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mistake #

mistake # **7**

mistake # ?

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NEWS

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BUILDING MONTH. Every now and then in the development of modern production, there has seemed to occur a coincidence of factors which combine to accelerate the steady push of progress to a leap ahead. The invention of the Bessemer process of steel making, the theoretical concept of steel-cage construction, the needs of the developing pattern of urban society—these were factors whose coincidence in time finally brought about the great building leap of the nineteenth century. After this leap, the new level of building technology in turn made profound changes in the character of industrial production and in the shape and quality of man's physical environment.

Last month it looked as if another great leap might be in the making. Two accelerating factors had been present for some time: 1) the theoretical basis for the factory-built house and for factory production of standardized components of all other types of building

and 2) the critical need of modern society for a decentralized pattern of living, a need exaggerated by the terrible threat of atomic war. Now what might prove to be the third factor had made an appearance. This was Republic Steel's announcement that the century-old dream of steel makers had become a reality. Steel can now be cast in a "one-step" continuous process. This means, Republic said, that the cost of steel will be cut by at least \$3 a ton. It means that the most massive and expensive parts of a steel plant will no longer be needed: molten steel from an electric furnace will be poured through a vertical water-cooled mold and cut into billets ready for rolling.

When Carl Strandlund last month flipped the switch in his Ohio plant which started the first enameled steel sheets along his house assembly line, another old dream of U. S. productive genius was a reality. The Lustron house was the first industrialized steel house to go into production at a volume that could be described by a famous American term: mass production. Cheaper steel might be the final factor that would assure the future of the industrialized house; it might also bring to birth new methods of steel construction now existing only as theories too expensive for application.

But of even greater significance is the promise of the new steel process that steel plants can be built at a fraction of their present cost. This means that steel canand almost certainly will-decentralize. As surely industry-and the people who turn the wheels and move the goods of industry -will follow. The movement had been building up since the great era of nineteenth century city building reached its peak in the 1920's and the urban focal points of industrial society started their rapid decline as decent places to live and work. Motor freight hauling, the increased possibility of air freight handling had appeared to threaten cities born of railheads and dock-space. Great dams had reclaimed vast unused arid sections of the U.S. and more would follow. A few months ago, the U. S. Supreme Court decision banning the long-established system of base-point pricing in steel, cement, other materials industries added its push to industrial shift. Then the National Security Resources Board told industry gravely that a geographic distribution of industrial power is vital to our national security.

Were these the factors of a new way and

shape of Building, another leap ahead? If they were, the enormous promise of tomorrow might be closer than we have believed.

WASHINGTON

CRABWALK

Can new FHA terms shift housebuilding volume to low-cost?

When the smoke of partisan battle had cleared after the special Congressional session, the new housing legislation looked a lot better than most Building men had expected. It was, of course, a tinker and patch-up job, a hopeful attempt to do the almost impossible. But it was neither the grinning monster of socialism that the lobbies had been chalk-drawing on Capitol backfences, nor yet the enormous banana peel, flung straight in the path of skidding real estate values, that some of the economists had predicted. The new law, like much of the government credit tinkering that had preceded it, was an attempt to compromise with an unpopular reality: new houses now cost more than many families can afford.

Like many compromises, the law did not face up to the basic issues which constitute the dilemma it was designed to meet. In the first place, the T-E-W proposed appropriations for low-rent public housing and for urban redevelopment were dropped out. There was no doubt that such appropriations, released at the present critical time, would have constituted additional and dangerous pressure on building materials prices. There was equally little doubt that the problem of the city families who, although employed, can afford no housing better than slums and the twin problem of the contagious spread of urban blight remain to be solved. (If there is a renewed drive for public housing in the next Congressional session, it will have to stand on its own feet: the present legislation exhausts practically all the sugar coating which the T-E-W bill had laid on in an attempt to induce private enterprise to swallow its public housing provision.)

How much easy government-backed credit has contributed to boosting house prices to their present peak is another basic question that no one, at this late date, quite dares to answer. Congress had been made fully aware of the almost certain disaster that would follow any further ease-

(Continued on page 12)

ment of credit. But Congress also knew that to shut off easy credit entirely would mean cracking the housebuilding boom at a time of still painfully acute housing shortage. So Congress had been obliged to crabwalk in two ways at once. In this awkward situation, it had done the best it could: it had tried to use FHA credit to turn back the price tide. Liberal FHA terms are now focused firmly on low-cost and rental housebuilding. The new law is intended to encourage four specific kinds of housebuilding: 1) low cost (\$6,000-\$7,000); 2) volume; 3) rental; 4) prefabricated (see summary, page opposite).

Interim Financing

Whether the new bill would walk like a crab was less important than whether it would walk at all. The most interesting and probably the most workable of its provisions are those which are aimed to provide construction or interim financing both for the volume housebuilder and the dealer in prefabricated housing. This has been the biggest financial gap in the whole housebuilding picture and has seriously handicapped the development of massproduction operations (see FORUM, March '48). Now FHA will insure blanket mortgage loans made to builders of 25 or more houses at a time. (Individual houses may not be sold with a loan exceeding \$6,000). This means that the builder will get a working capital loan in a lump sum, which should go far to help him stockpile and buy to advantage and set up the other elements of site fabrication.

Working capital loans to prefabricators will also be FHA-insured. The new provisions look much more workable than the old Sec. 609 loans. Loans to prefabricators must be secured by orders from dealers. But, in selling his houses, the producer is permitted to take only 20 per cent in cash, the remaining 80 per cent as a 180-day promissory note. FHA will now also insure these notes. This means that dealers will have six months of credit—plenty of time to sell and erect the house and replace the initial financing by a conventional mortgage.

Hopeful as this sounds, long-time ob-



SITE-FABRICATED HOUSE is a two-bedroom plan developed by George Emery, Jr., of Topeka, Kansas. It sells for the low price of \$5,600, making it eligible for a 95 per cent mortgage under new FHA program. Down payment is \$280less than the down payment required on a new car. An unusually large kitchen, with plenty of room for kitchen dining, is a notable feature.

servers of FHA remind that of the 14 manufacturers of prefabricated housing who finally qualified for 609-insurance, not one succeeded in closing a working capital loan with a bank. Some of the prefabricators now out of business blame FHA's failure to swap a hundred varying local construction standards for a single national standard adapted to a factory-made house. Others say that FHA set up dealer qualifications which were almost impossible to meet. It remains to be seen whether either of these hurdles will come down in the operation of the new law.

Yield Insurance Snags

Yield insurance is a brand new provision. Although the big life insurance lenders repeatedly assured Congress of their profound indifference to this incentive to equity investment in rental housebuilding, it was nevertheless enacted. Yield insurance means that the government will 1) guarantee 90 per cent of an investment in rental housing; 2) take over the project if operating losses exceed 5 per cent of the investment; 3) pay a subsidy for any year when income falls below the sum of these items: approved operating expenses, 2 per cent of original investment, $2\frac{3}{4}$ per cent of unamortized investment (profit).

But in underwriting risk, the government will also control profit. A 5 per cent profit is the maximum permitted. If earnings mount above this figure, the owner is obliged to apply them to a faster amortization. A profit ranging from 2³/₄ per cent to 5 per cent compares very unfavorably with 2.5 per cent earnings on government bonds (no work at all) or with 4¹/₂ per cent on FHA mortgages (no landlord troubles).

Just what rents would be approved by FHA is another big uncertainty. Rental building insured for yield is intended to be for families of moderate-income, but nowhere in the law is there a definition of "moderate income."

Few big investors showed a gleam of interest. L. Douglas Meredith, executive vice-president of the National Life Insurance Co., spoke for many: "If a rental project is sound it is likely to be undertaken on its own merits and yield insurance would not be needed; if it is not sound, it

KITCHEN II'-6" x 12'-6" BED ROOM II'-0" x 10'-0" DINING SPACE LIVING ROOM I7'-0" x 12'-6" BED ROOM II'-0" x 12'-6" is hard to believe that yield insurance would make it so."

Of much greater importance than yield insurance in accelerating the volume of rental building, is the temporary extension (through March, 1949) of the rental provisions of Title VI. When FHA coverage of 90 per cent loans on rental projects lapsed early this summer, rental building, already running about one-seventh the rate of house-for-sale starts came to a virtual halt. The extension of Title VI's Section 608 undoubtedly means a sharp upswing in large rental projects, which will be particularly prominent in the early part of the next year. The adoption of a loan limit of \$8,100 per family unit (replacing the previous limit of \$1,800 per room) is a step long petitioned by project sponsors, but it will obviously encourage the building of small efficiency apartments rather than the 5- and 6-room units required by large families.

One provision added to the permanent FHA rental housebuilding section (207, see page opposite) seems to have escaped general attention. This is the authorization of insurance of \$50 million loans made to federal, state and local instrumentalities. This would apparently open the way for FHA insurance of public low-rent housing projects, if local housing authorities are able to secure private mortgage financing.

Economy Houses

Whether the new law can achieve any part of its objective, depends on two main factors—the willingness of lenders to participate and the ability of housebuilders to get their costs down to the \$6,000 to \$7,000 selling price required for the most favorable credit terms. The National Association of Home Builders was hard at work on the cost factor and economy houses were being vigorously pushed by Association chapters in a number of cities (see cuts for samples).

One New York lender, the Ninth Federal Savings & Loan Association, had already moved to carry out the new law's objective of diverting credit to lower-priced houses. Midland put a \$12,000 ceiling on VA and FHA loans, \$10,000 in all other home mortgages, thought other lenders should do likewise.



LOW COST "BASIC HOUSE" was developed by Luthe J. Boggs for low-income Negro families in Atlanta The first one (pictured above) was specially con structed, sold to a Negro veteran for less than \$4,000 Price of those subsequently built: \$4,500 (entailing down payment of \$16.87, monthly payments of \$23.40). Early models had aluminum sheet roofs later ones have asbestos shingles.

NEW FHA INSURANCE TERMS

	LOAN LIMIT	LOAN I LINING
The low-cost house (Title 11, 203)		
Loans to owners	95% of long-term value or not more than \$6,000	30 years, $41/2\%^{**}$
Loans to builders	85% of long-term value or not more than \$6,000	30 years, 4½%
Loans to owners (Firm commitments to builders on 80% of first \$7,000, 60% on remainder)	90% of first \$7,000 of long-term value (percentage decreases on a sliding scale to 80% on \$11,000 house)	25 years, 4½%
Site fabrication (Title VI, 611)		
Blanket mortgages to builders of 25 or more houses; funds to be used as work- ing capital	80% of value of completed property and not more than \$6,000 of the value of each house	4%* interest,*** FHA will set amortization
Prefabrication (Title V1, 609)		
Working capital loans to manufacturers, secured by contracts for purchase of houses	90% of current cost	1 year, $4\frac{1}{2}\%$
Promissory notes given by purchasers	80% of purchase price	180 days, 4%
Rental housebuilding		
TEMPORARY PROGRAM until March 31, 1949 (Title VI, 608)		
Loans to builders who agree not to dis- criminate against children	90% of replacement cost as of Dec. 31, 1947 or not more than \$8,100 per family unit	27 years, 4%
PERMANENT PROGRAM (Title 11, 207)		
Loans to builders	80% of long-term value or not more than \$8,100 pfu	32 yrs., 30 days, 41/2%
Loans to builders where rents are FHA- approved for moderate incomes	90% of long-term value or not more than \$8,100 pfu	40 years, 4%
Loans to cooperatives	90% of long-term value; \$1,800 per room permitted in "un- usual situations"	40 years, 4%
Loans to World War II veterans' co- operatives	95% of replacement cost as of December 31, 1947	40 years, 4%
Loans to federal, state and local instru- mentalities and to limited dividend cor- porations	\$50 million or not more than 80% of long-term value includ- ing land, utilities, etc.	40 years, 4%
YIELD INSURANCE (Title VII)		
Equity investments in projects where rents are approved by FHA for moder- ate-income families will now be insured	90% of total investment is guaranteed. Minimum annual return guaranteed is 234% (plus 2% amortization)	Annual return may not be more than 5%
Minimum house and modernization program (Title I)		
Loans to owners for building small houses (lower standards than Title II)	Up to \$4,500	20 years, 41/2%
Loans to owners for remodeling to pro- vide for two or more families	Up to \$10,000	Under \$2,500, \$5 per \$100 discount Over \$2,500, \$4 per

LOAN LIMIT

LOAN TERMS*

* Interest shown does not include 1/2 of 1% insurance premium. ** FHA may raise to 5%

*** FHA may raise to 41/2%.





\$100 discount

EXPANDABLE HOUSE was developed by Cleveland builder Alex Bruscino. Complete with three bedrooms, it sells for \$8,000. Cost can be cut by leaving two bedrooms in right wing unfinished, cut still more by omitting wing entirely (bearing wall at right would provide for future expansion). Bruscino plans to precut and package the house for use by other builders. Cleveland expects 500 of the units within the next year.

OTHER PROVISIONS OF LAW

The new housing law also:

Authorizes \$50 million worth of RFC loans for production of prefabricated houses or components or large-scale site fabrication.

Expands previously enacted secondary market provisions for FHA-insured or VAguaranteed loans. Proportion of his portfolio which a lender may now sell to the Federal National Mortgage Association has been raised from 25 to 50 per cent. All mortgages insured or guaranteed before April 30, 1948 are now eligible (heretofore only mortgages on single family houses could be purchased).

Authorizes VA to raise the maximum permitted interest rate on guaranteed loans from 4 per cent to 41/2 per cent, if it finds this necessary to assure an adequate supply of mortgage money. (Lack of 4 per cent mortgage money has been plain in the slowing down of the VA home loan program. VA is now surveying opinions of both veteran and lender groups on a boost).

Creates a new research program, under the Housing and Home Finance Agency, to go to work on getting standardized and improved building codes approved by localities. This program will also encourage the wider use of modular construction.

Directs the Public Housing Administration to oust high-income families from public housing projects. (Congress has tried to do this several times before, but has relented because of housing shortage).

Authorizes the conversion of certain stateaided veterans' housing projects to federalaided housing under the USHA Act of 1937. (Massachusetts and New Hampshire are the only states having projects which might qualify for this.)

Raises the salary of the Housing and Home Finance Administrator (Raymond Foley) from \$10,000 to \$16,500, and of the Federal Housing Agency and the Public Housing Administration Commissioners from \$10.000 to \$15,000 each.



DESIGN

DOWN WITH GEORGIAN

Newspaper rouses North Carolina to crusade for contemporary architecture

Architects long have wondered when their lonely, long-fought battle for functionalism would enlist grass roots support. Last month, enlistment rates went up. Led by a 32-year old newspaperman from Winston-Salem, a substantial number of North Carolina citizens formed an indignant wall of opposition to traditionalists and demanded an expression of contemporary architecture in the Southern Piedmont.

The newspaper reporter, Chester S. Davis, was equipped with a layman's interest in Building and an editorial go-ahead to launch his attack in the pages of the Winston-Salem *Journal and Sentinel*. Under banner headlines, he questioned the good sense of Georgian-styled plans for a new plant for Wake Forest College proposed by the permanent architect, Jens Fredrick Larsen, of New York.

Reporter Davis felt strongly about the "fake chimneys" and unnecessary porticos in the design.



He called for opinions from leading architects: Walter Gropius, William Wurster, Joseph Hudnut, George Howe. Roland Wank, others. Then he printed their warnings of the "tragic mistake" of swaddling a new college plant in a tradi-

REPORTER DAVIS

tional straight jacket." He showed his readers Eliel Saarinen's functional design for Drake University dormitories and told them that M. I. T., the University of Maryland, Antioch College, Northwestern University and many another had chosen this kind of architecture.

That Architect Larsen should propose a "traditional straight jacket" came as no surprise to other architects or, presumably, to the college officials who had hired him. Before he was contracted in 1946 to plan the college's new 1,100-acre campus at Winston-Salem, 114 miles east of its old site at Wake Forest, he was well known for his traditionalist inroads on the U. S. campus. (Dartmouth's Baker Memorial Library and Tuck School of Business Administration: Princeton's Fuld Hall for

Advanced Learning:

Colby College at Wa-

terville, Me.). But it

provoked a statewide

controversy charac-

terized by reporter

Davis, editorial plea:

"If we are going to

make a mistake . . .

let us at least make

an intelligent one . . .

with our eyes open.



ARCHITECT LARSEN

We have started down the traditional approach to building a college campus, but we have not yet gone so far that retreat is barred to us."

Appearing before angry, anguished members of the state chapter of the American Institute of Architects, Larsen defended his plans as "timeless" and "ageless." He explained that he had in mind constructing a "spiritual home" for Wake Forest students, "a charming place they would want to return to."

"My veneer is Georgian," he said, "but I can make the construction anything I want. I want to keep Wake Forest's soul." He assailed the "rotten ethics" of those who wanted to "butt in," and pleaded: "I want to end my architectural career with Wake Forest."

Many outraged members believed his design would, if not end, at least deal a serious body blow to the architectural life of the South. Shouted one, before he stalked from the room: "You should have been a carpetbagger . . . You had the most wonderful opportunity here and you messed it up." Another charged: "You have put us back 20 years."

Henry Kamphoefner, State College's dean of the School of Architecture, snorted at Larsen's contention that his design would supply the college's 114-year old



WAKE FOREST PLAN: sprouting dormers like an old sow

roots and said Georgian style was dead 140 years ago. He predicted the roofs would "sprout dormers like an old sow."

Reporter Davis and North Carolinians, convinced that their protests had not seriously penetrated Architect Larsen's oldworld hide, waited hopefully to see what effect they might have on college authorities. These backward-leaning authorities were also offered some bait: an anonymous woman promised a \$5,000 building gift if the college abandons Larsen's plans.

CITIES

SKYSCRAPERS AHEAD Pittsburgh may get several

The great Building spurt that has followed the war has been marked by a conspicuous absence of skyscraper construction. Massive horizontal additions have changed the face of cities: in New York, for example. Metropolitan Life's housing developments



U. S. STEEL-MELLON skyscraper

stretched over thirty-one city blocks. In Seattle, the 12-story Equitable Building rose in a glass and aluminum sheath—the first real application of the light-weight, curtain wall which architects have long proposed for skyscraper construction. (See p. 100). But of the 3,200 office buildings the U. S. built last year, only the Esso building in New York (33 stories) and the John Hancock Life Insurance building in Boston (26 stories) had ventured very far in a vertical direction.

Was the skyscraper a thing of the past? Current building costs plus a new awareness of the need for urban decentralization were powerful deterrents. Moreover, memories of the days when the Empire State building stood empty above the 70th floor were still fresh in the minds of Building Money.

Against this horizontal trend, at least one impressive exception loomed. Last month U. S. Steel and the Mellon National Bank let it be known that they were mulling over a 40-story structure, to connect with the present Mellon Bank building in Pittsburgh's Golden Triangle. Said Benja-(Continued on page 16) More and more the thud of hammer on nailhead was giving way to the roar of the giant crane and the craftsman was being replaced by specially trained labor crews who poured, clamped or welded houses together in a matter of days. As housebuilders wrestled grimly with rising costs, they turned to methods hitherto limited to giant commercial and industrial building. Housebuilding jobs had grown big enough to support such methods: this was the big new fact back of the trend. Where the overhead of special forms and machinery was warranted, concrete and steel constructions were paying off handsomely in speed.

APARTMENT DEVELOPMENT in Queens has exposed concrete frame stretching over two city blocks. Builder David Rose set up what he calls a "plant on wheels" to hoist the steel and plywood forms used. Cinder block walls are finished with aluminum clapboarding. Building is roofed with concrete planks.









FIFTY HOUSES A DAY are being poured in this 7,000-unit job in Puerto Rico. Builder L. D. Long, Charleston, S. C., Invested \$1 million in equipment. He tamps dry-mix concrete into aluminum forms, set up and plumbed by workmen. (Labor costs only \$3.20 a day. So much hand work would not be feasible in U. S. Houses sell for \$4,000. Job is FHA-insured.

Lincoln Electric Co.





SINGLE-FAMILY HOUSES in Queens are built in seven days. Builder Patrick Callan spent two years perfecting his housesized steel forms. Structural shell is poured in a single operation. Faces of forms are scoured by steel wool machines after each use, producing smooth concrete surface which eliminates plastering. Callan says machinery does 80 per cent of the building. 70 per cent of labor is unskilled. WAR SIMPLIFICATON of arc welding is the basis of this steel system used in a 200-unit apartment development in Shorewood, Wis. Prefabricated steel wall panels are hoisted into place for on-site welding. The builder, Schroedel Construction Co., says cost per unit will be \$7,000, well under new FHA limit.





min Fairless and Richard Mellon: "Time of construction will depend upon the future trend of construction costs." They made one other condition: the city would have to provide adequate traffic and parking facilities. (A spacious park facing Hotel William Penn with auto parking underground is the hoped-for solution.)

If all plans jell, the Golden Triangle, financial heart of the steel empire, will bristle with new building. Like U. S. Steel, the Aluminum Corp. of America wants to centralize its offices now scattered throughout the city. Last spring Alcoa bought a Triangle site occupied by a theater and is discussing skyscraper building plans with architects Harrison & Abramovitz, who last year made the plans for the 12-story building which Alcoa wants to build on Park Avenue in New York.

There were other new property owners in the Triangle: The W. T. Grant Co. (chain stores) recently bought a site where it eventually wants to build a tall office building for its own use. A mysterious New York buyer last month put down \$500,000 for an old school building property.

The determinedly anonymous New York buyer was not, as many Pittsburghers believed, the Equitable Life Assurance Society. Equitable was, however, negotiating with the Urban Redevelopment Authority on a mammouth plan to rebuild 23 blighted acres of the lower Triangle, next to the long-hoped-for development of Point Park. This rebuilding job would call for rental housing, several office buildings, maybe a hotel. Equitable was keeping very quiet about its talks with the Urban Redevelopment Authority. But last month Authority director John Robin said cheerfully: "It's moving along."

PREFABRICATION

NETWORK

Harry Levey sees a way small prefabers can do big business

When Look magazine decided to leap into the Great Housing Shortage, it turned to old (72) Harry Levey, whose Adirondack Homes had climbed out of the log cabin class during the war and into an impressive chunk of the Eastern market for a low-cost precut frame house.

Levey agreed to produce a \$7,500 house designed by Walter Dorwin Teague. This model house was illustrated in eight pages in *Lock* and put up for display in cities from Maine to California. Millions came to stare, thousands wanted to buy. But no *Look* houses moved onto building lots.

When Look editorially wound up its tilt with the Great Housing Shortage a few months ago, it mournfully conceded that there is "more to the housing problem than designing a low-cost house." Both Look and Levey blamed an obstacle painfully familiar to the prefab industry: lack of financing. Customers for this low-cost house couldn't make big down-payments; dealers who wanted to erect it couldn't get interim financing to carry the houses from factory to purchaser.

But by the time Look reached this rather well-known conclusion, Harry Levey found himself with a valuable new asset: Adirondack Homes had become one of the betterknown names in prefab. This residue of Look's full-dress promotion encouraged Levey to launch a plan he had long been considering. He invited a group of small Myron Ehrenberg



LEVEY: cooperation for dividends

prefabers, spotted geographically over the U. S., to form a cooperative working association for production of a trademarked house. Such a group, he said, could reap dividends ranging from volume purchase of lumber to national advertising.

With the \$30 million threat of the Lustron steel house looming bigger in everybody's market, the prefabers Levey approached were anything but cool to his plan. Most of them showed up for a late August meeting at Chicago's Edgewater Beach Hotel. Here Levey laid it on the table:

Producers would agree on three or four basic houses, to be trademarked (probably Adirondack) and nationally advertised.

Adirondack would build a national dealer organization to handle sales for all cooperating manufacturers. This would mean adding 600 new dealers to Adirondack's present 150-dealer organization.

▶ Orders stimulated by national advertising or promoted by dealers would be channeled through Adirondack's New York office to manufacturers according to location.

For its services, Adirondack would charge a flat fee for each house sold.

After two days around the table, twelve of the conferees signed a resolution to set up such a working arrangement. The signers: Skillcraft Homes, Akron; Strathmoor Homes, Detroit; Simpson County Lumber Co., Mendenhall, Miss.; Cozy Cottages, Columbus; Housemart, Cleveland; Combs, Ottumwa, Ia.; K & M Corp., Norfolk; U. S. Homes, Marietta, Ga.; Forest City Material Co., Cleveland; Johnson Co., Sharon, Pa.; Tennessee Lumber & Coal Co. and Tibbals Flooring Co., Oneida, Tenn.

Present but not signers were Precision-Built's C. Vaux Wilson and D. C. Slipher, technical director, Kaiser Community Homes, who made it clear that he had come "merely as an observer."

Back in New York, Levey happily made plans for a September meeting where the newly welded prefabers would decide on the basic house plan that would require the least readjustment of everybody's jigs. Levey, who had already made two real estate fortunes (one: developing most of midtown Broadway in the 1900's; two: predepression Long Island housebuilding) anticipated one more.

Levey still had his biggest card to play. He hoped to wrap up his national production and distribution package in a national blanket of life insurance company financing. If Levey could sell his trademarked house and manufacturing network to one of the life insurance companies, the doubleheaded financial dilemma that has stopped many a prefaber would be solved. Such a big backer would handle both dealer's interim financing and long-term mortgages.

While the "big life insurance company" was a familiar missing part of many an ambitious housing venture, FHA's new Sec. 609 insurance (which now covers prefab interim financing as well as production loans, see p. 12) might be enough to click Levey's scheme. Even without this big financial hand, the scheme looked good to many a small prefaber. At month's end Levey said he had 37 telegrams from firms who wanted to get in.

BRITISH WAY

Standardization is big building hope, but tradesmen don't like it

Unlike the U. S. where prefab has been primarily a rationalization of frame construction, wood-short Britain was forced, on the one hand, to make the major break with tradition of an aluminum house. On the other hand, the British adapted prefab techniques to such conventional materials as concrete, stone, slate, etc. Now, just three years after bombed-out Londoners hopefully tapped the aluminum walls of the first experimental house set up on the Tate Gallery lawn in London, Britain could report substantial progress in both directions.

The Ministry of Supply had finished its job of setting up temporary houses: some 54,500 British families were living in aluminum bungalows. The British liked them fine, and the Ministry of Health had ordered 15,000 more (a few design changes will adapt them for permanent use) to be put up by local housing authorities. A system of aluminum unit construction suitable for permanent school buildings had also been developed, and the Ministry of Education planned to buy 25 aluminum schools. But this was not enough to keep the five

(Continued on page 18)

THE MODERN STYLE IS

GENUINE CLAY

Boston's Bonwit Teller has

a distinctive decor pleasing to the most fastidious customer . . . smart merchants everywhere know the importance of clean, attractive powder rooms and gentlemen's lounges. Here at Bonwit's,

the ladies' lounge is done in a modern color combination

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carpets of the powder lounge is carried through in the washroom with French grey genuine clay wall tile and wainscotting. Used with pink fixtures, this real tile background is both pleasing and distinctive. Sanitary cleanliness is assured. The effect is one of beauty, smartness, and color that will last year after year.

to defeat demon doodlers

in school corridors, gyms, and wherever else eager hands can reach, choose a permanent, mar-proof surface like genuine clay tile. Public officials appreciate it when real clay tile is specified because tile makes tax dollars go further. Cleaning and maintenance work is easier and less costly. Clay tile is washable and therefore doesn't require waxing, varnishing, or painting to keep it always looking bright and doodle-free.



THE MODERN STYLE IS GENUINE CLAY



Even when you enter this world-famous New York hotel it is hard to realize it was built 34 years ago. Recently, an extensive

> modernization program was undertaken to further enhance its distinctive charm. Original Georgian furnishings are being replaced with "modern Georgian."

Besides keeping beautiful, *all* hotels must also keep maintenance costs low. A guest in the Biltmore who steps into any one of the 550 modernized bathrooms appreciates the smart looking beauty and cleanliness of the walls which have 6' of newly added genuine clay tile. And behind scenes are the easily cleaned, sanitary, tile floors now installed in the 18th floor kitchen and Bowman Room pantry. Equally important to the Biltmore management is the money which will be saved over the coming years by the maintenance economies real tile assures. Keeping beauty bright, and maintenance costs low, in this case go hand in hand. "FORESTGATE" IS BECOMING FAMOUS

as an outstanding example of how private capital and management are providing a truly cooperative residential community at Forest Hills, New York, for World War II Veterans. When fully developed, 5,669 apartments of 31/2 to 51/2 rooms will cover a 55-acre tract in this New York City suburban development. Featured in these well-planned apartments are bathroom walls and floors of genuine clay tile in harmonious colors, The Veteran's Administration, in appraising this and other housing projects, looks for the long-range value, economy, and durability that real clay tile provides. In both large-scale housing projects and individual custom-built homes, tile is preferred for bathroom walls and floors, kitchens, sun rooms, powder rooms, halls, stairs, and porches because it increases sales appeal. Experienced real estate people stress the presence of genuine clay tile since home buyers and renters recognize tile as the hallmark of quality and are willing to pay for its advantages.

WALKER AND POOR Architects

when candy is cookin',

cleanliness counts. Naturally, candy and food factories need walls and floors that are easy to clean and keep clean. But, ease of cleaning is just one of the requirements. Spilled liquids can penetrate open floor joints and deteriorate rapidly, causing unsanitary conditions. So, dairies, bakeries, restaurant kitchens, and other places where surfaces might be attacked by food acids or alkaline cleaning agents, rely on real clay tile floors and facings. Acid and stainproof, clay tile is hard and resistant to warping, chipping, and cracking. All these advantages help assure sanitary conditions.

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ALUMINUM SCHOOLS will appear in 25 British towns this fall. Developed by the Bristol Aeroplane Co., these standardized aluminum units can be assembled according to various floor plans to form a complete two-story structure—or added to existing buildings. Four foot wide wall panels may be entirely glazed or windowless. Side rails of panels are bolted together. An ingenious feature is the reversal of the gutter—an aluminum extrusion—to form a seating and connection between roof and wall panels. Roof units are light enough to be placed without use of cranes. A school for 480 pupils costs about \$112,000, without lighting and heating.

aircraft manufacturers who had been producing the aluminum house busy. The initial government order had created a whole new industry: producers had installed expensive machinery, huge conveyor belts, big drying ovens. Now they looked hopefully to the development of substantial export markets to keep their plants at work.

NFWS

To shorten the time required to build with conventional materials, the British have introduced concrete beams, planks, and shingles, put together like wood members; steel-framed houses faced with concrete slabs; concrete houses poured in molds. The Ministry of Works has developed a new roofing technique, now being demonstrated to builders and trade unions. This is a prefabricated slate panel, made up from small pieces reclaimed from quarry waste. A slated wooden frame, with 17 slates attached to it by nails, forms the panel which is easily fitted into place on the roof. Adjacent panels are joined together by a key slate.

But while the British have taken many steps to standardize and speed-up traditional methods of building, the traditionally individualistic British building tradesman has stubbornly refused to fit in a standardized mold. So said Herbert U. Nelson, the National Association of Real Estate Boards executive, who was in London last month. at the end of a tour of European houses. Tradesmen insist on canteens where they can knock off for tea; they refuse assignments to special crews for installing windows, hanging doors, etc.-this, they say, would make their work monotonous. Nelson said this is one big reason why the cost of building in London is just as high as the cost of building in big U.S. citiesalthough skilled British carpenters and bricklayers are paid only about \$30 to \$40 a week and materials (except lumber) cost about the same in both countries.

Nelson was much more impressed by

London cab design. "A high square body ... You don't need to crawl in on your hands and knees. Once inside, you can sit up straight even with your hat on ... The wheelbase is short and the cab can turn in a narrow street. Many years ago we built such cars, but have forgotten how, and for some strange reason all our cars have to look like blisters. If the British could build our cabs, and we could build their houses, both nations would be better off."

British Information Service

HOUSES

THE FLEECED VETERAN

Fly-by-nighters pay up \$300,000 as some vet houses sag and sway

Since war's end, and particularly over recent months, newspaper stories of veterans rooked on fraudulent housing have cropped up with alarming frequency to shock responsible builders and the rest of the nation. Last month, feeling that editorial cries of "Lo, the fleeced veteran" were get-



ting out of hand, Morris Verner, Deputy Housing Expediter for Compliance, supplied these facts:

• Of the 30,000 veteran complaints of irregularities under the Veterans Housing Program received so

MORRIS far, about half are legitimate. The others reflect customer dissatisfaction, but no law violation.

Practically all of the violators are fly-bynight builders drawn into the industry at war's end by halcyon visions of large profits and little responsibility. ("Not 5 per cent of the tough cases come from regularly established builders," said Expediter Verner). (Continued on page 20)

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deviation from specifications or substitution of inferior materials. At least 95 per cent of the legitimate com-

Most of the legitimate complaints involve

plaints are settled on a voluntary basis: the builder corrects deficiencies in the construction (or makes cash settlement, if improvement in construction is not practicable), refunds excess charges in the relatively few cases involving overcharging. Flagrant cases are turned over to the Department of Justice, which institutes criminal proceedings before a grand jury. (Some "flagrant" cases were almost unbelievably so: a nineyear old in San Francisco batted a ball through the wall of one of a group of \$9,000 houses erected by one Building newcomer who thought he could make his walls of shingle facing right over the studding; another brisk builder saved money by omitting from his prefabricated houses the angle iron used to bolt the inside walls to the roof beam, with the result that the walls swaved whenever a door was closed.)

Compliance has received (and the public heard of) the bulk of the complaints recently because many veterans have just begun to discover the flaws in their newlybuilt homes, many others have just begun to realize, at veteran organization meetings, the recourse open to them.

Expediter Verner's Compliance Department had by last month collected \$300,000 for veterans from builder-violators. The whole matter should be cleaned up by next July (end of the fiscal year), he believes, now that Congress has upped the funds to provide for 225 investigators from its first postwar low of 20.

MARKET

PATTERN

The wartime westward movement sticks

The great wartime migration that will shape the Building pattern for years to come was officially measured by the Census Bureau. As surprised nobody, the Pacific Coast showed up as leading the nation in population growth. California gained the most: 42.1 per cent since 1940, passing Illinois and Ohio to become the third biggest state. Oregon swelled by 41.8 per cent, Washington by 35.8 per cent.

New York and Pennsylvania, the two biggest states, showed less than normal population growth over the war years. The whole U. S. population has increased by 8.9 per cent; New York gained only 5 per cent, Pennsylvania only 6.1 per cent.

Other big gainers: Texas, 10.7 per cent (Continued on page 22)

How to Heat the In-Between Building

Here is ideal heating for the inbetween building - the industrial plant, the 1 and 2-story business building, the very large residence, the warehouse and many other types of buildings. Here too is ideal heating for the building that is sometimes left unoccupied.

The Webster Type "R" System is vapor heating at its best because of its quick response to changes in temperature, its fast heating-up. extreme flexibility.



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Close-up view, showing trolley as it rides in Industrial Trol-E-Duct, Trolleys are fed electrically and supported mechanically by the slotted duct.

