 x 72 in. to 48 x 96 in., in 1/4 in. thickness. They are supplied with beveled edges and scored borders and are installed by butting together and nailing in the score lines. Ser-Wall panels can be used in offices, stores, window displays, restaurants and homes, cost only about 35 cents a sq. ft.

Manufacturer: Service Products Division, Woodall Industries, Inc., 2035 Calumet Ave., Chicago, Ill.

ONE-COAT SILICONE WATERPROOFING makes brick, concrete, cinder block, etc. water repellent.

A new permanent, heat and water resistant masonry waterproofing derived from Silicone, the Dow-Corning water-developed chemical, Crystal is a

(Continued on page 124)
Three generations of craftsmen — grandfather "Pops" Olstiniski, son "Smiler" and grandson Ray examine a sample of their craft — a new door with matched veneer face.

Pride in the product is a tradition at Roddis—passed down through generations of craftsmen. This three-generation Roddis family is but one of many who make craftsmanship a hereditary tradition at Roddis.

You can see it in Roddis craft quality hardwood flush doors and plywood — they bear the stamp of the fine craftsman in their perfectly matched faces — their beautifully belt-sanded finish — their true, clean edges.

In working with wood, craftsmanship is the key to quality. Roddis craft quality, known for more than half a century, is the product of generations of craftsmen.
one-coat transparent liquid which is easily flushed on exterior walls with brush or spray. One coat applied to the exterior of brick, concrete, stucco, cinder block, etc., is said to make them lastingly and completely water repellent and stainproof. According to the manufacturer, the new liquid penetrates and coats the microscopic pores of the masonry but does not clog or seal them. It stops capillary attraction which causes water to soak through a wall yet permits the masonry to retain its breathing, self-cleaning properties. The manufacturer states that natural moisture within the treated wall may evaporate but that natural salts will not leach to the exterior creating efflorescence. The manufacturer further claims that treated surfaces become resistant to verdigris, rust and soot stains. Results of tests conducted on two 8 in. thick brick wall sections, an untreated section (right), and a section treated with one application of Crystal on the facing side (left), are illustrated. The back views of these walls after 500 hours of continuous exposure to water show that the Crystal-tread section remained dry while the untreated section is wet logged and efflorescence has set in. Crystal dries to efficacy within a few hours after application and may be painted after two weeks curing. It can be applied directly to water-mixed cement paints or to surfaces which are clean of searic or wax type waterproof coatings and is invisible after application. One gal. of Crystal covers up to 200 sq. ft. Manufacturer: Wurdack Chemical Co., 4951 Fyler Ave., Louis 9, Mo.

INTERIOR OIL PAINT has one-coat coverage, is washable

Wonsover is a new flat interior oil paint that covers even colored walls with one coat and can be easily washed. In water mixed paints it can be used over wallpaper, painted walls or woodwork. And as it is washable, pen marks, lipstick and plain dirt can be washed off readily with soap and water. Wonsover comes ready for use, is easily applied and is reported to dry more rapidly than ordinary oil paint. It is suitable for use in kitchens, bathrooms as well as other rooms of the house and is available in 12 pastel colors plus white. One gallon costs about $3.80, covers about 500 sq. ft. A quart retails for $1.20. Manufacturer: National Lead Co., 111 Broadway, New York, N. Y.

INSECTICIDAL PAINT and INSECTICIDE ADMIXTURE gives nature lasting insect-killing qualities.

Dianol Insecticidal Paint and Dianol Paint Insecticide are two effective products for treating walls, woodwork, storerooms and other places in residential, commercial, industrial and public buildings to eliminate insects. Especially recommended for use wherever food is handled, or in tropical or semi-tropical climates, the products are said to destroy many household insects such as spiders, ants, flies, roaches, mosquitoes, etc. They can also be used with gloss paints, varnishes or enamels and will not affect the color, adhesive qualities, bonding, drying time or other qualities of the paint. Dianol Paint Insecticide can also be used with cement or concrete paint, finish plaster, or in other coatings for protection of exposed surfaces against termites, etc. Manufacturer: Dianol Inc., Pinellas International Airport, St. Petersburg, Fla. (Continued on page 133)
Economical! Superior!
and best of all
Readily available!

CHASE COPPER TUBE
FOR SOIL, WASTE AND VENT LINES!

Many of the nation's leading builders of low-cost and high-cost homes use Chase Copper Tube. View shows trim, compact features of a typical copper tube waste and vent line installation.

Fast . . . economical installation has made Chase Copper Tube for soil, waste and vent lines a favorite with builders coast-to-coast! Here’s why: You reduce many connections because Chase tube is available in 20 foot lengths. Its light weight makes pre-cutting and pre-assembly possible . . . makes maneuvering and handling quicker!

Find out more about the quality features . . . the economy features—the availability—of Chase Copper Tube for soil, waste and vent lines. Send for literature. Write Dept. AF78.

FREE! Booklet illustrating actual installations of Chase Copper Tube in homes across the country.

Chase
the Nation's Headquarters for BRASS & COPPER
WATERBURY 91, CONNECTICUT SUBSIDIARY OF KENNECOTT COPPER CORPORATION

This is the Chase Network . . . handiest way to buy brass:
ALBANY ATLANTA BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER SAN FRANCISCO SEATTLE ST. LOUIS WATERBURY (Indicates Local Office Only)
METAL CASINGS AND TRIM for residential construction are attractive, low cost and easy to apply.

A new line of low-cost metal casings, Milcor Applied Casings and Trim are especially suitable for small home construction. Included in the new line are three casing trims, a base trim, stop mold and window stool, plus various corner fittings which speed erection and assure tight fitting, neatly finished jobs. According to the manufacturer, all units in the line are attractive in design and practical in installation and use. They are fabricated from 22 gauge cold rolled steel, offer greater resistance to impact and will not warp, split, crack, splinter, rot or burn. The new casings are supplied in 7 and 10 ft. lengths, except the base trim which comes in 10 ft. lengths only, and are painted on both sides with a rust-inhibitive primer coat which may be finished in any desired color.

Milcor Applied Casings and Trim can be easily screwed to wood grounds after plastering is completed. Milcor also manufactures a flush type door and window casing for application before plastering. These Plastered-In casings feature an expanded metal wing which provides a secure bond and key for the plaster around doors, windows etc., and prevent cleavage cracks and pulling away from the wall.

Manufacturer: Inland Steel Products Co., P. O. Box 394, Milwaukee 1, Wis.

PACKAGED FLASHING SYSTEM features pre-cut specially tempered copper sheets for weatherproofing small homes

Revere's new Home Flashing System offers pre-cut sheets of specially tempered, easily handled, non-rusting copper in a convenient package for weathersealing low cost homes. Each package contains 10 sheets of 31 gauge tempered copper pre-cut to 18 x 48 in., 200 hardware bronze nails and an explicit, illustrated instruction booklet. The package retail for $19.95 and two packages (60 lbs. of copper) are said to be sufficient to adequately flash an average low cost 5 or 6 room house. The new system is based on the results of extensive research aimed at developing the most economical and durable form of sheet copper for every building purpose. Investigation proved that contrary to usual practice, copper flashings .0216 in. thick, 24 gauge, need not always be used for flashing around windows, doors and chimneys. It revealed that 31 gauge copper up to 18 in. wide and 4 ft. long, given sufficient temper, is ample for forming into weather shields in these applications. Further research established that all of the flashings needed for the average low cost house, including valley flashings, could be cut from one standard size sheet 18 in. wide x 4 ft. long. The new system also features simple application techniques. These are described in the complete step-by-step installation instructions.

Manufacturer: Revere Copper & Brass Inc., 230 Park Ave., New York City, N. Y.

SELF-CLOSING SWINGING DOOR withstands hard usage, protects plant areas against heat and drafts

Sturdily built to withstand shocks and bumps, these metal clad, automatic closing, insulated swinging doors effectively separate and isolate two areas or rooms. In addition they offer an easy, time saving means of passage, protect against heat and drafts and provide fire resistance and privacy. To open, an electric truck or similar heavy duty conveyance has merely to push the doors aside and run through them. When the truck has passed they automatically return to their original position. Operating without springs or air pressure control, the doors are said to lift slightly as they swing open and to move an enclosed two-way gravity cam which is bolted to the upper portion of the side and head jambs. Return of the cam by gravity closes the doors. The new units can be built to any required opening size, have application in warehouses, freight stations, manufacturing plants as well as in hospitals, hotels and restaurants.

Manufacturer: Jamison Cold Storage Door Co., Hagerstown, Md.

(Continued on page 128)
The flick of a switch or the push of a button and the motor-driven POWERSTAT unit quickly and silently responds to dim or brighten your setting. A special motor drives the POWERSTAT with the same dependable control of manual handwheel operation. Appropriate gearing combinations make possible various speeds to suit every requirement.

Here, then, are all the advantages of POWERSTAT lighting control plus remote operation. It not only offers greater flexibility of control, but when teamed with automatic positioning devices, offers the ideal method of creating effective atmosphere for both cold-cathode and incandescent type lighting in auditorium, ballroom, church, restaurant, and cocktail lounge.

Motor drive is recommended wherever two or more POWERSTATS are ganged to handle more than one lighting effect... blending, dimming, brightening. This usage of a 115 volt, synchronous, brushless, ball-bearing type motor is another example of the versatility and adaptability of POWERSTAT lighting control equipment.

Let The Superior Electric Company intelligently assist you with your specific lighting control problems and requirements. Rely on The Superior Electric Company for the best in lighting control equipment.

Request Bulletin 748 which highlights more in detail the practical applications of motor-driven POWERSTATS... ideas for doing your lighting control job better.

Write The Superior Electric Company, 4078 Demers Avenue, Bristol, Conn.

THE SUPERIOR ELECTRIC CO.
BRISTOL, CONNECTICUT

Powerstat Variable Transformers • Voltbox A C Power Supply • Stabiline Voltage Regulators.
Is there a "Best Floor" for the Bathroom?

We nominate WRIGHT RUBBER TILE

Compare this "candidate" with all other types of flooring. When you do, we believe you will discover that Wright Rubber Tile possesses the good features of all types of floor, and, in addition, outstanding advantages of its own.

The rich colors of Wright Rubber Tile floors laid 25 years ago—or longer—are as bright and new-looking as if laid yesterday. Free from the stains and marks of dirt, acids, and grease, their defiance to wear is notable...demonstrating also the unmatched ease with which Wright Rubber Tile is kept clean and lustrous. That, in a nutshell, explains its growing leadership in today's home-floor trend, and the mounting preference of architects and builders...reveals its enduring beauty, its real economy...and earmarks Wright Rubber Tile the "lifetime floor."

PREFIT ALUMINUM FLUSH DOOR requires minimum installation time, costs about the same as a quality wood door.

Alumidor is a strong, lightweight, noise and fire resistant, all-purpose flush door that comes completely prefitted, prepared for hardware. Featuring a monolithic construction in which the aluminum surfaces and edgings are bonded together as well as being bonded to the inner core, it is said to combine the strength of metal with the lightweight and economy of wood doors. Alumidor withstands stress, weather and time and will not crack, warp, rot or sag. It is available in four styles: standard flush, with glass panel insert at top, with fixed louver in bottom and combination glass and louver panels. All doors are 1 3/4 in. thick and are furnished in two heights, 6 ft. 8 in. and 7 ft., and in popular widths from 2 ft. 4 in. to 3 ft. 8 in. Finish may be satin aluminum, cold rolled Alcoa pattern sheet (neither of which require finishing) or zinc chromate primer for field painting. Price of Alumidor is about $35 f.o.b. Washington but as fitting, painting, etc., are eliminated, its final cost is said to be no more than that of a quality wood door.

Manufacturer: The Alumidor Corp., 1224 24th St., N.W., Washington, D. C.

VERTICAL FABRIC BLINDS are functional, decorative and disappearing.

Functioning as a blind, drape and curtain, this unique new vertical blind rotates a full 180° horizontally to eliminate direct sunlight, drapes gracefully to achieve decorative effects, closes tightly for privacy and rolls out of sight like a window curtain. Like venetian blinds it can be easily adjusted to eliminate the sun's rays while allowing a good view of the outside. When tightly closed it offers complete privacy. The new blind is composed primarily of detachable, plastic coated glass cloth strips which are attached to a conventional roller by means of a swivel tape. These strips, available in eight colors, can be interchanged, washed, adjusted, draped or rolled up with little or no effort allowing unusual multi-colored and draping effects. Actually each strip in the blind is composed of two overlapping strips. These have a swivel tape attached at the top and a built-in ball and chain arrangement at the bottom connected with a flexible bottom spacer. These spacers hook together so the blind can be parted between any two strips. The blind operates by means of a continuous cord which rotates the metal-housed roller to twist the strips, raise and lower the blind. When the strips are closed they are interlocked so all strips lay parallel to the window. Further pulling of the cord rolls up the blind which is actually a continuous sheet of interlocked strips. Vertical blinds are custom made at a cost of about...
a new, better
roof deck material!

KAYLO
Insulating Roof Tile

From the laboratories of the Owens-Illinois Glass Company comes this new and different structural product.

Designed to provide both insulation and structural strength in a single material, Kaylo Insulating Roof Tile offers a unique combination of advantages to Owners, Architects and Contractors.

Kaylo Insulating Roof Tile is fireproof. It is composed entirely of inorganic materials. It is light in weight, easy to cut and fit, and structurally strong. Kaylo Roof Tiles, precast in units 25½ x 18 x 36 inches, are easy to handle and simple to install.

PHYSICAL CHARACTERISTICS

WEIGHT
Density (lb. per cubic foot) ............................................... approx. 20.0
Weight per tile (lb.) .................................................. approx. 11.0
Weight per square foot (lb.) ............................................ approx. 4.5

STRENGTH
Average modulus of rupture ......................... 175 lb. per sq. inch
Average modulus of elasticity .................. 1,500,000 lb. per sq. inch
Average compressive strength ....................... 500 lb. per sq. inch

INSULATING VALUE (Btu/square-foot/hour/°fahrenheit)
“K” — for inch thickness ........................................... 0.62
“U” — for standard tile (28 inch) .................. 0.20
“U” — for standard tile plus built-up roofing .... 0.19

FIRE RESISTANCE
Kaylo Insulating Roof Tile is fireproof. Units tested separately have withstood building fire temperatures as defined by the standard A.S.T.M. fire curve for one hour. (This is a test of a material only and not of a construction.)

LIGHT REFLECTIVITY
Light reflection factor ........................................... approx. 80%

SEND COUPON TODAY!

AMERICAN STRUCTURAL PRODUCTS COMPANY
Dept. E-410, P.O. Box 1035
Toledo 1, Ohio

Gentlemen: Please send me, without obligation on my part, the following information on Kaylo Insulating Roof Tile:

□ Construction details
□ Specifications and technical data
□ Sample

Send coupon today!
That's why Servel is the choice of

* No moving parts in freezing system
* Continued low operating cost
* Lowest service cost

Servel's popularity with apartment owners grows greater with each succeeding year. Today, more apartments than ever before are equipped with "no noise, no wear" Gas Refrigerators.

It's easy to see why. Apartment owners and managers, who buy refrigerators by scores and hundreds, know the great value of Servel's lasting dependability and minimum upkeep expense. They know that only Servel has no moving parts in its freezing system. This means there's no machinery to lose efficiency...no motor, valves, piston, or pump to ever need repair or replacement. A tiny gas flame does the complete job circulating the refrigerant that produces constant cold.

Owners and managers know that Servel pays off in tenant satisfaction, too. Families and couples living in apartments greatly appreciate Servel's permanent silence and trouble-free service. And they like its up-to-the-minute cabinet, with its spacious frozen food compartment, moist cold, dry cold, big flexible interior, and many other modern features.

Servel is made in three sizes—6- and 8-cu.-ft. models for large apartments...and the compact, but roomy, 4-cu.-ft. size for smaller apartments. For complete information, see Sweet's Catalog...or write to Servel, Inc., Evansville 20, Indiana.
lasts longer!
apartment owners year after year

"OUR NEW MODERN
GARDEN APARTMENTS
deserved all the features of modern refrigeration. That's why—after considering 6 different makes—I chose the Servel Gas Refrigerator."

L. ROBERT ROLDE,
Meadow Brook Apartments
Quincy, Mass.

Here's why
Servel stays silent,
lasts longer

The Gas Refrigerator operates on the simple, continuous absorption principle. The small gas flame circulates the refrigerant that supplies the constant cold needed to preserve food and make ice cubes. Not a single moving part (no motor, no pump, no compressor, etc.) is used in the entire freezing operation.
Check the double advantages of:

Eagle RTU is pure white lead. It has all the famed durability, beauty and economy of this most famous of painting materials.

And, Eagle RTU comes factory-mixed for perfect brushing. It goes to the job in the original container, all set to open, stir and apply.

Eagle RTU spreads smoothly and easily. It covers completely, leaving no brush-marks, has real white lead hiding and staying power.

And, Eagle RTU makes a smooth, glistening elastic coat that won't crack or scale ... defies time and weather, ages evenly by gradual chalking.

Eagle RTU is favored by builders for time and labor saving convenience ... because it enables them to do a better job more efficiently.

And, Eagle RTU is preferred by homeowners because of its beauty and durability ... because of its whiter white that stays white longer.

Eagle RTU is white lead paint in a modern form.

And, Eagle RTU is backed by Eagle-Picher's 104-year-old reputation as well as by the 2,000-year-old reputation of white lead.

EAGLE PURE WHITE LEAD Paint

THE EAGLE-PICHER COMPANY
CINCINNATI 15, OHIO
Member of the Lead Industries Association

Manufacturer: Vertical Blind Co., Inc., 10 E. 8th St., New York, N. Y.

“REMOTE CONTROL” WIRING SYSTEM eliminates large expense in multiple switch lighting controls.

General Electric Co. has begun distribution of their low voltage wiring system, which is designed to increase the number of switch locations from which it is practical to control any light or outlet in homes, farms, offices, and factories. The new system, dubbed “remote control” by the company, drops voltages with a small transformer, so that the company's new lightweight insulated 22 gauge wire can be used safely. With savings in cost and insulation of the light wire, it becomes practical to use many more controls for one light, scattered through the room or building. A newly designed push switch activates 25 v. relays mounted at the lights or outlets, and the relays turn the lights on or off. Because of its low voltage, the system is not subject to the same code restrictions as the conventional system. Installation is simplified, and the wires can be short-circuited at any point without danger of excessive heat, or fire.

Manufacturer: General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

SELF-CLEANING SHOWER HEADS save water, eliminate maintenance expense.

Presto shower heads are streamlined, self-cleaning units which produce a controlled spray, save hot water and eliminate maintenance. Bullet-shaped, they have no face plates, cylinders or working mechanisms to lime up and stick but incorporate a simple plunger that vibrates when the shower is in operation to keep both itself and its supporting orifice free from lime deposits, sand, grit, corrosion and rust. According to the manufacturer, Presto’s operating principle also saves water. The head is said to throw only 2½ gals. of water per min. with control valves half open and 40 lb. water pressure, as compared with 8 gals. emitted by old style heads. With control valves fully open, it is reported to use only 4 gals. of water per min. as compared to 12 gals. used by old style heads. Presto is supplied in several models to suit various types of shower installations. Illustrated chrome-plated Presto with adjustable ball joint retail for $1.59.

Manufacturer: Repeal Brass Mfg. Co., 2109 East 27th St., Los Angeles, Calif.

PORTABLE COPPER TUBE BENDER facilitates bending radiant heating coils.