Trol-E-Duct furnishes constant power to these hand-tool operators on moving assembly line. BullDog manufactures Vacu-Break Safety Switches * SafToFuse Panels * Superba and Rocker Type Lighting Panels * Switchboards * Circuit Master Breakers * "Lo-X" Feeder BUStribution DUCT * "Plug-In" Type BUStribution DUCT * Universal Trol-E-Duct for flexible lighting * Industrial Trol-E-Duct for portable tools, cranes, and hoists.



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CLEVELAND 1. OHIO

(now sixth biggest state); Florida, 22.7 per cent; District of Columbia, 29.8 per cent.

NEWS

Nine states lost population-Arkansas, Kentucky, Mississippi, Oklahoma, West Virginia, Nevada, North Dakota, South Dakota, Montana. The great trek into the West (2,900,000 persons) was almost exactly counterbalanced by departures from the South (2,996,000).

COWS AND HOUSES Litters may make a big difference

Before the appearance of the operative housebuilder and the not-yet-significant factory house, houses - like cows - were born singly. Roy Wenzlick, the St. Louis real estate analyst, thinks that is why producers of both these commodities were apt to go bust every 20 years or so. It has always taken too long to make cows and houses. Demand rises quickly; production builds up slowly to meet it. By the time production has been expanded enough to meet the market, an over-supply is created, thereby precipitating a downswing of the cycle.

While not everybody agrees with Wenzlick's reason why, few think that housebuilding is now riding high to stay. When the high wave of housing demand fell in the Thirties, the smashed wreckage of a thousand once-thriving building enterprises pointed a moral too painful to forget. This time builders know they ride a rough sea. But most think that the crest of the wavethat decisive moment when you ride down or bust-is still just a little bit ahead.

Last month forecaster Wenzlick staked his reputation on a timetable. House costs, he said, will start down this year, become "normal" by 1950, then slump to their lowest level since 1932 in the mid-50's-when Wenzlick fully expects the trough of depression.

But even at the bottom of depression, Wenzlick figures, construction costs will be 73 per cent higher than in 1932, 40 per cent above 1939, and 15 per cent more than they were at the peak of the building boom of the Twenties.

If, as Wenzlick contends, housebuilding's slow adjustment to market changes has in the past accelerated the boom-and-bust cycle, might not the recent development of the industry promise something different? Fewer and fewer houses are being born singly, more and more are being born in litters. The industry's response to its market has picked up enormous speed. The dominating emergence of the volume builder, the disappearance of the picayune

(Continued on page 24)



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operator is the big shift back of the industry's lightning expansion to its current production rate of just under one million houses a year.

NEWS

But if the operative housebuilder had eliminated the industry's traditional lag in market response, he had not yet been able to control the pressure of a rising market on prices. Housebuilding remained the only industry where prices go up as production rises. The President's midyear economic report had provided a new measure of the price pressure. "The unusually high level of current demand for houses has combined with the unique character of the building industry to push homebuyers' costs far more above those prevailing after World War I than consumer incomes have risen in the same time span. During the past year, the average price of new houses has risen about 20 per cent, while average family income after taxes was only about 8 per cent higher during the first half of 1948 than during the same period in 1947."

The government economists seemed to agree roughly with Wenzlick's timetable. "The basic housing needs of a growing population in the face of a serious and cumulative shortage would be sufficient to sustain the present level or even a higher level of housebuilding for many years to come. But only a few years at most would be required to saturate the demand of those who can acquire houses at current costs, and that saturation would portent a serious downswing in residential construction.

FARM BATHTUBS DOUBLE But it is still a lot easier for city dwellers to be well-scrubbed

Saturday night bath in the farm kitchen is gradually disappearing as a U. S. custom. Well-heeled U. S. farmers now have twice as many bathtubs as in 1940. Most of them now live in well-painted, water-tight houses, too. Last year farmers spent about \$1 billion to build new houses and remodel old ones. The Commerce Department expects them to spend another billion on housing this year.

Farm houses are a lot more comfortable than they were at the time of the last census in 1940. Then one-third of all farm houses needed major repairs; now only 19 per cent are in this class. Over 59 per cent of farm homes have electric lights, compared to 31 per cent in 1940.

But farmers still have much less plumbing than city dwellers. Despite all the new building, two-thirds of farm homes lack running water—only 4.5 per cent of city houses are without it. Although farm bathtubs have doubled, only 20 per cent of farm families boast them—as compared to the city's well-scrubbed 83.9 per cent.

An announcement

The Allmetal Weatherstrip Company, manufacturers of quality weatherstrip equipment since 1915 announces a NEW and SUPERIOR patented Sash Balance and Weatherstrip Unit. Details are shown below.

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The latest in storefronts is the Visual Front ... the design that cuts out gingerbread ... presents a sweeping, unobstructed view of an entire store interior.

The above cartoon from an advertisement by

a leading women's magazine is recognition that today's buyer expects stores to be as up to-date as the products they sell.

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HE Meadowbrook Apartments, which will be completed in Indianapolis early next year, is one of the country's largest housing projects. The entire operation consists of 37 buildings with a total of 645 living units. Heating will be of the new baseboard radiation type with forced hot water, and will be equipped with Honeywell Personalized Heating Control throughout. Not only will this give tenants the opportunity to select and maintain exactly the temperature they desire, but by so doing they will keep heating costs at a minimum because over heating will be eliminated. Just as important, the comfort features of Honeywell Personalized Heating Control will help keep these apartments fully rented long after the housing shortage. If you do not have complete data on Personalized Heating

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73 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO . LONDON . STOCKHOLM . AMSTERDAM . BRUSSELS . ZURICH . MEXICO CITY

LETTERS

University of Miami . . . The Cellar and the Storage Ell . . . Plaster Questionnaire . . . More on the Travelletti House . . .

Beaux Arts Letter ... Support for Niemeyer ... Russia vs. Functionalism.

MIAMI MODERN

Forum:

We were very much pleased with the functional, climatically adapted, esthetically pleasing planning done by Robert Law Weed & Associates and Marion I. Manley in the classroom building of the University of Miami (FORUM, July '48). Due credit, too, to President Ashe for the courage to abandon the "logical" institutional Spanish Colonial architecture and start the campus of the University of Miami with a clean slate. Perhaps, though, a copy of "Old Siwash Builds" should be encased permanently lest future presidents forget that the building represents the best of 1948, not 1998.

The abstract patterned aluminum grill of the classroom building, though a decorative element, attracted our attention and interest for its parallel with some of our own experiments in machine painting and sculpture.



Sculpture by Kluck



Window grill by Weed

We are sending herewith photographs of one of these which is particularly similar and would very much like to see a more complete photograph of the grill. HENRY C. KLUCK

Chicago, Ill.

Forum:

The informal master plan of the University of Miami is refreshing in comparison to some of the more formal schemes which have dominated many of our college plans in the past.

One thing which puzzles me is the separation of the architectural building from the engineering buildings, and it's combination with the arts building.

While it is true that architecture is an art, it's function is related as closely to engineering, if not more so, than many of us think it is. Good functional architecture is influenced by its structure, which when used intelligently produces good buildings. The new classroom building is an excellent example.

This separation of architecture and engineering may be the underlying cause of many of the effete buildings which have been designed under the guise of the words "modern" or "functional."

... I sincerely hope that this example of the separation of architecture and engineering does not indicate a trend in the education and training of our future architects.

ROLAND K. KUECHLE

Oakland 5, Calif.

THE VANISHING CELLAR

Forum:

I was glad to find in the June issue figures on the "savings" to be obtained by substituting a service and storage ell for a basement.

As I had suspected, it is the same old story of saving money by using something considerably smaller—substituting 136 sq. ft. of ground floor space for 757 sq. ft. of basement. And this does not take into account the fact that quite a few more sq. ft. of floor space necessarily must have been sacrificed somewhere in the house to accommodate the heating plant.

Taking the figures as given, I would draw quite a different conclusion as to the story they tell. For one thing, they show that by substituting a basement for a service ell, at an additional cost of only \$435 one can gain 621 sq. ft. of floor area at the rate of about 70ϕ a sq. ft.! (Again disregarding the space in the main building devoted to the heating plant in the one-floor plan, which space would also be gained).

Or, to consider the basement alone, its cost is about \$1,349, or at the rate of about \$1.80 a sq. ft., by far the cheapest readily usable space which can be provided in a house.

The figures would indicate the cost of the ell to be about \$914, or about \$6.70 a sq. ft.

Which is more economical, space at \$6.70 a sq. ft. or space at \$1.80 a sq. ft.?

It is a strange state of affairs in which we find ourselves, when the best we can do to save money on building a house is to trim and trim on the size.

H. N. CAREY

Phoenix, Ariz.

FORUM merely reported a cost analysis made by the Housing & Home Finance Agency, suggests that Reader Carey's real quarrel is with skyrocketing building costs in general.—ED.

CO-OP CONSTRUCTION

Forum:

I have just read your article on Postwar Co-ops, (FORUM, June '48) and to me the article is vague on certain vital features, i.e.:

1. How do you plaster direct to concrete? I have been under the impression that a suspended ceiling is needed because plaster does not adhere to concrete.



CONSTRUCTION DETAIL: Co-op at 15 E. 91st St.

2. There are no windows in the bathrooms! How does ventilation meet code requirements?

3. That all-plaster partition looks nice on paper, but how is it kept stiff during plastering?

These things give me the impression that construction techniques in New York City are ten years ahead of me, and I am very

(Continued on page 30)



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This attractively banded floor of Thos. Moulding Chemproof Tile combines colorful beauty, comfort, durability . . . and immunity to chemical action. Pictured in laboratory of science building at St. Thomas College, St. Paul, Minn. Elsewhere in this building Thos. Moulding Acid-Resistant and Moultile floors are installed, Ellerbee & Co., Architects.



disappointed that your article did not explain these methods. Is your magazine just for the purpose of creating pretty pictures, or for spreading new knowledge as well?

Edwin Jacobson, Jr.

Bethesda, Md.

 In New York, and presumably the rest of the world, plastering direct to concrete with an initial bond coat is common practice.
 The New York building code requires only

2) The New Tork building code requires only duct ventilation in bathrooms, not an outside window.

3) Sheetrock and metal lath being materials of reasonable stiffness, the plaster is hardly apt to collapse while being applied to them.—ED.

TRAVELLETTI TURMOIL

Forum:

I have read your article "A House Divided" in the June issue, and should like to take exception to the method and the manner of your comments.

You are dealing with a house designed, for his own use, by an admittedly able and intelligent architect, a project always of great interest to other architects. Why, then, not let *him* write the article? His reasons for what he has done, his ways of living in the house, his future plans for it, would explain the whole business in the simplest and most interesting manner. Your own bad guesses as to why he did this or that are, frankly, of no interest whatever. If, having studied his article, you have some constructive criticism to offer, it could be worth reading.

The tone of the article is, to this reader, particularly offensive. It is assumed throughout that the architect has the worst possible reasons for what he has done, and the implication that if he had not been favored by the site he would not have known how to solve his problem seems downright insulting. In contrast, Mr. Travelletti's restraint and good nature are refreshing.

I believe that thoughtfully prepared criticism, presented without prejudice, would add considerably to the value and interest of our architectural magazines. I should like to see not only modern but also traditional designs published and criticized and defended with spirit and good nature. The FORUM is about the only magazine which could afford to do this properly.

W. G. THAYER, JR.

Forum:

New York, N.Y.

Very interested in this discussion feature. I must say I feel that the owner-architect wins easily. A few points: why not a pitched roof? They leak less, have good insulation. A big hall is a big welcome to the (Continued on page 32)

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LETTERS





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smartly assertive and in harmony with its Hedrich-Blessing Studio

visitor. I like the front door; it has charac-

ter and isn't mealy-mouthed. The street frontage is, to my eyes, agreeable, easy, not

TRAVELLETTI HOUSE: Street Frontage

setting. The garden front is equally good, but rightly has a more open character.

Why should not the owner-architect design as he pleases? This one is obviously a competent performer. But, amongst 50 critics, you will, no doubt, get 50 shades of opinion. However, you have unwittingly enticed me into writing my first letter to the FORUM editor.

London, England HOWARD ROBERTSON

Forum:

It is indeed unfortunate that Mr. Travelletti, with his solid Swiss background and thorough education, should settle down to design for his own family a "house they want . . . in a clearly intelligent, logical fashion . . . placed on his site well and oriented with particular wisdom." In the bargain, it won't fit on a lot that he hopes he will never have to move to, nor can his neighbors see into his bedroom from the street. And what are you thinking of, Mr. Travelletti, when you do all this and then cap it off with a roof that won't leak!

However, we thank you, Mr. Editor, for coming to the rescue of the advocates of "modern" architecture with your tired old papier-mache lion and his rusty Klaxon roar. We rush to your challenge to stick our heads into his large false jaws, confident that he won't hurt a soul and that the traditions of sensational, glassical, gastational architecture are just about as secure as we'd like them to be.

Owings Mills, Md. GRINNELL W. LOCKE

Forum:

Travelletti has carried through well, but only to a point. When he meets the difficult problem of composing his design with the pre-existing neighborhood, he falls back upon the supposed satisfaction of sameness, and a tremendous number of persons are cheering loudly.

They would be expected to cheer, and negative criticisms of Travelletti's design will not change their minds. The FORUM (Continued on page 36)



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now has squarely in its lap the obligation to present as critically and as thoroughly specific alternatives to Travelletti's popular solution to this pressing problem of fitting the contemporary design into the pre-existing neighborhood.

To be specific, why not take Koch's house for his parents in Cambridge, Neutra's own house in Los Angeles, or one of Wright's suburban Usonia houses, and specifically demonstrate what Travelletti missed.

ALEXANDER S. COCHRAN, Architect Baltimore, Md.

Forum:

In your own words, you say you "will welcome opinion" on Mr. Travelletti's house shown in the June number of FORUM, so Mr. Pip Squeak makes bold to add his bit to Mr. T's "cogent, good-natured rebuttal." It has been my opinion ever since this rash of moderne domestic design has been insinuated on an unsuspecting public, that there are altogether too many bright-eyed, eager architects willing to experiment with the other fellow's money. Southern California is pock marked with all too many of these architectural monstrosities. At the architect's insistence, clients have been led to adopt the "new look" and have been rudely awakened, when it was too late, to the disturbing fact that their new house was neither "functional" nor a comfortable place in which to live. Wide expanses of glass have added to heating and cooling loads, had to be shaded or curtained, and had to be washed. Kitchen noises and odors permeated the living areas and tricky corner fireplaces in cross draft locations smoked copiously. "Car Ports" gathered dirt and afforded inadequate protection for expensive vehicles. Living rooms took on the appearance of clean, well-scrubbed dental clinics with no wall spaces left for pictures or the pleasing arrangement of furniture. And moderne upholstered gas pipery furniture! Ugh! Even Gustaf Stickley of Mission Period fame would flop over in his grave if he could see some of it.

It seems to me that Mr. Travelletti was on the right track when he adapted the modern to traditional forms, using it to fit the needs of his family and the requirements of the site. In my opinion, the best of our contemporary domestic work and, indeed, our commercial and industrial design, have kept their roots firmly in tradition while giving the old familiar forms a fresh new look. The Gothic was such a living style until experimenters brought about its decadence.

It seems to me Mr. Travelletti answered the criticisms of his design satisfactorily. The living room and dining area is narrow (Continued on page 40)



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LETTERS

DIGG. OR LITTLE

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THE MEYER FURNACE COMPANY Weir-Meyer Furnaces and Air Conditioners for ... G A S , O I L , C O A L Offices: Peoria 2, III. Factories: Peoria and Peru, III. but could have been widened by reducing the kitchen width without damage to the efficiency of the kitchen. The front door detail is "stunty" and somewhat out of scale. It would have been improved by a more traditional solution.

Mr. Travelletti is right. If the choice is to be between extreme modern or sweet, I, too, will take "sweet" if it isn't *too* sweet, and there are still plenty of architects *and* clients who feel the same way.

Let's have some more of these refreshing discussions in The Forum.

HAROLD O. SEXSMITH, Chief Architect Homes & Narver, Engineers

Los Angeles, Calif. .

Gothic, the "moderne" of its day was alive just so long as its forms were not externally applied to changed construction methods and materials.—Ep.

Forum:

Regarding the article on Mr. Travelletti's house—just what does the modern architect do when the logical solution is traditional? JOHN LINLEY, JR.

Anderson, S. C.

Forum:

The article appearing in the June FORUM concerning architect Rene Travelletti's home captured my attention most particularly because it represents, to me, a timely challenge on the editor's part and mass misunderstanding of the fundamental principles and ideals of modern architecture—aptly, and perhaps innocently, personified by Mr. Travelletti.

It is my belief that this house is "divided." Compromise, by its nature, is compelled to split integrity. Can one deny that art is of the emotions and, to be worthy of the name, must exemplify the highest and noblest of man?

When a man is "divided" in himself, society dubs him "schizophrenic" and hastily swoops him out of sight for safekeeping. The man is ill—so is the building.

The man who chooses the title "Architect" accepts (or should) with it a tremendous responsibility to society. He agrees to forge ahead, searching for new materials, new methods, more indigenous expressions of contemporary living. His trust is sacred, his ideals demanding. He is looked upon to lead his people in architecture, always on the ascendant. His faith in himself must be obvious to those for whom he designs, for only then will their trust in him be possible. The man who believes that the public wishes to remain stultified shall have a rude awakening one day. The era of eclecticism has ended-the bright new horizon of organic architecture is appearing before us. It is not my wish to argue with Mr.

(Continued on page 44)



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Travelletti about his "tastes," for differences of opinion provide a stimulus conducive to advancement. However, I should like to say that Mr. Travelletti, as a "leader" in architecture, can afford to drop some of his reticence and LEAD!

GEORGE C. HIGGINS, Student San Francisco, Calif.

Forum:

Baloney!

LETTERS

It's easy to criticize and boo from behind the well-padded skirts of a collective anonymity called "The FORUM." Perhaps, had the subject article been signed by the writer, or writers, the content might have been considerably more constructive and less scathing.

Would it be asking too much for those who have set themselves up as God's gift to Architecture to produce a revised design, complete with exterior views, of Mr. Travelletti's house so that the rest of us poor, misguided architects will know exactly how a contemporary residence should be planned and exactly how it should look?

And, for a change, the Great Designers in their Ivory Tower, might take cognizance of that infinitesimal consideration with which only practicing architects must contend (you will pardon my bringing it up)—cost.

The undersigned reserves the right, for himself and all other non-conformists, the poor dears, to publicly criticize the result.

"Of all the wonders I yet have seen, it seems to me most queer . . ." that Great Architects are always editors, never practicing principals. Seems a shame, doesn't it? JAMES BERKELEY ROBINSON

Staunton, Va.

Our tower is not ivory, it's corrugated asbestos. —ED.

RETORT FROM THE BEAUX ARTS Forum:

The insignificant position which the Ecole des Beaux Arts occupies today in the architectural profession hardly merits a continuing controversy over its success or failure in meeting the needs of contemporary architectural training. The letter of Messrs. Sandifer and Webb, however, (FORUM, June '48) prompts a reply in defense of young French architects and of architecture itself.

I quite agree with the letter in its statement that the French educational system is archaic and that it fails to orient itself toward the needs of young architectural students in a society radically changed from that which carried along the international community of students who worked here during the Twenties. This is, alas, all too (Continued on page 48)



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LETTERS



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evident in the caliber of the design projects produced by the Beaux Arts and in the sterility of French architecture in general. It is even more painful in the attitude toward art and architecture which most young students here manifest.

In rebuttal, however, I must remark the equally woeful lack of curiosity and free and independent thinking in the U.S. ... not to mention the lack of "good" design. As young architects who have studied in both the U.S. and in France the authors of the letter should know that there is a significant parallel between the backwardness of ateliers and schools of both countries. That this is true even of Scandinavia (Sweden, for example, which has aroused the enthusiasm of young American architects because of its contemporary excellence in design, has several schools which still insist upon the esquisse, the grand rendering and -no architecture!) should indicate that one cannot discuss the phenomenon in terms of this or that country but that it must be discussed in terms of the position of the artist in contemporary society. One cannot speak of "respect for tradition, authority and age . . . no responsibility until the age of 40, and very little work" as ameliorative factors in esthetic criticism; the judgment remains a severe one; the discriminating attitude persists. Those architects who merit the title do not compromise their work with the limitations of the society in which they live; i.e., lack of cultural stability, lack of intelligence and esthetic sensibility. It is, therefore, in defense of those true French architects-however few (as in America) -that I wish to reject the apologies of Messrs. Webb and Sandifer, for the quality of their thinking cannot be compared to that of the madcap students of the Ecole des Beaux Arts (with all due respect to the ruling class and the Park Avenue alumni!). Nor can the quality of their work be compared with the dross which I have seen at the Ecole. I wish to question the judgment of someone who writes that the French educational system is "archaic," "stuffy," "does not encourage intelligent contemporary design," and that the students at the Beaux Arts "still design in the Renaissance fashion whether they like it or not" (sic!) . . . and who writes simultaneously, in the same letter, that "the Beaux Arts system satisfies the needs of France today but is no longer useful for America!" Quite a blow to France ... and to Frenchmen! And, one might hazard the timid question: "Well, what are you doing at the Beaux Arts?"

W. Emmett Coleman

Paris, France

(Continued on page 52)



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48 The Architectural FORUM September 1948



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Why The Kitchen Is Today's "Measure Of Value"



Prices Look Lower Through The Windows of Hotpoint All-Electric Kitchens

ALERT ARCHITECTS and builders find there is "magic" in modern electric kitchens. For the tremendous impact of powerful advertising has made Americans thoroughly kitchen conscious. Today, buyers are apt to judge the value of the house on the merit of the kitchen.

Within the past three years Hotpoint has received over 2,000,000 inquiries about All-Electric Kitchens. Pioneer of the modern electric kitchen, Hotpoint has designed new and revolutionary appliances that make the kitchen a real showplace.



Today the Kitchen is the Measure of Value

Thirty million people know that Hotpoint means the finest, and prospective owners say houses which include All-Electric Kitchens are better buys. Payments are easier, too, because in most states the cost of both the house and the appliances may be included in a "package mortgage." See your Sweet's Catalog for details or consult your nearest Hotpoint Distributor. Hotpoint Inc., 5651 W. Taylor Street, Chicago 44, Ill.

Hotpoint has everything for the kitchen and laundry: RANGES - REFRIGERATORS - FREEZERS - DISHWASHERS - DISPOSALLS* CABINETS - SINKS - WATER HEATERS - FLATPLATE IRONERS ROTARY IRONERS - WRINGER-TYPE WASHERS - DRYERS

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Everybody's Pointing to

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Knowing Kencork's many practical advantages, its lifetime durability and reputation for great luxury many architects are agreeably surprised at its low initial cost. Ask your flooring dealer about Kencork or write us for the colorful Kencork catalog. Installation study No. A-63 Cafeteria in leading New England utility company

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For the cafeteria in the recently completed branch office of one of New England's largest utility companies, Cram & Ferguson, well-known architects, chose Hood Asphalt Tile.

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AUSTRALIAN PROTEST

Forum:

LETTERS

The exclusion from the U. S. of Brazilian architect, Oscar Niemeyer, thus preventing him from giving a series of lectures at Yale University, has caused considerable surprise and amazement in many quarters.

The Architectural Research Group believes that the action of the U. S. is contrary to the generally accepted principle of freedom for the exchange of scientific information among nations and has requested me to write supporting the protest against the exclusion of Senor Niemeyer already made by a group of U. S. architects, and published in several architectural journals.

R. J. ROLFE Architectural Research Group Victoria, Australia

THE RUSSIAN VIEWPOINT

Forum:

Re your article in May 1948 issue, "The Wide Gulf:"

It is simply strange, when you or British Architectural Review are trying to judge about the present time architecture in USSR in whole, referring only to examples especially chosen.

Do you prefer the extreme ugliness of project for UN home in New York by U. S. Wallace Harrison or William Zeckendorf? Or production on 445 Park Avenue? Or Palais Royal department store remodeled? Or isolate experiments by Frank Lloyd Wright?*

We do not—as testified by *Pravda* in 1936, and by Professor Klieger in his lecture in 1947 in Moscow. We are waiting until the time when new style and new esthetic will be really and naturally born, as I hope in tremendous amount of building work which is in progress now in my country. Our attainings for Paris (1937), New York (1939) or Moscow Agricultural Exhibitions (1938) or for Soviet Palace guarantees that hope.

... It is natural that some buildings will be not so happily designed, just the same as U. S. modern schools, clubs or theaters in so-called "Colonial style" or skyscrapers in "California Spanish."

The gulf between old time esthetic and present time ugliness is really great, and it is the result of inventiveness in urgent works as usual in U. S. and not of natural birth.

We do prefer to get the natural results and not the imitations of ugliness in a rush because it is something "new." N. C. SOKOLOVSKY

Shanghai, China * Yes.—Ep.



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40 RETAIL STORES

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THE ARCHITECTURAL FORUM

Subscription Department 540 North Michigan Avenue Chicago 11, Illinois

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FOR as long as 20 years—the owner, whose roof is Bonded,* pays nothing for repairs. That's the re-markable story of a remarkable Bonded Roof-Koppers.

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combination—Koppers Coal Tar Pitch and Tarred Felt. When a roof is built-up with Koppers Pitch and Felt, it resists prolonged contact with water. It has unusual tensile strength. It is "self-sealing" if small breaks occur. And when gravel or slag is embedded in a heavy pouring of Koppers Pitch, the roof surface is armored against hail, driving rain, sleet and snow. No wonder such roofs can be Bonded!

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A Koppers representative inspects each Bonde'l Roof approximately two years after construction. If there are any signs of trouble, the roof is put into first-class con-dition (under the terms of the Bond) with-out expense to the owner.



A Koppers representative inspects the roof during construction to make sure that it is built according to specifications.



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the LENOX-2

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EBERLE M. SMITH, Detroit architect and University of Michigan graduate, began practice in 1935 with classmate Maynard Lyndon, started a solo office in 1942. This firm has now expanded into Eberle M. Smith Associates, a 14-man organization and one of the best in the Detroit area specializing in school and institutional building. Schools for the federal government occupied them during wartime; a recent job is the elementary school (p. 112).

> C. N. FREEMAN and SYDNEY B. HAYSLIP, specialists in school architecture and designers of the country school (p. 114), formed their Portland, Ore. partnership in 1942. Freeman, in practice since 1915, has designed so many schools-from one-rooms with outside plumbing to large 30-teacher plants-that he won't say how many for fear his word will be doubted.

Behind the scenes with FORUM contributors

VICTOR HORNBEIN, designer of the Logantown school (p. 116), is a native of Denver, Colo., a former student of the atelier Denver, a recently appointed design instructor at Denver University. While most of his work is local, he escapes occasionally from his natural habitat to look in on jobs in Wyoming, Kansas, up-state New York and Massachusetts. His specialty is residential work with "just enough commercial to make it interesting."

GARFIELD, HARRIS, ROBINSON & SCHAFER, designers of the Quonset bank (p. 121), is one of the oldest and most respected architectural firms in Cleveland. Senior partner Abram Garfield opened his office in 1905, took Harris and Robinson into partnership during the Twenties, Schafer in 1934. Biggest current job is designing Chesapeake & Ohio railroad stations throughout the country. Garfield, Harris and Robinson have been active in housing and city planning.

EDWARD FLEAGLE, Yonkers architect and designer of the small suburban bank (p. 124), is a graduate of Pratt Institute, in private practice since 1934. Prior to the war he served as consultant to a hospital program in Athens, Greece, and also did work in Sweden and Finland. Chief architectural coordinator for Navy shore installations during the war, he is now back in civilian practice with current jobs in Maine, Virginia, Florida and, of course, New York.





MacKIE & KAMRATH, architects, and Frank Sharp, builder, are responsible for the Texas houses jointly sponsored by the FORUM and Revere Copper & Brass Co. (p. 125). The architects are both graduates of the University of Texas and both started their careers in Chicago, Kamrath in the office of William L. Pereira.

PRESTON S. STEVENS (right) and JAMES R. WILKINSON (left) of Atlanta, Ga., architects for the Georgia Tech apartments (p. 132), switched to their present firm name in 1947 after the death of Flippen D. Burge, Stevens' former partner. Stevens & Burge had pioneered "modern rational architecture in this traditional section of the country" since 1919.

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THE GILBERT SCHOOL OF ADVANCED DESIGN, a non-profit, coeducational institution opening this fall, will provide courses in interior architecture, decoration and furniture for advanced students. It is under the same sponsorship as the Kendall School of Design, Grand Rapids, Mich.

WOODHOUSE & Co. LTD., will act as the Canadian sponsor for the modern furniture designs chosen in the International Competition for Low-Cost Furniture, sponsored by the Museum of Modern Art, New York City.

CONVENTIONS

CALIFORNIA COUNCIL OF ARCHITECTS, 21st Annual Convention, Yosemite National Park, September 26-8.

CONSTRUCTION INDUSTRIES EXPOSITION, sponsored by the Houston Chapter of Associated General Contractors of America, Inc., Houston, Texas, October 2-10.

NATIONAL ASSOCIATION OF HOUSING OFFICIALS Annual Meeting, and Annual Exhibit of Building and Maintenance Products, Olympic Hotel, Seattle, Wash., October 13-16.

PUBLIC FORUM OF INTERIOR DESIGN and related subjects, arranged by the American Institute of Decorators, Town Hall, New York City, October 5th.

INSTITUTE OF TRAFFIC ENCINEERS, Annual Meeting, Philadelphia, Pa., October 11-13.

NATIONAL EXPOSITION OF POWER AND MECHANICAL ENGI-NEERING, Grand Central Palace, New York City, November 29-December 4.

BUILDING PREVIEWS



THE 12-STORY APARTMENT HOUSE soon to be built on New York City's East Side (H. I. Feldman, architect) will have walls and floors of concrete poured in plywood forms. The resultant smooth finish eliminates the need not only for interior plastering but for exterior brick facing. (Nevertheless the front will be covered by conventional brick and stone.) Apartments are small (2 to 4 rooms) and garage facilities are provided in the basement with an entrance at street level—lower left in picture. The greater part of the roof will serve as a terrace accessible to all tenants. Large corner living room windows are designed for getting the most view sometimes of little but the neighboring corner living room window. Harry L. Ettinger is sponsor of the project; Tishman Construction Corp. is builder. (Continued on page 66)



Control of temperature and humidity is paying its way for modern industrial laboratories in more and better research. Such exacting work demands precise control the year round. That is why so many industrial laboratories choose Carrier centrifugal refrigerating machines for their refrigerating and air conditioning requirements.

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Dept. AF9, Box 290, New York 16, N. Y.

ANNOUNCEMENTS



AN ENCINEERING BUILDING is now under construction for the Fluor Corp., Los Angeles, Calif., designers and constructors of chemical and processing plants. Its 4-wing floor plan gives 62,000 sq. ft. of work space equipped with continuous window areas and aluminum louvers to facilitate light control. The requirements of this design office are worked out on three levels: a basement containing garage, storage and blueprint equipment with dumbwaiter print service to upper floors; a first floor with offices for project engineers and their staffs; a second story (overhanging the first) which provides space for more than 200 draughtsmen. Wurdeman & Becket were architects of the building.

NEW CHAIR



This new design by Allan Gould evolves a sturdy flexible chair from laminated wood members and specially prepared waxed cord. Each member is formed of 13 layers of birch veneer electronically bonded, a structure firm enough to make the chair's one point of fastening sufficient. The seat and back of the chair are composed of one continuous weave (168 complete turns) of the cord, which adapts itself to the position of the sitter. The chair is available with its frame in natural colored wood, or lacquered in any color; and with cord in chocolate, light buff, dark green, duck, China blue and French red. The list price of the chair is \$45.40. For an additional \$4.50 the chairs can be treated with special outdoor finish. It is manufactured by Functional Furniture Manufacturers, 40-17 22nd Street, Long Island City 1, N. Y.

NEW YORK STATE HOUSING COMPETITIONS

Two COMPETITIONS for designs of low-cost housing—a single family home and a multi-family housing development—are open to architects licensed in (Continued on page 72)
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PLASTILE is a new experience in floor tilings—combines a 3/32" wearing surface of Tygon Plastic with 3/32" underbase of resin-impregnated cork. The Tygon top surface provides unexcelled wear; immunity to acids, alkalies, oils, greases, alcohols or water; amazing wide range of clean color possibilities; skid-resistant walking surface; unmatched ease of maintenance.

The resin-impregnated cork base (inseparably bonded to the Tygon top surface) adheres tightly to wood, metal or concrete; makes walking more comfortable...quieter; prevents shrinkage or expansion problems.

Wherever your specifications call for a floor of striking beauty, lifetime durability, quietness and walking comfort — insist on Plastile.





Write today for your free copy of this new 16 page booklet, "What About Vinyl Plastic Floor Tile?" Samples, color charts, technical data. Write Plastile division, The U. S. Stoneware Co., Akron, Ohio.



WHAT'S HOLDING YOU UP?



Drainage installation of Chase Copper Tube in one of the 280 homes built by Levitt & Sons, Strathmore at Roslyn; L. I. Distributor: Gar Supply Corporation, Long Island City, N. Y

WATERBURY 91, CONNECTICUT

CHASE COPPER TUBE for soil, waste and vent lines is IMMEDIATELY AVAILABLE!

Is YOUR building program bogging down, because pipe for drainage lines is hard to get? Then do as other builders all over the country are doing-switch to Chase Copper Tube. You can get it right awayin all the sizes used for soil, waste and vent lines.

You can install Chase Copper Tube quickly, too. Fewer joints are needed because it comes in 20-foot lengths. The joints you do need are made in a jiffy with solder-type fittings. Pre-assemble if you like-the assemblies are sturdy units that will stand plenty of rough handling.

And ... Chase Copper Tube does a better drainage job. Its smooth inner surface offers no obstruction to the flow of wastes-the soldertype fittings eliminate pockets.

Want more details? Write for literature on Chase Copper Tube for drainage lines. Address Dept. AF 98.

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a home PLUS...

The G-E Way of Living!

Easy, electrical living is a must to your new prospects. Here's how you can include the G-E way of living—and get greater profit opportunities and prestige. Cost to the buyer—only \$4.80* extra a month—cost to the builder—nothing!

Home is shelter. Home is warmth. And home can be a tyrant, too.

But in the house that features the General Electric way of living, men and women are never slaves to the home.

The All-Electric Kitchen and Laundry, like an army of tireless servants, take over the thousand and one tasks of homemaking. It includes the following appliances—G-E Automatic Dishwasher, Disposall[†], Electric Range, Cabinets, Refrigerator, Automatic Clothes Washer.

The family really lives right in a G-E fully equipped home enjoys the comfort, convenience, leisure and economy—that is the ideal of every home buyer!

People are learning to think of the General Electric way of living as a *basic part* of the home—included in the price *planned* into the house from the ground up.

WHY GENERAL ELECTRIC?

Yes, prospects are insisting on electric appliances, and are making plans for them in their new homes.

Which electric appliances? In a nationwide survey, 51% of the men and 53% of the women said they prefer General Electric Appliances!

GENERAL ELECTRIC HOME BUREAU SUCCESS STORY OF THE MONTH

CAN THEY PAY?

People want the G-E way of living. They will buy it faster. Keep it longer. But will they pay *more* for it?

The answer-it costs so little more!

For an estimated average of \$4.80* or less extra a month, the home buyer can enjoy all the advantages of a G-E equipped home. The economies of owning these appliances are often enough to cover this extra slight monthly charge.

And to buy *even part* of this electric equipment on the installment plan would cost them far more per month—thus putting a strain on their home budgets.

So include the G-E way of living in the homes you build. See how appealing the "packaged mortgage" plan will be to your prospects.

ACT NOW

The G-E way of living has helped big and little builders all over the nation to make greater profits and build their reputations.

The G-E Home Bureau helps you to plan G-E fully equipped homes. And it follows through in helping you *sell*, too!

Read the typical Home Bureau story below. And act today to include the G-E way of living in your next project!

+General Electric's registered trade-mark* for its food-waste disposal appliance.

Baltimore home buyers switch to home with General Electric Kitchen. A. J. Watkins and Son sell six out of twelve G-E fully equipped homes before completion.

We'll be glad to tell you the whole story. And we'll show you how G-E Home Bureau can help you bu'ld better houses with the G-E way of living —and sell them faster!

Just drop a post card to the Home Bureau, General Electric Company, Appliance and Merchandise Dept., Bridgeport 2, Connecticut.

*When equipment is included in a long-term mortgage.

GENERAL 🍪 ELECTRIC

THE APPLIANCES MOST WOMEN WANT MOST



They have comman

does double duty

- Being pure white lead, Eagle RTU has traditional beauty and durability.
- It's factory-mixed for new efficiency, goes to jobs in original containers.
- Eagle RTU's fine brushing and hiding qualities make for easy application.
- Its smoothly gleaming coat gives lasting distinction to your buildings.
- **1.** Eagle RTU is favored by builders for its time-andlabor-saving convenience.
- It's preferred by homeowners for its whiter white that stays white longer.
- 1. Eagle RTU is pure white lead paint in a modern form.
- 2. It is backed by Eagle-Picher's 104-year-old reputation.



ANNOUNCEMENTS

New York State. A first prize of \$1,000 and second prize of \$500 are offered for the best plans in each field. Projects are to be designed especially for families earning between \$46 and \$58 a week. The single-family dwelling is to accommodate a man, wife and two children on a lot 60×120 ft. in a typical suburban community. The plans should provide living and work areas, two bedrooms and a bathroom; cellar is optional. (Special note: no fireplaces). The multi-family development must house 80 families in 12 one-bedroom, 52 two-bedroom and 16 three-bedroom apartments with no less than four apartments to a building. Parking for 60 cars must be provided. Building lines are set at 25 ft. from the edge of the plot (400 x 600 ft.) with minimum distances of 75 ft. between parallel buildings. Project facilities (maintenance, storage and laundry) must be located in one or more of the basements.

Inquiries should be addressed to William Lescaze, A.I.A., professional advisor of the contest, at the New York State Division of Housing, 270 Broadway, New York 7, N. Y. All entries must reach his office by November 15, 1948.

MODELS FOR SUCCESS



A beachhead has been established in the Los Angeles architectural model market by the impressive work of two Navy veterans—Crilly Butler and Kim Weed. A combination of unorthodox construction methods and inexpensive materials has enabled them to cut costs considerably below those of well-entrenched competitors. From basic ingredients no more elaborate than illustration board, Baku-wood, Glassine, oil house-paints, glue, plywood (for bases) and the nearest scrap bag, they have built up an enviable reputation not only for precision but for astonishly realistic textures. Both men take special pride in the way their imaginative use of landscaping makes the model look at home on its lonely board. The convent building (above) and apartment house (below), both designed by Russell & Samaniago, architects, show their versatility in this field. A corps of small boys is glad to



perform weed-and-twig collecting duties and ensure a supply of materials at non-exorbitant rates.

Butler, one-time designer of theatrical models, is senior partner in the firm and is responsible for most of its present affluence. Under his impetus, the (Continued on page 76)

1818 HOPE'S 1948 LOK'D BAR FACTORY SASH

Jaegar Machine Plant, Columbus, Ohio

A. F. Tynan, Architect

BETTER SASH COSTS LESS TO OWN

To get the most enduring windows at the lowest ultimate cost you must have stronger sash and more resistance to corrosion. In any industrial district you can see broken ventilators, weathering strips rusted off, loose and warped window frames that testify to the destructive power of wind and vibration and the corrosive action of a smoky atmosphere.

Hope's Lok'd Bar Factory Sash are built to equal the life of the best building, even under abusive conditions and their superior weather-tightness saves heat losses and gives lasting shelter in plants where bench workers need the full light of large glass areas.

Hope's design doubles the strength of ordinary light sash because the Lok'd Bar joint, made by threading the horizontal muntin thru the Bulb T vertical sash bar, has extra thickness where it is needed and is stronger in proportion to the weight of its metal. The ventilator sections, with flanges rolled in one piece, do away entirely with applied weathering strips; thus there is no crevice in which corrosion can start. Ventilators are solid welded at the corners; each is a complete unit which reinforces the sash where the void is cut for it. The flanges close on wide, tight-fitting contact surfaces, reducing wind infiltration to less than one cubic foot per minute at 25 miles per hour.

These features assure the most lasting satisfaction to the owner with important savings in the cost of repairs to his building. Hope's Lok'd Bar Steel Factory Sash are made with ventilators either pivoted on bronze cups, or projected on strong steel arms with brass guides. Write for the Lok'd Bar Catalog; it gives complete details and physical data illustrated with full scale drawings.

HOPE'S WINDOWS, INC., Jamestown, N.Y.

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The house that fooled our own best friends

Our friends thought we'd come into a fortune when they first set eyes on our new house. But here's a secret: It isn't quite as big or even as expensive as they thought. And that's thanks to our architect and his clever use of modern building materials.

With expert planning your new house, too, can look like and actually represent a lot for your money. Today's building materials are the finest research has developed. They'll give you real beauty, extra long life, and most important—true fire protection. For example every house uses sheathing under the outside finish. Old style sheathing is inflam-

mable. And it costs more than Gold Bond Gypsum Sheathing, made by National Gypsum, which is fire-proof and makes an extra-strong, weather-tight wall. Another way to keep expenses down: You can save up to 40% on fuel costs if you insulate with full-thick Gold Bond Rock Wool. It's fireproof. Keens furnace heat in Keens summer beat out And Keeps furnace heat in. Keeps summer heat out. And Acceps turnace theat in. Keeps summer neat out. And acts as a permanent firestop by filling the space be-tween framing members. For existing homes it can quickly be "blown" into outer walls and top floor ceilings. Call your local Gold Bond applicator, listed under "Insulation" in the phone directory. Inside walls can be beautiful, long lasting, and

firesafe with Gold Bond Gypsum lath and plaster. Decoration is easier with Gold Bond Sunflex, the new wall paint that dries in an hour with no "painty" smell. More than 150 Gold Bond Products are avail-able through your local Gold Bond lumber and building material dealer. Each is engineered to do a specific job better. When you plan to build or remodel, see your Gold Bond Dealer first for helpful advice.

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Every home needs at least one—public buildings need hundreds!

For key points in plumbing, heating, electrical, and refrigeration systems; for ceiling entries to attics. Ready to Install — Fits flush

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No Special Framing — No cutting, adjusting, or altering. Furnished Painted — Prime

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3 Different Styles — With or without expanded metal wings for plastered walls; for non-plastered walls of all kinds.

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Give the best job for the least cost Tear out coupon and mail today for complete specifications and data on Milcor Steel Access Doors

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Asbestos-Cement Corrugated Roofing & Siding

-the lifetime roofing and siding that's fireproof and corrosion-proof. Asbestone can't be damaged by weather, rats, or termites. No painting. No upkeep.

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We are concentrating on production of this single industrial product. Stocks are now ample to make some immediate shipments. Free Engineering Service, available on request, shows how Asbestone can be adapted to your needs.

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model-making project progressed from a spare corner in an architect's office through a renovated garage in the family backyard to its present headquarters at 1834 Grace Ave., Hollywood, Calif. — and a \$1,000 a month income.

Weed, an ex-airplane technician, spe-

cializes in turning out the models' very persuasive details furniture, grille work, street lamps, hand-carved autos—even fire hydrants. How well the joint efforts of the partners combine to set each other off may be seen in the model (top) of Douglas Honnold's row of stores—Butler's firm structural shapes contrasting with Weed's delicate stairway. The interior (lower left) of an apartment by John Lindsay Associates shows their flair for microscopic room furnishings.

At present the firm of Butler & Weed is keeping up with its popularity only through the wakeful assistance of the Los Angeles radio's all-night music programs.

EXHIBITS

An exhibit of photographs and plans showing work done by six West Coast architects is being presented in several leading cities of Australia. Similarity of climate and topography between the two places adds practical significance to this gesture of good-will. Architects whose work is included in the show are: Pietro Belluschi, Mario Corbett, Gardner Dailey, Harwell Hamilton Harris, Kump & Falk and Wurster, Bernardi & Emmons. The exhibit will open on September 15th at Melbourne, proceed to Sydney after a week and later to Adelaide and Brisbane. Ernest Kump will represent the American group of architects and designers in Australia on a tour arranged by John Buchan, Australian architect.

"TOMMORROW'S WORLD—Work, Play and Live" will be on view at the New York Museum of Science and Industry, Rockefeller Center, New York, October 1-29. The New York Chapter of the American Institute of Architects is sponsoring this show to illustrate modern advances in controlling physical environment in both large cities and small towns. Fifty exhibits of new products (some on the market, some projected) will be on display around a central panorama. A series of television shows based on the exhibit has been planned as well as daily talks by outstanding architects and designers. After its New York stay, the show is scheduled to tour the country.

ART MEETS BUDGET

Making the irresistable urge to own art objects overcome the buyer's immovable budget is the greatest problem before artists and interior decorators (Continued on page 80) Engineer: J. Donald Kroeker; Architect: Pietro Belluschi; Contractor: P. S. Lord.

For full details on this new installation, write for the "Heat Pump" edition of Trane Weather Magic.

RANE

Nation's largest reverse cycle system is a **TRANE** system

Here is the equipment room of the Equitable Building in Portland. This remarkable system —the largest heat pump installation in the nation—is a credit to the engineer, the architect, and the contractor who worked together on it. No detail has been overlooked, no shortcut taken.

The Nation's Largest HEAT PUMP INSTALLATION

You probably know that control over the system is so perfect that not only can every possible weather and occupancy condition be handled, but every unusual situation that might arise has been taken into account. But there's still another important feature about this installation that's worth your attention.

TRANE From Top to Bottom

For one thing, this remarkable system is 100%

Trane, and like all Trane Systems, it has been planned for this one particular purpose. There is no other job like it. Yet every Trane Product in this installation is a standard Trane Product.

That means that every Trane Product in the system has stood the test of time; that every Trane Unit has been designed and built to function in close harmony with every other; that the system, since it contains nothing experimental, nothing untried, has a sound, fundamental basis that assures satisfaction.

Why not get in touch now with the nearest of 200 Trane Sales Engineers and learn how Trane Systems can aid you in your comfort and process applications. You can draw on the most complete line of heating, cooling, and air handling products in the industry.





York & Sawyer detail a hospital...

For your copy of the Mesker Book of Hospital Windows, write to Mesker Brothers, 4336 Geraldine Avenue, St. Louis 15, Mo. Delineation by Paul F. Watkeys of York & Sawyer Architects New York



George R. Paul, Architect

TELEPHONE RACEWAYS MAKE A BIG DIFFERENCE-IN SMALL HOMES, TOO

Up-to-the-minute small-home planning calls for telephone raceways. It's the sure way of avoiding exposed telephone wiring on walls and woodwork . . . and providing the owner with the utmost in telephone convenience.

The added cost of telephone raceways is a minor item. A few pieces of pipe or electrical tubing installed inside the walls during construction 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."



ANNOUNCEMENTS

today. Several attempts at solution are being currently offered:

The New York Museum of Modern Art presents the greatest bargain of the new crop with its cast stone reproduction of Maillol's *Woman Arranging Her Hair* (135% in. high) for \$18.

Abraham & Strauss Department Store, Brooklyn, N. Y., in association with the Midtown Galleries, is sponsoring an exhibit "Art to Live With,"—17 rooms combining modern art with modern furniture and fabrics. In addition, a permanent



fine arts section has been set up to handle etchings, water colors and oils at prices from \$16.95-\$400. Artists included in this arrangement are Waldo Pierce, Dong Kingman, Gladys



Rockmore Davis, Maurice Freedman, Paul Cadmus, Henry Koerner, Doris Rosenthal, Margit Varga, William Palmer, Miron Sokole and Lenard Kester.

Lord & Taylor, New York, is handling the Sculpture-in-Replica collection, a group of stone castings of work

by prominent modern sculptors. Pieces range from the abstract study "*Plural*" by Hugo Weber (see cut) to realistic study of a horse by Heinz Warneke. Prices for the various reproductions range from \$75 to \$90.

AWARDS



THE 1948 BETTER ROOMS COMPETITION awarded top prizes of \$1,000 each for the best designs submitted in each room category. William McCoy rated first in the double bedroom group, with his plan for a boys' room combining sleeping, study and play areas (see sketch above); Olaf Shelgren, Jr. for a dining room; James Nielson, combination dining-living room; John Weese, one-room living unit; and L. Stratton Springer a single bedroom. This contest as well as last year's has been hailed in the Chicago area as a great stimulus for rousing interest in interior design as well as gauging the direction of public taste trends. William Davidson, president of the Chicago Furniture Manufacturer's Association, sounded a rather wistful note in his comment on the show: "he was pleased to see some traditional rooms among the many modern ones." (Continued on page 84)

In the homes you plan or build make the kitchens warm and friendly by specifying these new Kitchen Maid Cabinets of wood. Cozy, comfortable, convenient, they are in pleasant contrast to the cold, laboratory-like kitchens of recent years.

MAKE YOUR KITCHENS. MAKE YOUR KITCHENS.

Moreover, these cabinets are smartly styled with gently sweeping contours. They harmonize with any modern appliance, and permit the purchaser to choose the range or refrigerator he prefers without regard to make.

In Kitchen Maid too, you have all the advantages of *Composite Construction*—the warmth and flexibility of hardwood—the stability and durability of new compositions—the quiet, easy action of sanitary aluminum drawers—the beauty and permanence of factory-applied finishes. Finest furniture construction throughout. Send coupon for new planning booklet.



A FEW ARCHITECTS AND BUILDERS WHOSE PROJECTS HAVE INCLUDED KITCHEN MAID CABINETRY:

New! Aluminum Drawers. Operate smoothly on oil impregnated hardwood guides, slides. No rust, no chipping, no noise

Vorhees, Walker, Foley & Smith, New York; Study, Farrar & Myers, Si. Louis, Mo.; Finger & Rustay, Houston, Texas; Hugh M. Meriweather, Lexington, Kentucky; Robert Stevens, Huntington, Indiana; Murphy-Quigley Co., Philadelphia, Pa.; George A. Fuller, New York; Keyes & Treuhaft Company, Cleveland, Ohio; Starrett Bros. & Eken, New York.





CAYLO INSULATING ROOF TILE is strong-runway shown above supports wheelbarrow traffic during construction.



KAYLO INSULATING TILE is lightweight. Each tile is $25\% \times 18 \times 36$ inches in size, weighs approximately 21 pounds.



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Owners, Architects and Builders all profit with Kaylo Insulating Roof Tile. It furnishes fire protection, cuts fuel costs and is easy to install.

Because Kaylo Roof Tile forms a lightweight and structural deck, less steel is required for roof framework. Cutting and fitting of tiles, when needed, can be done on jobsite, using ordinary hand or power tools.

For further information, mail the coupon today.

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Approximately 20,000 Sylvania Fluorescent Troffe Fixtures will light the big, new, 26-story John Han cock Mutual Life Insurance Co. building in Boston

Probably the largest fluorescent troffer lighting job in the world, this Sylvania installation consist mainly of 8-foot shielded troffers, although some 4-foot units are included. Sylvania fixtures were the choice of the John Hancock planning board after an extensive series of studies and tests conducted with actual installations of fixtures submitted by most of the leading manufacturers in the industry.

The fixture shown at the left is the Sylvania CTRS-340 troffer (three 40-watt lamps) with the louver shielding lowered for lamp installation. This same unit is available with either one or two lamps and glass shielding as well.





Sylvania recessed troffers are the answer to today's demand for volumes of glare-free light from ceilings uncluttered by exterior types of lighting equipment. Modern architects have established the trend-Sylvania has supplied the requirement.

Designed for low-cost installation and economy of maintenance, Sylvania Troffers deliver a maximum of light at a minimum of expense.

A toggle bolt arrangement permits the weight of the chassis to be carried by the hanger strap during installation, greatly reducing installation time and labor.



Sylvania Fluorescent Troffers are trouble-free fixtures - perfectly engineered, ruggedly built of heavy gauge steel, giving unobstructed vision in modern low ceilings . . . the easiest fixtures to install and maintain!

They can be mounted either singly or in continuous rows, and can be fitted to any type of ceiling, new or

CRAM & FERGUSON - ARCHITECTS AND ENGINEERS TURNER CONSTRUCTION COMPANY - BUILDERS old, acoustical tile, lath or plaster. They're shipped complete, ready for installation-with no extra parts to buy. Unshielded fixtures can be easily converted to louver or glass shielded, if desired, after installation. Write for descriptive troffer booklet. Sylvania Electric Products Inc., Fixture Division, Ipswich, Mass.

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It is now possible for you to provide your clients with a heating system with a continuous flow of steam accurately controlled under all exterior weather conditions and interior room conditions. Architects everywhere agree that the on-off method of controlling heat is passé, and that it is no longer necessary to use a heating system that blasts people out of a building in mild weather.

Job Scaling of the famous Dunham Differential system now provides the advantages of sub-atmospheric steam which can be circulated at temperatures as low as 133° on all types and sizes of jobs! Dunham offers you a complete heating system tailor-made to meet your clients' requirements—one that will be more economical to operate and will provide unsurpassed comfort. Send for Bulletin 509.

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ANNOUNCEMENTS

THE 1948 A. F. DAVIS UNDERGRADUATE WELDING AWARDS went to Robert Baysinger of Ohio State University, Columbus, Ohio, and Mark Orelup of Rose Polytechnic Institute, Terre Haute, Ind.

APPOINTMENTS

T. J. KENT, JR., to serve as head of the newly formed Department of Civic Planning at the University of California. Mr. Kent was until recently Director of the San Francisco Planning Commission and Supervisor of its extensive studies for redevelopment.

C. THEODORE LARSON (formerly a FORUM editor) to be Professor of Architecture at the University of Michigan; Willard Oberdick and Edward Olencki, instructors in architecture.

JOHN WOOD, associate Professor of Architecture in the College of Fine and Applied Arts, University of Illinois.

ADDITIONS TO NEW YORK UNIVERSITY'S ENGINEERING SCHOOL STAFF: Dr. Herbert Vickers as Professor of Electrical Engineering; Dr. John Happel and Dr. Frank Maslan as Professor and Assistant Professor of Chemical Engineering.

PETER BLAKE (former FORUM staff member) as Curator of the Department of Architecture of the Museum of Modern Art, New York City.

GEORGE ROCKRISE A.I.A., associate in the firm of Thomas D. Church, San Francisco Landscape Architect.

FLORENCE STILES A.I.A., new member of the firm of Ambrose Higgins & Associates, Architects and Engineers, Cambridge, Mass. (Continued on page 88)





GRIP-TREAD MASTIPAVE

America's No. 1 Long Life, Low Cost Floor Covering

Safe footing plus easy maintenance, quietness, rugged wear! Hundreds of millions of square feet in use, solving the world's toughest floor problems! Write us for "no obligation" survey of your needs!

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Trust Department Building Bridgeport City Trust Company Bridgeport, Connecticut

This standard double-duct system has easily kept pace with electrical outlet demand; capacity is still more than adequate for future needs.



Because General Electric Fiberduct underfloor raceways were wisely included in the plans for the Bridgeport City Trust Company's Trust Department Building, this building is still as electrically modern and young as the day it was built, eighteen years ago. The Fiberduct system has easily kept pace with the additional electrical outlets needed for the increasing number of electrically operated business machines. Desk and equipment arrangement has not been hampered because electrical and signal outlets have always been rapidly available.

With General Electric Fiberduct raceways, it's easy to provide new outlets. It is only necessary to make a small opening in the floor over the raceway for the insert, pull the wires through, and connect the outlet. The job is done without interruption of the building's facilities and with no annoyance to personnel. Compare this with the fuss and bother of digging a channel in the floor, cutting, shaping, and installing conduit, and recementing.

When you're in the planning stage of any project, whether for new construction or modernization, consider these advantages of G-E Fiberduct raceways: (1) their adaptability to changes in building layout; (2) their ability to meet unforeseen demands on electrical capacity; and (3) their flexibility for use with new types of electrical equipment.

If you'd like to know more about this adaptable system, contact your nearest General Electric merchandise distributor, or write to Section C13-94, Construction Materials Dept., General Electric Company, Bridgeport 2, Conn.





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2. Beauty

Because of their beautiful wood faces Weldwood Fire Doors harmonize perfectly with any decorative scheme.

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The Underwriters' Laboratories tested a Weldwood Fire 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 Fire 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.

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The mineral composition core used in Weldwood Fire Doors is permanently resistant to fungus, decay, and termites.

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Another noteworthy characteristic of the core is its high insulating value over a wide range of temperatures. It is efficient against temperatures from freezing up to that of superheated steam.

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Investigate these doors for use on your next job. You will be pleasantly surprised at the low initial cost, and the minimum of maintenance required.

Lasting Fire Protection <u>Plus</u> the Beauty of Real Wood with the <u>New</u> Weldwood Fire Door

Here's the newest Weldwood combination of *beauty* plus utility: a fire-safe door that carries the Underwriters' label ... faced with fine cabinet hardwood for decorative beauty.

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CHANGES OF ADDRESS

In New England's

JOHN MATTHEWS HATTON, Architect, 650 First Ave., New York 16, N. Y.

(Continued on page 92)

John Hancock Mutal Life Inance Co. office building, Boston, Mass. Cram and Ferguson, Architects. Turner Conon Co., Contractors.

largest office building It is only natural that architects specify Halsey Taylor Drinking Fountains for their important new buildings! Modern In design and convenience, health-safe meir important new buildings! Modern In design and convenience, health-safe, trouble-proof, they're the logical choice of prominent architects and builders everywhere, the Halsey W. Taylor Co., Warren, Ohio.

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DRINKING FOUNTAINS

88

my







Concrete gets new look ... with paint!



CONCRETE INC., 650 ROSEDALE AVENUE, ST. LOUIS, MO. HARI VAN HOEFEN, Architect, St. Louis JOSEPH WARD PAINTING COMPANY, Painting Contractor, St. Louis

HIS administration building of Concrete Inc., St. Louis, of ferro concrete, serves as a practical example and advertisement of the company's pusiness — ready-mixed concrete. Furring and partitions of this monolithic structure are of metal lath and plaster. The acoustic ceiling is applied directly to the roof slab, with obvious economy of time and materials. Interiors

suggest the same simplicity of form and ruggedness as expressed in the concrete exterior. Color adds immeasurable attractiveness to the interior.

Pratt & Lambert Paint and Varnish, notably P&L Lyt-all Flowing Flat, were used in decorating the colorful interior. Non-porous, Lyt-all Flowing Flat does not collect dirt. It may be repeatedly washed without injury and without streaks or smears.

Exterior metal and wood are painted and protected with P&L Verdura Trim & Shutter Finish.

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The Institute's Boston House has 3 levels . .



by Samuel Glaser, Boston, Mass.

Architect of the Revere Quality House in Oak Hills Village, Newton Centre, Mass.

This Revere Quality House is built from a wellthought-out set of plans, and its construction is guided by thorough and systematic specifications which properly integrate materials with design. It is the product of intensive research to develop a well-designed house that will embrace all the amenities that contribute to good comfortable living, built to excellent standards, and to sell for approximately \$15,000, including land.

The high standards of house building that are part of the specifications of this house are carefully carried out in construction by Arnold Hartmann, builder.

These standards are as follows:

All supporting members of the structure resting

on the foundations or concrete slabs, such as wood sills, column bases, ends of beams, under door sills, etc., are laid in a rich mixture of cement and sand, or grouted. This gives protection against rot, air leakage, and vermin.

Good construction also dictates that these members be anchored at reasonable intervals to the foundation. This is done by using steel bolts about 18" long, embedded in the foundation and protruding through the sill or other framing member enough to be capped with a nut.

Reinforcing is widely used as a guard against the effect of inevitable settlement. Basement windows are anchored to walls by reinforcing bars. The concrete slab under the living room is reinforced by steel in 6" mesh. Copper flashing is another item that contribute to long and trouble-free life of a house. It used at chimney, windows and doors, wherever water might otherwise seep in.

Boarding in the structural frame of a house usually done with the board running horizon tally. However, in this house the boards are in stalled diagonally, for greater rigidity an strength.

Where structural materials of two different kinds are joined, a tight joint is difficult to obtain. Hence a caulking compound is used liber ally at such places, and also around the stee sash. The latter is rustproofed at the factory.

Many houses are built without consideration to telephone installation, with the result that wires are later run along baseboards and tacked into walls and woodwork. To avoid this, conduit is installed for telephone wires, so that they are concealed at all times.

Plumbing and heating systems show a strong

shows modern New England design and construction



emphasis on quality, for efficiency and freedom from leaks or other difficulty. Almost all pipes and tubes are concealed in walls and floor slabs, and are copper.

Revere Building Products are a mark of Quality. They give lasting protection against damage because they cannot rust. Trouble always costs more than Revere Products. They include: Sheet Copper for flashing, roofing, gutters, downspouts, cornices and the like; Copper Water Tube for plumbing and heating lines, including radiant panel heating; Red Brass Pipe for water lines; Revere Home Flashing, a packaged product complete with illustrated instructions for approved installation; Sheet Copper and Herculoy for water heaters and storage tanks; brass and bronze for hardware and plumbing fixtures; architectural bronze and aluminum extruded shapes for thresholds, window frames and the like. These quality products make a house easier to sell or rent, and add materially to its value.



Revere Quality House Institute

This is an independent, non-profit organization sponsored by Revere Copper and Brass Incorporated as a public service, and co-sponsored by The Architectural Forum. John Hancock Callender, Architect, is Executive Secretary. During this year eight different architect-builder teams are constructing eight Revere Quality Houses in eight different sections. Associate Member Teams can be organized.

REVERE QUALITY HOUSE INSTITUTE

John Hancock Callender, Architect, Executive Secretary P. O. Box 1134, Grand Central Station, New York 17, N. Y.



ANNOUNCEMENTS



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When applied on *old* metal, S.R.P. penetrates through the old rust to bond firmly with clean metal. *Two types:* S.R.P. 75-Primer; S.R.P. 87-Finish. For interior and exterior work – new or old.

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More facts in SWEET's - or send for free folder on "Sure Rust Prevention." Write Dept. A-9.



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BUCKLER, FENHAGEN, MEYER & AYERS, Architects, Federal Land Bank Bldg,, St. Paul and 24th St., Baltimore 18, Md. CARLETON WINSLOW, JR., Architect, 441 N. Beverly Drive, Beverly Hills, Calif.

DRACON, SCHMIDTS & HARDMAN, Architects, 1320 University Ave., Berkeley 2, Calif.

ISADORE ROSENFIELD, architect and hospital consultant, to 23 W. 47th St., New York 19, N. Y.

DONALD SCHOEPKE, Architect, Stephenson Bldg., 1916¹/₂ Hall Ave., Marinette, Wis.

MICHAEL DEANGELIS, Architect, Cutler Bldg., 42 East Ave., Rochester 4, N. Y.

CORRECTIONS

The following amends should be made in connection with the Waldo Clinic write-up (July FORUM, p. 90):

- 1. Co-designer Carroll did not graduate (as was stated in the text) from Washington University.
- 2. The owner's proper title is Dr. W. E. Waldo (not (M.D.).
- 3. Credit should have been given to Cash Beardsley, Landscape Architect.

New DESIGN, INC. credits (July, pp. 104-6) should have read: Gerson T. Hirsch, Architect; Robert Hays Rosenberg, Associate Architect; Dorothy Q. Noyes, Designer.



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... the brass and copper joints are SILBRAZ

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In a building? Yes. Traffic arteries. In St. Louis, a ten story addition to the distinguished Beaumont Medical Building increased elevator traffic from 11,500 to 16,000 passengers a week. Did this mean new elevators? No. Simply modernization. A new Otis scheduling system was added to the original three car installation. Result? Speeded-up service that keeps nicely in step with increased traffic.

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Otis again leads the way... this time with the magic of modern electronics to improve Signal Control operation. You can now summon an elevator by simply *touching*, not pushing, a plastic arrow in the landing fixture. The story of the world's first Electronic Signal Control Elevator installation is told with full color photographs in a new Otis Booklet. Write for Bulletin B-727-A

Otis service? Newly opened offices in Hagerstown, Maryland; Fall River, Massachusetts; Missoula, Montana; Reno, Nevada and Middletown, Ohio raise the total number of Otis offices in the United States to 257.

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CONNECTICUT IN CALIFORNIA ... Authentic colonial saltbox reproduced in exact detail by the Bel Air Building Company of Los Angeles. Now on exhibition - this prime example of 17th century architecture features that prime 20th century work-saver ... a "New Freedom Gas Kitchen"*!

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"NEW FREEDOM GAS KITCHEN" ... Compact, cozy-it's as delightful to dine in as it is easy to work in. You can see the shining new automatic Gas range built to "CP" standards, the big 8-foot Servel Gas refrigerator. Unseenbut equally work-saving-is the automatic Gas water-heater which supplies the right quantity and quality hot water to the automatic sink. *Cert. Mark, Amer. Gas Asso . Inc

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Truly, Flintkote Asbestos Cement Siding is the bright side of the siding problem. (For, once these sidings are applied they require no periodic painting to maintain their long life. Flintkote Asbestos Cement Sidings keep their beauty for years and years and give long years of carefree service.)

You can get these popular sidings in either the Straight-Edge Tapertex, or the Waveline Woodgrain pattern. Standard colors are silver gray, white and super white.

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Then . . . either for new construction or remodeling . . . look on the bright side. Specify Flintkote Asbestos Cement Sidings.



The two patterns above are among the most popular in the Flintkote line of Asbestos Cement Sidings. Specifications for both : Pieces per Square, 57; Approximate weight per Square, 185 lbs.; Exposure, 10¹/₂" x 24"; Headlap, 1¹/₂".



The Architectural FORUM Magazine of Building

Roger Sturtevant, Photos



A LONG OVERDUE CRYSTAL AND METAL TOWER" CATCHES THE LIGHTNESS OF THE MULTI-STORY CAGE



PIETRO BELLUSCHI, Architect J. DONALD KROEKER, Mechanical Engineer ROSS B. HAMMOND, General Contractor





EQUITABLE BUILDS A LEADE

If the new home of Equitable Savings & Loan in Portland, O sets a benchmark for office building design, a large share of the cregoes to the owners themselves. Forced into the role of commerce landlord by their own need for space, Equitable decided to put the best building in the northwest while they were at it. Once t decision was made, another equally smart one followed: they call in Portland's own Pietro Belluschi, told him in general terms whether they wanted and then left him alone. The happy results are show on these pages.

As one of the fastest growing building and loan outfits in the region Equitable owned a two-story, 50 x 100 ft. corner building in the financial district which the same architect had remodeled for the in 1931. They couldn't rent additional space and—with three of the city's big banks on the other corners—didn't want to move away. new building of their own seemed the only answer. They bought the rest of the half-block (giving them a plot 100 x 200 ft.), wrecked the old building and started over.

Economically, the layout of the new building was obvious from t start: Equitable's own banking rooms on part of the street floor stores on the rest and offices above. But this has been the planning formula for office buildings for decades. To guarantee a successf building involved more than the mere repetition of a tried and truste plan. In postwar Portland, as in most cities, there was a critic shortage of office space. But that alone was no guarantee that a ne building would be as successful during bad times as good; what we obviously implied was office space so much better than the rest that it would always be in good demand. Such a building was implicit i the prototype designed by Belluschi for FORUM (May, 1943, p. 108 Here was a proposal for the same glass-and-metal sheathing, for vastly increased daylight, year-round air conditioning, distinguished interiors. Equitable's officers (who, as the architect puts it, ha "the power and intelligence to make quick, enlightened decisions" saw the merits of the idea, gave the architect a green light. Equitable own handsome banking room (facing page) shows wisdom of their decision.









Overdue since Sullivan, this structure looks the way all skyscrapers are really built—but few adm



TYPICAL CORRIDOR: BRIGHT, AIRY, CLEAN

Poetic license has, for a long time now, permitted us to refer skyscrapers as "crystal and metal towers." The concept has of counbeen implicit in skeletal construction since the days of Louis Sulliva but no skyscraper has really warranted such a description until to appearance of the Equitable. Here, some 60 years after its pefection, the multi-story frame appears without a square inch masonry surfacing above the first floor. The architect, working wi aluminum and glass, has deliberately emphasized this fact with glittering sheath—detailed with such exquisite precision that the greatest projection on the facade is $\frac{7}{8}$ in.

The plan of the building is as candid as its elevations. Above ill street floor, there are ten floors of office space (the penthouse is occ pied by Equitable officers) which incorporate just about every char acteristic demanded by postwar tenants: year-round air condition ing; good natural illumination and artificial light sources; soun control; attractive, durable finishes; and a structure and utilities which permit changes in office partitioning with a minimum of fus and bother.

The striking color of the exterior springs from use of two finishe on aluminum to frame huge blue-green panels of heat-absorbing glass



ABSORBING HEAT AND GLARE, OFFICE GLAZING OBVIATES BLINDS, DRAPES





MODULAR SUBDIVISION OF OFFICE SPACE on 8 ft. centers is made possible by a central mullion in each glass panel. It receives a special spline the width of window sill (above) which in turn receives a lightweight metal and plaster partition. Continuous ducts in ceiling permit electrical, communication or air conditioning outlets at any desired point. Air is exhausted through slotted window sills.



Heat Pumps cool and heat the Equitable in a large, flexible, automatic installation

Portland's balmy winters and warm, humid summers made the heat pump attractive: low public power rates made it economically feasible. But as far as an Equitable tenant is concerned, his office space is completely air-conditioned by "conventional" means. (right) Actual distribution of air is handled by ducts in suspended ceiling. These lead to central fan rooms on each floor, cannily tucked in to ceiling space over elevator lobby and toilets. Thus the only element circulated throughout the building is hot and chilled water for heating, cooling and dehumidification. The really novel part of the installation is in the basement. Here a complex yet extremely flexible system of heat pumps extracts heat and cold from well water, electricity being the only "fuel." Designed to maintain year-round conditions of 80° F. with 55 per cent relative humidity, the system is divided into two substantially independent circuits—one for heating, one for cooling. These operate at three different levels. (diagrams below)





HEATING CYCLE is used when outside air is 50° F. or below. Compressor packs heat from warm well water into heating circuit proper, whose temperature is sharply raised. Then, robbed of much of its heat, this water is pumped down into cold well. Difference in depths of cold and warm wells maintains temperature differentials. **COOLING CYCLE** begins operation only when outside air is above 75° F. Then evaporator removes heat from cooling circuit, packs it into water from cold well and then pumps that water into warm well. Cooling circuit is used both to cool air and to dehumidify it. On its return trip, this circuit is also made to precool fresh air.