Tal Bender's new lightweight portable copper tube bender will bend both un-annealed hard and soft copper tubing (types K & L) to a perfect 180° return bend. It enables the operator to work with a con-
Modern drama:

*Barker Bros.' new 5th floor*

Leading rolls:

*Bigelow Carpets*

When Los Angeles' Barker Bros. remodeled their famous store, they followed what is practically a tradition among America's leading stores, and ordered Bigelow Carpet throughout.

For general beauty and long wear: Bigelow's classic Grapoint, the top commercial-choice carpet with its uncut surface that resists shading . . . never tattles about traffic lanes.

For special drama in decorator room-settings: such Bigelow beauties as Contempora . . . Sonata . . . Ceredo.

Most stores, hotels, and other business establishments find it easy to fill their needs from the regular Bigelow line.

When you have occasion to plan a carpet installation, you may well find your problem as simple as fingering a Bigelow swatch-book.

Bigelow's own Carpet Counsel is always available to help you with any problems, from the smallest to the largest. Our experts will help you make your carpeting dollars go farthest . . . with advice on most suitable types of carpets, designs, and colors.

Bigelow will custom-plan special orders—from original design to final installation. One of our 26 Carpet Counsel offices is near you—waiting for your call.

*A corner of Barker Bros.' remodeled 5th floor. Setting by Greta Grossman.
Luxurious textured Contempora carpet by Bigelow.*

**Bigelow Rugs and Carpets**

*Beauty You Can See... Quality You Can Trust... Since 1825*
YES...There are Associate Memberships in the Revere Quality House Institute!

Rendering of the Revere Quality House in Sarasota, Florida, designed "For a Vacation at Home, Florida Style."

ARCHITECTS and BUILDERS are assured that provision has been made for the admission of Associate Members in the Revere Quality House Institute. Thus it will be possible for qualified individuals and firms to participate in this constructive effort not merely to improve the quality of the average moderate-priced house, but to assure the buying public that true value for the money is there.

The Institute's program is now well launched. The first Revere Quality House was opened in Houston on June 6. The second is scheduled for July, in Sarasota, Florida. The third will be shown on an August date in Springfield, N. J. In each case local and national publicity is employed, including 2-page advertisements in the Saturday Evening Post, each featuring a house. In all, eight such houses will be built this year by the eight architect-builder teams constituting the Institute.

Thus the Institute seal takes on added prestige and importance daily. Public demand grows. People ask "Where can I buy a Quality House?" and they are told that these houses are designed by local architects, erected and sold by local builders subject to Institute supervision of plans and specifications. The Institute does not build or sell Quality Houses. Members and Associates can do so. Write for full information.

FOR DETAILS OF ASSOCIATE MEMBERSHIP, WRITE TO:
REVERE QUALITY HOUSE INSTITUTE
John Hancock Callender, Architect
Executive Secretary
P. O. Box 1134, Grand Central Station
New York 17, N. Y.

SPONSORSHIP
The Revere Quality House Institute is sponsored by Revere Copper and Brass Incorporated and by The Architectural Forum in a spirit of public service. It is operated on a non-profit basis. Revere does not control the Institute nor influence the choice of materials used in Quality Houses. However, it is obvious that quality materials include many of copper and brass. All inquiries about the Institute should be addressed to the Institute itself.

REVERE COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

This booklet is being widely distributed to the public in response to inquiries. Send for a copy.
"Let the public be served"

Facing tile for PUBLIC BUILDINGS

Let the public be served in buildings worthy of their purpose. Let the interiors be light and cheerful! Let these centers of community activity have dignity—utility—permanence!

With Structural Clay Facing Tile you achieve all of this. You can put infinite variety into the design and color of Libraries, Courthouses, Museums, Recreation Centers... give them interesting, attractive, efficient interiors... make them buildings people like to be in.

And, in the final accounting, Facing Tile means real economy for the public. It goes up fast and it's built to last. It's a wall and a surface finish in one! It's fireproof, extremely strong structurally, can withstand the heaviest traffic year after year and stay like new. It will not crack, scratch or decaying. Maintenance costs no more than simple soap-and-water cleaning. Refinishing is never necessary.

Facing Tile is available, glazed or unglazed, in efficient modular sizes, in a wide variety of light-reflecting colors. Contact any Institute member or see Sweet's Architectural Catalog for additional data.

SEND FOR MODULAR FACING TILE HANDBOOK
Free to registered architects and engineers. Write Desk AF-7 of the Institute on your letterhead. Fifty cents to others.
The builders of these beautiful apartment buildings wanted to give tenants the best possible heating, yet costs had to be held down. Trane Convector-radiators were selected for their economy, ideal heating, and individual fingertip control.

The operators of this large and famous fur store wanted air conditioning for their five-story building, and cooling for their fur storage vaults. They found that a Trane system could be fitted into the building to give them exactly the right conditions.

When this new plant for producing "juke boxes" was built, large glass areas were installed to provide plenty of light. The huge windows and the skylighted saw-tooth roof presented a heating problem, but a Trane system cut drafts, reduced wasted heat, and gave workers comfort.

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.

The Architectural FORUM July 1948
1,129 NEW
BYRNE HOUSES...
AND A BENDIX WASHER
OFFERED WITH EACH ONE!*  

Imagine... a Bendix automatic Washer offered — under FHA — to every house in town!

That’s what you’ll find in Harundale*—the tremendous development near Baltimore planned and erected by Byrne Organization — top-notch Washington builders.

The reasons why are simple. As a spokesman for Byrne pointed out: "The Bendix was selected because of the convenience it offers the home-buyer. The Bendix saves space — saves time. And it saves many weary hours of drudgery. Moreover, it can be bought on an FHA package mortgage — along with the house!"

These houses were planned from the blueprint stage to include an automatic Home Laundry. Naturally Bendix was selected, because it offers more — costs less — and has the best record. That’s why these Byrne houses are worth more to the home-buyer... not only now, but in the future. They’re planned for easier living!

Like so many, many big-name builders all over America — Byrne Organization looks ahead — builds its reputation for giving more for the housing dollar today. If you are planning any development at all — small or large — you’ll do well to check up on the reasons why it pays to plan for a Bendix installation!
Surfaces are smooth, attractive. Kimreg* plastic surfacing is a hard, flint-like material that is bonded to plywood in manufacture. Its phenolic resin facing produces a remarkably even, long lasting concrete finish. Lessens rubbing down labor.

Maintenance expense cut. Plywood forms protected with Kimreg resist the abrasion of sand, gravel and cement. On the Kraft project, these panels used a minimum of oil. They stripped fast—cleaned quickly. Light in weight and durable, they were easily moved, safely shipped to another job.

Ultimate cost of the forms reduced. Handled with reasonable care, Kimreg-surfaced plywood panels can be re-used many, many times. They’re unaffected by rain, or snow, or temperature extremes.

Panels are easily constructed. These versatile panels can be sawed, drilled or nailed to erect any size form desired. They’re available through your local plywood jobber; are also sold by individual plywood manufacturers under the trade name Laminex, Inderon and Westboard Industrial Plastic. For full information, write us on your business letterhead.

The new Kraft distributing branch—at Louisville, Kentucky. Note the exceptional smoothness of the architectural concrete. Credit goes to Del E. Webb Construction Co. and Kimreg-surfaced plywood panels.

**Kimberly-Clark Corporation**
Plastics Division Neenah, Wisconsin

This sectional view shows how Kimreg surfaces are fused to the outer layers of plywood. A tough, water-resistant sheathing, Kimreg increases the abrasion resistance—adds to the life of plywood.
NOWADAYS EVEN THE SMALLER HOMES HAVE TELEPHONE RACEWAYS. WHEN TELEPHONES ARE INSTALLED, THESE RACEWAYS ASSURE THE OWNERS OF TELEPHONE CONVENIENCE WITHOUT EXPOSED WIRES ON WALLS AND WOODWORK.

INSTALLED DURING CONSTRUCTION, TELEPHONE RACEWAYS COST LITTLE EXTRA. IN ONE-STORY HOMES WITHOUT A BASEMENT, A FEW PIECES OF PIPE OR ELECTRICAL TUBING UNDER THE FLOOR OR ABOVE THE CEILING WILL PROVIDE A CLEAR PATH FOR TELEPHONE WIRES TO OUTLET LOCATIONS.

FOR SMALL OR LARGE HOMES, YOUR BELL TELEPHONE COMPANY WILL BE GLAD TO HELP YOU PLAN MODERN TELEPHONE ARRANGEMENTS. JUST CALL YOUR TELEPHONE BUSINESS OFFICE AND ASK FOR "ARCHITECTS AND BUILDERS SERVICE."

BELL TELEPHONE SYSTEM
Hospitals aren’t the Only Buildings where REAL Radiant Heating Is Ideal


For Truly Healthful Comfort at Low Fuel Cost Per Year

Crittall radiant heating with concealed warm water coils is ideal for all buildings that must be supplied with healthful, comfortable, economical warmth; and the economy is quite remarkable, for Crittall radiant heating often enables fuel savings of 25% to 40%.

Compared with other high grade heating systems, Crittall radiant heating is competitive in first cost for well-designed modern buildings. Moreover, the fuel savings effected by radiant heating ordinarily pay off any difference in first cost in a relatively short time. And there’s this to remember—you save on first cost only once, but you save on fuel every year . . . for year after year.

To be sure you get real, fuel-saving radiant heating, entrust design and installation to those whose specialized knowledge and experience are ample and beyond question.


Consult CRITTALL on Radiant Heating

Now, through your architect and engineer, you may have the benefit of Crittall’s more than 40 years of world-wide experience in the design and installation of radiant heating systems. Write to Crittall when you have a project in hand.