INTERIM CYCLE, when outside air is between 50 and 75° F., requires both heating and cooling. But because summer cooling load is the greater, the four compressors are grouped in two pairs of different capacity—400 tons for cooling, 140 for heating. Although each pair serves a separate circuit with its own controls, they are integrated to yield smooth transition between heating and cooling. Heat source consists of two warm wells (62.5 and 64.5° F.) and a deeper cold well (57° F.). Depending upon building's demands, these wells serve either as the source, or means of disposing of, heat and cold.






I IS COMPLETELY CONDITIONED by a separate system on each floor, so that y heated and chilled water is moved up from heat pumps in basement. coming air is distributed through four ceiling outlets in each bay, while urn air is pulled through slotted window sills down into plenum formed by suspended ceiling of floor below. Fan "rooms" at each level are tucked into dropped ceilings above toilets and elevator lobbies. Louvered fresh air intakes —slanted to fit snugly under stairs—are painted a brilliant coral red to contrast with blue of stair tower proper (below).

WHAT THE SYSTEM DOES:

For "occupants," it offers:

- Full air conditioning, constant ventilation.
- Full automatic room temperature and humidity con-
- No room units requiring floor space.
- Silent operation.
- For the "owners," it offers:
- Flexibility in partition location or relocation. Maximum rentable floor space—air conditioning equipment and ducts occupy no floor space whatever.
- For "building engineer," it permits:
- Fully automatic change-overs.
- No servicing in occupied spaces.
- Complete operation from basement machinery room.
- (a) Temperature readings at 7 points, each floor.
- (b) Humidity readings at 2 points, each floor.
- (c) Possibility of resetting both temperature and humidity controls on some 180 control units from basement.
- (d) Automatic record of temperature and humidity. Use at will of 100 per cent outside air for flushing or freshening.

Minimum number of operators.

Operating cost (for comparable heating and ventilation only) between 10 and 25 per cent less.







ak through blockade against the "curtain wall"

For all the luster of its glass-and-metal skin, the new Equitable Building in Portland has a skeleton of reinforced concrete. This type of frame was chosen both because it was economical for a 12-story building and because it required no fireproofing and thus permitted the "working ceiling" which the architect had in mind. But if the skeleton is more or less conventional, the skin is the curtain walllong visualized as the logical surfacing for the multi-story building. Credit for breaking through the jungle of problems which has delayed its appearance so long, belongs about equally to owner and architect. With aluminum the Northwest's biggest new industry (five plants), Equitable officials felt it only proper to mark the occasion with a liberal use of it in the new building. And Belluschi was readylike many another architect across the land-with a scheme for using it as a surfacing material. The arguments were familiar: lighter weight, quicker installation, low maintenance and "new look." They were effective with Equitable but ran into some granite resistance from local building code officials. As in most towns, Portland accepts glass without question, even when extended to cover the whole bay, as it does here. But the moment an opaque material is discussed, it has to meet quite different fire-resistance standards. In this case, the architect's plan to use a prefabricated spandrel with a light-weight concrete backing was ruled out. Instead, he had to use a 4 in. backing of regular concrete, assemble aluminum components on the site.

One of the most spectacular aspects of the new structure is its huge areas of sea-green glass. Unmatched by any U. S. office building of comparable size, Equitable uses 36,700 sq. ft. of sealed double glazing. (Glass insurance alone will run to \$2,600 annually). The outer sheet of the sandwich is $\frac{3}{4}$ in. heat-absorbing plate. Pleasant as its color is, however, the selection was based on more foundamental considerations. An air conditioned building in Portland's mild climate has a much bigger solar heat load in summer than "cold load" in winter. Since heat-absorbing glass is 40 per cent more opaque to solar heat than ordinary plate, its use in a sandwich seemed very logical. However, this combination was selected only after the architect had satisfied himself that it would not only reduce solar heat load but also cut down sky glare to a point where blinds or shades would not be needed for comfort. Although some of the more timid tenants at first expressed alarm at this concept, conditions are so satisfactory that, after several months of occupancy, few of them have put up blinds.

Maintenance of Equitable's smooth flanks should be simple. The outside of the glass areas will be regularly washed from a bosun's seat suspended from a crane which travels completely around the building on the edge of the roof parapet. Cleaning of the metal surfaces may be handled the same way. However, Equitable may find it politic to allow the aluminum to acquire a more decorous patine. Reason: at certain times during a sunny day, the neighbors across the street find the glitter quite annoying.

CONSTRUCTION OUTLINE: Foundations-reinforced concrete. Waterproofing-Philip Carey Co. STRUCTURE: Exterior walls-1/8 in. sheet aluminum with 3/16 in. cast aluminum in extended aluminum frames bolted to reinforced concrete spandrels and columns. Interior partitions-gypsum plaster with Dantor light-weight aggregate, Dant & Russell, Inc., on metal lath and 31/4 in. steel studs or hollow clay tile. Floors—reinforced concrete. ROOFING —concrete with Vermiculite fill Universal Zonolite Insulation Co. and built-up roofing. SHEET METAL WORK: Flashing and ducts-aluminum, Aluminum Co. of America. INSULATION-Fir-Tex Insulating Board Co. WINDOWS: Sash-Aluminum Co. of America. Glass-Pittsburgh Plate Glass Co. Twindow. ELEVATORS-Otis Elevator Co. FLOOR COVERINGS-Johns-Manville Corp., Armstrong Cork Co., American Tile & Rubber Co. WALL COVERINGS (lobby)-Carrara structural glass, Pittsburgh Plate Glass Co. FURNISH-INGS: Counter tops—Formica, Formica Insulation Co. EXTERIOR DOOR —Herculite, Pittsburgh Plate Glass Co. HARDWARE—Yale & Towne Mfg. Co., Stanley Works, Oscar C. Rixson Co., Ellison Bronze Co., Payson Mfg. Co. PAINTS-W. P. Fuller Co., General Paint Corp., Sherwin-Williams Co., National Lead Co. ELECTRICAL INSTALLATION: Switches-Harvey Hubbell, Inc. Fixtures-General Luminescent Corp. PLUMBING FIXTURES-American Radiator Standard Sanitary Corp. Valves-Sloan Valve Co. Water closet connections—J. A. Zurn Mfg. Co. KITCHEN EQUIPMENT—Dohrmann Hotel Supply Co. HEATING AND AIR CONDITIONING: Refrigeration compressors, heat pumps, fans and coils-The Trane Co. Electrostats and filters -The American Air Filter Co. Temperature controls-Johnson Service Co. Air diffusers-Agitair, Air Devices Co. Pumps-Peerless Pump Div., Floor Machinery Co. and Economy Pump Co. Recording and indicating instruments -C. J. Tagliabue Co.



Old bugaboo of inflexible wiring and communication is whipped by Equitable's special ceiling system

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Consulting electrical engineers George Pettingell an Grand Kelley evolved a system of ducts which giv the Equitable Building far more flexibility than th conduit and outlet boxes of conventional wiring. Par of the perforated suspended ceiling, these duct carry all electrical, telephone and signal systems an run the entire length of the building on 8 ft. centers Of two basic types (see diagrams, left), the ducts per mit a wide variety of wiring hook-ups. They hav knockouts at frequent intervals and come equipped wit a variety of matching cover plates which (1) mas unused portions; (2) receive partitions; 3) support col cathode, fluorescent or slimline lamps or standard fluo rescent or incandescent fixtures. The duct system thu permits any number of lamps or fixtures, arranged in any pattern. Additional floor outlets may be easily installed by drilling through the thin floor slab, fishing a short length of flexible conduit through a knockout in the duct immediately below and grouting a floor box in place. Ducts also permit insertion of fluorescent bal lasts from below: since air is relatively cooler in the plenum ,the life of the ballast is extended.



COMBINATION DUCTS for both electric power and communications permit outlets in floors or partitions above. All ducts have cover plates painted to match acoustic tile ceiling.



DUCT SYSTEM PERMITS LIGHTING FIXTURES OR LAMPS TO RUN PARALLEL TO DUCTS (ABOVE) OR AT RIGHT ANGLES (BELOW), SPACED AT ANY INTERVALS



LIGHTING DUCTS permit fixtures to be hung in a wide variety of patterns. Perforations in cover plate and knockouts in top serve to ventilate ducts into plenum, thus carrying off bulb heat and cooling fluorescent ballasts.



Ezra Stolle



Trilateral illumination, which includes central skylig

The lighting system in this California elementary school is of such outstanding excellence that it might well become a prototype for classrooms throughout the country. A refinement of Kump & Falk's first trilateral experiment at San Mateo, Calif., it provides even, diffused lighting without glare in every inch of interior space. The light reading tops that of conventional design by 147 ft. candles, is so consistently high that even on rainy days no artificial illumination is needed. Crux of the lighting scheme is, of course, the longitudinal skylight which consists of an egg-crate grille with east west



1.



hree schools are designed around their lighting systems, putting nto practice the latest theories of scientific illumination

In the past 20 years the science of lighting has become a factor of basic importance to architecture. New knowledge of the behavior of light rays and the complex interaction between light and the human eye is pushing radical changes in building design. Nowhere is this more apparent or more to be applauded than in schools, for here the eye is in constant and trying use. Three examples of how scientific lighting governs school design are shown in the following pages.

ALIFORNIA'S JOHN MARSH SCHOOL IS REVOLUTIONARY DESIGN BASED ON NEW LIGHTING THEORY WORKED OUT BY KUMP & FALK



KUMP & FALK, Architects PACIFIC COAST BUILDERS, Contractors



nd windows on two sides, allows orientation of design in any direction without loss of light

louvers tilted 45° to keep out direct south sunlight. Reduced to half the width of the skylight in their original design, it still is entirely adequate to provide high, balanced illumination. A 6 ft. panel of windows on the north side is protected from direct sun by wide, open grid eaves, which allow only reflected light to enter the classrooms. Clerestories on the south and high windows at both ends of the building provide more indirect illumination. The structural system of the school is as ingenious as its lighting. The frame is an independent element, completely free of both exterior and interior walls for its lateral stability. Thus the roof and floor of the building could be completed before walls or interior partitions went up. A modular system is used throughout. Structural steel bents 16 ft. on centers make up the frame. Walls are of precast concrete blocks 4 in. x 8 in. x 16 in., giving a joint 4 ft. on centers. The structural frame occurs on the 4 ft. module but halfway between the wall modules in order to eliminate interference with vertical risers of the mechanical and electrical work. A 32-ft. span has been used providing square classrooms of 160 sq. ft. minimum area.

SCHOOL IS CONSTRUCTED AS A LONG, NARROW SHED, LATER CHOPPED INTO SQUARE CLASSROOMS BY MOVABLE STUD PARTI-TIONS. SHELTERED OUTDOOR WALKWAY PROVIDES CIRCULATION





Building can adjust to varied projects with outdoor classrooms, movable interior partitions



MOVABLE DESKS ARE USED IN ALL CLASSROOMS. PRINCIPAL'S OFFICE IS ONE OF FEW VARIATIONS FROM SQUARE ROOM PLAN



Finished units are the first step in an integrated school group, part of the long-range master plan for schools to be built throughout the region.

Flexibility is the keynote of this school's interior design. Classroom units are constructed as loft spaces with movable partition walls finished in plywood and soundproofed. Equipment such as blackboards, storage cabinets, etc., is designed on the module so that units can be moved to suit different teaching requirements. The coffered ceiling, structural as well as decorative, is another important design element and is carried from inside areas straight through onto the eaves. It consists of blocking 2 ft. on centers between the ceiling joists which are also spaced 2 ft. on centers and framed from steel bent to steel bent. The blocking on the interior ceilings has been reduced to allow the application of composition board and insulation at the top. The coffering acts as an efficient acoustical treatment. CONSTRUCTION OUTLINE: Structure: Exterior walls—concrete block painted with Rocktite, Wesco Water Paints, Inc. Interior partitions—studs, Douglas Fir plywood over 2 in. Celotex, Celotex Corp., or Red Top plaster, U. S. Gypsum Co. SHEET METAL WORK: Flashing—galvanized iron. INSULATION: Roofs mineral wool, U. S. Gypsum Co. WINDOWS: Sash—wood awning. Glass—quality A, Pennvernon, Pittsburgh Plate Glass Co. Skylight— Mississippi Glass Co. HARDWARE—Yale & Towne Mfg. Co. PLUMBING FIXTURES— American Radiator-Standard Sanitary Co.

BUILDINGS ARE PLACED AWAY FROM NORTH-SOUTH TRAFFIC STREET. SITE PROVIDES AMPLE PARKING SPACE



UVCLASS ROOM 8-1 CLASS ROOM Ċ G CLASS ROOM U.V вГ HEALTH RN MULTI-USE ROOM Rodney McCay Morgan



QG

CLAS

ROOM

G



CHESTER G. SUDMAN SCHOOL ALLEN PARK, MICHIGAN EBERLE M. SMITH ASSOCIATES, INC., Architects EMIL VAN SILE CO., Contractors

Bilateral illumination for rooms flanking central ha

Although not as revolutionary as the trilateral illumination shown on the preceding pages, the lighting scheme for Chester G. Sudman elementary school in suburban Detroit is far above average. Most school boards feel that they have provided the ultimate in illumination if a large glass area is included on one side of the building. Here, an additional clerestory panel provides light from two sides rather than one, helps maintain even distribution. This would be a simple matter in an in-line plan with exterior circulation. However, Michigan weather, the shape of the plot and the need for compact planning precluded such a solution. Instead the building was designed as a double row of classrooms flanking a central corridor. The dropped ceiling of this cor-

16	Concrete Beam Acoustical Celling_	Glass Bloc
	Cinder Block	
	Tackboard	
10,-2.,	Blackboard	
Pipe	Glozed Brick Base Asphalt Tile Floor	
Trench		

SECTION AND PHOTOGRAPH OF CLASSROOM (1 ON PLAN) SHOW HOW UNIFORM LIGHTING IS ACHIEVED WITH BILATERAL WINDOW SYSTEM





Scale 32 - 0'



ieved by dropped corridor roof and clerestories

idor, which allows clerestory panels in interior classroom walls, is thus the major point of the design. Directional glass block bends the light rays, sending hem farther into the room and diffusing them. In use for a year, this system has proved "especially satisfactory" and, despite a severe winter, transmission of light through the glass block was never obscured by snow or ice. Other points of note: the concrete frame which has been left exposed on the interior; location of first grade and kindergarten in a wing by themselves with separate entrances and playgrounds; individual activity areas with sinks, counters and shelving in each classroom; rest rooms so arranged that every classroom has. direct access to both a boys' and girls' toilet. CONSTRUCTION OUTLINE: FOUNDATIONS—concrete block. Waterproofing—asphalt R.I.W., Toch Bros., Inc. STRUCTURE: Exterior walls—reinforced concrete frame and roof structure, face brick cinder block back-up. Interior—cinder block, Detroit Cinder Block Manufacturing Co. Floors—concrete. ROOF—build-up tar and slag, The Ruberoid Co. SHEET METAL WORK: flashing—copper. WINDOWS: Sash—wood, projected, Pontiac Mill Co. Glass—Libbey-Owens Ford Glass Co. Glass blocks—American Structural Products Co. FLOOR COVERINGS asphalt tile, Tile-Tex Co. DOORS (Interior)—Roddis Lumber & Veneer Co. (Exterior)—Richmond Fireproof Door Co. HARDWARE—P. & F. Corbin Co. PLUMBING FIX-TURES—Kohler Co. Hot and cold water pipes—copper. HEATING—hot water system. Ventilating units—American Blower Co. Regulators—Minneapolis-Honeywell Regulator Co. Pump—Nash Engineering Co. Oil burner—S. T. Johnson Co.



INDERGARTEN (2) HAS WINDOWS ON THREE SIDES, SINK AND CUPBOARD AREA (3) IS PLACED TO FORM A SMALL WORK ALCOVE





OCHOCO GRADE SCHOOL PRINEVILLE, ORE. C. N. FREEMAN and SYDNEY B. HAYSLIP, Architects HOWARD HALVORSEN CO., Contractors

Sloping ceiling reflects light to all corners of classroom

In this experiment with reflected lighting the ceiling has been slanted from 12 ft. at the glazed exterior wall to 10 ft. at the corridor partition, a 2 slope carefully calculated to bounce light down into the far interior. T sawtooth window structure, other important element of the lighting schem prevents direct sunlight from entering the classroom proper, keeps it the periphery of the room where there are no seats. Since wide eav would have eliminated direct sun altogether and the sawtooth arrangeme does not catch more light than flat panes, its validity, from the point of view illumination, is questionable. However, in this design the sawtooth alcow serve a desired purpose as recessed areas for portable lockers which wou



OUTSIDE WINDOW MULLIONS HOUSE PIPE COLUMNS SUPPORTING LAMINATED BEAMS, INSIDE MULLIONS CONCEAL THE STEAM RISEF



Sawtooth window wall avoids direct sun

otherwise have taken up room in the side aisles. In the return leg of the sawtooth, glass block will eventually be substituted for the obscure glass which was a wartime compromise and which produces glare at certain hours of the day. Like most other areas of Oregon, Ochoco County, where the school is located, is experiencing a rapid growth and this new elementary plant is but the first of a series planned to care for an increased population. The present building includes 12 classrooms, a library, cafeteria, combined gym-auditorium and a multi-purpose room. Provision was also made in the original plans for the addition of four or more rooms to the classroom wings. The sawtooth lighting is used only in the primary wing which houses grades one through three. CONSTRUCTION OUTLINE: Structure: Exterior wallsclay tile with brick veneer, Columbia Brick Co.; plaster inside. Gym-concrete with brick veneer. ROOFINGsplit-sheet, Frye Roofing Mfg. Co. SHEET METAL WORK-galvanized iron. SOUND INSULATION-Zonolite, Universal Zonolite Insulation Co. WINDOWS: Sashwood. Glass-single and double strength. FLOOR COV-ERINGS (Gym)-Laykold, American Bituminus Co. FUR-NISHINGS-Northern School Supply Co. Counter tops-Armstrong Cork Co. HARDWARE-Russell & Erwin Mfg. Co. ELECTRICAL INSTALLATION: Wiring systemconduit. Fixtures-Packard-Malloy Co. PLUMBING FIX-TURES-American Radiator-Standard Sanitary Corp. and Bradley Washfountain Co. HEATING - low pressure steam, vacuum return system. Boiler-Pacific, U. S. Radiator Corp. Radiators-C. A. Dunham. GRILLES-Tuttle & Bailey, Inc. Thermostats-Johnson Service Co.

TYPICAL PRIMARY CLASSROOM WITH SLANTED CEILING AND SAWTOOTH WINDOWS IS ALSO EQUIPPED WITH TOILET, SINK, WORKBENCHES







Gymnasium addition to small school gains textural rich

LOGANTOWN SCHOOL LOGANTOWN, COLO. VICTOR HORNBEIN, Architect THOMAS E. MOORE DUDLEY T. SMITH Supervising Architects ROBERT C. PENNOCK, Contractor Although the lighting in this gymnasium addition to a small county school near Denver, Colo. is nothing new, it illustrates the general improvement ove traditional, small-windowed schemes which has become almost standard in the past decade. The building is simple and straightforward throughout and the fenestration is notable for its delicacy of pattern—unusually slender frame for both the fixed and pivoted sash. The major factor in guiding the design was money, all of which came from the federal government. Built during the war, the addition was designed to provide adult recreational facilities for nearby Fort Logan as well as to accommodate the additional children brough into the area by the Fort. Although the original sum was only large enough for

GLASSED-IN CORRIDOR CONNECTS ORIGINAL SCHOOL WITH NEW GYMNASIUM WING. BRICK WALLS ADD TEXTURE TO STANDARD CLASSROOM







ugh use of exterior brick for inside walls

gymnasium, the Federal Works Administration was finally persuaded to pay for two new classrooms—a commendable plan since the original small school was extremely vercrowded. This new classroom wing will be extended to the east as the population grows. The gym itself doubles as an auditorium. A general activity room is also ncluded which faces south and opens onto an outdoor sports area. Construction is oad bearing masonry with half-columns of steel for reinforcement except in the gymnasium section where steel columns and trusses form the frame. Exterior brick finish is earried through onto most interior walls. Others are finished in ponderosa pine. The neating system is a coal stoker with circulating hot water. Cost exclusive of land (which was already owned by the school) is \$60,000. CONSTRUCTION OUTLINE: Foundations concrete. STRUCTURE: Exterior walls—8 and 12 in. load bearing masonry. Interior—wood studs, brick finish. Floors—concrete slab in classrooms; maple flooring in gym. ROOFING built-up. SHEET METAL WORK—galvanized. INSULATION — 4 in. rockwool. WINDOWS: Sash—steel, Hope Windows, Inc. Glass—crystal sheet. WALL COVERINGS — Ponderosa pine. PLUMBING: Pipes—cast iron. Water closet connections—lead. Hot and cold water pipes galvanized iron. HEATING—hot water circulating system.



BIRDERS ARE LEFT EXPOSED IN GYMNASIUM, CARRYING OUT THE HONEST EXPRESSION OF STRUCTURE FOUND THROUGHOUT THIS DESIGN



TELEVISION

-its hypnotic screen will change our approach to designing living rooms and making love

In Houston, television sets were selling fast. The oil-fed department stores in the Southwest's biggest city reported considerable sales in television sets every day. This was no novelty in America's stores. But the market in Houston had special point and emphasis, for there were as yet no television stations in Houston or within receiving range. Television sets were selling anyway.

This blind passion for technology's latest glamor child—exemplified by the Texans who could not yet get even a test pattern on their stillborn sets—was spreading through the country. And television was being heralded by many as a bigger changing force in the nation than internal combustion.

At the end of the nation's first real year of television, it looked as if the heralds might be right. Television was fostering a revolution in family living. Gone were many old patterns—like the custom of parents' reading fairy stories to their children—and no new patterns replaced the old. No new ones were needed. There was just an emptiness. All you had to do was sit and watch the screen.

Early in the game some authorities had proclaimed that a television set in every living room would be the solution to the dissolution of the American family. Said former Federal Radio Commissioner Dr. Orestes H. Caldwell:

"The American family will find new occasion for getting together and getting better acquainted again, in the coming age of television. The evening "Television Hour" will be a must to every member of the household . . . Family autos will stand idle; gasoline and tires will be saved. Movies . . . best-selling novels, detective stories, prolonged telephone chatter—all will be willingly sacrificed as the family group gathers . . . to watch news, drama, athletic events, and travel, unrolled by this new wonder." Dr. Caldwell spoke this breathless prediction back in 1945, and while there were few televisionaries who would dispute his details, most acknowledge now that the overall effect of television on the family has been devastating. Dr. Lee DE Forest, one of radio's pioneers, has described the new eater of evenings as a "Benign Frankenstein," and there are many who would question his use of the word benign.

Critics usually start their attack on television by acknowledging that television represents progress and that they are squarely on the side of progress. Then comes a sigh, and a regretful observation that progress has gone so far that it has lapped itself culturally and is running even with retrogression. It is true that the family has been brought together in the evening by television, it is pointed out, but the bringing together is much like that genteel old custom of building a family mausoleum, and bringing all the folks together that way some day. With a television set

there isn't much more conversation than in entombment, and the mausoleum is usually a place of much less bad feeling. You can't argue about whether or not to tune in on purgatory. Whether the final effect of television on the design of living rooms will be to freeze them in dimlit deathlike formality, nobody knows. But this has been suggested as appropriate.

One important service performed by television in many homes is child care. A television set is better than hashish in calming active children in the late afternoon dangerous period and is probably just as habit forming. Isolated set owners in residential neighborhoods have come to expect a regular afternoon invasion of children. The pack assembles outside just before the broadcast schedule is to begin, files in, and settles down on chairs and floors for two hours of somber, intent appraisal of some adult's foolish ways on the screen. These children are the source of no trouble, but come and go like a harmless swarm of bats. Almost no talking interrupts their vigil, and mother and father may safely mix shakers of cocktails in the kitchen, and entertain guests on the back porch, preparing themselves for their own approaching session before the screen. The children's utter lack of audience reaction-amazingly coupled with complete devotion to the sets-has deeply interested some observers. Many a parent, martini in hand, has peeked nervously out from the kitchen at the squatting



hildren as they watch with beady eyes in wooden faces the frenzied avortings of some aging entertainer. The sight inspires grave appreensions concerning the children's precocious penetration of the imsy pretences of the adult world. But another martini usually ears *that* up.

One bar in Hoboken, N. J., even ran an afternoon "Children's four" before the television screen, with no noxious beverages served, ntil ordered by the State Liquor Board to desist. The board sternly eminded the barkeep that he was in an adult business.

Architects and decorators are keeping a watchful eye on one dear art of the American home, the fireplace, in gauging the impact of elevision. Indications are this may be the first element undermined, and the success of the process may be an accurate indication of how horoughly television will capture the American home and banish its earm old native stone traditions. Will the television set replace the replace—or, how soon will it replace the fireplace?

It is obvious that the living room cannot have two main focuses of ttention. Up to now the only available focus has been the fireplace, nd in many interiors, this one focus has been pretty desperately ttained, at that. A little electric log set in a frame of bricks pasted to the wallpaper hasn't, perhaps, been *much*, but it's meant home in hany a throbbing contralto.

But now we've got a real focus, and one that won't tolerate a secndary fascinator. There won't be room in most small living rooms or both fireplaces and television sets. There may not even be room in he country for both. For a few years the television sets may be built a brick or stone frames, and some television stations may even have vinter evening programs of flames (an excellent sustainer) but the irreplace probably will meet eventual defeat as a focus. The strength f its last struggle to survive may, however, indicate how much of television world this is eventually going to be.

Even the status of living room passion may well be much affected. The power of a television set, much as the power of a woman, should never be underestimated, and we may be approaching the point when we have to decide which to evaluate under the other. An open fire is ine for romance—unfathomed depths of flame have the endorsement of experts of amour. Soft radio music—if unbroken by sordid unnouncer's talk of armpits and tainted breath—is an excellent background for murmurs and soft attentions. In the self-stacking phonograph, almost the ideal predictable emotional backcurtain is available. The young American institution of necking in the movies has estabished that medium as an excellent stimulant. But making love before a television set has been described as being the same thing as making love in the same room with an interested hypnotist.

The bedroom will probably offer no shelter, in time. It is inconceivable to imagine that Americans will be satisfied with having only one television set in their homes—already there is at least one living coom in Westchester County, N. Y., with two screens. There is some agly talk in the industry of a ceiling installation, to take the place, it is said, of reading in bed.

A number of hotels already have made television installations in some of their rooms. These sets are the type called "Slave sets" and offer no tuning control. The tuning is done by a central monitor system. Most of the hotel installations are owned not by the hotels themselves, but by television companies, who collect the average \$3 per day extra room rent charged. The hotels are happy with the increased revenue which they realize in the room service department. They have found that the compulsive screen rivets the occupants to their rooms. Visiting business men no longer utilize their hotel rooms only as places to shave; they invite friends in, settle down before the soporific television screen, and keep the bellboys busy supplying stimulants. Here again in hotel rooms the family group is sometimes discovered intact, mesmerized in front of the screen on their first trip to see the grandeurs of a large city, with only room service to turn to for sustenance. The probable effect on architecture of the 11 million television sets predicted for the next five years cannot be taken lightly. Television may destroy our culture as we know it, but it seems to be up to architects to help the process along. Much has been written about the probable inclusion of an extra room in the house of tomorrow, to be used solely for television. This is unlikely. Any architect, faced with the certainty of the typical American home's continuing shrinkage, will deny that point; there will certainly be a television room in the home of tomorrow, but it will not be an extra room . . . it will be that room known loosely today as the living room.

In addition to the fireplace dilemma, such a television-living room poses some other problems. Many television screens are directional, casting the most brilliant picture within a somewhat restricted arc before them. If the viewer sits more than 30° to one side, though he may see the screen adequately, the contrasts will not be so effective. This mechanical fact may elongate the room, to avoid waste space on either side of the optimum viewing are. Windows must be located to preclude the advent of any glare to contest the television picture. At present, with small-screen direct image sets the most numerous, most lighting men believe that some illumination should be provided. If not, there,



is danger of eyestrain. Indirect lighting is favored, with avoidance of all high brightness areas, such as translucent lamp shades, in the field of view. But, as screens grow larger, and more projection sets are used, predictions are that light in the room will be reduced.

Furniture groupings will be theater style, and many more small tables will be included in the room's equipment, to hold plates—mere appetite is no valid reason to miss any television program. Luminescent paints may come in for considerable use in living rooms, for sake of safe traffic in the dark, and could be of good use as finishes on plates and silverware.

A set of luminous knives, forks, and spoons hovering over luminous plates in the dark before a television screen, with only the sounds of chewing and swallowing to break the announcer's well-gargled tones, may provide an apt picture of the underlying mental state brought about by television. In time, perhaps, humans also will develop a degree of luminescence, enabling them to make out each others' expressions in the television gloom; and following that evolution may come an entirely new method of intercommunication among people, one that would give no interference to the lordly screen, one that would draw no annoyed "shhhhh" from onlookers not concerned in the conversation, if conversation it can be called. If evolution does not come fast enough, some system of wiring humans may be necessary. Mae West, the actress and national institution, once inquired when she saw an advertisement for wired brassieres, "Wired for what?"-and her electric inference may possibly be answered soonwired for silent verbal communication.

The problem of television in design will grow as the size of the television viewing screen grows. And despite the assertions of most television technical men, it is probable that the screen will grow considerably. Present average size of the home reception screen is 6×10 in., affording little more than a last-row balcony view of the world.

Television men say that screens will stay small because larger screens are prohibitively expensive. Also, the mechanical setup of television stations now permits each only a limited space on the fre-



"The pack of neighborhood children assemble outside, and await the afternoon television hour

quency band, enough so that they can transmit only 525 *lines* on the screen, and no more. Thus increasing the size of the screen coarsens the image, with the same effect as enlarging a newspaper halftone reproduction, or overenlarging a small photograph.

But the television men who are willing to leave the screens at their present size are probably making a mistake in underestimating the conditioning of the audience. It is doubtful that the American public will be as satisfied as the technicians. Today's average size screen may describe action adequately, but it does not occupy enough of the visual field to satisfy people nurtured on movie screens and large scale photographs in magazines. There is too much black before the eyes and not enough screen.

And there are enough demonstrations that large screen television is satisfactory to indicate that the average in screen size will continue to grow. Most sets now are of the direct view type, that is, the image is viewed just as it comes off the end of the television cathode ray tube. The biggest cathode ray tube on sale is Dumont's 20 in. directview tube, which is difficult to manufacture and costs around \$200. The future probably lies with projection television, in which the image is thrown through a lens, and enlarged on the principle of the motion picture projector. Size of the image is limited only by the lens, the receiving screen, and the complications of preserving brightness and clarity. RCA has projected a satisfactory image as large as 30 x 40 in. using a 5 in. tube. Another advantage of projection television is in cheaper tube replacement, which may be necessary as often as once each year.

Some projection sets project the image to a slanted mirror from the rear, or one side, or below, and the mirror throws the image on the screen; some project from in front of the screen. One set about to be marketed resembles a searchlight on a stand, and actually projects across a room to be focused on a screen.

These projection sets are very expensive at present. Several thousand dollars is not an unusual price. And one of the unfortunate elements in purchasing higher priced sets is the proportion of the price which is often sunk in the cabinet. Television cabinets are, in general, even more poorly designed than radio cabinets. Quoting a recent newspaper story, "At least one manufacturer has made a Chinese-style console television set, with painted oriental scenes for trim." The next move west will be to sink a screen in the belly of a sitting Buddha.

Architects would do well to give deep consideration, even at this point of television development, to custom wall installations, especially in view of the fact that most of today's fine, costly sets are



housed in very expensive cabinets of poor design. At least one big television outfit, RCA, has had an entire section devoted solely to custom installations. Their Clubman projection set is based on a \$1.230 equipment charge plus installation of \$140 for residential use. They, like other custom television companies, will do all mechanical installation, requiring only a certain space (RCA asks 20 in, dept 32 in. width, 48 in. height) and leaving the framing and location the screen to the architect or designer. A company in New Yor Transvision, Inc., supplies the parts for a direct view television s which could presumably be built in any appropriate cavity. Cost of th parts ranges from \$169 to \$389, for 7 to 15 in. pictures. Distinctive shape of the direct view television screen is a rectangle with rounded corners, a shape which bothers some designers. The projection type uses the same rectangle with squared corners. Basic proportions of the receiving rectangle stem from the shape of the motion picture fram which was adopted in an early and accurate anticipation of the repreduction of movies by television.

Biggest mechanical problem of television is the matter of antenna Television, unlike radio, requires kid-glove treatment of antenna Many people find that they cannot expect good television reception because of the location of their buildings. Some buildings must erect more than one aerial to bring in all the stations. New master antenna are being evolved which can be installed on apartment houses to tak care of large numbers of receiving sets. These communal antenna actually consist of a number of receiving arms planted on the root each of which brings in one television transmitting station. A sepa rate antennae is also needed for FM sound reception. Big antennas can feed as many as 120 receiving sets.

Television is still not for the poor man, except in the bars, when it has finally provided the American bar with something to match the English pub's dart games. But in the home, television still belongs to the Great Washed, and the sprouting antennae on the chimney is still a mark of some distinction in most neighborhoods. But everybody knows that this situation will change, and the speed with which it will change may be astounding. Any medium which ad men expect to expand consumer markets for some of their products as much as 10 per cent, as television may, will be brought to all the people, and fast A good radio set, it is worth remembering, cost \$250 in 1922.

As television grows a number of changes will doubtless come together with longing memories of the good old days when it was possible to sit in an easy chair in the evening and just look at the plaster wall, without feeling that the world was passing by. Screens will grow, remote controls will be further developed, the antennae problem will get much attention, and such ideas as the critic's button may be popularized-though it seems more likely that man's critical faculties will wither and die. The place of television will be established legally in the divorce courts. (HUBBY PREFERRED BASE-BALL TO FASHION PROGRAM, WIFE USES AXE; "I LOVED HIM," SHE SOBS NOW). Such myopic looking devices as the ugly but efficient enlarging lenses in wide use on today's sets will be outgrown, as set owners begin to insist on suavity as well as utility-in a parallel of the great story of man and woman together. The gulf between the U.S. and the rest of the world will be widened, as our people get television fast, and the rest get it slowly. The entire prospect, like so many other prospects, must be viewed with alarm. However, there remains a faint possibility that the U.S., essentially unchanged by such other modern advances as the supersonic airplane and the super septic tank, may survive television. A remote possibility.

BANK IN CLEVELAND exploits Quonset construction to produce

simple, clean-cut design, eye catching in its neighborhood setting

ARFIELD, HARRISON, ROBINSON & SCHAFER, Architects AM W. EMERSON CO., Contractors

A dramatic expression of barrel-vault design, this branch bank in Cleveland is distinguished architecture, even when compared with considerably more expensive structures. The owner, National City Bank of Cleveland, had formerly opened two suburban branches and had done so much more business than expected that they wished to sample this neighborhood before committing themselves to a building which night prove too small. Quonset construction was chosen because of its economy and adaptability to crisp contemporary design minus costly, custom-built elements.



MAIN ENTRANCE AT CENTER IS CANOPIED BY WIDE ROOF EXTENSION. FRONT FENESTRATION COMBINES CLEAR AND FROSTED GLASS







One of National City Bank's requirements was that there be no cessation of business when, and if, the changeover is eventually made from the Quonset structure to larger quarters. Thus, the present building has been placed at the rear of the lot while the site of the future building (at front) is currently used for parking. When the new building is finished, officials can close business in the old structure on Friday, open Monday in their new offices. In addition, since the client did not want to build two complete sets of expensive vaults and safety deposit facilities, these were placed at the north side of the present building, can easily be incorporated without change in the new structure to the north.

CONSTRUCTION OUTLINE: Foundations-concrete. STRUCTURE: Exterior walls (permanent section)-brick and hollow tile; furred and plastered; (temporary section)-Quonset shell, Great Lakes Steel Co., Stran Steel Division, backed up with aluminum foil insulation, with acoustic tile above board, Acousti-Celotex, Celotex Corp., and Masonite below, Masonite Corp. Floors — concrete slab. ROOF — composition; steel sheets on temporary section. SHEET METAL WORK: Flashing—copper. Gutters and ducts—galvanized steel. INSU-LATION: Roofs—aluminum foil, Reynolds Metals Co. WINDOWS: Sash-wood, pivoted. Glass-double strength, quality A, Libbey-Owens-

Ford Glass Co. Venetian blinds-The Columbia Mills, Inc. FLOOR COVERINGS-Kentile, David E. Kennedy, Inc. HARDWARE-P. & F. Corbin. PAINTS-Glidden Co., Celotex Corp. ELECTRICAL INSTAL-LATION: Wiring system—conduit. Switches—Harvey Hubbell, Inc. Fixtures—Day Brite Lighting, Inc. PLUMBING FIXTURES—Crane Co. Water closet connections—galvanized steel with lead bends. HEAT-ING—steam system. Grilles—Tuttle & Bailey, Inc. Regulators—Min-neapolis-Honeywell Regulator Co. Valves—Warren Webster & Co. Water heater-American Gas Association. Pumps-Nash Engineering Works. Unit heaters and fans-American Blower Co.



Richard Garrison







EDWARD FLEAGLE, Architect FRANK ANGELILLI CONSTRUCTION CO., Contractor

Although this small bank has enough of the flavor of a high class dry cleaning establishment to make dignified financiers lose a grip on their *pince-nez*, it nevertheless is an admirable solution within the limits of space, neighborhood and an extremely limited budget. Sandwiched into a 15 ft. area between a grocery store and shoe repair parlor in a crowded shopping district, it outclasses yet harmonizes with the standard glassy facades of commercial neighbors. It even appears fairly spacious due to a minimum of furnishings and judicious use of light, bright colors (rear and counter walls are yellow to contrast with the gray of other areas). Probably the first bank to affect an open front, it utilizes this glass panel for community displays. Other important features: an informal tellers' counter minus grillwork cages; cantilevered wall desks which take up a minimum of space; an unusual indirect fixture which throws light both up to the ceiling and down to wall desks.

> Desk Tellers Counter B ANKING ROOM

2.light=40.wott fluorescent unit (11.units required) 4"plywood

> CONSTRUCTION OUTLINE: Structure: Exterior walls—black Carrarra Glass, Pittsburgh Plate Glass Co. Ceiling finish—Celotex, Celotex Corp. WINDOWS: Show window—The Kawneer Co. Glass—1/4 in. polished plate, Pittsburgh Plate Glass Co. FLOOR COVERINGS: Entrance—terrazzo. Banking area—rubber tile, Armstrong Cork Co. FURNISHINGS: Banking counter and customers' desks, John Langenbacher Co. EXTERIOR DOORS—Herculite, Pittsburgh Plate Glass Co. ELEC-TRIC FIXTURES—R. & W. Wiley, Inc. and General Lighting Co. PLUMBING FIXTURES—American Radiator-Standard Sanitary Corp. HEATING — warm air system, filtering and humidifying. Boiler—Jan-i-trol, Surface Combustion Corp. Grilles—Tuttle & Bailey.

HOUSES

Architect-Builder team shows Houston

how to design and build a good house for under \$15,000



MACKIE & KAMRATH, Architects FRANK W. SHARP, Builder MR. and MRS. HARRY JOHNSTON, Owners

Last spring FORUM and Revere Copper & Brass asked eight outstanding architect-builder teams in various sections of the country to design and build eight small, good houses. The Houston house shown here is the first to be completed under the joint program. Like the others, it is an effort to express, in regional terms, the standards of plan, structure, appearance and livability set forth by the program. The architect and builder have merged their extensive small house experience in an attempt to produce the best possible house for the least possible money. Maximum price permitted by program was \$15,000 including land: builder Sharp was able to retail his house for less, despite his use of large and comparatively expensive lot in Oak Forest. For their part, the architects have provided a pleasant design, with long lines and low wide overhangs and a color scheme based on redwood, copper and brick.

Built under Title II of FHA, the finished house (furnished and landscaped) was open for inspection before it was sold. Some 35,000 Houston citizens trooped through it during the four week-ends it was on display.

WITH SERVICE AREAS PLACED TOWARD NORTH AND STREET, HOUSE GAINS MAXIMUM SPACE, SUN AND PRIVACY FOR GARDEN SIDE





COCKING: the compact U-shaped kitchen is completely equipped, including its own ventilating fan, and welllocated with reference to dining area, front door, laundry and combination drying and play yard beyond. **DINING AREA** may be separated from the living room proper by means of curtains. These run on a ceiling track fixed to under side of a built-up wooden trough which also carries concealed indirect fluorescent lighting. While otherwise non-structural, the trough conceals a wall-to-wall tie-bar.



Hence Griffith Photos

genious planning gives this small Texas house a surprising sense of space along with good circulation

aced so that there is maximum privacy toward the street and protion from the north, the limited internal space of the Houston use is deployed to good effect. Living room, dining area and guestcreation room may be all thrown together if desired. This horizontal aciousness is emphasized by sloping ceilings which follow the roof the to give the rooms added height and interest. For a two-bedroom use, the plan shows considerable ingenuity. The central bath makes r easier circulation and minimal plumbing bills (although a clereory of some sort would have made it both cooler and better-lit). nee the mild climate makes an outdoor laundry possible, the carport d drying yard are in happy relation to both kitchen and street.

The house is built on a floating concrete slab with integral footings ider all load-bearing partitions. It is heated by a forced-air gas rnace hung in the attic over part of the bedroom hall, making for ort duct runs to all rooms. Beside it in the attic, immediately over e doors to the bedrooms and bath, is a large ventilating fan. Already in institution along the Gulf Coast, these fans are big, slow-moving, copeller types which are used to pull air in through open windows. eross the rooms and then exhaust it directly to the outdoors. CONSTRUCTION OUTLINE: Structure: Exterior walls 6 in. redwood siding, cedar shingles, 15 lb. felt, fir studs, 4 in. rockwool, National Gypsum Co.; inside-ma-hogany Weldwood plywood, U. S. Plywood Corp. Floorsconcrete or Azrock, Uvalde Rock Asphalt Co. Ceilings-1/2 in gypsum board and acoustic tile, National Gypsum Co. ROOFING-16 oz. copper over felt, Revere Copper & Brass Co. INSULATION-mineral wool batts, U. S. Gypsum Co. SHEET METAL WORK-copper, Mitchell Rand Co. and Revere Copper & Brass Co. Ducts-U. S. Steel Corp. WINDOWS: Sash—steel casement, Fenestra, Detroit Steel Products Co. Glass—plate, Pittsburgh Plate Glass Co. Venta Glass—Venta Glass Window & Door Co. WALL COVERINGS-Mexican adobe brick and mahogany Weldwood, U. S. Plywood Corp. Bathrooms-Consoweld plastic sheet panels, Consolidated Water & Power Co. PAINTS -Samuel Cabot, Inc., E. I. DuPont de Nemours Corp. and Minwax Co. HARDWARE—Sargent & Co. ELECTRICAL MINWAX CO. HARDWARE—salgent & Co. Fix-INSTALLATION: Wiring system—Square D Co. Fix-tures—General Lighting, Inc. KITCHEN EQUIPMENT: Range and refrigerator—electric, Philco Corp. Sink (Pul-verator)—Given Mfg. Co. LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliances, Inc. BATH-ROOM FIXTURES—Kohler Co. Heater—Thermador Electrical Co. HEATING-warm air system, Norman Products Co. Regulator-Minneapolis-Honeywell Regulator Co.



VING AREA may be expanded to include dining area and guest room. A ceiling which follows the line of the hipped roof adds to room's apparent size while—in lieu of a fireplace—it boasts a rick "chimney-corner" with a recessed lily pool. Glass wall and louvered glass door open into terrace.





SLEEPING. All three bedrooms have a bank of windows facing south and boast ample built-in storage space. Here again a ceiling which follows roof slope adds space and interest.

Compact country house in San Fernando Valley is built between



THE OWNERS PROUDLY SIT THEIR PALOMINOS ON THE LAND BEFORE THE FRONT, WEST EXPOSURE OF THE HOUSE

LIVING-DINING combination is skillful double use and allocation of space. Picture to left shows view from dining space into east side of living room and out under covered walk on back patio. Right photograph is other side of living room toward bedroom. Glass wall here can be opened. Continuation of wall in bedroom has same detailing. Dubious design touch are sets of 3 x 3 in. verticals outside, dividing sections of the facade.



o patios for full realization of suburban luxuries

GRIZWOLD RAETZE, Architect ZEH & OIEN, General Contractors MR, and MRS. BERNARD GARBUTT, Owners



EAR ELEVATION: DOUBLE CARPORT, LIVING-DINING, AND STUDIO

This small, low cost (\$13,500 without land) home in Encino, California, is only one block from Ventura Boulevard, the main highway from Los Angeles North. But the 100 by 300 plot affords many of the advantages of real rural life. The owners wanted a simple, informal plan with opportunities for outdoor living around two patios, and a studio for the husband, who is an illustrator of children's books. Room was left on the plot for stables, which have since been added. The architect was given free rein in style, asked only for honest expression of materials, a request he was very happy to hear. Result is a well planned economical building, with oiled redwood exterior finish, lacquered birch plywood and gypsum board interiors, numerous windows, and a general air of simple comfort. The living room fireplace is built with used common brick of good color, and its proportions and weathered texture are a good example of the building's character.

A five foot solid fence borders the west patio, which ends 42 ft. from the street boundary of the plot. Sliding glass doors open up the living room and bedroom on this side, behind the privacy of fence and 65 feet of land. The rear patio, protected from south west winds —is used for barbecues. Cross ventilation is as good as it should be in a house this shape, and the kitchen is particularly well planned. One criticism which arises is of the orientation of the rooms on the plot. Main glass exposure, with the shed roof uptilted that way, is West, with only the studio glazed to any extent to the South. And the studio has relatively little North glass. Shape of the long plot obviously had much to do with this.



ENTRY is corner of living-dining rectangle blocked off with 7 ft. cabinet, bounded by coat closet and telephone booth. Shelf above is used to increase definition of entry, and serves also as foil for indirect lighting. Cabinets are natural birch veneer finished with three coats of lacquer. Ceiling is striated plywood. Screen is split bamboo.



A simple solution to landscaping-in both original work and maintenance-is typified on this divided lot



EAST PATIO IS USED FOR OUTDOOR DINING: STUDIO IS TO RIGHT

On a plot as large as the one for this house, and a budget as small, some simpler landscaping solution has to be found to take the place of sweeping lawns dappled with the shadow of tall trees and interrupted elegantly by tailored hedges. The excellent answer in this case, and in many other similar cases, has been to make one very carefully kept island of land around the house, and leave the rest of the land substantially in native condition. This is a particularly good answer on a rocky plot, but works well here also. The patios are brick paved, with precise inserts of earth and boxes for easily maintained plants. The oiled redwood fence to the front helps block dust which might blow across that patio into the living room and bedroom when the sliding walls are open.



CONSTRUCTION OUTLINE: Foundationconcrete slab. Waterproofing—Anti-Hydro Waterproofing Co. STRUCTURE: Exterior walls-horizontal redwood siding; inside-studs and plywood, U. S. Plywood Corp. Floors-asphalt tile, Armstrong Cork Co. Ceiling-Weldtex, U. S. Plywood Corp. or Sheetrock, U. S. Gypsum Co. ROOF-felt-covered with gravel. INSULATION: Roof -Rockwool, Johns-Manville. FIREPLACE: Damper-Peerless Mfg. Co. SHEET METAL WORK: Flashing-lead. Remainder, galvanized iron. WINDOWS: Sash-aluminum. Glass-double strength, quality B or crystal plate. WALL COVERINGS: Living room-birch plywood, U. S. Plywood Corp. Remainder-Sheetrock, U. S. Gypsum Co. Kitchen and Bathrooms-Sanitas, Standard Coated Products Div., Interchemical Corp. PAINTS—Dutch Boy, National Lead Co. HARDWARE—Schlage Lock Co. ELEC-TRICAL INSTALLATION: Wiring systemflexible conduit. Switches-General Electric Co. Fixtures—Marvin Mfg. Co. KITCHEN EQUIPMENT: Range and refrigerator— Westinghouse Electric Corp. BATHROOM EQUIPMENT—American Radiator-Stand-ard Sanitary Corp. HEATING—gas, vented Wall heaters. Panel-Ray, Day & Night Mfg. Co.







GEORGIA TECH HOUSING

Two veterans' apartment groups that are part of a five-year expansion program based on the principles of sound contemporary design

> STEVENS & WILKINSON, INC., Architects J. A. JONES CONSTRUCTION CO., Contractor

> > Photos: F. S. Lincoln



These apartments on the campus of Georgia School of Technology represent one university's answer to the problem of coordinating abnormal need for veterans' housing with plans for ordinary college expansion. An almost tripled postwar enrollment (3,800 extra students, most of them married) brought with it, of course, an acute shortage of living space. Temporary quarters were set up in a war housing development and in hospital and naval air station barracks some 16 miles from the college. However, permanent dormitories and apartments on the campus itself became an immediate goal, since Georgia Tech does not expect a shrinkage to prewar size even after the present swell of G.I. students subsides. These two apartment groups completed in November, 1947 plus new and existing dormitories house only 2,220 of the current 6,424 enrollment. Thus, the school has avoided over-expansion in meeting a temporary emergency

APARTMENTS SEEN FROM STREET WITH PARKING COURT (LEFT)



and has wasted no money on unsightly jerry-built campus housing which would eventually have to be torn down. It is estimated that 10 per cent of future enrollment will be graduate students with families, more than enough to fill the 220 new apartments. If, eventually, the number of married students and faculty becomes too few for the apartments, they will be rented to the general public.

Whatever the future situation, Georgia Tech can hardly lose on its housing venture, for the new apartment groups have been quite truly "designed for living" and at a minimum rental-an unbeatable combination come good times or bad. The architects have adopted many of the principles of social planning which have made Sweden's cooperatives famous the world over: landscaped grounds, individual balconies, outdoor play areas, supervised nursery schools, etc. All these amenities are found in the Callaway apartments (shown here) for families with children under high school age. An informal site arrangement with spacious lawns and gardens makes them more like country homes than concrete-bounded city flats. Most important aspect of the site plan, however, is the excellent handling of playground and parking areas. Buildings are separated into periphery groups surrounding an acre of land in the center of the plot. This is the playground, fenced-in, complete with swings and teeter totters, conveniently reached from every apartment and far removed from streets surrounding the development. The periphery arrangement of



phery courts reserved for parking

nildings also makes possible the convenient parking scheme. Each oup forms a small court with direct street access which is used for arking. Children and traffic are thus efficiently kept apart by the te plan itself. The indoor nursery school is one of the most impornt aspects of the development, solving as it does the problem of the other tied down by young children. Supervised by college-trained ersonnel and equipped with a kitchen, it costs \$8.50 per week for illdren in the diaper stage, \$7.50 for older offspring. The buildings emselves are excellently worked out with a range of 156 apartments om one-room efficiency units to two-bedroom suites, the majority pasting private balconies. Designed as walk-ups, they have been mited to three stories as the maximum height negotiable by families ith small children.

Georgia Tech was fortunate in having school officials progressive nough to embrace the principles of contemporary design and planing. In addition to the \$4 million housing investment, the college planning to spend over \$2 million a year for the next five years on eneral campus construction, most of it modern design. Says Profesor J. H. Gailey of Georgia Tech's Department of Architecture: "It ong has been the feeling that Gothic doesn't suit a modern classroom uilding or, for that matter, an apartment building. Both classrooms and apartments need more adequate lighting, natural and artificial, nan is possible in Gothic buildings. Modern heating and possibly air onditioning don't fit in either.





TWO-BEDROOM APARTMENT







UNIT C

RENTAL SCHEDULE28 efficiency apartments(all furnished)\$4886 one-bedroom apartments(all furnished)7142 two-bedroom apartments(furnished)82(unfurnished)78

INTERIOR COURT WITH WALKS LEADING TO PLAY AREA, STREET AND OTHER APARTMENTS IS CREATED BY INFORMAL BUILDING GROUP

Scale





Burge apartments for families without young child

The Flippen D. Burge apartments shown on this page solve a different problem than the preceding Callaway group. They are design primarily for married students without children and for faculty methers with children over high school age. In addition the site is congested area near the administrative section of campus rather that a rolling, wooded plot on the campus outskirts such as that given over to Callaway. Despite this limitation of ground area, the H-shap plan gives every room a good outside exposure, allows a pleasa planted court at front and a rear delivery area for trucks. Wie window overhangs are employed to cut out summer sun. The apartments here range from efficiency one-rooms to three-bedroom unifor professors with large families, number 64 in toto. Smaller apartments all rent furnished, the two-bedroom units furnished or unfurnished as desired and the three-bedroom apartments (of which the are only eight) unfurnished.

Although an eight-story elevator building, the design employs the same reinforced concrete construction used in the Callaway walk-up Floors in both groups are of waxed asphalt tile rather than woo a feature which has drawn mixed reactions from tenants althoug they are united in enthusiasm for the large size of rooms, aluminu window framing, two-closet bedrooms, pantries and built-in cabinet

Most important drawing card for the none-too-wealthy student however, is the rent schedule, 30 per cent below that for similar accommodations in the rest of Atlanta. Since both apartment group

SUN SHADES, PROTECTING THE LARGER WINDOW AREAS AT SOUTH AND WEST, BREAK UP OTHERWISE AUSTERE BUILDING MASS



ke efficient use of small plot

were financed with bonds to be amortized by rentals rather than subsidy, balancing construction costs against reasonable rent charges was of highest importance. Building at a propitious time made this possible. Plans were completed and approved and financing arranged by the summer of 1946 and construction started immediately. Thus, Georgia Tech got in under the wire before rising interest rates on tax-free bonds (up over 50 per cent since June '46) and rising construction costs (up 28 per cent since the same date) could force rentals above the level students could pay. One enthusiastic veteran's wife has summed up the success of the venture: "Compared to these apartments all new private housing we've seen in Atlanta is jerrybuilt and yet their rentals are 30 per cent beyond us."

RENTAL SCHEDULE:	32 efficiency apartments (all	furnished)	\$48
	24 two-bedroom apartments	(furnished)	82
		(unfurnished)	78
	8 three-bedroom apartment	s (all unfurnished)	84.

BALCONIES ARE PROVIDED APARTMENTS FACING NORTH





Unique heating installations permit test of convection versus radiant methods





n,



In addition to providing much-needed housing, Georgia Tech's new apartment groups are doubling as experimental stations for the school's research program. Heating systems in both projects have been divided into convection and radiant test areas in order to compare the relative merits of the two methods. These experiments are being conducted by Professors Howard W. Mason and William A. Hinton of the school's mechanical engineering department with the help of students in their classes.

The eight story Burge apartment building has been split in half for heating purposes, with approximately 50 per cent of the space on each floor heated by convection and the rest by radiation (see plan, left). Only two of the 17 three-story walk-ups in the Callaway project have been used for the experiment. One is heated throughout by radiant floor panels, the other by convection, a fair test since the buildings were chosen for identical exposure (see plan left, below). Hot water is the heating medium used in both systems under study. Heat in the Burge apartments is supplied by the school's own steam plant while the Callaway project is hooked up to an outside gas system.

A primary purpose of the split-system heating experiment is to determine whether fuel economies will actually amortize the extra cost of the radiant heating installation. Results of this part of the experiment will determine which type of heating should be used in future building projects at Georgia Tech.

For instance, the radiant heating installation in the Callaway walk-ups cost \$8,569 as opposed to \$7,568 for convection, or 13.2 per cent more for the radiant system. In the Burge apartments radiant heat cost \$20,623, convection \$18,663—10.5 per cent more. Contractors put down the difference in relative costs to the fact that labor became more proficient in the Burge installation, its second try.

Although the heat was turned on shortly after the buildings were first occupied last November, engineers were unable to tabulate accurate results last winter because the heating contractor was still making repairs and adjustments throughout the cold season. This fall, with all mechanical work completed, Mason and Hinton will calibrate the condensate meters on each of the units, balance the systems, set the outdoor weather bulb thermostats and sit back to await results.

CONSTRUCTION OUTLINE: Foundations-reinforced concrete. Waterproofing-3-ply membrane, The Flint-kote Co., Inc. STRUCTURE: Exterior walls-brick, Clare Brick Co. and Merry Bros., hollow clay tile, plaster bond and plaster, U. S. Gypsum Co. Floorsreinforced concrete. ROOFING-built-up tar and gravel, The Barrett Co. and C. G. Ray Co. INSULA-TION: Roofs-2 in. rigid fiber, Johns-Manville Corp. WINDOWS: Sash and screens-double hung aluminum. Alwintite, Aluminum Window Corp. STAIRS-reinforced concrete. Masterplate, Master Builders Co. ELEVATORS-Otis Elevator Co. FLOOR COVER-INGS: Bathrooms-ceramic tile. Stair halls-concrete. Remainder-Azrock asphalt tile, Uvalde Rock Asphalt Co. HARDWARE-P. & F. Corbin and American Hard-ware Corp. BATHROOM FIXTURES - Kohler Co. Water pipes - copper tubing, Mueller Brass Co. KITCHEN EQUIPMENT: Ranges-Hotpoint, Inc. Refrigerators - Frigidaire Div., General Motors Corp. HEATING-forced hot water system in some apartments, floor panel radiant system in others. Radiators -Trane Co. Floor coils-A. M. Byers Co. Regulators-Minneapolis-Honeywell Regulator Co. Water heaters and boilers-American Radiator-Standard Sanitary Corp. Pumps-Chicago Pump Co. Incinerators-Kerner Incinerator Co.

PRODUCTS AND PRACTICE

ROTOTYPE CLASSROOM in Seattle area utilizes both clerestory and directional block, for even light distribution













DISTRIBUTION OF LIGHT is indicated in examples from Owens Illinois Glass Co.'s new text on school lighting, written by Hugh Paul. Each drawing shows distance from panel at which maximum brightness would be observed from the ceiling level. Also shown is magnitude of this beam's brightness observable at ceiling level where wall and ceiling meet. As sun's altitude increases, beam is thrown deeper into room. Natural daylighting of classrooms is a task which is currently occupying the country's busy school designers. This new prototype classroom design by William Arild Johnson & Associates is another acknowledgment of the problem of daylighting, and a solution which combines two popular techniques—one new and one old.

The new technique is the use of directional glass block above the bank of ventilating and viewing windows. The older technique is the use of a clerestory. Between the two, Johnson makes considerable progress in the task of flooding his classroom with a large amount of daylight, without creating distracting brightness contrasts between working space on desks and blackboards and the "surround."

Objective of the prismatic directional glass block is to improve daylight distribution in the room without diminishing daylight transmission. The blocks receive the light from outside and direct it upwards to the ceiling where it is reflected down again with better distribution possible than with clear glass windows. At the same time, the windows are not too bright in relation to the work. Brightness on the pupil's desk is raised for a given input of light, while brightness which the pupil sees when looking at the fenestration is lowered.

Another feature of Johnson's classroom is the glued-up laminated beams which function as trusses, eliminating interior bearing walls.

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REINFORCED CONCRETE SHELLS SPAN 257 FT. WIDE AIRPLANE HANGARS-big job in Chicago is unique in choosing new t



GIGANTIC FORMS FOR CONCRETE were necessitated to achieve continuity in structure. The forms were used for the first bay, then moved intact for five succeeding concrete pours. Picture above shows one arch complete, with forms enroute to second hangar. Despite large expense of building the forms, an impressive structure in themselves, the engineers for the hangar job estimated considerable overall economy from the choice of reinforced concrete over structural steel members.

ATRETNES

AMERICAN



THREE AND ONE-HALF INCH CONCRETE SHELL sits in center of ribs, vertically. This positioning at the neutral axis decreases arch moments, and thus but tresses and footing sizes, over other designs. Roof ing is carried over projection of ribs.



ATTACABLE

A MERICAN






ANDSOME ROOF CURVE, shown above before completion of buildings, is shaped to coincide with funicur curve for dead load. Exterior buttresses bear on continuous spread footings; interior buttresses etween the two arches have separate footing pads. Steel frames suspended from the concrete arches apport the front and rear closures.

TERIOR VIEW of great span shows extensive use of cold-cathode lighting tubes. Steel systems condered for the job included fixed and hinged arches, composed of solid, trussed, and Vierendeel webbed s well as rolled-beamed sections, but availability and estimate of lower cost resulted in the choice of oncrete. Also on side of concrete were maintenance costs, finish for lighting, and esthetic msiderations. Rib spacing is 29 ft., with a depth faded from 50 in. at the abutments to 39 in. midspan.





The pair of twin hangars for American Airlines at the Chicago Municipal Airport provide a concrete example of some interesting facts concerning building technology and economy in this country today. These structures each span 257 ft. clear with a 3½ in. reinforced concrete roof strengthened by widely spaced concrete supporting ribs. Clear height at midspan is 58.4 ft.

Chief point of economic interest in the big twins is the choice of thin shell and minimum sized reinforced concrete arch ribs for such a job in the U.S. Labor costs and other time and money elements in the construction of the form traveler for such a job are large, but re-use of the traveler six times has resulted in a low per square foot form cost, thus bringing the overall cost of the hangars below that of a comparable steel design. Up to the present, most of the famous sweeping concrete arch structures have been built in other countries, where there existed a far different balance among labor costs, material costs, and material availability. But now steel has not only increased in price here in greater proportion than has concrete, but steel is difficult to obtain, while concrete is not.

Before the final selection of materials for the hangar in Chicago, consulting engineers Amman & Whitney made extensive comparative analyses of the different types of roof framing which might have been used, both concrete and steel. They found that unfireproofed steel construction would cost no less than concrete framing, and fireproofed steel framing would be considerably more expensive.

The design conditions of this structure called for minimum stiffness. This was attainable in the thin shell because of the comparatively slender, flexible concrete ribs, and the vertical location of the shell with respect to the ribs. The roof shell is placed not on top the ribs, but midway in their depth, at the neutral axis, thus decreasing the moments at crown and springing line, and volume change and abutment yield stresses. Stiffness in such arches is no advantage beyond a certain necessary point, since it does not mean strength, but only the responsibility to continue the stiffness through the rest of the structure.

Dead load moments in these hangars are all but eliminated by having the axis of each rib shaped to coincide with the funicular curve for dead load. Elimination of these moments lessens the distortion due to plastic flow under long time loading and enables smaller ribs to be used.

General contractor for the buildings was Corbetta Construction Co., Amman & Whitney were responsible for design and supervision of construction, with Aymar Embury II, architect, and Chauncey L. Chase, consulting engineer on utilities. Glenn E. Markt supervised as American Airlines director of airports and buildings.

EXPERIMENTAL HOUSE has shell, window frames, partitions, pipes, wiring, baseboards, hardware, cabinets-all of aluminu



ALUMINUM HOUSE, SHOWN IN FACTORY ASSEMPLY, IS AN EXPERIMENT, NOT FOR PRODUCTION

More than 7,000 pounds of aluminum a used in a new experimental house put up the Aluminum Company of America near th research laboratories in New Kensington, I Designed as part of a program of aluminu "research in housing" tests currently bei conducted by Alcoa, the home makes use the company's product in such applications aluminum pipe radiant heating, aluminu plumbing, aluminum foil wall insulation, as honeycombed aluminum partitions. Oth aluminum constituents of the house-which the company is interested in only as an expe ment, and not for production as a prefab-a exterior wall panels, roofing, window frame doors, piping, insulation, electric wirin kitchen cabinets, baseboards, hardware, gu ters and downspouts and a number of misce laneous uses.

Basic construction unit of the test house a load-bearing wall panel, formed from alum num sheet, in 2 x 8 ft. vertical section Similarly constructed, the roof is stror enough to support the ceiling without add tional structural members. Much of the 5 lin. ft. of interior partitions are a 1 in. sand wich of honeycomb core material faced with aluminum sheet. Wall finish is aluminum plaster and plywood.





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You save 3 ways with Ro-Way Overhead Type Garage Doors

IN SPACE—The installation of a Ro-Way Door makes use of overhead space that would otherwise be unused. No side wall space or valuable floor space is taken up by its installation or operation. No other type of door gives such maximum clearance at all *four* sides of the door opening.

IN TIME—Ro-Way Doors with their individually Power-metered Springs, "double-thick-tread" ball bearing track rollers and Rowe-made frictionreducing tracks provide extra fast, smooth, easy operation. They are truly time-savers. **IN MAINTENANCE**—A nationwide network of selected distributors take pride in the careful installation and prompt servicing of Ro-Way Overhead Type Doors! Their principal business is to see that the right type and size of Ro-Way Door is properly installed. Should service be needed no time is wasted—no unnecessary charges are made.

ROWE MANUFACTURING COMPANY 940 Holton Street • Galesburg, Illinois, U. S. A.





LIONS CLUB MODEL HOME, MINNEAPOLIS: ROBERT CERNEY, ARCHITECT

The lofty sleeping wing of this beautiful new home is a great long WINDOWALL. Here Andersen Casement Window Units are alternated with Andersen Casement Picture Window Units, furnishing a sunny facade for three bedrooms and the bathroom.

wall-like barriers—and as windows that disclose a view, invite sunshine into the home, and provide entry for fresh air.

While beautiful to look at, ANDERSEN WINDOWALLS perform their most useful function by acting simultaneously as weathertight,

Specification data on ANDERSEN WINDOWALLS is in Sweet's Architectural and Builders' Catalogs, or will be sent by us upon request. See your local lumber or millwork dealer for further information. *TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation BAYPORT · MINNESOTA





GAS RANGE **TO FIT YOUR PLANS**



62" Wide-Series 1000



36" Wide-Series 700



36" Wide-Series 1200



20" Wide-Series 500



39" Wide-Series 2400 & 1300



30" Wide-Series 600



43" Wide-Series 400 & 460

OTHER Products: combination, coal and wood ranges, oil stoves and heaters, oil furnaces. @ 1948, American Stove Company

• Finest Here is a range especially built to meet the cooking requirements of large homes. Beautifully styled in satin finish stainless steel, this new Magic Chef cooks for two or two hundred. It has six top burners, two large ovens, high level broiler and a 23" x 24" griddle. These and many other features are compactly built into an overall length of only 62".

To Smallest Apartments

HERE'S WHY MAGIC CHEF HELPS SELL YOUR PLANS

- Most widely advertised gas 3 More women plan to buy Magic range in America. Chef than any other range. range in America.
- 2 More women cook on Magic Chef than on any other range.
- 4 Magic Chef's proven quality offers you the greatest return on your investment.

FOR CITY, "PYROFAX" AND OTHER LP GASES

Hotels and Restaurants Too!

America's finest hotels and restaurants have equipped their kitchens from Magic Chef's line of Heavy Duty Gas Cooking Equipment.

FOR COMPLETE DETAILS SEND FOR OUR ARCHITECTS AND BUILDERS FILE



with any setting

• Right with traditional, right with ultra-modern—the broad Crane line has a style for every taste.

Right for price, too-Crane offers a choice for every building budget.

And right with your customers and prospects-that's been proved time and again in nation-wide surveys.

So you're always right in choosing Crane. Kitchen sinks, bathroom and laundry fixtures—all share the same high quality. All boast the new *Dial-ese* faucets that turn on and off at a finger's touch.

Again in heating, the Crane line is complete. It provides every requirement for all home systems...warm air, hot water, or steam ... coal, coke, oil, or gas.

See your Sweet's Builders' File for selections from the Crane line. Remember that not all fixtures are immediately available to all areas -check your plans early with your Crane branch or wholesaler.



CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO S PLUMBING AND HEATING VALVES • FITTINGS • PIPE NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS



BON VOYAGE

... up or down!



WHEN the crack Cargo-Passenger Liners President Wilson and President Cleveland put out to sea, a little bit of Dahlstrom's artistry and production magic sails with them. These bronzed faced elevator doors, with etched bronze panels on which are blended polychrome backgrounds in baked enamel and hand painted color inlays, grace the promenade decks of both ships. Another example of Dahlstrom ingenuity in manufacturing distinctive elevator entrance doors to fit the mood and motif as well as the practicality of the architect's plans.

On your next job... whether it be office building or ocean liner, apartment house or theatre, if the plans call for floor to floor transportation, make sure the elevator entrances conform to the exacting color and design standards you have established for the rest of the structure. Specify Dahlstrom Doors!



Representatives in Forty Principal Cities



Full color sketches, color decks and informative booklets, dealing with all phases of elevator entrance design, furnished to architects on request. Just write Dept. A-5 on your letterhead.



ELECTRONIC SYSTEM YIELDS FLEXIBLE CONTROL FOR ALL ELEVATOR TRAFFIC

ELEVATOR CONTROLS turn to electronics for simpler mechanisms and more complete traffic patterns.

Otis Elevator's new electronic signal control is designed to simplify mechanics of the call system for elevators, substituting a small electron tube in the summoning fixture for numerous relays and a large amount of the electric wiring used in the usual elevator call. Installed as part of what the company calls "an entirely new concept of elevatoring," the electronic controls help implement a new automatic program of programming elevator service to handle the different traffic patterns which prevail at various times of the working day. The new elevatoring system is called "Autotronic," and features six basic traffic programs. There are no moving parts in the electronic signal controls. The usual two discs are used in the signal, one up, one down. When either disc is touched, the electronic tube directly behind a translucent arrow in the fixture is lighted, registering the call in a very obvious manner. The car stops automatically at that floor. In a 20 story building served by one group of elevators, it is estimated that the electronic controls eliminate the need for about 40 electromagnetic relays.

Manufacturer: Otis Elevator Co., 260 11th Ave., New York 1, N. Y.