RICHARD CRITTALL
Radiant Heating, Inc.
665 FIFTH AVE., NEW YORK 22, N. Y.—Phone 9-3316
Richard Crittall Radiant Heating (Canada), Ltd.
215 St. James St. West, Montreal — Lancaster 9171

THREE DIMENSIONAL DISPLAY LETTERS in numerous styles and sizes create effective signs.

Usable on a variety of backgrounds including glass, wood, metal and cloth, Mitten’s well designed, easy to read, three dimensional display letters produce attractive indoor and outdoor signs, merchandising displays and name panels. With the 12 available styles which range in size from 3/4 to 9 in. high with relief depths from 3/8 to 1 in., many interesting effects are achievable. All styles can be used harmoniously together giving a full range of sizes, upper and lower case, italics, etc. Mitten Letters come in three versatile types: pin back for use on wood or soft materials, banded back for cementing on hard surfaces with rubber cement or glue and track letters which stand in Mitten display tracks. Inexpensive and clean cut, all letters blend with any type of architecture and can be used over and over if desired. The display units are pure white, made of Seramik Tile, but may be easily tinted, painted or lacquered.

Manufacturer: Mitten’s Letters, 222 West 5th St., Redlands, Calif.

TILE HOUSE NUMBERS are permanent.

Cambrite Model 33 tile house numbers are permanent, non-rusting, non-fading, and non-staining, 2 x 3 in., units for numbering building projects, (Continued on page 144)

Soap, tumbler and tooth brushes out of sight when not in use, avoiding unsightly, unsanitary exposure. Solid brass chromium plated panel revolves in seamless housing. No. 338, Concealed Lavatory Unit. (U. S. Patent No. 2,039,065.) See Sweet’s for complete line of quality bathroom accessories.

HALM-MACK COMPANY
1344 W. WASHINGTON BLVD., LOS ANGELES 7, CALIF.
7455 EXCHANGE AVENUE, CHICAGO 49, ILLINOIS
To eliminate costly application problems and installation bugs in central plant air conditioning, G-E engineers arranged countless discussions with architects and contractors in the air conditioning field. The results of this intensive field work went into the construction of the new G-E Central Plant Air Conditioners.

**Time Saving ... Space Saving**

Compact and light in weight, these units are pre-engineered, pre-fabricated and parts pre-matched for speedy installation. Expensive building alterations—cutting and patching—are avoided because each sub-assembly has ample clearance to pass easily through a standard 30" door. You'll find 12 assembly arrangements available for vertical or horizontal installations—virtually eliminating the bugaboo of space problems.

The new vertical or horizontal combinations both share equally the built-in G-E qualities which give quiet, smooth operation... dependable, consistent performance. Why not discuss them with your local G-E air conditioning representative today? General Electric Company, Air Conditioning Department, A8137, Bloomfield, New Jersey.

**Look at these Dream Points!**

- Pre-matched components
- Pre-engineered
- Quick, easy selection
- Accurate, reliable G-E ratings
- No expensive rigging
- No wall knockdowns—(Every part will go through standard 30" doorway)
- Attractive appearance (No shielding or furring)
- No field fabrication of parts

**CENTRAL PLANT AIR CONDITIONING**

with the features you dream about

**GENERAL ELECTRIC**

Better Air Conditioning
Besides having high coefficients of sound absorption, Fiberglas Acoustical Tile delivers a combination of bonus features not available in any other material.

It is, for example, the lightest weight firesafe acoustical tile made. Fiberglas Acoustical Tile is rated "incombustible" under Federal Specification SS-A-118—the standard specification test on which all state and municipal building officials have based their approvals. The tile weighs less than a pound per square foot in 1" thickness.

The importance of firesafety in acoustical tile cannot be exaggerated. Besides contributing to the over-all safety of the building, it may affect insurance rates and simplify precautionary measures, such as sprinklers, prescribed by building codes.

Because Fiberglas Acoustical Tile will not swell or shrink, it will not warp or buckle. Because of this and its light weight, Fiberglas Acoustical Tile is ideal for use with mechanical systems in suspended ceilings. It is easily installed with standard adhesives, and it stays put. The face and beveled edges of the tile are attractively finished and provide good light reflectivity—an aid to over-all illumination.

Fiberglas Acoustical Board—a long-span acoustical unit—is ideally suited to ceiling applications in conjunction with recessed type continuous row fluorescent light troffers. It provides the same desirable combination of advantages found in Fiberglas Acoustical Tile and is available in sizes and styles to meet all design requirements.

For top performance, appearance and safety, specify Fiberglas Acoustical Tile or Board. Approved applicators in principal cities. For complete information and specifications, write Owens-Corning Fiberglas Corporation, Dept. 830, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.
A bad storm spells danger to unprotected walls and contents. Your structures should be protected by Waterfoil—the raincoat for buildings. Waterfoil consists of irreversible inorganic gels which harden to bond chemically and physically to concrete, brick or stucco and help prevent rusting of re-enforcing bars, spalling or disintegration. Save the costly buildings you now own. Write for important literature on protecting your property investments.

A. C. HORN COMPANY, INC.
manufacturers of materials for building maintenance and construction

WATERFOIL
THE UNIQUE TREATMENT FOR EXTERIOR MASONRY SURFACES

10th STREET & 44th AVENUE, LONG ISLAND CITY 1, NEW YORK • HOUSTON • CHICAGO • SAN FRANCISCO
On these stairs . . .
Never a slip, no sign of wear
because they're made of ALUNDUM
Terrazzo Aggregate

advantages:
• permanent freedom from the slipping hazard
• positive non-slip protection . . . unimpaired
  by water or other liquids
• extreme resistance to wear even
  under heavy traffic
• quiet, comfortable to walk on
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  maintenance cost

Norton non-slip floors are made of hard,
tough ALUNDUM* (aluminum oxide) abra­
sive and they are available in four distinct
forms:
  • ALUNDUM Terrazzo Aggregate
  • ALUNDUM Cement Floor Aggregate
  • ALUNDUM Stair and Floor Tile
  • ALUNDUM Ceramic Mosaic Tile

SEE OUR CATALOG IN SWEET’S (SA and SE)

NORTON COMPANY, WORCESTER 6, MASS.

Expect hearty approval from cost-conscious clients — when you specify Frigidaire Water Coolers. For they save money all three ways:

Save on first costs because Frigidaire offers a complete line of products. That means you can find exactly the right types and sizes needed for the job — never waste money on too much or too little capacity.

Save on operating costs because Frigidaire Water Coolers are products of great engineering by Frigidaire and General Motors; are made to the most exacting standards in the industry. They run on a minimum of current, serve your clients years longer than ordinary coolers.

Save on maintenance costs because Frigidaire’s well established corps of engineering dealers can render prompt, economical service wherever your clients are — if a mechanical adjustment should ever be necessary.

For full facts about Frigidaire Water Coolers, call your Frigidaire Dealer. Find name in Classified Phone Directory. Or write Frigidaire Division, General Motors Corporation, Dayton 1, Ohio; Leaside 12, Ontario.

For economy plus dependability—Specify FRIGIDAIRE WATER COOLERS

Frigidaire Pressure-Type Coolers

Frigidaire Industrial-Type Coolers
For heavy duty. Interior of cabinet heavily insulated for dependable operation even at extreme room temperatures. Heavy-duty, economical reciprocating compressor matched to efficient cooling unit and control valve. Freon-12 refrigerant. Two sizes.

Frigidaire Bottle-Type Cooler
Heavily insulated cabinet contains entire cooling system, matched to operate as a unit. Meter-Miser rotary compressor. Just one plug-in electrical connection. Freon-12.

Frigidaire Tank-Type Coolers
For central systems. Heavy insulation with efficient cooling unit and refrigerant control matched to powerful Frigidaire compressor. Freon-12. Can be suspended or concealed almost anywhere. Three sizes.

You're twice as sure with two great names FRIGIDAIRE made only by GENERAL MOTORS

METER-MISER AND RECIPROCATING TYPE COMPRESSORS • DISPLAY CASES • REACH-IN REFRIGERATORS • BEVERAGE, WATER AND MILK COOLERS • ICE CREAM CABINETS • HOME AND FARM FREEZERS • AIR CONDITIONING • ELECTRICAL APPLIANCES FOR THE HOME
Weldwood Fireproof Doors bear the official label of the Underwriters' Laboratories (official testing agency for fire insurance). They attained the one-hour fire rating by withstanding a free-burning fire for one hour, the ultimate temperature being 1700°. And after that, the impact of a 30-pound pressure hose stream, applied 20 feet from the fire side, for one minute.

Weldwood Fireproof Doors are a must for hotels, hospitals, schools, institutions, offices, and apartment buildings.

And these amazing doors are as beautiful as they are safe! They're dimensionally stable . . . stay straighter and are lighter in weight than other fireproof doors. The original cost is moderate, maintenance cost is practically non-existent, and Weldwood Fireproof Doors last for the life of the building.

For additional information write to: United States Plywood Corporation, New York 18, N.Y.

1. Increased Safety
The only wood-faced fireproof door which bears the Underwriters' label. All Weldwood Fireproof Doors are approved for class B openings.

2. Beauty
Because of their beautiful wood faces, Weldwood Fireproof Doors harmonize perfectly with any decorative scheme.

3. Durability
The Underwriters' Laboratories tested a Weldwood Fireproof Door for durability by mechanically opening and closing it 200,000 times. At the end of the test, the door was unaffected and still opened and closed perfectly.

4. Dimensional Stability
Weldwood Fireproof Doors are so dimensionally stable that we guarantee them against sticking in summer or rattling in winter due to any dimensional changes in the door.

5. Light Weight
At last . . . a really fireproof door that is not heavy or unwieldy. A standard 3 x 7 door weighs approximately 80 lbs.

6. Vermin and Decay Proof
The mineral composition Kaylo core used in Weldwood Fireproof Doors is permanently resistant to fungus, decay, and termites.