ELECTRONIC AIR CONDITIONING CONTROL has automatic change-over for both heating and cooling.

Minneapolis-Honeywell Regulator Co.'s newest control for regulating air conditioning in buildings is based on the same electronic circuits which the company has used in controls for heating and cooling systems in railway passenger cars and autopilots in bombing planes. The new thermostats contain no moving parts and make possible a very flexible, simple system of controls. Single thermostats can be used for both heating and cooling with automatic change-over from one to the other at any selected temperature level, and averaging thermostats spotted throughout a large area to control temperature may be added to the system as easily as additional electric lights can be added to electrical circuits, according to company engineers. The electronic relay can interpret a change in resistance in the small coil of wire used in the thermostat in hundredths of a degree. Through the tubes of the electronic relay, the change can be measured and amplified into an electrical current powerful enough to operate the control motors which, in turn, position the valves and dampers of the heating, ventilating or air conditioning system. Basic units of the new control include a room thermostat, duct and immersion thermostats, an electronic modulating motor and an electronic relay. The tubes used in the amplifier unit are standard radio tubes which, because they operate well below their design load, will function for several years at a minimum before they need changing.

Manufacturer: Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis, Minn.

RADIANT GLASS HEATING PANELS can be used in new or existing homes to provide comfortable radiant heat.

Composed of a sheet of specially-treated tempered glass an its metal reflector, hinged in a metal frame, this ner electrically operated Radiant Glass Heating Panel can be inexpensively installed in new or existing homes to provid comfortable, zoned radiant heat. A continuous aluminum resistance element fused into the back of the tempered glass acts as heat source and converts the glass itself into a radian panel. While the maximum surface temperature of the glass is 300° F., there is said to be no danger of searing burns o combustible fires and there is no annoying dehydration of air An outstanding feature of the new Radiant Glass Panel i easy installation. By eliminating the need for a basement boiler and chimney, installation cost is said to be less than one-third that of other standard heating systems. Panel installation in a typical six-room house is estimated to be under



\$500, including 3 thermostatic controls, or to save approximately \$1,000 over conventional heating methods for this size house. Operating costs, based on a 11/2 cents per kw. hr. rate, is reported to compare favorably with that of similar heating by gas, oil or coal. Measuring 16 x 24 in. x $1\frac{1}{2}$ in. deep, the new panels can be hooked up to 220 v. current and screwed to any type wall. Or, in existing construction, they may be attached to the wall and plugged into regular 110 v., A.C. or D.C. outlets. Panels are usually placed under the window and can be equipped with thermostatic controls for zoning or individual room temperature regulation. Capacity of the 16 x 24 in. wall panel is 1,000 w., or 2.62 w. per sq. in. One such panel is reported to be generally sufficient to heat a room of 1,400 cu. ft. or less. U/L approved, panels are supplied with either prime coat or polished frames. Additional size panels are also available.

Manufacturer: Continental Radiant Glass Heat Corp., 521 Fifth Ave., New York, N. Y.

PACKAGED GAS-FIRED BOILERS for residential forced hot water heating, provide efficient, economical operation.

Capable of handling heating installations requiring inputs from 70,000 to 195,000 BTUs, these two compact, packaged gas-fired boilers provide convenient, efficient, economical forced circulation hot water heat for most size homes. Model HWA-110 (illustrated) is a compact unit for small home heating with inputs ranging from 70,000 to 110,000 BTUs. Model No. 620 is designed for larger homes and carries an input from 110,000 to 195,000 BTUs. A main feature of the new boilers is the patented Burkay Burner which employs two stages of primary air entrainment, plus an (Continued on page 150)







"HEAT PUMP" INSTALLATION CONTROLLED BY JOHNSON

THE EQUITABLE BUILDING, PORTLAND, ORE. • ENGINEER: J. DONALD KROEKER ARCHITECT: PIETRO BELLUSCHI • CON-TRACTOR: P.S. LORD • TRANE AIR CON-DITIONING EQUIPMENT USED THROUGH-OUT.

ONE OF SEVERAL JOHNSON CONTROL PANELS WHICH PER-MIT THE OPERATION OF THE SYSTEM TO BE OBSERVED FROM CENTRAL LOCATIONS.

C NGINEERS everywhere are talking about it . . . the Equitable Building in Portland. Praises and congratulations are being heaped upon the engineer, architect and contractor whose cooperative efforts resulted in this great monument to progress and these remarkable achievements. Most important, perhaps, is the fact that this is the world's largest "HEAT PUMP" installation.

Year-'round air-conditioning demands-usual or unusualpresent no problems . . . All are controlled with precision. The whole system is the result of perfect planning . . . and this "reverse cycle" system is completely automatic. There are no definite transition points between the various cycles of operation: (1) when the demand for heating is greater than that for cooling; (2) when the need for cooling exceeds that for heating; (3) when there is a demand for cooling only. The unique control features of this interesting air conditioning system are made possible by the superior control characteristics of the highly accurate "T-900 Series" of Johnson thermostats . . . Johnson engineers are prepared to cooperate in solving all types of temperature and air conditioning CONTROL problems. JOHNSON SERVICE COMPANY, MILWAUKEE 2, WIS., AND DIRECT BRANCHES IN PRINCIPAL CITIES.

JOHNSON VALVES IN COMMAND AT THE TRANE TURBO-VACUUM COMPRESSORS.

FEATURES OF JOHNSON CONTROL IN THE EQUITABLE BUILDING

The building is divided into heating and cooling zones. (Most of the floors are arranged to provide 11 zones.) Each zone is controlled separately by a Johnson room thermostat.

- Johnson T-900 outdoor master thermostats measure the external heating and cooling requirements and limit the amount of refrigeration capacity which can be brought into operation at less than design load. This reduces the electric power demand charges to the lowest possible minimum.
- The refrigeration capacity is controlled by a Johnson pneumatic step-controller, operated from Johnson thermostats which measure the heating and cooling demand. The number of refrigerating compressors in operation, at any time, is determined by whichever demand (heating or cooling) is greater.

Water temperatures are varied continually, for heating and cooling. Automatic control is accomplished by Johnson T-901 sub-master thermostats commanded by a Johnson T-900 master thermostat which measures outdoor temperature.





every kid has an "old swimmin' hole"

Our fond recollections to the contrary, the modern steel and concrete pool is a far cry from the sweet but dangerous pleasures of the old swimmin' hole.

Today millions of kids, and adults too, enjoy the healthful sport of swimming . . . under conditions that are relatively safe, in water that can be as pure as that we drink and in locations often as convenient as the neighborhood movie.

Yes, steel pipe makes it possible!

Water where we want it, when we want it, in any quantity we want it, has become a reality through the economical mass production of steel pipe. Equally so, the transmission and distribution of other essentials . . . gas, oil, steam, chemicals . . . in uses that enrich our lives daily, depend upon steel pipe.

The reason is simple. Steel pipe combines the qualities of economy, durability, adaptability and serviceability that make its uses almost limitless.

The interesting story of "Pipe in American Life" will be sent upon request.

COMMITTEE ON STEEL PIPE RESEARCH of American Iron and Steel Institute, 350 Fifth Avenue, New York 1, N. Y.

STEEL PIPE MAKES IT POSSIBLE!

... better living through pipes of steel for plumbing and heating purposes.

only GNorking Parts of Simple Efficiency-

> DELANY FLUSH VALVES are highly recommended for private homes, and particularly for "rental construclarly for "gental construction" as now planned by the Government.

Combined into TWO MOVING UNITS – the DELANY FLUSH VALVES offer the simplest flushometer to install, adjust, and maintain. Built for rugged, fault-free operation, to desired flow, and will function for many, many years without need for repair.

The outside control of flush – the loose fitting guide – the long wearing flexible leather diaphragm and protected by-pass, the removable seat – make for simplicity, accessibility with a minimum of maintenance.

Available thru all leading supply houses.





auxiliary supply of secondary air to produce exceptionally high combustion efficiency at varying rates of input without changing or adjusting the burner. As this permits the boiler's input to be adjusted on the job without any mechanical change to the burner itself, the boiler can be tuned to the building's exact heat loss requirements to provide more economical operation. Another boiler feature is that all water carrying parts are rust-free copper, brass or bronze. According to the manufacturer, this not only assures lifetime service but makes the boiler exceptionally suitable for use with all non-ferrous heating systems. As additional protection against the products of combustion, the heat exchanger is lead alloy coated. In the new boilers, excessive bulk in the heat transfer area is eliminated. Low water content (8 pts. in model HWA-110, 16 pts. in Model No. 620) and copper-



The Original Inside Screens That ROLL UP AND DOWN Are ROLSCREENS

ROLSCREENS in a building or home are a "trademark" of good planning. They speak well for the architect or designer who specifies them. An important part of your business is providing CONVENIENCE. ROLSCREENS help you do it like no other window accessory.

CONVENIENCE of ROLSCREENS SELLS ON SIGHT Once in place . . . always in place. That's Rolscreens! No putting up! No taking down! No storing! No painting! No seasonal repairs! Installed and operated on the inside. Inconspicuous. They preserve the beauty of clear, sparkling glass. For all types of windows - both old and new construction.

Made by makers of FAMOUS PELLA VENETIAN BLINDS and CASEMENT UNITS

10-YEAR GUARANTEE

This is your assurance that your clients will be satisfied and enthusiastic about ROLSCREENS over the years.

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finned heat exchanger and counter-flow principle provi instant response to heat demand. Pickup load and stand loss are minimized. The new boilers operate automatical are AGA approved, come completely packaged, ready install. Model HWA-110 measures only 241/2 in. wide, 361/4 i high, 18 in. deep, lists for about \$388.50. Model No. 62 measures 20 in. in diameter, is 63 in. high overall, is listed about \$443.

Manufacturer: The Burkay Co., 1213 Norwood Ave., Toled Ohio.

CONVECTOR LINE combines new appearance, installatio and operating features.

Described by the manufacturer as a major step in concealed radiation, Modine's new convector line offers many feature to simplify handling and installation and to improve perform ance. The major line improvements lie in a unique curved a outlet grille and a manually-operated damper for controllin individual room temperatures. The curved outlet air grill is located within the enclosure itself while the unit-wid damper section, which is instantly adjustable to control hea delivery, closes to completely

conceal the outlet grille. Other features of the new line include a louvered inlet grille and a 5second removable front panel. Both of these parts snap easily in place, the removable front panel providing full access to the heating unit and the enclosure interior. Heating units are substantially the same de-



sign as the well-known Modine unit and the new convector. are rated in strict accordance with commercial standard CS 140-47. The new line includes four standard enclosure styles and three heavy-duty institutional models. All of the 160 individual enclosure sizes are dimensioned in 2 in modules, are manufactured in 4, 6, 8, and 10 in. depths; 18 20, 24 and 35 in. heights and in ten lengths ranging from 20 to 64 in. Type F enclosures are designed for partial or complete recessing or for free standing installations. Types W, S and SD are wall-hung cabinets.

Manufacturer: Modine Manufacturing Co., Racine, Wis.

UNIT HEATER for textile plants provides ample heating capacity, features low cleaning costs.

Grinnell's new Textile Thermolier is a unit heater specially engineered to meet atmospheric conditions inherent in textile plants. Featuring new smooth-contoured heat transfer surfaces in place of conventional finned surfaces, it is designed to maintain its heat transfer capacity under adverse operating conditions with a minimum of cleaning maintenance. Complete clogging, which-according to the manufacturer-is common to multi-finned tube type heaters, is almost impossible with the new construction. Lint and dust can be removed in a few minutes using only a jet of air from a compressed air hose or from a portable electric hand blower. A high volume of air delivery also provides a partial self-cleaning action. In addition to these features, the new heater includes the regular Grinnell Thermolier U-tube construction and the patented cooling leg. The Textile Thermolier is offered in one size with a heating rate of 113,700 BTUs per hr. using steam at 2 lbs. pressure and entering air at 60° F. (Continued on page 154)

GET BETTER TILE AND BLOCK-WORK with BRIXMENT!

Tile or block-work offers very little protection against the penetration of water, unless both inside and outside head joints are completely filled with mortar.

In laying clay tile, or concrete or cinder block, even when they are used only for back-up work, especial care should be taken to secure full head joints on both the inside and the outside edges of the unit. Either of the following two methods may be used:



Method 1. Full head joints should be thrown both edges of the tile to be placed, or-



Method 2. A full head joint should be thrown onto one edge of the tile in place and also onto the opposite edge of the tile to be placed.



Enough mortar should be used to cause excess mortar to ooze out of the joints on both sides of the tile.



Method 1. Full head joints should be thrown onto

Method 2. A full head joint should be thrown onto one edge of the block already in place and also onto the opposite edge of the block to be placed.

Enough mortar should be used to cause excess mortar to coze out of the joints on both sides of the block.

One of the reasons bricklayers prefer Brixment mortar is the way it *sticks* to the tile or block, as shown above. It "stays put." The bricklayer does not have to stoop to the board for more mortar. *You* get a stronger, more water-resistant wall. Brixment mortar is easier to work, saves time, effort, and money. In addition, it has higher water-retaining capacity, greater bonding quality, is more durable. It is this *combination* of advantages that has made Brixment the largest-selling masonry cement on the market.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

THE NEW

In announcing the new, improved Series FEC Winter Air Conditioners, Janitrol again steps far ahead of the field.

Trol.

Many new products sacrifice easy accessibility for servicing to gain better appearance. Janitrol is different . . . Serviceability and appearance are both improved in the new models.

Note in the cut-away unit shown below how compactly the controls, burners and other components are assembled, yet each is easy to reach.

Note too, the new modern styling made possible by the new Twin Air-flow Ventilating Circulators.

This functional design assures a positive directional flow of air to keep the controls cool regardless of the compactness of the installation.

V PRACTICAL DESIGN FEATURES...FOR IMPROVED PERFORMANCE ...

2 Twin Air-Flow Ventilating Louvres • Admit a direct flow of ventilating air to assure the cool operation of all controls, regardless of the compactness of the installation.

3 New Type Ribbon Burners • New design, features a quickly removable, steel burner chassis. The individual runner ribbons and the burner ribbons are nested in an open top holder which may be quickly and easily removed as a complete unit. Each burner has its own non-linting primary air shutter adjustment.

a product of

4 New, Plug-in, Self-Positioning Electrically Operated Pilot • Complete pilot assembly can be quickly removed or replaced in a matter of seconds. Plugs into regular type electrical outlet. New actuating lever and switch design assure long-life positive operation.

5 Combination Fan and Limit Control • Switch mechanism and thermal element are placed in the most convenient and accessible location. Improved factory-set positive positioning to prevent damage during installation work.

6 Standard Dimensions, All Parts and Controls Completely Enclosed • All six sizes are a standard 26" in depth, and 60" high, only the width changes. All units are crated, easily moved through standard size door. No separate housings or extended controls to be figured for roughing-in dimensions.

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

All models from size 60 to 120 are completely assembled at the factory. Speeds up and improves installations.

to Toe

WINTER AIR CONDITIONER... first again to meet

the changing requirements of today's and tomorrow's modern ideas of housing and improved comfort.

The new Janitrol FEC is clean to look at ... clean to work with ... there's no extension of controls outside the casing, no extraneous housing for filters or other component parts. Everything is enclosed in the smart, gleaming, streamlined, grey baked enamel cabinet.

With Janitrol ... the home owner has gained great improvements in gas-heating comfort and automatic operating economy.

With Janitrol . . . the architect and builder have been able to offer more saleable homes because of more compact, completely automatic modern heating.

FOR EASIER SERVICING ...

7 Large Capacity Blowers • Rubber cushioned blower chassis support cradles the blower, absorbs all vibration, results in quiet operation. Blower can be factory adjusted for C-A-C operation.

8 Over-size Filters . Double filter suspension provides more than adequate filter area to assure clean circulated air at standard or lower air volume.

9 Accessible Control Assembly • All units of the control and burner assembly are compact. Can be inspected and serviced by removing upper front cabinet panel.

10 Duct Mounted Thermo-drip Humidifier • Humidifier is shipped separately. It may be conveniently located in the supply duct near the Conditioner after it is installed.

> Specification sheets and performance data are available on all Janitrol equipment. Write today for your copies.

"C.A.C"

greater indoor winter comfort with Janitrol FEC Condi-tioners factory adjusted for C-A-C operation. (Continuous

Continuous Air Circulation with its floor-to-ceiling warmth is fast finding favor ... it's a feature that's easily understood and appreciated by the average home-owner. Janitrol's unique design combination of a Ribbon-Type burner located directly at the base of each cast-iron Heat-Exchanger tube, is ideally suited for C-A-C operation. This exclusive Janitrol design provides one of the most practical means of utilizing C-A-C to its best advantage.





With steam at 25 lbs. pressure, it delivers 143,400 BTUs per hr. Any steam pressure up to 125 lbs. can be used with corresponding increases in the heat transfer capacity. *Manufacturer:* Grinnell Co., 260 W. Exchange St., Providence, R. I.

DEHUMIDIFIER for homes in warm climates removes up to 34 pints of water a day.

Carrier's new Humidry is a low-cost dehumidifier capable of removing 34 pints of water a day from the atmosphere of a normal size room in a humid climate. A compact unit operating inexpensively on a $\frac{1}{3}$ h.p. motor, it can be plugged into an ordinary electrical outlet and needs only a drain connection for eliminating the water. Operating like a mechanical



MARSH WALL PRODUCTS, INC. 901 MAIN STREET, DOVER, OHIO for Creating Beautiful Interiors

Beautiful Interiors Beautiful Interiors Marsh Mouldings • Marsh Bathroom Accessories Wall refrigerator, Humidry removes atmospheric moisture by co densation. According to reports, it is particularly useful closed homes in warm climates where furnishings and decor tions suffer from mold or mildew. In all climates it can b used in basement playrooms and other areas where dampne and humidity cause deterioration and discomfort. *Manufacturer:* Carrier Corp., Syracuse, N. Y.

THERMOPANE INSULATING GLASS is available in three new standardized widths for large picture windows.

Due to the demand of architects, owners and sash manufa turers, the Libbey-Owens-Ford Glass Co. is now offering is standard 66 in. height Thermopane insulating window in three new standardized widths: $56\frac{1}{2}$ in., $64\frac{1}{2}$ in. and $72\frac{1}{2}$ in These new units are composed of two sheets of $\frac{1}{4}$ in. polished plate glass with a $\frac{1}{2}$ in. space of dehydrated air sealed between the two panes by a patented metal-to-glass bond. *Manufacturer*: Libbey-Owens-Ford Glass Co., Nicholas Bldg Toledo, Ohio.

TWO NEW GLASS BLOCKS announced by Pittsburgh-Corn ing Corp.

Pittsburgh-Corning Corp. has recently introduced two new glass blocks: a prismatic light-directing block for exposure to direct sunlight and a soft-light edge block to control bright ness contrast between edges and block faces. The prismatic block is designed for use on east, south and west elevation exposed to direct sunlight. It features an improved interio. prism construction which minimizes brightness contrast and gives a uniform diffusion in the room by redirecting al transmitted light to the ceiling and rear. The new soft-light edge block incorporates an intermediate glass composition between the halves of the glass block to control light diffusion and edge brightness. According to the manufacturer this block solves the problem of reducing brightness of block edges by transmitting just enough light to provide a comfortable transition between the lighter block surface and the darker mortar joint.

Manufacturer: Pittsburgh-Corning Corp., 632 Duquesne Way, Pittsburgh, Pa.

STRUCTURAL GLASS resembles marble and alabaster.

Murapane is a new structural glass with colors and designs embedded in the material to afford an authentic reproduction of marble or alabaster. Only 1/4 in. thick, it has a smooth face with a high luster finish and a rough back to improve its cohesive quality. It is durable and impervious to weather and is said to be superior to other such marble-like wall surfacing in its simplicity of application. According to the manufacturer, Murapane can be produced to give approximately 90 different effects, is available on specification in almost any size. Its cost is said to be a fraction of marble's. *Manufacturer:* Appleman Art Glass Works, Bergenfield, N. J.

PLASTIC LAMINATE IN TILE FORM, is easily applied to walls, is washable, stain, burn and scratch resistant.

A semi-rigid high pressure laminate in tile form, Wallco is a permanent covering for walls or ceilings in kitchens, bathrooms, rest-rooms, restaurants, laboratories, corridors and stores. The material comes in (Continued on page 158)

Marsh Adhesives Marlite • Marsh



...Want to Keep Theatre Carpet



When you are wondering what kind of carpet to put in the lobby...



...and how you can save on yardage...and how much it all will cost...



Are you planning a theatre job? Take a tip from us and consult a carpet specialist — an Alexander Smith carpet contractor or sales representative. He is a theatre decorating specialist...a color and texture expert...a traffic technician all rolled into one. He will save you headaches and your client money.

Give him a chance to:

- Cut your costs by estimating accurately — keeping yardage down.
 Source on unbeen by a line
- 2. Save on upkeep by advising the most

economical grade and weave for each specific location.

 Increase your satisfaction by suggesting the design and color which will harmonize best with your interior.

He is ready to show samples and estimate. He will see that you get an expert laying job.

The Alexander Smith and Masland lines handled by Alexander Smith contractors and sales representatives include types, grades, and colors of carpet suitable for every theatre installation.



Costs Down, Mr. Architect?





. .and what is the most economical grade for that particular spot... -

pattern to get...relax!





sheets ranging from 8 x 10 in. to 20 x 40 in., in a number of pastel colors and special surface effects. It is impervious to stains, burns and scratches, is non-absorbent and unaffected by heat up to 275° F. In addition, its hard surface of Monsanto Chemical Co.'s Resimene can be easily cleaned with a damp cloth. Wallco is applied with a special cement which is brushed on both the tile and wall or ceiling and allowed to dry about 20 minutes before tile setting. No pressure is required for application and pointing up is accomplished with a special compound which is kneaded into rolls and pressed into the crevices. Wallco retails for approximately 60 cents per sq. ft. The laminate bonded to Masonite for covering tables and counter tops is also available.

Manufacturer: Leathertone Inc., 6-14 Medford St., Boston, Mass



an own ideas polished



IT WILL SURPRISE YOU how well your own ideas have been polished up—and how completely they have been incorporated in the designs of the whole Parker Line of bathroom cabinets and accessories. Years of experience have developed Parker's ability to see eye-to-eye with architects in style and utility... just as working with builders has influenced Parker's strict standards of materials and workmanship to meet extreme usage requirements. See the complete line in Sweet's, or send for the new Parker Catalog. The Charles Parker Company, Meriden, Connecticu'.



ALUMINUM COMBINATION STORM AND SCREEN DOOR has interchangeable panels, is rustproof and non-warping.

Eagle-Picher's new all-aluminum combination door is a sturdy, 36 lb., combination storm and screen door for all season service. Constructed with patented corners and easily interchangeable glass and screen panels, it is designed to give

trouble-free service and is said to be strong enough to support a 180 lb. weight. The new door is equipped with a non-corrosive easy-to-operate lock mechanism, a durable welded kickplate and a hydraulic door stop. Made of aluminum, it is rustproof and non-warping, has a non-glare finish. The new door is intended for residential use, is available in all standard door opening sizes.

Manufacturer: Eagle - Picher Co., American Building, Cincinnati I, Ohio.



COLORED TUBING for furniture, rails, fluid lines, etc., is self-cleaning and shock resistant.

Usable for furniture, fixtures, garment racks, guard rails, color-coded fluid lines, etc., Rub-Bub Color Armored Tubing features a tough coating of colored plastic over its metal tube

base. In most instances the core tube is electric welded steel but according to the manufacturer, the 1/32 in. seamless plastic armor can be deposited equally well on any diameter steel, aluminum or magnesium tube. The armor not only offers self-cleaning properties but is said to be tough enough to resist violent shocks without cracking, fracturing or peeling. It is also impervious to moisture, salt air. hand and food acids, oil and grease, and is warm to touch,



static free and high in dielectric properties. Rub-Bub Color Armored Tubing itself is claimed to have high-resistance to deflection and a 20 per cent saving in weight over equivalent outside diameter stainless steel tubing. It can be easily fabricated to any desired size and shape, and is available in six standard colors: green, yellow, red, brown, blue and gray.

Manujacturer: Samuel Moore & Co., Mantua, Ohio.

THREADLESS BRONZE FITTINGS for brazed pipe joints give one-piece security to non-ferrous piping.

Following the successful introduction of Flagg-Flow threadless malleable fittings (BR 2/48), Stanley G. Flagg & Co. is now presenting a new line of threadless bronze fittings for brazing to IPS brass or copper base alloy tubing or pipe Applicable for 150 lb. working steam pressure lines at 450° F., or 300 lb. non-shock cold water, oil or gas lines, these new fittings are said to produce (Continued on page 162)

Primavera and Red Gum Pormica Realwood*, Rex Theatre, Havana, Cuba. Manuel Alvarez, decorator and fabricator. Casa Rex-Tone, Formica distributor. *Trade Mark Reg. U.S.Pat.Off.

IORM

Beauty Bonded

at Home with People at Work in Industry

Ce is a show

Neither "Bingo," "Dish Nite," nor a double feature can stimulate box office traffic like the Architect who designs or redesigns the theater.

Beauty Bonded Formica is at home with people in theaters the world over—extending a warm invitation to the movie goer to relax amid the colorful luxury of friendly Formica surroundings.

No other material can duplicate Formica's wide range of colors and designs—nor better absorb the punishment of careless crowds.

In public buildings, institutions, and in the home, Formica has long been a dependable favorite of the Architect. It removes the limitations of his imagination — lends itself to progressive design.

Check Formica's Catalog in "Sweets." Write for a supply of "You and Beauty Bonded Formica," a new folder you'll want for your clients. Formica, 4631 Spring Grove Ave., Cincinnati 32, O. Copyright 1948, Formica Cinti., O.

natural as a handshake the way goes with masonry

Masonry says to Bondex "you were meant for me." This beautiful friendship results in painting jobs that stand up and give complete satisfaction.

On new or used brick — on concrete or cinder block — on stucco or stone — the natural finish to use is Bondex Cement Paint. One treatment checks moisture, adds color distinction, preserves.

Shield your new masonry homes against destructive dampness the dependable, low-cost Bondex way.

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Use Bondex for masonry interiors and exteriors, basements, foundations and swimming pools.

THE CEM that outsells all other cement paints combined

Why the Barrett* SPECIFICATION* Roof

is the toughest, longest-lasting, best value built-up roof that can be made

- **1.** Barrett Specification* Pitch and Felt
- 2. The Barrett Methods of Application
- 3. THE GRAVEL OR SLAG ARMORED SURFACE
- **4.** The Barrett Approved Roofer



SPECIAL FEATURE of the Barrett Specification* Roof is the gravel or slag surface. The built-up layers of pitch and felt are topped by a thick pouring of pitch to anchor the gravel or slag thus providing armored protection for the waterproofing membrane below.



THE GRAVEL or slag surface permits the use of an extra-heavy top pouring of Barrett Specification* pitch-the life-blood of the roof-providing a doubly thick waterproof covering.



Specification* Roof provides positive protection of the roofing membrane against the sun.



THE GRAVEL or slag on a Barrett Specification* Roof not only provides protection against mechanical damage to the roofing membrane but also interposes a surface of fireproof stone be-tween the building and flying brands—one reason why these famous roofs carry Fire Underwriters' Class A rating.

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





one-piece systems as strong as the pipe itself, yet are easy to install at low cost. There are no threads to weaken the joint; the full depth of the fitting's cup is brazed to the pipe. Flagg-Flows have the same wall thickness and center-to-end



dimensions as standard bronze fittings. Their interior design which has the same internal diameter as that of the pipe or tubing tends to reduce turbulence. The new bronze fittings can be used to advantage in confined spaces where wrench clearance is difficult, in locations inaccessible for maintenance, and on lines subject to

vibration, contraction and expansion. They are recommended for use in thin walls and in concrete floors where permanent security is essential. Joining brass, copper pipe or tubing with Flagg-Flow bronze fittings is said to be comparatively easy. Any capillary brazing alloy can be used.

Manufacturer: Stanley G. Flagg & Co., 1421 Chestnut St., Philadelphia, Pa.

FAUCET for commercial and home use will not drip or leak.

Drip-Lok Free Wheeling Faucet is a new type faucet for commercial and home use which is said to require no washers, to be drip and leakproof, and to wear for many years without



requiring replacements of any kind. The unit is designed so that when the handle is released into neutral position, the pressure of the water against a heat resisting synthetic rubber diaphragm automatically closes the faucet. It has been fully tested and will, according to reports, withstand approxi-

mately 100 daily operations for from 30 to 35 years. Manufacturer: Western Faucet Co., Inc., 1500 S.E. Gideon St., Portland 2, Ore.

40 GALLON TABLEHEIGHT ELECTRIC WATER HEATER requires no more floor area than present 30 gal. model.

Designed primarily for use in kitchens of small basementless homes, G.E.'s new 40 gal. table-top electric water heater occupies no more space than the present 30 gal. model. It measures only 24 in. wide, 251/8 in. deep and 36 in. high, is equipped with an acid and heat resistant white porcelain enamel top and a 31/2 in. backsplash. In the new fixture, water is heated by improved Calrod units which encircle the galvanized steel tank. Either one or two heating elements are standard equipment and each unit has its own thermostat. The heater also incorporates a new and larger magnesium rod in its tank to protect the galvanized steel against excessive corrosion in aggressive areas. Plumbing and electrical connections are mounted at the front of the heater to facilitate installation and servicing. An easily accessible drain is provided for emptying.

Manufacturer: General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.

ANOTHER 40 GALLON TABLE TOP HEATER for small homes.

Hotpoint is also offering a new 40 gal. table top electric hot water heater requiring no more kitchen space than the present 30 gal. model. This unit measures 24 in. wide, 251/8 in. deep and 36 in. high and has heating (Continued on page 166)

When bathroom floor space is at a premium... Dadel Model 19-B solves the The FIAT BUILT-IN problem easily because when completely recessed it takes up no bathroom floor space at all.

Not only is the Built-In Cadet a champion shower for remodeling where bathrooms are created out of the small space afforded by closets and odd corners, but in new construction it presents stimu-lating possibilities in bathroom layouts and design particularly interesting to the architect and builder.

The cabinet can be completely recessed or partly set out to line up with lavatory or other fixtures as illustrated. The exclusive Fiat escutcheon type door frame conceals the joint between wall and cabinet stiles providing a clean cut appearance that gives a new look to bathrooms

In addition, the Built-In Cadet incorporates some of the newest improvements in shower cabinet construction such as the elimination of all exposed screw heads and loose joining seams that collect dirt. The smooth, clean, interior is a distinct advance in shower cabinet construction that owner users will appreciate.

The Zephyr glass door is recommended for Built-In Cadet installations because it adds so much to the appearance and utility of the shower at so little added cost. Owners often refer to the Built-In Cadet as the "glass shower" because the glass door is the only part exposed in the bathroom.

Size 36" x 36" x 80", receptor precast terrazzo with cast-in drain. Walls, bonderized, galvanized steel, finished with white baked-on synthetic enamel. Zephyr or Dolphin glass door, or shower curtain can be installed on the Built-In Cadet.



Fial Metal Manufacturing Company

Los Angeles 33, California Long Island City 1, New York IN CANADA-Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario-



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Anthratube production has been stepped up to meet the greatly increased demand for worry-free Automatic Heating this winter

INow, with the Anthratube, your customers can have completely automatic heat without the worry about fuel shortages and yet save fuel dollars!

This all-in-one unit burns a plentiful, economical size of anthracite. It's completely automatic from bin feed to ash removal.

The Anthratube saves up to 38% on fuel bills because its proved efficiency is over 80%. Its compact design... built-in "heat slinger" and other revolutionary features... give it quicker response and superior performance compared with ordinary types of heating units.

Your customers want clean, comfortable, economical, worryfree heat—and plenty of it! Now you can give it to them with the Anthratube!

For more information on the Anthratube write directly to us or to one of the Anthracite Institute approved manufacturers. APPROVED MANUFACTURERS OF THE ANTHRATUBE

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ANTHRACITE INSTITUTE 101 Park Avenue • New York 17, N. Y.

164 The Architectural FORUM September 1948



KOHLER PLUMBING FIXTURES in bathrooms like this, create lasting satisfaction

WHEN home-owners see the name "Kohler" on plumbing fixtures, they know the answers to many important questions. The Kohler reputation for first quality assures them that besides the beauty and harmony they admire, there is the highest degree of *practicality*, *serviceability* and *durability*.

In the illustration Kohler fixtures are placed in relation to other facilities so that comfort and convenience combine with a well-balanced effect. The fixtures come in pure white or delicate pastel shades.

The Cosmopolitan Bench Bath has

a base of non-flexing iron, cast for rugged strength and permanent rigidity, and coated with lustrous, glass-hard, easy-to-clean Kohler enamel. The efficient Triton shower fitting is shown with the Niedecken Mixer. The Gramercy lavatory, with roomy shelf, is made of highest quality

vitreous china. All the fittings are of chromium-plated brass, precisionmade and convenient to use. Kohler quality is a 75-year-old tradition. Kohler Co., Dept. 2-C, Kohler, Wisconsin. Established 1873.



Convenience, practicality and economy are here planned in good measure. All outlets on the same wall simplify piping. Here there is easy access to all fixtures. Storage facilities are roomy and modern in design.

KOHLER OF KOHLER



Unless you give home buyers what they want, they're apt to "needle" you until they get it. One thing they prefer is automatic Electric Water Heaters. 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.



How to reduce construction costs and add customer features

Construction costs can be reduced with Electric Water Heaters because there's no flue or vent, 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

Customers like Electric Water Heaters because they are: (1) AUTO-MATIC (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).

Electric Water Heater Section NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION 155 East 44th Street, New York 17, N.Y.

B & F . BRYANT . FOWLER . FRIGIDAIRE . GENERAL ELECTRIC . NOTPOINT Hotstream . Jud Whitehead . Kelvinator . Mertland . Monarch . Norge Pemco . Rex . Rheem . Selectric . Sepco . Smithway . Sunbeau Thermogray . Thermo-watt . Toastmaster . Universal . Wesix . Westinghouse



... in a house wired for an Electric Range!

action similar to that used on other Hotpoint water heaters: Calrod heating bands which encircle the galvanized steel tank. The cylindrical tank is enclosed in an insulated outer steel shell finished in baked white enamel, the top is finished in acid resisting white porcelain. A panel on the front facilitates servicing of thermostats and Calrod heating bands. The new model is available with a single or double heating unit to meet various utility company requirements.

Manufacturer: Hotpoint Inc., 5600 W. Taylor St., Chicago, Ill.

ELECTRIC WATER COOLER incorporates cold storage compartment and ice trays.

Designed primarily for the sociable business executive and for medical offices where pharmaceuticals must be kept under refrigeration, the new Oasis OBR bottle-type electric water

cooler provides not only cool drinking water but also a cold storage compartment and frozen ice cubes. The storage compartment, maintained between 35°-38° F., is said to be sufficiently large to hold quart milk bottles or large soda bottles upright. It is completely insulated, is equipped with two aluminum ice trays and has a door with push-button snapfastener and lock. As in conventional bottle-type coolers, the drinking water is placed in the top of the unit and is chilled in the cooler. Oasis OBR is said to util-



ize a unique principal of refrigeration control to maintain automatically the three simultaneous graduations of cold. Compactly constructed, it requires less than 3 sq. ft. of floor area.

Manufacturer: The Ebco Manufacturing Co., 401 W. Town St., Columbus 8, Ohio.

ELECTRIC RANGES with push-button controls speed and simplify cooking operations.

G.E.'s two new deluxe electric ranges feature push-button controls to not only speed and simplify cooking but to also provide more direct control of surface, oven and broiler units. The transparent plastic push-buttons, similar to those used on radios, are mounted on the high control panel at the back of the range. A series of buttons is included for each of the cooking units and each button has an individual color

that shines through the plastic to indicate which unit is on and at what speed. The first of the new ranges, the Liberator, is a double-oven range. It has one master oven and a three-quarter size oven, each usable for baking, roasting and broiling operations and controlled by an automatic timer. The range also has two large and two utility size surface units. The Stratoliner, the second of the



(Continued on page 170)

HOME BUYERS DON'T LIKE TO GET "STUCK"!



ERojankovsky

Electric Range Section, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION, 155 East 44th Street, New York 17, N. Y. A-B STOVES • ADMIRAL • CROSLEY • ESTATE HEATROLA • FRIGIDAIRE • GENERAL ELECTRIC GIBSON • HOTPOINT • KELVINATOR • LEDO • MONARCH • NORGE QUALITY • UNIVERSAL • WESTINGHOUSE

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Another 1,000,000 American families switched to Electric Cooking last year

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Follow

the trend



The Burnham Yello-Jacket boiler is engineered and built to give the owner low-cost operation and lasting satisfaction. It features the exclusive Burnham finned DOUBLE COMBUSTION chamber which increases the area of the direct heating surface and makes this boiler a marvel of efficiency and economy.

The Yello-Jacket is an ALL-FUEL Boiler. The

one basic model can, with but minor changes, be converted to burn *oil, coal or gas.* Equipped with built-in heater for storage or tankless domestic hot water.

Burnham offers you a complete range of sizes in the Yello-Jacket line, from 305 square feet to 935 square feet for steam, and from 490 square feet to 1495 square feet for hot water.

New descriptive literature on the Burnham Yello-Jacket is yours for the asking.

Burnham Corporation

BOILERS AND RADIATORS Irvington, N.Y., Dept. AF-98



YESTERDAY



Remember the old open-top "double-deckers" that honked their way down New York's Fifth Avenue? Can you recall the "brownstones" and the lofts that gave way to the breathtaking grandeur of modern skyscrapers like world-famous Rockefeller Center?

Back in the "teeming twenties" a new era in building was begun—an age when skyscrapers rose higher and higher—when vertical transportation became as important to business as the railroad and the automobile.

It was then that Westinghouse moved in with its vast electrical know-how and, in the years since then, has given the elevator industry the major improvements that have promoted more profitable operation of modern buildings.

For example, variable voltage control developed by Westinghouse made possible the high speed elevators in such landmarks as Radio City. Rototrol, a great Westinghouse development, added new ease and comfort to elevator travel. Westinghouse inductor landing made elevator travel safer.

Then came Selectomatic*, offered only by Westinghouse, to lift multi-car operation to a peak of efficiency still unmatched. And now—Westinghouse has introduced the first high-quality, lower-priced electric stairway to open up new sales opportunities to retail stores.

These and many other Westinghouse developments have led elevator progress. That's why today, the name Westinghouse means the *finest* and *most advanced* in modern elevators and electric stairways.



J-98515



ANTICIPATE STYLE CHANGES WITH Oak Floors

With oak floors home owners will have no concern over changing styles in decor.

Oak floors provide durable, beautiful, easy-tomaintain surfaces for large or scatter rugs of any kind. If wall-to-wall carpets are anticipated, they will stay firm and smooth over oak. And when they do wear out, or when owners tire of them, the beauty of the oak is still there.

Especially where the first cost of the home precludes the use of new or expensive furnishings, oak floors are complete in themselves, with their warmth of charm and hospitality and their enduring beauty.



BUILDING REPORTER

new ranges, features a single oven and a built-in 6 qt. pressure cooker. This aluminum pressure cooker, which is built into the deep well position of the range, may also be used as a thrift cooker by substitution of a non-pressure lid. If a fourth surface unit is desired, the Calrod element at the bottom of the cooker may be raised to the surface. Other features common to both ranges include: Calrod surface units, round oven corners, no-stain oven vent, two appliance receptacles and ball-bearing mounted storage drawers.

Manufacturer: General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.

LAUNDRY DRIER handles delicate fabrics without damage, dries woolens without shrinkage.

Differing from the rotary or tumble type driers on the market today, the new Barton Drier is a stationary type unit in which the laundry does not move during the drying process. The garments, linens, etc., to be dried are merely draped

over aluminum rods while warm air circulates through the cabinet. There is no wear or tear on the laundry and flat pieces are said to come out requiring no ironing. A more important claim of the manufacturer, however, is that woolens may also be dried in the unit with no perceptible shrinkage. Practically trouble free, the new drier has only one moving part, the fan that circulates the heat within the cabinet. Heat is produced by a heavy duty electric-heating



element which is equipped with a temperature control similar to that used on electric stoves. An automatic cut-off protects against over-heating and the possibility of fire. The new drier's capacity, drying speed and operation cost is said to compare favorably with any rotary type machine. Retail price is \$169 complete. The unit's steel cabinet measures 36 in. wide, $38\frac{1}{2}$ in. deep and $36\frac{1}{2}$ in. high, is finished in white enamel with black and chrome trim. Aside from service in homes and apartments, it is suggested for use in hotels, clubs, schools and hospitals.

Manufacturer: Barton Manufacturing Co., Kalamazoo, Mich.

REVOLVING SHELVES for cabinets and coolers can be installed in new or remodeled kitchens.

Turning at the touch of the fingers, Ames Revolving Shelves bring the entire contents of the kitchen cabinet within sight and easy reach of the housewife. The new shelf units

come in three basic types for installation in overhead cabinets, base cabinets and coolers. Each type is available with shelves ranging in width from 12 to 20 in. and all can be used in new or remodeled kitchens. Ames Revolving Shelves, made of high grade, easily cleaned aluminum, are sturdy, sanitary and easy to install. They are also, according to the manufacturer, antproof. Manufacturer: W. R. Ames Co.,

Manufacturer: W. R. Ames Co., 150 Hooper St., San Francisco, Calif.



(Continued on page 174)

... and for fluorescent lighting I insist on

Certified Ballasts!

You're wise, too, when you insist on Certified Ballasts.

That's one way to assure-

- Full rated lamp life
- Quiet operation
- Long, dependable performance
- Full rated light output

Certified Ballasts are better because they are built to rigid specifications that assure high performance-then are tested, checked and "certified" by impartial

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BALLAST MANUFACTURERS

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STANDARD PARTS - need not mean standard ideas

... but they do mean building economies !



They provide the benefits of mass production-more value for the money. Consider these examples:

Fenestra * Steel Windows of many kinds, types, sizes, afford abundant daylight and fresh-air ventilation, with easy operation, snug weathertightness, and firesafety. Yet they save in 3 ways: in first cost, in installation cost, and in maintenance cost.

Fenestra Metal Doors of the Fireshield Swing type come to the job complete with frames and hardware. No mortising, no drilling, no tapping, no prime painting. Low in first cost, they effect important savings in installation time, labor, material.

Fenestra Metal Panels speed the construction of roofs, walls, floors, ceilings, partitions. They are quickly laid and interlocked without special skills or special tools.

For details on these three lines of Fenestra products, see Sweet's Architectural File for 1948 (Sections 16a-14 and 3c-1). Better yet, call or write us.

School-Standard Fencraft Projected Windows.

Floors for all types of build-ings-Fenestra Type D and AD Metal Panels. Noncombustible. Other types for roofs, walls, ceilings and partitions.

Hospital-Standard Fencraft Combination Windows.

Doors for all types of buildings-Standard Fenestra Metal Door. Available in single or double Swing or Slide and Turnover types.

Commercial Building-1st floor, Standard Fenestra Commercial Projected Windows; 2nd floor, Standard Fenestra Pivoted Windows.



*(R)

Fenestra standardized building products

Detroit Steel Products Company . Dept. AF-9, 2251 East Grand Blvd., Detroit 11, Michigan



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*Also quality zinc-lined Duraclad and Milwaukee Water Heaters



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if it's REAL radiant heating....

that warms gently by true radiation from coil-heated surfaces in floors and ceilings and by re-radiation from walls and furnishings, all of which become comfortably warm.

When a radiant heating installation has properly located coils, is correctly dimensioned, adequately controlled, and operated at the right temperature, then . . . and only then . . . do you get *real* radiant heating.

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Through your architect and engineer, you may have the benefit of CRITTALL's 40 years of world-wide experience in the design and installation of radiant heating systems. Our full cooperation is yours for the asking.

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ADJUSTABLE TABLE serves many purposes.

Occasion-All is a new table with two drop-leaves which functions as a coffee or cocktail table, end, console, card and dining table. The new furniture piece operates like an old-fashioned piano stool, the top revolving to raise and lower the table height. Each revolution of the top adjusts the height about $\frac{1}{2}$ in. and extreme adjustments range in height from 19 in. to 29 in. A handy lever securely locks the table at the desired height. Occasion-All tables come in four period styles in several woods and are reportedly priced for popular acceptance.

Manufacturer: West Branch Novelty Co., Milton, Pa.

FLEXIBLE VENETIAN BLIND SLATS are easily cleaned, durable, lightweight.

Made of specially developed aluminum alloy and finished with a satin smooth plastic, Improved Flexalum is a new durable, light-weight, flexible slat material for venetian blinds. The outstanding advantage of this new material is easy maintenance. When used in blinds, its sleek finish plus its unusual flexibility allow the slats to be quickly brushed clean yet snap back to their original shape after cleaning. Pre-formed and gracefully curved, the slats lie absolutely straight across the window and will not sag regardless of window width. They close tightly for complete privacy and, weighing only about 1/3 that of other commonly used slat materials, can be raised and lowered easier with less strain on tapes and cords. Improved Flexalum is rustproof, fire resistant, non-warping and non-chipping, is available in 14 colors in 2,500 ft. coils. Manufacturer: Hunter Douglas Corp., 150 Broadway, New York, N. Y. (Continued on page 178)



MODERN DEPENDABILITY

• YOU assure modern dependability in drinking water facilities when you specify HAWS Fountains. Simple maintenance, lasting durability and complete sanitation means real client-satisfaction. And your recommenda-



tions are backed by a company which has built superior drinking fountains since 1909. Write for catalog, today.

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Specify Aluminum Conductor to save important money! It calls for no major changes in your established, sound engineering practices. On many circuits, you can replace copper, size for size, with aluminum. With bigger conductor, cost is even more in your favor when you *figure it in aluminum*.

Installation is easier and faster; shipping costs are lower—because of aluminum's lighter weight. In bigger sizes, the weight is less than half that of copper.

Alcoa makes light, strong, conductive E.C.* Aluminum, which leading wire and cable manufacturers draw, strand, insulate, and sell under their own trade marks. They have it now. ALUMINUM COMPANY OF AMERICA, 1475 Gulf Building, Pittsburgh 19, Pennsylvania.

*E.C.: Electrical Conductor Aluminum

AND YOUR SUPPLIER HAS IT

AFAWINAW

COSTS

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FOR ELECTRIC WIRE AND CABLE

ALCOA

A HOUSE IS AS GOOD AS ITS OWNER Any architect will tell you that he cannot build a first-rate house with

1940 THE CONDÉ NAST PUBLICATIONS INC

second-best materials... just as he cannot do his best unless the client agrees with him non the best specifications.

That's why leading

An analysis of House & Garden's subscribers shows a higher percentage of readers with incomes over \$10,000 than any other

House & Ga

home service magazine.* *51%...latest H & G survey 27%...latest figures of next magazine

A Condé Nast Publication



You can depend on Bruce for STYLE in hardwood floors

Style is a plus value that lifts anything out of the class of the ordinary, makes people want it. Some products have style. Others do not.

Today home buyers everywhere are very conscious of the value of style . . . more so than ever before. They seek it in the design and in the individual features of their homes.

In floors, Bruce offers style that is soundly based on natural beauty and good design. This style is found in all three types of Bruce Hardwood Floors . . . distinctive types which provide a choice to fit individual preferences and architectural trends. There is nothing temporary about this style. It lasts through the years with undiminished beauty and appeal.

When you add style to all the other familiar qualities of hardwood flooring, the result is completely satisfied home owners. That is exactly what you get with Bruce Hardwood Floors—manufactured by E. L. BRUCE CO., MEMPHIS, TENN., world's largest maker of hardwood floors.



BUILDING REPORTER

Cut your painting Maintenance costs



NEW DEVOE HOUSE PAINT MAKES EXTERIORS SPARKLING WHITE WITH



Now ... you can repaint in less time at less cost

Just I Coat

than ever before!

First on the market—there is no other paint like Devoe One-Coat White House Paint! Proved by performance on 1,861 jobs—year upon year it stood the test of time . . . fulfilled every expectation. The secret is two-fold . . . superlative self-sealing ability and a hiding power exceeding *twice* that of ordinary paints.

Think what this means to you! With other costs mounting higher and higher here is a product that brings you substantial savings... at no sacrifice in quality! Devoe One-Coat House Paint gives you the brightest, whitest, most dazzling repaint job you have ever known. Its brilliant beauty is long lasting, too, for its enamel-like gloss finish is fume resistant and self-cleaning.

Applied to any previously painted outside surface, One-Coat House Paint brushes easily, levels smoothly and builds up well on corners. Your painters find it a pleasure to work with. It dries dust free in 6 to 8 hours and spreads 500 to 550 sq. ft. per gallon.

Take advantage of the remarkable economy and efficiency of this great, new paint. Get in touch with your nearest Devoe Branch or write to Dept. 95, today.



SAWHORSE BRACKETS speed assembly of sawhorses.

Dalton Manufacturing Co.'s new mechanical sawhorse bracket is designed to facilitate the assembly of sawhorses for scaffolding, platforms, worktables,

etc. To use, lumber is merely inserted in the leg and rail sockets of the bracket and a wing-nut adjustment tightened. The vertical jaws which are equipped with three teeth on the top edges bite into the rail while spreader-plates hinged to the leg sockets automatically lock the legs securely. Made of heavy gauge, rust resistant metal, the new bracket may be stored in a minimum amount



of space, is available in two sizes to fit 1 x 4's and 2 x 4's. *Manufacturer:* Dalton Manufacturing Co., 20 South Central Ave., St. Louis 5, Mo.

SLIDE RULE is designed for rapid illumination calculations.

A new slide rule for rapid illumination calculations, the $4 \ge 8\frac{1}{2}$ in. "Calcu-light-or" contains all the technical information necessary for making calculations by either the Lumen or Point-by-Point methods. No additional slide rule, tables or charts are required for Lumen-method calculations. Only a distribution curve is needed for point-by-point calculations. Price of the "Calcu-light-or" is \$1.

Manufacturer: Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa. (Technical Literature, page 182)



Horizontal and downblow types in a complete range of capacities. Write for catalogs.

FEDDERS-QUIGAN CORPORATION BUFFALO 7, NEW YORK



which means FLEUR-O-LIER fixtures

After you have your Lighting Plan, then comes the question: What lighting fixtures can be *depended upon* to provide the results called for by the Plan?

That's where Fleur-O-Lier fits into Planned Lighting, for since the very beginning of fluorescent lighting, Fleur-O-Lier fixtures have been *planned* lighting equipment. Here's the Fleur-O-Lier *plan*:

- **SPECIFICATIONS:** rigid requirements devised by the best brains in lighting to insure proper quantity and distribution for ideal lighting performance . . . mechanical and electrical excellence.
- **TESTING:** famous Electrical Testing Laboratories, Inc., examine Fleur-O-Lier units and "certify" as to their conformance to the specifications. This assures you that Fleur-O-Liers are right in lighting performance and in construction.
- WIDE RANGE OF EQUIPMENT: twenty-five* of the oldest and best-regarded manufacturers make Fleur-O-Lier fixtures. Each must satisfy the high standards of the specifications but originality in design and in construction is not frozen.

Make Fleur-O-Lier equipment a specific part of your Lighting Plan. Then you'll be sure of full lighting performance, of easy maintenance, and of long, trouble-free operation.

*Participation in Fleur-O-Lier is open to anyone, consequently the number of participants constantly is changing.



2116 Keith Building · Cleveland 15, Ohio

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





Passing the "Acid Test" Facing tile in DRUG and CHEMICAL PLANTS

Suppose you give Structural Clay Facing Tile a real acid testand don't spare the acid.

Actually submerge the tile, for three hours, in a 10% solution of hydrochloric acid (or an alkaline solution). See how well it stands up!

A high degree of chemical resistance is just one reason why Facing Tile is ideal for drug and chemical plants. It passes equally tough tests for imperviousness...crazing...fire resistance...absorption...opacity...load-bearing strength...appearance... uniform color, dimension and weight. *It must*, to meet the manufacturer's guarantee.

In addition there's extra-utility and extra-economy in walls built with Facing Tile. They won't crack, scratch or decay. They wash down clean (real help in establishing "laboratory conditions") and quickly, with soap and water. No refinishing or redecorating, ever! Construction costs less, too, because Facing Tile is fastbuilding, modular coordinated, a wall *and* a finish *in one*!

If you want a material that will create a pleasant atmosphere, once again Facing Tile passes the test—with its light-reflecting colors flying. Many colors available, glazed or unglazed. See Sweet's for additional data.

SEND FOR 90-PAGE MODULAR FACING TILE HANDBOOK.

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Complete specifications, detailed illustrations, suggested assembly details and layout procedures, all included—*free* to architects and engineers. Write the Institute, Desk AF-9, on your letterhead. Fifty cents to others.

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ETTER INSULATION REPROOFED COTTON

KPORT

FACTS YOU SHOULD KNOW ABOUT LO"K"

Provides from four to 36 per cent. greater-insulation efficiency because of its lower "k" factor (0.24).

Saves up to 40 per cent. in installation costs because of its lighter weight (only .875 lb. per cubic. foot).



Easier and faster to install.

Flameproofed under Department of Agriculture specifications. (Resists blowtorch heat of 1800°F.)

Stays permanently in place because it is lighter. Never sags or settles. Provides longer life.

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Resists vermin, mildew and rot.

Non-irritating to the skin.

Available in convenient blankettype rolls to meet all standard construction (full width, and ample roll lengths).

LO-"K" INSULATION meets the highest standards of modern architecture and construction. It provides as fine an insulation for homes, apartments and buildings as you can buy. It assures maximum home comfort the year 'round-with greater fuel savings in winter-more healthful coolness in summer.

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INSULATION

More and more leading architects, contractors and builders are specifying LO-"K" INSULATION today because it gives full satisfaction in dependability and economy.

A.J. Rouses

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tion	Gentlemen: Send me the facts about Lo-"K" Cotton Insulation for better building.
nam	ARCHITECT DEALER CONTRACTOR OR BUILDER
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TECHNICAL LITERATURE



HOSPITAL PLANNING. Transcript, Institute on Hospital Planning. American Hospital Association, 18 East Division St., Chicago, III. 244 pp. 9 x 11 in.

This work is a collection of lectures presented by various hospital construction authorities at the first Institute on Hospital planning conducted by the American Hospital Association in December, 1947. Although primarily intended to serve hospital administrators and hospital trustees, the book offers some helpful information to those architects with limited experience in hospital design. Material is arranged to begin with the earliest steps of the hospital board in organizing for a construction program, and continues through considerations having to do with the necessary size of a hospital, choosing the architect, shape of the hospital, etc. It then discusses specific department layouts and mechanical provisions.

Specify Flexwood FOR DISTINGUISHED DESIGNS



Quartered Walnut Flexwood on walls and lighting cove of dome adds a welcome to the main banking room of the Midtown Savings and Loan Association, Newark, N.J. Frank Grad & Sons were the architects.

Design with Flexwood. You can create a wide variety of interesting interiors with this modern decorative material.

You get all the warmth and luxury of the world's finest woods . . . plus the versatility so important in today's designs.

For Flexwood is *real* wood. Selected and matched veneers of fine cabinet hardwoods ... domestic and

UNITED STATES PLYWOOD CORPORATION

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Flexwood and Flexglass are manufactured and marketed jointly by United States Plywood Corporation and The Mengel Company.

imported . . . are firmly mounted on a *flexible* fabric backing.

Use it on curved surfaces or flat ... in homes or offices ... for modern or traditional interiors. It goes up quickly over any smooth, firm wall surface, old or new. No expensive construction necessary.

Get full details on Flexwood. Write, today, for specifications and samples.



KITCHEN PLANNING. Look What's Cooking In Kitchens. Mid west Mfg. Co., Galesburg, III. 24 pp. 11 x 81/2. Price 25 cents

Written in simple language, Look What's Cooking In Kitchen. gives helpful pointers on how to plan, measure, install and decorate a modern home kitchen using Kitchen-Kraft stee cabinets. The booklet also describes the advantages of these cabinets and illustrates the various types available.

BUILDING PRODUCTS. Majestic Building Necessities. The Majestic Co., Huntington, Ind. 22 pp. 81/2 x 11 in.

Numerous Majestic products, ranging from incinerators to circulator fireplaces are illustrated and adequately described in this brochure. Among the many items covered are such products as coal chutes, outdoor fireplace units, fireplace dampers, circulator fireplaces, fireplace accessories and basement windows. The general information given for each compromise descriptions, advantages, sizes, specifications and installation data.

MARBLE. Marble Forecast 1948 - 1949. Marble Institute of America, Inc., 108 Forster Ave., Mt. Vernon, N. Y. 8 pp. 81/2 x 11 in.

Marble Forecast 1948-1949 contains the latest complete information on marble supplies and future production. It describes the varieties, colors and classifications of foreign and domestic marbles available for immediate installation and lists the institute's members which include American quarriers, importers, wholesalers, finishers and contractors of marble.

ROOFS. One Metal Roof For The Life Of Your Building. The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y. 24 pp. 11 x 8¹/₂ in.

This booklet gives full data on a new soft-temper Monel roofing sheet which is designed to last the life of the building. The main section of the work describes how the Monel sheet resists destruction by smoke, rain and industrial fumes, withstands heat and cold without buckling or cracking, takes years of flexing without tiring, resists high winds, heavy ice and snow loads and the wearing action of water, ice and dust. Other sections illustrate various types of buildings and roof designs which have used Monel roofs, and illustrate and describe the fabrication of the parts of the roof.

GLASS BLOCK PANELS. Set-In-Wood. American Structural Products Co., Ohio Bldg., Toledo 4, Ohio. 6 pp. 81/2 x 11 in.

American Structural Products' new mortarless system for erecting Insulux Glass Block partitions, known as Set-In-Wood, is the subject of this pamphlet. Illustrations and text offer simple step-by-step erection procedures using the system's three basic wood units: horizontal strips, vertical strips and wedges. Other sections emphasize the system's easy erection and salvage features and suggest uses for Set-In-Wood glass block partitions.

RUBBER TILE. Steps To Beautiful Floors. Fremont Rubber Co., Fremont, Ohio. 6 pp. 81/2 x 11 in.

Illustrated with full color pictures, this folder features various Fremont rubber tile patterns and installations. It also briefly outlines the rubber tile's advantages and lists size and color information. (Continued on page 184)

BENEKE PLASTIX

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No. 524-B BENEKE PLASTIX SEAT with check hinge for elongated bowl. Sturdily built of solid black plastic.

BENEKE CORPORATION Columbus, Mississippi, U.S.A. • Offices in Principal Cities **TECHNICAL LITERATURE**



WINDOWS, DOORS, OPERATORS. Bayley Windows, Doors, Operators In The New Modular Sizes. The William Bayley Co., Springfield, Ohio. 36 pp. 8% x 11 in.

An informative catalogue devoted to Bayley metal windows and doors for commercial and industrial buildings, this booklet is intended to help the designer and builder select and specify the correct window or door for the project to be executed. It covers the features, specifications and installation details of the following types of Bayley windows: architectural projected, commercial projected, pivoted, intermediate casements, guard windows, psychiatric and continuous windows. Other sections also cover industrial doors, security windows and Bayley operators. An instructive section of modular details show how the metal windows are coordinated 'o the three dimensional grid used in modular planning.



The new 1948 O'Brien COLOR MANUAL and COLOR-SCHEME GUIDE is one of the most practical and convenient color tools ever prepared for architects' use!

Full page color swatches permit accurate visualization of more than 100 up-to-the-minute colors developed by O'Brien Color Stylists to harmonize with latest fabrics, draperies, floor coverings. Handy pocket size $-7" \ge 3\cdot3/8"$. Every color indexed by name and number! COLOR-SCHEME GUIDE includes suggestions for every type room in homes, buildings, institutions. Easy, exact paint mixing formulae. Eliminate guesswork, experimenting, confusion — save valuable time! Your O'Brien dealer has a copy for you, or send the coupon today!

*Investigate O'Brien's PEN-CHROME new "Blonde" Wood Finishes in ten useful, modern tints!



HEATING. Pittsburgh's Great Institutions Join Forces Central Heating. The Ric-Wil Co., Union Commerce Bio Cleveland, Ohio. 12 pp. 81/2 x 11 in.

Pittsburgh's Great Institutions Join Forces For Cent Heating is a detailed account of how a group of cultur educational and medical institutions cooperated to achieve practical central heating system covering an extensive at in the Oakland district of Pittsburgh. One of a series of c histories on central heating, the publication traces the develoment of the Bellefield Boiler Plant from its origin in 19 to serve the Carnegie Institute Museum, up to the present s tem which serves many important institutions and buildin It contains much engineering data and technical informati about the system, is amply illustrated.

HEATING. Heat Transfer Products Catalogue No. 148. You Radiator Co., Racine, Wis. 20 pp. 81/2 x 11 in.

Of interest to users of heat transfer products, this new gener catalogue illustrates and briefly describes the entire You line. The products featured include: convectors, unit heater air conditioning equipment, radiators, air-craft products, he exchangers, jacket water coolers, large capacity and standa size cooling and condensing units and specialized produc

REGISTERS & GRILLES. Air Control Registers & Grille Catalogue No. 48. Air Control Products Inc., Coopersville, Mic 24 pp. 81/2 x 11 in.

Complete catalogue data on Air Control Product's registe and grilles are presented in this publication. Contents and divided into six sections: air conditioning registers and grille gravity type registers, ceiling diffusers, floor registers are faces, ventilators and accessories. Four new products and featured: push button registers, gravity registers (two piece ceiling diffusers and floor registers of Uni-Grid construction dimensions, capacities, prices and engineering data are give for all.

COOLING TOWERS. Binks Induced Draft Cooling Tower With Masonry Walls, Bulletin 38. Binks Manufacturing Co., 31 Carroll Ave., Chicago, III. 4 pp. 81/2 x 11 in.

The use of large scale air conditioning systems to cool build ings has created a demand for cooling towers that harmoniz with the architecture of the building on which they are buil This booklet presents Binks Manufacturing Co.'s answerinduced draft cooling towers with masonry walls. As Bink manufactures cooling equipment for both spray-filled an deck-filled masonry towers, the pros and cons of both type are discussed. The various equipment furnished by Bink is listed and several Binks masonry encased cooling tower are illustrated. A brief technical section summarizes approx mate capacities, dimensions, fan sizes, etc. for Binks masonr cooling towers.

LIGHTING. The Complete Lighting Line, Pocket Catalog No 325. Mitchell Manufacturing Co., 2525 N. Clybourn Ave., Chicago III. 14 pp. 81/2 x 11 in.

Designed as a selling guide for electrical distributors, con tractors, dealers, architects, etc. Mitchell's Pocket Catalor No. 325 presents the complete Mitchell lighting line in condensed easy-to-read form. It covers commercial, industrial residential and display fixtures as well as desk and bed lamps includes complete specifications, price data, accessories and an illustration for each item in the line.

(Continued on page 186,

Now Eagle Announces The Greatest Door Closer Ever Built

You Told Us What You Wanted ...



The EAGLE LOCK Company

Eagle Industries, Inc. National Sales Representative 110 North Franklin Street, Chicago 6, Illinois

The Eagle Door Closer will simplify your hydraulic door closer specifications since this one standard unit can be specified for all standard interior doors. Write for 20-page, four-color illustrated brochure which presents the facts in detail. HERE'S AMERICA'S FIRST TRULY UNIVERSAL HYDRAULIC DOOR CLOSER

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

> This one Closer does the work of four separate, ordinary closers. Gives complete control through all standard swinging arcs. Easiest regulation. Simplified installation by mounting plate. Compact. Lighter in weight. Smartest styling. Harmonizing finish. Thoroughly proved in service. Complete package for installation on standard wood or metal interior doors. Write for details.

Building Specialists

TECHNICAL LITERATURE

MASTER NO-DRAFT sash balance performance

Counter-balance, spring and housing fits sash run and eliminates box frames. Flexible non-corroding housing or spring cover is formed to act as compression weatherstrip between sash and runway. Properly tensioned spring gives "finger-tip" control.

Attachment of spring to sash is near bottom rall in 3%"x 3%" sash groove.

Routing of sash for balance may be done at mill or on

At the left is a photograph of simple installation procedure. With Master Balances in place each sash is easily put into frame and fastened.

Economy in building: With simple plank frames the cost of window units comes down. Maintenance is practically nil. Weatherstripping is required only across the window. With metal cap for parting bead or complete metal bead, painting is not needed.

Satisfaction in use: Finger-tip control of sash is certainly a sales feature to every woman so is the cleanliness that non-leaking windows provide. And any homeowner will be definitely interested in fuel savings up to 25% per year with properly weatherstripped windows.

Write today for complete information about this modern window balance combination.

the job.

MASTER METAL STRIP SERVICE, 1724 N. Kilbourn Ave.,	MASTER NO-DRAFT SASH BALANCE
Chicago 39, III.	(Name
Please send me without obliga-	Address
tion, complete information about Master No-Draft Sash Balance.	City
	State

ELECTRICAL METALLIC TUBING. Central Spang Condui Spang-Chalfant Div., The National Supply Co., Grant Bldg Pittsburgh, Pa. 64 pp. 81/2 x 11 in.

This elaborate handbook explains the manufacture of Span Central Rigid Steel Conduits, lists their 12 important advan tages and gives valuable reference data and tables for electrical contractors and users of conduit. Complete specifica tions are given for the following three grades of Spang Rigi Steel Conduit: Cenlaco, a hot dipped galvanized and lacquere conduit, Central White, an electro-galvanized conduit an Central Black, a black enameled rigid steel conduit. Th technical reference section includes standard specification for rigid steel conduit and fittings, a list of standard specifica tion numbers for accessory parts, many tables of electrica data, definition of terms, electrical symbols, examples of com puting conductor sizes and other related information.

FIRE ALARMS. Autocall. The Autocall Co., Shelby, Ohio. 8 pp 81/2 x 11 in.

Covering the Autocall line of fire alarm equipment, this brochure illustrates and describes fire alarm systems suitable for any type of building. The foreword explains that fire alarm systems consist essentially of alarm boxes, gongs or other audible and/or visible signals and a control board. The booklet mainly features variations of the basic components to give an idea of what may be constructed to meet specific requirements. Full descriptions, wiring diagrams and use recommendations are included for four Autocall systems along with illustrations and descriptions of various types of fire alarm boxes and signals, the Autocall Fire Alarm Code Transmitter, two punch recorders and the Autocall Printing Recorder.

SINKS. Value Line Stainless Steel Sinks. S. Blickman, Inc. Weehawken, N. J. 12 pp. 81/2 x 11 in.

Value Line Stainless Steel Sinks, the Blickman line of standardized units which are reported to offer custom-built quality at reasonable prices, are catalogued in this brochure. In addition to illustrating clearly and dimensioning graphically the 16 models, the booklet presents the outstanding advantages of the heavy duty, round-corner, welded sinks and gives their complete specifications.

GARBAGE DISPOSER. Goodbye Garbage Can. Mullins Manufacturing Corp., Warren, Ohio. 7 pp. 51/4 x 8 in.

Goodbye Garbage Can pictorially describes the advantages of the Mullinaider food waste disposer, which installs under the kitchen sink and makes after-meal cleanup quicker and easier. Sketches, amplified by text, illustrate how the disposer grinds wastes into fine particles and flushes them down the drain, eliminating the need for a garbage can.

HOME BUILDING. Let's Build A House. Low Cost Housing Research, Engineering Experiment Station, Louisiana State University, Baton Rouge 3, La. 12 pp. 81/2 x 11 in.

Some helpful hints for the hopeful homebuilder are contained in this brochure. "The new level of building costs" says the introduction "will be with us for some time . . . therefore we must adjust our design and methods of construction so that we can build now." In line with this, Let's Build A House offers a lot of helpful do's and don'ts and information on site selection, financing, (Continued on page 190)

The SEVERN Oil Boiler, with its trim lines and colorful jacket, blends perfectly with the decorations of this distinctive basement workshop. The Severn's tight construction keeps fuel odors from escaping into the room and adds to the shipshape cleanliness of the entire house. In the downstairs powder room are two popular American-Standard Plumbing Fixtures — the quiet COMPACT Water Closet and the shelf-back COMRADE Lavatory. These fixtures come in gleaming white and a choice of colors.



in heating and plumbing

with architects ... with realtors ... with home-owners!



AMERICAN-STANDARD Products are big favorites with people who recommend, specify or buy heating equipment and plumbing fixtures.

Their smart styling pleases those who look at them from the point-of-view of design; their sound construction details meet the exacting requirements of engineers; and their flawless performance, operating economy and long life appeal to home-owners.

Yes, you're sure of public acceptance when you choose American-Standard... for more American homes have heating and plumbing by American-Standard than by any other single company For details of the complete line, contact your Heating and Plumbing Contractor. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.



For a hillside house, what could be nicer than a terrace-level utility room that doubles as a recreation room for all the family? A folding panel wall reveals the efficient, automatic gas fired WYANDOTTE Winter Air Conditioner, ideal for installation where space is at a premium. The ALDEN Laundry Tray, with its two deep compartments finished in smooth, easy-to-clean enamel, lightens washday tasks.

AMERICAN-STANDARD + AMERICAN BLOWER + CHURCH SEATS + DETROIT LUBRICATOR + KEWANEE BOILER + ROSS HEATER + TONAWANDA IRON

lt's light...lt's right...lt's <u>safe</u>



FOR BETTER LIGHTING . SAFER LIGHTING

IN CLASSROOMS

YOU CAN BE SURE ...

Westinghouse



Engineered for schools, the new CD-160 (and the companion CD-80, tot) meet the needs of your school customers in four ways:

- 1. Modern but unobtrusive in style...fully in keeping with classroom design
- 2. Lightweight, simplified design for quicker installation and easier maintenance
- 3. The CD-160 (four 40-watt fluorescent lamps) or CD-80 (two 40-watt fluorescent lamps) fit any classroom layout
- Flexibility of installation methods allows for suspension or close-to-ceiling mounting; individually or in continuous rows

The CD-160 (and CD-80) are designed for the efficient, economical type of illumination demanded in schools and offices. The lightweight plastic (or louver) bottom panels dis-



A Westinghouse Lighting Engineer will gladly work with you or your Power Company and Electrical Contractor on schoolroom lighting problems and layouts. Call your local Westinghouse Distributor today.