7. High Insulating Qualities
Another noteworthy characteristic of Kaylo insulation is its high insulating value over a wide range of temperatures. It is efficient against temperatures from freezing up to that of superheated steam.

8. Moderate Cost
Investigate these doors for use on your next job. You will be pleasantly surprised at the low initial cost, and the minimum maintenance required.
Mr. Smith, your prospect, looks at one of your new homes. He's considering probably the biggest single purchase of his life. He's worried about prices, anxious to get full value for every dollar. How well do you inform him about your homes—and convince him?

We have a new way to help you sell—to keep your name and all the facts before your prospect while he's making the decision.

Our plan is the "Home Buyer's Guide"—a beautiful full color portfolio, in large size, with your name and address imprinted on the back cover.

The inside pages are divided into pockets. We insert Rheem literature to describe in detail the Rheem Appliances you have installed. You can get similar literature from your other suppliers, to cover all the products and equipment in the house.

You simply put a supply of the "Home Buyer's Guide" in your model homes and sales office, and invite prospects to take one free! It answers hundreds of questions, saves you hours of time.

This new service is presented to you by Rheem—the world's largest maker of automatic water heaters and the foremost manufacturer of other Home Comfort Appliances. Fill in and mail the coupon . . . our representative will call promptly to show you the "Home Buyer's Guide" and take your order. Do it now!
MURPHY-CABRANETTE KITCHENS
PORCELAIN ON STEEL

You'll recognize tenant-appeal in the front of gleaming white porcelain... in the convenience of modern refrigeration with push-button doors and stainless steel frozen food compartments, with modern gas or electric range, with roomy upper storage cabinets and with the large deep bowl sink in the one-piece top of porcelain... all skillfully streamlined into one compact unit.

You'll value the saving in valuable floor space that is practical with any Murphy-Cabranette Kitchen.

You'll be long satisfied with the trouble-free operation and almost negligible maintenance costs.

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Dept. F7 - Michigan City, Indiana
As you develop your building designs, you strive for highest lighting efficiency in harmony with architectural beauty.

You can solve this problem without compromise by planning the lighting around Day-Brite fluorescent fixtures. They are engineered to provide optimum visual conditions and their functional simplicity will blend beautifully with your architectural motifs...modern or traditional.

May our lighting engineers assist you?

Many leading architects find our service helpful in planning complex layouts or special lighting effects. Our wealth of experience is yours for the asking. Write us any time.

Aluminum Recessed Troffers. Snap-in and Flange Type for acoustical or plaster ceilings...unit or continuous installations. Designed for two 40-watt fluorescent lamps. May we send you Bulletin 20-B with more detailed information?

Optically Engineered
for architectural harmony
and efficient planned lighting

It's easy to see when it's Day-Brite Lighting

Day-Brite Lighting, Inc., 5471 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.

In Canada: address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.
PoweRated...heating giant of the J&C COMPLETE LINE has become an engineering household word...wherever greater warm air heating requirements are considered.

Because of the proven superiority of the PoweRated* design...Jackson & Church has faithfully reproduced PoweRated* features in the Poweaire and smaller units. J & C now offers A, B and C complete heating coverage in the warm air field from factory to cottage.

J & C'S COMPLETE LINE includes: over 100 models for coal, oil or gas...gravity or forced air...with outputs from 3,800,000 down to 50,000 Btu's per hour. Today...the answer to the heating question is as simple as abc...for factory, store or home...of course it's...J & C. *Designed to Fit the Job...Provide specified Btu output to meet big requirements.

A PRODUCT OF
JACKSON & CHURCH COMPANY, SAGINAW, MICHIGAN

GLASS. Patterned Glass for Office, Store, Showroom, Restaurant and Shop Modernization. Blue Ridge Glass Corp., Kingsport, Tenn. 20 pp. 8% x 11 in.

The utility and decorative aspects of patterned glass for solving modernization problems in stores, shops, offices and public buildings are presented in this brochure. Numerous actual installation photographs illustrate the two main features, maximum light transmission and complete privacy, while other illustrations indicate the many design possibilities with decorative glass.


Superseding previous issues, Bulletin X, 1948, furnishes reliable up-to-date technical data on sound absorbing materials and their uses. Tables show sound absorbing coefficients and other physical characteristics of approximately 20 materials manufactured by the following association members: Armstrong Cork Co., The Celotex Corp., The E. F. Hauserman Co., Johns-Manville Corp., National Gypsum Co., Owens-Corning Fiberglas Corp., Simpson Industries, U. S. Gypsum Co. An alphabetical list of trade names is included for convenient reference together with the name of the manufacturer. Theory and Use gives, as its title indicates, a general discussion of the subject, architectural acoustics. Divided into five parts, contents include: Meaning and Use of Acoustical Terms, Reflection and Absorption of Sound, Acoustical Defects in Auditoriums, Sound Conditioning in Work Rooms, Sound Insulation.

HEAT CONTROLS. Sarcotherm Weather Control For Hot Water and Radiant Heating. Sarcotherm Controls Inc., 350 Fifth Ave., New York, N. Y. 20 pp. 8% x 11 in.

An informative brochure on automatic controls for hot water heating systems of all sorts including radiant, this publication provides both descriptive and technical data on Sarcotherm controls and their applications to hot water heating systems. Operation and installation data on the Sarcotherm three-way mixing valve—the heart of the system—the various indoor and outdoor controls and other component parts of the system are included. Clear cut-away diagrams, charts and typical hook-ups illustrate the work.

HEAT CONTROLS. In the Nation's Finest Homes. Thrush Hot Water Forced Circulation, Engineering and Installation Data. H. A. Thrush & Co., Peru, Ind. 16 pp. 20 pp. 8% x 10% in. 8% x 11 in.

Prepared especially for the consumer, In The Nation's Finest Homes illustrates and describes Thrush Controls and their various applications for achieving a completely automatic forced circulating Thrush Flow Control system of hot water heat. The text, amplified by diagrams and photographs, discusses the component parts of the system, the system's advantages, methods of heat delivery, a two-pipe system, a balanced single main system and zone control. The second booklet contains engineering information on the Forced Circulating Thrush Flow Control System. Engineering and installation data, wiring diagrams and typical details on radiant heating as well as conventional type hot water heating systems are well presented.

(Continued on page 152)
Mr. Walker is a Koppers Approved Roofer. The roofing he applied on these roofs 27 years ago was manufactured by the American Tar Products Company, which is now the Tar Products Division of Koppers Company. The new roof is a Koppers roof, too.

This year marks the twentieth anniversary of the date when Koppers first issued 20-year bonds on its roofs. However, many fine old coal tar pitch roofs...like these...go back far beyond that time.

On your next job, specify a Koppers roof.
BEHIND THE PAINT before specifying

Before specifying paint for concrete, stucco or masonry, look behind the paint itself. Has it a successful service record? Behind Medusa Portland Cement Paint is a 56 year old cement manufacturing company, who originated White Portland Cement (the base of all cement paints) just 41 years ago. For 28 of these years we have been manufacturing and selling Medusa Portland Cement Paint made with that white cement. We don’t sell all of the cement paint being used today—but we do sell the Quality Cement Paint in eight colors, black and white, packed in metal containers, to protect its quality.

You can safely specify this paint for decorating and weather sealing concrete, stucco and masonry. Properly applied, on exteriors or interiors, it gives a colorful, washable, weather sealing cement-like finish. For painting concrete floors, specify the new rubber base Medusa Floor Coating. It bounces off the wear of scuffling feet—eliminates dusting—resists water, alkalis and cleaning compounds.

Send coupon for complete information.
The flare of a facade is short-lived. The success, or failure, of a building’s adaptability lives as long as the building. The all-over electrical availability of Q-Floors provides almost unlimited adaptability to mechanical change. This enables the building to remain continuously modern.

The entire exposed area of a Q-Floor can be tapped for electrical outlets. The cells of Q-Floor, a steel sub-floor, are crossed over by headers. These carry wires for any type of electrical service. An electrician drills only a small hole wherever needed, installs the fitting on any six-inch area in a matter of minutes.

Outlets and partitions can be located after the building is tenanted. This permanent flexibility of floor layout protects the building against electrical obsolescence. Incidentally, it protects you against drafting room headaches.

Here are answers to the most usual questions: **Price**—it’s right in line; costs less than the carpet. After all, floors are a small fraction of the total cost and yet, floors are what a building is for. **Availability of steel**—you have to allow time for demolition and excavation. By then, based on our experience, the steel will be ready. That Q-Floor is being specified for the biggest buildings of the postwar is additional proof.

Your client will also be interested in the time saved during construction—20 to 30%. Q-Floors come pre-cut. Two men can lay 32 sq. ft. in 30 seconds. The dry, noncombustible construction, free from falsework, makes the Q-Floor a working platform for other trades as soon as laid. This quicker construction earns revenue sooner.

You can see Q-Floor fittings at any General Electric construction materials distributor’s. For details about Q-Floor’s light weight (less than forty pounds per sq. ft. including suspended ceiling) and its four-hour fire rating, see a Robertson Representative or write—
Presdwood is used extensively in the construction of modern interiors. It combines a high degree of beauty, smart styling and practical utility.

Architects . . . designers . . . builders — here's the material to fire your imagination! Time-proved Masonite* Presdwood* combines beauty, durability and strength — perhaps more useful characteristics than any other basic material. Unusual effects are possible when you use this versatile hardboard for curved surfaces. It takes an almost unlimited variety of finishes, too. Presdwood is made from natural wood, refined to a better, stronger, wonder wood. Its dense, smooth panels can be applied easily and quickly. Progressive lumber dealers have Presdwood—Untempered, or Tempered to extra hardness. For complete technical data, write Masonite Corp., Dept. AF-7, 111 W. Washington Street, Chicago 2, Illinois.

Thanks to the attractive jacket and tight construction of the stoker-fired SEVERN Boiler, a clean, modern downstairs recreation room can be created in this basement. Designed especially for small and medium-size homes, the Severn is also available in models for hand-fired coal, or for use with the Arcoflame or any other good oil burner.

The sink in this compact kitchen is designed for convenience and lasting beauty. It is the popular ROYAL HOSTESS by American-Standard — a luxurious 6-foot model made in one piece of rigid cast iron, finished with a heavy coating of acid-resisting enamel. Comes in sizes and models to fit virtually any kitchen arrangement ... in white and many attractive colors to harmonize with any decorative scheme.

FIR**ST** in heating and plumbing for every size and type of home!

Whether you're planning a large home ... or a small one; an elaborate home ... or a simple one, you will find the right heating equipment and plumbing fixtures for the job in the complete American-Standard line. Not only does American-Standard offer you the widest choice of styles, types, models and sizes, but it also assures you of the finest quality. And when you select these good-looking, efficiently designed, long-lasting products, you're sure they'll please. No line is better known ... for more American homes have heating and plumbing by American-Standard than by any other single company. For details of the complete range of products, contact your Heating and Plumbing Contractor. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.
REQUESTS FOR INFORMATION.

GENERAL ENGINEERING CO., builders, 1030 Franklin St., San Francisco 9, Calif., requests information on materials and equipment used in residential construction.

JEAN C. GRIMALDI, architect, 64 Rue Belliard, Brussels, Belgium, desires information on interior equipment and decoration.

R. G. R. HAGGARD, civil engineer and planning consultant, "Omega," Church Road, Purley, Surrey, England, requests literature concerning residential construction and equipment.

KARL HEINZ PETEBSSON, architect, Osnabruck, Laischaftstrasse 61, Germany, desires correspondence with American architects to discuss architecture in the U. S. and Germany and to exchange American and German architectural periodicals and books.

SEYMOUR MOTOR CO. LTD., Bury Old Road, Manchester 8, England, desires information on American heating methods.

ARCHITECTEN-EN INGENIEURSBUREAU VOOR DEN HANDEL EN DE INDUSTRIE "STAM", Spoorsingel 33, Rotterdam, Holland, desires literature on modern industrial and administration buildings, their construction, equipment and decoration.

TEMPLE UNIVERSITY TECHNICAL INSTITUTE, Attn: James J. Crawford, 720 N. Broad St., Philadelphia, Pa., requests samples of building materials and units for constructional purposes in contracting and estimating courses.

WILSON, MORRIS & GRAIN, architects, 3330 Graustark, Houston 6, Tex., would like to receive information on modern club interiors including kitchen equipment.

A. P. S. VOUTAS, 144 Blood St., Pretoria, South Africa, requests information on shopping centers, underground parking garages, office buildings and traffic circulation.

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JUST LINE Radiiluxx Sinks are precision built of No. 16 U. S. standard gauge Stainless Steel. Reinforcing U-shaped steel channels extend the full length of the drainboards and prevent warping, bulging and sagging. Die drawn raised edges and electric welding throughout eliminate all joints, seams and overlapping flanges and assure the greatest degree of sanitation.

Write today for illustrated Literature F-7 and send us your specifications. Our engineers will gladly cooperate with you in submitting blue prints and estimates.

156 The Architectural FORUM July 1948
At Muroc, California -
TOURNALAYER BUILDS 100 MASONRY HOMES

PROVIDES 200 SQUARE FEET EXTRA AT LOWEST BID PRICE!

100 masonry homes have just been built near California's Muroc Air Base by the famous Tournalayer Method! They are now being finished as beautiful, livable homes for Base personnel and their families. Each home has 1344 square feet of space within its walls — 200 square feet of living space more than minimum bid specifications!... All 100 of these beautiful LeTourneau homes have been built around a compact, basic plan that provides 2 bedrooms, a large 23' x 18' living room, kitchen, dining room, bathroom, and service porch... And they were built for the low bid price of $7,500!

LeTourneau homes such as these at Muroc are well adapted to the unit system of architectural design and can be placed wherever desired. They are not prefabricated — they are permanent masonry homes that any builder or contractor can design individually, yet mass produce and sell for less than the price of a conventional house. LeTourneau homes are the answer to the tough problems involved in mass home-building operations. Write today for more information!

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Nothing but the best

there's nothing like CRANE

... nothing to match the smart styling, the lasting beauty of Crane fixtures.
... nowhere a line more complete, with a style for every taste and a price for every budget.
And, of course, none can contest the preference for Crane... that's been proved year after year in nation-wide surveys.
Bathroom fixtures, laundry tubs, kitchen sinks—all are part of this preferred Crane line—all feature the new finger-tip Dial-eze controls.
Crane quality extends also to a complete choice of heating equipment, for warm air, hot water, or steam... coal, coke, oil, or gas.
See your Sweet's Builders' File for selections from the Crane line. Some fixtures still are more available than others—check your plans early with your Crane branch or wholesaler.

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NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS
Modern architecture is building a whole new world up under the sky—roofs that meet the varied needs of modern life. Garden roofs for apartments and hotels. Promenade roofs for schools, hospitals and office buildings. Heavy traffic roofs for factories and warehouses.

Ruberoid has the specifications to make these new, imagination-stirring developments fully workable and practical. Soundly engineered, fully proved in actual construction. They’re available and practicable now.

What building are you planning—commercial, institutional, religious, industrial or public? No matter what type of roof you have in mind for the job, Ruberoid specifications will help you make fullest use of that valuable roof area.

Our nearest sales office will be glad to furnish these specifications to you, or consult your Ruberoid Approved roofer.

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Representative of this trend in modern design, here’s a landscaped roof that brings apartment dwellers a pleasant spot for relaxation and play. Flowers, shrubbery, trees and grass high above busy streets—up in the sunshine and fresh air!

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!

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With the appearance of this book, what Giedion calls the "anonymous history" of our times advances to the forefront of importance. Indeed, in the light of his explorations, the standard histories seem suddenly pallid and paper-thin accounts of what really happened. The well-known places, the famous men and the echoing events appear as but the surface expressions of much deeper currents. Currents which the writers of history books seem not merely to have ignored but of which they actually appear ignorant. When one follows Giedion's account of the mechanization of wheat-growing and bread-making, or the creation of the meat-packing industry, one suddenly realizes that a lot of anonymous inventors and mechanics were more important in such national issues as the tariff than the frock-coated congressmen who ultimately gave the bills their name.

This is probably the most significant contribution of Mechanization Takes Command—that it adds a whole new dimension to historiography. It strips off the familiar skin of history and shows the actual process at work underneath. The productive capacity of mankind was enormously increased by mechanization—and this had seismic effects on human history. Historians commonly refer to this event as the Industrial Revolution and generally admit its great importance. But who, exactly, were the revolutionists? What did they do, and why and how? What did their designs look like and how did they work? It is Giedion, rummaging through old catalogues and advertisements, unearthing dusty models of forgotten patents, who gives us a detailed and coherent picture of the technological substructure of this Industrial Revolution.

A history of mechanization is, of necessity, largely devoted to the Nineteenth Century (since that was the period in which it flowered) and to America (since this was where it saw its fullest development). But, as Giedion points out, the sources are neither modern nor American. Many developments spring from the Gothic period (the lock, the chair, the bath) and an astonishing number of so-called American developments had their origins abroad—especially in France. Nevertheless, it was Victorian America which not only put mechanization to work most widely but also had the most implicit faith in the "goodness" of the machine. The fecundity and optimism of this period, as seen through the illustrations in Giedion's book, now appear almost incredible. There was, apparently, no process which could not be mechanized (though artificial insemination was not perfected until the present century) and no process which the machine would not per se improve.

The book opens with a description of the rise of mechanization generally, including a fascinating review of such pioneers in motion studies as Marey and Muybridge and their successors, the time-and-motion experts Taylor, Gilbreth and Bedaux. But the main body of the book deals with the impact of mechanization upon four specific fields of activity: the production of wheat, meat and bread; the design of household furniture and furnishings; the design of labor-saving devices for household tasks—cooking, cleaning, laundry and waste disposal; and the design of the bath. Any one of these sections (with its illustration and documentation) would make a respectable book in itself. Together, they present an almost overpowering mass of information, little of which has been gathered together before. In this sense, the book is unique. (Where else could one find a single chronological account of the development of the harvester combine? Of Nineteenth Century... (Continued on page 162)
A dependable automatic water heater is a necessity in the completely satisfactory house...

YOUR CLIENTS CAN ALWAYS DEPEND ON A

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WATER HEATER

The tank of glass-fused-to-steel CANNOT rust or corrode!

All too often the first unit to fail in a new home is the water heater. All too many times the cause is rust.

Permaglas Water Heaters... with tanks of glass-fused-to-steel... cannot rust or corrode under any water condition.

When you specify "Permaglas" you assure your clients completely satisfactory hot-water service. More, you assure them truly low-cost hot water for years to come.

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A. O. SMITH CORP. Dept. AF-748 Kankakee Works Kankakee, Illinois Without obligation, send specifications on these SMITHway Water Heaters.

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Manufacturers also of better zinc-lined Duraclad and Milwaukee Water Heaters
Century upholstery and curtains? Of the cooking stove?) Giedion's coverage here is encyclopedic.

In some ways, however, Mechanization Takes Command is not a satisfactory book. Giedion's style is not felicitous and, conceptually, the work is rather formless. This is partly due, no doubt, to the immensity of his subject matter but partly also to his incomplete grasp of it. His ability at research is not always matched by his powers of analysis and integration. But his research is inspired: an intuitive knowledge of where to look for facts, an infallible instinct for the really important facts, and real genius at juxtaposing them for maximum illumination.