Write for the new "CD" booklet, B-4075, "It's Light, It's Right, It's Safe", Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-04200-A



Planned Lighting Pays-

COMMERCIAL • INDUSTRIAL • FLOOD • STREET • AVIATION

TECHNICAL LITERATURE

employing an architect, the contractor, orientation, solar houses, heating, ventilation, condensation, wiring and lighting, expansible houses, etc. It features the plans of four small homes which are designed with minimum living areas for maximum livability and comfort, and discusses the following specific topics: storage, living room, bedroom storage, kitchen and dining, bathroom and garage or carport storage.

ARCHITECTURAL AND BUILDING CONTRACTS. Business Dealings With The Architect and The Contractor. Circular Series A 2.0. Small Homes Council, Mumford House, University of Illinois, Urbana, III. 6 pp. 81/2 x 11 in.

This circular offers the prospective home builder some very helpful information on business dealings with the architect and contractor. It provides guidance on all points from obtaining plans and specifications through to final termination of the contracts and explains the alternatives of utilizing an architect or dealing directly with the contractor throughout the job. An informative chart presents an analysis of the services performed by the architect and contractor, discusses their fees and outlines the principal provisions of contracts.

WAGE COMPUTING. Ready Reckoner. Bleecker & Jones, Helix Theater Building, La Mesa, Calif. 5% x 71/4 in. Price \$.25 per wage schedule, minimum \$2.50.

Payroll computation with oddly priced hourly rates is often a great nuisance to the contractor of small or medium operating scale. Any computing work which takes him away from the job and plants him behind a desk for very long can be not only annoying, but an *(Continued on page 194)*



Regardless of the amount of money your client spends for the installation of a modern kitchen, he cannot buy a better sink than a



They are custom built to meet any individual requirements. Note these Outstanding Features:

- Precision built of No. 16 U.S. standard gauge solid Stainless Steel.
 U-shaped Reinforcing Channels extend the full length of drainboards.
- Die drawn Raised Edges eliminate soldering of joints and corners.
- Electric Welding throughout assures sturdy one-piece construction without seams.
- Built-in Anti-Splash Rims on Bowls prevent water from splashing on floors.
- Double pitch Drainboards without grooves assure positive drainage.
- Smooth, easy-to-clean-and-keep-clean surfaces assure the highest degree of sanitation.

Nationally represented by experienced field men in major cities. Write for illustrated literature F-9 and address of nearest representative.



I now you see it



now you don't

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.

HALL-MACK COMPANY 1344 W. WASHINGTON BLVD., LOS ANGELES 7, CALIF. 7455 EXCHANGE AVENUE, CHICAGO 49, ILLINOIS



STOREFRONTS OF

Stainless Steel

Every factor is in your favor when you specify Stainless Steel Storefronts. Attractive and inviting these new store fronts offer your client a durability that can only be expected of steel. And, because Stainless Steel will not corrode, warp, crack or discolour, there is practically no maintenance.



Eye APPEAL IS Sales APPEAL WITH SHARONSTEEL

Some of the nation's leading steel engineers and craftsmen designed these handsome fronts to conform with the trend of modern architecture. Available in a great variety of sizes and shapes, they are actually tailor-made to fit your blueprints.

So, if you're looking for economical, durable beauty that is easily applied and will last a lifetime, specify Sharon Stainless Steel.

SHARON STEEL CORPORATION Sharon, Pennsylvania

Photographs Courtesy of Brasco Mfg. Co.

LW/ OR TH

Here's how G-E furnaces can CUT PROJECT COSTS

30 minutes to install...

ONE HALF HOUR from start to finish! That's the average time to hook up a G-E Gas or Oil Warm Air Furnace to prepared duct, fuel, and power lines. Two good men can do the job! That's mighty important in keeping building costs down.

2-inch wall clearance

You can easily install a General Electric Furnace in an alcove or utility room. They're listed for 2 inch wall clearance by Underwriters' Laboratories, Inc. Every G-E unit is a reputation builder...it's G-E assembled, wired, tested for reliability and economy of operation.

Get full information on G-E Warm Air or Boiler units from your General Electric Distributor . . . or see Sweet's Catalog, Section 29A-6.

General Electric Company, Air Conditioning Department, Section H8139, Bloomfield, N. J.





The G-E Oil-fired Warm Air Furnace



The G-E Gas-fired Warm Air Furnace

Douglas Fir Doors marked "B" Meet these Industry-Approved Standards

GRADE B-Recommended Primarily for Paint Finish To be Factory Resin-Sealed



When the letters FDI appear as part of the grade trade-mark they certify that the doors so marked not only meet industry standards but have also been officially inspected by the Fir Door Institute and, at the buyer's request, will be covered by the official, notarized Certificate of Inspection.

(Douglas Fir Doors are also made in Grades A, C and MR. Stock doors in every grade are precision pre-fit to a size ¹/s-inch less than previous net catalog height, 3/16-inch less than catalog width—for ease and speed of installation.)

FIR DOOR INSTITUTE

Tacoma 2, Washington

STILES, RAILS, AND MULLIONS—This stock shall be of vertical grain faces with some coarse grain permitted. It shall be sound in all respects, and may contain sap, light stains, streaks, burls, and neatly repaired pitch seams. Glued-up members are permissible. A moisture-resistant glue shall be used. Mixing of woods is permissible provided both stiles are of a single specie.

PANELS__FLAT VENEERED__The standard thickness of 3ply flat veneered panels shall be ¹/₄ inch after sanding. Each face shall be of one or more pieces of firm smoothly cut veneer. When of more than one piece, it shall be well joined and reasonably matched for grain and color at the joints. It shall be free from knots, splits, checks, pitch pockets, and other open defects. Streaks, discolorations, sapwood, shims, and neatly made patches shall be admitted.

PANELS___RAISED__ The standard thickness of raised panels shall be not more than 9/16 inch before sanding and not less than 7/16 inch after sanding. They may be either slash or mixed grain, or mixed woods and shall conform to the grade of the stiles and rails. Glued-up, solid panels are permissible.

TECHNICAL LITERATURE

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REQUESTS FOR LITERATURE

ROBERT A. BRADT, architect, 408 Union Bldg., San Diego 1, Calif. JOHN T. FISHER, architectural and mechanical engineer, 141 Beale St., San Francisco, Calif.

LAWRENCE R. GOOD, designer, 524 N. 23rd St., Omaha, Neb.

JAMES M. HUNT, architect, P. O. Box 710, Elberton, Ga.

SAMUEL JUSTER, architect, 366 Broadway, New York 13, N. Y.

BROMEL KNAPP CORP., builders of convention exhibits and stage presentations, 17260 Gable St., Detroit 12, Mich.

SCHOMER LICHTNER, artist & designer, 2626-A N. Maryland Ave., Milwaukee 11, Wis.

BRIAN H. LINCARD, architectural student, 36 Edmonton Rd., Woodsmoor, Stockport, Cheshire, England.

B. J. LOTHIAN, architectural engineer, P. O. Box 1111, Nassau, Bahamas.

H. MORRIS & Co., LTD., 147 Milton St., Glasgow, Scotland.

S. Z. MOSKOWITZ, architect, Deposit and Savings Bank Bldg., Wilkes-Barre, Pa.



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Upper photo: View looking west on 3rd floor, with wall panel on platform ready for tilting. First floor panels were 15 ft. high, second and third floor panels 11 ft. high. All were 17 ft. 6 in. long and 6 in. thick. Lower photo: Architect's rendering of completed building at 9th and Vine Streets. Designed by Brooks-Borg, architects and engineers; built by The Weitz Company, Inc., contractors — both of Des Moines.

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The new Roddiscraft door has a core made up of selected strips of veneer. These strips are spot-glued at intervals and stretched within the rails to form an accordion core design. This is a radical departure from the conventional core. The accordion core creates the strength and rigidity of a solid core with 50% less wood content.

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Face panels and rails are hardwood throughout. The whole assembly is pressure bonded with the finest glues obtainable and seasoned in specially constructed kilns for permanent straightness.

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 All entries must be mailed before midnight, November 20, 1948. Send as many entries as you please. 3. Entries will be judged on the basis of originality and aptness of thought by a panel of expert judges. All entries become the property of the Roddis Lumber and Veneer Company. The judges' decision will be final. In the event of a tie, duplicate prizes will be awarded.

4. The first prize winner will receive \$1000; the next two winners will receive \$500 each. All winners will be notified by registered mail.

5. This contest is open only to dealers and their employees and the employees of architectural firms, and millwork houses.



REVIEWS





View of inner court of "Hollyhock House" shows decorative

motifs in cast concrete

Multi-planed ceiling of Hanna house sculptures space



RUNCTION STRUCTURE FRANK LLOYD WRIGHT. "California Architecture," 21 minute film. 16 mm., photographed and directed by Erven Jourdan. Music by Ernest Gold. Introduction by William Gray Purcell A.I.A. \$150.

To date, the motion picture has shown far more interest in recording the ruins of Karnak and Athens than in filming outstanding structures of the present day. Except for the New York skyline appearing moodily under a plane or beyond a ship, the subject has been relegated to the backdrop department of Hollywood's super slicks. It is strange that when the still camera has been such a powerful ally for modern architecture, the movie—obviously a much more varied and intimate medium—should lag so far behind.

This lag in movie coverage makes the recent color film of five California houses by Frank Lloyd Wright an historic step. Perhaps its only direct ancestor was the screening made in Europe about 20 years ago of a Corbusier collaboration. And even this film by Mann Ray apparently distrusted the appeal of its architectural subject—the atmosphere of the house was all but obscured by a surrealistic pageant staged in and out of its rooms.

Erven Jourdan, the young West Coast photographer who filmed these houses, has had the good taste and good sense to let Wright's architecture be the hero of its own show. The Barnsdal (or Hollyhock) house, the Storer, Ennis, Hanna and Sturges houses have been chosen as representative. Not only is each house of interest in itself (what Wright house is not?) but among them they cover many of Wright's most important "Usonian" contributions. The Barnsdal house shows him experimenting with cast concrete-an experiment climaxed by the Millard house (for some reason not included); the Hanna house illustrates Wright's masterful use of the roof in modulating light, air and space; the Sturges' house, his adaptation of wood to single-process construction, an inexpensive system when good wood was a purchaseable material. The film quite wisely concentrates on capturing the spirit of these houses and their surroundings. It does not attempt to go into structural details-and for this reason is perhaps best as an introduction to Wright's work. The color throughout is superb and a really competent musical score has been composed, arranged and directed by Ernest Gold.

As is natural in any ground-breaking attempt, there are some infelicities of technique. The miniature dolly, specially built by Jourdan to recapture the impression of walking about the buildings, is at times hesitant and unsure. William Purcell, a fellow student with Wright under Louis Sullivan, introduces the work in words perhaps too filled with hero-worship. In most respects, however, the film accords its subject the professional treatment it deserves.

"California Architecture" would be a valuable item for any school, museum or library collection. Executed as a nonprofit venture it will be followed by others if enough sales are made to pay expenses. Next on the list is a presentation of the two Taliesens—East and West—as Wright lives and works in them. Prints are purchasable from Erven Jourdan, 422 S. Western Ave., Los Angeles 5, Calif.—S.K.

BUILDING FOR LEARNING. 19-minute color film. 16 mm. produced by the Engineering Experiment Station, Texas Agricultural & Mechanical College, College Station, Texas.

With this film, Professor William Caudill and his staff of Texas architectural students answer an important question which is arising in communities all across the country: what shall our new school buildings be like? An estimated \$550 million to be spent this year on school construction makes (Continued on page 204)

EVERY ARCHITECT SHOULD HAVE A COPY OF THIS NEW BOOKLET

- SHOWS the home designs that architects think most appropriate for stucco; facts established during a recent national survey.
- GIVES the latest step-by-step processes used for insuring strong, durable stucco construction.
- TELLS why Keymesh-the modern steel reinforcing for stucco-gives a better "Key", better bond, stronger reinforcement.

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POPULAR RANCH-TYPE DESIGN

One of the 5 design styles that architects feel are most appropriate for the use of reinforced stucco.

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the question a pressing one. But in most cases, after the School Board, the Parent-Teachers Association and the State Appropriations Committee have agreed on the necessity of building, confusion sets in. Shall the new school be just a larger, more impressive collition of the old? Or has something been happening in school design that deserves real consideration? This film provides a clear, cogent statement of the issues involved.

Angled to the layman it will, of course, furnish little new information to the up-to-date architect. But as a simple means of explaining the whys and wherefores of modern design to backward board members, it cannot be overestimated. The argument for good lighting and acoustics and for flexible, informal classrooms is many times more effective in this visual

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presentation than in the usual verbal sales talk. Furthermore modern is not hailed merely because of its modernity. The various problems of school design and solutions both good and bad are presented without the traditional versus modern labe. To keep the film within the range of lay interest and under standing, these problems are shown in relation to the need of a single child, Mary Ann, a 7-year-old redhead with an appealing smile.

After seeing this film even those farthest removed from architecture could view models and sketches with a certain amount of comprehension. They would understand the need for proper distribution of light and elimination of glare; for cross ventilation; and for acoustical planning to shut out noise Also illustrated in the film are the various group patterns tha occur during a school day—the class period, the group proj ect, the story house, visual study with films and slides. With out argument it becomes apparent that old-fashioned iron framed desks, screwed to the floor, could do nothing but hamper such a program; that initial planning for flexibility will save costly and perhaps repeated alterations later.

All work on the film—model-making, direction and photography—was done by the advanced architectural students in Professor Caudill's group. They traveled through Texas and California, studying schools and selecting actual examples to illustrate their points. The findings are applicable to school problems throughout the country.

One note of regret: technically the film is not up to professional standards. It wavers here and there, does not achieve good timing and the organ accompaniment is too reminiscent of soap operas to be a happy choice. Because of the photographers' lack of experience, some shots purported to show good lighting are quite dark and cheerless. But in spite of these drawbacks, there is no doubt that the film achieves its purpose. After viewing it, even the most crotchety board member would have to admit that there's more to modern than a flat roof. Texas College will supply the film on loan to any interested group with no charge except postage. For groups without sound film equipment, the Experiment Station has prepared a lecture outline with 59 lantern slide illustrations (2 x 2 in. size). Also available is a 20-page bibliography -the result of ten years' research-on all phases of school architecture here and abroad. S.K.

BOOKS

THE NEGRO GHETTO. By Robert C. Weaver. Harcourt, Brace & Co., New York. 369 pp. 81/2 x 6. \$3.75.

Since it is possible, in this age of enlightenment, for the question of civil rights to be used as a plank in a political platform (let alone evoke controversy), there is much more than an ordinary need for Mr. Weaver's book. Were we the progressive, humane people that we like to pretend, then such a work would, many years ago, have become obsolete. To admit that it can still be of educational value and serve a worthy cause is a sinister reflection on our culture. But this, unhappily, is the case.

The Negro Ghetto is no tear-jerker, but a cold compilation of fact relating to racial discrimination and its socioeconomic effect on our society, our cities and their future. Dr. Weaver traces the causes, development and consequences of enforced residential segregation in the North, exposes certain city planning practices which, masquerading as social measures, displace Negroes from (Continued on page 208)

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REVIEWS

more desirable urban areas or confine them to inadequat space and shelter. His program to remedy this phase of hous ing, both public and private, is based chiefly on seven recom mendations (several of which parallel Nathan Straus' *Th Seven Myths of Housing*, FORUM Feb. '44). They are:

1. An adequate over-all supply of housing.

2. Development of housing on new land.

3. Large projects, because they lend themselves mos readily to the establishment of neighborhood character and stability.

 Occupancy standards to replace residential segregation
 Reconstruction of mid-urban areas after the immediate emergency is met.

 Adequate housing for displaced slum or ghetto-dwellers
 Flexibility in the planning and administration of our cities.

These recommendations are made and enlarged upon, of course, in particular relation to the Negro populace.

In general, Dr. Weaver restricts himself to the physical and financial repercussions of racial discrimination though he by no means ignores its less tangible aspects. Of these he says: "The emotional bases of race prejudice can and must be broken down by programs of education ... The need for meeting the housing requirements of minorities is so great that action cannot wait for education. But action, which is needed now, can establish new situations for which acceptance can be gained by education." One question that occurs is: since any action taken must be group action, can change be hoped for until a mass education job overcomes public resistance?

For instance, one of the most interesting parts of *The Negro Ghetto* is its analysis of the recent war housing program for Negroes which many people seem to think took care of the problem. The reverse is true. At best, it was hopelessly inadequate, at worst it served to intensify bad feeling and increase the effectiveness of covenants.

Throughout his book the author illustrates this point with specific examples of housing projects in all sections of the country. Almost any reader will find one or more with which he believes himself familiar. But almost no one will be aware of the backstage tensions regarding Negroes which are commonplace in and around these projects. Some examples are hopeful; others disgusting, the latter typified by the saga of the Sojourner Truth project in Detroit.

Undoubtedly, a good portion of the material in this book is available in scattered pamphlets and reports, but Dr. Weaver has done a great service in cramming it all inside one jacket—and in readable form. Assembled, it packs a terrific wallop.

It is to be hoped that the recent Supreme Court decision outlawing court enforcement of racial covenants will attract rather than deflate public interest in *The Negro Ghetto*. It behooves anyone interested in the Negro problem, in general, or in urban real estate, specifically, to read it. M.S.

PRINCIPLES OF URBAN REAL ESTATE. By Arthur M. Weimer and Homer Hoyt. The Ronald Press Co., New York. 504 pp. Illustrated. 91/4 x 61/4. \$4.75.

This revised and enlarged edition of the well-known textbook on urban real estate quite naturally stresses the financial aspects of the subject, but covers the entire field about as thoroughly as one could expect. It is also commendably impartial. In view of the fact that there is only one side to a cold dollar, the last statement may sound a little silly, but it must be remembered that, (Continued on page 212)



News and views of the new FRIGIDAIRE ELECTRIC RANGES



6 BEAUTIFUL NEW MODELS— ranging from the 2-oven, luxury-equipped RK-70 to a compactly-built, 3-surface-unit model for apartment and small kitchens. Highest-quality construction and operation features throughout the *entire line* —with each model offering what we believe to be the most outstanding convenience features to be found in its price class.



Triple-Duty Thermizer — Combination deep-well cooker, baker and extra surface unit. Unit quickly, easily raised or lowered-to serve as desired. On RK -40, -60, -70.

NEW DESIGN AND APPOINTMENTS— make this year's Frigidaire Electric Ranges more attractive than ever before. Fine appointments include new fluorescent cooking top lamps on the RK-40, -60, and -70, for cool, glare-free illumination entire length of cooking top. Cooking tops are acid-resisting porcelain; shelves, door pulls are rust-proofed.





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Another leading builder proves that "value pays off"

uses KIMSUL* in 600-home project

Here are a few of the 600 units recently completed by Timely Builders. All are insulated throughout (walls and ceilings) with manylayer KIMSUL* insulation. Timely DEVELOPERS - BUILDERS

RUTHERFORD, NEW JERSEY

Kimberly-Clark Corporation Neenah, Wisconsin

March 22, 1948

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SD:cdv

By September of this year, we will have completed over 600 new homes in Bergen and Passaic Counties. Each of these new homes is completely insulated with "KIMSUL" as installed by the Home Insulation Company of Clifton, New Jersey.

We feel confident that the choice of this well known and efficient "KIMSUL" blanket to insulate the sidewalls and ceilings and therefore preclude the necessity of costly extras later to the purchaser, has been an important factor in the ready sale of these homes.

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Builders everywhere are finding it out. Value pays off—in fast sales, satisfied buyers. And when you're building for satisfaction, comfortize your homes with many-layer KIMSUL insulation. KIMSUL provides lifetime fuel savings, lifetime home comfort.

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Report of independent nation-wide survey (May, 1948) among all architects receiving Sweet's Architectural File

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REVIEWS

economics notwithstanding, there are two opposed schools of thought on such subjects as urban rehabilitation. The author are well abreast of recent developments in city planning an the probable growth and future structure of cities. Their chapter on *The Dynamics of Neighborhoods* is excellent. As second edition, the book scarcely requires introduction or comment. However, it is gratifying to note that, as a textbook, it is not only highly authoritative but has the merit of equipping the student for projecting his research further afield. M.S.

HOME FURNISHING. By Anna Hong Rutt. John Wiley & Sons, Inc., New York. 482 pp. Illustrated. 91/2 x 61/2. \$6.

This, the second edition of Miss Rutt's book which appears 13 years after the original, has been expanded to include planning, landscaping and exterior house design. On the whole it is a good deal more informative and sane than most dis sertations on the home. Following Emily Post's *The Personal ity of a House* (FORUM, Aug. '48), its contents seem by comparison awesome and indisputable. However, comes a time when the cavalcade of "taste manuals" exceeds the patience of the most tolerant reviewer. If that moment is not yet at hand, it is hardly more than two or three issues away.

The amount of territory covered by this book is staggering and could never be crammed into one volume if it were not reduced to a series of pat formulae. Miss Rutt drives off with a section on esthetics (which also covers color) and strides manfully through "styles," landscaping, interior planning, exterior design, furnishing-which even goes into accessories, flower arrangement and what to do with a rented room-and a brief history of "decorative" movements. The book is laid out as a sort of course with assignments included at the end of each chapter. However, only in this respect does it resemble a conventional textbook, a point which should give it a plus for the non-student reader. The illustrations are well selected and the book well produced. Wherever possible Miss Rutt slips in contemporary examples in preference to traditional. She also has the finesse to point out in her introduction that this new stuff called modern is definitely not the same thing as "modernistic."

In its field, Home Furnishing ranks among the more deserving volumes. However, like food, esthetics in capsule form can be nothing but banal. All these shortcuts to knowhow and knowall only deplete the "already anemic ingenuity of the average American nest builder. It is not our intention to irritate an old sore spot at the expense of author Rutt, but this seems an appropriate place to reconsider the intelligent approach of Elizabeth Mock in her book So You Want to Build A House (FORUM, July '48). That excellent manual states only broad esthetic principles, and in such a simple and telling way that the reader's imagination is stimulated, rather than paralyzed. M.S.

INTERIORS AND EXTERIORS. By Paul Lazlo. Lorrin L. Morrison, 1915 Southwestern Ave., Los Angeles 7. 116 pp. Illustrated. $61/_2 \times 10.$ \$6.

Paul Lazlo is a rich man's designer and proud of it as this monograph bears out down to the coating of the paper. The fact that the illustrations are the exclusive work of photographers Julius Schulman and Maynard L. Parker does not exactly detract from the volume's luxury, either. Since Lazlo is recognized as an important contributor to the development of a regional West Coast architecture the assembled collection of his work has more than average (Continued on page 216)



STORE PLANNED FOR THE FUTURE ...

Fabulous Foley's!



The Crystal Room, exclusive gown salon in Foley's, the new Federated Department Store in Houston another great store that chooses Bigelow Carpets. Raymond Loewy Associates, Retail Planners and Designers.

Floor-planned for the future with Bigelow Carpets!

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The true test of color in white cement is best exemplified in fine Terrazzo. In Terrazzo, as in no other white cement use, a pure white color is absolutely essential. It governs the background in relation to the beautiful

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The fine white color of Medusa White makes it best for gleaming white or tinted stucco. Medusa Waterproofed White Portland Cement is Medusa White with a mill mixed waterproofing material.

> It repels all water at the surface of the stucco. Dirt is washed off, water cannot enter, freeze and disintegrate the stucco. For a permanent beauty in Terrazzo or Stucco, be sure your specifications call for Medusa White, the Original White Portland Cement, plain or waterproofed.



REVIEWS

value. It is something that every architect and decorator we want to own. Chances are that after looking through it, mo of them will be heard humming quietly to themselves, "Yo Ought to be in Pictures." M.S.

FURNITURE FOR MACHINES. By Gordon Logie. Georg Allen & Unwin, Ltd., 40 Museum Street, London W.C. 1. 142 pt Illustrated. 10 x 71/2. 21s.

In one slim volume the English are being shown the cream of mass-produced furniture published in both this country an abroad in the past 15 years. With very few exceptions the pieces photographed are available on our own marker This book has one additional feature: if you feel like whippin, up a little machine-made furniture on Sunday afternoons, it tells you just the sort of equipment, heavy and light, that you'll need for your hobby shoppe. M.S.

ISLE OF WIGHT. By Aubrey de Selincourt. Paul Elek, 3 Hatton Garden, London. 76 pp. Illustrated. 9 x 7. 9s. 6d.

Latest of the "Vision of England" series (the quality o which seems to increase with each new addition) is this book on the famous island that guards the entrance to Southampton Water. Perhaps because the region he describes is more col orful and dramatic than many other English counties, author de Selincourt's monologue is vibrant and sincere for a literary travelogue. Though his prose is restrained, he manages to convey the native spirit of the locale, to make its winds almost audible. The text is augmented with charming sketches by Kenneth Rowntree and many handsome photographs. M.S.

CONURBATION. By The West Midland Group on Postwar Planning and Reconstruction. The Architectural Press. 9 Queen Anne's Gate, London, SWL. 279 pp. Illustrated. 9 x 111/2. 30s.

Only Patrick Geddes could have dreamed up a word like "conurbation" which, of course, he did. For your information, it means, "an area of continuous urban development which includes and connects two or more towns." In this instance it is used as a planning survey of Birmingham and the Black Country. Aside from the widespread interest in British planning and land development, this book has the asset of being an unusually good planning survey and could well serve as a prototype for similar projects in this country. The presentation is elaborate, yet clear. It is also costly which can often be taken as an omen that something will be done about it. M.S.

THE PLANNERS NOTEBOOK. Edited by H. Miles Wright. The Architectural Press, London. 373 pp. 534 x 9. 30s.

Since this book is avowedly a "compendium of information on town and country planning and related subjects" ranging from A for advertisements (outdoor, control of) to Z for zoning, it is hard to understand how English planners have gotten along without it so far. However, since the statistics are Great Britain's, the value of this opus to Americans is negligible except for purposes of comparison, or for those whose ambition overruns our national boundaries. M.S.

HOME AND ENVIRONMENT. By Walter Segal. Leonard Hill, Ltd., 17 Stratford Place, London W. 1. 217 pp. Illustrated. 11 x 9. 37s. 6d.

Again from abroad is this volume on the glorification of the row house which contains some fine plans and partis in anyone's country. If you're interested in urban or suburban development, you'll want to own it. M.S.



Simplify Installation of Weldwood Paneling with ...



Sensational New Weldwood Moldings eliminate practically all face-nailing, counter-sinking and puttying. Matching wood veneer faces blend perfectly with Weldwood-Paneled rooms.

THE minute you see these new moldings you'll rec-ognize their value. For here, at long last, are the ideal moldings for matching Weldwood paneling.

In addition to perfect match and perfect fit, these new moldings eliminate the need for almost all facenailing, counter-sinking and puttying. All that's necessary is to nail the moldings themselves to the studding. Panels are held firmly and permanently, yet there's ample allowance for contraction and expansion.

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They're always available at any bank or post office. But the surest way—the easiest way—to build financial security for your future is to buy them *automatically* on the Payroll Plan.

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AUTOMATIC SAVING IS SURE SAVING - U.S. SAVINGS BONDS

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In Shreveport, Louisiana ...

5 DIFFERENT ARCHITECTS CHOOSE **ZONOLITE* Vermiculite Concrete Roofs** FOR INSULATING 5 NEW SCHOOLS











Roof decks that combine structural strength with thermal insulating efficiency are being designed by leading architects in all parts of the country. In Shreveport, La., alone, five different architects specify Zonolite Vermiculite Concrete for five different schools. Here's Why!

LOW COST-No additional insulation is needed on a Zonolite roof deck. **PERMANENT**—Made by mixing Portland cement and Zonolite Brand Vermiculite Aggregate, a rotproof, verminproof mineral.

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and here's how:

Fast, economical applications of Zonolite structural concrete roofs may be made in a variety of ways. Pour it over paper-backed welded wire mesh-here no additional reinforcing is necessary, no troweling or tamping required, just screed to level. Or pour Zonolite insulating concrete over ribbed metal lath, over fiber, asbestos cement, or gypsum board forms. Zonolite concrete may also be pre-cast into slabs, easy to handle because they're so light in weight.

Zonolite concrete structural decks in place weigh about one-fifth as much as ordinary concrete, permitting great economies in the use of structural steel. Sloping for drainage is easily accomplished; cants, crickets and saddles easily formed. Provides the ideal surface for built-up roofing.

2 BROADMOOR JUNIOR HIGH SCHOOL, Shreveport, La. McClenaghan & Barr, Ar-chitects, Southern Builders, Inc., Contractors, Shreve-port, La. Approximate floor area 90,000 square feet. 3 3 CEDAR GROVE JUNIOR HIGH SCHOOL, Shreveport, La. Floor area, 85,000 square feet, Wm. B. Wiener, Ar-chitect, Shreveport, La. Nathan Wohlfield, Con-tractor, Dallas, Texas. 4

4 JUNIOR HIGH SCHOOL BUILDING, Lakeshore Drive, Shreveport, La. J. Cheshire Peyton, Architect, Harry Bosworth, Associate, Seth E. Giem & Associates, Gen-eral Contractors, Jackson, Miss. Approximate floor area 90,000 square feet.

NEW NEGRO HIGH SCHOOL

HIGH SCHOOL Shreveport, La. About 132,000 square feet of floor area. J. A. Harper, Contrac-tor, Crowville La. Van Os & Flax-man, Architects, Shreveport, La.

2

5 JUNIOR HIGH SCHOOL BUILDING, for Caddo Parish School Board, Shreveport, La. Walker & Walker and Associates, Shreveport, La. Roof area, 65,000 square feet.

> ZONOLITE COMPANY



The Kent County Hospital in Warwick, Rhode Island, makes extensive use of asphalt tile in its construction. Howe, Prout and Ekman are the architects. Neergaard & Craig, hospital consultants.









Scale model of the Monroe County Memorial Hospital by Rinker & Kiefer, architects. Neergaard & Craig, hospital consultants. Here, too, asphalt tile was widely used.



Latest rendering of Mercy Hospital, Miami, by Stewart & Skinner, architects. Specifications call for asphalt tile in many places. Charles F. Neergaard acted as hospital consultant.

The selection of proper flooring for the modern hospita presents a problem with many aspects. The ideal materia has long been sought. Such a material should be resilient enough so that hospital personnel will find it comfortable under foot. It should be reasonably quiet to walk on and not transmit sound easily to the floor below. It should be long wearing and sufficiently rugged to stand up under the heavy traffic in hospital areas—where equipment such as wheel chairs, dressing carriages, food carts, beds and stretchers are in constant use. It should not indent objectionably under the weight of chairs, beds, tables and other furniture which is properly equipped for use on resilient floors. It must have a surface which is easily cleaned and resistant to stains from grease, food and medicine. It should be unit-laid so that replacements can be easily and economically made. Last but not least, in view of the present high building costs, it must be available at relatively low cost.

During the last fifty years, many types of floors have been used in hospitals. Among these are wood floors, marble, terrazzo, cement, magnesite composition, linoleum, cork and rubber tile.

While these materials filled some hospital floor requirements, in other respects they fell short. Either they were hard to maintain, noisy, hard under foot or slippery. Some presented a replacement problem or lacked color, and others were too high in cost.

Asphalt tile, on the market for over twenty years, offers, in my experience, the most practical and economical solution to the hospital flooring problem. It is available in a wide variety of colors and sizes in either plain or marbleized patterns. A wide range of pleasing patterns can be designed. Bright, cheerful, and attractive color patterns can be used in lobbies, corridors, and public areas, while restful tones can be used in bedrooms and wards.

Asphalt tile, which conforms to United States Government specifications, is rugged and long wearing, easy to clean, and does not stain or dent readily. Since it is laid in units, it is easily replaced if damaged.

Asphalt tile can be laid directly on a smooth finished concrete slab, on, above, or below grade. It has the virtue of being unaffected by normal dampness found in the concrete slab. The transmission of sound between floors where asphalt tile is used can be materially reduced by the use of asphaltic underlayments applied on the rough concrete slab in place of the usual cement finish. This adds to the resiliency of the finished floor as well.

Asphaltic underlayment costs very little more than ordinary cement finish and in hospitals where it has been in use for seven to ten years shows no perceptible change as far as resilience is concerned. With the advent of light steel construction, the chief argument for which is its low cost, the

MODERN FLOORING TECHNIQUES:

No. 3 in a series of articles on the use of asphalt tile flooring prepared by leading architects and

building authorities for the information of the architectural and building professions.

THE TILE-TEX COMPANY, INC. pioneer maker of asphalt tile.

This rendering shows the Glens Falls Hospital, on which Milton T. Crandell was architect. Charles F. Neergaard, hospital consultant.

question of sound transmission between floors became much more important than with the conventional arch construction.

In my hospital work, I have found asphalt tile, properly cushioned, the most satisfactory flooring for general use in most sections of the building, with the exception of service areas. Occasionally a building committee will try to cut the budget by using painted cement in kitchens, pantries and particularly in stair treads and landings, not realizing that they are involving the hospital in a semi-annual expense for repainting, if they are to keep it at all presentable.

Asphalt tile is most practical in corridors, stair halls, and stair landings. Asphaltic underlayment under asphalt tile is particularly recommended here to reduce foot-step noises and add resiliency.

In Cafeterias and Dining Rooms, greaseproof asphalt tile flooring is recommended. Color and design of such a floor should be based on functional requirements and can be laid out to show traffic aisles, table areas, etc., if desired.

In Service Areas, Toilets and Bathrooms, ceramic tile floors are preferred. For kitchen and laundry, quarry tile is particularly recommended.

In Operating and Delivery Suites the improved low cost terrazzo conductive flooring, as developed by the U. S. Public Health Service, is recommended to insure protection against explosion caused by a static spark.

To those of us who spend their lives in and about hospitals the floor is always in sight and always under foot. The less we feel it, the less we hear it, the less we spend to keep it neat and clean—if it is also attractive to look at—the nearer it approaches perfection.

sk

Tile-Tex* Asphalt Tile floors have been in use in many of America's leading bospitals for over twenty years. It has convincingly demonstrated its ability to perform satisfactorily in bospital areas and bas justly earned its reputation as a quality asphalt tile. For more information or reprints of this article, write The Tile-Tex Company, Inc. (subsidiary of The Flintkote Company), Chicago Heights, Illinois. Sales offices in Chicago. New York, Los Angeles, New Orleans, Toronto and Montreal.

The TILE-TEX Company, Inc.





In the finished structure of the Glens Falls project. this lounge shows use of asphalt tile in large areas.

Hall in the Glens Falls structure, using asphalt tile in diamond checkerboard.



Patient's room, below, shows asphalt tile used in restful colors and checkerboard design.



SPECIFICATION AND BUYING INDEX

The advertising pages of FORUM are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

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