Thus his account of how Victorians on both sides of the Atlantic, obsessed with their new-found knowledge of gases, sought eagerly to put them to work at inflating balloons, at making bread rise quicker than yeast or at making carbonated drinks, is a penetrating yet hilarious comment on the Nineteenth Century mind. Similarly enlightening is Giedion's use of art works to demonstrate the fashion in which artists reflected (sometimes even anticipated) developments in technology. Some of these co-relations seem farfetched (and, in at least one instance, absurd—as when he attributes to Paul Klee, the German abstract artist, the invention of the arrow as a directional symbol in signs) but all of them serve to show the internal consistency of a given epoch.

If there is a moral to be drawn from his new book, Giedion—despite the reviewers—does not do it. He confines himself to a cool, tenacious investigation of the mechanization of certain definite areas of human activity. He refrains from those ponderous moral judgments and windy speculations which have trapped a whole succession of critics from Ruskin to Aldous Huxley. He thereby successfully avoids the cloudy animism which made it impossible for them to distinguish between the machines and the industrialized society which was using them. In a short concluding chapter, Giedion indicates that he is well aware of the problems with which mechanization confronts us. But he insists that "mechanization is an agent, like water, fire, light. It is blind and without direction of its own." If today the machine is eyed suspiciously by many people who depend upon it for their very existence, it is a case of mistaken identity: they confuse cause and effect.

"Without a doubt . . . mechanization was misused to exploit both earth and man with complete irresponsibility." But for this, blame man, not machine. The effective control of mechanization, he says, "demands . . . that everything be subordinated to human needs." J.M.F.

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FAMOUS PELLA VENETIAN BLINDS and CASEMENT UNITS

(Continued on page 164)
Never an Uncomfortable Moment in Our House

...We have Hydro-Flo Heating

A feature with proved sales appeal to home buyers

The home equipped with B & G Hydro-Flo Heating is truly a haven of luxurious winter comfort! Whether the heat distributing units are radiators, radiant baseboards, convectors or radiant panels, this forced hot water system provides the finest in automatic, controlled heating. B & G Hydro-Flo Heating owes its country-wide spread in popularity to its genuine merit—proved over and over again in thousands of homes! It is the system which affords the instant, positive control of heating so essential to real comfort ... delivering just the right amount of heat for any weather condition. No overheating in mild weather and no lack of heat when the thermometer hits bottom. At all times, indoor temperature is maintained steadily at whatever degree is preferred. Naturally this precise measuring out of heat means utmost fuel economy.

Year 'round hot water a bonus feature

Where a B & G Hydro-Flo Heating System is installed, no separate water heater is required. The same boiler that heats the house also heats the domestic water—not only in winter but all around the calendar! What feature could have more appeal to the woman of the house than a bountiful supply of piping hot water . . . always ready for kitchen, laundry and bath . . . day and night.

B & G Hydro-Flo Heating equipment can be installed on any hot water heating boiler. Its extreme simplicity is a warranty of dependable operation.

Send for this new 4-color booklet—it tells the complete story of B & G Hydro-Flo Heating Systems.
This NEW BROCHURE . . .
tells about the "quiet" ceiling with 100,000
"Noise Traps"

Send for your FREE copy.
Learn how Fibretone* gives you QUIET

- In this new brochure, you can read in non-technical language how noise-control brings quiet to your office, restaurant, bank, store, school, factory, or recreation center.

In simple, easy-to-understand words and pictures, the book tells the story of Johns-Manville Fibretone, the new low-cost acoustical ceiling unit. Graphic diagrams explain the ingenious Fibretone "noise traps"—small holes drilled in the sound-absorbing panels. Photographs of actual installations emphasize Fibretone's attractive appearance.

Once you experience the benefits of Fibretone, you'll never be satisfied with an ordinary, noise-reflecting ceiling.

Send for this new Fibretone brochure . . . and see for yourself how it shows the way to a more comfortable environment, less nerve strain, increased production! Write Johns-Manville, Box 290, Dept. AP-7, New York 16, New York.


This monograph on the work of Yasuo Kuniyoshi, one of the most sensitive and individual of modern American painters, celebrates his recent retrospective show at Manhattan's Whitney Museum. It also strikingly illustrates the broad improvement which has taken place in museum publications during the past ten years. A gradual change in a fast-moving age, this increasing excellence of an exhibit sideline has gone largely unnoticed beyond the inner circle of artists and their patrons. New York's Museum of Modern Art gathered first laurels (1929) in the field and is generally credited with initiating the trend toward lively, well-written and handsomely-designed books and pamphlets. In the flurry of praise for the Modern Museum, however, little attention has been paid to similar efforts from other exhibitors.

The Kuniyoshi book is part of the Whitney Museum's continuing program which started in 1931 with a series on modern American artists. Twenty-one monographs were printed by William Edwin Rudge, Inc. before the Macmillan Co. took over the job in 1938. The current Kuniyoshi book starts a new series based on retrospective shows scheduled for the coming months. Though a shade more conservative and less consciously styled than its Modern Museum counterparts, the new Whitney product comes off rather well in a comparison. Production-wise, it is about on par. In addition to a pleasing format and simple presentation it has the asset of Lloyd Goodrich's refreshingly readable text. As a pilot pamphlet, the Kuniyoshi book promises an excellent series. Too many people have fallen into the habit of using only one source for books of this type. Actually there are many sources in many cities throughout the country. They deserve note, study and, above all an active enough market to encourage multiplication. M.S.


Concurrent with the opening of Batsford's New York store at 122 East 55th Street—a tree-lined thoroughfare as reminiscent of a quiet London street on a summer afternoon as anything that Manhattan can offer—is the publication of these three books. Though the publishers may have decided to challenge the wilds of the New World at last, their most recent work on architecture reveals no such departure from tradition.

They are companion pieces to their predecessors, Domestic Architecture of England During the Tudor Period and Old Colleges of Oxford both in content and format. The Batsford label invariably insures an authoritative work and these three live up to it handsomely. The label also implies a characteristic, Old World type of presentation which makes the Atkinson, Lees-Milne and Whiffen tomes recognizable at a glance. Though the demand in this country for books on traditional architecture may have dropped to an abysmal low, libraries, collectors and students nevertheless constitute a dependable, (Continued on page 166)
Will she be complaining about a new house of yours next winter?

No House is Cold with the
"Unbeatable Heating Combination"

- The “unbeatable heating combination” will give your clients the heat they want when they want it. The experts’ predictions of shortages of some fuels for 3 to 5 more years does not apply to anthracite.

The “unbeatable heating combination” —a hard coal stoker and plentiful anthracite—works these three ways to keep your clients warm and comfortable:

- **Plantillal Heat** A full year’s supply of plentiful, stoker size anthracite can be stored easily.
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- **Economical Heat** Stokers use the smaller, cheaper stoker sizes of hard coal . . . reduce fuel bills as much as 52%.
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Why have sales of automatic Electric Water Heaters climbed so fast? Because home buyers prefer them! To have them completely satisfied with the homes you build—both now and in years to come—install the kind of water heating equipment your customers want.

Construction costs can be reduced with Electric Water Heaters because there's no flue or vent, so installation can be made anywhere—in a closet, in the kitchen, in the bathroom, in the utility room. Hot water lines can be short, cutting piping cost.

Customers like Electric Water Heaters because they are: (1) AUTOMATIC (continuous hot water, no attention); (2) CLEAN (smokeless, sootless); (3) DEPENDABLE AND TROUBLE-FREE (as electric light); (4) ECONOMICAL (fully insulated storage, short hot water lines); (5) SAFE (all-electric dependable temperature control); (6) FLEXIBLE (can be installed anywhere, even in living quarters; no flue or vent).
To keep yourself from being "out on a limb" later on, give home buyers what they want right now. Today the trend is to Electric Ranges. Another million American families switched to Electric Cooking last year. Conservative estimates indicate that this year at least 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!

Electric Range Section, National Electrical Manufacturers Association, 155 East 44th Street, New York 17, N. Y.

Follow the trend... Wire for Electric Ranges

Your Houses

Another 1,000,000 American families switched to Electric Cooking last year
EMERSON-ELECTRIC VENTILATING EQUIPMENT

You deliver a package of comfortable living whenever you include EMERSON-ELECTRIC Ventilating Equipment in your plans and specifications. For years these sturdy fans have helped architects and builders please hard-to-please clients. On your next assignment, make sure the air you "package" within roof and walls is fan-conditioned for comfort.

For installation data, refer to EMERSON-Electric Catalog in 1948 Sweets Architectural File, or write for Folder No. B-32 today. The EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

EMERSON-ELECTRIC HOME COOLER FAN

Installed in attic, this powerful belt-driven fan forces out day's accumulation of hot air, pulls in cool night air through open windows and doors. Designed to give years of quiet, trouble-free service in all types of homes. Available in 36, 42, 48-inch blade sizes.

EMERSON-ELECTRIC KITCHEN VENTILATOR

Adjustable to any wall thickness in either brick or frame construction, this dependable fan quickly whisks out kitchen heat and cooking odors, prevents spread to other rooms. Available in wall or ceiling types.

Elements that should enter into any decision concerning remodeling either go unmentioned or are brushed gently aside. One of these is financing—a topic most writers in this field seem to want to avoid but one which, properly approached and presented, earns the undying gratitude of the reader-investor. For instance, the current FHA policy toward modernization in given localities should be discussed. It should also be pointed out at the start that in many regions where financing is done through the local banks and without benefit of FHA insurance, summer residences are not acceptable, nor are acreages too small to be used for farming during depression years. These are basic facts that should be stressed at the very outset of the layman education.

There is nothing of the light touch in New Houses for Old. It is an extremely sane and considered work which in spots gets pretty dry. Unfortunately, the publishers cloaked it in a costume more reminiscent of the Steel Engineer's Handbook than anything else. On the whole it is a rather awesome tome that, in public acceptance, will probably have difficulty competing with more sprightly editions. For its editorial content, the book should not be underestimated, however. There's no denying that it contains a wealth of vital information. But, as the authors are aware, it needs considerable supplementation to provide a thorough and intense briefing for the would-be remodeler. M.S.


No one short of a walking encyclopedia could have on mental tap all the household information contained in this book. Though it may recall First Aid to Ailing Houses, the word "home" in the title is, for once, advisedly used. Therefore it covers a much broader field, dealing as extensively with equipment as with structure. Roughly, it ranges from "ants" to "zoning heat controls" with every other conceivable form of deterioration, its prevention and cure, in between. Published by The American Home, the book is, of course, written for people whose chief problem is how to keep the thumb from under the hammer, but it is nevertheless reliable, matter-of-fact and wastes no words. Plenty of well drawn diagrams illustrate the more complicated points. Its perusal, aside from putting a home in A-1 operating order, brings to view some interesting sidelights. For instance, who besides the authors, has taken the trouble to find out that the trend toward decentralization extends beyond the human race, to the insect kingdom? To be specific—the hitherto urban bedbug. It also includes a lot of basic knowhow such as how to start and keep (Continued on page 170)

168 The Architectural FORUM July 1948
What a Line for Extra Beauty... It's the New "Dutch Boy" Blended Paint Line. In Colors or White... BLENDED Just Right... To Stay Sparkling Bright!

What a Line for Extra Duty... Each is a brand new "Dutch Boy" product... scientifically blended to do its own special job extra well!

Each is the result of over 30 years of outdoor paint testing!

1. BRIGHT WHITE Stays White... It's BLENDED!
"Dutch Boy" Bright White is self-cleaning!
The surface continually renews itself... permits rain to wash away dirt. Sets a new standard for hiding... and for a dazzling white finish that stays white!

2. TINTS Stay True... they're BLENDED!
"Dutch Boy" Tints go on crisp and fresh!... and they stay crisp and fresh! Specially blended to assure lasting, uniform color, they keep their sparkling good looks!

3. TRIM COLORS Stay Bright... they're BLENDED!
"Dutch Boy" Sash & Trim Colors add the finishing touch to a home's protection. They're blended to hold their gloss... to stay bright and gay!

4. PORCH & DECK Stands Up... It's BLENDED!
"Dutch Boy" Porch & Deck Paint is blended for extra toughness! It stands up under heavy foot traffic and weather!

5. PRIMER really Seals, Hides and Holds!... It's BLENDED!
An undercoat of great sealing and hiding power, that holds fast! When used under a topcoat of "Dutch Boy" Bright White or Tints it gives a superior two-coat paint job, even on unpainted wood!

The New Line of "DUTCH BOY BLENDED PAINT"
Made by the Makers of the Famous "Dutch Boy" White Lead

And what an INTERIOR PAINT!
For the First Time... a one-coat inside paint that covers like magic... yet washes like new. It's the new "Dutch Boy WONSOVER!"
For the First Time... a long-lasting, real oil flat paint with complete covering power. Once over and the work's over with "WONSOVER!"
For the First Time... a one-coat interior paint that washes bright as new! Stains, even ink, don't sink in. so they wash right off! And what colors! Fresh tints, soft shades, modern deep tones and really white white.

"Dutch Boy" WONSOVER
School authorities and architects, with modernization plans at hand, recognize the fitness of Halsey-Taylor Drinking Fountains for this purpose. Their distinctive features promote the utmost in hygiene and convenience! Have you our latest literature?

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The first of a Series in the interest of more efficient use of steel...a vital American resource.

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HIGH STRENGTH for STEEL-CONCRETE SAVINGS

"30 years ahead of the building codes"—that's the verdict on the Laclede Multi-Ribbed Reinforcing Bar. All tests show that the long sought balance between high strength and adequate anchorage has been achieved. The combined factors of high yield point (70,000 lbs. per sq. in. min.) plus improved deformations give greater reinforcement strength and provide a more efficient use of steel...conserving America's most important resource while effecting material savings on the job.

Laclede bars meet ASTM Specifications A305-47T, for improved reinforcing bars, developed in the interest of modern, efficient use of steel.

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Simpler to install, operate and maintain because of improved Dunham design. One continuous pipe and finned radiation behind smart, modern baseboard provide healthier, cleaner, more attractive heating.

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This little brochure, first of a series of the same title, is, in its own modest way, quite on a level with the Giedion book. It is a brief but informative survey by a St. Louis architect of the impact of mechanization upon vertical transportation. It traces the first improvisations in mechanical hoists (Robert Mills evolved one in 1829 to raise the figure of Washington to the top of his Baltimore monument) ; the gradual discovery that people as well as things could be moved by hoists; the various experiments with various motive powers (water, gravity, steam, electricity) and various mechanical systems (cable, screw, worm and piston). It was developments of this sort which, to a great degree, determined the present configuration of American building: yet until recently they have been totally unexplored. If Mr. Bryan continues the series at the high level established in the first, he will have made a real contribution to architectural history in this country. J.M.F.

EXHIBITS

The tiny, unpretentious exhibition of Louis Sullivan's masterpieces recently on view at New York's Museum of Modern Art was a remarkably eloquent tribute. The latest in a series designed to acquaint the general (Continued on page 172)
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Alberene Stone Corporation...26
American Radiator & Standard Sanitary Corporation...155
American Structural Products Company...129
American Telephone & Telegraph Company...162
Anthracite Institute...165
Bell & Gossett Company...163
Bendix Home Appliances, Inc...137
Benner Corporation...83
Bigelow-Sanford Carpet Company, Inc...133
Bruce, E. L., Company...172
BuildDog Electric Products Company...35
Cabot, Samuel, Inc...40
California State Personnel Board...48
Cambridge Tile Manufacturing Company, The...Cover II
Carbide and Carbon Chemicals Corporation (Pyrofax Gas Division)...48
Carley, Philip, Company, Th...45
Carrier Corporation...8
Certo Steel Products Corporation...34
Celotex Corporation, The...74
Chapman Chemical Company...36
Chase Brass & Copper Co., Inc...125
Committee on Steel Pipe (American Iron & Steel Institute)...71
Coyne and Delany Company...50
Crane Company...158
Crittall, Richard, Radiant Heating, Inc...149
Curtis Companies...24,25
Day-Brite Lighting, Inc...149
Detroit Steel Products Company...53,178
Dunham & Co., Company...170
Dwyer Products Corporation...148

Eagle Industries, Inc...22
Eagle-Picher Company, The...132
Eljer Company...Cover III
Emerson Electric Manufacturing Company, The...168
Facings Tile Institute...135
Fedders-Quinian Corporation...156
Fiat Metal Manufacturing Company...120
Ford Motor Institute...74
Flintkote Company, The...74
Frigadaire Division (General Motors Corporation)...145

General Electric Company...42,43,141
General Motors Corporation (Frigidaire Division)...145
Gerity-Michigan Corporation...33
Grand Rapids Hardware Company...36
Hall-Mack Company...140
Haw Drinking Faucet Co...64
Hood Rubber Company...18
Horn, A. C., Company, Inc...143
House & Garden...Bet. 49 & 50

Industrial Roofing and Sheet Metal, Inc...27
Insulite Company, The...17

Jackson & Church Company...150
Jamestown Metal Corporation...69
Johns-Manville...164
Just Manufacturing Company...156

Kawneer Co., The...46,47
Kelvinator...10
Kennedy, David E., Inc...1
Kimbel-Clark Corporation...63,128
Kinkead Industries...124
Kinney Manufacturing Company, The...44
Kohler Company...62
Koppers Company...151

Ladco Steel Company...170
LeTourneau, R. C., Inc...157
Libbey-Owens-Ford Glass Company...39
Lockport Copper Batting Company...26
Louisville Cement Company, Inc...41

Marsh Wall Products, Inc...126
Masonite Corporation...154
Medusa Portland Cement Company...152
Meker Brothers...121
Meker, George L., Steel Corporation...22
Meyer Furnace Company, The...32
Miller Company, The...66
Minneapolis-Honeywell Regulator Company...178
Moen Manufacturing Company...144
Monroe, Lederer & Tausig, Inc...172
Mueller, L. J., Furnace Company...173

National Door Manufacturers' Association...64
National Electrical Manufacturers Association...166,167
National Gypsum Company...19
National Lead Company...169
National Oak Flooring Manufacturers' Association...90
National Radiator Co, The...65
New Castle Products...172
Norton Co...144

Ohio Elevator Company...28,29
Overhead Door Corporation, Cover IV
Owens-Corning Fiberglas Corporation...54,142

Paine Lumber Co...40
Penberthy Injector Company...37
Permenant Products Company...57
Pittsburgh Corning Corporation...69
Pittsburgh Plate Glass Company...6,7
Pittsburgh Refractories Company...70
Portland Cement Association...51
Pyrofax Gas Division (Carbide and Carbon Chemicals Corporation)...48

Reardon Company, The...45
Revere Copper and Brass, Inc...134
Reynolds Metals Company...38
Rhein Manufacturing Company...147
Robertson, H. H., Company...153
Reidl Lumber & Veneer...123
Rohm & Haas Company...23
Rolscreen Company...162
Rowe Manufacturing Company...119
Ruberyoid Company, The...159

Sargent & Company...58
Scott, O. M. and Sons Company...172
Seaporse Porcelain Metals, Inc...44
Sears, Roebuck, Inc...190,131
Sloan Valve Company...72
Smith, A. O., Corporation...161
Sloss Manufacturing Company...68
Structural Clay Products Institute...49
Sunroc...32
Superior Electric Company, The...127

Taylor, Halsey W., Company, The...170
Taylor Manufacturing Company...128
Thomas Moulding Floor Manufacturing Company...20
Tracy Manufacturing Co...9
Trane Company, The...136
Truscon Steel Company...73

United States Air Conditioning Corporation...56
United States Gypsum Co...59
United States Plywood Corporation...55,146
United States Rubber...21
United States Savings Bonds...114

Wulworth Company...61
Webster, Warren, & Company...20

York Corporation...Bet. 49 & 50
Young Radiator Company...52
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